



SERVICE PROVIDER SOLUTIONS

Fiber Management | Optical Connectivity
Fiber Optic Cable | Fusion Splicers | Test & Inspection

Founded in 1984, AFL is an international manufacturer providing end-to-end solutions to the energy, service provider, enterprise, hyperscale and industrial markets as well as several emerging markets.

AFL's products are in use in over 130 countries and include fiber optic cable and hardware, transmission and substation accessories, outside plant equipment, connectivity, test and inspection equipment, fusion splicers and training.

AFL also offers a wide variety of services supporting data center, enterprise, wireless and outside plant applications.

AFL is dedicated to bringing our customers a quality product as well as delivering superior value.



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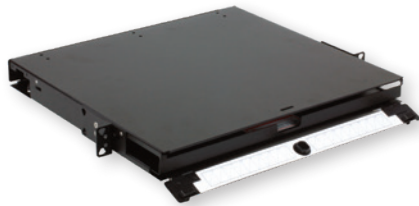
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Xpress Fiber Management® (XFM®) 1RU Patch Panel



The Xpress Fiber Management (XFM) 1U patch panel is a rack mountable interconnect point specifically designed to manage dense fiber applications. Based on the LGX® intermateability platform, the panel is fully compatible with AFL's XFM Optical Cassette, Passive Optical Coupler Modules, and Poli-MOD® solutions. This panel offers enhanced management of densities up to 72 fibers using MTP-LC XFM Optical Cassettes (24 fibers).

Features

- Steel construction
- Textured black powder coat finish
- Universal WECO/TIA 19"/23" rack compatibility
- (3) LGX 118 adapter plate / module mounting positions
- Slide-out tray with relief cut-outs for simplified connector access
- Optional front door key lock for heightened protection of internal components

Applications

- Data Centers
- Enterprise Networks
- Telecommunications Closets
- Central Offices / Headends

Specifications

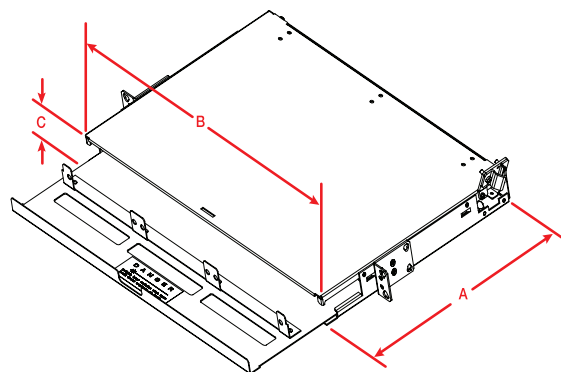
| DEPTH (A) (inches) | WIDTH (B) (inches) | HEIGHT (C) (inches) | RACK UNITS | CAPACITY | UNLOADED WEIGHT |
|--------------------|--------------------|---------------------|------------|-------------|-----------------|
| 15.5 | 17 | 1.7 | 1 | (3) LGX 118 | 13 lbs. |

Ordering Information

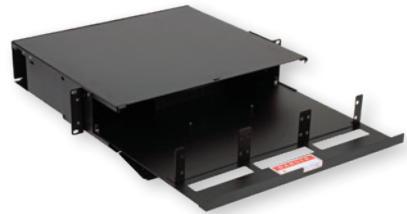
| DESCRIPTION | MODEL NUMBER | AFL NO. |
|--|--------------|-------------|
| Xpress Fiber Management 1U Patch Panel, Black, Empty | XFM-1-U-B-0 | FM002711-BE |

Accessories

| DESCRIPTION | AFL NO. |
|-------------------------------|----------|
| Kit, Lock, for CON/CNS Panels | FM001318 |



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Xpress Fiber Management® (XFM) 2RU Patch Panel

The Xpress Fiber Management (XFM) 2U patch panel is a rack mountable interconnect point specifically designed to manage dense fiber applications. Based on the LGX® intermateability platform, the panel is fully compatible with AFL's XFM Optical Cassette, Passive Optical Coupler Modules, and Poli-MOD® solutions. This panel offers enhanced management of densities up to 144 fibers using MTP-LC XFM Optical Cassettes (24 fibers).

Features

- Steel construction
- Textured black powder coat finish
- Universal WECO/TIA 19"/23" rack compatibility
- (6) LGX 118 adapter plate / module mounting positions
- Slide-out tray with relief cut-outs for simplified connector access
- Optional front door key lock for heightened protection of internal components

Applications

- Data Centers
- Enterprise Networks
- Telecommunications Closets
- Central Offices / Headends

Specifications

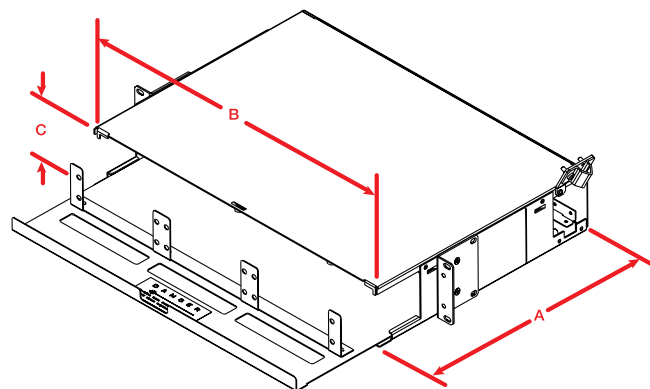
| DEPTH (A) IN INCHES | WIDTH (B) IN INCHES | HEIGHT (C) IN INCHES | RACK UNITS | CAPACITY | UNLOADED WEIGHT |
|------------------------|------------------------|-------------------------|---------------|-------------|--------------------|
| 15.5 | 17 | 3.5 | 2 | (6) LGX 118 | 15 lbs. |

Ordering Information

| DESCRIPTION | MODEL NUMBER | AFL NO. |
|--|--------------|-------------|
| Xpress Fiber Management 2U Patch Panel, Black, Empty | XFM-2-U-B-0 | FM002712-BE |

Accessories

| DESCRIPTION | AFL NO. |
|-------------------------------|----------|
| Kit, Lock, for CON/CNS Panels | FM001318 |



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Xpress Fiber Management® (XFM®) 4RU Patch Panel



The Xpress Fiber Management (XFM) 4RU patch panel is a rack mountable interconnect point specifically designed to manage dense fiber applications. Based on the LGX® intermateability platform, the panel is fully compatible with AFL's XFM Optical Cassette, Poli-MOD® and WDM solutions, offering enhanced management of densities up to 288F using MTP/MPO, single fiber, or patch and splice methodologies. Routing rings on the top and bottom of the front panel provide enhanced cable routing allowing cable assemblies to exit comfortably. This panel can be provisioned with a key lock at the time of order for secure environments.

Features

- Aluminum construction
- Textured black powder coat finish
- Universal WECO/TIA 19"/23" rack compatibility
- (12) LGX 118 adapter plate / module mounting positions
- Mounting depth adjustable from flush to 8" in 1" increments

Applications

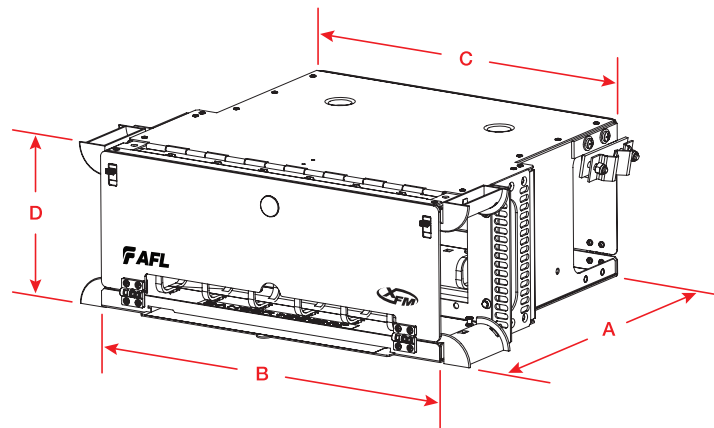
- Data Centers
- Enterprise Networks
- Telecommunications Closets
- Central Offices / Headends

Specifications

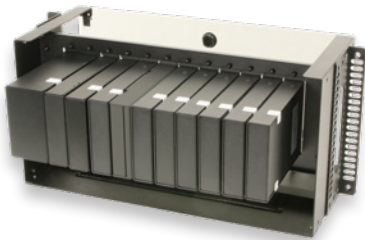
| DEPTH (A) IN INCHES | FRONT WIDTH (B) IN INCHES | REAR WIDTH (C) IN INCHES | HEIGHT (D) IN INCHES | RACK UNITS | CAPACITY | UNLOADED WEIGHT |
|------------------------|------------------------------|-----------------------------|-------------------------|---------------|--------------|--------------------|
| 15.5 | 17 | 15 | 7 | 4 | (12) LGX 118 | 9 lbs. |

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|------------|------------|
| Xpress Fiber Management 4U Patch Panel, Black, Empty | XFM-4U-B-0 | FM001090-B |
| Xpress Fiber Management 4U Patch Panel, Black, Empty, Key Lock | XFM-4U-B-K | FM001218-B |



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Xpress Fiber Management® (XFM®) 5RU Shelf

The Xpress Fiber Management (XFM) 5RU Shelf is a rack-mountable interconnect panel specifically designed to manage fibers in Wavelength Division Multiplexing (WDM) applications or in situations where fiber entry will occur only at the front entrance of the panel. Based on the LGX® intermateability platform, the panel is fully compatible with AFL's WDM, XFM® Optical Cassette and Poli-MOD® solutions. Routing rings on the bottom of the front panel allow cable assemblies to exit comfortably, while the back of the panel is left open to reduce size and weight.

The XFM Shelf can be conveniently mounted at three depths within the rack which includes a flush-mount option. The XFM Shelf also features a clear, removable front door and a pull-out cable designator card.

Features

- Aluminum construction
- Textured black powder coat finish
- Universal WECO/TIA 19"/23" rack compatibility
- (12) LGX 118 module mounting positions

Applications

- Central Offices / Headends
- Data Centers
- Wavelength Division Multiplexing

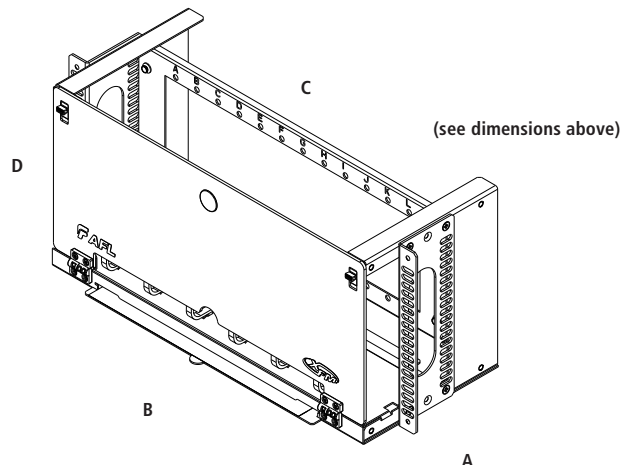
Specifications

| DEPTH (A) IN INCHES* | FRONT WIDTH (B) IN INCHES | REAR WIDTH (C) IN INCHES | HEIGHT (D) IN INCHES | RACK UNITS | CAPACITY | UNLOADED WEIGHT |
|-------------------------|------------------------------|-----------------------------|-------------------------|---------------|--------------|--------------------|
| 7.5 | 17 | 17 | 8.75 | 5 | (12) LGX 118 | 4 lbs. |

*Does not include installed modules

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Xpress Fiber Management 5RU Patch Panel, Shelf, Black | FM003626 |



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Front View—Door Open



Side Ports and Lower Pass-thru

XFM®-28 Dual Access Module Panel

AFL's XFM-28 Dual Access Module Panel is designed to maximize module capacity via both front and rear access in just four rack units.

In applications where additional rack space is unavailable, the XFM-28 doubles the capacity of traditional 14 slot, front-access only 4RU panels, offering a total of 28 slots to accommodate modules (14 front / 14 rear). The panel is lightweight yet robust, with efficient cable management features for routing flexibility.

Features

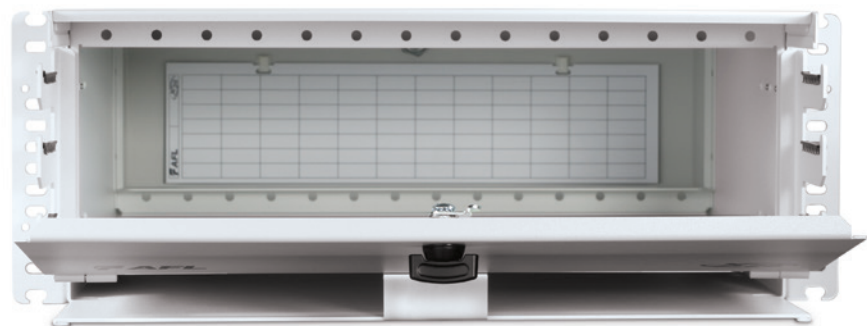
- Dual access via front and rear panel doors
- Aluminum construction
- Universal WECO/TIA 19"/23" rack compatibility
- (28) LGX® 118 module mounting positions (14 front / 14 rear)
- Cable management features include side cable ports and full pass-thru underneath the main bulkhead compartment to allow cable routing from front to back within the panel without eliminating any module positions

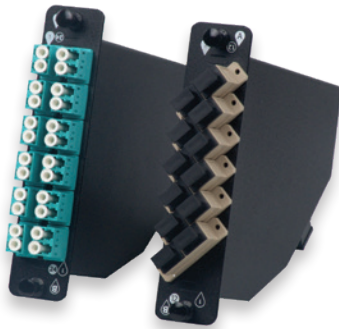
Specifications

| DEPTH | WIDTH | HEIGHT | RACK UNITS | CAPACITY | UNLOADED WEIGHT |
|--------|--------|--------|------------|--------------|-----------------|
| 21 in. | 17 in. | 7 in. | 4 | (28) LGX 118 | 10 lbs. |

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--------------------------------|-----------|----------|
| XFM-28, Enclosure, 4RU, 19/23" | XFM-28 | FM004268 |





Xpress Fiber Management® (XFM) MPO Optical Cassettes

AFL's Xpress Fiber Management Optical Cassette product line is a family of preterminated fanout modules that streamline the deployment of optical network infrastructure. The primary function of these products is to break out multi-fiber ribbon connectors to simplex or duplex style connectors for connection to adjacent network elements.

The Xpress Fiber Management Optical Cassette solution features low-loss MPO style trunk cable assemblies. These cassettes are available in the industry standard LGX® footprint as well as a selection of Corning Cable Systems™ footprints to support embedded base installations. All modules feature a durable powder coat finish, and are compatible with all 1U-4U LANSysSystem platforms. All modules are clearly labeled with a silk-screened "A" and "B" positioning reference to ensure proper polarity is maintained in the network, referenced to the polarity convention being deployed. Method "F" is also available.

Applications

- Data centers
- LAN, WAN and SAN
- Interoffice cross-connects
- Campus environments

Features

- 12- and 24- port configurations
- Single-slot LGX packages
- Compatible with LANSysSystem and WME hardware
- Available in black with rear MPO connection(s)
- SMF, 62.5 μm MMF and 50 μm MMF supported
- SC- and LC-MPO standard configurations
- ST- and FC-MPO configurations available on special order

Optical Performance Data

| PARAMETER | Single-mode Fiber (OS1) | | | | | Multimode Fiber (OM1, OM2 and 50 μm Laser Optimized) | | |
|------------------|-------------------------|-------------|----------|-------------|----------|--|----------|----------|
| | LC - MPO | LCAPC - MPO | SC - MPO | SCAPC - MPO | ST - MPO | LC - MPO | SC - MPO | ST - MPO |
| Max IL (dB) | 1.15 | 1.15 | 1.3 | 1.3 | 1.3 | 1.15 | 1.3 | 1.3 |
| Typical IL (dB) | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Reflectance (dB) | -55 | -65 | -55 | -65 | -55 | -30 | -30 | -30 |

Notes:

1. Single-mode IL test wavelengths 1310 nm and 1550 nm
2. Multimode IL test wavelengths 850 nm and 1300 nm
3. Single-mode RL test wavelengths 1310 nm and 1550 nm
4. Multimode RL test wavelengths 850 nm and 1300 nm

Ordering Information (Method A/B)

| FIBER COUNT, CONNECTOR OPTION | SINGLE-MODE | | MULTIMODE | |
|-------------------------------|-----------------------|-----------------------|---------------------------------|-------------------------------------|
| | UPC - MPO (MALE, APC) | APC - MPO (Male, APC) | 62.5 μm OM1 PC - MPO (Male, PC) | 50 μm LOMMF OM4 PC - MPO (Male, PC) |
| 12F, LC | FM000090-B | FM001477-B | FM000092-B | FM000273-B |
| 24F, LC | FM000691-B | FM001653-B | FM000663-B | FM000692-B |
| 12F, SC | FM000087-B | FM001465-B | FM000089-B | FM000272-B |
| 12F, ST | FM000093-B | N/A | FM000095-B | FM000274-B |

Ordering Information (Method F)

| FIBER COUNT, CONNECTOR OPTION | SINGLE-MODE | | MULTIMODE |
|-------------------------------|-----------------------|-----------------------|-------------------------------------|
| | UPC - MPO (MALE, APC) | APC - MPO (Male, APC) | 50 μm LOMMF OM4 PC - MPO (Male, PC) |
| 12F, LC | FM004756-B | FM004757-B | FM004832-B |
| 24F, LC | FM004653-B | FM004831-B | FM004613-B |

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Telcordia is a registered trademark of Telcordia Technologies, Inc.

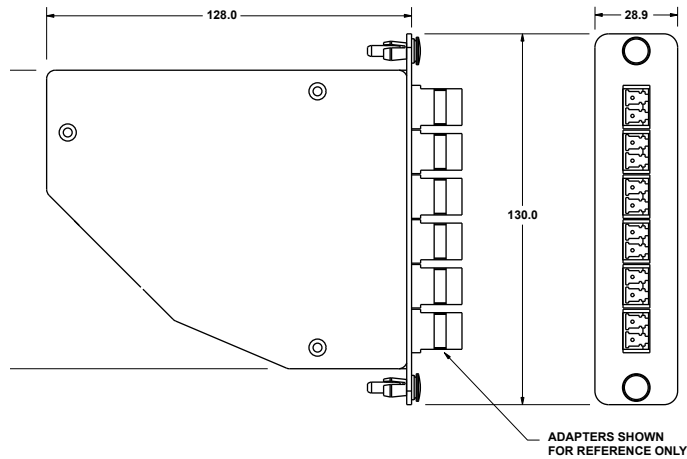
Xpress Fiber Management® (XFM) MPO Optical Cassettes

Ordering Information – Accessories

| DESCRIPTION | AFL NO. |
|------------------------|----------|
| 145 mm Adapter Bracket | FM001636 |

NOTE: Allows standard LGX modules, such as AFL’s Poli-Mod Interconnect Module and the XFM Optical Cassette, to be mounted into existing Corning Cable Systems™ CCH series and PCH series racks and wall mount products.

Dimensions



Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|----------------------|
| ANSI/TIA/EIA | ANSI/TIA/EIA-568-B.3 |
| Telcordia | GR-326 |
| Telcordia | GR-1435 |



ASCEND Fiber Housings in Rack

Features

- High Density: 1RU/144F, 2RU/288F and 4RU/576F
- Designed for 19" rack. Optional 23" rack mount kit available.
- Galvannealed steel construction
- Hinged front and rear doors and removable back cover
- BASE-8, BASE-12, BASE-24 and WDM compatibility
- Interchangeable cassette options for multiple applications
- Cassettes install independently from front or rear of housing; WDM cassettes install from front only
- Trunk cable management area accommodates ASCEND Trunk Cable Assemblies equipped with integrated cable mounting clip
- Compatible with all ASCEND Cassettes

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks
- Wavelength Division Multiplexing (WDM)

ASCEND® Fiber Housings

ASCEND fiber housings are available in 1RU, 2RU and 4RU sizes with densities of up to 144, 288, and 576 fibers for LC connections, respectively. Designed to support incremental growth or a full-scale deployment, ASCEND housings provide the ultimate in ease-of-use and fiber management features.

ASCEND housings are 19" or 23" (separate kit) rack-mountable and constructed using galvannealed steel for an extended service life. The front and rear doors are both hinged on the bottom, while the rear section of the housing cover is removable on the 1RU and 2RU for unobstructed access to all connector interfaces. The 4RU Housing features a fixed top equipped with lance positions to accommodate additional trunk cable assemblies, enabling both bottom and top cable entry and flexible routing options. Integrated routing rings at the front of the trays enable secure and organized routing of patch cords which facilitates efficient Moves, Adds and Changes (MACs).

The rear of the housing incorporates a trunk cable management area which features multiple trunk cable outback clip mounting positions that are designed to securely manage slack while allowing the trays to slide in/out for installation and service.

NOTE: A separate external cable mounting bracket is required if non-ASCEND cable assemblies are going to be installed in ASCEND Fiber Housings.

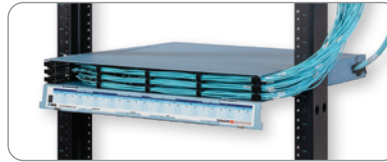
Ordering Information

| PANEL TYPE | DESCRIPTION | AFL NO. |
|------------|------------------------------------|------------------|
| BASE-8 | ASCEND HOUSING, 1RU, BASE-8 TRAYS | ASCEND-1RU-8-RT |
| | ASCEND HOUSING, 2RU, BASE-8 TRAYS | ASCEND-2RU-8-RT |
| | ASCEND HOUSING, 4RU, BASE-8 TRAYS | ASCEND-4RU-8-RT |
| BASE-12 | ASCEND HOUSING, 1RU, BASE-12 TRAYS | ASCEND-1RU-12-RT |
| | ASCEND HOUSING, 2RU, BASE-12 TRAYS | ASCEND-2RU-12-RT |
| | ASCEND HOUSING, 4RU, BASE-12 TRAYS | ASCEND-4RU-12-RT |
| BASE-24 | ASCEND HOUSING, 1RU, BASE-24 TRAYS | ASCEND-1RU-24-RT |
| | ASCEND HOUSING, 2RU, BASE-24 TRAYS | ASCEND-2RU-24-RT |
| | ASCEND HOUSING, 4RU, BASE-24 TRAYS | ASCEND-4RU-24-RT |

ASCEND® Fiber Housings



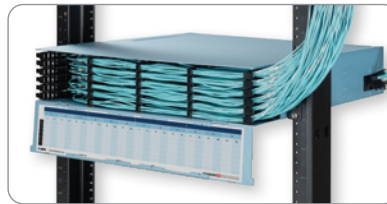
ASCEND 1RU



ASCEND 1RU front



ASCEND 2RU



ASCEND 2RU front



ASCEND 4RU



ASCEND 4RU front

Specifications

| PARAMETER | MODEL | | |
|----------------------------------|---|--|---|
| | ASCEND 1RU | ASCEND 2RU | ASCEND 4RU |
| Rack Space | 1 RU | 2 RU | 4 RU |
| Fiber Density (BASE-12, BASE-24) | 144 (LC), 864 (MPO) | 288 (LC), 1,728 (MPO) | 576 (LC), 3,456 (MPO) |
| Fiber Density (BASE-8) | 144 (LC), 576 (MPO) | 288 (LC), 1,152 (MPO) | 576 (LC), 2,304 (MPO) |
| Number of Trays | 3 | 6 | 12 |
| Cassette Capacity | 18 x BASE-8 Cassettes (6 per tray) 12 x BASE-12 Cassettes (4 per tray) 6 x BASE-24 Cassettes (2 per tray) | 36 x BASE-8 Cassettes (6 per tray) 24 x BASE-12 Cassettes (4 per tray) 12 x BASE-24 Cassettes (2 per tray) | 72 x BASE-8 Cassettes (6 per tray) 48 x BASE-12 Cassettes (4 per tray) 24 x BASE-24 Cassettes (2 per tray) |
| WDM Module Capacity* | 12 x WDM 1/4 Size Modules (4 per tray) 6 x WDM 1/2 Size Modules (2 per tray) 3 x WDM Full Size Modules (1 per tray) | 24 x WDM 1/4 Size Modules (4 per tray) 12 x WDM 1/2 Size Modules (2 per tray) 6 x WDM Full Size Modules (1 per tray) | 48 x WDM 1/4 Size Modules (4 per tray) 24 x WDM 1/2 Size Modules (2 per tray) 12 x WDM Full Size Modules (1 per tray) |
| Dimensions (HxWxD) | 44.5 x 438.2 x 501.6 mm 1.75 x 17.25 x 19.75 in. | 88.9 x 438.2 x 501.6 mm 3.5 x 17.25 x 19.75 in. | 177.8 x 438.2 x 501.6 mm 7.0 x 17.25 x 19.75 in. |
| Weight | 7.5 kg (16.6 lbs) | 10.2 kg (22.4 lbs) | 15.7 kg (34.6 lbs) |
| Color | Blue | Blue | Blue |
| Material | Metal Components: 16 GA Galvannealed Sheet Steel per ASTM A653 | Metal Components: 16 GA Galvannealed Sheet Steel per ASTM A653 | Metal Components: 16 GA Galvannealed Sheet Steel per ASTM A653 |

* WDM Module sizes may be combined in same tray. For example, 1/4 size module (QTY 2) and 1/2 size module (QTY 1).

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |



ASCEND® Optical Cassettes

ASCEND optical cassettes are the building blocks of the high density platform and are available in a wide range of configurations for multiple applications in BASE-8, BASE-12 and BASE-24 configurations.

Available in single-mode and multimode fiber types, ASCEND optical cassettes feature low loss MPO connectors and VFL-compatible shuttered LC adapters.

ASCEND cassettes are compatible with all ASCEND housings and can be independently installed from the front or rear of the housing onto a sliding tray system. This allows access to individual connections while minimizing disruption to other fiber connections.

Features

- Wide variety of cassettes for multiple applications
 - Fanout
 - Patch
 - Splice
 - WDM
- BASE-8, BASE-12 and BASE-24 configurations
- SM, MM (OM3) and MM (OM4)
- Low loss MPO connectors
- VFL-compatible shuttered LC adapters
- Install independently from front or rear of housing
- Compatible with all ASCEND housings

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks



ASCEND® Fanout Cassettes

ASCEND Fanout Cassettes are pre-terminated plug-and-play breakout modules designed to transition a trunk cable into individual connector ports. Available in single-mode and multimode fiber types, Fanout Cassettes feature low-loss MPO connectors and VFL-compatible shuttered LC adapters. All cassettes are offered in BASE-8, BASE-12 and BASE-24 configurations.

Fanout Cassettes are compatible with all standard ASCEND housings and can be independently installed from the front or rear onto a sliding tray system. This allows access to individual connections while minimizing disruption to other fiber connections.

Optical Performance Data

| PARAMETER | Single-mode Fiber (OS2) | Single-mode Fiber (OS2) | Multimode Fiber (OM3/4) |
|-------------------------|-------------------------|-------------------------|-------------------------|
| | LC/UPC - MPO | LC/APC - MPO | LC/PC - MPO |
| Max IL (dB) | 0.55 | 0.60 | 0.45 |
| Typical IL (dB) | 0.35 | 0.35 | 0.30 |
| Reflectance (dB) | -55 | -60 | -20 |
| Dimensions (L x W) (mm) | 132.5 x 94 | 132.5 x 94 | 132.5 x 94 |
| Color | Blue - Black | Green - Black | Aqua - Black |

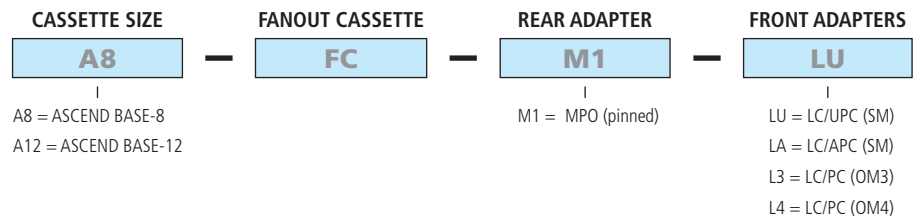
Features

- Plug and Play
- BASE-8, BASE-12 or BASE-24 configurations
- SM, MM (OM3) and MM (OM4)
- VFL-compatible shuttered Quad LC adapters
- Low loss MPO connectors
- Compatible with all ASCEND housings
- Install independently from front or rear of housing

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

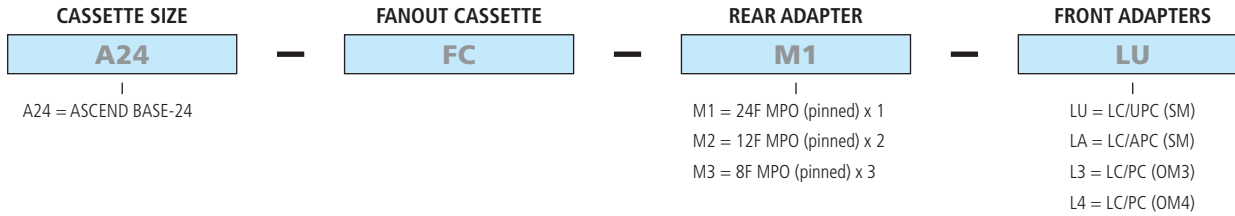
Ordering Information (BASE-8 and BASE-12)



| CATEGORY | DESCRIPTION | AFL NO. |
|---------------------------------|---|--------------|
| BASE-8 FANOUT CASSETTES | ASCEND-8 FANOUT CASSETTE, BASE-8, PINNED MPO-LC/UPC, SM | A8-FC-M1-LU |
| | ASCEND-8 FANOUT CASSETTE, BASE-8, PINNED MPO-LC/APC, SM | A8-FC-M1-LA |
| | ASCEND-8 FANOUT CASSETTE, BASE-8, PINNED MPO-LC/PC, OM3 | A8-FC-M1-L3 |
| | ASCEND-8 FANOUT CASSETTE, BASE-8, PINNED MPO-LC/PC, OM4 | A8-FC-M1-L4 |
| BASE-12 FANOUT CASSETTES | ASCEND-12 FANOUT CASSETTE, BASE-12, PINNED MPO-LC/UPC, SM | A12-FC-M1-LU |
| | ASCEND-12 FANOUT CASSETTE, BASE-12, PINNED MPO-LC/APC, SM | A12-FC-M1-LA |
| | ASCEND-12 FANOUT CASSETTE, BASE-12, PINNED MPO-LC/PC, OM3 | A12-FC-M1-L3 |
| | ASCEND-12 FANOUT CASSETTE, BASE-12, PINNED MPO-LC/PC, OM4 | A12-FC-M1-L4 |

ASCEND® Fanout Cassettes

Ordering Information (BASE-24)



| CATEGORY | DESCRIPTION | AFL NO. |
|-------------------------------------|---|--------------|
| BASE-24 FANOUT CASSETTES | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 24F MPO-LC/UPC, SM | A24-FC-M1-LU |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 24F MPO-LC/APC, SM | A24-FC-M1-LA |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 24F MPO-LC/PC, OM3 | A24-FC-M1-L3 |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 24F MPO-LC/PC, OM4 | A24-FC-M1-L4 |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 12F MPO-LC/UPC, SM | A24-FC-M2-LU |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 12F MPO-LC/APC, SM | A24-FC-M2-LA |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 12F MPO-LC/PC, OM3 | A24-FC-M2-L3 |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 12F MPO-LC/PC, OM4 | A24-FC-M2-L4 |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 8F MPO-LC/UPC, SM | A24-FC-M3-LU |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 8F MPO-LC/APC, SM | A24-FC-M3-LA |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 8F MPO-LC/PC, OM3 | A24-FC-M3-L3 |
| | ASCEND-24 FANOUT CASSETTE, BASE-24, PINNED 8F MPO-LC/PC, OM4 | A24-FC-M3-L4 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |



ASCEND® Patch Cassettes

ASCEND Patch Cassettes are pre-loaded with MPO adapters or VFL-compatible shuttered LC adapters. Available in BASE-8 and BASE-12 configurations, Patch Cassettes install easily from the front or rear of any standard ASCEND housing. Each cassette independently mounts onto a sliding tray which allows access to individual connections while minimizing disruption to other fiber connections.

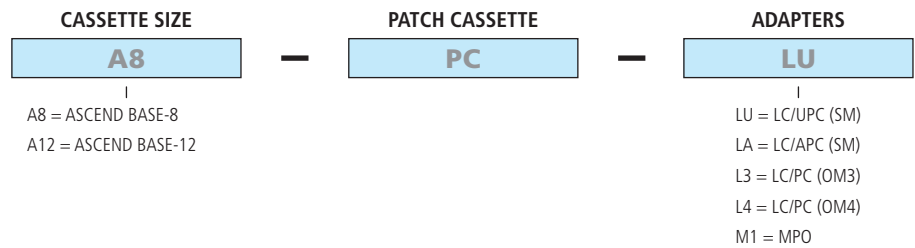
Features

- Plug and Play
- Install independently from front or rear of housing
- Compatible with all ASCEND housings
- Standard Duplex MPO or VFL-compatible shuttered Quad LC adapters

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Ordering Information



| CATEGORY | DESCRIPTION | ADAPTERS/ FIBER COUNT | AFL NO. |
|--|--|--------------------------|-----------|
| BASE-8 PATCH CASSETTES | ASCEND-8 PATCH CASSETTE, BASE-8, LC/UPC, SM | 8 LC/UPC (8 Fibers) | A8-PC-LU |
| | ASCEND-8 PATCH CASSETTE, BASE-8, LC/APC, SM | 8 LC/APC (8 Fibers) | A8-PC-LA |
| | ASCEND-8 PATCH CASSETTE, BASE-8, LC/PC, OM3 | 8 LC/PC (8 Fibers) | A8-PC-L3 |
| | ASCEND-8 PATCH CASSETTE, BASE-8, LC/PC, OM4 | 8 LC/PC (8 Fibers) | A8-PC-L4 |
| | ASCEND-8 PATCH CASSETTE, BASE-8, MPO | 4 MPO (48 Fibers) | A8-PC-M1 |
| BASE-12 PATCH CASSETTES | ASCEND-12 PATCH CASSETTE, BASE-12, LC/UPC, SM | 12 LC/UPC (12 Fibers) | A12-PC-LU |
| | ASCEND-12 PATCH CASSETTE, BASE-12, LC/APC, SM | 12 LC/APC (12 Fibers) | A12-PC-LA |
| | ASCEND-12 PATCH CASSETTE, BASE-12, LC/PC, OM3 | 12 LC/PC (12 Fibers) | A12-PC-L3 |
| | ASCEND-12 PATCH CASSETTE, BASE-12, LC/PC, OM4 | 12 LC/PC (12 Fibers) | A12-PC-L4 |
| | ASCEND-12 PATCH CASSETTE, BASE-12-MPO (4 MPO Only) | 4 MPO (48 Fibers) | A12-PC-M4 |
| | ASCEND-12 PATCH CASSETTE, BASE-12, MPO | 6 MPO (72 Fibers) | A12-PC-M1 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |



ASCEND® Splice Cassettes

ASCEND Splice Cassettes include 250 micron pre-terminated single fiber pigtails, or one SpiderWeb Ribbon® (SWR®) pigtail, that are loaded within the cassette and can be spliced directly to loose (or ribbon) fiber cable.

All Splice Cassettes feature VFL-compatible shuttered LC adapters with up to 12-fiber capacity. Available in single-mode and multimode fiber types, cassettes leverage a snap-in splice sleeve cradle to securely manage both single and ribbon fiber arrangements. A clear, removable cover allows for easy fiber viewing and access.

Splice Cassettes are compatible with all BASE-12 ASCEND housings and can be independently installed easily from the front or rear onto a sliding tray system. This allows access to individual connections while minimizing disruption to other fiber connections.

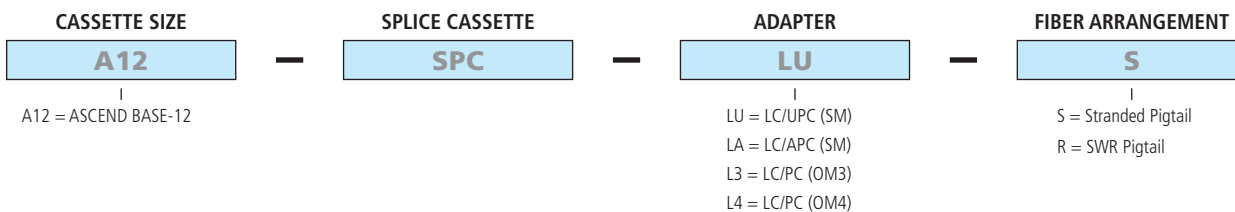
Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Features

- Up to 12-fiber interconnection capacity
- SM, MM (OM3) and MM (OM4)
- 250 µm color-coded single fibers or SWR options
- VFL-compatible shuttered Quad LC adapters
- Clear, removable cover for viewing and access
- Invented splice sleeve cradle
- Organized fiber routing
- BASE-12 configurations only
- Install independently from front or rear of housing

Ordering Information



| STRANDED FIBER | | |
|----------------|---|--------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| Single-mode | ASCEND-12 SPLICE CASSETTE, LC/UPC, SM, STRANDED PIGTAIL | A12-SPC-LU-S |
| | ASCEND-12 SPLICE CASSETTE, LC/APC, SM, STRANDED PIGTAIL | A12-SPC-LA-S |
| Multi-Mode | ASCEND-12 SPLICE CASSETTE, LC/PC, OM3, STRANDED PIGTAIL | A12-SPC-L3-S |
| | ASCEND-12 SPLICE CASSETTE, LC/PC, OM4, STRANDED PIGTAIL | A12-SPC-L4-S |

| SPIDERWEB RIBBON FIBER | | |
|------------------------|--|--------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| Single-mode | ASCEND-12 SPLICE CASSETTE, LC/UPC, SM, SWR PIGTAIL | A12-SPC-LU-R |
| | ASCEND-12 SPLICE CASSETTE, LC/APC, SM, SWR PIGTAIL | A12-SPC-LA-R |
| Multi-Mode | ASCEND-12 SPLICE CASSETTE, LC/PC, OM3, SWR PIGTAIL | A12-SPC-L3-R |
| | ASCEND-12 SPLICE CASSETTE, LC/PC, OM4, SWR PIGTAIL | A12-SPC-L4-R |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |



ASCEND® Mesh Cassettes

ASCEND Mesh Cassettes offer a way to switch ports without using LC connectivity. These cassettes are offered with four 8-fiber MPO adapters in the rear of the cassette and four 8-fiber MPO adapters in the front of the cassette with an internal fanout assembly that breaks out the rear 40G ports to each front MPO connector. This solution allows for a higher fiber density per RU.

Features

- Higher Density Connectivity, 32 fibers per cassette compared to 12 fibers using LC
- Compatible with all Base-12 ASCEND Housings
- Plug and Play
- Low Loss MPO connectors
- Quick installation

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Optical Performance Data

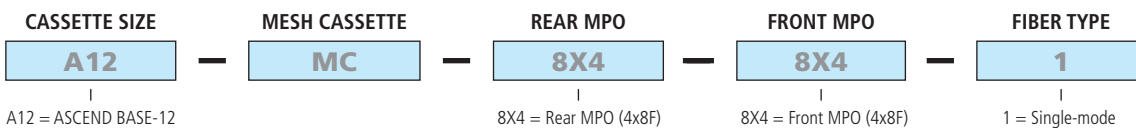
| OPERATING WAVELENGTHS | INSERTION LOSS * | REFLECTANCE |
|---|--|------------------------|
| SM: 1310 and 1550 nm MM: 850 and 1300 nm | Typical IL (dB): 0.35 dB Max IL (dB): 0.55 dB | SM: 50 dB MM: 20 dB |

* For grade B MPOs, the mean IL is ≤ 0.12 dB and max IL ≤ 0.25 dB for 97% of samples. Elite MTPs maintain max IL ≤ 0.25 dB for 98% of samples. The probability of both two mated pairs in a module being less than 0.25 dB each is 96%.

Temperature Specifications

| | |
|-----------------------|----------------|
| Operating Temperature | -20°C to +75°C |
| Storage Temperature | -40°C to +85°C |

Ordering Information



| DESCRIPTION | AFL NO. |
|--|------------------|
| ASCEND-12 Mesh Cassette, Base-12, 8X4 MPO Rear, 8X4 MPO Front, Single-mode | A12-MC-8X4-8X4-1 |



BASE-24 to BASE-8 Cassette
AFL No. A8-CC-24X1-8X3-1-1



BASE-12 to BASE-8 Cassette (Single Circuit)
AFL No. A12-CC-24X1-8X3-1-1



BASE-12 to BASE-8 Cassette (Dual Circuit)
AFL No. A12-CC-12X2-8X3-2-1

ASCEND® Conversion Cassettes

AFL's Conversion Cassettes provide an effective solution to transition from one BASE platform to another.

The cassettes fully utilize each fiber in a BASE-12 or BASE-24 array by breaking out the MTP/ MPO adapters at the rear of the cassette into a corresponding number of BASE-8 adapters at the front.

Features

- Accommodates 12 or 24 fiber MTP/MPO connections at the rear of the cassette and effectively transitions to 8 fiber MTP/MPO connections at the front of the cassette
- Compatible with all ASCEND Housings and installed easily from the front or rear of a corresponding BASE-8 or BASE-12 tray

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Specifications

| OPERATING WAVELENGTHS | INSERTION LOSS * | REFLECTANCE |
|---|--|------------------------|
| SM: 1310 and 1550 nm MM: 850 and 1300 nm | Typical IL (dB): 0.35 dB Max IL (dB): 0.55 dB | SM: 50 dB MM: 20 dB |

* For grade B MPOs, the mean IL is ≤ 0.12 dB and max IL ≤ 0.25 dB for 97% of samples. Elite MTPs maintain max IL ≤ 0.25 dB for 98% of samples. The probability of both two mated pairs in a module being less than 0.25 dB each is 96%.

Temperature Specifications

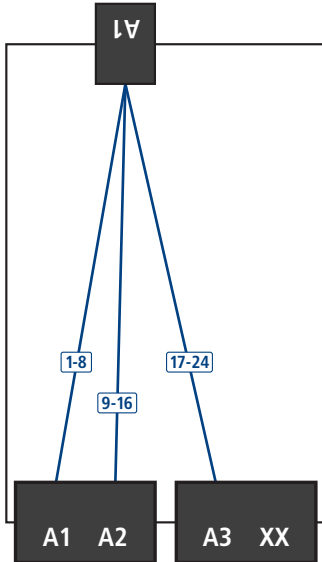
| | |
|-----------------------|----------------|
| Operating Temperature | -20°C to +75°C |
| Storage Temperature | -40°C to +85°C |

ASCEND® Conversion Cassettes

Schematics

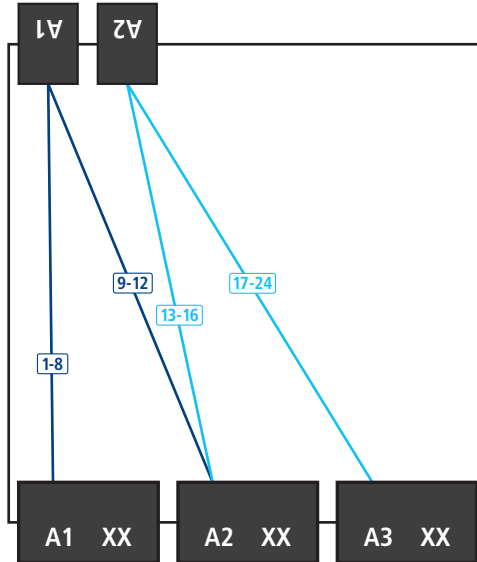
BASE-24 to BASE-8

A8-CC-24X1-8X3-1-1
A8-CC-24X1-8X3-1-3
A8-CC-24X1-8X3-1-4



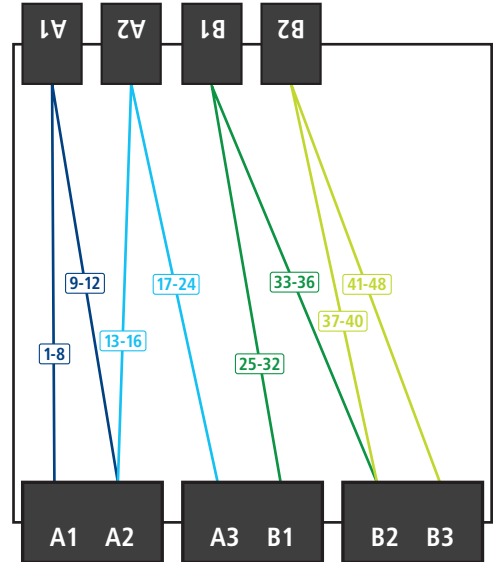
BASE-12 to BASE-8 (Single Circuit)

A12-CC-12X2-8X3-1-1
A12-CC-12X2-8X3-1-3
A12-CC-12X2-8X3-1-4



BASE-12 to BASE-8 (Dual Circuit)

A12-CC-12X2-8X3-2-1
A12-CC-12X2-8X3-2-3
A12-CC-12X2-8X3-2-4



Ordering Information

| BASE-24 TO BASE-8 CONVERSION CASSETTE OPTIONS | | |
|---|---|--------------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| BASE 8 | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,SM | A8-CC-24X1-8X3-1-1 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24x1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM3 | A8-CC-24X1-8X3-1-3 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM4 | A8-CC-24X1-8X3-1-4 |

| BASE-12 TO BASE-8 CONVERSION CASSETTE OPTIONS | | |
|---|---|--------------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| BASE 12 | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,SM | A8-CC-24X1-8X3-1-1 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24x1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM3 | A8-CC-24X1-8X3-1-3 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM4 | A8-CC-24X1-8X3-1-4 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,SM | A8-CC-24X1-8X3-1-1 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24x1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM3 | A8-CC-24X1-8X3-1-3 |
| | ASCEND-8 CONVERSION CASSETTE,BASE-8,24X1 MPO REAR,8X3 MPO FRONT,1 CIRCUIT,OM4 | A8-CC-24X1-8X3-1-4 |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-----------------------------------|---------------------------------------|
| EIA/TIA | 568 | Connectors |
| ITU-T | G.652.D and G.657-A1 | Single Mode Fiber |
| IEC | 60793-2-10 Type A1 | OM1, OM2, OM3, OM4 Multimode Fiber |
| Telcordia | GR-20 | Fiber |
| | GR-1435 | Connectors |
| RoHS | Compliant Directive 2001/65/EU | Fiber and Connectors |



BASE-8 Tap Cassette—Front and Rear Access
MPO Rear Input LC Input/ Output/Tap



BASE-12 Tap Cassette—Total Front Access
LC Input/ Output/Tap



BASE-12 Tap Cassette—Front and Rear Access
MPO Rear Input/ Output Front LC Tap ports

ASCEND® Tap Cassettes

High demands placed on modern fiber optic networks requires effective monitoring to maintain optimal performance and troubleshoot system security or other signal issues.

AFL's Tap Cassettes enable access points for monitoring live traffic signals in any fiber optic network.

Available with a variety of options to accommodate different split ratios for tap/ pass thru and input/ output configurations, it is quick and easy to tap and route network signals for any application.

Features

- Elite MPO connectors and adapters
- LC Shuttered Adapters
- Available with 50/50 and 30/70 Split Ratios to accommodate various Tap/ Pass Thru requirements
- Installs into all ASCEND Housings from the front or rear
- ITU-T G.657.D and G.652.A1 Compatible (SM)

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Temperature Specifications

| | |
|-----------------------|----------------|
| Operating Temperature | -20°C to +75°C |
| Storage Temperature | -40°C to +85°C |

ASCEND® Tap Cassettes

Specifications: Single-mode (SM)

| OPTICAL WAVELENGTHS | POLARIZATION DEPENDENT LOSS (PDL) | CASSETTE TYPE | MAX INSERTION LOSS (IL) THRU PORT (dB) INCLUDING CONNECTORS | MAX INSERTION LOSS (IL) TAP PORT (dB) INCLUDING CONNECTORS | MIN RETURN LOSS (RL) (dB) |
|--|-----------------------------------|---------------|---|--|---------------------------|
| 1310 nm +/- 40 nm 1550 nm +/- 40 nm | ≤ 0.3 dB | 50% Tap Port | 4.1 | 4.1 | 50 |
| | | 30% Tap Port | 2.6 | 6.5 | 50 |

Specifications: Multimode (MM)

| OPTICAL WAVELENGTHS | CASSETTE TYPE | MAX INSERTION LOSS (IL) THRU PORT (dB) INCLUDING CONNECTORS | MAX INSERTION LOSS (IL) TAP PORT (dB) INCLUDING CONNECTORS | MIN RETURN LOSS (RL) (dB) |
|---------------------------------------|---------------|---|--|---------------------------|
| 850 nm +/- 20 nm 1300 nm +/- 20 nm | 50% Tap Port | 4.1 | 4.1 | 20 |
| | 30% Tap Port | 2.6 | 6.5 | 20 |

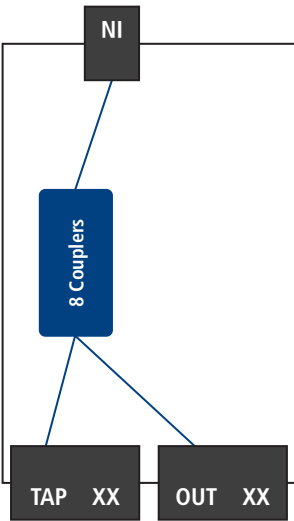


ASCEND® Tap Cassettes

Schematics

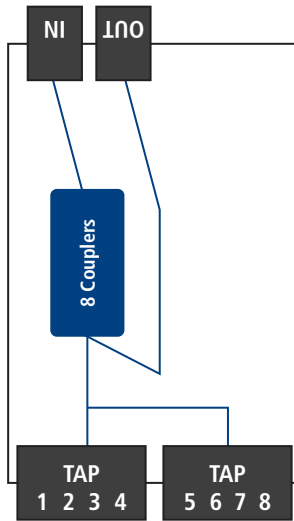
BASE-8

- A8-TC-1-1-XXX-50-1
- A8-TC-1-1-XXX-30-1
- A8-TC-4-1-XXX-50-1
- A8-TC-4-1-XXX-30-1



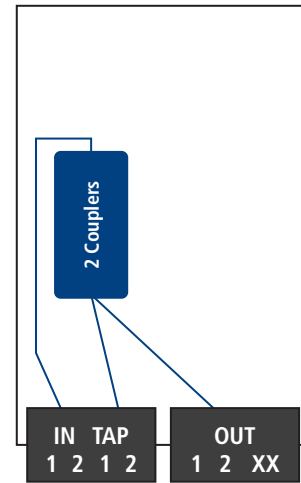
BASE-8

- A8-TC-1-2-ULC-50-1
- A8-TC-1-2-ULC-30-1
- A8-TC-1-2-ALC-50-1
- A8-TC-1-2-ALC-30-1
- A8-TC-4-2-PLC-50-1
- A8-TC-4-2-PLC-30-1



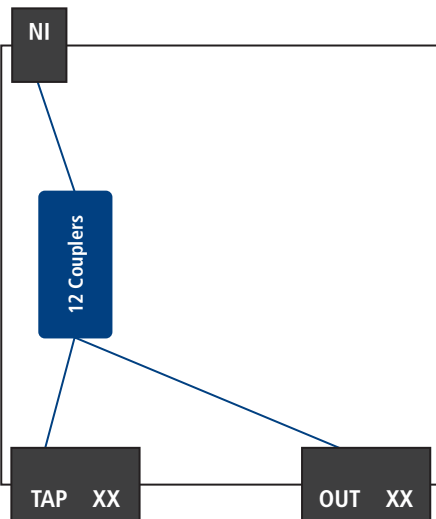
BASE-8

- A8-TC-1-3-ULC-50-1
- A8-TC-1-3-ULC-30-1
- A8-TC-1-3-ALC-50-1
- A8-TC-1-3-ALC-30-1
- A8-TC-4-3-PLC-50-1
- A8-TC-4-3-PLC-30-1



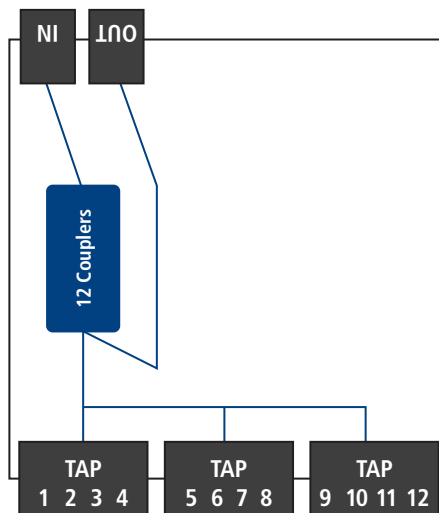
BASE-12

- A12-TC-1-1-XXX-50-1
- A12-TC-1-1-XXX-30-1
- A12-TC-4-1-XXX-50-1
- A12-TC-4-1-XXX-30-1



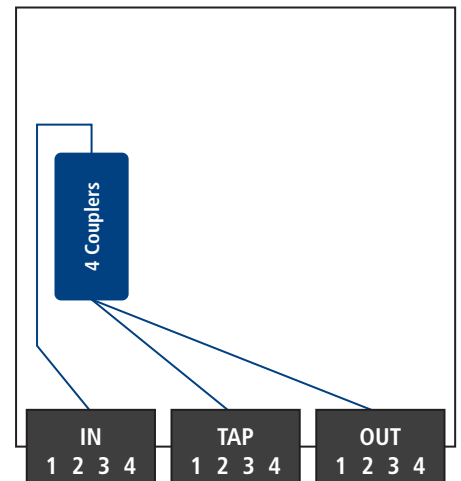
BASE-12

- A12-TC-1-2-ULC-50-1
- A12-TC-1-2-ULC-30-1
- A12-TC-1-2-ALC-50-1
- A12-TC-1-2-ALC-30-1
- A12-TC-4-2-PLC-50-1
- A12-TC-4-2-PLC-30-1



BASE-12

- A12-TC-1-3-ULC-50-1
- A12-TC-1-3-ULC-30-1
- A12-TC-1-3-ALC-50-1
- A12-TC-1-3-ALC-30-1
- A12-TC-4-3-PLC-50-1
- A12-TC-4-3-PLC-30-1



ASCEND® Tap Cassettes

Ordering Information

| 50/50 (TAP/ PASS THRU) SPLIT RATIO CONFIGURATIONS | | |
|---|---|---------------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| BASE-8 | ASCEND TAP CASSETTE, BASE-8, SM, MTP FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A8-TC-1-1-XXX-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/UPC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A8-TC-1-2-ULC-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/APC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A8-TC-1-2-ALC-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/UPC FRONT, 50% TAP SPLIT, SINGLE | A8-TC-1-3-ULC-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/APC FRONT, 50% TAP SPLIT, SINGLE | A8-TC-1-3-ALC-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, MTP FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A8-TC-4-1-XXX-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, LC/PC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A8-TC-4-2-PLC-50-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, LC/PC FRONT, 50% TAP SPLIT, SINGLE | A8-TC-4-3-PLC-50-1 |
| BASE-12 | ASCEND TAP CASSETTE, BASE-12, SM, MTP FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A12-TC-1-1-XXX-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/UPC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A12-TC-1-2-ULC-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/APC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A12-TC-1-2-ALC-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/UPC FRONT, 50% TAP SPLIT, SINGLE | A12-TC-1-3-ULC-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/APC FRONT, 50% TAP SPLIT, SINGLE | A12-TC-1-3-ALC-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, MTP FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A12-TC-4-1-XXX-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, LC/PC FRONT, MTP REAR, 50% TAP SPLIT, SINGLE | A12-TC-4-2-PLC-50-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, LC/PC FRONT, 50% TAP SPLIT, SINGLE | A12-TC-4-3-PLC-50-1 |

| 30/70 (TAP/ PASS THRU) SPLIT RATIO CONFIGURATIONS | | |
|---|---|---------------------|
| CATEGORY | DESCRIPTION | AFL NO. |
| BASE-8 | ASCEND TAP CASSETTE, BASE-8, SM, MTP FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A8-TC-1-1-XXX-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/UPC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A8-TC-1-2-ULC-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/APC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A8-TC-1-2-ALC-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/UPC FRONT, 30% TAP SPLIT, SINGLE | A8-TC-1-3-ULC-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, SM, LC/APC FRONT, 30% TAP SPLIT, SINGLE | A8-TC-1-3-ALC-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, MTP FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A8-TC-4-1-XXX-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, LC/PC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A8-TC-4-2-PLC-30-1 |
| | ASCEND TAP CASSETTE, BASE-8, MM, LC/PC FRONT, 30% TAP SPLIT, SINGLE | A8-TC-4-3-PLC-30-1 |
| BASE-12 | ASCEND TAP CASSETTE, BASE-12, SM, MTP FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A12-TC-1-1-XXX-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/UPC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A12-TC-1-2-ULC-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/APC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A12-TC-1-2-ALC-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/UPC FRONT, 30% TAP SPLIT, SINGLE | A12-TC-1-3-ULC-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, SM, LC/APC FRONT, 30% TAP SPLIT, SINGLE | A12-TC-1-3-ALC-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, MTP FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A12-TC-4-1-XXX-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, LC/PC FRONT, MTP REAR, 30% TAP SPLIT, SINGLE | A12-TC-4-2-PLC-30-1 |
| | ASCEND TAP CASSETTE, BASE-12, MM, LC/PC FRONT, 30% TAP SPLIT, SINGLE | A12-TC-4-3-PLC-30-1 |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|--------------------------------|------------------------------------|
| EIA/TIA | 568 | Connectors |
| ITU-T | G.652.D and G.657-A1 | Single-mode Fiber |
| IEC | 60793-2-10 Type A1 | OM1, OM2, OM3, OM4 Multimode Fiber |
| Telcordia | GR-20 | Fiber |
| | GR-1435 | Connectors |
| RoHS | Compliant Directive 2001/65/EU | Fiber and Connectors |



ASCEND® Patch Cord Assemblies

ASCEND patch cord assemblies are constructed with AFL's Micro Dual-Link cable and terminated with a field-reversible LC Uniboot connector.

This round cable design, coupled with the Uniboot LC connector, minimizes the front-side cabling footprint and reduces the impact on airflow up and down the rack, and between racks.

In addition to being field-reversible, the Uniboot LC connector also features an extended push-pull latching mechanism to improve finger access in high density applications.

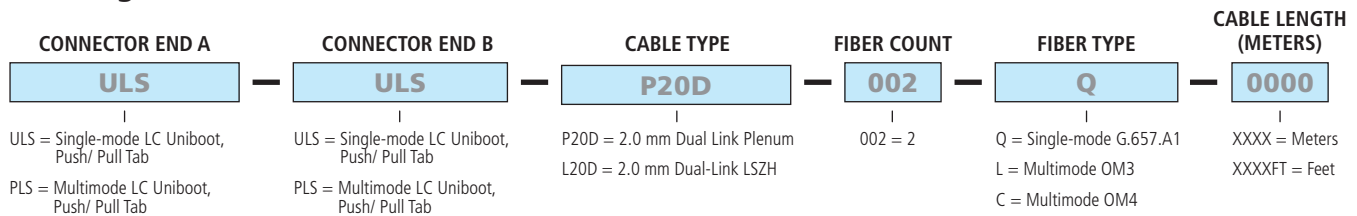
Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Features

- Uniboot LC connector comes pre-terminated with A to B polarity and is field-reversible
- No tools required
- Extended push-pull latching mechanism
- Round 2.0 mm plenum-rated jacket
- SM, MM (OM3) and MM (OM4)
- Bend insensitive fiber (G.657.A1)

Ordering Information



Specifications

| PARAMETER | SM | MM |
|--------------------------|----------------|---------|
| Insertion Loss (Typical) | 0.10 dB | 0.10 dB |
| Insertion Loss (Max) | 0.30 dB | 0.30 dB |
| Reflectance (Typical) | -55 dB | -30 dB |
| Durability | 500 Cycles | |
| Operating Temperature | -40°C to +75°C | |
| Ferrule | Zirconia | |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|--------------------------------|
| ITU | G.657.A1 | Single-mode optical fiber only |
| Telcordia | GR-409 | Cable |
| | GR-326 | Connectors |
| RoHS | Compliant | Cable |



Integrated mounting clip

ASCEND® Trunk Cable Assemblies

ASCEND trunk cable assemblies provide a high performance plug-and-play solution for premise installations where space is a premium.

The small-diameter MicroCore® cable construction provides industry leading fiber density and offers the installer many advantages over traditional cable options – higher tolerance to bends during and after installation; requires less space in cable trays, raceways, ducts and conduits; and enables more efficient airflow in congested, high density cabling applications.

ASCEND trunk cable assemblies feature the MTP® PRO* connector on multimode assemblies which allows for field-reversible polarity and gender with no housing removal, exposed fibers, or loose pins. All trunk cable assemblies have a predefined breakout length which eliminates guesswork and guarantees a clean and well-organized installation.

ASCEND trunk cable assemblies also include an integrated cable mounting clip, or "Outback Clip (OBC)" which mates directly with the trunk cable management area in the rear of all ASCEND housings. There are two Outback Clip options: the "Rock and Lock" which mates to the housing using a lever, and the "Hook and Loop" which mates to the housing using Velcro®. These clips eliminate the need for additional cable clamps and securely position the incoming cable while eliminating unwanted stress during installation.

NOTE: A separate external cable mounting bracket is required if non-ASCEND cable assemblies are going to be installed in ASCEND Fiber Housings.

Features

- 12-288 fibers in BASE-8 and BASE-12 configurations
- SM, MM (OM3) and MM (OM4)
- Bend-insensitive fiber (G.657.A1)
- Reduced-diameter MicroCore® cable with 2.0 mm subunits (up to 144)
- Plenum or LSZH options available
- Low loss MTP® PRO* connectors with field-reversible polarity and gender
- Single-mode terminations provided with Elite® performance
- Integrated cable mounting clip eliminates the requirement for external clamps for all ASCEND housings
- Pulling eye option available

Applications

- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

* MTP® PRO connectors are a trademark of US Conec (For MM connectors only)

ASCEND® Trunk Cable Assemblies

Specifications

| CONNECTOR | Connector Ordering Code | Connector Housing Color | Fiber Type | Cable Jacket Color | IL (Typical dB) | IL (MAX. DB) | Reflectance (Typical dB) |
|--------------------------|-------------------------|-------------------------|----------------------------|--------------------|-----------------|--------------|--------------------------|
| 8F MTP Elite (unpinned) | EEF | Yellow | Single-mode G.657.A1 (BIF) | Yellow | 0.1 | 0.35 | -60 |
| 8F MTP Elite (pinned) | EEM | Yellow | Single-mode G.657.A1 (BIF) | Yellow | 0.1 | 0.35 | -60 |
| 8F MTP Pro (unpinned) | PFEF | Aqua | 50 µm OM3, OM4 | Aqua | 0.1 | 0.35 | -20 |
| 8F MTP Pro (pinned) | PFEM | Aqua | 50 µm OM3, OM4 | Aqua | 0.1 | 0.35 | -20 |
| 12F MTP Elite (unpinned) | ETF | Yellow | Single-mode G.657.A1 (BIF) | Yellow | 0.1 | 0.35 | -60 |
| 12F MTP Elite (pinned) | ETM | Yellow | Single-mode G.657.A1 (BIF) | Yellow | 0.1 | 0.35 | -60 |
| 12F MTP Pro (unpinned) | PFTF | Aqua | 50 µm OM3, OM4 | Aqua | 0.1 | 0.35 | -20 |
| 12F MTP Pro (pinned) | PFTM | Aqua | 50 µm OM3, OM4 | Aqua | 0.1 | 0.35 | -20 |

Ordering Information

CONNECTOR END A — **CONNECTOR END B** — **CABLE TYPE** — **FIBER COUNT** — **FIBER TYPE** — **CABLE LENGTH** — **PULLING EYE** — **POLARITY** — **OBC** — **BASE SELECTION** — **PLATFORM**
ETF — **ETF** — **PL** — **012** — **Q** — **0001** — **PE** — **MF** — **RS** — **12** — **ASCEND**

EEF = MPO-SM Elite, 8 fiber, Female
 EEM = MPO-SM Elite, 8 fiber, Male
 PFEF = MTP PRO-MM, 8 fiber, Female
 PFEM = MTP PRO-MM, 8 fiber, Male
 ETF = MPO-SM Elite, 12 fiber, Female
 ETM = MPO-SM Elite, 12 fiber, Male
 PFTF = MTP PRO-MM, 12 fiber, Female
 PFTM = MTP PRO-MM, 12 fiber, Male
 XXX = No Connector (Pigtail)
 *For connector End B only

Options for Trunk & Pigtail Assemblies:
 PL = Plenum MicroCore (250 µm)
 GE = LSZH MicroCore (250 µm)
 Options for Pigtail Assemblies Only:
 GQS = 2.0 mm Plenum MicroCore (SWR)
 GES = 2.0 mm LSZH MicroCore (SWR)

008 = 8
 012 = 12
 024 = 24
 048 = 48
 072 = 72
 096 = 96
 144 = 144
 288 = 288

Q = Single-mode G.657A BIF
 L = Multimode OM3
 C = Multimode OM4

XXXX = Meters
 XXXXFT = Feet

Blank = No Pulling Eye
 PE = Pulling Eye (One End Only)

MF = Method F
 MA = Method A

HM = Hook & Loop OBC, Mixed
 HS = Hook & Loop OBC, Small
 HL = Hook & Loop OBC, Large
 RS = Rock & Lock*, Small
 NC = Spool Only
 Blank = Standard OBC

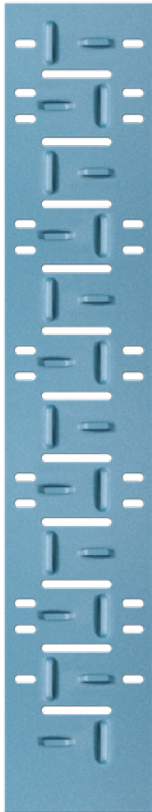
08 = BASE-8
 12 = BASE-12

ASCEND

*** NOTE** – The "Rock and Lock" mounting clip is only available for trunk cable diameters up to 13 mm and will come standard on trunk cables with fiber counts up to 288. The "Hook and Loop" mounting clip is available by request only.

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|----------------|--------------------------------|
| ITU | G.657.A1 | Single-mode optical fiber only |
| Telcordia | GR-326/GR-1435 | Connectors |
| | GR-409-CORE | Cable |
| EIA/TIA | 568-A | Cable |
| RoHS | Compliant | Cable |



ASCEND® Outback Clip Management (OCM) Bracket

ASCEND trunk cable assemblies provide a high performance plug-and-play solution and come equipped with an integrated mounting clip or "Outback Clip." There are two Outback Clip options: the "Rock and Lock" which mates to the housing using a lever, and the "Hook and Loop" which mates to the housing using velcro. These clips eliminate the need for additional cable clamps and securely position the incoming cable while eliminating unwanted stress during installation.

Trunk cables with Outback Clips are typically mounted directly in the rear of ASCEND Housings; however for applications that require cable mounting on the rack itself, the ASCEND OCM Bracket is designed to efficiently accommodate up to 12 ASCEND trunk cable assemblies.

Features

- Accommodates up to 12 Outback Clips/ Trunk Cables
- Rugged steel construction
- Includes rack tap screws

Applications

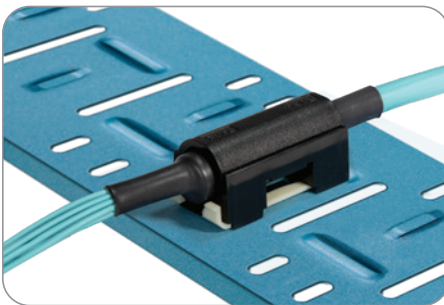
- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

Ordering Information

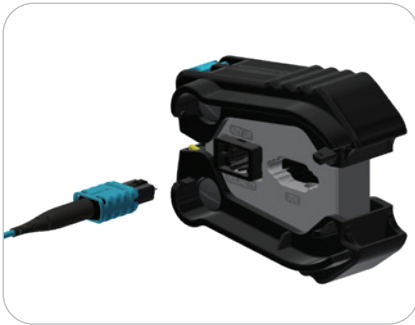
| CATEGORY | DESCRIPTION | AFL NO. |
|--------------------|---|---------|
| ASCEND Accessories | ASCEND, Outback Mounting Clip Bracket, 12 Positions | OCM-12 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |



Integrated Mounting of "Outback Clip" on ASCEND trunk cable assemblies provide simple snap and push release tabs



MTP® PRO Field Tool for Polarity/Pin Change

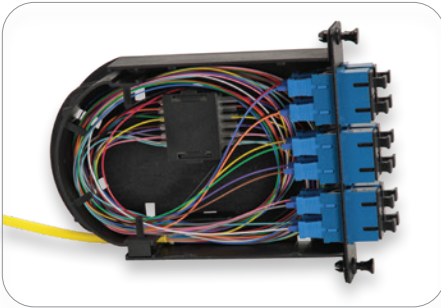
The unique MTP® PRO* design is focused on simplicity and reliability to ensure a quick and effective method for pin configuration without the need to remove the housing or handle loose pins.

Features

- Robust tool for easy pin change process
- Factory color designated pin clamp for easy identification
- Reusable color designated pin exchanger for safe handling of pins
- Field friendly configuration with no risk for damage
- Reliable pin retention force exceeding IEC requirement of 19.6N
- No handling of loose pins
- No housing removal necessary
- Compatible and recommended for use with ASCEND® Trunk Cable Jumper and Pigtail Assemblies whenever gender/ polarity changes are required in the field

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| Field Tool, Polarity/Pin, MTP PRO (18814) | CS014748 |
| Pin Exchanger, MTP Pro, Multimode, Female, Aqua, 10 pack (18256) | CS016089 |
| Pin Exchanger, MTP Pro, Single-mode, Female, Yellow, 10 pack (18841) | CS016090 |
| Pin Exchanger, MTP Pro, Multimode, Male, Aqua, 10 pack (18842) | CS016091 |
| Pin Exchanger, MTP Pro, Single-mode, Male, Yellow, 10 pack (18843) | CS016092 |



12-Fiber SC/UPC Configuration



24-Fiber LC/UPC Configuration



DAS Poli-MOD



Poli-MOD® Patch and Splice Module

AFL's new Poli-MOD is an innovative patch and splice module, which offers an inventive and effective means to accommodate up to 24 fiber interconnections in an industry-standard, single-slot LGX® 118 footprint. The Poli-MOD offers a unique and robust way to secure cable without the need for time-wasting, tie-wrap alternatives. Additionally, the module leverages a creative snap-in splice sleeve cradle to securely manage both single and ribbon fiber arrangements. These features provide the capacity to outfit a standard 4RU rack-mount panel with up to 288-fiber interconnections.

The Poli-MOD is also offered in an arrangement that supports the low loss budget requirements of Distributed Antenna System (DAS) networks. This is accomplished through the elimination of an interconnection point while providing a robust splicing environment for rack and wall-mount panel applications.

Features

- 24-fiber interconnection capacity
- LGX 118 compatibility (single-slot module)
- Effective and time-saving cable mounting mechanism (no tie-wraps necessary)
- Inventive splice sleeve cradle
- Available in SC, LC, ST and FC connector arrangements
- Shuttered LC connectors for increased dust protection
- Organized fiber routing
- Fixed solution, no moving parts
- Multi-directional cable entry access
- DIN rail mountable (with DIN Mount Kit)

Applications

- Telecommunications Closets
- Data Centers
- Customer Premise
- Local Area Networks
- Wide Area Networks
- Central Offices
- Hub Sites
- Cabinets
- Remote Terminals
- Distributed Antenna Systems (DAS)

LGX is a registered trademark of Furukawa Electric North America, Inc.

Poli-MOD® Patch and Splice Module

Ordering Information

Example: PM-L-12-ASC-0-S-01

| PM | L | 12 | ASC | 0 | S | 01 |
|----|---|---|--|--|---|---|
| | Configuration | Fiber/Connector Count | Connector Type ³ | Fiber Type | Fiber Arrangement | Packaging |
| | E = Empty (Splicing Only) H = Half Loaded (Adapter Plate only) L = Loaded (Adapter Plate & Pigtails) D = DAS Poli-MOD ¹ | 06 = 6 Fibers/Connectors 12 = 12 Fibers/Connectors 24 = 24 Fibers/Connectors ² XX = Empty | ASC = Angle-Polished SC USC = Ultra-Polished SC PSC = Multimode SC ALC = Angle-Polished LC ULC = Ultra-Polished LC PLC = Multimode LC UST = Ultra-Polished ST PST = Multimode ST AFC = Angle-Polished FC UFC = Ultra-Polished FC PFC = Multimode FC XXX = Empty | 0 = Single-mode (G.657.A1 BIF) 1 = 62.5 μm (OM1) 2 = 50 μm (OM2) 3 = 50 μm (OM3) 4 = 50 μm (OM4) X = Empty | S = Single/Standard R = Ribbon 3 = 3 mm, 3 meter DAS W = SpiderWeb Ribbon® (SWR®) X = No Fiber (Half Loaded or Empty) | 01 = 1 Poli-MOD per box* 06 = 6 Poli-MODs per box 12 = 12 Poli-MODs per box |

1. DAS Poli-MOD, with a maximum of 12 fibers each, requires specialty packaging and is packaged as "1 Poli-MOD per box" ONLY.
2. 24 Fibers/Connectors are only available in a LC Duplex configuration.
3. Angle and Ultra-Polished connector types are only available with single-mode fiber configurations.

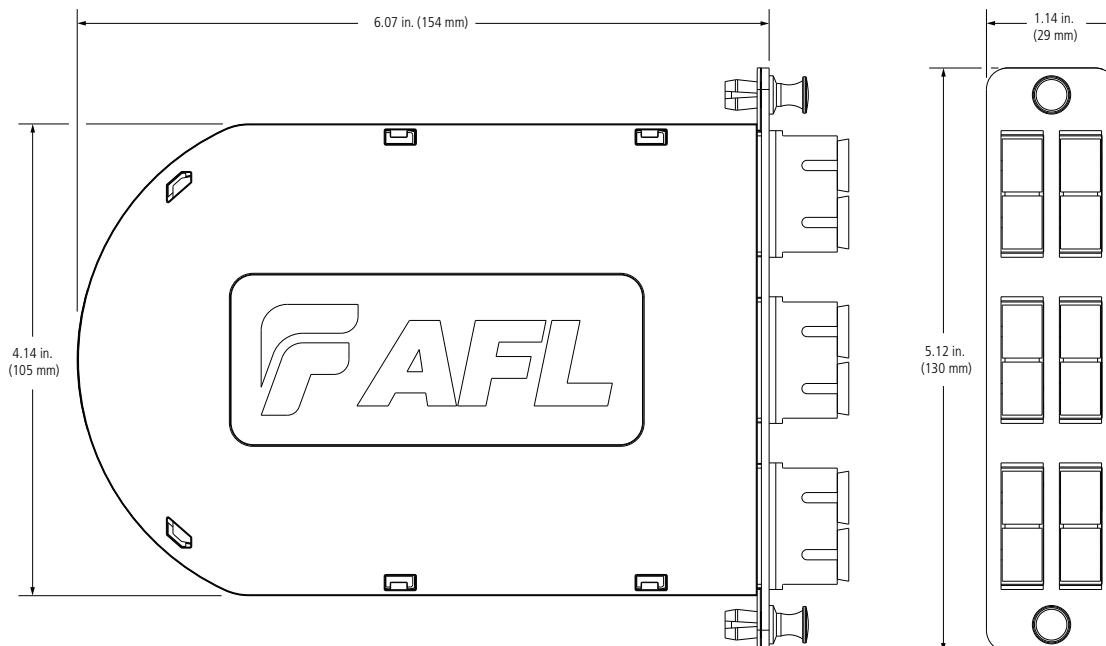
Adapter Color Codes

| FIBER AND POLISH TYPE | ADAPTER COLOR |
|--|---------------|
| Single-mode, APC (Angled Physical Contact) | Green |
| Single-mode, UPC (Ultra Physical Contact) | Blue |
| Multimode OM1, PC (Physical Contact) | Beige |
| Multimode OM2, PC (Physical Contact) | Black |
| Multimode OM4, PC (Physical Contact) | Aqua |

Poli-MOD Kits/Accessories

| DESCRIPTION | AFL NO. |
|--|------------|
| Poli-MOD Cable Mounting Clip Kit | FM003053 |
| Poli-MOD Spiral Wrap Kit | FM003280 |
| Poli-MOD Splice Chip Kit with 24 Splice Sleeves | FM003711 |
| Fusion Splice Sleeve, FP-03, 40 mm | S000206 |
| Adapter Bracket for Mounting Single Poli-MOD, angled | FM000948-B |
| Adapter Bracket for Mounting Single Poli-MOD, flat | FM003589-B |
| Corning CCH and PCH 145 mm Adapter Bracket | FM001636 |
| DIN Mount Kit, LGX® 118 | FM003394 |

Dimensions





WME01

Wall Mount Interconnect Enclosure (WME) with One LGX® Mounting Position

AFL's wall mount interconnect enclosure (WME01) provides a convenient convergence point for interconnecting and/or splicing in wall mount applications. Provisioned for one LGX-compatible adapter plate or optical module, the enclosure features a well-engineered solution for fiber and cable management on both the top and bottom openings of the enclosure. Robust steel construction ensures the highest level of protection for sensitive components while integrated roll-formed hinges eliminate possible fiber pinch points. The WME01 features a front access door which is lockable with a common pad-lock or tube-style keyed lock.

Features

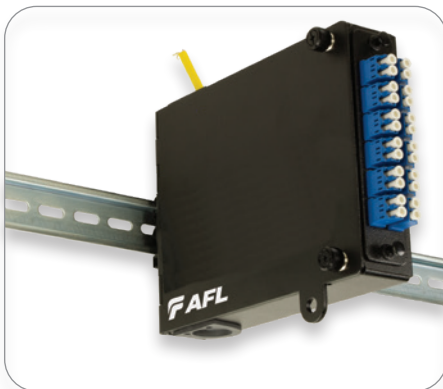
- Fits comfortably into new and existing interconnect, cross-connect and co-location environments
- U-shaped cable entry eliminates the need to feed preconnectorized cables through an inconvenient access port
- Modular design fully compatible with Poli-MOD® products and XFM® optical cassettes
- Locking option for flexibility and security
- Available empty, with adapters, or with adapters, splice chip and pigtails pre-installed
- LGX 118 compatible
- Optional DIN rail mounting kit (sold separately)
- All major connector types are supported



WME01 rear mounting clip for DIN rail

Applications

- Co-Location sites
- Customer premise
- Hub/OTN sites
- Telecommunication closets
- Campus/enterprise environments



WME01 with DIN rail mounting kit

Specifications

- Solid steel construction
- Powder coat black textured finish
- Top or bottom cable entry with dust resistant grommets
- Single-hasp locking/security system
- 12 to 24 fiber patch and splice density
- One LGX mounting position
- Physical dimensions: 5.6"H x 7"W x 1.5"D
- Empty version weight: 2.0 lbs.

Wall Mount Interconnect Enclosure (WME) with One LGX® Mounting Position

Ordering Information

| EMPTY | |
|-------------|---------|
| DESCRIPTION | AFL NO. |
| WME01 Empty | WME01E |

| HALF LOADED: WME WITH ADAPTER PLATES AND ADAPTERS ONLY | | | | | | | |
|--|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| CONN. TYPE | FIBER CT. | AFL NO. | | | | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM 62.5 (BEIGE) | PC MM 50 (BLACK) | PC MM OM3 (AQUA) | PC MM OM4 (AQUA) |
| SC | 6 | WME01AS-USCSM-006000 | WME01AS-ASCSM-006000 | WME01AS-PSCM6-006000 | WME01AS-PSCM5-006000 | WME01AS-PSCML-006000 | WME01AS-PSCMC-006000 |
| | 12 | WME01AS-USCSM-012000 | WME01AS-ASCSM-012000 | WME01AS-PSCM6-012000 | WME01AS-PSCM5-012000 | WME01AS-PSCML-012000 | WME01AS-PSCMC-012000 |
| LC | 6 | WME01AS-UDLSM-006000 | WME01AS-ADLSM-006000 | WME01AS-PDLM6-006000 | WME01AS-PDLM5-006000 | WME01AS-PDLM-006000 | WME01AS-PDLMC-006000 |
| | 12 | WME01AS-UDLSM-012000 | WME01AS-ADLSM-012000 | WME01AS-PDLM6-012000 | WME01AS-PDLM5-012000 | WME01AS-PDLM-012000 | WME01AS-PDLMC-012000 |
| | 24 | WME01AH-UDLSM-024000 | WME01AH-ADLSM-024000 | WME01AH-PDLM6-024000 | WME01AH-PDLM5-024000 | WME01AH-PDLM-024000 | WME01AH-PDLMC-024000 |
| ST | 6 | WME01AS-USTSM-006000 | — | WME01AS-PSTM6-006000 | WME01AS-PSTM5-006000 | WME01AS-PSTML-006000 | WME01AS-PSTMC-006000 |
| | 12 | WME01AS-USTSM-012000 | — | WME01AS-PSTM6-012000 | WME01AS-PSTM5-012000 | WME01AS-PSTML-012000 | WME01AS-PSTMC-012000 |
| FC | 6 | WME01AS-UFCSM-006000 | WME01AS-AFCSM-006000 | WME01AS-PFCM6-006000 | WME01AS-PFCM5-006000 | WME01AS-PFCML-006000 | WME01AS-PFCMC-006000 |
| | 12 | WME01AS-UFCSM-012000 | WME01AS-AFCSM-012000 | WME01AS-PFCM6-012000 | WME01AS-PFCM5-012000 | WME01AS-PFCML-012000 | WME01AS-PFCMC-012000 |

| LOADED: WME WITH ADAPTER PLATES/ADAPTERS/SPLICE CHIP/PIGTAIL (900 μm TIGHT BUFFERED FIBERS 3 METERS IN LENGTH) | | | | | | | |
|--|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| CONN. TYPE | FIBER CT. | AFL NO. | | | | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM 62.5 (BEIGE) | PC MM 50 (BLACK) | PC MM OM3 (AQUA) | PC MM OM4 (AQUA) |
| SC | 6 | WME01FS-USCSM-0061C0 | WME01FS-ASCSM-0061C0 | WME01FS-PSCM6-0061C0 | WME01FS-PSCM5-0061C0 | WME01FS-PSCML-0061C0 | WME01FS-PSCMC-0061C0 |
| | 12 | WME01FS-USCSM-0121C0 | WME01FS-ASCSM-0121C0 | WME01FS-PSCM6-0121C0 | WME01FS-PSCM5-0121C0 | WME01FS-PSCML-0121C0 | WME01FS-PSCMC-0121C0 |
| LC | 6 | WME01FS-UDLSM-0061C0 | WME01FS-ADLSM-0061C0 | WME01FS-PDLM6-0061C0 | WME01FS-PDLM5-0061C0 | WME01FS-PDLM-0061C0 | WME01FS-PDLMC-0061C0 |
| | 12 | WME01FS-UDLSM-0121C0 | WME01FS-ADLSM-0121C0 | WME01FS-PDLM6-0121C0 | WME01FS-PDLM5-0121C0 | WME01FS-PDLM-0121C0 | WME01FS-PDLMC-0121C0 |
| | 24 | WME01FH-UDLSM-0241C0 | WME01FH-ADLSM-0241C0 | WME01FH-PDLM6-0241C0 | WME01FH-PDLM5-0241C0 | WME01FH-PDLM-0241C0 | WME01FH-PDLMC-0241C0 |
| ST | 6 | WME01FS-USTSM-0061C0 | — | WME01FS-PSTM6-0061C0 | WME01FS-PSTM5-0061C0 | WME01FS-PSTML-0061C0 | WME01FS-PSTMC-0061C0 |
| | 12 | WME01FS-USTSM-0121C0 | — | WME01FS-PSTM6-0121C0 | WME01FS-PSTM5-0121C0 | WME01FS-PSTML-0121C0 | WME01FS-PSTMC-0121C0 |
| FC | 6 | WME01FS-UFCSM-0061C0 | WME01FS-AFCSM-0061C0 | WME01FS-PFCM6-0061C0 | WME01FS-PFCM5-0061C0 | WME01FS-PFCML-0061C0 | WME01FS-PFCMC-0061C0 |
| | 12 | WME01FS-UFCSM-0121C0 | WME01FS-AFCSM-0121C0 | WME01FS-PFCM6-0121C0 | WME01FS-PFCM5-0121C0 | WME01FS-PFCML-0121C0 | WME01FS-PFCMC-0121C0 |

| ACCESSORIES | |
|--|----------|
| DESCRIPTION | AFL NO. |
| DIN Mount Kit, LGX® 118 (Nylon DIN Clips and Screws) | FM003388 |

Connector/Adapter Key

| TYPE | DESCRIPTION |
|------|--|
| ASC | Angle Polish SC (ZR) sleeve-SM |
| ASF | Angle Polish SC Duplex (ZR) sleeve-SM |
| PSC | Physical Polish SC (PB) sleeve-MM |
| PSF | Physical Polish SC Duplex (PB) sleeve-MM |
| USC | Ultra Polish SC with (ZR) sleeve-SM |
| USF | Ultra Polish SC Duplex (ZR) sleeve-SM |

| TYPE | DESCRIPTION |
|------|-----------------------------------|
| PST | Physical Polish ST (PB) sleeve-MM |
| UST | Ultra Polish ST (ZR) sleeve-SM |
| AFC | Angle Polish FC (ZR) sleeve-SM |
| PFC | Physical Polish FC (PB) sleeve-MM |
| UFC | Ultra Polish FC (ZR) sleeve-SM |

| TYPE | DESCRIPTION |
|------|--|
| ADL | Angle Polish LC Duplex (ZR) sleeve-SM |
| PDL | Physical Polish LC Duplex (PB) sleeve-MM |
| PLC | Physical Polish LC (PB) sleeve-MM |
| UDL | Ultra Polish LC Duplex (ZR) sleeve-SM |
| ULC | Ultra Polish LC (ZR) sleeve-SM |

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WME-02



WME-02 shown empty



WME-02 shown fully loaded

Wall Mount Interconnect Enclosure (WME) with Two LGX® Mounting Positions

AFL's wall mount interconnect enclosure (WME02) provides a convenient convergence point for interconnecting and/or splicing in wall mount applications. Provisioned for up to two LGX compatible adapter plates or optical modules, the enclosure features a well-engineered solution for fiber and cable management on both the ingress and egress openings of the enclosure. Robust steel construction ensures the highest level of protection for sensitive components while integrated roll-formed hinges eliminate possible fiber pinch points while deploying or servicing components within. The WME02 features discrete access doors for provider and customer access which are independently lockable with a common pad-lock or tube-style keyed lock.

Features

- Fits comfortably into new and existing interconnect, cross-connect and co-location environments
- U-shaped cable entry eliminates the need to feed preconnectorized cables through an inconvenient access port
- Modular design fully compatible with Poli-MOD® products and XFM optical cassettes
- Dual doors with separate locking options for flexibility and security
- Available empty, with adapters, or with adapters, splice trays and pigtails pre-installed
- LGX 118 compatible
- Optional splice tray and holder (ordered separately)
- All major connector types are supported

Applications

- Co-Location sites
- Customer premise
- Hub/OTN sites
- Telecommunication closets
- Campus/enterprise environments

Specifications

- Solid steel construction
- Powder coat black textured finish
- Top or bottom cable entry with dust resistant grommets
- Dual-hasp locking/security system
- 12 to 24 fiber patch and splice density
- Two LGX mounting positions
- Physical dimensions: 12.0"H x 14.0"W x 2.5"D
- Empty version weight: 10.65 lbs.

LGX is a registered trademark of Furukawa Electric North America, Inc.

Wall Mount Interconnect Enclosure (WME) with Two LGX® Mounting Positions

Ordering Information

| EMPTY | |
|-------------|---------|
| DESCRIPTION | AFL NO. |
| WME02 Empty | WME02E |

| HALF LOADED: WME WITH ADAPTER PLATES AND ADAPTERS ONLY | | | | |
|--|-------------|----------------------|----------------------|----------------------|
| CONNECTOR TYPE | FIBER COUNT | AFL NO. | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM (BEIGE) |
| SC | 6 | WME02AS-USCSM-006000 | WME02AS-ASCSM-006000 | WME02AS-PSCM6-006000 |
| | 12 | WME02AS-USCSM-012000 | WME02AS-ASCSM-012000 | WME02AS-PSCM6-012000 |
| | 24 | WME02AH-USFSM-024000 | WME02AH-ASFSM-024000 | WME02AH-PSFM6-024000 |
| LC | 6 | WME02AS-UDLSM-006000 | WME02AS-ADLSM-006000 | WME02AS-PDLM6-006000 |
| | 12 | WME02AS-UDLSM-012000 | WME02AS-ADLSM-012000 | WME02AS-PDLM6-012000 |
| | 24 | WME02AH-UDLSM-024000 | WME02AH-ADLSM-024000 | WME02AH-PDLM6-024000 |
| ST | 6 | WME02AS-USTSM-006000 | — | WME02AS-PSTM6-006000 |
| | 12 | WME02AS-USTSM-012000 | — | WME02AS-PSTM6-012000 |
| | 24 | WME02AH-USTSM-024000 | — | WME02AH-PSTM6-024000 |
| FC | 6 | WME02AS-UFCSM-006000 | WME02AS-AFCSM-006000 | WME02AS-PFCM5-006000 |
| | 12 | WME02AS-UFCSM-012000 | WME02AS-AFCSM-012000 | WME02AS-PFCM5-012000 |
| | 24 | WME02AH-UFCSM-024000 | WME02AH-AFCSM-024000 | WME02AH-PFCM5-024000 |

Connector/Adapter Key

| TYPE | DESCRIPTION |
|------|--|
| ASC | Angle Polish SC (ZR) sleeve-SM |
| ASF | Angle Polish SC Duplex (ZR) sleeve-SM |
| PSC | Physical Polish SC (PB) sleeve-MM |
| PSF | Physical Polish SC Duplex (PB) sleeve-MM |
| USC | Ultra Polish SC with (ZR) sleeve-SM |
| USF | Ultra Polish SC Duplex (ZR) sleeve-SM |
| PST | Physical Polish ST (PB) sleeve-MM |
| UST | Ultra Polish ST (ZR) sleeve-SM |
| AFC | Angle Polish FC (ZR) sleeve-SM |
| PFC | Physical Polish FC (PB) sleeve-MM |
| UFC | Ultra Polish FC (ZR) sleeve-SM |
| ADL | Angle Polish LC Duplex (ZR) sleeve-SM |
| PDL | Physical Polish LC Duplex (PB) sleeve-MM |
| PLC | Physical Polish LC (PB) sleeve-MM |
| UDL | Ultra Polish LC Duplex (ZR) sleeve-SM |
| ULC | Ultra Polish LC (ZR) sleeve-SM |

| LOADED: WME WITH ADAPTER PLATES/ADAPTERS/SPLICE TRAYS/PIGTAIL (900 μm TIGHT BUFFERED FIBERS 3 METERS IN LENGTH) | | | | | |
|---|-------------|----------------------|----------------------|-----------------------|----------------------|
| CONNECTOR TYPE | FIBER COUNT | AFL NO. | | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM 62.5 μm (BEIGE) | PC MM 50 μm (BLACK) |
| SC | 6 | WME02FS-USCSM-006110 | WME02FS-ASCSM-006110 | WME02FS-PSCM6-006110 | WME02FS-PSCM5-006110 |
| | 12 | WME02FS-USCSM-012110 | WME02FS-ASCSM-012110 | WME02FS-PSCM6-012110 | WME02FS-PSCM5-012110 |
| | 24 | WME02FH-USFSM-024120 | WME02FH-ASFSM-024120 | WME02FH-PSFM6-024120 | WME02FH-PSFM5-024120 |
| LC | 6 | WME02FS-UDLSM-006110 | WME02FS-ADLSM-006110 | WME02FS-PDLM6-006110 | WME02FS-PDLM5-006110 |
| | 12 | WME02FS-UDLSM-012110 | WME02FS-ADLSM-012110 | WME02FS-PDLM6-012110 | WME02FS-PDLM5-012110 |
| | 24 | WME02FH-UDLSM-024120 | WME02FH-ADLSM-024120 | WME02FH-PDLM6-024120 | WME02FH-PDLM5-024120 |
| ST | 6 | WME02FS-USTSM-006110 | — | WME02FS-PSTM6-006110 | WME02FS-PSTM5-006110 |
| | 12 | WME02FS-USTSM-012110 | — | WME02FS-PSTM6-012110 | WME02FS-PSTM5-012110 |
| | 24 | WME02FH-USTSM-024120 | — | WME02FH-PSTM6-024120 | WME02FH-PSTM5-024120 |
| FC | 6 | WME02FS-UFCSM-006110 | WME02FS-AFCSM-006110 | WME02FS-PFCM6-006110 | WME02FS-PFCM5-006110 |
| | 12 | WME02FS-UFCSM-012110 | WME02FS-AFCSM-012110 | WME02FS-PFCM6-012110 | WME02FS-PFCM5-012110 |
| | 24 | WME02FH-UFCSM-024120 | WME02FH-AFCSM-024120 | WME02FH-PFCM6-024120 | WME02FH-PFCM5-024120 |

| ACCESSORIES | |
|---|------------|
| DESCRIPTION | AFL NO. |
| Splice Tray Kit: Single Fusion 12F, 2RU, WME02, WME04, 1 Splice Tray | FM002827-1 |
| Splice Tray Kit: Single Fusion 12F, 2RU, WME02, WME04, 2 Splice Trays | FM002827-2 |

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WME-04

Wall Mount Interconnect Enclosure (WME) with Four LGX® Mounting Positions

AFL's wall mount interconnect enclosure (WME04) provides a convenient convergence point for interconnecting and/or splicing in wall mount applications. Provisioned for up to four LGX compatible adapter plates or optical modules, the enclosure features a well-engineered solution for fiber and cable management on both the ingress and egress openings of the enclosure. Robust steel construction ensures the highest level of protection for sensitive components while integrated roll-formed hinges eliminate possible fiber pinch points while deploying or servicing components within. The WME04 features discrete access doors for provider and customer access which are independently lockable with a common pad-lock or tube-style keyed lock.



WME-04 shown empty



WME-04 shown fully loaded

Features

- Fits comfortably into new and existing interconnect, cross-connect and co-location environments
- U-shaped cable entry eliminates the need to feed preconnectorized cables through an inconvenient access port
- Modular design fully compatible with Poli-MOD® products and XFM optical cassettes
- Dual doors with separate locking options for flexibility and security
- Available empty, with adapters, or with adapters, splice trays and pigtails pre-installed
- LGX 118 compatible
- Optional splice tray and holder (ordered separately)
- All major connector types are supported

Applications

- Co-Location sites
- Customer premise
- Hub/OTN sites
- Telecommunication closets
- Campus/enterprise environments

Specifications

- Solid steel construction
- Powder coat black textured finish
- Top or bottom cable entry with dust resistant grommets
- Dual-hasp locking/security system
- 24 to 48 fiber patch and splice density
- Four LGX mounting positions
- Physical dimensions: 12.0" H x 16.0" W x 3.63" D

LGX is a registered trademark of Furukawa Electric North America, Inc.

Wall Mount Interconnect Enclosure (WME) with Four LGX® Mounting Positions

Ordering Information

| EMPTY | |
|-------------|---------|
| DESCRIPTION | AFL NO. |
| WME04 Empty | WME04E |

Connector/Adapter Key

| TYPE | DESCRIPTION |
|------|--|
| ASC | Angle Polish SC (ZR) sleeve-SM |
| ASF | Angle Polish SC Duplex (ZR) sleeve-SM |
| PSC | Physical Polish SC (PB) sleeve-MM |
| PSF | Physical Polish SC Duplex (PB) sleeve-MM |
| USC | Ultra Polish SC with (ZR) sleeve-SM |
| USF | Ultra Polish SC Duplex (ZR) sleeve-SM |
| PST | Physical Polish ST (PB) sleeve-MM |
| UST | Ultra Polish ST (ZR) sleeve-SM |
| AFC | Angle Polish FC (ZR) sleeve-SM |
| PFC | Physical Polish FC (PB) sleeve-MM |
| UFC | Ultra Polish FC (ZR) sleeve-SM |
| ADL | Angle Polish LC Duplex (ZR) sleeve-SM |
| PDL | Physical Polish LC Duplex (PB) sleeve-MM |
| PLC | Physical Polish LC (PB) sleeve-MM |
| UDL | Ultra Polish LC Duplex (ZR) sleeve-SM |
| ULC | Ultra Polish LC (ZR) sleeve-SM |

| HALF LOADED: WME WITH ADAPTER PLATES AND ADAPTERS ONLY | | | | |
|--|-------------|----------------------|----------------------|----------------------|
| CONNECTOR TYPE | FIBER COUNT | AFL NO. | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM (BEIGE) |
| SC | 24 | WME04AS-USCSM-024000 | WME04AS-ASCSM-024000 | WME04AS-PSCM6-024000 |
| | 48 | WME04AH-USFSM-048000 | WME04AH-ASFSM-048000 | WME04AH-PSFM6-048000 |
| LC | 24 | WME04AS-UDLSM-024000 | WME04AS-ADLSM-024000 | WME04AS-PDLM6-024000 |
| | 48 | WME04AH-UDLSM-048000 | WME04AH-ADLSM-048000 | WME04AH-PDLM6-048000 |
| ST | 24 | WME04AS-USTSM-024000 | — | WME04AS-PSTM6-024000 |
| | 48 | WME04AH-USTSM-048000 | — | WME04AH-PSTM6-048000 |
| FC | 24 | WME04AS-UFCSM-024000 | WME04AS-AFCSM-024000 | WME04AS-PFCM5-024000 |
| | 48 | WME04AH-UFCSM-048000 | WME04AH-AFCSM-048000 | WME04AH-PFCM5-048000 |

| LOADED: WME WITH ADAPTER PLATES/ADAPTERS/SPLICE TRAYS/PIGTAIL (900 μm TIGHT BUFFERED FIBERS 3 METERS IN LENGTH) | | | | | |
|---|-------------|----------------------|----------------------|-----------------------|----------------------|
| CONNECTOR TYPE | FIBER COUNT | AFL NO. | | | |
| | | UPC SM (BLUE) | APC SM (GREEN) | PC MM 62.5 μm (BEIGE) | PC MM 50 μm (BLACK) |
| SC | 24 | WME04FS-USCSM-024120 | WME04FS-ASCSM-024120 | WME04FS-PSCM6-024120 | WME04FS-PSCM5-024120 |
| | 48 | WME04FH-USFSM-048140 | WME04FH-ASFSM-048140 | WME04FH-PSFM6-048140 | WME04FH-PSFM5-048140 |
| LC | 24 | WME04FS-UDLSM-024120 | WME04FS-ADLSM-024120 | WME04FS-PDLM6-024120 | WME04FS-PDLM5-024120 |
| | 48 | WME04FH-UDLSM-048140 | WME04FH-ADLSM-048140 | WME04FH-PDLM6-048140 | WME04FH-PDLM5-048140 |
| ST | 24 | WME04FS-USTSM-024120 | — | WME04FS-PSTM6-024120 | WME04FS-PSTM5-024120 |
| | 48 | WME04FH-USTSM-048140 | — | WME04FH-PSTM6-048140 | WME04FH-PSTM5-048140 |
| FC | 24 | WME04FS-UFCSM-024120 | WME04FS-AFCSM-024120 | WME04FS-PFCM6-024120 | WME04FS-PFCM5-024120 |
| | 48 | WME04FH-UFCSM-048140 | WME04FH-AFCSM-048140 | WME04FH-PFCM6-048140 | WME04FH-PFCM5-048140 |

| ACCESSORIES | |
|---|------------|
| DESCRIPTION | AFL NO. |
| Splice Tray Kit: Single Fusion 12F, 2RU, WME02, WME04, 3 Splice Trays | FM002827-3 |
| Splice Tray Kit: Single Fusion 12F, 2RU, WME02, WME04, 4 Splice Trays | FM002827-4 |



Wall Mount Interconnect Enclosure (WME) with 12 LGX® Mounting Positions

AFL's wall mount interconnect enclosure (WME12) provides a convenient convergence point for interconnecting and/or splicing in wall mount applications. Provisioned for up to 12 LGX-compatible optical modules, the enclosure features a well-engineered solution for fiber and cable management on both the ingress and egress openings of the enclosure. Robust steel construction ensures the highest level of protection for sensitive components while integrated roll-formed hinges eliminate possible fiber pinch points while deploying or servicing components within. The WME12 features discrete access doors for provider and customer access which are lockable by key.



Features

- Fits comfortably into new and existing interconnect, cross-connect and co-location environments
- U-shaped cable entry
- Modular design fully compatible with Poli-MOD® products and Xpress® Fiber Management (XFM®) optical cassettes
- Dual doors with separate locking options for flexibility and security
- LGX 118 compatible

Applications

- Co-Location sites
- Customer premise
- Hub/OTN sites
- Telecommunication closets
- Campus/enterprise environments

Specifications

- Solid steel construction
- Powder coat black textured finish
- Top or bottom cable entry with dust resistant grommets
- Keyed locking/security system
- Up to 288 fiber density
- 12 LGX mounting positions
- Physical dimensions: 16.75"H x 20.0"W x 6.82"D

Ordering Information

| DESCRIPTION | AFL NO. |
|-------------|---------|
| WME12 Empty | WME12E |

LGX is a registered trademark of Furukawa Electric North America, Inc.



24 Port ST Loaded Mini DIN Enclosure



12 Port SC Loaded Mini DIN Enclosure



FDE-24LC1-P
24F LC Mini DIN enclosure for patching

Mini DIN Rail Mounted Enclosure

The Mini DIN Rail Mounted Enclosure's compact design gives it the ideal form factor for installation into densely populated industrial cabinets.

Features and Benefits

- Small size making it very versatile
- Accommodates up to 12 or 24 x SC, ST or LC duplex adapters
- Ideal for housing pre-terminated loose tube and tight buffered cables
- Top and bottom cable entry to suit installation environment

Applications

- Process automation and control
- Intelligent transport system
- Rail signalling and control networks
- Power systems and control
- MTP pre-terminated cabling solutions

Technical Specifications

| DESCRIPTION | 12 PORT MINI DIN RAIL ENCLOSURE | 24 PORT (PATCH ONLY) MINI DIN RAIL ENCLOSURE |
|-----------------------------------|--|--|
| Dimensions W x H x D (mm) | 54.5 x 155 x 113 | 109 x 155 x 113 |
| Weight (lbs) | 1.5 | 3.0 |
| Maximum Number of Splices | 12 | N/A |
| Maximum Fiber Count (Front Panel) | 12 SC, ST and LC 24 | SC, ST |
| Incoming Cable Ports | 1 top and bottom | 2 top and bottom (includes internal routing hole for single cable 24 fiber installation) |
| Material and Color | Powder coated Mercury Grey | |
| Standard Accessories | Cable gland, central strain relief post, DIN rail mounting clip, laser badge, fiber clips and through adapters | |

Ordering Information

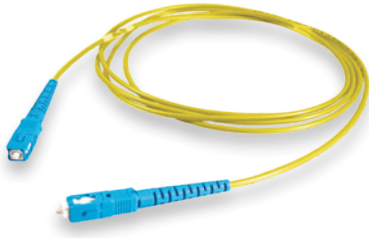
| | | | | | | |
|----------------------------|---|--------------------|----------------------------|-------------------|---|--|
| FDE | — | 12 | SC | 1 | — | S |
| Fiber DIN Enclosure | | Fiber Count | Adapter Type | Fiber Type | | Enclosure Function |
| | | 06 ¹ | SC | 1 – 9/125 μm | | S ³ – Splicing |
| | | 12 | SCA ⁵ (SM only) | SM OS1 | | M ^{2,4} – MTP pre-terminated enclosure |
| | | 24 ² | LC | 3 – 50/125 μm | | P – Patching pre-terminated or direct terminated cables only |
| | | | LCA ⁵ (SM only) | MM OM3 | | |
| | | | ST | 4 – 50/125 μm | | |
| | | | | MM OM4 | | |
| | | | | 6 – 62.5/125 μm | | |
| | | | | MM OM1 | | |

Notes

1. Uses 12 port plates, empty ports are filled with blanking plugs
2. 24 fiber option for patch (P) and MTP pre-terminated (M) enclosures only
3. Splicing enclosures include splice tray, protectors and pigtailed for 06 and 12 fiber configurations
4. LC OM3, OM4 and OS1/2 only
5. SCA and LCA options stand for APC adapter types.

Accessories

Contact AFL for ordering information on additional accessories to be used with the FDE product line such as pigtailed, splicing consumables, termination consumables, and pre-tailed fiber optic cable assemblies.



Simplex Cable Assemblies

Simplex cable assemblies are offered with a variety of combinations. Connectors include SC, FC, ST and LC. 3.0 mm, 2.0 mm, 1.6 mm and 900 μm simplex cables in riser and plenum are available.

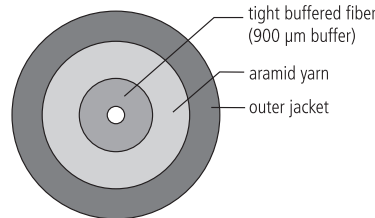
Features

- 3.0 mm, 2.0 mm, 1.6 mm, and 900 μm cable diameter available
- Riser, Plenum and LSZH rated cables available

Applications

- Building interconnections (campus LAN)
- Trunking lines direct to telecommunications closet
- Fiber patch panels within communications closets
- Links between electronic equipment and fiber patch panels

Cable Components



Ordering Information

ASC

Connector End A

Single-mode

ASC = Angle SC
AFC = Angle FC
ALC = Angle LC
USC = Ultra SC
UFC = Ultra FC
UST = Ultra ST
ULC = Ultra LC

Multimode

PSC = SC MM
PFC = FC MM
PLC = LC MM
PST = ST MM

ASC

Connector End B

Single-mode

ASC = Angle SC
AFC = Angle FC
ALC = Angle LC
USC = Ultra SC
UFC = Ultra FC
UST = Ultra ST
ULC = Ultra LC
XXX = No connector

Multimode

PSC = SC MM
PFC = FC MM
PLC = LC MM
PST = ST MM
XXX = No connector

RS

Cable Type

RS = 3.0 mm Riser
PS = 3.0 mm Plenum
KR = 3.0 mm I/O Riser
RT = 2.0 mm Riser
PT = 2.0 mm Plenum
RM = 1.6 mm Riser
PM = 1.6 mm Plenum
JH = 900 μm

001

Fiber Count

001 = 1

Q

Fiber Type

Q = Single-mode*
2 = Multimode 62.5/125 OM1
L = Multimode 50/125 OM3
C = Multimode 50/125 OM4

0010

Cable Length (meters)

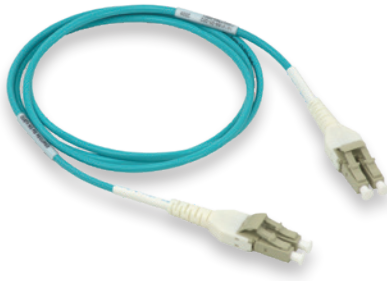
0010 = 10 meters
(specify length)

NOTES: * All Single-mode cable assemblies use the ITU G.657.A1 standard.

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-------------------|--------------------------------|
| Telcordia | GR-409 GR-326 | Cable Connectors |
| RoHS | Compliant | Cable |
| ITU | G.652.D, G.657.A1 | Single-mode optical fiber only |

Contact AFL for further details.



Duplex Cable Assemblies

Zipcord cables are used to meet the requirements for two-fiber cable assemblies, utilizing SC, FC, ST and LC connectors.

Features

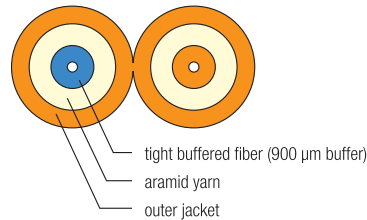
- Flexible, 2-fiber design
- Riser, Plenum and LSZH* rated cables available (*contact AFL)

Applications

- Private networks
- Data centers
- High-density applications
- Interconnect and cross-connect
- Premise installations

Cable Components

Zipcord



Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-------------------|--------------------------------|
| Telcordia | GR-409 GR-326 | Cable Connectors |
| RoHS | Compliant | Cable |
| ITU | G.652.D, G.657.A1 | Single-mode optical fiber only |

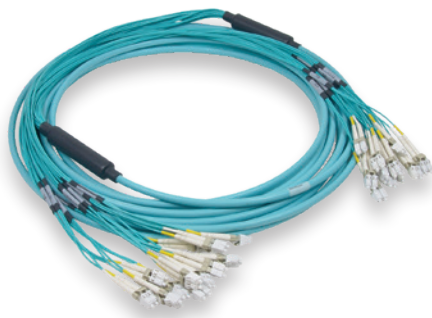
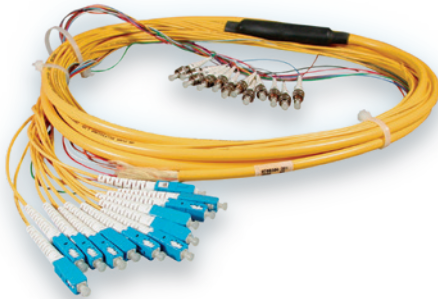
Contact AFL for further details.

Ordering Information

| UST | UST | RZ | 002 | Q | 0010 |
|---|---|---|-------------|---|---|
| Connector End A | Connector End B | Cable Type | Fiber Count | Fiber Type | Cable Length (meters) |
| Single-mode AFC = Angle FC UFC = Ultra FC }* UST = Ultra ST ADL = Angled LC Duplex ASF = Angled SC Duplex USF = Ultra SC Duplex UDL = Ultra LC Duplex Multimode PFC = FC MM }* PST = ST MM }* PSF = SC Duplex MM PDL = LC Duplex MM | Single-mode AFC = Angle FC UFC = Ultra FC }* UST = Ultra ST ADL = Angled LC Duplex ASF = Angled SC Duplex USF = Ultra SC Duplex UDL = Ultra LC Duplex XXX = No connector Multimode PFC = FC MM }* PST = ST MM }* PSF = SC Duplex MM PDL = LC Duplex MM XXX = No connector | Zipcord RZ = 3.0 mm Riser PZ = 3.0 mm Plenum R20Z = 2.0 mm Riser P20Z = 2.0 mm Plenum R16Z = 1.6 mm Riser P16Z = 1.6 mm Plenum | 002 = 2 | Q = Single-mode** 2 = Multimode 62.5/125 OM1 L = Multimode 50/125 OM3 C = Multimode 50/125 OM4 | XXXX (specify length) 0010 = 10 meters |

NOTES:

1. Refer to Connector Specifications page.
- * Single connector options, quantity two per end. Duplex connectors are assembled with removable clip.
 - ** All Single-mode cable assemblies use the ITU G.652.D/G.657.A1 standard.
 - *** LC Connectors available on 2.0 mm Zipcord cable.



Multi-Fiber Cable Assemblies

Multi-fiber cable assemblies provide safe and cost effective installation for many applications. These assemblies help eliminate labor-intensive field termination, yet guarantee reliable performance. These assemblies feature a unified construction for easy fiber identification and rapid installation.

Features

- 4-144 fibers with aramid yarn reinforcement for rugged protection
- Available with 900 μm tight buffered fibers or sub-unitized design with twelve 250 μm fibers per tube
- Highly flexible for ease of routing
- Riser, Plenum and LSZH rated cables available
- Pre-installed pulling eye kits available on certain products

Applications

- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Multi-floor deployment where select fibers are used at each floor
- Intra-building "backbones"
- Data center systems

Specifications

| PARAMETER | SINGLE-MODE ASSEMBLIES | | | | MULTIMODE ASSEMBLIES | |
|--------------------------------|------------------------|--------|-------|--------|----------------------|------|
| | LC | | SC | | LC | SC |
| | ULTRA | ANGLED | ULTRA | ANGLED | | |
| Insertion Loss (Typical dB)*** | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Insertion Loss (Maximum dB) | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 |
| Return Loss (Typical dB)*** | -60 | -70 | -60 | -70 | -35 | -35 |
| Return Loss (Minimum dB) | -55 | -65 | -55 | -65 | -30 | -30 |

*** Typical values based on equal quality connectors.

continued
→

Multi-Fiber Cable Assemblies

Ordering Information

| ASC | ASC | RC | 012 | Q | 0010 | NN |
|---|--|---|---|--|---|--------------|
| Connector End A | Connector End B | Cable Type | Fiber Count | Fiber Type | Cable Length (meters) | Leg Diameter |
| Single-mode ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC UDL = Ultra LC Duplex Multimode PSC = SC MM PFC = FC MM PLC = LC MM PST = ST MM PDL = LC Duplex MM* PSF = SC Duplex MM* | Single-mode ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC XXX = No connector Multimode PSC = SC MM PFC = FC MM PLC = LC MM PST = ST MM XXX = No connector | RC = Riser (CPC) PC = Plenum (CPC) PL = Plenum MicroCore® | 004 = 4 006 = 6 012 = 12 024 = 24 036 = 36 048 = 48 072 = 72 096 = 96 144 = 144 | Q = Single-mode ITU G.652D/ G.657.A1 2 = Multimode 62.5/125 μm OM1 L = Multimode 50/125 μm OM3 C = Multimode 50/125 μm OM4 | XXXX (specify length) 0010 = 10 meters Leg Diameter N = 900 μm End A / XXX End B NN = 900 μm End A and B F = Furcated End A / XXX End B FF = Furcated Ends A and B FN = Furcated Ends A / 900 μm End B NF = 900 μm End A / Furcated Ends B | |

NOTES:

1. Refer to Connector Specifications page.
2. Duplex SC and LC available

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-----------------------|---------------------|
| EIA/TIA | 568-A | Cable |
| Telcordia | GR-409-CORE GR-326 | Cable Connectors |
| RoHS | Compliant | Cable |

Temperature Specifications

| | |
|-------------------|----------------|
| Temperature Range | -40°C to +85°C |
|-------------------|----------------|

Contact AFL for further details.



MPO Cable Assemblies



MPO Fanout Cable Assemblies

MPO Cable Assemblies

MPO cable assemblies provide a high performance plug-and-play solution for premise installations where space is a premium. Used to interconnect panels or cassettes, the small diameter MicroCore® cable construction reduces the required pathway space and provides a flexible outer jacket in both single-mode and multimode configurations. Multiple breakout options are also available including LC, SC, ST, or FC single fiber connectors.

Features

- High density, plug and play fiber optic interconnects
- Pre-terminated cable assemblies eliminate field termination time and guarantee optical performance
- Available with a wide variety of cable and connector options
- Standard and low loss connectors
- Single-mode and laser-optimized multimode fiber available
- Pulling eye option available upon request

Applications

- Data center systems wiring
- MPO-MPO or MPO-Fanouts
- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Multi-floor deployment
- Intra-building "backbones"

Specifications

| PARAMETER | SINGLE-MODE ASSEMBLIES | | | | | MULTIMODE ASSEMBLIES | | |
|--------------------------------|------------------------|--------|-------|--------|--------|----------------------|------|-------------------|
| | LC | | SC | | MPO | LC | SC | MPO (LOW LOSS) |
| | ULTRA | ANGLED | ULTRA | ANGLED | ANGLED | | | |
| Insertion Loss (Typical dB)*** | 0.15 | 0.15 | 0.15 | 0.15 | 0.35 | 0.15 | 0.15 | 0.15 |
| Insertion Loss (Maximum dB) | 0.3 | 0.3 | 0.3 | 0.3 | 0.75 | 0.5 | 0.5 | 0.2 |
| Return Loss (Typical dB)*** | -60 | -70 | -60 | -70 | -65 | -35 | -35 | -30 |
| Return Loss (Minimum dB) | -55 | -65 | -55 | -65 | -55 | -30 | -30 | -20 |
| Operation Temperature | 0°C to 70°C | | | | | | | |
| Durability Cycles | 500 | 500 | 500 | 500 | 200 | 500 | 500 | 200 |

*** Typical values based on equal quality connectors.

continued
→

MPO Cable Assemblies

Ordering Information

MPO-MPO Assemblies

(Female MPOs on both ends – no pins)

(Polarity: Key Up/Key Up, Straight Through)

| FIBER COUNT | FIBER TYPE | PULLING EYE | AFL NO. |
|-------------|--------------------------------------|-------------|---------------|
| 12 | Single-mode, Single Jacket | No | CS017463-XXXX |
| 12 | Single-mode | No | CS009980-XXXX |
| 12 | Single-mode | Yes | CS009981-XXXX |
| 24 | Single-mode | No | CS009984-XXXX |
| 24 | Single-mode | Yes | CS009985-XXXX |
| 72 | Single-mode | No | CS009996-XXXX |
| 72 | Single-mode | Yes | CS009997-XXXX |
| 12 | 50 µm 10gig 300 (OM3), Single Jacket | No | CS003695-XXXX |
| 12 | 50 µm 10gig 300 (OM3) | No | CS010649-XXXX |
| 12 | 50 µm 10gig 300 (OM3) | Yes | CS010650-XXXX |
| 24 | 50 µm 10gig 300 (OM3) | No | CS003700-XXXX |
| 24 | 50 µm 10gig 300 (OM3) | Yes | CS009912-XXXX |
| 72 | 50 µm 10gig 300 (OM3) | No | CS003720-XXXX |
| 72 | 50 µm 10gig 300 (OM3) | Yes | CS010016-XXXX |
| 12 | 50 µm 10gig 550 (OM4), Single Jacket | No | CS013364-XXXX |
| 12 | 50 µm 10gig 550 (OM4) | No | CS008420-XXXX |
| 12 | 50 µm 10gig 550 (OM4) | Yes | CS010165-XXXX |
| 24 | 50 µm 10gig 550 (OM4) | No | CS010100-XXXX |
| 24 | 50 µm 10gig 550 (OM4) | Yes | CS010066-XXXX |
| 72 | 50 µm 10gig 550 (OM4) | No | CS010101-XXXX |
| 72 | 50 µm 10gig 550 (OM4) | Yes | CS010067-XXXX |

NOTE: XXXX is length in meters.

Contact AFL Customer Service for additional polarity schemes available.

Qualifications

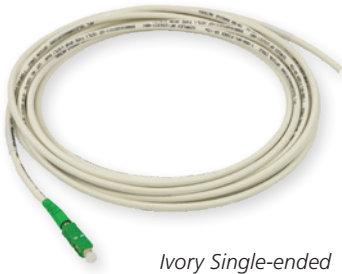
| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-------------------------------|---------------------|
| Telcordia | GR-326/GR-1435 GR-409-CORE | Connectors Cable |
| EIA/TIA | 568-A | Cable |

Contact AFL for further details.

MPO Fanout Assemblies

(Male MPOs — Duplex Connectors)

| FIBER COUNT | FIBER TYPE | PULLING EYE | AFL NO. | |
|-------------|-----------------------|-------------|--------------------|--------------------|
| | | | MALE MPO-LC DUPLEX | MALE MPO-SC DUPLEX |
| 12 | Single-mode | No | CS009521-XXXX | CS010020-XXXX |
| 12 | Single-mode | Yes | CS0010017-XXXX | CS010021-XXXX |
| 24 | Single-mode | No | CS003796-XXXX | CS010022-XXXX |
| 24 | Single-mode | Yes | CS010018-XXXX | CS010023-XXXX |
| 72 | Single-mode | No | CS003811-XXXX | CS010024-XXXX |
| 72 | Single-mode | Yes | CS010019-XXXX | CS010025-XXXX |
| 12 | 50 µm 10gig 300 (OM3) | No | CS011510-XXXX | CS010030-XXXX |
| 12 | 50 µm 10gig 300 (OM3) | Yes | CS010027-XXXX | CS010031-XXXX |
| 24 | 50 µm 10gig 300 (OM3) | No | CS003795-XXXX | CS010032-XXXX |
| 24 | 50 µm 10gig 300 (OM3) | Yes | CS010028-XXXX | CS010033-XXXX |
| 72 | 50 µm 10gig 300 (OM3) | No | CS003810-XXXX | CS010034-XXXX |
| 72 | 50 µm 10gig 300 (OM3) | Yes | CS010029-XXXX | CS010035-XXXX |
| 12 | 50 µm 10gig 550 (OM4) | No | CS009519-XXXX | CS010073-XXXX |
| 12 | 50 µm 10gig 550 (OM4) | Yes | CS010068-XXXX | CS010074-XXXX |
| 24 | 50 µm 10gig 550 (OM4) | No | CS010069-XXXX | CS010075-XXXX |
| 24 | 50 µm 10gig 550 (OM4) | Yes | CS010070-XXXX | CS010076-XXXX |
| 72 | 50 µm 10gig 550 (OM4) | No | CS010071-XXXX | CS010077-XXXX |
| 72 | 50 µm 10gig 550 (OM4) | Yes | CS010072-XXXX | CS010078-XXXX |



Ivory Single-ended



Black Double-ended

MDU Drop Cable Assemblies

AFL single-mode SC Angled Indoor and Indoor/Outdoor MDU Drop Assemblies are designed to meet stringent performance requirements of the latest FTTH (Fiber-to-the-Home) applications. Bend-insensitive fiber reduces macrobending attenuation when routing the drops in tight environments and the SC angled connector guarantees the high performance return loss required of video signals. Availability in both compact 3.0 mm and rugged 4.8 mm varieties allows for multiple installation scenarios. Assemblies are tested and qualified to Telcordia GR-326, Issue 3 requirements and meet all EIA/TIA 455-3 (FOCIS 3) interface standards for SC connectors.

Features

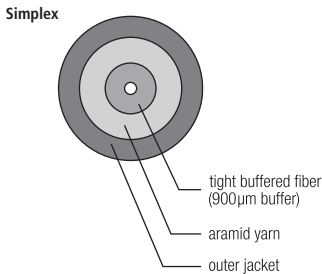
Connectors:

- Ceramic ferrule utilized for precision fiber alignment
- Keyed push-pull latching mechanism
- Connector housings are color-coded (Green) for APC identification and -65 dB return loss

Applications

- Multi-Dwelling Unit (MDU) drop cables for FTTH systems
- CATV Video systems
- LAN Networks

Cable Components



Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|------------------|
| Telcordia | GR-326 (Issue 3) |
| EIA/TIA | 455-3 (FOCIS 3) |

Temperature Specifications

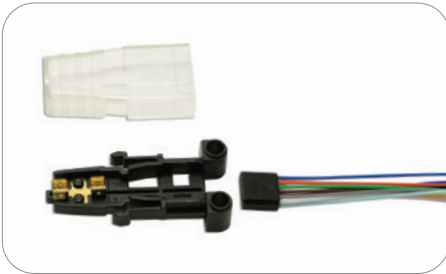
| | |
|--------------|----------------|
| Installation | -20°C to +70°C |
| Operating | -40°C to +70°C |
| Storage | -40°C to +70°C |

Specifications

| INSERTION LOSS | | RETURN LOSS | | FIBER TYPE | MAX. ATTENUATION | | NOMINAL DIAMETER | | TENSION | | BENDING RADIUS | |
|----------------|---------|-------------|--------|---------------------------|------------------|-----------|-------------------|-------------------|------------------|-----------------|----------------|----------------|
| MAX. | TYP. | MAX. | TYP. | | 1310 NM | 1550 NM | INCHES (MM) | | LBS (N) | | INCHES (MM) | |
| 0.25 dB | 0.15 dB | -65 dB | -68 dB | Bend Insensitive G.657.B3 | 0.5 dB/km | 0.5 dB/km | 0.11 in. (3.0 mm) | 0.19 in. (4.8 mm) | 100 lbs. (450 N) | 30 lbs. (150 N) | 0.2 in. (5 mm) | 0.2 in. (5 mm) |

Ordering Information

| ASC | | KR | 001 | X | 0010 | FT | BLACK |
|----------------------------------|--|--|-------------|-------------------------------|--------------|-----------------------------|----------------|
| Connector End A | Connector End B | Cable Type | Fiber Count | Fiber Type | Cable Length | Unit of Measure | Color |
| ASC = Angle SC USC = Ultra SC | ASC = Angle SC USC = Ultra SC Blank = Single Ended | K48R = Indoor/Outdoor 4.8 mm KR = Indoor/Outdoor 3.0 mm | 001 = 1 | X = Bend Insensitive G.657.B3 | | Blank = Meters FT = Feet | Ivory Black |



Fanout Kits

Fanout kits route 250 μm fibers into 900 μm buffer tubes ready for termination. These kits require no special tools and accommodate input cables from 2.0-3.8 mm in diameter. Fanout kits feature a clear, removable cover which is VFL-compatible and does not require epoxy. Color-coded 900 μm buffer tubes allow for easy identification of individual fiber channels.

Features

- Accepts 2.0-3.8 mm input cable
- Epoxy-free installation
- Clear, removable cover works with Visual Fault Locators (VFL)
- Protects sensitive 250 μm fibers
- Compatible with FUSEConnect® and FASTConnect® field-installable connectors

Applications

- Routing 250 μm fibers into 900 μm buffer tubes for termination

Specifications

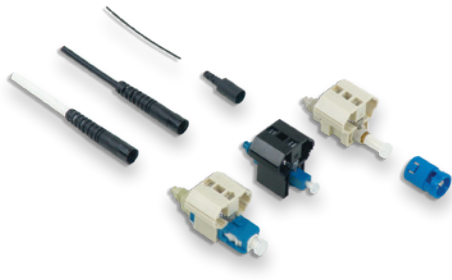
| PARAMETER | VALUE |
|------------------|--------------------|
| Fiber Count | 12 |
| Environment | Indoor |
| Input Cable Size | 2.0 - 3.8 mm |
| Length | 1 meter or 3 meter |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|--------------|
| Operation | -0°C to 70°C |

Ordering Information

| AFL NO. | DESCRIPTION |
|-----------------|--|
| FAN1-9-012-A-01 | Fanout kit, 1 position base, 900 μm , 12 tubes, A, 1M |
| FAN1-9-012-A-03 | Fanout kit, 1 position base, 900 μm , 12 tubes, A, 3M |



Features

- No epoxy, no Polish
- Low insertion loss
- Fiber can be reinserted up to three times
- 4.8 mm (SC only) cordage compatibility
- VFI accessory to confirm proper installation

Applications

- Premise/Enterprise Networks
- LAN/WAN Connections
- Patch Panels
- Equipment Termination
- FTTx Applications
- Field Repair/Replacement
- Equipment Test Leads

FASTConnect® Field-Installable Connectors

FASTConnect are factory pre-polished, field-installable connectors that completely eliminate the need for hand polishing in the field. Proven mechanical splice technology ensuring precision fiber alignment, a factory pre-cleaved fiber stub and a proprietary index-matching gel combine to offer an immediate low loss termination to either single-mode or multimode optical fibers. FASTConnect are compatible with 250 μm and 900 μm optical fibers, as well as 4.8 mm (SC only) cordage.

All primary fiber types are supported, and each connector is color coded per industry standard requirements to aid in identification during and after installation. A factory-installed wedge clip (included with each connector) is removed and discarded upon completion of the termination. Incorporated into this device is an innovative, translucent wedge enabling the use of a common VFI to provide a "pass/fail" signal once physical contact is achieved.

Specifications

| PARAMETER | TYPE | VALUE |
|---------------------------------|-------------------|----------------------------------|
| Insertion Loss: | Single-mode - UPC | Average: 0.2 dB, Maximum: 0.5 dB |
| | Single-mode - APC | Average: 0.3 dB, Maximum: 0.6 dB |
| | Multimode - PC | Average: 0.1 dB, Maximum: 0.5 dB |
| Return Loss at Room Temperature | Single-mode - UPC | Average: -50 dB, Maximum: -45 dB |
| | Single-mode - APC | Average: -55 dB, Maximum: -50 dB |
| | Multimode | Average: -25 dB, Maximum: -20 dB |

Ordering Information

| FIBER TYPE | HOUSING COLOR | CABLE SIZE | AFL NO. | |
|---|---------------|------------|------------------|--------------------|
| | | | PACKAGE OF 6 | PACKAGE OF 100 |
| FASTCONNECT SC | | | | |
| Multimode 62.5/125 μm, OM1 | Beige | 900 μm | FAST-SC-MM62.5-6 | FAST-SC-MM62.5-100 |
| Multimode 50/125 μm, OM2 | Black | | FAST-SC-MM50-6 | FAST-SC-MM50-100 |
| Multimode 50/125 μm, OM3/OM4 compatible | Aqua | | FAST-SC-MM50L-6 | FAST-SC-MM50L-100 |
| Single-mode, UPC | Blue | | FAST-SC-SM-6 | FAST-SC-SM-100 |
| Single-mode, APC | Green | | FAST-SC-SMAU-6 | FAST-SC-SMAU-100 |
| Single-mode, APC | Green | 4.8 mm | FAST-SC48-SMAU-6 | FAST-SC48-SMAU-100 |
| FASTCONNECT ST | | | | |
| Multimode 62.5/125 μm, OM1 | Beige | 900 μm | FAST-ST-MM62.5-6 | FAST-ST-MM62.5-100 |
| Multimode 50/125 μm, OM2 | Black | | FAST-ST-MM50-6 | FAST-ST-MM50-100 |
| Multimode 50/125 μm, OM3/OM4 compatible | Aqua | | FAST-ST-MM50L-6 | FAST-ST-MM50L-100 |
| Single-mode, UPC | Blue | | FAST-ST-SM-6 | FAST-ST-SM-100 |
| FASTCONNECT LC | | | | |
| Multimode 62.5/125 μm, OM1 | Beige | 900 μm | FAST-LC-MM62.5-6 | FAST-LC-MM62.5-100 |
| Multimode 50/125 μm, OM2 | Black | | FAST-LC-MM50-6 | FAST-LC-MM50-100 |
| Multimode 50/125 μm, OM3/OM4 compatible | Aqua | | FAST-LC-MM50L-6 | FAST-LC-MM50L-100 |
| Single-mode, UPC | Blue | | FAST-LC-SM-6 | FAST-LC-SM-100 |
| Single-mode, APC | Green | | FAST-LC-SMAU-6 | FAST-LC-SMAU-100 |

continued
→

FASTConnect® Field-Installable Connectors

Accessories

| DESCRIPTION | | | AFL NO. | AFL NO. |
|---|-------------|------------|-----------------|-------------------|
| BOOT KITS FOR 2 MM AND 3 MM CORDAGE | COLOR | CABLE SIZE | PACK OF 6 | PACK OF 100 |
| 2 mm Boot Kit, SC/LC/ST | Black | 2 mm | FAST-BOOT-2MM-6 | FAST-BOOT-2MM-100 |
| 3 mm Boot Kit, SC/LC/ST | Black | 3 mm | FAST-BOOT-3MM-6 | FAST-BOOT-3MM-100 |
| DUPLEX CLIPS | | | | |
| LC Duplex Clip (LC only) | Transparent | | CS010437-06 | CS010437-100 |
| TOOL KITS | | | | AFL NO. |
| FASTConnect High Precision Tool Kit with CT50 Cleaver | | | | CS001201 |
| FASTConnect High Precision Tool Kit with CT16 Cleaver | | | | CS010975 |
| VISUAL FAULT IDENTIFIERS | | | | AFL NO. |
| VFI4 visual fault identifier with 2.5 mm and 1.25 mm adapters | | | | VFI4-01-0900PR |
| 2.5 mm Universal for VFI port | | | | 2900-50-0013MR |
| 1.25 mm Universal for VFI port | | | | 2900-50-0012MR |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|------------------------|
| EIA/TIA | 568-C.3 604 (FOCIS) |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operating Temperature | -40°C to +75°C |

Patents

| COUNTRY | PATENT NUMBER(S) |
|---------|---|
| U.S. | 5,963,699 5,984,532 6,179,482 7,003,208 7,258,496 |

Contact AFL for further details.



Tool Kit Contents

FASTConnect® Universal Tool Kit

Now available with the CT50 or CT16 Cleaver!

The FASTConnect Universal Tool Kits provide all the necessary installation tools required for fiber preparation of 250 μm or 900 μm fibers, or 900 μm, 2 mm or 3 mm cordage for AFL’s pre-polished FASTConnect. Featuring either the CT50 or CT16 fiber cleaver, the FASTConnect Universal Tool Kit contains all the industry standard termination tools required for fiber preparation. Additionally, the carrying case has adequate storage for extra FASTConnects for on-site convenience.

Kit Features

- Industry standard fiber preparation tools
- Compact design, flexible yet rugged case
- Complete instructions provided

Applications

- Premise environments
- LAN Fiber to the Desk environments
- Patch panel/wiring closets
- FTTx applications
- Quick repair/replacement areas



CT50 Cleaver

Ordering Information

| DESCRIPTION | AFL NO. |
|---|-------------|
| FASTConnect High Precision Tool Kit with CT50 Cleaver | CS001201 |
| FASTConnect High Precision Tool Kit without cleaver | CS001201-NC |
| FASTConnect High Precision Tool Kit with CT16 Cleaver | CS010975 |

Tool Kits include: Cleaver, FAST Assembly Tool, 3 mm Cable Clamp, 2 mm Cable Clamp, 0.25/0.9 mm Cable Clamp, Fiber Stripper, Kevlar Scissors, Fiber Preparation Fluid, Lint-free Cloth Wipes, Marker Pen, Installation Instructions, Strip Length Template and a Carrying Case.



CT16 Cleaver

CT50 Cleaver Features

- Motorized blade rotation
- Bluetooth communication
- Shock resistant
- Simple one-step operation
- 60,000 cleave blade life
- Field serviceable

CT16 Cleaver Features

- Dual fiber adapter plate for single or two fiber cleaving
- Ambidextrous operation available
- Field replaceable fiber clamp pads and cleaver blade
- Shock resistant for drops up to 30" in any of six different orientations
- Compact form factor and tool-less blade rotations

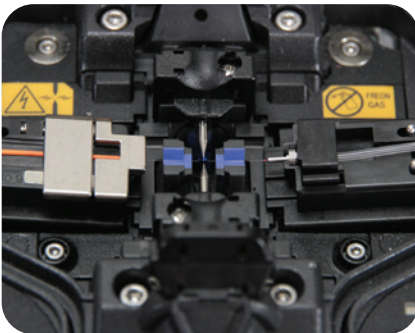


FUSEConnect Connectors (SC, FC, LC, ST)

FUSEConnect® Fusion-Spliced, Field-Installable Connectors

AFL's FUSEConnect fusion-spliced, field installable connectors are uniquely designed and feature only four to five components. The factory pre-polished ferrule eliminates the need for polishing, adhesives, and crimping in the field, which minimizes the potential for operator error and expensive connector scrap.

FUSEConnect utilizes a fusion splicer to terminate the connector in the field, addressing return loss concerns present in analog optical networks. This advanced process yields true APC performance for SC/APC and LC/APC configurations. FUSEConnect is compatible with Fujikura fusion splicers and most other fiber holder-based fusion splicing platforms.



FUSEConnect in Fusion Splicer

Features

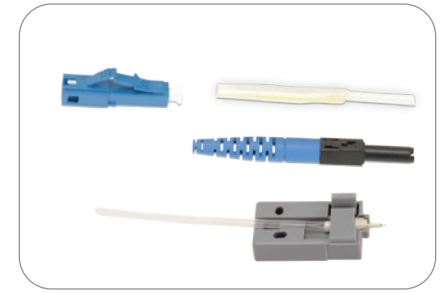
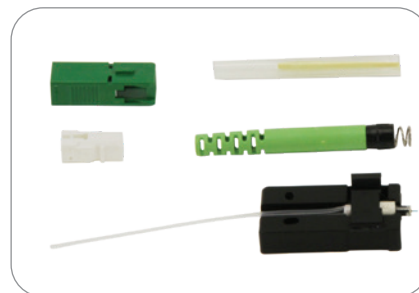
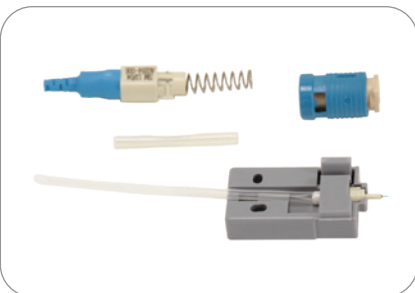
- Field installable
- No adhesives, crimping or polishing
- True APC performance
- Compatible with most fusion splicers

Applications

- Connectorization in:
 - RF-overlay FTTP networks
 - Cable TV backbone networks
 - Outside plant
 - FTTD
 - MDU FTTP Cabling
- Central office connector replacement
- Data center installation

Specifications

| PARAMETER | VALUE |
|----------------|---|
| Connector Type | SC, LC, FC, ST |
| Cable Type | 900 μm, 2 mm, 3 mm, 4.8 mm (SC only) |
| Polish | APC, UPC, PC |
| Insertion Loss | SM: 0.15 dB (average), 0.25 dB (maximum) / MM: 0.10 dB (average), 0.25 dB (maximum) |
| Return Loss | SM: ≤ -65 dB (APC), ≤ -55 dB (UPC) / MM: ≤ -35 dB (PC) |



FUSEConnect Kits—ST (blue), SC (green), LC (blue)

continued
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FUSEConnect® Fusion-Spliced, Field-Installable Connectors

Ordering Information

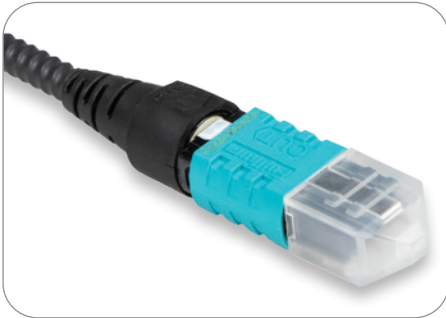
| CONNECTOR TYPE | BOOT TYPE | AFL NO.* | | | | |
|----------------|-----------|---------------|----------------|-----------------------|---------------------|--------------------------|
| | | UPC SM (Blue) | APC SM (Green) | PC 62.5 μm MM (Beige) | PC 50 μm MM (Black) | PC 50 μm LOMMF (AQUA) ** |
| SC | 900 μm | FUSE-SC9SMU-6 | FUSE-SC9SMA-6 | FUSE-SC9M62-6 | FUSE-SC9M50-6 | FUSE-SC9M50L-6 |
| | 3 mm | FUSE-SC3SMU-6 | FUSE-SC3SMA-6 | FUSE-SC3M62-6 | FUSE-SC3M50-6 | FUSE-SC3M50L-6 |
| | 4.8 mm | — | FUSE-SC48SMA-6 | — | — | — |
| LC | 900 μm | FUSE-LC9SMU-6 | FUSE-LC9SMA-6 | FUSE-LC9M62-6 | FUSE-LC9M50-6 | FUSE-LC9M50L-6 |
| | 2 mm | FUSE-LC2SMU-6 | FUSE-LC2SMA-6 | FUSE-LC2M62-6 | FUSE-LC2M50-6 | FUSE-LC2M50L-6 |
| FC | 900 μm | FUSE-FC9SMU-6 | FUSE-FC9SMA-6 | FUSE-FC9M62-6 | FUSE-FC9M50-6 | FUSE-FC9M50L-6 |
| | 2 mm | FUSE-FC2SMU-6 | — | FUSE-FC2M62-6 | FUSE-FC2M50-6 | FUSE-FC2M50L-6 |
| | 3 mm | FUSE-FC3SMU-6 | — | FUSE-FC3M62-6 | FUSE-FC3M50-6 | FUSE-FC3M50L-6 |
| ST | 900 μm | FUSE-ST9SMU-6 | — | FUSE-ST9M62-6 | FUSE-ST9M50-6 | FUSE-ST9M50L-6 |
| | 2 mm | FUSE-ST2SMU-6 | — | FUSE-ST2M62-6 | FUSE-ST2M50-6 | FUSE-ST2M50L-6 |
| | 3 mm | FUSE-ST3SMU-6 | — | FUSE-ST3M62-6 | FUSE-ST3M50-6 | FUSE-ST3M50L-6 |

* AFL NO. is for one pack of 6 pieces

** Laser Optimized MM Fiber (LOMMF) compatible with OM3 and OM4 fibers

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operating Temperature | -40°C to +75°C |



FUSEConnect MPO Connectors, Cable



FUSEConnect MPO Connectors, Ribbon

FUSEConnect® MPO Splice-On, Field-Installable Connectors with Heat Sleeve

AFL's FUSEConnect MPO splice-on, field-installable connectors are uniquely designed and feature just six components. The innovative factory pre-polished ferrule allows for a field-termination process that eliminates the need for polishing, adhesives and crimping in the field and minimizes the potential for operator error and expensive connector scrap. FUSEConnect MPO is part of the FUSEConnect splice-on connector family which includes SC, LC, ST and FC style connectors.

This updated design for the FUSEConnect MPO replaces the mechanical clamp splice protector with a heat protection sleeve utilizing the on-board splicer heater eliminating the need for a separate mechanical clamp tool. The connector is designed for use with the new RT-02 ribbonizing tool which does not require ribbonizing glue resulting in a cleaner termination process.

FUSEConnect MPO performs as an equivalent to the standard factory terminated MPO/MTP® assemblies. Designed to utilize standard ribbon, SpiderWeb Ribbon®, or loose tube cable, this connector helps minimize the complexity involved in the termination of a multi-fiber connection, allowing for a reliable and repeatable termination in field applications. AFL offers a tool kit as well as a variety of accessories designed to meet all your installation needs for your FUSEConnect MPO application.

Features

- Field installable splice-on connector
- Heat sleeve style splice protector
- Utilizes RT-02 ribbonizing tool for glueless termination process
- Only six components
- No adhesives, crimping or polishing
- Field MPO polarity customization
- Includes 3.0 mm round and flat ribbon boots in each pack

Applications

- Connectorization in:
 - RF-overlay FTTP networks
 - Cable TV backbone networks
 - Outside plant
 - MDU FTTP Cabling
- Connector restoration in the field
- Data center installation
- Patch cord customization in the field

Specifications

| PARAMETER | | VALUE |
|----------------|-----------------------------|--------------------------------|
| Insertion Loss | Single-mode (OS1) | Average: 0.25 dB; Max: 0.75 dB |
| | Single-mode (OS1), Low Loss | Average: 0.10 dB; Max: 0.35 dB |
| | 62.5/125 (OM1) | Average: 0.10 dB; Max: 0.35 dB |
| | 50/125 (OM4) | Average: 0.10 dB; Max: 0.35 dB |
| Return Loss | Single-mode (OS1) | >65 dB |
| | 62.5/125 (OM1) | >30 dB |
| | 50/125 (OM4) | >30 dB |

continued
→

FUSEConnect® MPO Splice-On, Field-Installable Connectors with Heat Sleeve

Ordering Information

| AFL NO.* | CONNECTOR TYPE | FIBER TYPE | POLISH | CABLE SIZE | | HOUSING COLOR |
|----------------------|-----------------------------|-----------------------------|--------|------------|--------|---------------|
| | | | | ROUND | FLAT | |
| FUSEMPO-S-SMA-3-F-6 | MPO, Female (No Guide Pins) | Single-mode (OS1) | APC | 3.0 mm | 250 µm | Green |
| FUSEMPO-S-SMA-3-M-6 | MPO, Male (Guide Pins) | Single-mode (OS1) | APC | 3.0 mm | 250 µm | Green |
| FUSEMPO-S-LSMA-3-F-6 | MPO, Female (No Guide Pins) | Single-mode (OS1), Low Loss | APC | 3.0 mm | 250 µm | Mustard |
| FUSEMPO-S-LSMA-3-M-6 | MPO, Male (Guide Pins) | Single-mode (OS1), Low Loss | APC | 3.0 mm | 250 µm | Mustard |
| FUSEMPO-S-MM6-3-F-6 | MPO, Female (No Guide Pins) | Multimode 62.5 µm (OM1) | PC | 3.0 mm | 250 µm | Beige |
| FUSEMPO-S-MM6-3-M-6 | MPO, Male (Guide Pins) | Multimode 62.5 µm (OM1) | PC | 3.0 mm | 250 µm | Beige |
| FUSEMPO-S-OM4-3-F-6 | MPO, Female (No Guide Pins) | Multimode , 50 µm (OM4) | PC | 3.0 mm | 250 µm | Aqua |
| FUSEMPO-S-OM4-3-M-6 | MPO, Male (Guide Pins) | Multimode , 50 µm (OM4) | PC | 3.0 mm | 250 µm | Aqua |

*Pack of 6 pieces

Ordering Information – Accessories

| DESCRIPTION | AFL NO. |
|--|------------------------|
| TOOL KIT | |
| FUSEConnect MPO Tool Kit | FUSEMPO-TL-KT |
| ACCESSORIES | |
| FUSEConnect Stripping Tool (3.0 mm, 2.8 mm, 2.0 mm and 1.6 mm) | FUSE-ST-TL |
| FUSEConnect MPO Heater Attachment Tool | FUSE-HT-TL |
| MPO Boot Kit for 3.8 mm diameter cable (Pack of 144) | FUSEMPO-BOOT-3.8MM-144 |
| MPO Boot Kit for Jacketed Ribbon (Pack of 6) | FUSEMPO-BOOT-JK-6 |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operating Temperature | -40°C to +75°C |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| TIA | 604-5-C |
| IEC | 61754-7 |
| EIA/TIA | 568-C.3 |
| FOCIS | FOCIS-5 |

Contact AFL for further details.



FUSEConnect Tool Kit Contents



FUSEConnect Accessory Kit



Cord Splitter Tool

FUSEConnect® Tool Kit and Accessories

The FUSEConnect tool kit provides all the necessary installation tools required for fiber preparation of 900 μm fiber, 2 mm or 3 mm cordage for AFL's FUSEConnect Fusion Spliced Field Installable Connectors except for a fusion splicer and precision cleaver. Included in the kit are standard fiber preparation tools and cleaning supplies as well as a FUSEConnect accessory kit and cord splitter tool, which can be bought separately from the tool kit. The cord splitter tool is uniquely designed to open the cordage of 2 mm and 3 mm cable allowing the termination of the ST and FC type connectors on simplex cordage.

Features

- Industry standard fiber preparation tools
- Compact design, flexible yet rugged case

Applications

- Premise environments
- LAN Fiber to the Desk environments
- Patch panel/wiring closets
- FTTx applications
- Quick repair/replacement areas

Ordering Information

| DESCRIPTION | AFL NO. |
|--|-------------------|
| FUSECONNECT TOOL KIT (INCLUDES ITEMS BELOW) | FUSE-TL-KT |
| Tool Case | CS001202 |
| Fiber Stripper | CS001205 |
| Kevlar Scissors | C095257 |
| Lint-Free Wipes | FM000413 |
| Fiber Preparation Fluid | FPF1-00-0900 |
| Permanent Marker | C015830 |
| Cord Splitter Tool | FUSE-ST-TL |
| FUSEConnect Accessory Kit | FUSE-AC-KT |

| FUSEConnect Accessory Kit (includes items below) | FUSE-AC-KT |
|---|-------------------|
| Utility Storage Box | CS012351 |
| Clamp for holding 3 mm Simplex Cordage | S014704 |
| Clamp for holding 2 mm Simplex Cordage | S014705 |
| 250 μm / 900 μm Fiber Clamp | CS004442 |
| 3 mm FUSEConnect Fiber Holder | S014695 |
| 2 mm FUSEConnect Fiber Holder | S014696 |
| 900 μm FUSEConnect Fiber Holder | S014697 |
| CLAMP-S70D Sheath Clamp | S015862 |
| CLAMP-S31B Sheath Clamp | S017101 |

| Cord Splitter Tool | FUSE-ST-TL |
|---------------------------|-------------------|
|---------------------------|-------------------|

| Legacy Splicer Accessories (Required for Fanout Splicing) | |
|--|---------|
| CLAMP-S21B Sheath Clamp | S016853 |
| CLAMP-S60D Sheath Clamp | S014750 |

SpliceConnect with Tool Kit

AFL's SpliceConnect is a mechanical splice that provides an inexpensive, quick alternative to mating fibers. Using V-groove technology, this splice maintains physical contact between the fibers. An assembly tool is used to ensure the fibers are mated correctly, resulting in <math><0.1\text{ dB}</math> insertion loss (typical for single-mode). The SpliceConnect secures both fiber and coating independently with the U-shaped sleeve, enhancing the strength against fiber twist.



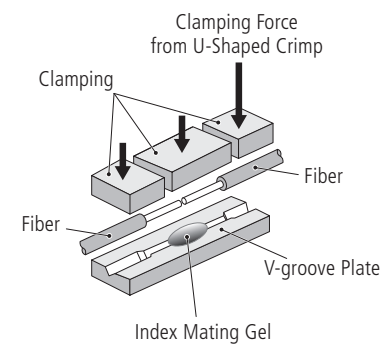
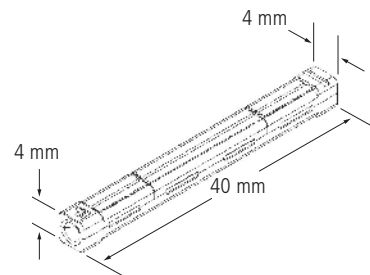
Features

- Quick splicing time
- Minimal tools
- 250 μm and/or 900 μm fiber capabilities
- Both fiber and coating are secured independently

Applications

- Restoration
- Premise environments
- Fiber-to-the-Subscriber (FTTx) applications

Dimensions and Structure



Ordering Information

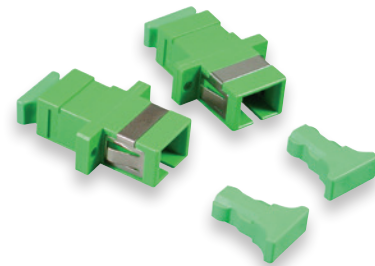
| DESCRIPTION | AFL NO. |
|--|----------|
| SpliceConnect Mechanical Splices (Bag of 6) | CS004154 |
| SpliceConnect Mechanical Splice Tool Kit <i>Kit Includes:</i> | CS004162 |
| SpliceConnect Mechanical Splicing Tool | CS004155 |
| Fiber Holder, 250 μm x2 | CS004442 |
| Fiber Holder, 900 μm x2 | CS004443 |
| Instruction Manual | CS004159 |
| Carrying Case | CS004161 |
| Template, Strip/Cleave Length | CS004573 |
| SpliceConnect Mechanical Splicing Tool | CS004155 |
| Fiber Holder, 250 μm | CS004442 |
| Fiber Holder, 900 μm | CS004443 |

Optical Adapters

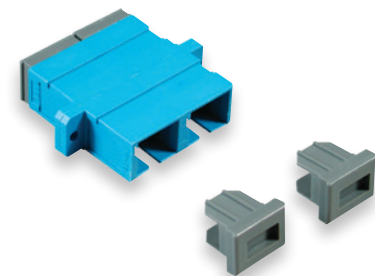
SC Adapters

SC adapters are used to mate industry standard SC connectors. Adapters are available with metal and ceramic alignment sleeves, and are color coded for easy identification. The duplex adapters accept two simplex connectors or one duplex connection. Hybrids are available for special applications.

| Type | Mode | Description | Sleeve | Color | AFL No. |
|----------------------------|------|-------------|---------|-------|----------|
| SC Simplex Adapters | | | | | |
| SC Simplex | MM | Flangeless | Ceramic | Beige | CS013275 |
| SC Simplex | SM | Flangeless | Ceramic | Blue | CS013274 |
| SC Simplex | SM | Flangeless | Ceramic | Green | CS018945 |
| SC Simplex | MM | Flangeless | Ceramic | Aqua | CS013426 |
| SC Duplex Adapters | | | | | |
| SC Duplex | MM | Flangeless | Ceramic | Beige | CS013277 |
| SC Duplex | SM | Flangeless | Ceramic | Blue | CS017295 |
| SC Duplex | SM | Flangeless | Ceramic | Green | CS017296 |
| SC Duplex | MM | Flangeless | Ceramic | Aqua | CS013279 |



SC Simplex Adapters



SC Duplex Adapters

FC Adapters

FC adapters connect industry standard FC connectors and are available in Square-Mount, D-Mount and Flange-Mount versions. Our FC adapters feature a metal body for long life and are available with either ceramic or metallic sleeves. The FC D-Mount adapter easily installs into panel mount applications. FC Square-Mount angle polish versions meet the industry standard 2.0 mm key width. An assortment of hybrid configurations is available.

| Type | Mode | Description | Sleeve | Color | AFL No. |
|------------|------|-------------|---------|-------|----------|
| FC Simplex | SM | D Mount | Ceramic | Metal | CS013316 |



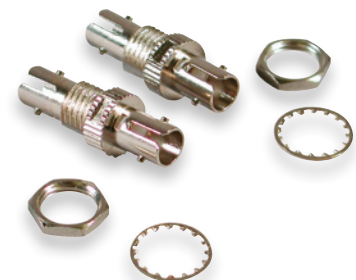
Qualifications

| Governing Body | Standard Code |
|----------------|---------------|
| JIS | C5970 |
| Bellcore | GA326 |

ST Adapters

ST adapters connect industry standard ST connectors and are available in D-Mount and Flange-Mount versions. ST adapters are available with x or metallic sleeves, feature a metal body for long life, and easily install in panel mount applications.

| Type | Mode | Description | Sleeve | Color | AFL No. |
|------------|-------|-------------|---------|-------|---------|
| ST Simplex | SM/MM | D Mount | Ceramic | Metal | C094994 |

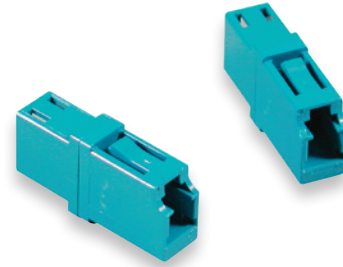


continued
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Optical Adapters

LC Adapters

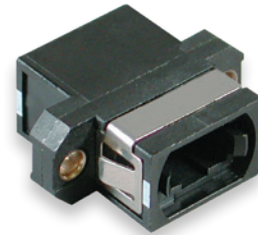
LC style adapters are used in high density applications and feature a quick plug in installation. Adapters are available in both simplex and duplex designs and utilize high quality zirconia and phosphorous bronze sleeves. The LC duplex adapter uses the same cutout as the copper RJ-45, resulting in less redesign work when retrofitting existing panels.



| Type | Mode | Insert | Color | AFL No. |
|----------------------------|------|---------|-------|----------|
| LC Simplex Adapters | | | | |
| LC Simplex | SM | Ceramic | Blue | CS013424 |
| LC Simplex | MM | Ceramic | Beige | CS013423 |
| LC Duplex Adapters | | | | |
| LC Duplex | SM | Ceramic | Blue | CS013283 |
| LC Duplex | SM | Ceramic | Green | CS013195 |
| LC Duplex | MM | Ceramic | Beige | CS013282 |
| LC Duplex | MM | Ceramic | Aqua | CS013281 |

MTP Adapters

The MTP adapter connects two industry standard MTP connectors. The compact MTP adapter measures 25 mm x 10 mm and is found in high density applications.

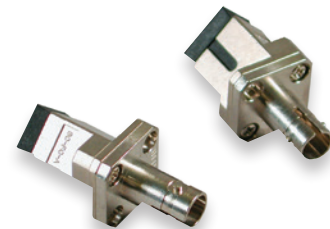


| Type | Mode | Description | Sleeve | Color | AFL No. |
|-------------------------|-------|--------------|--------|-------|----------|
| MTP | SM/MM | Flange Mount | — | Black | C057010 |
| MTP (aligned keyway) | SM/MM | Flange Mount | — | Grey | CS000211 |

Hybrid Adapters

Simplex female-female hybrid adapter are available to fit specific application needs.

| Type | Mode | Description | Sleeve | Color | AFL No. |
|---------|----------|--------------|---------|-------|---------|
| ST – FC | SM/MM | Flat Mount | Ceramic | Metal | C032980 |
| SC – FC | SM – APC | FLAT MOUNT | CERAMIC | METAL | C130082 |
| SC – FC | SM/MM | Square Mount | Ceramic | Metal | C002453 |
| SC – FC | SM/MM | Flat Mount | Ceramic | Metal | C033030 |
| SC – ST | SM/MM | Flat Mount | Ceramic | Blue | C024392 |
| SC – ST | SM/MM | Flat Mount | Ceramic | Metal | C038733 |





Features

- SC, FC, ST, and LC connector styles (Ultra & Angled Polish)
- Long-term reliability
- Low ripple, wavelength independent attenuation
- Certified to >125 mW continuous power handling capability with no performance degradation
- Polarization insensitive

Application

- Broadband Network
- Fiber in the Loop
- Local Area Networks (LAN)
- Long Haul Telecommunications (CLEC, CAPS)
- Network Testing
- Passive Optical Networks
- Telco

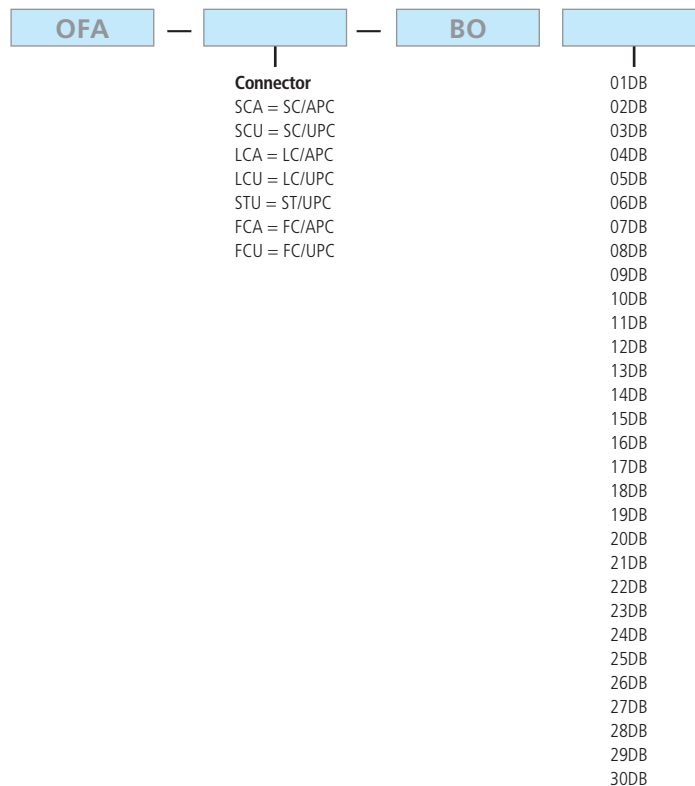
Buildout Attenuators

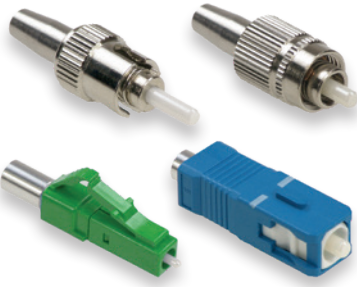
Buildout attenuators provide superior performance for all single-mode in-line attenuation requirements. Standard attenuation values are 5, 10, 15, and 20 dB, available in SC, FC, ST, and LC connector styles. Using no air gap, filters, or light path discontinuities, attenuation is achieved by controlled absorption of light energy. This results in a polarization insensitive device with high power handling capability, environmentally stable, and exceptionally responsive, across a wide bandpass range.

Specifications

| PARAMETER | VALUE |
|------------------------------|-------------------------|
| Standard Attenuation Values | 5, 10, 15 and 20 dB |
| Attenuation Tolerance | Standard at 10% |
| Vibration resistance | <0.1X attenuation value |
| Operating Temperature Range: | -40°C to +75°C |
| Storage Temperature Range: | -40°C to +85°C |

Ordering Information





Optical Terminators

Optical terminators are used to terminate unused connector ports in fiber optic systems so that unwanted reflections are not introduced back into the system. All AFL optical terminators feature zirconia ferrules for long life and durability.








Specifications

| PARAMETER | VALUE |
|-----------------------|------------------------|
| Reflectance | <-55 dB (ultra polish) |
| Reflectance | <-60 dB (angle polish) |
| Operating Temperature | -40°C to +85°C |
| Operating Wavelength | 1260 nm to 1580 nm |

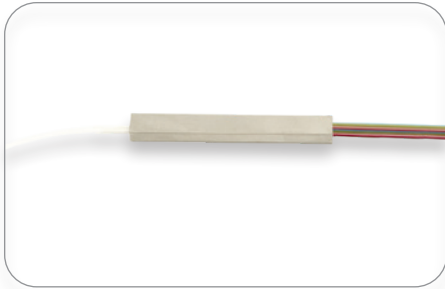
Ordering Information

| DESCRIPTION | AFL NO. |
|------------------|----------|
| SC/UP Terminator | C067393 |
| SC/AP Terminator | C148828 |
| FC/UP Terminator | C067407 |
| FC/AP Terminator | C082562 |
| ST/UP Terminator | C167083 |
| LC/UP Terminator | CS000637 |
| LC/AP Terminator | CS000638 |

Connector Specifications

| PARAMETER | CONNECTOR | | | | | | | | | | | | | |
|-------------------------------|---|--------|---|--------|---|-------|---|--------|--|--------|---|-------|---|-------|
| | SC | | FC | | ST | | LC | | MTP | | MT-RJ | | MU | |
| Single-mode Assemblies | | | | | | | | | | | | | | |
| Image |  | |  | |  | |  | |  | |  | |  | |
| | Ultra | Angle | Ultra | Angle | Ultra | Angle | Ultra | Angle | Flat | Angle | Ultra | Angle | Ultra | Angle |
| Insertion loss (dB) | | | | | | | | | | | | | | |
| Maximum | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | — | 0.3 | 0.3 | — | 0.75 | 0.5 | — | 0.3 | — |
| Typical | 0.15 | 0.2 | 0.25 | 0.2 | 0.15 | — | 0.15 | 0.15 | — | 0.35 | 0.25 | — | 0.2 | — |
| Return Loss (dB) | | | | | | | | | | | | | | |
| Minimum | -55 dB | -65 dB | -55 dB | -65 dB | -55 dB | — | -55 dB | -65 dB | — | -55 dB | -35 dB | — | -55 dB | — |
| Temp Range (°C) | -40 to +85 | | -40 to +85 | | -40 to +85 | | -40 to +85 | | -40 to +75 | | -40 to +75 | | -40 to +85 | |
| Durability Cycles | 500 | | 500 | | 500 | | 500 | | 200 | | 200 | | 500 | |

| Multimode Assemblies | | | | | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|------------|---|------------|---|------------|---|
| Insertion loss (dB) | | | | | | | | | | | | | | |
| Maximum | 0.5 | — | 0.5 | — | 0.5 | — | 0.3 | — | 0.75 | — | 0.5 | — | 0.5 | — |
| Typical | 0.25 | — | 0.25 | — | 0.25 | — | 0.25 | — | 0.35 | — | 0.25 | — | 0.25 | — |
| Return Loss (dB) | | | | | | | | | | | | | | |
| Minimum | -30 dB | — | -30 dB | — | -30 dB | — | -30 dB | — | -20 dB | — | -20 dB | — | -30 dB | — |
| Temp Range (°C) | -40 to +85 | | -40 to +85 | | -40 to +85 | | -40 to +85 | | -40 to +75 | | -40 to +75 | | -40 to +85 | |
| Durability Cycles | 500 | | 500 | | 500 | | 500 | | 200 | | 200 | | 500 | |
| Cable Options | Simplex/Duplex 900 µm 1.6 mm 2.0 mm 2.4 mm 3.0 mm | Simplex/Duplex 900 µm 1.6 mm 2.0 mm 2.4 mm 3.0 mm | Simplex/Duplex 900 µm 1.6 mm 2.0 mm 2.4 mm 3.0 mm | Simplex/Duplex 900 µm 1.6 mm 2.0 mm 2.4 mm 3.0 mm | Simplex/Duplex 900 µm 1.6 mm 2.0 mm | Bare Ribbon Jacketed Ribbon 8-12 Fiber Count | Bare Ribbon Jacketed Ribbon Dual Link Zipcord | 900 µm 2.0 mm | | | | | | |
| Applications | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | Telephony CATV/Broadband Telco Backplanes LAN/WAN | | | | | | |



Planar Lightwave Circuit (PLC) Splitters

Planar Lightwave Circuits split optical power evenly over the entire single-mode operating window (1260-1650 nm). Split counts are available from 1x4 up to 2x32 and input/output fibers can be supplied with or without connectors.

Features

- Full spectrum (1260-1650 nm) operation
- Even split ratio over entire bandwidth
- Compact design
- Low PDL and temperature sensitivity
- High directivity

Applications

- Telecommunications
- CATV
- LAN
- Monitoring of networks

Specifications

| PARAMETER | UNITS | VALUE | | | |
|-----------------------|-------|------------|--------|--------|--------|
| | | 1x4 | 1x8 | 1x16 | 1x32 |
| Operating Wavelength | nm | 1260-1650 | | | |
| Insertion Loss (IL)* | dB | ≤ 7.4 | ≤ 10.8 | ≤ 14.3 | ≤ 17.4 |
| Uniformity | dB | ≤ 0.8 | ≤ 1.0 | ≤ 1.3 | ≤ 1.5 |
| Return Loss (RL) | dB | ≥ 50 | | | |
| Directivity | dB | ≥ 55 | | | |
| PDL | dB | ≤ 0.2 | | ≤ 0.3 | |
| Operating Temperature | °C | -40 to +85 | | | |
| Storage Temperature | °C | -40 to +85 | | | |

* Without connectors. With connectors, add 0.3 dB (typical).

Packaging Information

| PARAMETER | STANDARD | | | | SMALL FORM FACTOR | | | |
|---------------------|-------------------------|-----|------|------|-------------------|-----|------|------|
| | 1x4 | 1x8 | 1x16 | 1x32 | 1x4 | 1x8 | 1x16 | 1x32 |
| Fiber Type | G.657.A1 | | | | G.657.A1 | | | |
| Input/output Fiber | 2 mm or 3 mm Loose Tube | | | | 900 μm Loose Tube | | | |
| Loose Tube Color | Yellow | | | | White | | | |
| Loose Tube Material | PVC | | | | Hytrel | | | |
| Housing Material | PVC | | | | Stainless Steel | | | |
| Length (mm) | 100 | 100 | 120 | 141 | 60 | 60 | 60 | 80 |
| Width (mm) | 80 | 80 | 80 | 114 | 7 | 7 | 12 | 20 |
| Height (mm) | 10 | 10 | 18 | 18 | 4 | 4 | 4 | 6 |

Ordering Information

| PLC | 1x4 | 9 | 1M | ULC |
|-----|--------------|-----------------------|---------------|-------------------------|
| | Ports | Cable Diameter | Length | Output Connector |
| | 1x2 | 9 = 900 μm | 1M | ULC = LC/UPC |
| | 1x4 | 2 = 2 mm | 2M | ALC = LC/APC |
| | 1x8 | 3 = 3 mm | 3M | USC = SC/UPC |
| | 1x16 | | 4M | ASC = SC/APC |
| | 1x32 | | 5M | UFC = FC/UPC |
| | 2x2 | | | AFC = FC/APC |
| | 2x4 | | | XXX = No Connector |
| | 2x8 | | | |
| | 2x16 | | | |
| | 2x32 | | | |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------------|
| Telcordia | GR-1209 and GR-1221 |



Optical Coupler Modules

The optical coupler module offers management of optical power and wavelength, packaged in the LGX® design. Each module is comprised of Telcordia®-compliant PLC or concatenated fused biconic components. Once assembled and terminated, the module is fully tested for environmental, mechanical, and optical integrity.

Features

- Telcordia GR-1209 & GR-1221 compliant
- Telcordia GR-326 compliant connectors and adapters
- Telcordia GR-20 compliant singlemode optical fiber
- RoHS compliant
- Packaged individually / tamper-proof seal

Applications

- CATV
- Telco
- Wide Area Networks
- Fiber Monitoring Systems
- Military systems

Specifications

| PARAMETER | VALUE | |
|--|--------------------|--------|
| | Single-mode | |
| | Ultra | Angled |
| Return Loss (Minimum dB) | > -45 | > -50 |
| Directivity | > -55 | |
| Operating Temperature/ Relative Humidity | -40 to +85°C / 90% | |
| Storage Temperature/ Relative Humidity | -40 to +85°C / 90% | |

Ordering Information

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (PORT) | | INSERTION LOSS (IL) PORT 01 | | INSERTION LOSS (IL) PORT 02 | |
|-----------|----------|----------|-----------------------------|-----------------------------------|----|-----------------------------|------|-----------------------------|-----|
| | | | | 01 | 02 | TYP | MAX | TYP | MAX |
| 1 x 2 | USC | CM000165 | 1310 ± 40 nm / 1550 ± 40 nm | 50 | 50 | 3.3 | 4.0 | 3.3 | 4.0 |
| 1 x 2 | USC | CM000166 | 1310 ± 40 nm / 1550 ± 40 nm | 40 | 60 | 4.3 | 5.2 | 2.5 | 3.3 |
| 1 x 2 | USC | CM000167 | 1310 ± 40 nm / 1550 ± 40 nm | 30 | 70 | 5.5 | 6.4 | 1.5 | 2.4 |
| 1 x 2 | USC | CM000168 | 1310 ± 40 nm / 1550 ± 40 nm | 20 | 80 | 7.3 | 8.3 | 1.3 | 1.8 |
| 1 x 2 | USC | CM000169 | 1310 ± 40 nm / 1550 ± 40 nm | 10 | 90 | 10.3 | 11.5 | 0.8 | 1.1 |
| 1 x 2 | USC | CM000170 | 1310 ± 40 nm / 1550 ± 40 nm | 5 | 95 | 13.3 | 14.6 | 0.5 | 0.8 |
| 1 x 2 | ASC | CM000171 | 1310 ± 40 nm / 1550 ± 40 nm | 50 | 50 | 3.3 | 4.0 | 3.3 | 4.0 |
| 1 x 2 | ASC | CM000172 | 1310 ± 40 nm / 1550 ± 40 nm | 40 | 60 | 4.3 | 5.2 | 2.5 | 3.3 |
| 1 x 2 | ASC | CM000173 | 1310 ± 40 nm / 1550 ± 40 nm | 30 | 70 | 5.5 | 6.4 | 1.5 | 2.4 |
| 1 x 2 | ASC | CM000174 | 1310 ± 40 nm / 1550 ± 40 nm | 20 | 80 | 7.3 | 8.3 | 1.3 | 1.8 |
| 1 x 2 | ASC | CM000175 | 1310 ± 40 nm / 1550 ± 40 nm | 10 | 90 | 10.3 | 11.5 | 0.8 | 1.1 |
| 1 x 2 | ASC | CM000176 | 1310 ± 40 nm / 1550 ± 40 nm | 5 | 95 | 13.3 | 14.6 | 0.5 | 0.8 |
| 1 x 2 | ULC | CM000315 | 1310 ± 40 nm / 1550 ± 40 nm | 50 | 50 | 3.3 | 4.0 | 3.3 | 4.0 |
| 1 x 2 | ULC | CM000325 | 1310 ± 40 nm / 1550 ± 40 nm | 40 | 60 | 4.3 | 5.2 | 2.5 | 3.3 |
| 1 x 2 | ULC | CM000323 | 1310 ± 40 nm / 1550 ± 40 nm | 30 | 70 | 5.5 | 6.4 | 1.5 | 2.4 |
| 1 x 2 | ULC | CM000321 | 1310 ± 40 nm / 1550 ± 40 nm | 20 | 80 | 7.3 | 8.3 | 1.3 | 1.8 |
| 1 x 2 | ULC | CM000319 | 1310 ± 40 nm / 1550 ± 40 nm | 10 | 90 | 10.3 | 11.5 | 0.8 | 1.1 |
| 1 x 2 | ULC | CM000317 | 1310 ± 40 nm / 1550 ± 40 nm | 5 | 95 | 13.3 | 14.6 | 0.5 | 0.8 |
| 1 x 2 | ALC | CM000310 | 1310 ± 40 nm / 1550 ± 40 nm | 50 | 50 | 3.3 | 4.0 | 3.3 | 4.0 |
| 1 x 2 | ALC | CM000324 | 1310 ± 40 nm / 1550 ± 40 nm | 40 | 60 | 4.3 | 5.2 | 2.5 | 3.3 |
| 1 x 2 | ALC | CM000322 | 1310 ± 40 nm / 1550 ± 40 nm | 30 | 70 | 5.5 | 6.4 | 1.5 | 2.4 |
| 1 x 2 | ALC | CM000320 | 1310 ± 40 nm / 1550 ± 40 nm | 20 | 80 | 7.3 | 8.3 | 1.3 | 1.8 |
| 1 x 2 | ALC | CM000318 | 1310 ± 40 nm / 1550 ± 40 nm | 10 | 90 | 10.3 | 11.5 | 0.8 | 1.1 |
| 1 x 2 | ALC | CM000316 | 1310 ± 40 nm / 1550 ± 40 nm | 5 | 95 | 13.3 | 14.6 | 0.5 | 0.8 |

LGX is a registered trademark of Furukawa Electric North America, Inc.

Telcordia is a registered trademark of Telcordia Technologies, Inc.

Optical Coupler Modules

Ordering Information (cont.)

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (%) EACH PORT | INSERTION LOSS (dB) EACH PORT | |
|-----------|----------|----------|-----------------------------|--|-------------------------------|-----|
| | | | | | TYP | MAX |
| 1 x 3 | USC | CM000177 | 1310 ± 40 nm / 1550 ± 40 nm | 33.0 | 5.1 | 6.2 |
| 1 x 3 | ASC | CM000178 | 1310 ± 40 nm / 1550 ± 40 nm | 33.0 | 5.1 | 6.2 |
| 1 x 3 | ULC | CM000326 | 1310 ± 40 nm / 1550 ± 40 nm | 33.0 | 5.1 | 6.2 |
| 1 x 3 | ALC | CM000311 | 1310 ± 40 nm / 1550 ± 40 nm | 33.0 | 5.1 | 6.2 |

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (%) EACH PORT | INSERTION LOSS (dB) EACH PORT | |
|-----------|----------|----------|-----------------------------|--|-------------------------------|-----|
| | | | | | TYP | MAX |
| 1 x 4 | USC | CM000179 | 1310 ± 40 nm / 1550 ± 40 nm | 25.0 | 6.3 | 7.7 |
| 1 x 4 | ASC | CM000180 | 1310 ± 40 nm / 1550 ± 40 nm | 25.0 | 6.3 | 7.7 |
| 1 x 4 | ULC | CM000327 | 1310 ± 40 nm / 1550 ± 40 nm | 25.0 | 6.3 | 7.7 |
| 1 x 4 | ALC | CM000312 | 1310 ± 40 nm / 1550 ± 40 nm | 25.0 | 6.3 | 7.7 |

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (%) EACH PORT | INSERTION LOSS (dB) EACH PORT | |
|-----------|----------|----------|------------------|--|-------------------------------|------|
| | | | | | TYP | MAX |
| 1 x 8 | USC | CM000181 | 1260 - 1650 nm | 12.5 | 9.3 | 11.4 |
| 1 x 8 | ASC | CM000182 | 1260 - 1650 nm | 12.5 | 9.3 | 11.4 |
| 1 x 8 | ULC | CM000346 | 1260 - 1650 nm | 12.5 | 9.3 | 11.4 |
| 1 x 8 | ALC | CM000347 | 1260 - 1650 nm | 12.5 | 9.3 | 11.4 |

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (%) EACH PORT | INSERTION LOSS (dB) EACH PORT | |
|-----------|----------|----------|------------------|--|-------------------------------|------|
| | | | | | TYP | MAX |
| 1 x 16 | ASC | CM000476 | 1260 - 1650 nm | 6.25 | 13.1 | 13.8 |

| I/O PORTS | I/O CONN | AFL NO. | OPTICAL BANDPASS | OUTPUT PORT COUPLING RATIO (%) EACH PORT | INSERTION LOSS (dB) EACH PORT | |
|-----------|----------|----------|------------------|--|-------------------------------|------|
| | | | | | TYP | MAX |
| 1 x 32 | ASC | CM000477 | 1260 - 1650 nm | 3.125 | 16.2 | 16.8 |

Insertion loss (IL) includes connector loss and Polarization Dependent Loss (PDL) across operating temperature over the Optical Bandpass.

*** Additional split ratios available upon request.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|------------------------------------|
| RoHS | ? |
| Telcordia | GR-1209, GR-1221, GR-326 and GR-20 |



Optical Splitter Shelf

The LightLink LanSystem™ Optical Splitter Shelf provides a convenient in-rack solution to combine/split optical signals in a passive optical network. With 1x16, 1x32 and 2x32 options available, the splitter shelf also features a Planar Lightwave Circuit (PLC) allowing a signal to be split into either 16 or 32 channels in a 1U rack-mountable housing. The 2x32 option provides a filter WDM concatenated to a PLC, which allows 1310/1490/1550 nm signal management evenly across 32 channels.

Features

- Telcordia® GR-63 NEBS tested housing
- Aluminum Material per ASTM B209
- Universal Mounting Bracket WECO, EIA
- 19" and 23" Rack Mountable
- Rugged construction, ensuring environmental, mechanical and optical integrity
- WDM and PLC fully compliant to Telcordia GR-1209 and GR-1221
- Low Excess loss
- Low Polarization Dependent Loss

Applications

- PON-FTTx Networks
- CATV links
- DWDM and CWDM systems
- Wide area networks
- Outside plant requirements

Specifications

| PARAMETER | 1x16 | 1x32 | 2x32 | |
|---------------------|----------------|----------------|-----------------------------------|-----------------------------|
| Insertion Loss | 13.5 ~ 14.3 dB | 17.5 - 18.5 dB | 17.5 - 19 dB | |
| Uniformity | 1.5 dB Typical | 1.8 dB Typical | 1.8 dB Typical | |
| PDL | ≤ 0.3 dB | <0.45 dB | <0.45 dB | |
| Return Loss | ≥ 55 dB | ≥ 55 dB | ≥ 40 dB | |
| Directivity | ≥ 55 dB | ≥ 55 dB | ≥ 50 dB | |
| Fiber Type | SMF-28e | SMF-28e | SMF-28e | |
| Operating Temp | -40°C to +85°C | -40°C to +85°C | -40°C to +70°C | |
| Storage Temp | -40°C to +85°C | -40°C to +85°C | -40°C to +85°C | |
| Operating Bandwidth | 1260 ~ 1650 | 1260 ~ 1650 | 1550 nm Band - Port 1 (Pass) | 1550 - 1560 nm |
| | | | 1310 + 1490 nm - Port 2 (Reflect) | 1260-1360 nm & 1480-1500 nm |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| 1x16 Optical Splitter Shelf, ASC inputs/outputs, 1U, textured White | FM001000 |
| 1x32 Optical Splitter Shelf, ASC inputs/outputs, 1U, textured White | FM000775 |
| 2x32 Optical Splitter Shelf, ASC inputs/outputs, 1U, textured White | FM000622 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|--------------------------------|
| ASTM | ASTM B209 |
| Telcordia | GR-63NEBS, GR-1209 and GR-1221 |

Optical FTTx Coupler Module

AFL's Optical FTTx Coupler Module is designed to satisfy requirements utilizing 1550 nm bandwidths in FTTx applications and is specified for FTTx video installations. The module features a compact footprint with adapter ports consisting of SC/APC adapter outputs.



Specifications

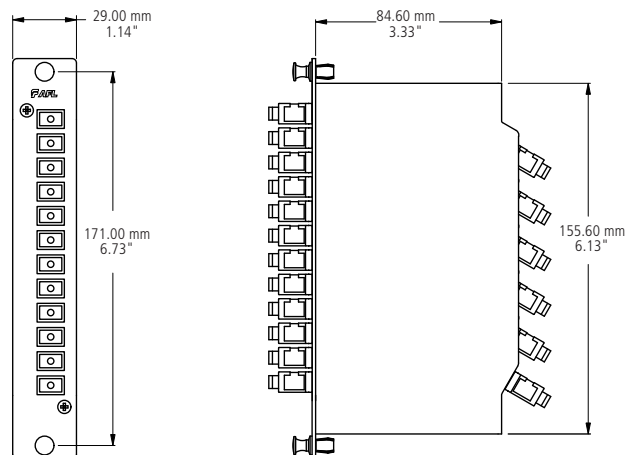
| PARAMETER | VALUE |
|-----------------------|---------------|
| Performance | |
| Wavelength | 1540-1560 nm |
| Insertion Loss | 1550 < 3.9 dB |
| PDL | <0.2 dB |
| PMD | < 0.05 ps |
| Return Loss | > 55 dB |
| Directivity | > 55 dB |
| Operating Temperature | -40 to +75°C |
| Storage Temperature | -40 to +85 °C |
| Relative Humidity | 0 to 90% |
| Optical Power | 500 mW |

| PACKAGING | |
|------------------|---|
| Packaging Size | Standard Single Width LGX® Rack Module |
| Fiber Type | Low-Water-Peak Non-Dispersion Shifted SMF-28e |
| Connector Type | All ports – SC/APC, Green |

Ordering Information

| DESCRIPTION | AFL NO. |
|-----------------------------|----------|
| Optical FTTx Coupler Module | CM000072 |

Dimensions



LGX is a registered trademark of Furukawa Electric North America, Inc.



LGX[®] FTTx Splitter Modules

The PON / FTTx splitters provide a convenient in-rack solution to combine or split optical signals in an optical network. Based on PLC technology, these modules offer the network operator high port-to-port uniformity and low insertion loss, as well as a wide operating wavelength range to accommodate future growth needs with new and emerging optical technologies. These products are available in LGX compatible modules.

Features

- Low excess loss
- Low polarization dependent loss
- Flexible LGX packaging options
(*see ordering information below for product size information)
- SC/APC Connectors

Applications

- PON - FTTx Networks
- Access Networks
- CATV Links
- Wide Area Networks

Performance Specifications

| PARAMETER | 1X4 | 1X8 | 1X16 | 1X32 |
|-----------------------|-------------|-------------|-------------|-------------|
| Insertion Loss (dB) * | <7.4 | <10.5 | <13.9 | <17.2 |
| Uniformity (dB) *, ** | <0.5 | <0.8 | <1.1 | <1.5 |
| PDL (dB) *, ** | <0.3 | | | |
| Return Loss (dB) | >55 | | | |
| Directivity (dB) | >55 | | | |
| Package | LGX, 1 Slot | LGX, 2 Slot | LGX, 3 Slot | LGX, 3 Slot |

*Operating wavelength range (1260-1650 nm) guaranteed by design. Test report provided at 1310 and 1550 nm.

** Value does not include connector loss.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| 1x4 Optical Splitter Module, 1260~1650 nm, Single slot LGX, Black, SC/APC | CM000474 |
| 1x8 Optical Splitter Module, 1260~1650 nm, Dual slot LGX, Black, SC/APC | CM000475 |
| 1x16 Optical Splitter Module, 1260~1650 nm, Triple slot LGX, Black, SC/APC | CM000476 |
| 1x32 Optical Splitter Module, 1260~1650 nm, Triple slot LGX, Black, SC/APC | CM000477 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|-----------------|
| Telcordia | GR-1209, GR1221 |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operation Temperature | -40°C to +85°C |
| Storage Temperature | -40°C to +85°C |

Contact AFL for further details.



Double-width LGX 118 package shown

CWDM LGX Modules

AFL's Coarse WDM modules are designed using proven thin-film filter technology providing high isolation, 20 nm channel separation and a high level of thermal stability. CWDM modules are available in 2, 4, 8, and 16 channel configurations and are factory assembled in a thin cassette or rugged LGX® cassette with industry standard connector options to meet varying system requirements. An optional 1310 nm Mux/Demux Upgrade Port is available to allow seamless integration of legacy voice, video, and data services.

Features

- 20 nm channel spacing
- 2, 4, 8, and 16 channel configurations
- Most industry standard connectors
- Low insertion loss
- High isolation
- Custom configurations upon request

Applications

- CATV Systems
- Sensor Systems
- 10G Ethernet Systems
- Metro Optical Networks
- Metro Access Networks

Specifications

| PARAMETER | VALUE | | | |
|--------------------------------|----------------------|------------------|------------------|-------------------|
| | 2 | 4 | 8 | 16 |
| Ports | 2 | 4 | 8 | 16 |
| Center Wavelength | 1271-1611 nm | | | |
| Passband @ 0.5 dB | > 14 nm | | | |
| Passband | ± 6.5 nm | | | |
| Passband Flatness | < 0.5 dB | | | |
| Insertion Loss (Typ.) | 1.4 dB | 1.6 dB | 1.8 dB | 4.3 dB |
| Insertion Loss (Max.) | 1.8 dB | 2.0 dB | 2.5 dB | 5.0 dB |
| Adjacent Channel Isolation | > 30 dB | | | |
| Non-Adjacent Channel Isolation | > 45 dB | | | |
| Wavelength Thermal Stability | < 0.002 nm/°C | | | |
| IL Thermal Stability | < 0.005 dB/°C | < 0.005 dB/°C | < 0.007 dB/°C | < 0.008 dB/°C |
| Return Loss | > 45 dB | | | |
| PMD | < 0.10 ps | < 0.10 ps | < 0.15 ps | < 0.15 ps |
| PDL | < 0.10 dB | < 0.15 dB | < 0.20 dB | < 0.25 dB |
| Directivity | > 50 dB | | | |
| LGX 118 Package | Single-width | Single-width | Double-width | Triple-width |
| Thin Cassette Package | 88.9 x 50.8 x 8.3 mm | 120 x 80 x 13 mm | 130 x 87 x 13 mm | 150 x 115 x 13 mm |
| Options | 2% Tap, 1310 Upgrade | | | |
| 1310 Channel Wavelength | 1260-1360 nm | | | |
| 1310 Channel Isolation | 40 dB minimum | | | |
| 1310 Channel Insertion Loss | 1.3 dB maximum | | | |

* Includes Connectors

continued
→

CWDM LGX Modules

Ordering Information

| CWDM | 04 | 5 | 1271 | 1331 | B | ASC | ISP |
|------|---|--|--|--|---|---|-----|
| | Channel Count | Package/Pigtail | Start Wavelength (nm) | End Wavelength (nm) | Options | Connectors | |
| | 02 = 2 Channel 04 = 4 Channel 08 = 8 Channel 16 = 16 Channel | 1 = Thin Cassette, 1 Meter Pigtail 3 = Thin Cassette, 3 Meter Pigtail 5 = Thin Cassette, 5 Meter Pigtail L = LGX 118 | 1271 1291 1311 1331 1351 1371 1391 1411 1431 1451 1471 1491 1511 1531 1551 1571 1591 | 1291 1311 1331 1351 1371 1391 1411 1431 1451 1471 1491 1511 1531 1551 1571 1591 1611 | U = 1310 Upgrade Port T = 2% Tap Port X = No Option B = 1310 Upgrade Port and 2% Tap Port | ASC = SC/APC USC = SC/UPC ALC = LC/APC ULC = LC/UPC X = No connectors | |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| Telcordia | Compliant | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operation Temperature | -5°C to +65°C |
| Storage Temperature | -40°C to +85°C |

Contact AFL for further details.



CGM PLUS

CGM® PLUS

The CGM Plus is a high-density rack-mount panel designed for Wavelength Division Multiplexing (WDM) applications. The CGM Plus can hold LGX® and CGM® devices interchangeably.

The panel features a hinged tray system that extends from the front of the panel and conveniently folds out of the way for unobstructed access to installed modules.

Routing rings on the front of the tray provide enhanced fiber management, allowing cable assemblies to enter and exit comfortably.



CGM PLUS Open

Features

- Galvannealed Steel construction
- Textured white powder coat finish
- 4RU panel height
- Universal 19"/23" rack compatibility
- Hinged tray system for increased access to modules
- Compatible with CGM (Card Guide Module) and LGX products
- Adjustable mounting depth

Applications

- Wavelength Division Multiplexing (WDM)
- Headends/Central Offices
- Service Provider
- Telecommunications
- Data Centers



CGM PLUS Interior

Ordering Information

| DESCRIPTION | CAPACITY | | AFL NO. |
|---|----------|------|----------|
| | LGX* | CGM* | |
| CGM PLUS, 4RU, Empty, White, Front Access | 12 | 24 | FM004158 |

* Based on single-wide product

Specifications

| DEPTH | WIDTH | HEIGHT | WEIGHT |
|-------|---------|--------|---------|
| 12.5" | 17.375" | 6.875" | 23 Lbs. |



Card Guide Module (CGM®)

Card Guide Modules (CGM) are panel-mount WDM devices for high-density applications. These modules are pre-terminated plug and play products in a space efficient design. Using proven thin-film filter technology, Card Guide Modules feature low insertion loss, high isolation and superior environmental stability.

Available with up to 40 DWDM channels, Card Guide Modules can also be configured with optional Express, Upgrade or Test ports.

Features

- Space efficient design
- Mux/demux options
- LC/UPC or LC/APC adapters
- Up to 40 DWDM channels
- 50/100/200 GHz ITU channel spacing
- Optional Express, Upgrade or Test ports

Specifications

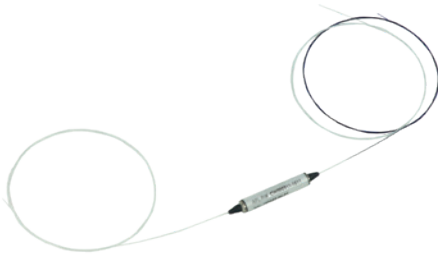
| PARAMETER | UNIT | VALUE | | |
|------------------------------------|-------|----------------------------------|---------|---------|
| Channels | ea | 8 | 20 | 40 |
| CGM Size | Width | Single | Dual | Quad |
| Center Wavelength | nm | Per ITU-T G.694.1 Grid | | |
| Channel Spacing | GHz | 100 | | |
| Passband | nm | ± 0.11 | | |
| Passband @ 0.5 dB | nm | > 14 | | |
| Passband Ripple | dB | < 0.5 | | |
| Insertion Loss (IL) (Typ.) ** | dB | 2.6 | 5.3 | 6.0 |
| Insertion Loss (IL) (Max.) ** | dB | 3.2 | 5.8 | 6.5 |
| Isolation (Adjacent Channel) | dB | ≥ 25 | | |
| Isolation (Non-Adjacent Channel) | dB | ≥ 40 | | |
| Return Loss (RL) | dB | ≥ 45 | | |
| Directivity | dB | ≥ 50 | | |
| Polarization Mode Dispersion (PMD) | ps | ≤ 0.15 | | |
| Polarization Dependent Loss (PDL) | dB | ≤ 0.25 | | |
| Wavelength Thermal Stability | nm/°C | < 0.001 | | |
| Insertion Loss Thermal Stability | dB/°C | < 0.007 | < 0.007 | < 0.008 |
| Optical Power (Max.) | mW | 300 | | |
| Options | Port | Express, Upgrade, Tap, Mux/Demux | | |

* Optical specifications do not include optional ports

** Includes Connectors

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operating Temperature | -5°C to +70°C |
| Storage Temperature | -40°C to +85°C |



CWDM Single-channel OADM

The CWDM Single-channel OADM is designed to add/drop a single CWDM channel from an optical fiber. This product is hardened and designed to perform in OSP applications, but can also be used in splice trays or similar structures in Inside Plant or similar environments. While 250 µm leads are most commonly desired, these products can also be supplied with color-coded 900 µm leads and terminated with virtually any common single-fiber optical connector.

Features

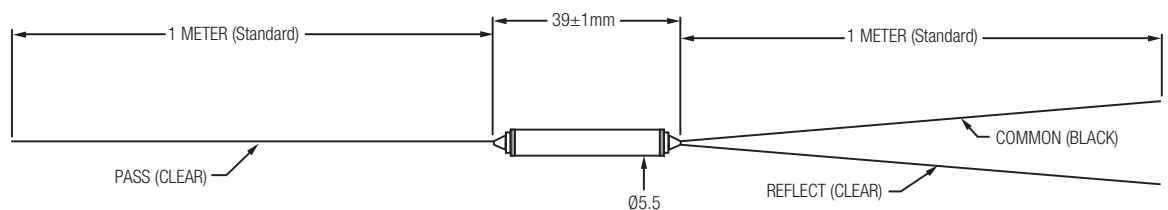
- Hardened for OSP use
- Low Excess Loss
- Low PDL
- Color coded 900 µm leads available

Applications

- Metro Ethernet / Cellular Backhaul
- Access Networks
- CWDM Systems
- CATV Links

Specifications

| PARAMETER | UNIT | VALUE |
|----------------------------------|-------|-----------------------|
| Center Wavelength | nm | ITU-T Grid |
| Channel Passband | nm | ITU-T Grid ± 6.5 |
| Passband Flatness | dB | < 0.5 |
| Bandwidth (@ -5dB) | nm | >14 |
| Insertion Loss (Pass Channel) | dB | < 1.0 |
| Insertion Loss (Reflect Channel) | dB | < 0.6 |
| Adjacent Channel Isolation | dB | > 30 |
| Non-Adjacent Channel Isolation | dB | > 45 |
| Isolation (Reflect Channel) | dB | > 13 |
| Return Loss | dB | > 45 |
| PDL | dB | < 0.1 |
| Directivity | dB | > 50 |
| IL Thermal Stability | dB/°C | < 0.005 |
| Wavelength Thermal Stability | nm/°C | < 0.002 |
| Operation Humidity | % RH | 5 to 95 not condensed |
| Storage Humidity | % RH | 0 to 95 not condensed |



continued
→

CWDM Single-channel OADM

Ordering Information

| AFL NO. | MODEL CODE | PASSBAND |
|---------------|--|----------|
| CW000311-1431 | CWDM TFF, 3-Port, 1431nm, 250um leads, NC, OSP | 1431 |
| CW000311-1451 | CWDM TFF, 3-Port, 1451nm, 250um leads, NC, OSP | 1451 |
| CW000311-1471 | CWDM TFF, 3-Port, 1471nm, 250um leads, NC, OSP | 1471 |
| CW000311-1491 | CWDM TFF, 3-Port, 1491nm, 250um leads, NC, OSP | 1491 |
| CW000311-1511 | CWDM TFF, 3-Port, 1511nm, 250um leads, NC, OSP | 1511 |
| CW000311-1531 | CWDM TFF, 3-Port, 1531nm, 250um leads, NC, OSP | 1531 |
| CW000311-1551 | CWDM TFF, 3-Port, 1551nm, 250um leads, NC, OSP | 1551 |
| CW000311-1571 | CWDM TFF, 3-Port, 1571nm, 250um leads, NC, OSP | 1571 |
| CW000311-1591 | CWDM TFF, 3-Port, 1591nm, 250um leads, NC, OSP | 1591 |
| CW000311-1611 | CWDM TFF, 3-Port, 1611nm, 250um leads, NC, OSP | 1611 |

* Additional configuration available upon request. Contact AFL Customer Service.

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| RoHS | Compliant | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operation Temperature | -40°C to +85°C |
| Storage Temperature | -40°C to +85°C |

Contact AFL for further details.



DWDM LGX Modules

AFL's DWDM LGX modules provide scalable wavelength management for new deployments and network upgrades, providing increased bandwidth over a single common fiber. Passive circuit design utilizes proven thin-film filter technology featuring low insertion loss, high isolation, and superior environmental stability. Modules can be installed in standard LGX chassis and are available with LC bulkheads in select configurations from 4 to 40 channels, including both single and dual circuit package designs. SC bulkhead modules are available in single circuit packages from 4 to 20 channels.

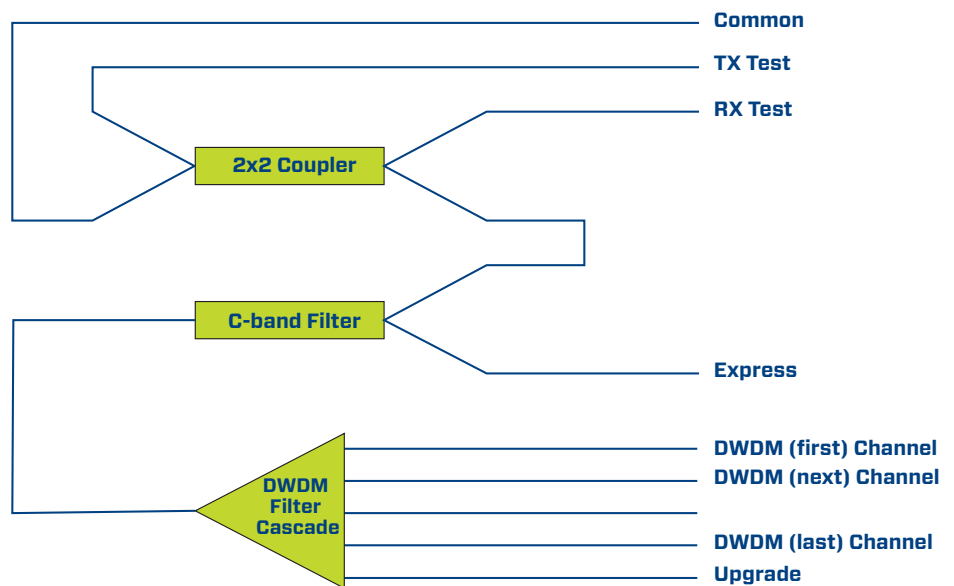
Features

- 50 GHz and 100 GHz ITU-T channel spacing
- Low insertion loss/high isolation
- Epoxy-free optical path
- Express, upgrade and Tx/Rx test ports

Applications

- CATV Systems
- Carrier Infrastructure
- Access Networks
- Small Cell

Diagram



Ordering Information

| Model | Specification | ITU Channel Plan | Channel Count | Package Size | Connectors | Channel | Network & Test Options** |
|---------------|--------------------------------------|---------------------------|--|--|--|--|---|
| D | C | 1 | S08 | L01 | ALC0 | Cxx | F |
| D = Dense WDM | C = Commercial A = AFL Standard * | 5 = 50 GHz 1 = 100 GHz | S04 = Single Circuit, 4 Channels D04 = Dual Circuit, 4 Channels S08 = Single Circuit, 8 Channels D08 = Dual Circuit, 8 Channels S10 = Single Circuit, 10 Channels D10 = Dual Circuit, 10 Channels S12 = Single Circuit, 12 Channels D12 = Dual Circuit, 12 Channels S16 = Single Circuit, 16 Channels D16 = Dual Circuit, 16 Channels S20 = Single Circuit, 20 Channels D20 = Dual Circuit, 20 Channels S40 = Single Circuit, 40 Channels D40 = Dual Circuit, 40 Channels | L01 = Single Wide LGX Module L02 = Double Wide LGX Module L03 = Triple Wide LGX Module L04 = Quad Wide LGX Module | ALC0 = LC/APC Bulkhead ULC0 = LC/UPC Bulkhead ASC0 = SC/APC Bulkhead * USC0 = SC/UPC Bulkhead * | Replace xx with Channel Number listed in DWDM ITU Channels table on last page of spec sheet. C19 = Channel 19 with 191, 900 GHz and 1562.23 nm center wavelength | 0 = No Options 1 = Express 2 = Upgrade 3 = Express & Upgrade D = Express & Dual Test F = Express, Upgrade, & Dual Test |

* SC bulkheads only available in AFL STANDARD (A) specification and single circuit channel counts of 4 to 20 channels.

** Additional options available, contact AFL for details.

continued
→

DWDM LGX Modules

Optical Specifications * ITU-T G.694.1 Configuration F (Express, Upgrade and Dual Test Ports)

| PARAMETER | REQUIREMENT | | | | | | | | | | | | | | COMMENT/COMMERCIAL SPEC VARIATION |
|---|--|-------------|-------------|-------------|-------------|-------------|-------------|---|-------------|-------------|-------------|-------------|-------------|-----------|-----------------------------------|
| | 100 GHz | | | | | | | 50 GHz | | | | | | | |
| Temperature and Input Power | | | | | | | | | | | | | | | |
| OT/H – Inside Plant | -10°C to 65°C; 5 to 95% RH | | | | | | | | | | | | | | -20°C to 65°C; 5 to 95% RH |
| OT/H – Outside Plant | -40°C to 85°C; 5 to 95% RH | | | | | | | | | | | | | | |
| Storage Temperature/Humidity | -40°C to 85°C; 5 to 95% RH | | | | | | | | | | | | | | |
| Max. Input Power Rating | 300 mW | | | | | | | | | | | | | | |
| Optical Passband | | | | | | | | | | | | | | | |
| DWDM Channel Center Wavelength | per ITU 100 GHz Grid | | | | | | | per ITU 50 GHz Grid | | | | | | | |
| DWDM Channel Passband @ 0.5 dB | ± 0.125 nm (ITU Channel Center Wavelength) | | | | | | | ± 0.06 nm (ITU Channel Center Wavelength) | | | | | | | |
| DWDM Channel Passband Ripple | < 0.5 | | | | | | | | | | | | | | |
| Upgrade Port Optical Passband | 1528.65 nm to 1566.44 nm | | | | | | | | | | | | | | |
| Express Port Optical Passband | 1260 nm to 1520 nm and 1570 nm to 1635 nm | | | | | | | | | | | | | | |
| RX Test Optical Passband | 1260 nm to 1635 nm | | | | | | | | | | | | | | |
| TX Test Optical Passband | ± 0.125 nm (ITU Channel Center Wavelength) | | | | | | | ± 0.06 nm (ITU Channel Center Wavelength) | | | | | | | |
| Insertion Loss (New Product, 20°C to 25°C) *** | | | | | | | | | | | | | | | |
| Max IL (dB) – Common to DWDM Ch. | 4 Ch | 8 Ch | 10 Ch | 12 Ch | 16 Ch | 20 Ch | 40 Ch | 4 Ch | 8 Ch | 10 Ch | 12 Ch | 16 Ch | 20 Ch | 40 Ch | SC Bulkheads 4-20 channel only |
| | 2.0 | 3.0 | 3.5 | 3.5 | 4.0 | 4.0 | 4.0 | 2.0 | 3.0 | 3.5 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Max DWDM Channel Uniformity | 2.0 dB | | | | | | | | | | | | | | |
| Max IL (dB) – Common to Upgrade | 1.5 | 2.5 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 | 1.5 | 2.5 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.0 dB ** |
| Max IL – Common to Express | 1.0 dB | | | | | | | | | | | | | | |
| Common to RX Test | ≤21.0 dB | | | | | | | | | | | | | | |
| Express to TX Test | ≤22.0 dB | | | | | | | | | | | | | | |
| Isolation | | | | | | | | | | | | | | | |
| Min DWDM Adjacent Channel Isolation | 30 dB | | | | | | | 25 dB | | | | | | | |
| Min DWDM Non-Adjacent Ch. Isolation | 45 dB | | | | | | | 35 dB | | | | | | | |
| Min Express Isolation | 12 dB | | | | | | | | | | | | | | |
| Max Polarization Dependent Loss (PDL) | 0.3 dB | | | | | | | | | | | | | | 0.25 dB |
| Max Polarization Mode Dispersion (PMD) | 0.3 dB | | | | | | | | | | | | | | 0.15 dB |
| Directivity | | | | | | | | | | | | | | | |
| DWDM Port Min Directivity | 50 dB | | | | | | | | | | | | | | 55 dB |
| Express Port Min Directivity | 45 dB | | | | | | | | | | | | | | |
| Test Port Min Directivity | 50 dB | | | | | | | | | | | | | | |
| Min Return Loss (all ports) | 45 dB | | | | | | | | | | | | | | |
| Insertion Loss Thermal Stability | | | | | | | | | | | | | | | |
| Insertion Loss Thermal Stability – New Prod. | ≤0.005 dB/C | | | | | | | | | | | | | | |
| Insertion Loss Thermal Stability – Service Life | ≤0.010 dB/C | | | | | | | | | | | | | | < 0.005 dB/C |
| Wavelength Thermal Stability | ≤0.001 nm/C | | | | | | | | | | | | | | |
| LGX 118 Package (Slot Width) | 4 Ch | 8 Ch | 10 Ch | 12 Ch | 16 Ch | 20 Ch | 40 Ch | | | | | | | | |
| LC UPC/APC Bulkhead Mod. – Single Circ. | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Single Slot | Dual Slot | |
| LC UPC/APC Bulkhead Mod. – Dual Circ. | Single Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Dual Slot | Quad Slot | |
| SC UPC/APC Bulkhead Mod. – Single Circ. | Dual Slot | Dual Slot | Triple Slot | Triple Slot | Triple Slot | Triple Slot | Triple Slot | Quad Slot | Quad Slot | Quad Slot | Quad Slot | Quad Slot | Quad Slot | N/A | |

NOTES:
 * Unless otherwise noted, optical specification applies across operating temperature and optical bandpass.
 ** Includes connector loss.
 *** Unless noted, 0.40 dB per mated connector loss is EXCLUDED.

continued


DWDM LGX Modules

DWDM ITU Channels

| CHANNEL NO. | FREQUENCY (GHz) | CENTER WAVELENGTH (nm) | CHANNEL NO. | FREQUENCY (GHz) | CENTER WAVELENGTH (nm) | CHANNEL NO. | FREQUENCY (GHz) | CENTER WAVELENGTH (nm) | CHANNEL NO. | FREQUENCY (GHz) | CENTER WAVELENGTH (nm) |
|-------------|-----------------|------------------------|-------------|-----------------|------------------------|-------------|-----------------|------------------------|-------------|-----------------|------------------------|
| C1 | 190,100 | 1577.03 | C19 | 191,900 | 1562.23 | C37 | 193,700 | 1547.72 | C55 | 195,500 | 1533.47 |
| H1 | 190,150 | 1576.61 | H19 | 191,950 | 1561.83 | H37 | 193,750 | 1547.32 | H55 | 195,550 | 1533.07 |
| C2 | 190,200 | 1576.20 | C20 | 192,000 | 1561.42 | C38 | 193,800 | 1546.92 | C56 | 195,600 | 1532.68 |
| H2 | 190,250 | 1575.78 | H20 | 192,050 | 1561.01 | H38 | 193,850 | 1546.52 | H56 | 195,650 | 1532.29 |
| C3 | 190,300 | 1575.37 | C21 | 192,100 | 1560.61 | C39 | 193,900 | 1546.12 | C57 | 195,700 | 1531.90 |
| H3 | 190,350 | 1574.95 | H21 | 192,150 | 1560.20 | H39 | 193,950 | 1545.72 | H57 | 195,750 | 1531.51 |
| C4 | 190,400 | 1574.54 | C22 | 192,200 | 1559.79 | C40 | 194,000 | 1545.32 | C58 | 195,800 | 1531.12 |
| H4 | 190,450 | 1574.13 | H22 | 192,250 | 1559.39 | H40 | 194,050 | 1544.92 | H58 | 195,850 | 1530.72 |
| C5 | 190,500 | 1573.71 | C23 | 192,300 | 1558.98 | C41 | 194,100 | 1544.53 | C59 | 195,900 | 1530.33 |
| H5 | 190,550 | 1573.30 | H23 | 192,350 | 1558.58 | H41 | 194,150 | 1544.13 | H59 | 195,950 | 1529.94 |
| C6 | 190,600 | 1572.89 | C24 | 192,400 | 1558.17 | C42 | 194,200 | 1543.73 | C60 | 196,000 | 1529.55 |
| H6 | 190,650 | 1572.48 | H24 | 192,450 | 1557.77 | H42 | 194,250 | 1543.33 | H60 | 196,050 | 1529.16 |
| C7 | 190,700 | 1572.06 | C25 | 192,500 | 1557.36 | C43 | 194,300 | 1542.94 | C61 | 196,100 | 1528.77 |
| H7 | 190,750 | 1571.65 | H25 | 192,550 | 1556.96 | H43 | 194,350 | 1542.54 | H61 | 196,150 | 1528.38 |
| C8 | 190,800 | 1571.24 | C26 | 192,600 | 1556.56 | C44 | 194,400 | 1542.14 | C62 | 196,200 | 1527.99 |
| H8 | 190,850 | 1570.83 | H26 | 192,650 | 1556.15 | H44 | 194,450 | 1541.75 | H62 | 196,250 | 1527.60 |
| C9 | 190,900 | 1570.42 | C27 | 192,700 | 1555.75 | C45 | 194,500 | 1541.35 | C63 | 196,300 | 1527.22 |
| H9 | 190,950 | 1570.01 | H27 | 192,750 | 1555.34 | H45 | 194,550 | 1540.95 | H63 | 196,350 | 1526.83 |
| C10 | 191,000 | 1569.59 | C28 | 192,800 | 1554.94 | C46 | 194,600 | 1540.56 | C64 | 196,400 | 1526.44 |
| H10 | 191,050 | 1569.18 | H28 | 192,850 | 1554.54 | H46 | 194,650 | 1540.16 | H64 | 196,450 | 1526.05 |
| C11 | 191,100 | 1568.77 | C29 | 192,900 | 1554.13 | C47 | 194,700 | 1539.77 | C65 | 196,500 | 1525.66 |
| H11 | 191,150 | 1568.36 | H29 | 192,950 | 1553.73 | H47 | 194,750 | 1539.37 | H65 | 196,550 | 1525.27 |
| C12 | 191,200 | 1567.95 | C30 | 193,000 | 1553.33 | C48 | 194,800 | 1538.98 | C66 | 196,600 | 1524.89 |
| H12 | 191,250 | 1567.54 | H30 | 193,050 | 1552.93 | H48 | 194,850 | 1538.58 | H66 | 196,650 | 1524.50 |
| C13 | 191,300 | 1567.13 | C31 | 193,100 | 1552.52 | C49 | 194,900 | 1538.19 | C67 | 196,700 | 1524.11 |
| H13 | 191,350 | 1566.72 | H31 | 193,150 | 1552.12 | H49 | 194,950 | 1537.79 | H67 | 196,750 | 1523.72 |
| C14 | 191,400 | 1566.31 | C32 | 193,200 | 1551.72 | C50 | 195,000 | 1537.40 | C68 | 196,800 | 1523.34 |
| H14 | 191,450 | 1565.90 | H32 | 193,250 | 1551.32 | H50 | 195,050 | 1537.00 | H68 | 196,850 | 1522.95 |
| C15 | 191,500 | 1565.50 | C33 | 193,300 | 1550.92 | C51 | 195,100 | 1536.61 | C69 | 196,900 | 1522.56 |
| H15 | 191,550 | 1565.09 | H33 | 193,350 | 1550.52 | H51 | 195,150 | 1536.22 | H69 | 196,950 | 1522.18 |
| C16 | 191,600 | 1564.68 | C34 | 193,400 | 1550.12 | C52 | 195,200 | 1535.82 | C70 | 197,000 | 1521.79 |
| H16 | 191,650 | 1564.27 | H34 | 193,450 | 1549.72 | H52 | 195,250 | 1535.43 | H70 | 197,050 | 1521.40 |
| C17 | 191,700 | 1563.86 | C35 | 193,500 | 1549.32 | C53 | 195,300 | 1535.04 | C71 | 197,100 | 1521.02 |
| H17 | 191,750 | 1563.45 | H35 | 193,550 | 1548.91 | H53 | 195,350 | 1534.64 | H71 | 197,150 | 1520.63 |
| C18 | 191,800 | 1563.05 | C36 | 193,600 | 1548.52 | C54 | 195,400 | 1534.25 | C72 | 197,200 | 1520.25 |
| H18 | 191,850 | 1562.64 | H36 | 193,650 | 1548.11 | H54 | 195,450 | 1533.86 | H72 | 197,250 | 1519.86 |

NOTES:

1. See Channel column to determine frequency and center wavelength values.
2. 100 GHz channels begin Cxx and 50 GHz channels begin with Cxx or Hxx.
3. Channels C16 (1564.68 nm) through C63 (1527.22 nm) reference C-BAND filter passband.

Temperature Specifications *

| | 50 GHz & 100 GHz DWDM | COMMERCIAL SPEC VARIATION |
|--|-----------------------------|----------------------------|
| Operation Temperature, Relative Humidity Inside Plant | -10°C to +65°C; 5 to 95% RH | -20°C to 65°C; 5 to 95% RH |
| Outside Plant | -40°C to 85°C; 5 to 95% RH | |
| Storage Temperature, Relative Humidity | -40°C to 85°C; 5 to 95% RH | |

* Unless otherwise noted, optical specification applies across operating temperature and optical bandpass.

Contact AFL for further details.



RFOG WDM Module

The RFOG WDM module is designed to satisfy wavelength management requirements where 1310, 1490, 1550, 1590 / 1610 nm wavelengths are used in passive optical network applications. This unit is available in traditional LGX® module packaging with virtually all connector options supported. Also available is a high density platform delivering unsurpassed ports per rack unit for applications requiring the most efficient use of available rack space.

Features

- Flexible packaging options
- Low Excess Loss
- Low PDL
- Monitoring/Tap ports available

Applications

- PON – FTTx Networks
- Access Networks
- CATV Links

Specifications

| PARAMETER | UNIT | SPECIFICATION | | |
|------------------------------|---------------------------------|----------------------|-------------|-------------|
| | | MIN | MAX | |
| Wavelength Range | 1310 Band | nm | 1270 | 1350 |
| | 1490 Band | | 1480 | 1500 |
| | 1550 Band | | 1540 | 1570 |
| | 1590/1610 Band | | 1584.5 | 1620 |
| Insertion Loss | 1310+1490 Port | dB | – | 1.2 |
| | 1550 Port | | | 1.4 |
| | 1590/1610 Port | | | 1.5 |
| Band Isolation | 1310/1490 Port @ 1550 | dB | 40 | |
| | 1310/1490 Port @ 1590/1610 | | 40 | |
| | 1550 Port @ 1310/1490 | | 30 | |
| | 1550 Port @ 1590 | | 15 | |
| | 1590/1610 Port @ 1310/1490/1550 | | 35 | |
| Wavelength Thermal Stability | nm/°C | | | 0.002 |
| Directivity | dB | 50 | | |
| PDL | dB | | | 0.15 |
| PMD | ps | | | 0.10 |
| Return Loss | dB | 45 | | |
| Optical Power Handling | mW | 300 | | |
| Operation Humidity | % RH | 5 ~ 95 not condensed | | |
| Storage Humidity | % RH | 0 ~ 95 not condensed | | |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| FILTER WDM, 1310+1490/1550+1590/1610,SC/APC | CM000150 |
| DUAL FILTER WDM, 1310+1490/1550+1590/1610,LC/APC | CM000151 |

* Additional configuration available upon request. Contact AFL Customer Service.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| RoHS | Compliant |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|----------------|
| Operation Temperature | -5°C to +70°C |
| Storage Temperature | -40°C to +85°C |

Contact AFL for further details.



LGX® FTTx WDM Modules

The FTTx WDM Modules are designed to satisfy 1310, 1490 and 1550 nm wavelength management requirements in FTTx passive optical networks. Based on proven thin-film filter technology, these modules offer low overall insertions loss, high wavelength thermal stability and high band isolation, all of which add to network reliability. These products are available in LGX compatible modules of scaling density to meet varying density objectives.

Features

- Low excess loss
- Low polarization dependent loss
- Flexible LGX packaging options
(*see ordering information below for product size and density information)
- SC/APC Connectors

Applications

- PON - FTTx Networks
- Access Networks
- CATV Links
- Wide Area Networks

Performance Specifications

| PARAMETER | | UNIT | SPECIFICATION | |
|------------------------------|-----------------------|-------|---------------|---------|
| | | | MINIMUM | MAXIMUM |
| Wavelength Range | 1310 Band | nm | 1260 | 1360 |
| | 1490 Band | nm | 1480 | 1500 |
| | 1550 Band | nm | 1550 | 1560 |
| Insertion Loss | 1310+1490 Port | dB | | 1.2 |
| | 1550 Port | dB | | 1.4 |
| Band Isolation | 1310/1490 Port @ 1550 | dB | 40 | |
| | 1550 @ 1310/1490 Port | dB | 30 | |
| Wavelength Thermal Stability | | nm/°C | | 0.002 |
| Directivity | | dB | 50 | |
| PDL | | dB | | 0.15 |
| PMD | | ps | | 0.1 |
| Return Loss | | dB | 45 | |
| Optical Power Level | | mW | 300 | |
| Operation Humidity | | % RH | 5 to 90 | |
| Storage Humidity | | % RH | 0 to 95 | |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| PON WDM Module, 1X, 1310/1490+1550, Single slot LGX, Black, SC/APC | CM000478 |
| PON WDM Module, 2X, 1310/1490+1550, Single slot LGX, Black, SC/APC | CM000479 |
| PON WDM Module, 4X, 1310/1490+1550, Dual slot LGX, Black, SC/APC | CM000480 |
| PON WDM Module, 6X, 1310/1490+1550, Triple slot LGX, Black, SC/APC | CM000481 |

Qualifications

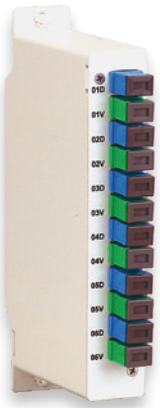
| GOVERNING BODY | STANDARD CODE |
|----------------|-----------------|
| Telcordia | GR-1209, GR1221 |

Temperature Specifications

| TEMPERATURE RANGE | |
|-----------------------|---------------|
| Operation Temperature | -5°C to +70°C |
| Storage Temperature | 40°C to +85°C |

LGX is a registered trademark of Furukawa Electric North America, Inc.
Telcordia is a registered trademark of Telcordia Technologies, Inc.

Contact AFL for further details.



Optical FTTx WDM Module

The Optical FTTx WDM Module is designed to satisfy requirements utilizing 1310, 1490 and 1550 nm bandwidths in FTTx applications. The module features a compact footprint with adapter ports consisting of SC (UPC or APC) outputs.

Specifications

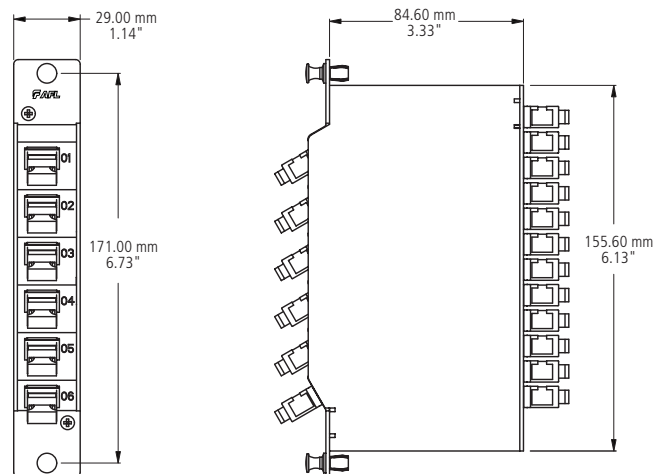
| PARAMETER | VALUE |
|-------------------------------------|---------------------------------------|
| 1550 Band – Port 1 (Pass) | 1550-1560 nm |
| 1310 + 1490 Band – Port 2 (Reflect) | 1260-1360 & 1480-1500 nm |
| Insertion Loss | 1550 < 1.2 dB 1310 + 1490 < 1.2 dB |
| Isolation | 1550 > 25 dB 1310 + 1490 > 20 dB |
| PDL | <0.2 dB |
| PMD | < 0.2 ps |
| Return Loss | > 50 dB |
| Directivity | > 50 dB |
| Operating Temperature | -40 to +75°C |
| Storage Temperature | -40 to +85°C |
| Relative Humidity | 0 to 90% |
| Optical Power | 500 mW |

| PACKAGING | |
|----------------|---|
| Packaging Size | Standard Single Width LGX® Rack Module |
| Fiber Type | Low-Water-Peak Non-Dispersion Shifted SMF-28e |
| Connector Type | Port 3 (Common) – SC/APC Port 1 (Data) – SC/UPC Port 2 (Video) – SC/APC |

Ordering Information

| AFL NO. | DESCRIPTION |
|----------|-------------------------|
| CM000043 | Optical FTTx WDM Module |

Dimensions



LGX is a registered trademark of Furukawa Electric North America, Inc.



AFL TITAN RTD Multiport Terminal



AFL TRIDENT Hardened Connector

AFL TITAN RTD® FTTx System

The AFL TITAN RTD Multiport is a factory terminated OSP fiber terminal designed for quick and easy subscriber connections anywhere in the OSP network when used in conjunction with AFL TRIDENT® Hardened Fiber Optic Connectors. The sealed and rugged design of both the AFL TITAN RTD Multiport and AFL TRIDENT connector allow for long term reliability when installed anywhere in the network—underground, in pedestals, on poles, or on aerial strand or ADSS cables.

The preterminated AFL TITAN RTD Multiport Terminal is available with a variety of cable stub options. Dielectric or toneable flat drop cables are available for underground or short span self-support applications while ADSS cable stubs are available for longer span self-support applications*. Round armored cables are available for rodent protection in aerial or direct buried applications. Lastly, a pushable/air-jettable MicroDrop cable is available for microduct jetting applications.

The multiple stub options allow for flexibility when engineering the network and consolidation of multiple terminal stubs into one centralized splice point. The terminal is outfitted with four, six, eight or twelve AFL TRIDENT connector ports. The AFL TITAN RTD Multiport and AFL TRIDENT Hardened Fiber Optic Connector are designed and tested to Telcordia GR-771 and Telcordia GR-3120, respectively.

Lengths less than 350 feet ship coiled in low-profile boxes. Lengths more than 350 feet ship on a 33" corrugated plastic reel inside a cardboard box.

Features

- AFL TRIDENT Hardened Connector ports for speedy customer connections
- Stubbed with a large variety of cable options including flat drop*, ADSS*, pushable/air-jettable MicroDrop, or armored drop.
- Factory sealed for deployment in up to 10 feet of water head, but re-enterable for connector repair
- Pole and swing arm mountable; aerial mounting bracket available for strand mount
- Low profile design—4 and 6 port fit into 6" pedestals

Multiport Terminal Specifications

| PARAMETER | | VALUE |
|------------------------|----------------|--|
| Dimensions (L x W x H) | 4- and 6-port | 12.4" x 4.9" x 3.0" 315 mm x 125 mm x 76 mm |
| | 8- and 12-port | 15.5" x 6.1" x 3.8" 394 mm x 195 mm x 96 mm |
| Weight | 4- and 6-port | 1.5 lb (0.7 kg) |
| | 8- and 12-port | 2.5 lb (1.1 kg) |

AFL TRIDENT Hardened Connector Specifications

| PARAMETER | VALUE |
|-------------------------|----------------|
| Insertion Loss, Maximum | 0.50 dB |
| Insertion Loss, Typical | 0.15 dB |
| Reflection | ≤ -65 dB |
| Operating Temperature | -40°C to +75°C |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|-----------------|
| Telcordia | GR-771, GR-3120 |

*Refer to "AFL TITAN/TRIDENT Sag and Tension Guide" Applications Engineering Note for guidance on allowable span lengths for various stub options

AFL TITAN RTD® FTTx System

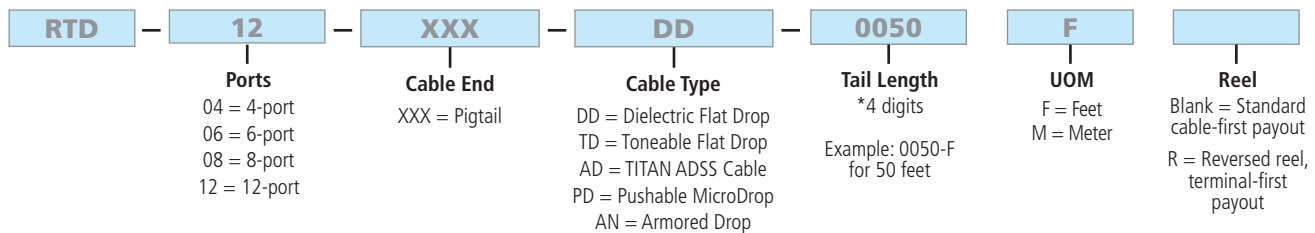


Pedestal Mount Application



AFL TITAN RTD / AFL TRIDENT® Interface

Ordering Information



AFL TITAN RTD Accessories

| DESCRIPTION | AFL NO. | IMAGE |
|---|----------------|-------|
| Strand Mount Bracket Kit | FC001365 | |
| AFL TRIDENT to SC/APC Adapter—for field replacement or jumper referencing | FC001366 | |
| AFL TRIDENT to SC/APC Test Jumper (1 meter) | CS013775-0001 | |
| One-Click® Cleaner SC (500 cleans) | 8500-05-0001MZ | |
| TITAN RTD Multiport Handhole Hanging Bracket Kit, 4/6 Port | FC001474 | |
| TITAN RTD Multiport Handhole Hanging Bracket Kit, 8/12 Port | FC001475 | |



AFL TRIDENT® Hardened Drop Cables

AFL TRIDENT factory-terminated drop cables are the final piece of the AFL TITAN RTD® FTTx System. The quarter-turn latching and sealing mechanism of the AFL TRIDENT connector provides quick and easy “plug and play” connections to AFL TITAN RTD multiport terminals, enabling lighting fast service subscriber connections with outstanding long term reliability. The connector/ adapter interface is keyed to ensure proper alignment of the 2.5 mm APC ferrule. Once the connector is keyed and inserted, locking and sealing is provided with a “BNC-like” quarter-turn of the connector coupling. Drops are available with one or both ends terminated (either both ends AFL TRIDENT or hybrid—one end AFL TRIDENT and one end standard SC). Drop cables are available in one, two, or four fibers (flat drop only).



Features

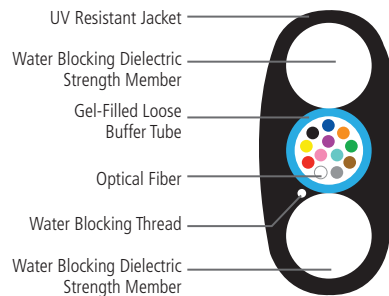
- AFL TRIDENT Hardened Connector ports for speedy customer connections
- Factory terminated on:
 - 250 µm outdoor or 900 µm indoor/outdoor flat drop cable
 - 250 µm armored drop
 - 900 µm pushable/air-jettable MicroDrop
- Flat drop is aerial self-support capable

Qualifications

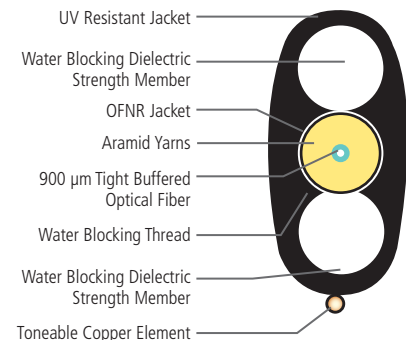
| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-3120 |

Cable Components

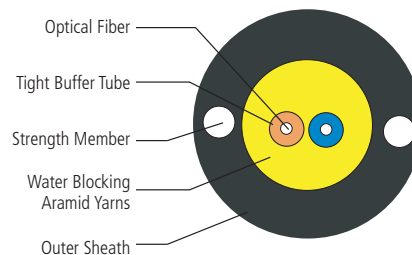
Dielectric OSP



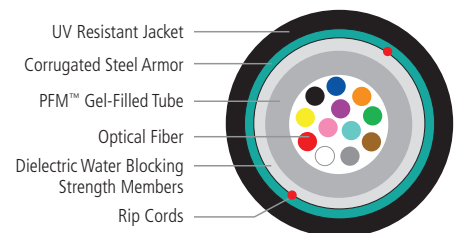
Toneable Indoor/Outdoor



MicroDrop



Armored Drop



AFL TRIDENT® Hardened Drop Cables

Cable Specifications (Flat Drop Cable Only)

| | |
|---------------------------|----------------|
| Max Span Length at 1% Sag | |
| NESC Light | 550 ft (168 m) |
| NESC Medium | 275 ft (84 m) |
| NESC Heavy | 150 ft (46 m) |

AFL TRIDENT Hardened Connector Specifications

| PARAMETER | VALUE |
|------------------------------|------------------|
| Insertion Loss, Maximum | 0.50 dB |
| Insertion Loss, Typical | 0.15 dB |
| Reflection | ≤ -65 dB |
| Operating Temperature | -40°C to +75°C |
| Retention Force | 25 lbs (111 N) |
| Dust Cap Pulling Eye Tension | 100 lbs (444 N)* |

*One fiber only. Two or four fiber drops should not be pulled by the dust cap pulling eye.

Ordering Information

| TASC | XXX | TD | 001 | Q | 0100 | F |
|--|--|--|--------------------|---|---|-----------------------|
| Outside End Connector | Inside End Connector | Cable Type | Fiber Count | Fiber Type | Cable Length | UOM |
| XXX = No connector TASC = Trident ASC = Angle SC | XXX = No connector TASC = Trident ASC = Angle SC | DD = Dielectric Flat Drop TD = Toneable Flat Drop KTD = Toneable Indoor/Outdoor Flat Drop KDD = Dielectric Indoor/Outdoor Flat Drop AN = Armored Drop PD = Pushable MicroDrop | 001 002 004 | Q = Single-mode ITU-T G.652.D Z = Single-mode ITU-T G.657.A2 BIF (for I/O flat drop) | *4 digits Example: 0100F for 100 feet | F = Feet M = Meter |



Sealed Fiber Optic Splice Closures

AFL's sealed fiber optic splice closures are designed to simplify splice management and maintenance. Intuitive engineering design reduces the installation time and complexity associated with fiber splicing in the field. No heat, adhesives, drills or powered equipment for installation or re-entry are required, just simply use a common can wrench to access and install cable. These closures are durable, easy-to-install and will increase productivity, reduce labor expenses, and last the life of your plant.

Features

- LG Series closures support stranded loose tube, Uniflex or ribbon fiber cables in either armored or dielectric configurations
- New Apex® Sealed Closures also support "rollable ribbon" fiber types including AFL's SpiderWeb Ribbon® (SWR®)
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install cables

Specifications

| DESCRIPTION | MODEL | | | | | | | |
|---|--|--|-----------------------|-------------------------------|-----------------------------|-------------------------------------|--|---|
| | LG-55-U-0 | APEX X-2 | APEX X-2S | LG-150-U-0 | LG-250-U-0 | LG-350-U-0 | LG-350-AC | LG-350XL-U-0 |
| Splice Capacity (Max.) – Single, Mass, Mechanical | 24, n/a, 24 | 432, 3456, 864 | 216, 1728, 432 | 48, 192, 48 | 144, 432, 48 | 480, 1152, 108 ² | 144, 432, 48 | 864, 2592, 288 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical | 1, n/a, 1 | 6 | | 4, 3, 4 | | 12, 8, 8 | 4, 3, 4 | 9, 9, 9 |
| Cable Entrance Configuration | In-line / Butt | Butt | | | | | | |
| Cable Ports | 2 | 6 | | 5 | | | 2 (Express Grommets) 3 (4-Drop Grommets) | 5 (7 using dual port grommet Express sides) |
| Cable Sizes (Max. O.D.) in. (mm) | 2 @ 0.70 (17.78) (splice) | Single Port: 0.40- 1.10 (10.0 - 28.0) Multi-Drop Kit: 0.20 - 0.39 (5.0 - 9.9) or flat drop | | 5 @ 0.62 (15.748) | | 3 @ 0.80 (20.32) 2 @ 1.00 (25.4) | 2 @ 1.0 (25.4) 12 @ 0.312 (7.9248) Flat or 0.250" (6.35) Round | 3 @ 1.08 (27.432) 2 @ 1.18 (29.972) |
| Testing - Cable Retention (100 lbs) - Water Resistance (waterhead) - Impact Resistance (0-40 °C) - Chemical Resistance - Cable Flexing | Passed 20 ft. Passed Passed Passed | — | — | | | | Passed 20 ft. Passed Passed Passed | |
| Dimensions – (L x D) in. (mm) | 14.00 x 4.00 (35.6 x 10.16) | 25.0 x 12.0 (64 x 30) | 20.0 x 12.0 (51 x 30) | 16.25 x 8.75 (412.75 x 222.3) | 19.0 x 8.75 (482.6 x 222.3) | 28.00 x 10.00 (71.12 x 25.4) | 20 x 10 (51 x 25.4) | 31.00 x 12.00 (78.74 x 30.48) |
| Weight – lbs. (kg) | 3.0 (1.36) | 25 (11.3) | 22 (10) | 10.5 (4.76) | 10.5 (4.76) | 16 (7.26) | 12.0 (5.44) | 25 (11.34) |

NOTES: 1. For the LG-250-U-0; 36 mechanical splices only using the LL-2448 splice tray.
2. For the LG-350-U-0; 108 mechanical splices only using the LL-2448 splice tray.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |



Apex® X-2S Sealed Splice Closure

The Apex X-2S is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2S is capable of up to 288 single fusion, 576 mass fusion with standard ribbon, or 1728 (200 μm, 864 max for 250 μm) mass fusion with “rollable ribbon” fiber types such as AFL’s SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure’s base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

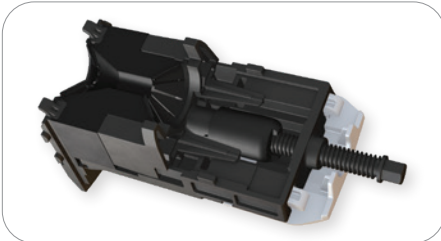
Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with convenient multiple tie-down points with Velcro or tie wraps
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

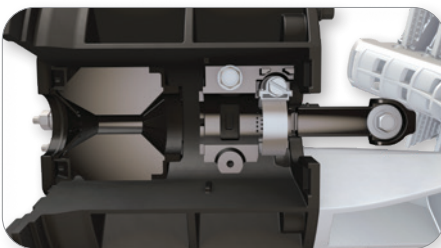
| PARAMETER | VALUE |
|---|---|
| Dimensions – L x D, in (cm) | 20.0 x 12.0 (51 x 30) |
| Weight, No Trays – lb (kg) | 22 (10) |
| Splice Capacity – Single, Mass (SWR), Mass (Standard) | 288, 1728, 576 |
| Splice Tray Capacity | 6 |
| Cable Diameter, Single Port, in (mm) | 0.40" – 1.10" (10.0 - 28.0) |
| Cable Diameter, Multi-Drop Kit, in (mm) | 0.20" – 0.39" (5.0 - 9.9) or flat drop |
| Application | Direct Bury, Handhole, Aerial, Pole/Wall |
| Testing | Test to and Passed GR-771-CORE 20 ft. Waterhead test |
| Temperature Operating | -40°F to 149°F -40°C to 65°C |

Apex® X-2S Sealed Splice Closure



Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



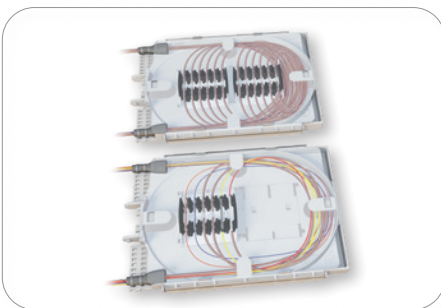
Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters and OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

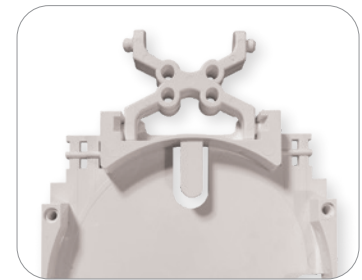
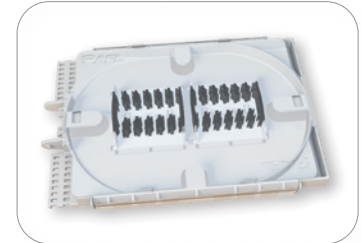
Ordering Information

| | | | | | | | | | | | | | | |
|---------------|---|----------------|---|-----------------------|---|--|---|---------------------------------|---|-----------------------------------|---|---------------------------------|---|---------------------|
| AX | — | 2S | — | B | — | L | — | 0 | — | 2 | — | 6 | — | X |
| APEX CLOSURES | | CLOSURE SIZE | | BASKET TYPE | | TRAY TYPE | | NUMBER OF TRAYS | | CABLE STRAIN RELIEF HARDWARE KITS | | NUMBER OF GROUND LUGS | | INNER BASKET |
| | | 2S = X-2S Size | | B = X-2S Sized Basket | | X = No preinstalled tray L = X-2S Tray Loaded with splice modules | | 0 1 2 3 4 5 6 | | 0 1 2 3 4 5 6 | | 0 1 2 3 4 5 6 | | X = No Inner Basket |

Apex® X-2S Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-2S closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers. Adapter kits available to install up to four FOSC® A optical trays.



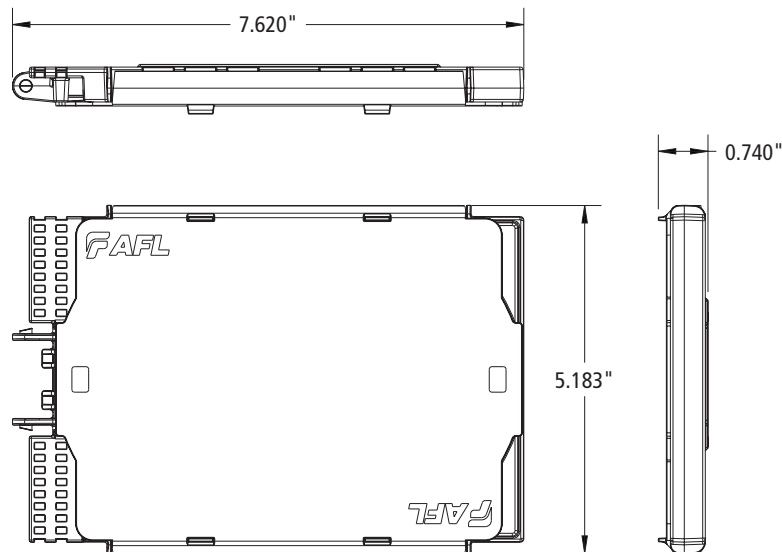
Ordering Information

| DESCRIPTION | TRAY CAPACITY | | AFL NO. |
|---|---------------|------|----------------|
| | SINGLE | MASS | |
| X-2S Tray Loaded with One Splice Module | 24** | 72 | AX-TRAY-2S-1 |
| X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | 48** | 288 | AX-TRAY-2S-2 |
| Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20 | - | - | AX-TRAY-MOD-20 |
| X-2S Tray Empty | - | - | AX-TRAY-2S-E |
| FP-40 40 mm Single Fiber Slim Protection Sleeve | - | - | S018262 |
| FP-60 60 mm Single Fiber Slim Protection Sleeve | - | - | S018263 |

* 288 fibers per tray with mass fusion double-stacking (1728 total closure capacity) only recommended for 200 μm type rollable ribbon. For 250 μm, cut capacity in half with single-stacking.

** When using AFL's Slim Protection Sleeves

Dimensions



Apex® X-2S Sealed Splice Closure

Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.



CAU Kit



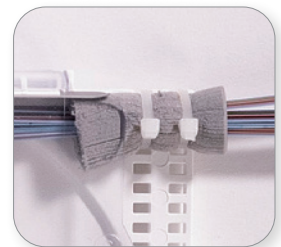
Ring Clamp Replacement Kit



O-Ring Grease Kit



Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

| DESCRIPTION | AFL NO. |
|--|------------------|
| REPLACEMENT KITS | |
| X-2 and X-2S Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit | AX-KIT-CBLSTRN |
| X-2 and X-2S Dome to Base O-Ring Replacement Kit | AX-KIT-ORING-2 |
| Apex O-Ring Grease, Pack of 10 | AX-KIT-GREASE-10 |
| X-2 and X-2S Dome to Base Locking Ring Clamp Replacement Kit | AX-KIT-CLAMP-2 |
| X-2 and X-2S Wedge Replacement Kit | AX-KIT-WEDGE-2 |
| X-2 and X-2S Inner Base Gel Replacement Kit | AX-KIT-GEL-2 |
| X-2S Basket and Yoke Assembly Kit. Can be used in combination with the basket cover. | AX-KIT-BASKET-2S |
| X-2S Dome Replacement Kit | AX-KIT-DOME-2S |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | HW000406 |
| Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket | FC001759 |



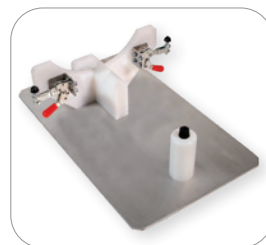
Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket



X-2 and X-2S Installation Stand



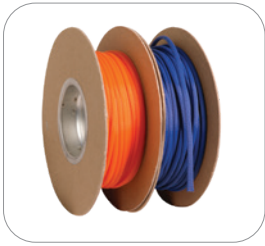
Universal Installation Stand

Ordering Information — Accessories

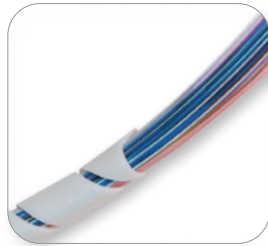
| DESCRIPTION | AFL NO. |
|--|--------------------|
| ACCESSORIES | |
| Aerial strand mount hanger kit | AX-KIT-AERIAL-1 |
| Pole/wall mount kit | AX-BR30 |
| Adjustable Aerial Strand Mount Hanger kit | AX-KIT-AERIAL-ADJ |
| ADSS Aerial hanger brackets | AX-KIT-AERIAL-ADSS |
| Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable) | AX-KIT-DROP-4 |
| X-2 and X-2S Installation Stand | FC104649 |
| Apex Universal Installation Stand | AX-KIT-U-STAND |

Apex® X-2S Sealed Splice Closure

Installation Accessories (cont.)



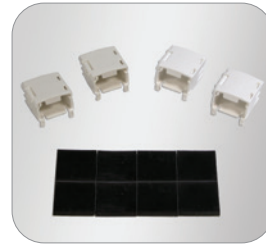
Mesh Transition Tubing



Silicone Spiral Wrap



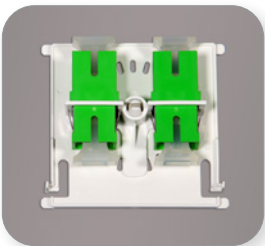
AFRS Kit 1



AFRS Kit 2



A-B Tray Adapter Kit



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

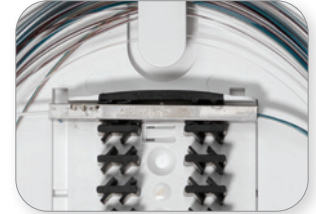
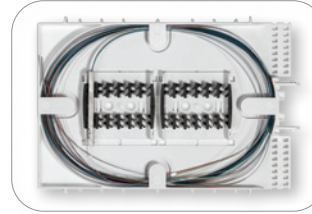
Ordering Information — Accessories (cont.)

| DESCRIPTION | AFL NO. |
|---|---------------------------|
| ACCESSORIES | |
| 1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ) | AX-KIT-TUBE-014-XX* |
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |
| Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10 | AX-KIT-GROUND-10 |
| Apex Internal Multiple Ground Bonding Kit | AX-KIT-GNDLD-5 |
| Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.). | AX-KIT-AFRSRBN |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.) | AX-KIT-AFRSVC-120 |
| Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.) | AX-KIT-AFRSMESH-100FT |
| Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.) | AX-KIT-AFRSAH-10 |
| Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.) | AX-KIT-AFRSA-10 |
| Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit) | AX-2S-B-L-4-4-4-X-1R1000F |
| Apex A-B Tray Adapter Kit, 1 Kit of 6 pieces | AX-ADPTR-ABTRAY-6 |
| Apex A-B Tray Adapter Kit, 10 Kits of 6 pieces | AX-ADPTR-ABTRAY-60 |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit | AX-TRAY-ASC |
| Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit | AX-TRAY-USC |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit | AX-TRAY-ASC-6 |
| Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit | AX-TRAY-USC-6 |
| Apex Replacement Slack Storage Basket Tabs – Pack of 25 | AX-KIT-BTAB-25 |

Apex® X-2S Sealed Splice Closure

Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.



Ordering Information

| DESCRIPTION | SPLIT RATIO | AFL NO. |
|---|-------------|------------------|
| SPLITTER MODULES FOR SPLICE TRAYS | | |
| X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter | 1x2 | AX-TRAY-2S-12-1 |
| X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter | 1x4 | AX-TRAY-2S-14-1 |
| X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter | 1x8 | AX-TRAY-2S-18-1 |
| X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter | 1x16 | AX-TRAY-2S-116-1 |
| X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter | 1x32 | AX-TRAY-2S-132-1 |
| X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x2 | AX-TRAY-2S-12-2 |
| X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x4 | AX-TRAY-2S-14-2 |
| X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x8 | AX-TRAY-2S-18-2 |
| X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x16 | AX-TRAY-2S-116-2 |
| X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules | 1x32 | AX-TRAY-2S-132-2 |
| X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x2 | AX-TRAY-2S-12-3 |
| X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x4 | AX-TRAY-2S-14-3 |
| X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x8 | AX-TRAY-2S-18-3 |
| X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x16 | AX-TRAY-2S-116-3 |
| X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each | 1x32 | AX-TRAY-2S-132-3 |



Apex® X-2 Sealed Splice Closure

The Apex X-2 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2 is capable of up to 576 single fusion, 1152 mass fusion with standard ribbon, or 3456 (200 μm, 1728 max for 250 μm) mass fusion with “rollable ribbon” fiber types such as AFL’s SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure’s base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

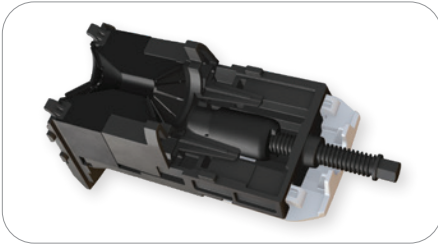
Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

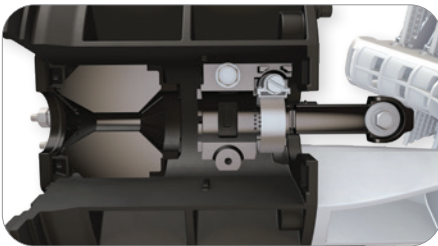
| PARAMETER | VALUE |
|---|---|
| Dimensions – L x D, in (cm) | 25.0 x 12.0 (64 x 30) |
| Weight, No Trays – lb (kg) | 25 (11.3) |
| Splice Capacity – Single, Mass (SWR), Mass (Standard) | 576, 3456, 1152 |
| Splice Tray Capacity | 6 |
| Cable Diameter, Single Port, in (mm) | 0.40" – 1.10" (10.0 – 28.0) |
| Cable Diameter, Multi-Drop Kit, in (mm) | 0.20"-0.39" (5.0-9.9) or flat drop |
| Application | Direct Bury, Handhole, Aerial, Pole/Wall |
| Testing | Test to and Passed GR-771-CORE 20 ft. Waterhead test |
| Temperature Operating | -40°F to 149°F -40°C to 65°C |

Apex® X-2 Sealed Splice Closure



Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



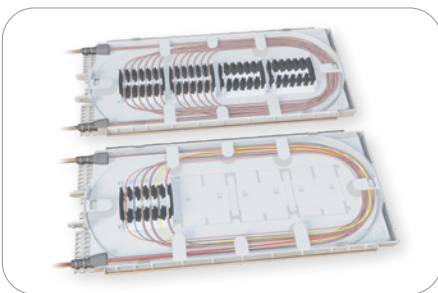
Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters or OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

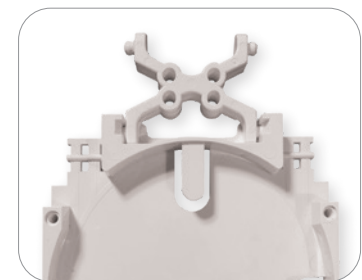
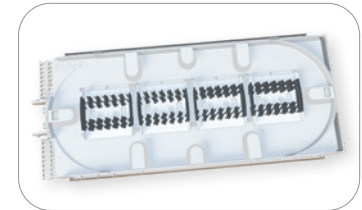
Ordering Information

| | | | | | | | |
|---------------|--------------|----------------------|---|---------------------------------|-----------------------------------|---------------------------------|---|
| AX | 2 | B | L | 0 | 2 | 6 | B |
| APEX CLOSURES | CLOSURE SIZE | BASKET TYPE | TRAY TYPE | NUMBER OF TRAYS | CABLE STRAIN RELIEF HARDWARE KITS | NUMBER OF GROUND LUGS | INNER BASKET |
| | 2 = X-2 Size | B = X-2 Sized Basket | X = No preinstalled tray L = X-2 Tray Loaded with splice modules | 0 1 2 3 4 5 6 | 0 1 2 3 4 5 6 | 0 1 2 3 4 5 6 | X = No Inner Basket B = Include Inner Basket |

Apex® X-2 Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-2 closures utilize X-2 size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 48 double-stacked mass splices, or 576 fibers total per tray. For standard ribbon, AFL recommends partially loaded for up to 16 mass splices single-stacked, or 192 fibers. Adapter kits available to install FOSSC® A-B optical trays.



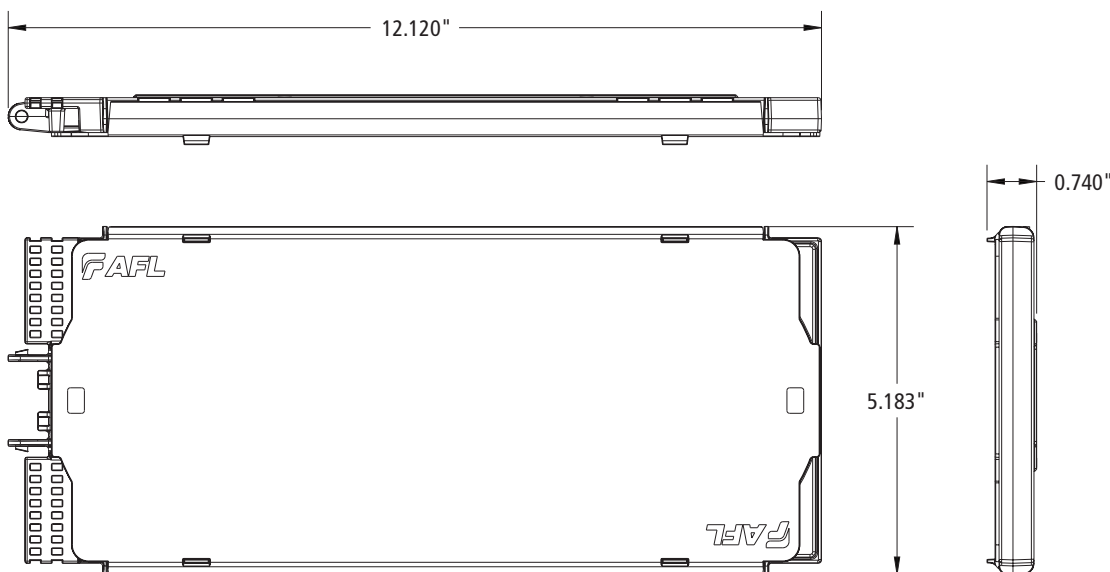
Ordering Information

| DESCRIPTION | TRAY CAPACITY | | AFL NO. |
|---|---------------|------|----------------|
| | SINGLE | MASS | |
| X-2 Tray Loaded with Two Splice Modules | 48** | 288 | AX-TRAY-2-2 |
| X-2 Tray Fully Loaded with Four Splice Modules (576 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | 96** | 576* | AX-TRAY-2-4 |
| Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20 | – | – | AX-TRAY-MOD-20 |
| X-2 Tray Empty | – | – | AX-TRAY-2-E |
| FP-40 40 mm Single Fiber Slim Protection Sleeve | – | – | S018262 |
| FP-60 60 mm Single Fiber Slim Protection Sleeve | – | – | S018263 |

* 576 fibers per tray with mass fusion double-stacking (3456 total closure capacity) only recommended for 200 μm type rollable ribbon. For 250 μm, cut capacity in half with single-stacking.

** When using AFL's Slim Protection Sleeves

Dimensions



Apex® X-2 Sealed Splice Closure

Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.



CAU Kit

Ring Clamp Replacement Kit

O-Ring Grease Kit

Wedge Replacement Kit

Foam Retention

Ordering Information — Replacement Kits

| DESCRIPTION | AFL NO. |
|--|------------------|
| REPLACEMENT KITS | |
| X-2 and X-2S Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit | AX-KIT-CBLSTRN |
| X-2 and X-2S Dome to Base O-Ring Replacement Kit | AX-KIT-ORING-2 |
| Apex O-Ring Grease, Pack of 10 | AX-KIT-GREASE-10 |
| X-2 and X-2S Dome to Base Locking Ring Clamp Replacement Kit | AX-KIT-CLAMP-2 |
| X-2 and X-2S Wedge Replacement Kit | AX-KIT-WEDGE-2 |
| X-2 and X-2S Inner Base Gel Replacement Kit | AX-KIT-GEL-2 |
| X-2 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover. | AX-KIT-BASKET-2 |
| X-2 Inner Basket Kit | AX-KIT-SBASKET-2 |
| X-2 Dome Replacement Kit | AX-KIT-DOME-2 |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | HW000406 |
| Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket | FC001759 |



Apex Aerial Hanger Bracket

Apex Pole/Wall Mount

Adjustable Aerial Hanger Bracket

X-2 and X-2S Installation Stand

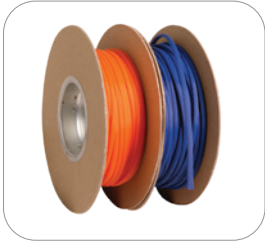
Universal Installation Stand

Ordering Information — Accessories

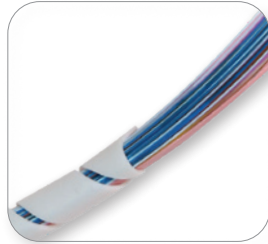
| DESCRIPTION | AFL NO. |
|--|--------------------|
| ACCESSORIES | |
| Aerial strand mount hanger kit | AX-KIT-AERIAL-1 |
| Pole/wall mount kit | AX-BR30 |
| Adjustable Aerial Strand Mount Hanger kit | AX-KIT-AERIAL-ADJ |
| ADSS Aerial hanger brackets | AX-KIT-AERIAL-ADSS |
| Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable) | AX-KIT-DROP-4 |
| X-2 and X-2S Installation Stand | FC104649 |
| Apex Universal Installation Stand | AX-KIT-U-STAND |

Apex® X-2 Sealed Splice Closure

Installation Accessories (cont.)



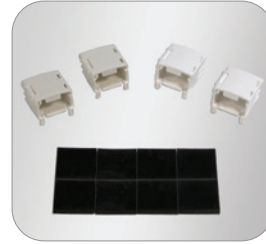
Mesh Transition Tubing



Silicone Spiral Wrap



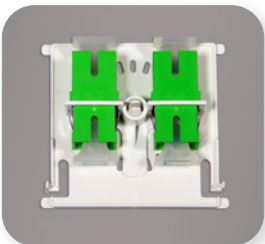
AFRS Kit 1



AFRS Kit 2



A-B Tray Adapter Kit



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

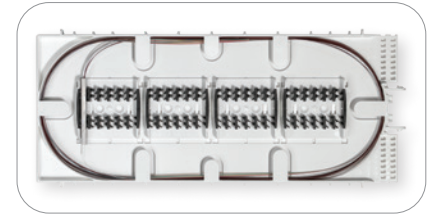
Ordering Information — Accessories (cont.)

| DESCRIPTION | AFL NO. |
|---|-------------------------|
| ACCESSORIES | |
| Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10 | AX-KIT-GROUND-10 |
| Apex Internal Multiple Ground Bonding Kit | AX-KIT-GNDLD-5 |
| 1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ) | AX-KIT-TUBE-014-XX* |
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |
| Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.). | AX-KIT-AFRSRBN |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.) | AX-KIT-AFRSVC-120 |
| Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.) | AX-KIT-AFRSMESH-100FT |
| Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.) | AX-KIT-AFRSAH-10 |
| Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.) | AX-KIT-AFRSA-10 |
| Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit) | AX-2S-B-L-4-4-X-1R1000F |
| Apex A-B Tray Adapter Kit, 1 Kit of 6 pieces | AX-ADPTR-ABTRAY-6 |
| Apex A-B Tray Adapter Kit, 10 Kits of 6 pieces | AX-ADPTR-ABTRAY-60 |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit | AX-TRAY-ASC |
| Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit | AX-TRAY-USC |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit | AX-TRAY-ASC-6 |
| Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit | AX-TRAY-USC-6 |
| Apex Replacement Slack Storage Basket Tabs – Pack of 25 | AX-KIT-BTAB-25 |

Apex® X-2 Sealed Splice Closure

Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2 splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.



Ordering Information

| DESCRIPTION | SPLIT RATIO | AFL NO. |
|---|-------------|-----------------|
| SPLITTER MODULES FOR SPLICE TRAYS | | |
| X-2 Tray with Four Splice Modules, (1) 1x2 PLC Splitter | 1x2 | AX-TRAY-2-12-1 |
| X-2 Tray with Four Splice Modules, (1) 1x4 PLC Splitter | 1x4 | AX-TRAY-2-14-1 |
| X-2 Tray with Four Splice Modules, (1) 1x8 PLC Splitter | 1x8 | AX-TRAY-2-18-1 |
| X-2 Tray with Four Splice Modules, (1) 1x16 PLC Splitter | 1x16 | AX-TRAY-2-116-1 |
| X-2 Tray with Four Splice Modules, (1) 1x32 PLC Splitter | 1x32 | AX-TRAY-2-132-1 |
| X-2 Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x2 | AX-TRAY-2-12-2 |
| X-2 Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x4 | AX-TRAY-2-14-2 |
| X-2 Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x8 | AX-TRAY-2-18-2 |
| X-2 Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x16 | AX-TRAY-2-116-2 |
| X-2 Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x32 | AX-TRAY-2-132-2 |
| X-2 Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x2 | AX-TRAY-2-12-3 |
| X-2 Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x4 | AX-TRAY-2-14-3 |
| X-2 Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x8 | AX-TRAY-2-18-3 |
| X-2 Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x16 | AX-TRAY-2-116-3 |
| X-2 Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x32 | AX-TRAY-2-132-3 |



Open to access Apex X-3 splice trays and lock at 72 degrees

Apex® X-3 Sealed Splice Closure

The Apex X-3 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3 is capable of up to 864 single fusion, 1296 mass fusion with standard ribbon, or 5184 (200 μm, 2592 max for 250 μm) mass fusion with “rollable ribbon” fiber types such as AFL’s SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure’s base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

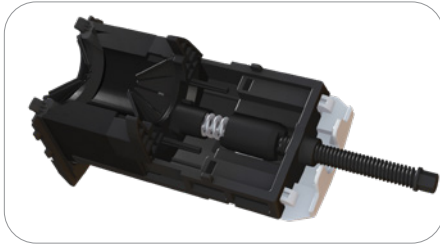
Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

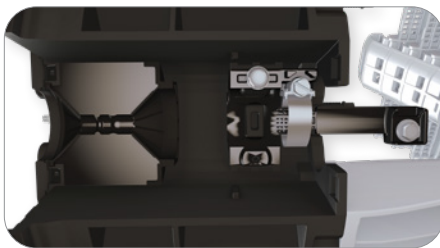
| PARAMETER | VALUE |
|---|--|
| Dimensions – L x D, in (cm) | 32.0 x 14 (81.3 x 35.6) |
| Weight, No Trays – lb (kg) | 30 lbs. (13.61 kg) |
| Splice Capacity – Single, Mass (SWR), Mass (Standard) | 864, 5184, 1296 |
| Splice Tray Capacity | 6 |
| Cable Diameter, Single Port, in (mm) | 0.40" - 1.38" (10.16 - 35.052) |
| Cable Diameter, Multi-Drop Kit, in (mm) | 0.20" – 0.39" (5.0 – 9.9) or flat drop |
| Application | Direct Bury, Handhole, Aerial, Pole/Wall |
| Designed in accordance with Telcordia GR-771 | Up to 10 ft. water-head |

Apex® X-3 Sealed Splice Closure



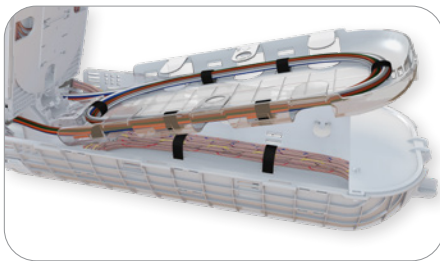
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



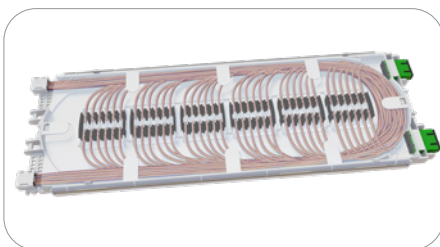
Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.38" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough CAU kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion quad-stacked, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications such as WDM and PLC Splitters, (photo at left shown with ASC bulkhead test ports installed). This can be mix-and-match.

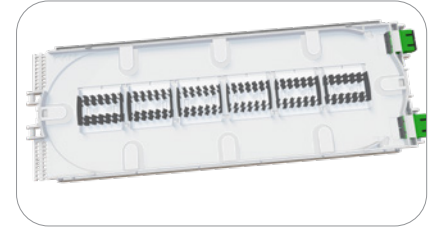
Ordering Information

| | | | | | | | | | | | | | | |
|---------------|---|--------------|---|----------------------|---|--|---|---------------------------------|---|-----------------------------------|---|---------------------------------|---|---|
| AX | — | 3 | — | B | — | L | — | 0 | — | 2 | — | 6 | — | B |
| APEX CLOSURES | | CLOSURE SIZE | | BASKET TYPE | | TRAY TYPE | | NUMBER OF TRAYS | | CABLE STRAIN RELIEF HARDWARE KITS | | NUMBER OF GROUND LUGS | | INNER BASKET |
| | | 3 = X-3 Size | | B = X-3 Sized Basket | | X = No preinstalled tray L = X-3 Square Tray Loaded with splice modules | | 0 1 2 3 4 5 6 | | 0 1 2 3 4 5 6 | | 0 1 2 3 4 5 6 | | X = No Inner Basket B = Include Inner Basket |

Apex® X-3 Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-3 closures utilize X-3 square splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, closures can be fully loaded with 6 splice trays for 5184 SWR or 864 quad-stacked single fiber splices or 144 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers per tray.



Ordering Information

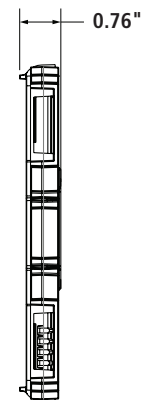
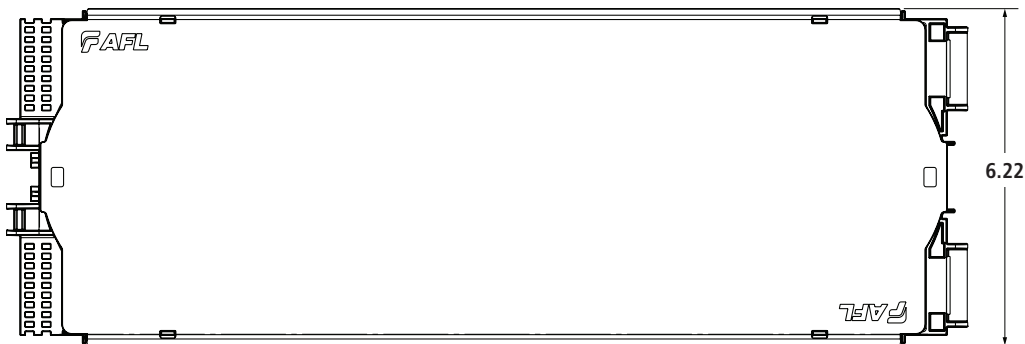
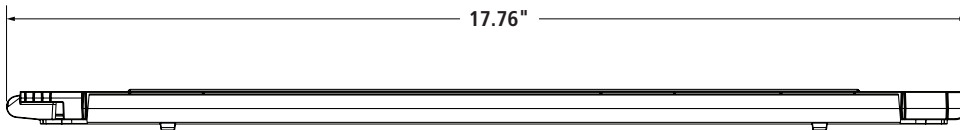
| DESCRIPTION | TRAY CAPACITY | | AFL NO. |
|--|--|-------|----------------|
| | SINGLE | MASS | |
| X-3 Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | 108 triple stacked 144 quad stacked** | 864** | AX-TRAY-3-S-6 |
| Additional splice module (18 single fusion double/quad stacked, 12 mass fusion double stacked, 6 mechanical) Pack of 20 | – | – | AX-TRAY-MOD-20 |
| X-3 Square Tray Empty | – | – | AX-TRAY-3-S-E |
| FP-40 40 mm Single Fiber Slim Protection Sleeve | – | – | S018262 |
| FP-60 60 mm Single Fiber Slim Protection Sleeve | – | – | S018263 |

* 864 fibers per tray with mass fusion (5184 total closure capacity) only recommended for 200 μm type rollable ribbon. For 250 μm, cut capacity in half with single-stacking.

** When using AFL's Slim Protection Sleeves



Dimensions



Apex® X-3 Sealed Splice Closure

Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.



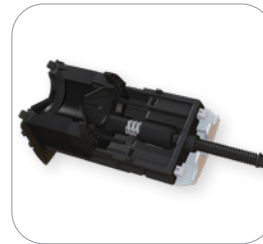
CAU Kit



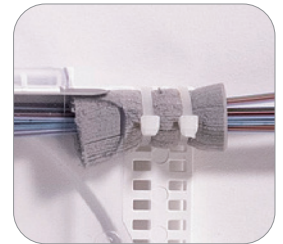
Ring Clamp Replacement Kit



O-Ring Grease Kit



Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

| DESCRIPTION | AFL NO. |
|--|------------------|
| REPLACEMENT KITS | |
| X-3 and X-3H Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit | AX-KIT-CBLSTRN-3 |
| X-3 and X-3H Dome-to-Base Locking Ring Clamp Replacement Kit | AX-KIT-CLAMP-3 |
| X-3 and X-3H Dome Replacement Kit | AX-KIT-DOME-3 |
| X-3 and X-3H Inner Base Gel Replacement Kit | AX-KIT-GEL-3 |
| X-3 Inner Basket Kit | AX-KIT-SBASKET-3 |
| Apex O-Ring Grease, Pack of 10 | AX-KIT-GREASE-10 |
| X-3 and X-3H Dome to Base O-Ring Replacement Kit | AX-KIT-ORING-3 |
| X-3 and X-3H Wedge Replacement Kit | AX-KIT-WEDGE-3 |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | HW000406 |
| Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket | FC001759 |



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket



Mesh Transition Tubing



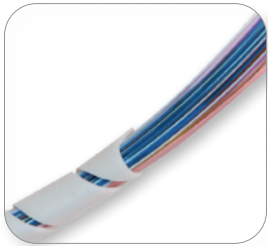
Universal Installation Stand

Ordering Information — Accessories

| DESCRIPTION | AFL NO. |
|--|---------------------|
| ACCESSORIES | |
| X-3 and X-3H Pole/wall mount kit | AX-BR33 |
| Aerial strand mount hanger kit | AX-KIT-AERIAL-1 |
| Adjustable Aerial Strand Mount Hanger kit | AX-KIT-AERIAL-ADJ |
| ADSS Aerial hanger brackets | AX-KIT-AERIAL-ADSS |
| X-3 and X-3H Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable) | AX-KIT-DROP-4-3 |
| Apex Internal Multiple Ground Bonding Kit | AX-KIT-GNDLD-5 |
| Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10 | AX-KIT-GROUND-10 |
| 1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ) | AX-KIT-TUBE-014-XX* |
| Apex Universal Installation Stand | AX-KIT-U-STAND |

Apex® X-3 Sealed Splice Closure

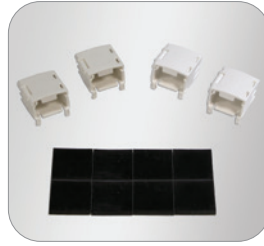
Installation Accessories (cont.)



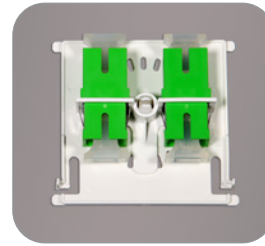
Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

Ordering Information — Accessories

| DESCRIPTION | AFL NO. |
|---|-----------------------|
| ACCESSORIES | |
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |
| Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.). | AX-KIT-AFRSRBN |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.) | AX-KIT-AFRSVC-120 |
| Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.) | AX-KIT-AFRSMESH-100FT |
| Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.) | AX-KIT-AFRSAH-10 |
| Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.) | AX-KIT-AFRSA-10 |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit | AX-TRAY-ASC |
| Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit | AX-TRAY-USC |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit | AX-TRAY-ASC-6 |
| Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit | AX-TRAY-USC-6 |
| Apex Replacement Slack Storage Basket Tabs – Pack of 25 | AX-KIT-BTAB-25 |



Apex® X-3H Sealed Splice Closure

The Apex X-3H is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3H is capable of up to 1728 mass fusion with standard ribbon or 6912 (200 μm, 3456 max for 250 μm) mass fusion with “rollable ribbon” fiber types such as AFL’s SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure’s base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 8 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.



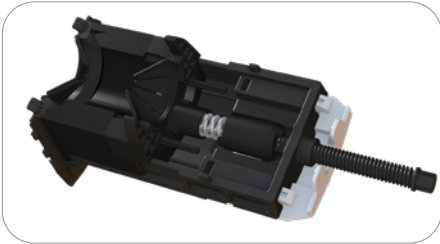
Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket designed for high count WTC with SWR and other rollable ribbon cable
- Six cable ports with up to six ground lugs
- Optimized for 6912 200 μm fiber end splice
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

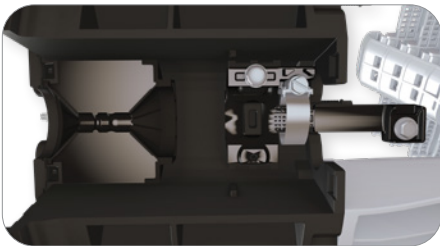
| PARAMETER | VALUE |
|---|--|
| Dimensions – L x D, in (cm) | 32.0 x 14 (81.3 x 35.6) |
| Weight, No Trays – lb (kg) | 30 (13.6) |
| Splice Capacity – Mass (SWR), Mass (Standard) | 6912, 1728 |
| Splice Tray Capacity | 8 |
| Cable Diameter, Single Port, in (mm) | 0.40" - 1.38" (10.16 - 35.052) |
| Application | Handhole, Aerial, Pole/Wall, Direct Bury |

Apex® X-3H Sealed Splice Closure



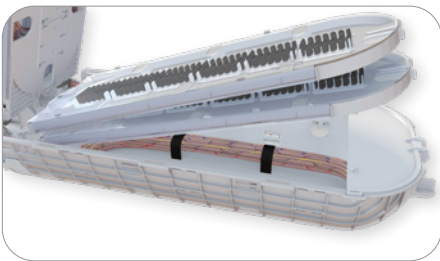
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



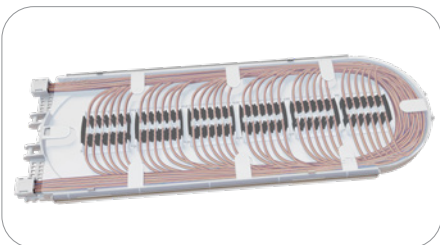
Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.38" in diameter. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Apex X-3H round splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The Apex X-3H round splice trays are only compatible with the X-3H closure. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

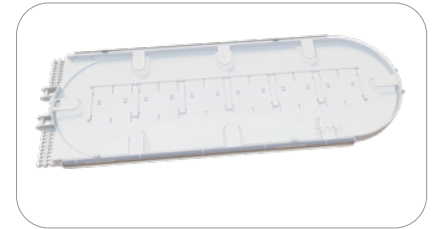
Ordering Information

| | | | | | | | | | | | | | | |
|---------------|---|----------------|---|-----------------------|---|--|---|-----------------|---|-----------------------------------|---|---------------------------------|---|---------------------|
| AX | — | 3H | — | B | — | L | — | 0 | — | 2 | — | 6 | — | X |
| APEX CLOSURES | | CLOSURE SIZE | | BASKET TYPE | | TRAY TYPE | | NUMBER OF TRAYS | | CABLE STRAIN RELIEF HARDWARE KITS | | NUMBER OF GROUND LUGS | | INNER BASKET |
| | | 3H = X-3H Size | | B = X-3H Sized Basket | | X = No preinstalled tray L = X-3 Square Tray Loaded with splice modules | | 0 OR 8 | | 0 1 2 3 4 5 6 | | 0 1 2 3 4 5 6 | | X = No Inner Basket |

Apex® X-3H Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-3H closures utilize X-3H round splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 72 double-stacked mass splices, or 864 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers.



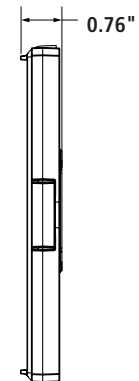
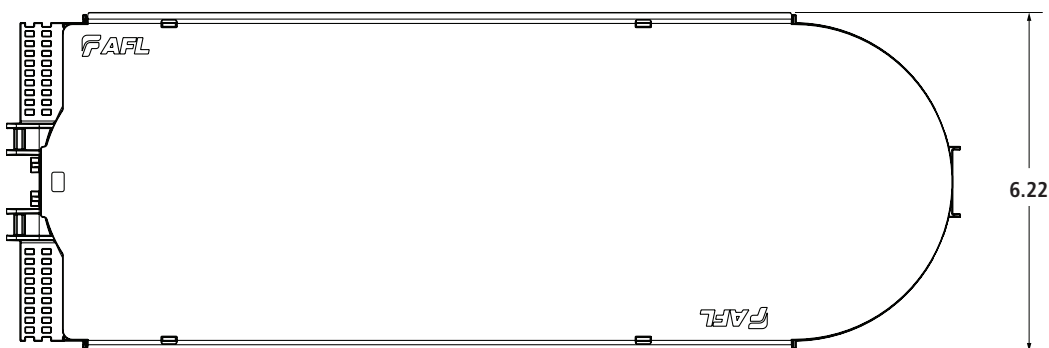
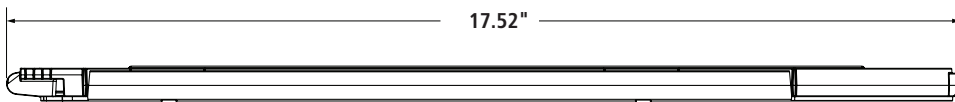
Ordering Information

| DESCRIPTION | MASS | AFL NO. |
|--|---|----------------|
| | X-3H Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR) | 864** |
| Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20 | – | AX-TRAY-MOD-20 |
| X-3H Round Tray Empty | – | AX-TRAY-3-R-E |
| FP-40 40 mm Single Fiber Slim Protection Sleeve | – | S018262 |
| FP-60 60 mm Single Fiber Slim Protection Sleeve | – | S018263 |

* 864 fibers per tray with mass fusion (6912 total closure capacity) only recommended for 200 μm type rollable ribbon. For 250 μm, cut capacity in half with single-stacking.

** When using AFL's Slim Protection Sleeves

Dimensions



Apex® X-3H Sealed Splice Closure

Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.



CAU Kit



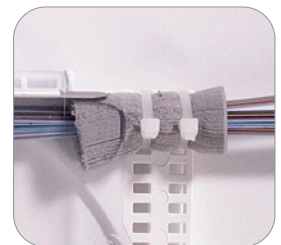
Ring Clamp Replacement Kit



O-Ring Grease Kit



Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

| DESCRIPTION | AFL NO. |
|--|------------------|
| REPLACEMENT KITS | |
| X-3 and X-3H Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit | AX-KIT-CBLSTRN-3 |
| X-3 and X-3H Dome-to-Base Locking Ring Clamp Replacement Kit | AX-KIT-CLAMP-3 |
| X-3 and X-3H Dome Replacement Kit | AX-KIT-DOME-3 |
| X-3 and X-3H Inner Base Gel Replacement Kit | AX-KIT-GEL-3 |
| Apex O-Ring Grease, Pack of 10 | AX-KIT-GREASE-10 |
| X-3 and X-3H Dome to Base O-Ring Replacement Kit | AX-KIT-ORING-3 |
| X-3 and X-3H Wedge Replacement Kit | AX-KIT-WEDGE-3 |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | HW000406 |
| Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket | FC001759 |



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket



Mesh Transition Tubing

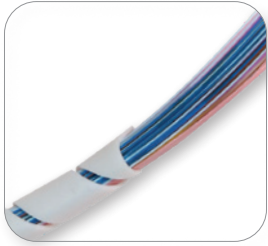


Universal Installation Stand

Ordering Information — Accessories

| DESCRIPTION | AFL NO. |
|--|---------------------|
| ACCESSORIES | |
| X-3 and X-3H Pole/wall mount kit | AX-BR33 |
| Aerial strand mount hanger kit | AX-KIT-AERIAL-1 |
| Adjustable Aerial Strand Mount Hanger kit | AX-KIT-AERIAL-ADJ |
| ADSS Aerial hanger brackets | AX-KIT-AERIAL-ADSS |
| X-3 and X-3H Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable) | AX-KIT-DROP-4-3 |
| Apex Internal Multiple Ground Bonding Kit | AX-KIT-GNDLD-5 |
| Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10 | AX-KIT-GROUND-10 |
| 1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ) | AX-KIT-TUBE-014-XX* |
| Apex Universal Installation Stand | AX-KIT-U-STAND |

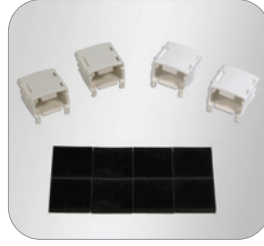
Apex® X-3H Sealed Splice Closure



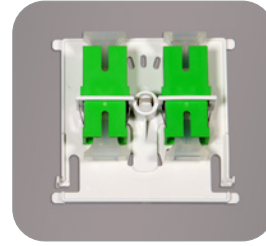
Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

Ordering Information — Accessories

| DESCRIPTION | AFL NO. |
|---|-----------------------|
| ACCESSORIES | |
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |
| Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.). | AX-KIT-AFRSRBN |
| Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads) | AX-KIT-AFRSLT |
| Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.) | AX-KIT-AFRSVC-120 |
| Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.) | AX-KIT-AFRSMESH-100FT |
| Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.) | AX-KIT-AFRSAH-10 |
| Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.) | AX-KIT-AFRSA-10 |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit | AX-TRAY-ASC |
| Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit | AX-TRAY-USC |
| Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit | AX-TRAY-ASC-6 |
| Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit | AX-TRAY-USC-6 |



Expandable to support various cable diameters



Ease of installation (no tapes, washers, or glue)



Multiple layers of sealing protection

LightGuard® Peel and Seal Grommet Systems for Sealed Fiber Optic Closures

AFL's cable sealing grommet technology for the LightGuard (LG) Sealed Fiber Optic Closures improves sealing technology utilizing MULTICENTRIC® Grommets that do away with time-consuming tasks such as installing washers and messy sealing tapes for cable entry. MULTICENTRIC Grommets are designed to accept a wide range of cable diameters, eliminating the need to stock a variety of diameter-specific grommet kits.

Conversion kits for old LG-100, LG-200, and LG-300 closures allows for "Peel and Seal" grommet technology to be used without changing out the existing closure.

Features

- All Peel and Seal Grommet Systems support loose tube, core tube, dielectric and armored cable designs
- Installation and re-entry using common hand tools
- Accepts a wide range of cable diameters
- Fast and easy to install
- Fits existing AFL LightGuard sealed closures
- Fully sealed to protect fiber and splices ensuring longevity
- Full conversion kits and dual cable entry port kits



Single



Dual



Quad

Ordering information

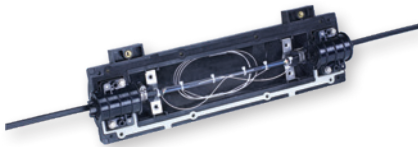
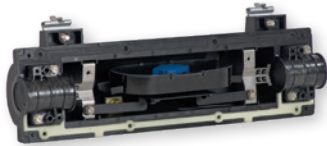
SEALED CLOSURE FULL CONVERSION KITS (SINGLE AXIS CABLE ENTRY)

| DESCRIPTION | AFL NO. |
|--|----------|
| 3 Port Drop Grommet (LG-150/250) | FC000655 |
| Dual Express Grommets for LG-350 | FC000337 |
| Quad Express Grommets for LG-350 | FC000421 |
| Single Cable Grommet Kit, Drop Port | FC000628 |
| 4 Port Drop Grommet (LG-350 / LG-350-AC) | FC000422 |
| LG-350 Express Single Cable Grommet Kit | FC000726 |
| LG-350 Drop Single Cable Grommet Kit | FC000727 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | 515 |

Contact AFL for further details.



In-line Repair Closure (IRC) for repair of flat or round drop cables

Features

- Accommodates cables to 0.70" O.D for splicing and grounding/bonding
- Incorporates the Peel and Seal Grommet System, fully sealing the closure
- Includes removable, integral central splicing module and individual cable retention clamps
- Requires only a common can wrench for installation

LightGuard® 55 Sealed Fiber Optic Splice Closure

Designed with versatility in mind, the LightGuard (LG) 55 sealed closure from AFL offers a variety of solutions including repair and distribution splicing, grounding for Fiber-in-the-Loop applications, and for use as an isolation gap with armored cables. This closure accepts stranded loose tube or ribbon fiber cables in either armored or dielectric configurations and can be utilized in a butt or in-line configuration.

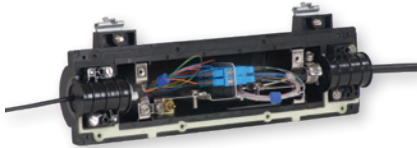
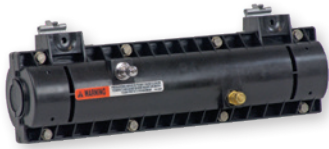
The LG-55 closure incorporates a unique cable clamp design sealing the cable, allowing both of the cover halves to be removed without disturbing the contents. In addition, AFL's Peel & Seal Grommet System™ is incorporated to ensure a tight fit on various cable diameters, fully sealing the closure and protecting the fiber while eliminating cumbersome tape and washers—making installation fast and easy.

Specifications

| PARAMETER | VALUE |
|---|---|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 24, n/a, 24 |
| Number of Splice Trays (Max.)—Single, Mass, Mechanical* | 1, n/a, 1 |
| Cable Entrance Configuration | Butt or In-line |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) Double Express Port Only in. (mm) | (2) Express Ports 0.40" - 0.70" (10.0 - 25.4) 0.26" - 0.44" (6.6 - 11.2) |
| Additional Grommets Quad Express Port Only in. (mm) | 0.26" - 0.38" (6.6 - 9.7) |
| Dimensions—(L x D) in. (mm) | 14.0" x 4.0" (343.0 x 101.6) |
| Weight—lbs. (kg) | 3.0 (1.36) |

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|---|-----------------------|-------------|
| LG-55 FC000034-PS Fiber Optic Splice Closure—Stores up to 32 single fusion, includes 2 single cable grommets and 1 dual cable grommet kit for sealing/retention and 2 ground terminals. Splice tray and hanger brackets included. Not included: Cable Grounding Kits | LG55-U-1 | FC000034-PS |
| LL-2425 Single Splice Tray—Stores (32) single fusion splices. Maximum of 1 trays in the LG55. Tray Included. | LL-2425 | FC000053 |
| LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00") For use in LG-55 on Express Port side. | LG-350 Exp Single Kit | FC000726 |
| LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44") For use in LG-55 on Express Port side. | LG-350 Exp Dual Kit | FC000337 |
| LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38") For use in LG-55 on Express Port side. | LG-350 Exp Quad Kit | FC000421 |
| LG-55 Grommet Kit (1) 3 flat drop grommet (flat drop 0.31" or round cable up to 0.25") and (1) dual grommet (Min. 0.26" - Max. 0.44"). | LG-55 Drop Kit | FC000807 |
| Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |



LightGuard® 55-SC Sealed Fiber Optic Splice Closure

AFL's LightGuard (LG) 55-SC sealed closure retains all the features of the LG-55, but includes a unique patching system that utilizes pre-terminated SC fiber assemblies or field-installable connectors such as the FASTConnect® SC.

An innovative solution that can be used to facilitate a link between traffic control cabinets and entrance cables, the LG-55-SC closure allows for rapid restoration and minimal damage to a fiber optic cable should an impact disable the cabinet. A breakable tie wrap secures the pre-connectorized cable to one side of the closure (traffic control cabinet), while the main entrance cable is secured with a more rugged cable clamp, allowing the system to separate during a damaging impact.

Features

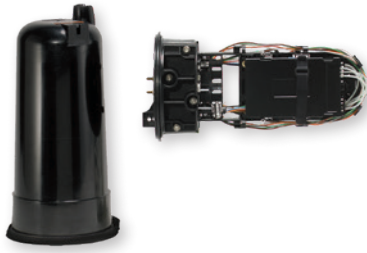
- Durable cover assembly that provides protection for all internal components and acts as an interface/anchor to the cable clamps
- Unique cable clamp seal to anchor the cable to the cover assembly
- Movable sheath retention bracket keeps cable bends at a minimum
- Accommodates up to four SC/UPC connectors
- Utilizes AFL's Peel & Seal Grommet System™, ensuring a tight fit on various cable diameters while eliminating cumbersome tape and washers
- Requires only a common can wrench for installation

Specifications

| PARAMETER | VALUE |
|-------------------------------------|---------------------------------|
| Cable Sizes (Min. O.D. - Max. O.D.) | 0.4" - 0.7" |
| Maximum Cable Entry | 2 ports (one each end) |
| Dimensions - (L x D) in. (mm) | 14" x 4" (356.0 mm x 1022.0 mm) |

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|---------------------------|-------------|
| The LG-55-SC allows for 4 SC connections to be installed. A FASTConnect or FUSEConnect, field installable connectors would be used for the connections. The field side cable is held with a tie-wrap while the signal side is secured to the closure with a hose clamp. This allows for a break-out should a vehicle make contact with a traffic box leaving the signal side cable intact. | LG-55-SC | FC000481-PS |
| Dual Cable Entry Port Kit – Allows two cables to enter closure from each cable port. | Dual Cable Entry Port Kit | FC000062 |
| Quad Cable Entry Port Kits – Allows 4 cables to enter closure from each cable port | Quad Cable Entry Port Kit | FC000421 |
| Cable Grounding Harness Kit – Includes (5) Clamp-On 9.5" long ground wires AWG #6 conductor | CGK-5 | FC001091 |



LightGuard® 150 Sealed Fiber Optic Splice Closure

The LightGuard (LG) 150 is a sealed dome closure designed for small count fiber splicing (up to 48 single or 192 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-150 is ideal for express or ring applications and requires only a common can wrench for installation.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables
- Designed and tested to Telcordia® GR-771 requirements
- Rural Utilities Service (RUS) Listed

Specifications

| PARAMETER | VALUE | |
|---|---------------------------------|--|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 48, 192, 48 | |
| Number of Splice Trays (Max.)—Single, Mass, Mechanical* | 4, 3, 4 | |
| Cable Entrance Configuration | Butt | |
| Cables | 5 | |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets | (2) Express Ports | (3) Drop Ports |
| Single in. (mm) | 0.26" - 0.62" (6.6 - 15.7) | 0.26" - 0.62" (6.6 - 15.7) |
| Additional Grommets | | |
| (3) Flat Drop Port Only in. (mm) | n/a | 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4) |
| Dimensions—(L x D) in. (mm) | 16.25" x 8.75" (412.75 x 222.3) | |
| Weight—lbs. (kg) | 10.5 (4.76) | |

LightGuard® 150 Sealed Fiber Optic Splice Closure

Ordering Information

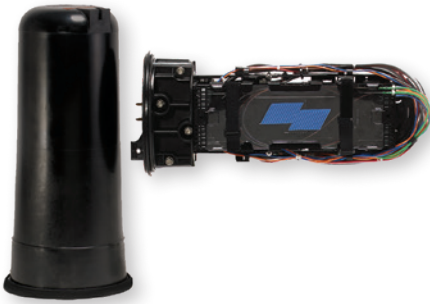
| DESCRIPTION | AFL NO. |
|---|--------------|
| LG-150-U-0 Fiber Optic Splice Closure—Stores 48 single fusion or 192 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets | FC000001-PS |
| LL-2450 Single Splice Tray—Stores (12) single fusion splices. Maximum of 4 trays in the LG150 | 91957-00 |
| LL-4850 Mass Splice Tray—Stores (8) mass fusion splices (96 F). Maximum of 4 trays in the LG-150 | 91958-00 |
| LL-1248 Universal Splice Tray—Stores (12) single fusion splices or (8) mass fusion splices (96 F), or *Mechanical. Max. of 4 trays in the LG-150 | 911221-00-00 |
| LG-150/250 Single Grommet Kit (Min. 0.26" - Max. 0.62") | FC000704 |
| LG-150/250 3 Flat Drop Grommet Kit (standard flat drop 0.31" or round cable up to 0.25") | FC000655 |
| Universal Aerial Strand Hanger Kit—For use with LG-150/250/350 | FC000006 |
| Extended Offset Strand Hanger Kit—For use with LG-150/250/350 | FC000208 |
| Pole or Wall Mount Bracket—For use with LG-150/250/350 | LGBR-30 |
| OPGW Dual Cable Bracket Kit for use only when installing closure on OPGW cable—For use with LG-150/250/350 | FC000683 |
| OPGW Quad Cable Bracket Kit—For use with LG-150/250 | FC000746 |
| 1x6 Fiber Router Kit with furcation tubes | FC000070 |
| CGK-5 Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | FA000089 |
| O-Ring and Lock Ring Kit—For use with LG-150/250 | FC000771 |

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 250 Sealed Fiber Optic Splice Closure

The LightGuard (LG) 250 is a sealed dome closure designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-250 is ideal for express or ring applications and requires only a common can wrench for installation.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables

Specifications

| PARAMETER | VALUE | |
|--|---|--|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 144, 432, 48 | |
| Number of Splice Trays (Max.)—Single, Mass, Mechanical* | 4, 3, 4 | |
| Cable Entrance Configuration | Butt | |
| Cables | 5 | |
| Cable Sizes (Min. O.D. - Max. O.D.) | | |
| Included Grommets Single in. (mm) | (2) Express Ports 0.26" - 0.62" (6.6 - 15.7) | (3) Drop Ports 0.26" - 0.62" (6.6 - 15.7) |
| Additional Grommets (3) Flat Drop Port Only in. (mm) | n/a | 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4) |
| Dimensions—(L x D) in. (mm) | 19.0" x 8.75" (482.6 x 222.3) | |
| Weight—lbs. (kg) | 10.5 (4.76) | |

continued
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LightGuard® 250 Sealed Fiber Optic Splice Closure

Ordering Information

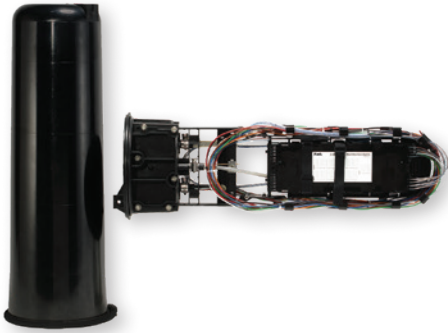
| DESCRIPTION | AFL NO. |
|--|--------------|
| LG-250-U-0 Fiber Optic Splice Closure—Stores 144 single fusion or 432 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets | FC000002-PS |
| LL-2400 Single Splice Tray—Stores (24) single fusion splices. Maximum of 4 trays in the LG-250. | 91710-06 |
| LL-2448 Universal Splice Tray—Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 3 trays in the LG-250 | 911289-00-02 |
| LL-4848 Mass Splice Tray—Stores (12) mass fusion splices (144 F). Maximum of 3 trays in the LG-250 | 911437-00-02 |
| LL-2448-48S Single Splice Tray—Stores (48) single fusion splices. Maximum of 3 trays in the LG-250 | FA000045 |
| LG-150/250 Single Grommet Kit (Min. 0.26" - Max. 0.62") | FC000704 |
| LG-150/250 3 Flat Drop Grommet Kit (standard flat drop 0.31" or round cable up to 0.25") | FC000655 |
| Universal Aerial Strand Hanger Kit—For use with LG-150/250/350 | FC000006 |
| Extended Offset Strand Hanger Kit—For use with LG-150/250/350 | FC000208 |
| PWK Pole or Wall Mount Bracket—For use with LG-150/250/350 | LGBR-30 |
| OPGW Dual Cable Bracket Kit—For use with LG-150/250/350 | FC000683 |
| OPGW Quad Cable Bracket Kit—For use with LG-150/250 | FC000746 |
| 1x6 Fiber Router Kit with furcation tubes | FC000070 |
| CGK-5 Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | FA000089 |
| O-Ring and Lock Ring Kit—For use with LG-150/2 | FC000771 |

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 350 Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350 is a sealed dome closure designed for large count fiber splicing (up to 480 single or 1152 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-350 is ideal for express, ring or long haul applications and requires only a common can wrench for installation.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables

Specifications

| PARAMETER | VALUE | |
|---|-------------------------------|-----------------------|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 480, 1152, 108 | |
| Number of Splice Trays (Max.)—Single, Mass, Mechanical* | 12, 8, 8 | |
| Cable Entrance Configuration | Butt | |
| Cables | 5 to 11 | |
| Cable Sizes (Min. O.D. - Max. O.D.) | (2) Express Ports | (3) Drop Ports |
| Included Grommets | 0.40" - 1.00" | 0.26" - 0.80" |
| Single in. (mm) | (10.0 - 25.4) | (6.6 - 20.0) |
| Additional Grommets | 0.26" - 0.44" | |
| Dual Express Port Only in. (mm) | (6.6 - 11.2) | |
| Quad Express Port Only in. (mm) | 0.26" - 0.38" | |
| | (6.6 - 9.7) | |
| (4) Flat Drop Port Only in. (mm) | | 0.19" x 0.34" |
| | | (4.8 x 8.6) or |
| | | 0.25" round (6.4) |
| Dimensions—(L x D) in. (mm) | 28.0" x 10.0" (710.0 x 254.0) | |
| Weight - lbs. (kg) | 16 (7.26) | |

continued
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LightGuard® 350 Sealed Fiber Optic Splice Closure

Ordering Information

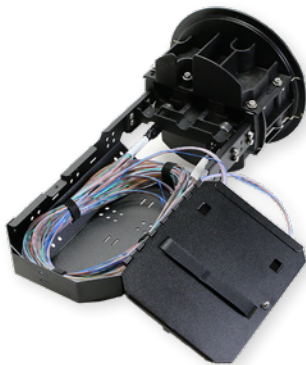
| DESCRIPTION | AFL NO. |
|---|--------------|
| LG-350-U-0 Fiber Optic Splice Closure – Stores 480 single fusion or 1152 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets | FC000009-PS |
| LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 12 trays in the LG-350 | 91710-06 |
| LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 8 trays in the LG-350 | 911289-00-02 |
| LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 8 trays in the LG-350 | 911437-00-02 |
| LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 8 trays in the LG-350 | FA000045 |
| LL-4896 Universal Splice Tray – Stores (96) single fusion splices or (24) mass fusion splices (288 F). Maximum of 5 trays in the LG-350 | 911676-00-02 |
| LL-4896-R Mass Splice Tray – Stores (24) mass fusion splices (288 F). Maximum of 5 trays in the LG-350 | FA000022 |
| LL-4896-L Single Splice Tray – Stores (96) single fusion splices. Maximum of 5 trays in the LG-350 | FA000023 |
| LL-7644 Universal Splice Tray – Stores (60) single fusion or (288) mass fusion splices or a combination of both in an easy-to-use, deep splice tray. For use with LG-350SD | FA000044 |
| LL-7060 Splice Tray – Stores (60) single fusion splices in an easy-to-use, deep splice tray – For use in LG-350 | FA000042 |
| LL-7144 Splice Tray – Stores (288) mass fusion splices in an easy-to-use, deep splice tray – For use in LG-350 | FA000043 |
| LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00") – For use in LG-350/AC/SD on Express Port side | FC000726 |
| LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44") – For use in LG-350/AC/SD on Express Port side | FC000337 |
| LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38") – For use in LG-350/AC/SD on Express Port side | FC000421 |
| LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80") – For use in LG-350/AC/SD on Drop Port side | FC000727 |
| LG-350 Drop 4 Flat Drop Grommet Kit – For use with standard flat drop cable and round cable up to 0.25" O.D. | FC000422 |
| Universal Aerial Strand Hanger Kit – For use with LG-150/250/350 | FC000006 |
| Extended Offset Strand Hanger Kit – For use with LG-150/250/350 | FC000208 |
| PWK Pole or Wall Mount Bracket – For use with LG-150/250/350 | LGBR-30 |
| OPGW Dual Cable Bracket Kit – For use with LG-150/250/350 | FC000683 |
| OPGW Quad Cable Bracket Kit for use when installing Sealed Closures – For use with LG-350 | FC000747 |
| 1x6 Fiber Router Kit with furcation tubes | FC000070 |
| CGK-5 Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | FA000089 |
| O-Ring and Lock Ring Kit – For use with LG-350/350AC/SD | FC000775 |

* See Accessory Specifications. See Splice Tray Specifications.
Micro Duct Grommets available. Please call Customer Service for details.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 350-20-WTC Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350-20-WTC is a sealed dome closure designed for medium count fiber splicing (up to 144 single or 576 mass) in a butt configuration where space may be limited. The LG-350-20-WTC has been designed and optimized for use in conjunction with AFL Wrapping Tube Cable (WTC), with SpiderWeb Ribbon® (SWR®). The WTC-focused design provides a basket for easy slack management. Additionally, WTC SpiderWeb Ribbon bundles can be routed and secured to splice trays without the use of transition tubing (when using AFL's WTC-SWR Bundle Splice Tray Retention Kit), greatly reducing installation time. Transition tubing kits are also available if desired.

Features

- Less than 20" overall length; ideal for small hand-holes
- Optimized for AFL WTC but also supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Kitted with all parts to install up to two WTC cables (strength member retention not included – not required for WTC)

Specifications

| PARAMETER | | VALUE | |
|---|-----------------------------------|-----------------------------------|---|
| Splice Capacity (Max.) – Single, Mass, Mechanical | | 144, 576, 48 | |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | | 4, 4, 4 | |
| Cable Entrance Configuration | | Butt | |
| Cables | | 2 to 8 Express with up to 12 Drop | |
| Cable Sizes (Min. O.D. - Max. O.D.) | Included Grommets | (2) Express Ports | (3) Drop Ports |
| | Single – in. (mm) | 0.40" - 1.00" (10.0 - 25.4) | 0.26" - 0.80" (6.6 - 20.0) (Drop Port Entry Kits Not Included) |
| | (4) Flat Drop Only – in. (mm) | | (4 port) 0.26" - 0.80" (6.6 - 20.0) |
| | Additional Grommets | | |
| | Dual Express Port Only – in. (mm) | 0.26" - 0.44" (6.6 - 11.2) | |
| | Quad Express Port Only – in. (mm) | 0.26" - 0.38" (6.6 - 9.7) | |
| (4) Flat Drop Port Only – in. (mm) | | | 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4) |
| Dimensions – (L x D) in. (mm) | | 19.8" x 10.0" (503.0 x 254.0) | |
| Weight – lbs. (kg) | | 12.0 (5.44) | |

continued
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LightGuard® 350-20-WTC Sealed Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|-----------------------------|----------|
| LG-350-20-WTC Fiber Optic Splice Closure—Stores 144 single fusion or 576 mass fusion, includes (2) Express cable kits for sealing/retention and (2) ground terminals with removable bond. Does not include: Cable grounding kits, hanger brackets, splice trays or drop port entry kits | LG-350-20-WTC-U | FC001348 |
| LL-4808L-R Universal Splice Tray—Stores (36) single fusion splices or (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-20-WTC | LL-4808L-R | FA000037 |
| LL-4808-R Mass Splice Tray—Stores (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-20-WTC | LL-4808-R | FA000020 |
| LL-4808-L Single Splice Tray—Stores (36) single fusion splices. Maximum of 4 trays in the LG-350-20-WTC | LL-4808-L | FA000021 |
| LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Single Kit | FC000726 |
| LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Dual Kit | FC000337 |
| LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Quad Kit | FC000421 |
| LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80")—For use in LG-350/LG-350-AC/SD/WTC on Drop Port side | LG-350 Drop Single Kit | FC000727 |
| LG-350 Drop 4 Flat Drop Grommet Kit—For use with standard flat drop cable and round cable up to 0.25" O.D. | LG-350 Drop 4 Flat Kit | FC000422 |
| Universal Aerial Strand Hanger Kit—For use with LG-150/250/350 | Universal Hanger | FC000006 |
| Extended Offset Strand Hanger Kit—For use with LG-150/250/350 | Extended Offset Hanger | FC000208 |
| Pole or Wall Mount Bracket—For use with LG-150/250/350 | PWK | LGBR-30 |
| Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |
| O-Ring and Lock Ring Kit—For use with LG-350/AC/SD/WTC | LG-350 O-Ring Lock Ring Kit | FC000775 |
| Transition Tubing Kit - Includes 25 pieces of 25" long tubes for WTC bundles | Tubing Kit | FC001372 |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | Foam Retention Kit | HW000406 |

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-771 |

Contact AFL for further details.



LightGuard® 350-27-WTC Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350-27-WTC is a sealed dome closure designed for large count fiber splicing (up to 180 single or 864 mass) in a butt configuration. The LG-350-27-WTC has been designed and optimized for use in conjunction with AFL Wrapping Tube Cable (WTC), with SpiderWeb Ribbon® (SWR®). The WTC-focused design provides a dedicated channel for fiber bundle routing as well as a basket for easy slack management.

Additionally, WTC SpiderWeb Ribbon bundles may be routed and secured to splice trays without the use of transition tubing, when using AFL's WTC-SWR Bundle Splice Tray Retention Kit, greatly reducing installation time.

Features

- Dedicated SWR Bundle routing channel protects fibers and eliminates the need for time-consuming transition tubes
- Optimized for AFL WTC but also supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Kitted with all parts to install up to two WTC cables (strength member retention not included – not required for WTC)

Specifications

| PARAMETER | | VALUE | |
|---|------------------------------------|--------------------------------|---|
| Splice Capacity (Max.) – Single, Mass, Mechanical | | 180, 864, 36 | |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | | 3, 3, 3 | |
| Cable Entrance Configuration | | Butt | |
| Cables | | 5 to 11 | |
| Cable Sizes (Min. O.D. - Max. O.D.) | Included Grommets | (2) Express Ports | (3) Drop Ports |
| | Single – in. (mm) | 0.40" - 1.00" (10.0 - 25.4) | 0.26" - 0.80" (6.6 - 20.0) (Drop Port Entry Kits Not Included) |
| | Additional Grommets | | |
| | Dual Express Port Only – in. (mm) | 0.26" - 0.44" (6.6 - 11.2) | |
| | Quad Express Port Only – in. (mm) | 0.26" - 0.38" (6.6 - 9.7) | |
| | (4) Flat Drop Port Only – in. (mm) | | 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4) |
| Dimensions – (L x D) in. (mm) | | 28.0" x 10.0" (710.0 x 254.0) | |
| Weight – lbs. (kg) | | 16 (7.26) | |

continued



LightGuard® 350-27-WTC Sealed Fiber Optic Splice Closure

Ordering Information

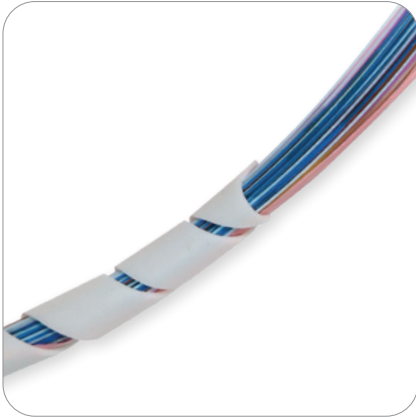
| DESCRIPTION | MODEL NO. | AFL NO. |
|--|-----------------------------|----------|
| LG-350-27-WTC Fiber Optic Splice Closure—Stores 180 single fusion or 864 mass fusion, includes (2) Express cable kits for sealing/retention and (2) ground terminals with removable bond. Does not include: Cable grounding kits, hanger brackets, splice trays or drop port entry kits | LG-350-27-WTC-U | FC001349 |
| LL-7644 Universal Splice Tray—Stores (60) single fusion splices or (24) mass fusion splices (288F). Maximum of 3 trays in the LG-350-27-WTC | LL-7644 | FA000044 |
| LL-7144 Mass Splice Tray—Stores (24) mass fusion splices (288F). Maximum of 3 trays in the LG-350-27-WTC | LL-7144 | FA000043 |
| LL-7060 Single Splice Tray—Stores (60) single fusion splices. Maximum of 3 trays in the LG-350-27-WTC | LL-7060 | FA000042 |
| LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Single Kit | FC000726 |
| LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Dual Kit | FC000337 |
| LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38")—For use in LG-55/LG-350/LG-350-AC/SD/WTC on Express Port side | LG-350 Exp Quad Kit | FC000421 |
| LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80")—For use in LG-350/LG-350-AC/SD/WTC on Drop Port side | LG-350 Drop Single Kit | FC000727 |
| LG-350 Drop 4 Flat Drop Grommet Kit—For use with standard flat drop cable and round cable up to 0.25" O.D. | LG-350 Drop 4 Flat Kit | FC000422 |
| Universal Aerial Strand Hanger Kit—For use with LG-150/250/350 | Universal Hanger | FC000006 |
| Extended Offset Strand Hanger Kit—For use with LG-150/250/350 | Extended Offset Hanger | FC000208 |
| Pole or Wall Mount Bracket—For use with LG-150/250/350 | PWK | LGBR-30 |
| Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |
| O-Ring and Lock Ring Kit—For use with LG-350/AC/SD/WTC | LG-350 O-Ring Lock Ring Kit | FC000775 |
| Transition Tubing Kit - Includes 25 pieces of 25" long tubes for WTC bundles | Tubing Kit | FC001372 |
| WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays | Foam Retention Kit | HW000406 |
| Strength Member Retention Bracket Kit (10 pieces, for use with stranded loose tube or central tube ribbon cables requiring strength member retention) | Strength Member Kit | FC001362 |

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-771 |

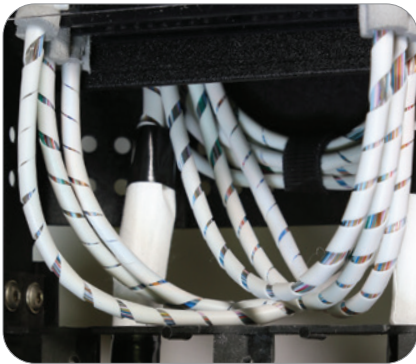
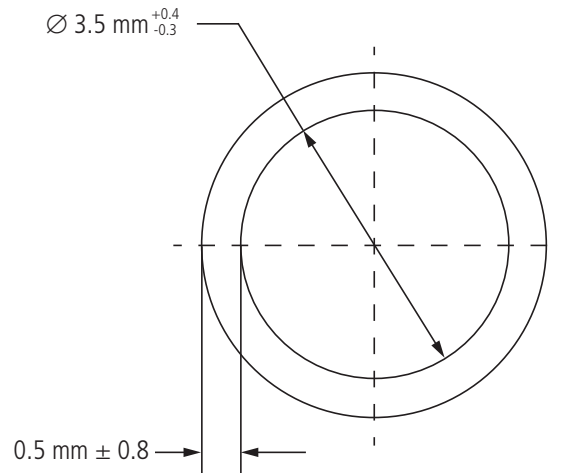
Contact AFL for further details.



Silicone Spiral Wrap

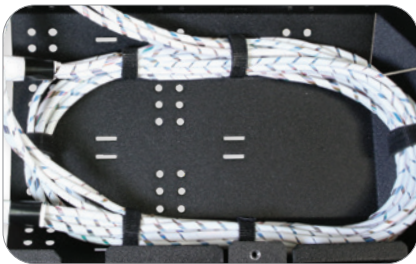
Silicone spiral wrap can be used to protect SpiderWeb Ribbon® bundles (up to 288 fibers) as well as up to 12 standard ribbons. The silicone spiral wrap can protect expressed fiber slack in various applications as well as act as a transition tube from a slack storage basket to splice trays in various splice closures.

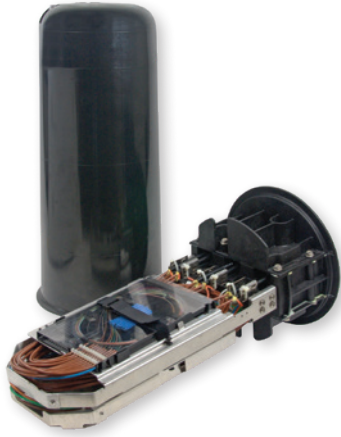
Dimensions



Ordering Information

| DESCRIPTION | AFL NO. |
|---------------------------------------|----------|
| Silicone Spiral Wrap, 5.5 Foot Length | FC001657 |





LightGuard® 350-AC Drop Access Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350-AC is a sealed dome closure designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt configuration where space may be limited. Utilized in aerial or underground environments where a sealed closure is required, the LG-350-AC is designed for “drop access” applications providing access for up to 12 drops. The LG-350-AC is ideal for Fiber-to-the-Home installations in small hand-hole application and requires only a common can wrench for installation.

Features

- Less than 20" overall length; ideal for small hand-holes
- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install two cables and up to 12 drops

Specifications

| PARAMETER | VALUE | |
|---|--|---|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 144, 432, 48 | |
| Number of Splice Trays (Max.) - Single , Mass, Mechanical* | 4, 3, 4 | |
| Cable Entrance Configuration | Butt | |
| Cables | 2 to 8 Express with up to 12 Drop | |
| Cable Sizes (Min. O.D. - Max. O.D.) | (2) Express Ports 0.40" - 1.00" (10.0 - 25.4) | (3) Drop Ports (4 port) 0.26" - 0.80" (6.6 - 20.0) |
| Included Grommets Single in. (mm) | | |
| (4) Flat Drop Only in. (mm) | | |
| Additional Grommets Dual Express Port Only in. (mm) | 0.26" - 0.44" (6.6 - 11.2) | |
| Quad Express Port Only in. (mm) | 0.26" - 0.38" (6.6 - 9.7) | |
| (4) Flat Drop Port Only in. (mm) | | 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4) |
| Dimensions - (L x D) in. (mm) | 19.8" x 10.0" (503.0 x 254.0) | |
| Weight - lbs. (kg) | 12.0 (5.44) | |

continued
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LightGuard® 350-AC Drop Access Sealed Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| LG-350-AC Fiber Optic Splice Closure—Stores 144 single fusion or 432 mass fusion, includes (2) Express cable kits and (12) Drop cable kits for sealing/retention and (2) ground terminals with removable bond. Included: (1) LL-4808L Splice Tray Not included: Cable Grounding Kits, or Hanger Brackets | FC000412 |
| LL-4808L-R Universal Splice Tray—Stores (36) single fusion splices or (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-AC. | FA000037 |
| LL-4808-R Mass Splice Tray—Stores (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-AC | FA000020 |
| LL-4808-L Single Splice Tray—Stores (36) single fusion splices. Maximum of 4 trays in the LG-350-AC | FA000021 |
| LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00")—For use in LG-55/LG-350/LG-350-AC on Express Port side | FC000726 |
| LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44")—For use in LG-55/LG-350/LG-350-AC on Express Port side | FC000337 |
| LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38")—For use in LG-55/LG-350/LG-350-AC on Express Port side | FC000421 |
| LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80")—For use in LG-350/AC/SD on Drop Port side | FC000727 |
| LG-350 Drop 4 Flat Drop Grommet Kit—For use with standard flat drop cable and round cable up to 0.25" O.D. | FC000422 |
| Universal Aerial Strand Hanger Kit—For use with LG-150/250/350 | FC000006 |
| Extended Offset Strand Hanger Kit—For use with LG-150/250/350 | FC000208 |
| PWK Pole or Wall Mount Bracket—For use with LG-150/250/350 | LGBR-30 |
| OPGW Dual Cable Bracket Kit—For use with LG-150/250/350 | FC000683 |
| 1x6 Fiber Router Kit with furcation tubes | FC000070 |
| CGK-5 Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | FA000089 |
| LG-350 O-Ring and Lock Ring Kit—For use with LG-350/AC/SD | FC000775 |

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 350XL Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350XL is a sealed dome closure designed for large count fiber splicing (up to 864 single or 2592 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-350XL is ideal for high fiber count splicing and requires only a common can wrench for installation. A Phillips head screw is used to secure the tray support to the basket.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables
- Accommodates up to 7 cables
- Oversized basket allows multiple configurations of slack storage
- O-Ring and Locking Ring for increased protection

Specifications

| PARAMETER | VALUE | |
|---|--------------------------------|-----------------------|
| Splice Capacity (Max.)—Single, Mass, Mechanical | 864, 2592, 288 | |
| Number of Splice Trays (Max.)—Single, Mass, Mechanical* | 9, 9, 9 | |
| Cable Entrance Configuration | Butt | |
| Cables | 5 to 7 | |
| Cable Sizes (Min. O.D. - Max. O.D.) | (2) Express Ports | (3) Drop Ports |
| Included Grommets | 0.40" - 1.18" | 0.30" - 1.08" |
| Single in. (mm) | (10.0 - 30.0) | (7.6 - 27.4) |
| Additional Grommets | 0.38" - 0.56" | |
| Dual Exp. Port Only in. (mm) | (9.7 - 14.2) | |
| Dimensions - (L x D) in. (mm) | 31.0" x 12.00" (788.5 x 305.0) | |
| Weight - lbs. (kg) | 25.0 (11.3) | |

continued
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LightGuard® 350XL Sealed Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| LG-350XL-U-0 Fiber Optic Splice Closure – Stores 864 single fusion or 2592 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets | FC000010-PS |
| LL-4896 Universal Splice Tray – Stores (96) single fusion splices or (24) mass fusion splices (288 F), *Mechanical. Max. of 9 trays in the LG-350XL | 911676-00-02 |
| LL-4896-R Mass Splice Tray – Stores (24) mass fusion splices (288 F). Max. of 9 trays in the LG-350XL | FA000022 |
| LL-4896-L Single Splice Tray – Stores (96) single fusion splices. Max. of 9 trays in the LG-350XL | FA000023 |
| LG-350XL Single Grommet Kit (Min. 0.40" - Max. 1.18") – For use in LG-350XL on Express Port side | FC000870 |
| LG-350XL Dual Grommet Kit (Min. 0.38" - Max. 0.56") – For use in LG-350XL on Express Port side | FC000688 |
| LG-350XL Single Grommet Kit (Min. 0.30" - Max. 1.08") – For use in LG-350XL on Drop Port side | FC000871 |
| LG-350XL Drop 4 Flat Drop Grommet Kit – For use with standard flat drop cable and round cable up to 0.25" O.D. | FC001713 |
| Strand Mount Hanger Bracket – For use with LG-350XL in strand or vault mounting | 912215-00-00 |
| 1x6 Fiber Router Kit with furcation tubes | FC000070 |
| CGK-5 Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | FA000089 |
| O-Ring and Lock Ring Kit – For use with LG-350XL | FC001328 |
| Transition tubing 16.25" long – Used to transport ribbon to the splice trays. (20) per kit | FC001372 |

* See LL-4896 Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.

LightGuard® Sealed Splice Closure Accessories



Dual Express Grommets for LG-350XL

Used on the express side of the LG-350XL closure for installing additional branches. Use the drop ports for the express cable while the express ports may be used to introduce small branch cables. Minimum cable diameter is 0.380" - 0.560".

Ordering Information

| DESCRIPTION | AFL NO. |
|------------------------------------|----------|
| Dual Express Grommets for LG-350XL | FC000688 |



Dual and Quad Express Grommets for LG-350

Used on the express side of the LG-350 closure for installing additional branches. Use the drop ports for the express cable while the express ports may be used to introduce small branch cables. A 4-drop flat grommet may be used if drops are also required. Cable diameter for dual grommets is 0.26" - 0.44"; for quad, 0.24" - 0.382".

Ordering Information

| DESCRIPTION | AFL NO. |
|----------------------------------|----------|
| Dual Express Grommets for LG-350 | FC000337 |
| Quad Express Grommets for LG-350 | FC000421 |



4-Port Flat Drop Grommet Kit for LG-350/LG-350-AC

Used with the LG-350 and LG-350-AC Sealed Closures. Allows for quick addition of drop cables as required. Simply replace the drop port grommets with this grommet kit and install standard flat drop cable or round cable up to 0.25" in diameter.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| 4-Port Flat Drop Grommet Kit for LG-350/LG-350-AC | FC000422 |



Single Cable and 3-Port Flat Drop Grommet Kit for LG-150/LG-250

Used with the LG-150 and LG-250 Sealed Closures. Allows for quick addition of drop cables as required. Simply replace the drop port grommets with this grommet kit. Both closures will accept standard flat drop cable or round cable up to 0.250" in diameter.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| Single Cable Grommet Kit for the LG-150/LG-250 | FC000704 |
| 3-Port Flat Drop Grommet Kit for the LG-150/LG-250 | FC000655 |

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LightGuard® Sealed Splice Closure Accessories (cont.)

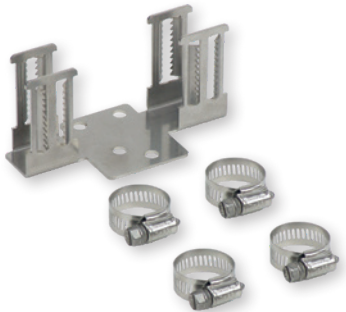


Single Cable Grommet Kits for LG-350-AC and LG-350

Used with the LG-350-AC when a branch cable is required with the drop cables. May also be used for with the LG-350 as replacement grommets. Simply remove the flat drop grommet and replace with the single cable grommets.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Single Cable Grommet Kit, Drop Port for LG-350-AC | FC000628 |
| Express Single Cable Grommet Kit for LG-350 | FC000726 |
| Drop Single Cable Grommet Kit for LG-350 | FC000727 |



OPGW Cable Bracket for LG-150/LG-250/LG-350

Attaches to the outer grounding studs of the LG-150/LG-250 or LG-350 Sealed Closures. Stainless steel hose clamps secure the OPGW cable to the bracket preventing twisting or movement.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| OPGW Cable Bracket for the LG-150/LG-250/LG-350 for 2 cables. | FC000683 |
| OPGW Cable Bracket Kit for use when installing Sealed Closures (LG-150/LG-250) to 4 OPGW Cables. | FC000746 |
| OPGW Cable Bracket Kit for use when installing Sealed Closures (LG-350) to 4 OPGW Cables. | FC000747 |



Pole/Wall Mount Bracket for LG-150/LG-250/LG-350

Used with the LG-150, LG-250, LG-350 and LG-350-AC to secure the closures onto poles or walls in a vertical orientation. Slots on the brackets allow for strapping onto steel or cement poles.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| Pole/Wall Mount Bracket for LG-150/LG-250/LG-350/LG-350-AC | FC000592 |



Universal Aerial Bracket and Extended Offset Bracket

Used with the LG-150, LG-250, LG-350 and LG-350-AC for mounting on aerial or messengers.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Universal Aerial Bracket for LG-150/LG-250/LG-350/LG-350-AC | FC000006 |
| Extended Offset Bracket | FC000208 |

continued
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LightGuard® Sealed Splice Closure Accessories (cont.)



Strand Mount Hanger Bracket for LG-350XL

Used with the LG-350XL.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| Strand Mount Hanger Bracket – For use with LG-350XL | 912215-00-00 |

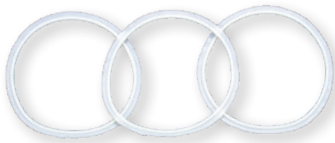


Cable Ground Kits

Used with the LG-150, LG-250 and LG-350.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Cable Grounding Kit – Includes harness and hose clamp. One kit needed per cable entry. For use with LG-150/250/350. | FC000003 |
| Cable Grounding Harness Kit – Includes (4) 8" ground harnesses constructed of #6 AWG conductor | FC000024 |
| Cable Grounding Kit (pack of 5) – Includes harness and hose clamp. For use with LG-150/250/350. | FC000040 |



O-Ring Replacement Kits

Used with the LG-150, LG-250, LG-350 and LG-350XL.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|--------------|
| O-Ring Replacement Kit – For use with LG-150/250 | FC000004 |
| O-Ring Replacement Kit – For use with LG-300XL | FC000016 |
| O-Ring Replacement Kit – For use with LG-350. | 912231-00-00 |



1x6 Cable Router Kit

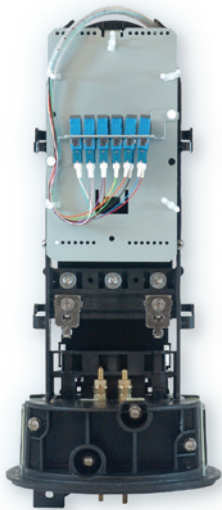
Used with the LG-150, LG-250, LG-350 and LG-350-AC.

Ordering Information

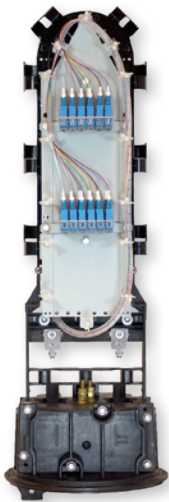
| DESCRIPTION | AFL NO. |
|----------------------|----------|
| 1X6 Cable Router Kit | FC000070 |

LightLink Fiber Optic Terminal Adapters for Sealed Fiber Optic Splice Closures

The LightLink Access Solution (LLAS) Terminal Adapters provide the interconnect and/or demarcation of optical fibers for Fiber-to-the-Node (FTTN), Fiber-to-the-Home (FTTH), Fiber-to-the-Premise (FTTP) and Fiber-to-the-Curb (FTTC) applications. The adapter plates are designed to be used in conjunction with AFL Sealed Fiber Optic Splice Closures and convert the standard closure design into an FTTX or demarcation type fiber optic splice closure. The adapter plates provide mounting positions ranging from six to 24 SC-style bulkheads (depending on the model). The interconnection and routing of 900 μm SC pigtails with pre-connectorized SC drop cables is managed through routing rings on the terminal adapter. Three versions are available and are matched to the LG-150, LG-250 and LG-350 series sealed fiber optic splice closures.



LLAS-200-12SC



LLAS-300-24SC

Ordering Information

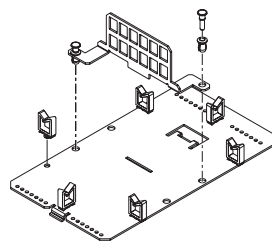
| DESCRIPTION | MODEL NO. | AFL NO. |
|---|---------------|----------|
| Terminal Adapter for LG-150/250 Sealed Splice Closure | LLAS-200-12SC | FC000068 |
| Terminal Adapter for LG-350 Sealed Splice Closure | LLAS-300-24SC | FC000069 |

Blank bulkhead adapter plate and routing rings are included.
SC bulkheads, SC pigtails (900 μm) and SC pre-connectorized drop cable may be ordered separately.

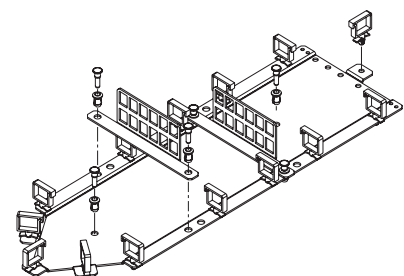
Accessories Ordering

| DESCRIPTION | AFL NO. |
|---|--------------|
| (1) Small Flange SC/UPC Bulkhead adapter (Blue) | CS013274 |
| (1) Small Flange SC/APC Bulkhead adapter (Green) | CS013083 |
| (1) Pigtail - SC/UPC Connector with (1) meter 900μm fiber | C146507-0001 |
| (1) Pigtail - SC/APC Connector with (1) meter 900μm fiber | C203278-0001 |

LLAS-200-12SC



LLAS-300-24SC





LightGuard® Aerial Weathertight Fiber Optic Splice Closures

The AFL family of Aerial Weathertight Splice Closures is designed to provide a cost-effective solution for your aerial splicing needs. Quality engineering reduces the installation time, training and complexity associated with fiber splicing in the field. The closures have all been designed to be installed without the need for special tools, heat, adhesives, drills or any powered equipment. Durable and easy to install, these closures will improve productivity, reduce labor expenses and last the life of the plant.

Features

- Individual, patented, self-sizing cable grommets and strength member tie downs provide for cable additions without disturbing those previously installed
- Unique tongue-in-groove closure seal and back-to-back grommet design provides for a weathertight and insect seal
- Closures are re-enterable without the need for any re-entry kits and require only a common can wrench for installation

Specifications

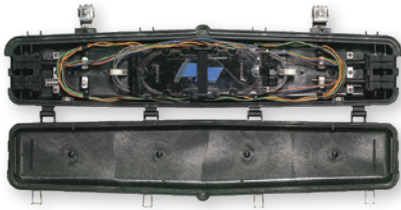
| PARAMETER | LG-410-U-0 | LG-420-U-0 | LG-500-U-0 | LG-600-U-0 |
|---|---|---|---|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 144, 432, 36 | 12, 48, 12 | 144, 432, 36 | 384, 1152, 96 |
| Splice Tray Capacity – Single, Mass | 4, 2 | n/a, n/a | 4, 2 | 12, 8, 8 |
| Cable Ports | 4-8 | 4-6 | 4-8 | 6 (3 per end) |
| Cable Entrance | In-line, Butt | In-line (taut sheath) | In-line, Butt | In-line, Butt |
| Cable Sizes (O.D.) | 4 @ 0.3-0.82" Up to 8 with Dual Grommet Kits 4 @ 0.27-0.53" 4 @ 0.38-0.70" | 4 @ 0.3-0.82" Up to 6 with Dual Grommet Kits 2 @ 0.27-0.53" 2 @ 0.38-0.70" | 4 @ 0.3-0.82" Up to 8 with Dual Grommet Kits 4 @ 0.27-0.53" 4 @ 0.38-0.70" | 6 @ 0.44 - 1.0" Up to 12 with Dual Grommet Kits 6 @ 0.4-0.6" 6 @ 0.7-0.9" |
| CLOSURE TEST ^{1,2} | | | | |
| - Cable Retention (100 lbs.) | Passed | Passed | Passed | Passed |
| - Impact Resistance (0-40 °C) | Passed | Passed | Passed | Passed |
| - Chemical Resistance | Passed | Passed | Passed | Passed |
| - Cable Flexing | Passed | Passed | Passed | Passed |
| - Dust (Weather Tightness) | Passed | Passed | Passed | Passed |
| - Driving Rain | Passed | Passed | Passed | Passed |
| - Rodent Test | Passed | Passed | Passed | Passed |
| Dimensions (L x W x D) in. (cm) | 36.00 x 8.00 x 4.00 (91.44 x 20.32 x 10.16) | 36.00 x 8.00 x 4.00 (91.44 x 20.32 x 10.16) | 27.00 x 8.25 x 4.00 (68.58 x 20.96 x 10.16) | 27.00 x 11.25 x 7.50 (68.58 x 28.58 x 19.05) |
| Weight lbs. (kg) | 8.5 (3.86) | 8.5 (3.86) | 6.4 (2.90) | 18 (8.16) |

NOTES: 1. Tested to Telcordia GR-771-Core and Aerial Strand requirements
2. Not all Telcordia tests are listed due to space constraints; All closures are designed and tested to appropriate aerial test requirements

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 410 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 410 Aerial Weathertight Fiber Optic Splice Closure is designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-410 provides additional fiber bundle storage with its extended length design and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports (expandable to eight cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV-resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|--|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 144/432/36 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 4, 3, 4 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 4 to 8 |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) | (4) Cable Ports 4 @ 0.38" - 0.82" (7.6 - 20.8) |
| Additional Grommets Dual Grommet in. (mm) | Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) |
| 6-port Multi-Drop Grommet in. (mm) | 0.20" - 0.37" (5.1 - 9.4) |
| Dimensions – (L x D) in. (mm) | 36.00" x 8.0" x 4.0" (914.0 x 203.0 x 102.0) |
| Weight – lbs. (kg) | 8.5 (3.81) |

continued
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LightGuard® 410 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|--------------|
| LG-410 Aerial Weathertight Fiber Optic Splice Closure – Stores 144 single fusion or 432 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, and hanger brackets. Not included: Splice Trays or Cable Grounding Kits | LG-410-U-0 | FC000022 |
| LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 4 trays in the LG-410. | LL-2400 | 91710-06 |
| LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 3 trays in the LG-410. | LL-2448 | 911289-00-02 |
| LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 3 trays in the LG-410. | LL-4848 | 911437-00-02 |
| LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 3 trays in the LG-410. | LL-2448-48S | FA000045 |
| Small Single Grommet Kit (10 pc grommet only) – (Min 0.38" - Max 0.82") | Small Single Grommet Kit (10) | 911496-00-00 |
| Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27" - Max 0.53" and Min 0.38" - Max 0.70") | Small Dual Grommet Kit | 911386-00-01 |
| Small Dual Grommet Kit (10 pc grommet only) – (Min 0.27" - Max 0.53" and Min 0.38" - Max 0.70") | Small Dual Grommet Kit (10) | 911495-00-00 |
| Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam Allows six cable entries (Min 0.20" - Max 0.365" and flat drop) | Small 6 Port Drop Kit | FC000573 |
| Large Single Grommet Kit with retention hardware (Min 0.44" - Max 1.04") | Large Single Grommet Kit | FC000623 |
| Small 6-Port Drop Cable Kit (10 pc grommet only) (Min 0.20" - Max 0.365" and flat drop) | Small Drop Grommet Kit (10) | FC000644 |
| Large Single Grommet Kit (10 pc grommet only) (Min 0.44" - Max 1.04") | Large Single Grommet Kit (10) | 91918-00 |
| Large Dual Grommet Expansion Kit—Includes: (2) Dual grommets and hardware (Min .40"-Max .70" and Min 0.60" - Max 0.90") | Large Dual Grommet Kit | 911406-00-00 |
| Large 6 Port Drop Cable Kit—2 Grommets with retention bracket. Allows six cable entries (Min 0.23" - Max 0.48" and flat drop) | Large 6 Port Drop Kit | FC000352 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware—LG-400/500/600 (no grommets) | Cable Retention Kit LG-400\500\600 | FC000356 |
| Closure Extension Kit - Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes. | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 420 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 420 Aerial Weathertight Fiber Optic Splice Closure is designed for taut sheath (no slack) splicing (up to 24 single or 48 mass) in an in-line configuration. Utilized in aerial applications, the LG-420 is ideal for repairing cable sheath or fibers, providing mid-span access and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommets cable ports (expandable to eight cable entrances)
- Taut Sheath splice module accommodates up to 12 fusion splices
- Protective channel allowing taut fibers or bundles to pass through the closure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV-resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|---|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 24, 48, 12 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | Splice chips for 24F single fusion splice (incl.) |
| Cable Entrance Configuration | In-line (taut sheath) |
| Cables | 4 to 8 |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) Additional Grommets Dual Grommet in. (mm) | (4) Cable Ports 4 @ 0.38" - 0.82" (7.6 - 20.8) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) |
| 6-port Multi-Drop Grommet in. (mm) | 0.20" - 0.37" (5.1 - 9.4) |
| Dimensions – (L x D) in. (mm) | 36.0" x 8.0" x 4.0" (914.0 x 203.0 x 102.0) |
| Weight – lbs. (kg) | 8.5 (3.81) |

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LightGuard® 420 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

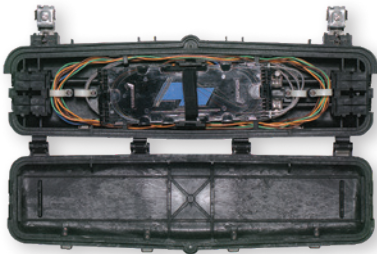
| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|--------------|
| LG-420 Aerial Weathertight Fiber Optic Splice Closure – Stores 12 single fusion or 48 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, splice chips and hanger brackets. Not included: Cable Grounding Kits | LG-420-U-0 | FC000023 |
| Small Single Grommet Kit (10 pc grommet only) (Min 0.38" - Max 0.82") | Small Single Grommet Kit (10) | 911496-00-00 |
| Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27" - Max 0.53" and Min 0.38 - Max 0.70") | Small Dual Grommet Kit | 911386-00-01 |
| Small Dual Grommet Kit (10 pc grommet only) (Min 0.27" - Max 0.53" and Min 0.38 - Max 0.70") | Small Dual Grommet Kit (10) | 911495-00-00 |
| Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries (Min 0.20" - Max 0.365" and flat drop) | Small 6 Port Drop Kit | FC000644 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 500 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 500 Aerial Weathertight Fiber Optic Splice Closure is designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-500 is ideal for congested aerial construction due to its compact design and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports (expandable up to eight cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|---|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 144, 432, 36 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 4, 3, 4 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 4 to 8 |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) Additional Grommets Dual Grommet in. (mm) | (4) Cable Ports 4 @ 0.38" - 0.82" (7.6 - 20.8) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) |
| 6-port Multi-Drop Grommet in. (mm) | 0.20" - 0.37" (5.1 - 9.4) |
| Dimensions – (L x D) in. (mm) | 27.0" x 8.3" x 4.0" (686.0 x 210.0 x 102.0) |
| Weight – lbs. (kg) | 6.4 (2.90) |

continued
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LightGuard® 500 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

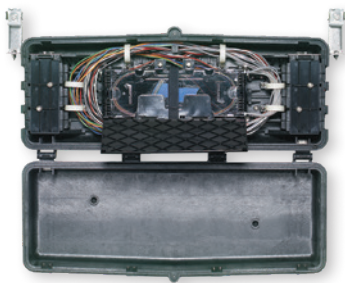
| DESCRIPTION | MODEL NO. | AFL NO. |
|---|--------------------------------------|--------------|
| LG-500 Aerial Weathertight Fiber Optic Splice Closure – Stores 144 single fusion or 432 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, and hanger brackets. Not included: Splice Trays or Cable Grounding Kits | LG-500-U-0 | FC000026 |
| LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 4 trays in the LG-500. | LL-2400 | 91710-06 |
| LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F) , *Mechanical. Maximum of 3 trays in the LG-500. | LL-2448 | 911289-00-02 |
| LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 3 trays in the LG-500. | LL-4848 | 911437-00-02 |
| LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 3 trays in the LG-500. | LL-2448-48S | FA000045 |
| Small Single Grommet Kit (10 pc grommet only) – (Min 0.38" - Max 0.82") | Small Single Grommet Kit (10) | 911496-00-00 |
| Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27" - Max 0.53" and Min 0.38" - Max 0.70") | Small Dual Grommet Kit | 911386-00-01 |
| Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries. (Min 0.20" - Max 0.365" and flat drop) | Small 6 Port Drop Kit | FC000573 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit for LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG 400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes. | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 600 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 600 Aerial Weathertight Fiber Optic Splice Closure is designed for high count fiber splicing (up to 384 single or 1152 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-600 is an ideal cost-effective solution for high fiber count splicing and requires only a common can wrench for installation.

Features

- Six individual, self-sizing grommeted cable ports (expandable to 12 cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Integrated grounding clamp through aerial hangers
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|--|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 384, 1152, 36 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 12, 8, 8 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 6 to 24 |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) | (6) Cable Ports 0.44" - 1.00" (11.2 - 25.4) |
| Additional Grommets Dual Grommet in. (mm) | Sm: 0.40" - 0.70" (10.0 - 17.8) Lg: 0.60" - 0.90" (15.3 - 22.9) |
| 6-port Multi-Drop Grommet in. (mm) | 0.30" - 0.48" (7.6 - 17.8) |
| Dimensions – (L x D) in. (mm) | 27.0" x 11.3" x 7.5" (690.0 x 286.0 x 190.5) |
| Weight – lbs. (kg) | 18.0 (8.16) |

continued
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LightGuard® 600 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|--------------|
| LG-600 Aerial Weathertight Fiber Optic Splice Closure – Stores 384 single fusion or 1152 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond and hanger brackets. Not included: Splice Trays or Cable Grounding Kits | LG-600-U-0 | FC000029 |
| LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 12 trays in the LG-600. | LL-2400 | 91710-06 |
| LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 8 trays in the LG-600, *Mechanical | LL-2448 | 911289-00-02 |
| LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 8 trays in the LG-600. | LL-4848 | 911437-00-02 |
| LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 8 trays in the LG-600. | LL-2448-48S | FA000045 |
| Large Single Grommet Kit with retention hardware (Min 0.44" - Max 1.00") | Large Single Grommet Kit | FC000623 |
| Large Single Grommet Kit (10 pc grommet only) – (Min 0.44" - Max 1.00") | Large Single Grommet Kit (10) | 91918-00 |
| Large Dual Grommet Expansion Kit – Includes: (2) Dual grommets and hardware (Min 0.40" - Max 0.70" and Min 0.60" - Max 0.90") | Large Dual Grommet Kit | 911406-00-00 |
| Large 6 Port Drop Cable Kit – 2 Grommets with retention bracket. Allows six cable entries. (Min 0.23" - Max 0.48" and flat drop) | Large 6 Port Drop Kit | FC000352 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| SC 6-pack bracket kit for LG-600 | Bracket Kit (6-pack SC) LG-600 | FM001294 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 420 FTTx Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 420 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for taut sheath (no slack) splicing (up to 32 single) in an in-line configuration. Utilized in aerial applications, the LG-420-FTTx is ideal for FTTx access networks by providing access for up to 12 drop cables and 16 connections, requiring only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports:
 - 2 express ports
 - 2 multi-drop ports
- 12 drop cables and 16 connections
- Special multi-drop grommet and cable retention
- Special lock-out interior enclosure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|---|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 32, n/a, 12 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 1, n/a, 1 |
| Cable Entrance Configuration | In-line (taut sheath) |
| Cables | 2 to 4 Express with up to 12 Drop |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets | (4) Cable Ports |
| Single in. (mm) | 2 @ 0.38" - 0.82" (7.6 - 20.8) |
| 6-port Multi-Drop Grommet in. (mm) | 2 (6 port) @ 0.20" - 0.37" (5.1 - 9.4) |
| Additional Grommets | |
| Dual Grommet in. (mm) | Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) |
| 6-port Multi-Drop Grommet in. (mm) | 0.20" - 0.37" (5.1 - 9.4) |
| Dimensions – (L x D) in. (mm) | 36.0" x 8.0" x 4.0" (914.0 x 203.0 x 102.0) |
| Weight – lbs. (kg) | 8.5 (3.81) |

continued
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LightGuard® 420 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

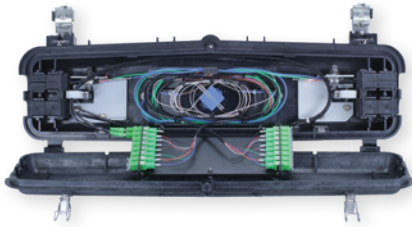
| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|--------------|
| The AFL LightGuard (LG) 420 FTTx Aerial Weathertight Fiber Optic Splice Closures are designed to allow taut sheath (no slack) or conventional splicing in aerial applications such as FTTx access networks. The LG-420 FTTx provides access for 1 to 16 connections and up to 12 subscriber drops and requires only a common can wrench for installation. Includes: Hanger Brackets and Splice Tray. Not included: Cable Grounding Kits. | LG-420-U-FTTx | FC000099 |
| LL-2425 Single Splice Tray – Stores (32) single fusion splices. Maximum of 1 tray in the LG-420-FTTx. | LL-2425 | FC000053 |
| Small Single Grommet Kit of (10 pc grommet only) – (Min .38" - Max .82") | Small Single Grommet Kit (10) | 911496-00-00 |
| Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min .27" - Max .53" and Min .38" - Max .70") | Small Dual Grommet Kit | 911386-00-01 |
| Small Dual Grommet Kit (10 pc grommet only) – (Min .27" - Max .53" and Min .38" - Max .70") | Small Dual Grommet Kit (10) | 911495-00-00 |
| Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries (Min 0.20" - Max 0.365" and flat drop) | Small 6 Port Drop Kit | FC000644 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes. | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LightGuard® 500 FTTx Aerial Weathertight Fiber Optic Splice Closures

The LightGuard (LG) 500 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for small count fiber splicing (up to 32 single or 48 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-500-FTTx is ideal for FTTx access networks by providing cable entry and connectivity for up to 12 drop cables and 16 connections, requiring only a common can wrench for installation.

Features

- Four individual, self-sizing grommets cable ports:
 - 2 express ports
 - 2 multi-drop ports
- 12 drop cables and 16 connections
- Special multi-drop grommet and cable retention
- Special lock-out interior enclosure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

| PARAMETER | VALUE |
|---|---|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 32, 48, 12 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 1, 1, 1 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 2 to 4 Express with up to 12 Drop |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets | (4) Cable Ports |
| Single in. (mm) | 4 @ 0.38" - 0.82" (7.6 - 20.8) |
| 6-port Multi-Drop Grommet in. (mm) | 2 (6 port) @ 0.20" - 0.37" (5.1 - 9.4) |
| Additional Grommets | |
| Dual Grommet in. (mm) | Sm: 0.27" - 0.53" (6.9 - 13.5) |
| | Lg: 0.38" - 0.70" (9.5 - 17.8) |
| 6-port Multi-Drop Grommet in. (mm) | 0.20" - 0.37" (5.1 - 9.4) |
| Dimensions – (L x D) in. (mm) | 27.0" x 8.3" x 4.0" (686.0 x 210.0 x 100.0) |
| Weight – lbs. (kg) | 10.1 (4.58) |

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LightGuard® 500 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|-----------------|
| LG-500-FTTx Aerial Weathertight Fiber Optic Splice Closure – Stores 32 single fusion or 48 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, (1) splice tray, and hanger brackets. Not included: Cable Grounding Kits, SCAPC Adapters | LG-500-FTTx | FC000899 |
| LL-2425 Single Splice Tray – Stores (32) single fusion splices. Maximum of 1 tray in the LG-500-FTTx. | LL-2425 | FC000053 |
| Small Single Grommet Kit of (10 pc grommet only) – (Min 0.38" - Max 0.82") | Small Single Grommet Kit (10) | 911496-00-00 |
| Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27" - Max 0.53" and Min 0.38" - Max 0.70") | Small Dual Grommet Kit | 911386-00-01 |
| Small Dual Grommet Kit (10 pc grommet only) – (Min 0.27" - Max 0.53" and Min 0.38" - Max 0.70") | Small Dual Grommet Kit (10) | 911495-00-00 |
| Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam tape. Allows six cable entries. (Min 0.20" - Max 0.37" and flat drop) | Small 6 Port Drop Kit | FC000573 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only | CGK-5 | FC001091 |
| Mechanical Splice Kit*. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |
| Single-mode SC Simplex Adapter, Flangeless, Green | SC/APC Adapter | CS009394 |
| SC/APC 900 μm Pigtail, 1.5 Meter Length | ASC, XXX, JH, 001, Q, 001.5, White | CS012973C-001.5 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.

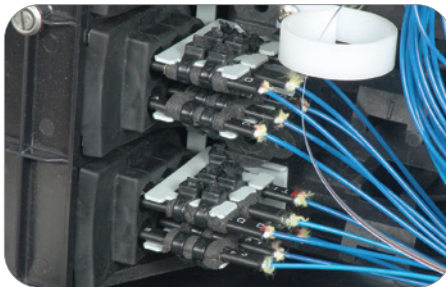


LightGuard® 600 FTTx Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 600 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for small count fiber splicing (up to 48 single or 48 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-600-FTTx is ideal for express slack look fiber access splicing by providing cable entry and connectivity for up to 24 subscriber drops and requires only a common can wrench for installation.

Features

- Six individual, self-sizing grommets cable ports:
 - 2 express ports
 - 4 multi-drop ports
- Up to 12 adapters using the LG-600 expansion kit and SC 6-pack adapter brackets
- Special multi-drop grommets and cable retention
- Integrated aerial splicing work tray
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Integrated grounding clamp through aerial hangers
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic



Cable entrance

Specifications

| PARAMETER | VALUE |
|---|--|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 24, 48, 24 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 2, 2, 2 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 2 to 4 Express with up to 24 Drops |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets | (6) Cable Ports 2 @ 0.44" - 1.00" (11.2 - 25.4) 4 @ 0.30" - 0.48" (76 - 17.8) |
| Single in. (mm) | |
| 6-port Multi-Drop Grommet in. (mm) | |
| Additional Grommets | |
| Dual Grommet in. (mm) | Sm: 0.40" - 0.70" (10.0 - 17.8) Lg: 0.60" - 0.90" (15.3 - 22.9) |
| Dimensions – (L x D) in. (mm) | 27.00" x 11.25" x 7.50" (690.0 x 286.0 x 190.5) |
| Weight – lbs. (kg) | 18.0 (8.16) |



Grommet bracket

continued
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LightGuard® 600 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|--|--------------------------------------|--------------|
| LG-600-FTTx Aerial Weathertight Fiber Optic Splice Closure – Stores 24 single fusion or 48 mass fusion, includes (6) cable kits for sealing/retention and (2) ground terminals with removable bond, (2) splice tray, and hanger brackets. Not included: Cable Grounding Kits | LG600-FTTx | FC000291 |
| LL-2450 Single Splice Tray – Stores (12) single fusion splices. Maximum of (2) trays in the LG-600-FTTx. | LL-2450 | 91957-00 |
| LL-4850 Mass Splice Tray – Stores (8) mass fusion splices (96F). Maximum of (2) trays in the LG-600-FTTx. | LL-4850 | 91958-00 |
| LL-1248 Universal Splice Tray – Stores (12) single fusion splices or (8) mass fusion splices (96F), *Mechanical. Maximum of 2 trays in the LG-600FTTx. | LL-1248 | 911221-00-00 |
| Large Single Grommet Kit with retention hardware (Min 0.44" - Max 1.00") | Large Single Grommet Kit | FC000623 |
| Large Single Grommet Kit (10 pc grommet only) – (Min 0.44" - Max 1.00") | Large Single Grommet Kit (10) | 91918-00 |
| Adjustable Aerial Hanger Kit Bracket Kit (included with closure) | Adjustable Hanger LG-400/500/600 | 911497-00-00 |
| Extended Offset Aerial Hanger Kit – LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG/400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |
| LG-600 FTTx Expansion Kit – Includes (1) Stacker Module, (1) SC-6-Pack Bracket. Allows use of standard splice trays. | LG-600 FTTx Expansion Kit | FC000620 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

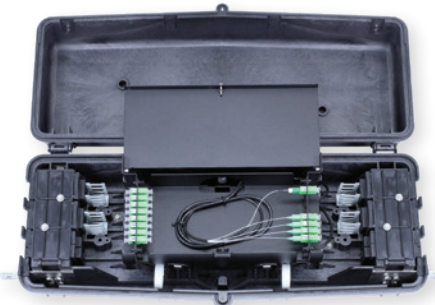
| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

Contact AFL for further details.



LG-600 FTTx/32 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 600 FTTx/32 Aerial Weathertight Fiber Optic Splice Closure is designed for small count fiber splicing (up to 96 single or 288 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-600-FTTx/32 is ideal for accommodating up to 24 drop cables and 32 connections with AFL's slim LGX® 118 adapter plate by placing 16 simplex adapters at each end of the inner security enclosure. In addition, the closure can house 1x4, 1x8, 1x16, or 1x32 PLC splitter combinations and requires only a common can wrench for installation.



Features

- Six individual, self-sizing grommeted cable ports:
 - 2 express ports
 - 4 multi-drop ports
- Up to 24 FTTx drops
- Up to 32 SC adapters with brackets
- Multi-drop grommets and drop retention for FTTx Drops
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Integrated grounding clamps through aerial hangers
- Cable retention clamps provide pullout
- UV-resistant engineered thermoplastic



Specifications

| PARAMETER | VALUE |
|---|---|
| Splice Capacity (Max.) – Single, Mass, Mechanical | 96, 288, 48 |
| Number of Splice Trays (Max.) – Single, Mass, Mechanical* | 2, 2, 2 |
| Cable Entrance Configuration | Butt or in-line |
| Cables | 2 to 4 Express with up to 24 Drops |
| Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets | (6) Cable Ports 2 @ 0.44" - 1.00" (11.2 - 25.4) 4 @ 0.30" - 0.48" (7.6 - 17.8) |
| Single in. (mm) | |
| 6-port Multi-Drop Grommet in. (mm) | |
| Additional Grommets | |
| Dual Grommet in. (mm) | Sm: 0.40" - 0.70" (10.0 - 17.8) Lg: 0.60" - 0.90" (15.3 - 22.9) |
| Dimensions – (L x D) in. (mm) | 27.00" x 11.25" x 7.50" (690.0 x 286.0 x 190.5) |
| Weight - lbs. (kg) | 22.2 (10.06) |



Grommeted Cable Ports

continued
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LG-600 FTTx/32 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

| DESCRIPTION | MODEL NO. | AFL NO. |
|---|--------------------------------------|--------------|
| LG-600-FTTx/32 Aerial Weathertight Fiber Optic Splice Closure – Stores 96 single fusion or 288 mass fusion, includes (6) cable kits for sealing/retention and (2) ground terminals with removable bond, splice tray and hanger brackets. Not included: Cable Grounding Kits | LG-600-FTTx/32 | FC000806 |
| LL-2450 Single Splice Tray – Stores (12) single fusion splices. Maximum of 2 trays in the LG-600-FTTx/32. | LL-2450 | 91957-00 |
| LL-4850 Mass Splice Tray – Stores (8) mass fusion splices (96 F). Maximum of 2 trays in the LG-600-FTTx/32. | LL-4850 | 91958-00 |
| LL-1248 Universal Splice Tray – Stores (12) single fusion splices or (8) mass fusion splices (96 F), *Mechanical. Maximum of 2 trays in the LG-600-FTTx/32. | LL-1248 | 91121-00-00 |
| Large Single Grommet Kit with retention hardware (Min 0.44" - Max 1.00") | Large Single Grommet Kit | FC000623 |
| Large Single Grommet Kit of (10 pc grommet only) (Min 0.44" - Max 1.00") | Large Single Grommet Kit (10) | 91918-00 |
| Large Dual Grommet Expansion Kit – Includes: (2) Dual grommets and hardware (Min 0.40" - Max 0.70" and Min 0.60" - Max 0.90") | Large Dual Grommet Kit | 911406-00-00 |
| Extended Offset Aerial Hanger Kit LG-400/500/600 | Offset Hanger LG-400/500/600 | 91990-00 |
| Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets) | Cable Retention Kit LG-400/500/600 | FC000356 |
| Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers | Closure Extension Kit LG-400/500/600 | 911499-00-00 |
| 1x6 Fiber Router Kit with furcation tubes. | 1x6 Fiber Router | FC000070 |
| Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only | CGK-5 | FC001091 |
| *Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices. | VHB Tape | FA000089 |

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|-------------------------------|---------------|
| Telcordia | GR-771 |
| Rural Utilities Service (RUS) | Listed |

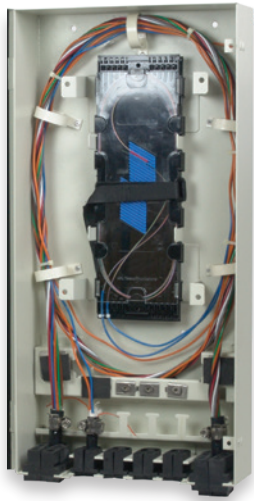
Contact AFL for further details.

Interchangeable Grommets for Fiber Optic Splice Closures and Fiber Enclosures

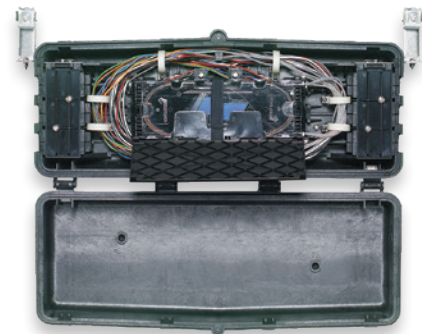


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Interchangeable Large Grommets for Fiber Optic Splice Closures and Fiber Enclosures



LL-400b
(outer 2 grommets)

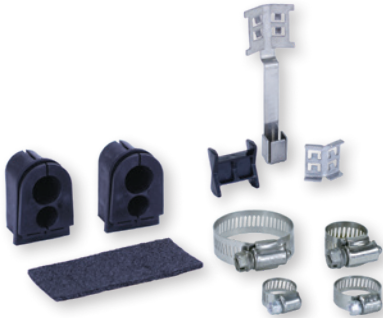


LG-600



Cable Sealing Grommets

LightGuard® Aerial Splice Closure Accessories



Dual-port Grommet Kit



Multi-port Grommet Kit

Dual- and Multi-port Grommet Kits for LG-400/LG-500/LG-600

For use with the LG-600 Aerial Weathertight Closure. Remove the single-port grommet set from the closure and replace with the multi-port grommet set when drops are required. Retention hardware included.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| Dual-port Grommet Kit for LG-400/LG-500 Diameter for large port is 0.375" - 0.65"; small port, 0.27" - 0.5" | 911386-00-01 |
| Dual Grommet Expansion Kit - Includes: (2) Dual Grommets, (1) CSM retention clamp, cable retention clamp and cable spacer | 911406-00-00 |
| Dual Grommet Replacement Kit - Includes: (10) Dual Grommets for the LG-400 Series Closures. Diameter for large port is 0.375" - 0.65"; small port, 0.27" - 0.5" | 911495-00-00 |
| Grommet Replacement Kit, Kit - Includes: (10) Standard (single port) Grommets for the LG-400 Series Closures. Diameter from 0.3" - 0.82" | 911496-00-00 |
| Grommet Replacement Kit - Includes: (10) LG-600 Grommets Diameter from 0.5" - 1.0" | 91918-00 |
| Multi-port Grommet Kit for LG-400/LG-500. Diameter up to 0.365" | FC000573 |
| Multi-port Grommet Kit for LG-600. Diameter from 0.67" to 0.475" | FC000352 |

Single-port Grommet Kit for LG-600 FTTx

For use with the LG-600 Aerial Weathertight Closure. Remove the multi-port grommet set from the closure and replace with the single-port grommet set when installing a branch cable. Hardware included.



Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| Single-port Grommet Kit for LG-600 FTTx | FC000623 |
| Single Cable Entry Grommet Kit LG-600 Hardware | FC000356 |

Adjustable Aerial Hanger Brackets

For use with all Aerial Weathertight Closures (LG-410, LG-420, LG-420 FTTx, LG-500, LG-600 and LG-600 FTTx). This pair of hanger brackets is shipped from the factory with all weathertight closures. Purchase separately for closures installed over existing utilities.

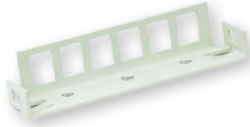


Ordering Information

| DESCRIPTION | AFL NO. |
|-----------------------------------|--------------|
| Adjustable Aerial Hanger Brackets | 911497-00-00 |

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LightGuard® Aerial Splice Closure Accessories (cont.)

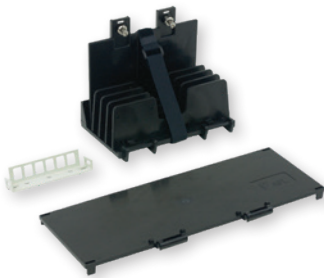


SC 6-Pack Bracket for LG-600

Installs at each end of the stacker module in the LG-600. Allows up to (12) SC connectors or (24) LC connectors (using duplex connectors) to be installed in the closure. Snaps in place or use self-tapping screws to secure.

Ordering Information

| DESCRIPTION | AFL NO. |
|----------------------------------|----------|
| SC 6-Pack Bracket Kit for LG-600 | FM001294 |
| SC 6-Pack Adapter Bracket | FM001212 |



Expansion Kit for LG-600 FTTx

Expansion kit includes a Stacker Tray Module and one LG-600 SC-6-Pack Bracket to allow for up to six SC connections or 12 LC duplex connections. An additional bracket may be used to increase connectivity to 12 SC or 24 LC connections using duplex adapters. Allows increasing splices with LL-2400, LL-2448 and LL-2448-48S splice trays.

Ordering Information

| DESCRIPTION | AFL NO. |
|-------------------------------|----------|
| Expansion Kit for LG-600 FTTx | FC000620 |

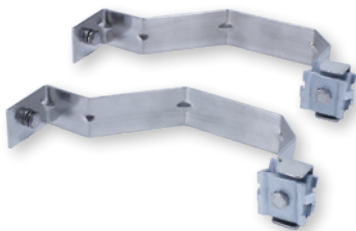


Cable Grounding Harness

For use with all Aerial Weathertight Closures (LG-410, LG-420, LG-420 FTTx, LG-500, LG-600 and LG-600 FTTx).

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Cable Grounding Harness - Includes: (4) Harness 8" #6 AWG | FC000024 |



Aerial Hanger Kits

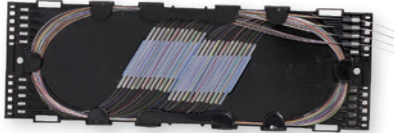
For use with all Aerial Weathertight Closures (LG-410, LG-420, LG-420 FTTx, LG-500, LG-600 and LG-600 FTTx).

Ordering Information

| DESCRIPTION | AFL NO. |
|-----------------------------------|--------------|
| Extended Aerial Hanger Kit | 911497-00-00 |
| Extended Offset Aerial Hanger Kit | 91990-00 |

LightLink Fiber Optic Splice Trays


AFL's LightLink series of Fiber Optic Splice Trays offers a variety of unique and flexible splice and storage possibilities. They are available in industry standard configurations (single, mass).



Features

- In-line or butt splice capability (see model descriptions)
- Pre-formed radiuses maintain bend requirements
- Interlocking base and cover provides tray stability without the use of a bolt
- Extended finger guides easily store and route loose fiber or ribbon


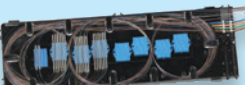
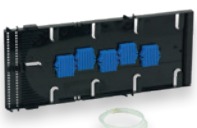
Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-55-U | LG-150-U | LG-250-U | LG-350-U | LG-350-20-WTC | LG-350-27-WTC |
|--|-----------|--------------|--|--|---|--|---------------|---------------|
| Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H)  | LL-2425 | FC000053 | Max trays: 1 Single: 32 Mass: N/A | N/A | N/A | N/A | N/A | N/A |
| Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-2450 | 91957-00 | N/A | Max Trays: 4 Single: 48 Mass: N/A | N/A | N/A | N/A | N/A |
| Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-4850 | 91958-00 | N/A | Max Trays: 4 Single: N/A Mass: 32 (384 fiber) | N/A | N/A | N/A | N/A |
| Single Fuse: 12 Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-1248 | 911221-00-00 | N/A | Max Trays: 4 Single: 48 Mass: 48 (384 fiber) | N/A | N/A | N/A | N/A |
| Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H)  | LL-2400 | 91710-06 | N/A | N/A | Max Trays: 5 Single: 120 Mass: N/A | Max Trays: 13 Single: 312 Mass: N/A | N/A | N/A |

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LightLink Fiber Optic Splice Trays (cont.)

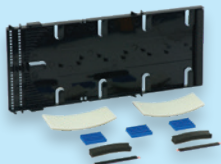
Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-250-U | LG-350-U | LG-350-AC | LG-350XL-U | LG-350-20-WTC | LG-350-27-WTC |
|--|-------------|--------------|---|--|-----------|--|---------------|--|
| Single Fuse: 60 Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H)  *Note: Contains enough splice holders for 24 mass splices (288 fibers) when using AFL Wrapping Tube Cable. | LL-7644 | FA000044 | N/A | Max Trays: 6 Single: 360 Mass: 72 (864 fiber) | N/A | N/A | N/A | Max Trays: 3 Single: 180 Mass: 72 (864 fiber) |
| Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448 | 911289-00-02 | Max Trays: 3 Single: 72 Mass: 12 (144 fiber) Mechanical: 36 | Max Trays: 8 Single: 192 Mass: 32 (384 fiber) Mechanical: 96 | N/A | N/A | N/A | N/A |
| Single Fuse: 48 Mass Fuse: N/A 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448-48S | FA000045 | Max Trays: 3 Single: 144 Mass: N/A | Max Trays: 8 Single: 384 Mass: N/A | N/A | N/A | N/A | N/A |
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4848 | 911437-00-02 | Max Trays: 3 Single: N/A Mass: 36 (432 fiber) | Max Trays: 8 Single: N/A Mass: 96 (1152 fiber) | N/A | N/A | N/A | N/A |
| Single Fuse: 96 Mass Fuse: 24 (288 fiber) 15.950" (L) x 4.875" (W) x 0.485" (H)  | LL-4896 | 911676-00-02 | N/A | Max Trays: 5 Single: 480 Mass: 120 (1440 fiber) | N/A | Max Trays: 9 Single: 864 Mass: 216 (2592 fiber) | N/A | N/A |
| Single Fuse: 60 Mass Fuse: N/A 12.000" (L) x 5.125" (W) x 0.485" (H)  | LL-7060 | FA000042 | N/A | Max Trays: 6 Single: 360 Mass: N/A | N/A | N/A | N/A | Max Trays: 3 Single: 180 Mass: N/A |

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LightLink Fiber Optic Splice Trays (cont.)

Ordering Information – Splice Trays for LG-350 and LG-350XL-U Sealed Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-350-U | LG-350-AC | LG-350XL-U | LG-350-20-WTC | LG-350-27-WTC |
|---|------------|----------|---|---|---|---|---|
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H)  | LL-7144 | FA000043 | Max Trays: 6 Single: 360 Mass: 72 (864 fiber) | N/A | N/A | N/A | Max Trays: 3 Single: 180 Mass: 72 (864 fiber) |
| Single Fuse: 36 Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H)  | LL-4808L-R | FA000037 | N/A | Max Trays: 4 Single: 144 Mass: 48 (576 fiber) | N/A | Max Trays: 4 Single: 144 Mass: 48 (576 fiber) | N/A |
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H)  | LL-4808 R | FA000020 | N/A | Max Trays: 4 Single: N/A Mass: 48 (576 fiber) | N/A | Max Trays: 4 Single: N/A Mass: 48 (576 fiber) | N/A |
| Single Fuse: 36 Mass Fuse: N/A 8.125" (L) x 4.875" (W) x 0.485" (H)  | LL-4808 L | FA000021 | N/A | Max Trays: 4 Single: 144 Mass: N/A | N/A | Max Trays: 4 Single: 144 Mass: N/A | N/A |
| Single Fuse: N/A Mass Fuse: 24 (288 fiber) 15.950" (L) x 4.875" (W) x 0.485" (H)  | LL-4896 R | FA000022 | Max Trays: 5 Single: N/A Mass: 120 (1440 fiber) | N/A | Max Trays: 9 Single: N/A Mass: 216 (2592 fiber) | N/A | N/A |
| Single Fuse: 96 Mass Fuse: N/A 15.950" (L) x 4.875" (W) x 0.485" (H)  | LL-4896 L | FA000023 | Max Trays: 5 Single: 480 Mass: N/A | N/A | Max Trays: 9 Single: 864 Mass: N/A | N/A | Max Trays: 3 Single: 180 Mass: N/A |

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LightLink Fiber Optic Splice Trays (cont.)

Ordering Information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-410-U | LG-420-U FTTx | LG-500-U | LG-500-U FTTx |
|---|-----------|--------------|---|--|---|--|
| Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H)  | LL-2400 | 91710-06 | Max Trays: 4 Single: 96 Mass: N/A | N/A | Max Trays: 4 Single: 96 Mass: N/A | N/A |
| Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H)  | LL-2425 | FC000053 | N/A | Max Trays: 1 Single: 32 Mass: N/A | N/A | Max Trays: 1 Single: 32 Mass: N/A |
| Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448 | 911289-00-02 | Max Trays: 3 Single: 72 Mass: 12 (144 fiber) Mechanical: 36 | N/A | Max Trays: 3 Single: 72 Mass: 12 (144 fiber) Mechanical: 36 | N/A |
| Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-2450 | 91957-00 | N/A | N/A | N/A | N/A |
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4848 | 911437-00-02 | Max Trays: 3 Single: N/A Mass: 36 (432 fiber) | N/A | Max Trays: 3 Single: N/A Mass: 36 (432 fiber) | N/A |
| Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-4850 | 91958-00 | N/A | N/A | N/A | N/A |
| Single Fuse: 12 Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-1248 | 911221-00-00 | N/A | N/A | N/A | N/A |

continued
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Splice Trays

LightLink Fiber Optic Splice Trays (cont.)


Ordering Information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-500-U-FTTx-ISO | LG-600-U | LG-600-FTTx | LG-600-U-FTTx-ISO |
|---|-----------|--------------|--|--|--|--|
| Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H)  | LL-2400 | 91710-06 | N/A | Max Trays: 12 Single: 288 Mass: N/A | Max Trays: 2 Single: 48 Mass: N/A | N/A |
| Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H)  | LL-2425 | FC000053 | N/A | N/A | N/A | N/A |
| Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448 | 911289-00-02 | N/A | Max Trays: 8 Single: 192 Mass: 32 (384 fiber) Mechanical: 12 | N/A | N/A |
| Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-2450 | 91957-00 | Max Trays: 1 Single: 12 Mass: N/A | N/A | N/A | Max Trays: 2 Single: 24 Mass: N/A |
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4848 | 911437-00-02 | N/A | Max Trays: 8 Single: N/A Mass: 96 (1152 fiber) | N/A | N/A |
| Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-4850 | 91958-00 | Max Trays: 1 Single: N/A Mass: 8 (96 fiber) | N/A | N/A | Max Trays: 2 Single: N/A Mass: 16 (192 fiber) |
| Single Fuse: 12 Mass Fuse: 8 (96) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-1248 | 911221-00-00 | Max Trays: 1 Single: 12 Mass: 8 (96 fiber) | N/A | N/A | Max Trays: 2 Single: 24 Mass: 16 (192 fiber) |

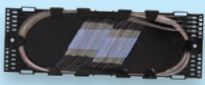



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LightLink Fiber Optic Splice Trays (cont.)

Ordering information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

| DESCRIPTION | MODEL NO. | AFL NO. | LG-410-U | LG-500-U | LG-600-U |
|--|-----------|----------|--|--|--|
| Single Fuse: N/A Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4800 | 91711-07 | Max Trays: 3 Single: N/A Mass: 12 (144 fiber) | Max Trays: 3 Single: N/A Mass: 12 (144 fiber) | Max Trays: 8 Single: N/A Mass: 32 (384 fiber) |

Ordering Information—Splice Trays for Fiber Optic Enclosures

| DESCRIPTION | MODEL NO. | AFL NO. | LL-400B WITH INTERCONNECT | LL-400B WITHOUT INTERCONNECT | LL-400SX WITH 2 LGX® PLATES | LL-400SX WITHOUT LGX PLATES |
|--|-------------|--------------|---|--|---|---|
| Single Fuse: 24 Mass Fuse: 4 (48 fiber) Mechanical : 12 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448 | 911289-00-02 | Max Trays: 4 Single: 96 Mass: 16 (192 fiber) Mechanical: 48 | Max Trays: 6 Single: 144 Mass: 24 (288 fiber) Mechanical: 72 | Max Trays: 3 Single: 72 Mass: 12 (144 fiber) Mechanical: 36 | Max Trays: 9 Single: 216 Mass: 36 (432 fiber) Mechanical: 108 |
| Single Fuse: 48 Mass Fuse: N/A 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-2448-48S | FA000045 | Max Trays: 4 Single: 192 Mass: N/A | Max Trays: 6 Single: 288 Mass: N/A | Max Trays: 3 Single: 144 Mass: N/A | Max Trays: 9 Single: 432 Mass: N/A |
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4848 | 911437-00-02 | Max Trays: 4 Single: N/A Mass: 48 (576 fiber) | Max Trays: 6 Single: N/A Mass: 72 (864 fiber) | Max Trays: 3 Single: N/A Mass: 36 (432 fiber) | Max Trays: 9 Single: N/A Mass: 108 (1296 fiber) |
| Single Fuse: N/A Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H)  | LL-4800 | 91711-07 | Max Trays: 4 Single: N/A Mass: 16 (192 fiber) | Max Trays: 6 Single: N/A Mass: 24 (288 fiber) | Max Trays: 3 Single: N/A Mass: 12 (144 fiber) | Max Trays: 9 Single: N/A Mass: 108 (1296 fiber) |

continued
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LightLink Fiber Optic Splice Trays (cont.)

Ordering Information—Splice Trays for Fiber Optic Enclosures

| DESCRIPTION | MODEL NO. | AFL NO. | LL-500 | LL-580 |
|---|------------|----------|--|--|
| Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) 0.485" (H)  | LL-7144 | FA000043 | N/A | Max Trays: 2 Single: N/A Mass: 24 (288 fiber) |
| Single Fuse: 60 Mass Fuse: 12 (144) 12.000" (L) x 5.125" (W) 0.485" (H)  | LL-7644 | FA000044 | N/A | Max Trays: 2 Single: 120 Mass: 24 (288 fiber) |
| Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-2450 | 91957-00 | Max Trays: 5 Single: 60 Mass: N/A | N/A |
| Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H)  | LL-4850 | 91958-00 | Max Trays: 3 Single: N/A Mass: 24 (288 fiber) | N/A |
| Single Fuse: 36 Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H)  | LL-4808L-R | FA000037 | N/A | Max Trays: 2 Single: 72 Mass: 24 (288 fiber) |

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LightLink Fiber Optic Splice Trays (cont.)

Ordering Information – Splice Tray for Splicing Cabinets and Shelves

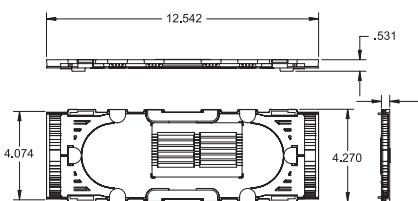
| DESCRIPTION | MODEL NO. | AFL NO. |
|--|-----------|--------------|
| Telescoping Splice Tray - Stores up to 48 single fusion sleeves or 12 mass fusion sleeves (144 fibers). For use in the following products: LL-300, LL-288/576, LL-720/1440, OTSS-SYS1, OSS-SYS2 and OSS-SYS1 | STF-48 | 911442-00-00 |
| FTTx Splice Tray - Stores up to 2 single fusion sleeves. For use in the following products: ONT-760XL, ONT-3000 and CG-1500 | — | DM000445 |
| Bare Fiber Splice Tray - Stores up to 24 single fusion fibers without sleeves. For use in the following products: Any product that accepts the LL-2400 splice tray | — | C184190 |

Ordering Information—Splice Tray Accessories

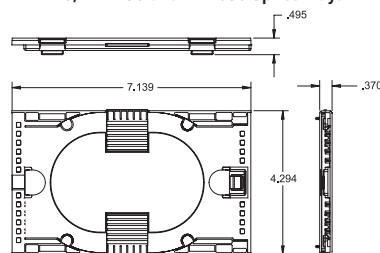
| DESCRIPTION | AFL NO. |
|---|----------|
| FP-40 Splice Protection Sleeves, 40 mm length (1000 box/100 pack) | S015916 |
| FP-60 Splice Protection Sleeves, 60 mm length (1000 box/100 pack) | S015915 |
| Single Fusion Splice Chip - 6 splices per chip. (10 pcs. per kit) | FA000034 |
| Single Fusion Splice Chip - 12 splices per chip. (10 pcs. per kit) | FC000657 |
| Single Fusion Splice Chip - 24 splices per chip. (10 pcs. per kit) | 91745-02 |
| Mass Fusion Splice Chip - 4 splices per chip. (10 pcs. per kit) | FA000088 |
| Mechanical Fusion Splice Tape (10 pcs. per kit) | FA000089 |
| Core Tube Cable Fiber Router for routing fiber up to 8 directions. For all central core tube sizes. | FC000008 |
| Loose Tube or Ribbon Router for routing fiber up to 6 directions. For all Loose Tube and up to 12 fiber Ribbon. | FC000070 |

Dimensions

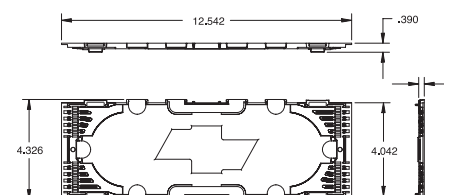
LL-2448 and LL-4848 Splice Trays



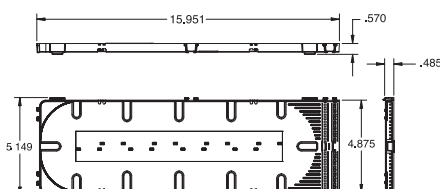
LL-1248, LL-2450 and LL-4850 Splice Trays



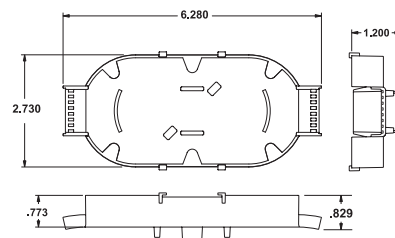
LL-2400 Splice Tray



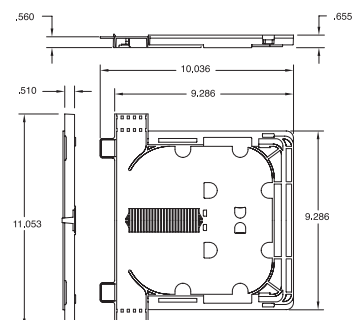
LL-4896 Splice Tray



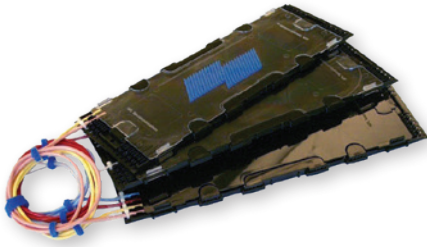
LL-2425 Splice Tray



OEE Splice Tray



Splice Trays



LightLink Splitter Trays

The LightLink Splitter Trays are a packaged system that include factory-preinstalled PLC splitters and splicing trays which easily fit within AFL’s LG Series Closures, LL Series Wall Mount Cabinets and pedestals. These AFL splitter trays feature 1x4, 1x8, 1x16 or 1x32 planar technology with optical characteristics that include low insertion loss, high uniformity, and excellent environmental stability. The products are have longevity and durability in an Outside Plant application.

The splitter couplers are factory-preinstalled and secured within the AFL splice trays. The trays are tamper-proof to prevent unwanted entry. With the lengthy transition tubing preinstalled, the device fibers are routed into the splice trays (included as part of the package) to help complete installations in a timely manner. No additional trays are required reducing material costs.

Features

- Tamper-Proof Packaging
- Fits in all AFL enclosures
- No additional trays required
- Color-coded transportation tubing

Optical Specifications

| PARAMETER | VALUE | | | |
|----------------------------|----------------|----------------|----------------|----------------|
| | 1 X 4 | 1 X 8 | 1 X 16 | 1 X 32 |
| Wavelength Range | 1260 - 1650 nm | 1260 - 1650 nm | 1260 - 1650 nm | 1260 - 1650 nm |
| Max. Insertion Loss | 7.5 | 10.7 | 14.0 | 17.4 |
| Max. Uniformity | 1.0 | 1.0 | 1.2 | 1.7 |
| PDL (dB) Max. | 0.3 | 0.3 | 0.3 | 0.3 |
| Return Loss | 50.0 | 50.0 | 50.0 | 50.0 |
| Operating Temperature (°C) | -40 to 85 | -40 to 85 | -40 to 85 | -40 to 85 |

This tray has capacity for up to 24 single fusion splices and are stackable with each other and other similar AFL splice trays.

Ordering Information

| DESCRIPTION | AFL NO. | SIZE |
|--------------------|----------|---------------|
| LightLink Splitter | FC000898 | Tray PKG 1x2 |
| LightLink Splitter | FC000571 | Tray PKG 1x4 |
| LightLink Splitter | FC000539 | Tray PKG 1x8 |
| LightLink Splitter | FC000538 | Tray PKG 1x16 |
| LightLink Splitter | FC000537 | Tray PKG 1x32 |

Qualifications

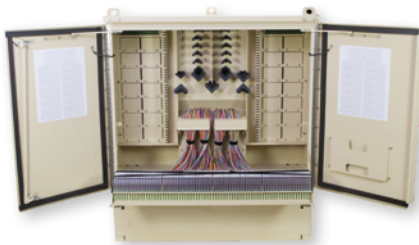
| GOVERNING BODY | STANDARD CODE |
|----------------|-------------------------|
| Telcordia | GR-1209 GR-1221-CORE |

Contact AFL for further details.

IDEAA® (Integrated Distribution Enabling Access Apparatus)



288 Fiber (Closed)



864 Fiber (Open)

IDEAA Exterior Distribution Cabinet

The IDEAA Exterior Distribution Cabinet (EDC) provides a convenient modular approach to centralized fiber distribution. All sizes of the EDC utilize the IDEAA splitter module to enable versatility across the platform. The EDC utilizes innovative jumper routing to enable efficient fiber management utilizing equal length pigtailed for the entire cabinet.

Features

- Modular distribution platform allows for incremental deployment costs and immediate cost savings
- Small size is unobtrusive in residential deployments
- Enhanced fiber management provides simplified routing and termination
- Dual-door entry allows easy access to distribution and fiber management fields
- Flexible pad and pole mounting options allow for deployment in convenient locations
- Expandable feeder cables allow for point-to-point distribution (cross-connect)

Specifications

| THROUGH PORTS | HEIGHT | WIDTH | DEPTH | SPLITTER CAPACITY | INPUT/PASS |
|-------------------------------|--------|-------|-------|-------------------|-------------------|
| Up to 288 Fiber | 38" | 20" | 20" | 9 | 24 |
| 432 Fiber | 46" | 20" | 20" | 14-15 | 24 (48 available) |
| 576, 864, and 1152 (LC) Fiber | 48" | 42.5" | 20" | 28 | 144 |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| PAD MOUNT WITH SKIRT AND 100 FOOT TAILS | |
| IDEAA Exterior Distribution Cabinet - 72 Pad, 1 x 72 Fiber Distribution Cable (Loose Tube), 1 x 24 Fiber Input Cable (Loose Tube) | EA000307 |
| IDEAA Exterior Distribution Cabinet - 144 Pad, 1 x 144 Fiber Distribution Cable (Loose Tube), 1 x 24 Fiber Input Cable (Loose Tube) | EA000304 |
| IDEAA Exterior Distribution Cabinet - 216 Pad, 1 x 216 Fiber Distribution Cable (Loose Tube), 1 x 24 Fiber Input Cable (Loose Tube) | EA000305 |
| IDEAA Exterior Distribution Cabinet - 288 Pad, 1 x 288 Fiber Distribution Cable (Loose Tube), 1 x 24 Fiber Input Cable (Loose Tube) | EA000301 |
| IDEAA Exterior Distribution Cabinet - 432 Pad, 2 x 216 Fiber Distribution Cable (Loose Tube), 1 x 24 Fiber Input Cable (Loose Tube) | EA000321 |
| IDEAA Exterior Distribution Cabinet - 864 Pad, 2 x 432 Fiber Distribution Cable (Wrapping Tube Cable (WTC), with SpiderWeb Ribbon®), 1 x 144 Fiber Input Cable (Wrapping Tube Cable (WTC), with SpiderWeb Ribbon®) | EA000590 |
| IDEAA Exterior Distribution Cabinet - 1152 Pad, LC Connectors, 4 x 288 Fiber Distribution Cable (Loose Tube), 1 x 144 Fiber Input Cable (Loose Tube) | EA000778 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-3215 |



Applications

- Direct Wall Mount
- Interior Wall Mount Enclosure / Pedestal
- Exterior Wall Mount Enclosure
- Exterior Distribution Enclosure / Pedestal
- Exterior Distribution Cabinet
- Splice Closure – Sealed
- Rack Mount Bracket

Features

- SC and LC Module configurations can accommodate up to a 64 fiber distribution
- Modular design allows for highly flexible and scalable deployments
- Durable hardened plastic exterior provides a rugged encasement
- Single and multi-package modules available

IDEAA®

Integrated Distribution Enabling Access Apparatus

AFL's Integrated Distribution Enabling Access Apparatus (IDEAA) product family revolutionizes the way passive optical splitters are deployed in the network.

Utilizing a small modular design and leveraging planar waveguide technology to yield an ultra low polarization dependent loss, low insertion loss, and high port uniformity, the IDEAA product possesses the flexibility to be used in a wide variety of applications. The IDEAA module provides a lower cost and more versatile alternative to preexisting PON architecture arrangements. Rather than being confined to a traditional "splitter-in-cabinet" design, the IDEAA product family allows service providers to employ PON architecture across all areas of the network.

The IDEAA module's unique design enables customers to utilize a revolutionary stand-alone mounting capability. In addition to conforming to a number of different applications, each IDEAA module can be mounted as an independent distribution point. This unit can be neatly secured to a wall or even placed on an existing rack or cabinet.

IDEAA SC and LC Modules

The IDEAA SC and LC modules come equipped with an internal PLC device which is factory terminated and tested. An integrated hinge provides easy access to the SC or LC adapter interface while reducing space when mounted. The SC and LC modules use APC connectors to meet the strict back reflection requirements of the latest PON architectures. A wide variety of PLC splitter configurations are available. A dual 1x16 module is available with SC APC outputs and LC APC inputs. Two SC APC to LC APC jumpers are included to connect to the EDC SC APC input ports.

Direct Wall Mount Capability

The IDEAA product can easily mount to an interior wall without needing any additional enclosures. Simply use the integrated hinge plate to install the module directly to a wall. The module contains port identification for each output fiber.

Specifications

| PARAMETER | VALUE | | | | |
|-----------------------------|-------------|-------|--------|--------|--------|
| | 1 X 4 | 1 X 8 | 1 X 16 | 1 X 32 | 1 X 64 |
| Wavelength Range (nm) | 1280 - 1650 | | | | |
| Typical Insertion Loss (dB) | 6.7 | 9.8 | 12.9 | 16.6 | 19.8 |
| Max Insertion Loss (dB) | 7.4 | 10.5 | 14 | 17.5 | 21 |
| Max IL Uniformity (dB) | 1 | 1 | 1.5 | 2 | 2.2 |
| Return Loss (dB) | ≥55 | | | | |
| Directivity (dB) | ≥55 | | | | |
| Max PDL (dB) | 0.3 | | | | |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| IDEAA MODULE, SC, 1X32 | EA000102 |
| IDEAA MODULE, SC OUTPUT, LC INPUT, DUAL 1x16 | EA000583 |
| IDEAA MODULE, SC, 1X16 | EA000103 |
| IDEAA MODULE, SC, 1X8 | EA000104 |
| IDEAA MODULE, SC, 1X4 | EA000105 |
| IDEAA MODULE, LC, 2X32 | EA000547 |
| IDEAA MODULE, SC, 1X64 | EA001010 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|------------------|
| Telcordia | GR-1209, GR-1221 |

IDEAA® (Integrated Distribution Enabling Access Apparatus)



IDEAA® Rack Mount Bracket

The IDEAA RMB allows attachment of one (1) IDEAA module to easily mount to industry standard LGX® 118 fiber management rack panels. Simple push-pull pins allow the module to be easily installed and removed.

Features

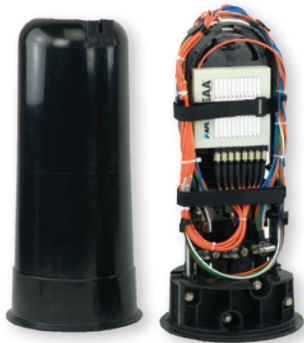
- Metal plate with push/pull pins
- Powder coated black
- LGX compatible

Capacity

| IDEAA MODULE | 1RU PANEL | 2RU PANEL | 3RU PANEL | 4RU PANEL |
|--------------------|-----------|-----------|-----------|-----------|
| # of 118 Positions | 3 | 6 | 9 | 12 |
| 1x32 SC | N/A | N/A | 3 | 4 |
| 1x16 SC | N/A | 3 | 3 | 6 |
| 1x8 and 1x4 SC | 3 | 6 | 9 | 12 |
| 3x96 MPO | 3 | 6 | 9 | 12 |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| Rack-mount Panel LGX®118 Bracket for SC/APC IDEAA Module | EA000654 |
| Rack-mount Panel LGX®118 Bracket for MPO IDEAA Module | EA000655 |



IDEAA® Splice Closure—Sealed

The IDEAA SCS is designed to mount either in buried or aerial applications. The splice closure comes equipped to install one (1) IDEAA module along with a tray to splice all input and output fiber cables. The splice closure is designed to handle multiple fiber cables.

Features

- Less than 20" overall length; ideal for small hand-holes
- Installation and re-entry using common hand tools
- Fully sealed to protect fiber and splices
- Fully kitted with all parts necessary for installation

Specifications

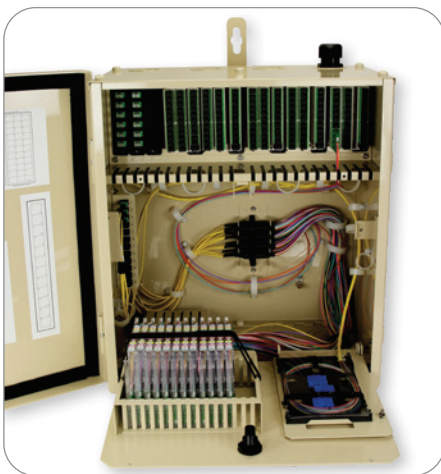
| PARAMETER | VALUE |
|--|---|
| Splice Capacity (Max.) – single | 36 |
| Number of Splice Trays (Max.) – single | 1 |
| Cable Entrance Configuration | Butt |
| Cable Ports | 5 Ports (14 cables total using flat-drop grommets) |
| Cable Sizes (O.D.) | Express Side – 2 (0.4"–1.0") Drop Side – 12 (0.31" flat-drop or 0.25" round) |
| Dimensions (L x D) – inches (cm) | 19.8" x 10.0" (50.3 x 25.4) |
| Weight - lbs. (kg) | 12 (5.44) |

Ordering Information

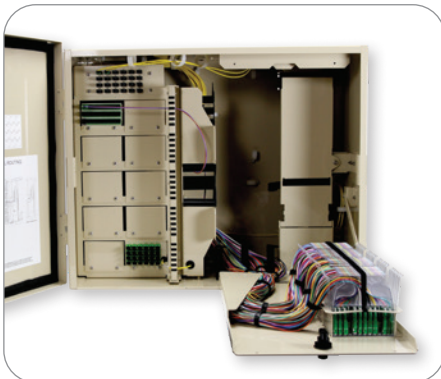
| DESCRIPTION | AFL NO. |
|----------------------------------|----------|
| IDEAA SPLICE CLOSURE | EA000076 |
| IDEAA Splice Closure Pigtail Kit | EA000168 |



144 Fiber (Closed)



144 Fiber (Open)



288 Fiber (Open)

IDEAA® Interior Distribution Cabinet

The IDEAA Interior Distribution Cabinet (IDC) provides a convenient modular approach to centralized fiber distribution in medium to large MDUs. All sizes of the IDC utilize the IDEAA splitter module to enable versatility across the platform. The IDC utilizes innovative jumper routing to enable efficient fiber management utilizing equal length pigtails for the entire cabinet. The IDEAA IDC provides MDU fiber distribution in an extremely compact size.

Features

- MPO/MTP distribution field for connection to preconnectorized MPO riser cables or cables terminated with the AFL's MPO FUSEConnect®
- Extremely compact size limits footprint in telecom and electrical closets
- Dedicated fiber management pathways provide simplified and clean fiber routing
- Unobtrusive splice tray holder for splicing input/output fibers
- Multiple entry points allows for conduit fittings, compression fittings and home-runned 4.8 or 3.0 mm drop cables
- Keyhole external tabs for easy wall-mounting

Specifications

| THROUGH PORTS | HEIGHT | WIDTH | DEPTH | SPLITTER CAPACITY | INPUT/PASS |
|---------------|--------|-------|-------|-------------------|-------------------|
| 72-144 | 21.7" | 19" | 12.5" | 5 | 12 |
| 288 | 24.3" | 30" | 15.2" | 9 | 24 |
| 432 | 32.7" | 30" | 15.2" | 14-15 | 24 (48 Available) |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|--------------|
| IDEAA Interior Distribution MDU Cabinet, 72 Fiber, MPO Enabled—includes one LL-4808L-R Universal Splice Tray for input fiber splicing | EA001025 |
| IDEAA Interior Distribution MDU Cabinet, 96 Fiber, MPO Enabled—includes one LL-4808L-R Universal Splice Tray for input fiber splicing | EA001026 |
| IDEAA Interior Distribution MDU Cabinet, 144 Fiber, MPO Enabled—includes one LL-4808L-R Universal Splice Tray for input fiber splicing | EA000783 |
| IDEAA Interior Distribution MDU Cabinet, 288 Fiber, MPO Enabled—includes One LL-4896L-R Universal Splice Tray for input fiber splicing | EA000742 |
| IDEAA Interior Distribution MDU Cabinet, 432 Fiber, MPO Enabled—includes One LL-4896L-R Universal Splice Tray for input fiber splicing | EA000749 |
| LL-4896 Splice Tray—Stores (96) single fusion splices or (24) 288 mass fusion for 288/432 IDC | 911676-00-02 |
| LL-4808 Splice Tray—Stores (36) single fusion splices or (12) 144 mass fusion for 144 IDC | FA000037 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-3215 |

IDEAA® Interior Distribution Cabinet Accessories



Heyco Compression Fittings for IDEAA® Interior Distribution Cabinet

Used on the entry ports of the IDEAA IDC Cabinets after opening the knockout.
Kits include 5 fittings and nylon locknuts.

Ordering Information

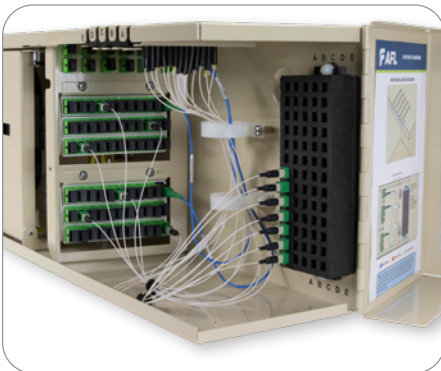
| DESCRIPTION | AFL NO. |
|--|----------|
| Heyco M3231 Fitting, 0.17" - 0.45" for 1/2" Knockout | EA000795 |
| Heyco M3200 Fitting, 0.26" - 0.55" for 1/2" Knockout | EA000796 |
| Heyco M8439 Fitting, 0.49" - 0.79" for 1" Knockout | EA000797 |
| Heyco M8437 Fitting, 0.59" - 1.00" for 1" Knockout | EA000798 |
| Heyco M8437GBK-SM Multihole Fitting, Holds 8 FDT Tails for 1" Knockout | EA000799 |



Mini IDC (Closed)



Mini IDC (Open)



Detailed Drop Routing and Connector Storage

IDEAA® Mini Interior Distribution Cabinet

The IDEAA Mini Interior Distribution Cabinet (Mini IDC) provides a convenient and extremely compact modular approach to centralized fiber distribution in small MDUs. The Mini IDC provides up to 64 home run-drop output connections using two 1x32 IDEAA Splitter Modules. The Mini IDC utilizes innovative jumper routing and drop strain relief to enable efficient fiber management. Because of the adapter interface of the IDEAA splitter module, no additional interconnection is needed between the splitter and drop cables, allowing for MDU splitting and drop fiber distribution in an extremely compact size. The Mini-IDC also provides a convenient and innovative way to store connectors from installed drops not yet ready for active service. Clear labeling allows connectors to be easily identifiable so they can be removed and connector to splitter ports when ready for service.

Features

- Designed for one or two IDEAA splitter modules for up to 64 subscriber connections using 1x32 splitters
- Extremely compact size limits footprint in telecom and electrical closets
- Dedicated fiber management pathways provide simplified and clean fiber routing
- Unobtrusive splice tray holder for splicing input fibers
- Integrated strain relief for 4.8 mm or 3.0 mm MDU drop cables
- Internal keyholes for easy wall-mounting
- Connector storage area for convenient housing and identification for disconnected drops

Specifications

| THROUGH PORTS | HEIGHT | WIDTH | DEPTH | SPLITTER CAPACITY | INPUT/PASS |
|----------------|--------|-------|-------|-------------------|------------|
| Up to 64 Fiber | 9.25" | 18" | 6.25" | 2 | 12 |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| IDEAA Mini Interior Distribution MDU Cabinet, 32-64 Fiber — Includes one LL-2425 Single-Fiber Splice Tray for input fiber splicing (input pigtails included) | EA000968 |
| Heyco M3231GZA Fitting for Flat Drop Cable (includes 5) | EA000794 |
| Heyco M3231 Fitting, 0.17" - 0.45" (includes 5) | EA000795 |
| Heyco M3200 Fitting, 0.26" - 0.55" (includes 5) | EA000796 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-3215 |



IDEAA® Exterior Distribution Enclosure

The IDEAA Exterior Distribution Enclosure (EDE) provides the same convenient modular approach to centralized fiber distribution as the EDC, but in a compact wall or pedestal mountable form factor. The 96 distribution fiber enclosure is designed to contain up to three (3) 1x32 IDEAA modules. The enclosure is available in two configurations. The stubbed version includes the distribution and feeder pigtails terminated inside the unit and stubbed with 50 ft. of distribution and feeder cable stubs. The splice version is equipped with factory-terminated pigtails and splice trays that allows field access to enter the cabinet with the distribution and feeder cables to splice inside the enclosure.



Features

- Stubbed and splice configurations allow for network design flexibility
- Modular distribution platform allows for incremental deployment costs and immediate cost savings
- Small size is unobtrusive in residential deployments
- Enhanced fiber management provides simplified routing and termination
- Wall-mountable and pedestal-mountable with optional bracket kits

Specifications

| PARAMETER | VALUES |
|----------------------------|--|
| Material - Housing | 16 Gauge Aluminum |
| Dimensions (H x W x D) in. | 20.5 x 11.25 x 8.75 |
| Weight | 15 lbs. |
| Coating | Electrostatically applied powder paint |
| Covers | Standard - molded-in snap finger and 3/8 in. hex head fastener |



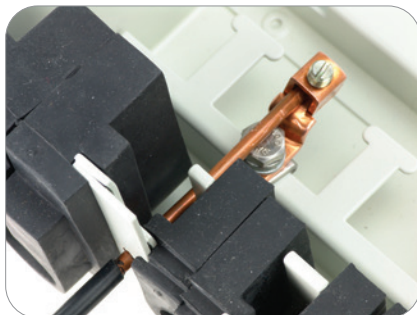
Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Exterior Distribution Enclosure – Splice Version – Includes 96 distribution pigtails, 12 feeder pigtails and 5 LL-4808 splice trays | EA000378 |
| Exterior Distribution Enclosure – Stub Version – Includes 50 ft. 96-fiber loose tube distribution cable stub and 50 ft. 12-fiber loose tube feeder cable stub | EA000379 |
| Channell Pedestal Mounting Kit | EA000384 |
| Emerson Pedestal Mounting Kit | EA000385 |





LL-400b shown with optional interconnect module



Hardware kit for external grounding (included)

LightLink 400b Optical Splicing and Distribution Enclosure

The LightLink (LL) 400b Fiber Optic Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in FTTx, broadband, distribution and building entrance applications. Each LL-400b enclosure features a scratch resistant powder coated aluminum base and a fully gasketed cover. A unique self-sizing grommet design allows for express and preterminated cable installation. The LL-400b is a butt-style enclosure equipped with 6 independent cable entry/exit grommets, used for outdoor pedestal or indoor building entrance and riser splicing applications. The unit supports a maximum storage and splicing capacity of up to 240 single or 432 mass-fused fibers.

When installed into an LL-400b, the Inteconnect Module supports connectivity when used with LGX-118 adapter plates (purchased separately). It is used in outdoor pedestals or building mounted LL-400b enclosures where interconnection is required.

Features

- Independent cable strain relief system
- Cable entry/exit grommet seals
- Fiber routing system
- Splice tray support system
- Supports optional interconnect modules
- 240 single fusion splices
- 432 mass fusion splices
- Grounding hardware kit included

Applications

- OSP Splicing
- MDU Splicing
- FTTx Distribution

Specifications

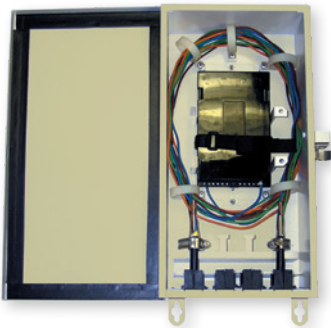
| PARAMETER | VALUE |
|---------------------------------|---|
| Material | Chassis – aluminum |
| Coatings | Electrostatically applied, powder coat |
| Color | Antique white |
| Dimensions (H x W x D) in. (cm) | 22.75 x 11.00 x 4.0 (57.79 x 27.94 x 10.16) |
| Weight lbs (kg) | 6.5 (2.95) |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| LL-400b | 91894-04 |
| LL-400b In 1212 Pedestal | FM000636 |
| LL-410 Interconnect Module, Supports Up To 2 LGX-118 Adapter Plates | 911410-00-04 |
| LL-2448 Universal Splice Tray | 911289-00-02 |
| LL-2448-48S Single Fusion Splice Tray | FA000045 |
| LL-2400 Single Fusion Splice Tray | 91710-06 |
| LL-400 Security Kit | FM000787 |
| LL-400b Large Dual-port Grommet Kit | 911406-00-00 |
| LL-400b Large Multi-port Grommet Kit | FC000352 |
| LG-410/LG-500 Dual-port Grommet Kit | 911386-00-01 |
| LG410/LG500 Multi-port Grommet Kit | FC000573 |



LL-500 with interconnect kit installed



LL-500 with LL-2450 splice tray installed

LightLink 500 Optical Splicing and Distribution Enclosure

The LightLink (LL) 500 Optic Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The enclosure features a scratch and corrosion resistant powder paint coating base and a fully gasketed hinged cover. A unique self-sizing grommet design allows for express and pre-terminated cable installation. The LL-500 supports up to five LL-2450 splice trays for up to 60 single fusion splices or three LL-4850 splice trays (not included in base unit) and an optional 12 fiber, hinged Interconnect Module.

Features

- Independent cable strain relief system
- Cable entry/exit grommet seals
- Fiber routing system
- Splice tray support system
- Hinged cover
- Supports optional Interconnect Modules
- Interconnect Module supports up to 12 SC bulkhead adapters
- Secured with a standard padlock
- 4 cable ports with standard grommets
- 8 cable ports with optional expansion kits

Specifications

| PARAMETER | VALUE |
|-------------------------------------|--|
| Material | Steel |
| Coatings | Electrostatically applied, powder coat |
| Color | Antique white |
| Cable Ports | 4-8 |
| Cable Sizes (Max. O.D. – Min. O.D.) | 4 @ 0.3-0.77" Up to 8 with Dual Grommet Kits 4 @ 0.3-0.65" 4 @ 0.3-0.5" |
| Dimensions (H x W x D) in. (cm) | 17.5 x 9.0 x 4.0 (44.45 x 22.86 x 10.16) |
| Weight lbs. (kg) | 6.5 (2.95) |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| LL-500-U-0 | FM000326 |
| LL-500 Interconnect Kit with SC UPC adapters | FM000385 |
| LL-500 Interconnect Kit with SC APC adapters | FM000407 |
| LL-500 Interconnect Kit without adapters | FM000408 |
| LL-500 with Multi-port Grommets | FM000659 |
| LL-2450 Single Fusion Splice Tray (stores 12 single fusion splices) | 91957-00 |
| LL-4850 Mass Fusion Splice Tray (stores 8 mass fusion sleeves - 96 fibers) | 91958-00 |
| LL-500 Multi-port Grommet Kit, 6 drop cable entry up to 0.37" OD | FC000573 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| NEMA | Type 3 |

Contact AFL for further details.



LightLink 550 Optical Splicing and Distribution Enclosure

The LightLink (LL) 550 Optical Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The splice tray panel is equipped with LGX® 118 footprint snaps so various types of connectors may be installed. The enclosure features a scratch resistant powder coated base and a fully gasketed hinged cover. The internal interconnect tray and back-plate may be removed from the enclosure and brought to a splicing table to complete splicing, fiber routing and fiber management. The cable entry base allows for the installation of cable through a grommet system, and can be coupled to either a fixed 12 inch slack storage skirt or a telescoping 24 to 36 inch skirt.

Features

Enclosure

- Independent cable strain-relief for flat drop cable and 2 mm / 3 mm drops
- Unique self-sealing grommet system
- Self-contained inner chassis frame with separate outer housing
- Dual telco can-wrench locking fasteners
- Hinged cover securable with standard padlock
- Internal, owner-accessible security screw
- Available with a variety of connector types and cable entrance choices

Interconnect Splice Tray Kit

- Available with (2) Factory Pre-installed LL-4808 Universal Splice Trays with SC/APC or SC/UPC 900 µm pigtailed for up to 48 connections.
- Interconnect Tray may be purchased separately to upgrade existing splice-only units to accept LGX-118 adapter plates.

Specifications

| PARAMETER | VALUE |
|----------------------|--|
| Material – Housing | 16 Gauge Aluminum |
| Coating | Electrostatically applied powder paint |
| Color | Beige |
| Size (H x W x D in.) | (H x W x D in.) 18" x 9" x 5.25" (total length 22" including mounting brackets) |
| Weight (lbs) | 7.5 |
| Adapters | Up to (48) SC |
| Splice | Connectorized: Up to (2) LL-4808 L-R up to 72 single fused fibers or 24 mass fusion sleeves |
| | Splice-only: Up to (4) LL-4808 L-R up to 144 single fused fibers or 48 mass fusion sleeves |

continued



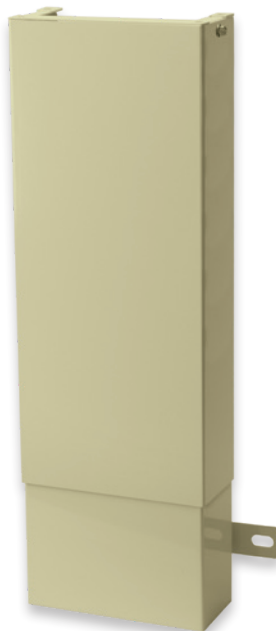
LightLink 550 Optical Splicing and Distribution Enclosure

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| Base Enclosures and Interconnect Tray | |
| LL-550, 24F SC/APC Interconnect Kit, 24F SC/APC Pigtail Kit, (2) LL-4808 Splice Trays, 4 Grommet Bottom Plate | FM004181 |
| LL-550, 48F SC/APC Interconnect Kit, 48F SC/APC Pigtail Kit, (2) LL-4808 Splice Trays, 4 Grommet Bottom Plate | FM004182 |
| LL-550, Splice-only Security Cover, (2) LL-4808 Splice Trays, 4 Grommet Bottom Plate | FM004183 |
| LL-550, 24F SC/UPC Interconnect Kit, 24F SC/UPC Pigtail Kit, (2) LL-4808 Splice Trays, 4 Grommet Bottom Plate | FM004214 |
| LL-550, 48F SC/UPC Interconnect Kit, 48F SC/UPC Pigtail Kit, (2) LL-4808 Splice Trays, 4 Grommet Bottom Plate | FM004215 |
| LL-550 LGX-118 Interconnect Tray (for upgrading splice-only to accept LGX-118 adapter plates) | FM004216 |
| Splice Trays | |
| LL-4808 L-R Splice Tray used with LGX® Interconnect Tray | FA000037 |
| Grommet and NPT Kits | |
| 1 in. NPT Kit (2 – 1 in NPT Fittings and cable hardware to be used with FM004177) | FM003015 |
| 2 in. NPT Kit (2 – 2 in NPT Fittings and cable hardware to be used with FM004177) | FM003016 |
| Dual Cable Grommet Kit (2/kit) | 911386-00-01 |
| Accessories | |
| Fixed Conduit Skirt | FM004177 |
| Telescoping Skirt | FM004072 |



LL-550 Fixed Skirt



LL-550 Telescoping Skirt

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| NEMA | Type 3 |
| Telcordia | GR-2898 |

Contact AFL for further details.



LightLink 580 Optical Splicing and Distribution Enclosure

The LightLink (LL) 580 Optical Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The splice tray panel is equipped with LGX® 118 footprint snaps so various types of connectors may be installed. The enclosure features a scratch resistant powder coated base and a fully gasketed hinged cover. The cover was designed so that it may be installed on either side of the enclosure where there are space restrictions. The internal interconnect tray and back-plate may be removed from the enclosure and brought to a splicing table to complete splicing, fiber routing and fiber management. The cable entry base has four interchangeable configurations to allow the installation of cable through a grommet system, or through pre-installed conduit couplings.

Features

Enclosure

- Independent cable strain-relief for flat drop cable and 2 mm/3 mm drops
- Unique self-sealing grommet system
- Self-contained inner chassis frame with separate outer housing
- Dual telco can-wrench locking fasteners
- Hinged cover securable with standard padlock
- Internal, owner-accessible security screw
- Available with a variety of connector types and cable entrance choices

Interconnect Splice Tray Kit

- Included: (2) Factory Pre-installed LL-7644 Universal Splice Tray with SC-UPC 900 µm pigtails for up to 72 connections. LC-UPC Duplex adapters may be installed for up to 144 LC connections with mass fusion.
- Interconnect Tray may be purchased with either SC-UPC adapters and pigtails preinstalled or LC-UPC Duplex adapters and pigtails pre-installed.

Specifications

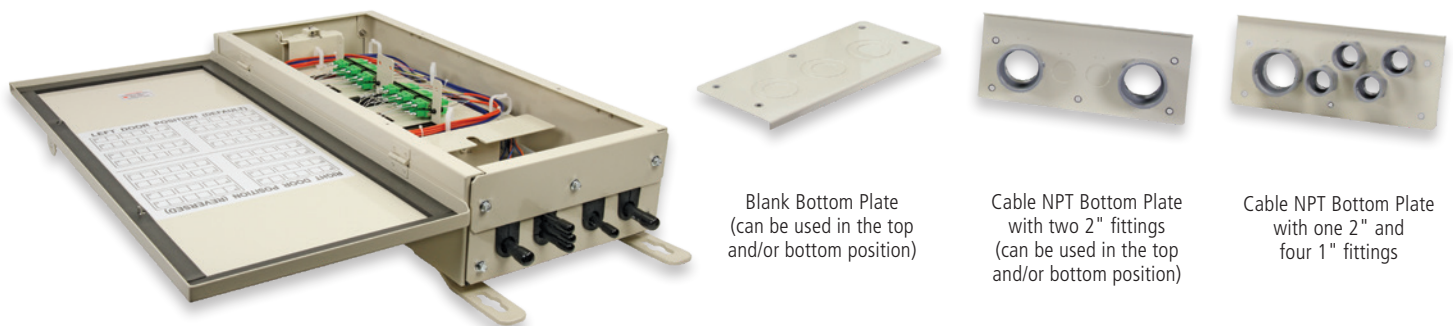
| PARAMETER | VALUE |
|----------------------|---|
| Material – Housing | 16 Gauge Aluminum |
| Coating | Electrostatically applied powder paint |
| Color | Beige |
| Size (H x W x D in.) | 27.5" x 13.0" x 5.625" (total length: 33.5" L x 13") |
| Weight (lbs) | 15.2 |
| Adapters | (72) SC or (72) LC Duplex |
| Splice | (2) LL-7644 up to 120 single fused fibers or 24 mass fusion sleeves (2) LL-4808 L-R up to 72 single fused fibers or 24 mass fusion sleeves |

continued
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LightLink 580 Optical Splicing and Distribution Enclosure

Ordering Information

| DESCRIPTION | AFL NO. |
|--|--------------|
| LL-580 Enclosure Base (No Bottom Plate or LGX® Tray) | FM002814 |
| Interconnect Trays | |
| Kit, Splice/4x LGX® Interconnect Tray, with (2) LL-7644 Trays | FM002858-001 |
| Kit, Splice/4x LGX® Interconnect Tray, 24 SCU, with (2) LL-7644 Trays | FM002858-SCU |
| Kit, Splice/4x LGX® Interconnect Tray, 24 SCA, with (2) LL-7644 Trays | FM002858-SCA |
| Kit, Splice/4x LGX® Interconnect Tray, 24 LCU, with (2) LL-7644 Trays | FM002858-LCU |
| Splice Trays | |
| LL-7644 Splice Tray used with LGX® Interconnect Tray | FA000044 |
| LL-4808 L-R Splice Tray used with LGX® Interconnect Tray | FA000037 |
| Plate Kits | |
| Plate Kit (2 – 2 in. NPT and 2 – 1 in. KO) | FM002653 |
| Plate Kit (2 – Single Cable Grommets [L&R] and 2 – Multiport Grommets [Center]) | FM001937 |
| Plate Kit (2 – Single Cable Grommets [L&R]) | FM003014 |
| Plate Kit (1 – 2 in. NPT and 4 – 1 in. NPT) | FM001959 |
| Plate Kit (3 – KO) | FM003023 |
| Grommet and NPT Kits | |
| 1 in. NPT Kit (2 – 1 in NPT Fittings and cable hardware to be used with FM002653) | FM003015 |
| 2 in. NPT Kit (2 – 2 in NPT Fittings and cable hardware to be used with FM003023) | FM003016 |
| Dual Cable Grommet Kit (2/kit) | 911386-00-01 |
| Accessories | |
| Conduit Skirt | FM002895 |
| Pre-configured Base Enclosures and Interconnect Tray | |
| LL-580, 24F SC/UPC Interconnect Kit, 24F SC/UPC Pigtail Kit, (2) LL-7644 Splice Trays, No Bottom Plate | FM003248 |
| LL-580, 48F SC/UPC Interconnect Kit, 48F SC/UPC Pigtail Kit, (2) LL-7644 Splice Trays, No Bottom Plate | FM003249 |
| LL-580, 72F SC/UPC Interconnect Kit, 72F SC/UPC Pigtail Kit, (2) LL-7644 Splice Trays, No Bottom Plate | FM003250 |
| LL-580, Interconnect Kit, No Adapter Plates, No Pigtail Kit, (2) LL-7644 Splice Trays, No Bottom Plate | FM003251 |



LL-580 Enclosure shown with the Cable Grommet Bottom Plate installed

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| NEMA | Type 3 |
| Telcordia | GR-2898 |

Contact AFL for further details.

LightLink 24 Slim-Line Pedestal

The LightLink (LL) 24 Pedestal provides an easily accessible solution for splicing underground fiber cable, branches and drops. The pedestal may be buried up to the burying guide lines located on the pedestal base.

With the capability to hold up to three Apex™ X-2 Splice Trays, the LL-24 pedestal is capable of up to 216 single fusion, 432 mass fusion with standard ribbon, or 864 mass fusion with “rollable ribbon” fiber types such as AFL’s SpiderWeb Ribbon® (SWR®). One side of the pedestal may be used for splicing optical fibers while the opposite side may be used for copper splicing of branch or drop cables.



Features

- Easily installed in traditional buried pedestal applications
- All cable routing, retention, mounting and grounding accessories included
- Holds up to three (3) Apex X-2 splice trays
- Fiber routing rings allow for easy storage and maintenance of the buffer tubes and using tie-wraps, copper pairs may be secured to the mounting plate
- Defer deployment cost – open buffer tubes when access to fibers is required
- Standard 216-tool or similar tool required to remove the dome

Applications

- FTtx Networks
- Local Area Networks

Specifications

| PARAMETER | VALUE |
|---|------------------------------|
| Height to Ground Line, in (cm) | 30.2 (77.5) |
| Total Height, in (cm) | 40.2 (102.1) |
| Inner Diameter, in (cm) | 7.8 x 6.0 (19.7 x 15.2) Oval |
| Splice Capacity – Single, Mass (SWR), Mass (Standard) | 216, 864, 432 |
| Splice Tray Capacity | 3 |

Ordering Information

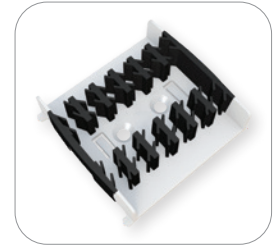
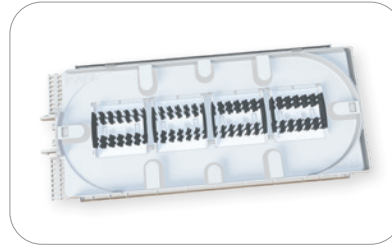
| DESCRIPTION | AFL NO. |
|-----------------------|----------|
| LL-24 Pedestal, Empty | FE000325 |

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LightLink 24 Slim-Line Pedestal

Splice Trays and Splice Modules

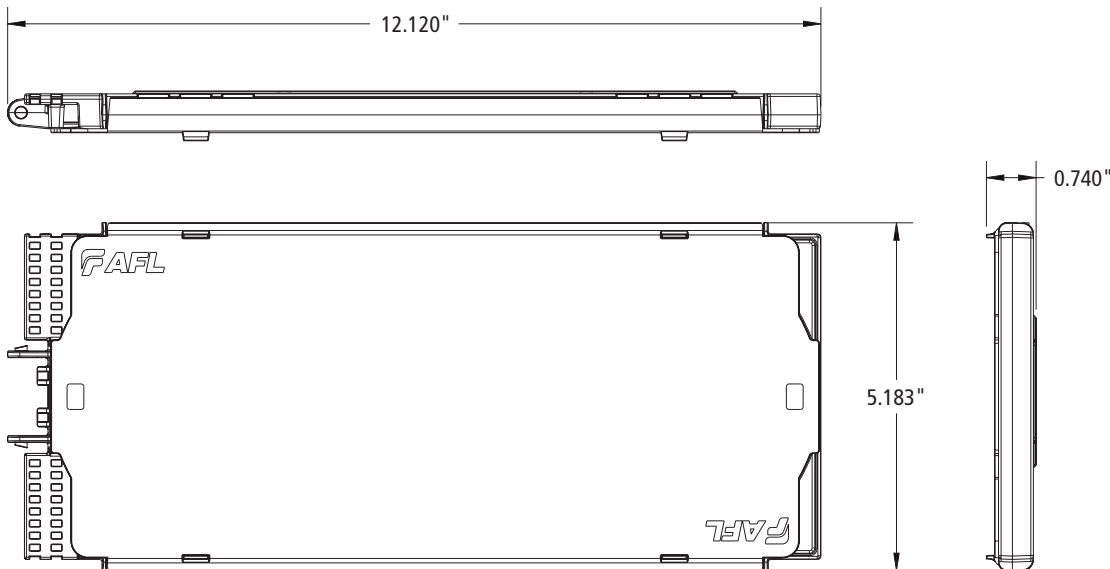
The LL-24 Pedestal utilizes X-2 size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For “rollable” type ribbon such as AFL’s SpiderWeb Ribbon, trays can be fully loaded for 24 mass splices or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 12 mass splices single-stacked, or 144 fibers.



Ordering Information

| DESCRIPTION | TRAY CAPACITY | | AFL NO. |
|--|---------------|------|----------------|
| | SINGLE | MASS | |
| X-2 Tray Loaded with Two Splice Modules | 36 | 144 | AX-TRAY-2-2 |
| X-2 Tray Fully Loaded with Four Splice Modules | 72 | 288 | AX-TRAY-2-4 |
| Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20 | — | — | AX-TRAY-MOD-20 |
| X-2 Tray Empty | — | — | AX-TRAY-2-E |

Dimensions

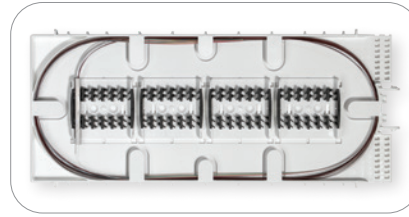


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LightLink 24 Slim-Line Pedestal

Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2 splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.

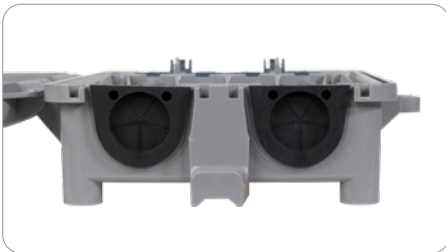


Ordering Information

| DESCRIPTION | SPLIT RATIO | AFL NO. |
|---|-------------|-----------------|
| X-2 Tray with Four Splice Modules, (1) 1x2 PLC Splitter | 1x2 | AX-TRAY-2-12-1 |
| X-2 Tray with Four Splice Modules, (1) 1x4 PLC Splitter | 1x4 | AX-TRAY-2-14-1 |
| X-2 Tray with Four Splice Modules, (1) 1x8 PLC Splitter | 1x8 | AX-TRAY-2-18-1 |
| X-2 Tray with Four Splice Modules, (1) 1x16 PLC Splitter | 1x16 | AX-TRAY-2-116-1 |
| X-2 Tray with Four Splice Modules, (1) 1x32 PLC Splitter | 1x32 | AX-TRAY-2-132-1 |
| X-2 Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x2 | AX-TRAY-2-12-2 |
| X-2 Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x4 | AX-TRAY-2-14-2 |
| X-2 Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x8 | AX-TRAY-2-18-2 |
| X-2 Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x16 | AX-TRAY-2-116-2 |
| X-2 Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Four Splice Modules | 1x32 | AX-TRAY-2-132-2 |
| X-2 Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x2 | AX-TRAY-2-12-3 |
| X-2 Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x4 | AX-TRAY-2-14-3 |
| X-2 Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x8 | AX-TRAY-2-18-3 |
| X-2 Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x16 | AX-TRAY-2-116-3 |
| X-2 Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each | 1x32 | AX-TRAY-2-132-3 |



Shown with four SC/APC adapters, security cover and grounding



"U-Grommet" Entry Option



1/2" Hole Entry Option

OptiNID[®] Duo Optical Demarcation Enclosure

AFL's OptiNID (OPN) Duo Optical Demarcation Enclosure is the latest entry in the OptiNID fiber optic demarcation family of products. The ultra-compact OPN Duo is designed with flexibility in mind with the capability to house up to 4 SC simplex or LC duplex adapters, along with the ability to house up to 18 single fiber or 6 mass fusion splices. The OPN Duo is also optimized for the use of AFL's FASTConnect[®] or FUSEConnect[®] field-installable connectors. The base of the enclosure houses an insert which incorporates fiber routing, splice tray, adapter plate, and cable retention features. The OPN Duo also has several optional features such as a clear splice/security cover for protecting provider-side connectors or a grounding plate for grounding armored or toneable drop cables. The OPN Duo is available with two different base cable entry options, either a pair of U-shaped "drop-in" style grommets, or two half-inch ports allowing for a variety of different entry accessories.

Features

- Integrated splice tray for up to 18 single fusion splices or 6 mass fusion
- Optional clear splice/security cover covers splices, pigtails and provider-side connectors
- Snap lock cover with optional 3/8" screw for added security
- "U-Grommets" provide easy drop-in cable entry or two half-inch ports for a variety of cable entry options
- Integrated mounting points external to the enclosure allow mounting to walls or poles without drilling holes through the box, creating leak paths

Applications

- FTTx – Fiber-to-the-Home (single family, multi-dwelling), Fiber-to-the-Business (multi-tenant)
- Wireless – Macro and small cell

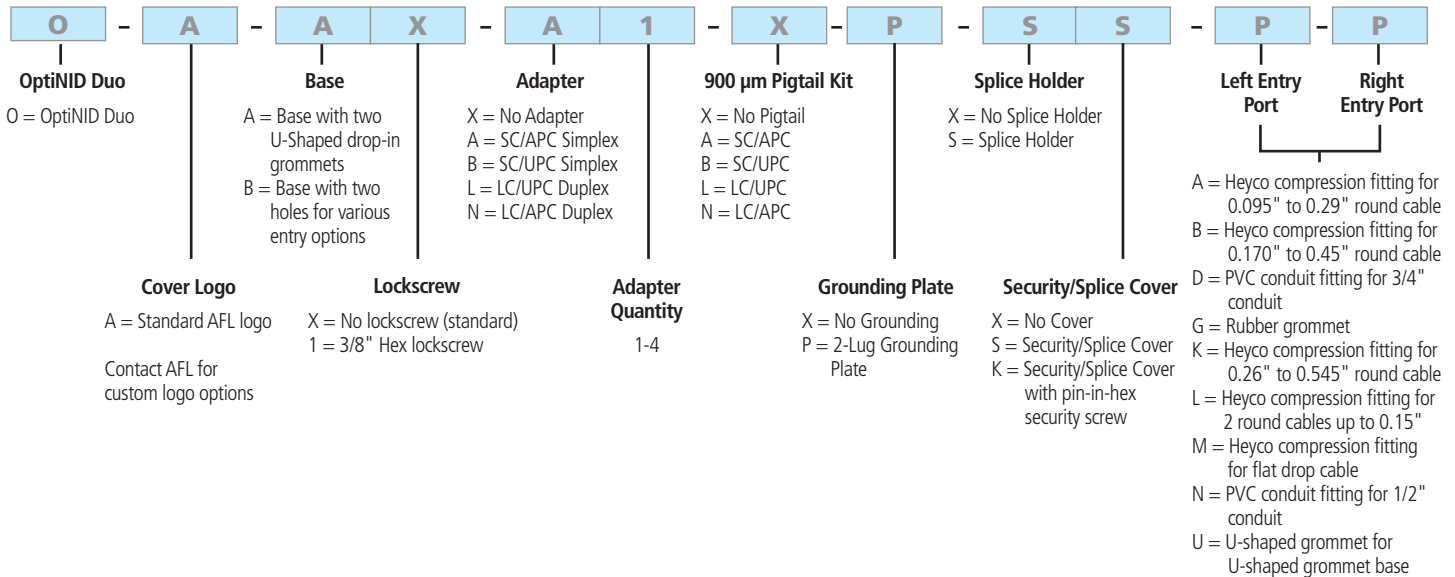
Specifications

| PARAMETER | VALUES |
|--|--|
| Dimensions – H x W x D | 9.6 x 7.0 x 2.7 inches (24.4 x 17.7 x 6.8 cm) |
| Material | UL [®] listed flame retardant thermoplastic alloy |
| UV Resistance (Days Exposed) | 60 per ASTM-G26-84 |
| Flammability | UL94-5VA |
| Impact Test | -40°F (-40°C), 10 ft-lbs. on all external surfaces |
| Chemical Resistance 30 Days at 100°F and 95% RH | Resists chipping and/or cracking when subject to house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Drop Test | -40°F (-40°C), 3 ft. onto concrete surface 4 times |
| Rain | 24 hours at 10 psi |
| Temperature Cycling with Humidity | 30 day cycling from -40°F to 149°F (-40°C to 65°C) with 95% RH |

continued
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OptiNID® Duo Optical Demarcation Enclosure

Ordering Information

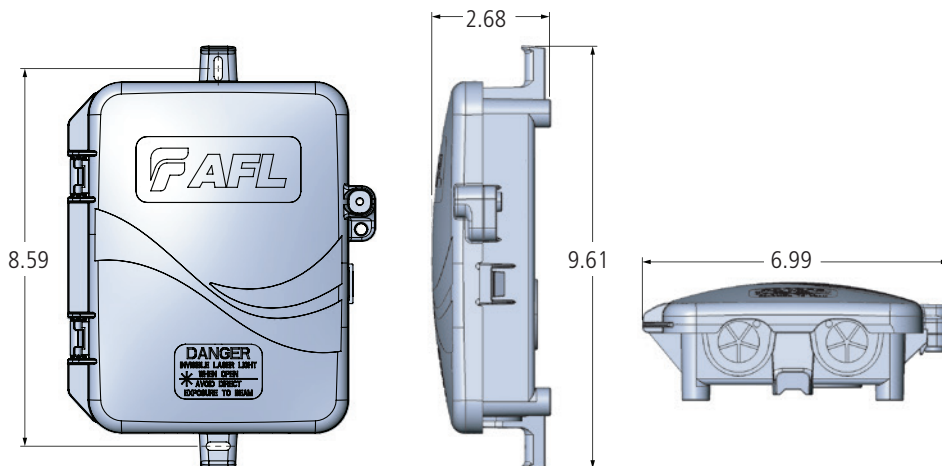


Ordering Information – Accessories

| DESCRIPTION | AFL NO. |
|---------------------------------------|----------------|
| OptiNID Duo Splice Module, Pack of 20 | AX-TRAY-MOD-20 |

NOTE: Options A-N available with the two-hole entry option only

Dimensions (in inches)



Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|----------------|
| Telcordia | GR-49, GR-2898 |

Contact AFL for further details.



OptiNID® 300 Series Optical Demarcation Slack Storage Closure

The OptiNID (OPN) 300 series are optical demarcation closures designed for use in either indoor or outdoor environments. Smaller to suit FTTH demarcation applications, the OPN-327SS and the OPN-350SS are equipped to handle up to two adapters each. Configured with routing rings positioned to accommodate safe slack storage, the OPN-300 series closures can be either wall or pole-mounted for ease of use and accessibility.

Features

- Weather-resistant thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Routing rings positioned for safe slack storage
- Capacity for up to two adapters
- Ground stud provided in the OPN-350SS



OPN-327SS



OPN-350SS

Specifications

| PARAMETER | VALUES |
|--|--|
| Dielectric Strength | Minimum 2500 Vrms for 1 minute |
| Impact Test | -40°F (-40°C), 5 ft-lbs on all external surfaces |
| Drop Test | -40°F (-40°C), 5 ft onto concrete surface four times |
| Rain | 24 hours at 10 psi |
| UV Resistance (Days Exposed) | 60 per ASTM-G26-84 |
| Salt Fog (Days Exposed) | 60 per ASTM-BLL7-90 |
| Flammability | UL94-5V |
| Chemical Resistance 30 Days at 100°F and 95% RH | Resists chipping and/or cracking when subject to house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Material | UL® listed flame retardant thermoplastic alloy |
| Dimensions (H x W x D) in. (cm) | 6.3 x 7.8 x 2.0 (15.7 x 19.7 x 5.0) |
| Cable Entrance in. (cm) diameter - Input | 1 x 3/4" NPT (1.130"), 2 x 1/2" NPT (0.875") |
| Covers | Standard, molded-in snap finger and "F" termination |
| Operating Temperature Range – °F (°C) | -40 to 140 (-40 to 60) |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| BASE PRODUCT ^{1,2} | |
| OptiNID OPN-327SS Slack Storage Box, 1 x SC/APC Adapter | DM000720 |
| OptiNID OPN-350SS Slack Storage Box, 1 x SC/APC Adapter, Splice Chip, Ground Stud | DM000795 |
| ACCESSORIES ³ | |
| Heyco M3234 Compression Fitting, 18 mm to 11 mm Grip (includes 4) – Left Port Only | DM001171 |

Notes:

1. All standard OPN-300 Series configurations come equipped with a 3/4" NPT fitting, rubber grommet and Heyco M4519 compression fitting.
2. Contact AFL customer service for additional configurations.
3. See OptiNID Accessory Page for additional kits.

OptiNID® 500 Optical Demarcation Closure

The OptiNID (OPN) 500 is an optical demarcation closure designed for use in either indoor or outdoor environments. Small form factor for FTTH demarcation applications, the closure is capable of housing up to six bulkhead adapters in one 118 LGX® compatible adapter plate, and is equipped with an integrated splice tray, which holds up to six single fusion splices. The OPN-500 can be either wall or pole-mounted.



Features

- Weather-resistant thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Capacity for one 118 LGX compatible adapter plate
- Provider override for customer lock
- 3/4" NPT conduit fitting, compression cable fittings or grommets entry ports

Specifications

| PARAMETER | VALUES |
|--|--|
| Dielectric Strength | Minimum 2500 Vrms for 1 minute |
| Impact Test | -40°F (-40°C), 5 ft.-lbs on all external surfaces |
| Drop Test | -40°F (-40°C), 5 ft onto concrete surface four times |
| Rain | 24 hours at 10 psi |
| UV Resistance (Days Exposed) | 60 per ASTM-G26-84 |
| Salt Fog (Days Exposed) | 60 per ASTM-BLL7-90 |
| Flammability | UL94-5V |
| Chemical Resistance 30 Days at 100°F and 95% RH | Resists chipping and/or cracking when subject to house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Material | UL® listed flame retardant thermoplastic alloy |
| Dimensions (H x W x D) in. (cm) | 6.3 x 7.8 x 2.0 (15.7 x 19.7 x 5.0) |
| Cable Entrance in. (cm) diameter - Input | 1 x 3/4" NPT (1.130"), 2 x 1/2" NPT (0.875") |
| Covers | Standard, molded-in snap finger and "F" termination |
| Operating Temperature Range – °F (°C) | -40 to 140 (-40 to 60) |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------|
| BASE PRODUCT ^{1,2} | |
| OptiNID OPN-500, No Adapters | DM001021 |
| OptiNID OPN-500, 1 x SC/UPC Adapter | DM000550 |
| OptiNID OPN-500, 1 x SC/APC Adapter | DM000766 |
| OptiNID OPN-500, 6 x SC/UPC Adapters | DM000871 |
| OptiNID OPN-500, 6 x SC/UPC Adapters, 6 x 1 m 900 μm Pigtailed | DM001109 |
| ACCESSORIES ³ | |
| Heyco M3234 Compression Fitting, 18 mm to 11 mm Grip (includes 4) – Left Port Only | DM001171 |
| Kit, Six-Position Splice Chip, (includes 10) | DM000870 |

Notes:

1. All standard OPN-500 configurations come equipped with a 3/4" NPT fitting, rubber grommet and Heyco 3231 compression fitting, along with a splice chip for six single fusion splices.
2. Contact AFL customer service for additional configurations.
3. See OptiNID Accessory Page for additional kits.



OptiNID® 760XL Optical Demarcation Closure

The OptiNID (OPN) 760XL is an optical demarcation closure designed for use in either indoor or outdoor environments. It is capable of housing up to 24 bulkhead adapters in two 118 LGX® compatible adapter plates and is equipped with a splice tray (LL-2425), which holds up to 32 single fusion splices. The OPN-760XL can be either wall or pole-mounted.

Features

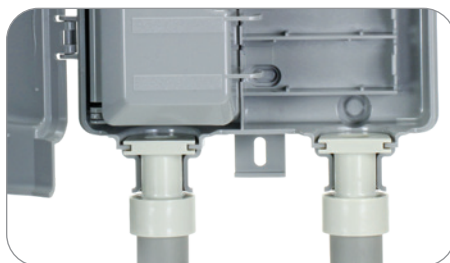
- Capacity for up to two 118 LGX compatible adapter plates
- Rugged weather-resistant thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Slip-in grommets allow pre-connectorized cable deployment
- Provider override is provided so that technician can override customer lock
- Security cover option available

Specifications

| PARAMETER | VALUES |
|---|---|
| Dielectric Strength | Minimum 2500 Vrms for 1 minute |
| High Temperature Storage/Mold Stress | 14 days at 159°F (70.55 °C) |
| Temperature Cycling with Humidity | 150 day cycling from 40-140°F (4.44-60°C) with 95% RH |
| Impact Test | -40°F (-40°C), 5*/lbs on all external surfaces |
| Drop Test | -40°F (-40°C), 5* (12.7 cm) onto concrete surface 4 times |
| Rain | 24 hours at 10 psi |
| UV Resistance (Days Exposed) | 60 per ASTM-G26-84 |
| Salt Fog (Days Exposed) | 60 per ASTM-BLL7-90 |
| Flammability | UL94-5V |
| Chemical Resistance 30 Days at 100 °F and 95% RH Subject to: | Resists chipping and/or cracking when subject to: house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Material | UL® listed flame retardant thermoplastic alloy |
| Dimensions (H x W x D) in. (cm) | 13 x 13 x 3.75 (32.5 x 32.5 x 9.5) |
| Cable Entrances in. (cm) diameter—Input | 4 x 0.875 (2.2)—3/4" conduit |
| Covers | Standard – molded-in snap finger and 3/8" hex head fastener |



OPN-760XL with optional security cover kit



OPN-760XL with 3/4" Pipe Fitting Transition Kit



3/4" Pipe Fitting Transition Kit

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| BASE PRODUCT ^{1,2} | |
| OptiNID OPN-760XL, No Adapters, No Security Cover | DM001000 |
| OptiNID OPN-760XL, No Adapters, Security Cover | DM001022 |
| ACCESSORIES ³ | |
| 3/4" Pipe Fitting Transition Kit (includes 2) | DM001174 |
| OPN-760XL Security Cover Kit | DM000923 |
| OPN-760XL Pole Mounting Kit | DM000927 |

Notes:

1. All standard OPN-760XL configurations come equipped with four slip-in rubber grommets and a splice tray equipped for 32 single fusion splices.
2. Contact AFL customer service for additional configurations.
3. See OptiNID Accessory Page for additional kits.

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OptiNID® 1224 Optical Demarcation Closure

The OptiNID-1224 is an optical demarcation closure designed for use in either indoor or outdoor environments. It is capable of housing up to 36 bulkhead adapters in three 118 LGX® compatible adapter plates and comes equipped with a splice tray (LL-2425), which holds up to 32 single fusion splices. The OPN-1224 can be either wall or pole-mounted.

Features

- Capacity for up to three 118 LGX compatible adapter plates
- Weather-resistant thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Self-sealing individual entrance ports prevent water and insects from entering
- Provider override is provided so that technician can override customer lock

Specifications

| PARAMETER | VALUES |
|--|---|
| Dielectric Strength | Minimum 2500 Vrms for 1 minute |
| High Temperature Storage/Mold Stress | 14 days at 159°F (70.55°C) |
| Temperature Cycling with Humidity | 150 day cycling from 40-140°F (4.44-60°C) with 95% RH |
| Impact Test | -40°F (-40°C), 5*/lbs on all external surfaces |
| Drop Test | -40°F (-40°C), 5* (12.7 cm) onto concrete surface 4 times |
| Rain | 24 hours at 10 psi |
| UV Resistance (Days Exposed) | 60 per ASTM-G26-84 |
| Salt Fog (Days Exposed) | 60 per ASTM-BLL7-90 |
| Flammability | UL94-5V |
| Chemical Resistance 30 Days at 100°F and 95% RH | Resists chipping and/or cracking when subject to: house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Material | UL® listed flame retardant thermoplastic alloy |
| Dimensions (H x W x D) in. (cm) | 12.25 x 12 x 5.25 (22.80 x 22.80 x 7.60) |
| Cable Entrances in. (cm) diameter - Output | 5 x 0.625 (1.5) |
| Cable Entrances in. (cm) diameter - Input | 2 x 0.75 (1.5), 1 x 0.250 (0.6) (ground wire) |
| Covers | Standard - molded-in snap finger and "F" termination |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| OptiNID OPN-1224, Splice Tray, No Adapter Plate Or Adapters | DM000183 |

OptiNID® Optical Demarcation Accessories

Fiber Demarcation



Heyco Compression Fittings for OPN-300 Series and OPN-500

Used on the bottom entry ports of the OPN-300 Series and OPN-500 for a tight compression fitting. The Heyco M3234 fits into the larger left port and can compress from 18 mm to 11 mm in port size. The Heyco M3231 fits into the smaller middle and right ports and can compress from 11 mm to 4 mm. Kits include nylon locknuts.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Heyco M3234 Compression Fitting, 18 mm to 11 mm Grip (includes 4). Left Port Only | DM001171 |
| Heyco M3231 Compression Fitting, 11 mm to 4 mm Grip (includes 4). Middle and Right Port | DM000911 |



NPT Conduit Fittings for OPN-300 Series and OPN-500

Used on the bottom entry ports of the OPN-300 series and OPN-500 as an open port or to accept NPT conduit. The 3/4" NPT fitting has a through-hole size of 0.71" and can accept 3/4" NPT conduit. The 1/2" NPT fitting has a through-hole size of 0.51" and can accept 1/2" NPT conduit. Kits include nylon locknuts.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| 3/4" NPT Conduit Fitting (includes 4) – Left Port Only | DM001170 |
| 1/2" NPT Conduit Fitting (includes 4) – Middle and Right Port | DM000912 |



Rubber Grommet for OPN-300 Series and OPN-500

Used on the middle and right entry ports of the OPN-300 series and OPN-500. The rubber grommets can be easily inserted to create a grommetted entry port or to seal an unused port.

Ordering Information

| DESCRIPTION | AFL NO. |
|--------------------------------------|----------|
| Rubber Grommet, 0.875" (includes 10) | DM001119 |

continued
→

Opti-NID® Optical Demarcation Accessories



Splice Chip Kit for OPN-500

Used on the OPN-500 to add an additional splice chip to the splice area to increase the splice capacity to 12 single fusion splices. The chip has an adhesive back, allowing it to adhere to multiple locations within the box.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| Kit, Six-Position Splice Chip (includes 10) | DM000870 |



Pipe Transition Kit for OPN-760XL

Used on the OPN-760XL to create a 3/4" NPT transition fitting. The fitting slides into any of the four entry ports on the OPN-760XL and securely clips into place. The 3/4" NPT fitting has a through-hole size of 0.67" and can accept 3/4" NPT conduit.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------|
| 3/4" Pipe Fitting Transition Kit (includes 2) | DM001174 |



Security Cover Kit for OPN-760XL

Used on the OPN-760XL to create a lockable security cover for provider access. The cover fits over the back portion of the OPN-760XL, covering the splice tray and provider side of the adapters and locks into place with a star head bolt.

Ordering Information

| DESCRIPTION | AFL NO. |
|------------------------------|----------|
| OPN-760XL Security Cover Kit | DM000923 |



Pole Mounting Kit for OPN-760XL

Used on the OPN-760XL to provide an easy pole mounting solution. The plate mounts to the back of the OPN-760XL and provides arms for straps or bolts to adhere to a pole.

Ordering Information

| DESCRIPTION | AFL NO. |
|-----------------------------|----------|
| OPN-760XL Pole Mounting Kit | DM000927 |



CableGuard 500 Coax Demarcation Enclosure

The CableGuard (CG) 500 Coax Demarcation Enclosure provides a secure compartment for terminating coax, and mounting any combination of splitters and/or a ground blocks. Constructed of a weather-resistant/high impact thermoplastic alloy, the hinged cover design allows easy access while the self-sealing individual entrance ports prevent water and insects from entering. The organized mounting arrangements not only create a standardized method for high quality drop installations, but also allow future expandability for broadband equipment.

Features

- Weather-resistant/high impact thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Organized internal mounting bosses create a standardized mounting arrangement
- Conduit ready knock-out on base
- Snap close cover with padlock and 3/8" hex head fastener; other lock options also available
- Self-sealing individual entrance ports prevent water and insects from entering the NID
- Custom logo area

Specifications

| PARAMETER | VALUES |
|---|--|
| Dimensions (H x W x D) in. (cm) | 6.5" x 8.0" x 2.75" (16.5 x 20.3 x 7.0) |
| Cable Entrances in. (cm) diameter - input | 1 x 0.625 (1.5) + 1 x 0.25 (0.6) ground wire |
| Cable Entrances in. (cm) - output | 2 x 0.625 (1.5) |
| Covers | Molded-in snap finger and 3/8" hex head fastener |

Ordering Information

| MODEL NO. | AFL NO. |
|-----------|-------------|
| CG-500 | DM000572-CG |

Relevant Standards

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-----------------|----------------|
| ASTM | G26-84, BLL7-90 | Base and Cover |
| UL | 94-5V | Base and Cover |
| Telcordia | GR-49 | Base and Cover |
| Telcordia | GR-2898 | Base and Cover |

Contact AFL for further details.



CableGuard 1000XL Coax Demarcation Enclosures

The CableGuard CG-1000XL Coax Demarcation Enclosure provides a secure compartment for terminating coax, and mounting splitters and/or a ground blocks. Constructed of a weather-resistant/high impact thermoplastic alloy, the hinged cover design allows easy access, while the self-sealing individual entrance ports prevent water and insects from entering. The organized mounting arrangements not only create a standardized method for high quality drop installations, but also allow future expandability.

Features

- Weather-resistant/high impact thermoplastic alloy
- Self-latching, hinged cover design allows easy access without loose parts
- Organized internal mounting bosses create a standardized mounting arrangement and allow for proper bend radius of coax cable up to RG-6
- Upgradeable/separate secure subscriber compartment
- Upgradeable telephony demarcation
- Self-sealing individual entrance ports prevent water and insects from entering
- Optional custom logo
- Optional secure ground block protection

Specifications

| PARAMETER | VALUES |
|--|--|
| Dielectric Strength | Minimum 2500 Vrms for 1 minute |
| Torque (mounting bosses) | 20 in./lbs. |
| High Temperature Storage/Mold Stress °F (°C) | 14 days at 159 (70.55) |
| Temperature Cycling with Humidity °F (°C) | 150 day cycling from 40 to 140 (4.44 to 60) with 95% RH |
| Impact Test °F (°C) | -40 (-40), 5 ft./lbs. on all external surfaces |
| Drop Test °F (°C) | -40 (-40), 5 ft. (152.4 cm) onto concrete surface 4 times |
| Rain | 24 hours at 10 psi |
| UV Resistance (Days Exposed) | 60 |
| Salt Fog (Days Exposed) | 60 |
| Chemical Resistance | 30 Days at 100°F and 95% RH, Resists chipping and/or cracking when subject to: house paint, wasp spray, sulfuric acid, kerosene and sodium hydroxide |
| Material | UL® listed flame retardant thermoplastic alloy |
| Dimensions (H x W x D) in. (cm) | 9.00 x 9.00 x 5.25 (22.80 x 22.80 x 13.34) |
| Cable Entrances in. (cm) diameter - Output | 5 x 0.625 (1.5) |
| Cable Entrances in. (cm) diameter - Input | 1 x 0.625 (1.5), 1 x 0.250 (0.6) (ground wire) |
| Covers | Molded in snap finger and 3/8" hex head fastener or F term |

Ordering Information

| MODEL NO. | AFL NO. |
|--|----------|
| CG-1000 XL, F Terminator Security (not included) | DM000336 |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-----------------|----------------|
| ASTM | G26-84, BLL7-90 | Base and Cover |
| UL | 94-5V | Base and Cover |

Contact AFL for further details.



Fiber Storage Units

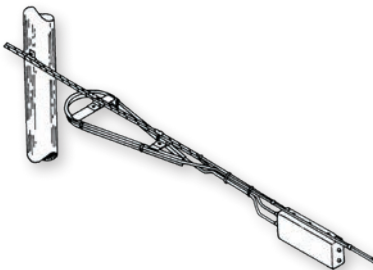
AFL Fiber Storage Units (FSU) are used to conveniently and safely store an extra length of cable along the support strand for later use. Furnished as pairs (kit contains two Fiber Storage Units and two sets of hanger brackets), these FSU's are constructed from either aluminum with a baked acrylic enamel finish or dielectric polypropylene with a UV inhibitor. All basic hardware for attachment to the support strand is provided. Strand mount support brackets meet Telcordia® specifications. Galvanized strand clamping devices accommodate 1/4" to 7/16" strand and meet ASTM specifications A153 and B695.

Features

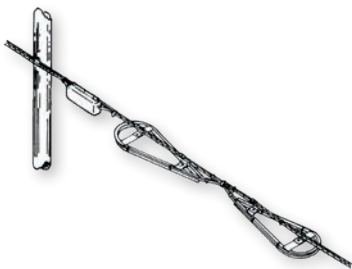
- Small profile and side facing channel minimizes ice and leaf loading
- Metal versions feature an all aluminum construction with welded cross members and baked acrylic enamel paint finish with chromate pre-finish per MIL-6-5541-B
- Plastic versions feature thermoplastic polypropylene resin with carbon black UV inhibitor
- Basic hanging hardware (bolts, nuts, washers) and strand clamps all included
- Tie-wrap slots for securing cable from sliding
- Galvanized strand clamps accommodate 1/4" to 7/16" strand



Reserve Cable Storage



Butt Splice



In-Line Splice

Specifications

| PARAMETER | FSU-10 | FSU-12 | FSU-16 | FSU-18 | FSU-20 | FSU-24 |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|---------------|
| Nom. Channel Width in. (cm) | 0.63 (1.60) | 0.92 (2.34) | 1.12 (2.84) | 1.75 (4.45) | 1.75 (4.45) | 1.745 (4.5) |
| Min. Bend Diameter in. (cm) | 10 (25.4) | 12 (30.48) | 16 (40.64) | 18 (45.72) | 20 (50.80) | 24.125 (61.3) |

| PARAMETER | FOSP-12-TMK | FOSP-17-TMK |
|-----------------------------|---------------|--------------|
| Nom. Channel Width in. (cm) | 0.63 (1.59) | 0.95 (2.41) |
| Min. Bend Diameter in. (cm) | 12.13 (30.80) | 17.5 (44.45) |

Ordering Information

| DESCRIPTION | FSU-10 | FSU-12 | FSU-16 | FSU-18 | FSU-20 | FSU-24 |
|-------------|-----------|-----------|-----------|-----------|--------------|----------|
| FSU Kit | 911107-00 | 911108-00 | 911109-00 | 911110-00 | 911944-00-00 | FA000095 |

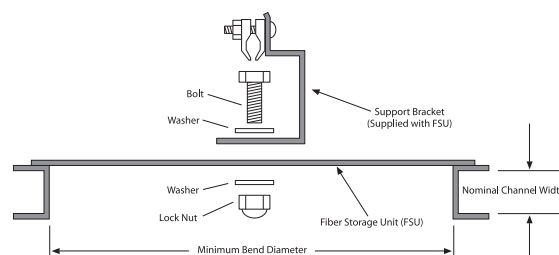
| DESCRIPTION | FOSP-12-TMK | FOSP-17-TMK |
|-----------------------|-------------|-------------|
| FOSP Kit (Dielectric) | FA000004 | FA000002 |

Kits contain one pair of either FSU or FOSP and four mount brackets.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|----------------------|
| ASTM | ASTM A153, ASTM B695 |
| Telcordia | MIL-6-5541-B |

Hardware Diagram





Fiber Storage Units for ADSS Fiber Optic Cable

AFL Fiber Storage Units (FSU) are used to conveniently store an extra length of cable along the ADSS cable run for later use. Furnished as pairs (kit contains two Fiber Storage Units and two sets of hanger brackets), these FSUs are constructed from UV stabilized PPE thermoplastic. All basic hardware for attachment to the ADSS cable is provided. ADSS cable mount support brackets meet Telcordia® specifications. Epoxy coated clamping devices meet ASTM specifications A153 and B695.

Features

- Small profile and side facing channel minimizes ice and leaf loading
- Constructed from UV stabilized PPE thermoplastic
- Basic hanging hardware (bolts, nuts, washers) and strand clamps all included
- Tie-wrap slots for securing cable
- Epoxy-coated strand clamps

The mounting bracket features an angled, tent-profile, epoxy-coated bracket for standard ADSS cable mounting.

Specifications

| PARAMETER | FOSP-ADSS-12 | FOSP-ADSS-17 |
|----------------------------------|--------------|--------------|
| Nominal Channel Width - in. (cm) | 0.625 | 1.00 |
| Minimum Bend Diameter - in. (cm) | 12 | 17.5 |

Ordering Information

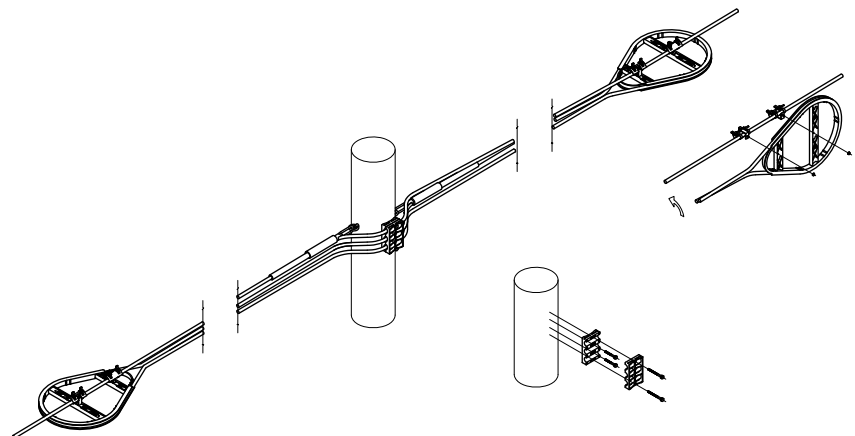
| DESCRIPTION | FOSP-ADSS-12 | FOSP-ADSS-17 |
|--------------|--------------|--------------|
| FOS ADSS Kit | FA000049 | FA000050 |

Kits contain one pair of FOSP and two sets of hanger brackets.

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|----------------------|
| ASTM | ASTM A153, ASTM B695 |

Typical Installation Diagram





Loose Tube and Riser Rated Indoor/Outdoor Loose Tube Cable Assemblies

High-fiber count, Loose Tube and Riser Rated Indoor/Outdoor Loose Tube Cable assemblies provide a safe and proven method of utilizing preterminated connector technology for outside plant applications. These assemblies help control cost by eliminating labor-intensive field termination and provide the same factory terminated reliability the industry has trusted for many years. Cable assemblies are available in Indoor/Outdoor Loose Tube, suitable for use in both indoor and outdoor applications. Each unit is manufactured to exceed all TIA and Telecordia requirements.

Applications

- Outdoor Cabinets
- External-Building Runs
- Vaults
- CEVs

Features

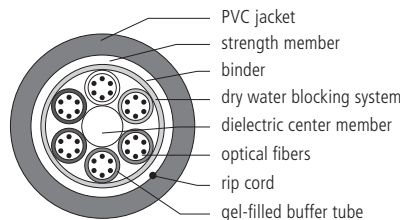
- Fiber counts from 6 to 144 fibers
- Available with ST, SC, FC, and LC connectors single-mode
- Pigtail assemblies, standard configuration (nonstandard configurations available)
- ST, SC, FC and LC connectors available in both single-mode and multimode
- Pre-installed pulling eye kits available
- 1 meter standard breakout length
- 2.4 mm standard furcation for SC, FC, and ST
- 1.6 mm standard furcation for LC
- UV resistant outer jacket
- Gel-filled loose buffer tubes (RL), Gel-filled Loose Tube (LT)
- Meets Telcordia® GR-20-CORE

Specifications

Riser Rated Indoor/Outdoor Loose Tube

Riser Rated stranded design loose tube cable is moisture and U.V. resistant, S-Z stranded for easy mid-span access, UL® Listed type OFNR (UL1666) riser-rated, and can be used in both duct and lashed applications.

Cable Components



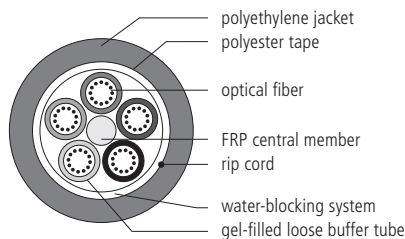
Temperature Range

| PARAMETER | VALUE |
|--------------|----------------|
| Operating | -40°C to +70°C |
| Storage | -40°C to +75°C |
| Installation | 0°C to +70°C |

Loose Tube

Loose Tube stranded design cables feature fiber counts up to 432, compliance with EIA/TIA and REA/RUS PE-90, and are S-Z stranded for easy mid-span access.

Cable Components



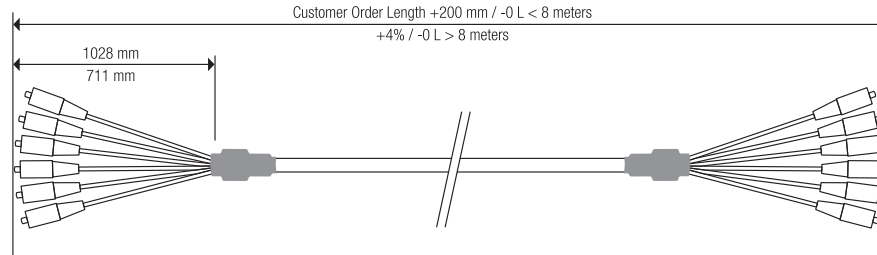
Temperature Range

| PARAMETER | VALUE |
|--------------|----------------|
| Operating | -40°C to +70°C |
| Storage | -40°C to +75°C |
| Installation | -30°C to +70°C |

Telcordia is a registered trademark of Telcordia Technologies, Inc.

Loose Tube and Riser Rated Indoor/Outdoor Loose Tube Cable Assemblies

Dimensions

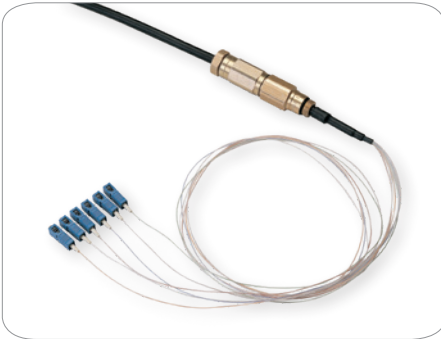


Ordering Information

| ASC | ASC | LT | 024 | Q | 0010 | NN |
|--|--|---|--|-------------------|---|---|
| Connector End A | Connector End B | Cable Type | Fiber Count | Fiber Type | Cable Length (meters) | Leg Diameter |
| Single-mode ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC | Single-mode ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC XXX = No connector | LT = Loose Tube RL = Riser Rated Indoor/ Outdoor Loose Tube | 006 = 6 012 = 12 024 = 24 036 = 36 048 = 48 072 = 72 096 = 96 144 = 144 | Q = Single-mode | XXXX (specify length) 0010 = 10 meters | N = 900 μm End A / XXX End B NN = 900 μm End A and B F = Furcated End A / XXX End B FF = Furcated Ends A and B FN = Furcated Ends A / 900 μm End B NF = 900 μm End A / Furcated Ends B |

Lengths Available

Cable lengths are dependent on fiber cable type and count. Consult customer service for maximum lengths available.



Node Cable Assemblies

AFL's Node Cable Assemblies are factory tested to meet stringent installation performance requirements. These assemblies make splicing from an optical node to a closure fast, easy and reliable. This connection is critical to the installation and requires an environmental seal between the cable and the node housing. AFL's assembly comes with a node fitting pre-installed on the cable, featuring an anti-twist design enabling easy mounting without twisting the cable. The mounting thread is an industry standard size of 5/8-24 UNEF.

Node Assemblies from AFL feature loose tube outdoor cable with a water-blocked cable design. An assortment of industry standard connector styles are available such as SC/APC, SC/UPC, FC/APC, FC/UPC and LC/UPC. Standard or custom breakout lengths are available in fiber counts of 1-12 terminations and with all fibers color coded for quick/easy fiber identification.

Features

- Field proven, durable, connecting hardware
- High-quality optical terminations meet all geometric and optical performance requirements
- Ordering flexibility; available in standard and custom lengths and connector counts
- Mini-central core type cable ≤12 fibers; stranded cable >12 fibers
- Installed hard-line entry connector with anti-twist design
- Individualized serial numbers for easy identification
- SC/UPC, FC/UPC, SC/APC, FC/APC, LC/UPC
- Rugged polyurethane riser-rated indoor/outdoor loose tube single-mode Uniflex cable or armored polyethylene jacket
- 900 μm or 2.0 mm upjacketed color-coded furcation

Specifications

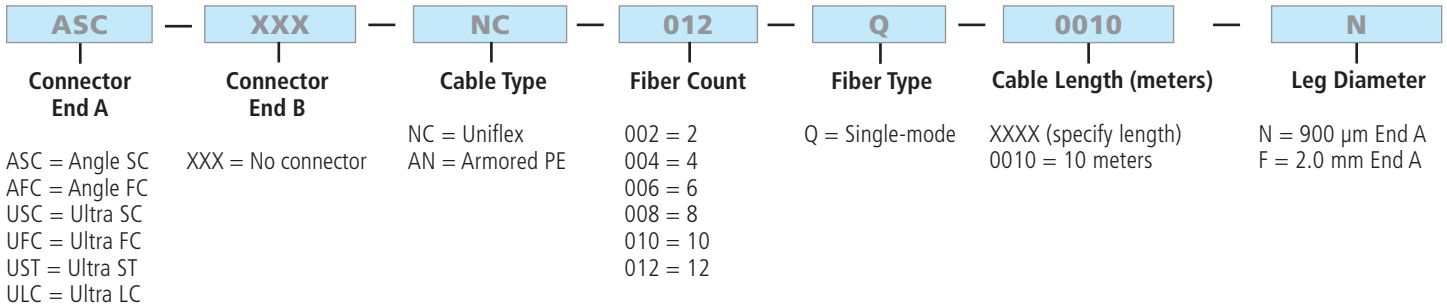
| PARAMETER | VALUE |
|--|--|
| Crush Resistance lbs (kg) | 1000 (453.5 kg) |
| Impact Resistance | 25 lbs @ 2.2 lbs per foot (11.25 kg @ 0.99 kg) |
| Flexing | 25 lbs @ 5 in. (11.25 kg @ 12.7 kg) |
| Fiber Core Diameter (microns) | 8.3 |
| Maximum Insertion Loss (dB) | 0.25 (UPC), 0.35 (APC) |
| UPC Return Loss (dB) | -55 |
| APC Return Loss (dB) | -65 |
| Outer Jacket Material | Riser-rated PU / PE |
| Finish | Aluminum, Anodized |
| Cable Pullout Tensile Strength lbs (kg) | 247 (112.04) |
| Entry Threads in. | 0.625 x 24 |
| Operating and Storage Temperatures °F (°C) | -40 to 158 (-40 to +70) |
| Dimensions in. (cm) | 4.25 long x 0.875 diameter (10.8 x 2.22) |

| GROMMET SPECIFICATIONS – STANDARD D | |
|--|--------------------|
| Inner Diameter | 0.375" |
| Active Pull Test | 35 lbs |
| Overall length | 45 mm |
| Hex Nut Size | 7/8" |
| Length from Hex Nut to end of front body | 6 mm |
| Material | Aluminum, Anodized |

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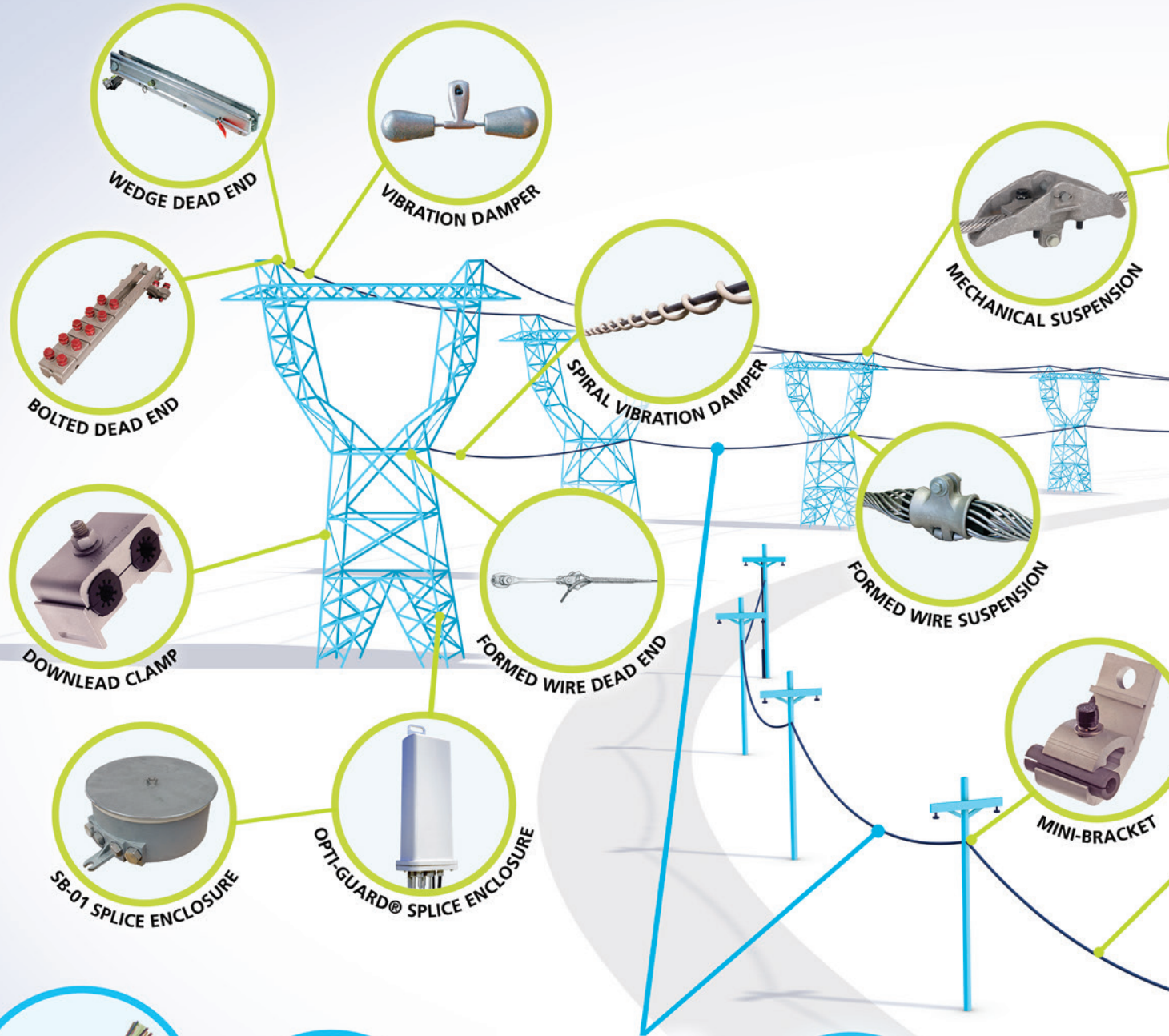
Node Cable Assemblies

Ordering Information



| COLOR FURCATION – FIBER NUMBER REFERENCE | | | | | |
|--|--------|---|-------|----|--------|
| 1 | Blue | 5 | Slate | 9 | Yellow |
| 2 | Orange | 6 | White | 10 | Violet |
| 3 | Green | 7 | Red | 11 | Rose |
| 4 | Brown | 8 | Black | 12 | Aqua |

AFL Aerial Cable Solutions



ADSS



FLEX-SPAN®



MINI-SPAN®



STANDARD



TRACK-RESISTANT

AFL offers a systems solution for your demanding aerial applications. From a variety of cable design options to the accessories required for the cable, AFL offers the industry's widest array of solutions.

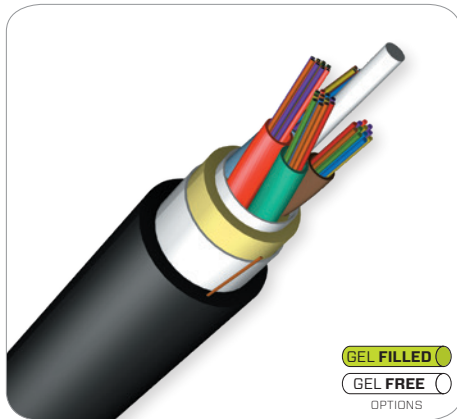


SKYWRAP®

OPGW

ACCESSWRAP™

*PLUS OTHER STAINLESS STEEL VARIANTS



Flex-Span® ADSS Fiber Optic Cable

AFL Flex-Span All-Dielectric Self-Supporting (ADSS) cable is designed for aerial distribution power lines, as well as underground duct applications. As its name indicates, there are no metallic components and the cable does not require a support or messenger wire. Flex-Span ADSS cables are a single jacket design intended for the shorter pole-to-pole span lengths in a distribution environment. A broad combination of fiber counts and spans lengths in this product family provide network designers with flexibility in their cable selection.

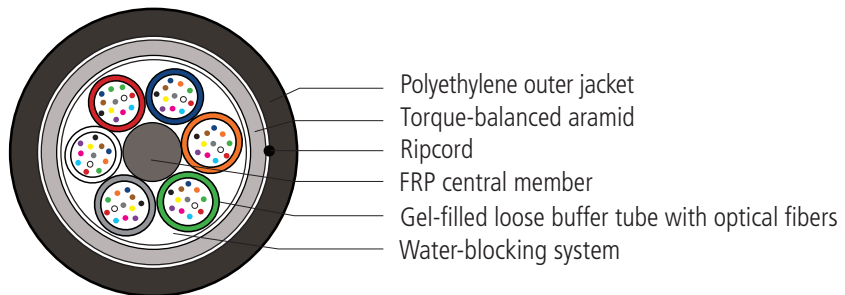
Features

- Gel-Filled Tubes are reverse-oscillated to allow slack for mid-span access – up to 288 fibers in cable
 - Gel-Free Buffer Tube options available – up to 216 fibers
- Pole-to-pole span lengths up to 1100 feet
- Single jacket design decreases the diameter and weight when compared to double jacket ADSS cable; thus reducing pole loading
- No separation requirement of ADSS from conductors per National Electric Safety Code (NESC) section 235

Applications

- Electric utility distribution power lines
 - Framed in supply or communications space
- Underground duct
- Enterprise OSP networks
- Fiber-to-the-X networks

Cable Components (Representative)



Optical Information

| FIBER TYPE | MAXIMUM ATTENUATION (dB/km) | | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | GIGABIT ETHERNET MINIMUM LINK DISTANCE (meters) | |
|-----------------------------|-----------------------------|---------|---------|---------|---|---------|---|---------|
| | 850 nm | 1300 nm | 1310 nm | 1550 nm | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (9) Single-mode | N/A | N/A | 0.35 | 0.25 | N/A | N/A | N/A | 5000 |
| (6) 62.5/125 GIGA-Link™ 300 | 3.5 | 1.2 | N/A | N/A | 200 | 600 | 300 | 550 |
| (5) 50/125 GIGA-Link™ 600 | 2.9 | 0.9 | N/A | N/A | 500 | 500 | 600 | 600 |
| (L) 50 Laser-Link™ 300 | 2.9 | 0.9 | N/A | N/A | 1500 | 500 | 900 | 550 |

Gigabit Ethernet Minimum Link Distances are based on "bandwidth"/modal dispersion constraints. Actual link distances may be constrained by attenuation, depending on specific loss budget.

continued
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Flex-Span® ADSS Fiber Optic Cable

Reel Information

| ITEM | REEL A | | REEL B | | REEL C | | REEL D | | REEL E | |
|--------------------------|---------|-------|---------|--------|---------|--------|---------|--------|---------|--------|
| | inches | cm | inches | cm | inches | cm | inches | cm | inches | cm |
| Reel Height | 42 | 106.7 | 58 | 147.3 | 66 | 167.6 | 72 | 167.6 | 84 | 213.4 |
| Reel Width Outside | 36 | 91.4 | 38 | 96.5 | 42 | 106.7 | 42 | 106.7 | 40 | 101.6 |
| Reel Width Inside | 32 | 81.6 | 32 | 81.3 | 36 | 91.4 | 36 | 91.4 | 34 | 86.4 |
| Drum Diameter | 23 | 58.7 | 28 | 71.1 | 36 | 91.4 | 36 | 91.4 | 35 | 88.9 |
| Arbor Hole Diameter | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 |
| Reel Weight with Lagging | 180 lbs | 82 kg | 420 lbs | 191 kg | 685 lbs | 311 kg | 710 lbs | 311 kg | 950 lbs | 431 kg |

AFL provides ADSS cable on several standard sizes of non-returnable wooden reels. Non-standard reel sizes are available upon request.

Typical Maximum Lengths

| CABLE DIAMETER | REEL CAPACITY | |
|-------------------|---------------|--------|
| | feet | meters |
| < 0.85" (21.6 mm) | 23,000 | 7,000 |

NOTE: Longer lengths may be available upon request.

Recommended Products for ADSS Fiber Optic Cable

| DESCRIPTION | AFL NO. |
|---|--|
| Fiber Optic Cable Accessories | |
| ADSS Formed Wire Deadends | Refer to the ADSS Formed Wire Deadends spec sheet for specific AFL No. |
| ADSS Suspension Unit | Refer to the ADSS Suspension Unit spec sheet for specific AFL No. |
| ADSS Trunnion Assemblies | Refer to the ADSS Trunnion Assemblies spec sheet for specific AFL No. |
| ADSS Temporary Grip | Refer to the ADSS Temporary Grip spec sheet for specific AFL No. |
| AGC Downlead Clamp for ADSS | Refer to the AGC Downlead Clamp for ADSS spec sheet for specific AFL No. |
| AVD Series Spiral Vibration Dampers | Refer to the AVD Series Spiral Vibration Dampers spec sheet for specific AFL No. |
| Coil Brackets | Refer to the Coil Brackets spec sheet for specific AFL No. |
| For more ADSS Cable Accessories, go to the ADSS Fiber Optic Cable Hardware web page | |
| Fiber Optic Splice Closures | |
| Apex® X-2 Sealed Splice Closure | Refer to the Apex X-2 spec sheet for specific AFL No. |
| Apex® X-2S Sealed Splice Closure | Refer to the Apex X-2S spec sheet for specific AFL No. |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| Operation | -40°C to +70°C |
| Storage | -50°C to +70°C |
| Installation | -30°C to +70°C |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| IEEE | 1222 | Cable |
| TIA | 598-D | Fiber |

Contact AFL for your customized ADSS solution.

continued
→

Flex-Span® ADSS Fiber Optic Cable

Fiber Optic Cable

| NESC LIGHT @ 1.5% INSTALLATION SAG | | | | |
|------------------------------------|---------------|-----------------|-------------------|------------|
| SPAN (ft) | AFL NO. | WEIGHT (lbs/ft) | DIAMETER (inches) | MRCL (lbs) |
| 48 FIBERS | | | | |
| 700 | AE048★W520AA4 | 0.049 | 0.382 | 698 |
| 1050 | AE048★W520EA3 | 0.052 | 0.390 | 1089 |
| 72 FIBERS | | | | |
| 700 | AE072★O620A08 | 0.080 | 0.484 | 913 |
| 1050 | AE072★O620EA1 | 0.083 | 0.492 | 1338 |
| 96 FIBERS | | | | |
| 700 | AE096★O620A08 | 0.082 | 0.484 | 913 |
| 1050 | AE096★O620EA1 | 0.085 | 0.492 | 1338 |
| 144 FIBERS | | | | |
| 700 | AE144★O620A08 | 0.085 | 0.484 | 913 |
| 1050 | AE144★O620EA1 | 0.087 | 0.492 | 1338 |
| 288 FIBERS | | | | |
| 700 | AE288★OC20EA0 | 0.185 | 0.732 | 1594 |
| 800 | AE288★OC20EA3 | 0.187 | 0.736 | 1780 |

| NESC MEDIUM @ 1.5% INSTALLATION SAG | | | | |
|-------------------------------------|---------------|-----------------|-------------------|------------|
| SPAN (ft) | AFL NO. | WEIGHT (lbs/ft) | DIAMETER (inches) | MRCL (lbs) |
| 48 FIBERS | | | | |
| 500 | AE048★W520AA4 | 0.049 | 0.382 | 698 |
| 700 | AE048★W520EA3 | 0.052 | 0.390 | 1089 |
| 72 FIBERS | | | | |
| 500 | AE072★O620A08 | 0.080 | 0.484 | 913 |
| 700 | AE072★O620EA1 | 0.083 | 0.492 | 1338 |
| 96 FIBERS | | | | |
| 500 | AE096★O620A08 | 0.082 | 0.484 | 913 |
| 700 | AE096★O620EA1 | 0.085 | 0.492 | 1338 |
| 144 FIBERS | | | | |
| 500 | AE144★O620A08 | 0.085 | 0.484 | 913 |
| 700 | AE144★O620EA1 | 0.087 | 0.492 | 1338 |
| 288 FIBERS | | | | |
| 500 | AE288★OC20EA0 | 0.185 | 0.732 | 1594 |
| 700 | AE288★OC20EA3 | 0.187 | 0.736 | 1780 |

| NESC HEAVY @ 1.5% INSTALLATION SAG | | | | |
|------------------------------------|---------------|-----------------|-------------------|------------|
| SPAN (ft) | AFL NO. | WEIGHT (lbs/ft) | DIAMETER (inches) | MRCL (lbs) |
| 48 FIBERS | | | | |
| 300 | AE048★W520AA4 | 0.049 | 0.382 | 698 |
| 450 | AE048★W520EA3 | 0.052 | 0.390 | 1089 |
| 72 FIBERS | | | | |
| 300 | AE072★O620A08 | 0.080 | 0.484 | 913 |
| 450 | AE072★O620EA1 | 0.083 | 0.492 | 1338 |
| 96 FIBERS | | | | |
| 300 | AE096★O620A08 | 0.082 | 0.484 | 913 |
| 450 | AE096★O620EA1 | 0.085 | 0.492 | 1338 |
| 144 FIBERS | | | | |
| 300 | AE144★O620A08 | 0.085 | 0.484 | 913 |
| 450 | AE144★O620EA1 | 0.087 | 0.492 | 1338 |
| 288 FIBERS | | | | |
| 300 | AE288★OC20EA0 | 0.185 | 0.732 | 1594 |
| 450 | AE288★OC20EA3 | 0.187 | 0.736 | 1780 |

NOTE: Diameter and weight subject to change without notice.

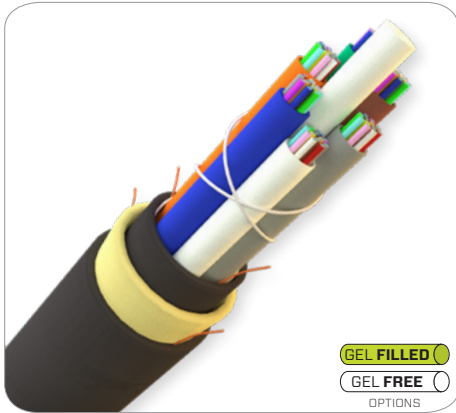
★ Fiber Types – Replace asterisk (★) in AFL number with number corresponding to desired fiber type below.

9 = Single-mode

5 = 50/125 μm multimode GIGA-Link™ 600

6 = 62.5/125 μm multimode GIGA-Link™ 300

L = 50/125 μm multimode Laser-Link™ 300



GEL FILLED
GEL FREE
 OPTIONS

All-Dielectric Self-Supporting (AFL-ADSS®) Fiber Optic Cable

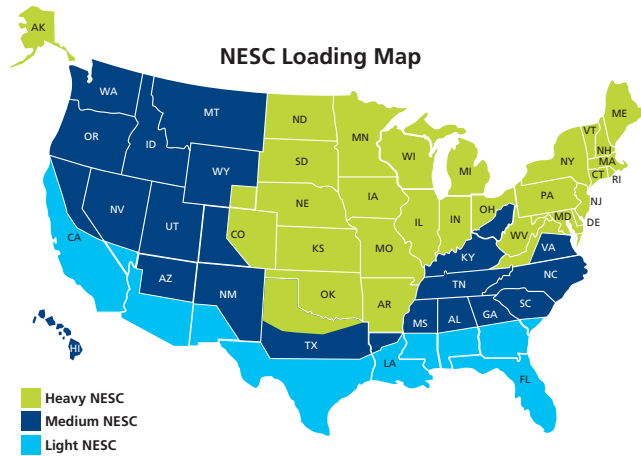
AFL-ADSS® (All-Dielectric Self-Supporting) fiber optic cable is designed for outside plant aerial transmission and distribution environments. As its name indicates, there are no metallic components and the cable does not require a support or messenger wire. These attributes allow the cable to be installed live-line and in the power space of distribution lines.

Features

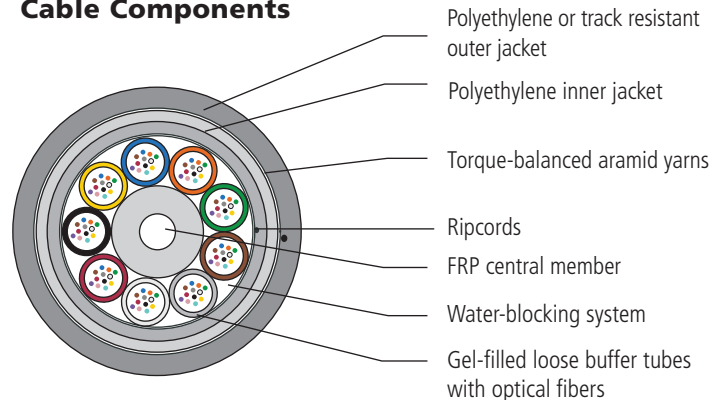
- Up to 432 fibers in cable
 - Gel-Free Buffer Tube options available – up to 216 fibers
- Designs capable of span lengths up to 3500 ft.
- Double jacket designs provide additional protection to the fibers for longer span lengths and higher strength requirements
- Track-resistant outer jacket available for high voltage transmission lines for space potential values up to 25 kV
- Gel-filled tubes are reverse-oscillated (SZ stranded) to allow slack for mid-span access

Applications

- Electric utility transmission lines
 - Typically framed under conductors
- EHV environments
 - Tracking-resistant options available



Cable Components



Quote Request Information

NOTE: AFL-ADSS is a custom designed product. Depending on the application, use the key below to your project application or specification.

| | | | | | | | |
|----------|--|---|--|---|---|--|--|
| A | XXX | XXX | XXXX | X | X | X | X |
| | Fiber Count ¹ 012 to 432 | Buffer Tubes Gel-Filled Gel-Free ² | Span Length ³ 0100 to 2500 | Unit of Measure F = Feet M = Meters | NESL Loading Condition ⁴ L = Light M = Medium H = Heavy | Fiber Code 9 = Single-mode 6 = 62.5/125 GIGA-Link™ 300 8 = 62.5/125 GIGA-Link™ 1000 5 = 50/125 GIGA-Link™ 600 L = 50 Laser-Link™ 300 Q = Non-zero Dispersion-shifted Single-mode | Line Voltage A = Less than 69 kV B = ≥ 69 kV |

NOTES:

1. Fiber counts available for 12-432 fibers.
2. Gel-Free Buffer tubes available with up to 216 fibers.
3. Span lengths available from 100-2500 feet (or meters). Please contact AFL for span lengths outside this range.
4. Refer to U.S. map above to ensure the correct NESL loading condition for your location.

continued
→

All-Dielectric Self-Supporting (AFL-ADSS®) Fiber Optic Cable

Optical Information

| FIBER TYPE | MAXIMUM ATTENUATION (dB/km) | | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | GIGABIT ETHERNET MINIMUM LINK DISTANCE (meters) | |
|---|-----------------------------|---------|---------|---------|---|---------|---|---------|
| | 850 nm | 1300 nm | 1310 nm | 1550 nm | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (9) Single-mode | N/A | N/A | 0.35 | 0.25 | N/A | N/A | N/A | 5000 |
| (6) 62.5/125 GIGA-Link™ 300 | 3.5 | 1.2 | N/A | N/A | 200 | 600 | 300 | 550 |
| (8) 62.5/125 GIGA-Link™ 1000 | 3.5 | 1.2 | N/A | N/A | 350 | 600 | 500 | 1000 |
| (5) 50/125 GIGA-Link™ 600 | 2.9 | 0.9 | N/A | N/A | 500 | 500 | 600 | 600 |
| (L) 50 Laser-Link™ 300 | 3.5 | 1.2 | N/A | N/A | 1500 | 500 | 900 | 550 |
| (Q) Non-zero Dispersion-shifted Single-mode | N/A | N/A | N/A | 0.25 | N/A | N/A | N/A | N/A |

Gigabit Ethernet Minimum Link Distances are based on "bandwidth"/modal dispersion constraints. Actual link distances may be constrained by attenuation, depending on specific loss budget.

Reel Information

| ITEM | REEL A | | REEL B | | REEL C | | REEL D | | REEL E | |
|--------------------------|---------|-------|---------|--------|---------|--------|---------|--------|---------|--------|
| | inches | cm | inches | cm | inches | cm | inches | cm | inches | cm |
| Reel Height | 42 | 106.7 | 58 | 147.3 | 66 | 167.6 | 72 | 167.6 | 84 | 213.4 |
| Reel Width Outside | 36 | 91.4 | 38 | 96.5 | 42 | 106.7 | 42 | 106.7 | 40 | 101.6 |
| Reel Width Inside | 32 | 81.6 | 32 | 81.3 | 36 | 91.4 | 36 | 91.4 | 34 | 86.4 |
| Drum Diameter | 23 | 58.7 | 28 | 71.1 | 36 | 91.4 | 36 | 91.4 | 35 | 88.9 |
| Arbor Hole Diameter | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 |
| Reel Weight with Lagging | 180 lbs | 82 kg | 420 lbs | 191 kg | 685 lbs | 311 kg | 710 lbs | 311 kg | 950 lbs | 431 kg |

AFL provides ADSS cable on several standard sizes of non-returnable wooden reels. Non-standard reel sizes are available upon request.

Recommended Products for ADSS Fiber Optic Cable

| DESCRIPTION | AFL NO. |
|---|--|
| Fiber Optic Cable Accessories | |
| ADSS Wedge Dead End | Refer to the ADSS Wedge Dead End spec sheet for specific AFL No. |
| ADSS Suspension Unit | Refer to the ADSS Suspension Unit spec sheet for specific AFL No. |
| ADSS Trunnion Assemblies | Refer to the ADSS Trunnion Assemblies spec sheet for specific AFL No. |
| ADSS Temporary Grip | Refer to the ADSS Temporary Grip spec sheet for specific AFL No. |
| AGC Downlead Clamp for ADSS | Refer to the AGC Downlead Clamp for ADSS spec sheet for specific AFL No. |
| AVD Series Spiral Vibration Dampers | Refer to the AVD Series Spiral Vibration Dampers spec sheet for specific AFL No. |
| Coil Brackets | Refer to the Coil Brackets spec sheet for specific AFL No. |
| Standoff Bracket for ADSS Hardware Clamps | Refer to the Standoff Bracket for ADSS Hardware Clamps spec sheet for specific AFL No. |
| For more ADSS Cable Accessories, go to the ADSS Fiber Optic Cable Hardware web page | |
| Fiber Optic Splice Closures | |
| Apex® X-2 Sealed Splice Closure | Refer to the Apex X-2 spec sheet for specific AFL No. |
| Apex® X-2S Sealed Splice Closure | Refer to the Apex X-2S spec sheet for specific AFL No. |

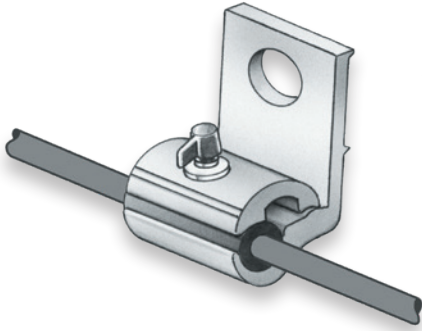
Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| Operation | -40°C to +70°C |
| Storage | -50°C to +70°C |
| Installation | -30°C to +70°C |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| IEEE | 1222 | Cable |
| TIA | 598-D | Fiber |

Contact AFL for your customized ADSS solution.



Mini-Bracket

Mini-Bracket

Mini Brackets are used for short and medium spans of ADSS fiber optic cable as well as Aerial Drop cables. Mini Brackets are sized to fit specific ADSS diameters. Standard Mini Brackets are employed with fitted bushings to provide a good support/groove fit and to prevent the support from damaging the cable. The bolted supports are supplied with aluminum captive bolts to simplify installation with no loose parts.

Features

- Maximum one side angle: 8.5 degrees
- Estimated weight: 2.9 lbs. (1.3 Kg)
- Maximum rated strength: 3,000 lbs.
- Hand tighten bolt to 25 in. lbs. (2.8 N-m)
- Slip load at 4 to 6% of RBS

Ordering Information

| DESCRIPTION | AFL NO. |
|--|-------------|
| Aerial Drop 256 maximum line angle = 17° (150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light) | AMBB256 |
| Aerial Drop 307 maximum line angle = 17° (220 ft NESC heavy, 400 ft NESC medium, 675 ft NESC light) | AMBB307 |
| ADSS Mini-Span 424 maximum line angle = 17° (275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light) | AMBB424 |
| ADSS Mini-Span 484 maximum line angle = 17° (275 ft NESC heavy, 400 ft NESC medium, 525 ft NESC light) | AMBB484-535 |
| ADSS Mini-Span 535 maximum line angle = 17° (350 ft NESC heavy, 550 ft NESC medium, 675 ft NESC light) | AMBB484-535 |



ATS 321/330
ATS 371/383

Mini Formed Wire Tangent Support (FTS)

Formed Wire Tangent Supports (FTS) are used with ADSS Mini-Span® 323 and Mini-Span® 383 for short span applications. Tangent supports provide a method of attaching AFL's smallest ADSS Mini-Span designs with excellent unbalanced load capability and bend relief support. This product is designed to connect directly to J-hooks on wood poles for an economical solution.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|------------|
| ADSS Mini-Span 323 maximum line angle = 20°(175 ft NESC heavy, 300 ft NESC medium, 500 ft NESC light) | ATS321/330 |
| ADSS Mini-Span 383 maximum line angle = 20°(180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light) | ATS371/383 |



ADESDFW2-256 and 307



ADELD2E-323T and 383T



ADELD2E-424005TE
* shown with optional thimble eye

Mini-Dead Ends

The Mini-Dead Ends are designed for fast and easy installation of your ADSS Mini-Span® cable. The Mini-Dead End is ideal in crowded distribution environments where its shorter length allows for efficient installation. This unique low-cost product is used in typical spans with 1%-2% installation sag.

Features

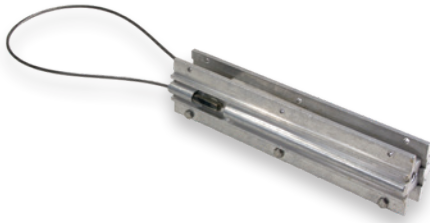
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space

Ordering Information

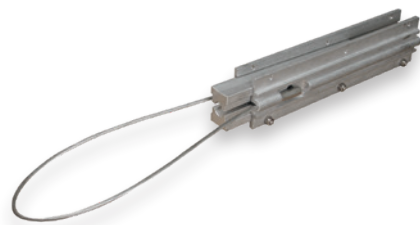
| APPLICATION & DESCRIPTION | AFL NO. |
|---|----------------|
| Aerial Drop 256 150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light | ADESDFW2-256 |
| Aerial Drop 307—Short Span (250 lb max. tension) 65 ft NESC heavy, 115 ft NESC medium, 210 ft NESC light | ADESDFW2-307 |
| Aerial Drop 307—Long Span 220 ft NESC heavy, 400 ft NESC medium, 675 ft NESC light | ADELD2E-013TE |
| ADSS Mini-Span 323 175 ft NESC heavy, 300 ft NESC medium, 500 ft NESC light | ADELD2E-323T |
| ADSS Mini-Span 383 180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light | ADELD2E-383T |
| ADSS Mini-Span 424 275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light | ADELD2E-424005 |

NOTE: Part numbers ADEW10J1-AL535, and ADEW16J1-AL693 attach to structure via common pole hardware sold separately such as thimble eye, ram's head, guy hooks, etc.

For spans greater than the span lengths above, contact Customer Service.



ADEW10J1-AL535



ADEW16J1-AL693

Wedge Dead End

(to be used only on Standard ADSS Cable up to 0.890" diameter, 144 fibers)

AFL offers wedge dead ends that ease and speed ADSS cable installation. The ADSS Wedge Dead End is ideal in crowded distribution environments because its shorter length allows for safer and efficient installation. The Wedge Dead End comes with all parts assembled. The side plates are properly aligned with spacers and self-locking hex bolts, as well as retainers. Lubricated wedges are pre-installed inside the body of the dead end.

Caution: The load ratings shown here are based on performance results of certain cable configurations and may not be representative of all manufacturers' ADSS cable designs. AFL strongly recommends that before using this product, you contact AFL to obtain the recommended load rating and to verify that the wedge dead end has been qualified for use with the proposed cable. AFL will perform a qualification test at no charge.

Specifications

| PARAMETER | VALUE |
|----------------------------|---|
| Wedge Length | 10" or 16" depending on cable characteristics |
| Cable O.D. | 0.512" to 0.890" (13 mm to 22.6 mm) |
| Hold Strength | 100% of Maximum Rated Cable Load (MRCL) |
| Maximum Attenuation Change | 0.05 dB at 100% MRCL |

Benefits

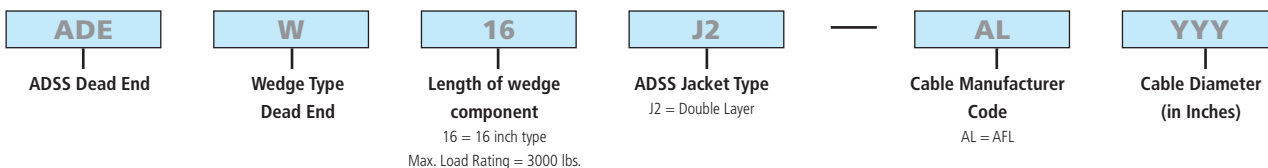
- Wedge-type design is safer than spiral wrap style dead ends
- Fewer parts, smaller and easier to store
- Attaches to structure via common pole hardware sold separately (thimble eye, ram's head, etc.)

Features

- Easier and faster installation
- Lower total system costs
- No special tools or hardware required for installation

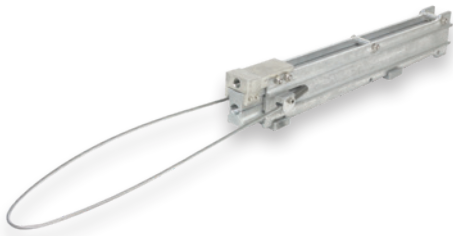
| APPLICATION & DESCRIPTION | AFL NO. |
|---|----------------|
| ADSS Mini-Span® 535 500 ft NESC heavy, 700 ft NESC medium, 875 ft NESC light Maximum loading capability is 1500 lbs. | ADEW10J1-AL535 |
| ADSS Mini-Span 693 500 ft NESC heavy, 600 ft NESC medium, 750 ft NESC light Maximum loading capability is 1500 lbs. | ADEW16J1-AL693 |

Ordering Information for Double Jacket Cables



Application Notes:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.
2. AFL fiber optic cable and related hardware are designed to work as a system. Dead ends may not be available for cable from other manufacturers.



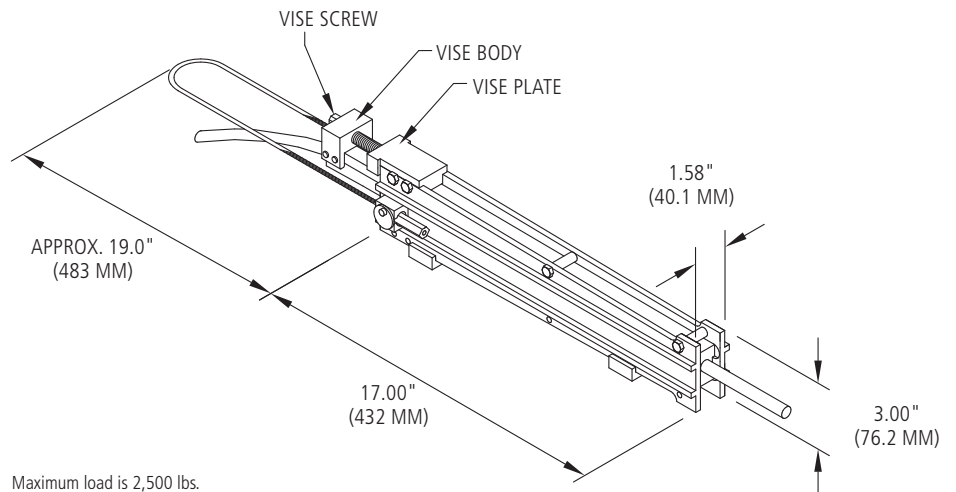
Temporary Grip

Temporary Grips are used in stringing the ADSS during sagging and where it is necessary to make short term catch on the ADSS.

The Temporary grip for ADSS is a high strength aluminum body designed to hold 2,500 pounds or 50% of MRCL of the cable.

Application Notes:

1. Mechanical Grip for Use with Polyethylene Outer Jackets Only



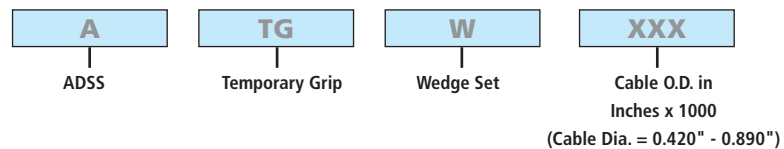
Maximum load is 2,500 lbs.

Thimble Clevis is included to attach temporary grip bail to chain hoist.

Ordering Information



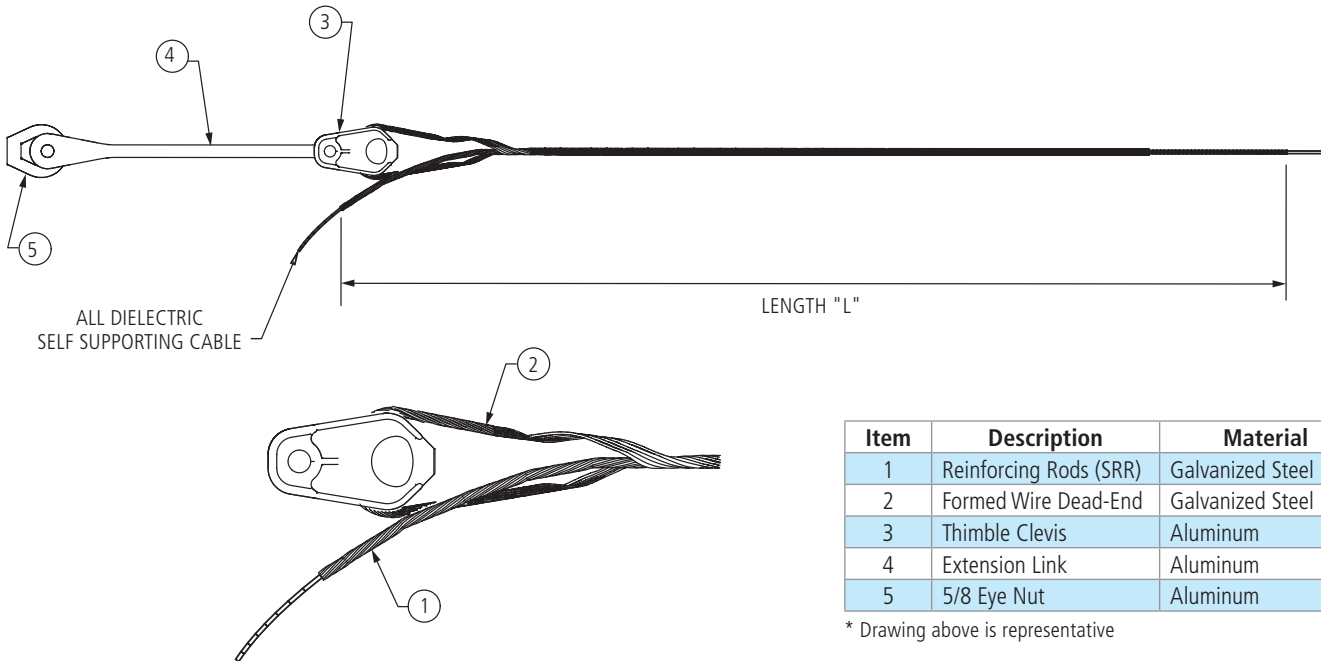
Ordering Information for Additional Wedges



CAUTION:

1. The Temporary Grip is only to be used for AFL's ADSS fiber optic cables with standard polyethylene jackets with the O.D. ranging from 0.420" - 0.890".
2. For cables with an O.D. outside of this range, please contact AFL.

Limited Tension Formed Wire Dead End for ADSS Cable



| Item | Description | Material |
|------|------------------------|------------------|
| 1 | Reinforcing Rods (SRR) | Galvanized Steel |
| 2 | Formed Wire Dead-End | Galvanized Steel |
| 3 | Thimble Clevis | Aluminum |
| 4 | Extension Link | Aluminum |
| 5 | 5/8 Eye Nut | Aluminum |

* Drawing above is representative

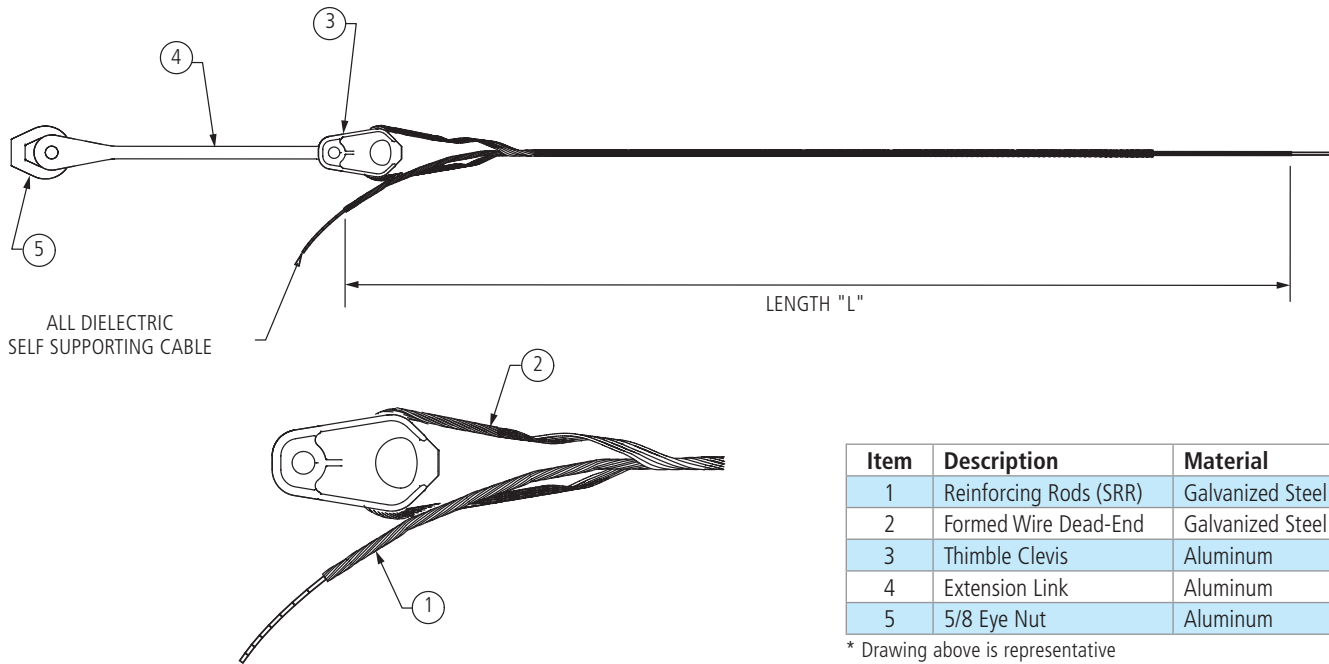
Features

- Components strength—6,500 lbs.
- Maximum initial tension—up to 1,000 lbs.
- Maximum loaded tension—up to 2,500 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for track-resistant ADSS application

Ordering Information

| AFL NO. | CABLE OD (IN) | LENGTH "L" (IN) | COLOR CODE |
|-----------------|---------------|-----------------|------------|
| ADESE380/400C | 0.380 - 0.400 | 48 | Red |
| ADESE400/424C | 0.400 - 0.424 | 48 | Black |
| ADESE425/451C | 0.425 - 0.451 | 48 | Yellow |
| ADESE452/481C | 0.452 - 0.481 | 48 | Green |
| ADESE482/510C | 0.482 - 0.510 | 48 | Orange |
| ADESE511/542C | 0.511 - 0.542 | 48 | Blue |
| ADESE543/577C | 0.543 - 0.577 | 48 | White |
| ADESE578/613C | 0.578 - 0.613 | 48 | Red |
| ADESE614/651C | 0.614 - 0.651 | 48 | Black |
| ADESE652/692C | 0.652 - 0.692 | 48 | Yellow |
| ADESE693/737C | 0.693 - 0.737 | 48 | Green |
| ADESE738/784C | 0.738 - 0.784 | 48 | Orange |
| ADESE785/834C | 0.785 - 0.834 | 48 | Blue |
| ADESE835/889C | 0.835 - 0.889 | 48 | White |
| ADESE890/945C | 0.890 - 0.945 | 48 | Red |
| ADESE946/1007C | 0.946 - 1.007 | 48 | Black |
| ADESE1008/1073C | 1.008 - 1.073 | 60 | Yellow |
| ADESE1074/1140C | 1.074 - 1.140 | 60 | Green |
| ADESE1141/1212C | 1.141 - 1.212 | 60 | Orange |
| ADESE1213/1288C | 1.213 - 1.288 | 60 | Blue |

Medium Tension Dead End for ADSS Cable



| Item | Description | Material |
|------|------------------------|------------------|
| 1 | Reinforcing Rods (SRR) | Galvanized Steel |
| 2 | Formed Wire Dead-End | Galvanized Steel |
| 3 | Thimble Clevis | Aluminum |
| 4 | Extension Link | Aluminum |
| 5 | 5/8 Eye Nut | Aluminum |

* Drawing above is representative

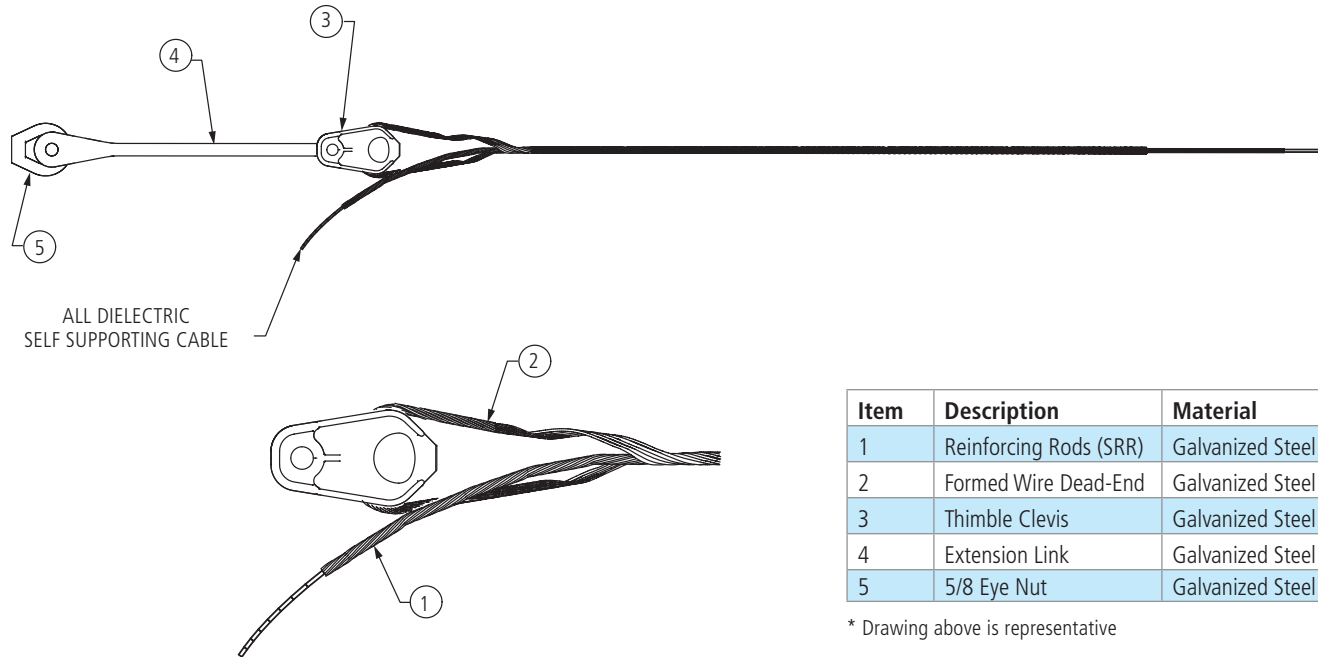
Features

- Component strength—6,500 lbs.
- Maximum initial tension—up to 2,000 lbs.
- Maximum loaded tension—up to 4,000 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for track-resistant ADSS application

Ordering Information

| AFL NO. | CABLE OD (IN) | LENGTH "L" (IN) | COLOR CODE |
|-----------------|---------------|-----------------|------------|
| ADEME482/510C | .482-.510 | 72 | Orange |
| ADEME511/542C | .511-.542 | 73 | Blue |
| ADEME543/577C | .543-.577 | 74 | White |
| ADEME578/613C | .578-.613 | 78 | Red |
| ADEME614/651C | .614-.651 | 80 | Black |
| ADEME652/692C | .652-.692 | 80 | Yellow |
| ADEME693/737C | .693-.737 | 82 | Green |
| ADEME738/784C | .738-.784 | 88 | Orange |
| ADEME785/834C | .785-.834 | 92 | Blue |
| ADEME835/889C | .835-.889 | 94 | White |
| ADEME890/945C | .890-.945 | 96 | Red |
| ADEME946/1007C | .946-1.007 | 98 | Black |
| ADEME1008/1073C | 1.008-1.073 | 102 | Purple |
| ADEME1074/1140C | 1.074-1.140 | 102 | Pink |
| ADEME1141/1212C | 1.141-1.212 | 104 | Brown |
| ADEME1213/1288C | 1.213-1.288 | 107 | Orange |

Semi-High Tension Dead End for ADSS Cable



| Item | Description | Material |
|------|------------------------|------------------|
| 1 | Reinforcing Rods (SRR) | Galvanized Steel |
| 2 | Formed Wire Dead-End | Galvanized Steel |
| 3 | Thimble Clevis | Galvanized Steel |
| 4 | Extension Link | Galvanized Steel |
| 5 | 5/8 Eye Nut | Galvanized Steel |

* Drawing above is representative

Features

- Components strength—15,000 lbs.
- Maximum initial tension—up to 4,000 lbs.
- Maximum loaded tension—up to 7,500 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for Length Information and track-resistant ADSS application
- Lengths range from 100" to 134"

Ordering Information

| AFL NO. | CABLE OD (in.) | LENGTH "L" (in.) | COLOR CODE |
|-----------------|----------------|------------------|------------|
| ADELE482/510C | .482-.510 | 98 | Orange |
| ADELE511/542C | .511-.542 | 98 | Blue |
| ADELE543/577C | .543-.577 | 100 | White |
| ADELE578/613C | .578-.613 | 104 | Red |
| ADELE614/651C | .614-.651 | 106 | Black |
| ADELE652/692C | .652-.692 | 106 | Yellow |
| ADELE693/737C | .693-.737 | 108 | Green |
| ADELE738/784C | .738-.784 | 113 | Orange |
| ADELE785/834C | .785-.834 | 118 | Blue |
| ADELE835/889C | .835-.889 | 119 | White |
| ADELE890/945C | .890-.945 | 121 | Red |
| ADELE946/1007C | .946-1.007 | 123 | Black |
| ADELE1008/1073C | 1.008-1.073 | 126 | Purple |
| ADELE1074/1140C | 1.074-1.140 | 127 | Pink |
| ADELE1141/1212C | 1.141-1.212 | 129 | Brown |
| ADELE1213/1288C | 1.213-1.288 | 133 | Orange |

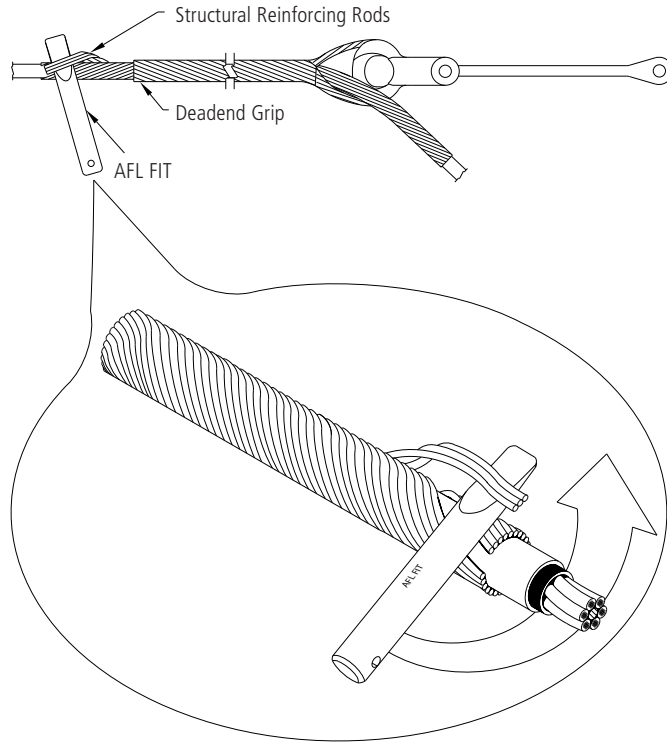


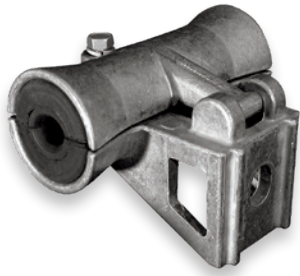
**AFL FIT
(Formed Wire Installation Tool)**

The nonmetallic AFL Fit Tool is used to install formed wire components without damaging the cable. Use of metal instruments to aid in the installation of formed wire components can result in cable damage.

Ordering Information:

| |
|---------|
| AFL NO. |
| AFL-FIT |





Single Trunnion Cable Support



Double Trunnion Cable Support (closed)



Double Trunnion Cable Support (open)

Trunnion Assemblies— Single and Double Cables

AFL offers trunnions with various mounting capabilities: bolted, banded or standoff. Trunnions reduce installation costs by functioning as a pull-through during installation (maximum line angle for stringing is 15° total, 7.5° per side, number of structures not to exceed 30). No block or pulley is needed provided these conditions are met.

Features

- May be used as a pull-through by removing the bushing inserts
- Double cable supports option
- High-strength aluminum
- Smaller and more compact design
- Facilitates faster installation
- Color-coded range taking inserts for easy identification
- Versatile mounting styles to fit different structure types: bolted, banded or standoff
- Banding and pole hardware supplied by customer
- Lowers the total cost of installation
- Span Length: 600 ft.—NESC Heavy
1,200 ft.—NESC Light

Ordering Information—Single Cable Support

| AFL NO. | CABLE O.D. RANGE | | ESTIMATED WEIGHT | | BUSHING COLOR CODE |
|--------------|------------------|---------------|------------------|------|--------------------|
| | INCHES | MILLIMETERS | LBS | KG | |
| ATGN325/375 | 0.325" - 0.375" | 8.26 - 9.53 | 2.06 | .934 | Green + White |
| ATGN376/419 | 0.376" - 0.419" | 9.55 - 10.64 | 2.06 | .934 | Orange + White |
| ATGN420/474 | 0.420" - 0.474" | 10.67 - 12.05 | 2.05 | .930 | Purple + White |
| ATGN475/525 | 0.475" - 0.525" | 12.07 - 13.34 | 2.05 | .930 | Blue |
| ATGN526/575 | 0.526" - 0.575" | 13.36 - 14.61 | 2.05 | .930 | Orange |
| ATGN576/625 | 0.576" - 0.625" | 14.63 - 15.88 | 2.04 | .925 | Brown |
| ATGN626/675 | 0.626" - 0.675" | 15.90 - 17.15 | 2.04 | .925 | Green |
| ATGN676/725 | 0.676" - 0.725" | 17.17 - 18.42 | 2.03 | .921 | White |
| ATGN726/775 | 0.726" - 0.775" | 18.44 - 19.69 | 2.03 | .921 | Red |
| ATGN776/825 | 0.776" - 0.825" | 19.71 - 20.96 | 2.02 | .916 | Purple |
| ATGN826/875 | 0.826" - 0.875" | 20.98 - 22.23 | 2.02 | .916 | Yellow |
| ATGN876/925 | 0.876" - 0.925" | 22.25 - 23.50 | 2.02 | .916 | Pink |
| ATGN926/959 | 0.926" - 0.959" | 23.52 - 24.36 | 2.02 | .916 | Blue + White |
| ATGN960/1045 | 0.960" - 1.045" | 24.38 - 26.54 | 2.02 | .916 | Gray |

Application Notes:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.
2. As a stringing block:
Maximum line angle = 15° (7.5° per side)
Maximum number of structures = 30
3. For final installation:
Maximum line angle = 22° (11° per side)

continued
→

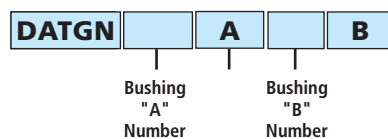
Trunnion Assemblies (cont.)

Ordering Information—Double Tangent Support

| BUSHING NUMBER | | CABLE O.D. RANGE | | BUSHING COLOR CODE | MAXIMUM SPAN CAPABILITIES USING NESC LOADS IN FEET/METERS | ESTIMATED WEIGHT | |
|----------------|-----|------------------|-------------|--------------------|---|------------------|-------|
| "A" | "B" | INCHES | MM | | | HEAVY | LBS |
| 325 | 325 | .325-.375 | 8.26-9.53 | Green + White | 600/182.9 | 4.00 | 1.814 |
| 376 | 376 | .376-.419 | 9.55-10.64 | Orange + White | 600/182.9 | 4.00 | 1.814 |
| 420 | 420 | .420-.474 | 10.67-12.04 | Purple + White | 600/182.9 | 3.99 | 1.810 |
| 475 | 475 | .475-.525 | 12.07-13.34 | Blue | 600/182.9 | 3.99 | 1.810 |
| 526 | 526 | .526-.575 | 13.36-14.61 | Orange | 600/182.9 | 3.99 | 1.810 |
| 576 | 576 | .576-.625 | 14.63-15.88 | Brown | 600/182.9 | 3.98 | 1.805 |
| 626 | 626 | .626-.675 | 15.90-17.15 | Green | 600/182.9 | 3.98 | 1.805 |
| 676 | 676 | .676-.725 | 17.17-18.42 | White | 600/182.9 | 3.97 | 1.801 |
| 726 | 726 | .726-.775 | 18.44-19.69 | Red | 600/182.9 | 3.97 | 1.801 |
| 776 | 776 | .776-.825 | 19.71-20.96 | Purple | 600/182.9 | 3.96 | 1.796 |
| 826 | 826 | .826-.875 | 20.98-22.23 | Yellow | 600/182.9 | 3.96 | 1.796 |
| 876 | 876 | .876-.925 | 22.25-23.50 | Pink | 500/152.4 | 3.96 | 1.796 |
| 926 | 926 | .926-.959 | 23.52-24.36 | Blue + White | CONTACT AFL | 3.96 | 1.796 |
| 960 | 960 | .960-1.045 | 24.38-26.54 | Gray | CONTACT AFL | 3.96 | 1.796 |

How to Order

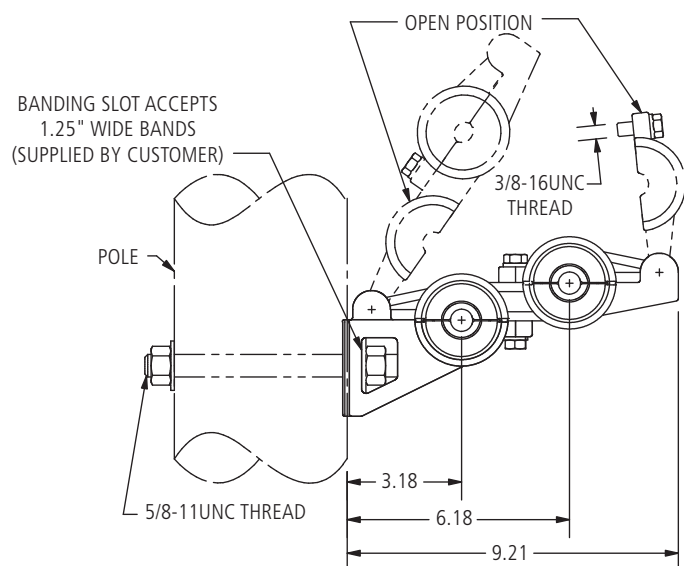
Order by assembling part number as shown:

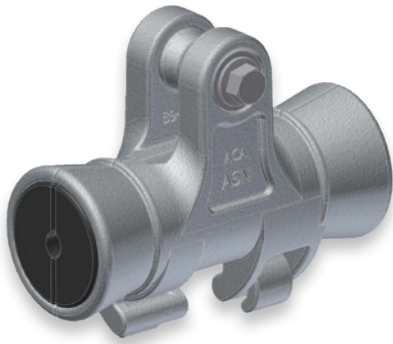


- Reference table above. See Note 1 below.
- Example:
 - First cable 0.500" OD → Bushing "A" number = 475
 - Second cable 0.750" OD → Bushing "B" number = 726
 - Order by part number: DATGN**475A726B**

Notes:

1. Bushing "A" and "B" may be the same or different.
2. Attachment hardware or stainless steel banding to be supplied by customer.





Correct orientation of bushing shown above.

Application Note:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.

ADSS Suspension Unit

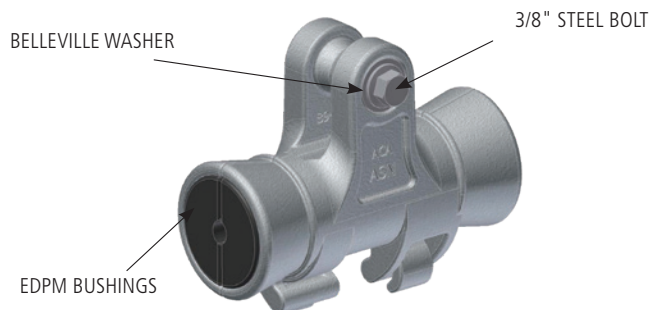
AFL's ADSS suspension unit is used to provide long term performance for spans up to 1200 feet (see span rating below). The interlocking halves of the aluminum body clamp provides positive alignment and utilize our proven EDPM bushings to gently grip the cable. The 3/8" mounting bolt is held captive by an o-ring. This product cannot be used as a stringing device.

Specifications

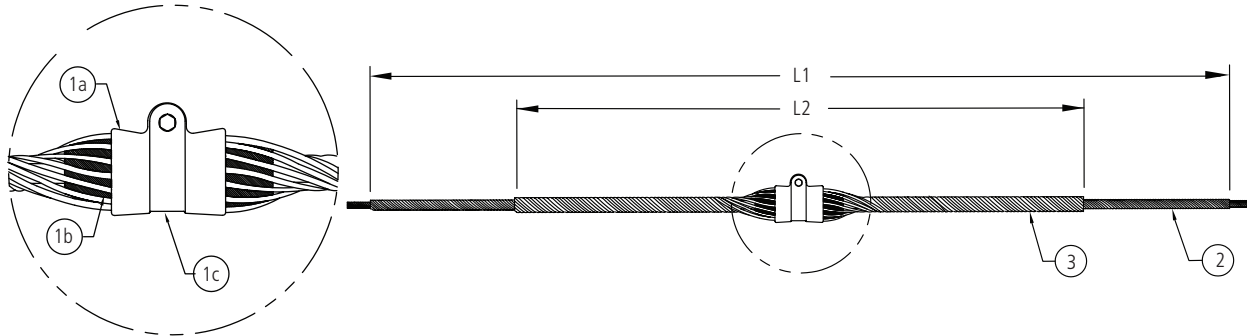
| PARAMETER | VALUE |
|-------------------------|--|
| Span Length Rating | 600 feet (200 meters) NESC Heavy 900 feet (274 meters) NESC Medium 1200 feet (365 meters) NESC Light |
| Vertical Load Rating | 5000 lbs |
| Torque Requirement | Mounting bolt should be tightened to 25 ft-lb |
| Mounting Hardware | 5/8" oval eye nut and anchor shackle (both parts not shown) can be included in the assembly by adding the suffix "AS01" to the part number |
| Line Angle | Max line angle is 30 degrees |
| Cable Types Recommended | For use on standard polyethylene jackets only DO NOT USE on track resistant cables |
| Slip Strength | Contact AFL for specific slip strength requirements |

Ordering Information

| AFL NO. | CABLE RANGE | | WEIGHT | | BUSHING COLOR CODE |
|-------------|----------------|-------------|--------|-----|--------------------|
| | INCHES | MM | LBS | KG | |
| ASN325/375 | 0.325-0.375 | 8.3-9.5 | 2.2 | 1.0 | Green + White |
| ASN376/419 | 0.376-0.419 | 9.6-10.6 | | | Orange + White |
| ASN420/474 | 0.420 - 0.474 | 10.7 - 12.0 | | | Purple + White |
| ASN475/525 | 0.475 - 0.525 | 12.1 - 13.3 | | | Blue |
| ASN526/575 | 0.526 - 0.575 | 13.4 - 14.6 | | | Orange |
| ASN576/625 | 0.576 - 0.625 | 14.6 - 15.9 | | | Brown |
| ASN626/675 | 0.626 - 0.675 | 15.9 - 17.1 | | | Green |
| ASN676/725 | 0.676 - 0.725 | 17.2 - 18.4 | | | White |
| ASN726/775 | 0.726 - 0.775 | 18.4 - 19.7 | | | Red |
| ASN776/825 | 0.776 - 0.825 | 19.7 - 21.0 | | | Purple |
| ASN826/875 | 0.826 - 0.875 | 21.0 - 22.2 | | | Yellow |
| ASN876/925 | 0.876 - 0.925 | 22.3 - 23.5 | | | Pink |
| ASN926/959 | 0.926 - 0.959 | 23.5 - 24.4 | | | — |
| ASN960/1045 | 0.960 - 0.1045 | 24.4 - 26.5 | | | Gray |



Formed Wire Suspension for ADSS Cable



Features

- For line or elevation angle changes less than 30°
- Max vertical load—20,000 lbs.

| Item | Description | Material |
|------|------------------------|----------------|
| 1a,c | Suspension Housing | Aluminum Alloy |
| 1b | Insert (2 Halves) | Elastomer |
| 2 | Reinforcing Rods (SRR) | Aluminum Alloy |
| 3 | Outer Support Rods | Aluminum Alloy |

Ordering Information

| CABLE O.D. RANGE | STRUCTURAL REINFORCEMENT RODS | | | | OUTER RODS | | | | AFL NO. |
|------------------|-------------------------------|-------------------|--------------|------------|----------------------|-------------------|--------------|------------|------------|
| | LENGTH "L1" (INCHES) | ROD DIA. (INCHES) | RODS PER SET | COLOR CODE | LENGTH "L2" (INCHES) | ROD DIA. (INCHES) | RODS PER SET | COLOR CODE | |
| 0.399" - 0.418" | 80 | .146 | 10 | Yellow | 42 | .204 | 11 | Yellow | ASU399/418 |
| 0.419" - 0.439" | 80 | .146 | 10 | Black | 42 | .204 | 11 | Black | ASU419/439 |
| 0.440" - 0.458" | 81 | .146 | 11 | White | 43 | .204 | 11 | White | ASU440/458 |
| 0.459" - 0.461" | 84 | .167 | 10 | Purple | 46 | .250 | 10 | Orange | ASU459/461 |
| 0.462" - 0.476" | 84 | .167 | 10 | Purple | 46 | .250 | 10 | Purple | ASU462/476 |
| 0.477" - 0.503" | 84 | .146 | 12 | Orange | 46 | .250 | 10 | Orange | ASU477/503 |
| 0.504" - 0.511" | 84 | .146 | 12 | Red | 46 | .250 | 10 | Purple | ASU504/511 |
| 0.512" - 0.536" | 87 | .167 | 11 | Blue | 49 | .250 | 11 | Blue | ASU512/536 |
| 0.537" - 0.559" | 87 | .167 | 11 | Green | 49 | .250 | 11 | Green | ASU537/559 |
| 0.560" - 0.565" | 87 | .167 | 11 | Green | 49 | .250 | 11 | Green | ASU560/565 |
| 0.566" - 0.573" | 92 | .182 | 11 | Black | 54 | .250 | 12 | Black | ASU566/573 |
| 0.574" - 0.598" | 92 | .182 | 11 | Black | 54 | .250 | 12 | White | ASU574/598 |
| 0.599" - 0.625" | 92 | .182 | 12 | Brown | 54 | .310 | 12 | Brown | ASU599/625 |
| 0.626" - 0.632" | 102 | .204 | 11 | Red | 63 | .310 | 11 | Red | ASU626/632 |
| 0.633" - 0.666" | 102 | .204 | 11 | Red | 63 | .310 | 11 | Blue | ASU633/666 |
| 0.667" - 0.682" | 102 | .204 | 12 | Yellow | 63 | .310 | 11 | Green | ASU667/682 |
| 0.683" - 0.710" | 102 | .204 | 12 | Yellow | 63 | .310 | 11 | Yellow | ASU683/710 |
| 0.711" - 0.728" | 102 | .204 | 12 | White | 63 | .310 | 12 | Black | ASU711/728 |
| 0.729" - 0.744" | 102 | .204 | 12 | White | 63 | .310 | 12 | White | ASU729/744 |
| 0.745" - 0.750" | 102 | .204 | 12 | White | 63 | .310 | 12 | White | ASU745/750 |
| 0.751" - 0.786" | 102 | .204 | 13 | White | 63 | .310 | 12 | Brown | ASU751/786 |
| 0.787" - 0.814" | 111 | .250 | 11 | Green | 72 | .365 | 11 | Green | ASU787/814 |
| 0.815" - 0.845" | 111 | .250 | 12 | Yellow | 72 | .365 | 11 | Yellow | ASU815/845 |
| 0.846" - 0.855" | 111 | .250 | 12 | Green | 72 | .365 | 12 | Blue | ASU846/855 |
| 0.856" - 0.894" | 119 | .250 | 12 | Black | 80 | .365 | 12 | Black | ASU856/894 |
| 0.895" - 0.907" | 119 | .250 | 12 | White | 80 | .365 | 12 | White | ASU895/907 |
| 0.908" - 0.916" | 119 | .250 | 13 | Purple | 80 | .365 | 12 | Purple | ASU908/916 |
| 0.917" - 0.929" | 119 | .250 | 13 | Brown | 80 | .365 | 12 | Brown | ASU917/929 |
| 0.930" - 0.942" | 119 | .250 | 13 | Red | 80 | .365 | 12 | Red | ASU930/942 |
| 0.943" - 0.977" | 119 | .250 | 13 | Orange | 80 | .365 | 13 | Orange | ASU943/977 |



Download Clamp shown with Adapter B

Download Clamp for ADSS (with or without Unequal Diameters)

AFL Download Clamps are used to guide ADSS wire from the top of the structure to the splice box. Our clamps install easily and provide proper spacing and hold strength without damage to the cable. From poles to towers, we offer a full line of ADSS Download Clamps to meet the needs of any application.

Features

- Slip strength: >100 lbs.
- Lattice adapters provided with break-away bolts for precise torque during installation
- Steel tower guide clamps available with adapters to eliminate the need for drilling
- Banding adapters available

Ordering Information – Download Clamp and Adapter

| BUSHING DESIGNATION | DIAMETER (INCHES) | COLOR CODE |
|---------------------|-------------------|------------|
| B4 | 0.350 - 0.500 | red |
| B5 | 0.501 - 0.600 | green |
| B6 | 0.601 - 0.700 | yellow |
| B7 | 0.701 - 0.800 | blue |
| B8 | 0.801 - 0.900 | white |
| B9 | 0.901 - 1.000 | black |
| B10 | 1.001 - 1.100 | orange |

| | | | | | |
|----------------|---------------|------------------------------------|-----------------------------------|--|-----------------------|
| FD | OA | XX | YY | Z | M |
| Fiber Downlead | OPGW and ADSS | Bushing Designation (Smaller Dia.) | Bushing Designation (Larger Dia.) | Indicates Adapters A = Banding Adapter B = Lattice Adapter for web thickness 0.25" - 0.72" C = Lattice Adapter for web thickness 0.72" - 1.25" D = 3/8" diameter x 4" lag bolt E = Lattice Adapter for web thickness 0.25" - 1.25" Omit = No adapter desired | M for Metric Hardware |

Ordering Example

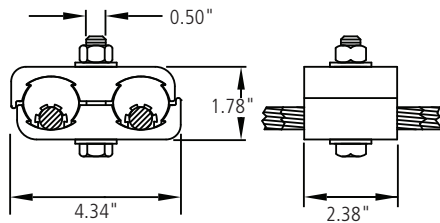
For 0.528" dia. OPGW and 0.484 ADSS with pole banding (Type A), the part number is FDOA-B4B5A.

- NOTES:**
1. If metric hardware is desired, add a "M" suffix to the end.
 2. See next page for optional download clamp adapters.

Download Clamp and Optional Download Clamp Adapters

Dimensions

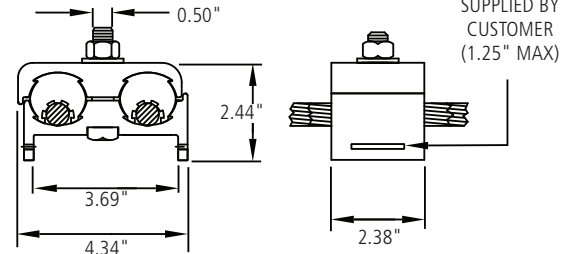
FIG. 1



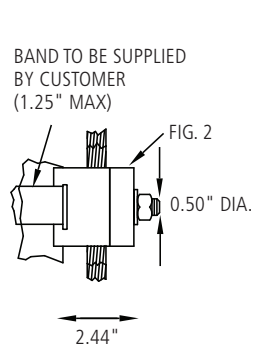
FDOA XXYY

NO ADAPTER

FIG. 2

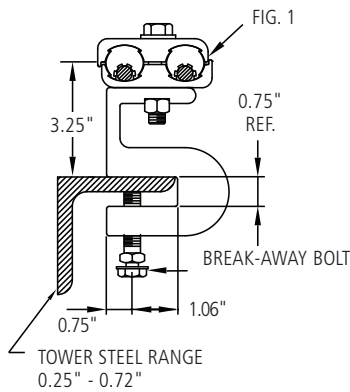


Download Clamp Adapters



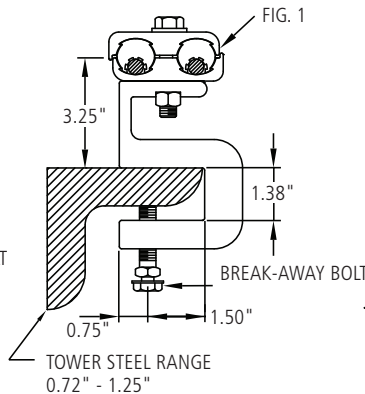
FDOA XXYYA

TYPE A ADAPTER WITH FIG. 2 BANDING CONFIGURATION
EST. WEIGHT: 0.96 LBS.



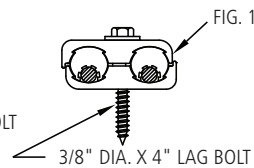
FDOA XXYYB

TYPE B ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 1.98 LBS.



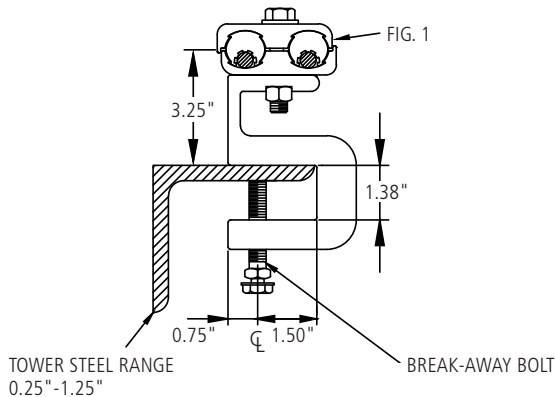
FDOA XXYYC

TYPE C ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.



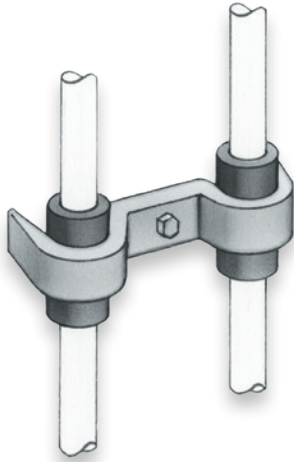
FDOA XXYYD

TYPE D ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 0.96 LBS.



FDOA XXYYE

TYPE E ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.



Wood Pole Clamp

Wood Pole Clamps for OPGW

Guide clamps are typically two groove clamps used to guide the cable to splice locations. Clamps are spaced 5 to 8 feet apart to help maintain alignment of the cable down the towers or poles. Not applicable to OGW series.

Features

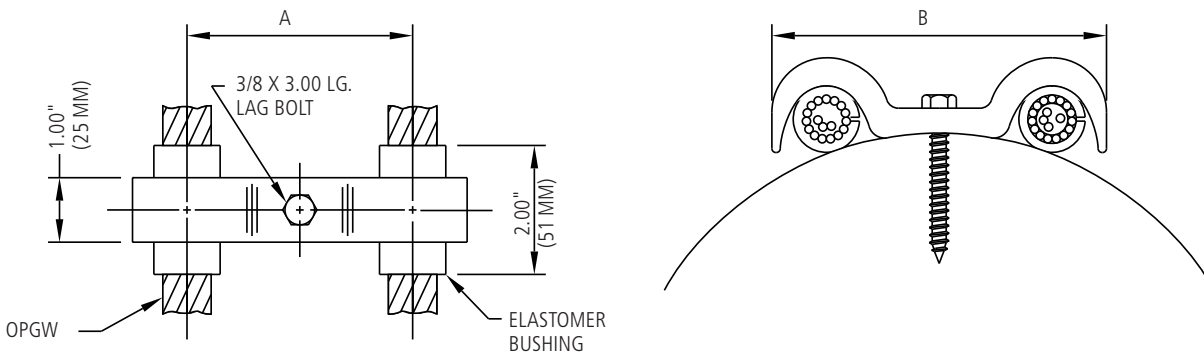
- Slip strength: >100 lbs.

Ordering Information – Wood Pole Clamp

(Note: not available with metric hardware; 3/8" x 3" lag bolt included)

| OPGW DIAMETER IN. (MM) | DIMENSIONS IN. (MM) | | WEIGHT LBS. (KG) | AFL NO. |
|-----------------------------|------------------------|------------|---------------------|------------|
| | A | B | | |
| 0.469 - 0.561 (11.9 - 14.2) | 2.81 (71) | 4.25 (108) | 0.33 (0.15) | OGW469/561 |
| 0.562 - 0.655 (14.3 - 16.6) | 3.50 (89) | 5.19 (132) | 0.46 (0.21) | OGW562/655 |
| 0.656 - 0.750 (16.7 - 19.1) | 3.50 (89) | 5.19 (132) | 0.46 (0.21) | OGW656/750 |

Ordering Example: For AC-64/528 AlumaCore OPGW, the part number is OGW469/561.



INSTALLATION INSTRUCTIONS
FDOA B & C Series – Downlead Clamp for OPGW and ADSS
with Optional Lattice Structure Adapter

Fiber Optic Cable Hardware

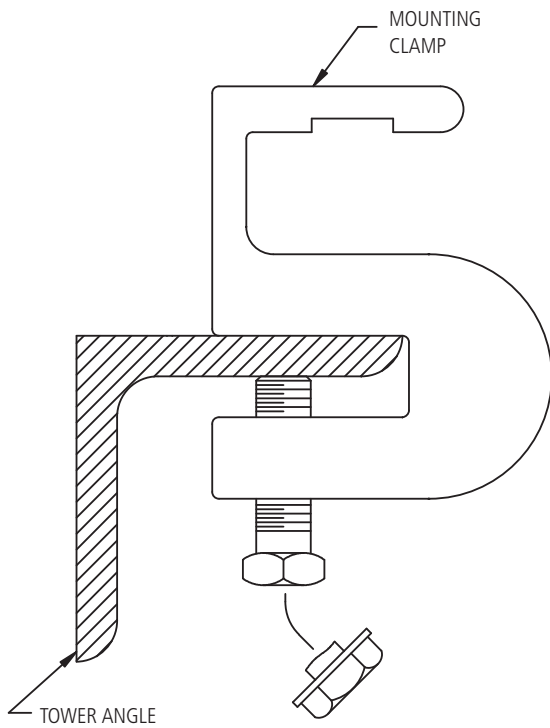


FIG. 1

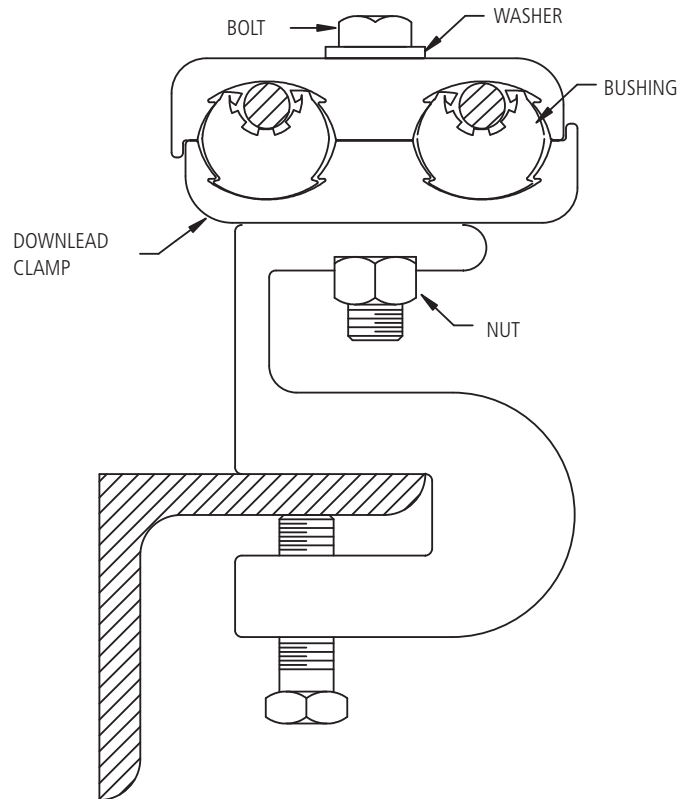


FIG. 2

1. Attach mounting clamp adapter to tower angle (as illustrated in **Fig. 1**) with break-away bolt (breaking torque range: 20-25 lbf-ft).
2. Lay the proper OPGW and/or ADSS cable in each bushing groove of the bottom clamp. Place top clamp over the cables and ensure the bushing color code and cable diameter match the table below.
3. Bolt the downlead clamp to mounting clamp (as illustrated in **Fig. 2**). Hold the mounting clamp and downlead clamp halves while tightening the hardware to prevent rotation and bending of the OPGW and/or ADSS cables.
4. Tighten the bolt on the downlead clamp until a bolt torque of 20-25 lbf-ft is achieved.

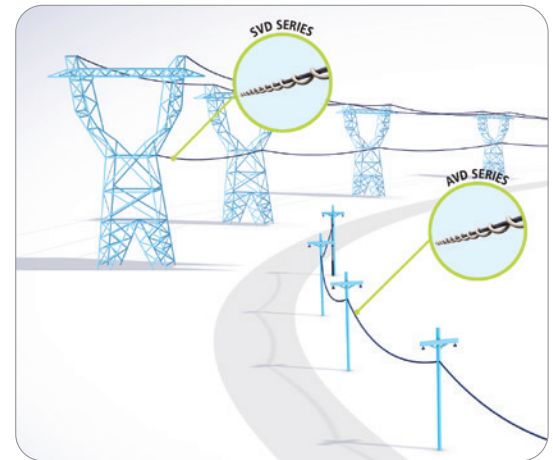
| COLOR | RED-B4 | GREEN-B5 | YELLOW-B6 | BLUE-B7 | WHITE-B8 | BLACK-B9 | B10 |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| RANGE | .400 - .500 | .501 - .600 | .601 - .700 | .701 - .800 | .801 - .900 | .900 - 1.00 | 1.001 - 1.100 |

CAUTION: In order to avoid any damage to the OPGW and/or ADSS cable, it is essential that the cable be clamped only in the recommended bushings.

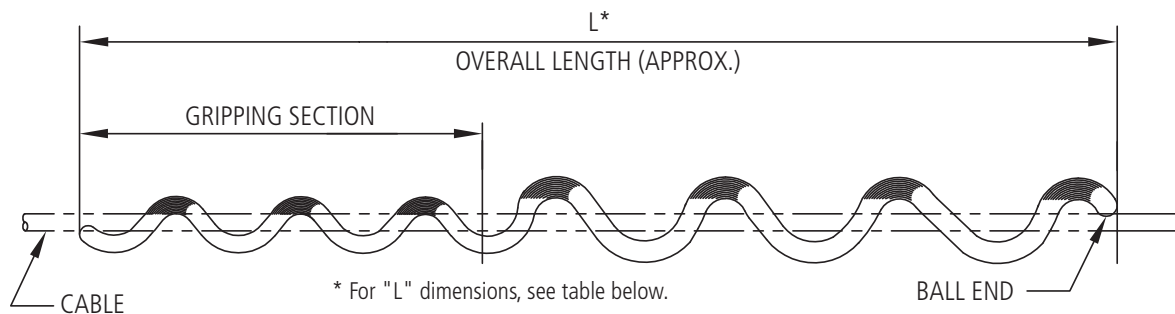
SVD Series Spiral Vibration Dampers

AFL's SVD Series Spiral Vibration Dampers are designed to eliminate the damage caused by Aeolian vibration and reduce overall vibration on bare cables. Made of weather-resistant, non-corrosive plastic, these dampers have a large, helically-formed damping section sized for the cable. A smaller gripping section gently grips the cable. Each damper is marked with the conductor range and color coded to indicate the cable diameter size range.

Line design, temperature, tension, wind flow exposure and history of vibration on similar construction in the location are factors to consider when determining the amount of protection required. Installation can be on both sides of the support location—at least one hand-width from the ends of Armor Rods or cable hardware. Depending on the customer's specific conditions, AFL recommends the SVD Spiral Vibration Damper in accordance with the recommended application chart for the following:



- Conductors between 0.250 inches and 0.500 inches O.D. (used with tietop insulators and rural construction)
- Optical Ground Wires (OPGW) and Overhead Ground Wires (OHGW) in accordance with the recommended application chart



Ordering Information

Select catalog number based on cable diameter. Example: for 0.512" diameter, order SVD462/563

Conductor Diameter Cross Reference

| AFL NO. | PLP NO. | CONDUCTOR DIAMETER RANGE INCHES (MM) | "L" ROD LENGTH INCHES (MM) | WEIGHT LBS (KG) | COLOR CODE | STANDARD PACK |
|------------|---------|--------------------------------------|----------------------------|-----------------|------------|---------------|
| SVD250/326 | 5050103 | 0.250-0.326 (6.35-8.29) | 49 (1244) | 29 (13.154) | Light Blue | 50 |
| SVD327/461 | 5050104 | 0.327-0.461 (8.30-11.72) | 51 (1295) | 31 (14.061) | Black | 50 |
| SVD462/563 | 5050105 | 0.462-0.563 (1.73-14.32) | 53 (1346) | 34 (15.422) | Yellow | 50 |
| SVD564/770 | 5050106 | 0.564-0.770 (14.33-19.30) | 64 (1625) | 50 (22.679) | Green | 25 |

High Mass Cross Reference

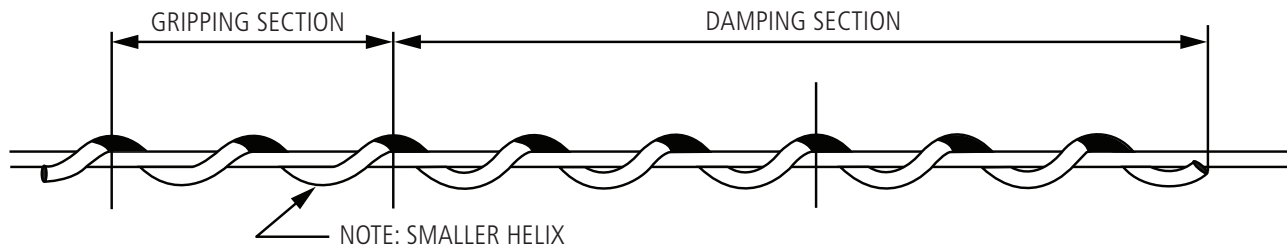
| AFL NO. | PLP NO. | CONDUCTOR DIAMETER RANGE INCHES (MM) | "L" ROD LENGTH INCHES (MM) | WEIGHT LBS (KG) | COLOR CODE | STANDARD PACK |
|--------------|---------|--------------------------------------|----------------------------|-----------------|------------|---------------|
| SVD250/326HM | 5050200 | 0.250-0.326 (6.35-8.29) | 87 (2209) | 55 (24.948) | Light Blue | 50 |
| SVD327/461HM | 5050201 | 0.327-0.461 (8.30-11.72) | 91 (2311) | 60 (27.216) | Black | 50 |
| SVD462/563HM | 5050202 | 0.462-0.563 (1.73-14.32) | 94 (2387) | 65 (29.483) | Yellow | 50 |
| SVD564/770HM | 5050203 | 0.564-0.770 (14.33-19.30) | 96 (2438) | 55 (24.948) | Green | 25 |

continued
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SVD Series Spiral Vibration Dampers (cont.)

Damper Recommendations for Placement

Damper Recommendation applies for specified AFL dampers only. If alternative type or different manufacturer dampers are applied instead, it is possible that damage will occur on the conductor and/or the accessories.



| SPAN LENGTH | INITIAL TENSION PERCENTAGE OF CABLE RATED BREAKING STRENGTH AT NOMINAL TEMPERATURE 60°F | | | | | | | |
|---------------|---|-----------|----------|-----------|----------|-----------|----------|-----------|
| | 0-10% | | 11-15% | | 16-20% | | >20% | |
| | STANDARD | HIGH MASS | STANDARD | HIGH MASS | STANDARD | HIGH MASS | STANDARD | HIGH MASS |
| < 800 ft. | 2/s | 1/s | 2/s | 1/s | 4/s | 2/s | 4/s | 2/s |
| 801-1400 ft. | 4/s | 2/s | 4/s | 2/s | 6/s | 4/s | 6/s | 4/s |
| 1401-2400 ft. | 6/s | 4/s | 6/s | 4/s | 8/s | 4/s | 8/s | 4/s |
| 2401-3000 ft. | 8/s | 4/s | 8/s | 4/s | 10/s | 6/s | 10/s | 6/s |
| 3001-3500 ft. | 10/s | 6/s | 10/s | 6/s | 12/s | 6/s | 12/s | 6/s |
| 3501-4000 ft. | 12/s | 6/s | 12/s | 6/s | 16/s | 8/s | 16/s | 8/s |
| 4001-4500 ft. | 16/s | 8/s | 16/s | 8/s | 18/s | 10/s | 18/s | 10/s |
| 4501-5000 ft. | 18/s | 10/s | 18/s | 10/s | 20/s | 10/s | 20/s | 10/s |

Symbol Designation

- 2/s = 2 dampers per span, 1 on each end of the span
- 4/s = 2 dampers in tandem on each end of the span
- 6/s = 3 dampers in tandem on each end of the span
- 8/s = 3 dampers in tandem + 1 damper on each end of the span
- 10/s = 3 dampers in tandem + 2 dampers in tandem on each end of the span
- 12/s = 3 dampers in tandem + 3 dampers in tandem on each end of the span
- 16/s = 3 dampers in tandem + 3 dampers in tandem + 2 dampers in tandem on each end of the span
- 18/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span
- 20/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem + 1 damper on each end of the span

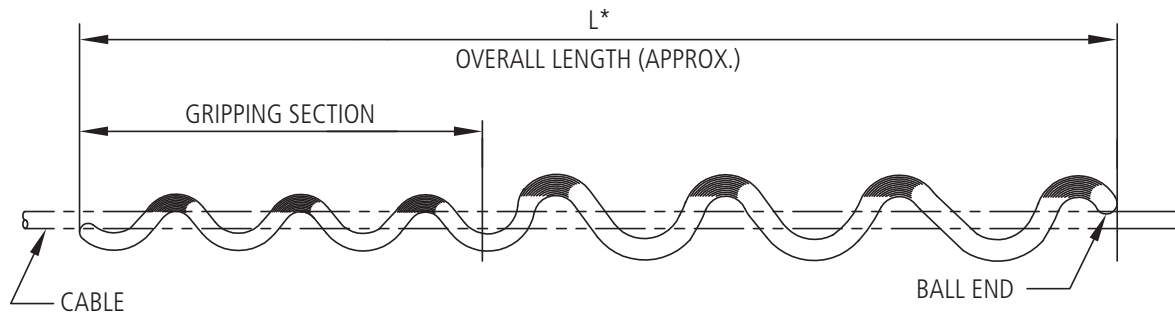
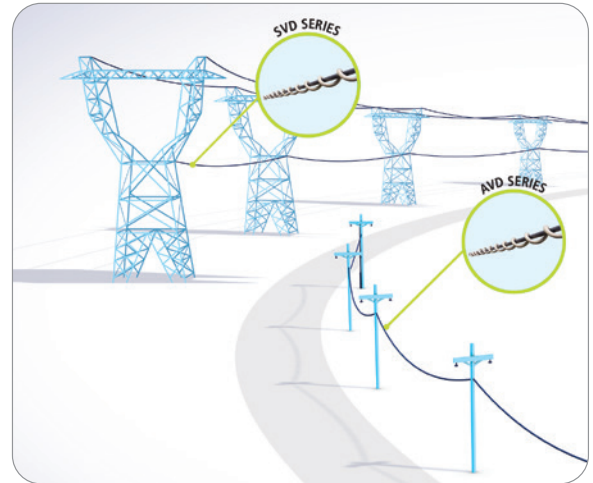
Placement and Spacing

1. SVD shall be placed approximately 5 inches away from any line hardware (suspension, deadend, armor rods, other SVDs, etc.).
2. SVDs can be nestled in tandem for up to three units to prevent the units from interfering with each other.
3. SVDs shall be applied to bare cable only to ensure proper performance.

AVD Series Spiral Vibration Dampers

AFL's AVD Series Spiral Vibration Dampers are designed to eliminate the damage caused by Aeolian vibration and reduce overall vibration on bare All-Dielectric Self-Supporting (ADSS) cables. Made of weather-resistant, non-corrosive plastic, these dampers have a large, helically-formed damping section sized for the ADSS cable. A smaller gripping section gently grips the ADSS cable. Each damper is marked with the conductor range and color coded to indicate the cable diameter size range.

Line design, temperature, tension, wind flow exposure and history of vibration on similar construction in the location are factors to consider when determining the amount of protection required. Installation can be on both sides of the support location—at least one hand-width from the ends of Armor Rods or cable hardware. Depending on the customer's specific conditions, AFL recommends the AVD Spiral Vibration Damper for ADSS cable in accordance with the recommended application chart.



* For "L" dimensions, see table below.

Ordering Information

Select catalog number based on cable diameter. Example: for 0.512" diameter, order AVD462/563

Conductor Diameter Cross Reference

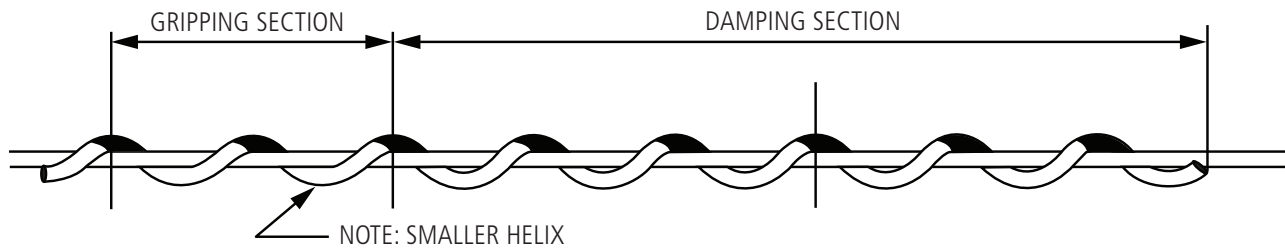
| AFL NO. | PLP NO. | CONDUCTOR DIAMETER RANGE inches (mm) | "L" ROD LENGTH inches (mm) | WEIGHT lbs (KG) | STANDARD PACK |
|--------------|----------|---|-------------------------------|--------------------|------------------|
| AVD250/326 | 50502393 | 0.250-0.326 (6.35-8.29) | 49 (1244) | 27 (12.247) | 50 |
| AVD327/461 | 50502272 | 0.327-0.461 (8.30-11.72) | 51 (1295) | 30 (12.701) | 50 |
| AVD462/563 | 50502274 | 0.462-0.563 (1.73-14.32) | 53 (1346) | 30 (13.608) | 50 |
| AVD564/770 | 50509862 | 0.564-0.770 (14.33-19.30) | 64 (1625) | 47 (21.319) | 25 |
| AVD771/876 | 50503057 | 0.771-0.876 (19.58-22.25) | 71 (1803) | 29 (13.154) | 25 |
| AVD877/1000 | 50503576 | 0.877-1.000 (22.26-25.40) | 75 (1905) | 36 (16.329) | 25 |
| AVD1001/1250 | 50503909 | 1.001-1.250 (25.41-31.75) | 90 (2286) | 41 (18.597) | 25 |

continued
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AVD Series Spiral Vibration Dampers (cont.)

Damper Recommendations for Placement

Damper Recommendation applies for specified AFL dampers only. If alternative type or different manufacturer dampers are applied instead, it is possible that damage will occur on the conductor and/or the accessories.



| SPAN LENGTH | INITIAL TENSION PERCENTAGE OF CABLE RATED BREAKING STRENGTH (RBS) AT NOMINAL TEMPERATURE 60°F | | | | |
|-------------|---|--------|--------|--------|------|
| | 0-10% | 11-15% | 16-20% | 21-25% | >25% |
| < 250 ft. | 0 | 2/s | 2/s | 2/s | 2/s |
| 251-500 | 2/s | 2/s | 2/s | 2/s | 4/s |
| 501-800 | 2/s | 2/s | 2/s | 4/s | 4/s |
| 801-1600 | 4/s | 4/s | 4/s | 6/s | 6/s |
| 1601-2400 | 6/s | 6/s | 6/s | 8/s | 8/s |
| 2401-3000 | 8/s | 8/s | 8/s | 10/s | 10/s |
| 3001-3500 | 10/s | 10/s | 10/s | 12/s | 12/s |
| 3501-4000 | 12/s | 12/s | 12/s | 16/s | 16/s |
| 4001-4500 | 16/s | 16/s | 16/s | 16/s | 18/s |
| 4501-5000 | 18/s | 18/s | 18/s | 18/s | 20/s |

Symbol Designation

- 2/s = 2 dampers per span, 1 on each end of the span
- 4/s = 2 dampers in tandem on each end of the span
- 6/s = 3 dampers in tandem on each end of the span
- 8/s = 3 dampers in tandem + 1 damper on each end of the span
- 10/s = 3 dampers in tandem + 2 dampers in tandem on each end of the span
- 12/s = 3 dampers in tandem + 3 dampers in tandem on each end of the span
- 16/s = 3 dampers in tandem + 3 dampers in tandem + 2 dampers in tandem on each end of the span
- 18/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span
- 20/s = 4 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span

Placement and Spacing

1. AVD shall be placed approximately 5 inches away from any line hardware (suspension, deadend, armor rods, other SVDs, etc.).
2. AVDs can be nested in tandem for up to three units to prevent the units from interfering with each other.
3. AVDs shall be applied to bare cable only to ensure proper performance.

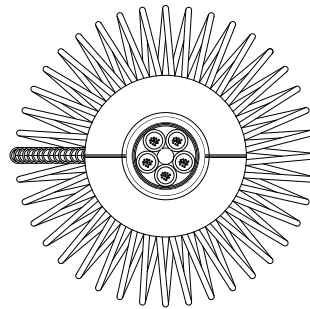
Corona Ring for ADSS Cable

Ordering Information

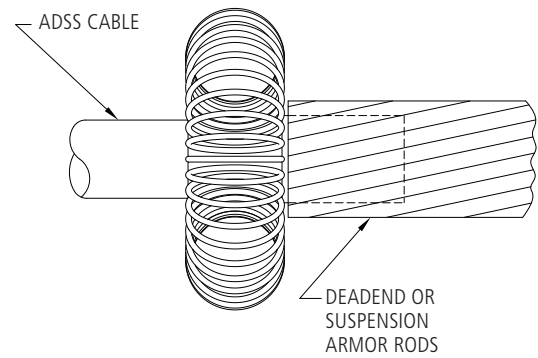
| | | |
|------------|-------------|-------------------------------------|
| A | CR | XXX |
| ADSS CABLE | Corona Ring | Cable Diameter in Decimal Inches |

Ordering Example:

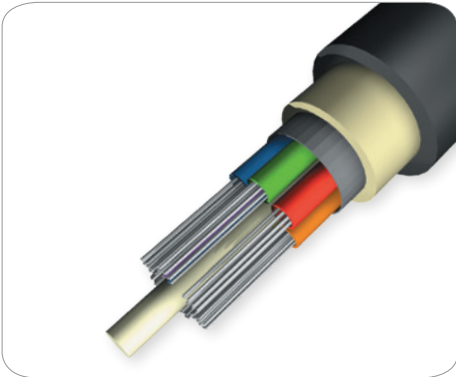
For a .685" diameter ADSS, the AFL number is ACR685



CORONA RING ASSEMBLY



Note: Corona coil clamp component should be installed under the rods of the dead end or suspension.



Gel-Free Non-Armored OSP Loose Tube (LE Series Gel-Free SJ)

AFL LE-Series Gel-Free Single Jacket fiber optic cables incorporate dry water-absorption technology within the fiber-containing buffer tubes. This results in user-friendly handling of fibers during routing and termination within the splice enclosures.

Features

- Fiber counts up to 144
- Gel-free buffer tubes reduce fiber prep termination time
- Reverse-oscillated (SZ stranded) to allow slack for mid-span access
- UV-stabilized outer jacket for long-term performance in aerial applications

Applications

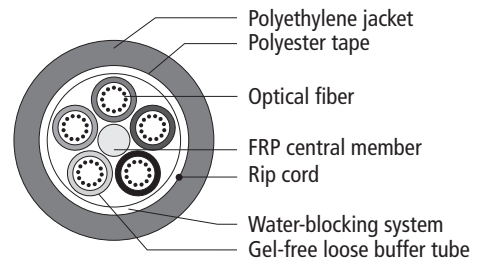
- Distribution
- Underground Duct
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Trunking Lines Direct to Telecommunications Closet
- Local Loop

Typical Lengths

| FIBER COUNT | MAXIMUM LENGTHS* | | | |
|-------------|------------------|--------|-----------|--------|
| | SINGLE-MODE | | MULTIMODE | |
| | FEET | METERS | FEET | METERS |
| 6 - 60 | 22,900 | 7,000 | 22,900 | 7,000 |
| 72 - 96 | 22,900 | 7,000 | 22,900 | 7,000 |
| 108 - 120 | 22,900 | 7,000 | 22,900 | 7,000 |
| 132 - 144 | 22,900 | 7,000 | 22,900 | 7,000 |

* Longer lengths may be available upon request.

Cable Components



Fiber Specifications

| FIBER TYPE | MAXIMUM ATTENUATION (DB/KM) | | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHZ•KM) | | GIGABIT ETHERNET MIN. LINK DISTANCE (METERS) | |
|---|-----------------------------|---------|---------|---------|---|---------|--|---------|
| | 850 NM | 1300 NM | 1310 NM | 1550 NM | 850 NM | 1300 NM | 850 NM | 1300 NM |
| (6) 62.5/125 GIGA-Link™ 300 | 3.5 | 1.2 | N/A | N/A | 200 | 600 | 300 | 550 |
| (5) 50/125 GIGA-Link™ 600 | 2.9 | 0.9 | N/A | N/A | 500 | 500 | 600 | 600 |
| (L) 50/125 Laser-Link™ 300 | 2.9 | 0.9 | N/A | N/A | 1500 | 500 | 900 | 550 |
| (9) Single-mode | N/A | N/A | 0.35 | 0.25 | N/A | N/A | N/A | 5000 |
| (Q) Non-zero Dispersion-shifted Single-mode | N/A | N/A | N/A | 0.25 | N/A | N/A | N/A | N/A |

Gigabit Ethernet Minimum Link Distances are based on "bandwidth"/modal dispersion constraints. Actual link distances may be constrained by attenuation, depending on specific loss budget.

continued
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Gel-Free Non-Armored OSP Loose Tube (LE Series Gel-Free SJ)

Mechanical Data

| AFL NO. | FIBER COUNT | NO. OF TUBES FIBERS/ TUBE | NOMINAL DIAMETER INCHES (MM) | NOMINAL WEIGHT LBS/1,000FT (KG/KM) | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|----------------|-------------|------------------------------|---------------------------------|--|----------------------|-----------|---------------------|-----------|
| | | | | | LBS (N) | | INCHES (CM) | |
| | | | | | SHORT TERM | LONG TERM | SHORT TERM | LONG TERM |
| LE012★C5101N1D | 12 | 1/12 (4 fillers) | 0.39 (9.8) | 49 (73) | 600 (2670) | 180 (800) | 7.8 (20) | 5.9 (15) |
| LE024★C5101N1D | 24 | 2/12 (3 fillers) | 0.39 (9.8) | 49 (72) | 600 (2670) | 180 (800) | 7.8 (20) | 5.9 (15) |
| LE036★C5101N1D | 36 | 3/12 (2 fillers) | 0.39 (9.8) | 48 (72) | 600 (2670) | 180 (800) | 7.8 (20) | 5.9 (15) |
| LE048★C5101N1D | 48 | 4/12 (1 filler) | 0.39 (9.8) | 48 (71) | 600 (2670) | 180 (800) | 7.8 (20) | 5.9 (15) |
| LE060★C5101N1D | 60 | 5/12 (no fillers) | 0.39 (9.8) | 48 (71) | 600 (2670) | 180 (800) | 7.8 (20) | 5.9 (15) |
| LE072★C6101N1D | 72 | 6/12 (no fillers) | 0.42 (10.6) | 55 (82) | 600 (2670) | 180 (800) | 8.4 (21) | 6.3 (17) |
| LE096★C8101N1D | 96 | 8/12 (no fillers) | 0.48 (12.3) | 75 (118) | 600 (2670) | 180 (800) | 9.6 (25) | 7.2 (19) |
| LE144★CC101N1D | 144 | 12/12 (no fillers) | 0.62 (15.8) | 119 (178) | 600 (2670) | 180 (800) | 12.4 (32) | 9.3 (24) |

Note: Diameter and weight subject to change without notice

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Reel Information

| ITEM | REEL A | | REEL B | | REEL C | | REEL D | | REEL E | |
|--------------------------|---------|-------|---------|--------|---------|--------|---------|--------|---------|--------|
| | INCHES | CM | INCHES | CM | INCHES | CM | INCHES | CM | INCHES | CM |
| Reel Height | 42 | 106.7 | 58 | 147.3 | 66 | 167.6 | 72 | 182.8 | 84 | 213.4 |
| Reel Width Outside | 36 | 91.4 | 38 | 96.5 | 42 | 106.7 | 42 | 106.7 | 40 | 101.6 |
| Reel Width Inside | 32 | 81.6 | 32 | 81.3 | 36 | 91.4 | 36 | 91.4 | 34 | 86.4 |
| Drum Diameter | 23 | 58.7 | 28 | 71.1 | 36 | 91.4 | 36 | 91.4 | 35 | 88.9 |
| Arbor Hole Diameter | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 |
| Reel Weight With Lagging | 180 lbs | 82 kg | 420 lbs | 191 kg | 685 lbs | 311 kg | 710 lbs | 320 kg | 950 lbs | 431 kg |

AFL typically provides Loose Tube cable on several standard sizes of non-returnable wooden reels. Non-standard reel sizes are available upon request.

Larger reel sizes may be required to accommodate long cable lengths.

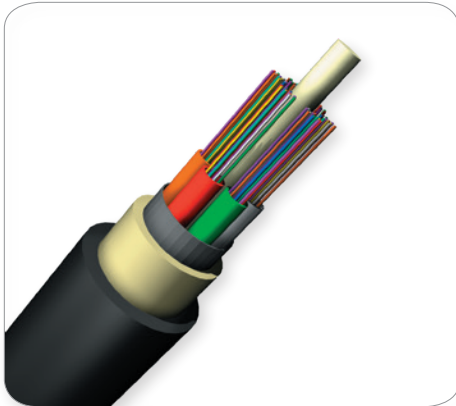
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| Telcordia | GR-20-CORE | Cable |
| ICEA | 640 | Cable |
| TIA | 598-D | Fiber |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +75°C |
| INSTALLATION | -30°C to +70°C |

Contact AFL for your customized cable solution.



LV-Series Indoor/Outdoor Riser Loose Tube – Single Jacket

Indoor/outdoor stranded loose tube combines the robust mechanical and environmental characteristics of an outside plant cable with the flexibility of an inside plant riser cable. By installing an indoor/outdoor stranded loose tube, splice locations entering into a building are avoided, being routed directly from the outside plant to telecommunications closets, or main distribution frames (MDF) through the riser of a building and eliminating the “50-foot rule.” Indoor/Outdoor Stranded Design loose tube cable is moisture and U.V. resistant and is SZ stranded to allow slack for mid-span access.

Features

- Fiber counts up to 144
- Compact design
- Gel-filled or gel-free tubes are reverse-oscillated (SZ stranded) to allow slack for mid-span access

Applications

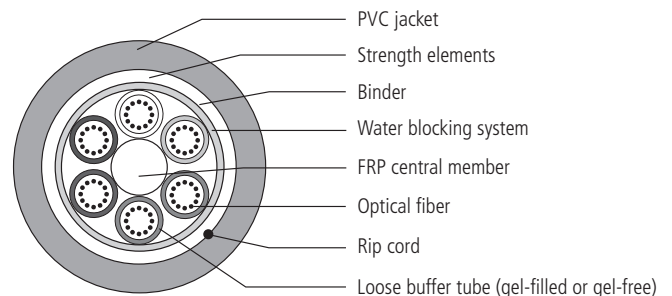
- Underground Duct
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Trunking Lines Direct to Telecommunications Closet
- Local Loop
- Intrabuilding Backbones
- Distance Learning

Typical Lengths

| FIBER COUNT | MAXIMUM LENGTHS* | | | |
|-------------|------------------|--------|-----------|--------|
| | SINGLE-MODE | | MULTIMODE | |
| | feet | meters | feet | meters |
| 6-144 | 22,900 | 7,000 | 22,900 | 7,000 |

* Longer lengths may be available.

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | AFL FIBER IDENTIFIER | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|----------------------|---------|-----------------------------|---------|---------|---------|---|---------|--|---------|
| | | | 850 nm | 1300 nm | 1310 nm | 1550 nm | 850 nm | 1300 nm | 850 nm | 1300 nm |
| 62.5/125 GIGA-Link™ 300 | 6 | OM1 | 3.5 | 1.2 | N/A | N/A | 200 | 600 | 300 | 550 |
| 50/125 GIGA-Link™ 600 | 5 | OM2 | 3.5 | 1.5 | N/A | N/A | 500 | 500 | 600 | 600 |
| 50/125 Laser-Link™ 300 | L | OM3 | 3.0 | 1.2 | N/A | N/A | 1500 | 500 | 1000 | 550 |
| 50/125 Laser-Link™ 300 | C | OM4 | 3.0 | 1.2 | N/A | N/A | 3500 | 500 | 1040 | 550 |
| Single-mode (ITU G.652.D/G.657.A1) | 9 | OS2 | N/A | N/A | 0.35 | 0.25 | N/A | N/A | N/A | N/A |
| Corning Single-mode (ITU G.652.D/G.657.A1) | AZ | OS2 | N/A | N/A | 0.35 | 0.25 | N/A | N/A | N/A | N/A |

Gigabit Ethernet Minimum Link Distances are based on “bandwidth”/modal dispersion constraints. Actual link distances may be constrained by attenuation, depending on specific loss budget.

continued
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LV-Series Indoor/Outdoor Riser Loose Tube – Single Jacket

Ordering Information

| AFL NO. | FIBER COUNT | NUMBER OF TUBES/FIBERS | NOMINAL DIAMETER | | NOMINAL WEIGHT | | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|-------------------|-------------|------------------------|------------------|----------------------|----------------|-----------|----------------------|-----------|---------------------|--|
| | | | inches (mm) | lbs/1,000 ft (kg/km) | lbs (N) | | inches (cm) | | | |
| | | | | | SHORT TERM | LONG TERM | SHORT TERM | LONG TERM | | |
| GEL-FILLED | | | | | | | | | | |
| LV012★C5101N1 | 12 | 1w/12 (4 fillers) | 0.51 (12.9) | 108 (160) | 600 (2700) | 200 (890) | 10.2 (26) | 7.7 (20) | | |
| LV024★C5101N1 | 24 | 2w/12 (3 fillers) | 0.51 (12.9) | 108 (161) | 600 (2700) | 200 (890) | 10.2 (26) | 7.7 (20) | | |
| LV036★C5101N1 | 36 | 3w/12 (2 fillers) | 0.51 (12.9) | 109 (162) | 600 (2700) | 200 (890) | 10.2 (26) | 7.7 (20) | | |
| LV048★C5101N1 | 48 | 4w/12 (1 filler) | 0.51 (12.9) | 110 (164) | 600 (2700) | 200 (890) | 10.2 (26) | 7.7 (20) | | |
| LV060★C5101N1 | 60 | 5w/12 (No fillers) | 0.51 (12.9) | 111 (165) | 600 (2700) | 200 (890) | 10.2 (26) | 7.7 (20) | | |
| LV072★C6101N1 | 72 | 6w/12 (No fillers) | 0.54 (13.7) | 128 (190) | 600 (2700) | 200 (890) | 10.8 (28) | 8.1 (21) | | |
| LV096★C8101N1 | 96 | 8w/12 (No fillers) | 0.61 (15.5) | 159 (237) | 600 (2700) | 200 (890) | 12.2 (31) | 9.2 (24) | | |
| LV144★CC101N1 | 144 | 12w/12 (No fillers) | 0.76 (19.3) | 243 (361) | 600 (2700) | 200 (890) | 15.2 (39) | 11.4 (29) | | |
| GEL-FREE | | | | | | | | | | |
| LV012★C5101N1D | 12 | 1/12 (4 fillers) | 0.48 (12.3) | 100 (148) | 600 (2670) | 180 (800) | 9.7 (25) | 7.2 (19) | | |
| LV024★C5101N1D | 24 | 2/12 (3 fillers) | 0.48 (12.3) | 99 (146) | 600 (2670) | 180 (800) | 9.7 (25) | 7.2 (19) | | |
| LV036★C5101N1D | 36 | 3/12 (2 fillers) | 0.48 (12.3) | 99 (147) | 600 (2670) | 180 (800) | 9.7 (25) | 7.2 (19) | | |
| LV048★C5101N1D | 48 | 4/12 (1 filler) | 0.48 (12.3) | 99 (147) | 600 (2670) | 180 (800) | 9.7 (25) | 7.2 (19) | | |
| LV060★C5101N1D | 60 | 5/12 (no fillers) | 0.48 (12.3) | 98 (146) | 600 (2670) | 180 (800) | 9.7 (25) | 7.2 (19) | | |
| LV072★C6101N1D | 72 | 6/12 (no fillers) | 0.52 (13.1) | 103 (154) | 600 (2670) | 180 (800) | 10.3 (26) | 7.8 (20) | | |
| LV096★C8101N1D | 96 | 8/12 (no fillers) | 0.58 (14.7) | 138 (205) | 600 (2670) | 180 (800) | 11.6 (29) | 8.7 (23) | | |
| LV144★CC101N1D | 144 | 12/12 (no fillers) | 0.72 (18.2) | 198 (295) | 600 (2670) | 180 (800) | 14.3 (37) | 10.8 (28) | | |

Note: Diameter and weight subject to change without notice

★ Fiber Types – Replace asterisk (★) in AFL number with AFL Fiber Identifier in the Fiber Specifications table on previous page.

Reel Information

| ITEM | REEL A | | REEL B | | REEL C | | REEL D | | REEL E | |
|--------------------------|---------|-------|---------|--------|---------|--------|---------|--------|---------|--------|
| | inches | cm | inches | cm | inches | cm | inches | cm | inches | cm |
| Reel Height | 42 | 106.7 | 58 | 147.3 | 66 | 167.6 | 72 | 182.8 | 84 | 213.4 |
| Reel Width Outside | 36 | 91.4 | 38 | 96.5 | 42 | 106.7 | 42 | 106.7 | 40 | 101.6 |
| Reel Width Inside | 32 | 81.6 | 32 | 81.3 | 36 | 91.4 | 36 | 91.4 | 34 | 86.4 |
| Drum Diameter | 23 | 58.7 | 28 | 71.1 | 36 | 91.4 | 36 | 91.4 | 35 | 88.9 |
| Arbor Hole Diameter | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 | 3 | 7.9 |
| Reel Weight With Lagging | 180 lbs | 82 kg | 420 lbs | 191 kg | 685 lbs | 311 kg | 710 lbs | 320 kg | 950 lbs | 431 kg |

AFL typically provides Loose Tube cable on several standard sizes of non-returnable wooden reels. Non-standard reel sizes are available upon request.

Larger reel sizes may be required to accommodate long cable lengths.

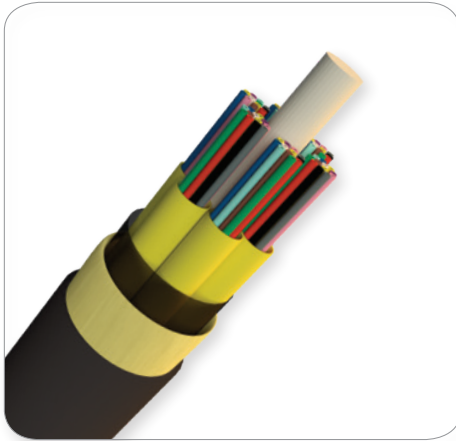
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| Telcordia | GR-20-CORE | Cable |
| UL | 1666 (OFNR) | Cable |
| ICEA | S-104-696 | Cable |
| CSA | 22.2 (FT4) | Cable |
| TIA | 598-D | Fiber |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +70°C |
| INSTALLATION | -30°C to +70°C |

Contact AFL for your customized cable solution.



LQ-Series Plenum-rated Indoor/Outdoor Loose Tube

The LQ-Series I/O plenum-rated fiber optic loose tube cables are designed to reduce network cabling costs by eliminating the need to use different cables within a pathway that includes outside plant (OSP) and inside plant (ISP) segments. This dual rating allows for the LQ-Series cable to be transitioned from the OSP pathway and routed within the building space without the need to splice to a separate flame-rated cable installed in a protective conduit. This feature saves space, material costs and installation time.

The cable construction consists of 12-fiber, gel-free buffer tubes stranded around a central strength member. The finished core is jacketed with a highly flame-retardant, UV-resistant thermoplastic. The LQ-Series cable is available with 12 up to 144 single-mode or multimode fibers.

Applications

- Inter-building campus backbone connections
- Suitable for installing in OSP buried pathways or above-ground exposed cable trays
- Cable routes that require cables to transit OSP spaces and inside plant environments that require cables to be riser or plenum rated

Fiber Specifications

| FIBER TYPE | ISO/IEC | AFL FIBER IDENTIFIER | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMBC (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|------------------------------------|---------|----------------------|-----------------------------|---------|---------|---|---------|---------------|--|---------|---|---------|
| | | | 850 nm | 1310 nm | 1550 nm | 850 nm | 1310 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| 62.5 Giga-Link™ 300 | OM1 | 6 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| 50 Giga-Link™ 600 | OM2 | 5 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| 50 Laser-Link 300 | OM3 | L | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| 50 Laser-Link 550 | OM4 | C | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| Single-mode (ITU G.652.D/G.657.A1) | OS2 | 9 | N/A | 0.4 | 0.3 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |

continued
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LQ-Series — Plenum-rated Indoor/Outdoor Loose Tube

Mechanical Data

| AFL NO. | FIBER COUNT | DIAMETER inches (mm) | WEIGHT lbs/1000ft (kg/km) | SHORT-TERM/INSTALLATION | | LONG-TERM/STATIC | |
|------------------|-------------|----------------------|---------------------------|--------------------------|-----------------------------|--------------------------|-----------------------------|
| | | | | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (cm) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (cm) |
| LQ012*3018#B:C4C | 12 | 0.39 (10.0) | 62 (92) | 300 (1334) | 5.9 (15) | 90 (400) | 3.9 (10) |
| LQ024*3018#B:C4C | 24 | 0.39 (10.0) | 62 (93) | 300 (1334) | 5.9 (15) | 90 (400) | 3.9 (10) |
| LQ036*3018#B:C4C | 36 | 0.39 (10.0) | 63 (94) | 300 (1334) | 5.9 (15) | 90 (400) | 3.9 (10) |
| LQ048*3018#B:C4C | 48 | 0.39 (10.0) | 64 (95) | 300 (1334) | 5.9 (15) | 90 (400) | 3.9 (10) |
| LQ072*3018#B:C6C | 72 | 0.46 (11.8) | 91 (135) | 600 (2669) | 7.0 (18) | 180 (801) | 4.6 (12) |
| LQ096*3018#B:C8C | 96 | 0.54 (13.6) | 125 (185) | 600 (2669) | 8.0 (21) | 180 (801) | 5.4 (14) |
| LQ144*3018#B:CCC | 144 | 0.69 (17.5) | 220 (315) | 600 (2669) | 10.4 (26) | 180 (801) | 6.9 (18) |

* Fiber Types – Replace asterisk (*) in AFL number with number in the Fiber Specifications table on previous page.

Subunit Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

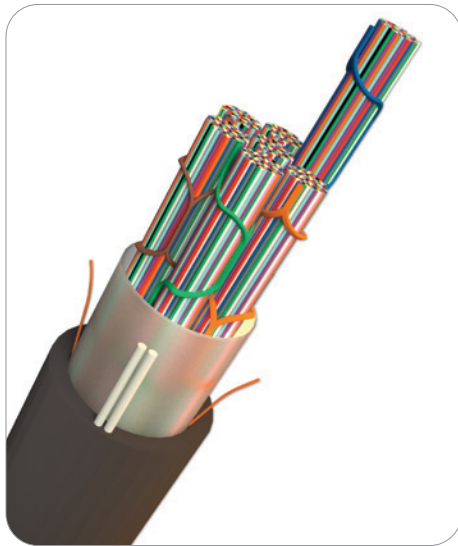
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|--------------|
| Telcordia | GR-20-CORE, Issue 4 | Fiber, Cable |
| ICEA | S-104-696, 2013 | Cable |
| UL | 444 | Outer Jacket |
| NEC | OFNP, CSA FT-6 | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +70°C |
| INSTALLATION | -15°C to +60°C |

Contact AFL for your customized cable solution.



Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 250 μm Fiber/250 μm Pitch

The 250 μm Fiber/250 μm Pitch Wrapping Tube Cable (WTC), with SpiderWeb Ribbon® (SWR®), is an ultra-high density outside plant cable designed specifically for fiber-to-the-home (FTTH) or access markets. It is compliant with the latest issue of the outside plant cable standard, Telcordia GR-20. With an ultra-high density and a new ribbon technology called SpiderWeb Ribbon®, WTC provides the smallest cable diameter and lowest weight, high-fiber count ribbon cable in the industry. WTC with SWR® cables are available in fiber counts from 144 to 1,728.

SWR® is a bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. This flexibility allows for a single cable design to cover a diverse set of applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR® provides for ultra-high density packaging in the WTC.

Features

- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC-SWR cables the smallest ribbon cables without compromising robustness of the cable
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Light weight for easy handling in the field compared to traditional cables
- Completely Gel-free for reduced time to access fiber and prep for splicing

Applications

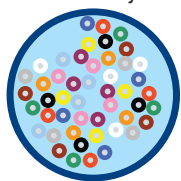
- Data Center Inter-building Connections
- Access Provider Metro Rings
- Service Provider FTTx
- Cable TV Subscriber Networks
- Metro Rail Track-side Network Links
- Suitable for Aerial Lashing, Pulled-in-duct, Air-Jetted-in-Duct
- Campus LAN

SWR Technology

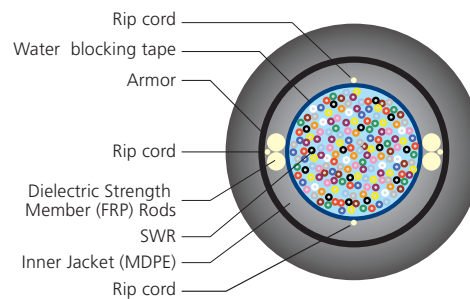


12F SWR®

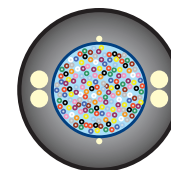
Contra-helical dual binder system



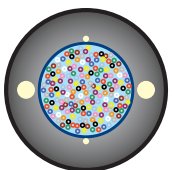
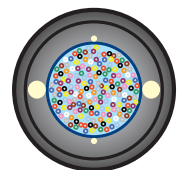
Multiple 12F SWR® Bundle



Armored 4-rod FRP (288F - 1,728F)



Non-armored 4-rod FRP (288F - 1,728F)



Non-armored & Armored 2-rod FRP (144F)

continued
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Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 250 μm Fiber/ 250 μm Pitch

Mechanical Data—Non-Armored

| DESCRIPTION | FIBER COUNT | BINDER UNIT | NOMINAL DIAMETER | WEIGHT | SHORT TERM / INSTALLATION | | LONG TERM / STORAGE / STATIC | |
|------------------------------|-------------|-------------|------------------|------------------------|---------------------------|-----------------------------|------------------------------|-----------------------------|
| | | | inches (mm) | lbs / 1,000 ft (kg/km) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) |
| ACE FIBER | | | | | | | | |
| LWSE-144-9-C-144-1-00N1D-* | 144 | 1 X 144F | 0.43 (11.0) | 61 (90) | 607 (2700) | 8.7 (221) | 182 (810) | 6.5 (165) |
| LWSE-288-9-C-288-1-00N1D-* | 288 | 1 X 288F | 0.47 (12.0) | 71 (105) | 607 (2700) | 9.5 (242) | 182 (810) | 7.1 (181) |
| LWSE-432-9-C-72-6-00N1D-* | 432 | 6 X 72F | 0.53 (13.5) | 91 (135) | 607 (2700) | 10.6 (270) | 182 (810) | 8.0 (203) |
| LWSE-576-9-C-72-8-00N1D-* | 576 | 8 X 72F | 0.59 (15.0) | 111 (165) | 607 (2700) | 11.8 (300) | 182 (810) | 8.9 (226) |
| LWSE-864-9-C-72-12-00N1D-* | 864 | 12 X 72F | 0.69 (17.5) | 145 (215) | 607 (2700) | 13.8 (351) | 182 (810) | 10.3 (262) |
| SR15E FIBER | | | | | | | | |
| LWSE-144-K-C-144-1-00N1D-* | 144 | 1 X 144F | 0.43 (11.0) | 61 (90) | 607 (2700) | 8.7 (221) | 182 (810) | 6.5 (165) |
| LWSE-288-K-C-288-1-00N1D-* | 288 | 1 X 288F | 0.47 (12.0) | 71 (105) | 607 (2700) | 9.5 (242) | 182 (810) | 7.1 (181) |
| LWSE-432-K-C-72-6-00N1D-* | 432 | 6 X 72F | 0.53 (13.5) | 91 (135) | 607 (2700) | 10.6 (270) | 182 (810) | 8.0 (203) |
| LWSE-576-K-C-72-8-00N1D-* | 576 | 8 X 72F | 0.59 (15.0) | 111 (165) | 607 (2700) | 11.8 (300) | 182 (810) | 8.9 (226) |
| LWSE-864-K-C-72-12-00N1D-* | 864 | 12 X 72F | 0.69 (17.5) | 145 (215) | 607 (2700) | 13.8 (351) | 182 (810) | 10.3 (262) |
| LWSE-1152-K-C-144-8-00N1D-* | 1152 | 8 X 144F | 0.73 (18.5) | 161 (240) | 607 (2700) | 14.6 (371) | 182 (810) | 10.9 (277) |
| LWSE-1728-K-C-144-12-00N1D-* | 1728 | 12 X 144F | 0.91 (23.0) | 242 (360) | 607 (2700) | 18.1 (460) | 182 (810) | 13.6 (346) |

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Mechanical Data—Armored

| DESCRIPTION | FIBER COUNT | BINDER UNIT | NOMINAL DIAMETER | WEIGHT | SHORT TERM / INSTALLATION | | LONG TERM / STORAGE / STATIC | |
|------------------------------|-------------|-------------|------------------|------------------------|---------------------------|-----------------------------|------------------------------|-----------------------------|
| | | | inches (mm) | lbs / 1,000 ft (kg/km) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) |
| LWSE-144-9-C-144-1-10S1D-* | 144 | 1 X 144F | 0.63 (16.0) | 148 (220) | 607 (2700) | 12.6 (320) | 182 (810) | 9.5 (242) |
| LWSE-288-9-C-288-1-10S1D-* | 288 | 1 X 288F | 0.69 (17.5) | 172 (255) | 607 (2700) | 13.8 (351) | 182 (810) | 10.3 (262) |
| LWSE-432-9-C-72-6-10S1D-* | 432 | 6 X 72F | 0.75 (19.0) | 202 (300) | 607 (2700) | 15.0 (381) | 182 (810) | 11.2 (285) |
| LWSE-576-9-C-72-8-10S1D-* | 576 | 8 X 72F | 0.81 (20.5) | 235 (350) | 607 (2700) | 16.1 (409) | 182 (810) | 12.1 (307) |
| LWSE-864-9-C-72-12-10S1D-* | 864 | 12 X 72F | 0.91 (23.0) | 286 (425) | 607 (2700) | 18.1 (460) | 182 (810) | 13.6 (346) |
| LWSE-1728-K-C-144-12-10S1D-* | 1728** | 12 X 144F | 1.14 (29.0) | 410 (610) | 607 (2700) | 22.8 (579) | 182 (810) | 17.1 (435) |

NOTES:

* To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

** Modified temperature performance

Optical Fiber

| FIBER COUNT | FIBER DIAMETER | FIBER PITCH | FIBER DESIGNATOR | MFD | MAXIMUM ATTENUATION (CABLED) dB/km | | |
|--------------------------------|----------------|-------------|--------------------------------|--------------|------------------------------------|---------|---------|
| | | | | | 1310 nm | 1383 nm | 1550 nm |
| Fujikura ACE (144F to 864F) | 250 μm | 250 μm | 9 (ITU-T G.652.D and G.657.A1) | 9.2 ± 0.4 μm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |
| Fujikura SR15E (144F to 1728F) | 250 μm | 250 μm | K (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 μm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

continued
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Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 250 µm Fiber/ 250 µm Pitch

Stripe Ring Fiber Identification

| R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING |
|-------|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|
| 1 | █ | 7 | ███ | 13 | ██████ | 19 | ██████████ |
| 2 | ██ | 8 | ████ | 14 | ███████ | 20 | ████████ |
| 3 | ███ | 9 | █████ | 15 | ██████ | 21 | █████████ |
| 4 | ████ | 10 | █████ | 16 | ███████ | 22 | █████████ |
| 5 | █████ | 11 | ██████ | 17 | ████████ | 23 | ██████████ |
| 6 | ██████ | 12 | ███████ | 18 | █████████ | 24 | ██████████ |

| FIBER COUNT | BINDER UNIT (BU) | | | | | | | | | | | RING MARKINGS | | |
|-------------|------------------|---|---|---|---|---|---|---|---|---|----|-------------------|-------------------|-------------------|
| 144F | No Binder Unit | | | | | | | | | | | 1-12 Ring Marking | | |
| 288F | No Binder Unit | | | | | | | | | | | 1-24 Ring Marking | | |
| 432F | 6 Binder Units | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | |
| 576F | 8 Binder Units | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | 1-6 Ring Marking | |
| 864F | 12 Binder Units | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| 1152F | 8 Binder Units | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | 1-12 Ring Marking | |
| 1728F | 12 Binder Units | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1-12 Ring Marking |

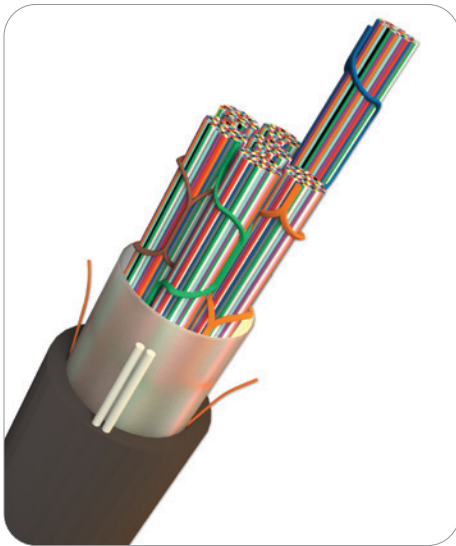
Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|-------------------------------------|
| OPERATION | -40°F to +158°F (-40°C to +70°C) |
| STORAGE | -40°F to +158°F (-40°C to +70°C) |
| INSTALLATION | -22°F to +140°F (-30°C to +60°C) |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-------------------|
| Telcordia | GR-20 | Fiber Optic Cable |

Contact AFL for further details.



Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 μm Fiber/250 μm Pitch

The 200 μm fiber/250 μm pitch Wrapping Tube Cable (WTC), with SpiderWeb Ribbon® (SWR®), is an ultra-high density outside plant cable designed specifically for fiber-to-the-home (FTTH) or access markets. It is compliant with the latest issue of the outside plant cable standard, Telcordia GR-20. With an ultra-high density and a new ribbon technology called SpiderWeb Ribbon®, WTC provides the smallest cable diameter and lowest weight, high-fiber count ribbon cable in the industry. WTC with SWR® cables are available in fiber counts of 864, 1,728, 3,456 and 6,912.

SWR® is a bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. This flexibility allows for a single cable design to cover a diverse set of applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR® provides for ultra-high density packaging in the WTC.

Features

- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC-SWR cables the smallest ribbon cables without compromising robustness of the cable
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Light weight for easy handling in the field compared to traditional cables
- Completely Gel-free for reduced time to access fiber and prep for splicing

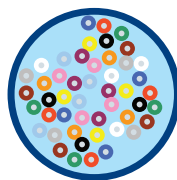
Applications

- Data Center Inter-building Connections
- Access Provider Metro Rings
- Service Provider FTTx
- Cable TV Subscriber Networks
- Metro Rail Track-side Network Links
- Suitable for Aerial Lashing, Pulled-in-duct, Air-Jetted-in-Duct
- Campus LAN

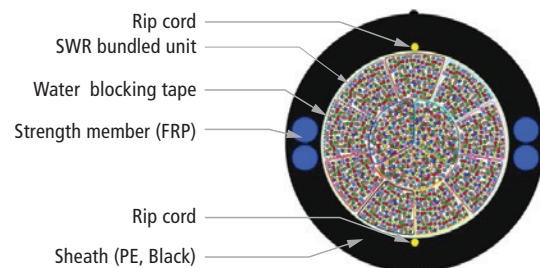
SWR Technology



12F SWR



Multiple 12F SWR Bundle



Non-armored
(864F, 1728F, 3456F
and 6912F)

continued
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Wrapping Tube Cable (WTC) with SWR® – 200 μm Fiber/250 μm Pitch

Mechanical Data—Non-Armored

| DESCRIPTION | FIBER COUNT | BINDER UNIT | NOMINAL DIAMETER | WEIGHT lbs/1,000 ft (kg/km) | SHORT TERM/INSTALLATION | | LONG TERM/STORAGE/STATIC | |
|-------------------------------|-------------|-------------|------------------|-----------------------------------|-----------------------------|--------------------------------|-----------------------------|--------------------------------|
| | | | inches (mm) | | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) |
| LWSE-864-BE-C-72-12-00N1D-* | 864 | 12 X 72F | 0.63 (16.0) | 124 (185) | 607 (2700) | 12.6 (320) | 182 (810) | 9.5 (241) |
| LWSE-1728-BE-C-144-12-00N1D-* | 1728 | 12 X 144F | 0.85 (21.5) | 202 (300) | 607 (2700) | 16.9 (430) | 182 (810) | 12.7 (323) |
| LWSE-3456-BE-C-144-24-00N1D-* | 3456 | 24 X 144F | 1.04 (26.5) | 292 (435) | 607 (2700) | 20.9 (530) | 182 (810) | 15.7 (399) |
| LWSE-6912-BE-C-288-24-00N1D-* | 6912 | 24 X 288F | 1.38 (35.0) | 514 (765) | 607 (2700) | 27.6 (700) | 182 (810) | 20.7 (525) |

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Optical Fiber

| FIBER COUNT | FIBER DIA. | FIBER PITCH | FIBER DESIGNATOR | MFD | MAXIMUM ATTENUATION (CABLED) dB/km | | |
|--|------------|-------------|---------------------------------|--------------|---------------------------------------|--------------|--------------|
| | | | | | 1310 nm | 1383 nm | 1550 nm |
| Fujikura SR15E-200 (864, 1728, 3456, 6912) | 200 μm | 250 μm | BE (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 μm | ≤ 0.35 dB/km | ≤ 0.35 dB/km | ≤ 0.25 dB/km |

Stripe Ring Fiber Identification — 864, 1728, 3456

| R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING |
|-------|---------------------|-------|---------------------|-------|---------------------|
| 1 | █ | 5 | ██ | 9 | ████ |
| 2 | ██ | 6 | ███ | 10 | █████ |
| 3 | ███ | 7 | ████ | 11 | █████ |
| 4 | ████ | 8 | █████ | 12 | █████ |

Stripe Ring Fiber Identification — 6,912

| R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING |
|-------|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|
| 1 | █ | 7 | ███ | 13 | ██████ | 19 | ██████████ |
| 2 | ██ | 8 | ████ | 14 | ██████ | 20 | ██████████ |
| 3 | ███ | 9 | █████ | 15 | ██████ | 21 | ██████████ |
| 4 | ████ | 10 | █████ | 16 | ██████ | 22 | ██████████ |
| 5 | █████ | 11 | █████ | 17 | ██████ | 23 | ██████████ |
| 6 | █████ | 12 | █████ | 18 | ██████ | 24 | ██████████ |

| FIBER COUNT | BINDER UNIT (BU) | RING MARKINGS |
|-------------|------------------|-------------------|
| 864F | 12 Binder Units | 1-6 Ring Marking |
| 1728F | 12 Binder Units | 1-12 Ring Marking |
| 3456F | 24 Binder Units* | 1-12 Ring Marking |
| 6912F | 24 Binder Units* | 1-24 Ring Marking |

*For binder units 13-24, the second binder unit is clear

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-------------------|
| Telcordia | GR-20 | Fiber Optic Cable |

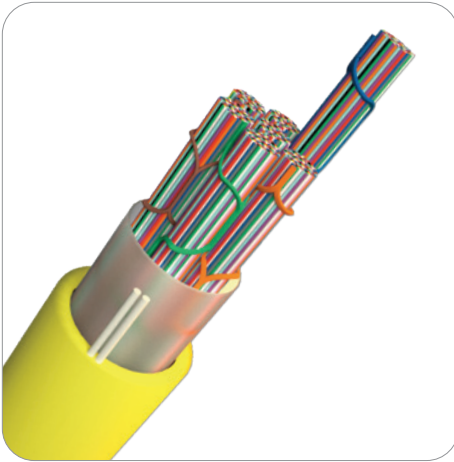
Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------------------------|
| OPERATION | -40°F to +158°F (-40°C to +70°C) |
| STORAGE | -40°F to +158°F (-40°C to +70°C) |
| INSTALLATION | -22°F to +140°F (-30°C to +60°C) |

Contact AFL for further details.

AFLglobal.com | 800.235.3423

Fiber Optic Cable



Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)

Flame-retardant (FR) Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for inside plant and indoor/outdoor network applications where riser-rated products are required. The FR-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings and, because of the core water-blocking feature, can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

The FR-WTC-SWR product set is available in LSZH, UL 1666 Riser Rated, CPR Classification, non-armored 250 μm SR15E fiber (288F) and 200 μm SR15E-200 fiber (864F and 1728F) constructions.

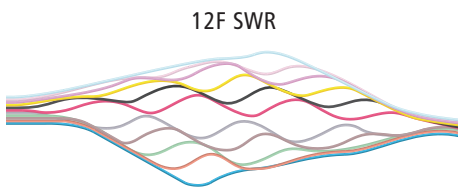
Features

- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC-SWR cables the smallest ribbon cables without compromising robustness of the cable
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Light weight for easy handling in the field compared to traditional cables
- Completely Gel-free for reduced time to access fiber and prep for splicing

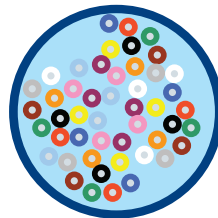
Applications

- Riser spaces within build structures
- Data Center Inter-building Connections

SWR Technology

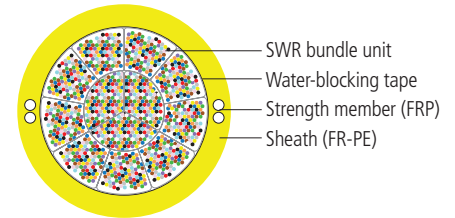


12F SWR
Contra-helical dual binder system



Multiple 12F SWR bundle
72F OR 144F bundles
depending on cable fiber count

Cable Components



OFNR-LS
Non-armored
(288F, 864F, 1728F)

continued
→

Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)

Mechanical Data—Non-Armored

| DESCRIPTION | EN 13501-6 CLASSIFICATION | FIBER COUNT | BINDER UNIT | NOMINAL DIAMETER | WEIGHT lbs/1,000 ft (kg/km) | SHORT TERM / INSTALLATION | | LONG TERM / STORAGE /STATIC | |
|----------------------------------|---------------------------|-------------|-------------|------------------|-----------------------------------|-----------------------------|--------------------------------|-----------------------------|--------------------------------|
| | | | | inches (mm) | | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) | MAX TENSILE LOAD lbs (N) | MIN BEND RADIUS inches (mm) |
| 250 μm SR15E FIBER | | | | | | | | | |
| FR-OGNM12WTZTWBE SR15Ex288C | Cca-s1a,d0,a1 | 288 | 4 X 72F | 0.49 (12.5) | 108 (160) | 297 (1320) | 7.4 (188) | 89 (396) | 4.9 (125) |
| 200 μm SR15E FIBER | | | | | | | | | |
| FR-OGNM12WTZTWBE SR15E-200x864C | Cca-s2,d2,a1 | 864 | 12 X 72F | 0.65 (16.5) | 181 (270) | 297 (1320) | 9.7 (248) | 89 (396) | 6.5 (165) |
| FR-OGNM12WTZTWBE SR15E-200x1728C | Cca-s1,d0,a1 | 1728 | 12 X 144F | 0.85 (21.5) | 276 (410) | 297 (1320) | 12.7 (323) | 89 (396) | 8.5 (215) |

Optical Fiber

| OPTICAL FIBER (FIBER COUNT) | FIBER DIA. | FIBER PITCH | OPTICAL FIBER STANDARD | MFD | MAXIMUM ATTENUATION (CABLED) dB/km | | |
|----------------------------------|------------|-------------|---------------------------------|--------------|---------------------------------------|--------------|--------------|
| | | | | | 1310 nm | 1383 nm | 1550 nm |
| Fujikura SR15E (288F) | 250 μm | 250 μm | K (ITU-T G.652D/G.657.A1) | 8.6 ± 0.4 μm | ≤ 0.35 dB/km | ≤ 0.35 dB/km | ≤ 0.25 dB/km |
| Fujikura SR15E-200 (864F, 1728F) | 200 μm | 250 μm | BE (ITU-T G.652.D AND G.657.A1) | 8.6 ± 0.4 μm | ≤ 0.35 dB/km | ≤ 0.35 dB/km | ≤ 0.25 dB/km |

Stripe Ring Fiber Identification

| R NO. | STRIPE RING MARKING | R NO. | STRIPE RING MARKING |
|-------|---------------------|-------|---------------------|
| 1 | █ | 7 | ███ █ |
| 2 | ██ | 8 | ████ █ |
| 3 | ███ | 9 | █████ █ |
| 4 | ████ | 10 | ██████ █ |
| 5 | █████ | 11 | ███████ █ |
| 6 | ██████ | 12 | ████████ █ |

| FIBER COUNT | BINDER UNIT (BU) | RING MARKINGS |
|-------------|--|-------------------|
| 288F | 4 Binder Units 1 2 3 4 | |
| 864F | 12 Binder Units 1 2 3 4 5 6 7 8 9 10 11 12 | 1-6 Ring Marking |
| 1728F | 12 Binder Units 1 2 3 4 5 6 7 8 9 10 11 12 | 1-12 Ring Marking |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|--|
| UL | 1666, Listed Riser 1685, Fire Propagation and Low Smoke |
| ANSI/ICEA | S-83-596 |
| EU | EN 13501-6 (CPR) |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------------------------|
| INSTALLATION | +14°F to +140°F (-10°C to +60°C) |
| OPERATING | -4°F to +158°F (-20°C to +70°C) |
| STORAGE | -40°F to +158°F (-40°C to +70°C) |

Contact AFL for further details.



LM-Series OSP MicroCore® Cable

AFL OSP MicroCore® cable series (LM-Series) is designed for outside plant installation in microduct conduit systems. The foundation of the design is the multi-fiber-set, gel-filled buffer tube construction. The kink-resistant buffer tube contains multiple 12-fiber sets of color-coded fibers. Each set within the buffer tube is grouped using dual color-coded binder threads. The dry-blocked core is made up of SZ-stranded buffer tubes around a central strength member. The low-friction, high-strength overall jacketing system protects the cable-core while providing an optimized cable package supporting high-speed, long-distance jetting performance. The unique, high-fiber density geometry yields a cable construction that can accommodate up to 432 fibers and can be blown into microducts ranging in inside diameters from 10 mm to 16 mm.

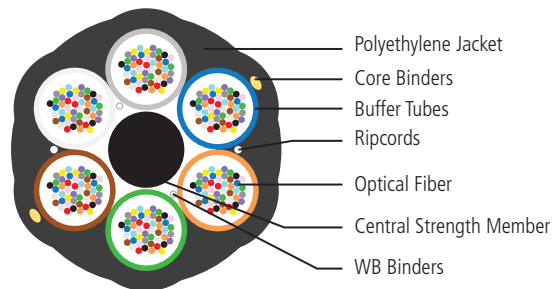
Features

- 12 up to 432 250 µm fibers
- Low-friction outer jacket designed for air-blown installations
- Robust, kink-resistant buffer tubes reduce time and handling issues associated with enclosure build-outs
- 300lb installation tensile load rating
- OD compatible with 10 mm to 16 mm inside diameter microducts

Applications

- Long-haul, middle-mile and metro-loop
- Campus inter-building backbone distribution
- Low-cost fiber upgrade migration strategies

Cable Components



continued
→

LM-Series OSP MicroCore® Cable

Physical and Mechanical Data

| LM-SERIES AFL NO.* | FIBER COUNT | FIBERS/ NUMBER OF TUBES** | DIAMETER | | MIN. MICRODUCT INNER DIAMETER | WEIGHT | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|-----------------------|----------------|---------------------------------|-------------|-------------|----------------------------------|------------|----------------------|-----------|---------------------|-----------|
| | | | INCHES (MM) | INCHES (MM) | | | LBS (N) | | INCHES (CM) | |
| | | | | | | | INSTALLATION | OPERATION | INSTALLATION | OPERATION |
| LM012xC6101NS | 12 | 12/1 (5 fillers) | 0.31 (7.9) | 0.39 (10.0) | 31 (46) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM024xC6101NS | 24 | 12/2 (4 fillers) | 0.31 (7.9) | 0.39 (10.0) | 32 (48) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM048xC6101NS | 48 | 12/4 (2 fillers) | 0.31 (7.9) | 0.39 (10.0) | 33 (49) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM072xC6101NS | 72 | 12/6 | 0.31 (7.9) | 0.39 (10.0) | 34 (51) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM096xO6101NS | 96 | 24/4 (2 fillers) | 0.31 (7.9) | 0.39 (10.0) | 34 (51) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM144xO6101NS | 144 | 24/6 | 0.31 (7.9) | 0.39 (10.0) | 36 (53) | 300 (1334) | 90 (400) | 6.5 (16) | 5 (12) | |
| LM288xR6101NS | 288 | 48/6 | 0.41 (10.4) | 0.51 (13.0) | 63 (93) | 300 (1334) | 90 (400) | 8.5 (21) | 6.5 (16) | |
| LM432xOI301NS | 432 | 24/18 | 0.50 (12.6) | 0.63 (16.0) | 87 (130) | 300 (1334) | 90 (400) | 10 (26) | 7.5 (19) | |

* Replace "x" in AFL number with Fiber Identifier in the Fiber Specifications table below.

** Fibers are arranged in 12-fiber sets identified by colored binder threads. For fiber identification details [click here](#).

Optical Fiber Options

| FIBER TYPE | "X" | STANDARD | MODE FIELD DIAMETER | ATTENUATION | |
|----------------------------|-----|-----------------------|---------------------|-------------|---------|
| | | | | 1300 nm | 1550 nm |
| 250 µm Single-mode | 9 | ITU-T G.652D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |
| Corning 250 µm Single-mode | AZ | ITU-T G.652D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |

Standard Packaging Details

| FIBER COUNT | REEL DIMENSIONS (FLANGE X WIDTH) | STANDARD REEL LENGTH | TYPICAL TOTAL WEIGHT |
|-------------|----------------------------------|----------------------|----------------------|
| 12-144 | 48 x 36 in. | 20,000 ft (6,096 m) | 950 lbs (430 kg) |
| 288 | 58 x 38 in. | 20,000 ft (6,096 m) | 1,800 lbs (816 kg) |
| 432 | 66 x 42 in. | 20,000 ft (6,096 m) | 2,450 lbs (1,111 kg) |

Recommended Products

| DESCRIPTION | AFL NO. |
|---|---|
| Apex® X-2 Sealed Splice Closure | Refer to spec sheet for AFL No. |
| Apex® X-2S Sealed Splice Closure | Refer to spec sheet for AFL No. |
| FUSEConnect® MPO Splice-on Connectors | Refer to spec sheet for AFL No. |
| FUSEConnect® Field-installable Splice-on Connectors | Refer to spec sheet for AFL No. |
| LMHD-Series OSP MicroCore® Cable | Refer to spec sheet for AFL No. |
| Poli-MOD® Patch and Splice Module | Refer to spec sheet for AFL No. |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -30°C to +70°C |
| STORAGE | -30°C to +70°C |
| INSTALLATION | -10°C to +60°C |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| ANSI/ICEA | S-122-744 | Cable |
| TIA | 598-D | Fiber |

Contact AFL for further details.



LM200-Series OSP MicroCore® Cable

The product design integrates 200 µm buffered single-mode fiber which allows for reduced diameter cables compared to traditional OSP micro-cables. The foundation of the design is the multi-fiber-set, gel-filled buffer tube construction. The kink-resistant buffer tube contains multiple 12-fiber sets of color-coded fibers. Each set within the buffer tube is grouped using dual color-coded binder threads. The dry-blocked core is made up of six buffer tubes SZ-stranded around a central strength member. The low-friction, high-strength overall jacketing system protects the cable-core while providing an optimized cable package supporting high-speed, long-distance jetting performance. The LM200-Series is the right choice for use in bundled micro-duct pathways allowing for future, incremental cable additions as network circuits and bandwidth requirements increase.

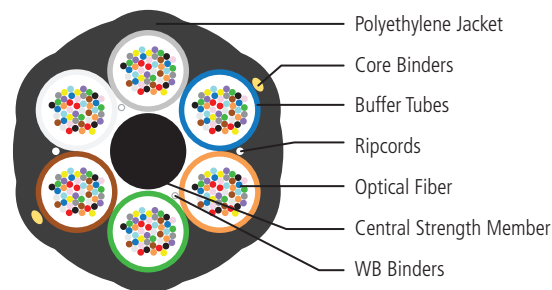
Features

- 24 to 432 fibers
- Robust, kink-resistant buffer tubes reduce time and handling issues associated with enclosure build-outs
- Low-friction jacketing system allows for longer jetting distances
- Designed for use in bundled micro-duct pathways allowing for future, optical circuit additions

Applications

- Long-haul, Local Loop FTTx, Campus Backbone connections for 10G, 40G, and 100G network transmission speeds
- Air-jetted into bundled micro-ducts
- Congested pathway over-ride installations

Cable Components



continued
→

LM200-Series OSP MicroCore® Cable

Physical and Mechanical Data

| LM200-SERIES AFL NO.* | FIBER COUNT | FIBERS/ NUMBER OF TUBES** | DIAMETER | | WEIGHT | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|--------------------------|----------------|---------------------------------|--------------|-------------|----------|----------------------|-----------|---------------------|-----------|
| | | | INCHES (MM) | INCHES (MM) | | LBS (N) | | INCHES (CM) | |
| | | | | | | INSTALLATION | OPERATION | INSTALLATION | OPERATION |
| LM024xO6101NS | 24 | 24/1 (5 fillers) | 0.248 (6.3) | 0.315 (8) | 21 (31) | 200 (890) | 60 (267) | 5 (13) | 4 (10) |
| LM048xO6101NS | 48 | 24/2 (4 fillers) | 0.248 (6.3) | 0.315 (8) | 22 (33) | 200 (890) | 60 (267) | 5 (13) | 4 (10) |
| LM072xO6101NS | 72 | 24/3 (3 fillers) | 0.248 (6.3) | 0.315 (8) | 23 (34) | 200 (890) | 60 (267) | 5 (13) | 4 (10) |
| LM096xO6101NS | 96 | 24/4 (2 fillers) | 0.248 (6.3) | 0.315 (8) | 24 (36) | 200 (890) | 60 (267) | 5 (13) | 4 (10) |
| LM144xO6101NS | 144 | 24/6 | 0.248 (6.3) | 0.315 (8) | 26 (39) | 200 (890) | 60 (267) | 5 (13) | 4 (10) |
| LM288xR6101NS | 288 | 48/6 | 0.319 (8.1) | 0.394 (10) | 43 (65) | 300 (1334) | 90 (400) | 6.5 (17) | 5 (13) |
| LM432xT6101NS | 432 | 72/6 | 0.409 (10.4) | 0.512 (13) | 70 (104) | 300 (1334) | 90 (400) | 8.5 (21) | 6.5 (16) |

* "x" denotes fiber type. See optical fiber specification table to complete AFL part number.

** Fibers are arranged in 12-fiber sets identified by colored binder threads. For fiber identification details [click here](#).

Optical Fiber Specifications

| FIBER TYPE | "X" | STANDARD | MODE FIELD DIAMETER | ATTENUATION | |
|----------------------------|-----|------------------------|---------------------|-------------|---------|
| | | | | 1300 nm | 1550 nm |
| 200 µm Single-mode | BC | ITU-T G.652.D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |
| Corning 200 µm Single-mode | BA | ITU-T G.652.D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |

Standard Packaging Details

| FIBER COUNT | REEL DIMENSIONS (Flange x Width) | STANDARD REEL LENGTH | REEL WEIGHT | TYPICAL TOTAL WEIGHT |
|-------------|-------------------------------------|-------------------------|------------------|-------------------------|
| 24-288 | 48 x 36 in. | 19,000 ft (5,791 m) | 140 lbs (64 kg) | 1,100 lbs (500 kg) |
| 432 | 58 x 38 in. | 19,000 ft (5,791 m) | 435 lbs (197 kg) | 1,900 lbs (862 kg) |

Recommended Products

| DESCRIPTION | AFL NO. |
|---|---|
| Apex® X-2 Sealed Splice Closure | Refer to spec sheet for AFL No. |
| Apex® X-2S Sealed Splice Closure | Refer to spec sheet for AFL No. |
| Poli-MOD® Patch and Splice Module | Refer to spec sheet for AFL No. |
| FUSEConnect® MPO Splice-on Connectors | Refer to spec sheet for AFL No. |
| FUSEConnect® Field-installable Splice-on Connectors | Refer to spec sheet for AFL No. |

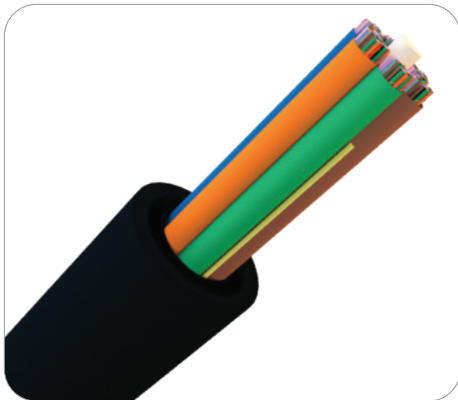
Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -30°C to +70°C |
| STORAGE | -30°C to +70°C |
| INSTALLATION | -10°C to +60°C |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| ANSI/ICEA | S-122-744 | Cable |
| TIA | 598-D | Fiber |

Contact AFL for further details.



LMHD-Series OSP Heavy Duty MicroCore® Cable

The Heavy Duty OSP MicroCore® (LMHD-Series) is small-diameter loose tube fiber optic cable with a 600lb load-rating. The design consists of SZ-stranded gel-filled buffer tubes, aramid and fiberglass strength elements, and a thick-walled, UV-resistant outer jacket. These cables can be jetted or pulled into standard HDPE ducts and, because of their small diameters, can be jetted into bundled microduct pathways. Minimum pathway inside diameters range from 13 mm to 20 mm, varied by the cable fiber count. When the application requires a transition from underground to aerial, the LMHD-Series cables can be lashed to aerial messenger wires using standard OSP cable lashing equipment and techniques.

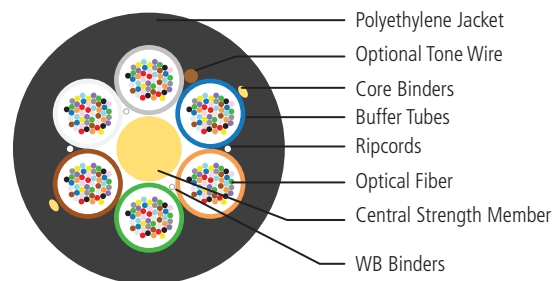
Features

- 12 up to 432 250 μm fibers
- 600 lb tensile load rating for pulling applications to be comparable to traditional underground loose tube fiber optic cables but at a smaller size
- Small-diameter construction offers improved air-jetting when compared to conventional loose tube cables
- Thick-walled outer jacket capable of direct lashing to aerial messenger wires
- Toneable option includes a low-resistance copper wire that allows cable/pathway to be located using standard electromagnetic detector devices

Applications

- Long-haul, local loop FTTx, campus backbone connections for 10G, 40G and 100G network transmission speeds
- Air-jetted into bundled micro-ducts
- Congested pathway over-ride installations

Cable Components



continued
→

LMHD-Series OSP Heavy Duty MicroCore® Cable

Physical and Mechanical Data

| LMHD-SERIES AFL NO.* | FIBER COUNT | FIBERS/ NUMBER OF TUBES** | DIAMETER | | MIN. MICRODUCT INNER DIAMETER | WEIGHT*** LBS/1000FT (KG/KM) | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|-------------------------|----------------|---------------------------------|-------------|-------------|----------------------------------|--|----------------------|-----------|---------------------|-----------|
| | | | INCHES (MM) | INCHES (MM) | | | LBS (N) | | INCHES (CM) | |
| | | | | | | | INSTALLATION | OPERATION | INSTALLATION | OPERATION |
| LM012xC6201#1 | 12 | 12/1 (5 fillers) | 0.40 (10.1) | 0.512 (13) | 53 (78) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM024xC6201#1 | 24 | 12/2 (4 fillers) | 0.40 (10.1) | 0.512 (13) | 53 (79) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM048xC6201#1 | 48 | 12/4 (2 fillers) | 0.40 (10.1) | 0.512 (13) | 54 (81) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM072xC6201#1 | 72 | 12/6 | 0.40 (10.1) | 0.512 (13) | 56 (83) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM096xO6201#1 | 96 | 24/4 (2 fillers) | 0.40 (10.1) | 0.512 (13) | 56 (83) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM144xO6201#1 | 144 | 24/6 | 0.40 (10.1) | 0.512 (13) | 57 (85) | 600 (2670) | 180 (801) | 8 (20) | 6 (15) | |
| LM288xR6201#1 | 288 | 48/6 | 0.49 (12.4) | 0.630 (16) | 86 (129) | 600 (2670) | 180 (801) | 10 (25) | 7.5 (19) | |
| LM432xOI201#1 | 432 | 24/18 | 0.58 (14.6) | 0.787 (20) | 117 (174) | 600 (2670) | 180 (801) | 12 (30) | 9 (22) | |

- * Replace # with "N" for all-dielectric cable or "T" for toneable option. "x" denotes fiber type. See Optical Fibers Options table below.
- ** Fibers are arranged in 12-fiber sets identified by colored binder threads. For fiber identification details [click here](#).
- *** Weights provided for all-dielectric designs, toneable cables will have a slightly increased weight. Contact AFL for details.

Optical Fiber Options

| FIBER TYPE | "X" | STANDARD | MODE FIELD DIAMETER | ATTENUATION | |
|----------------------------|-----|-----------------------|---------------------|-------------|---------|
| | | | | 1300 nm | 1550 nm |
| 250 µm Single-mode | 9 | ITU-T G.652D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |
| Corning 250 µm Single-mode | AZ | ITU-T G.652D / 657.A1 | 9.2 µm nominal | 0.35 | 0.25 |

Standard Packaging Details

Typical cut lengths are 20,000ft or 30,000ft. Contact AFL for longer or other preferred cut lengths.

| FIBER COUNT | REEL DIMENSIONS (Flange x Width) | STANDARD REEL LENGTH | TYPICAL TOTAL WEIGHT |
|-------------|----------------------------------|----------------------|----------------------|
| 12-72 | 58 x 38 in. | 20,000 ft (6,096 m) | 1,450 lbs (658 kg) |
| 96-144 | 58 x 38 in. | 20,000 ft (6,096 m) | 1,750 lbs (794 kg) |
| 288 | 66 x 42 in. | 20,000 ft (6,096 m) | 2,400 lbs (1,089 kg) |
| 432 | 72 x 42 in. | 20,000 ft (6,096 m) | 3,150 lbs (1,429 kg) |

| FIBER COUNT | REEL DIMENSIONS (Flange x Width) | STANDARD REEL LENGTH | TYPICAL TOTAL WEIGHT |
|-------------|----------------------------------|----------------------|----------------------|
| 12-72 | 66 x 42 in. | 30,000 ft (9,144 m) | 2,100 lbs (953 kg) |
| 96-144 | 66 x 42 in. | 30,000 ft (9,144 m) | 2,500 lbs (1,134 kg) |
| 288 | 72 x 42 in. | 30,000 ft (9,144 m) | 3,500 lbs (1,588 kg) |

Recommended Products

| DESCRIPTION | AFL NO. |
|---|---|
| Apex® X-2 Sealed Fiber Optic Splice Closure | Refer to spec sheet for AFL No. |
| Apex® X-2S Sealed Fiber Optic Splice Closure | Refer to spec sheet for AFL No. |
| Poli-MOD® Patch and Splice Module | Refer to spec sheet for AFL No. |
| FUSEConnect® Field-installable Splice-on Connectors | Refer to spec sheet for AFL No. |
| FUSEConnect® MPO Splice-on Connectors | Refer to spec sheet for AFL No. |
| LM-Series OSP MicroCore® Cable | Refer to spec sheet for AFL No. |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| Telcordia | GR-20-CORE | Cable* |
| ICEA | 640 | Cable |
| TIA | 598-D | Fiber |

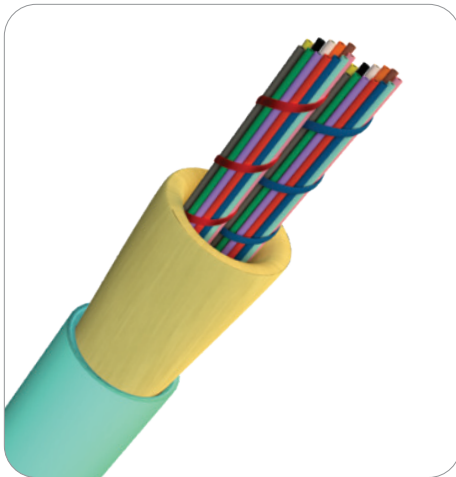
* Tested to the operating temperature range as specified

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| STORAGE | -30°C to +75°C |
| INSTALLATION | -10°C to +40°C |
| OPERATION | -30°C to +70°C |

Contact AFL for further details.

Premise Cable



Interconnect Premise MicroCore® Cable

Interconnect Premise MicroCore cables are designed for MTP terminations and meet the interconnect standards of Telcordia® GR-409. To minimize the cable's diameter, multiple colored 250 μm fibers and aramid strands are packaged in a PVC or LSZH jacket. Simplex and Zipcord designs are available in a variety of fiber counts.

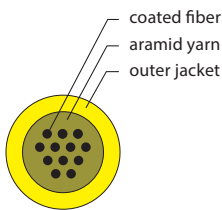
Features

- 8 to 72 fibers
- 2.0 mm or 3.0 mm Outer Diameter for Round Boot 12-fiber MTP Cables
- 3.0 mm or 3.8 mm Outer Diameter for Round Boot 24-fiber MTP Cables
- 4.0 mm Outer Diameter for Round Boot 48-count MTP Cables

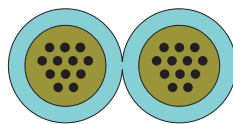
Applications

- Building Interconnections
- Data Centers and Central Offices
- Anywhere MTP connections can be used
- High-density Interconnects
- 40 Gbit and 100 Gbit Ethernet Architecture

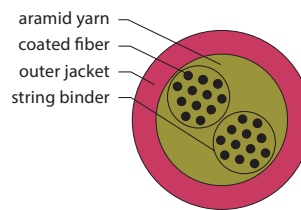
Cable Components



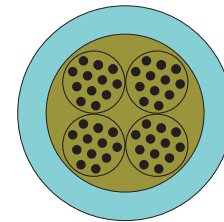
12 Fiber Simplex



24 Fiber Zipcord
(3.0 mm only)



24 Fiber Simplex



48 Fiber Simplex

Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |

*Other fiber types available (All ITU G.657 grade SMF available)

continued
→

Interconnect Premise MicroCore® Cable

Mechanical Data

| CABLE TYPE | PLENUM | LSZH | FIBER COUNT | NOMINAL DIAMETER | WEIGHT | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|-------------------|--------------|--------------|-------------|------------------|---------------------|-----------------|-----------|----------------------------|-----------|
| | AFL NO. | | | inches (mm) | lbs/1000 ft (kg/km) | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| | SP/ZP | SE/ZE | | | | | | | |
| SINGLE SMALL FORM | SP008◆201#0B | SE008◆201#0B | 8 | 0.08 (2.0) | 2.6 (4.0) | 22 (98) | 7 (30) | 1.2 (3.0) | 0.8 (2.0) |
| | SP012◆201#0B | SE012◆201#0B | 12 | 0.08 (2.0) | 2.6 (4.0) | 22 (98) | 7 (30) | 1.2 (3.0) | 0.8 (2.0) |
| | SP016◆301#0B | SE016◆301#0B | 16 | 0.12 (3.0) | 5.3 (7.9) | 22 (98) | 7 (30) | 1.8 (4.5) | 1.2 (3.0) |
| | SP024◆301#0B | SE024◆301#0B | 24 | 0.12 (3.0) | 5.3 (7.9) | 22 (98) | 7 (30) | 1.8 (4.5) | 1.2 (3.0) |
| | SP032◆381#0B | SE032◆381#0B | 32 | 0.15 (3.8) | 9.4 (14.0) | 22 (98) | 7 (30) | 2.2 (5.7) | 1.5 (3.8) |
| | SP048◆381#0B | SE048◆381#0B | 48 | 0.15 (3.8) | 9.4 (14.0) | 22 (98) | 7 (30) | 2.2 (5.7) | 1.5 (3.8) |
| SIMPLEX | SP008◆301#0B | SE008◆301#0B | 8 | 0.12 (3.0) | 5.3 (7.9) | 50 (220) | 17 (75) | 1.8 (4.5) | 1.2 (3.0) |
| | SP012◆301#0B | SE012◆301#0B | 12 | 0.12 (3.0) | 5.3 (7.9) | 50 (220) | 17 (75) | 1.8 (4.5) | 1.2 (3.0) |
| | SP024◆381#0B | SE024◆381#0B | 24 | 0.15 (3.8) | 10.1 (15.0) | 75 (330) | 25 (110) | 2.2 (5.7) | 1.5 (3.8) |
| | SP048◆401#0B | SE048◆401#0B | 48 | 0.16 (4.0) | 9.4 (14.0) | 50 (220) | 17 (75) | 2.4 (6.0) | 1.6 (4.0) |
| | SP048◆481#0B | SE048◆481#0B | 48 | 0.19 (4.8) | 14.1 (21.0) | 75 (330) | 25 (110) | 2.8 (7.2) | 1.9 (4.8) |
| | SP064◆451#0B | SE064◆451#0B | 64 | 0.18 (4.5) | 13.4 (20.0) | 50 (220) | 17 (75) | 2.7 (6.8) | 1.8 (4.5) |
| | SP072◆481#0B | SE072◆481#0B | 72 | 0.19 (4.8) | 16.1 (24.0) | 50 (220) | 17 (75) | 2.8 (7.2) | 1.9 (4.8) |
| ZIPCORD | ZP024◆301#0B | ZE024◆301#0B | 24 | 0.12 (3.0) | 12.4 (18.4) | 100 (445) | 33 (147) | 1.8 (4.5) | 1.2 (3.0) |

◆ Fiber Types – Replace diamond (◆) in AFL No. with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL No. with number in the Cable Jacket Color table below.

16 unique colors available for fibers in 16 fiber subunit: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua, Olive, Magenta, Tan, Lime.

Cable Jacket Color Options

| | |
|--------------------------|----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange (OM1 and OM2) | 9 - Yellow (SM) |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime (Pending for OM5) |

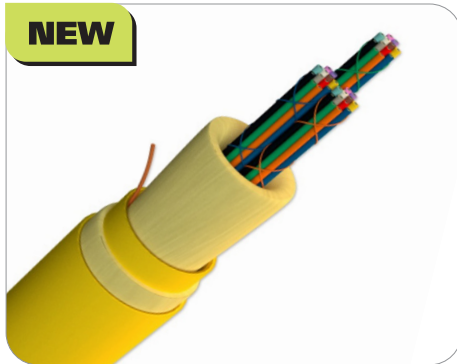
Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|-------------------------|
| NFPA | 262 |
| IEC | 60332 |
| IEC | 60754 |
| IEC | 61034 |
| Telcordia | GR-409-CORE |
| RoHS | Compliant to 2002/95/EC |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | 0°C to +70°C |
| STORAGE | -40°C to +75°C |
| INSTALLATION | 0°C to +70°C |

Contact AFL for cable designs.



Ruggedized MicroCore® Cable

AFL Ruggedized MicroCore is the next generation of maximizing fiber density in AFL's line of high density data center cables. Ruggedized MicroCore is an industry leading alternative to a traditional inside plant central loose tube ribbon cable. Ruggedized MicroCore with bare fiber eliminates concerns associated with edge fiber stresses due to preferential bend of encapsulated ribbons. These cables consist of an OFNP/FT6 (NFPA 262) or LSZH (including ONFR-LS/FT4) flame-rated outer jacket with an installation tension rating of 150 lbs. qualified to meet and exceed the requirements of the latest Telcordia GR-409-CORE inside plant cabling requirements.

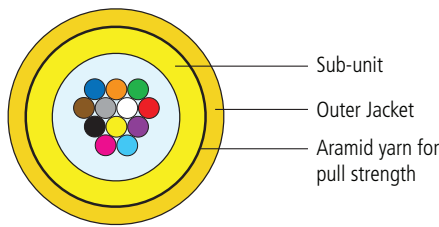
Features

- Fiber counts 8 to 72
- Plenum or LSZH Riser options
- Flame rated
- Installation tension rating of 150 lbs.

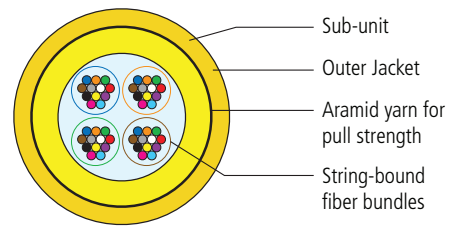
Applications

- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Intra-building "backbones"
- MTP/MPO or MTP to breakout terminations

Cable Components



Ruggedized 12 fiber



Ruggedized 48 fiber

Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMBC (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | N/A |



Ruggedized MicroCore® Cable

Ordering Information

| NO. OF FIBERS | AFL NO. | | NOMINAL DIAMETER inches (mm) | NOMINAL SUB-UNIT DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|---------------|--------------|--------------|------------------------------|---------------------------------------|----------------------------|-----------------|-----------|----------------------------|-----------|
| | PLENUM | LSZH | | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| 8 | RQ008★301##B | RE008★301##B | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 12 | RQ012★301##B | RE012★301##B | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 16 | RQ016★301##B | RE016★301##B | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 24 | RQ024★301##B | RE024★301##B | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 32 | RQ032★381##B | RE032★381##B | 0.22 (5.6) | 0.15 (3.8) | 19 (29) | 150 (660) | 45 (200) | 3.3 (8.4) | 2.2 (5.6) |
| 36 | RQ036★381##B | RE036★381##B | 0.22 (5.6) | 0.15 (3.8) | 21 (31) | 150 (660) | 45 (200) | 3.3 (8.4) | 2.2 (5.6) |
| 48 | RQ048★401##B | RE048★401##B | 0.22 (5.6) | 0.16 (4.0) | 22 (32) | 150 (660) | 45 (200) | 3.3 (8.4) | 2.2 (5.6) |
| 64 | RQ064★451##B | RE064★451##B | 0.24 (6.2) | 0.18 (4.5) | 28 (42) | 150 (660) | 45 (200) | 3.6 (9.3) | 2.4 (6.2) |
| 72 | RQ072★451##B | RE072★481##B | 0.25 (6.4) | 0.19 (4.8) | 30 (45) | 150 (660) | 45 (200) | 3.8 (9.6) | 2.5 (6.4) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow (SM) |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime |

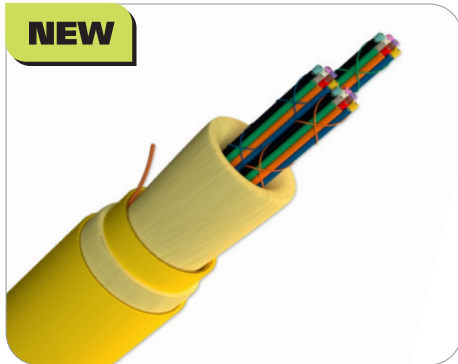
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|---------------------|
| NFPA | 262 (ONFP) / FT6 | Jacket |
| IEC | 60332, 60754, 61034 | LSZH/ONFR-LS Jacket |
| Telcordia | GR-409-CORE | Jacket |
| EIA/TIA | 568 | Jacket |
| ICEA | | Jacket |
| RoHS | REACH | Jacket |

Temperature Specifications

| | TEMPERATURE RANGE | |
|---------------------|-------------------|-----------------|
| | PLENUM | LSZH |
| INSTALLATION | - 0°C to +60°C | - 0°C to +60°C |
| OPERATION | - 0°C to +70°C | - 20°C to +70°C |
| STORAGE | - 40°C to +70°C | - 40°C to +70°C |

Contact AFL for further details.



Ruggedized MicroCore[®] Cable with SpiderWeb Ribbon[®] Technology

AFL Ruggedized MicroCore with SpiderWeb Ribbon (SWR[®]) Technology is the next generation of maximizing fiber density in AFL's line of high density data center cables. Ruggedized MicroCore is an industry-leading alternative to a traditional inside plant central loose tube ribbon cable. SWR technology eliminates concerns associated with edge fiber stresses due to preferential bend of encapsulated ribbons. These cables consists of an OFNP/FT6 (NFPA 262) or LSZH (including ONFR-LS/FT4), flame-rated outer jacket with an installation tension rating of 150 lbs. qualified to meet and exceed the requirements of the latest Telcordia GR-409-CORE inside plant cabling requirements.

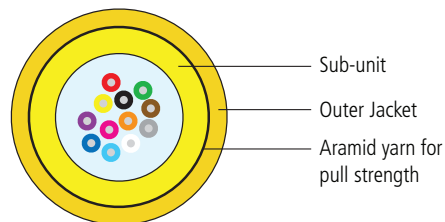
Features

- SpiderWeb Ribbon (SWR) optical fiber technology
- Fiber counts 12 to 144
- Plenum or LSZH Riser options
- Flame-rated jacket
- All aramid tensile strength members around core cable for ease of attaching pulling-eye; aramid within core for use with MT termination
- Installation tension rating of 150 lbs.

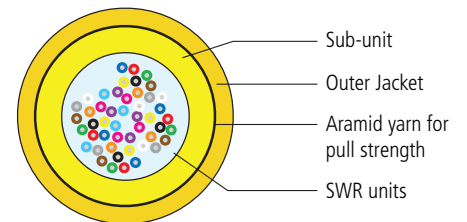
Applications

- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Intra-building "backbones"
- MTP/MPO or MTP to breakout terminations

Cable Components



SWR Ruggedized 12 fiber



SWR Ruggedized 48 fiber

SWR Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|---|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (P) AFL Bend-Insensitive Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Ruggedized MicroCore® Cable with SpiderWeb® Ribbon Technology

Ordering Information

| NO. OF FIBERS | AFL NO. | |
|---------------|--------------|--------------|
| | SINGLE-MODE | |
| | PLENUM | LSZH |
| 12 | RQ012P301##R | RE012P301##R |
| 24 | RQ024P301##R | RE024P301##R |
| 36 | RQ036P381##R | RE036P381##R |
| 48 | RQ048P401##R | RE048P401##R |
| 72 | RQ072P451##R | RE072P481##R |
| 96 | RQ096P581##R | RE096P581##R |
| 108 | RQ108P621##R | RE108P621##R |
| 120 | RQ120P721##R | RE120P721##R |
| 144 | RQ144P721##R | RE144P721##R |

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Mechanical Data

| NO. OF FIBERS | NOMINAL DIAMETER inches (mm) | NOMINAL SUB-UNIT DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|---------------|------------------------------|---------------------------------------|----------------------------|-----------------|-----------|----------------------------|------------|
| | | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| 12 | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 24 | 0.19 (4.8) | 0.12 (3.0) | 15 (22) | 150 (660) | 45 (200) | 2.9 (7.2) | 1.9 (4.8) |
| 36 | 0.22 (5.6) | 0.15 (3.8) | 21 (31) | 150 (660) | 45 (200) | 3.3 (8.4) | 2.2 (5.6) |
| 48 | 0.22 (5.6) | 0.15 (3.8) | 22 (32) | 150 (660) | 45 (200) | 3.3 (8.4) | 2.2 (5.6) |
| 72 | 0.25 (6.4) | 0.19 (4.8) | 30 (45) | 150 (660) | 45 (200) | 3.8 (9.6) | 2.5 (6.4) |
| 96 | 0.31 (7.8) | 0.23 (5.8) | 44 (65) | 150 (660) | 45 (200) | 4.7 (11.7) | 3.1 (7.8) |
| 108 | 0.35 (9.0) | 0.24 (6.2) | 58 (86) | 150 (660) | 45 (200) | 5.3 (13.5) | 3.5 (9.0) |
| 120 | 0.39 (10.0) | 0.28 (7.2) | 73 (109) | 150 (660) | 45 (200) | 5.9 (15.0) | 3.9 (10.0) |
| 144 | 0.39 (10.0) | 0.28 (7.2) | 74 (110) | 150 (660) | 45 (200) | 5.9 (15.0) | 3.9 (10.0) |

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

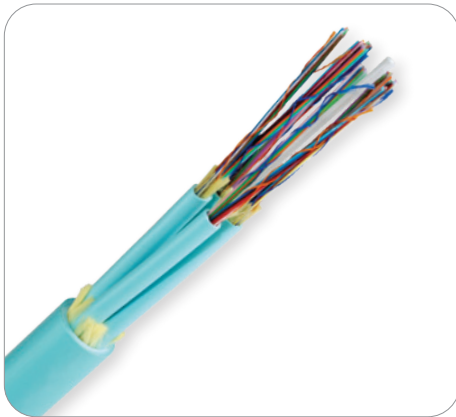
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|---------------------|
| NFPA | 262 (ONFP) / FT6 | Plenum Jacket |
| IEC | 60332, 60754, 61034 | LSZH/ONFR-LS Jacket |
| Telcordia | GR-409-CORE | Jacket |
| EIA/TIA | 568 | Jacket |
| ICEA | | Jacket |
| RoHS | REACH | Jacket |

Temperature Specifications

| | TEMPERATURE RANGE | |
|--------------|-------------------|----------------|
| | PLENUM | LSZH |
| INSTALLATION | 0°C to +60°C | 0°C to +60°C |
| OPERATION | 0°C to +70°C | -20°C to +70°C |
| STORAGE | -40°C to +70°C | -40°C to +70°C |

Contact AFL for further details.



Sub-unitized Premise MicroCore® 3.0 Base-16 and Base-24

The third generation of AFL's Sub-Unitized Premise MicroCore Cable is another astounding evolution of high performance premise cabling. Enabling even greater pathway density than our 2.0 version, the 3.0 revolutionizes cable deployment and allows the end user to realize savings in space, routing infrastructures and fiber management. Combining the highest quality materials with rigorous testing to industry standards, this generation builds on the same quality of construction as the previous versions of our Sub-Unitized Premise MicroCore cables. Also similar to the previous version is the employment of stand-alone sub cables. Each sub-cable is independently qualified and is suitable for individual routing paths within the rack/panel architecture. This flexibility of design and deployment is not available in comparable high density designs. Designed for direct termination, and supportive of both single-fiber and multi-fiber architectures, this cable family is capable of serving as the backbone in any deployed system.

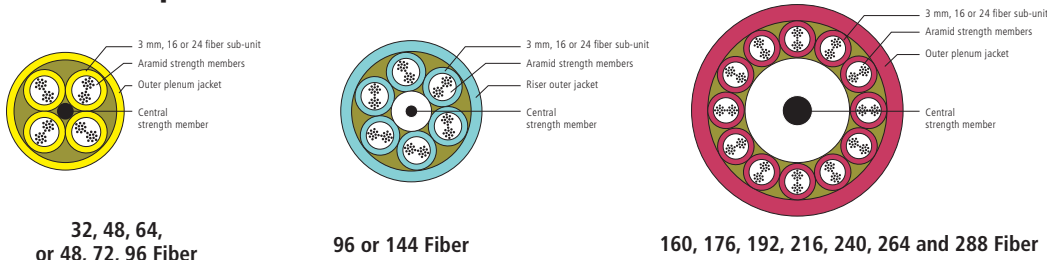
Applications

- In-building cable runs where space is a premium
- Trunk applications where flexibility and small bend radii are required to route cable
- High-density cable areas like data centers and central offices
- Lower cost cable runs where easy handling of tight buffered fibers not needed because cable will be spliced to factory terminated pigtails

Features

- Each sub-unit can stand alone as a rated cable
- 16-fiber sub-units with 32-144 fiber counts
- 24-fiber sub-units with 48-288 fiber counts
- High fiber density—more channels in less space
- No preferential bend direction typically found in stacked ribbon designs
- Small diameter/superior bend performance
- LSZH or Plenum flame-rated jacket
- All aramid tensile strength members around core cable for ease of attaching pulling-eye; aramid within core for use with MT termination

Cable Components



Loose Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|---------------------------------------|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| | | (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | | 200 | 600 | N/A | 300 |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |

*Other grades of single-mode fiber available.



continued
→

Sub-unitized Premise MicroCore® 3.0 Base-16 and Base-24

Mechanical Data

| TYPE | AFL NO. WITH STANDARD LOOSE FIBER | | FIBER COUNT | NO. OF SUBS | NO. OF FILLERS | NOMINAL DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|---|--------------------------------------|------------------|----------------|-------------------|-------------------|------------------------------------|----------------------------------|-----------------|--------------|-------------------------------|--------------|
| | PLENUM | LSZH | | | | | | INSTALL | LONG TERM | INSTALL | LONG TERM |
| 16F SUB-UNITS (2X 8F BUNDLES) | GQ032*301##B:G48 | GE032*301##B:G48 | 32 | 2 | 2 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ048*301##B:G48 | GE048*301##B:G48 | 48 | 3 | 1 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ064*301##B:G48 | GE064*301##B:G48 | 64 | 4 | 0 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ080*301##B:G68 | GE080*301##B:G68 | 80 | 5 | 1 | 0.50 (12.7) | 107 (160) | 150 (670) | 45 (200) | 7.5 (19.1) | 5.0 (12.7) |
| | GQ096*301##B:G68 | GE096*301##B:G68 | 96 | 6 | 0 | 0.50 (12.7) | 107 (160) | 150 (670) | 45 (200) | 7.5 (19.1) | 5.0 (12.7) |
| | GQ112*301##B:G98 | GE112*301##B:G98 | 112 | 7 | 2 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ128*301##B:G98 | GE128*301##B:G98 | 128 | 8 | 1 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ144*301##B:G98 | GE144*301##B:G98 | 144 | 9 | 0 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ160*301##B:GC8 | GE160*301##B:GC8 | 160 | 10 | 2 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) |
| | GQ176*301##B:GC8 | GE176*301##B:GC8 | 176 | 11 | 1 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) |
| 24F SUB-UNITS (2X 12F BUNDLES) | GQ192*301##B:GC8 | GE192*301##B:GC8 | 192 | 12 | 0 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) |
| | GQ048*301##B:O4C | GE048*301##B:O4C | 48 | 2 | 2 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ072*301##B:O4C | GE072*301##B:O4C | 72 | 3 | 1 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ096*301##B:O4C | GE096*301##B:O4C | 96 | 4 | 0 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| | GQ120*301##B:O6C | GE120*301##B:O6C | 120 | 5 | 1 | 0.50 (12.7) | 107 (160) | 150 (670) | 45 (200) | 7.5 (19.1) | 5.0 (12.7) |
| | GQ144*301##B:O6C | GE144*301##B:O6C | 144 | 6 | 0 | 0.50 (12.7) | 107 (160) | 150 (670) | 45 (200) | 7.5 (19.1) | 5.0 (12.7) |
| | GQ168*301##B:O9C | GE168*301##B:O9C | 168 | 7 | 2 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ192*301##B:O9C | GE192*301##B:O9C | 192 | 8 | 1 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ216*301##B:O9C | GE216*301##B:O9C | 216 | 9 | 0 | 0.61 (15.5) | 171 (255) | 150 (670) | 45 (200) | 9.2 (23.5) | 6.1 (15.5) |
| | GQ240*301##B:OCC | GE240*301##B:OCC | 240 | 10 | 2 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) |
| GQ264*301##B:OCC | GE264*301##B:OCC | 264 | 11 | 1 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) | |
| GQ288*301##B:OCC | GE288*301##B:OCC | 288 | 12 | 0 | 0.72 (18.4) | 218 (325) | 150 (670) | 45 (200) | 11.0 (27.6) | 7.2 (18.4) | |

* Fiber Types—Replace asterisk (*) in AFL No. with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL No. with number in the Cable Jacket Color table below.

16 unique colors available for fibers in 16 fiber sub-unit: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua, Olive, Tan, Lime, Magenta

Cable Jacket Color Options

| | |
|--------------------------|----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange (OM1 and OM2) | 9 - Yellow (SM) |
| 3 - Green | A- Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime (Pending for OM5) |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|---------------------|
| NFPA | 262 (ONFP) / FT6 | Plenum Jacket |
| IEC | 60332, 60754, 61034 | LSZH/ONFR-LS Jacket |
| Telcordia | GR-409-CORE | Jacket |
| EIA/TIA | 568 | Jacket |
| ICEA | | Jacket |
| RoHS | REACH | Jacket |

Temperature Specifications

| TEMPERATURE RANGE | |
|---------------------|----------------------------------|
| LSZH/PLENUM | |
| INSTALLATION | 0°C to +60°C (32°F to +140°F) |
| OPERATION | 0°C to +70°C (32°F to +158°F) |
| STORAGE | -40°C to +70°C (-40°F to +158°F) |

Contact AFL for further details.

Fiber Optic Cable



Sub-unitized Premise MicroCore[®] 3.0 with SpiderWeb Ribbon[®] (SWR[®]) Technology

The third generation of AFL's Sub-Unitized Premise MicroCore Cable with SWR Technology is another astounding evolution of high performance premise cabling. Enabling even greater pathway density than our 2.0 version, the 3.0 revolutionizes cable deployment and allows the end user to realize savings in space, routing infrastructures and fiber management. Combining the highest quality materials with rigorous testing to industry standards, this generation builds on the same quality of construction as the previous versions of our Sub-Unitized Premise MicroCore cables.



SpiderWeb Ribbon Technology

Additionally, this version features stand-alone sub cables. Each sub cable is independently qualified and is suitable for individual routing paths within the rack/panel architecture. This flexibility of design and deployment is not available in comparable high-density designs. Designed for direct termination and supportive of both single-fiber and multi-fiber architectures, this cable family is capable of serving as the backbone in any deployed system.

SpiderWeb Ribbon is a bonded fiber design allowing for either a highly efficient ribbonizing application or for individual fiber break-outs. This flexibility allows for the application of a single cable design to cover a diverse set of applications. High density round designs allow for the most efficient use of space and materials, resulting in a cost-effective solution.

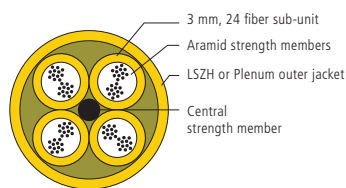
Applications

- In-building cable runs where space is a premium
- Trunk applications where flexibility and small bend radii are required to route cable
- High-density cable areas like data centers and central offices
- Lower cost cable runs where easy handling of tight buffered fibers not needed because cable will be spliced to factory terminated pigtailed

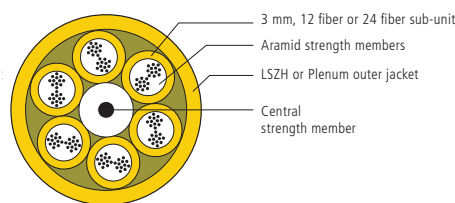
Features

- SpiderWeb Ribbon technology allows for a highly efficient ribbonizing application or for individual fiber break-outs
- Each sub-unit can stand alone as a rated cable
- 12-fiber sub-units with 12-144 fiber counts
- 24-fiber sub-units with 24-288 fiber counts
- High fiber density—more channels in less space
- No preferential bend direction typically found in stacked ribbon design
- Small diameter/superior bend performance
- LSZH or Plenum flame-rated jacket
- All aramid tensile strength members around core cable for ease of attaching pulling-eye; aramid within core for use with MT termination

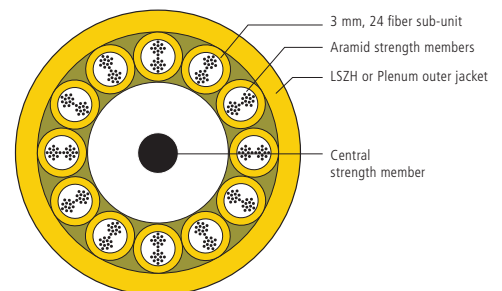
Cable Components



24, 48, 72 and 96 Fiber



72 and 144 Fiber



144 and 288 Fiber



Sub-unitized Premise MicroCore® 3.0 with SpiderWeb Ribbon® Technology
Mechanical Data

| NO. OF SUBS | NO. OF FILLERS | NOMINAL DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|-------------|----------------|------------------------------|----------------------------|-----------------|-----------|----------------------------|------------|
| | | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| 1 | 3 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| 2 | 2 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| 3 | 1 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| 4 | 0 | 0.40 (10.2) | 60 (90) | 150 (670) | 45 (200) | 6.0 (15.3) | 4.0 (10.2) |
| 5 | 1 | 0.47 (11.9) | 107 (160) | 150 (670) | 45 (200) | 7.1 (17.9) | 4.7 (11.9) |
| 6 | 0 | 0.47 (11.9) | 107 (160) | 150 (670) | 45 (200) | 7.1 (17.9) | 4.7 (11.9) |
| 7 | 2 | 0.56 (14.3) | 171 (255) | 150 (670) | 45 (200) | 8.4 (21.5) | 5.6 (14.3) |
| 8 | 1 | 0.56 (14.3) | 171 (255) | 150 (670) | 45 (200) | 8.4 (21.5) | 5.6 (14.3) |
| 9 | 0 | 0.56 (14.3) | 171 (255) | 150 (670) | 45 (200) | 8.4 (21.5) | 5.6 (14.3) |
| 10 | 2 | 0.62 (15.7) | 218 (325) | 150 (670) | 45 (200) | 9.3 (23.6) | 6.2 (15.7) |
| 11 | 1 | 0.62 (15.7) | 218 (325) | 150 (670) | 45 (200) | 9.3 (23.6) | 6.2 (15.7) |
| 12 | 0 | 0.62 (15.7) | 218 (325) | 150 (670) | 45 (200) | 9.3 (23.6) | 6.2 (15.7) |

SWR Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|---|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (P) AFL Bend-Insensitive Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |

Cable Jacket Color Options

| | |
|------------|------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow (SM) |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|---------------------|
| NFPA | 262 (ONFP) / FT6 | Plenum Jacket |
| IEC | 60332, 60754, 61034 | LSZH/OFNR-LS Jacket |
| Telcordia | GR-409-CORE | Jacket |
| EIA/TIA | 568 | Jacket |
| ICEA | | Jacket |
| RoHS | REACH | Jacket |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| | LSZH/PLENUM |
| INSTALLATION | 0°C to +60°C |
| OPERATION | 0°C to +70°C |
| STORAGE | -40°C to +70°C |

Contact AFL for further details.
continued



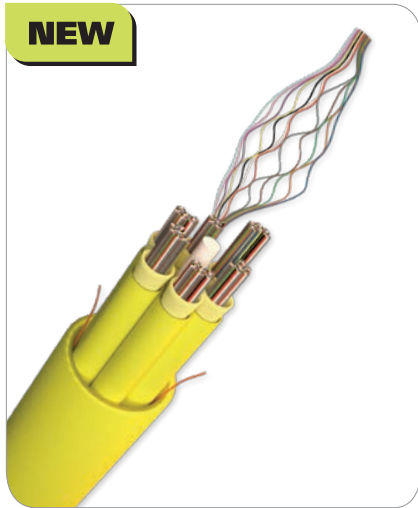

Sub-unitized Premise MicroCore® 3.0 with SpiderWeb Ribbon® Technology

Ordering Information

| CABLE TYPE | FIBER COUNT | NO. OF SUBS | NO. OF FILLERS | AFL NO. | |
|------------------|-------------|-------------|------------------|------------------|------------------|
| | | | | SINGLE-MODE | |
| | | | | PLENUM | LSZH |
| 12 Fiber Subunit | 12 | 1 | 3 | GQ012P301##R:C4C | GE012P301##R:C4C |
| | 24 | 2 | 2 | GQ024P301##R:C4C | GE024P301##R:C4C |
| | 36 | 3 | 1 | GQ036P301##R:C4C | GE036P301##R:C4C |
| | 48 | 4 | 0 | GQ048P301##R:C4C | GE048P301##R:C4C |
| | 60 | 5 | 1 | GQ060P301##R:C6C | GE060P301##R:C6C |
| | 72 | 6 | 0 | GQ072P301##R:C6C | GE072P301##R:C6C |
| | 84 | 7 | 1 | GQ084P301##R:C8C | GE084P301##R:C8C |
| | 96 | 8 | 0 | GQ096P301##R:C8C | GE096P301##R:C8C |
| | 120 | 10 | 2 | GQ120P301##R:CCC | GE120P301##R:CCC |
| | 132 | 11 | 1 | GQ132P301##R:CCC | GE132P301##R:CCC |
| 24 Fiber Subunit | 144 | 12 | 0 | GQ144P301##R:CCC | GE144P301##R:CCC |
| | 24 | 1 | 3 | GQ024P301##R:O4C | GE024P301##R:O4C |
| | 48 | 2 | 2 | GQ048P301##R:O4C | GE048P301##R:O4C |
| | 72 | 3 | 1 | GQ072P301##R:O4C | GE072P301##R:O4C |
| | 96 | 4 | 0 | GQ096P301##R:O4C | GE096P301##R:O4C |
| | 120 | 5 | 1 | GQ120P301##R:O6C | GE120P301##R:O6C |
| | 144 | 6 | 0 | GQ144P301##R:O6C | GE144P301##R:O6C |
| | 168 | 7 | 2 | GQ168P301##R:O9C | GE168P301##R:O9C |
| | 192 | 8 | 1 | GQ192P301##R:O9C | GE192P301##R:O9C |
| | 216 | 9 | 0 | GQ216P301##R:O9C | GE216P301##R:O9C |
| 240 | 10 | 2 | GQ240P301##R:OCC | GE240P301##R:OCC | |
| 264 | 11 | 1 | GQ264P301##R:OCC | GE264P301##R:OCC | |
| 288 | 12 | 0 | GQ288P301##R:OCC | GE288P301##R:OCC | |

Notes:

- Replace first # with number corresponding to desired jacket color from Cable Jacket Color Options table on previous page.
- Replace second # with number corresponding to desired subunit color from Cable Jacket Color Options table on previous page.



Ultra HD MicroCore® Riser Fiber Optic Cable

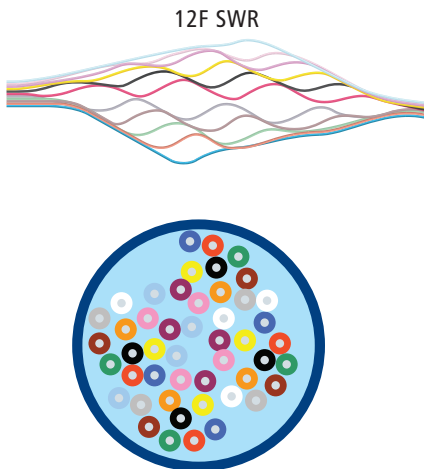
The Ultra HD MicroCore Riser fiber optic cable is the latest development in AFL's sub-unitized MicroCore cable family that uses SpiderWeb Ribbon® (SWR®) technology. Designed to support high fiber density deployments in data center and central office installation environments, the ultra HD sub-unit designs optimize splicing efficiency when interconnected with AFL's Wrapping Tube Cable (WTC).

With continued requirements for higher bandwidth, higher fiber density cabling products are critical to support that demand. Ultra HD MicroCore cable designs feature 72-fiber and 144-fiber sub-units that result in maximum fiber counts up to 864 and 1,728 respectively. The cable consists of an OFNR/FT4 (UL1666) flame-rated outer jacket with an installation tension rating of 150 lbs., qualified to meet and exceed the requirements of the latest Telcordia GR-409-CORE inside plant cabling requirements.

Features

- SpiderWeb Ribbon**
 Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- OFNR Riser Rating**
 Can be routed within designated riser spaces within build structures
- Small Diameter**
 Because of the smaller diameter, more optical fibers can be placed into crowded or limited-space pathways

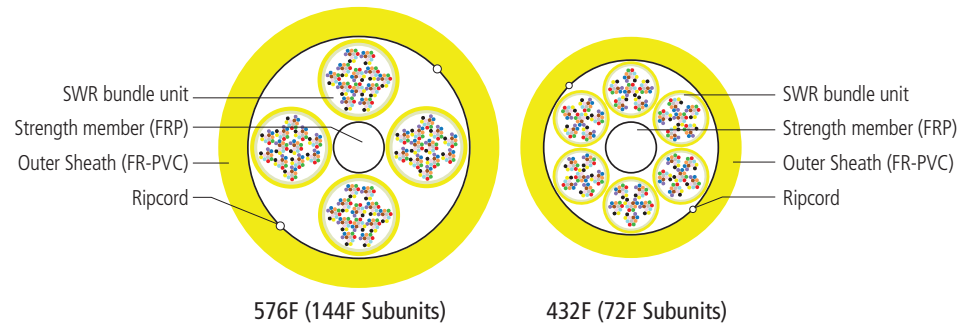
SWR Technology



Multiple 12F SWR subunits

72F OR 144F subunits depending on cable fiber count

Cable Components





Ultra HD MicroCore® Riser Fiber Optic Cable

Mechanical Data

| CABLE TYPE | AFL NO. | FIBER COUNT | NO. OF SUBS | NO. OF FILLERS | SINGLE-MODE | | MAXIMUM TENSILE LOAD | | MINIMUM BEND RADIUS | |
|---------------|-------------------|-------------|-------------|----------------|------------------|----------------------|----------------------|-----------|---------------------|-------------|
| | | | | | NOMINAL DIAMETER | WEIGHT | INSTALL | LONG TERM | INSTALL | LONG TERM |
| | | | | | inches (mm) | lbs/1,000 ft (kg/km) | lbs (N) | lbs (N) | inches (mm) | inches (mm) |
| 72F Subunits | GR144P45199R:T4C | 144 | 2 | 2 | 0.551 (14.0) | 103 (153) | 150 (660) | 45 (200) | 8.27 (210) | 5.51 (140) |
| | GR216P45199R:T4C | 216 | 3 | 1 | 0.551 (14.0) | 107 (159) | 150 (660) | 45 (200) | 8.27 (210) | 5.51 (140) |
| | GR288P45199R:T4C | 288 | 4 | 0 | 0.551 (14.0) | 115 (165) | 150 (660) | 45 (200) | 8.27 (210) | 5.51 (140) |
| | GR432P45199R:T6C | 432 | 6 | 0 | 0.650 (16.5) | 165 (240) | 150 (660) | 45 (200) | 9.75 (248) | 6.50 (165) |
| | GR864P50199R:TCC | 864 | 12 | 0 | 0.925 (23.5) | 339 (505) | 150 (660) | 45 (200) | 13.88 (353) | 9.25 (235) |
| 144F Subunits | GR144P70199R:U4C | 144 | 1 | 3 | 0.787 (20.0) | 177 (264) | 150 (660) | 45 (200) | 11.81 (300) | 7.87 (200) |
| | GR288P70199R:U4C | 288 | 2 | 2 | 0.787 (20.0) | 194 (288) | 150 (660) | 45 (200) | 11.81 (300) | 7.87 (200) |
| | GR432P70199R:U4C | 432 | 3 | 1 | 0.787 (20.0) | 165 (240) | 150 (660) | 45 (200) | 11.81 (300) | 7.87 (200) |
| | GR576P70199R:U4C | 576 | 4 | 0 | 0.787 (20.0) | 210 (300) | 150 (660) | 45 (200) | 11.81 (300) | 7.87 (200) |
| | GR1728P60199R:UCC | 1728 | 12 | 0 | 1.09 (27.8) | 410 (605) | 150 (660) | 45 (200) | 16.35 (605) | 10.09 (278) |

Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMBC (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (P) AFL Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |

WTC to Ultra HD MicroCore Pairing Chart

| FIBER COUNT | WTC BINDER UNIT CONFIGURATION | RECOMMENDED ULTRA HD MICROCORE CABLE DESIGNS | | | | | | | | | | | |
|-------------|---|--|---|---|---|--|---|---|----|--|----|----|----|
| 288F | 4 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> | 1 | 2 | 3 | 4 | 1-6 Ring Marking (72F Subunits) Ultra HD MicroCore 144F up to 864F (72F subs) | | | | | | | |
| 1 | 2 | 3 | 4 | | | | | | | | | | |
| 432F | 6 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr></table> | 1 | 2 | 3 | 4 | | 5 | 6 | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | |
| 576F | 8 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr></table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | |
| 864F | 12 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr></table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| 1152F | 8 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr></table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1-12 Ring Marking (144F Bundles) Ultra HD MicroCore 144F up to 1,728F (144F subs) | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | |
| 1728F | 12 Binder Units <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr></table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |

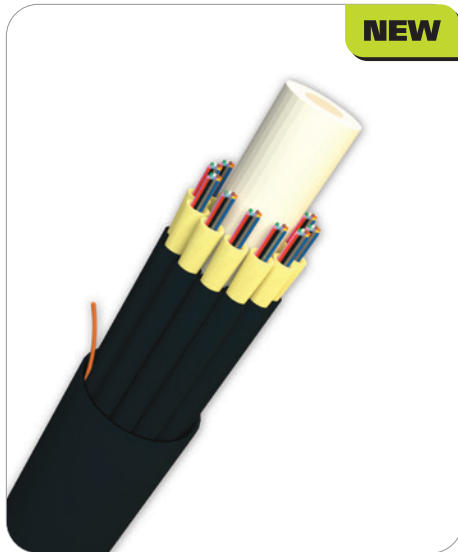
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------|--------------------------|
| UL | 1666 | Listed Riser |
| ANSI/ICEA | S-83-596 | Fiber |
| Telcordia | GR-409-CORE Issue 2 | Indoor Fiber Optic Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | 0°C to +70°C |
| STORAGE | -40°C to +70°C |
| INSTALLATION | 0°C to +60°C |

Contact AFL for your Ultra HD MicroCore cable solution.



Indoor/Outdoor Riser Sub-unitized MicroCore® Cable

AFL now offers high fiber count Indoor/Outdoor MicroCore Cables. Waterblocked sub-units are helically stranded to provide sub-unitized cables ranging from 24 to 288 fiber counts. These cables are OFNR listed for use in indoor and indoor/outdoor applications. Both the sub-unit jackets and outer sheath contain a UV stabilizer and anti-fungus protection for use in outdoor applications.

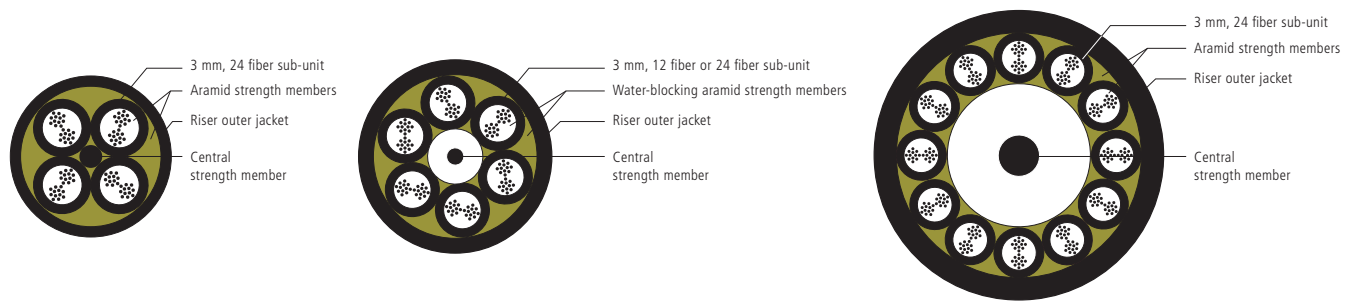
Features

- Available with 24 to 288 fibers
- Water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant sub-unit jackets and outer sheath

Applications

- ONFR inside plant and outside plant environments

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| | | (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | | 200 | 600 | N/A | 300 |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Indoor/Outdoor Riser Sub-unitized MicroCore® Cable

Mechanical Data—Non-Armored

| CABLE TYPE | NO. OF SUBS | NO. OF FILLERS | NOMINAL DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|------------------|-------------|----------------|------------------------------|----------------------------|-----------------|-----------|----------------------------|------------|
| | | | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| 12 Fiber Subunit | 2 | 2 | 0.38 (9.7) | 52 (78) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 4 | 0 | 0.38 (9.7) | 54 (80) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 6 | 0 | 0.46 (11.6) | 77 (115) | 300 (1320) | 90 (400) | 6.9 (17.4) | 4.6 (11.6) |
| | 8 | 0 | 0.54 (13.7) | 105 (155) | 300 (1320) | 90 (400) | 8.1 (20.6) | 5.4 (13.7) |
| | 12 | 0 | 0.68 (17.3) | 250 (370) | 300 (1320) | 90 (400) | 10.2 (26.0) | 6.8 (17.3) |
| 24 Fiber Subunit | 1 | 3 | 0.38 (9.7) | 53 (79) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 2 | 2 | 0.38 (9.7) | 54 (80) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 3 | 1 | 0.38 (9.7) | 55 (82) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 4 | 0 | 0.38 (9.7) | 56 (83) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 6 | 0 | 0.46 (11.6) | 81 (120) | 300 (1320) | 90 (400) | 6.9 (17.4) | 4.6 (11.6) |
| | 12 | 0 | 0.68 (17.3) | 257 (380) | 300 (1320) | 90 (400) | 10.2 (26.0) | 6.8 (17.3) |

Ordering Information—Non-Armored

| CABLE TYPE | NO. OF FIBERS | NO. OF SUBS | NO. OF FILLERS | AFL NO. |
|------------------|---------------|-------------|----------------|------------------|
| | | | | BARE FIBER |
| 12 Fiber Subunit | 24 | 2 | 2 | QR024*3018#B:C4C |
| | 48 | 4 | 0 | QR048*3018#B:C4C |
| | 72 | 6 | 0 | QR072*3018#B:C6C |
| | 96 | 8 | 0 | QR096*3018#B:C8C |
| | 144 | 12 | 0 | QR144*3018#B:CCC |
| 24 Fiber Subunit | 24 | 1 | 3 | QR024*3018#B:O4C |
| | 48 | 2 | 2 | QR048*3018#B:O4C |
| | 72 | 3 | 1 | QR072*3018#B:O4C |
| | 96 | 4 | 0 | QR096*3018#B:O4C |
| | 144 | 6 | 0 | QR144*3018#B:O6C |
| | 288 | 12 | 0 | QR288*3018#B:OCC |

Cable Jacket Color Options

| | |
|------------|------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow (SM) |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime |

- * Fiber Types – Replace asterisk (*) in AFL number above with number in the Fiber Specifications table on previous page.
- # Subunit Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table at right.
- ** Item numbers represent AFL standard print and Black outer jacket. All jacket colors are UV stable and contain anti-fungal additive. For best performance, AFL recommends Black Outer Jacket.

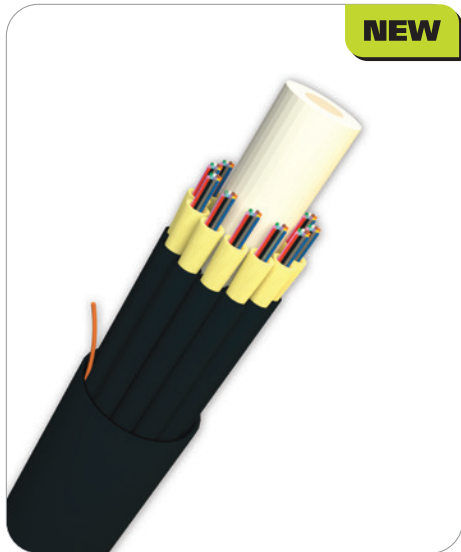
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------------|--|
| Telcordia | GR-20-CORE GR-409-CORE | Water-Blocked Cabled Buffer Tube Core Sub-units |
| EIA/TIA | 598-A | Sub-units |
| ICEA | S-104-696 | Sub-units |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | -10°C to +70°C |
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +70°C |

Contact AFL for further details.



Indoor/Outdoor Riser Sub-unitized MicroCore® Cable with SpiderWeb Ribbon® Technology

AFL now offers high fiber count Indoor/Outdoor MicroCore Cables with SpiderWeb Ribbon (SWR®) technology. Waterblocked sub-units are helically stranded to provide sub-unitized cables ranging from 24 to 288 fiber counts. These cables are OFNR listed for use in indoor and indoor/outdoor applications. Both the sub-unit jackets and outer sheath contain a UV stabilizer and anti-fungus protection for use in outdoor applications.

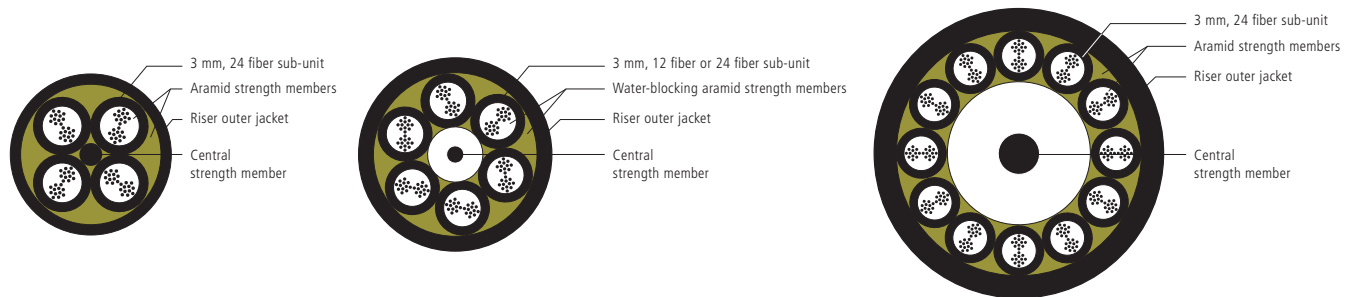
Features

- Available with 24 to 288 fibers
- Water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant sub-unit jackets and outer sheath

Applications

- ONFR inside plant and outside plant environments

Cable Components



SWR Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|---|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (P) AFL Bend-Insensitive Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Indoor/Outdoor Riser Sub-unitized MicroCore® Cable with SpiderWeb Ribbon® Technology

Mechanical Data—Non-Armored

| CABLE TYPE | NO. OF SUBS | NO. OF FILLERS | NOMINAL DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|------------------|-------------|----------------|------------------------------|----------------------------|-----------------|-----------|----------------------------|------------|
| | | | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| 12 Fiber Subunit | 2 | 2 | 0.38 (9.7) | 52 (78) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 4 | 0 | 0.38 (9.7) | 54 (80) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 6 | 0 | 0.46 (11.6) | 77 (115) | 300 (1320) | 90 (400) | 6.9 (17.4) | 4.6 (11.6) |
| | 8 | 0 | 0.54 (13.7) | 105 (155) | 300 (1320) | 90 (400) | 8.1 (20.6) | 5.4 (13.7) |
| | 12 | 0 | 0.68 (17.3) | 250 (370) | 300 (1320) | 90 (400) | 10.2 (26.0) | 6.8 (17.3) |
| 24 Fiber Subunit | 1 | 3 | 0.38 (9.7) | 53 (79) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 2 | 2 | 0.38 (9.7) | 54 (80) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 3 | 1 | 0.38 (9.7) | 55 (82) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 4 | 0 | 0.38 (9.7) | 56 (83) | 300 (1320) | 90 (400) | 5.7 (14.6) | 3.8 (9.7) |
| | 6 | 0 | 0.46 (11.6) | 81 (120) | 300 (1320) | 90 (400) | 6.9 (17.4) | 4.6 (11.6) |
| | 12 | 0 | 0.68 (17.3) | 257 (380) | 300 (1320) | 90 (400) | 10.2 (26.0) | 6.8 (17.3) |

Ordering Information—Non-Armored

| CABLE TYPE | NO. OF FIBERS | NO. OF SUBS | NO. OF FILLERS | AFL NO. |
|------------------|---------------|-------------|----------------|------------------|
| | | | | SINGLE-MODE SWR* |
| 12 Fiber Subunit | 24 | 2 | 2 | QR024P30189R:C4C |
| | 48 | 4 | 0 | QR048P30189R:C4C |
| | 72 | 6 | 0 | QR072P30189R:C6C |
| | 96 | 8 | 0 | QR096P30189R:C8C |
| | 144 | 12 | 0 | QR144P30189R:CCC |
| 24 Fiber Subunit | 24 | 1 | 3 | QR024P30189R:O4C |
| | 48 | 2 | 2 | QR048P30189R:O4C |
| | 72 | 3 | 1 | QR072P30189R:O4C |
| | 96 | 4 | 0 | QR096P30189R:O4C |
| | 144 | 6 | 0 | QR144P30189R:O6C |
| | 288 | 12 | 0 | QR288P30189R:OCC |

Cable Jacket Color Options

| | |
|------------|------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow (SM) |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua (OM3 and OM4) |
| 6 - White | K - Erika Violet (OM4) |
| 7 - Red | L - Lime |

* Item numbers represent AFL standard print, Black Outer Jacket and Yellow Subunits. All jacket colors are UV stable and contain anti-fungal additive. For best performance, AFL recommends Black Outer Jacket.

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------------|--|
| Telcordia | GR-20-CORE GR-409-CORE | Water-Blocked Cabled Buffer Tube Core Sub-units |
| EIA/TIA | 598-A | Sub-units |
| ICEA | S-104-696 | Sub-units |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | 0°C to +60°C |
| OPERATION | -20°C to +70°C |
| STORAGE | -40°C to +70°C |

Contact AFL for further details.



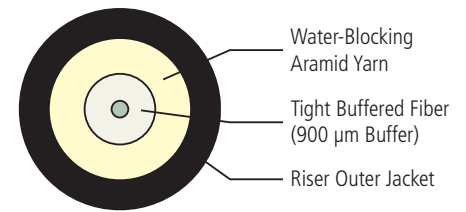
MDU Drop Cable

AFL MDU Drop cables are light weight, robust products specifically designed for deployment in FTTx environments available in both Black and White outer jacket colors. Products feature UV-Resistant and Anti-fungal outer jacket, with water-blocking aramid yarns in the core for additional network protection.

Features

- Water blocked cable core helps ensure any damage will be limited in the core of the cable
- Outer jacket is moisture-resistant, fungus-resistant and UV resistant for outdoor use
- Riser rating enables this cable to be used in multiple environments: Riser, general inside plant and outside plant

Cable Components



Ordering Information

| DESCRIPTION | FIBER GRADE | | |
|--------------------------|------------------------|--------------------|--------------------|
| | ITU G.652.D / G.657.A1 | ITU G.657.A2/B2 | ITU G.657.B3 |
| 1F 3.0 mm - Black jacket | KR0019301801-VZ | KR001X301801-VZ-A2 | KR001X301801-VZ-B3 |
| 1F 3.0 mm - White jacket | KR0019301601-VZ | KR001X301601-VZ-A2 | KR001X301601-VZ-B3 |
| 1F 4.8 mm - Black jacket | KR0019481801-VZ | KR001X481801-VZ-A2 | KR001X481801-VZ-B3 |
| 1F 4.8 mm - White jacket | KR0019481601-VZ | KR001X481601-VZ-A2 | KR001X481601-VZ-B3 |
| 2F 4.8 mm - Black jacket | KR0029481801-VZ | KR002X481801-VZ-A2 | KR002X481801-VZ-B3 |
| 2F 4.8 mm - White jacket | KR0029481601-VZ | KR002X481601-VZ-A2 | KR002X481601-VZ-B3 |

Mechanical Information

| FIBER COUNT | NOMINAL DIAMETER inches (mm) | WEIGHT lbs/1000 ft (kg/km) | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|-------------|---------------------------------|-------------------------------|-----------------|----------|----------------------------|-----------|
| | | | INSTALL | LONGTERM | INSTALL | LONGTERM |
| 1F 3.0 mm | 0.12 (3.0) | 4.8 (7.1) | 100 (440) | 40 (200) | 1.8 (4.5) | 1.2 (3.0) |
| 1F 4.8 mm | 0.19 (4.8) | 14 (21) | 100 (440) | 40 (200) | 2.8 (7.2) | 1.9 (4.8) |
| 2F 4.8 mm | 0.19 (4.8) | 14 (21) | 100 (440) | 40 (200) | 2.8 (7.2) | 1.9 (4.8) |

Fiber Specifications

| CORE SIZE/FIBER TYPE | MAXIMUM ATTENUATION (dB/km) | | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|-----------------------------|---------|--|---------|---|---------|
| | 1310 nm | 1550 nm | 1310 nm | 1550 nm | 1310 nm | 1550 nm |
| (9) Single-mode (ITU G.652.D/G.657.A1) | 0.5 | 0.5 | N/A | 5,000 | N/A | 10,000 |
| (X, -A2) ITU G.657.A2/B2 | 0.5 | 0.5 | N/A | 5,000 | N/A | 10,000 |
| (X, -B3) ITU G.657.B3 | 0.5 | 0.5 | N/A | 5,000 | N/A | 10,000 |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|--------------------------------|
| Telcordia | GR-409 Issue 2 |
| ICEA | ICEA-S-104-696, ICEA S-115-730 |
| Verizon | TPR 9424 Issue 3* |

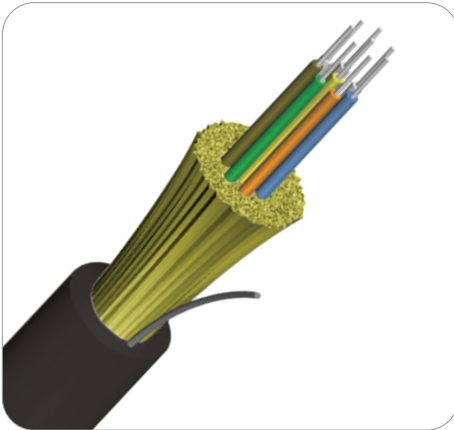
* 4.8 mm OD design with ITU G.657.B3 grade fiber required to meet all requirements

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +70°C |
| INSTALLATION | -20°C to +70°C |

Contact AFL for further details.

Premise Cable



Indoor/Outdoor Riser Tight Buffered Cable

Indoor/Outdoor Tight Buffered cables are specified for campus network cabling between buildings where interbuilding lengths are short enough that the installer can recognize savings from the lower costs of terminating tight buffered cables.

For indoor applications the cable is OFNR listed. For outdoor applications the cable is manufactured with an outer jacket that incorporates a UV stabilizer for protection against exposure to the sun plus an anti-fungus protection for use in underground applications.

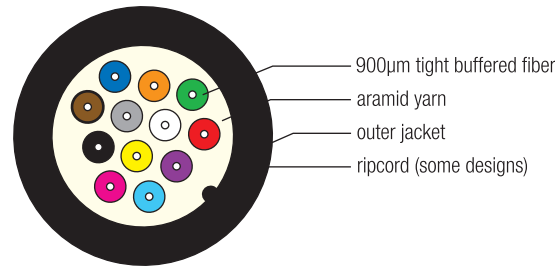
Features

- Available with 2 to 24 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

Applications

- ONFR inside plant and outside plant environments
- Campus LAN
- Building Interconnections
- Mining

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



STOCK ITEM

Indoor/Outdoor Riser Tight Buffered Cable

Mechanical Data

| CABLE TYPE | AFL NO. | FIBER COUNT | NOMINAL DIAMETER | WEIGHT | TENSION | | BENDING RADIUS | |
|-------------------------------------|--------------|-------------|------------------|---------------------|--------------|-----------|----------------|-----------|
| | RISER | | inches (mm) | lbs/1000 ft (kg/km) | lbs (N) | | inches (cm) | |
| | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM | | |
| Indoor/Outdoor Tight Buffered Cable | KR002★481#01 | 2 | 0.19 (4.8) | 14 (21) | 150 (660) | 45 (198) | 2.8 (7.2) | 1.9 (4.8) |
| | KR004★481#01 | 4 | 0.19 (4.8) | 15 (23) | 150 (660) | 45 (198) | 2.8 (7.2) | 1.9 (4.8) |
| | KR006★531#01 | 6 | 0.21 (5.3) | 19 (28) | 150 (660) | 45 (198) | 3.1 (8.0) | 2.1 (5.3) |
| | KR008★561#01 | 8 | 0.22 (5.6) | 23 (33) | 150 (660) | 45 (198) | 3.3 (8.4) | 2.2 (5.6) |
| | KR012★651#01 | 12 | 0.26 (6.5) | 26 (38) | 150 (660) | 45 (198) | 3.5 (9.0) | 2.6 (6.5) |
| | KR018★801#01 | 18 | 0.31 (8.0) | 40 (59) | 300 (1320) | 90 (396) | 4.7 (12.0) | 3.1 (8.0) |
| | KR024★871#01 | 24 | 0.33 (8.7) | 46 (69) | 300 (1320) | 90 (396) | 5.2 (13.1) | 3.4 (8.7) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color* Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

* All jacket colors are UV stable and contain anti-fungal additive. For best performance, AFL recommends Black Outer Jacket.

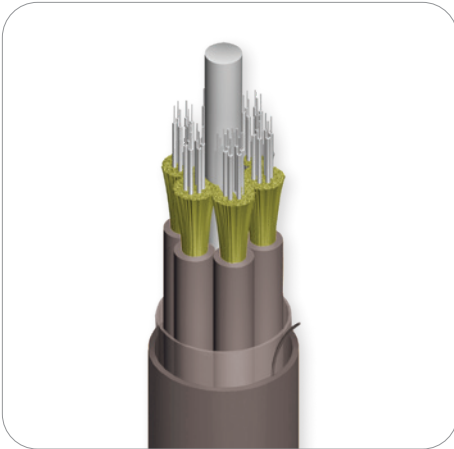
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------------|--|
| Telcordia | GR-20-CORE GR-409-CORE | Water-Blocked Cabled Buffer Tube Core Sub-units |
| EIA/TIA | 598-A | Sub-units |
| ICEA | S-104-696 | Sub-units |
| MSHA | | |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | -20°C to +75°C |
| OPERATION | -40°C to +75°C |
| STORAGE | -40°C to +75°C |

Contact AFL for further details.



Indoor/Outdoor Multi-unit Riser Tight Buffered Cable

AFL now offers high fiber count Indoor/Outdoor Riser Cables. Waterblocked 12-fiber sub-units are helically stranded to provide sub-unitized cables ranging from 24 to 72 fiber counts. These cables are OFNR listed for indoor applications. Both the sub-unit jackets and outer sheath contain a UV stabilizer and anti-fungus protection for use in outdoor applications. Sub-units contain a water-swellable aramid and 12 tight buffered fibers.

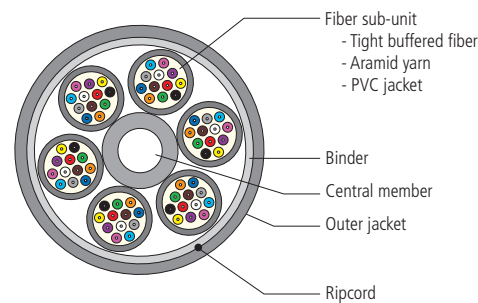
Features

- Available with 24 to 72 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant sub-unit jackets and outer sheath

Applications

- ONFR inside plant and outside plant environments

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Indoor/Outdoor Multi-unit Riser Tight Buffered Cable

Mechanical Data

| CABLE TYPE | AFL NO. | FIBER COUNT | NOMINAL DIAMETER | WEIGHT | TENSION | | BENDING RADIUS | |
|-------------------------------------|--------------|-------------|------------------|---------------------|--------------|-----------|----------------|------------|
| | RISER | | inches (mm) | lbs/1000 ft (kg/km) | lbs (N) | | inches (cm) | |
| | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM | | |
| Indoor/Outdoor Tight Buffered Cable | KR024★611##1 | 24 | 0.67 (16.9) | 169 (252) | 300 (1320) | 90 (396) | 10.0 (25.3) | 6.7 (16.9) |
| | KR036★611##1 | 36 | 0.67 (16.9) | 178 (265) | 300 (1320) | 90 (396) | 10.0 (25.3) | 6.7 (16.9) |
| | KR048★611##1 | 48 | 0.67 (16.9) | 187 (278) | 300 (1320) | 90 (396) | 10.0 (25.3) | 6.7 (16.9) |
| | KR060★611##1 | 60 | 0.76 (19.2) | 197 (293) | 300 (1320) | 90 (396) | 11.3 (28.8) | 7.6 (19.2) |
| | KR072★611##1 | 72 | 0.81 (20.7) | 233 (346) | 300 (1320) | 90 (396) | 12.2 (31.0) | 8.1 (20.7) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

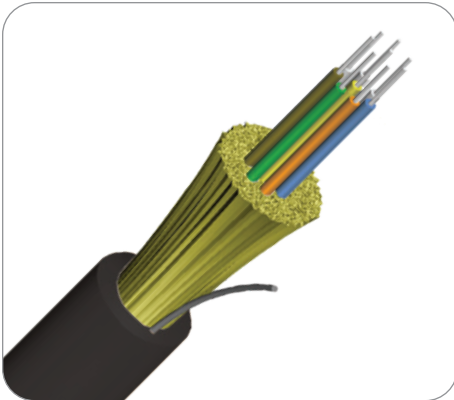
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------------|--|
| Telcordia | GR-20-CORE GR-409-CORE | Water-Blocked Cabled Buffer Tube Core Sub-units |
| EIA/TIA | 598-A | Sub-units |
| ICEA | S-104-696 | Sub-units |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | -20°C to +75°C |
| OPERATION | -40°C to +75°C |
| STORAGE | -40°C to +75°C |

Contact AFL for further details.



Indoor/Outdoor Plenum Distribution Cable

Indoor/Outdoor Plenum Distribution cables are specified for campus network cabling between buildings where interbuilding lengths are short enough that the installer can recognize savings from the lower costs of terminating tight buffered cables.

For indoor applications the cable is ONFP listed. For outdoor applications the cable is manufactured with an outer jacket that incorporates a UV stabilizer for protection against exposure to the sun plus an anti-fungus protection for use in underground applications.

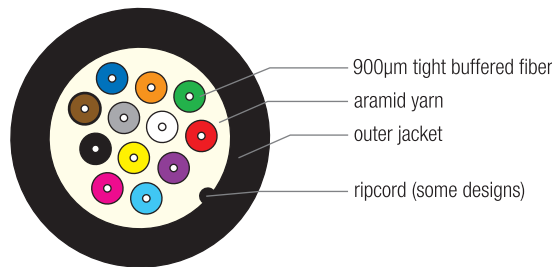
Features

- Available with 2 to 24 fibers
- Water-blocked jacket protects fibers
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

Applications

- ONFP inside plant and outside plant environments
- Underground applications
- Building Interconnections (Campus LAN)

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



STOCK ITEM

Indoor/Outdoor Plenum Distribution Cable

Mechanical Data

| AFL NO. | FIBER COUNT | DIAMETER inches (mm) | WEIGHT | TENSILE STRENGTH lbs (N) | | BEND RADIUS inches (cm) | |
|--------------|-------------|----------------------|--------------------|--------------------------|-----------|-------------------------|-----------|
| | | | lbs/1000ft (kg/km) | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| KQ002★461#01 | 2 | 0.18 (4.6) | 15 (22) | 150 (667) | 45 (200) | 2.7 (6.9) | 1.8 (4.6) |
| KQ004★501#01 | 4 | 0.20 (5.0) | 17 (26) | 150 (667) | 45 (200) | 3.0 (7.5) | 2.0 (5.0) |
| KQ006★541#01 | 6 | 0.21 (5.4) | 20 (30) | 150 (667) | 45 (200) | 3.2 (8.1) | 2.1 (5.4) |
| KQ012★611#01 | 12 | 0.24 (6.1) | 27 (40) | 150 (667) | 45 (200) | 3.6 (9.1) | 2.4 (6.1) |
| KQ024★791#01 | 24 | 0.31 (7.9) | 46 (69) | 150 (667) | 45 (200) | 4.7 (11.9) | 3.1 (7.9) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

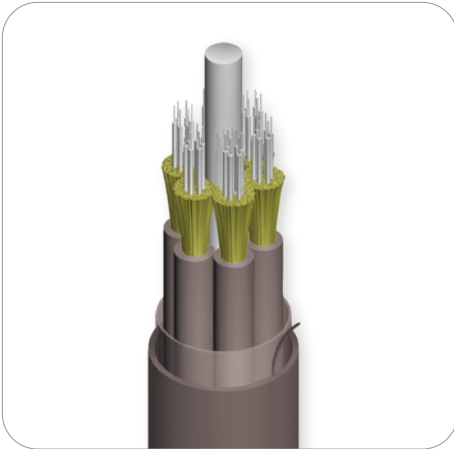
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------------------|--|
| Telcordia | GR-20-CORE GR-409-CORE | Water-Blocked Cabled Buffer Tube Core Weatherized Cable |
| EIA/TIA | 568 | Cable |
| ICEA | S-104-696 | Cable |
| RoHS | REACH | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | 0°C to +70°C |
| OPERATION | -40°C to +70°C |
| STORAGE | -40°C to +70°C |

Contact AFL for further details.



Indoor/Outdoor Multi-unit Plenum Tight Buffered Cable

AFL now offers high fiber count Indoor/Outdoor Plenum Cables. Designs are based on water-blocked 12-fiber sub-units that are helically stranded to provide sub-unitized cables ranging from 36 to 72 fiber counts. These cables are OFNP listed for indoor and indoor/outdoor applications. Both the sub-unit jackets and outer sheath contain a UV stabilizer and anti-fungus protection for use in outdoor applications. Sub-units contain a water-swallowable aramid and 12 tight buffered fibers.

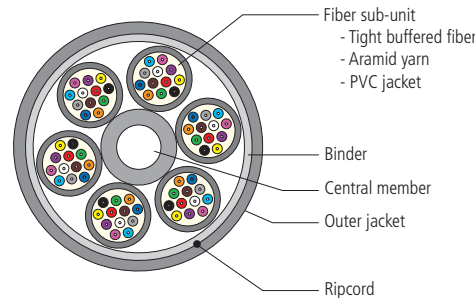
Features

- Available with 36 to 72 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

Applications

- ONFP inside plant and outside plant environments

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Indoor/Outdoor Multi-unit Plenum Tight Buffered Cable

Mechanical Data

| CABLE TYPE | AFL NO. | FIBER COUNT | NOMINAL DIAMETER | WEIGHT | TENSION | | BENDING RADIUS | |
|-------------------------------------|--------------|-------------|------------------|---------------------|--------------|-----------|----------------|------------|
| | PLENUM | | inches (mm) | lbs/1000 ft (kg/km) | lbs (N) | | inches (cm) | |
| | | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM | | |
| Indoor/Outdoor Tight Buffered Cable | KQ036★591##1 | 36 | 0.62 (15.7) | 155 (225) | 300 (1320) | 90 (396) | 9.3 (23.6) | 6.2 (15.7) |
| | KQ048★591##1 | 48 | 0.68 (17.2) | 190 (280) | 300 (1320) | 90 (396) | 10.2 (25.8) | 6.8 (17.2) |
| | KQ060★591##1 | 60 | 0.75 (19.0) | 240 (350) | 300 (1320) | 90 (396) | 11.3 (28.5) | 7.5 (19.0) |
| | KQ072★591##1 | 72 | 0.82 (20.8) | 290 (430) | 300 (1320) | 90 (396) | 12.3 (31.2) | 8.2 (20.8) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|-------------------|---------------------------------------|
| Telcordia | GR-20-CORE | Water-Blocked Cabled Buffer Tube Core |
| EIA/TIA | 598-A/GR-409-CORE | Sub-units |
| ICEA | S-104-696 | Sub-units |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| TEMPERATURE RANGE | |
|-------------------|----------------|
| INSTALLATION | -20°C to +75°C |
| OPERATION | -40°C to +75°C |
| STORAGE | -40°C to +75°C |

Contact AFL for further details.

Premise Cable

Specifying AFL Premise Optical Cables

| Cable Type | Jacket Type | Fiber Count | Fiber Type* | Unit Jacket Diameter | Print | Jacket Color | Sub-Unit Color | Fiber Construction | Additional Information* |
|--|--|--|--|----------------------|---|--|--|--|--|
| C | R | 012 | 5 | 55 | 1 | 0 | 0 | 1 | AIA |
| B = Breakout C = Circular Premise Cable D = Dual-link R = Ruggedized MicroCore G = Sub-unitized Microcore K = Indoor/Outdoor S = Simplex U = Quad-link W = Ribbon X = Tactical Z = Zipcord | R = Riser P = Plenum E = LSZH 5 = Polyurethane F = Furcation B = Bare | 004 = 4 fiber 006 = 6 fiber 012 = 12 fiber etc. | 5 = 50 µm MM 6 = 62.5 µm MM L = OM3 C = OM4 W = OM5 9 = Single-mode * more available | 55 = 5.5 mm | 1 = AFL standard 2 = Non-standard U = Unprinted | 0 = Standard 1 = Blue 2 = Orange 3 = Green 4 = Brown 5 = Slate 6 = White 7 = Red 8 = Black 9 = Yellow A = Violet B = Rose C = Aqua | 0 = Standard 1 = Blue 2 = Orange 3 = Green 4 = Brown 5 = Slate 6 = White 7 = Red 8 = Black 9 = Yellow A = Violet B = Rose C = Aqua | 1 = Standard Strip 3 = EZ strip 6 = 600 µm Tight Buffer 8 = Medium Strip B = Bare G = Elastomer over 250 µm H = Elastomer over 500 µm U = 500 µm Bare Fiber | AIA = Aluminum Interlocking Armor AIAR = Aluminum Interlocking Armor/Riser Jacket AIAP = Aluminum Interlocking Armor/Plenum Jacket * or other customer specific information |

* Different configurations, fiber types, etc. may be available. Please consult your AFL representative for more details.

Cable Print Examples



AFL Standard Print

AFL OPTICAL CABLE 1-800-AFL-FIBER 50/125 12 FIBER (UL) TYPE OFNR c(UL) RoHS MM/YY 000000 METERS REEL NUMBER

Generic Print

OPTICAL FIBER CABLE 50/125 12 FIBER E121250 TYPE OFNR (UL) c(UL) RoHS-COMPLIANT MM/YY 000000 METERS REEL NUMBER

* Custom print is available.

Icon Legend



AFL can add Interlocking Armor to any type of fiber optic cable.

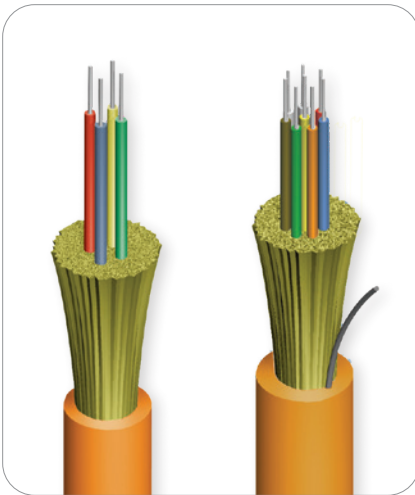


Fiber optic cable that is approved for mining applications.



AFL stocks many of our most popular cables for your convenience. Please contact us at 800-AFL-FIBER or AFLPremiseStock@AFLGlobal.com for more details.





QUAD-link and Circular Premise Cable

QUAD-Link and single unit Circular Premise Cable designs allow for excellent packaging density, flexibility, and ease of routing. Buffered to 900 μm, these cables can be directly terminated into connectors in loaded panels or in communications closets.

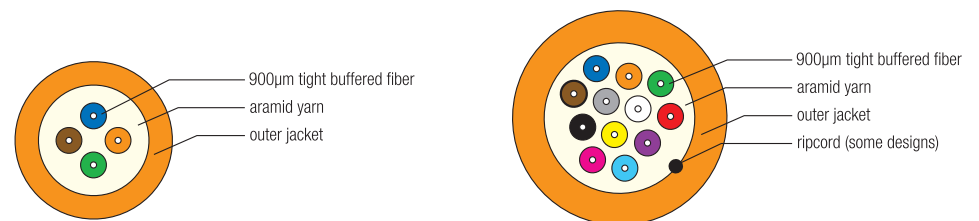
Features

- Fiber counts 4-24
- Buffered to 900 μm
- Mixed fiber designs available

Applications

- Connectorized communications cables with both send-and-recv and send-and-recv backup in a single unit
- Routing between communications closets and equipment rooms
- Intra-building backbones

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| | | (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | | 200 | 600 | N/A | 300 |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



STOCK ITEM

QUAD-link and Circular Premise Cable

Mechanical Data

| CABLE TYPE | AFL NO. | | FIBER COUNT | NOMINAL DIAMETER inches (mm) | WEIGHT | | TENSION | | BENDING RADIUS | |
|------------|--------------|--------------|-------------|---------------------------------|---------------------|---------------------|--------------|-----------|----------------|-----------|
| | RISER | PLENUM | | | RISER | PLENUM | lbs (N) | | inches (cm) | |
| | | | | | lbs/1000 ft (kg/km) | lbs/1000 ft (kg/km) | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| QUAD-Link | UA004★481#01 | UP004★481#01 | 4 | 0.19 (4.8) | 17 (25) | 20 (30) | 100 (440) | 30 (132) | 3.0 (7.2) | 2.0 (5.0) |
| CPC | CR006★441#01 | CP006★441#01 | 6 | 0.17 (4.4) | 12 (17) | 13 (20) | 100 (440) | 30 (132) | 3.0 (7.2) | 2.0 (5.0) |
| | CR008★481#01 | CP008★481#01 | 8 | 0.19 (4.8) | 13 (19) | 17 (25) | 100 (440) | 30 (132) | 3.0 (7.2) | 2.0 (5.0) |
| | CR012★551#01 | CP012★551#01 | 12 | 0.22 (5.5) | 17 (25) | 20 (30) | 100 (440) | 30 (132) | 3.5 (8.3) | 2.5 (5.5) |
| | CR018★801#01 | CP018★761#01 | 18 | 0.32 (8.0) | 34 (50) | 38 (56) | 100 (440) | 30 (132) | 5.0 (12.0) | 3.2 (8.0) |
| | CR024★841#01 | CP024★841#01 | 24 | 0.33 (8.4) | 41 (61) | 46 (69) | 150 (660) | 45 (198) | 5.5 (12.9) | 3.5 (8.6) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

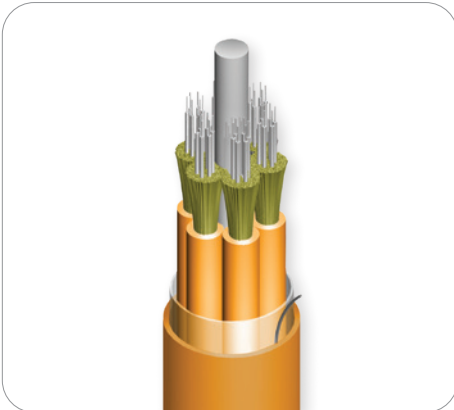
Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| Telcordia | GR-409-CORE |
| EIA/TIA | 568-A |
| ICEA | |
| RoHS | 2002/95/EC |

Temperature Specifications

| | PLENUM | RISER |
|--------------|----------------|----------------|
| INSTALLATION | 0°C to +70°C | -20°C to +70°C |
| OPERATING | 0°C to +70°C | -20°C to +70°C |
| STORAGE | -40°C to +75°C | -40°C to +75°C |

Contact AFL for further details.



Multi-Unit Circular Premise Cable

Multi-Unit Circular Premise Cables are for use in applications requiring fiber counts between 24 and 144 fibers. Unitized construction allows for ease of fiber identification and rapid installation.

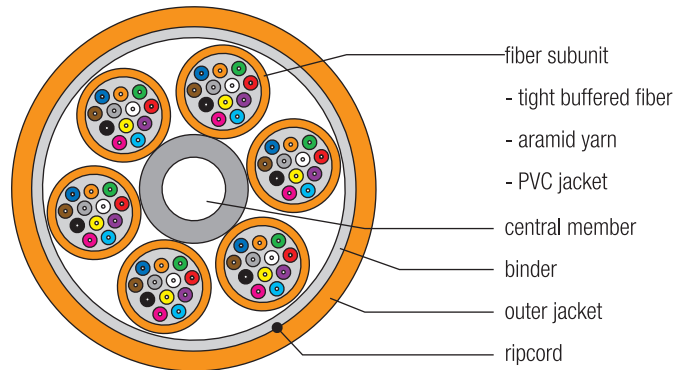
Features

- Available with 24 to 144 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket
- Hybrid constructions also available

Applications

- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Multi-floor deployment where select fibers are used at each floor
- Intrabuilding "backbones"

Cable Components



Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (DB/KM) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



STOCK ITEM

Multi-Unit Circular Premise Cable

Mechanical Data

| CABLE TYPE | AFL NO. | | FIBER COUNT | NOMINAL DIAMETER Inches (mm) | WEIGHT | | TENSION lbs (N) | | BENDING RADIUS inches (cm) | |
|----------------------------|--------------|--------------|-------------|---------------------------------|--------------------|--------------------|--------------------|-----------|-------------------------------|-------------|
| | RISER | PLENUM | | | RISER | PLENUM | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM |
| | | | | | lbs/1000ft (kg/km) | lbs/1000ft (kg/km) | | | | |
| CPC with 12 Fiber Subunits | CR024★501##1 | CP024★551##1 | 24 | 0.30 x 0.52 (7.6 x 13.2) | 57 (86) | 62 (92) | 300 (1320) | 150 (660) | 5.0 (12.0) | 4.0 (10.0) |
| | CR036★501##1 | CP036★551##1 | 36 | 0.56 (14.3) | 105 (155) | 134 (200) | 300 (1320) | 150 (660) | 9.1 (23.1) | 6.1 (15.4) |
| | CR048★501##1 | CP048★551##1 | 48 | 0.56 (14.3) | 105 (155) | 134 (200) | 300 (1320) | 150 (660) | 9.1 (23.1) | 6.1 (15.4) |
| | CR060★501##1 | CP060★551##1 | 60 | 0.68 (17.3) | 160 (235) | 211 (315) | 300 (1320) | 150 (660) | 10.4 (26.4) | 6.9 (17.6) |
| | CR072★501##1 | CP072★551##1 | 72 | 0.68 (17.3) | 160 (235) | 211 (315) | 300 (1320) | 150 (660) | 11.4 (29.0) | 7.6 (19.3) |
| | CR096★501##1 | CP096★551##1 | 96 | 0.81 (20.6) | 280 (410) | 295 (440) | 300 (1320) | 150 (660) | 13.5 (34.2) | 9.0 (22.8) |
| | CR144★501##1 | CP144★551##1 | 144 | 0.92 (23.4) | 288 (430) | 302 (450) | 300 (1320) | 150 (660) | 15.0 (38.1) | 10.0 (25.4) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

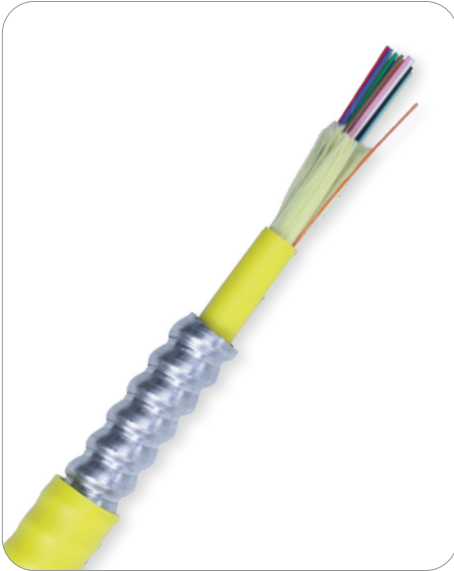
Qualifications

| GOVERNING BODY | STANDARD CODE | COMPONENT |
|----------------|---------------|-----------|
| Telcordia | GR-409-CORE | Sub-units |
| EIA/TIA | 568-A | Sub-units |
| ICEA | S-104-696 | Sub-units |
| NFPA | 262 | Cable |
| RoHS | 2002/95/EC | Cable |

Temperature Specifications

| | TEMPERATURE RANGE | |
|---------------------|-------------------|----------------|
| | PLENUM | RISER |
| INSTALLATION | 0°C to +70°C | -20°C to +70°C |
| OPERATION | 0°C to +70°C | -20°C to +70°C |
| STORAGE | -40°C to +75°C | -40°C to +75°C |

Contact AFL for further details.



Armored Tight Buffered Circular Premise Cable

Armored Tight Buffered CPC Cables incorporate 4 to 144 fiber count CPC cables in a jacketed, aluminum interlocking armor. Jacketed aluminum interlocking armor provides the best balance of ruggedness, flexibility, and low weight. Flame rated armored cables with no outer jacket and flame rated armored cables with steel interlocking armor are also available. Interlocking armor can also be used with other types of trunk cables, including Indoor/Outdoor Distribution, Breakout and Premise MicroCore®.

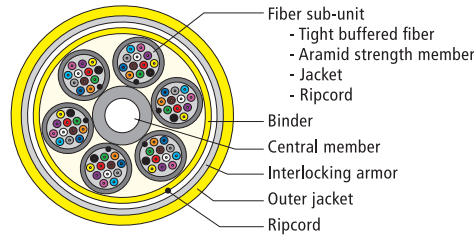
Features

- Fiber counts 4-144
- Aluminum interlocking armor

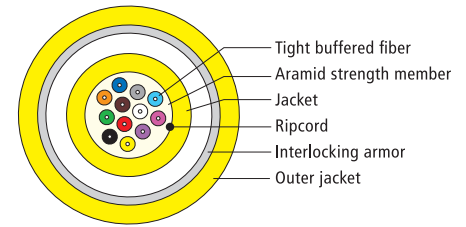
Applications

- Routing inside of buildings where additional ruggedness is required or where increased rodent resistance is required
- Extra protection for fiber optic cables in harsh industrial environments
- Manufacturing plants
- High-density routings in data center applications

Cable Components



High Fiber Count Circular Premise Cable



Circular Premise Cable

Fiber Specifications

| CORE SIZE/FIBER TYPE | ISO/IEC | MAXIMUM ATTENUATION (dB/km) | | | OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km) | | EMB _c (MHz•km) | GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | | 10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters) | |
|--|---------|-----------------------------|---------|---------|---|---------|---------------------------|--|---------|---|---------|
| | | 850 nm | 1300 nm | 1550 nm | 850 nm | 1300 nm | | 850 nm | 1300 nm | 850 nm | 1300 nm |
| (6) 62.5 Giga-Link™ 300 | OM1 | 3.5 | 1.2 | N/A | 200 | 600 | N/A | 300 | 550 | 32 | — |
| (5) 50 Giga-Link™ 600 | OM2 | 3.5 | 1.5 | N/A | 500 | 500 | N/A | 600 | 600 | 82 | — |
| (L) 50 Laser-Link 300 | OM3 | 3.0 | 1.2 | N/A | 1,500 | 500 | 2,000 | 1,000 | 550 | 300 | — |
| (C) 50 Laser-Link 550 | OM4 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (W) AFL Wideband Multimode | OM5 | 3.0 | 1.2 | N/A | 3,500 | 500 | 4,700 | 1,040 | 550 | 550 | — |
| (9) Single-mode (ITU G.652.D/G.657.A1) | OS2 | N/A | 0.5 | 0.5 | N/A | N/A | N/A | N/A | 5,000 | N/A | 10,000 |



Armored Tight Buffered Circular Premise Cable

Mechanical Data

| AFL NO. | | FIBER COUNT | NOMINAL DIAMETER inches (mm) | WEIGHT | | TENSION | | | | BENDING RADIUS | |
|-------------------|-------------------|-------------|---------------------------------|---------------------|-----------|--------------|-----------|--------------|-----------|----------------|-------------|
| RISER | PLENUM | | | RISER | PLENUM | RISER | | PLENUM | | INSTALLATION | LONG TERM |
| | | | | lbs/1000 ft (kg/km) | | INSTALLATION | LONG TERM | INSTALLATION | LONG TERM | | |
| | | | | | | lbs (N) | lbs (N) | lbs (N) | lbs (N) | inches (cm) | inches (cm) |
| UA004★481#01-AIAR | UP004★481#01-AIAP | 4 | 0.46 (11.8) | 79 (117) | 89 (132) | 150 (660) | 45 (198) | 100 (440) | 30 (132) | 7.0 (17.7) | 5.0 (12.7) |
| CR006★441#01-AIAR | CP006★441#01-AIAP | 6 | 0.46 (11.8) | 74 (109) | 82 (122) | 150 (660) | 45 (198) | 100 (440) | 30 (132) | 7.0 (17.7) | 4.8 (12.2) |
| CR012★551#01-AIAR | CP012★551#01-AIAP | 12 | 0.51 (13.0) | 79 (117) | 89 (132) | 150 (660) | 45 (198) | 100 (440) | 30 (132) | 7.0 (17.7) | 5.0 (12.7) |
| CR024★891#01-AIAR | CP024★841#01-AIAP | 24 | 0.62 (15.7) | 129 (193) | 144 (215) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 9.3 (23.6) | 5.3 (13.4) |
| CR036★501##1-AIAR | CP036★551##1-AIAP | 36 | 0.94 (24) | 250 (370) | 294 (439) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 14.2 (36.0) | 9.4 (24.0) |
| CR048★501##1-AIAR | CP048★551##1-AIAP | 48 | 0.94 (24) | 250 (370) | 294 (439) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 14.2 (36.0) | 9.4 (24.0) |
| CR072★501##1-AIAR | CP072★551##1-AIAP | 72 | 1.10 (27.9) | 314 (465) | 401 (597) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 16.5 (41.9) | 11.0 (27.9) |
| CR096★501##1-AIAR | CP096★551##1-AIAP | 96 | 1.21 (30.7) | 460 (680) | 507 (755) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 18.1 (46.1) | 12.1 (30.7) |
| CR144★501##1-AIAR | CP144★551##1-AIAP | 144 | 1.37 (34.8) | 460 (680) | 534 (796) | 300 (1320) | 90 (396) | 150 (660) | 45 (198) | 19.8 (50.3) | 13.2 (33.5) |

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

Cable Jacket Color Options

| | |
|------------|-----------------------------|
| 1 - Blue | 8 - Black |
| 2 - Orange | 9 - Yellow |
| 3 - Green | A - Violet |
| 4 - Brown | B - Rose |
| 5 - Slate | C - Aqua |
| 6 - White | K - Erika Violet (RAL 4003) |
| 7 - Red | |

Qualifications

| GOVERNING BODY | STANDARD CODE |
|----------------|---------------|
| MSHA | |
| NFPA | |
| RoHS | 2002/95/EC |
| EIA/TIA | |
| ICEA | |
| ISO | |
| ITU | |
| Telcordia | GR-409-CORE |

Temperature Specifications

| | PLENUM | RISER |
|--------------|----------------|----------------|
| INSTALLATION | 0°C to +70°C | -10°C to +70°C |
| OPERATING | 0°C to +70°C | -10°C to +70°C |
| STORAGE | -40°C to +75°C | -40°C to +75°C |

Contact AFL for further details.

FlexScan® FS300 Quad OTDR

Be ready for anything with this all-in-one solution



Features

- Multimode and Single-mode OTDR, including PON test
- SmartAuto® 1-button automated testing for fast results
- Pocket-sized, weighs less than 1 pound, 12-hour battery
- LinkMap® color-coded icons for easy troubleshooting
- Integrated Source, Power Meter and VFL
- Robust reporting including Print-to-PDF
- Available with field-replaceable connector

Applications

- OTDR and insertion loss test and reporting
- Fast, accurate Pt-to-Pt and PON verification and troubleshooting
- Locate faults exceeding industry or user pass/fail thresholds
- Visually pinpoint location of macrobends or breaks

AFL's FlexScan FS300 Quad OTDR is an all-in-one solution for detecting, identifying, locating and resolving single-mode and multimode optical network issues. It is designed for both novice and expert technicians working in a range of environments from data centers to fiber-to-the-home, as well as local and wide area networks. The FlexScan FS300 automates test setup, shortens test time and simplifies results interpretation, improving efficiency and reducing costs.

All-in-one test capability: The FlexScan FS300 includes an integrated VFL, power meter and light source. It can be easily paired to AFL's award-winning FOCIS family of inspection scopes for single-fiber and/or MPO and OptiTip® multifiber inspection, ensuring technicians have everything they need to locate and resolve optical network issues.

Performance-packed: With SmartAuto automated multi-pulse acquisition, 37 dB dynamic range and best-in-class dead zones, FlexScan Quad OTDRs test multimode and single-mode networks – including FTTH PONs and POLANs up to 1:64 split ratio – while still detecting and measuring events <2 meters apart.

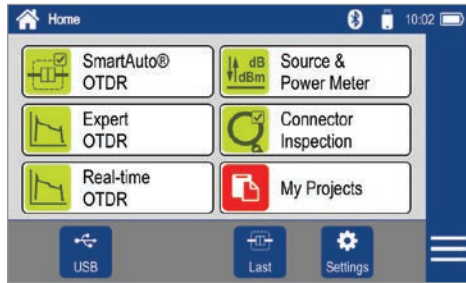
User-friendly: The FS300 enables both expert and novice technicians to quickly and accurately detect, locate, identify and measure optical network components and faults. It applies industry-standard or user-set pass/fail criteria and displays results using LinkMap color-coded icons that immediately show the health of the network.

Pocket-sized: The FlexScan FS300's small form factor still delivers 12-hour battery operation plus a large, bright, indoor/outdoor, 5-inch 800 x 480 touchscreen display that doesn't need a stylus.

Multiple Reporting Options: Reports can be generated directly from the unit using Print-to-PDF feature or files can be transferred wirelessly or uploaded via USB to the included Windows® compatible TRM® 3.0 Test Results Manager software.

Field-replaceable connector: With AFL's optional field-replaceable connector, avoid expensive service repairs to replace connectors damaged due to poor cleaning practices and/or normal wear-and-tear.

FlexScan® FS300 Quad OTDR



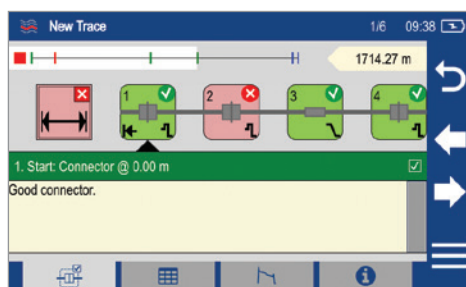
Dramatically Reduces Test Time

In SmartAuto mode, FlexScan OTDRs automatically analyze and test the network using a variety of network-optimized settings to precisely locate, characterize and identify network events with one button push. Loss and reflectance are measured for connectors, splices, splitters and macro-bends. FlexScan even checks for live fiber and verifies OTDR launch quality before initiating a test.

Simplifies Network Troubleshooting

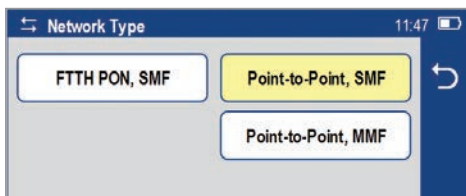
LinkMap® color-coded icons enable even novice users to easily and accurately troubleshoot optical networks. LinkMap clearly identifies fiber start, end, connectors, splices, PON splitters, and macro-bends.

A LinkMap Summary provides end-to-end link length, loss and ORL. Loss and reflectance of detected events is compared to industry-standard or user-defined pass/fail thresholds and displayed with clear pass/fail indications. Users can instantly toggle between LinkMap and Trace views.



Multimode and Single-mode plus PON Testing in One OTDR

FlexScan Quad OTDRs are the ideal test tool for verifying and/or maintaining both single-mode and multimode networks. Unlike most Quad OTDRs, FS300 OTDRs test both point-to-point networks and FTTH PONs/Passive Optical LANs (POLANs).



Connectivity

FlexScan OTDRs easily pair with AFL's ward-winning FOCIS® family of connector inspection probes for fast, easy single-fiber and/or multi-fiber connector end-face inspection. Images and pass/fail results can be transferred to the FlexScan for display and/or archiving with OTDR results.

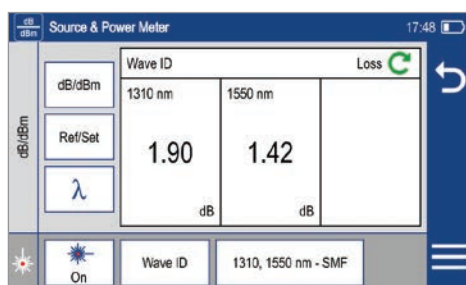
FlexScan results can be transferred wirelessly via the free FlexScan App to a smart device for real-time reporting using the included Windows-based TRM® 3.0 Test Results Manager software. Monitoring test results in real-time can detect mistakes while the tech is still in the field, preventing future truck rolls.



OTDR, OLTS, and VFL Testing with a Single Tool

FlexScan optionally includes a Wave ID optical light source (OLS) and optical power meter (OPM). With Wave ID, the OPM auto-synchronizes to a single or multi-wavelength Wave ID optical signal transmitted by an AFL light source. The OPM reports detected wavelengths and measures power and loss at each wavelength, saving significant test time and eliminating setup errors.

The integrated Visual Fault Locator's eye-safe red laser enables users to visually pinpoint the location of macro-bends and fiber breaks often found in splice closures and fiber cabinets.



FlexScan® FS300 Quad OTDR

Specifications^a

| OTDR | MULTIMODE | SINGLE-MODE |
|------------------------------------|---|--|
| Emitter Type | Laser | |
| Safety Class ^b | Class I | |
| Fiber Type | Multimode; compatible with OM1-OM5 | Single-mode; compatible with all G.65x |
| Wavelengths ^c | 850/1300 ±20 nm | 1310/1550 ±20 nm |
| Network Type | Point-to-point | Point-to-point & PON up to 1:64 |
| Connector Type | User-specified APC or UPC ferrule with interchangeable UCI adapters | |
| Dynamic Range ^d | ≥29/29 dB @ 850/1300 nm | ≥37/36 dB @ 1310/1550 nm |
| Event Dead Zone ^e | ≤0.8 m @ 850/1300 nm typical | ≤0.8 m @ 1310/1550 nm typical |
| Attenuation Dead Zone ^f | ≤3.0 m | ≤3.5 m |
| PON Dead Zone ^g | Not applicable | ≤25 m |
| Pulse Widths | 3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1 μs | 3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 5, 10, 20 μs |
| Range Settings | 250 m to 30 km | 250 m to 240 km |
| Data Points | Up to 300,000 | |
| Data Spacing | ≥5 cm to ≤16 m | |
| Group Index of Refraction | 1.3000 to 1.7000 | |
| Distance Uncertainty | ±(1 + 0.0025% x distance + data point spacing) m | |
| Linearity | ±0.03 dB/dB | |
| Loss Resolution | 0.001 dB | |
| Reflectance Range | 850 nm: -20 to -58 dB; 1300 nm: -20 to -63 dB | 1310/1550 nm: -20 to -65 dB |
| Reflectance Resolution | 0.01 dB | |
| Reflectance Accuracy | ±2 dB | |
| ORL Range | 20 to 60 dB | |
| ORL Resolution | 0.01 dB | |
| ORL Accuracy | ±2 dB over range 30 to 55 dB; ±4 dB over range 20-30 dB and 55-60 dB | |
| Trace File Format | .SOR, Telcordia SR-4731 Issue 2 | |
| OTDR Results Storage | Internal or external USB memory | |
| Internal Storage | Minimum 4 GB internal non-volatile memory (App SW + >5000 traces typical) | |
| Internal Launch Fiber | ≥30 m internal MM launch fiber | ≥50 m internal SM launch fiber |
| OTDR Modes | Supports SmartAuto, Expert, Real-Time for PON & point-to-point networks | |
| Real-time Refresh Rate | 1 to 4 Hz | |
| Live Fiber Protection | No OTDR damage when connected to live fiber delivering ≤ +18 dBm at wavelength(s) in range 825 to 1675 nm | |
| Live Fiber Detection | Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 825 to 1675 nm | |

Notes:

- All specifications valid at 25 °C unless otherwise specified.
- FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2014.
- Measured with laser in CW mode at 23 °C ±3 °C.
- SNR=1, longest range and pulse width, 3 minute averaging.
- Maximum distance between two points 1.5 dB down each side of a reflective peak caused by an event with a -45 dB (or smaller) reflectance. Test pulse width is 3 or 5 ns.
- Maximum distance from the start of a trace spike caused by an event with a -45 dB (or smaller) reflectance, to the point where the trace returns to and stays within ±0.5 dB of backscatter. Test pulse width is 3 or 5 ns.
- Recovery to within 0.5 dB of backscatter after 1:16 splitter (≤13 dB loss) using 100 ns pulse width.

FlexScan® FS300 Quad OTDR

Specifications^a

| OPM - OPTICAL POWER METER (P1 Option) | |
|---------------------------------------|---|
| Calibrated Wavelengths | 850, 1300, 1310, 1490, 1550, 1625, 1650 nm |
| Detector Type | InGaAs PIN, 2 mm diameter |
| Measurement Range | +3 to -70 dBm (+3 to -65 dBm @ 850 nm) |
| Tone Auto-Detect | 270 Hz, 330 Hz, 1 kHz, 2 kHz |
| Tone Detect Range | +3 to -50 dBm @1300, 1310, 1550 nm; +3 to -40 dBm @850 nm; |
| Wave ID | Auto-synchronizes & measures 1, 2 or 3 wavelengths |
| Wave ID Range | +3 to -50 dBm @1300, 1310, 1550 nm; +3 to -40 dBm @850 nm |
| Accuracy | ±5% @ -10 dBm |
| Linearity | ±0.1 dB (-3 to -40 dBm); ±0.25 dB (-40 to -70 dBm) |
| Resolution | 0.01 dB |
| Measurement Units | Power in dBm, nW, µW, mW; Loss in dB |

| OLS - OPTICAL LIGHT SOURCE (P1 Option) | |
|--|--|
| Wavelengths | 850/1300/1310/1550 nm |
| Emitter Type | Laser |
| Safety Class | Class I ^b |
| Launch Condition | Controlled Launch at 850 nm (comparable to encircled flux on OM4 fiber) |
| Center λ (CW Mode) | ±20 nm |
| Spectral Width | 5 nm maximum (FWHM, CW Mode) |
| Internal Modulation | 270 Hz, 330 Hz, 1 kHz, 2 kHz, CW, Wave ID |
| SM Output Stability | Short-term ^c : ±0.1 dB; Long-term ^d : ±0.05 dB |
| MM Output Stability | Short-term ^e : ±0.20 dB; Long-term ^f : ±0.15 dB |
| Output Power | 1310/1550 nm: -7 dBm ±1.5 dB (CW, G.652.C/D) 1300 nm: -7 dBm ±1.5 dB (CW, 50 µm MMF) 850 nm: 0 dBm ±1.5 dB (CW, 50 µm MMF) |

| VFL - VISUAL FAULT LOCATOR | |
|----------------------------|---|
| Emitter Type | Laser, Class IIIa / Class 3R ^b |
| Wavelength | 635 nm ±10 nm |
| Output Power | 1.5 mW (~+2 dBm ±0.5 dB) into SMF-28 |
| Modes | CW and 1 Hz flashing |

Notes:

- a. All specifications valid at 25 °C unless otherwise specified.
- b. FDA 21 CFR 1040.10 and 1040.11, and IEC 60825-1:2014.
- c. Typical maximum deviation over 15 minute after 15 minute warm-up.
- d. Typical maximum deviation over 8 hours after 1 hour warm-up.
- e. 15 minutes after 30 minutes warm-up.
- f. 8 hours after 1 hour warm-up.

| GENERAL | |
|-----------------------|--|
| Size (in boot) | 98 x 175 x 52.5 mm |
| Weight | 0.8 kg |
| Operating Temperature | -10 °C to +50 °C, 0 to 95% RH (non-condensing) |
| Storage Temperature | -30 °C to +70 °C, 0 to 95% RH (non-condensing, battery removed) -20 °C to +60 °C, 0 to 95% RH (non-condensing, battery installed) |
| Power | Rechargeable Lithium polymer battery; AC adapter |
| AC Adapter | 100-240 VAC, 50-60 Hz input; 5VDC, 2A output |
| Battery Life (OTDR) | ≥12 hours, Telcordia test conditions, 4 hours recharge |
| Display | 5-inch color LCD, 800 x 480 pixels, backlit |
| Shock and Vibration | GR-196-CORE, drop test, 0.75 m (30 in.), 6 planes |
| Dust Protection | GR-196-CORE, rubber dust caps for all ports |
| OTDR/OLS Ports | MM: UPC; SM: UPC or APC; includes tool-free, interchangeable SC adapters |
| OPM and VFL Ports | Universal, 2.5 mm adapter (SC, FC, ST); others available |
| USB Ports | USB host port; micro-USB function port |
| Bluetooth Interface | W1 option; compatible with Windows PC and Android |
| WiFi Interface | W1 option; compatible with IEEE 802.11 / WLAN |
| CE Safety | Compliant with EN61010-1 |
| CE EMI/RFI | EN55011, EN61326-1, GR-196-CORE 4.5.1 |
| RoHS | Compliant with RoHS directive 2011/65/EU |

FlexScan® FS300 Quad OTDR

FlexScan FS300 models are available in five kit configurations: Basic, PLUS, PRO, BIPM, and MPO. All kits include FS300 with AC charger, battery, carry strap, SC/2.5 mm connector adapters, TRM® 3.0, quick reference user guide, and carry case.

Ordering Information

FS300-325 Basic, Plus, PRO, BIPM kits Order Entry: **FS300-325-[KIT]-[Pn]-[Wn]-[C]-[CC]-[LNG]-[AC]-[SMFR]-[MMFR]-[TIP]**

FS300-325 MPO kits (SMF and MMF) Order Entry: **FS300-325-[MKIT]-P1-[Wn]-[LNG]-[AC]-[MPOC]** where:

| [KIT] | FS300 FlexScan Kit Configuration |
|-------------|---|
| BAS | Includes: FS300, soft case, TRM® 3.0 Basic, USB cable ^a |
| PLUS | Includes: BAS kit plus 150 m SMF & MMF Fiber Rings, One-Click Cleaner, upgrade to TRM 3.0 Advanced, user-selected soft or hard carry case |
| PRO | Includes: PLUS kit plus FOCIS Flex with two user-selected adapter tips |
| BIPM | Includes: PRO kit plus OFI-BIPMe |

| [MKIT] | FS300-325 MPO Kit Configuration |
|-------------|--|
| SMPO | SMF MPO test kit; Includes SMF MPO switch, launch cables, carry case |
| MMPO | MMF MPO test kit; Includes MMF MPO switch, launch cables, carry case |

| [PN] | OPTICAL LIGHT SOURCE (OLS) and Optical Power Meter (OPM) |
|-----------|--|
| P0 | No OLS, no OPM |
| P1 | 850/1300 MM; 1310/1550 SM Source and Power Meter |

| [WN] | Bluetooth/WiFi Configuration |
|-----------------------|------------------------------|
| W0 | No Bluetooth or WiFi |
| W1^b | Includes WiFi and Bluetooth |

| [C] | OTDR / Source Connector Type |
|----------|------------------------------|
| A | APC (recommended) |
| U | UPC |

| [CC] ^c | Carry Case Option |
|-------------------|---|
| S1 | Standard soft case for FlexScan, Fiber Rings, FOCIS Flex, accessories (Basic, PLUS, PRO kits only) |
| S2 | Large soft case for FlexScan, Fiber Rings, FOCIS Flex, OFI-BIPMe, accessories (PLUS, PRO, BIPM kits only) |
| H1 | Hard carry case (PLUS, PRO, BIPM Kits only) |

| [LNG] | Language |
|------------|---------------|
| ENG | English |
| CHS | Chinese Simp. |
| CHT | Chinese Trad. |
| CZE | Czech |
| DEU | German |
| DNK | Danish |

| [LNG] | Language |
|------------|-----------|
| FIN | Finnish |
| FRA | French |
| ITA | Italian |
| JPN | Japanese |
| KOR | Korean |
| NOR | Norwegian |

| [LNG] | Language |
|------------|------------|
| POL | Polish |
| POR | Portuguese |
| SPA | Spanish |
| TUR | Turkish |
| VNM | Vietnamese |

| [AC] | Destination Country | AC Plugs |
|-----------|---------------------|------------|
| US | USA | 2-pin, US |
| EU | European Union | 2-pin, EU |
| UK | United Kingdom | 3-pin, UK |
| CN | China, Australia | 2-pin, SAA |

Notes:

- Results can be transferred from FlexScan to TRM® 3.0 using USB cable, or performed wirelessly (W1 option) after downloading FlexScan App from 'Google play' or 'App Store'.
- FlexScans equipped with Bluetooth option (W1) support Bluetooth transfer of results via FlexScan App for remote reporting using TRM 3.0.
- Basic kit always ships with S1 (Standard Soft Case); MPO kit always ships with MPO-specific soft case.

| [SMFR] | 150 m SMF Fiber Ring |
|----------------|----------------------|
| Absent | N/A in Basic kits |
| USC/USC | FR-SMF-150-USC-USC |
| USC/UFC | FR-SMF-150-USC-UFC |
| USC/ULC | FR-SMF-150-USC-ULC |
| USC/UST | FR-SMF-150-USC-UST |
| USC/ASC | FR-SMF-150-USC-ASC |
| USC/AFC | FR-SMF-150-USC-AFC |
| USC/ALC | FR-SMF-150-USC-ALC |
| USC/UE2 | FR-SMF-150-USC-UE2 |
| ASC/UFC | FR-SMF-150-ASC-UFC |
| ASC/ULC | FR-SMF-150-ASC-ULC |
| ASC/UST | FR-SMF-150-ASC-UST |
| ASC/ASC | FR-SMF-150-ASC-ASC |
| ASC/AFC | FR-SMF-150-ASC-AFC |
| ASC/ALC | FR-SMF-150-ASC-ALC |
| ASC/AE2 | FR-SMF-150-ASC-AE2 |

| [MMFR] | 150 m OM1 (62.5 μm) Fiber Ring |
|-----------------|--------------------------------|
| Absent | N/A in Basic kits |
| USC/UST1 | FR-OM1-150-USC-UST |
| USC/USC1 | FR-OM1-150-USC-USC |
| USC/ULC1 | FR-OM1-150-USC-ULC |
| USC/UFC1 | FR-OM1-150-USC-UFC |

| [MMFR] | 150 m OM2 (50 μm) Fiber Ring |
|-----------------|------------------------------|
| Absent | N/A in Basic kits |
| USC/UST2 | FR-OM2-150-USC-UST |
| USC/USC2 | FR-OM2-150-USC-USC |
| USC/ULC2 | FR-OM2-150-USC-ULC |
| USC/UFC2 | FR-OM2-150-USC-UFC |

| [MMFR] | 150 m OM3/4/5-compatible Fiber Ring |
|-----------------|-------------------------------------|
| Absent | N/A in Basic kits |
| USC/UST3 | FR-OM3-150-USC-UST |
| USC/USC3 | FR-OM3-150-USC-USC |
| USC/ULC3 | FR-OM3-150-USC-ULC |
| USC/UFC3 | FR-OM3-150-USC-UFC |

| [TIP] | FOCIS Flex Tips and Cleaning (PRO only) |
|--------------|---|
| Blank | Option not available in Basic and PLUS kits |
| SC | SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click |
| FC | FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click |
| LC | LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm One-Click |
| ASC | SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click |
| AFC | FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click |
| ALC | LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm One-Click |

| [MPOC] | MPO Launch Cable Network Connector |
|----------|------------------------------------|
| F | Female (unpinned) |
| M | Male (pinned) |

FlexScan® FS300 Quad OTDR

Ordering Information (continued)

Accessories

| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexScan wrist strap | 1400-05-0230PZ |
| FlexScan neck strap, 36" | 1400-05-0231PZ |
| AC charger 100-240 VAC to 5 VDC | 4050-00-0931PR |
| Soft carry case for FS300 with FOCIS, OFI, and Fiber Ring | 1400-01-0167PZ |
| Soft carry case for FS300-325 MPO kits | 1400-20-0001PZ |
| Soft carry case for FS300 with FOCIS, and Fiber Ring | 1400-20-0002PZ |
| Hard carry case for FS300 kits with FOCIS, OFI, and Fiber Ring | 1400-01-0177PZ |
| FS300 extended temperature replacement battery | 3900-06-0902MR |
| Vehicle charger, 12VDC to 5VDC @2A | 4050-00-0033MR |
| Cable, USB-micro B, 5 pin, 6' | 6000-00-0031MR |
| 5V USB charging cable (1.5 m), type A to barrel (0.9 X 3.2 X 9 mm) | 6000-00-0034PR |
| One-Clicks, fluid, wipes, etc. See www.AFLglobal.com | Cleaning Supplies |

Field-Replaceable OTDR Connector (Optical Port Ferrule Saver)

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables or patch cords or normal wear-and-tear. Equip your FlexScan FS300 with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the port saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

| DESCRIPTION | AFL NO. |
|---|----------------|
| Field-replaceable connector; APC female to APC male | 2900-58-0001MR |
| Field-replaceable connector; APC female to UPC male | 2900-58-0002MR |
| Field-replaceable connector; UPC female to APC male | 2900-58-0003MR |
| Field-replaceable connector; UPC female to UPC male | 2900-58-0004MR |

Connector Adapters


| CONNECTOR ADAPTER | AFL NO. | | |
|-------------------|----------------|----------------|----------------|
| | OTDR/OLS PORT | OPM PORT | VFL PORT |
| FC | 2900-50-0002MR | 2900-52-0001MR | N/A |
| SC | 2900-50-0003MR | 2900-52-0002MR | N/A |
| ST | 2900-50-0004MR | 2900-52-0003MR | N/A |
| LC | 2900-50-0006MR | 2900-52-0004MR | N/A |
| SC/APC | 2900-50-0011MR | N/A | N/A |
| 2.5 mm Universal | N/A | 2900-52-0005MR | 2900-50-0007MR |
| 1.25 mm Universal | N/A | 2900-52-0006MR | 2900-50-0010MR |

FlexScan® FS300 Quad OTDR

Test Management and Reporting Software


| DESCRIPTION | AFL NO. |
|---|---------------|
| TRM® 3.0 with Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports), USB delivery (included with all FS300 kits) | TRM3-BASIC |
| TRM 3.0 upgrade from Basic to Advanced License, USB delivery | TRM3-UPGRADE |
| TRM 3.0 upgrade from Basic to Advanced License, email delivery | TRM3-UP-EMAIL |
| FlexScan App (Android Google play) | Free Download |

Recommended Products



FOCIS Flex and FOCIS Lightning (Multi-Fiber) Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



OFI-BIPMe Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|---|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | Telcordia | Compliant to GR-196-CORE 4.5.1 for requirements on electromagnetic interference |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | IEC | Compliant to IEC 60825-1 for safety of laser products |
| | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |
| Generic Requirement | Telcordia | Compliant to GR-196-CORE for generic requirements for OTDR-type equipment |
| | Telcordia | Compliant to SR-4731 Issue 2 for OTDR data format |
| | IEC | Compliant to IEC 61746-1 for requirements on calibration of OTDR |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FlexScan FS300 OTDR.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

FlexScan® FS200 Single-mode OTDR

Pocket-sized, Performance-packed, User-friendly, and Affordable



Features

- Flexpress® mode completes OTDR tests in <5 seconds
- Test up to 1:64 PON with 25 m PON dead zone
- Easy to understand LinkMap® results with pass/fail indications
- Single, dual or triple wavelength single-mode
- Single port for in- and out-of-service OTDR tests
- Integrated source, power meter, VFL (visual fault locator)
- Integrated MPO Switch control via USB
- Rugged, lightweight, hand-held for field use
- Available with field-replaceable Port Saver connector

Applications

- PON or point-to-point network verification or troubleshooting
- OTDR testing plus insertion loss and power measurements
- Locate faults exceeding industry or user pass/fail thresholds
- Visually pinpoint location of macro-bends or breaks

AFL's FlexScan FS200 OTDR is an all-in-one solution for detecting, identifying, locating, and resolving single-mode optical network issues. It is designed for both novice and expert technicians working in a range of environments, from FTTH PON to point-to-point networks. It applies industry-standard or user-set pass/fail criteria and displays results using LinkMap color-coded icons to show the health of the network. FlexScans automate test setup, shorten test time, and simplify results interpretation improving efficiency and reducing costs.

All-in-one test capability: The FlexScan FS200 includes an integrated VFL, power meter, and light source. It can be easily paired to AFL's award-winning FOCIS family of inspection scopes, ensuring technicians have everything they need to locate and quickly resolve optical network issues.

Performance-packed: With SmartAuto multi-pulse acquisition, up to 37 dB dynamic range, and best-in-class 25 m PON dead zone, FlexScan FS200 PON OTDRs test FTTH PONs up to 1:64 while still detecting and measuring events only meters apart.

Fast! Flexpress mode completes dual-wavelength tests in <5 seconds – 10 x faster than conventional OTDRs! For multi-fiber testing, FS200s automatically control AFL's MFS Multi-Fiber Switch (12-fiber MPO switch) to further reduce multi-fiber test time.

Pocket-sized: At 3.5 x 6 x 1.75 in. (86 x 160 x 43 mm) and less than one pound (0.4 kg), FlexScan FS200 OTDRs truly fit in your pocket, yet still provide a large, bright indoor/outdoor touchscreen display, and all-day operation.

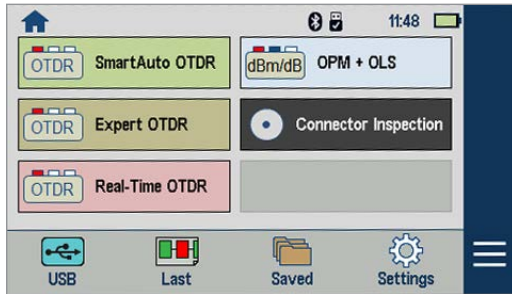
Multiple sharing and reporting options: Results can be stored internally, saved to a USB, and uploaded via USB cable, Bluetooth (via FlexApp) or Wi-Fi for real-time reporting using the included FlexReports Test Results Manager software.

Convenient cost-saving kits: Bundle the FlexScan FS200 with your choice of launch cable, FOCIS Flex connector inspection probe and tips, and/or AFL's universal optical fiber identifier (OFI-BIPMe) for significant cost-savings!

PON-optimized FTTH-PRO kits combine FS200-303/304 with a FOCIS Flex Inspection probe, 4 adapter tips, and launch cables for both SC/APC and LC/APC networks.

Field-replaceable Port Saver connector: With AFL's optional field-replaceable Port Saver, avoid expensive service repairs to replace connectors damaged due to poor cleaning practices and/or normal wear-and-tear.

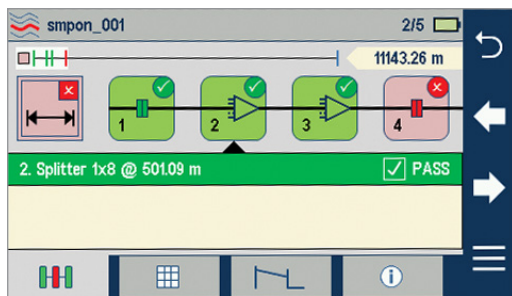
FlexScan® FS200 Single-mode OTDR



Dramatically Reduces Test Time

In SmartAuto mode, FlexScan OTDRs automatically analyze and test the network using a variety of network-optimized settings to precisely locate, characterize and identify network events with one button push. Loss and reflectance are measured for connectors, splices, splitters and macro-bends. FlexScan even checks for live fiber and verifies OTDR launch quality before initiating a test.

FlexScan's Flexpress mode completes dual-wavelength tests in seconds, reducing test time by 10x compared to conventional OTDRs. For multi-fiber testing, FlexScan's automatically control AFL's MPO Switch, testing 12 fibers at the touch of a single button.



Simplifies Network Troubleshooting

LinkMap with pass/fail enables even novice users to easily and accurately troubleshoot optical networks. LinkMap presents an icon-based view of the tested network clearly identifying fiber start, end, connectors, splices, PON splitters, and macro-bends.

A LinkMap summary provides end-to-end link length, loss and ORL. Loss and reflectance are displayed with clear pass/fail indications. Users can instantly toggle between LinkMap and Trace views.



Connectivity

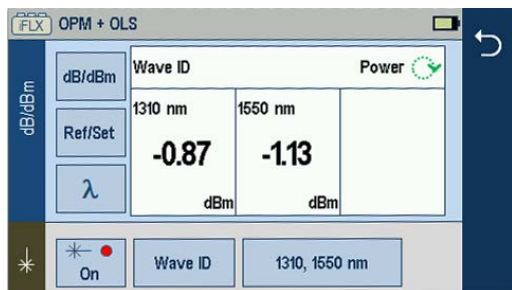
FlexScan OTDRs easily pair with AFL's ward-winning FOCIS® family of connector inspection probes for fast, easy single-fiber and/or multi-fiber connector end-face inspection.

FlexScan results can then be transferred via USB cable, Wi-Fi, or Bluetooth and the free FlexApp running on a mobile device for real-time reporting using the included FlexReports Test Results Manager PC-based software. This real-time monitoring can help avoid mistakes in the field that will require future truck rolls.

OTDR, OLTS, and VFL Testing with a Single Tool

FlexScan optionally includes a Wave ID optical light source (OLS) and optical power meter (OPM). With Wave ID, the OPM auto-synchronizes to a single or multi-wavelength Wave ID optical signal transmitted by an AFL light source. The OPM reports detected wavelengths and measures power and loss at each wavelength, saving significant test time and eliminating setup errors.

The integrated VFL's eye-safe red laser enables users to visually pinpoint the location of macro-bends and fiber breaks often found in splice closures and fiber cabinets.



FlexScan® FS200 Single-mode OTDR

FlexScan OTDRs are available with 1310/1550/1625, 1310/1550/1650, 1310/1550, and 1650 nm only wavelengths. The 1310 and 1550 nm versions are available with integrated optical light source (OLS), optical power meter (OPM), visual fault locator (VFL) and Bluetooth/Wi-Fi.

Specifications^a

| MODEL: FS200-XXX | -60 | -100 | -300 | -303 | -304 |
|-----------------------------------|---|---------------|---------------|------------------------|------------------------|
| OTDR | | | | | |
| Emitter Type | Laser | | | | |
| Safety Class ^b | Class I | | | | |
| Fiber Type | Single-mode | | | | |
| Wavelengths (nm) | 1650 | 1310/ 1550 | 1310/ 1550 | 1310/ 1550/ 1625 | 1310/ 1550/ 1650 |
| Center λ Tolerance ^c | 1310/1550/1650: ± 20 nm; 1625 +30/-5 nm | | | | |
| Dynamic Range ^d (dB) | 37 | 32/30 | 37/35 | 37/35/37 | 37/35/37 |
| Event Dead Zone ^e (m) | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Atten. Dead Zone ^f (m) | 3.5 | 3.6 | 3.5 | 3.5 | 3.5 |
| PON Dead Zone ^g (m) | 30 | N/A | 25/25 | 25/25/40 | 25/25/40 |
| Max Split Ratio | 1:64 (FS200-60/30x only); N/A (FS200-100) | | | | |
| Pulse Widths | 3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 10 μs; 20 μs (FS200-300/300/304 only) | | | | |
| Range Settings | 250 m to 240 km | | | | |
| Data Points | Up to 300,000 (Expert mode .SOR file) | | | | |
| Data Spacing | 5 cm to 16 m | | | | |
| Index of Refraction | 1.3000 to 1.7000 | | | | |
| Distance Uncertainty | ±(1 + 0.003% x distance + data point spacing) m | | | | |
| Linearity (dB/dB) | ±0.05 | | | | |
| Trace File Format | Telcordia SR-4731 Issue 2 compatible .SOR | | | | |
| Trace Storage Medium | 4 GB internal memory (> 5000 traces typical); External USB memory stick | | | | |
| Data Transfer to PC | USB cable or Bluetooth® (option) | | | | |
| OTDR Modes | SmartAuto, Expert, Real-time | | | | |
| Flexpress Fast Test | FS200-300/303/304 | | | | |
| Display Modes | LinkMap Summary, LinkMap Events, Trace | | | | |
| Refresh Rate | Up to 4 Hz (Real-time mode) | | | | |
| Live Fiber Protection | No OTDR damage with input power ≤ +15 dBm for wavelength(s) in range 1260 to 1675 nm | | | | |
| Live Fiber Detection | Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 1260 to 1675 nm | | | | |
| PON Filter Isolation | >50 dB for 1260 nm ≤ wavelength ≤ 1600 nm | | | | |
| Live PON OTDR Test | 1625 or 1650 nm using filtered detector when interfering downstream power in range 1600-1675 nm <-38 dBm | | | | |

Notes:

- All specifications valid at 25 °C unless otherwise specified.
- FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2014.
- Using 10 ns pulse width.
- SNR=1, longest range and pulse width, 3-minute averaging.
- Maximum distance between two points 1.5 dB down each side of a reflective peak caused by an event with reflectance ≤ -45 dB using 3 or 5 ns pulse.
- Maximum distance from the start of a trace spike caused by an event with a -45 dB (or smaller) reflectance, to the point where the trace returns to and stays within ±0.5 dB of backscatter. Test pulse width is 3 or 5 ns.
- Recovery to within 0.5 dB of backscatter after 1:16 splitter (≤13 dB loss) using 50 ns pulse width.
- Max temperature while charging is +45 °C.

| MODEL: FS200-XXX | -60 | -100 | -300 | -303 | -304 |
|--|--|---------------|---------------|---------------|---------------|
| VISUAL FAULT LOCATOR (VFL) | | | | | |
| Emitter Type | Visible red laser, 650 ±20 nm | | | | |
| Safety Class ^b | Class II | | | | |
| Output Power | 0.8 mW into single-mode fiber (-1 dBm ±0.5 dB) | | | | |
| Modes | CW, 2 Hz flashing | | | | |
| OPTICAL LASER SOURCE - OLS (Optional) | | | | | |
| Emitter Type | Laser | | | | |
| Safety Class ^b | Class I | | | | |
| Fiber Type | Single-mode | | | | |
| Wavelengths (nm) | N/A | 1310/ 1550 | 1310/ 1550 | 1310/ 1550 | 1310/ 1550 |
| Center λ Tolerance | ±20 nm (CW mode) | | | | |
| Spectral Width (FWHM) | 5 nm (maximum) | | | | |
| Internal Modulation | 270 Hz, 330 Hz, 1 kHz, 2 kHz, CW, Wave ID | | | | |
| Wave ID | Compatible with AFL OPM/OLS | | | | |
| Output Power Stability | ≤ ±0.1 dB (15 minutes); ≤ ±0.15 dB (8 hours) | | | | |
| Output Power | -3 dBm ±1.5 dB | | | | |
| OPTICAL POWER METER -OPM (Optional) | | | | | |
| Calibrated Wavelengths | 1310, 1490, 1550, 1625, 1650 nm | | | | |
| Detector Type | InGaAs, 1 mm diameter | | | | |
| Measurement Range | +23 to -50 dBm | | | | |
| Tone Detect Range | +3 to -35 dBm | | | | |
| Accuracy | ±0.25 dB | | | | |
| Resolution | 0.01 dB | | | | |
| Measurement Units | dB, dBm or Watts (nW, μW, mW) | | | | |
| GENERAL | | | | | |
| Size (in boot) | 86 x 160 x 43 mm | | | | |
| Weight | 0.4 kg | | | | |
| Operational Temperature ^h | -10 °C to +50 °C, 0 to 95 % RH (non-condensing) | | | | |
| Storage Temperature | -40 °C to +70 °C, 0 to 95 % RH (non-condensing) | | | | |
| Power | Rechargeable Li-Pol or AC adapter | | | | |
| Battery Life | >12 hours, Telcordia test conditions | | | | |
| Display | 4.3 in color touchscreen LCD, 480x272, backlight | | | | |
| USB Ports | 1 host; 1 micro-USB function | | | | |
| Bluetooth (optional) | Compatible with Windows PC, Android | | | | |
| Wi-Fi | Download results & update software via IEEE 802.11 Wi-Fi | | | | |

FlexScan® FS200 Single-mode OTDR

Ordering Information

All kits include a FlexScan FS200 with AC charger, battery, carry strap, SC/2.5 mm connector adapters, FlexReports, USB cable, and carry case.

FS200-XXX-Basic, Plus, PRO, BIPM Kits Order Entry: **FS200-[MOD]-[KIT]-[PW]-[C]-[CC]-[LNG]-[AC]-[FR]-[TIP]**

FS200-XXX-MPO Kits Order Entry: **FS200-[MOD]-MPO-P1-W1-[C]-[LNG]-[AC]-[MPOC]**

FS200-303/304-FTTH PRO Kits Order Entry: **FS200-[MOD]-FTTH-PRO-[CC]-[LNG]-[AC]** where:

| [MOD] | FS200 FlexScan OTDR Configuration |
|-------|---|
| 60 | 1650 nm filtered Live PON Troubleshooting OTDR |
| 100 | 1310/1550 nm Verification and Troubleshooting OTDR |
| 300 | 1310/1550 Pt-to-Pt & PON Verification and Troubleshooting OTDR |
| 303 | 1310/1550/1625 Pt-to-Pt and PON Verification and Troubleshooting OTDR |
| 304 | 1310/1550/1650 Pt-to-Pt and PON Verification and Troubleshooting OTDR |

| [KIT] | FS200 FlexScan Kit Configuration / Kit Contents |
|----------|---|
| BAS | Includes: FS200, FlexReports Basic, USB cable ^a , soft case |
| PLUS | Includes: BAS Kit plus 150 m SMF Fiber Ring, One-Click Cleaner, upgrade to FlexReports Advanced, soft or hard carry case |
| PRO | Includes: PLUS Kit plus FOCIS Flex with two user-selected adapter tips |
| FTTH-PRO | Includes: BAS Kit, 150 m SC/APC & LC/APC Fiber Rings, FOCIS Flex, SC/APC & LC/APC bulkhead and ferrule adapters, SC & LC One-Click Cleaners, Port Saver, FlexReports Advanced, soft or hard carry case (FS200-303/304 only) |
| BIPM | Includes: PRO Kit plus OFI-BIPMe |
| MPO | Includes: FlexScan plus MFS Multi-Fiber Switch, MPO launch cable, OTDR-to-Switch patch cord, OTDR-to-Switch USB cable, FlexReports Advanced |

| [PW] | Power Meter / Wireless Option |
|--------------------|--|
| P0-W0 | No Source, Power Meter, or Bluetooth/WiFi (FS200-60/100 only) |
| P0-W1 ^b | No Source or Power Meter; Includes Bluetooth/WiFi (FS200-300/304 only) |
| P1-W0 | No Bluetooth/WiFi (-303/304 only); Includes Source, Power Meter |
| P1-W1 ^b | Includes Source, Power Meter, Bluetooth/Wi-Fi |

| [C] | OTDR / Source Connector Type |
|-----|---|
| A | APC (recommended) |
| U | UPC (available in all models except FS200-60) |

| [CC] ^c | Carry Case Option (PLUS, PRO, FTTH-PRO, BIPM Kits) |
|-------------------|---|
| S1 | Large soft case for FS200, fiber ring, FOCIS Flex, OFI-BIPMe, accessories |
| S2 | Medium soft case for FS200, fiber ring, FOCIS Flex, accessories |
| H1 | Hard carry case for FS200, fiber ring, FOCIS Flex, OFI-BIPMe, accessories |

| [LNG] | Language |
|-------|---------------------|
| ENG | English |
| CHS | Chinese Simplified |
| CHT | Chinese Traditional |
| CZE | Czech |
| DEU | German |
| DNK | Danish |
| FIN | Finnish |
| FRA | French |
| ITA | Italian |

| [LNG] | Language |
|-------|------------|
| JPN | Japanese |
| KOR | Korean |
| NOR | Norwegian |
| POL | Polish |
| POR | Portuguese |
| SPA | Spanish |
| TUR | Turkish |
| VNM | Vietnamese |

| [AC] | Destination Country | AC Plugs |
|------|---------------------|------------|
| US | USA | 2-pin, US |
| EU | European Union | 2-pin, EU |
| UK | United Kingdom | 3-pin, UK |
| CN | China, Australia | 2-pin, SAA |

| [FR] | 150 m SMF Fiber Ring |
|---------|----------------------|
| Absent | N/A in Basic Kits |
| USC/USC | FR-SMF-150-USC-USC |
| USC/UFC | FR-SMF-150-USC-UFC |
| USC/ULC | FR-SMF-150-USC-ULC |
| USC/UST | FR-SMF-150-USC-UST |
| USC/ASC | FR-SMF-150-USC-ASC |
| USC/AFC | FR-SMF-150-USC-AFC |
| USC/ALC | FR-SMF-150-USC-ALC |
| USC/UE2 | FR-SMF-150-USC-UE2 |
| ASC/UFC | FR-SMF-150-ASC-UFC |
| ASC/ULC | FR-SMF-150-ASC-ULC |
| ASC/UST | FR-SMF-150-ASC-UST |
| ASC/ASC | FR-SMF-150-ASC-ASC |
| ASC/AFC | FR-SMF-150-ASC-AFC |
| ASC/ALC | FR-SMF-150-ASC-ALC |
| ASC/AE2 | FR-SMF-150-ASC-AE2 |

| [TIP] | FOCIS Flex Tips and Cleaning (PRO only) |
|-------|--|
| Blank | Option not available in Basic & PLUS Kits |
| SC | SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning |
| FC | FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning |
| LC | LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm cleaning |
| ASC | SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning |
| AFC | FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning |
| ALC | LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm cleaning |

| [MPOC] | MPO Launch Cable Network Connector |
|--------|--|
| F | Female (unpinned) to Female (unpinned) |
| M | Female (unpinned) to Male (pinned) |

Notes:

- Results can be transferred from FlexScan OTDR to FlexReports using USB cable, or performed wirelessly (W1 option) after downloading free FlexApp. The FlexApp is available as a free download from 'Google play' or 'App Store'.
- FlexScans equipped with Bluetooth option (W1) support Bluetooth transfer of results via FlexApp for remote reporting using FlexReports.
- Basic Kit always ships with S2 (Medium Soft Case); MPO Kit always ships with MPO-specific soft case.

FlexScan® FS200 Single-mode OTDR

Ordering Information

Accessories

| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexScan wrist strap | 1400-05-0230PZ |
| FlexScan neck strap, 36" | 1400-05-0231PZ |
| AC charger 100-240 VAC to 5 VDC | 4050-00-0931PR |
| Soft carry case for FS200 kits with FOCIS Flex and Fiber Ring | 1400-01-0111PZ |
| Soft carry case for FS200 kits with FOCIS Flex, OFI-BIPMe and Fiber Ring | 1400-01-0128PZ |
| Hard carry case for FS200 kits with FOCIS Flex, OFI-BIPMe and Fiber Ring | 1400-01-0134PZ |
| Vehicle charger, 12VDC to 5VDC @2A | 4050-00-0033MR |
| Cable, USB-micro B, 5 pin, 6' | 6000-00-0031MR |
| 5V USB charging cable (1.5 m), type A to barrel (0.9 X 3.2 X 9 mm) | 6000-00-0034PR |
| One-Clicks, fluid, wipes, etc. See www.AFLglobal.com | Cleaning Supplies |

Field-Replaceable OTDR Connector (Optical Ferrule Port Saver)

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables or patch cords or normal wear-and-tear. Equip your FlexScan FS200 with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the port saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

| DESCRIPTION | AFL NO. |
|---|----------------|
| FlexScan-facing APC female to APC male field-replaceable Port Saver connector | 2900-58-0001MR |
| FlexScan-facing APC female to UPC male field-replaceable Port Saver connector | 2900-58-0002MR |
| FlexScan-facing UPC female to APC male field-replaceable Port Saver connector | 2900-58-0003MR |
| FlexScan-facing UPC female to UPC male field-replaceable Port Saver connector | 2900-58-0004MR |

Connector Adapters


| CONNECTOR ADAPTER | AFL NO. | | |
|-------------------|----------------|----------------|----------------|
| | OTDR/OLS PORT | OPM PORT | VFL PORT |
| FC | 2900-50-0002MR | 2900-52-0001MR | N/A |
| SC | 2900-50-0003MR | 2900-52-0002MR | N/A |
| ST | 2900-50-0004MR | 2900-52-0003MR | N/A |
| LC | 2900-50-0006MR | 2900-52-0004MR | N/A |
| SC/APC | 2900-50-0011MR | 2900-52-0002MR | N/A |
| 2.5 mm Universal | N/A | 2900-52-0005MR | 2900-50-0007MR |
| 1.25 mm Universal | N/A | 2900-52-0006MR | 2900-50-0010MR |

FlexScan® FS200 Single-mode OTDR

Test Management and Reporting Software


| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexReports Advanced, one seat license on USB | RPTS-AD-USB-1 |
| FlexReports Advanced, one seat, Upgrade from TRM® 3 Advanced on USB. Users must have TRM-3 Advanced license | RPTS-UP-TRM3-1 |
| FlexReports Basic, available for download on AFL Software Resources website | FlexReports Basic |
| FlexApp data transfer mobile App, available on Google Play and Apple App Store | FlexApp |

Recommended Products



FOCIS Flex and FOCIS Lightning (Multi-Fiber) Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



OFI-BIPMe Optical Fiber Identifier

- Works on all fiber types including BIF
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter

Qualifications

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| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
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Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FlexScan FS200 OTDR.

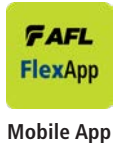
International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

FlexScan® TS100 FTTH PON Troubleshooter

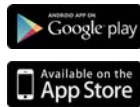
One-Touch Troubleshooting



PC Software



Mobile App



Features

- Locate faults in <3 seconds with the press of a button
- Displays link length, loss, ORL, and pass/fail results
- Single-ended test reduces time and cost
- Rugged, lightweight, hand-held for field use
- Available with field-replaceable connector

Applications

- Troubleshoot PONs or Point-to-Point networks from one end
- Diagnose faults exceeding industry or user pass/fail limits
- Verify loss of PON splitters up to 1:64 split ratio
- Verify GPON, video and XG/XGS-PON or 10GEPON power levels
- Verify insertion loss, TX output or RX input power levels
- Pinpoint location of macro-bends or breaks

AFL's FlexScan TS100 Optical Troubleshooter is an easy-to-use, all-in-one tool for detecting, identifying, locating, and resolving single-mode optical network issues. The TS100 has auto-configured settings to quickly measure received power, link length, loss, and ORL with the push of a button. The results are displayed using color-coded LinkMap® icons for easy analysis. The FlexScan TS100 automates testing, shortens test time, interprets results, and recommends corrective actions, improving efficiency of frontline technicians and reducing costs.

Diagnose your network in seconds: Just press Start and the TS100 immediately measures and displays received power levels when connected to a live GPON and/or 10GPON network. Within seconds, link length, loss, and ORL are displayed, along with faults exceeding industry or user-set pass/fail limits. The TS100 even recommends corrective actions based on test results making it easier for technicians to find and fix network problems.

Requires little, if any, training: Designed primarily for field technicians activating and maintaining broadband access networks, the TS100 requires minimal training and no OTDR experience. SmartAuto® auto-configures test settings and presents network test results in easy-to-understand, color-coded icons indicating passing or failing connections, splices, and splitters.

All-in-one test capability: The FlexScan TS100 includes an integrated VFL, power meter, and light source. It can be easily paired to AFL's award-winning FOCIS family of inspection scopes, ensuring technicians have everything they need to locate and quickly resolve optical network issues. The source and power meter generate and detect fiber-identifying tones and support Wave ID insertion loss testing featuring automatic wavelength identification and synchronization.

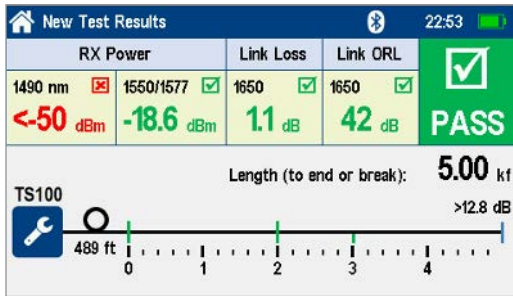
Designed for field use: FlexScan TS100 is small (3.5 x 6 x 1.75 in (86 x 160 x 43 mm)) and weighs less than a pound (0.4 kg). It has a large, bright indoor/outdoor touchscreen, and rechargeable battery that lasts >12 hours for all-day operation.

Multiple storing and reporting options: Results can be stored internally, saved to a USB, or wirelessly uploaded via the free FlexApp for real-time reporting using the included FlexReports Test Results Manager software.

Convenient cost-saving kits: Bundle the FlexScan TS100 with your choice of launch cable and FOCIS Flex connector inspection probe with adapter tips for significant cost-savings!

Field-replaceable connector: With AFL's optional field-replaceable connector, avoid expensive service repairs to replace connectors damaged due to poor cleaning practices and/or normal wear-and-tear.

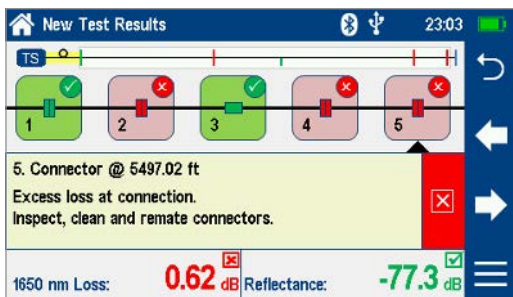
FlexScan® TS100 FTTH PON Troubleshooter



Verify RX Power, Link Length, Loss, and ORL in Seconds

Link length, loss, and ORL are critical parameters to check when verifying optical networks. Within seconds of pressing Start, FlexScan TS100 measures and reports distance, loss, and ORL to the end of a Point-to-Point network or to the first splitter in an FTTH PON. Additionally, for an in-service PON, TS100 automatically detects and measures downstream power levels.

Measurements of received power, link length, loss, and ORL may be compared to pass/fail limits to immediately identify any issues. Technicians can simply touch the failed measurement value to get information on why the measurement failed and what to do about it.



Identifies & Locates Faults - Recommends Corrective Action

TS100 automatically detects network events such as connections, splices, splitters, and macro-bends. It displays these events with LinkMap® color-coded icons that are easy-to-read and enable users to quickly identify faults requiring action. Touching each event icon displays its pass/fail status, location, loss, and reflectance as well as recommended corrective actions. More detail may be obtained by touching the measurement values for failing events.

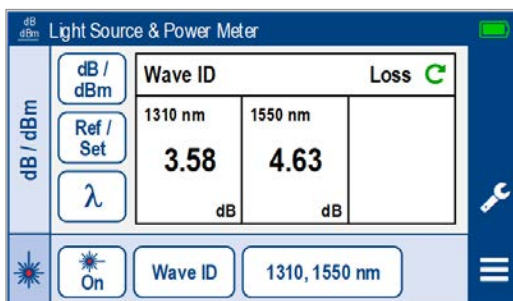
For PON systems equipped with a 1650 nm downstream monitoring system, the TS100-75 provides a 1625 nm upstream PON troubleshooting tool, which includes a 1650 nm blocking filter.



Connectivity

Results can be stored internally, saved to a USB, or wirelessly uploaded via the free FlexApp to a smart device for real-time reporting using the included FlexReports Test Results Manager PC-based software. This real-time monitoring can help avoid mistakes in the field that will require future truck rolls.

FlexScan TS100 also pairs easily with AFL's award-winning FOCIS® family of connector inspection probes for fast, easy one-button-push inspection of single-fiber and/or multi-fiber connector end-faces. Inspection data can be saved with TS100 results internally or transferred for archiving.



PON Power Meter for GPON, Video, 10GPON

FlexScan TS100 PON Troubleshooters include a broadband power meter plus a downstream PON power meter enabling users to immediately and independently verify 1490 nm GPON plus 1550 nm video or 1577 nm 10GPON (XG/XGS-PON or 10GEAPON).

TS100s also include an optical light source (OLS) and optical power meter (OPM) supporting fiber-identifying tone generation and detection, as well as Wave ID insertion loss measurements. With Wave ID, the OPM auto-synchronizes to a single or multi-wavelength Wave ID optical signal transmitted by another FlexScan or AFL light source. The OPM reports detected wavelengths and measures loss at each wavelength, saving significant test time and eliminating setup errors.

FlexScan® TS100 FTTH PON Troubleshooter

Specifications^a

FlexScan TS100-60/70/75 models support PON and Point-to-Point network troubleshooting at 1625 or 1650 nm and include optical light source (OLS), optical power meter (OPM), visual fault locator (VFL), internal results storage plus Bluetooth and USB interfaces.

| MODEL | TS100-60 | TS100-70/75 |
|--|---|-------------|
| FAULT LOCATOR | | |
| Emitter Type | Laser | |
| Safety Class ^b | Class I | |
| Fiber Type | Compatible with all G.65x single-mode fiber | |
| Wavelengths (nm) | TS100-60/70: 1650 nm; TS100-75: 1625 nm | |
| Center λ Tolerance ^c | ±20 nm | |
| Link Loss ^d | ≤18 dB | ≤23 dB |
| Test through Splitter | N/A | Up to 1:64 |
| Test Time | Length, Loss, ORL, faults to end or Splitter: ≤3 sec Loss through Splitter: ≤40 sec (TS100-70/75 only) | |
| Index of Refraction | 1.3000 to 1.7000 | |
| Distance Resolution | 0.1 m | |
| Distance Uncertainty ^e | ±1.5 m | |
| Distance Units | m, km, ft, kft, mi (user-selected) | |
| Loss Resolution | 0.01 dB | |
| Linearity | ±0.05 dB/dB | |
| Reflectance Resolution | 0.1 dB | |
| Reflectance Accuracy | ±2 dB (-20 to -50 dB) | |
| Results File Format | Telcordia SR-4731 Issue 2 compatible .SOR | |
| Results Storage | 4 GB internal memory (>5000 traces typical); External USB memory stick | |
| Data Transfer to PC | USB cable or Bluetooth® (option) | |
| Test Modes | Flexpress® Fault Locate, OLS/OPM, Inspection | |
| Live Fiber Protection | No TS100 damage with input power ≤ +15 dBm for wavelength(s) in range 1260 to 1675 nm | |
| Live Fiber Detection | Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 1260 to 1675 nm | |
| PON Filter Isolation | >50 dB for 1260 nm ≤ wavelength ≤ 1600 nm TS100-75: >30 dB blocking @ 1650 ± 10 nm | |
| Live PON TS100 Test | 1625 or 1650 nm filtered detector | |
| SPLITTER DETECTION AND LOSS MEASUREMENT (TS100-70 only) | | |
| Splitter Type | Up to 1:64 split ratio | |
| Fiber length before splitter (with minimum 150 m launch cable) | 0 to 5 km | |
| Maximum fiber loss before splitter | 2.5 dB | |
| Minimum fiber length after splitter (with reflective end) | 1:2 splitter | 25 m |
| | 1:4 splitter | 35 m |
| | 1:8 splitter | 50 m |
| | 1:16 splitter | 200 m |
| | 1:32 splitter | 300 m |
| | 1:64 splitter | 500 m |

Notes:

- a. All specifications valid at 25 °C unless otherwise specified.
- b. FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2014.
- c. Using 10 ns pulse width.
- d. Maximum link loss for which loss and distance to end or splitter can be reliably detected and measured.
- e. For a 5 km link with insertion loss ≤ 4 dB and reflectance ≥ -45 dB. Excludes uncertainty due to index of refraction.
- f. Max temperature while charging is +45 °C.
- g. Applies when operating from battery with charge level >20%, or from AC when fully charged.

| MODEL | TS100-60/70/75 |
|--------------------------------------|---|
| VISUAL FAULT LOCATOR | |
| Emitter Type | Visible red laser, 650 ± 25 nm |
| Output Power | 1.5 mW (+2 dBm ± 0.5 dB) into single-mode fiber |
| Safety Class ^b | Class 3A / Class 3R |
| Modes | CW and 1 Hz flashing |
| OPTICAL LASER SOURCE (OLS) | |
| Emitter Type | Laser |
| Safety Class ^b | Class I |
| Fiber Type | Compatible with all G.65x single-mode fiber |
| Wavelengths (nm) | TS100-60/70: 1650 nm; TS100-75: 1625 nm |
| Center λ Tolerance (CW) | ±20 nm |
| Spectral Width (FWHM) | ≤5 nm |
| Internal Modulation | 270, 330, 1000, 2000 Hz, CW, Wave ID |
| Wave ID | Compatible with AFL OLS/OPM |
| Output Power Stability ^g | ≤ ±0.5 dB |
| Output Power | +3 dBm ±1.5 dB |
| OPTICAL POWER METER (OPM) | |
| Calibrated Wavelengths | 1270, 1310, 1490, 1550, 1577 nm |
| Detector Type | Filtered InGaAs (x2) |
| Measurement Range | +10 to -50 dBm |
| Linearity | 1310/1490 nm: ±0.1 dB (+5 to -40 dBm); 1550/1577 nm: ±0.1 dB (+10 to -40 dBm); All: ±0.25 dB (-40 to -50 dBm) |
| Tone Detect Range | +3 to -35 dBm; auto-detects 270, 330, 1k, 2k Hz |
| Wavel ID Detect Range | +3 to -35 dBm; auto-detects 1310/1550 Wave ID |
| Accuracy | ±0.5 dB at -10 dBm |
| Resolution | 0.01 dB |
| Measurement Units | dB, dBm or Watts (nW, μW, mW) |
| GENERAL | |
| Size (in boot) | 86 x 160 x 43 mm |
| Weight | 0.4 kg |
| Operational Temperature ^f | -10 °C to +50 °C, 0 to 95% RH (non-condensing) |
| Storage Temperature | -40 °C to +60 °C, 0 to 95% RH (non-condensing) |
| Power | Rechargeable Li-Pol or AC adapter |
| Battery Life | >12 hours, Telcordia test conditions |
| Display | 4.3 in color touchscreen LCD, 480x272, backlit |
| USB Ports | 1 host, 1 micro-USB function |
| Bluetooth (optional) | Compatible with Windows PC, Android, iOS |

FlexScan® TS100 FTTH PON Troubleshooter

FlexScan TS100 Kit Configurations

All kits include selected FlexScan TS100 with AC charger, battery, carry strap, SC/2.5 mm connector adapters, FlexReports, USB cable, and soft carry case. PLUS kits add a 150 m fiber ring, One-Click cleaner, and upgrade to FlexReports Advanced software. PRO kits add a FOCIS® Flex auto-focusing connector inspection probe with IEC pass/fail analysis and two adapter tips. TS100s are manufactured with APC connectors.

Ordering Information

TS100-[MOD]-[KIT]-[Pn]-[Wn]-[LNG]-[AC]-[FR]-[TIP] where:

| [MOD] | TS100 Configuration |
|-------|--|
| 60 | 1650 nm filtered Live PON Troubleshooter; Test to Splitter |
| 70 | 1650 nm filtered Live PON Troubleshooter; Test through Splitter |
| 75 | 1625 nm filtered Live PON Troubleshooter with 1650 nm blocking filter; Test through Splitter |

| [KIT] | TS100 Kit Configuration/Kit Contents |
|-------|--|
| BAS | Includes: TS100, soft case, FlexReports Basic, USB cable ^a |
| PLUS | Includes: BAS kit plus 150 m fiber ring, One-Click, FlexReports Advanced |
| PRO | Includes: PLUS kit plus FOCIS Flex with 2 adapter tips |

| [Pn] | Power Meter Option |
|------|---|
| P2 | Broadband Power Meter plus dual-wavelength PON Power Meter for GPON / Video / XG/XGS/10GE PON |

| [Wn] | Bluetooth Wireless Option |
|------|---------------------------|
| W0 | Disabled |
| W1 | Installed and enabled |

| [LNG] | Language |
|-------|---------------------|
| ENG | English |
| CHS | Chinese Simplified |
| CHT | Chinese Traditional |
| CZE | Czech |
| DEU | German |
| DNK | Danish |
| FIN | Finnish |
| FRA | French |

| [LNG] | Language |
|-------|------------|
| ITA | Italian |
| JPN | Japanese |
| KOR | Korean |
| NOR | Norwegian |
| POL | Polish |
| POR | Portuguese |
| SPA | Spanish |
| TUR | Turkish |

| [AC] | Destination Country | AC Plugs |
|------|---------------------|------------|
| US | USA | 2-pin, US |
| EU | European Union | 2-pin, EU |
| UK | United Kingdom | 3-pin, UK |
| CN | China, Australia | 2-pin, SAA |

Notes:

- a. Results can be transferred from FlexScan to FlexReports using USB cable, or uploaded via Bluetooth using FlexApp downloaded from 'Google play' or 'App Store'.
- b. For additional FOCIS Flex adapter tips, see FOCIS Flex data sheet or Buyer's Guide.

| [FR1] | 150 m SMF Fiber Ring |
|---------|----------------------|
| Absent | N/A in Basic kits |
| USC/USC | FR-SMF-150-USC-USC |
| USC/UFC | FR-SMF-150-USC-UFC |
| USC/ULC | FR-SMF-150-USC-ULC |
| USC/UST | FR-SMF-150-USC-UST |
| USC/ASC | FR-SMF-150-USC-ASC |
| USC/AFC | FR-SMF-150-USC-AFC |
| USC/ALC | FR-SMF-150-USC-ALC |
| USC/UE2 | FR-SMF-150-USC-UE2 |
| ASC/UFC | FR-SMF-150-ASC-UFC |
| ASC/ULC | FR-SMF-150-ASC-ULC |
| ASC/UST | FR-SMF-150-ASC-UST |
| ASC/ASC | FR-SMF-150-ASC-ASC |
| ASC/AFC | FR-SMF-150-ASC-AFC |
| ASC/ALC | FR-SMF-150-ASC-ALC |
| ASC/AE2 | FR-SMF-150-ASC-AE2 |

| [TIP] ^b | FOCIS Flex Tips & Cleaning (PRO only) |
|--------------------|---|
| Blank | Option not available in Basic and PLUS kits |
| SC | SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click |
| FC | FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click |
| LC | LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm One-Click |
| ASC | SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click |
| AFC | FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click |
| ALC | LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm One-Click |

FlexScan® TS100 FTTH PON Troubleshooter

Ordering Information

Accessories

| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexScan wrist strap | 1400-05-0230PZ |
| FlexScan neck strap, 36" | 1400-05-0231PZ |
| AC charger 100-240 VAC to 5 VDC | 4050-00-0931PR |
| Soft carry case for TS100 kits with FOCIS Flex and Fiber Ring | 1400-01-0111PZ |
| Soft carry case for TS100 kits with FOCIS Flex, OFI-BIPMe and Fiber Ring | 1400-01-0128PZ |
| Hard carry case for TS100 kits with FOCIS Flex, OFI-BIPMe and Fiber Ring | 1400-01-0134PZ |
| Vehicle charger, 12VDC to 5VDC @2A | 4050-00-0033MR |
| Cable, USB-micro B, 5 pin, 6' | 6000-00-0031MR |
| 5V USB charging cable (1.5 m), type A to barrel (0.9 X 3.2 X 9 mm) | 6000-00-0034PR |
| One-Clicks, fluid, wipes, etc. See www.AFLglobal.com | Cleaning Supplies |

Field-Replaceable OTDR Connector (Optical Port Ferrule Saver)

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables or patch cords or normal wear-and-tear. Equip your FlexScan TS100 with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the port saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

| DESCRIPTION | AFL NO. |
|---|----------------|
| Field-replaceable connector; APC female to APC male | 2900-58-0001MR |
| Field-replaceable connector; APC female to UPC male | 2900-58-0002MR |
| Field-replaceable connector; UPC female to APC male | 2900-58-0003MR |
| Field-replaceable connector; UPC female to UPC male | 2900-58-0004MR |

Connector Adapters


| CONNECTOR ADAPTER | AFL NO. | | |
|-------------------|----------------|----------------|----------------|
| | OTDR/OLS PORT | OPM PORT | VFL PORT |
| FC | 2900-50-0002MR | 2900-52-0001MR | N/A |
| SC | 2900-50-0003MR | 2900-52-0002MR | N/A |
| ST | 2900-50-0004MR | 2900-52-0003MR | N/A |
| LC | 2900-50-0006MR | 2900-52-0004MR | N/A |
| SC/APC | 2900-50-0011MR | N/A | N/A |
| 2.5 mm Universal | N/A | 2900-52-0005MR | 2900-50-0007MR |
| 1.25 mm Universal | N/A | 2900-52-0006MR | 2900-50-0010MR |

FlexScan® TS100 FTTH PON Troubleshooter

Test Management and Reporting Software


| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexReports Advanced, one seat license on USB | RPTS-AD-USB-1 |
| FlexReports Advanced, one seat, Upgrade from TRM® 3 Advanced on USB. Users must have TRM-3 Advanced license | RPTS-UP-TRM3-1 |
| FlexReports Basic, available for download on AFL Software Resources website | FlexReports Basic |
| FlexApp data transfer mobile App, available on Google Play and Apple App Store | FlexApp |

Recommended Products



FOCIS Flex and FOCIS Lightning (Multi-Fiber) Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



OFI-BIPMe Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|---|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | Telcordia | Compliant to GR-196-CORE 4.5.1 for requirements on electromagnetic interference |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | IEC | Compliant to IEC 60825-1 for safety of laser products |
| | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |
| Generic Requirement | Telcordia | Compliant to GR-196-CORE for generic requirements for OTDR-type equipment |
| | Telcordia | Compliant to SR-4731 Issue 2 for OTDR data format |
| | IEC | Compliant to IEC 61746-1 for requirements on calibration of OTDR |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FlexScan TS100 Troubleshooters.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Optical Port Saver – Field-replaceable OTDR Connector



Features

- Prevents damage to factory-installed OTDR ferrules
- Allows damaged connectors to be replaced in the field
- Supports APC and UPC ferrules and connectors
- Available for single-mode and multimode OTDR ports

Applications

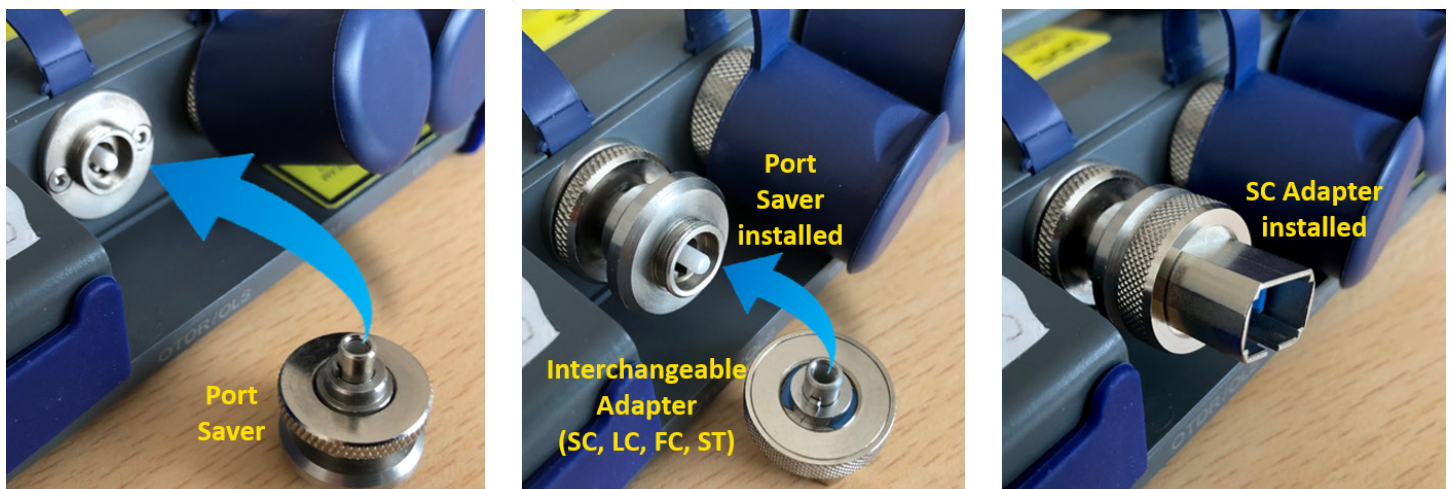
- Protect OTDR ferrule from damage due to repeated mating
- Avoid costly repairs due to damaged connectors
- Avoid downtime to return OTDR for connector replacement
- Convert APC to UPC and vice versa

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables, patch cords, or normal wear-and-tear. Equip your FlexScan FS200/ FS300 OTDRs or FlexScan TS100 Troubleshooter with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC, and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the Port Saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

Easy to install and cost-effective: The Port Saver helps you avoid factory replacement of damaged ferrules caused by dirt and debris. Traditional repair time for factory OTDR ferrules can be over 1 week. With the Port Saver, you can simply swap out the damaged Port Saver in the field with a new one saving time and costly shipping charges to the factory. Its easy, quick, and you will be back to testing in about 2 minutes!

Application and Installation



Optical Port Saver – Field-replaceable OTDR Connector

Specifications^a

| Optical | |
|-------------------------|--|
| Insertion Loss | ≤ 0.75 dB |
| Reflectance | APC-to-APC: ≤ -55 dB; all others: ≤ -45 dB |
| Size | Raises height of connector adapter by 16 mm (0.6 in) |
| Connector compatibility | Accepts FlexScan® 2900-50 series SC, LC, FC, ST connector adapters |


Notes:

a. All specifications valid at 25°C unless otherwise specified.

Ordering Information


| DESCRIPTION | AFL NO. |
|--|----------------|
| FlexScan-facing APC female to APC male field-replaceable Port Saver SMF | 2900-58-0001MR |
| FlexScan-facing APC female to UPC male field-replaceable Port Saver SMF | 2900-58-0002MR |
| FlexScan-facing UPC female to APC male field-replaceable Port Saver SMF | 2900-58-0003MR |
| FlexScan-facing UPC female to UPC male field-replaceable Port Saver SMF | 2900-58-0004MR |
| FlexScan-facing UPC female to UPC male field-replaceable Port Saver, 50 µm MMF | 2900-58-0014MR |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



FlexScan® TS100 FTTH PON Troubleshooter

- Locate faults in <3 seconds with the press of a button
- Displays link length, loss, ORL, and pass/fail results
- Single-ended test reduces time and cost
- Rugged, lightweight, hand-held for field use

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about Field-Replaceable OTDR Connectors.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

OTDR Fiber Rings



Features

- Compact, rugged, lightweight
- 150, 500, and 1000 m lengths standard
- Available with a variety of connector styles
- Compact! Fits easily in OTDR cases or kits

Applications

- Use to test link loss with an OTDR
- For use as OTDR launch cable
- For use as OTDR receive cable
- Measure insertion loss and reflectance of near- and far-end connections

Fiber Rings are often a necessity when testing with an OTDR or Optical Troubleshooter. A launch cable, which connects the OTDR or Optical Troubleshooter to the link under test, reveals the insertion loss and reflectance of the near-end connection. A receive cable, which connects to the far-end of the link, reveals the insertion loss and reflectance of the far-end connection. Launch and receive test cables can range from 150 m to 1 km (or longer) in length. Because very long test cables are impractical to transport and use, AFL offers coiled lengths of 50 μm multimode, 62.5 μm multimode, or single-mode fiber packaged in compact rings.

Fiber Rings of 150 m of fiber are ideal for premises fiber network test applications. Fiber Rings of 500 m and 1 km of single-mode fiber are designed for broadband, long haul fiber network test applications.

OTDR Fiber Rings

Fiber Rings Part Number Order Entry

Single Fiber (SM or MM) Fiber Rings

AFL NO. = FR-FFF-LLLL-CC1-CC2, where:

FR = Fiber Ring (single fiber)

FFF = Fiber Type

SMF= Single-mode (G.652)

BIF = Bend Insensitive (G.657)

OM1 = 62.5 μm multimode

OM2 = 50 μm multimode

OM3 = 50 μm laser optimized

OM4 = 50 μm laser optimized

LLLL = Fiber Length (meters)

150 = 150 m (492 ft)

500 = 500 m (1640 ft)

1000 = 1000 m (3280 ft)

CC1 = Connector Configuration OTDR end (see below)

CC2 = Connector Configuration Network end (see below)

MPO-terminated Multi-Fiber (SM or MM) Fiber Rings

AFL NO. = FRM1-FF-LLLL-P-MC1-MC2, where:

FRM1 = MPO-terminated 12-fiber fiber ring

FF = Fiber Type

S2 = Standard single-mode (G.652)

M4 = OM4 50 μm laser optimized

LLLL = Fiber Length (meters)

61 = 61 m (200 ft)

P = Polarity

A = Type A polarity (straight through, fiber 1 to fiber 1)

B = Type B polarity (fiber 1 to fiber 12)

MC1, MC2 = MPO Connector (OTDR end and Network end, respectively)

AF = APC, female (unpinned)

AM = APC, male (pinned)

UF = UPC, female (unpinned)

UM = UPC, male (pinned)

Supported Single Fiber Single-mode Fiber Ring Configurations

| CONNECTOR TYPE | | STANDARD SMF FIBER RINGS | | SPECIAL ORDER SMF FIBER RINGS ^a | |
|----------------|-------------|--------------------------|----------------------------|--|-----|
| ID | DESCRIPTION | CC1 | CC2 | CC1 | CC2 |
| USC | SC/UPC | ◆ | ◆ | | |
| ASC | SC/APC | ◆ | ◆ | | |
| ULC | LC/UPC | | ◆ | ◆ | ◆ |
| ALC | LC/APC | | ◆ | ◆ | ◆ |
| UFC | FC/UPC | | ◆ | ◆ | ◆ |
| AFC | FC/APC | | ◆ | ◆ | ◆ |
| UST | ST/UPC | | ◆ | ◆ | ◆ |
| UE2 | E2000/UPC | | Special Order ^a | | ◆ |
| AE2 | E2000/APC | | Special Order ^a | | ◆ |
| OTA | OptiTap APC | | Special Order ^a | | |

Supported Single Fiber Multimode Fiber Ring Configurations

| CONNECTOR TYPE | | STANDARD SMF FIBER RINGS | | SPECIAL ORDER SMF FIBER RINGS ^a | |
|----------------|-------------|--------------------------|----------------------------|--|-----|
| ID | DESCRIPTION | CC1 | CC2 | CC1 | CC2 |
| USC | SC/UPC | ◆ | ◆ | | |
| ULC | LC/UPC | | ◆ | ◆ | ◆ |
| UFC | FC/UPC | | ◆ | ◆ | ◆ |
| UST | ST/UPC | | ◆ | ◆ | ◆ |
| UE2 | E2000/UPC | | Special Order ^a | | |

OTDR Fiber Rings

Ordering Information

Standard SMF Fiber Rings

| DESCRIPTION | AFL NO. |
|--|---------------------|
| Fiber Ring, 150 m, G.652 SMF, CC1-CC2 | FR-SMF-150-CC1-CC2 |
| Fiber Ring, 500 m, G.652 SMF, CC1-CC2 | FR-SMF-500-CC1-CC2 |
| Fiber Ring, 1000 m, G.652 SMF, CC1-CC2 | FR-SMF-1000-CC1-CC2 |

Special Order SMF Fiber Rings^a

| DESCRIPTION | AFL NO. |
|---|---------------------|
| Fiber Ring, 150 m, G.652 SMF, CC1-CC2 | FR-SMF-150-CC1-CC2 |
| Fiber Ring, 500 m, G.652 SMF, CC1-CC2 | FR-SMF-500-CC1-CC2 |
| Fiber Ring, 1000 m, G.652 SMF, CC1-CC2 | FR-SMF-1000-CC1-CC2 |
| Fiber Ring, 150 m, G.657.A2 BIF, CC1-CC2 | FR-BIF-150-CC1-CC2 |
| Fiber Ring, 500 m, G.657.A2 BIF, CC1-CC2 | FR-BIF-500-CC1-CC2 |
| Fiber Ring, 1000 m, G.657.A2 BIF, CC1-CC2 | FR-BIF-1000-CC1-CC2 |

Standard OM1, OM2, OM3, OM4 Multimode Fiber Rings

| DESCRIPTION | AFL NO. |
|---|--------------------|
| Fiber Ring, 150 m, OM1 (62.5 mm) MMF, CC1-CC2 | FR-OM1-150-CC1-CC2 |
| Fiber Ring, 150 m, OM2 (50 mm) MMF, CC1-CC2 | FR-OM2-150-CC1-CC2 |
| Fiber Ring, 150 m, OM3 (50 mm laser-optimized) MMF, CC1-CC2 | FR-OM3-150-CC1-CC2 |
| Fiber Ring, 150 m, OM4 (50 mm laser-optimized) MMF, CC1-CC2 | FR-OM4-150-CC1-CC2 |

Special Order OM1, OM2, OM3, OM4 Multimode Fiber Rings^a

| DESCRIPTION | AFL NO. |
|---|--------------------|
| Fiber Ring, 150 m, OM1 (62.5 mm) MMF, CC1-CC2 | FR-OM1-150-CC1-CC2 |
| Fiber Ring, 150 m, OM2 (50 mm) MMF, CC1-CC2 | FR-OM2-150-CC1-CC2 |
| Fiber Ring, 150 m, OM3 (50 mm laser-optimized) MMF, CC1-CC2 | FR-OM3-150-CC1-CC2 |
| Fiber Ring, 150 m, OM4 (50 mm laser-optimized) MMF, CC1-CC2 | FR-OM4-150-CC1-CC2 |

Standard MPO-terminated Multi-fiber Single-mode and Multimode Fiber Rings^b

| DESCRIPTION | AFL NO. |
|--|--------------------|
| MPO Fiber Ring, 61 m (200 ft), G.652 SMF, Type A, APC unpinned to APC unpinned | FRM1-S2-61-A-AF-AF |
| MPO Fiber Ring, 61 m (200 ft), G.652 SMF, Type A, APC unpinned to APC pinned | FRM1-S2-61-A-AF-AM |
| MPO Fiber Ring, 61 m (200 ft), OM4 MMF, Type A, UPC unpinned to UPC unpinned | FRM1-M4-61-A-UF-UF |
| MPO Fiber Ring, 61 m (200 ft), OM4 MMF, Type A, UPC unpinned to UPC pinned | FRM1-M4-61-A-UF-UM |

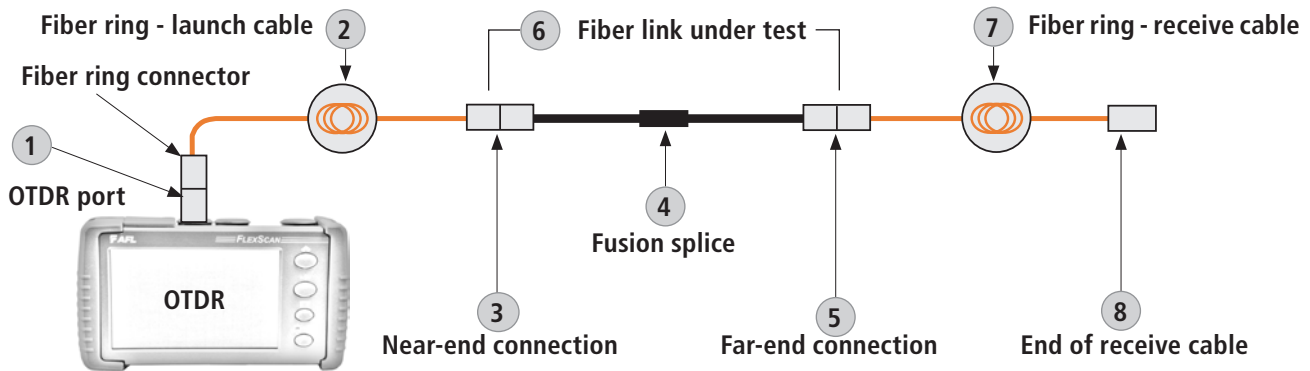
Notes:

- a. Contact AFL for special order fiber rings. Not all combinations of lengths and connectors are supported.
- b. Contact AFL for other special order configurations of MPO-terminated multi-fiber single-mode or multimode fiber rings.

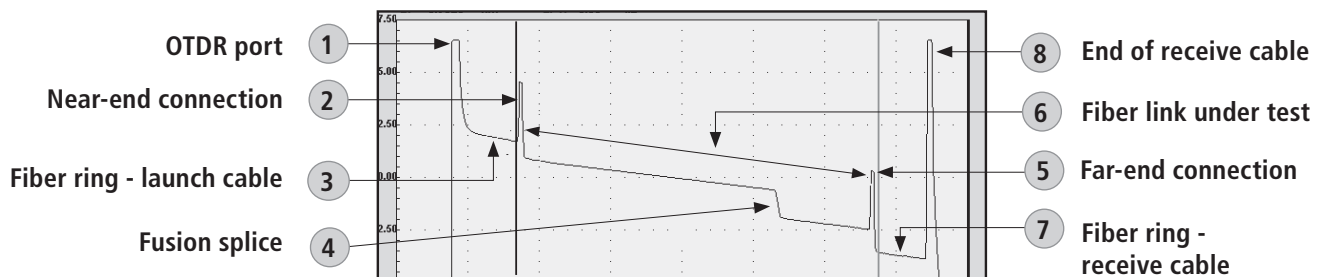
OTDR Fiber Rings

How to Generate a Baseline Trace Using Fiber Rings

- Use the Fiber Ring as a launch cable. Connect the Fiber Ring between your OTDR and the fiber link under test. This will allow you to measure the loss of the near-end connection.
- Use the Fiber Ring as a receive cable. Connect the Fiber Ring to the far-end connector of your fiber link under test. This will allow you to measure the loss of the far-end connection.
- By using Fiber Rings as both launch and receive cables, as shown in the diagram below, you can measure total insertion loss of the fiber link under test under test.




Example OTDR Test Configuration with Launch and Receive Cables




OTDR Trace Made using Launch and Receive Cables

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



FlexScan® TS100 FTTH PON Troubleshooter

- Locate faults in <3 seconds with the press of a button
- Displays link length, loss, ORL, and pass/fail results
- Single-ended test reduces time and cost
- Rugged, lightweight, hand-held for field use

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

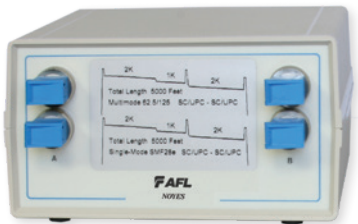
Visit www.AFLglobal.com/Test to learn more about Fiber Rings.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

NS and NSR Series Fiber Optic Network Simulators



NSR-Series Rack-mountable Network Simulators



NS-Series NS Bench Top Network Simulators

Features

- User-specified fiber types and lengths
- User-specified events such as splices, connections, macro-bends
- OTDR trace is provided
- A variety of connector styles are available
- Rugged, field-portable

Applications

- Laboratory testing
- Classroom training
- Field troubleshooting
- OTDR calibration

Fiber Optic Network Simulators from AFL are custom built “fiber boxes” intended to duplicate installed fiber optic facilities.

Training schools, laboratory testing or field troubleshooting are just few of the many applications for units. Network simulators may be ordered with customer-specified lengths of multimode or single-mode fiber. Events such as connections, fusion splices, macro-bends and mechanical splices can be added at various points within the fiber to duplicate installed networks. A full range of connector types are available including SC, ST, FC and LC. Angled or non- angled connectors can be specified. Each network simulator includes full documentation for insertion loss, attenuation/km and event location/value.


NS network simulators are housed in rugged field-portable, bench top cases. The NS models accommodates up to 15 km of optical fiber.

NSR network simulators are custom built models housed in either 18 or 23-inch rack-mountable boxes. These network simulators can accommodate up to 100 km of fiber.

Ordering Information


Contact AFL at (800) 321-5298 or (603) 528-6278 for a quote for your custom Network Simulator.

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



FlexScan® TS100 FTTH PON Troubleshooter

- Locate faults in <3 seconds with the press of a button
- Displays link length, loss, ORL, and pass/fail results
- Single-ended test reduces time and cost
- Rugged, lightweight, hand-held for field use

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about network simulators.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

FOCIS Flex – Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free

U.S. Patent 9,217,688



Features

- 1-button to auto-focus, center, capture, analyze, and save
- IEC, IPC, and user-defined pass/fail analysis
- Untethered, compact, hand-held inspection
- Use independently or pair with OTDR
- Save 10K results internally or share via WiFi or USB

Applications

- Inspect connectors on patch cords or in bulkhead adapters
- Optical network installation, troubleshooting, and maintenance
- Inspect MPO/MTP multi-fiber connectors
- Assure critical fiber infrastructure performs properly
- Keep fiber connections working at optimal performance levels
- Verify proper connector cleaning practices are being used

FOCIS Flex makes connector inspection simple, fast, and convenient. With the press of a single button, FOCIS Flex auto-focuses, captures and centers the end-face image, applies Pass/Fail rules, displays image and Pass/Fail results, saves results internally and/or wirelessly transfers data to a paired FlexScan OTDR or a smart device. It is fast, small, and easy to use to enable 100% connector inspection.

Independent, untethered operation: With rechargeable battery and integrated display, FOCIS Flex can be used independently without requiring an external OTDR or display unit.

Optional pairing with FlexScan OTDR or smart devices: Captured images and Pass/Fail results can be immediately displayed and easily saved on either paired FlexScan OTDR or a smart device equipped with the AFL's free FOCIS Flex App. This capability enables inspection results to be included in reporting and archiving.

Save results internally or externally: FOCIS Flex internally stores up to 10,000 results using file-naming capabilities similar to those of the FlexScan OTDR. A micro-USB port supports fast upload of internally stored results to PC and ensures your FOCIS Flex software can be updated to the latest features and supported languages.

Wide range of adapter tips: Interchangeable adapter tips support connector inspection for a wide range of both single-fiber and multi-fiber patchcords and bulkhead-mounted connectors having either PC or APC polished end-faces.

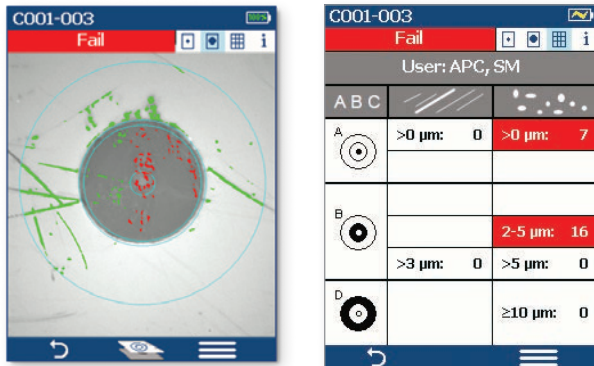
Bundled kits for significant savings: FOCIS Flex is available in kits that include a Basic license for Test Result Manager (TRM® 3.0), user-selected adapter tips and cleaning supplies, and a soft carry case.

Easy reporting and archiving: Included Test Result Manager (TRM 3.0) provides data processing and reporting locally via a PC. The FOCIS Flex mobile App is available for free download from Google play or App Store for sharing data with smart devices.

FOCIS Flex – Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free

U.S. Patent 9,217,688



Pass/Fail results in seconds: With the press of a single button, FOCIS Flex auto-focuses, captures and centers the end-face image, applies Pass/Fail rules, displays image and Pass/Fail results. Captured Pass/Fail results are easily viewed in either Image or Table view.

Image view shows end-face image with Pass/Fail region overlay, failing scratches/defects highlighted in red, and passing scratches/defects highlighted in green.

Table view shows analysis rule applied to determine Pass/Fail, analysis Zone IDs (A, B, C, D), scratch analysis results for each zone, and defect analysis results for each zone.

Specifications ^a

| OPTICAL PERFORMANCE | |
|---|---|
| Field of View (viewed on FOCIS Flex) | Live: 710 x 860 μm; Captured, Zoomed Out: 560 x 600 μm; Captured, Partially Zoomed In: 360 x 390 μm; Captured, Fully Zoomed In: 180 x 195 μm |
| Field of View (Viewed on a PC) | Stored, Zoomed Out: 700 x 525 μm; Stored, Fully Zoomed In: 240 x 180 μm |
| Manual Detection Capability (minimum) | 0.25 μm |
| Auto Analysis Resolution | <1.0 μm |
| Captured Image Size (Pixels) | 648 x 480 VGA; Images stored internally in three .JPG files, one at each FOV |
| OPERATING FEATURES | |
| Focus | Auto-focus and manual focus |
| Centering | Auto-centering after capture |
| Pass/Fail Analysis | IEC 61300-3-35 (2015), IPC and user-defined criteria |
| Image Capture and File Storage Capacity | 10,000 files |
| File Format (Image and Pass/Fail Results) | jpg, gif |
| Bluetooth Characteristics | SPP to FlexScan and FlexTester OTDRs; IAP to iOS devices |
| USB Characteristics | USB 1.1 mass storage device |
| Supported Languages | English, Chinese Simplified, Chinese Traditional, Finnish, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish, Turkish |
| PHYSICAL AND POWER CHARACTERISTICS | |
| Display size, type, resolution | 2.4", TFT, 240 x 320 with brightness control |
| Battery Type | NiMH, user replaceable |
| Battery Operating Time (typical) | 8 hours (60 tests in 20 minutes each hour; auto-off enabled) |
| Recharge Time | <4.5 hours |
| Power Save Features | Auto-off (disabled, 2, 5, 10 minutes) |
| AC Charger voltage, frequency, current | 100-240 V, 50/60 Hz, 5VDC, 2A |
| Size | 47 x 37 x 183 mm (1.8 x 1.5 x 7.2 in) |
| Weight | 240 g (0.5 lb) |
| ENVIRONMENTAL CHARACTERISTICS | |
| Operating Temperature | 0 to +50 °C |
| Storage Temperature | -40 to +70 °C |
| Relative Humidity | 95%, non-condensing |
| Transit and shock | 2G vibration, 30G shock |

Notes:

a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).

FOCIS Flex – Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free

U.S. Patent 9,217,688

FlexScan OTDR PRO and BIPM Kits with FOCIS Flex

PRO Kits include the following items:

- FlexScan with accessories (AC charger, carry strap, SC/2.5 mm connector adapters, TRM® 3.0 Advanced Test Results Manager, carry case)
- FOCIS Flex Fiber Optic Connector Inspection System with accessories (AC charger, USB cable, soft carry case/holster)
- Two user-selected adapter tips and one user-selected One-Click Cleaner
- 150 m Fiber Ring (launch cable) with user-specified connectors

Complete kits expand on PRO Kits by adding bend insensitive fiber identifier with optional power meter (OFI-BIPM).

See FlexScan data sheet for FlexScan PRO and Complete Kit ordering information.

FOCIS Flex Adapter Tips (Contact AFL for adapter tips for other connector types)

| DESCRIPTION | AFL NO. |
|---|----------------|
| SC-UPC bulkhead adapter tip | FFLX-01-SC |
| FC-UPC bulkhead adapter tip | FFLX-01-FC |
| ST-UPC bulkhead adapter tip | FFLX-01-ST |
| LC-UPC bulkhead adapter tip | FFLX-01-LC |
| Universal 2.5 mm, UPC ferrule adapter tip | FFLX-01-U25 |
| Universal 1.25 mm, UPC ferrule adapter tip | FFLX-01-U125 |
| SC-APC bulkhead adapter tip | FFLX-4S-ASC |
| FC-APC bulkhead adapter tip | FFLX-4S-AFC |
| LC-APC bulkhead adapter tip | FFLX-4S-ALC |
| Universal 2.5 mm, APC ferrule adapter tip | FFLX-01-A25 |
| Universal 1.25 mm, APC ferrule adapter tip | FFLX-01-A125 |
| FOCIS Flex adapter extension tube, straight, 46 mm | FFLX-01-EXTS46 |
| FOCIS Flex adapter extension tube, straight, 80 mm: | FFLX-01-EXTS80 |
| E2000 PC/UPC bulkhead adapter tip | FFLX-4S-E2K |
| E2000 APC bulkhead adapter tip | FFLX-4S-E2KA |
| Tip for SC/APC (OptiTap®) bulkhead adapter | FFLX-4S-OTA |
| Tip for OptiTip® APC ferrule and bulkhead adapter | DFS1-01-0013MR |
| MTP/PC ferrule & bulkhead adapter extended tip kit (base plus MTP/PC front end tip) | DFS1-00-0037MR |
| MTP/PC and MTP/APC ferrule & bulkhead adapter extended tip kit (base, MTP/PC, MTP/APC front end tips) | DFS1-00-0042MR |
| MTP/APC ferrule and bulkhead adapter extended tip kit (base plus MTP/APC front end tip) | DFS1-01-0010MR |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|-----------------|
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM® 3.0 reporting software, reference guide, no tips | FOCIS-FLX-P4XN |
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM 3.0 reporting software, reference guide, 2 user-selected UPC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner | FOCIS-FLX-P4XU |
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM 3.0 reporting software, reference guide, 2 user-selected APC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner | FOCIS-FLX-P4XA |
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM 3.0 reporting software, reference guide, user-selected UPC adapter tips (ferrule and bulkhead), 2 user-selected APC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner | FOCIS-FLX-P4XUA |

FOCIS Flex – Fiber Optic Connector Inspection System


Easy, Fast, Compact, Tether-free

U.S. Patent 9,217,688

Test Management and Reporting Software


| DESCRIPTION | AFL NO. |
|--|---------------|
| TRM 3.0 with Basic License, USB delivery (included with all FOCIS Flex kits) | TRM3-BASIC |
| TRM 3.0 upgrade from Basic to Advanced License, USB delivery | TRM3-UPGRADE |
| TRM 3.0 upgrade from Basic to Advanced License, email delivery | TRM3-UP-EMAIL |
| FOCIS Flex App (Google play or App Store) | Free Download |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | EU | Compliant to IEC 60825-1 for safety of laser products |
| Test Method | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| | IEC | Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers |
| | IPC | Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FOCIS Flex.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts.

FOCIS Flex No Wireless Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free



Features

- Removes Bluetooth and WiFi features for secure network facility compliance
- 1-button to auto-focus, center, capture, analyze, and save
- IEC, IPC, and user-defined pass/fail analysis
- Untethered, compact, hand-held inspection
- Use independently or pair with OTDR
- Generate inspection reports using TRM® 3.0

Applications

- Inspect connectors on patch cords or in bulkhead adapters
- Optical network installation, troubleshooting, and maintenance
- Inspect MPO/MTP multi-fiber connectors
- Assure critical fiber infrastructure performs properly
- Keep fiber connections working at optimal performance levels
- Verify proper connector cleaning practices are being used

The FOCIS Flex No Wireless (NW) addresses the need of network maintenance contractors operating in secure environments, where devices emitting radio frequency (RF) communication signals are prohibited, such as government and defense facilities and restricted private enterprise network facilities. FOCIS Flex makes connector inspection simple, fast, and convenient. With the press of a single button, FOCIS Flex auto-focuses, captures and centers the end-face image, applies Pass/Fail rules, displays image and Pass/Fail results, saves results internally and/or wirelessly transfers data to a paired FlexScan OTDR or a smart device. It is fast, small, and easy to use to enable 100% connector inspection.

Independent, untethered operation: With rechargeable battery and integrated display, FOCIS Flex can be used independently without requiring an external OTDR or display unit.

Optional pairing with FlexScan OTDR or smart devices: Captured images and Pass/Fail results can be immediately displayed and easily saved on either paired FlexScan OTDR or a smart device equipped with the AFL's free FOCIS Flex App. This capability enables inspection results to be included in reporting and archiving.

Save results internally or externally: FOCIS Flex internally stores up to 10,000 results using file-naming capabilities similar to those of the FlexScan OTDR. A micro-USB port supports fast upload of internally stored results to PC and ensures your FOCIS Flex software can be updated to the latest features and supported languages.

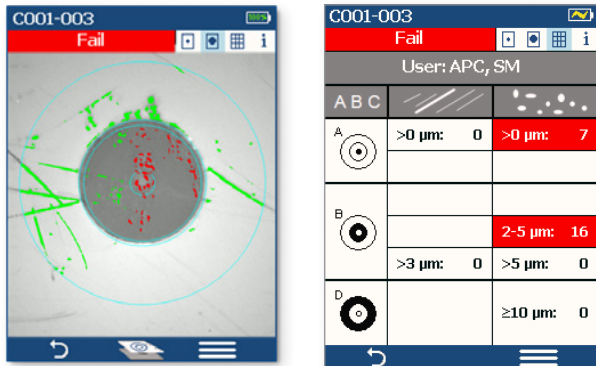
Wide range of adapter tips: Interchangeable adapter tips support connector inspection for a wide range of both single-fiber and multi-fiber patchcords and bulkhead-mounted connectors having either PC or APC polished end-faces.

Bundled kits for significant savings: FOCIS Flex is available in kits that include a Basic license for Test Result Manager (TRM® 3.0), user-selected adapter tips and cleaning supplies, and a soft carry case.

Easy reporting and archiving: Included Test Result Manager (TRM 3.0) provides data processing and reporting locally via a PC.

FOCIS Flex No Wireless Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free



Pass/Fail results in seconds: With the press of a single button, FOCIS Flex auto-focuses, captures and centers the end-face image, applies Pass/Fail rules, displays image and Pass/Fail results. Captured Pass/Fail results are easily viewed in either Image or Table view.

Image view shows end-face image with Pass/Fail region overlay, failing scratches/defects highlighted in red, and passing scratches/defects highlighted in green.

Table view shows analysis rule applied to determine Pass/Fail, analysis Zone IDs (A, B, C, D), scratch analysis results for each zone, and defect analysis results for each zone.

Specifications ^a

| OPTICAL PERFORMANCE | |
|---|---|
| Field of View (viewed on FOCIS Flex) | Live: 710 x 860 μm; Captured, Zoomed Out: 560 x 600 μm; Captured, Partially Zoomed In: 360 x 390 μm; Captured, Fully Zoomed In: 180 x 195 μm |
| Field of View (Viewed on a PC) | Stored, Zoomed Out: 700 x 525 μm; Stored, Fully Zoomed In: 240 x 180 μm |
| Manual Detection Capability (minimum) | 0.25 μm |
| Auto Analysis Resolution | <1.0 μm |
| Captured Image Size (Pixels) | 648 x 480 VGA; Images stored internally in three .JPG files, one at each FOV |
| OPERATING FEATURES | |
| Focus | Auto-focus and manual focus |
| Centering | Auto-centering after capture |
| Pass/Fail Analysis | IEC 61300-3-35 (2015), IPC and user-defined criteria |
| Image Capture and File Storage Capacity | 10,000 files |
| File Format (Image and Pass/Fail Results) | jpg, gif |
| USB Characteristics | USB 1.1 mass storage device |
| Supported Languages | English, Chinese Simplified, Chinese Traditional, Finnish, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish, Turkish |
| PHYSICAL AND POWER CHARACTERISTICS | |
| Display size, type, resolution | 2.4", TFT, 240 x 320 with brightness control |
| Battery Type | NiMH, user replaceable |
| Battery Operating Time (typical) | 8 hours (60 tests in 20 minutes each hour; auto-off enabled) |
| Recharge Time | <4.5 hours |
| Power Save Features | Auto-off (disabled, 2, 5, 10 minutes) |
| AC Charger voltage, frequency, current | 100-240 V, 50/60 Hz, 5VDC, 2A |
| Size | 47 x 37 x 183 mm (1.8 x 1.5 x 7.2 in) |
| Weight | 240 g (0.5 lb) |
| ENVIRONMENTAL CHARACTERISTICS | |
| Operating Temperature | 0 to +50 °C |
| Storage Temperature | -40 to +70 °C |
| Relative Humidity | 95%, non-condensing |
| Transit and shock | 2G vibration, 30G shock |

Notes:

a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).

FOCIS Flex No Wireless Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free

FlexScan OTDR PRO and BIPM Kits with FOCIS Flex

PRO Kits include the following items:

- FlexScan with accessories (AC charger, carry strap, SC/2.5 mm connector adapters, TRM® 3.0 Advanced Test Results Manager, carry case)
- FOCIS Flex Fiber Optic Connector Inspection System with accessories (AC charger, USB cable, soft carry case/holster)
- Two user-selected adapter tips and one user-selected One-Click Cleaner
- 150 m Fiber Ring (launch cable) with user-specified connectors

Complete kits expand on PRO Kits by adding bend insensitive fiber identifier with optional power meter (OFI-BIPM).

See FlexScan data sheet for FlexScan PRO and Complete Kit ordering information.

FOCIS Flex Adapter Tips (Contact AFL for adapter tips for other connector types)

| DESCRIPTION | AFL NO. |
|---|----------------|
| SC-UPC bulkhead adapter tip | FFLX-01-SC |
| FC-UPC bulkhead adapter tip | FFLX-01-FC |
| ST-UPC bulkhead adapter tip | FFLX-01-ST |
| LC-UPC bulkhead adapter tip | FFLX-01-LC |
| Universal 2.5 mm, UPC ferrule adapter tip | FFLX-01-U25 |
| Universal 1.25 mm, UPC ferrule adapter tip | FFLX-01-U125 |
| SC-APC bulkhead adapter tip | FFLX-4S-ASC |
| FC-APC bulkhead adapter tip | FFLX-4S-AFC |
| LC-APC bulkhead adapter tip | FFLX-4S-ALC |
| Universal 2.5 mm, APC ferrule adapter tip | FFLX-01-A25 |
| Universal 1.25 mm, APC ferrule adapter tip | FFLX-01-A125 |
| FOCIS Flex adapter extension tube, straight, 46 mm | FFLX-01-EXTS46 |
| FOCIS Flex adapter extension tube, straight, 80 mm: | FFLX-01-EXTS80 |
| E2000 PC/UPC bulkhead adapter tip | FFLX-4S-E2K |
| E2000 APC bulkhead adapter tip | FFLX-4S-E2KA |
| Tip for SC/APC (OptiTap®) bulkhead adapter | FFLX-4S-OTA |
| Tip for OptiTap® APC ferrule and bulkhead adapter | DFS1-01-0013MR |
| MTP/PC ferrule & bulkhead adapter extended tip kit (base plus MTP/PC front end tip) | DFS1-00-0037MR |
| MTP/PC and MTP/APC ferrule & bulkhead adapter extended tip kit (base, MTP/PC, MTP/APC front end tips) | DFS1-00-0042MR |
| MTP/APC ferrule and bulkhead adapter extended tip kit (base plus MTP/APC front end tip) | DFS1-01-0010MR |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|-------------------|
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM® 3.0 reporting software, reference guide, no tips | FOCIS-FLX-NW-P4XN |
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM 3.0 reporting software, reference guide, 2 user-selected UPC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner | FOCIS-FLX-NW-P4XU |
| FOCIS Flex Kit, soft carry case/holster, USB cable, AC charger, TRM 3.0 reporting software, reference guide, 2 user-selected APC adapter tips (ferrule and bulkhead), user-selected One-Click cleaner | FOCIS-FLX-NW-P4XA |


FOCIS Flex No Wireless Fiber Optic Connector Inspection System

Easy, Fast, Compact, Tether-free

Test Management and Reporting Software


| DESCRIPTION | AFL NO. |
|--|---------------|
| TRM 3.0 with Basic License, USB delivery (included with all FOCIS Flex No Wireless kits) | TRM3-BASIC |
| TRM 3.0 upgrade from Basic to Advanced License, USB delivery | TRM3-UPGRADE |
| TRM 3.0 upgrade from Basic to Advanced License, email delivery | TRM3-UP-EMAIL |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTRDs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| | IEC | Compliant to IEC 60825-1 for safety of laser products |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | IEC | Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers |
| | IPC | Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FOCIS Flex No Wireless.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts.

FOCIS Lightning[®]2 Multi-Fiber Optic Connector Inspection System

Fiber Inspection



Mobile App



PC Software



Features

- Large, simple-to-use touch screen
- Self-contained, tether-free, compact, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- Up to 8x zoom for enhanced fiber end-face viewing
- Stores 10k images or easily shares data via USB or Bluetooth connectivity
- IEC, IPC, AT&T, and user-defined auto-analysis
- Wide variety of adapter tips for MPO and single-fiber connector types

Applications

- Inspect multi-fiber and single-fiber connectors and adapters
- Data center fiber network installation, turn-up, and troubleshooting
- Inspect hardened connectors in FTTx network
- Verify proper connector cleaning practices
- Pair with OTDR for comprehensive reporting

FOCIS Lightning2 is a compact self-contained inspection probe that captures and displays the entire MPO end-face image in less than two seconds. One button provides auto-focusing, centering, and Pass/Fail analysis at the connector and individual fiber level. It can be used to inspect MPO-8, -12, -16, -24 and -32 connectors. Results can be easily shared via USB and Bluetooth[®].

Pass/Fail results in seconds: FOCIS Lightning2 was designed to quickly inspect multi-fiber connectors and bulkheads, such as MPO and MTP[®], including multi-row varieties. It can perform industry standard and user-defined end-face cleanliness analysis at a rate of about 1 second per fiber – significantly speeding up inspection time when compared with other technologies.

Internal storage and multiple export options: FOCIS Lightning2 can store 10,000 individual fiber images, analysis, overlays, and zones tables locally and can provide optional Bluetooth wireless links for archiving and reporting. AFL's FlexApp (iOS and Android) provides a comprehensive and user-friendly feature set as well as connectivity with AFL's FlexReporter-Cloud.

Untethered operation: With rechargeable battery and integrated 3.5" TFT color LCD touchscreen, FOCIS Lightning2 can be used independently.

Multi-fiber front-end adapter tips: Multi-fiber front-end adapter tips support single row and multi-row MPO connector inspection for a wide range of patch cords and bulkhead-mounted connectors having either PC/UPC or APC polished end-faces. The probe snout includes a key which in combination with a slot on the adapter tips ensures that adapter tips never loosen during use, under any circumstances.

Easy reporting and archiving: The FlexReporter[™] software suite is a complete platform for report generation and results sharing. This platform includes FlexApp, a mobile App that wirelessly transfers test results from the field to the Cloud. These results can be accessed via FlexReports that provide a variety of easy-to-use options for report generation. FlexReports Basic is included with all AFL OTDRs and enables users to quickly view and analyze results, generate simple single-fiber OTDR and OLTS reports. FlexReports Basic also includes a 60-day Advanced trial that includes full reporting and OTDR Trace Batch Editing.

FOCIS Lightning®2 Multi-Fiber Optic Connector Inspection System

Specifications^a

| OPTICAL PORT PARAMETERS | SPECIFICATION |
|---|---|
| Field of View (FOV; viewed on FOCIS Lightning2) | LFOV ^b Live: 4333 x 6500 µm and 4333 x 5418 µm LFOV ^b Captured: 4333 x 5418 µm Multi Fibers Live: 3200 x 4800 µm and 3200 x 4000 µm Multi Fibers Captured: 3200 x 4000 µm Multi Fibers Captured, Details: 200 x 225 µm Single Fiber Live: 1314 x 2144 µm and 1314 x 1788 µm Single Fiber Captured: 1314 x 1626 µm |
| Field of View (FOV; viewed on a PC) | LFOV ^b : 4333 x 6500 µm Multi Fibers: 3200 x 4800 µm Single Fiber: 1314 x 2144 µm |
| Manual Detection Capability (minimum) | 0.25 µm |
| Auto Analysis Resolution | <1.0 µm |
| Internally Stored Image Size (pixels) | LFOV ^b : 3840 x 2560 JPG file Multi Fibers: 3840 x 2560 JPG file, N x 160 x 160 pixels .GIF files Single Fiber: 3840 x 2560 JPG file, 468 x 468 pixels .GIF file |
| Bluetooth Image and Overlay | 2 x QVGA (320 x 240; image + overlay) to AFL test instruments 2 x VGA (640 x 480; image + overlay) files to Apple iOS and Android devices (IAP / MFi) |
| Maximum No Damage Live Fiber Power Level | +20 dBm; image cannot be viewed if fiber is live |
| Focus Methods | Auto-focus and manual focus |
| Centering | Auto-centering captured single fiber images |
| Zoom in Live Mode | 1x / 2x / 4x / 8x zoom |
| Image Capture with Pass/Fail Analysis | IEC 61300-3-35 (2015), AT&T TP-76461, IPC-8497-1, user-set criteria |
| Results Storage (Image and Pass/Fail Results) | Yes |
| File Format | JPG, GIF |
| File Storage Capacity | 10,000 files |
| Result Storage Capacity | Multi Fibers: 1000; Single Fiber:1500 |
| OPERATING FEATURES | |
| Bluetooth Characteristics (Wireless only) | IAP (iPod Accessory Protocol), SPP 0 x 1101, Apple MFi |
| USB Characteristics | Connector USB-C, Charging, USB 2.0 Mass Storage Device |
| ENVIRONMENT PARAMETERS | |
| Storage Temperature | -40 °C to +70 °C |
| Operating Temperature | 0 °C to +50 °C |
| Relative Humidity | 0 to 95% RH |
| Vibration Limits | 2G (transportation) |
| Transit Drop (without soft case) | 300 mm (12 inches, all sides, dust cover installed) |
| Transit Drop (with soft case) | 460 mm (18 inches, all sides, dust cover installed) |

Notes:

- All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).
- Large Field of View (LFOV) parameters are provided using LFOV MPO PC and APC adapters.
- Operating conditions: 60 tests in 20 minutes, then auto-off; repeat each hour.
- Trademarks are the property of their respective owners.

FOCIS Lightning[®]2 Multi-Fiber Optic Connector Inspection System

Specifications^a

| PHYSICAL AND POWER CHARACTERISTICS | |
|------------------------------------|---|
| Display Size, Type, Resolution | 3,5" color TFT touch screen with backlit, 320 x 480 with brightness control |
| Battery Type | Li-Pol, user-replaceable |
| Operating Time (typical) | 8 hours ^c ; 5 hours continuous ^c |
| Power Save Features | Auto-off (disabled, 2, 5, 10 min) |
| Low-Battery Warning | Alerts when ≤15 minutes battery operation remains |
| Size | 67 x 32 x 190 mm (2.7 x 1.3 x 7.5 in) |
| Weight | 280 g (0.62 lb) |
| Safety & Compliance Certifications | UL, CE, FCC |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|-------------------|
| FOCIS Lightning2 Kit, soft carry case, USB cable, with no tips or One-Click [®] cleaner | FOCIS-LT2-N |
| FOCIS Lightning2 Kit, soft carry case, USB cable, (1) UPC ferrule and bulkhead adapter tip, (2) One-Click MPO cleaners | FOCIS-LT2-U |
| FOCIS Lightning2 Kit, soft carry case, USB cable, (1) APC ferrule and bulkhead adapter tip, (2) One-Click MPO cleaners | FOCIS-LT2-A |
| FOCIS Lightning2 Kit, soft carry case, USB cable, (1) UPC and (1) APC ferrule and bulkhead adapter tips, (2) One-Click MPO cleaners | FOCIS-LT2-UA |
| FOCIS Lightning2 Kit, soft carry case, USB cable, (1) UPC and (1) APC ferrule and bulkhead adapter tips, (2) One-Click MPO cleaners, single fiber adapter | FOCIS-LT2-UASF |
| FOCIS Lightning2 No Wireless Kit, soft carry case, USB cable, with no tips or One-Click cleaner | FOCIS-LT2-NW-N |
| FOCIS Lightning2 No Wireless Kit, soft carry case, USB cable, (1) UPC ferrule and bulkhead adapter tip, (2) One-Click MPO cleaners | FOCIS-LT2-NW-U |
| FOCIS Lightning2 No Wireless Kit, soft carry case, USB cable, (1) APC ferrule and bulkhead adapter tip, (2) One-Click MPO cleaners | FOCIS-LT2-NW-A |
| FOCIS Lightning2 No Wireless Kit, soft carry case, USB cable, (1) UPC and (1) APC ferrule and bulkhead adapter tips, (2) One-Click MPO cleaners | FOCIS-LT2-NW-UA |
| FOCIS Lightning2 No Wireless Kit, soft carry case, USB cable, (1) UPC and (1) APC ferrule and bulkhead adapter tips, (2) One-Click MPO cleaners, single-fiber adapter | FOCIS-LT2-NW-UASF |

FOCIS Lightning Adapter Tips and Accessories

| DESCRIPTION | TIP ID | AFL NO. |
|---|--------|---------------|
| Adapter tip for MPO-12/24 APC bulkhead (with key) | M12A | FLTNG-01-M12A |
| Adapter tip for MPO-12/24 UPC bulkhead (with key) | M12U | FLTNG-01-M12U |
| Adapter tip for MPO-16/32 UPC bulkhead (with key) | M16U | FLTNG-01-M16U |
| Adapter tip for MPO-12/16/24/32 UPC bulkhead (no key) | MPOU | FLTNG-01-MPOU |
| Adapter Tip for MPO-12/16/24/32 APC connector (with key) | MAC | FLTNG-01-MAC |
| Adapter Tip for MPO-12/16/24/32 UPC connector (with key) | MUC | FLTNG-01-MUC |
| Adapter Tip for OptiTip male (pinned) connector | OPTM | FLTNG-01-OPTM |
| Adapter Tip for OptiTip female (unpinned) connector | OPTF | FLTNG-01-OPTF |
| Coupler for most 'FFLX' single fiber connector adapter tips | SFC | FLTNG2-01-SFC |
| Extended adapter tip for LC-APC bulkhead | ALCM | FLTNG-01-ALCM |
| Extended adapter tip for LC-UPC bulkhead | ULCM | FLTNG-01-ULCM |
| MPO extender barrel | MPE | FLTNG-01-MPE |
| Adapter tip for Large Field of View (LFOV) - UPC | LVU | FLTNG2-01-LVU |

Notes:

- All specifications valid at 23 °C ±2°C (73.4 °F ±3.6 °F).
- Large Field of View (LFOV) parameters are provided using LFOV MPO PC and APC adapters.
- Operating conditions: 60 tests in 20 minutes, then auto-off; repeat each hour.
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FOCIS Lightning[®]2 Multi-Fiber Optic Connector Inspection System

Test Management and Reporting Software

FlexReports Basic software is available as free download on AFL Software Resources website. FlexReports Basic includes a 60-day Advanced software trial. Once the evaluation period ends, users must upgrade to FlexReports Advanced software license to continue using FlexReports Advanced features.


| DESCRIPTION | AFL NO. |
|---|-------------------|
| FlexReports Advanced, one seat license on USB | RPTS-AD-USB-1 |
| FlexReports Advanced, one seat, Upgrade from TRM [®] 3 Advanced on USB. Users must have TRM-3 Advanced license | RPTS-UP-TRM3-1 |
| FlexReports Basic, available for download on AFL Software Resources website | FlexReports Basic |
| FlexApp data transfer mobile App, available on Google Play and Apple App Store | FlexApp |

Recommended Products



FlexScan[®] FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto[®] 1-button automated testing for fast results
- LinkMap[®] color-coded icons for easy troubleshooting
- Flexpress[®] mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



One-Click[®] Cleaner MPO / MPO-16

- Ideal for Data Centers and high density optical networks
- Designed to work on MTP[®]/MPO multi-fiber connectors
- Cleans connectors on jumpers and in adapters

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | IEC | Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers |
| | IPC | Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FOCIS Lightning2.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts.

FOCIS WiFi[®] Fiber Optic Connector Inspection System



Features

- Trim, lightweight, ergonomic and highly productive tool
- App-based automatic and manual focus; auto-centering after image capture
- One button workflow using rapid LED feedback on probe
- Multi-color LED on probe for fast pass/fail user inspection feedback
- Pairs with an iOS or Android smart device or the aeRos[®] cloud-based workflow management platform
- IEC, IPC, AT&T and user-defined pass/fail analysis when paired with a smart device
- Wide range of adapter tips including MPO/MTP multi-fiber connectors and bulkheads
- Over 8 hours operation with rechargeable Li-Ion battery

Applications

- Inspection of connectors on patch cords or in bulkhead adapters
- Installation, troubleshooting and maintenance of fiber network
- Inspection of multi-fiber connectors including MPO16 and MXC[®]
- Critical fiber infrastructure performance assurance
- Verification of proper connector cleaning methods of procedure

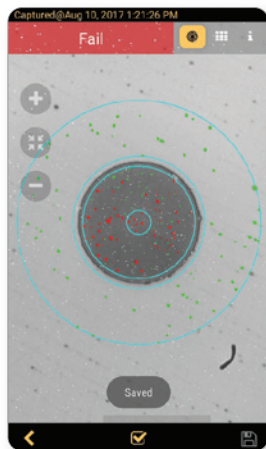
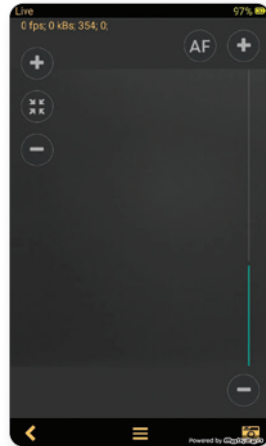
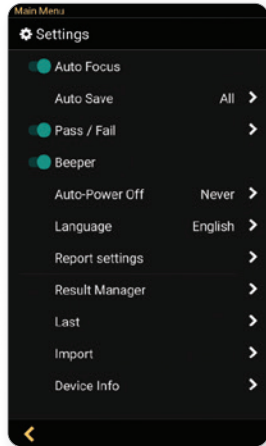
FOCIS WiFi is an ergonomic Fiber Optic Connector Inspection System that, when paired with an iOS or Android smart device, provides fast and accurate IEC/IPC/AT&T compliant and user-defined pass/fail end-face cleanliness analysis. Free of charge iOS and Android companion apps support a comprehensive and user-friendly feature set.

Pass/fail results in seconds: With the press of a single button, FOCIS WiFi auto-focuses, captures, centers and analyzes the end-face image to industry standard IEC 61300-3-35 (2015), IPC-8497-1, AT&T TP-76461 and user-defined criteria.

Untethered operation: App-based report generator with results/reports transferable to the aeRos cloud. With rechargeable battery and convenient pass/fail LED feedback, FOCIS WiFi can be used semi-independently.

Wide range of adapter tips: Interchangeable adapter tips support single and multi-fiber connector inspection for a wide range of patch cords and bulkhead-mounted connectors having either PC/UPC or APC polished end-faces.

FOCIS WiFi[®] Fiber Optic Connector Inspection System



Fail

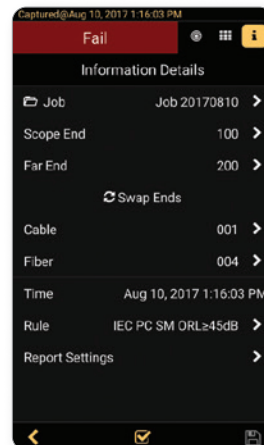
IEC PC SM ORL≥45dB

| Zone | | |
|------|---------|-----------|
| A | 0-25 | >0 μm: 0 |
| B | 25-115 | >3 μm: 0 |
| D | 135-290 | >10 μm: 0 |

Smart Device Apps: FOCIS WiFi

Features

- Live image video streaming
- Auto-focus and auto centering
- IEC, IPC, industry standard, and user-defined inspection rules
- Pinch-to-zoom fiber end-face images
- Report generation
- Multi-language Graphical User Interface (GUI)
- Day/time stamped job saving



FOCIS WiFi2® Fiber Optic Connector Inspection System

Specifications^a

| OPTICAL PERFORMANCE | |
|--|--|
| Field of View (FOV) ^b | Live and Captured: 612 x 460 µm; |
| Manual Detection Capability (minimum) | 0.25 µm |
| Auto Analysis Resolution | <1.0 µm |
| Stored ^c Image Size | 2592 x 1944 (5M) pixels |
| End-face Illumination | Coaxial blue LED 476 nm |
| Maximum No Damage Live Fiber Power Level | +20 dBm (Image cannot be viewed if fiber is live) |
| OPERATING FEATURES | |
| WiFi Characteristics | IEEE 802.11bng |
| Focus | Auto-focus (≤3 sec) and manual focus |
| Centering | Auto-centering (<1 sec) |
| Button Functionality | Power On/Off (>3 secs); Capture/Analysis/Auto-save/Live |
| Main LED Functionality | Blue = Power On, Green = Pass, Red = Fail, White = No Fiber |
| Magnification ^b | Variable from 80X to 700X, in Live and Capture modes |
| Applications Compatibility | Android ≥4.0.3, iOS ≥8.1 |
| Image Capture with Pass/Fail Analysis ^c | IEC 61300-3-35 (2015), AT&T TP-76461, IPC-8497-1, user-set criteria |
| Image File Format | JPEG, GIF |
| Image & Pass/Fail Results Storage ^c | Yes |
| File Storage Capacity ^c | Unlimited |
| Result Manager ^c | Storage, rename, delete, transfer |
| Reporting ^c | Built-in fillable PDF reporter |
| Supported Languages ^c | English, French, German, Japanese, Korean, Russian, Spanish |
| PHYSICAL AND POWER CHARACTERISTICS | |
| Battery Type | Li-Ion, non-replaceable by user |
| Maximum Charger Current Draw | 1.2A, battery charge current + device consumption current |
| Operating Time (typical) | 60 hours ^d ; 8 hours continuous |
| Recharge Time | ≤4 hours |
| Low-Battery Warning | Viewed on smart device |
| Charging LED Status; viewed on smart device | Red = Charging, Green = Fully Charged, Blinking Red/Green = Battery Fault |
| Power Save Features (Controlled by App) | Probe Auto-Off – disabled, 5, 10, 30, 60 minutes; Probe WiFi Not Connected – 5 minutes |
| AC Charger Voltage, Frequency, Current | 100-240VAC, 50/60Hz, 5VDC, 2A |
| Charger Jack | 0.9 x 3.2 mm barrel, center (tip) positive |
| Size (Max Diameter x Length) | Ø 40 x 226 mm (Ø 1.6 x 8.9 in) |
| Weight | 150 g (5.3 oz) |
| ENVIRONMENTAL CHARACTERISTICS | |
| Operating Temperature | 0 to +50 °C; 95% RH, non-condensing |
| Storage Temperature | -40 to +70 °C; 95% RH, non-condensing |

Notes:


- a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).
- b. Viewed on Smart Device.
- c. In iOS & Android Apps.
- d. Operating conditions: 60 tests in 20 minutes, then auto-off; Repeat each hour

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------------|
| FOCIS WiFi2 Kit, soft carry case, AC charger, with NO tips or One-Click cleaner | FOCIS-WIFI2-N |
| FOCIS WiFi2 Kit, soft carry case, AC charger, user-selected: (2) UPC ferrule & bulkhead adapter tips and (1) One-Click cleaner | FOCIS-WIFI2-U |
| FOCIS WiFi2 Kit, FOCIS WiFi2, soft carry case, AC charger, user-selected: (2) APC ferrule & bulkhead adapter tips and (1) One-Click cleaner | FOCIS-WIFI2-A |
| FOCIS WiFi2 Kit, soft carry case, AC charger, user-selected: (2) UPC and (2) APC ferrule & bulkhead adapter tips and (1) One-Click cleaner | FOCIS-WIFI2-UA |


FOCIS WiFi2® Fiber Optic Connector Inspection System

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| RoHS | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| Test Method | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| | IEC | Compliant to IEC 61300-3-35 for visual inspection of fiber optic connectors and fiber-stub transceivers |
| | IPC | Compliant to IPC-8497-1 for cleaning methods and contamination assessment for optical assembly |

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ROGUE® OLTS Certifier

Measure insertion loss, return loss and length on multimode and single-mode fiber optic networks



Features

- Bi-directional testing on up to 2 fibers at once
- Pass/Fail certification to ISO/IEC/TIA/IEEE and custom test limits
- Automatic dual-wavelength identification (Wave ID)
- Test cord reference wizard and built-in encircled flux compliance
- Integrated power meter and visual fault identifier
- 12-fiber MPO certification with optional Multi-fiber switch (MFS)
- Reporting with TRM® PC software and optional cloud-based workflow integration with aeRos®

Applications

- Certify Tier 1 networks to industry standards
- Test LAN structured cabling and data center networks with single fiber (LC, SC, FC, ST) and multi-fiber (MTP/MPO) connectivity
- Test access, metro and core networks
- Document network installations

AFL's ROGUE OLTS Certifier measures insertion loss, return loss, and length bi-directionally to industry standards on both multimode and single-mode networks. ROGUE OLTS Certifier is offered as a matched pair of units, with each unit featuring 4 test ports. Two of the ports combine a light source and power meter to enable bi-directional testing on single or dual fibers. The other two ports are a dedicated power meter and a visual fault identifier (VFI) to help troubleshoot networks.

ROGUE OLTS Certifier is available as an intelligent base (iB1) model with an integrated display. It can provide either single-fiber testing on quad SM/MM wavelengths (850/1300/1310/1550 nm) or single and dual-fiber testing at 1310/1550 nm.

Test Management and Reporting Software: All ROGUE OLTS Certifier kits include a basic license for Test Result Manager (TRM® 3.0) providing data processing and reporting locally via a PC. The optional aeRos® Pro test management software provides cloud-based workflow integration to remotely build projects, assign jobs, collect results, track progress and generate reports.

ROGUE® OLTS Certifier

Specifications^a

| OLTS | MULTIMODE | SINGLE-MODE |
|--------------------------|--|---|
| Emitter Type | LED | Laser |
| Wavelengths | 850 ±30 nm; 1300 ±20 nm | 1310, 1550 ±20 nm |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC EN60825-1: 2007-03 | |
| Detector Type | InGaAs | InGaAs |
| Launch Condition | Encircled Flux Compliant ^b | N/A |
| Length Measurement Range | 5 km | 200 km (SMF28e) |
| Power Measurement Range | +3 to -60 dBm | +3 to -60 dBm |
| Output Power | -24/-23 dBm, 62.5/50 µm | -3 dBm, 9 µm |
| Stability ^c | ±0.1 dB over 1 hour ±0.15 dB over 8 hours | ±0.1 dB over 1 hour ±0.15 dB over 8 hours |
| Wave ID Transmit | Yes | Yes |
| Tone Generation | 330 Hz, 1 kHz, 2 kHz | 330 Hz, 1 kHz, 2 kHz |
| Input Connector | Interchangeable connector adapter (LC standard, SC, ST, FC optional) | |

| OPTICAL POWER METER (OPM) | |
|---------------------------|--|
| Calibrated Wavelengths | 850, 1300, 1310, 1490, 1550, 1625, 1650 nm |
| Detector Type | InGaAs PIN, 2 mm diameter |
| Measurement Range | +3 to -70 dBm |
| Wave ID | Automatically synchronizes and measures 1, 2 or 3 λ Wave ID combinations |
| Range | +3 to -40 dBm @ 850 nm; +3 to -50 dBm @ 1300, 1310, 1550 nm |
| Tone Detect | Auto-detects 270, 330 Hz; 1, 2 kHz tones; |
| Accuracy | ±5% @-10 dBm |
| Linearity | ±0.1 dB (-3 to -40 dBm); ±0.25 dB (-40 to -50 dBm) |
| Measurement Units | Power in dBm, nW, µW, mW; Loss in dB; 0.01 dB resolution |

| VISUAL FAULT LOCATOR (VFL) | |
|----------------------------|---|
| Emitter Type | Visible red laser, 650 ±20 nm |
| Safety Class | Class II FDA 21 CFR 1040.10 and 1040.11, IEC EN60825-1: 2007-03 |
| Output Power (nominal) | 0.8 mW into single-mode fiber |
| Modes | CW and 2 Hz flashing |

| GENERAL | iB1 |
|-----------------------|---|
| Size | 23.5 x 13.3 x 7.6 cm (9.25 x 5.25 x 3.0 in) |
| Weight | 1.56 kg (3.46 lb) |
| Operating Temperature | -10 °C to +50 °C, 0 to 90 % RH (non-condensing) |
| Storage Temperature | -20 °C to +60 °C, 0 to 90 % RH (non-condensing) |
| Power | Rechargeable Li-Ion or AC power adapter |
| Battery Life | >8 hours continuous testing |

Notes:

- a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F) unless otherwise specified.
- b. TIA-526-14-B, ISO/IEC 14763-3 and IEC 61280-4-1.
- c. After 15 minutes warm-up.

ROGUE® OLTS Certifier

Ordering Information

Each ROGUE OLTS Certifier kit includes two (2) of each: ROGUE iB1 Base, kit-specific ROGUE Modules, battery, AC charger, carry strap, carry case. Each ROGUE OLTS Certifier kit includes (1) One-Click Cleaner SC/2.5 mm, (1) One-Click Cleaner LC/1.25 mm, switchable test port adapters and test accessories.

| DESCRIPTION | CONTAINS (two of each) | AFL NO. |
|---|---|--------------|
| ROGUE OLTS Certifier kit with iB1 Base, Quad SM/MM | ROGUE iB1 Base, Quad SM/MM Module, battery, AC charger, adjustable carry strap, carry case | RGK-CERT01B1 |
| ROGUE OLTS Certifier kit with iB1 Base, Dual SM ports | ROGUE iB1 Base, Dual Ports SM Module, battery, AC charger, adjustable carry strap, carry case | RGK-CERT03B1 |

ROGUE Hardware and Accessories

| DESCRIPTION | AFL NO. |
|---|----------------|
| ROGUE OLTS with iB1 Base; contains ROGUE iB1 Base, Dual Ports SM Module, battery, AC charger, adjustable carry strap | RGK-OLTS03B1 |
| ROGUE iB1, Intelligent Base; contains ROGUE iB1 Base, battery, AC charger, adjustable carry strap | RG-B01 |
| ROGUE OLTS Certifier Quad Module; contains Quad Module; test port adapters: (2) SC for OLS port, SC and LC for OPM port | RG-1100-Q01 |
| ROGUE OLTS Certifier SM Module; contains SM Module; test port adapters (2) SC for OLS port, SC and LC for OPM port | RG-1100-S01-D |
| ROGUE Kit Carry Case | RGA-CASE-01 |
| ORL Referencing Mandrel | 5400-00-0200 |
| Adjustable Carry Strap | RGA-STRAP-01 |
| AC charger for cB1 Base | 4050-00-0132PR |
| AC charger for iB1 Base | 4050-00-0918PR |
| Reference cable, SC/UPC-LC/UPC, SMF28E/E+, 2 m | 8700-00-0081 |
| Reference cable, SC/APC-LC/UPC, SMF, 2 m | 8700-00-0050 |
| Reference grade cable, SC/UPC-LC/UPC, MMF, 50 μm, OM4, 2 mm, Red, 2 m | 8700-04-0007MR |



ROGUE OLTS Certifier kit with iB1 Bases

ROGUE® OLTS Certifier

ROGUE OLTS Certifier Adapters

| DESCRIPTION | TEST PORT USAGE | AFL NO. |
|-------------|-----------------|----------------|
| FC | OLS | 2900-50-0002MR |
| SC | OLS | 2900-50-0003MR |
| ST | OLS | 2900-50-0004MR |
| LC | OLS | 2900-50-0006MR |
| FC | OPM | 2900-52-0001MR |
| SC | OPM | 2900-52-0002MR |

| DESCRIPTION | TEST PORT USAGE | AFL NO. |
|-------------------|-----------------|----------------|
| ST | OPM | 2900-52-0003MR |
| LC | OPM | 2900-52-0004MR |
| 2.5 mm Universal | OPM | 2900-52-0005MR |
| 1.25 mm Universal | OPM | 2900-52-0006MR |
| 2.5 mm Universal | VFL | 2900-50-0007MR |
| 1.25 mm Universal | VFL | 2900-50-0010MR |

Test Management and Reporting Software

| DESCRIPTION | AFL NO. |
|---|---------------|
| TRM 3.0 upgrade from Basic to Advanced software | TRM3-UGRADE |
| TURBO App (Android Google play) | Free Download |

Recommended Products

aeros®

Cloud-based Test Management and Reporting

- Seamless interaction with Android™ applications
- Run reports at the push of a button

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|---|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| | IEC | Compliant to IEC 60825-1 for safety of laser products |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about ROGUE OLTS Certifier.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Multi-Fiber Switch



Multi-fiber Switch paired with ROGUE

Features

- Stand-alone operation as well as pairing with other testers including OTDRs and OLTS
- 12-fiber switching capability
- Dual wavelength, single-mode or multimode
- Rechargeable battery with USB port charging/communication

Applications

- Converts a single port tester into a multi-fiber tester utilizing your existing OLTS, OTDR, and VFL test equipment
- Efficiently test 12-fiber links without disconnecting/reconnecting
- Bi-directional testing without moving cables
- Certify MPO links to industry standards including base 8 applications

The density demands of today’s networks are driving more demand for multi-fiber connectivity. As the adoption of multi-fiber connectors becomes more prevalent in data centers, the ability to test these types of connections accurately and quickly has become even more critical.

AFL’s Multi-Fiber Switch enables the testing of MPO/MTP®-terminated cables. The switch allows you to utilize a single piece of test equipment to verify some or all of the fibers in a multi-fiber connector in a single test, saving you both time and money.

AFL’s Multi-Fiber Switch is compatible with your AFL FlexScan FS200 and FS300 series OTDRs and ROGUE® OLTS Certification equipment. The switch can be manually configured or remotely controlled via USB from both FlexScan OTDRs and ROGUE OLTS.

Specifications^a

| OPTICAL | | |
|---------------------------|---|---------------------------------|
| Wavelength | 1310/1550 nm, SM dual-wavelength | 850/1300 nm, MM dual-wavelength |
| Insertion Loss | 2.8 dB typ. – 3.3 dB max. | 1.8 dB typ. – 2.3 dB max. |
| Optical Return Loss (ORL) | 50 dB min. | — |
| Fiber Length | 4.4 ± 0.5 m | |
| Optical Length Uniformity | ± 0.15 m | |
| GENERAL | | |
| Power | Li-Ion battery or USB interface | |
| Battery Life | 1000 hours continuous operation | |
| Weight | 0.3 kg (0.66 lb) | |
| Dimensions | 12.9 x 6.9 x 3.1 cm (5.1 x 2.7 x 1.2 in) | |
| Operating Temperature | -20 °C to +60 °C, 0 to 90 % RH (non-condensing) | |
| Storage Temperature | -20 °C to +70 °C, 0 to 90 % RH (non-condensing) | |

Notes:

a. All specifications valid at 23 °C ±2 °C (73.4 °F ±3.6 °F) unless otherwise specified.

Multi-Fiber Switch

Ordering Information

| DESCRIPTION | AFL NO. |
|--|------------------|
| Multi-fiber Switch, 12 fibers SM, APC-SC, MPO fiber ring (non-pinned), soft case | MFS-12-SM-ASC-FR |
| Multi-fiber Switch, 12 fibers SM, APC-SC, soft case | MFS-12-SM-ASC |
| Multi-fiber Switch, 12 fibers SM, UPC-SC, soft case | MFS-12-SM-USC |
| Multi-fiber Switch, 12 fibers MM, UPC-SC, soft case | MFS-12-MM-USC |

ROGUE MFS Certification Add-on Kits

Each Multi-Fiber Switch Certification Add-on kit include (2) Multi-Fiber Switches, (2) 6 in. USB-USB mini cables, (2) key up / key down MPO-MPO mating adapters, (2) MFS carry holsters, (1) One-Click Cleaner MPO, (2) MFS kit carry cases, test cords and mating adapters (see table below).


| ADD-ON KIT | CONTAINS (ea.) | | | AFL NO. |
|--------------------|------------------------|----------------------|---|-----------------|
| | 12F MFS SWITCH | REFERENCE TEST CORDS | | |
| | | SC-SC, 0.3 (m) | 12F MPO-MPO, 2 (m) | |
| SM, SC/UPC-MPO/APC | (2) SM, SC/UPC-MPO/APC | (2) SM | (2) SM, type A unpinned; (2) SM, type A pinned/unpinned; (1) SM, type B unpinned | MPO-SM-CERT-ADD |
| MM, SC/UPC-MPO/UPC | (2) MM, SC/UPC-MPO/UPC | (2) MM | (2) OM4, type A unpinned; (2) OM4, type A pinned/unpinned; (1) OM4, type B unpinned | MPO-MM-CERT-ADD |

MFS Multi-Fiber Switch OTDR Add-on Kit

Single-mode and multimode Multi-Fiber Switches (MFS) are available to accelerate OTDR testing of MPO-connectorized, multi-fiber cables. OTDR MFS Add-on Kits include (1) MFS with MPO connector, (1) single-fiber Fiber Ring to connect OTDR to the switch, plus (1) MPO Fiber Ring.


| CONTAINS (ea.) | | | AFL NO. |
|--|--|--|-----------------|
| 12F MFS SWITCH | FIBER RING | MPO FIBER RING | |
| MFS-12-SM-ASC, SM, SC/APC-MPO/APC pinned | SM, 150 m, SC-ASC or ASC-ASC (depending on OTDR connector) | 12F, 61m, MPO/APC-unpinned to MPO; Select pinned or unpinned network MPO connector | MPO-SM-OTDR-ADD |
| MFS-12-MM-USC, MM, SC/UPC-MPO/UPC pinned | OM3/4/5-compatible, SC-SC, 150 m | 12F, 61m, MPO-unpinned to MPO; Select pinned or unpinned network MPO connector | MPO-MM-OTDR-ADD |

Recommended Products



ROGUE® OLTS Certifier

- Bi-directional testing on up to 2 fibers at once
- Pass/Fail certification to ISO/IEC/TIA/IEEE and custom test limits
- Automatic dual-wavelength identification (Wave ID)



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about Multi-Fiber Switch.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

FlowScout® PON Optical Power Meter

US Patent 9,602,200 and US Patent 10,771,153



Features

- Detect multiple wavelengths automatically - NO setup required!
- Detects GPON, XGS-PON, and Video signals all at once
- Rugged and water resistant, IP54 rating
- Field-swappable connector adapters
- Large color touchscreen display daylight viewable
- Rechargeable Li-Polymer battery

Applications

- Detects and measures PON upstream and downstream signals
- PON network activation
- BPON, EPON, GPON, 10G-EPON, XG-PON, XGS-PON, Video network verification and troubleshooting
- Evaluate PON power level Pass/Fail based on limits

AFL is a trusted supplier of optical testing equipment with more than 30 years of experience and tens of thousands of units in the field. AFL's full range of N.I.S.T. traceable power meters are used for testing single-mode and/or multimode fiber networks.

Designed for all: AFL's power meters are designed to meet the demands in an outside plant environment. The FlowScout PON optical power meter easily withstands a one-meter drop and has splash resistant controls that are easy to use, even with gloves on.

Flexible and efficient: A range of field-swappable output adapters support multiple connector styles and enables access for easy cleaning. The efficient design ensures a long run time from its rechargeable Li-Polymer battery and includes an auto-off feature to save power.

Stores test results: The built-in File Management system allows technicians to organize test results into multiple files and transfer them via USB to a PC for analyzing, generating reports, and printing. The FlowScouts QR code feature can easily collect and transfer test data via any smart devices.

FlowScout® PON Optical Power Meter

Specifications^a

| OPTICAL | | | | | | |
|-----------------------|-------------------|--------------------|----------------|----------------|----------------|----------------|
| MODEL | | TPPM-GP (Upcoming) | | TPPM-XG | | |
| Upstream | Wavelength | 1310 nm | | 1270 nm | 1310 nm | |
| | Measurement Range | -28 to +13 dBm | | -28 to +13 dBm | -28 to +13 dBm | |
| Downstream | Wavelength | 1490 nm | 1550 nm | 1490 nm | 1550 nm | 1577 nm |
| | Measurement Range | -50 to +13 dBm | -35 to +26 dBm | -50 to +13 dBm | -35 to +26 dBm | -50 to +17 dBm |
| Accuracy ^b | | ±0.50 dB @0 dBm | | | | |
| Resolution | | 0.01 dB | | | | |
| Insertion Loss | | 1.7 dB Typical | | | | |
| Inline ORL | | 55 dB typical | | | | |
| Measurement Units | | dBm, µW | | | | |

| GENERAL | |
|-----------------------|--|
| Power | Rechargeable Li-Polymer battery |
| Adapter Caps | SC APC standard, LC APC available |
| Battery Life | >8 hours |
| Recharge time | ~4 hours |
| Operating Temperature | -10 °C to 50 °C, 95 % RH (non-condensing) |
| Storage Temperature | -20 °C to 60 °C, 95 % RH (non-condensing) |
| Size (H x W x D) | 17.1 x 10.4 x 4.6 cm (6.75 x 4.1 x 1.8 in) |
| Weight | 0.59 kg (1.3 lb) |

Notes:

- a. All specifications valid at 25°C unless otherwise specified.
- b. Accuracy was measured at 25 °C and -10 dBm per N.I.S.T. standards.

Ordering Information

All models include PON optical power meter, rechargeable batteries, SC/APC adapter cap, two SC/APC-SC/APC jumpers, USB-A to USB-C cable for charging and data transfer, AC plug, and carry case. Quick reference guide is available at www.AFLglobal.com.

| DESCRIPTION | AFL NO. |
|--|-------------------|
| FlowScout PON optical power meter XGAPON/XGSPON | TPPM-XG |
| INCLUDED ACCESSORIES | |
| (2) SC/APC to SC/APC Test Jumpers, 2 m | 8700-00-0090MR |
| USB-A to USB-C Charge and Data Transfer Cable | 6000-00-0036MR |
| AC Adapter | 4050-00-0034MR |
| One-Click® Cleaner Mini-500 SC, ST, FC (500+ cleans) | 8500-05-0009MZ |
| AFL ships one power plug (of customer choice) along with the order. Please select one out of the four plugs listed below. | |
| EU Power Plug for AC charger | 4050-00-0034EUMR |
| US power plug for AC charger | 4050-00-0034NAMR |
| CN/AUS power plug for AC charger | 4050-00-0034SAAMR |
| UK power plug for AC charger | 4050-00-0034UKMR |

Optical Loss Testing

FlowScout® PON Optical Power Meter

Recommended Products



Optical Light Sources

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean



VF14 Visual Fault Identifier

- Eye-safe Class 3R visible red laser source, 650 nm
- Output power of ≤ 5.0 mW with 10 km range
- Universal connector interface for quick connection

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|--|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| UKCA Marking | UK | Compliant to relevant UK Directives on health, safety, and environmental protection, and certified with the UKCA marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| | | |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant |
| IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant | |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FlowScout PON optical power meters.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Optical Loss Test Kits



SMLP5-5 Kit

Features

- Rugged, dependable, and backed by industry-best 5-year warranty
- Wave ID tests up to three wavelengths simultaneously - slashing test time
- Field-swappable connector adapters for maximum flexibility
- Long battery life from globally available AA batteries

Applications

- Certify multimode and single-mode links per TIA/EIA standards
- Passive Optical Networks (PON) testing
- Certification report generation with TRM® 2.0 software
- Fiber identification for splicing and continuity checking

Optical Loss Test Sets (OLTS) provide the most accurate method for determining the total loss of a link. AFL’s OLTS have been an industry favorite for over 30 years with more than 100,000 units shipped. Leading service providers and enterprise customers rely on AFL’s OLTS for their ruggedness, reliability, and best-in-the-industry 5-year warranty.

An OLTS test is performed with a light source on one end of the fiber sending a continuous wave at specific wavelength(s) and a power meter on the opposite end measuring the light received. The loss measured is compared to the loss budget, which is usually calculated prior to installation, and reflects the industry standards used to ensure that the link can meet its application requirements.

OLTS are mainly used to certify multimode and single-mode links, test Passive Optical Networks (PONs), identify fibers before splicing, and to ensure network continuity.

Designed for use in outside plant environments: AFL OLTS are extremely rugged and withstand one-meter drops, have splash resistant controls that are easy to use with gloves on, and the field-swappable connector adapters provide flexibility and access for cleaning optical ports at time of test.

Test faster with fewer errors: AFL’s Wave ID increases test speed by performing simultaneous multi-wavelength testing that cuts loss measurement time in half or more. AFL’s automatic wavelength identification eliminates setup errors and simplifies coordination between users at opposite ends of fiber.

Optical Loss Test Kits

Specifications^a

| OPTICAL SPECIFICATIONS - POWER METERS | | | |
|---------------------------------------|---|---|---|
| MODEL | OPM5-4D | OPM5-3D, OPM4-3D | OPM5-2D |
| Calibrated Wavelengths | 850, 980, 1300, 1310, 1490, 1550, 1625 nm | 850, 1300, 1310, 1490, 1550, 1625 nm | 850, 1300, 1310, 1490, 1550 nm |
| Detector Type | Filtered InGaAs | InGaAs | Germanium (Ge) |
| Measurement Range | +26 to -50 dBm | +10 to -75 dBm | +6 to -60 dBm |
| Tone Detect Range | +6 to -30 dBm +6 to -25 dBm for 850 nm | +10 to -50 dBm +10 to -45 dBm for 850 nm | +6 to -50 dBm +6 to -45 dBm for 850 nm |
| Wavelength ID Range | +6 to -30 dBm +6 to -25 dBm for 850 nm | +10 to -50 dBm +10 to -45 dBm for 850 nm | +6 to -50 dBm +6 to -45 dBm for 850 nm |
| Accuracy | ±0.1 dB (typical); ±0.25 dB | | |
| Resolution | 0.01 dB | | |
| Measurement Units | dB, dBm, μW | | |

| OPTICAL SPECIFICATIONS: OLS7 MODELS | | | |
|-------------------------------------|--|---------|---------|
| MODEL | OLS7-FTTH (Single Port) | | |
| Wavelength (±20 nm) | 1310 nm | 1490 nm | 1550 nm |
| Spectral Width | 5 nm | 3 nm | 5 nm |
| Emitter Type | Laser | | |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03 | | |
| Output Power | -5 dBm (typical), 9/125 fiber | | |
| Output Stability | ±0.05 dB over 1 hour (after 15 minutes warm-up) ±0.1 dB over 8 hours (after 15 minutes warm-up) | | |
| Tone Output | 270 Hz, 330 Hz, 1 kHz, 2 kHz | | |

| OPTICAL SPECIFICATIONS: OLS4, OLS2-DUAL & OLS1-DUAL MODELS | | | | | | |
|--|--|-----------------|--|-------------|--------------------------------------|-------------|
| MODEL | OLS4 (MM Optical Port) | | OLS4 (SM Optical Port) | | OLS2-DUAL (Single Port) | |
| Wavelength | 850 ±30 nm | 1300 +30/-20 nm | 1310 ±20 nm | 1550 ±20 nm | 1310 ±20 nm | 1550 ±20 nm |
| Spectral Width | 45 nm (typ) | 120 nm (typ) | 5 nm (max) | 5 nm (max) | 5 nm (max) | |
| Emitter Type | LED | | Laser | | Laser | |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03 | | | | | |
| Output Power | >-20 dBm, 62.5 μm multimode ^b | | 0 dBm, 9 μm single-mode | | 0 dBm, 9 μm single-mode ^c | |
| Output Stability | ±0.1 dB over 8 hours (after 5 minutes warm-up) | | ±0.05 dB over 1 hour (after 15 minutes warm-up) ±0.1 dB over 8 hours (after 15 minutes warm-up) | | | |
| Tone Output | N/A | | 2 kHz | | 270 Hz, 330 Hz, 1 kHz, 2 kHz | |

| GENERAL SPECIFICATIONS: ALL OPM AND OLS MODELS | |
|--|---|
| Available Adapters | SC FC, ST, LC |
| Power | 2 AA batteries |
| Operating Temperature | -10 °C to 50 °C, 90 % RH (non-condensing) |
| Storage Temperature | -30 °C to 60 °C, 90 % RH (non-condensing) |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) |
| Weight | 0.29 kg (0.65 lb) |

Notes:

- All specifications valid at 25°C unless otherwise specified.
- May be used to test 50 or 62.5 μm fiber with supplied mandrels.
- Output power will be approximately 3 dB less if a 50 μm mandrel-wrapped jumper is used instead of a 62.5 μm mandrel-wrapped jumper.
- Adjustable 2 dB.

Optical Loss Test Kits

Ordering Information

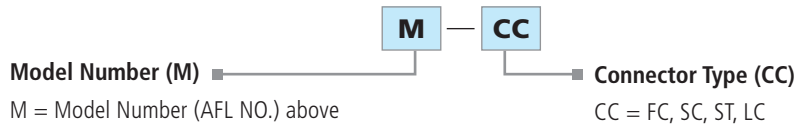
Test kits include light source, power meter, protective rubber boots, AA batteries, adapter caps, and carry case.

| AFL NO. | POWER METER | LIGHT SOURCE | FIBER TYPE | LOSS MEASUREMENTS (nm) | | | | | DYNAMIC RANGE (dB) | TRM® 2.0 PC REPORTING |
|-----------|-------------|--------------|------------|------------------------|------|------|------|------|---|-----------------------|
| | | | | 850 | 1300 | 1310 | 1490 | 1550 | | |
| SLP5-6 | OPM5-3D | OLS2-DUAL | SM | | | ◆ | | ◆ | 70 ^b | ◆ |
| SLP5-FTTH | OPM5-4D | OLS7-FTTH | SM | | | ◆ | ◆ | ◆ | 45 ^b | ◆ |
| SMLP5-5 | OPM5-2D | OLS4 | MM SM | ◆ | ◆ | ◆ | | ◆ | 40 @ 850/1300 nm ^a 60 @ 1310/1550 nm ^b | ◆ |

Notes:

- a. On 62.5/125 µm multimode fiber.
- b. On 9/125 µm single-mode fiber.

Part Number – Connector Specification



Examples: SMLP5-5-SC => (SMLP5-5 Test Kit with SC adapters)

Accessories

| DESCRIPTION | AFL NO. |
|---|----------------|
| LIGHT SOURCE CONNECTOR ADAPTERS | |
| FC connector adapter | 2900-50-0002MR |
| SC connector adapter | 2900-50-0003MR |
| ST connector adapter | 2900-50-0004MR |
| LC connector adapter | 2900-50-0006MR |
| POWER METER CONNECTOR ADAPTERS | |
| FC connector adapter | 8800-00-0200 |
| SC connector adapter | 8800-00-0209 |
| ST connector adapter | 8800-00-0202 |
| LC connector adapter | 8800-00-0225 |
| MULTIMODE TEST CORDS (50/125 µm – 2 meters) | |
| FC/FC | 8700-00-0093 |
| SC/ST | 8700-00-0064 |
| SC/SC | 8700-00-0065 |
| LC/LC | 8700-00-0082 |
| SINGLE-MODE TEST CORDS (9/125 µm – 2 meters) | |
| FC/FC | 8700-00-0005 |
| FC/ST | 8700-00-0016 |
| ST/ST | 8700-00-0017 |
| SC/SC | 8700-00-0018 |
| FC/SC | 8700-00-0021 |
| SC/ST | 8700-00-0022 |
| SC/LC | 8700-00-0046 |
| FC/LC | 8700-00-0071 |
| LC/LC | 8700-00-0097 |

| DESCRIPTION | AFL NO. |
|------------------------------------|-----------------|
| MATING ADAPTERS (Bulkheads) | |
| FC/FC | 8400-00-0004MR |
| SC/SC | 8400-00-0045MR |
| ST/ST | 8400-00-0020 |
| LC/LC | 8400-00-0075 |
| CLEANING SUPPLIES | |
| One-Click Cleaner SC/ST/FC | 8500-05-0001MZ |
| One-Click Cleaner LC | 8500-05-0002MZ |
| Cletop –SB Cassette Cleaner | 8500-10-0016MZ |
| Cletop –SB Refill Cartridge | 8500-10-00017MZ |

Optical Loss Test Kits

Test Management and Reporting Software

| DESCRIPTION | AFL NO. |
|--|---------------|
| TRM® 2.0 with Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports), USB delivery | TRM-00-0900PR |

Recommended Products



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | IEC | Compliant to IEC 60825-1 for safety of laser products |
| | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components* |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises* |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises* |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises* |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

* A complementary encircled flux mode conditioner may be needed to comply with encircled flux launch conditions for testing multimode optical fiber cabling and components

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about OLTS kits.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Encircled Flux (EF) Compliant Light Sources and Test Kits



Features

- EF Complaint light sources and test kits per TIA 526-14-B and IEC 61280-4-1 Ed. 2.0
- EF Compliant by design – no additional equipment required
- Industry-leading 5-year warranty
- Wave ID for error free testing of multiple wavelengths simultaneously
- Test cords included

Applications

- MMF and SMF testing requiring EF Compliant equipment
- Passive Optical Network (PON) testing
- Certify multimode and single-mode links to TIA/EIA standards
- Certification report generation with TRM® 2.0 software

Designed for use in outside plant environments: AFL OLTS are extremely rugged and withstand one-meter drops, have splash resistant controls that are easy to use with gloves on, and the field-swappable connector adapters provide flexibility and access for cleaning optical ports at time of test.

Test faster with fewer errors: AFL's Wave ID increases test speed by performing simultaneous multi-wavelength testing that cuts loss measurement time in half or more. AFL's automatic wavelength identification eliminates setup errors and simplifies coordination between users at opposite ends of fiber.

Encircled Flux (EF) Compliant Light Sources and Test Kits

Specifications ^a

| OPTICAL SPECIFICATIONS - POWER METERS | |
|---------------------------------------|---|
| MODEL | OPM5-2D |
| Calibrated Wavelengths | 850, 1300, 1310, 1490, 1550 nm |
| Detector Type | Germanium (Ge) |
| Measurement Range | +6 to -60 dBm |
| Tone Detect Range | +6 to -50 dBm +6 to -45 dBm for 850 nm |
| Wavelength ID Range | +6 to -50 dBm +6 to -45 dBm for 850 nm |
| Accuracy | ±0.25 dB |
| Resolution | 0.01 dB |
| Measurement Units | dB, dBm, µW |

| OPTICAL SPECIFICATIONS: OLS4 AND OLS1-DUAL MODELS | | | | |
|---|--|-----------------|--|-------------|
| MODEL | OLS4 EF (MM Optical Port) | | OLS4 EF (SM Optical Port) | |
| Wavelength | 850 ±30 nm | 1300 +30/-20 nm | 1310 ±20 nm | 1550 ±20 nm |
| Spectral Width | 45 nm (typ) | 120 nm (typ) | 5 nm (max) | 5 nm (max) |
| Emitter Type | LED | | Laser | |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03 | | | |
| Output Power | ≥ -24 dBm, 50 µm multimode | | 0 dBm, 9 µm single-mode | |
| Output Stability | ±0.1 dB over 8 hours (after 5 minutes warm-up) | | ±0.05 dB over 1 hour (after 15 minutes warm-up) ±0.1 dB over 8 hours (after 15 minutes warm-up) | |
| Tone Output | N/A | | 2 kHz | |

| GENERAL SPECIFICATIONS: ALL OPM AND OLS MODELS | |
|--|---|
| Available Adapters | SC FC, ST, LC |
| Power | 2 AA batteries |
| Operating Temperature | -10 °C to 50 °C, 90 % RH (non-condensing) |
| Storage Temperature | -30 °C to 60 °C, 90 % RH (non-condensing) |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) |
| Weight | 0.29 kg (0.65 lb) |

Notes:

a. All specifications valid at 25°C unless otherwise specified.

Ordering Information

Encircled Flux (EF) Compliant Light Sources

Since adoption by the IEC, Encircled Flux (EF) multimode launch requirements are increasingly specified into fiber loss testing job requirements. Meeting EF specification requires technicians use EF qualified test sets. It is important to note IEC 61280-1-4 and TIA-568-14-B, specify EF multimode launch conditions at the end of an EF qualified Reference Grade Test Cord (RGTC) – not directly out source test port. Thus, EF compliance requires an EF Light Source and RGTC used together. AFL offers OLS4 MM/SM light source with designed in Encircled Flux (EF) optics supplied with EF qualified RGTC. OLS4 EF is supplied with one multimode RGTC and one standard 9/125 single-mode test cord.

| WAVELENGTHS | TEST CORDS INCLUDED | AFL NO. |
|-----------------------------------|---|---------|
| MM 850/1300 nm SM 1310/1550 nm | (1) RGTC, 50 µm, MM, 2-meter (1) 9/125 µm, SM, 2-meter | OLS4-EF |

Encircled Flux (EF) Compliant Light Sources and Test Kits

Ordering Information

Encircled Flux (EF) Compliant Test Kits

AFL EF compliant loss test kits include:

Multimode Test Ports:

- Light Source with designed in Encircled Flux (EF) optics paired with one EF qualified RGTC.
- 50/125 µm receive test cord

Single-mode Test Ports:

- Light Source with two 9/125 µm test cords (launch / receive)

| POWER METER | LIGHT SOURCE | FIBER TYPE | WAVELENGTH (nm) | DYNAMIC RANGE (dB) | AVAILABLE CONNECTORS | | INCLUDED 2-METER TEST CORDS | | AFL NO. |
|-------------|--------------|------------|-------------------------|---------------------------------------|----------------------|----------------|-------------------------------|-------------------------|------------|
| | | | | | SOURCE PORT | TEST CORD | LAUNCH (µm) | RECEIVE (µm) | |
| OPM5-2D | OLS4-EF | MM SM | 850, 1300 1310, 1550 | 36 @ 850/1300 nm 60 @ 1310/1550 nm | FC, SC | FC, SC, ST, LC | MM: RGTC, 50/125 SM: 9/125 | MM: 50/125 SM: 9/125 | SMLP5-5-EF |

Accessories

| DESCRIPTION | AFL NO. |
|---|----------------|
| LIGHT SOURCE CONNECTOR ADAPTERS | |
| FC connector adapter | 2900-50-0002MR |
| SC connector adapter | 2900-50-0003MR |
| ST connector adapter | 2900-50-0004MR |
| LC connector adapter | 2900-50-0006MR |
| POWER METER CONNECTOR ADAPTERS | |
| FC connector adapter | 8800-00-0200 |
| SC connector adapter | 8800-00-0209 |
| ST connector adapter | 8800-00-0202 |
| LC connector adapter | 8800-00-0225 |
| REFERENCE GRADE LAUNCH CORDS (RGLC) (50/125 µm – 2 meters) | |
| FC to FC | 8700-04-0001MR |
| FC to SC | 8700-04-0002MR |
| FC to LC | 8700-04-0003MR |
| FC to ST | 8700-04-0004MR |
| SC to FC | 8700-04-0005MR |
| SC to SC | 8700-04-0006MR |
| SC to LC | 8700-04-0007MR |
| SC to ST | 8700-04-0008MR |
| MULTIMODE TEST CORDS (50/125 µm – 2 meters) | |
| FC/FC | 8700-00-0093 |
| SC/ST | 8700-00-0064 |
| SC/SC | 8700-00-0065 |
| LC/LC | 8700-00-0082 |

| DESCRIPTION | AFL NO. |
|---|-----------------|
| SINGLE-MODE TEST CORDS (9/125 µm – 2 meters) | |
| FC/FC | 8700-00-0005 |
| FC/ST | 8700-00-0016 |
| ST/ST | 8700-00-0017 |
| SC/SC | 8700-00-0018 |
| FC/SC | 8700-00-0021 |
| SC/ST | 8700-00-0022 |
| SC/LC | 8700-00-0046 |
| FC/LC | 8700-00-0071 |
| LC/LC | 8700-00-0097 |
| MATING ADAPTERS (Bulkheads) | |
| FC/FC | 8400-00-0004MR |
| SC/SC | 8400-00-0045MR |
| ST/ST | 8400-00-0020 |
| LC/LC | 8400-00-0075 |
| CLEANING SUPPLIES | |
| One-Click Cleaner SC/ST/FC | 8500-05-0001MZ |
| One-Click Cleaner LC | 8500-05-0002MZ |
| Cletopt –SB Cassette Cleaner | 8500-10-0016MZ |
| Cletopt –SB Refill Cartridge | 8500-10-00017MZ |

Encircled Flux (EF) Compliant Light Sources and Test Kits

Test Management and Reporting Software

| DESCRIPTION | AFL NO. |
|--|---------------|
| TRM® 2.0 with Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports), USB delivery | TRM-00-0900PR |

Recommended Products



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | IEC | Compliant to IEC 60825-1 for safety of laser products |
| | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components* |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises* |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises* |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises* |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

* A complementary encircled flux mode conditioner may be needed to comply with encircled flux launch conditions for testing multimode optical fiber cabling and components.

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about Encircled Flux (EF) Compliant Light Sources and Test Kits.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

OLS Series Light Sources

5 YEAR WARRANTY



OLS7 Optical Laser Source

Features

- Rugged, dependable, and backed by industry-best 5-year warranty
- Generates up to three Wave ID wavelengths simultaneously - slashing test time
- Field-swappable connector adapters for maximum flexibility
- Long battery life from globally available AA batteries

Applications

- Certify multimode and single-mode links per TIA/EIA standards
- Link loss measurements
- Pair with power meters, OTDRs or OFIs for testing
- Fiber identification for splicing and continuity checking

AFL is a trusted supplier of optical testing equipment with more than 30 years of experience and tens of thousands of units in use in the field. AFL’s full range of light sources are used for testing single-mode and/or multimode fiber networks. Sources with wave ID can transmit two or more wavelengths simultaneously – decreasing test time and reducing user errors when paired with AFL wave ID power meters.

Designed for the real world: AFL’s light sources were designed to meet the demands of the outside plant environment. They withstand the one-meter drop and have splash resistant controls that are easy to use, even with gloves on.

Flexible and efficient: A range of field-swappable output adapters enables access for cleaning optical ports and supports multiple connector styles. The efficient design provides long test time from globally available AA batteries. External power adapter available for extended testing or lab situations.

Reduce test time and errors: Wave ID (Triple, Dual, or Single) decreases test time while reducing technician errors and CW mode provides continuous output (no encoding).

Supported output modes: Test Tone (2000, 1000, 330, 270 Hz) for use in fiber identification with AFL brand power meters, OTDRs (with fiber end access) or Optical Fiber Identifier (OFI) products for non-intrusive, mid-span testing.

OLS Series Light Sources

OLS Series Models and Applications

| MODEL | MM / SM | WAVELENGTHS (nm) | APPLICATIONS |
|-----------|---------|------------------------|--|
| OLS1-Dual | MM | 850, 1300 | Ethernet, Token Ring, and FDDI Fiber Links |
| OLS2-Dual | SM | 1310, 1550 | SM Networks, LAN/WAN Testing |
| OLS4 | MM / SM | 850, 1300 / 1310, 1550 | Loss Testing of SM/MM networks |
| OLS7-FTTH | SM | 1310, 1490, 1550 | FTTH Networks |
| OLS7-3 | SM | 1310, 1550, 1625 | Telecom & CATV Networks |

Specifications ^{a,e}

| OPTICAL SPECIFICATIONS: OLS4, OLS2-DUAL & OLS1-DUAL MODELS | | | | | | | | |
|--|--|-----------------|--|-------------|---------------------------|-------------|---|-----------------|
| MODEL | OLS1-DUAL (Single Port ^b) | | OLS2-DUAL (Single Port) | | OLS4 (SM Optical Port) | | OLS4 (MM Optical Port) | |
| Wavelength | 850 ±30 nm | 1300 +30/-20 nm | 1310 ±20 nm | 1550 ±20 nm | 1310 ±20 nm | 1550 ±20 nm | 850 ±30 nm | 1300 +30/-20 nm |
| Spectral Width | 45 nm (typ) | 120 nm (typ) | 5 nm (max) | | 5 nm (max) | 5 nm (max) | 45 nm (typ) | 120 nm (typ) |
| Emitter Type | LED | | Laser | | Laser | | LED | |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03 | | | | | | | |
| Output Power | >-20 dBm, 62.5 μm multimode ^c | | 0 dBm, 9 μm single-mode ^d | | 0 dBm, 9 μm single-mode | | >-20 dBm, 62.5 μm multimode ^c | |
| Output Stability | ±0.1 dB over 8 hours (after 5 minutes warm-up) | | ±0.05 dB over 1 hour (after 15 minutes warm-up) ±0.1 dB over 8 hours (after 15 minutes warm-up) | | | | ±0.1 dB over 8 hours (after 5 minutes warm-up) | |
| Tone Output | N/A | | 270 Hz, 330 Hz, 1 kHz, 2 kHz | | 2 kHz | | N/A | |

| OPTICAL SPECIFICATIONS: OLS7 MODELS | | | | | | |
|-------------------------------------|--|---------|---------|----------------------|---------|---------|
| MODEL | OLS7-FTTH (Single Port) | | | OLS7-3 (Single Port) | | |
| Wavelength (±20 nm) | 1310 nm | 1490 nm | 1550 nm | 1310 nm | 1550 nm | 1625 nm |
| Spectral Width | 5 nm | 3 nm | 5 nm | 5 nm | 5 nm | 2 nm |
| Emitter Type | Laser | | | | | |
| Safety Class | Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03 | | | | | |
| Output Power | -5 dBm (typical), 9/125 fiber | | | | | |
| Output Stability | ±0.05 dB over 1 hour (after 15 minutes warm-up) ±0.1 dB over 8 hours (after 15 minutes warm-up) | | | | | |
| Tone Output | 270 Hz, 330 Hz, 1 kHz, 2 kHz | | | | | |

| GENERAL SPECIFICATIONS: ALL OLS MODELS | |
|--|--|
| Available Adapters | SC FC, ST, LC |
| Power | 2 AA batteries, optional AC adapter |
| Battery Life | SM port: 72 hours typical (40 hours minimum). MM port: 30 hours typical (20 hours minimum) |
| Operating Temperature | -10 °C to 50 °C, 95 % RH (non-condensing) |
| Storage Temperature | -30 °C to 60 °C, 95 % RH (non-condensing) |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) |
| Weight | 0.29 kg (0.65 lb) |

Notes:

- All specifications valid at 25°C unless otherwise specified.
- May be used to test 50 or 62.5 μm fiber with supplied mandrels.
- Output power will be approximately 3 dB less if a 50 μm mandrel-wrapped jumper is used instead of a 62.5 μm mandrel-wrapped jumper.
- Adjustable 2 dB.
- All OLS products come with the UPC optical port.

OLS Series Light Sources

Ordering Information

When ordering, specify connector type at the end of model number (e.g. OLS2-DUAL-SC). All OLS models include protective rubber boot, 2 AA batteries, carry case. AC adapters are available (ordered separately), see table below. Test jumpers and connector adapters are required for operation (purchased separately). Test jumpers with a variety of connector styles and fiber types and adapter caps for most common connectors may be purchased from AFL.

| OUTPUT WAVELENGTHS (nm) | | | | | | OUTPUT PORTS | EMITTER TYPE | WAVE ID TRANSMIT | AVAILABLE CONNECTORS | POWER | AFL NO. |
|-------------------------|------|------|------|------|------|--------------|---------------|------------------|----------------------|------------|-----------|
| 850 | 1300 | 1310 | 1490 | 1550 | 1625 | | | | | | |
| ◆ | ◆ | | | | | 1 | LED | ◆ | FC, SC, ST, LC | (2) AA, AC | OLS1-DUAL |
| | | ◆ | | ◆ | | 1 | Laser | ◆ | FC, SC, ST, LC | (2) AA, AC | OLS2-DUAL |
| ◆ | ◆ | ◆ | | ◆ | | 2 | LED and Laser | ◆ | FC, SC, ST, LC | (2) AA, AC | OLS4 |
| | | ◆ | ◆ | ◆ | | 1 | Laser | ◆ | FC, SC, ST, LC | (2) AA, AC | OLS7-FTTH |
| | | ◆ | | ◆ | ◆ | 1 | Laser | ◆ | FC, SC, ST, LC | (2) AA, AC | OLS7-3 |

OLS Connector Adapters and AC Adapter

| DESCRIPTION | AFL NO. |
|---|----------------|
| FC connector adapter | 2900-50-0002MR |
| SC connector adapter | 2900-50-0003MR |
| ST connector adapter | 2900-50-0004MR |
| LC connector adapter | 2900-50-0006MR |
| Universal flip-top dust cap for UCI outputs | 8800-00-0072PR |
| 100-240 VAC to 9 VDC, AC adapter | 4050-00-0119PR |

OLS Series Light Sources

Recommended Products



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|----------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| | IEC | Compliant to IEC 60825-1 for safety of laser products |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components* |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises* |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises* |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises* |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |

* A complementary encircled flux mode conditioner may be needed to comply with encircled flux launch conditions for testing multimode optical fiber cabling and components

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about OLS series light sources.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Contractor Series Light Sources and Power Meters

5 YEAR WARRANTY

Contractor Series Light Sources and Power Meters are rugged test instruments designed with a simple user interface and backed by an industry-leading 5-year warranty. Both single-mode and multimode kit options provide tools for measuring network insertion loss, continuity checks, and fiber identification.



CSS1-MM LED Source



CSS1-SM Laser Source



CSM1 Power Meter

Features

- Palm-sized rugged, dependable tools
- Industry-leading 5-year warranty
- Cost-effective, easy to use
- Auto-off to maximize battery life on Power Meter
- Large readable in bright or dim conditions

Applications

- Link loss measurements
- Certify SM and MM links to industry standards
- Continuity check and fiber identification prior to fusion splicing

CSM1 Power Meter

- Four models provide wide wavelength and power level ranges
- Stores optical references for each calibrated wavelength
- Auto-detects Test Tones for use in fiber identification
- Optical input port accepts a variety of thread-on adapter caps

CSS1-SM Laser Source

- 1310 nm and 1550 nm LASER output from single test port
- Output port accepts UCI threaded adapters (FC, SC, ST, LC) for flexibility and access to launch fiber for cleaning and inspection

CSS1-MM LED Source

- 850 nm and 1300 nm LED output from single test port
- 50 μ m and 62.5 μ m mandrels included
- **Test Tones** (2000, 1000, 330, 270 Hz) for fiber identification
 - Use power meters when technician has fiber end access

CSS1 Sources Transmit:

- **CW** continuous wave output (DC)
- **Test Tones** (2000, 1000, 330, 270 Hz) for fiber identification
 - Use power meters when technician has fiber end access
 - Use OFI (optical fiber identifier) for mid-span testing

Contractor Series Light Sources and Power Meters

Contractor Series Models

| POWER METER MODELS | CALIBRATED WAVELENGTHS (nm) | TARGET APPLICATIONS |
|--------------------|-----------------------------------|-------------------------------------|
| CSM1-3 | 850, 1300, 1310, 1490, 1550, 1625 | Single-mode Measurements |
| CSM1-4 | 850, 980, 1310, 1490, 1550, 1625 | High Power Single-mode Measurements |

| LIGHT SOURCES MODELS | FIBER TYPE | WAVELENGTHS (nm) | TARGET APPLICATIONS |
|----------------------|------------|------------------|--|
| CSS1-SM | SM | 1310, 1550 | SM Networks, LAN/WAN Testing |
| CSS1-MM | MM | 850, 1300 | Ethernet, Token Ring, and FDDI Fiber Links |

| LOSS TEST KITS MODELS | FIBER TYPE | POWER METER | LIGHT SOURCE | DYNAMIC RANGE (dB) |
|-----------------------|------------|-------------|--------------|---|
| CKS-3 | SM | CSM1-3 | CSS1-SM | 70 @ 1310/1550 nm, on 9/125 single-mode fiber |
| CKM-3 | MM | CSM1-3 | CSS1-MM | 40 @ 850/1300 nm, on 62.5/125 multimode fiber |
| CKSM-2 | SM | CSM1-3 | CSS1-SM | 60 @ 1310/1550 nm, on 9/125 single-mode fiber |
| | MM | | CSS1-MM | 40 @ 850/1300 nm, on 62.5/125 multimode fiber |

Specifications ^a

| OPTICAL SPECIFICATIONS: CSM1 POWER METER | | |
|--|---|---|
| MODEL | CSM1-3 | CSM1-4 |
| Calibrated Wavelengths | 850, 1300, 1310, 1490, 1550, 1625 nm | 850, 980, 1310, 1490, 1550, 1625 nm |
| Detector Type | InGaAs | Filtered InGaAs |
| Measurement Range | +6 to -70 dBm | +26 to -50 dBm |
| Tone Detect Range | +6 to -50 dBm +6 to -45 dBm for 850 nm | +6 to -30 dBm +6 to -25 dBm for 850 nm |
| Accuracy ^b | ±0.15dB (typical), ±0.3 dB | |
| Resolution | 0.01 dB | |
| Measurement Units | dB, dBm, µW | |

| OPTICAL SPECIFICATIONS: CSM1 LIGHT SOURCE | | | | |
|---|---|----------------|---|--------------------|
| MODEL | CSS1-SM (Single Port) | | CSS1-MM (Single-Port) | |
| Wavelength | 1310 nm ±20 nm | 1550 nm ±20 nm | 850 nm ±20 nm | 1300 nm +40/-60 nm |
| Spectral Width (max) | 5 nm | 5 nm | 35 nm | 170 nm |
| Emitter Type, Safety Class | Laser, Class I FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2007-03 | | LED, Class I FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2007-03 | |
| Output Power | ≥0.0 dBm into 9/125 fiber | | ≥-20.0 dBm into 62.5/125 fiber | |
| Output Stability ^c | ±0.05 dB over 1 hour; ±0.15 dB over 8 hours | | ±0.1 dB over 1 hour; ±0.15 dB over 8 hours | |
| Tone Output | 2000, 1000, 330, 270 Hz | | | |

| GENERAL SPECIFICATIONS | | | |
|------------------------|---|--------------------|--------------------|
| MODEL | CSM1 | CSS1-SM | CSS1-MM |
| Output Connector | Supports Most Industry Standard Connectors | SC, FC, ST, LC | SC Fixed |
| Power | 2 AA batteries | 2 AA batteries | 2 AA batteries |
| Battery Life | >300 hours | 75 hours (typical) | 30 hours (typical) |
| Operating Temperature | -10 °C to 50 °C, 90 % RH (non-condensing) | | |
| Storage Temperature | -30 °C to 60 °C, 90 % RH (non-condensing) | | |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) without boot | | |
| Weight | 0.29 kg (0.65 lb) without boot | | |

Notes:

- All specifications at 25 °C unless otherwise specified.
- Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.
- After typical 30 second warm up.

Contractor Series Light Sources and Power Meters

Ordering Information

Each Contractor Series Kit ships with adapter caps for all included instruments, AA alkaline batteries, user guide, and carry case with room for optional cleaning supplies (see below). Fiber mandrels (50 micron and 62.5 micron) are included with CKSM-2 and CKM-2 kits.

When purchased separately, CSM1 power meters and CSS1 light sources ship with connector adapter, AA alkaline batteries, user guide, and carry case. Fiber mandrels (50 micron and 62.5 micron) are included with CSS1-MM units.

Test jumpers are required for operation (purchased separately). Test jumpers with a variety of connector styles and fiber types and adapter caps for most common connectors may be purchased from AFL.

Models and Configurations

| MODEL NUMBER | INCLUDES |
|------------------------------------|--|
| CKS-3-cc (cc = FC or SC) | Single-Mode Test Kit. Available with FC or SC connectors adapters. |
| CKM-3 | Multimode Test Kit. Available with SC connector adapters. |
| CKSM-2 | Single-mode and Multimode Test kit. Available with SC connector adapters. |
| CSS1-SM-cc (c = FC, SC, ST, or LC) | Single-mode LASER Source. Available with FC, SC, ST, or LC connector adapters. |
| CSS1-MM | Multimode LED Source. Available with SC connector adapter.. |
| CSM1-3-cc (cc = *) | InGaAs Detector for single-mode applications. |
| CSM1-4-cc (cc = *) | High Power InGaAs Detector for single-mode applications. |

* For CSM1 power meters, cc = FC, SC, ST, LC, 2.5 mm, 1.25 mm. Other connector styles are available; see accessories section.

CSS1-SM Single-mode Light Source Accessories

| DESCRIPTION | AFL NO. |
|---|----------------|
| FC UCI connector adapter | 2900-50-0002MR |
| SC UCI connector adapter | 2900-50-0003MR |
| ST UCI connector adapter | 2900-50-0004MR |
| LC UCI connector adapter | 2900-50-0006MR |
| Universal flip-top dust cap for UCI outputs | 8800-00-0072PR |

CSM1 Power Meter Adapter Caps

| DESCRIPTION | AFL NO. |
|---|--------------|
| 2.5 mm Universal (accepts FC, SC, and ST ferrules) | 8800-00-0214 |
| 1.25 mm Universal (accepts LC and MU ferrules) | 8800-00-0224 |
| FC | 8800-00-0200 |
| SC | 8800-00-0209 |
| ST | 8800-00-0202 |
| LC simplex | 8800-00-0225 |
| E-2000 | 8800-00-0221 |
| 2.5 mm open Universal, Accepts SC duplex, OptiTap connector | 8800-00-0219 |
| SMA | 8800-00-0203 |
| D4 | 8800-00-0201 |
| Biconic | 8800-00-0204 |

Contractor Series Light Sources and Power Meters

Recommended Products



OFI-BIPM Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|--|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| | IEC | Compliant to IEC 60825-1 for safety of laser products |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components* |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises* |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises* |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises* |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant* |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling* |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant* |
| IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant | |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

* A complementary encircled flux mode conditioner may be needed to comply with encircled flux launch conditions for testing multimode optical fiber cabling and components.

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about Contractor Series light sources and power meters.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

OPM5 and OPM4 Optical Power Meters

5 YEAR WARRANTY



OPM5 Optical Power Meter

Features

- Rugged, dependable, and backed by industry-best 5-year warranty
- Wave ID tests up to three wavelengths simultaneously - slashing test time
- Field-swappable connector adapters for maximum flexibility
- Long battery life from globally available AA batteries

Applications

- Passive Optical Networks (PON) testing
- OPM(5/4)-4D (Filtered-InGaAs) for high power (+26 dBm) CATV broadband networks or DWDM system applications
- OPM(5/4)-3D (InGaAs) for telecommunications networks
- OPM(5/4)-2D (Ge) for premises LAN/WAN multimode or single-mode networks
- OPM4-1D (Silicon) for multimode/plastic optical fiber applications

AFL is a trusted supplier of optical testing equipment with more than 30 years of experience and tens of thousands of units in use in the field. AFL’s full range of power meters are used for testing single-mode and/or multimode fiber networks. Power meters with wave ID can detect two or more wavelengths simultaneously – decreasing test time and reducing user errors when paired with AFL wave ID light sources.

Designed for the real world: AFL’s power meters are designed to meet the demands of the outside plant environment. They withstand the one-meter drop test and have splash resistant controls that are easy to use, even with gloves on.

Flexible and efficient: A range of field-swappable output adapters enables access for cleaning optical ports and supports multiple connector styles. The efficient design provides long test time from globally available AA batteries. Equipped with five-minute auto-off feature to save power.

Reduce test time and errors: Wave ID (Triple, Dual, or Single) decreases test time while reducing technician errors.

Stores test results: AFL’s OPM5 stores optical reference at each calibrated wavelength. This enables technicians to organize test results into multiple files and transfer stored results via USB to the included PC-based TRM® 2.0 software for analyzing, generating reports, and printing. Users can generate network Pass/Fail results demonstrating compliance to industry standards and illustrate headroom. Fully N.I.S.T. traceable.

OPM5 and OPM4 Optical Power Meters

Specifications ^a

| OPTICAL | | | | |
|------------------------|---|---|---|------------------|
| MODEL | OPM5-4D, OPM4-4D | OPM5-3D, OPM4-3D | OPM5-2D, OPM4-2D | OPM4-1D |
| Calibrated Wavelengths | 850, 980, 1300, 1310, 1490, 1550, 1625 nm | 850, 1300, 1310, 1490, 1550, 1625 nm | 850, 1300, 1310, 1490, 1550 nm | 650, 660, 850 nm |
| Detector Type | Filtered InGaAs | InGaAs | Germanium (Ge) | Silicon (Si) |
| Measurement Range | +26 to -50 dBm | +10 to -75 dBm | +6 to -60 dBm | +6 to -70 dBm |
| Tone Detect Range | +6 to -30 dBm +6 to -25 dBm for 850 nm | +10 to -50 dBm +10 to -45 dBm for 850 nm | +6 to -50 dBm +6 to -45 dBm for 850 nm | +6 to -45 dBm |
| Wavelength ID Range | +6 to -30 dBm +6 to -25 dBm for 850 nm | +10 to -50 dBm +10 to -45 dBm for 850 nm | +6 to -50 dBm +6 to -45 dBm for 850 nm | — |
| Accuracy ^b | ±0.1 dB (typical); ±0.25 dB | | | |
| Resolution | 0.01 dB | | | |
| Measurement Units | dB, dBm, µW | | | |

| GENERAL | |
|-----------------------|---|
| Power | 2 x AA batteries, accepts standard mini-USB power adapter |
| Adapter Caps | Order with one: 1.25 mm Universal, 2.5 mm Universal, FC, SC, ST, LC. Other connector adapters available |
| Battery Life | 300 hours |
| Operating Temperature | -10 °C to 50 °C, 95 % RH (non-condensing) |
| Storage Temperature | -30 °C to 60 °C, 95 % RH (non-condensing) |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) |
| Weight | 0.26 kg (0.58 lb) |

Notes:

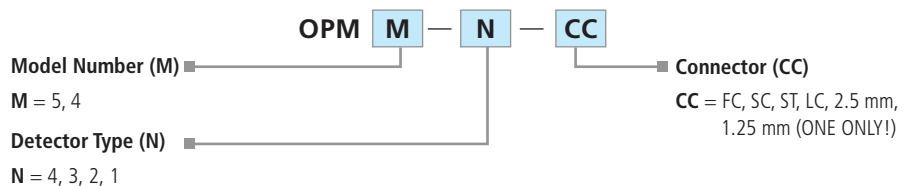
- a. All specifications valid at 25°C unless otherwise specified.
- b. Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.

Ordering Information

All OPM models include optical power meter, 2 AA batteries, protective rubber boot, customer specified adapter cap, and carry case. OPM5 models also include TRM[®] 2.0 software (Basic License).

When placing an order, select options as follows:

- Model Number (M)
- Detector Type (N)
- Connector Configuration (CC)



| MODEL | CALIBRATED WAVELENGTHS (nm) | | | | | | | | | DETECTOR TYPE | MEASUREMENT RANGE (dBm) | PC SOFTWARE |
|---------|-----------------------------|-----|-----|-----|------|------|------|------|------|---------------|-------------------------|-------------|
| | 650 | 660 | 850 | 980 | 1300 | 1310 | 1490 | 1550 | 1625 | | | |
| OPM5-4D | | | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | InGaAs | +26 to -50 | TRM 2.0 |
| OPM5-3D | | | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | InGaAs | +10 to -75 | TRM 2.0 |
| OPM5-2D | | | ◆ | | ◆ | ◆ | ◆ | ◆ | | Germanium | +6 to -60 | TRM 2.0 |
| OPM4-4D | | | ◆ | ◆ | | ◆ | ◆ | ◆ | ◆ | InGaAs | +26 to -50 | |
| OPM4-3D | | | ◆ | | ◆ | ◆ | ◆ | ◆ | ◆ | InGaAs | +10 to -75 | |
| OPM4-2D | | | ◆ | | ◆ | ◆ | ◆ | ◆ | | Germanium | +6 to -60 | |
| OPM4-1D | ◆ | ◆ | ◆ | | | | | | | Silicon | +6 to -70 | |

OPM5 and OPM4 Optical Power Meters

OPM Accessories

| DESCRIPTION | AFL NO. | | |
|---|----------------------------------|---------------------|----------------|
| ADAPTER CAPS | | | |
| 2.5 mm Universal (accepts FC, SC, and ST ferrules) | 8800-00-0214 | | |
| 1.25 mm Universal (accepts LC and MU ferrules) | 8800-00-0224 | | |
| FC | 8800-00-0200 | | |
| SC | 8800-00-0209 | | |
| ST® | 8800-00-0202 | | |
| LC simplex | 8800-00-0225 | | |
| E-2000 | 8800-00-0221 | | |
| 2.5 mm open Universal. Accepts SC duplex, OptiTap connector for measuring optical power. | 8800-00-0219 | | |
| SMA | 8800-00-0203 | | |
| D4 | 8800-00-0201 | | |
| Biconic | 8800-00-0204 | | |
| USB CABLE | | | |
| USB Cable: PC (USB-A) to OPM (USB-MINI B): • Connect OPM to PC for data upload to TRM® 2.0 • External Power for OPM (when used with customer supplied USB-A power source) | OPM5 MODEL | OPM4 MODEL | 6000-00-0024MR |
| | Connect to PC and External power | External power only | |

Test Management and Reporting Software

| DESCRIPTION | AFL NO. |
|--|---------------|
| TRM® 2.0 with Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports), USB delivery | TRM-00-0900PR |

OPM5 and OPM4 Optical Power Meters

Recommended Products



FS300



FS200

FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



Optical Light Sources

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|---|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Test Method | TIA | Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components |
| | IEC | Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises |
| | EN | Compliant to EN 50173 for test and measurement requirements for optical fiber cabling for use within premises |
| | AS/NZS | Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises |
| | TIA | Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant |
| | TIA | Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | AS/NZS | Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling |
| | IEC | Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant |
| | IEC | Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about OPM5 and OPM4 optical power meters.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Mandrels

For use with 62.5 and 50 µm Multimode Test Jumpers with 3 mm Jackets



Features

- Allows existing 850/1300 nm LED light sources to test 50 and 62.5 µm links
- Attaches to 3 mm jumpers in seconds, without tools or tape
- May be reused indefinitely

Applications

- Required by TIA/EIA-568-B to measure attenuation on multimode fiber links
- Certification of multimode links for Gigabit and 10 Gigabit Ethernet

TIA/EIA-568-B specifies that attenuation (insertion loss) measurements of multimode fiber links, for all applications, must be made using an overfilled light source, such as an LED, with a mandrel-wrap mode filter on the transmit jumper. A key advantage of this specification is that it allows the use of existing overfilled LED light sources to certify both 50 and 62.5 µm fiber links for current and planned high bit rate applications including Gigabit Ethernet and 10 Gigabit Ethernet.

To meet the new multimode light source requirements in TIA/EIA-568-B, we offer mandrels for 50 and 62.5 µm test jumpers with 3 mm jackets. Both mandrels have grooves to ensure that jumpers are wrapped exactly five times (as specified by TIA/EIA-568-B) and can be easily attached to test jumpers in seconds without tools or tape.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| Kit with two mandrels: 62.5 and 50 µm fiber | 5400-00-0900 |
| Mandrel, 62.5 µm fiber | 5400-00-0201 |
| Mandrel, 50 µm fiber | 5400-00-0202 |

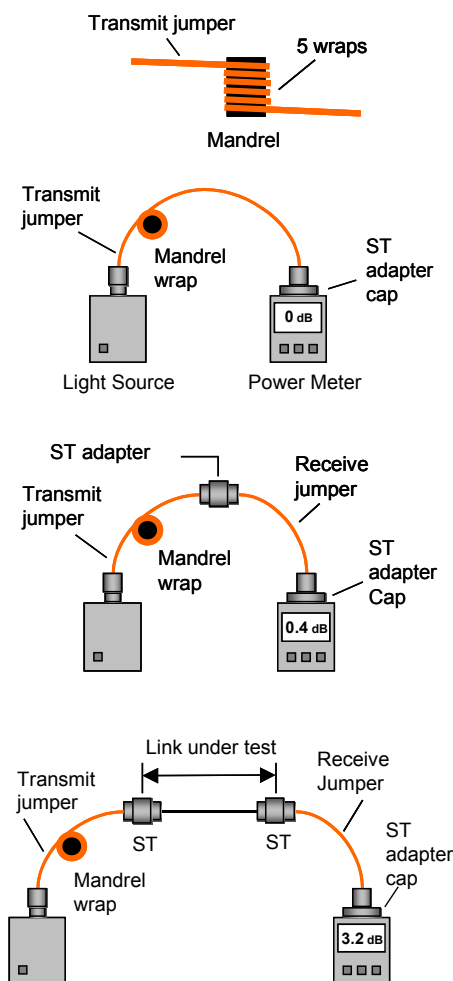
Mandrels

For use with 62.5 and 50 µm Multimode Test Jumpers with 3 mm Jackets

Example Procedure

The following procedure illustrates how to make attenuation measurements of multimode fiber links using an LED light source, optical power meter, and mandrels. The procedure assumes that the link under test is terminated by ST connectors at both ends. However, it can easily be adapted for links terminated by other connector types simply by using the appropriate test jumpers and adapter caps. For this procedure you will need the following:

- (1) MM (LED) light source
- (1) optical power meter
- (1) ST adapter cap
- (1) 62.5 or 50 µm mandrel
- (2) test jumpers with 3 mm jackets and the same fiber type (62.5 or 50 µm) as the multimode link under test
- (1) ST-ST (mating) adapter



1 Attach Mandrel

Wrap the transmit jumper five times around the mandrel and attach it to the output port of the OLS 1 (LED source). Attach the ST adapter cap to the input port of the OPM 5 (optical power meter). Turn both units on and set wavelength to 850 nm.

2 Set Reference (One Jumper Method)

Connect the output of the OLS 1 directly to the input (ST adapter cap) of the OPM 5. Then press and hold the Set Ref (set reference) key until the word "HELD" appears. When you release the Set Ref key the OPM 5 should display "0 dB" (+/- 0.05 dB) indicating that the power measured at output of the transmit jumper has been recorded as the reference level for your insertion loss measurements.

3 Check Jumpers

Disconnect the transmit jumper from the OPM 5 (be sure NOT to remove the end of the jumper connected to the OLS 1). Attach the receive jumper to the OPM 5. Mate the free ends of the transmit and receive jumpers using the ST-ST adapter. Verify that the insertion loss of this mated connector pair is well under 0.75 dB, the maximum allowed by the TIA. Noyes recommends that the loss of your mated test jumpers be 0.4 dB. If not, clean both jumpers and repeat steps 2 and 3.

4 Test Links

Connect the OLS 1 and OPM 5 to opposite ends of the first link to be tested. Store the insertion loss measured by the OPM 5 by pressing the STORE key. You can repeat Step 4 to measure the insertion loss of each multimode link at 850 nm. Then, if required, set both units to 1300 nm and repeat Steps 2 thru 4 to measure the insertion loss of your multimode links at 1300 nm. The OPM 5 can store insertion loss results at 850 and 1300 nm for up to 500 fibers.

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about mandrels.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

MFIS Multi-Fiber Identification System



Features

- Identifies up to 12 fibers at a time
- Light-weight, rugged, and can be operated with one hand
- Optimized for use on 250 μm , 900 μm , and ribbon fiber
- Three-year calibration interval

Applications

- Multi-fiber network continuity assurance
- Fiber identification on both MFP power meter and MFI identifier
- Verify long-haul networks (up to 110 miles)
- Quickly verify FlexNap[®] network mapping

Multi-fiber network construction is time consuming, complicated, and often built by more than one contractor with mixed sets of documentation. There are guaranteed to be mislabeled and cross-connected fibers, which cost valuable time to find and fix. AFL's Multi-Fiber Identification System (MFIS) is a simple user-friendly way to verify network construction quickly and efficiently.

Rugged lightweight tools that can be operated with one hand: MFIS is a set of three tools that can be used to easily verify the fiber ID. The MFT (Multi-Fiber Trace) features 12 discrete laser sources (1550 nm single-mode) and an MTP fan-out connector. The digitally-coded light is then detected by either the MFI (Multi-Fiber Identifier), which clamps onto the fiber under test or the MFP (Multi-Fiber Power Meter), which plugs into the fiber under test.

Slash multiple fiber activations cost by up to 75% over conventional method: During service activation field technicians often run into unlabeled, mislabeled, and cross-connected fibers that can take two technicians hours to figure out - increasing cost and delaying service for customers. MFIS enables one technician to verify up to 12 fibers at a time, slashing the time it takes to activate new customers.

Ensure 100% multi-fiber network continuity: MFIS can be used to efficiently verify potentially cross-connected fibers at any point of an existing network – providing peace of mind to network managers.

MFIS Multi-Fiber Identification System

MFT Multi-Fiber Tracer Specifications^a

| OPTICAL | |
|-------------------------------|--|
| Wavelength | 1550 ±20 nm |
| Spectral Width | 5 nm (maximum) |
| Output Power | +1.75 dBm ±1 dB peak into 9/125 µm fiber @ +25 °C |
| GENERAL | |
| Power Supply | 2 X 1.5 V AA alkaline batteries |
| Battery Life (Alkaline) | @ +25 °C: 40 hours (minimum); 50 hours (typical) |
| Connectors | SM: MTP/MPO-APC (unpinned) 12-fiber connector. |
| Size (without boot) W x L x H | 96 x 145 x 35 mm (3.8 x 5.7 x 1.4 in) |
| Weight | 307 g (0.676 lb) without boot; 458 g (1.01 lb) with boot |
| Operational Temperature | -20 °C to +50 °C 90 % RH (non-condensing) |
| Storage Temperature | -30 °C to +60 °C 90 % RH (non-condensing) |

MFI Multi-Fiber Identifier Specifications^{a, b}

| FIBER TYPE | PARAMETER | WAVELENGTH, SIGNAL | DETECTABLE SIGNAL RANGE |
|------------------------------|---|--------------------------|-------------------------|
| 250 µm ribbon fiber, SMF28e+ | Minimum data detect level (peak power, typical) | 1550 nm, Data – Fiber ID | -35 dBm (typical) |
| | Insertion loss (typical/maximum) | 1550 nm | 2.5 dB/3.0 dB |

| OPTICAL | |
|--------------------------------------|---|
| Detector Type | InGaAs |
| Calibrated Fiber Size and Wavelength | 250 µm @1550 nm (SMF-28/28E) ribbon fiber |
| Working Fiber Size | 250 µm ribbon fiber |
| Data Detection Range | +2 to -35 dBm |
| GENERAL | |
| Display Type | Multi 7-segment LCD, 3 LEDs |
| Power Supply | 2 X 1.5 V AAA, alkaline batteries |
| Battery Life (backlight off) | >10,000 operations ^c |
| Operation Temperature | -20 °C to +50 °C 90 % RH (non-condensing) |
| Storage Temperature | -30 °C to +60 °C 90 % RH (non-condensing) |
| Dimensions (H x W x D) | 22 x 3.8 x 2.8 cm (8.5 x 1.5 x 1.1 in) |
| Weight | 168 g (6 oz) |

- Notes:**
- a. All specifications valid at 25 °C unless otherwise specified.
 - b. All specs are typical unless otherwise noted. Actual results can vary by several dB depending on fiber type, coating material, jacket color, jacket hardness, active fiber position, and other factors.
 - c. Operation is defined as turning unit on by taking 1 reading in a 10 second period.

MFIS Multi-Fiber Identification System

MFP Multi-Fiber Power Meter Specifications^a

| OPTICAL | |
|--------------------------------|--------------------------------------|
| Detector Type | InGaAs |
| Detector Size | 1 mm |
| OPM Mode | |
| Calibrated Wavelength | 850, 1300, 1310, 1490, 1550, 1625 nm |
| Measurement Range | +10 to -75 dBm |
| Accuracy ^b | ±0.25 dB |
| Resolution | 0.01 dB |
| Measurement Units | dB, dBm, µW |
| Fiber ID Mode ^e | |
| Wavelength | 1550 nm |
| Measurement Range ^c | +10 to -35 dBm |
| Accuracy ^d | ±0.5 dB |
| Resolution | 0.01 dB |
| Measurement Units | dB, dBm, µW |

| GENERAL | |
|-----------------------|---|
| Power | 2 x AA batteries, accepts standard mini-USB power adapter |
| Adapter Caps | Order with one: 1.25 mm Universal, 2.5 mm Universal, FC, SC, ST, LC. Other connector adapters available |
| Battery Life | 300 hours |
| Operating Temperature | -10 °C to 50 °C, 90 % RH (non-condensing) |
| Storage Temperature | -30 °C to 60 °C, 90 % RH (non-condensing) |
| Size (H x W x D) | 14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in) |
| Weight | 0.26 kg (0.58 lb) |

Notes:

- a. All specifications valid at 25 °C unless otherwise specified.
- b. Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.
- c. Measured using MFT (Multi-Fiber Tracer) as the light source.
- d. Accuracy measured at 25 °C with MFT (Multi-tiber Tracer).
- e. Subject to change.

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------------|
| Multi-Fiber Identifier, no case | MF11-00-0900MR |
| Multi-Fiber Power Meter, no case | MFP1-12-0900MR |
| Multi-Fiber Tracer & Identifier with soft case | MFTI-12-BAS |
| Multi-Fiber Tracer & Power Meter with soft case | MFTP1-12-BAS |
| Multi-Fiber Tracer, Identifier, and Power Meter with soft case | MFTIP1-12-BAS |
| ACCESSORIES | |
| Cable, MPO/APC(M)-SC/APC, 12-fiber, SM, fan-out, 3 meters | 8700-00-0198MR |
| Cable, MPO/APC (M) - SC/UPC, 12-fiber, SM, fan-out, 3 meters | 8700-00-0200MR |
| Cable, MPO/APC (M) - LC/UPC, 12-fiber, SM, fan-out, 3 meters | 8700-00-0201MR |
| One-Click Cleaner MPO (500+ cleans) | 8500-05-0030MZ |
| One-Click Cleaner Mini-100 SC, ST, FC (100+ cleans) | 8500-05-0005MZ |

MFIS Multi-Fiber Identification System

Recommended Products



FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|---------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| | IEC | Compliant to IEC 60825-1 for safety of laser products |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |
| Generic Requirement | IEC | Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about OPM5 and OPM4 optical power meters.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts.

OFI-BIPM and OFI-BIPMe Optical Fiber Identifiers



OFI-BIPM

OFI-BIPMe

Features

- World-class signal detection sensitivity
- Positive-stop trigger lock for optimum detection
- Integrated optical power meter
- 2.4" color touchscreen with backlight
- Up to 4 Tones detection (OFI-BIPMe only)

Applications

- Maintenance of fiber optic networks
- Troubleshooting network issues
- Identification of live fibers or trace fibers
- Power levels verification

The OFI-BIPM/-BIPMe optical fiber identifier is an easy-to-use tool that determines if a fiber is live, the transmission direction, and the relative core power on standard and bend-insensitive single-mode and multimode fibers. Its positive-stop trigger mechanism provides the right amount of pressure every time to assure proper detection, while keeping loss to a minimum. This ensures that traffic will not be interrupted and the fiber will not be damaged.

Nicknamed "The Job saver": The OFI-BIPM/-BIPMe removes the need to access the optical fiber at a connection or splice point, eliminating the possibility of interrupting service to a customer.

No heads to change or lose: The universal head of the OFI-BIPM/-BIPMe eliminates the need to change an adapter head for jacketed, coated, or ribbon fibers, making it extremely easy to use in the field.

Integrated optical power meter: The optical power meter mode verifies power levels during installation or troubleshooting.

Color touchscreen: The touchscreen provides simple-to-follow setup instructions and clear results that are easy to read.

Field technician favorite: The OFI-BIPM/-BIPMe is a favorite of technicians for its accuracy, ease of use, integrated power meter, and ergonomic design.

Doesn't damage delicate fibers: The positive-stop trigger ensures that the right pressure is applied every time, while the slim head makes it easier to reach and test tightly-packed fibers without damaging them.

OFI-BIPM and OFI-BIPMe Optical Fiber Identifiers

Specifications^a

| OPTICAL (OFI) | | | | | | | |
|--|---|--|------------------------|---------|------------------------|---------|------------------------|
| Fiber Type | 0.25 mm SM and MM fiber; SM and MM ribbon fiber (up to 12 ribbon fiber) 1.1 mm/1.5 mm/1.7 mm/2.0 mm/3.0 mm SM and jacketed fiber | | | | | | |
| Optical Characteristic | Wavelength Range | 900 to 1700 nm | | | | | |
| | Detectable Light Signals | CW, Traffic or 270 Hz, 330 Hz (OFI-BIPMe only), 1 kHz, 2 kHz Tone ^b | | | | | |
| Insertion Loss (IL) & Minimum Detect Level ^c at Normal, Fast or Fine operation mode | Wavelength | 1310 nm | | 1550 nm | | 1650 nm | |
| | Fiber Type | IL (dB) | Normal/Fast/Fine (dBm) | IL (dB) | Normal/Fast/Fine (dBm) | IL (dB) | Normal/Fast/Fine (dBm) |
| | 0.25 mm (R=30 mm) | 0.2 | -58/-53/-64 | 1.0 | -67/-62/-73 | 2.5 | -67/-62/-73 |
| | 0.25 mm (R=15 mm), Ribbon | 0.1 | -44/-39/-50 | 0.3 | -57/-52/-63 | 1.0 | -57/-52/-63 |
| | 0.5 mm (R=15 mm) | 0.2 | -58/-53/-64 | 1.0 | -67/-62/-73 | 2.5 | -67/-62/-73 |
| | 1.1 mm/1.5 mm Jacketed | 0.3 | -43/-37/-53 | 1.0 | -55/-50/-61 | 2.5 | -57/-52/-63 |
| | 1.7 mm/2.0 mm Jacketed | 0.5 | -22/-17/-28 | 2.0 | -27/-22/-33 | 3.0 | -27/-22/-33 |
| | 3.0 mm Jacketed | 1.0 | -20/-15/-25 | 3.0 | -23/-18/-28 | 3.0 | -23/-18/-28 |

| POWER METER (OPM) | |
|-------------------------|--|
| Wavelength | 1310 nm, 1490 nm, 1550 nm |
| Detectable Light Signal | CW, Traffic or 270 Hz, 330 Hz (OFI-BIPMe only), 1 kHz, 2 kHz Tone ^b |
| Detector Sensitivity | +10 to -60 dBm at modulated tone; +10 to -40 dBm at CW or Traffic ^b |
| Accuracy ^d | ±0.3 dB @1310/1550 nm; ±0.6 dB @1490 nm |

| GENERAL | |
|------------------------|--|
| Operation Conditions | -10 to +50 °C, 0 to 95 % RH (non-condensing) |
| Storage Conditions | -20 to +60 °C, 0 to 95 % RH (non-condensing) |
| Power Supply | 2 x AA batteries; 1.2 to 1.5 V DC |
| Battery Life | 8 hours ^e |
| Dimensions (W x H x D) | 5.0 x 11.5 x 21.2 cm (1.9 x 4.5 x 8.3 in) ^f |
| Weight | 230 g (8.1 oz) including battery |

Notes:


- a. All specifications valid at 25°C unless otherwise specified.
- b. Traffic is a light signal modulated by a random data sequence.
- c. Typical value. The minimum detect level (core power) the insertion loss varies due to coating material, color, etc.
- d. Under the condition of temperature 25°C with input power at -20 dBm.
- e. Using 2 Alkaline AA Batteries.
- f. Except protruding part.

OFI-BIPM and OFI-BIPMe Optical Fiber Identifiers

Ordering Information

| DESCRIPTION | AFL NO. |
|---|------------|
| BI Optical Fiber Identifier with integrated Optical Power Meter. The kit includes one 2.5 mm Universal Power Meter Port Adapter, BIPM-00-25. | OFI-BIPM |
| BI Enhanced Optical Fiber Identifier with integrated Optical Power Meter. The kit includes one 2.5 mm Universal Power Meter Port Adapter, BIPM-00-25. | OFI-BIPMe |
| OPTIONAL ADAPTERS (ordered separately) | |
| 2.5 mm Universal Power Meter Port Adapter | BIPM-00-25 |
| SC Power Meter Port Adapter | BIPM-00-SC |
| FC Power Meter Port Adapter | BIPM-00-FC |
| ST Power Meter Port Adapter | BIPM-00-ST |
| LC Power Meter Port Adapter | BIPM-00-LC |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



Optical Light Sources

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FCC | Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about OFI-BIPM/-BIPMe.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

OFI-400 Series Optical Fiber Identifiers



OFI-400

OFI-400C

OFI-400HP

Features

- 5-year product warranty; 3-year recommended calibration interval
- Rugged, hand-held, lightweight, and easy-to-use
- Unique optical head with two-position plunger for use with all fiber types
- Built-in power meter with Set Reference feature

Applications

- Live fiber detection to avoid technician-induced outages
- Fiber identification and tracing with CW or tones
- Core power measurements
- Testing 250 μm , 900 μm , and ribbon fiber or 2 mm and 3 mm jacketed fiber

AFL's OFI-400 Optical Fiber Identifiers are rugged, hand-held, and easy-to-use fiber optic test instruments designed to detect and measure the core power levels of optical signals on single-mode optical fiber without disrupting traffic on that fiber. They are simply clamped onto a fiber and display the presence and direction of traffic, continuous test signals, and modulated test tones. This permits network personnel to easily and quickly identify a specific fiber without the risk of disrupting service. All of AFL's optical light sources are ideal companions to the OFI-400 family of optical fiber identifiers.

No adapters to purchase, store, swap, or misplace: Each OFI-400 uses a unique optical head design featuring a two-position plunger that enables it to be used with 250 μm , 900 μm , and ribbon fiber or 2 mm and 3 mm jacketed fiber. Other brands of optical fiber identifiers require users to purchase, store and change optical plungers each time a different type of fiber is tested.

Low insertion loss for in-service ID tasks: OFI-400's optical heads induces a safe, repeatable macro-bend to the fiber that allows a small amount of light to escape for analysis. The insertion loss induced by the macro-bend is too small to affect the signal on the fiber and the integrity of the fiber is unaffected by the measurement process.

Designed for the real world: The OFI-400 family are simple, easy-to-use tools that feature rugged, drop-proof construction - perfect for inside or outside plant use. Their ergonomically designed macro-bend trigger is comfortable to use and the integrated, backlit LCD display enables them to be used in dimly lit spaces. Each OFI-400 uses readily available 1.5 V AAA batteries which can power thousands of fiber tests before needing to be replaced.

OFI-400 model: The OFI-400 is designed for use with a wide range of single-mode fibers including 250 μm (bare) coated, 900 μm buffered and ribbon fibers or 2 mm and 3 mm jacketed fibers. The OFI-400 is ideal for network personnel involved in installation, reconfiguration, restoration and maintenance tasks that involve bare, buffered, jacketed or ribbon fibers in outside plant pedestals, fiber cabinets, aerial enclosures and inside plant premises demarcation cabinets. The slim design of the OFI-400 head facilitates access in crowded splice trays.

OFI-400C model: Designed specifically for use with 2 mm or 3 mm jacketed single-mode fibers, the OFI-400C is ideal for general purpose maintenance, configuration and installation tasks. The OFI-400C is functionally equivalent to the OFI-400 but includes an optical head design and a calibration scheme optimized for use with jacketed fiber.

OFI-400HP model: The OFI-400HP is designed for use where high levels of optical power are present. This includes fibers carrying a single high-power signal, CWDM or DWDM signals with high total power levels, amplified optical signals, or pump lasers associated with EDFA or Raman amplifiers. When display reaches +23 dBm (200 mW) or greater, the OFI-400HP will display "High" warning indication.

OFI-400 Series Optical Fiber Identifiers

Specifications^a

| DETECTABLE SIGNAL RANGE | | | | | |
|--|---------------------------------------|---|-------------------------------|-------------------------------|--------------------------------|
| FIBER TYPE ^b | PARAMETER | TEST CONDITIONS ^c | OFI-400 | OFI-400C | OFI-400HP |
| 250 µm coated fiber (SMF-28 with 250 µm CPC6 coating) | Minimum level detected, average power | 1310 nm, CW, Tone, Traffic 1550 nm, CW, Tone, Traffic | -45 dBm -50 dBm | N/A | N/A |
| | Insertion loss (typical) | @ 1310 nm @ 1550 nm | 0.6 dB 2.5 dB | N/A | N/A |
| 3 mm jacketed fiber (SMF-28/28E with 250 µm CPC6 coating and 3 mm, yellow jacket) | Minimum level detected, average power | 1310 nm, CW, Tone, Traffic 1550 nm, CW, Traffic 1550 nm, Tone | -30 dBm -33 dBm -33 dBm | -35 dBm -40 dBm -40 dBm | -30 dBm -40 dBm -35 dBm |
| | Insertion loss (typical) | @ 1310 nm @ 1550 nm | 1.0 dB 2.8 dB | 1.0 dB 2.8 dB | 0.2 to 0.5 dB 0.8 to 1.3 dB |

| OPTICAL SPECIFICATIONS ^d | OFI-400 | OFI-400C | OFI-400HP |
|---|--|-------------------------------|--------------------------------|
| Calibrated Fiber and Wavelength | 250 µm @ 1550 nm (SMF-28/28E) | 3 mm @ 1550 nm (SMF-28/28E) | |
| Working Fiber Size | 250 µm, 900 µm, ribbon, 2 mm and 3 mm jacketed | 2 mm and 3 mm jacketed | |
| Core Power Measurement Range ^e | +13 to -50 dBm @ 1550 nm, 250 µm | +13 to -40 dBm @ 1550nm, 3 mm | +33 to -40 dBm @ 1550 nm, 3 mm |
| Detector Type | InGaAs | | |
| Wavelength Range | 800 - 1700 nm | | |
| Measurement Units | dBm, dB | | |
| Fiber Stress | <100 kPSI max | | |
| Tone Detection | 270, 330, 1000, 2000 Hz (±5 %) | | |

| GENERAL SPECIFICATIONS | ALL OFI-400 MODELS |
|------------------------|---|
| User Interface | Multi 7 segment LCD; 3 LEDs; 1 piezo buzzer |
| Power | 2 x 1.5 V AAA alkaline |
| Battery Life | >10,000 operations typical |
| Operation Temperature | -5°C to 50°C 95 % RH (Non-condensing) |
| Storage Temperature | -30°C to +60°C 95 % RH (Non-condensing) |
| Dimensions (H x W x D) | 21.5 x 3.8 x 2.8 cm (8.5 x 1.5 x 1.1 in) |
| Weight | 168 g (6 oz) |

Notes:

- a. All specifications stated above are as measured at 25°C.
- b. 250 µm coated fiber parameters are specified with OFI plunger in the "250 / 900 / RIB" position. 2 mm / 3 mm jacketed fiber parameters are specified with OFI plunger in the "2 mm / 3 mm" position.
- c. CW is a light signal that is not modulated. Traffic is a light signal modulated by high speed user data. Tone is a light signal modulated into a nominal 50 % duty cycle square wave.
- d. Unless noted otherwise, all specifications are typical. Actual results can vary by several dB depending on fiber type, coating material, jacket color, jacket hardness, and other factors.
- e. SMF-28/28E.


OFI-400 Series Optical Fiber Identifiers

Ordering Information

All OFI-400 products include a user's guide, 2 AAA batteries and a soft carry case. Each carries a 5-year warranty and a 3-year recommended calibration interval.

| INCLUDES | AFL NO. |
|---|-----------|
| Users guide, 2 AAA batteries, soft carry case | OFI-400 |
| Users guide, 2 AAA batteries, soft carry case | OFI-400C |
| Users guide, 2 AAA batteries, soft carry case | OFI-400HP |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



Optical Light Sources

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about Optical Fiber Identifiers.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

OFI-200 Optical Fiber Identifier



Features

- 5-year product warranty; 3-year recommended calibration interval
- Rugged, hand-held, lightweight, and easy-to-use
- Unique optical head with two-position plunger for use with all fiber types
- Visually and audibly indicates tone signal across 2 kHz range

Applications

- Live fiber identification to avoid technician-induced service outages
- Fiber tracing or identification with CW or test tones
- Testing 250 μm , 900 μm coated, 2 mm, 3 mm jacketed, and ribbon fiber

AFL Optical Fiber Identifiers are rugged, hand-held, and easy-to-use fiber optic test instruments designed to detect optical signals transmitted through a single-mode fiber without disrupting traffic.

The OFI-200 is simply clamped onto a fiber and indicates if there is NO SIGNAL, TONE, or TRAFFIC and the associated signal direction. This permits network personnel to easily and quickly identify a specific fiber without the risk of disrupting service. When testing coated fibers, the slim design of the OFI-200 allows easier access on a splice tray where the amount of workspace is limited.

No adapters to purchase, store, swap, or misplace: The OFI-200 uses a unique optical head design featuring a two-position plunger that enables it to be used with 250 μm , 900 μm , and ribbon fiber or 2 mm and 3 mm jacketed fiber. Other brands of optical fiber identifiers require users to purchase, store, and change optical plungers each time a different type of fiber is tested.

Low insertion loss for in-service ID tasks: The OFI-200 optical head induces a safe, repeatable macro-bend to the fiber that allows a small amount of light to escape for analysis. The insertion loss induced by the macro-bend is too small to affect the signal on the fiber and the integrity of the fiber is unaffected by the measurement process.

Designed for the real world: The OFI-200 is a simple, easy-to-use tool that features rugged, drop-proof construction perfect for inside or outside plant use. Its ergonomically designed macro-bend trigger is comfortable to use and the integrated, backlit LCD display enables it to be used in dimly lit spaces. The OFI-200 uses readily available 1.5 V AAA batteries, which power thousands of fiber tests before needing to be replaced.

OFI-200 Optical Fiber Identifier

Specifications ^a

| DETECTABLE SIGNAL RANGE | | | |
|---|---|--|--|
| FIBER TYPE ^b | PARAMETER | TEST CONDITIONS ^c | OFI-200D |
| 250 µm coated fiber (SMF-28 with 250 µm CPC6 coating) | Minimum level detected, average power | 1310 nm, CW or Traffic 1310 nm, Tone 1550 nm, CW or Traffic 1550 nm, Tone | -40 dBm -43 dBm -45 dBm -50 dBm |
| | Insertion loss (typical) | 1310 nm 1550 nm | 0.6 dB 2.5 dB |
| 3 mm jacketed fiber (SMF-28 with 250 µm CPC6 coating and 3 mm, yellow jacket) | Minimum level detected, average power | 1310 nm, CW or Traffic 1310 nm, Tone 1550 nm, CW or Traffic 1550 nm, Tone | -30 dBm -32 dBm -33 dBm -37 dBm |
| | Insertion loss (typical) | 1310 nm 1550 nm | 0.8 dB 2.5 dB |
| OPTICAL SPECIFICATIONS ^d | | | |
| Detector Type | InGaAs | | |
| Wavelength Range | 800 - 1700 nm | | |
| Calibrated Size of Fiber and Wavelength | N/A | | |
| Fiber Stress | <100 kPSI max | | |
| Fiber Size | 250 µm, 900 µm, ribbon, 2 mm or 3 mm and jacketed fiber | | |
| Tone Detection | 2000 ± 100 Hz | | |
| GENERAL SPECIFICATIONS | | | |
| Display Type | N/A | | |
| Power | 1 9-Volt Alkaline | | |
| Battery Life | >10,000 operations typical | | |
| Operation Temperature | 0°C to 50°C 90 % RH (Non-condensing) | | |
| Storage Temperature | -30°C to +60°C 90 % RH (Non-condensing) | | |
| Dimensions (H x W x D) | 22 x 3.8 x 2.8 cm (8.5 x 1.5 x 1.1 in) | | |
| Weight | 210 g (7.5 oz) | | |

Notes:


- All specifications stated above are as measured at 25°C.
- 250 µm coated fiber parameters are specified with OFI plunger in the "250/900/RIB" position. 2 mm/ 3 mm jacketed fiber parameters are specified with OFI plunger in the "2 mm/3 mm" position.
- CW is a light signal that is not modulated. Traffic is a light signal modulated by a random data sequence. Tone is a light signal modulated into a nominal 50% duty cycle square wave.
- Unless noted otherwise, all specifications are typical. Actual results can vary by several dB depending on fiber type, coating material, jacket color, jacket hardness, and other factors.

OFI-200 Optical Fiber Identifier

Ordering Information

| INCLUDES | AFL NO. |
|----------------------------|----------|
| Users guide and carry case | OFI-200D |

Recommended Products



FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



Optical Light Sources

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety /EMC /EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

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International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

VFI4 Visual Fault Identifiers

Fiber Identification



VFI4 High Power Model

VFI4-L Low Power Model

Features

- Eye-safe Class 3R visible red laser source, 650 nm (High power version)
- Output power of 5.0 mW with 10 km range (High power version)
- Universal connector interface for quick connection
- 2.5 mm universal adapter (included) accepts FC, SC, ST, etc. connectors
- 1.25 mm universal adapter (included in High power version only) accepts LC and MU connectors
- Low power model - VFI4-L is available with output power of 1.0 mW with 4 km range

Applications

- Identify and trace fibers during activation and installation
- Identify poorly mated connectors
- Verify AFL's FASTConnect® field-installable connector installation
- Find faults inside OTDR dead zones

A Visible Fault Identifier (VFI), also referred to as a Visual Fault Locator (VFL), is an essential tool for fiber installation and maintenance technicians.

AFL's compact VFI4 injects high-powered red-laser light to provide exceptional brightness and range for locating defects in single-mode and multimode fibers. The light generated by these units will escape from sharp bends and breaks in jacketed or bare fibers, as well as poorly mated connectors enabling technicians to quickly spot faults. The universal connector interface mates with many connector styles without needing an adapter.

Rugged and Compact: The rugged VFI4 is designed for the rigors of real-life field testing. It has a range of up to 10 km, fits on a keychain, and features extensions that protect the red-laser port. It has both CW and pulsating modes and is powered by a single AA battery for up to 30 hours of operation.

Installation and Activation: VFI4 is used for quick continuity checks, fiber tracing, splice verification, and Pass/Fail validation for mechanical connectors. VFI4 is also an excellent complement to any OTDR because it can locate faults inside the OTDR's dead zone.

Essential Troubleshooting Tool: The VFI4 highlights sharp bends, breaks, faulty connectors, and other defects that "leak" light. Other applications include end-to-end continuity checks, as well as identifying connectors in patch panels and fibers during splicing operations.

VFI4 Visual Fault Identifiers

Specifications^a

| OPTICAL | VFI4 | VFI4-L |
|--------------|---|--|
| Emitter Type | Laser, Class IIIa FDA 21 CFR 1040.10 and 1040.11, Class 3R IEC 60825-1:2014 | Laser, Class II FDA 21 CFR 1040.10 and 1040.11, Class 2 IEC 60825-1:2014 |
| Wavelength | 650 nm ± 15 nm | |
| Output Power | 5 mW maximum | 1 mW maximum |
| Modulation | 2 Hz or CW selected | |

Notes:

a. All specifications valid at 25°C unless otherwise specified.

| GENERAL | VFI4 | VFI4-L |
|-----------------------|---|--------------------------------------|
| Adapter | 2.5 mm Universal, 1.25 mm Universal | |
| Power | 1 AA battery, <30 hours (flash mode) | 1 AA battery, <50 hours (flash mode) |
| Operating Temperature | -10°C to 50°C, 85 % humidity non condensing | |
| Storage Temperature | -30°C to 60°C, 95 % humidity non condensing | |
| Size (H x W x D) | 7.9 x 5.1 x 2.2 cm (3.1 x 2.0 x 0.9 in) | |
| Weight | 43 g (1.5 oz) | |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------------|
| VFI4 visual fault identifier with 2.5 mm and 1.25 mm adapters | VFI4-01-0900PR |
| VFI4-L visual fault identifier with 2.5 mm adapter | VFI4-02-0900PR |

Adapters


| DESCRIPTION | AFL NO. |
|--------------------------------|----------------|
| 2.5 mm Universal for VFI port | 2900-50-0013MR |
| 1.25 mm Universal for VFI port | 2900-50-0012MR |

Recommended Products



One-Click® Cleaner Mini

- Small compact design with single action cleaning
- Automatically advance ensures each clean is performed with fresh cleaning tape
- 100 clean and 500 clean versions available
- Low cost per clean



FASTConnect® Field-Installable Connectors

- Field-installable, takes less than a minute to complete
- Fast and easy to terminate
- Low insertion/return loss
- Reusable

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|----------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety/EMC/EMI | IEC | Compliant to IEC 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | IEC | Compliant to IEC 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| | EN | Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment |
| | FDA | Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products |
| RoHS | IEC | Compliant to IEC 60825-1 for safety of laser products |
| | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about VFI4 Visual Fault Identifier.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts.

MT Tracer

12-Fiber Visible Laser Source and Display



Features

- Viewing safe for eyes
- CW or 2Hz (2 cycles per second) output
- Direct connect - No fan-outs necessary

Applications

- Data Center - MPO Cable Verification
- Test polarity, continuity, and fiber mismatch
- Locate ends of unmarked cables in data centers

The MT Tracer is a compact multi-fiber visual fault locator (VFL) red laser source supporting 8- or 12-fiber MTP®/MPO connections. The user simply connects the 12-fiber cable directly to the unit and views the results.

Fibers can be tested individually or all at once. By progressing sequentially through the fibers, cables can be quickly checked for polarity by verifying the proper order at the output. Additionally, damaged fiber(s) are quickly identified with the MT Tracer saving trouble-shooting time when cables are put into service.

The MT Tracer source can be used to quickly trace cables in messy or un-documented setups. It provides a foolproof way of finding the “other end” amongst cluttered or unlabeled cables. Simply connect the MT Tracer Source to one end and look for the visual red light transmitted out the opposite connector.

The MT Tracer kit from AFL is a complete MTP/MPO cable polarity and continuity test solution and a must-have for technicians working with high-density fibers.

MT Tracer

12-Fiber Visible Laser Source and Display

Specifications

| MT TRACER SOURCE | |
|-------------------------|--|
| Optical Wavelength | 650 ±40 nm |
| Output Power Level | Minimum 0.5 mW, typical 1.0 mW (at each SM 9/125 fiber at the end of MTP cord) |
| Optical Connector | MTP® male SM, angled |
| Number of Output Fibers | 12 |
| Power | 2 x AA alkaline batteries |
| Battery Life (alkaline) | 40 hours |
| Low Battery | Indicated by 2 Hz LED blinking |
| Weight | 0.29 kg (0.63 lb) |
| MT TRACER DISPLAY | |
| Input Connector | MTP® angled male 62.5 μ fiber |
| No. of input Connectors | 1 (12-fiber MTP) |
| GENERAL | |
| Weight | Source: 0.29 kg (0.63 lb); Display 0.18 kg (0.4 lb) |
| Dimensions | 9.9 x 3.8 x 14.3 cm (3.9 x 1.5 x 5.6 in) |
| Operation Temperature | 0 °C to 40 °C, RH 85 % non-condensing |
| Storage Temperature | -30 °C to 50 °C, RH 95 % non-condensing |

Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| MT Tracer Kit: Includes MT Tracer Source, MT Tracer Display, and carry case | TRCR-90-0900 |
| MT Tracer Source | TRCR-20-0900 |
| MT Tracer Display | TRCR-10-0900 |

Qualifications

| CATEGORY | REGULATION/STANDARD | QUALIFICATION |
|------------|---------------------|--|
| CE Marking | EU | Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking |
| Safety | EN | Compliant to EN 61010-1 for safety requirements for electrical equipment |
| | EN | Compliant to EN 61326-1 for EMC requirements for electrical equipment |
| RoHS | EU | Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3) |

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about MT Tracer

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

aeRos® Cloud-based Test Management and Reporting



Features

- Cloud-based
- Real-time, on-site test data validation and progress tracking
- Automatic sync of test configurations and results
- Centralized test management

Applications

- Efficient Workflow Management
- Seamless testing using a variety of smart devices
- Customizable reporting and analysis

aeRos, AFL’s cloud solution, combines AFL’s ROGUE OLTS Certification Products and FOCIS Flex Fiber Optic Inspection products with a cloud-based workflow management system that enables seamless and efficient communications and data management.

Cloud-based, comprehensive workflow management solution: Every aspect of the testing process is more efficient. No matter where you are or what technology you use, coordinating with your field technicians is simpler and more cost-effective than ever.

Centralized test management and reporting: Now you can set-up jobs from anywhere and push them to your testers. Because you’re monitoring jobs and communication in real time, you can dramatically reduce field errors and expensive re-testing. The aeRos easy-to-use reporting template includes “what if” analysis against different industry standards.

Test data and project updates auto-sync with the cloud: With aeRos you can make changes to your workflow on the fly and never worry about losing data. With no waiting for equipment to come back for download, you’ll get to reports and revenue sooner.

Track test progress and validate test results on all active jobs: With aeRos, you can see passed/failed links in real time and plan troubleshooting more efficiently. You’ll always know if your projects are on track.

aeRos solution is available in two options: aeRos BASIC account and aeRos PRO account.

aeRos® BASIC account — Data Management solution that allows users to save their test data in the aeRos Cloud and then retrieve it from anywhere at any time with a standard Internet browser. aeRos BASIC is free to all owners of AFL’s ROGUE modular test equipment.

aeRos® PRO account — Workflow Management solution that allows users to manage their entire testing workflow and enables seamless and efficient communications and data management. aeRos PRO is available in annual and lifetime License configurations.

aeRos Software Licensing

| DESCRIPTION | AFL NO. |
|--|---------------|
| aeRos PRO (1) account, 1 year subscription | aeRos-PRO-YRL |
| aeRos PRO (1) account, lifetime subscription | aeRos-PRO-LFT |

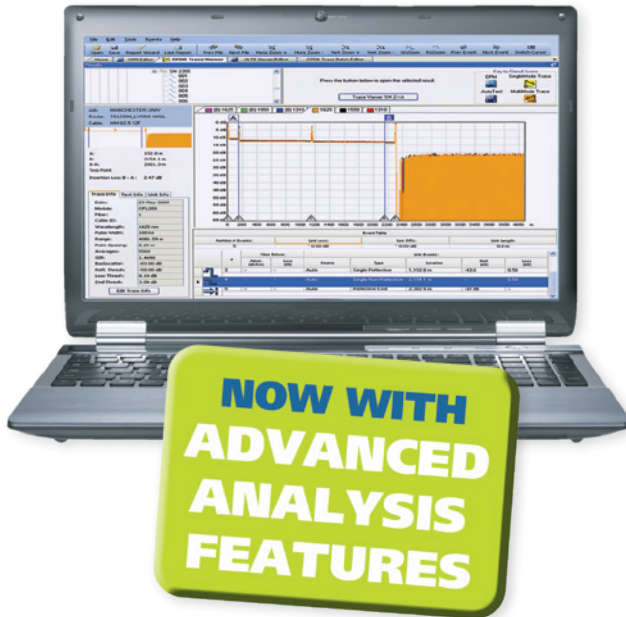
Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about aeRos® Cloud-based Test Management and Reporting Software.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

TRM® 2.0/3.0 Test Results Manager

Comprehensive Analysis and Reporting Software



TRM Basic

- Generates acceptance reports
- Creates certification results and applies Pass/Fail
- Documents networks
- OTDR batch editing
- Telcordia (GR-196 v1.1, SR-4731 issue 1 & 2) .SOR file formats

TRM Advanced Adds

- Macro/Microbend detection
- Automatic bi-directional trace analysis
- Create reports with macrobend and bi-directional trace averaging
- Exporting .SOR file to .CSV file format

TRM Test Results Manager is PC-based software that provides comprehensive test results analysis and reporting for AFL test and inspection products. TRM Basic software enables users to quickly view loss or certification results, batch-edit OTDR traces, and create acceptance reports conforming to industry guidelines. TRM Basic can generate reports showing dual wavelength traces and event tables, end-face image, event map and loss data for each fiber. Users can apply pass/fail thresholds to OTDR events and OLTS measurements, and create and apply application rules per industry standards. TRM's OTDR Batch Editor enables users to edit and analyze multiple trace files simultaneously.

Advanced upgrade expands analysis & reporting functions: TRM Advanced includes all TRM Basic's functionality and adds macro/microbend detection, automatic bi-directional trace averaging, and .SOR file export to .CSV file format.

Include Inspection Images in Reports: TRM Basic and TRM Advanced software allow integration of fiber inspection images from the FOCIS family inspection products to be included in customized test reports. Both versions support Bellcore/Telcordia .SOR file formats.

Wireless transfer of data: TRM 3.0 Basic supports downloading the FlexScan family of OTDRs test results from the cloud using the free FlexScan App available from the Google play for Android mobile devices.

User friendly interface makes reviewing results easy: OTDR, certification, inspection, and OPM test results are indicated by specific icons to simplify selection of test results to review.

Industry Standard and User-defined Reports: Test to Industry Standards (ISO/TIA/EN), Application Rules (IEEE/ ANSI), or create User Rules and User Application Rules. As new rules and applications develop, compare existing test results to the new rules, such as emerging Ethernet standards. Supports industry-standard 10GbE IEEE 802.3ae specification using pre-configured 10GbE application rules. Produces detailed 10GbE test report.

Report Flexibility and Customization: A Report Wizard enables users to generate personalized reports for customer's job acceptance. Generated reports meet accepted industry documentation and feature customized cover pages with customer's logos. Can create dedicated inspection, insertion loss and OTDR reports, as well as reports combining OTDR, power meter and inspection results.

TRM® 2.0/3.0 Test Results Manager

Difference between TRM 2.0 and TRM 3.0

- TRM 2.0 Software supports AFL M-series and FlexTester OTDRs and OPM5 Power Meter
- TRM 3.0 Software supports AFL FlexScan (FS200 and FS300) OTDRs, ROGUE OLTS Certifier, and FOCIS family connector inspection probes.

Basic and Advanced Software Comparison

| FEATURES | BASIC SOFTWARE | ADVANCED SOFTWARE |
|--|-------------------------|-------------------|
| OTDR Trace/OLTS Viewer | ◆ | ◆ |
| OTDR Trace Batch Editor | ◆ | ◆ |
| Pre-defined Template for Reports | ◆ | ◆ |
| FOCIS Flex Inspection Images and Pass/Fail Table; FOCIS WiFi and DFS1 Inspection Images | ◆ | ◆ |
| Telcordia (GR-196 v1.1, SR-4731 issue 1 & 2) .SOR file formats | ◆ | ◆ |
| Macrobend/Microbend; Report with Macrobend/Microbend Events | | ◆ |
| Automatic Bi-directional OTDR Event Table; Report with Bi-directional OTDR Trace/Event information | | ◆ |
| Export .SOR File Contents to .CSV File | | ◆ |
| License Key | Required (Seat License) | |

Ordering Information

TRM Basic software is included with FlexScan OTDRs, ROGUE OLTS Certifier, FOCIS family connector inspection probes, and OPM5 power meters (may be installed in up to 5 PCs). Users may download a full working version of TRM (Basic plus Advanced features) and try it for 30 days. Once the evaluation period ends, users must purchase and install a TRM Basic or Advanced software license to continue to use TRM.

TRM 2.0 Ordering (for use with M-series and FlexTester OTDRs and OPM5 Power Meter)

| DESCRIPTION | | AFL NO. |
|--|----------------|---------------|
| Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports) | USB delivery | TRM-00-0900PR |
| | email delivery | TRM-01-0900PR |
| Advanced License (Basic plus Advanced Analysis) | USB delivery | TRM-00-0910PR |
| | email delivery | TRM-01-0910PR |
| Upgrade from Basic to Advanced License | USB delivery | TRM-00-0920PR |
| | email delivery | TRM-01-0920PR |

TRM 3.0 Ordering (for use with FlexScan OTDRs, ROGUE OLTS Certifier, and FOCIS family products)

| DESCRIPTION | | AFL NO. |
|---|----------------|---------------|
| Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports) | USB delivery | TRM3-BASIC |
| | email delivery | TRM3-BA-EMAIL |
| Advanced License (Basic plus Advanced Analysis) | USB delivery | TRM3-ADVANCED |
| | email delivery | TRM3-AD-EMAIL |
| Upgrade from Basic to Advanced License | USB delivery | TRM3-UPGRADE |
| | email delivery | TRM3-UP-EMAIL |
| FlexScan App for wireless results transfer with TRM (Android Google play) | | Free Download |

TRM Supported Languages

- English
- Polish
- Turkish
- French
- Portuguese
- Chinese
- German
- Russian
- Japanese
- Italian
- Spanish

TRM® 2.0/3.0 Test Results Manager

Powerful Batch Processing

Analysis

- Edit cables or groups of fibers in one batch session
- Modify event pass/fail thresholds: Loss, ORL, Link Loss, Link ORL
- Add, remove, or adjust Launch and Receive cables
- Adjust the location of the cursors

Documentation

Add and/or edit

- Trace File Names (Fiber Number, Cable ID, End 1, End 2, and Direction of test)
- Cable Information (Cable Type and GIR)
- Job Information (Company, Main Operator, Second Operator, and Comment)

Reporting

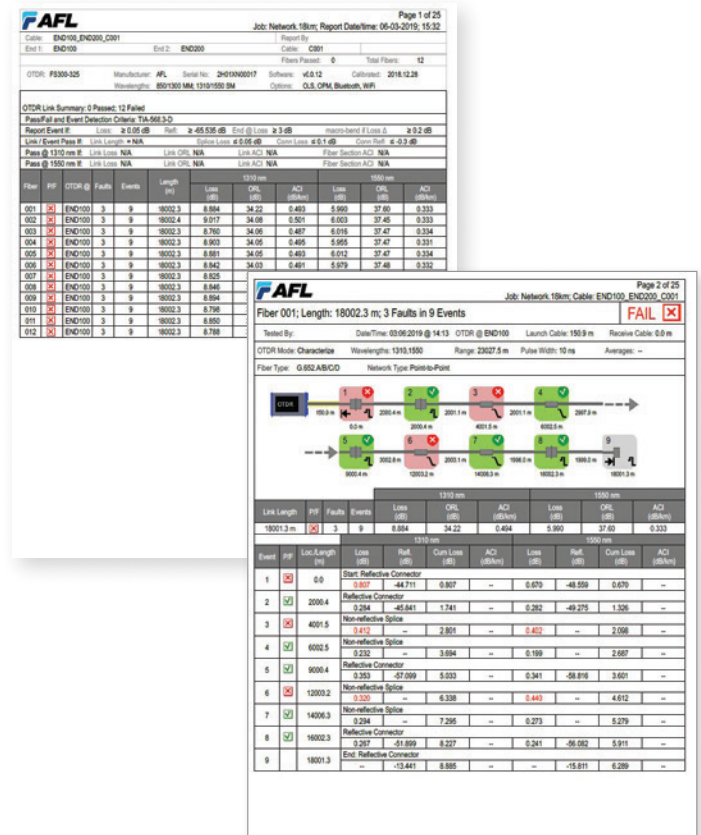
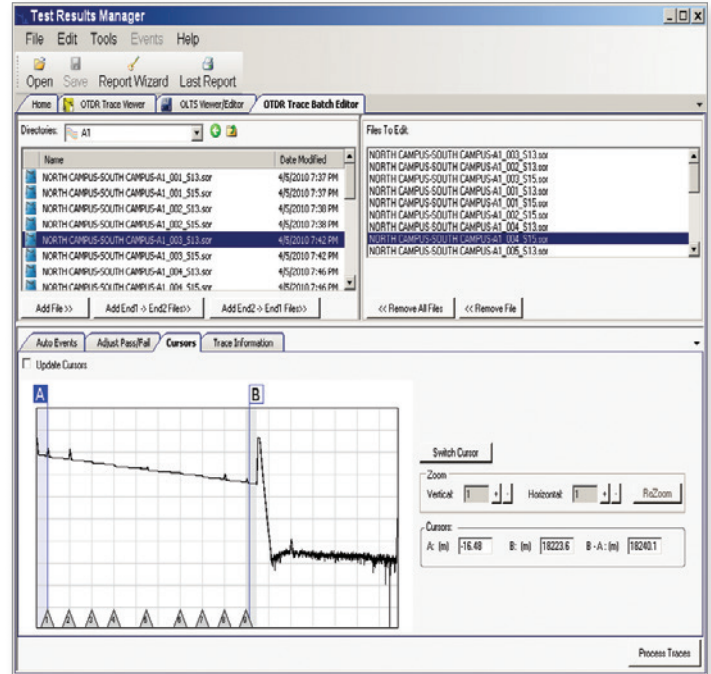
- Generate professional reports by applying edits to a group of fibers for consistency of information and uniformity of results

Create Professional Personalized Reports

Featuring the Report Wizard - a powerful tool for creating test reports, TRM allows users to generate personalized professional reports for customer's job acceptance.

Generated reports meet accepted industry documentation and can be personalized by customizing cover pages to include customer's logos.

Create dedicated inspection, insertion loss and OTDR reports, as well as reports combining OTDR, power meter and inspection results.

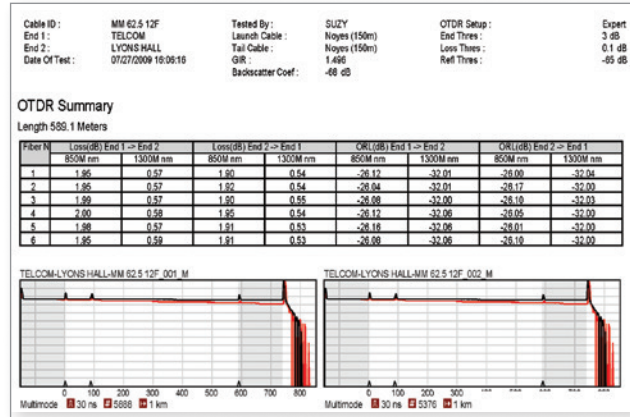


TRM® 2.0/3.0 Test Results Manager

Report Examples

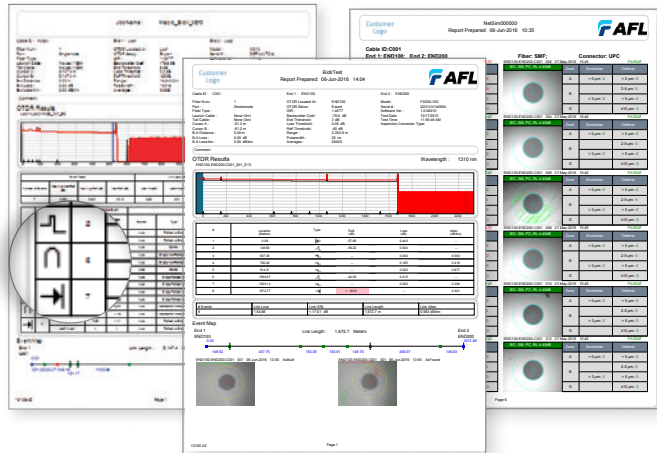
OTDR Cable Summary Page

OTDR cable summary page shows job information and test setup, Loss and ORL test results with or without thumbnails of OTDR traces (shown with Loss/ORL table and OTDR thumbnails).



Fiber Detail Results Page

Fiber Detail Results page documents equipment used for testing, job information, test setup, cursor info and OTDR trace with Event map. OPM or Certification results and end-face image and pass/fail results may be included if available (as shown) with an overall Pass or Fail.



Certification Report Page

Certification report page shows:

- 1 - Overall Pass/Fail report to standards (ISO shown)
- 2 - Pass/Fail indicated for each fiber
- 3 - User Rule and Applications for which the fibers have passed.

Certification Results Cabling Standard : ISO 11801 (International Standard) all cables, 50 or 62.5 µm fiber. 1

Number of Connections : 2 Loss Limit : 850nm (3.58 dB), 1300nm (2.39 dB)
 Number of Splices : 0 Length Limit : 2000 Meters

TELCOM-LYONS HALL-MM 62.5 12F std

| Date of Test | Time | Fiber # | Loss (dB) | | Length (m) | PIF | Headroom (dB) | | |
|--------------|---------|---------|-----------|---------|------------|--------|---------------|---------|------|
| | | | 850 nm | 1300 nm | | | 850 nm | 1300 nm | |
| Jul 27, 2009 | 3:35 PM | 1 | E1-E2 | 2.95 | 1.85 | 594.63 | Pass | 0.63 | 0.74 |
| | | | E2-E1 | 2.68 | 1.42 | | | 0.90 | 0.67 |
| Jul 27, 2009 | 3:36 PM | 2 | E1-E2 | 2.72 | 1.84 | 594.63 | Pass | 0.86 | 0.55 |
| | | | E2-E1 | 2.91 | 1.89 | | | 0.67 | 0.70 |
| Jul 27, 2009 | 3:36 PM | 3 | E1-E2 | 2.53 | 1.92 | 594.12 | Pass | 1.05 | 0.79 |
| | | | E2-E1 | 2.68 | 1.42 | | | 0.90 | 0.67 |
| Jul 27, 2009 | 3:37 PM | 4 | E1-E2 | 2.72 | 1.85 | 594.12 | Pass | 0.86 | 0.54 |
| | | | E2-E1 | 2.91 | 1.89 | | | 0.67 | 0.70 |
| Jul 27, 2009 | 3:38 PM | 5 | E1-E2 | 2.55 | 1.83 | 594.37 | Pass | 1.03 | 0.76 |
| | | | E2-E1 | 2.68 | 1.42 | | | 0.90 | 0.67 |
| Jul 27, 2009 | 3:39 PM | 6 | E1-E2 | 2.72 | 1.89 | 594.37 | Pass | 0.86 | 0.53 |
| | | | E2-E1 | 2.91 | 1.89 | | | 0.67 | 0.70 |

Applications these fibers have been tested to support: User Defined Rule (Marriot Rule) 10100BASE-SX (850 nm) on (OM1) 62.5 µm fiber 3

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about TRM.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

NEW

Push-Type Cleaners

One-Click® Cleaners

Features

- Patented single-action cleaning in a small ergonomic design
- Variety of sizes and types for different connector styles
- Cleans connectors in both jumpers and bulkhead adapters
- Low cost per clean

Applications

- Removing oil, dust, and dirt without damaging delicate fiber end-faces
- Both dry and wet cleaning (add cleaning fluid)
- Clean connectors in tight spaces
- Field or laboratory use

One-Click Cleaner

Easy-to-use solution for cleaning fiber optic connectors on jumpers and in adapters. Since over 85% of network outages are attributed to dirty and/or damaged connectors, it is critical to clean every connector! The patented One-Click Cleaner uses the mechanical push action to advance an optical grade cleaning tape while the cleaning tip is rotated to ensure the fiber end-face is effectively, but gently, cleaned. It is a favorite of field technicians for its ease of use, durability, effectiveness, and small size.

One-Click® Cleaner PRO - The One-Click Cleaner PRO is a high-performance cleaner built for speed and efficiency. It features an integrated guide cap design that reduces cleaning time up to 50% by eliminating constant switching of caps for cleaning the ferrule end-face on connectors, in or out of bulkhead adapters. The One-Click Cleaner Pro boasts over 775 cleaning cycles in an ergonomic push-type cleaner, which is a significant increase from the previous model's 500 clean limitation. Designed to meet the needs of data centers, factories, and FTTH environments, One-Click Cleaner PRO optimizes optical connectivity, reduces downtime, and improves efficiency, making it an essential tool for fiber connector cleaning.

Compact One-Click Cleaner Mini - Offering the same technology and performance as the original, the One-Click Cleaner mini enables cleaning connectors in tighter places. Its smaller size also makes it a great addition to test kits and cleaning kits. The mini One-Click Cleaners come in both 100+ or 500+ cleans per unit.

One-Click Ultra Cleaner 2.5 - The One-Click Ultra Cleaner 2.5 has an enlarged cleaning area to clean more of the connector end-face. Cleaning up to a 2 mm diameter area of the connector end-face, the One-Click Ultra Cleaner 2.5 is a superior cleaner for SC, ST, and FC connectors.

One-Click Cleaner D-LC (Duplex LC) - The One-Click Cleaner D-LC cuts cleaning time in half by effectively cleaning both connectors of a duplex LC connector simultaneously. Available in a long-lasting 500+ clean pen shape.



SC PRO LC PRO SC/ST/FC MU/LC



Mini-100 SC, ST, FC Mini-100 MU/LC



Ultra 2.5 D-LC

Push-Type Cleaners

One-Click® Cleaners

One-Click Cleaner MPO and MPO-16

The One-Click Cleaner MPO/MPO-16 is a revolutionary push-type cleaner that simplifies cleaning of the ferrule end-face of MPO/MTP® connector. The One-Click MPO-16 cleans 16-fiber MPO/MTP connectors, both pinned (male) and socketed (female). MPO-16 is used with IEEE 802.3bs 400G trunk cabling with each fiber carrying 25 Gbps data signals (400GBASE-SR16 for example), among other applications.



MPO

MPO-16

One-Click Cleaner CS/MDC Duplex

The One-Click Cleaner CS/MDC cuts cleaning time in half by effectively cleaning both connectors of a duplex CS/MDC at one time.

One-Click Cleaner SN Duplex

The One-Click Cleaner SN cuts cleaning time in half by effectively cleaning both connectors of a duplex SN at one time.

One-Click Cleaner HOC

The Hardened Outdoor Connector (HOC) One-Click Cleaner is an essential cleaning tool for OptiTap®, TITAN RTD®, TRIDENT®, and SC connectors. The new design of the HOC Cleaner allows it to be used for Plug/Receptacle without the need for the conventional guide cap.



CS, MDC

SN Duplex

HOC

Ordering Information

| DESCRIPTION | AFL NO. |
|--|----------------|
| One-Click Cleaner SC, ST, FC (500+ cleans) | 8500-05-0001MZ |
| One-Click Cleaner MU/LC (500+ cleans) | 8500-05-0002MZ |
| One-Click Cleaner ODC, outdoor connector (500+ cleans) | 8500-05-0004MZ |
| One-Click Cleaner Mini-100 SC, ST, FC (100+ cleans) | 8500-05-0005MZ |
| One-Click Mini-100 MU/LC (100+ cleans) | 8500-05-0006MZ |
| One-Click Cleaner Mini-500 SC, ST, FC (500+ cleans) | 8500-05-0009MZ |
| One-Click Cleaner Mini-500 MU/LC (500+ cleans) | 8500-05-0010MZ |
| One-Click Ultra Cleaner 2.5 (enlarged cleaning) SC, ST, FC (500+ cleans) | 8500-05-0007MZ |
| One-Click Cleaner D-LC, Duplex LC (2 x 500+ cleans) | 8500-05-0008MZ |
| One-Click Cleaner MPO (500+ cleans) | 8500-05-0030MZ |
| One-Click Cleaner MPO-16 (500+ cleans) | 8500-05-0013MZ |
| One-Click Cleaner MT-RJ (500+ cleans) | 8500-05-0031MZ |
| One-Click Cleaner M20, 2.0 mm ferrule (500+ cleans) | 8500-05-0014MZ |
| One-Click Cleaner CS, MDC Duplex (500+ cleans) | 8500-05-0015MZ |
| One-Click Cleaner SN Duplex (500+ cleans) | 8500-05-0016MZ |
| One-Click Cleaner HOC, Hardened Optic Connectors (500+ cleans) | 8500-05-0018MZ |
| One-Click Cleaner SC Pro (775+ cleans) | 8500-05-PRO-SC |
| One-Click Cleaner LC Pro (775+ cleans) | 8500-05-PRO-LC |
| BOXES OF 5 UNITS | |
| One-Click Cleaner SC, ST, FC (box of 5 units) | 8500-05-0021MZ |
| One-Click Cleaner MU/LC (box of 5 units) | 8500-05-0022MZ |
| One-Click Cleaner Mini-100 SC, ST, FC (box of 5 units) | 8500-05-0025MZ |
| One-Click Cleaner Mini-100 MU/LC (box of 5 units) | 8500-05-0026MZ |
| One-Click Ultra Cleaner 2.5 SC, ST, FC (box of 5 units) | 8500-05-0027MZ |
| One-Click Cleaner MPO-16 (box of 5 units) | 8500-05-0023MZ |

Push-Type Cleaners

NEOCLEAN Cleaners



NEOCLEAN-E Models (E1, E2, E3)



NEOCLEAN-M

Features

- Push action
- Replaceable cleaning cartridge - 750 cleaning per cartridge (NEOCLEAN-E)
- Low cost per clean

Applications

- Cleans connectors on jumpers or in adapters
- SC, FC, ST, E2000, LC, and MU connectors
- MPO and MTP connectors
- Suitable for field or laboratory use

NEOCLEAN-E uses a push action to clean contamination from the end-face of connectors on jumpers or in adapters. The replaceable cleaning cartridge can perform 750 cleans, reducing cleaning cost.

NEOCLEAN-M is designed for cleaning MPO and MTP multi-fiber connectors used in data centers and other high-density optical networks. It uses a one-push operation, which simplifies cleaning of the ferrule end-face of both MPO and MTP connectors and connectors in adapters.

Ordering Information

| MODEL | APPLICABLE CONNECTORS & DESCRIPTION | # OF CLEANS | AFL NO. |
|-------------|--|-------------|----------------|
| NEOCLEAN-E1 | For MU, LC with UPC/APC polishes | 750+ | 8500-15-0900MZ |
| NEOCLEAN-E2 | For SC,FC with UPC/APC polishes; OptiTap | | 8500-15-0901MZ |
| NEOCLEAN-E3 | For SC, ST, FC, E2000 with UPC/APC polishes; OptiTap | | 8500-15-0902MZ |
| NEOCLEAN-M | For MPO/MTP | 600+ | 8500-15-0909MZ |

Recommended Products



FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



Cletop Cleaners

- Simple push-button shutter application
- Easily replaceable cost-effective tape cartridges
- Over 400 wipes per tape



FCC2 Cleaning Fluid

- Unique dispenser for use with AFL Connector Cleaning Tips and FiberWipes
- Dissipates static charge
- Up to 400+ cleanings per can

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Clean to learn more about Push-Type Cleaners.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Cletop Optical Fiber Connector Cleaner

Cleaning Supplies



Features

- Simple push-button shutter application
- Compact lightweight design
- Easily replaceable cost-effective tape cartridges
- Over 400 wipes per tape

Applications

- Ideal for labs, assembly lines, and field use
- Cleans a wide variety of connector types
- Excellent anti-static properties for static sensitive applications

The Cletop Optical Fiber Connector Cleaner is a rugged palm-sized cleaner that offers exceptional performance with a proven track record. The choice of many leading manufacturers and telecom carriers worldwide for nearly 20 years, Cletop is a name you can rely on.

Cletop Options

- Cletop Series – Original
- Cletop –S Series - Second generation cleaner offering “Drop-in” replacement tape cartridge and ergonomic design
- Type A & -SA - Designed for single 2.5mm ferrules (SC, FC, ST, & D4)
- Type B & -SB - Cleans SC, SC2, FC, ST®, DIN, D4, MU, LC, MT, MPO/MTP® without pins

Ordering Information

| DESCRIPTION | AFL NO. |
|---------------------------------|----------------|
| CLETOP – S SERIES | |
| Cletop -SA with Blue Tape | 8500-10-0020MZ |
| Cletop -SB with Blue Tape | 8500-10-0029MZ |
| Cletop -SB with White Tape | 8500-10-0016MZ |
| Replacement Tape Type S - Blue | 8500-10-0021MZ |
| Replacement Tape Type S - White | 8500-10-0017MZ |

| DESCRIPTION | AFL NO. |
|---|----------------|
| CLETOP ORIGINAL SERIES | |
| Cletop Type A with Blue Tape | 8500-10-0027MZ |
| Cletop Type A with White Tape | 8500-10-0011MZ |
| Cletop Type B with Blue Tape | 8500-10-0028MZ |
| Cletop Type B with White tape | 8500-10-0014MZ |
| Cletop for MT-RJ with pins (White Tape) | 8500-10-0032MZ |
| Cletop for MPO/MTP with pins (White Tape) | 8500-10-0033MZ |
| Replacement Tape Blue | 8500-10-0012MZ |
| Replacement Tape White | 8500-10-0015MZ |

Recommended Products



Cleaning Kits

- Complete kits for cleaning variety of connectors
- Includes wet and dry cleaning products
- Convenient refill options



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean



WFW FiberWipes™

- Lint free and fully optical grade
- Robust and tear-resistant
- Softer than traditional cellulose wipes

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Clean to learn more about Cletop Optical Fiber Connector Cleaners.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Cleaning Fluids and Wipes

FCC2 Enhanced Fiber Connector Cleaner and Preparation Fluid



Features

- Not Hazardous/Not Regulated for all modes of transport, including air cargo
- Unique dispenser for use with AFL Connector Cleaning Tips and FiberWipes™
- Dissipates static charge
- Up to 400+ cleanings per can

Applications


- Cleans of all types of connector end-faces
- Cleans bare fiber before field terminating or fusion splicing
- Removes oils, salts, dust, dirt, and uncured epoxies
- Safe on glass, ceramic, metal, plastic optical fiber

FCC2 Enhanced Fiber Connector Cleaner and Preparation Fluid is a nonflammable, environmentally safe, residue-free solvent engineered to clean fiber connector end-faces and bare fiber. The 3-way dispenser provides easy one-handed use as tap dispenser for fiber wipes, a well for CCT Connector Cleaning Tips, and a spray nozzle for larger areas. Packaged in a spill-proof container, it can be shipped with connector cleaning and termination kits providing everything techs need in the field. FCC2 was developed with Micro Care Corporation, a world leader in cleaning solvents.

Ordering Information


| DESCRIPTION | AFL NO. |
|--|--------------|
| Fiber Connector Cleaner and Preparation Fluid in 3 oz / 85 g can | FCC2-00-0902 |
| Fiber Connector Cleaner and Preparation Fluid , Case of 12 cans | FCC2-00-0903 |

Recommended Products



FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean



Cleto Cleaners

- Simple push-button shutter application
- Easily replaceable cost-effective tape cartridges
- Over 400 wipes per tape

Cleaning Fluids and Wipes

Debris Destroyer® Fiber Cleaning Pen



Features

- Precise applicator tip for controlled cleaning
- Eliminates electrostatic charge
- Designed for use with One-Click® Cleaners, FiberWipes™, CleanWipes™
- Safe for plastic components

Applications

- Cleaning fiber optic connector end-faces and bare fiber
- Wet to dry cleaning with wipes and One-Click cleaners
- Ideal for bare fiber preparation prior to fusion splicing
- Remove dirt, dust, oils, and other debris from fiber optic components

The Debris Destroyer is a cleaning pen for fiber optic connectors and bare fiber. It can be used for controlled application of cleaning fluid to cassette cleaners and wipes. AFL offers multiple products that can be used with the Debris Destroyer, including CLETOP-S, OPTIPOP-R, FiberWipe, and CleanWipe. The Debris Destroyer can also be used to moisten the tip of One-Click cleaners, turning them into a wet cleaning solution for tough end-face contamination.



Ordering Information

| DESCRIPTION | AFL NO. |
|---|--------------|
| Debris Destroyer Fiber Cleaning Pen, 9 grams/0.32 oz. | FCC3-00-PEN1 |

Recommended Products



FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



CleTOP Cleaners

- Simple push-button shutter application
- Easily replaceable cost-effective tape cartridges
- Over 400 wipes per tape



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Cleaning Fluids and Wipes

Optical Cloth Wipes



FiberWipes



FiberAide 1

Features

- Lint free and fully optical grade
- Robust and tear-resistant
- Softer than traditional cellulose wipes

Applications

- Cleaning optical fibers prior to termination or splicing
- Cleaning fiber optic connector ferrule end-faces
- Cleaning lenses, mirrors, and other optical surfaces
- Use for wet cleaning with FCC2 Connector Cleaning Fluid or FCC3 Fiber Cleaning Pen

Specifically designed to lift and trap common contaminants found in fiber optic installations, AFL wipes provide superior cleaning results because they are made from material that is stronger, softer, and more absorbent than traditional cellulose wipes. Packaged in a clean room, the fabric is optical-quality grade and comes in two convenient form factors and are perfect additions to both tool kits and test kits.

WFW FiberWipes™

- Rugged 90-wipe mini-tub ideal for laboratory and field use
- Hexagonal cover minimizes rolling distance when dropped
- Solvent safe – wipes may be moistened to provide wet / dry cleaning

FiberAide 1

- Hermetically sealed wipes remain uncontaminated and ready for use
- Foil-backed wipes protect skin from cleaning solvents and cable gel
- Packaging contains no glues to leach out
- Solvent safe – wipes may be moistened to provide wet / dry cleaning

Ordering Information

| DESCRIPTION | AFL NO. |
|---|----------------|
| FiberWipes – case of 24 mini-tubs (2160 total wipes, 90 wipes per mini-tub) | 9000-03-0026MZ |
| FiberAide 1 – case of 600 packets (60 bundles, 10 packets per bundle) | 9000-03-0027MZ |

Recommended Products



FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



Cletop Cleaners

- Simple push-button shutter application
- Easily replaceable cost-effective tape cartridges
- Over 400 wipes per tape



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Clean to learn more about Cleaning Fluids and Wipes.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Cleaning Sticks

CCT Connector Cleaning Tips



Features

- Molded sintered polymer construction
- Traps and holds liquid and particle contaminant
- Quality construction with unlimited shelf life

Applications

- Clean ferrule end-faces on jumpers and in adapters
- Clean most common commercial and Mil Spec ferrule sizes
- Combine with AFL's FCC2 Fiber Connector Cleaner for wet/dry cleaning

CCT Connector Cleaning Tips are a unique technology for fiber connector end-face cleaning. Rather than a fabric-covered or foam-covered stick, CCTs are molded cleaning tips that trap contamination and wick cleaning solvents away from connector end-faces. These tips use a molded, sintered polymer that is both porous and pliable, conforming to virtually any fiber end-face polish geometry while trapping and absorbing contaminants. They are designed to be used with AFL's FCC2 Connector Cleaning Fluid for consistent and reliable connector cleaning results.

CCT Connector Cleaning Tips Configurations

- CCTS and CCTX series: cleaning tip is exposed for cleaning ferrule end-faces in alignment sleeves that are recessed within sockets or bulkhead adaptors
- CCTP series: cleaning tip is recessed in the "straw" for cleaning exposed ferrules and termini (jumpers). Fits 2.5 mm and smaller ferrules

Ordering Information

| DESCRIPTION | TUBE COLOR | STICKS QTY | AFL NO. |
|--|------------|------------|----------------|
| CCT CONNECTOR CLEANING TIPS - DOUBLE-ENDED | | | |
| For exposed 2.5 mm, 2.0 mm, 1.6 mm, 1.25 mm ferrules and termini (FC, SC, ST, LC, MU, etc., jumpers, male MIL T 29504/14 for MIL C 28876 and MIL T 29504/04 for MIL C38999) | Yellow | 20 | CCTP-25-0900MZ |
| For 2.5 mm ferrule in adapters or sockets (SC, FC, ST, etc. in adapters) | Blue | 40 | CCTS-25-0900MZ |
| For 1.25 mm ferrule in adapters or sockets (LC, MU, etc., in adapters) | Green | 40 | CCTS-12-0900MZ |
| For MT-RJ connectors and 2.0 mm and 1.6 mm termini in sockets (female MIL T 29504/15 for MIL C 28876 and MIL T 29504/05 for MIL C 38999, MT-RJ both jumpers and adapters) | Orange | 40 | CCTS-16-0900MZ |
| For Biconic and MT ferrule connectors both jumpers and in adapters (Biconic, MTP, MPO, MPX, etc.) | Pink | 20 | CCTX-MT-0900MZ |
| CCT TIPS ARE AVAILABLE IN BULK PACKS OF SINGLE-ENDED STICKS. PACKS OF 50 STICKS PACKAGED IN BOXES OF 6 PACKS (300 sticks) | | | |
| For exposed 2.5 mm, 2.0 mm, 1.6 mm, 1.25 mm ferrules and termini (FC, SC, ST, LC, MU, etc., jumpers, male MIL T 29504/14 for MIL C 28876 and MIL T 29504/04 for MIL C 38999) | Yellow | 300 | CCTP-25-0910MZ |
| For 2.5 mm ferrule in adapters or sockets (SC, FC, ST, etc. in adapters) | Blue | 300 | CCTS-25-0910MZ |
| For 1.25 mm ferrule in adapters or sockets (LC, MU, etc., in adapters) | Green | 300 | CCTS-12-0910MZ |
| For MT-RJ connectors and 2.0 mm and 1.6 mm termini in sockets (female MIL T 29504/15 for MIL C 28876 and MIL T 29504/05 for MIL C 38999, MT-RJ both jumpers and adapters) | Orange | 300 | CCTS-16-0910MZ |
| For Biconic and MT ferrule connectors both jumpers and in adapters (Biconic, MTP, MPO, MPX, etc.) | Pink | 300 | CCTX-MT-0910MZ |

Cleaning Sticks

Cleto Adapter Cleaning Sticks (ACT)



Features

- Easy to use and efficient
- Delivers a consistently high level of cleaning performance
- Available for most common commercial connectors (ST, SC, FC, & MU)

Applications

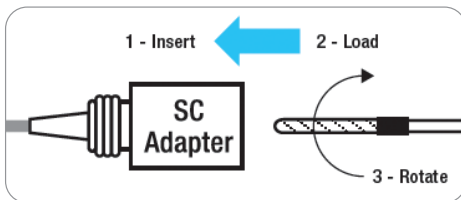
- Clean ferrule end-faces inside the plug-in fiber optic connectors and various adapters
- Cleans adapter alignments sleeves
- Cleans LEMO connectors for video applications

Cleto ACTs offered by AFL are an easy and efficient means of cleaning fiber optics connectors in adapters and cleaning alignment sleeves. Cleto sticks are available in sizes for most common commercial connectors (ST, SC, FC, LC, MU), military connectors, and LEMO connectors for video applications. When connectors need to be cleaned inside adapters, you can rely on the Cleto stick.

Ordering Information

| DESCRIPTION | APPLICABLE CONNECTORS | AFL NO. |
|---|---|----------------|
| ACT-01 — 2.5 mm Cleto Sticks (Box of 200) | FC, SC, ST, D4 | 8500-10-0024MZ |
| ACT-02 — 1.25 mm Cleto Sticks (Box of 200) | LC, MU | 8500-10-0022MZ |
| ACT-03 — 2.0 mm Cleto Sticks (Box of 200) | Military termini, high definition television camera connectors such as LEMO | 8500-10-0023MZ |
| Double-ended 2.0/2.5 mm Cleto Sticks (Box of 100) | Military termini, high definition television camera connectors such as LEMO | 8500-10-0030MZ |

Recommended Cleaning Procedure for ACT Cleaning Sticks



Procedure:

1. **Insert** - Ensure that stick is held straight when inserting into sleeve.
2. **Load** - Apply sufficient pressure (approximately 600-700 g) to ensure ferrule is a little depressed in sleeve.
3. **Rotate** stick clockwise 4-5 times while ensuring direct contact with ferrule end-face is maintained.

Notes:

1. Number of possible wipes: Maintenance (repair) - approximately 1 use; Equipment construction - 4 uses (max.)
2. FCC2 Fluid will improve cleaning performance.

Recommended Products

One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean

FiberWipes

- Lint free and fully optical grade
- Robust and tear-resistant
- Softer than traditional cellulose wipes

FCC2 Cleaning Fluid

- Unique dispenser for use with AFL Connector Cleaning Tips and FiberWipes
- Dissipates static charge
- Up to 400+ cleanings per can

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Clean to learn more about Cleaning Sticks and Cleto Sticks.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Cleaning Kits



FCP1 Kit



FCP2 Kit



FCP3 Kit

Features

- Mix of wet and dry cleaning products for most applications
- MPO/MTP® Option
- Field portable
- Convenient refill options

Applications

- Field cleaning connectors on jumpers and through bulkhead adapters
- Clean SC, ST, FC, LC, MU, and MPO connectors
- Clean a variety of contaminants

Cleaning saves time and money! Over 85% of network failures can be traced back to dirty and damaged connectors. The foolproof way to avoid these outages is to inspect and clean every connector, every time - without fail. You should even inspect new ones right out of the box. Proper fiber hygiene can extend the life of connectors and reduces replacement costs. FCP Cleaning Kits from AFL offer a complete selection of fiber optic cleaning products for field cleaning of connector end-faces in a convenient carry case.

FCP1 kits consist of a wall or rack mountable carry case, FCC2 Fiber Connector Cleaner and Preparation Fluid, CCT Connector Cleaning Tips, Cletop-SB, and color-coded instructions.

FCP2 kits include FCC2 Fiber Connector Cleaner and Preparation Fluid, FCC3 Debris Destroyer® Fiber Cleaning Pen, WFW FiberWipes™, Cletop SB, One-Click Cleaners for SC, ST, FC, LC/MU, MPO connectors, and a field portable duffel bag.

FCP3 kits include FCC2 Fiber Connector Cleaner and Preparation Fluid, FCC3 Debris Destroyer® Fiber Cleaning Pen, CCT Connector Cleaning Tips, Cletop-SB, One-Click Cleaners for SC, ST, FC, LC/MU, MPO connectors, and an easy-access soft carry case.

Cleaning Kits


Ordering Information

| FCP1 WALL/RACK MOUNTABLE FIELD PORTABLE CLEANING KITS | AFL NO. | | |
|--|--------------|--------------|--------------|
| | FCP1-00-0901 | FCP1-00-0907 | FCP1-00-0914 |
| CONTENTS / ITEMS DESCRIPTION | | | |
| FCC2 Fiber Connector Cleaner And Preparation Fluid (Can) | ◆ | ◆ | ◆ |
| CCTS-12 (for 1.25 mm ferrule) Connector Cleaning Tips | | ◆ | ◆ |
| CCTS-25 (for 2.5 mm ferrule) Connector Cleaning Tips | ◆ | ◆ | ◆ |
| CCTP-25 (for all connectors) Connector Cleaning Tips | ◆ | ◆ | ◆ |
| CCTX-MT (for MTP, MPO, MPX connectors) Connector Cleaning Tips | | ◆ | |
| Cletop-S, Type B with White Tape | ◆ | ◆ | ◆ |
| Color-coded Instructions | ◆ | ◆ | ◆ |
| Wall/Rack Mountable Carry Case | ◆ | ◆ | ◆ |

| FCP2 FIELD PORTABLE DUFFLE BAG CLEANING KITS | AFL NO. | |
|--|--------------|--------------|
| | FCP2-10-0900 | FCP2-00-0901 |
| CONTENTS / ITEMS DESCRIPTION | | |
| FCC2 Fiber Connector Cleaner and Preparation Fluid (Can) | ◆ | ◆ |
| FCC3 Debris Destroyer® Fiber Cleaning Pen | ◆ | ◆ |
| WFW FiberWipes™ | ◆ | ◆ |
| Cletop-S, Type B with White Tape | ◆ | ◆ |
| One-Click Cleaner SC, ST, FC | ◆ | ◆ |
| One-Click Cleaner MU/LC | ◆ | ◆ |
| One-Click Cleaner MPO | | ◆ |
| Field Portable Duffle Bag | ◆ | ◆ |


| FCP3 EASY-ACCESS CLEANING KITS | AFL NO. | |
|--|--------------|--------------|
| | FCP3-00-0900 | FCP3-00-0901 |
| CONTENTS / ITEMS DESCRIPTION | | |
| FCC2 Fiber Connector Cleaner And Preparation Fluid (Can) | ◆ | ◆ |
| FCC3 Debris Destroyer® Fiber Cleaning Pen | ◆ | ◆ |
| CCTS-12 (for 1.25 mm ferrule) Connector Cleaning Tips | ◆ | ◆ |
| CCTS-25 (for 2.5 mm ferrule) Connector Cleaning Tips | ◆ | ◆ |
| Cletop-S, Type B with White Tape | ◆ | ◆ |
| One-Click Cleaner SC, ST, FC | ◆ | |
| One-Click Cleaner MU/LC | ◆ | ◆ |
| One-Click Cleaner Ultra 2.5 (enlarged cleaning) SC, ST, FC | ◆ | ◆ |
| One-Click Cleaner D-LC, Duplex LC | | ◆ |
| One-Click Cleaner MPO | ◆ | ◆ |
| Soft Carry Case | ◆ | ◆ |

Recommended Products



FOCIS Flex & FOCIS Lightning (Multi-fiber) Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



FOCIS WiFi2™ Fiber Optic Connector Inspection

- Trim, lightweight, ergonomic and highly productive tool
- App-based automatic and manual focus; auto-centering after image capture
- One button workflow using rapid LED feedback on probe
- Multi-color LED on probe for fast pass/fail user inspection feedback

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Clean to learn more about Cleaning Kits.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts



 Bluetooth®

90S+



In Work Tray



Wind Protector Open

Fujikura 90S+ Fusion Splicer

The Fujikura 90S+ core alignment fusion splicer solves common problems seen in the field—from splicing poor quality legacy fiber to automated equipment maintenance and upkeep. The Fujikura 90S+ can be use in multiple field splicing applications including bend-insensitive fibers in drop cables, long-haul terrestrial and submarine LEAF® fibers, loose buffer fiber, splice-on connectors, and the list goes on. The speed and accuracy of the 90S+ make it suitable for certain production and specialty environments where high output, tight packaging, and low loss requirements are required.

Regardless of your scenario, the Fujikura 90S+ is designed to keep you in the field with an extended battery life of 300 splice and heat cycles. With its multiple automated and easy-to-use features, the 90S+ alleviates the need for traditional operation tasks such as frequent arc calibrations, cleaver blade rotations, cleaver usage tracking, and manual splicing operations. A redesigned work tray, cooling tray, and optional cable clamp make the 90S+ kit more versatile than its predecessors in adapting to varying work conditions and environments.

When splicing loose buffer fiber, additional sheath clamps are not needed. The standard universal sheath clamp now handles both loose and tight buffer fibers. The new Active Fusion Control (AFC) technology improves splice losses for fibers that possess a poor cleave angle. Combined with Active Blade Management between the splicer and cleaver, the Fujikura 90S+ contains a robust set of splicing features that will reduce the likelihood of poor splice installations or repairs.

Features

- Cleaver tracking and upkeep with wireless communication
- Improved real-time arc control for fibers with poor cleave angles
- Automated wind protector, sheath clamps and splice operation
- Loose and tight buffer with same sheath clamp
- Lithium-ion battery with 300 splices/shrinks per charge
- PC software and 90S+ manual downloaded from splicer
- Multi-function transit case with integrated workstation

Applications

- Distribution fiber repair
- Long-haul network installation
- Field termination with splice-on connectors
- Access network installation
- Fanout kits, pigtails and splice cassettes
- OSP cable installation and repair
- Optical modules – splitters, couplers, MUXs, EDFAs and attenuators

STOCK ITEM

Fujikura 90S+ Fusion Splicer

Ordering Information

| DESCRIPTION | AFL NO. |
|---|---------|
| 90S+ Fusion Splicer (machine only) Includes: ADC-20 AC Adapter, ACC-14 AC Cord, BTR-15 Battery, ELCT2-16B Spare Electrodes (pair), Sheath Clamps, SP-03 Fiber Holder Set Plates, USB-01 Cable, Alcohol Dispenser, Screwdriver, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Work Tray J-Plate, SS03 single fiber stripper, CC39 Transit Case with Carrying Strap and Two Year Warranty | S017519 |
| 90S+ Fusion Splicer Kit (with cleaver) Includes: CT50 Cleaver, ADC-20 AC Adapter, ACC-14 AC Cord, BTR-15 Battery, ELCT2-16B Spare Electrodes (pair), Sheath Clamps, SP-03 Fiber Holder Set Plates, USB-01 Cable, Alcohol Dispenser, Screwdriver, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Work Tray J-Plate, SS03 single fiber stripper, CC39 Transit Case with Carrying Strap and Two Year Warranty | S017521 |
| 90S+ Fusion Splicer without Bluetooth (machine only) Includes: ADC-20 AC Adapter, BTR-15 Battery, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair), Sheath Clamps, SP-03 Fiber Holder Set Plates, USB-01 Cable, Alcohol Dispenser, Screwdriver, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Work Tray J-Plate, SS03 Single Fiber Stripper, CC39 Transit Case with Carrying Strap and Two Year Warranty | S017520 |
| One Year Extended Warranty | S012996 |
| Two Year Extended Warranty | S013000 |

Recommended Products for the 90S+

| DESCRIPTION | AFL NO. |
|--|---------|
| Cleavers | |
| CT-16 Cleaver | S018330 |
| CT-50 Cleaver | S017030 |
| Fiber Holders (pair) | |
| FH-70-250 (250 µm coated fiber) | S017111 |
| FH-70-900 (900 µm jacketed fiber) | S017113 |
| FH-70-160 (160 µm coated fiber) | S017095 |
| FH-70-200 (200 µm coated fiber) | S017711 |
| FH-60-LT900 (Loose buffer 900 µm fiber) | S015181 |
| FUSEConnect® Accessories | |
| FH-FC-20 (900 µm within 2.0 mm sheathing) (each) | S014696 |
| FH-FC-30 (900 µm within 3.0 mm sheathing) (pair) | S014695 |
| FH-FC-900 (900 µm cable) (each) | S014697 |
| CLAMP-FC-2000 (pair) | S014705 |
| CLAMP-FC-3000 (single holder) | S014704 |
| Power Supply Options and Equipment | |
| ADC-20 AC Adapter | S017513 |
| ACC-14 AC Power Cord | S014536 |
| BTR-15 Battery | S017512 |
| DCC-20 Power Cord (connects AC Adapter to cigarette lighter socket) | S017527 |
| DCC-21 Power Cord (connects AC Adapter to power source via alligator clips) | S017528 |

| DESCRIPTION | AFL NO. |
|---|---------|
| Miscellaneous | |
| SS03 Single fiber stripper (3 hole) | S017098 |
| SS01 Single fiber stripper (1 hole) | S017099 |
| ELCT2-16B Electrodes | S017103 |
| SP-03 Fiber Holder Set Plates | S017518 |
| S90 Universal Sheath Clamps | S017696 |
| Portable Tripod Workstation (see product profile for more detail) | S014773 |
| ASW-02 Splicing Workstation (see product profile for more detail) | S010532 |
| WT-09R Work Tray Right | S017515 |
| WT-09L Work Tray Left | S017516 |
| JP-09 Work Tray J-Plate | S017517 |
| JP-10 J-Plate (Cooling tray attaches to splicer) | S017522 |
| JP-10-FC J-Plate with Fiber Clamps | S017523 |
| TS-03 Tripod Screw (90 Series) | S017524 |
| ST-02 Fusion Splicer Strap | S017525 |
| CLAMP-DC-12 (Drop cable clamp for work tray) | S017550 |
| USB-01 Cable | S014777 |
| CC39 Transit Case | S017514 |
| Splicer V-Groove Cleaning Kit | S014397 |
| ST-03 Case and Work Tray Strap | S017549 |



Fiber Holders

- Wide range of sizes for various applications
- Loose & Tight Buffer options available



Portable Tripod Work Station

- Sturdy work tray supports the splicer, cleaver and accessories
- Tripod supports a load capacity of up to eleven pounds



V-Groove Cleaning Kit

- Removes environmental contamination from the v-groove of the splicer
- Maintains performance and ensures fiber alignment

Fujikura 90S+ Fusion Splicer

Specifications

| PARAMETER | | VALUE |
|---|--------------------------------------|--|
| Fiber Alignment Method | | Active core alignment |
| Fiber Count Can Be Spliced | | Single fiber |
| Applicable Fiber | Fiber Type | Single-mode optical fiber |
| | Cladding Diameter | Multimode optical fiber |
| Applicable Coating | Sheath Clamp | 80 to 150 µm |
| | | Coating dia.: Max. 3,000 µm |
| Fiber Splice Performance | Splice Loss | Cleave length: 5 to 16 mm |
| | | ITU-T G.652: Avg. 0.02 dB |
| | | ITU-T G.651: Avg. 0.01 dB |
| | | ITU-T G.653: Avg. 0.04 dB |
| | | ITU-T G.654: Avg. 0.04 dB |
| | | ITU-T G.655: Avg. 0.04 dB |
| | Splice Time | ITU-T G.657: Avg. 0.02 dB |
| SM FAST mode: Avg. 8 to 10 sec. SMAUTO mode: Avg. 11 to 13 sec. AUTO mode: Avg. 14 to 16 sec. | | |
| Applicable Protection Sleeve | Sleeve Type | Heat-shrinkable sleeve |
| | Sleeve Length | Max. 66 mm |
| | Sleeve Dia. | Max. 6.0 mm before shrinking |
| Sleeve Heat Performance | Heat Time | 60 mm slim mode: Avg. 9 to 10 sec. 60 mm mode: Avg. 13 to 15 sec. |
| Fiber Tensile Test Force | | Approx. 2.0 N |
| Electrode Life | | Approx. 5,000 splices |
| Physical Description | Dimensions W | Approx. 170 mm without projection |
| | Dimensions D | Approx. 173 mm without projection |
| | Dimensions H | Approx. 150 mm without projection |
| | Weight | Approx. 2.8 kg including battery |
| Environmental Condition | Temperature | Operate: -10 to 50°C Storage: -40 to 80°C |
| | | Humidity |
| | Altitude | Max. 5,000 m |
| AC Adaptor | Input | AC100 to 240 V, 50/60 Hz, Max. 1.5 A |
| Battery Pack | Type | Rechargeable Lithium Ion |
| | Output | Approx. DC14.4V / 6,380 mAh |
| | Capacity | Approx. 300 splice and heat cycles |
| | Temperature | Recharge: 0 to 30°C Storage: -20 to 30°C |
| | | Battery Life |
| Recharge Time | Approx. 5-8 hours from empty | |
| Display | LCD Monitor | TFT 5 inches with touch screen |
| | Magnification | 200 to 320x |
| Illumination | V-Grooves | LED lamp |
| Interface | PC | USB2.0 Mini B type |
| | External Led Lamp | USB2.0 A type, Approx. DC5V, 500 mA |
| | Ribbon Stripper | Mini DIN 6 pin, DC12V, Max. 1A |
| | Wireless | Bluetooth 4.1 LE |
| Data Storage | Splice Mode | 100 splice modes |
| | Heat Mode | 30 heat modes |
| | Splice Result | 20,000 splices |
| | Splice Image | 100 images |
| Screw Hole For Tripod | | 1/4-20 UNC |
| Other Features | Automatic Functions | Splice mode select by fiber type analysis |
| | | Discharge power calibration |
| | | Wind protector: open/close |
| | | Sheath clamp: open |
| | | Heater lid: open/close |
| Reference Guide | Video and PDF file stored in splicer | |
| Sheath Clamp | Easy sleeve positioning clamp | |
| Electrode | Replaceable without tool | |



45S

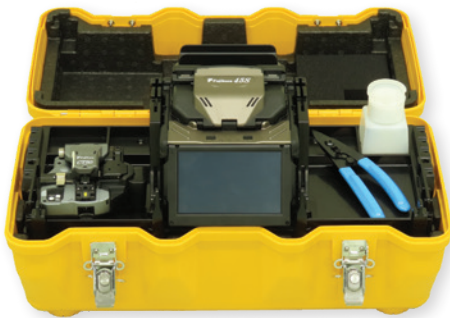
Fujikura 45S Fusion Splicer

The 45S cladding alignment fusion splicer is changing the way people splice fiber in small to mid-fiber count applications. This Fujikura splicer debuts a landmark improvement to the fusion splicing process with the ability to prepare and load both fibers simultaneously. The hand-held fiber coating stripper, the SS-05, is capable of stripping two 250 μm coated fibers in the same pass, along with the CT-16A cleaver adapter plate which can likewise accommodate two bare fibers for cleaving. After preparation, the 45S patented sheath clamps enable loading both fibers simultaneously into the splicer with one fiber in each hand. The user can press down on the sheath clamp base to close it while positioning the fiber in the v-grooves. This enables one-handed operation.

Furthermore, the 45S sheath clamps are mechanically linked to the wind protector, so after splicing is finished, opening the wind protector also opens both sheath clamps for quick sleeve positioning and transfer to the tube heater. The 45S tube heater shrinks sleeves much faster than its predecessor with a nominal ~20 second heat time for 60 mm sleeves down from ~26 seconds. The simultaneous fiber preparation capability, automated sheath clamp opening, and a faster tube heater, combine to lower the overall fusion splicing cycle time by ~30% or more.

The 45S continues to benefit the user experience with improvements to fiber placement, battery access, and machine ergonomics. Previously, when using sheath clamps, if the cleaved fiber was accidentally set past the electrode centerline, the machine would send an error and require manual intervention. The 45S will now accept this mistake and reverse the fiber to correct position automatically. With a cube form factor, the 45S is easily transported and operated in space-constrained environments. The adjustable screen can alleviate glare from the sun and adjust with abnormal splicer positions confronted in challenging splice locations.

Backed by the best service team in the industry, the Fujikura 45S is the ideal splicer to use when portability, ruggedness, speed, and reliability are needed. If you'd like to see the 45S capabilities first-hand, please contact us at 1-800-235-3423 to arrange a product demonstration at your earliest convenience.



45S Standard Kit

Applications

- 5G Small Cell Site
- FTTx drops and terminations
- MDF/IDF splices and terminations
- Rural fiber deployments and restorations

Features

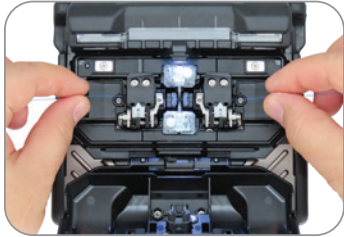
- Simultaneous fiber preparation with newly patented sheath clamp design
- Sheath clamps automatically opened with the wind protector
- Automatic fiber placement correction
- Active Fusion Control for arc optimization with every splice
- Active Blade Management for cleave quality monitoring and correction
- Easy-access battery, screen position adjustments, and ergonomic adaptations
- Fully ruggedized for shock, moisture and dust resistance



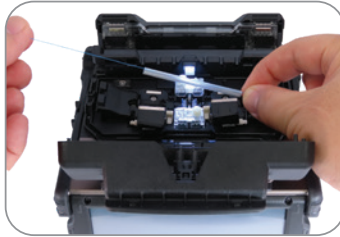
45S on Tripod

Fujikura 45S Fusion Splicer

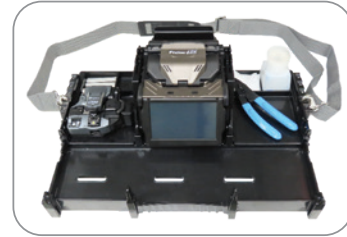
Features



Simultaneous Fiber Loading



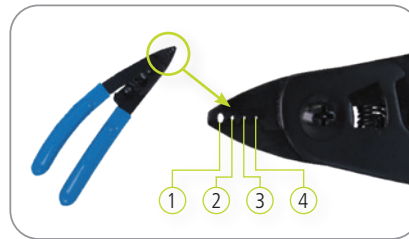
Sleeve Positioning



Work Tray with Neck Strap



CT-16A Adapter Plate on CT-50



Fiber stripper SS-05

- ① For 2.3 mm
- ② For 900 μm
- ③ For 250 μm
- ④ For 250 μm

Single Fiber Splicers

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| Fujikura 45S Standard Kit Includes: CT-50 cleaver, SS-05 single fiber stripper, 1 pair each FH-70-250 and FH-70-900 fiber holders, SP-04 set plates, ELCT2-16B Spare Electrodes (Pair), ADC-21 AC Adapter, BTR-17 Battery Pack (installed), ACC-09 Power Cord, USB-01 USB Cable, AP-02 Alcohol Container, WT-10 work tray, ST-03 carrying case strap, TS-03 tripod screw, CC-45 Transit Case, 1 year factory warranty, and instruction manual downloaded from splicer | S018318 |
| Fujikura 45S Kit without Cleaver Includes: SS-05 single fiber stripper, 1 pair each FH-70-250 and FH-70-900 fiber holders, SP-04 set plates, ELCT2-16B Spare Electrodes (Pair), ADC-21 AC Adapter, BTR-17 Battery Pack (installed), ACC-09 Power Cord, USB-01 USB Cable, AP-02 Alcohol Container, WT-10 work tray, ST-03 carrying case strap, TS-03 tripod screw, CC-45 Transit Case, 1 year factory warranty, and instruction manual downloaded from splicer | S018319 |
| One Year Extended Warranty | S012996 |
| Two Year Extended Warranty | S013000 |

Recommended Accessories

| DESCRIPTION | AFL NO. |
|--|---------|
| Cleavers AND STRIPPERS | |
| CT-50 Fiber Cleaver | S017030 |
| CT-16 Fiber Cleaver | S018330 |
| SS-05 Dual Fiber Stripper | S018327 |
| Fiber Holders | |
| CLAMP-S35B Loose Buffer Sheath Clamp | S018333 |
| FH-70-250 (250 μm single fiber) | S017111 |
| FH-70-200 (200 μm single fiber) | S017711 |
| FH-70-900 Fiber Holders (900 μm single fiber) | S017113 |
| FH-60-LT900 (900 μm loose buffer tube) | S015181 |
| FUSEConnect® Accessories | |
| FH-FC-20 (900 μm within 2.0 mm sheathing) (each) | S014696 |
| FH-FC-30 (900 μm within 3.0 mm sheathing) (pair) | S014695 |
| FH-FC-900 (900 μm cable) (each) | S014697 |
| CLAMP-FC-2000 (pair) | S014705 |
| CLAMP-FC-3000 (pair) | S014704 |

| DESCRIPTION | AFL NO. |
|---|---------|
| Power Supply Options | |
| BTR-17 Battery Pack | S018324 |
| ADC-21 AC Adapter | S018168 |
| ACC-09 Power Cord | S014390 |
| Miscellaneous | |
| WT-10 Work Tray | S018336 |
| TS-03 Tripod Screw | S017524 |
| ST-03 Carrying Case and Work Tray Strap | S017549 |
| CLAMP-DC-12 drop cable clamp on work tray | S017550 |
| ELCT2-16B Electrodes | S017103 |
| CC-45 Transit Case | S018326 |
| Splicer V-Groove Cleaning Kit | S014397 |
| USB-01 USB Cable | S014777 |
| SP-04 Fiber Holder Set Plates | S018332 |
| AD-16A Adapter Plate (CT-50 and CT-16 up to 900 μm) | S018328 |
| Portable Tripod Workstation (see web listing for more detail) | S014773 |

Fujikura 45S Fusion Splicer

Specifications

| PARAMETER | VALUE | |
|--|---------------------------------|---|
| Fiber alignment method | Active cladding alignment | |
| Fiber count can be spliced | Single fiber | |
| Applicable fiber | Fiber type | Single-mode optical fiber Multimode optical fiber |
| | Cladding dia. | Approx. 125 μm |
| Applicable coating | Sheath Clamp | Coating diameter: Max. 3,000 μm Cleave length: 5 to 16 mm *1 |
| | Fiber Holder | Coating diameter: 160 μm – 3,000 μm based on available fiber holder options Cleave length: Approx. 10 mm |
| Fiber splice performance | Splice loss *2 | ITU-T G.652: Avg. 0.03dB |
| | | ITU-T G.651: Avg. 0.01dB |
| ITU-T G.653: Avg. 0.05dB | | |
| ITU-T G.655: Avg. 0.05dB | | |
| ITU-T G.657: Avg. 0.03dB | | |
| Splicing time *3 | SM FAST mode: Avg. 6 to 7 sec. | |
| | SM AUTO mode: Avg. 8 to 10 sec. | |
| Applicable protection sleeve | Sleeve type | Heat shrinkable sleeve |
| | Sleeve length | Max. 66 mm |
| | Sleeve dia. | Max. 6.0 mm before shrinking |
| Sleeve heat performance | Heat time *4 | 60 mm mode: Avg. 15 to 22 sec. |
| | | 60 mm slim mode: Avg. 15 to 17sec. |
| Fiber tensile test force | Approx. 2.0 N | |
| Electrode life *5 | Approx. 6,000 splices | |
| Physical description | Dimensions W | Approx. 131 mm without projection |
| | Dimensions D | Approx. 123 mm without projection |
| | Dimensions H | Approx. 121 mm without projection |
| | Weight | Approx. 1.4 kg including battery |
| Environmental condition | Temperature | Operate : -10 to 50°C Storage : -40 to 80°C |
| | Humidity | Operate : 0 to 95% non-condensing Storage : 0 to 95% non-condensing |
| | Altitude | Max. 5,000 m |
| AC adaptor | Input | AC100 to 240V, 50/60Hz, Max. 1A |
| | Output | Approx. DC 19V, Max. 2.1A |
| Battery pack | Type | Rechargeable Lithium Ion |
| | Output | Approx. DC 14.4V / 3,190mAh |
| | Capacity *6 | 60 mm heat mode: Approx. 200 splice & heat cycles |
| | | 60 mm slim heat mode: Approx. 230 splice & heat cycles |
| | Temperature | Operate: -10 to 50°C |
| Recharge : 0 to 40°C | | |
| Short term storage of 30 days: -20 to 50°C Long term storage: -20 to 30°C | | |
| Battery life *7 | Approx. 500 recharge cycles | |
| Display | LCD monitor | TFT 4.95 inches with touch screen |
| | Magnification | Approx. 132 to 300X |
| Illumination | V-grooves | LED lamp |
| Interface | PC | USB2.0 MINI B type |
| | External LED lamp | USB 2.0 A type |
| | | Approx. DC5V, 500mA |
| Wireless *8 | Bluetooth® 5.2 | |

Fujikura 45S Fusion Splicer

Specifications

| PARAMETER | | VALUE |
|-------------------------------|---------------------|--------------------------------------|
| Data storage | Splice mode | 100 splice modes |
| | Heat mode | 30 heat modes |
| | Splice result | 20,000 splices |
| | Fiber image | 100 images |
| Screw hole for tripod | | 1/4-20UNC |
| Other features | Automatic functions | Fusion control |
| | | Blade management and control |
| | | Splice start |
| | | Heater start |
| | Reference guide | PDF file stored on splicer |
| | Sheath clamp | Open with/without wind protector |
| | | Close when setting fiber |
| | | Easy sleeve positioning design |
| | Electrode | Tool-less replacement |
| | PC Software | Splicer firmware update via internet |
| Parameter Upload and download | | |

NOTES:

- *1 Cleave length range depending on fiber type
 - 5 – 16 mm: 125 μm cladding dia. And 250 μm coating dia.
 - 10 – 16 mm: 125 μm cladding dia. And 400 or 900 μm coating dia.
- *2 Measured with cut-back method relevant to ITU-T and IEC standard after splicing Fujikura identical fibers. The average splice loss changes depending on the environmental condition and fiber characteristics.
- *3 Measured at room temperature. The definition of splice time is from the fiber image appearing on the LCD monitor to the estimated splice loss. The average splice time changes depending on the environmental conditions, fiber type, and fiber characteristics.
- *4 Measured at room temperature with the AC adapter. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type, and battery pack condition. In addition, since the heating operation is constantly optimized, the average heating time changes depending on the usage conditions of the fusion splicer.
- *5 The electrode life changes depending on the environmental conditions, fiber type, and splice modes used.
- *6 Test Conditions
 - Splice and heat time: 1 minute cycle
 - Using the splicer power save settings, subject to our testing condition
 - Using a new battery
 - Room temperature
 - The battery capacity changes when testing in different conditions than above
- *7 The battery capacity decreases to half after approx. 500 discharge and recharge cycles. The battery life is shortened further when using outside of the storage and operating temperature ranges, or if completely discharged when stored for an extended period without recharging.
- *8 Bluetooth mark and logos are registered trademarks of Bluetooth SIG, Inc.



35S

Fujikura 35S Fusion Splicer

The 35S cladding alignment fusion splicer is changing the way people splice fiber in small to mid-fiber count applications. This Fujikura splicer debuts a landmark improvement to the fusion splicing process with the ability to prepare and load both fibers simultaneously. The hand-held fiber coating stripper, the SS-05, is capable of stripping two 250 μm coated fibers in the same pass, along with the CT-16 cleaver adapter plate which can likewise accommodate two bare fibers for cleaving. After preparation, the 35S patented sheath clamps enable loading both fibers simultaneously into the splicer with one fiber in each hand. The user can press down on the sheath clamp base to close it while positioning the fiber in the v-grooves. This enables a one-handed operation.



35S Standard Kit

Furthermore, the 35S sheath clamps are mechanically linked to the wind protector, so after splicing is finished, opening the wind protector also opens both sheath clamps for quick sleeve positioning and transfer to the tube heater. The 35S tube heater shrinks sleeves much faster than its predecessor with a nominal ~20 second heat time for 60 mm sleeves down from ~26 seconds. The simultaneous fiber preparation capability, automated sheath clamp opening, and a faster tube heater, combine to lower the overall fusion splicing cycle time by ~30% or more.

The 35S continues to benefit the user experience with improvements to fiber placement, battery access, and machine ergonomics. Previously, when using sheath clamps, if the cleaved fiber was accidentally set past the electrode centerline, the machine would send an error and require manual intervention. The 35S will now accept this mistake and reverse the fiber to correct position automatically. With a cube form factor, the 35S is easily transported and operated in space-constrained environments. The adjustable screen can alleviate glare from the sun and adjust with abnormal splicer positions confronted in challenging splice locations.



CT-16 with AD-16A Adapter

Backed by the best service team in the industry, the Fujikura 35S is the ideal splicer to use when portability, ruggedness, speed, and reliability are needed. If you'd like to see the 35S capabilities first-hand, please contact us at 1-800-235-3423 to arrange a product demonstration at your earliest convenience.

Features

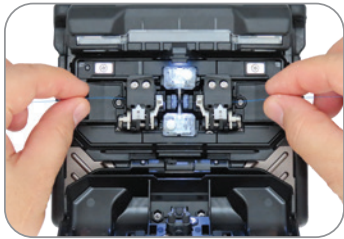
- Simultaneous fiber preparation with patented sheath clamp design.
- Sheath clamps automatically opened with the wind protector.
- Automatic fiber placement correction.
- Active Fusion Control for arc optimization with every splice.
- Easy-access battery, screen position adjustments, and ergonomic adaptations.
- Fully ruggedized for shock, moisture, and dust resistance.

Applications

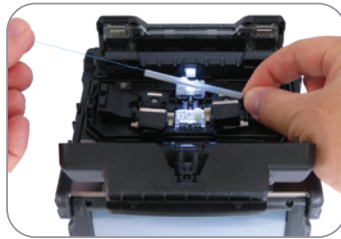
- 5G Small Cell Site
- FTTx drops and terminations
- MDF/IDF splices and terminations
- Rural fiber deployments and restorations

Fujikura 35S Fusion Splicer

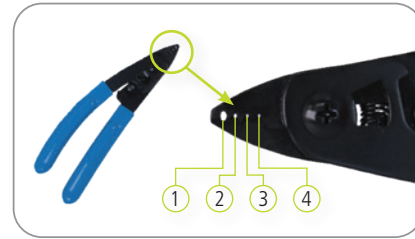
Features



Simultaneous Fiber Loading



Sleeve Positioning



Fiber stripper SS-05

- ① For 2.3 mm
- ② For 900 μm
- ③ For 250 μm
- ④ For 250 μm

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| Fujikura 35S Standard Kit Includes: CT-16 cleaver, SS-05 single fiber stripper, 1 pair each FH-70-250 and FH-70-900 fiber holders, SP-04 set plates, ELCT2-16B Spare Electrodes (Pair), ADC-21 AC Adapter, BTR-17 Battery Pack (installed), ACC-09 Power Cord, USB-01 USB Cable, CC-44 Transit Case, 1 year factory warranty and instruction manual downloaded from splicer | S018314 |
| Fujikura 35S Kit without Cleaver Includes: SS-05 single fiber stripper, 1 pair each FH-70-250 and FH-70-900 fiber holders, SP-04 set plates, ELCT2-16B Spare Electrodes (Pair), ADC-21 AC Adapter, BTR-17 Battery Pack (installed), ACC-09 Power Cord, USB-01 USB Cable, 1 year factory warranty and instruction manual downloaded from splicer | S018316 |
| One Year Extended Warranty | S012996 |
| Two Year Extended Warranty | S013000 |

Recommended Accessories

| DESCRIPTION | AFL NO. |
|--|---------|
| Cleavers AND STRIPPERS | |
| CT-50 Fiber Cleaver | S017030 |
| CT-16 Fiber Cleaver | S018330 |
| SS-05 Dual Fiber Stripper | S018327 |
| Fiber Holders | |
| CLAMP-S35B Loose Buffer Sheath Clamp | S018333 |
| FH-70-250 (250 μm single fiber) | S017111 |
| FH-70-200 (200 μm single fiber) | S017711 |
| FH-70-900 Fiber Holders (900 μm single fiber) | S017113 |
| FH-60-LT900 (900 μm loose buffer tube) | S015181 |
| FUSEConnect® Accessories | |
| FH-FC-20 (900 μm within 2.0 mm sheathing) (each) | S014696 |
| FH-FC-30 (900 μm within 3.0 mm sheathing) (pair) | S014695 |
| FH-FC-900 (900 μm cable) (each) | S014697 |
| CLAMP-FC-2000 (pair) | S014705 |
| CLAMP-FC-3000 (pair) | S014704 |

| DESCRIPTION | AFL NO. |
|---|---------|
| Power Supply Options | |
| BTR-17 Battery Pack | S018324 |
| ADC-21 AC Adapter | S018168 |
| ACC-09 Power Cord | S014390 |
| Miscellaneous | |
| TS-03 Tripod Screw | S017524 |
| ELCT2-16B Electrodes | S017103 |
| CC-44 Transit Case | S018325 |
| Splicer V-Groove Cleaning Kit | S014397 |
| USB-01 USB Cable | S014777 |
| SP-04 Fiber Holder Set Plates | S018332 |
| AD-16A Adapter Plate (CT-50 & CT-16 up to 900um) | S018328 |
| AD-16B Adapter Plate (CT-50 & CT-16 up to 3mm) | S018331 |
| CB-09 Replacement Blade for CT-16 Cleaver | S018335 |
| Portable Tripod Workstation (see web listing for more detail) | S014773 |

Fujikura 35S Fusion Splicer

Specifications

| PARAMETER | VALUE | |
|--|--------------------------------|---|
| Fiber alignment method | Active cladding alignment | |
| Fiber count can be spliced | Single fiber | |
| Applicable fiber | Fiber type | Single mode optical fiber Multi mode optical fiber |
| | Cladding dia. | Approx. 125 μm |
| Applicable coating | Sheath Clamp | Coating diameter: Max. 3,000 μm Cleave length: 5 to 16 mm *1 |
| | Fiber Holder | Coating diameter: 160 μm – 3,000 μm based on available fiber holder options Cleave length: Approx. 10 mm |
| Fiber splice performance | Splice loss *2 | ITU-T G.652: Avg. 0.03dB |
| | | ITU-T G.651: Avg. 0.01dB |
| ITU-T G.653: Avg. 0.05dB | | |
| ITU-T G.655: Avg. 0.05dB | | |
| ITU-T G.657: Avg. 0.03dB | | |
| Splicing time*3 | SM FAST mode: Avg. 6 to 7 sec. | |
| | SM AUTO mode: Avg. 8 to 10sec. | |
| Applicable protection sleeve | Sleeve type | Heat shrinkable sleeve |
| | Sleeve length | Max. 66 mm |
| | Sleeve dia. | Max. 6.0 mm before shrinking |
| Sleeve heat performance | Heat time*4 | 60 mm mode: Avg. 15 to 22sec. |
| | | 60 mm slim mode: Avg. 15 to 17sec. |
| Fiber tensile test force | Approx. 2.0 N | |
| Electrode life*5 | Approx. 6,000 splices | |
| Physical description | Dimensions W | Approx. 131 mm without projection |
| | Dimensions D | Approx. 123 mm without projection |
| | Dimensions H | Approx. 121 mm without projection |
| | Weight | Approx. 1.4 kg including battery |
| Environmental condition | Temperature | Operate : -10 to 50°C Storage : -40 to 80°C |
| | Humidity | Operate : 0 to 95% non-condensing Storage : 0 to 95% non-condensing |
| | Altitude | Max. 5,000 m |
| AC adaptor | Input | AC100 to 240V, 50/60Hz, Max. 1A |
| | Output | Approx. DC 19V, Max. 2.1A |
| Battery pack | Type | Rechargeable Lithium Ion |
| | Output | Approx. DC 14.4V / 3,190mAh |
| | Capacity*6 | 60 mm heat mode: Approx. 200 splice & heat cycles |
| | | 60 mm slim heat mode: Approx. 230 splice & heat cycles |
| | Temperature | Operate: -10 to 50°C |
| Recharge : 0 to 40°C | | |
| Short term storage of 30 days: -20 to 50°C Long term storage: -20 to 30°C | | |
| Battery life*7 | Approx. 500 recharge cycles | |
| Display | LCD monitor | TFT 4.95 inches with touch screen |
| | Magnification | Approx. 132 to 300X |
| Illumination | V-grooves | LED lamp |
| Interface | PC | USB 2.0 MINI B type |
| | External LED lamp | USB 2.0 A type Approx. DC5V, 500mA |

Fujikura 35S Fusion Splicer

Specifications

| PARAMETER | | VALUE |
|----------------|--------------------------------------|----------------------------------|
| Data storage | Splice mode | 100 splice modes |
| | Heat mode | 30 heat modes |
| | Splice result | 20,000 splices |
| | Fiber image | 100 images |
| Other features | Automatic functions | Fusion control |
| | | Splice start |
| | | Heater start |
| | Reference guide | PDF file stored on splicer |
| | Sheath clamp | Open with/without wind protector |
| | | Close when setting fiber |
| | Electrode | Easy sleeve positioning design |
| | | Tool-less replacement |
| PC Software | Splicer firmware update via internet | |
| | Parameter Upload and download | |

NOTES:

- *1 Cleave length range depending on fiber type
 5 – 16 mm: 125 μm cladding dia. And 250 μm coating dia.
 10 – 16 mm: 125 μm cladding dia. And 400 or 900 μm coating dia.
- *2 Measured with cut-back method relevant to ITU-T and IEC standard after splicing Fujikura identical fibers. The average splice loss changes depending on the environmental condition and fiber characteristics.
- *3 Measured at room temperature. The definition of splice time is from the fiber image appearing on the LCD monitor to the estimated splice loss. The average splice time changes depending on the environmental conditions, fiber type, and fiber characteristics.
- *4 Measured at room temperature with the AC adapter. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type, and battery pack condition. In addition, since the heating operation is constantly optimized, the average heating time changes depending on the usage conditions of the fusion splicer.
- *5 The electrode life changes depending on the environmental conditions, fiber type, and splice modes used.
- *6 Test Conditions
 Splice and heat time: 1 minute cycle
 Using the splicer power save settings, subject to our testing condition
 Using a new battery
 Room temperature
 The battery capacity changes when testing in different conditions than above
- *7 The battery capacity decreases to half after approx. 500 discharge and recharge cycles. The battery life is shortened further when using outside of the storage and operating temperature ranges, or if completely discharged when stored for an extended period without recharging.



Bluetooth®

90R

Fujikura 90R Fusion Splicer

The Fujikura 90R is the mass fusion splicer workhorse of the splicing world. As data demand continues to rise, the solution to handle the increased traffic is to increase fiber counts. As a result, fiber counts being utilized in enterprise data centers, campus, and metro networks have grown enough to make single fiber splicing too costly and timely. High density cabling made possible by SpiderWeb Ribbon® (SWR®) and others like it are spurring ribbon splicing activity in places that have traditionally used loose fiber. The 90R is the answer to these changes in splicing demand. With automated splice start, tube heater, wind protector, cleave tracking, and blade rotations for up to 2 cleavers at a time, this splicer frees up operator time for other fiber preparation steps. New to the 90R, you can keep your splicer in the field longer with field replaceable V-grooves. When V-grooves can no longer be cleaned after extended use, or are accidentally damaged, you can resume splicing in minutes by installing the spare set included with your 90R kit. Put our 90R to the test by contacting us to see its capabilities first-hand, 1-800-235-3423.



In Work Tray

Features

- Cleave tracking and upkeep with wireless communication
- Automated wind protector, tube heater and splice operation
- User replaceable v-grooves
- 200 μm and 250 μm SWR universal ribbon prep accessories
- Graphical User Interface with 5.0" Touchscreen
- PC software and 90R manual downloaded from splicer
- Multi-function transit case with integrated workstation

Applications

- Data Center cable installation
- High fiber count metro and campus networks
- Long-haul network installs and repair
- Trunk cable repair with Splice-on MPOs
- Ribbon splicing high density cables with 200 μm loose fiber



Wind Protector Open

Fujikura 90R Fusion Splicer

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| 90R Fusion Splicer (machine only) Includes: BTR-15 Battery, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, Work Tray, CC-39 Transit Case with Carrying Strap and Two Year Warranty | S017509 |
| 90R Fusion Splicer Kit (with cleaver & thermal stripper) Includes: BTR-15 Battery, CT50 Cleaver, RS03 Stripper, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty | S017511 |
| 90R Fusion Splicer without Bluetooth (machine only) Includes: BTR-15 Battery, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty | S017540 |
| 90R Fusion Splicer Kit without Bluetooth (with cleaver & thermal stripper) Includes: BTR-15 Battery, CT50 Cleaver, RS01 Stripper, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty | S017510 |
| One Year Extended Warranty | S012996 |
| Two Year Extended Warranty | S013000 |

Recommended Products for the 90R

| DESCRIPTION | AFL NO. |
|--|---------|
| Cleavers and Strippers | |
| CT50 Cleaver | S017030 |
| RS01 Thermal Stripper | S016815 |
| RS02 Thermal Stripper | S016816 |
| RS03 Thermal Stripper | S016817 |
| Fiber Holders (pair) | |
| FH-70-2 | S017114 |
| FH-70-4 | S017115 |
| FH-70-6 | S017116 |
| FH-70-8 | S017117 |
| FH-70-10 | S017118 |
| FH-70-12 | S017119 |
| FH-70-12PC (pitch conversion holder for 200 µm loose fibers) | S017464 |
| FH-70-12-200 (200 µm pitch ribbons) | S017681 |
| FH-70-16 | S017533 |
| FH-70-250 (250 µm coated single fiber) | S017111 |
| FH-70-900 (900 µm jacketed single fiber) | S017113 |
| FH-60-LT900 (Loose buffer 900 µm fiber) | S015181 |
| FUSEConnect® Accessories | |
| FH-FC-20 (900 µm within 2.0 mm sheathing) (each) | S014696 |
| FH-FC-30 (900 µm within 3.0 mm sheathing) (pair) | S014695 |
| FH-FC-900 (900 µm cable) (each) | S014697 |
| CLAMP-FC-2000 (pair) | S014705 |
| Batteries and Power Cords | |
| ADC-20 AC Adapter | S017513 |
| BTR-15 Battery | S017512 |
| DCC-11 splicer to ribbon stripper power cord | S013852 |
| DCC-20 Power Cord | S017527 |
| Connects ADC-20 to cigarette lighter socket | |
| DCC-21 Power Cord | S017528 |
| Connects ADC-20 to power source via alligator clips | |
| ACC-14 AC Power Cord | S014536 |

| DESCRIPTION | AFL NO. |
|---|---------|
| Miscellaneous | |
| SS01 Single fiber stripper (1 hole) | S017099 |
| ELCT2-16B Electrodes | S017103 |
| Portable Tripod Workstation (see product profile for more detail) | S014773 |
| ASW-02 Splicing Workstation (see product profile for more detail) | S010532 |
| WT-09R Work Tray Right | S017515 |
| WT-09L Work Tray Left | S017516 |
| JP-09 Work Tray J-Plate | S017517 |
| JP-10 J-Plate (Cooling tray attaches to splicer) | S017522 |
| JP-10-FC J-Plate with Fiber Clamps | S017523 |
| TS-03 Tripod Screw (90 Series) | S017524 |
| ST-02 Fusion Splicer Strap | S017525 |
| CLAMP-DC-12 (Drop Cable clamp on work tray) | S017550 |
| FST-12 Fiber Separation Tool | S014012 |
| FAT-04 Fiber Arrangement Tool | S010212 |
| RT-02 Fiber Arrangement Tool | S017465 |
| VG12-01 12 fiber V-groove | S017548 |
| VG12-01-200 12 fiber V-groove (200µm pitch ribbons) | S017680 |
| VG04-01 4 fiber V-groove | S017551 |
| VG08-01 Spare 8 fiber V-grooves | S017508 |
| VG16-01 16 fiber V-groove | S017552 |
| FAA-03A Ribbon Forming Adhesive (4 oz. bottle) | S008720 |
| FAA-03A Ribbon Forming Adhesive (0.5 liter bottle) | S008622 |
| CC-39 Transit Case | S017514 |
| Splicer V-Groove Cleaning Kit | S014397 |
| ST-03 Case and Work Tray Strap | S017549 |



Fiber Arrangement Tool

- Features an easy-to-use fiber arrangement method utilizing linear travel
- Includes a spare paste applicator



V-Groove Cleaning Kit

- Removes environmental contamination from the v-groove of the splicer
- Maintains performance and ensures fiber alignment

Fujikura 90R Fusion Splicer

Specifications

| PARAMETER | VALUE | |
|--------------------------------------|--|---|
| Fiber Alignment Method | Self cladding alignment with melting surface tension | |
| Fiber Count Can Be Spliced | Up to 16 fiber ribbon | |
| Applicable Fiber | Fiber Type | Single mode optical fiber Multi mode optical fiber |
| | Cladding Dia. | Approx. 125 μm |
| Applicable Coating | Fiber Holder | Coating shape. : Refer to fiber holder options Cleave length : 10 mm |
| | Fiber Splice Performance | Splice Loss |
| ITU-T G.651 : Avg. 0.02 dB | | |
| ITU-T G.653 : Avg. 0.08 dB | | |
| ITU-T G.655 : Avg. 0.08 dB | | |
| ITU-T G.657 : Avg. 0.05 dB | | |
| Splice Time | SM FAST mode : Avg. 14 to 15 sec. | |
| | SM AUTO mode : Avg. 19 to 20 sec. | |
| Applicable Protection Sleeve | Sleeve Type | Heat-shrinkable sleeve |
| | Sleeve Length | Max. 66 mm |
| | Sleeve Dia. | Max. 6.0 mm before shrinking |
| Sleeve Heat Performance | Heat Time | 40 mm FP-05 mode : Avg. 38 to 40 sec. |
| | | 40 mm FP-04T mode : Avg. 17 to 19 sec. |
| | | Single 60 mm mode: Avg. 13 to 15 sec. |
| Fiber Tensile Test Force | Approx. 2.0 N | |
| Electrode Life | Approx. 1,500 splices | |
| Physical Description | Dimensions W | Approx.170 mm without projection |
| | Dimensions D | Approx.173 mm without projection |
| | Dimensions H | Approx.150 mm without projection |
| | Weight | Approx. 2.6 kg including battery |
| Environmental Condition | Temperature | Operate : -10 to 50°C |
| | | Storage : -40 to 80°C |
| | Humidity | Operate : 0 to 95% RH non-condensing |
| Storage : 0 to 95% RH non-condensing | | |
| Altitude | Max. 3,700 m | |
| Ac Adaptor | Input | AC100 to 240 V, 50/60 Hz, Max. 1.5 A |
| Battery Pack | Type | Rechargeable Lithium Ion |
| | Output | Approx. DC14.4V / 6,380 mAh |
| | Capacity | Approx. 165 splice and heat cycles |
| | Temperature | Recharge : 0 to 30°C |
| | | Storage : -20 to 30°C |
| | Battery Life | Approx. 500 recharge cycles |
| Recharge Time | Approx. 5 – 8 hours from empty | |
| Display | LCD Monitor | TFT 5 inches with touch screen |
| | Magnification | Approx. 20X : 12 Ribbon to 60X : Single |
| Illumination | V-Grooves | LED lamp |
| Interface | PC | USB2.0 Mini B type |
| | External Led Lamp | USB2.0 A type, Approx. DC5V, 500 mA |
| | Ribbon Stripper | Mini DIN 6 pin, DC12V, Max. 1A |
| | Wireless | Bluetooth 4.1 LE |
| Data Storage | Splice Mode | 100 splice modes |
| | Heat Mode | 30 heat modes |
| | Splice Result | 10,000 splices |
| | Splice Image | 100 images |
| Screw Hole For Tripod | | 1/4-20 UNC |
| Other Features | Automatic Functions | Splice mode select by fiber type analysis |
| | | Discharge power calibration |
| | | Wind protector : open/close |
| | | Sheath clamp : open |
| | | Heater lid : open/close |
| Reference Guide | Heater clamp : open/close | |
| | Video and PDF file stored in splicer | |
| | Electrode | Replaceable without tool |



Bluetooth



Shown in CC-37 Carrying Case

Features

- Motorized blade rotation
- Bluetooth communication
- Shock resistant
- Simple one-step operation
- 60,000 cleave blade life
- Field serviceable



CT50 Fiber Cleaver

The CT50 features automated blade rotation, unprecedented durability, and simplistic maintenance unseen with any other cleaver. Paired with a Bluetooth enabled Fujikura splicer, cleaver blade positions can be automatically advanced when needed based on cleave count or cleave quality. If automated rotation is not desired, the blade position can be advanced at the touch of a button, no tools required. The easy to read blade position indicator clearly displays the selected position. The Bluetooth® feature, along with simplified mechanical operation, increases overall productivity and reliability. The fiber clamp opens beyond 90 degrees and readies the blade for cleaving in the same motion. This allows easy viewing of the distance scale used to gauge cleave length. The 16-position blade yields 60,000 single-fiber cleaves, or 5,000 12-fiber ribbon cleaves. The built-in scrap collector conveniently stores fiber shards until they can be safely discarded.

The CT50 is an industry first cleaver ruggedized to withstand severe shock, including drops up to 30 inches. If needed, the CT50 is field serviceable with all precision components easily replaced in the field.

Specifications

| ITEM | VALUE | |
|---------------------------------|-------------------|--|
| Applicable Fiber | Fiber type | Single-mode optical fiber |
| | Fiber count | Multimode optical fiber |
| | Cladding dia. | Single up to 16 fibers |
| Applicable Coating | Fiber plate | Approx. 125 μm |
| | Fiber holder | AD-10-M24 : Max. 900 μm coating diameter AD-50 : Max. 3 mm coating diameter |
| Cleave Length | Fiber plate | FH- 50, FH-60, FH-70, FH-100 and FH-110 series holders |
| | Fiber holder | AD-10-M24 : 5 to 20 mm for CD ≤ 250 μm AD-50 [CD = coating diameter] CD= 250μm or less : 5 to 20 mm 250 μm < CD < 1000μm : 10 to 20 mm 1000 μm < CD < 3 mm : 14 to 20 mm |
| Cleave Angle | Single fiber | Approx. 10 mm |
| | Fiber ribbon | Avg. 0.3 to 0.9 degrees |
| Blade Life | | Avg. 0.3 to 1.2 degrees |
| Physical description | | Approx. 60,000 fiber cleaves |
| | Dimensions W | Approx. 120 mm when closing the lever |
| | Dimensions D | Approx. 95 mm when closing the lever |
| | Dimensions H | Approx. 58 mm when closing the lever |
| Environmental condition | Weight | Approx. 305 g including battery and AD-10-M24 |
| | Temperature | Operate : -10 to 50°C Storage : -40 to 80°C |
| Battery | | Operate : 0 to 95% non-condensing Storage : 0 to 95% non-condensing |
| Wireless interface ¹ | | 2 pieces of LR03/AAA dry battery |
| Screw hole for tripod | | Bluetooth 4.1 LE |
| Other features | | 1/4-20UNC |
| | Blade rotation | Motorized rotation Manual rotation dial |
| | Replaceable parts | Blade Clamp arm |

1. The CT50 No Bluetooth option has the wireless interface permanently disabled.

continued
→

CT50 Fiber Cleaver

Ordering Information

| DESCRIPTION | APPLICATION | FIBER HANDLING SYSTEM | CLEAVE LENGTH | AFL NO. |
|-------------------|------------------------|--|---|---------|
| CT50 | Single or Ribbon Fiber | AD-10-M24 adapter plate for single fibers or fiber holders for ribbons | See Specifications table on previous page | S017030 |
| CT50 No Bluetooth | Single or Ribbon Fiber | AD-10-M24 adapter plate for single fibers or fiber holders for ribbons | See Specifications table on previous page | S018020 |

Accessories

| DESCRIPTION | AFL NO. |
|---------------------------------|---------|
| CB-08 Replacement Blade | S017076 |
| FDB-05 Scrap Collector Box | S017121 |
| AD-50 Adapter Plate | S017010 |
| AD-10-M24 Fiber Plate | S017335 |
| ARM-CT50-01 Replacement Arm Set | S017122 |
| BRW-CT08-01 Blade Rotary Wheel | S017110 |
| SC-CT50-01 Side Cover | S017108 |
| CC-37 Transit Case | S017077 |
| SPA-CT-08-10 Spacer | S017011 |

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CT16 Fiber Cleaver

The CT16 fiber cleaver from Fujikura was designed for FTTH or other space constrained applications where ergonomics and durability are key. It is compact, can be operated ambidextrously, and features a unique fiber adapter, allowing users to cleave two bare fibers simultaneously when paired with the dual fiber stripper, the SS-05. The scrap collector and fiber adapter side can be swapped by the user for left or right-handed preference, or as environmental constraints dictate. Furthermore, the thumbwheel on the bottom of the cleaver is utilized for blade rotations as opposed to previous tedious processes to rotate a cleaver blade. The top lever opens past vertical allowing for easy viewing, cleaning, and adjustment of the cleave length. The blade is retracted when the top lever is opened and the blade activates to score the fiber when it is closed, making this a true one-step cleaver. Like its predecessor, this cleaver can withstand a 30" drop from any of six different orientations and still maintain factory specified cleave angle performance. The cleaver blade and fiber clamping mechanisms are easy to replace in the field, mitigating the need to send this cleaver in for service.



Features

- Dual fiber adapter plate for single or two fiber cleaving
- Ambidextrous operation available
- Field replaceable fiber clamp pads and cleaver blade
- Shock resistant for drops up to 30" in any of six different orientations
- Compact form factor and tool-less blade rotations

Applications

- Small cell site
- FTTH drops and terminations
- MDF/IDF splices and terminations
- Rural fiber deployments and restorations

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| CT16 Fiber Cleaver includes: FDB-06 scrap collector, AD-16A fiber adapter, HEX-01 hex wrench (1.5 mm), M-CT16-E instruction manual, CC-46 carrying case | S018330 |
| FDB-06 Scrap Collector | S018329 |
| CB-09 Replacement Cleaver Blade | S018335 |
| ARM-CT16-01 Replacement Fiber Clamp Pads | S018373 |
| AD-16A Fiber Adapter (up to 900um coating) | S018328 |
| AD-16B Fiber Adapter (up to 3.0mm jacket) | S018331 |
| CC-46 Carrying Case | S018374 |

continued
→

CT16 Fiber Cleaver

Specifications

| PARAMETER | | VALUE |
|----------------------------|--|---|
| Applicable Fiber | Fiber type | Single-mode optical fiber Multimode optical fiber |
| | Fiber count | 2 single fibers |
| | Cladding diameter | Approx. 125 μm |
| Applicable Coating | Adapter plate | AD-16A: Max 900 μm coating diameter single fiber or 250 μm coating diameter for two fibers AD-16B: Max. 3 mm jacket diameter |
| | Fiber holders | FH-60 and FH-70 series – coating diameter dictated by specific fiber holder |
| Cleave Length | Adapter plate | AD-16A: 5 – 20 mm ^{*1} AD-16B: Coating diameter – 250 μm or less: 5-20 mm ^{*1} 251 μm -900 μm : 10-20 mm 901 μm -3 mm: 14-20 mm |
| | Fiber holder | Approx. 10 mm |
| Cleave Angle ^{*2} | Single fiber | Avg. 0.3 to 0.9 degrees |
| Blade Life ^{*3} | | Approx. 48,000 fiber cleaves |
| Physical description | Dimensions W | Approx. 106 mm without projection ^{*4} |
| | Dimensions D | Approx. 95.5 mm without projection ^{*4} |
| | Dimensions H | Approx. 49 mm without projection ^{*4} |
| | Weight | Approx. 190 g including AD-16A |
| Environmental condition | Temperature | Operate: -10 to 50°C Storage: -40 to 80°C |
| | Humidity | Operate: 0 to 95%RH non-condensing Storage: 0 to 95%RH non-condensing |
| Other features | Blade rotation | Manual dial underneath cleaver |
| | Replaceable items | Cleaver blade Fiber clamp pads |
| | Fiber adapter base and scrap collector | Can be swapped position for ambidextrous operation |
| | Cleave count | Up to two individual bare fibers |

Notes

1. When the cleave length is less than 10 mm, the coating diameter should be 250 μm or less. Also, a blade height adjustment is required before cleaving. The average cleave angle is worse than the specification above when the cleave length is less than 10 mm.
2. Measured with an interferometer at room temperature, not with a splicer. A new blade was used to cleave the single fibers. The average cleave angle changes depending on the environmental conditions, blade condition, operating method, and cleanliness.
3. The blade life changes depending on the environmental conditions, operating method, and the fiber type cleaved.
4. Measured with the top lever closed.



Bluetooth®



Shown in CC-37 Carrying Case

Features

- Motorized blade rotation
- Bluetooth communication
- Shock resistant
- Simple one-step operation
- 60,000 cleave blade life
- Field serviceable



CT52 Fiber Cleaver

The CT52 cleaver is designed for use with Fujikura factory model fusion splicers. Modified clamping pads on the CT52 allow for shorter cleave lengths with fiber coating >250 µm. The CT52 provides unprecedented durability and simplistic maintenance unseen with any other cleaver. Cleaver blade life is easily managed and maximized via Bluetooth connection with a convenient smartphone app. Incorporating motorized push-button blade rotation and a convenient thumbwheel for blade height adjustment, routine cleaver adjustments have never been easier! The 16 position blade yields 60,000 cleaves providing for extended intervals between blade replacement. The CT52 is designed for use with either Fujikura FH-100 or FH-70 series fiber holders, but can also be used with the optional adapter plate to eliminate the need for fiber holders if desired. When utilized with the optional spacers for the cleaver and RS series thermal stripper, six different cleave lengths can be easily attained.

Specifications

| ITEM | | VALUE |
|-------------------------|-------------------|--|
| Applicable Fiber | Fiber type | Single mode optical fiber Multi mode optical fiber |
| | Fiber count | Up to 12 fiber ribbon |
| | Cladding dia. | Approx. 125 µm |
| Applicable Coating | Fiber plate | AD-10-M24 : Max. 900 µm coating diameter AD-50 : Max. 3 mm coating diameter |
| | Fiber holder | Coating shape. : Refer to splicer fiber holder options |
| Cleave Length | Fiber plate | CD = Coating Diameter AD-10-M24 3 to 20 mm for CD ≤ 250 µm 8 to 20 mm for CD 251 – 400 µm AD-50 CD= 250 µm or less : 3 to 20mm 250 µm < CD < 1000 µm : 8 to 20 mm 1000 µm < CD < 3 mm : 14 to 20 mm |
| | Fiber holder | See Cleaver Selection table on next page |
| Cleave Angle | Single fiber | Avg. 0.3 to 0.9 degrees |
| | Fiber ribbon | Avg. 0.3 to 1.2 degrees |
| Blade Life | | Approx. 60,000 fiber cleaves |
| Physical description | Dimensions W | Approx. 120 mm when closing the lever |
| | Dimensions D | Approx. 95 mm when closing the lever |
| | Dimensions H | Approx. 58 mm when closing the lever |
| | Weight | Approx. 305 g including battery and AD-10-M24 |
| Environmental condition | Temperature | Operate : -10 to 50°C Storage : -40 to 80°C |
| | Humidity | Operate : 0 to 95% non-condensing Storage : 0 to 95% non-condensing |
| Battery | | 2 pieces of LR03/AAA dry battery |
| Wireless interface | | Bluetooth 4.1 LE |
| Screw hole for tripod | | 1/4-20UNC |
| Other features | Blade rotation | Motorized rotation |
| | | Manual rotation dial |
| | Replaceable parts | Blade |
| Clamp arm | | |

CT52 Fiber Cleaver

Cleaver Selection

| STRIPPER | CLEAVER | CLEAVE LENGTH |
|--------------------------|--------------------------|---------------|
| RS02/03 | CT52/58 with SPA-CT08-08 | 3 mm |
| RS02/03 with SPA-RS02-08 | CT52/58 with SPA-CT08-08 | 8 mm |
| HTS-12 | CT52/58 with SPA-CT08-09 | 4 mm |
| SS03 | CT52/58 with SPA-CT08-09 | 9 mm |
| | CT52/58 with SPA-CT08-10 | 5 mm |
| | CT52/58 with SPA-CT08-10 | 10 mm |

Ordering Information

| DESCRIPTION | APPLICATION | AFL NO. |
|---|--------------------------------|---------|
| CT52 Includes: CT52 cleaver, SPA-CT08-09 cleaver spacer, hex wrench, carrying case and instruction manual | Single Fibers: 125 µm cladding | S017078 |

Accessories

| DESCRIPTION | AFL NO. |
|---------------------------------|---------|
| CB-08 Replacement Blade | S017076 |
| CC-37 Transit Case | S017077 |
| AD-10-M24 Adapter Plate | S017335 |
| SPA-CT08-10 Spacer | S017011 |
| SPA-CT08-09 Spacer | S017390 |
| SPA-CT08-08 Spacer | S017391 |
| ARM-CT52-01 Replacement Arm Set | S017388 |
| FDB-05 Fiber Dust Box | S017121 |
| BRW-CT08-01 Blade Rotary Wheel | S017110 |
| SC-CT50-01 Side Cover | S017108 |

Splice+ is a smartphone application that works in cooperation with Fujikura's splicers, cleavers and ribbon fiber strippers which have Bluetooth capability.

Get the **Splice+** app at the Apple App store or at Google Play.





Shown in CC-37 Carrying Case

Features

- Motorized blade rotation
- Bluetooth communication
- Shock resistant
- Simple one-step operation
- 60,000 cleave blade life
- Field serviceable



CT58 Fiber Cleaver

The CT58 cleaver is designed specifically for cleaving silica fibers with 80 μm cladding and up to 400 μm coatings. The CT58 provides unprecedented durability and simplistic maintenance unseen with any other cleaver. Cleaver blade life is easily managed and maximized via Bluetooth connection with a convenient smartphone app. Incorporating motorized push-button blade rotation and a convenient thumbwheel for blade height adjustment, routine cleaver adjustments have never been easier! The 16 position blade yields 60,000 cleaves providing for extended intervals between blade replacement. The CT58 is designed for use with either Fujikura FH-100 or FH-70 series fiber holders, but can also be used with the optional adapter plate to eliminate the need for fiber holders if desired. When utilized with the optional spacers for the cleaver and RS03-80 thermal stripper, six different cleave lengths can be easily attained.

Specifications

| ITEM | VALUE | |
|-------------------------|----------------------------------|---|
| Applicable Fiber | Fiber type | Single mode optical fiber Multi mode optical fiber |
| | Fiber count | Single |
| | Cladding dia. | Approx. 80 μm |
| Applicable Coating | Fiber plate | AD-10-M24 : Max. 400 μm coating diameter AD-50 : Max. 400 μm coating diameter |
| | Fiber holder | Coating shape. : Refer to splicer fiber holder options |
| Cleave Length | Fiber plate | CD = Coating Diameter AD-10-M24 3 to 20 mm for CD ≤ 250 μm 8 to 20 mm for CD 251 – 400 μm AD-50 CD= 250 μm or less : 3 to 20 mm 250 μm < CD < 400 μm : 8 to 20 mm |
| | Fiber holder | See Cleaver Selection table on next page |
| Cleave Angle | Single fiber | Avg. 0.3 to 0.9 degrees |
| Blade Life | Approx. 60,000 fiber cleaves | |
| Physical description | Dimensions W | Approx. 90 mm when closing the lever |
| | Dimensions D | Approx. 95 mm when closing the lever |
| | Dimensions H | Approx. 58 mm when closing the lever |
| | Weight | Approx. 265 g |
| Environmental condition | Temperature | Operate : -10 to 50°C Storage : -40 to 80°C |
| | Humidity | Operate : 0 to 95% non-condensing Storage : 0 to 95% non-condensing |
| Battery | 2 pieces of LR03/AAA dry battery | |
| Wireless interface | Bluetooth 4.1 LE | |
| Screw hole for tripod | 1/4-20UNC | |
| Other features | Blade rotation | Motorized rotation Manual rotation dial |
| | Replaceable parts | Blade |
| | | Clamp arm |

CT58 Fiber Cleaver

Cleaver Selection

| STRIPPER | CLEAVER | CLEAVE LENGTH |
|--------------------------|--------------------------|---------------|
| RS02/03 | CT52/58 with SPA-CT08-08 | 3 mm |
| RS02/03 with SPA-RS02-08 | | 8 mm |
| HTS-12 | RS02/03 with SPA-CT08-09 | 4 mm |
| | RS02/03 with SPA-CT08-09 | 9 mm |
| SS03 | RS02/03 with SPA-CT08-10 | 5 mm |
| | RS02/03 with SPA-CT08-10 | 10 mm |

Ordering Information

| DESCRIPTION | APPLICATION | AFL NO. |
|--|-------------------------------|---------|
| CT58 Includes: CT58 cleaver, SPA-CT08-09 cleaver spacer, hex wrench, carrying case and instruction manual | Single Fibers: 80 µm cladding | S017097 |

Accessories

| DESCRIPTION | AFL NO. |
|---------------------------------|---------|
| CB-08 Replacement Blade | S017076 |
| CC-37 Transit Case | S017077 |
| AD-10-M24 Adapter Plate | S017335 |
| SPA-CT08-10 Spacer | S017011 |
| SPA-CT08-09 Spacer | S017390 |
| SPA-CT08-08 Spacer | S017391 |
| ARM-CT58-01 Replacement Arm Set | S017389 |
| BRW-CT08-01 Blade Rotary Wheel | S017110 |
| SC-CT50-01 Side Cover | S017108 |

Splice+ is a smartphone application that works in cooperation with Fujikura's splicers, cleavers and ribbon fiber strippers which have Bluetooth capability.

Get the **Splice+** app at the Apple App store or at Google Play.





Thermal Strippers

The RS01, RS02, RS03 and RS03-80 Thermal Strippers provide superior stripping performance for both single and multi-fiber stripping. The fast heating time of 3 seconds speeds productivity. The ergonomic design, combined with the low level of force needed for stripping, makes the RS series comfortable and easy to use for high fiber count applications. The strippers are also capable of stripping 200 µm coated fibers and ribbons. An audible beep and illuminated LED signal indicate that the proper heating temperature has been reached. A temperature selection switch permits easy field optimization for different fibers or operating conditions. These strippers accept all Fujikura field and factory style fiber holders.

Bluetooth® capabilities on the RS02 and RS03 models provide a convenient way to program the stripper for user preferences via an Android or iOS smartphone app. The RS03 model includes a powerful Lithium-Ion battery that delivers enough power for 600 stripping cycles. The RS03-80 is offered for stripping 80 µm cladding fiber applications.

For those situations and locations where Bluetooth-enabled devices are not permitted, the RS01 model is available with all of the features of the RS02 model but without the Bluetooth technology.

Features

- 3 Second heating time with beep and LED notification
- Low pulling force needed for stripping
- Stripping capability for 200 µm coated fibers and ribbons
- Ergonomic design
- Bluetooth capable for wireless connection with smartphones (RS02, RS03 and RS03-80)
- High capacity battery provides approximately 600 stripping cycles (RS03 and RS03-80)

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| Strippers | |
| RS01 Thermal Stripper Includes: RS01 Thermal Stripper, DCC-11 and Instruction manual | S016815 |
| RS02 Thermal Stripper Includes: RS02 Thermal Stripper, DCC-11, HEX-01 Hex Wrench, BRS-02 Brush and Instruction manual | S016816 |
| RS03 Thermal Stripper Includes: RS03 Thermal Stripper, BTR-12 Battery Pack, ADC-09A AC Adapter for RS Series Thermal Strippers, ACC-09 AC Power Cord (for ADC-09A), HEX-01 Hex Wrench, BRS-02 Brush and Instruction manual | S016817 |
| RS03-80 Thermal Stripper Includes: RS03-80 Thermal Stripper, BTR-12 Battery Pack, ADC-09A AC Adapter for RS Series Thermal Strippers, ACC-09 AC Power Cord (for ADC-09A), HEX-01 Hex Wrench, BRS-02 Brush and Instruction manual | S016842 |
| POWER SUPPLY | |
| ADC-09A AC Adapter (RS01/RS02/RS03) | S016820 |
| ACC-09 Power cord | S014390 |
| BTR-12 Battery (RS03) | S016832 |
| Miscellaneous | |
| SPA-RS02-08 SPACER | S016818 |

Thermal Strippers

Specifications

| MODEL | RS01 | RS02 | RS03 | RS03-80 |
|--------------------------|---|--|--|---------------|
| Applicable optical fiber | Glass optical fibers, capillary | | | |
| Fiber count | 1 to 16 | | | Single |
| Cladding diameter | 125 µm | | | 80 µm |
| Coating diameter | 200 to 400 µm | | | 150 to 250 µm |
| Stripping length | Up to 35 mm | | | |
| Typical heating time | 3 sec. 5 sec. at Eco mode | | | |
| Heating temperature | 85° - 140°C | | | |
| Fiber holder | All FH-40, FH-50, FH-60, FH-70, and FH-100 series fiber holders (except FH-50-250 and FH-50-900) | | | |
| Wireless connectivity | N/A | Bluetooth®4.1 LE*1 OS:Android 5.0 or above , iOS 8.0 or above (iPhone6 or above) | | |
| Dimensions | 155.5 (W) × 48.7 (D) × 32.5 (H) mm | | 155.5 (W) × 48.7 (D) × 36.8 (H) mm | |
| Weight | 185 g | | 265 g (with Battery) | |
| Power supply | AC Adaptor Input: 100 to 240V, 50/60 Hz, Max – 0.58 A Output: Approx. DC 12 V, Max 2A DC External Supply: DC10 to 17V, Max – 1A | | AC Adaptor Input: 100 to 240V, 50/60 Hz, Max – 0.58 A Output: Approx. DC 12 V, Max 2 A DC External Supply: DC10 to 17 V, Max – 1 A BTR-12 Battery: DC7.2 V, 1840 mAh (Rechargeable Lithium Ion) | |
| Battery capacity | N/A | | Approx. 600 strips with Eco mode | |
| Recharge Time | | | Approx. 2 hr from empty | |
| Battery Life | | | Approx. 500 recharge cycles | |
| Operating conditions | Temperature: -10 to 50°C, Humidity: 0 to 95% RH (Non-condensing) | | | |
| Storage conditions | Temperature: -20 to 60°C, Humidity: 0 to 95% RH (Non-condensing) | | | |

Splice Protection Sleeves

AFL offers a wide selection of fiber protection sleeves to meet any application. The FP series is the industry standard for durable and lasting protection of single fiber splices in field installations, while the FP-04(T) and FP-05 provide the same durable protection for 8 and 12 fiber ribbon respectively.

The FPS01 and FPS04 series are specially designed for optical components, where small packaging is a priority. These micro sleeves provide the known reliability of Fujikura sleeves in the smallest possible lengths. This easy and cost effective method is a great alternative to recoating. The FPS01 and FPS04 series offer a wide range of options to accommodate various coating sizes, and are manufactured in a variety of lengths. This gives great flexibility in designing optical modules.

Standard Sleeves: Dimensions & Applicable Fiber

SLEEVES FOR SINGLE FIBERS 250 MICRONS TO 900 MICRONS

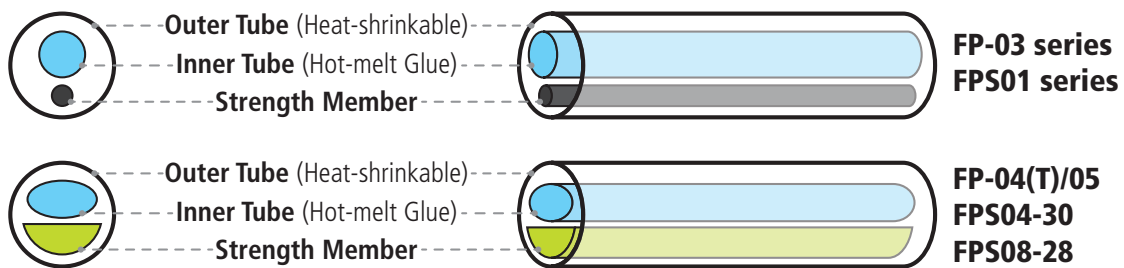
| DESCRIPTION | SLEEVE LENGTH | FIBER CLEAVE LENGTH | SLEEVE DIAMETER AFTER SHRINK | MOQ & MOM | AFL NO. |
|------------------------------|---------------|---------------------|------------------------------|-------------|---------|
| FP-40 Slim Protection Sleeve | 40 mm | 10 mm | 2.3 mm (max.) | 1,000 & 100 | S018262 |
| FP-60 Slim Protection Sleeve | 60 mm | 10 mm | 2.3 mm (max.) | 1,000 & 100 | S018263 |
| FP-60 | 60 mm | 10 mm | 3.1 mm (max.) | 1,000 & 100 | S015915 |
| FP-40 | 40 mm | 10 mm | 3.1 mm (max.) | 1,000 & 100 | S015916 |

SLEEVES FOR UP TO 250 MICRON COATED RIBBON

| DESCRIPTION | FIBER COUNT | SLEEVE LENGTH | FIBER CLEAVE LENGTH | SLEEVE DIAMETER AFTER SHRINK | MOQ & MOM | AFL NO. |
|-------------|-----------------|---------------|---------------------|------------------------------|-------------|---------|
| FP-04(T) | Up to 8 fibers | 40 mm | 10 mm | 4.0 mm (max.) | 250 & 250 | S002105 |
| FP-05 | Up to 12 fibers | 40 mm | 10 mm | 4.5 X 4.0 mm (max.) | 250 & 250 | S003027 |
| FP-05-28 | Up to 12 fibers | 28 mm | 10 mm | 4.5 mm (max.) | 5,000 & 250 | S014720 |
| FPS04-30 | Up to 4 fibers | 30 mm | 10 mm | 2.4 mm (max.) | 250 & 250 | S010848 |
| FPS08-28 | Up to 8 fibers | 28 mm | 10 mm | 3.3 X 2.7 mm (max.) | 500 & 500 | S013560 |
| FPS24-40 | Up to 24 fibers | 40 mm | 10 mm | 8.0 X 4.0 mm (max.) | 200 & 200 | S013004 |

Specifications

| PARAMETER | DESCRIPTION | VALUE |
|------------------------------------|--------------------|------------------------------------|
| Outer tube | FP-60/40/03 series | Polyolefin based on Polyethylene |
| | FP-04(T) / FP-05 | Ethylene-Vinyl Acetate |
| Inner Tube | ALL | Ethylene-Vinyl Acetate |
| Strength member | FP-60/40/03 series | Stainless steel |
| | FP-04(T) / FP-05 | Heat-resistant glass |
| Operation condition (after shrink) | | -10 to 50°C, 0 to 95% RH (Non dew) |
| Storage condition (before shrink) | | -40 to 60°C, Non dew |



Splice Protection Sleeves

Micro Sleeves: Dimensions & Applicable Fiber

FPS01-400 SERIES FOR SINGLE FIBERS UP TO 400 MICRON FIBER

| DESCRIPTION | SLEEVE LENGTH | FIBER CLEAVE LENGTH | SLEEVE DIAMETER AFTER SHRINK | PACKAGING | AFL NO. |
|--------------|---------------|---------------------|------------------------------|-----------|---------|
| FPS01-400-12 | 12 mm | 4 mm | 1.5 mm | 50 Pack | S014088 |
| FPS01-400-15 | 15 mm | 5 mm | 1.5 mm | 50 Pack | S012668 |
| FPS01-400-20 | 20 mm | 8 mm | 1.5 mm | 50 Pack | S012672 |
| FPS01-400-25 | 25 mm | 10 mm | 1.5 mm | 50 Pack | S012676 |
| FPS01-400-34 | 34 mm | 15 mm | 1.5 mm | 50 Pack | S012680 |
| FPS01-400-40 | 40 mm | 16 mm | 1.5 mm | 1,250 Box | S011914 |

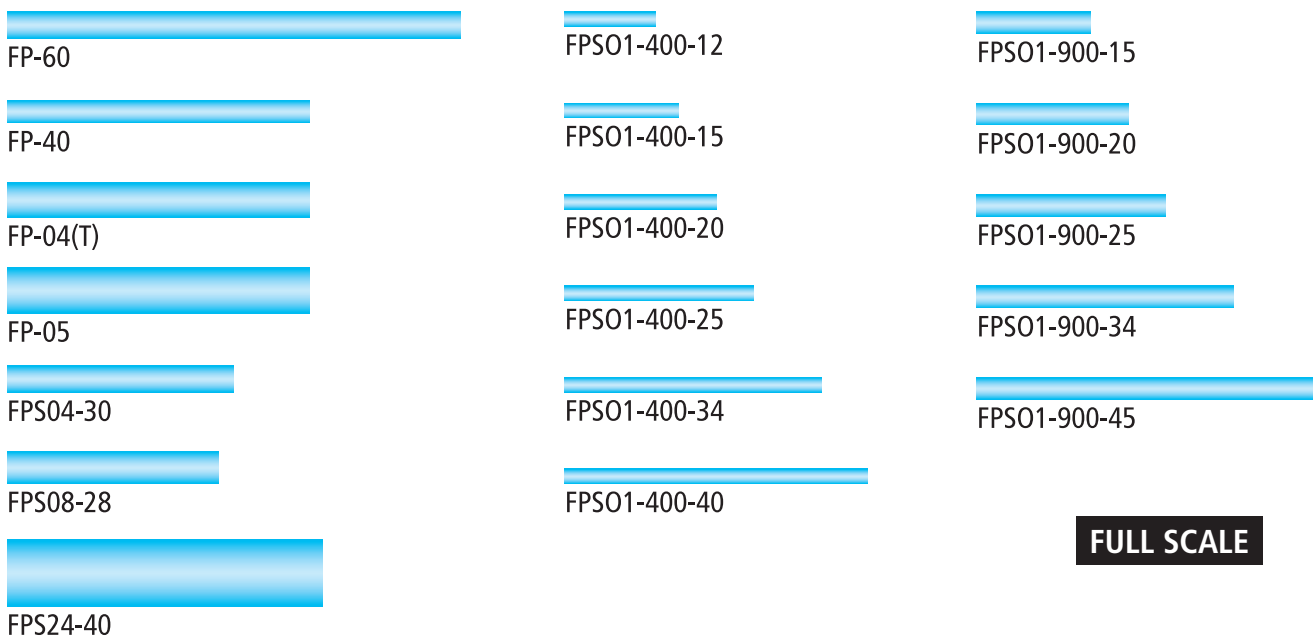
FPS01-900 SERIES FOR SINGLE FIBERS UP TO 900 MICRON FIBER

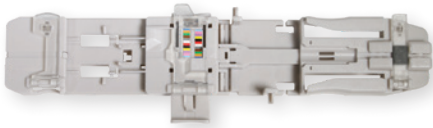
| DESCRIPTION | SLEEVE LENGTH | FIBER CLEAVE LENGTH | SLEEVE DIAMETER AFTER SHRINK | PACKAGING | AFL NO. |
|--------------|---------------|---------------------|------------------------------|-----------|---------|
| FPS01-900-15 | 15 mm | 4 mm | 2.3 mm | 50 Pack | S012684 |
| FPS01-900-20 | 20 mm | 6 mm | 2.3 mm | 50 Pack | S012688 |
| FPS01-900-25 | 25 mm | 6 mm | 2.3 mm | 50 Pack | S011954 |
| FPS01-900-34 | 34 mm | 13 mm | 2.3 mm | 50 Pack | S012692 |
| FPS01-900-45 | 45 mm | 16 mm | 2.3 mm | 50 Pack | S012696 |

Specifications

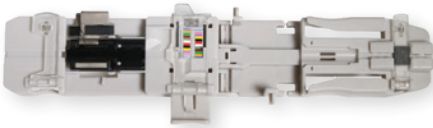
| PARAMETER | DESCRIPTION | VALUE |
|------------------------------------|---|------------------------------------|
| Outer tube | FPS01 series / FPS04-30 / FPS08-28 / FPS24-40 | Polyolefin based on Polyethylene |
| Inner Tube | ALL | Ethylene-Vinyl Acetate |
| Strength member | FPS01 series | Stainless steel |
| | FPS04-30 / FPS08-28 / FPS24-40 | Heat-resistant glass |
| Operation condition (after shrink) | | -10 to 50°C, 0 to 95% RH (Non dew) |
| Storage condition (before shrink) | | -40 to 60°C, Non dew |

Type Variations





RT-02



RT-02 with FH-70-12PC

RT-02 Ribbonizing Tool

The RT-02 is the latest ribbonizing tool from Fujikura, and the first universal ribbonizing tool on the market suitable for forming a temporary ribbon from loose 200 μm or 250 μm fibers. This is also the first tool that features a glue-less process for ribbonizing and splicing 12 fiber ribbons. This saves time and money by eliminating operating inefficiencies such as cure time and contamination of splicing equipment. Simply choose the applicable fiber holder in conjunction with the RT-02 to ribbonize 200 μm or 250 μm fibers. With this tool, you can now realize the benefits of mass fusion splicing when installing the latest generation of loose fiber micro cables.

Features

- No glue required
- 200 μm and 250 μm compatible
- Loading with color code sequence not required
- Fibers load directly into fiber holder
- Left and right fiber holder color codes printed on tool

Applications

- Ribbonizing 200 μm and 250 μm loose fibers
- 200 μm and 250 μm MPO termination
- Mass fusion splicing loose fiber cables

Ordering Information

| DESCRIPTION | AFL NO. |
|---|---------|
| RT-02 (tool only) | S017465 |
| FH-70-12PC (pair of pitch conversion holders for 200 μm loose fibers) | S017464 |
| FH-70-12 (pair – standard 12F ribbon holders) | S017119 |



FST-12 Fiber Separation Tool

The FST-12 Fiber Separation Tool is used to quickly, accurately and reliably split ribbons into sub-groups or individual fibers. The ergonomic FST-12 design enables safe and reliable, one-handed operation for use in diverse fiber deployment environments, such as aerial and remote-site applications.

Features and Benefits

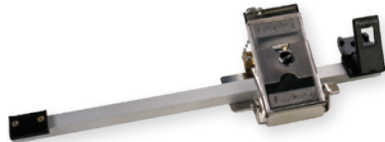
- Enables separation of groups of fibers or single fibers and is not limited to only even-numbered groupings.
- One-handed operation allows the operator’s other hand to guide and control the ribbon at all times, minimizing the potential for accidental damage to the fibers or ribbon.
- Hand-held method eliminates the need to utilize valuable work surface space for operation and is the ideal solution for remote-site and aerial operations such as bucket truck or ladder-sling applications.
- Performing two overlapping separations of the ribbon allows any single fiber or any sub-group of fibers to be extracted from the ribbon, even in mid-span taut-sheath operations where minimal ribbon length is available.
- Standard tool designed for fiber counts up to 12-fiber ribbon.

Specifications

| PARAMETER | VALUE |
|---|--|
| Ribbon Thickness | 250 to 360 micron |
| Ribbon Width | 3.2 mm (12-fiber) |
| Fiber Pitch | 250 micron |
| Fiber Coating Material | UV cured resin |
| Separation Ratios: 12-fiber Ribbon | 1:11, 2:10, 3:9, 4:8, 5:7, 6:6 |
| Environmental Conditions: Operating Temperature | -10° to 50°C, 0 to 95% RH (non-dew) |
| Storage Temperature | -40° to +80°C, 0 to 95% RH (non-dew) |
| Dimensions | 160L x 126W x 30H (mm) 6.30L x 4.96 x 1.18 (in) |
| Weight | 220 g / 7.76 oz. |

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| FST-12 Fiber Separation Tool Includes: 12-fiber ribbon jaw set, instructional manual and color coded quick reference guide | S014012 |



FAT-04

Fiber Arrangement Tool

The FAT-04 features an easy-to-use fiber arrangement method utilizing linear travel. The FAT-04 includes a spare paste applicator to allow ribbon making to continue even if one of the paste applicators needs cleaning.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|---------|
| FAT-04 Fiber Arrangement Tool* | S010212 |
| SP-1 Foam Pads for FAT-04 (One set = 5 sheets of 25 pads each) | S009016 |
| Paste Applicator Blocks for FAT-04 (2 pieces) | S010952 |

* FAT-04 includes 4 oz. FAA-03A ribbon forming adhesive, paste applicator blocks, cleaning swabs, CL-02 clips and SP-1 foam pads



FAA-03A

Ribbon Forming Adhesive

A key advantage of our fiber arrangement tool is the use of the ribbon forming adhesive. Ribbons formed with this adhesive have excellent stripability, especially compared to ribbonizing methods using tape. Unlike tape methods, the paste does not “gum-up” the stripping tool and cause broken fibers. The paste holds the stripped coating residue into a single piece of debris that is easily cleaned from the stripper. If needed, the ribbon can be easily separated into individual fibers using alcohol.

Ordering Information

| DESCRIPTION | AFL NO. |
|---|---------|
| FAA-03A ribbon-forming adhesive (0.5 liter bottle) | S008622 |
| FAA-03A ribbon-forming adhesive (4 oz. dispensing bottle) | S008720 |



Splicer V-groove Cleaning Refill Kit



CS-1 Cotton Swabs

Splicer V-groove Cleaning Kit

Today's splicing equipment is fast, efficient, and requires minimal maintenance due to advances in splicing technology. However, contamination in the V-groove of the splicer is still a primary source of trouble for the splicing technician. This is especially problematic when splicing with a fixed V-groove fusion splicer. Environmental contamination, such as dust, dirt and fiber coating debris, as well as the silica deposits generated during the fusion process eventually find their way to the surface of the v-groove. This contamination will offset the fibers and degrade performance. To help control this problem, a disciplined cleaning regimen and specific tooling is required to ensure the splice is right the first time.

To solve cleaning needs, AFL offers the Splicer V-groove Cleaning Kit. This product integrates eight components into an affordable and effective inspection and cleaning solution for any fusion splicer. Small and lightweight, it fits easily into the Fujikura splicer transit case or it can be carried separately in its own carrying case.

Kit Includes

- Scrubber Brush with stiff tapered nylon bristles
- Sweeper Brush with soft nylon bristles
- Eye Loupe with 3X to 12X magnification
- LED Pen Light with momentary or constant on switching
- Cleaning Fluid that is nonflammable and environmentally safe
- Lint-free Cotton Swabs
- Instruction Sheet with illustrations
- Canvas Carrying Case

Refill Kit Includes

To replenish the consumables within the kit, AFL provides a refill kit that includes the following components:

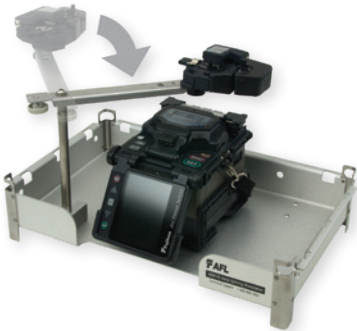
- One can of FCC2 Cleaning Fluid
- One Scrubber Brush
- One Sweeper Brush
- Ten packs CS-1 Cotton Swabs (250 swabs)

Ordering Information

| DESCRIPTION | AFL NO. |
|--------------------------------------|---------|
| Splicer V-groove Cleaning Kit | S014397 |
| Splicer V-groove Cleaning Refill Kit | S014416 |
| CS-1 Cotton Swabs (pack of 25 swabs) | S003719 |



Portable Tripod Workstation Kit (splicer and cleaver not included)



Cleaver mount assembly swings into and out of the work space



Portable Work Tray showing the four mounting positions of the cleaver mount assembly (delivered as shown)

Portable Tripod Workstation

As splicing requirements have migrated from aerial to ground level locations, a sturdy splicing workstation with the ability to adjust for uneven ground surfaces has been missing from the splicing marketplace. That problem is solved with AFL's Portable Tripod Workstation – the critical missing link in splicing productivity.

The Portable Tripod Workstation offers both a sturdy work tray to support the splicer, cleaver and accessories, and a tripod to support the work tray. The two can be purchased together as a kit or separately for those users who prefer to use their own tripod or mounting mechanism.

The work tray incorporates a unique cleaver mounting system that offers flexibility and convenience for the user. The cleaver mounting arm pivots into and out of the work space, as needed, and securely captures the CT50, CT-20 and CT-04 style cleavers. The base of the cleaver mounting assembly can be moved to any one of four positions on the tray to accommodate user preferences.

The tripod is solidly constructed but lightweight, weighing less than six pounds, and collapses to a length of only twenty-five inches. The telescoping legs offer flexible height adjustments from thirteen inches to sixty-one inches and the leg angle can be increased for unusual surfaces.

Features

- Sturdy work tray supports the splicer, cleaver and accessories
- Tripod supports a load capacity of up to eleven pounds
- Independent telescoping tripod legs support uneven work surfaces
- Leveraged handles securely lock work tray into position
- Cleaver mount assembly swings cleaver into and out of the work space
- Optional cleaver mounting positions accommodate user preferences
- Compatible with all FSM-17, FSM-18, FSM-50, FSM-60 and 12/19/70 series models

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| Portable Tripod Workstation Kit – Includes: Tripod with pan head and quick release platform (make and model of tripod may change without notice), portable work tray with cleaver mount assembly and canvas carrying case | S014773 |
| Portable Work Tray – Includes: Portable work tray with cleaver mount assembly and canvas carrying case | S014753 |
| Tripod – Includes: Tripod with pan head and quick release platform (make and model of tripod may change without notice) | S014751 |

Optional Accessories

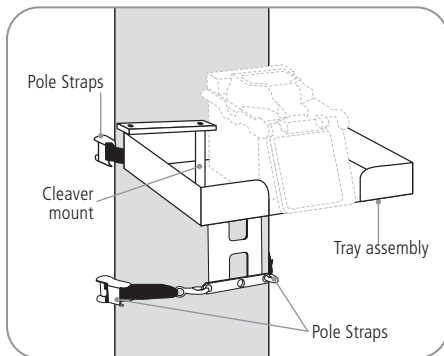
| DESCRIPTION | AFL NO. |
|---|---------|
| TS-01 TRIPOD SCREW (required for 12S & 12R models) | S015895 |



Splicing Workstation

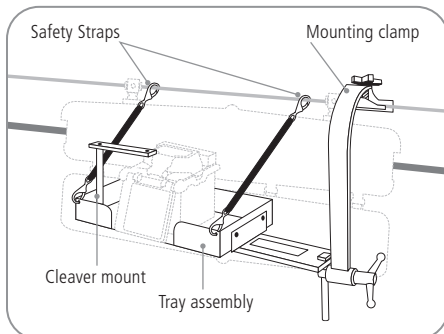


Aerial mounting system



Pole Mounting System

**Illustration for reference only.*



Aerial Mounting System

**Illustration for reference only.*

ASW-02 Splicing Workstation

The ASW-02 Splicing Workstation can be used with a fusion splicer and cleaver in aerial or terrestrial splicing applications. The ASW-02 provides a stable work surface and secure mounting of the splicer and cleaver to prevent accidental drops and equipment damage in challenging splicing locations.

The ASW-02 Splicing Workstation consists of the work tray, a convenient pivoting cleaver mounting arm, a post for attachment to bucket or ladder mounting accessories, a tripod mount, and dual safety straps. An aerial mounting system is available for direct attachment of the workstation to a telephone pole, or for suspending the workstation from an aerial cable strand. The strand mounting system is fully adjustable to provide for optimal location of the workstation when minimal slack fiber is available, such as in a taut-sheath cable access scenario.

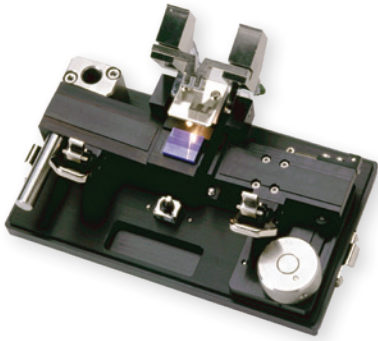
In the aerial environment, the safety straps may be secured to the cable strand to provide security and aid with workstation position adjustment. The safety straps are also used to secure the workstation to the pole, and may be used to raise or lower the workstation.

Features

- Provides direct to pole mounting as well as direct adjustable attachment to aerial strand
- Mounting post provided for attachment to bucket and ladder mounting accessories (utilizing any popular copper splicer-head mounting rigs)
- Tripod mount allows for placement in tight FTTH splicing applications
- Includes cable tie locations to secure cables during splicing
- Optimized to simplify taut sheath splicing applications
- Cleaver mount securely captures cleaver and allows operator to rotate it in and out of the workspace as needed
- Matte finish minimizes glare
- Compatible with all FSM-17, FSM-18, FSM-50, FSM-60 and 19/70 series models

Ordering Information

| DESCRIPTION | AFL NO. |
|---|---------|
| ASW-02 Splicing Workstation (Full kit with aerial mounting system) Includes aerial mounting system to provide strand and pole mounting capability, a post for attachment to bucket or ladder mount accessories and a receptacle for tripod mounting and safety straps | S010532 |
| ASW-02 Splicing Workstation (Without aerial mounting system) Includes a post for attachment to bucket or ladder mount accessories and a receptacle for tripod mounting | S013620 |



TJ-03 Temporary Joining Tool

The TJ-03 is a temporary mechanical fiber splice for fiber and cable connections to test equipment such as OTDRs or fiber optic cable reels. The TJ-03 uses a precision ceramic V-groove to align up to 12 fibers simultaneously. The fibers are prepared for joining by using standard mass fusion fiber preparation tools (fiber holders, thermal stripper, and cleaver.) Using the TJ-03 in conjunction with an OTDR equipped with an optical switch provides rapid one button optical tests of 12 fibers.

Features

- Precision ceramic V-groove alignment
- Built-in magnifier and lamp to inspect fiber placement in V-grooves

Ordering Information

| DESCRIPTION | AFL NO. |
|--|---------|
| TJ-03 Temporary Splice Kit Includes: Fiber Holders (1 pair) FH-50-12N, CT50 Cleaver, RS02 Thermal Stripper, ADC-09A AC Adapter for RS02 and the ACC-09 Power Cord | S012772 |
| TJ-03 Temporary Splice (without fiber preparation tools) | S010456 |



Visit Our New Resource Center!

As an end-to-end solutions provider, AFL has a vast amount of content on the many aspects of fiber optic networks for a variety of broadband and telecom applications—now in one easy-to-find location. Introducing the new resource center, which provides quick and easy viewing of everything “AFL.” Everything from instructional videos to best practices for test and inspection as well as:

- White Papers on industry-related technology and applications
- Quick access to brochures and PDFs
- Articles and blog posts on application-specific topics
- Video tutorials and instructions on various products

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