

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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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

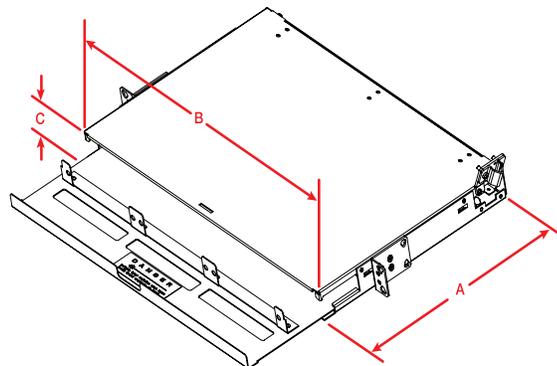
DEPTH (A) (inches)	WIDTH (B) (inches)	HEIGHT (C) (inches)	RACK UNITS	CAPACITY	UNLOADED WEIGHT
15.5	17	1.7	1	(3) LGX 118	13 lbs.

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



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



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

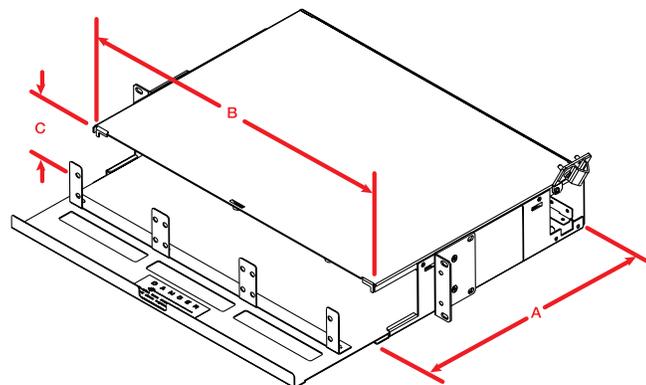
DEPTH (A) IN INCHES	WIDTH (B) IN INCHES	HEIGHT (C) IN INCHES	RACK UNITS	CAPACITY	UNLOADED WEIGHT
15.5	17	3.5	2	(6) LGX 118	15 lbs.

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

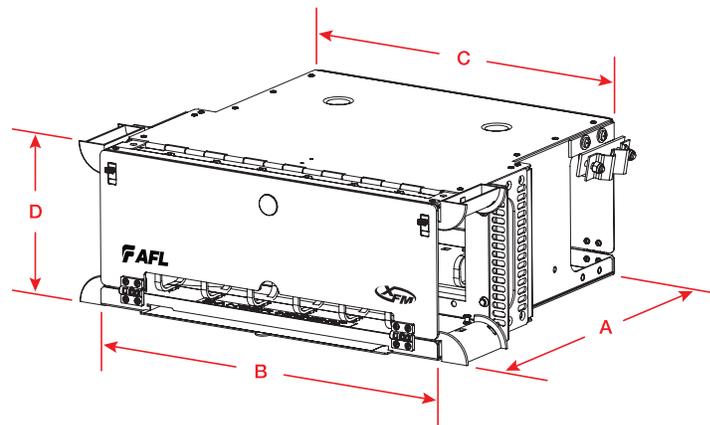
- Data Centers
- Enterprise Networks
- Telecommunications Closets
- Central Offices / Headends

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

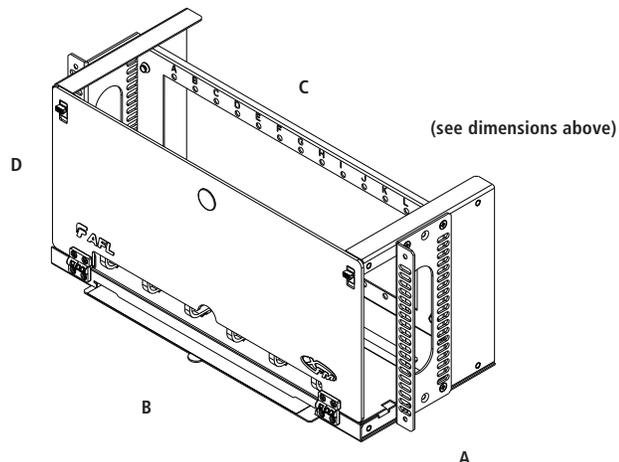
Specifications

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





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

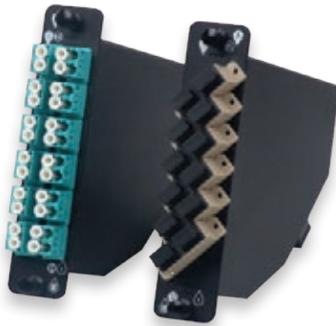
Specifications

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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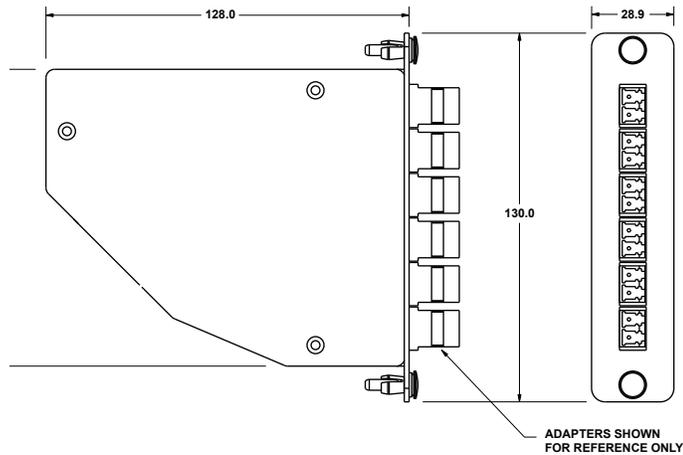
Xpress Fiber Management® (XFM) MPO Optical Cassettes

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

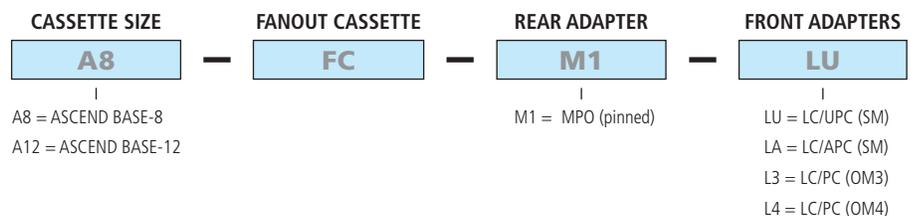
Features

- 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.

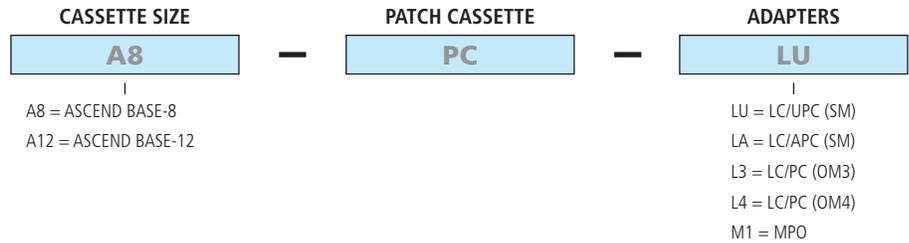
Features

- 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.

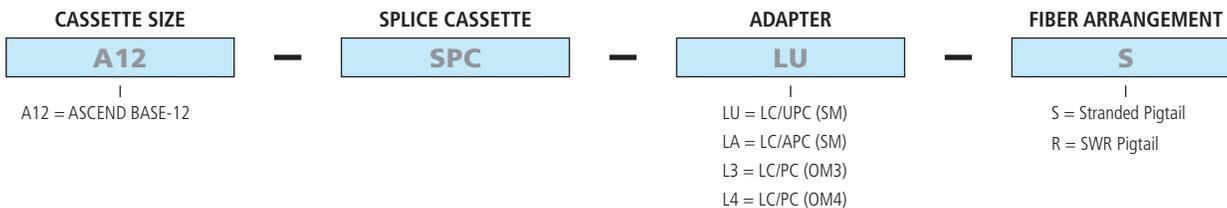
Applications

- 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
- Inventive 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

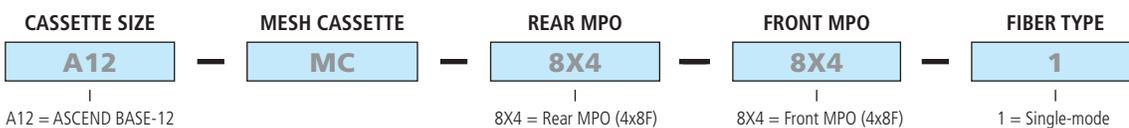
OPERATING WAVELENGTHS	INSERTION LOSS *	REFLECTANCE
SM: 1310 and 1550 nm MM: 850 and 1300 nm	Typical IL (dB): 0.35 dB Max IL (dB): 0.55 dB	SM: 50 dB MM: 20 dB

* 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

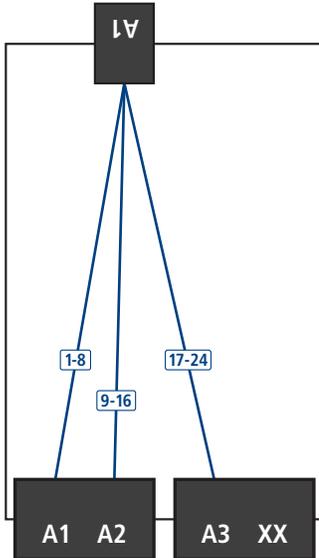
Operating Temperature	-20°C to +75°C
Storage Temperature	-40°C to +85°C

ASCEND® Conversion Cassettes

Schematics

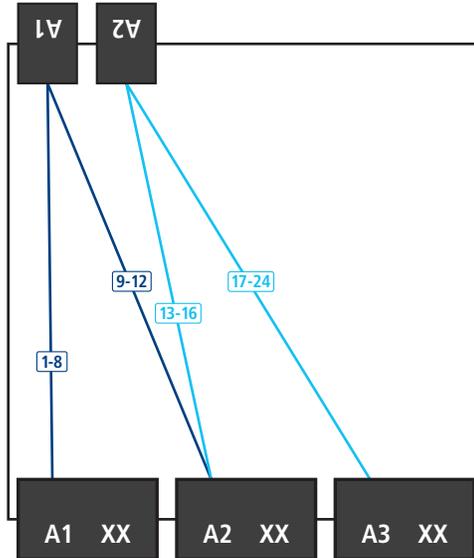
BASE-24 to BASE-8

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



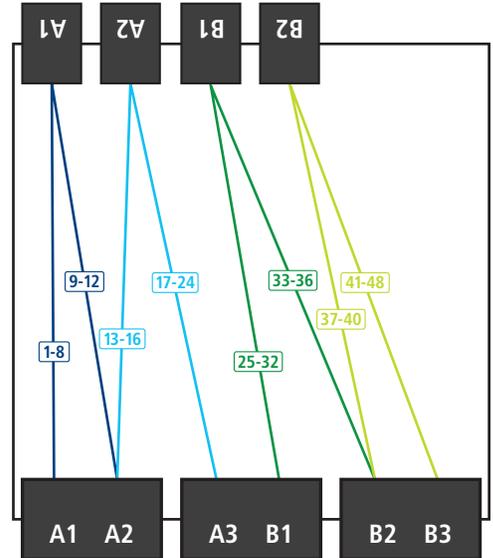
BASE-12 to BASE-8 (Single Circuit)

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

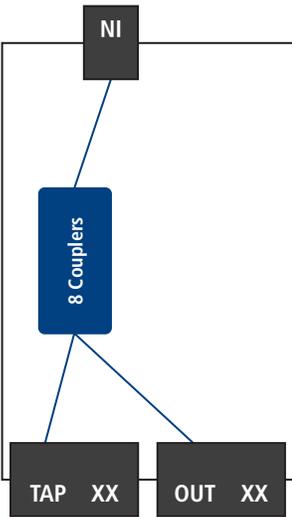


ASCEND® Tap Cassettes

Schematics

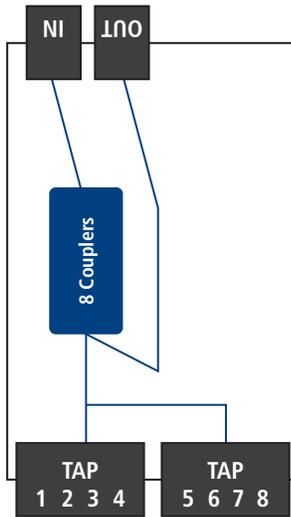
BASE-8

- 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



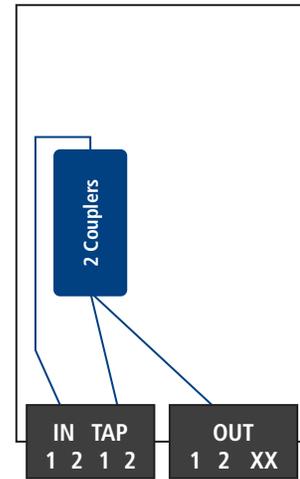
BASE-8

- 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



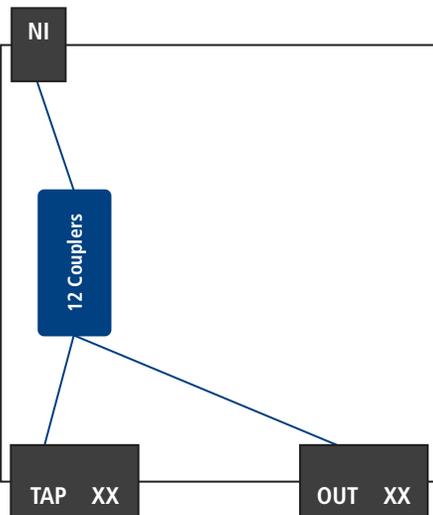
BASE-8

- 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



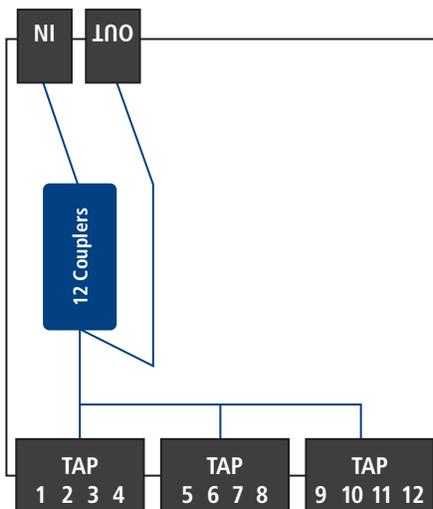
BASE-12

- 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



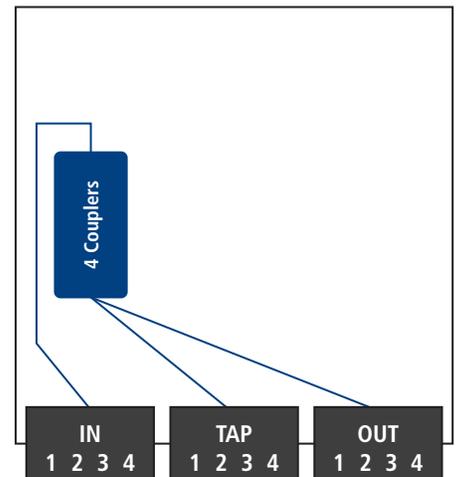
BASE-12

- 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.

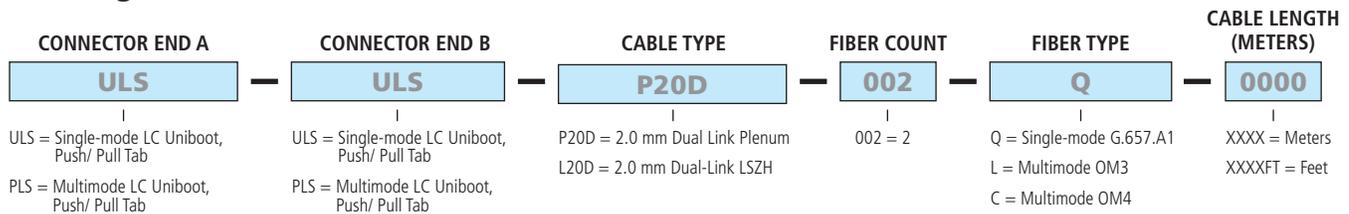
Applications

- 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

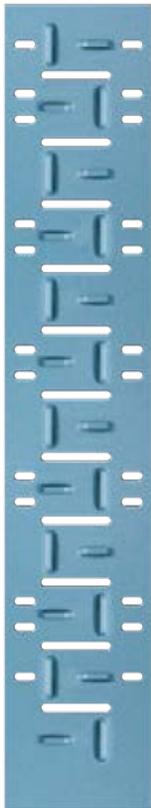
Ordering Information

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	PA	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)	Options for Trunk & Pigtail Assemblies: PL = Plenum MicroCore (250 µm) P4 = 4.8 mm Plenum MicroCore (for 12F cables only) 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	N = No Pulling Eye PA = Pulling Eye End A PB = Pulling Eye End B PC = Pulling Eye Both Ends	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

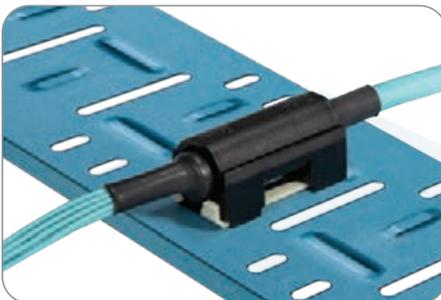
- Data Centers
- Central Offices
- Headends
- Structured Cabling Networks

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

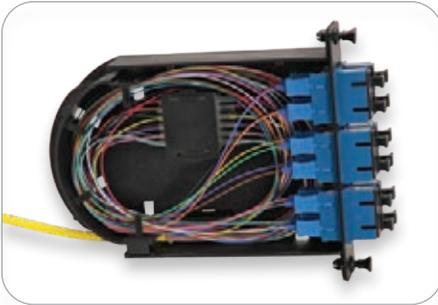
The unique MTP® PRO* design is focused on simplicity and reliability to ensure a quick and effective method for pin configuration without the need to remove the housing or handle loose pins.

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.

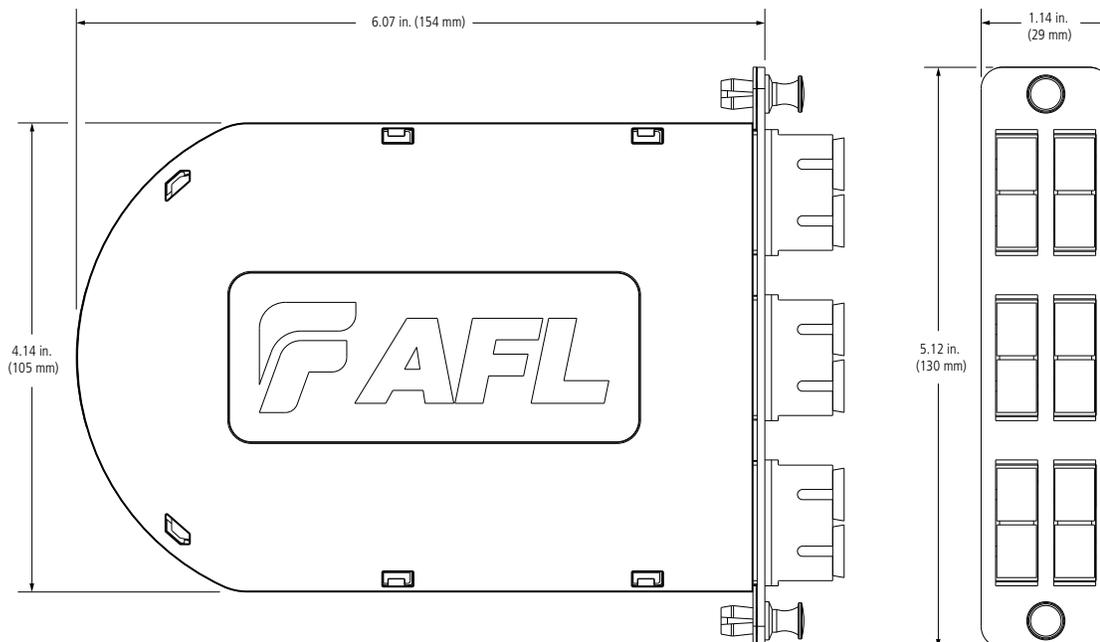
Adapter Color Codes

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

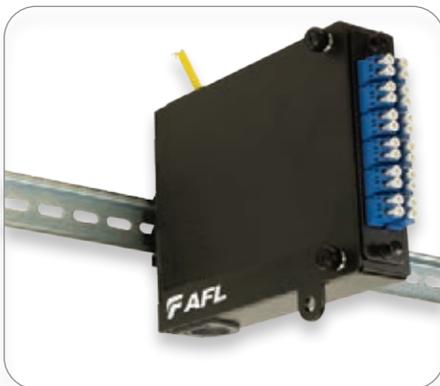
- Fits comfortably into new and existing interconnect, cross-connect and co-location environments
- U-shaped cable entry eliminates the need to feed preconnectorized cables through an inconvenient access port
- Modular design fully compatible with Poli-MOD® products and XFM® optical cassettes
- Locking 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.

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

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-PDML-006000	WME01AS-PDLMC-006000
	12	WME01AS-UDLSM-012000	WME01AS-ADLSM-012000	WME01AS-PDLM6-012000	WME01AS-PDLM5-012000	WME01AS-PDML-012000	WME01AS-PDLMC-012000
	24	WME01AH-UDLSM-024000	WME01AH-ADLSM-024000	WME01AH-PDLM6-024000	WME01AH-PDLM5-024000	WME01AH-PDML-024000	WME01AH-PDLMC-024000
ST	6	WME01AS-USTSM-006000	—	WME01AS-PSTM6-006000	WME01AS-PSTM5-006000	WME01AS-PTML-006000	WME01AS-PTMC-006000
	12	WME01AS-USTSM-012000	—	WME01AS-PSTM6-012000	WME01AS-PSTM5-012000	WME01AS-PTML-012000	WME01AS-PTMC-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-PDML-0061C0	WME01FS-PDLMC-0061C0
	12	WME01FS-UDLSM-0121C0	WME01FS-ADLSM-0121C0	WME01FS-PDLM6-0121C0	WME01FS-PDLM5-0121C0	WME01FS-PDML-0121C0	WME01FS-PDLMC-0121C0
	24	WME01FH-UDLSM-0241C0	WME01FH-ADLSM-0241C0	WME01FH-PDLM6-0241C0	WME01FH-PDLM5-0241C0	WME01FH-PDML-0241C0	WME01FH-PDLMC-0241C0
ST	6	WME01FS-USTSM-0061C0	—	WME01FS-PSTM6-0061C0	WME01FS-PSTM5-0061C0	WME01FS-PTML-0061C0	WME01FS-PTMC-0061C0
	12	WME01FS-USTSM-0121C0	—	WME01FS-PSTM6-0121C0	WME01FS-PSTM5-0121C0	WME01FS-PTML-0121C0	WME01FS-PTMC-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

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



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

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

Ordering Information

EMPTY	
DESCRIPTION	AFL NO.
WME04 Empty	WME04E

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

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	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 pigtails 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 pigtails, 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.

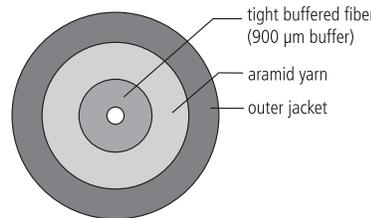
Features

- 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)

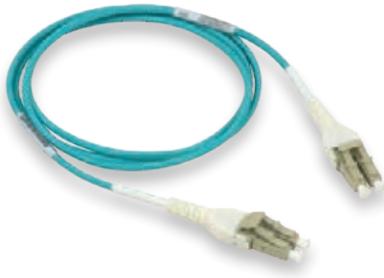
0010 = 10 meters
(specify length)

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

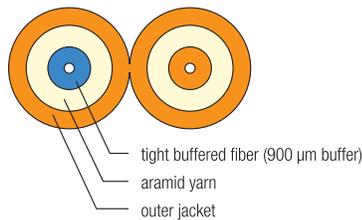
- Flexible, 2-fiber design
- Riser, Plenum and LSZH* rated cables available (*contact AFL)

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
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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
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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
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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

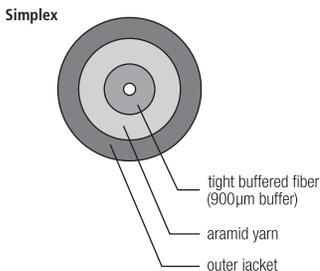
Connectors:

- 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

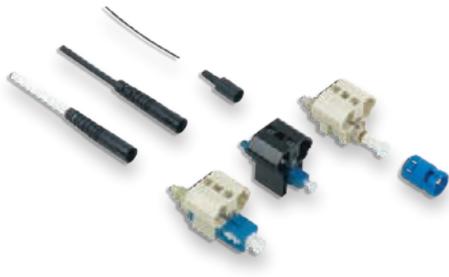
PARAMETER	VALUE
Fiber Count	12
Environment	Indoor
Input Cable Size	2.0 - 3.8 mm
Length	1 meter or 3 meter

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

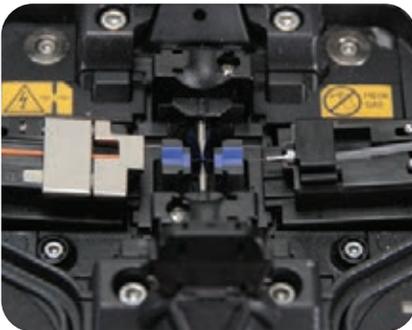


FUSEConnect Connectors (SC, FC, LC, ST)

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

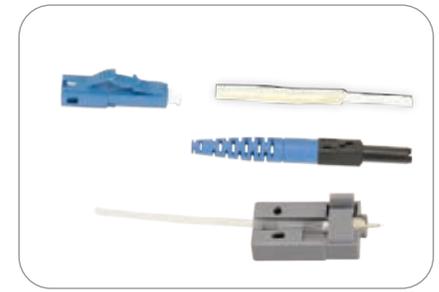
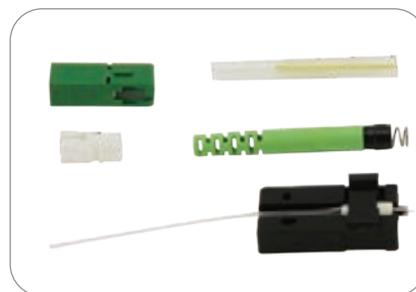
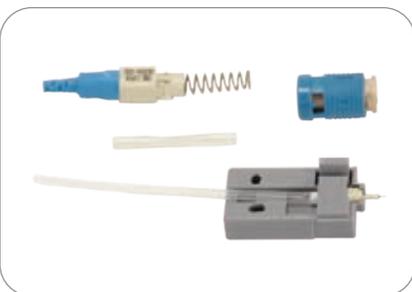
- Field installable
- No adhesives, crimping or polishing
- True APC performance
- Compatible with most fusion splicers

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
→

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
GR	1435-CORE Issue 2
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	PPF1-00-0900
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
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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.



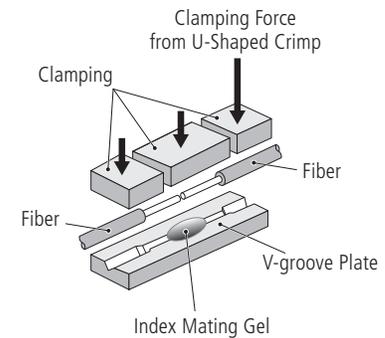
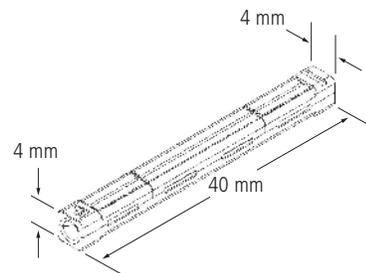
Features

- 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

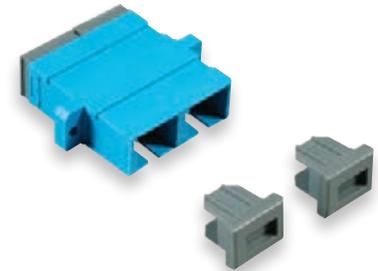
SC Adapters

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
→

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.

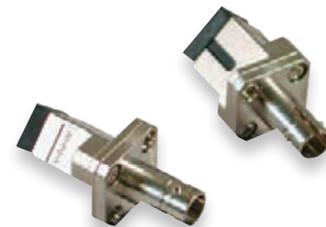


Type	Mode	Description	Sleeve	Color	AFL No.
MTP	SM/MM	Flange Mount	—	Black	C057010
MTP (aligned keyway)	SM/MM	Flange Mount	—	Grey	CS000211

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

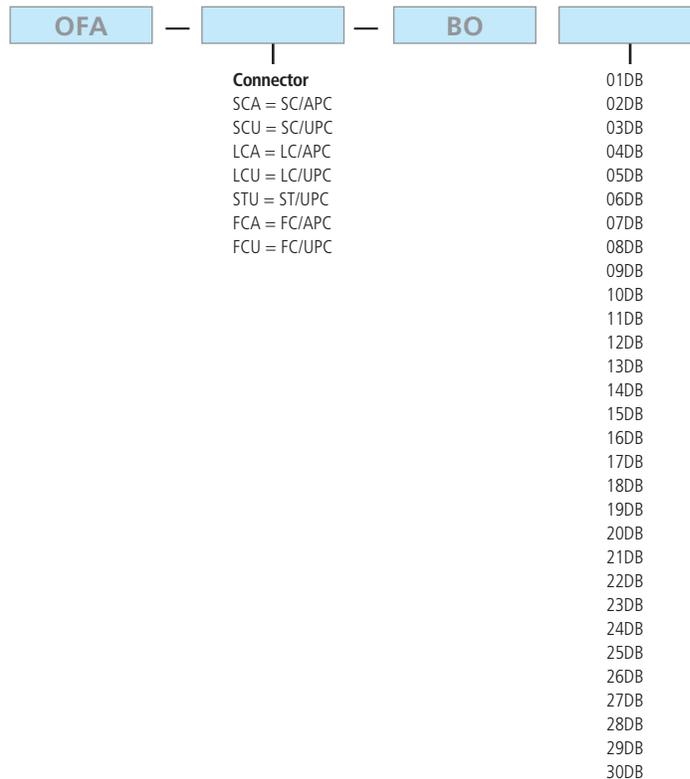
Buildout Attenuators

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

Pre-Terminated Cable Assemblies

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 +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	—	-20 dB	—	-20 dB	—	-30 dB	—						
	Temp Range (°C)	-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	Simplex/Duplex		Simplex/Duplex		Simplex/Duplex		Bare Ribbon		Bare Ribbon		900 µm		2.0 mm	
	900 µm	900 µm		900 µm		900 µm		Jacketed Ribbon		Jacketed Ribbon		Dual Link		900 µm	
Applications	1.6 mm	1.6 mm		1.6 mm		1.6 mm		8-12 Fiber Count		Zipcord		2.0 mm		2.0 mm	
	2.0 mm	2.0 mm		2.0 mm		2.0 mm		—		—		—		—	
Applications	2.4 mm	2.4 mm		2.4 mm		2.4 mm		—		—		—		—	
	3.0 mm	3.0 mm		3.0 mm		3.0 mm		—		—		—		—	
Applications	Telephony	Telephony		Telephony											
	CATV/Broadband	CATV/Broadband		CATV/Broadband											
Applications	Telco Backplanes	Telco Backplanes		Telco Backplanes											
	LAN/WAN	LAN/WAN		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

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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

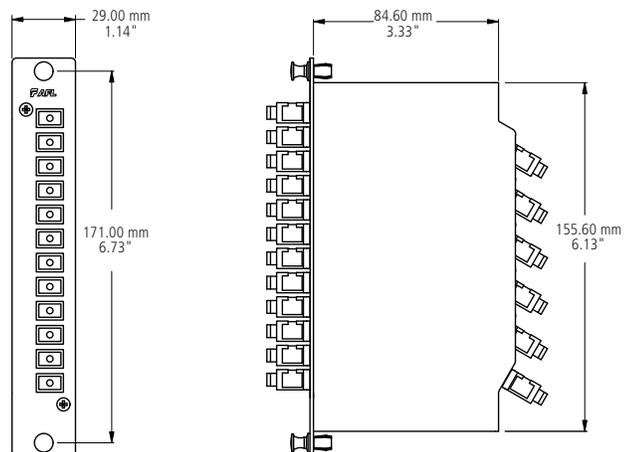
PARAMETER	VALUE
Performance	
Wavelength	1540-1560 nm
Insertion Loss	1550 < 3.9 dB
PDL	<0.2 dB
PMD	< 0.05 ps
Return Loss	> 55 dB
Directivity	> 55 dB
Operating Temperature	-40 to +75°C
Storage Temperature	-40 to +85 °C
Relative Humidity	0 to 90%
Optical Power	500 mW

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	1 = Thin Cassette, 1 Meter Pigtail	1271	1291	U = 1310 Upgrade Port	ASC = SC/APC	
	04 = 4 Channel	3 = Thin Cassette, 3 Meter Pigtail	1291	1311	T = 2% Tap Port	USC = SC/UPC	
	08 = 8 Channel	5 = Thin Cassette, 5 Meter Pigtail	1311	1331	X = No Option	ALC = LC/APC	
	16 = 16 Channel	L = LGX 118	1331	1351	B = 1310 Upgrade Port and 2% Tap Port	ULC = LC/UPC	X = No connectors
			1351	1371			
			1371	1391			
			1391	1411			
			1411	1431			
			1431	1451			
			1451	1471			
			1471	1491			
			1491	1511			
			1511	1531			
			1531	1551			
			1551	1571			
			1571	1591			
			1591	1611			

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.



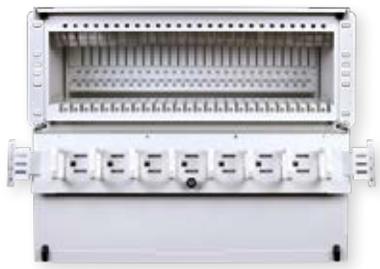
CGM PLUS Open

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

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.

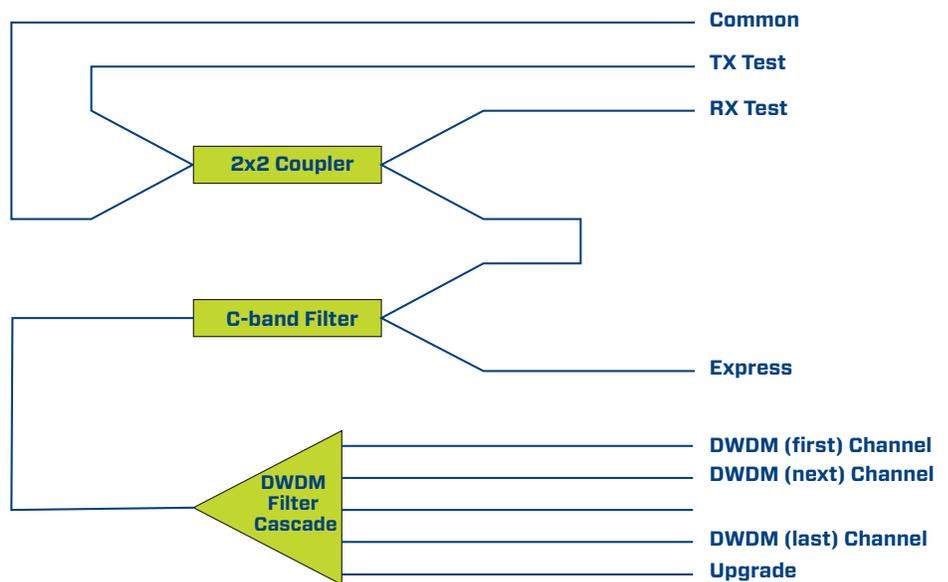
Features

- 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	ALCO	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	ALCO = LC/APC Bulkhead ULCO = LC/UPC Bulkhead ASCO = SC/APC Bulkhead * USCO = 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

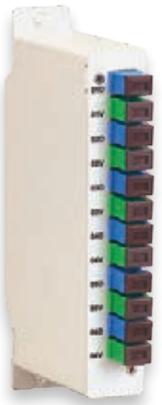
GOVERNING BODY	STANDARD CODE
Telcordia	GR-1209, GR1221

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

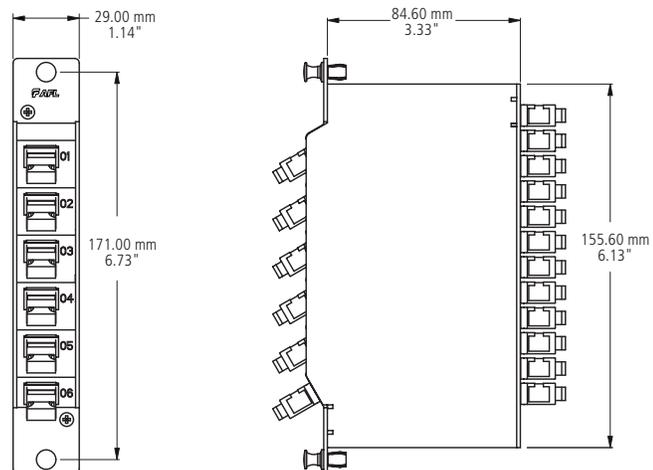
PARAMETER	VALUE
1550 Band – Port 1 (Pass)	1550-1560 nm
1310 + 1490 Band – Port 2 (Reflect)	1260-1360 & 1480-1500 nm
Insertion Loss	1550 < 1.2 dB
	1310 + 1490 < 1.2 dB
Isolation	1550 > 25 dB
	1310 + 1490 > 20 dB
PDL	<0.2 dB
PMD	< 0.2 ps
Return Loss	> 50 dB
Directivity	> 50 dB
Operating Temperature	-40 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

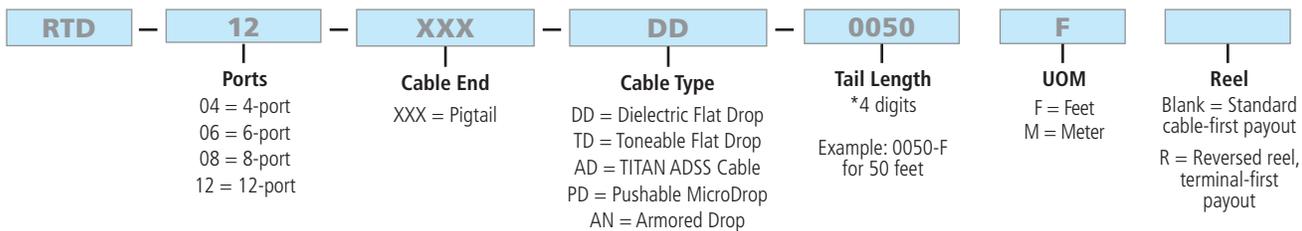


Pedestal Mount Application



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

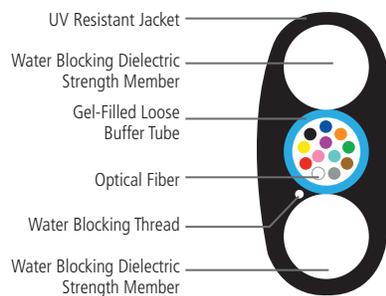
- AFL TRIDENT Hardened Connector ports for speedy customer connections
- Factory terminated on:
 - 250 µm outdoor or 900 µm indoor/outdoor flat drop cable
 - 250 µm armored drop
 - 900 µm pushable/air-jettable MicroDrop
- Flat drop is aerial self-support capable

Qualifications

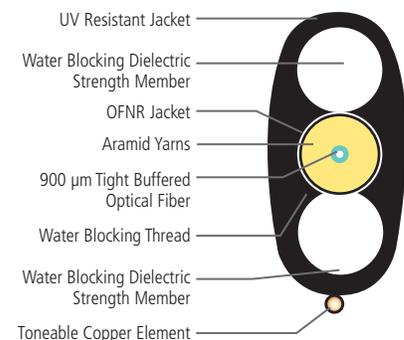
GOVERNING BODY	STANDARD CODE
Telcordia	GR-3120

Cable Components

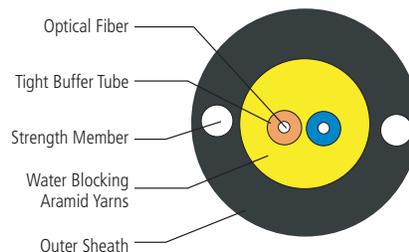
Dielectric OSP



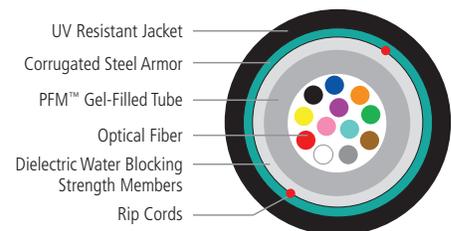
Toneable Indoor/Outdoor



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.

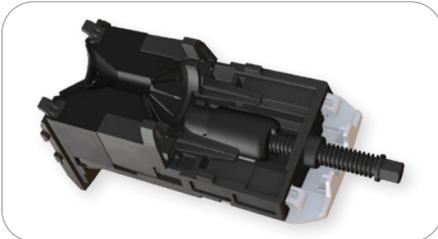
Features

- 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

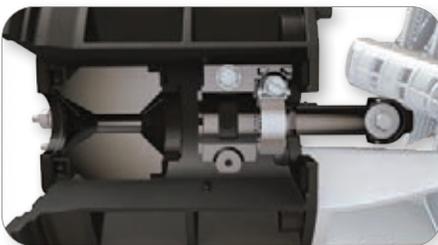
PARAMETER	VALUE
Dimensions – L x D, in (cm)	20.0 x 12.0 (51 x 30)
Weight, No Trays – lb (kg)	22 (10)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	288, 1728, 576
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" – 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
Operating Temperature	-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.



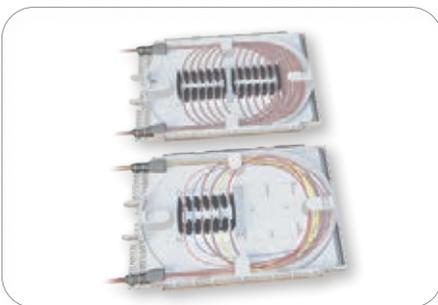
Cable Entry Ports and Strain Relief

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



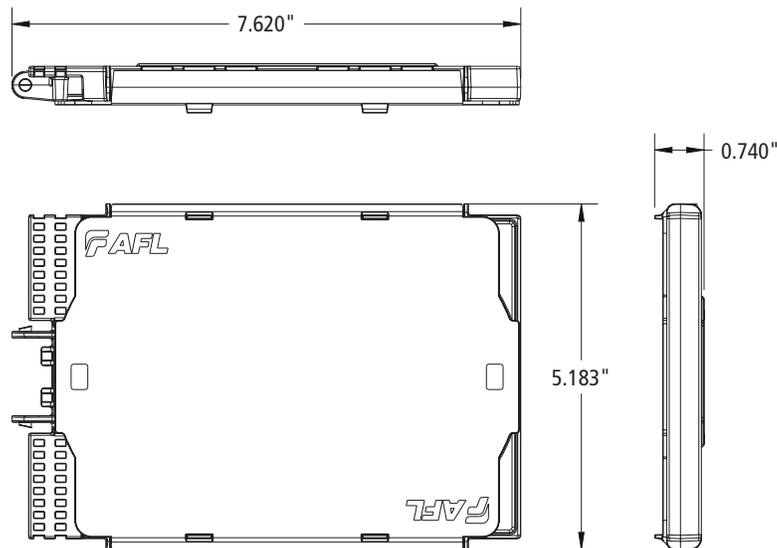
Ordering Information

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



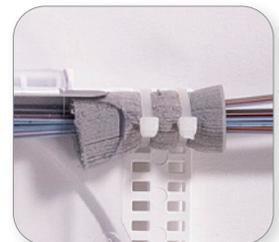
Ring Clamp Replacement Kit



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.)



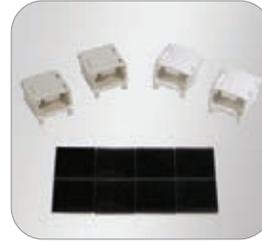
Mesh Transition Tubing



Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



A-B Tray Adapter Kit



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

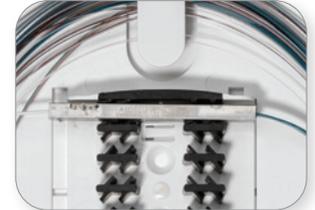
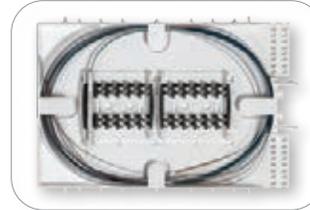
Ordering Information — Accessories (cont.)

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.

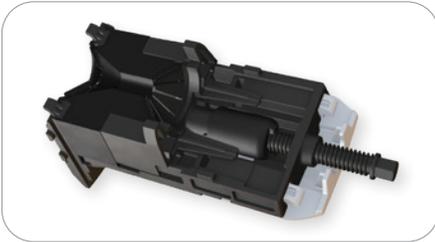
Features

- 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

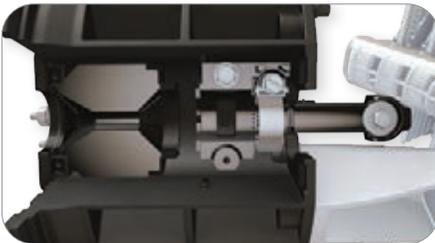
PARAMETER	VALUE
Dimensions – L x D, in (cm)	25.0 x 12.0 (64 x 30)
Weight, No Trays – lb (kg)	25 (11.3)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	576, 3456, 1152
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 – 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	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.



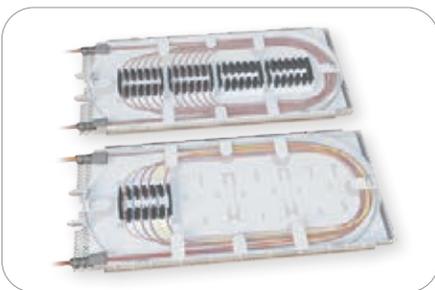
Cable Entry Ports and Strain Relief

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.

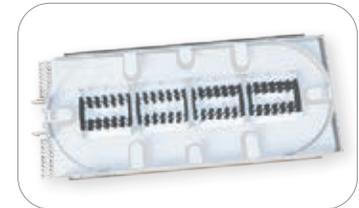
Ordering Information

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 FOOSC® A-B optical trays.



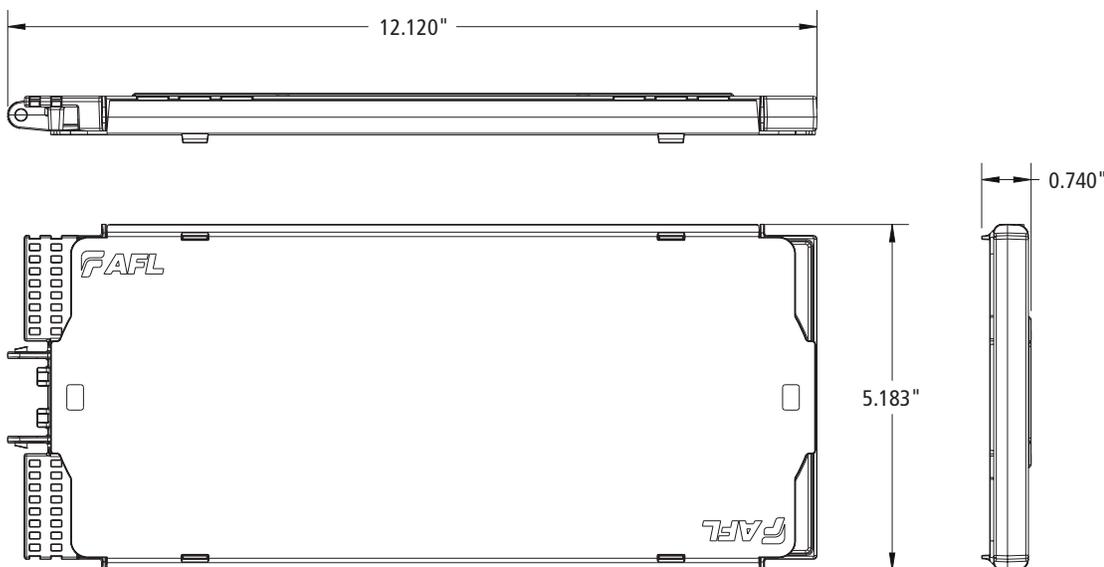
Ordering Information

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



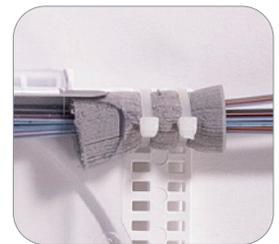
Ring Clamp Replacement Kit



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.)



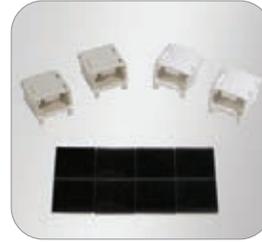
Mesh Transition Tubing



Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



A-B Tray Adapter Kit



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

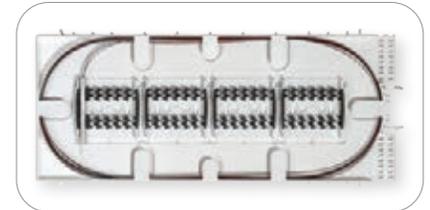
Ordering Information — Accessories (cont.)

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



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



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

Specifications

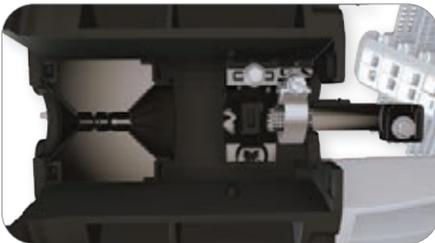
PARAMETER	VALUE
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 lbs. (13.61 kg)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	864, 5184, 1296
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Cable Diameter, Multi-Drop 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.



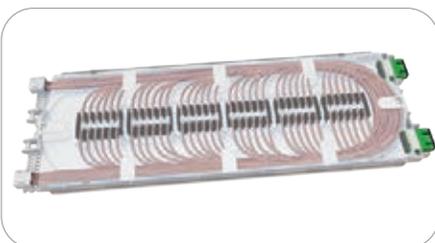
Cable Entry Ports and Cable Attachment Unit (CAU)

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.

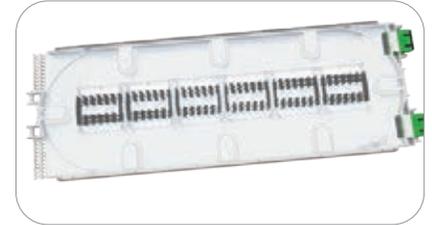
Ordering Information

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.



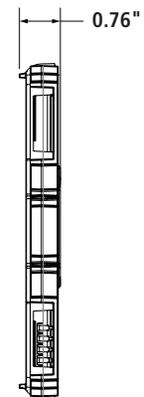
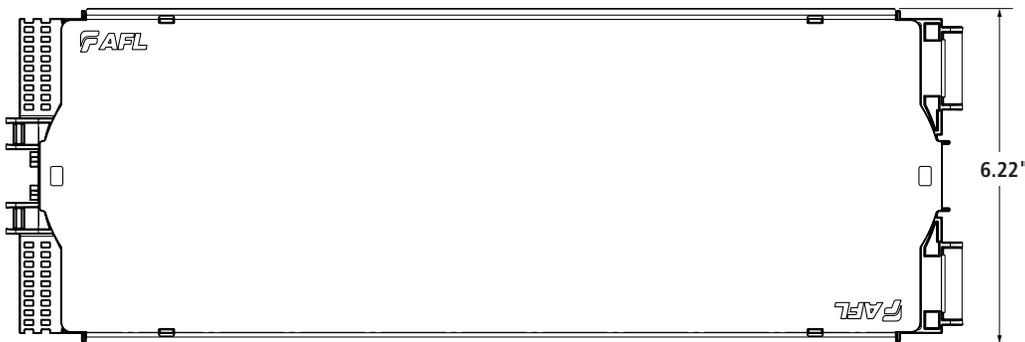
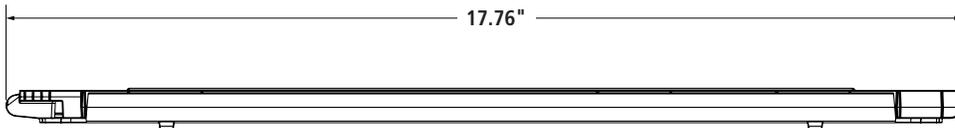
Ordering Information

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



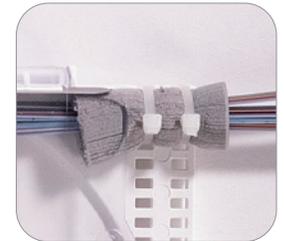
Ring Clamp Replacement Kit



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

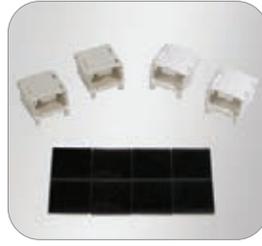
Installation Accessories (cont.)



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

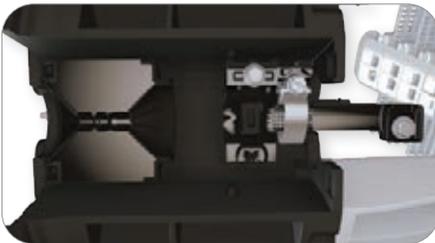
PARAMETER	VALUE
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 (13.6)
Splice Capacity – Mass (SWR), Mass (Standard)	6912, 1728
Splice Tray Capacity	8
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Application	Handhole, Aerial, Pole/Wall, Direct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



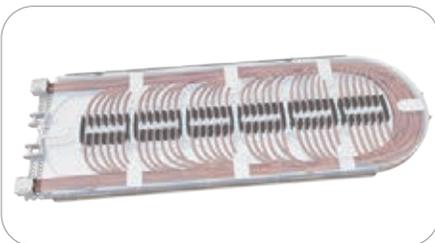
Cable Entry Ports and Cable Attachment Unit (CAU)

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.

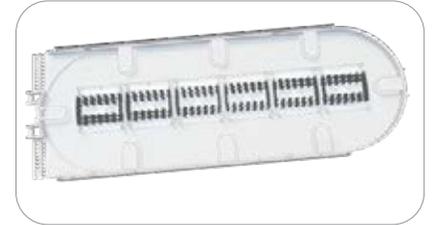
Ordering Information

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.



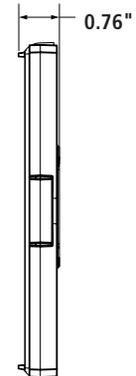
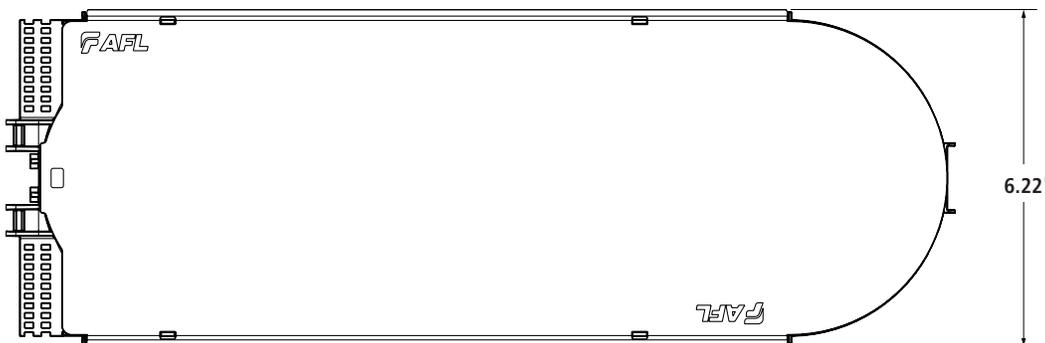
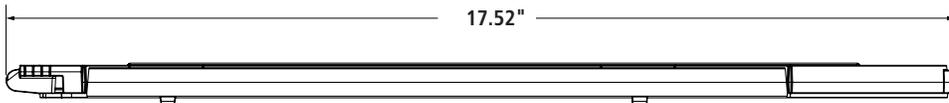
Ordering Information

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



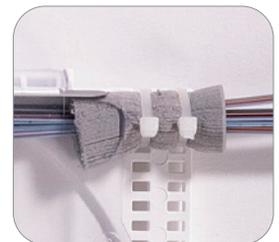
Ring Clamp Replacement Kit



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

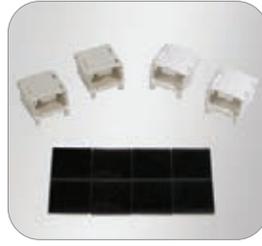
Apex® X-3H Sealed Splice Closure



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)	

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LightGuard® 250 Sealed Fiber Optic Splice Closure

Ordering Information

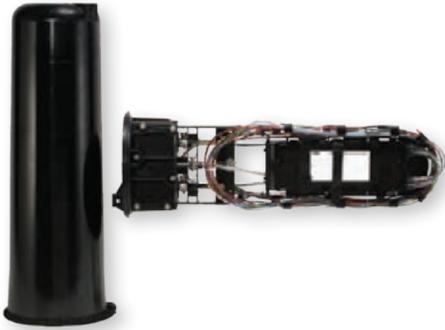
DESCRIPTION	AFL NO.
LG-250-U-0 Fiber Optic Splice Closure—Stores 144 single fusion or 432 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets	FC000002-PS
LL-2400 Single Splice Tray—Stores (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

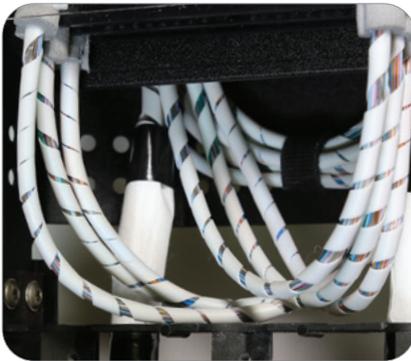
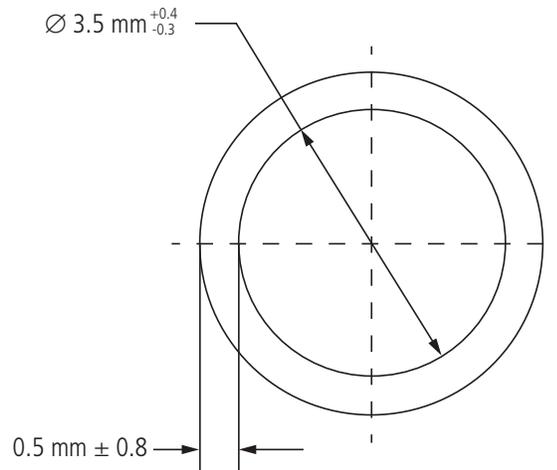
Contact AFL for further details.



Silicone Spiral Wrap

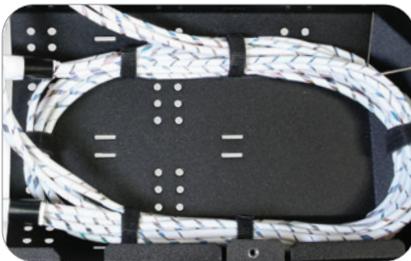
Silicone spiral wrap can be used to protect SpiderWeb Ribbon® bundles (up to 288 fibers) as well as up to 12 standard ribbons. The silicone spiral wrap can protect expressed fiber slack in various applications as well as act as a transition tube from a slack storage basket to splice trays in various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

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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)	

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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 Express Grommets

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".



Quad Express Grommets

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

continued
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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

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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

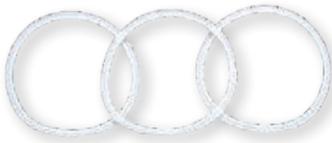


Cable Ground Kits

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

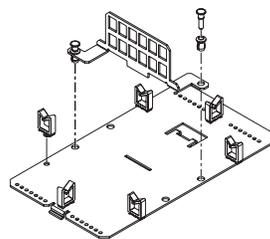
DESCRIPTION	MODEL NO.	AFL NO.
Terminal Adapter for LG-150/250 Sealed Splice Closure	LLAS-200-12SC	FC000068
Terminal Adapter for LG-350 Sealed Splice Closure	LLAS-300-24SC	FC000069

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.

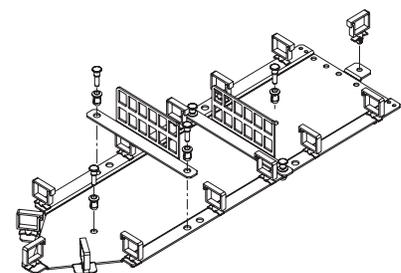
Accessories Ordering

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) 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)	36.00" 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

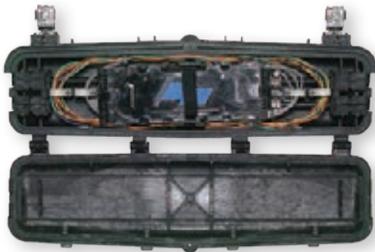
DESCRIPTION	MODEL NO.	AFL NO.
LG-420 Aerial Weathertight Fiber Optic Splice Closure – Stores 12 single fusion or 48 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, splice chips and hanger brackets. Not included: Cable Grounding Kits	LG-420-U-0	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)

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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)

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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)

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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.

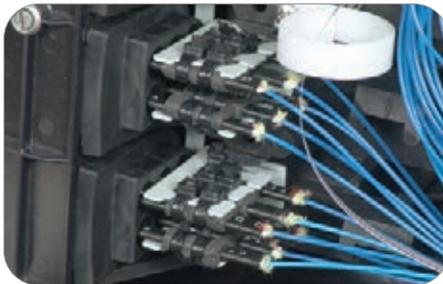


LightGuard® 600 FTTx Aerial Weathertight Fiber Optic Splice Closure

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



continued
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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

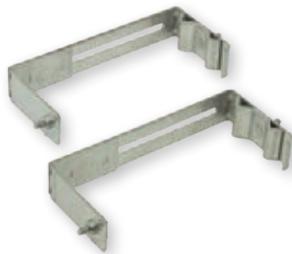


Single-port Grommet Kit for LG-600 FTTx

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

continued
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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

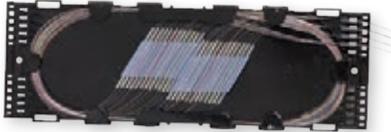
For use with all Aerial Weathertight Closures (LG-410, LG-420, LG-420 FTTx, LG-500, LG-600 and LG-600 FTTx).

Ordering Information

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

LightLink Fiber Optic Splice Trays

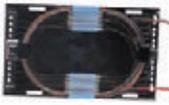
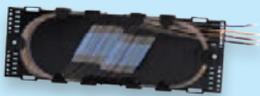
AFL's LightLink series of Fiber Optic Splice Trays offers a variety of unique and flexible splice and storage possibilities. They are available in industry standard configurations (single, mass).



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

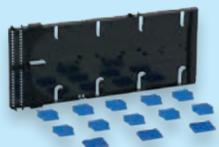
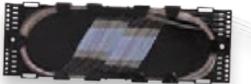
Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

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

continued →

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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Splice Trays

LightLink Fiber Optic Splice Trays (cont.)

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

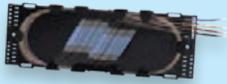
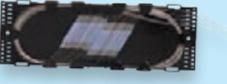
DESCRIPTION	MODEL NO.	AFL NO.	LG-350-U	LG-350-AC	LG-350XL-U	LG-350-20-WTC	LG-350-27-WTC
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H) 	LL-7144	FA000043	Max Trays: 6 Single: 360 Mass: 72 (864 fiber)	N/A	N/A	N/A	Max Trays: 3 Single: 180 Mass: 72 (864 fiber)
Single Fuse: 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

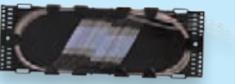
DESCRIPTION	MODEL NO.	AFL NO.	LG-410-U	LG-420-U FTTx	LG-500-U	LG-500-U FTTx
Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H) 	LL-2400	91710-06	Max Trays: 4 Single: 96 Mass: N/A	N/A	Max Trays: 4 Single: 96 Mass: N/A	N/A
Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (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)

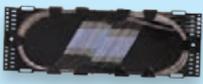
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LightLink Fiber Optic Splice Trays (cont.)

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

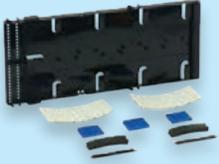
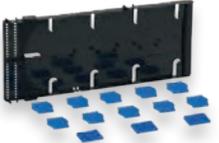
DESCRIPTION	MODEL NO.	AFL NO.	LL-400B WITH INTERCONNECT	LL-400B WITHOUT INTERCONNECT	LL-400SX WITH 2 LGX® PLATES	LL-400SX WITHOUT LGX PLATES
Single Fuse: 24 Mass Fuse: 4 (48 fiber) Mechanical : 12 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448	911289-00-02	Max Trays: 4 Single: 96 Mass: 16 (192 fiber) 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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Splice Trays

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

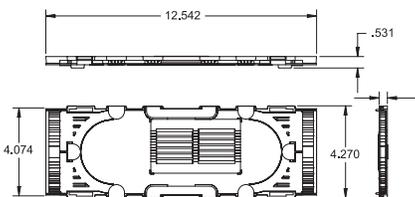
DESCRIPTION	MODEL NO.	AFL NO.
Telescoping Splice Tray - Stores up to 48 single fusion sleeves or 12 mass fusion sleeves (144 fibers). For use in the following products: LL-300, LL-288/576, LL-720/1440, OTSS-SYS1, OSS-SYS2 and OSS-SYS1	STF-48	911442-00-00
FTTx Splice Tray - Stores up to 2 single fusion 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

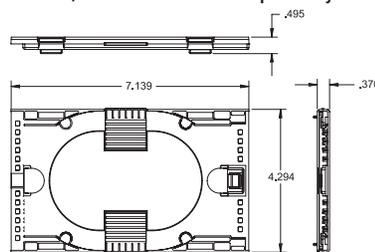
DESCRIPTION	AFL NO.
FP-40 Splice Protection Sleeves, 40 mm length (1000 box/100 pack)	S015916
FP-60 Splice Protection Sleeves, 60 mm length (1000 box/100 pack)	S015915
Single Fusion Splice Chip - 6 splices per chip. (10 pcs. per kit)	FA000034
Single Fusion Splice Chip - 12 splices per chip. (10 pcs. 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

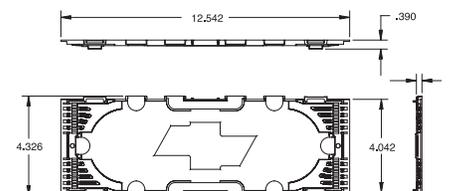
LL-2448 and LL-4848 Splice Trays



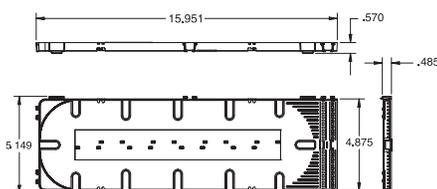
LL-1248, LL-2450 and LL-4850 Splice Trays



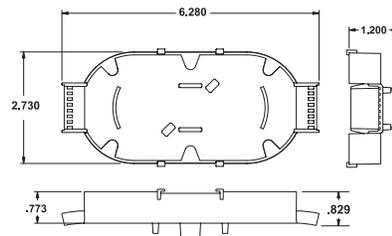
LL-2400 Splice Tray



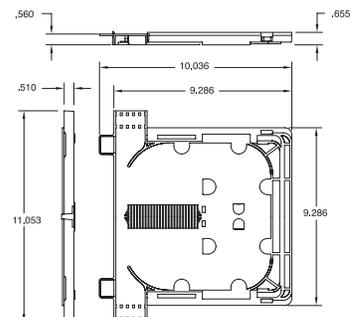
LL-4896 Splice Tray

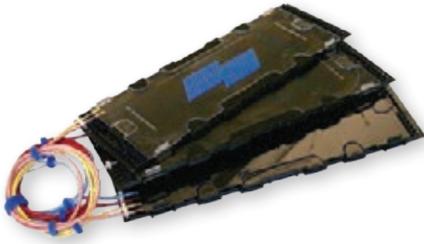


LL-2425 Splice Tray



OEE Splice Tray





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			
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

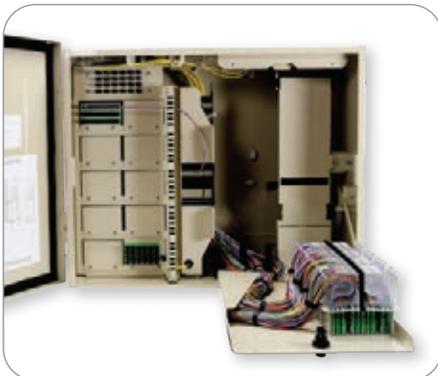
DESCRIPTION	AFL NO.
IDEAA SPLICE CLOSURE	EA000076
IDEAA Splice Closure Pigtail Kit	EA000168



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 pigtailed 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-5D Optical Splicing and Distribution Enclosure

The LL-5D Optical Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband FTTx, distribution and building entrance applications. The enclosure features a durable outdoor polymer-based material and a fully-gasketed hinged cover. The internal Apex® trays 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 or conduit system, and can be coupled to a fixed 12 inch stackable storage skirt. Multiple skirts can be stacked to achieve the desired length.

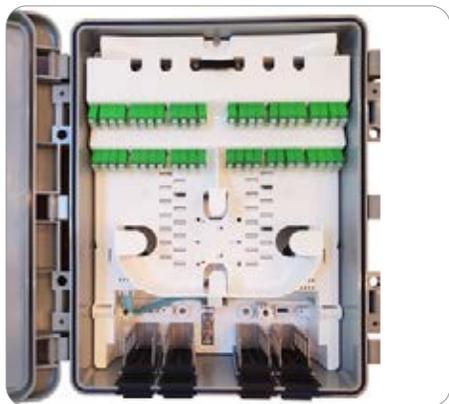
Features

Enclosure

- Independent cable strain-relief for input and drop cables
- 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
- Pre-molded splice tray in the base of the enclosure

Apex Splice Tray Kit

- Available with (2) Factory Pre-installed AX-TRAY-2S-2 Universal Splice Trays with SC/APC or SC/UPC 900 μm pigtails for up to 48 connections.
- Pigtails are available in tight buffered or ribbon fiber
- Apex Trays may be purchased separately to upgrade existing splice-only units



LL-5D Enclosure shown with Interconnect Tray and Grommets installed



LL-5D Conduit Base



LL-5D Grommet Base

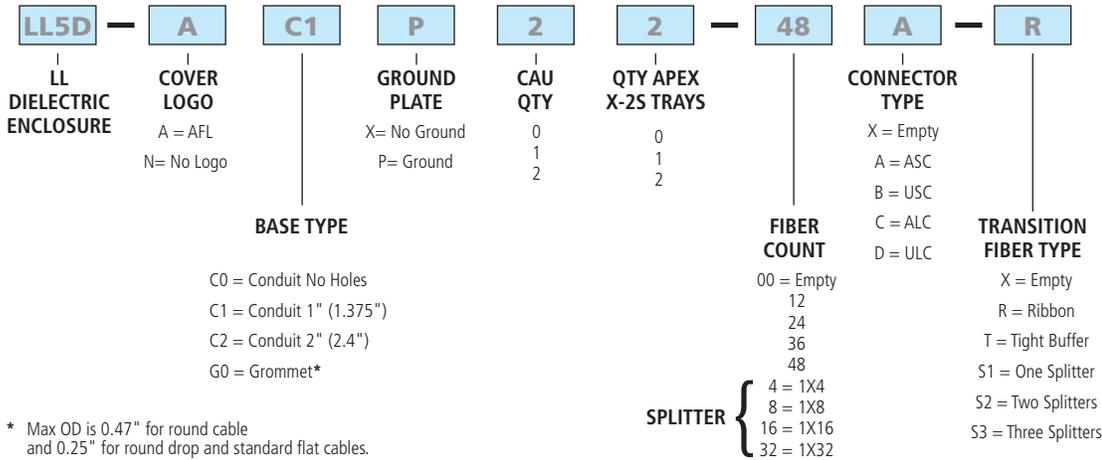
Specifications

PARAMETER	VALUE
Material – Housing	Polycarbonate
Color	Gray
Size (H x W x D in.)	(H x W x D in.) 16" x 14.5" x 5.5" (total length 17.75" including mounting brackets)
Weight (lbs)	7.5
Adapters	Either (48) SC or (48) LC
Splice	Connectorized: Up to (2) AX-TRAY-2S-2 up to 48 single fused fibers or 4 mass fusion sleeves Splice-only: Up to (2) AX-TRAY-2S-2 for 132 single fused (including the built-in tray) or 72 SpiderWeb Ribbon® (SWR®) fusion splice sleeves
Indoor Rating	UL-V0
Outdoor Rating	UV protection

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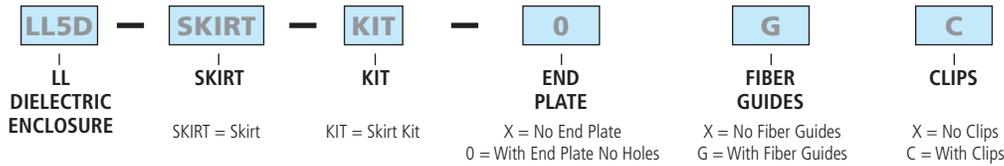
LL-5D Optical Splicing and Distribution Enclosure

Ordering Information — LL-5D Enclosure



* Max OD is 0.47" for round cable and 0.25" for round drop and standard flat cables.

Ordering Information — LL-5D Skirt Kit



LL-5D Skirt



LL-5D Enclosure with Skirt

Qualifications

GOVERNING BODY	STANDARD CODE
NEMA	Type 3
Telcordia	GR-2898

Contact AFL for further details.

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Apex® X-2S Splice Trays

Splice Trays and Splice Modules

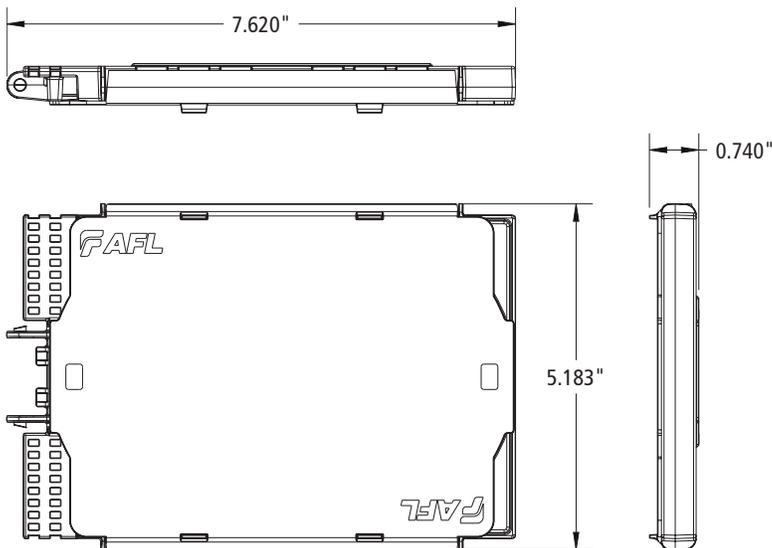
Apex X-2S closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for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

Ordering Information

DESCRIPTION	TRAY CAPACITY			AFL NO.
	SINGLE	SWR®	MASS	
X-2S Tray Loaded with One Splice Module	24	144	72	AX-TRAY-2S-1
X-2S Tray Fully Loaded with Two Splice Modules	48	288	144	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



Dimensions

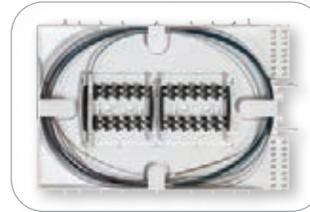


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Apex® X-2S Splice Trays

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 spliced 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

LL-5D Optical Splicing and Distribution Enclosure – Accessories



Caption

Caption

Caption

Ordering Information — Kits

DESCRIPTION	AFL NO.
KITS	
12 Fiber Tight Buffered Pigtail Kit with 12 ASC Connectors	LL5D-KIT-ASCT
12 Fiber Ribbon Pigtail Kit with 12 ASC Connectors	LL5D-KIT-ASCR
LL-5D Skirt Kit Replacement Cover	LL5D-SKIRT-KIT-WRAP



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

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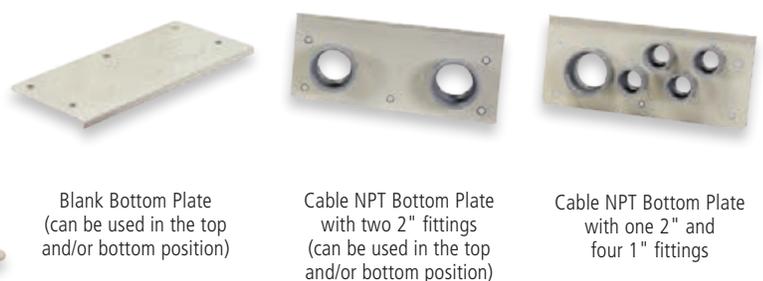
LightLink 580 Optical Splicing and Distribution Enclosure

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



Blank Bottom Plate
(can be used in the top and/or bottom position)

Cable NPT Bottom Plate with two 2" fittings
(can be used in the top and/or bottom position)

Cable NPT Bottom Plate with one 2" and four 1" fittings

Qualifications

GOVERNING BODY	STANDARD CODE
NEMA	Type 3
Telcordia	GR-2898

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 pigtails 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.



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.



LL-400sx



LL-400sx in 1212 pedestal

LightLink 400sx Optical Splicing and Distribution Enclosure

The LightLink (LL) 400sx Fiber Optic Splicing and Distribution Enclosure provides for organizing, splicing, and interconnecting fibers in FTTx, broadband, distribution and building entrance applications. Each LL-400sx 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-400sx is a butt-style enclosure equipped with four 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 192 single or 576 mass-fused fibers. The LL-400sx can also mount up to two LGX118® adapter plates (splicing capacity limited to 144 single fusion and 432 mass fusion splices when adapter plates are installed).

Features

- Independent cable strain relief system
- Cable entry/exit grommet seals
- Removable Hinged Front Cover
- Fiber routing system
- Splice tray support system
- 192 single fusion splices
- 576 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)	23.9 x 9.5 x 5.0 (58.4 x 24.13 x 12.7)
Weight lbs (kg)	5.0 (2.3)

Ordering Information

DESCRIPTION	AFL NO.
LL-400sx	EA000370
LL-4848 Mass Fusion Splice Tray	911437-00-02
LL-2448 Universal Splice Tray	911289-00-02
LL-2448-48S Single Fusion Splice Tray	FA000045
LL-2400 Single Fusion Splice Tray	91710-06
Channell OP1212 Pedestal	FM000776
IDEAA® Module LGX Mount Bracket	EA000061
IDEAA SC/APC 1x32 Splitter Module	EA000102
IDEAA SC/APC 1x16 Splitter Module	EA000103
IDEAA SC/APC 1x8 Splitter Module	EA000104
IDEAA SC/APC 1x4 Splitter Module	EA000105



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

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

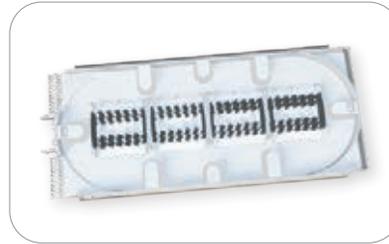
DESCRIPTION	AFL NO.
LL-24 Pedestal, Empty	FE000325

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LightLink 24 Slim-Line Pedestal

Splice Trays and Splice Modules

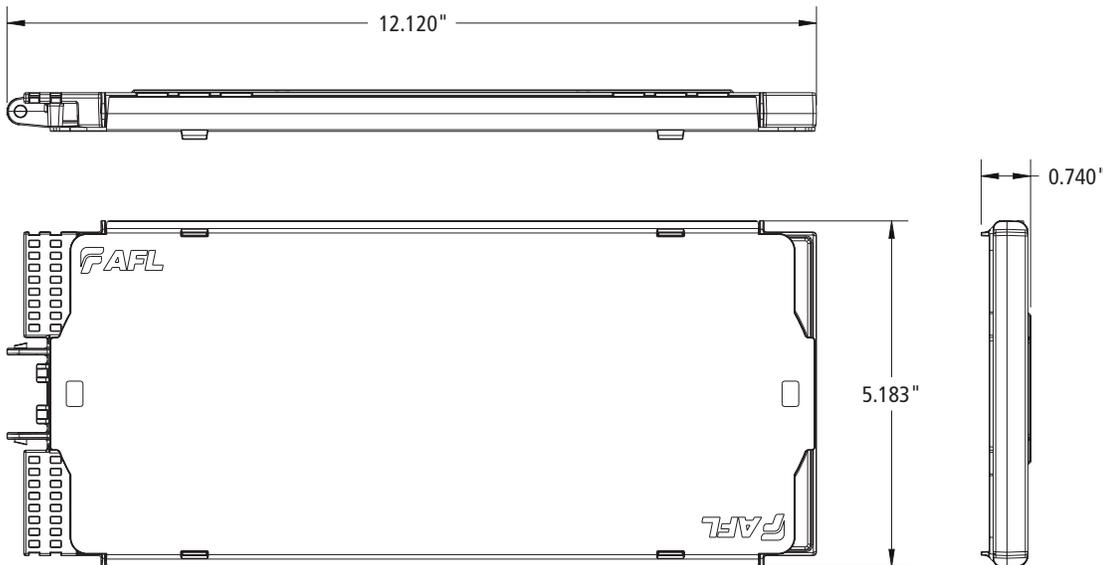
The LL-24 Pedestal utilizes X-2 size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For “rollable” type ribbon such as AFL’s SpiderWeb Ribbon, trays can be fully loaded for 24 mass splices or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for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

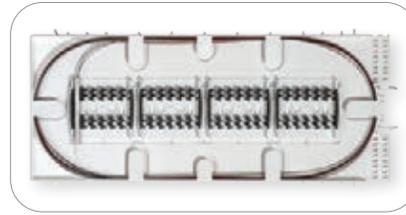


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LightLink 24 Slim-Line Pedestal

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

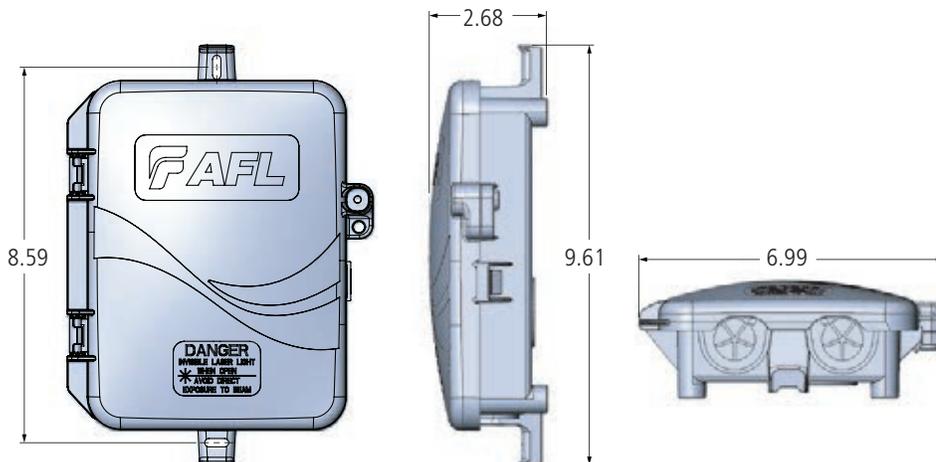
O	A	A	X	A	1	X	P	S	S	P	P
OptiNID Duo O = OptiNID Duo	Base A = Base with two U-shaped drop-in grommets B = Base with two holes for various entry options	Adapter X = No Adapter A = SC/APC Simplex B = SC/UPC Simplex L = LC/UPC Duplex N = LC/APC Duplex	900 µm Pigtail Kit X = No Pigtail A = SC/APC B = SC/UPC L = LC/UPC N = LC/APC	Splice Holder X = No Splice Holder S = Splice Holder	Left Entry Port Right Entry Port						
Cover Logo A = Standard AFL logo Contact AFL for custom logo options	Lockscrew X = No lockscrew (standard) 1 = 3/8" Hex lockscrew	Adapter Quantity 1-4	Grounding Plate X = No Grounding P = 2-Lug Grounding Plate	Security/Splice Cover X = No Cover S = Security/Splice Cover K = Security/Splice Cover with pin-in-hex security screw	<p>A = Heyco compression fitting for 0.095" to 0.29" round cable B = Heyco compression fitting for 0.170" to 0.45" round cable D = PVC conduit fitting for 3/4" conduit G = Rubber grommet K = Heyco compression fitting for 0.26" to 0.545" round cable L = Heyco compression fitting for 2 round cables up to 0.15" M = Heyco compression fitting for flat drop cable N = PVC conduit fitting for 1/2" conduit U = U-shaped grommet for U-shaped grommet base</p>						

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 grommeted 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 Pigtaills	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.



OPN-760XL with optional security cover kit



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



3/4" Pipe Fitting Transition Kit

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

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
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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

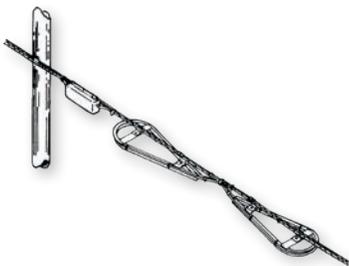
- Small profile and side facing channel minimizes ice and leaf loading
- Metal versions feature an all aluminum construction with welded cross members and baked acrylic enamel paint finish with chromate pre-finish per MIL-6-5541-B
- Plastic versions feature thermoplastic polypropylene resin with carbon 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

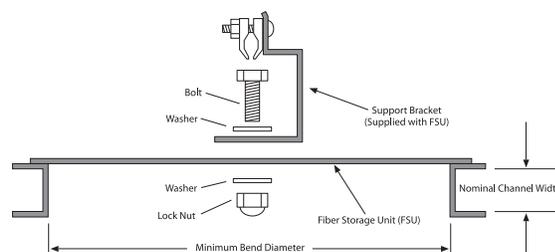
DESCRIPTION	FOSP-12-TMK	FOSP-17-TMK
FOSP Kit (Dielectric)	FA000004	FA000002

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

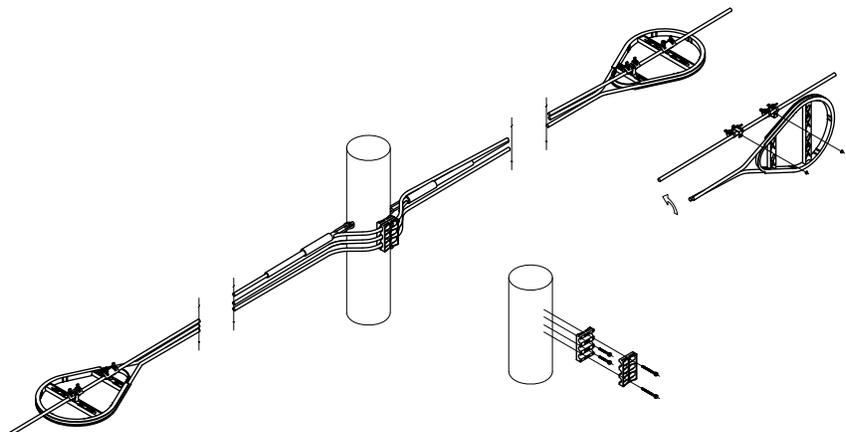
DESCRIPTION	FOSP-ADSS-12	FOSP-ADSS-17
FOS ADSS Kit	FA000049	FA000050

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

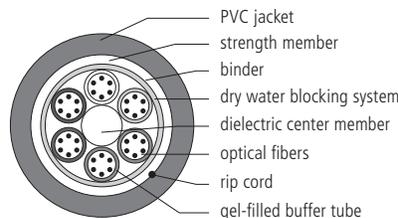
- Fiber counts from 6 to 144 fibers
- Available with ST, SC, FC, and LC connectors single-mode
- Pigtail assemblies, standard configuration (nonstandard configurations available)
- ST, SC, FC and LC connectors available in both single-mode and multimode
- Pre-installed pulling eye kits available
- 1 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



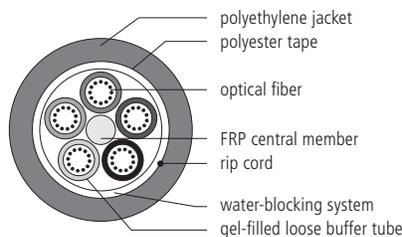
Temperature Range

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



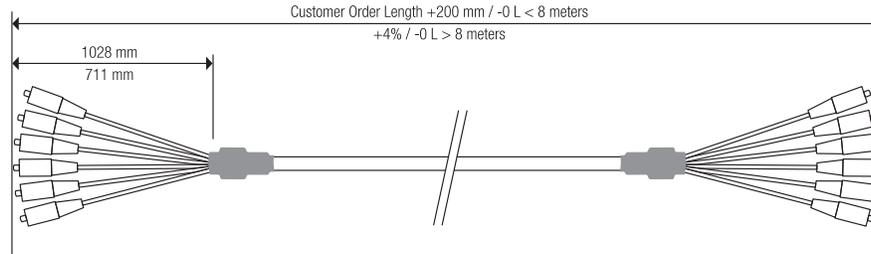
Temperature Range

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



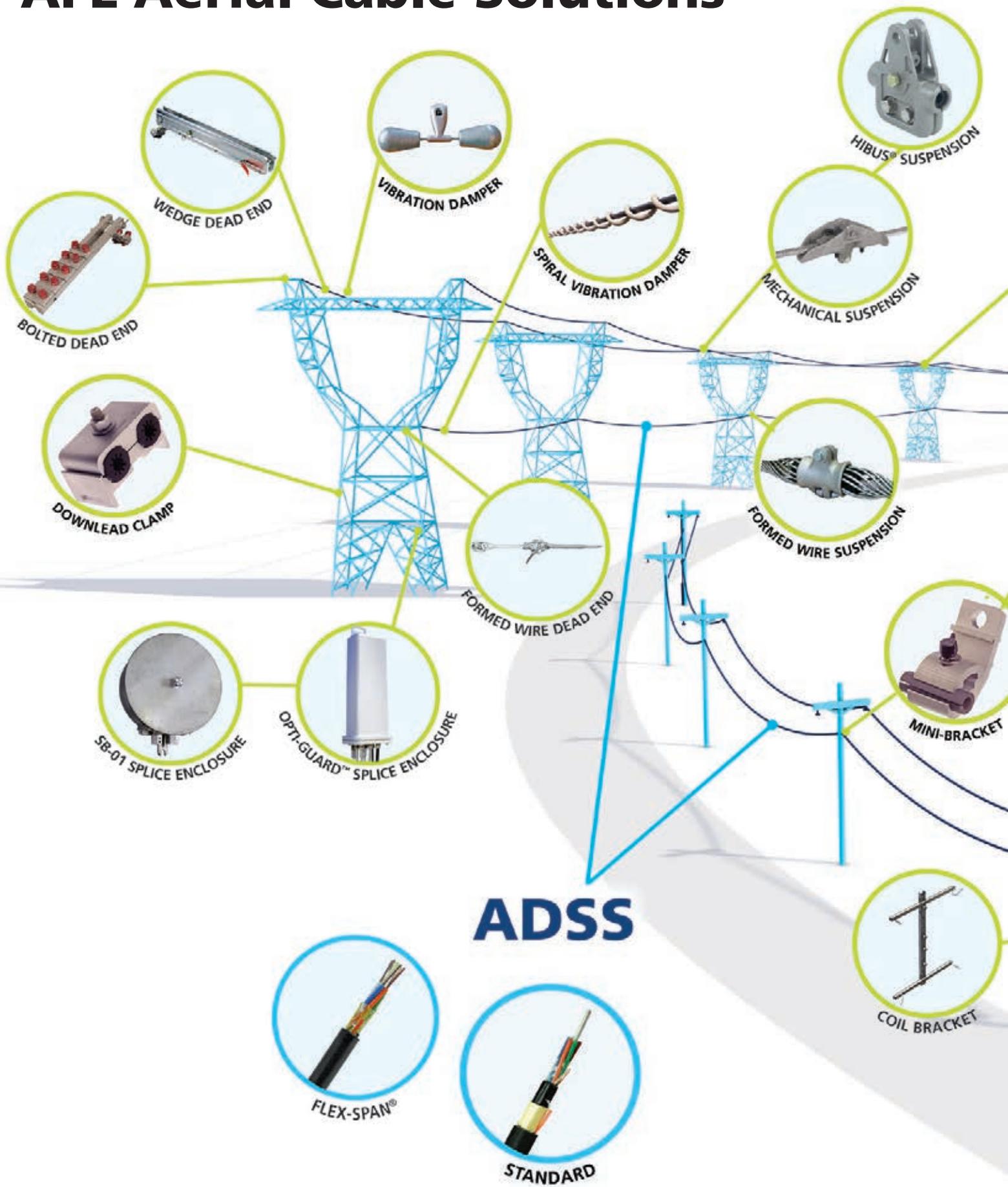
Ordering Information

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.

AFL Aerial Cable Solutions



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.

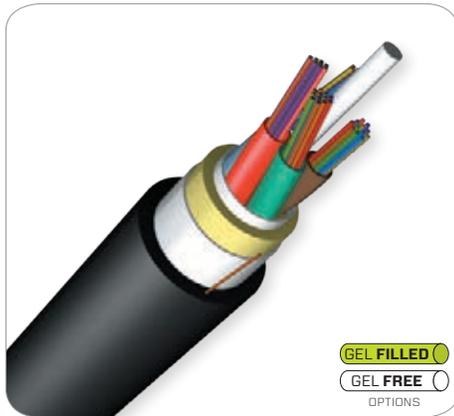
SKYWRAP®

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.

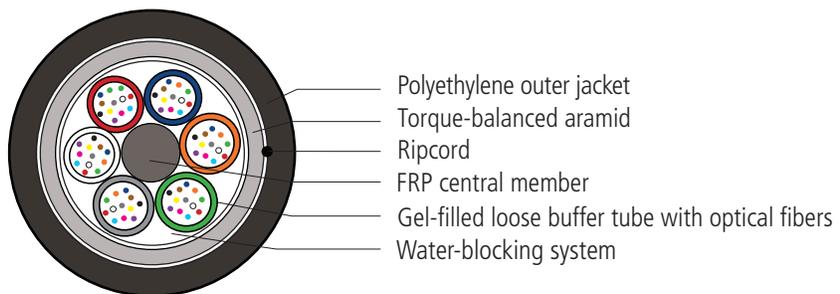
Features

- 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
→



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

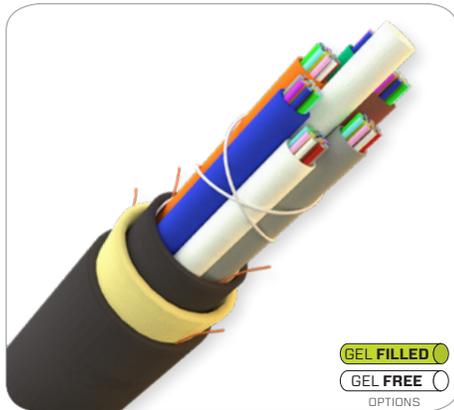
TEMPERATURE RANGE	
Operation	-40°C to +70°C
Storage	-50°C to +70°C
Installation	-30°C to +70°C

Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
IEEE	1222	Cable
TIA	598-D	Fiber

Contact AFL for your customized ADSS solution.

continued
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GEL FILLED
GEL FREE
 OPTIONS

All-Dielectric Self-Supporting (AFL-ADSS®) Fiber Optic Cable

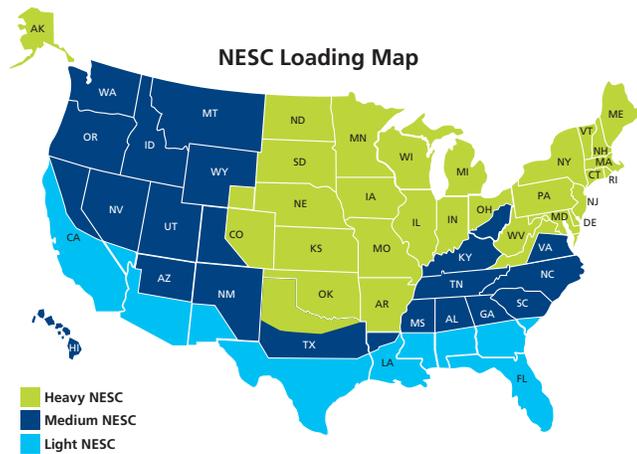
AFL-ADSS® (All-Dielectric Self-Supporting) fiber optic cable is designed for outside plant aerial transmission and distribution environments. As its name indicates, there are no metallic components and the cable does not require a support or messenger wire. These attributes allow the cable to be installed live-line and in the power space of distribution lines.

Features

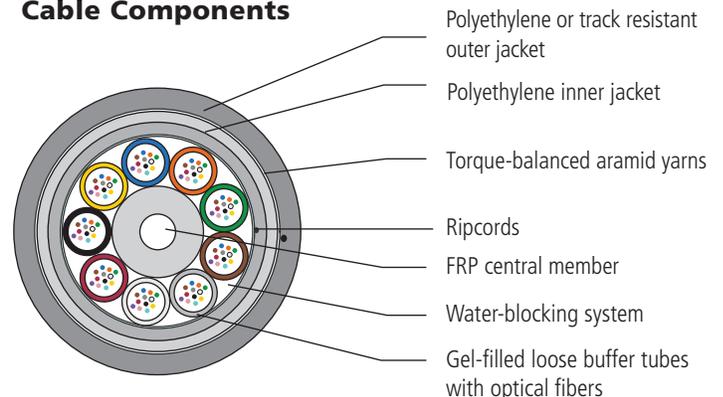
- Up to 432 fibers in cable
 - Gel-Free Buffer Tube options available – up to 216 fibers
- Designs capable of span lengths up to 3500 ft.
- Double jacket designs provide additional protection to the fibers for longer span lengths and higher strength requirements
- Track-resistant outer jacket available 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	NESC 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 NESC 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.

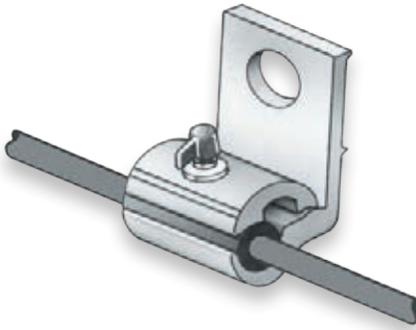
Temperature Specifications

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

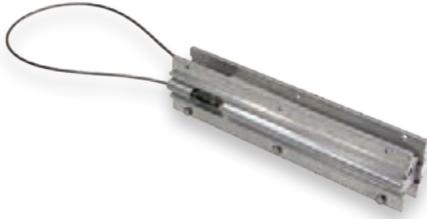
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space

Ordering Information

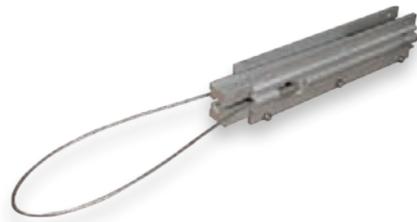
APPLICATION & DESCRIPTION	AFL NO.
Aerial Drop 256 150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light	ADESDFW2-256
Aerial Drop 307—Short Span (250 lb max. tension) 65 ft NESC heavy, 115 ft NESC medium, 210 ft NESC light	ADESDFW2-307
Aerial Drop 307—Long Span 220 ft NESC heavy, 400 ft NESC medium, 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

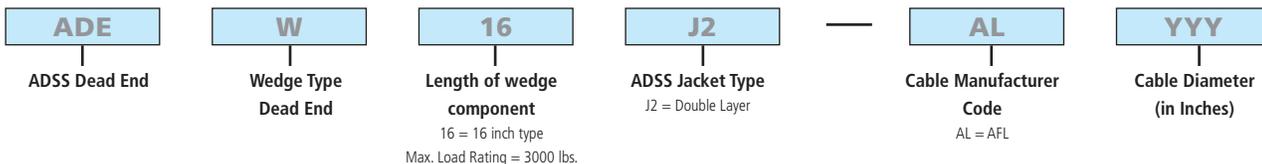
- Wedge-type design is safer than spiral wrap style dead ends
- Fewer parts, smaller and easier to store
- Attaches to structure via common pole hardware sold separately (thimble eye, ram's head, etc.)

Features

- Easier and faster installation
- Lower total system costs
- No special tools or hardware required for installation

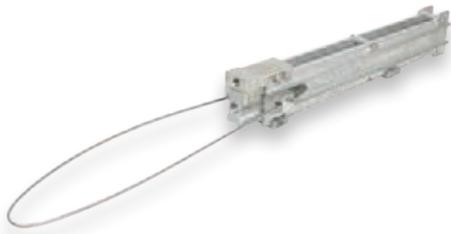
APPLICATION & DESCRIPTION	AFL NO.
ADSS Mini-Span® 535 500 ft NESC heavy, 700 ft NESC medium, 875 ft NESC light Maximum loading capability is 1500 lbs.	ADEW10J1-AL535
ADSS Mini-Span 693 500 ft NESC heavy, 600 ft NESC medium, 750 ft NESC light Maximum loading capability is 1500 lbs.	ADEW16J1-AL693

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.



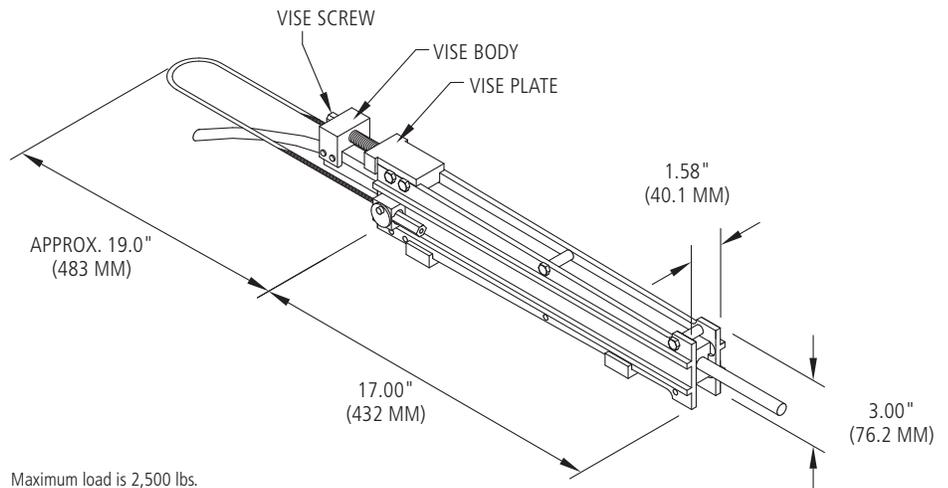
Temporary Grip

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



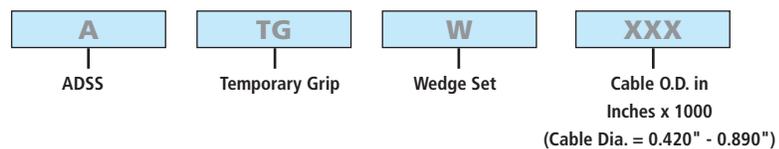
Maximum load is 2,500 lbs.

Thimble Clevis is included to attach temporary grip bail to chain hoist.

Ordering Information



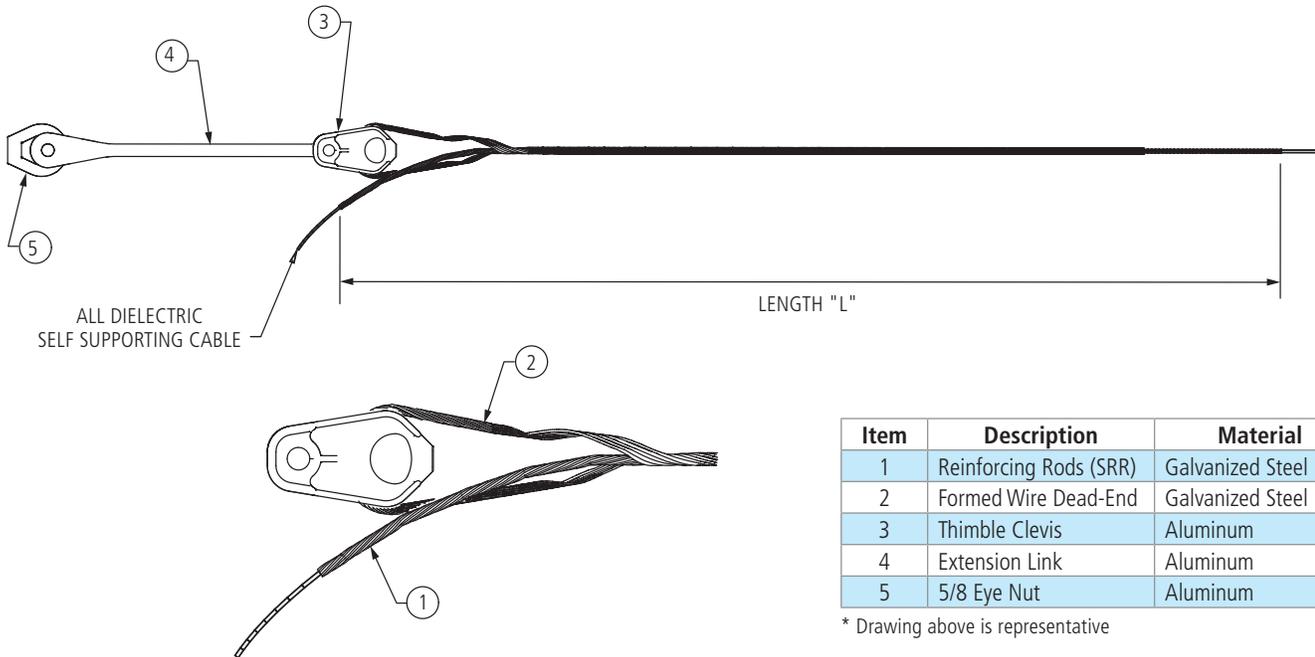
Ordering Information for Additional Wedges



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

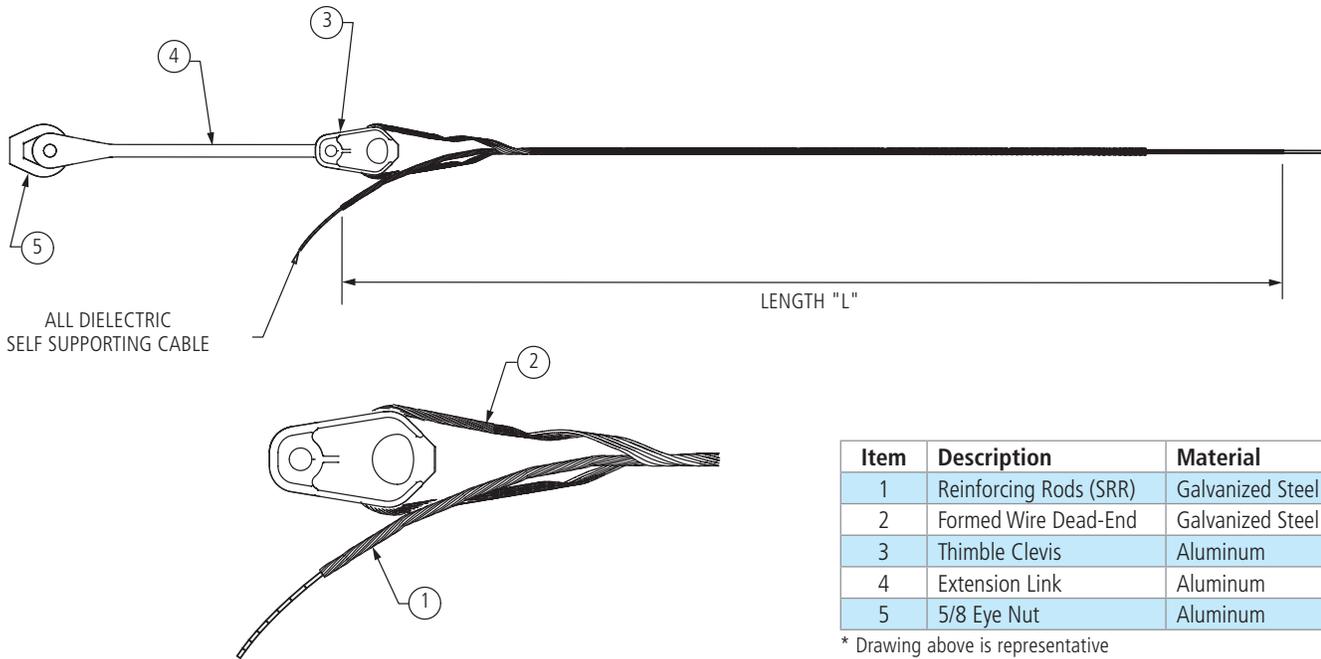
Features

- 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



ALL DIELECTRIC
SELF SUPPORTING CABLE

LENGTH "L"

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

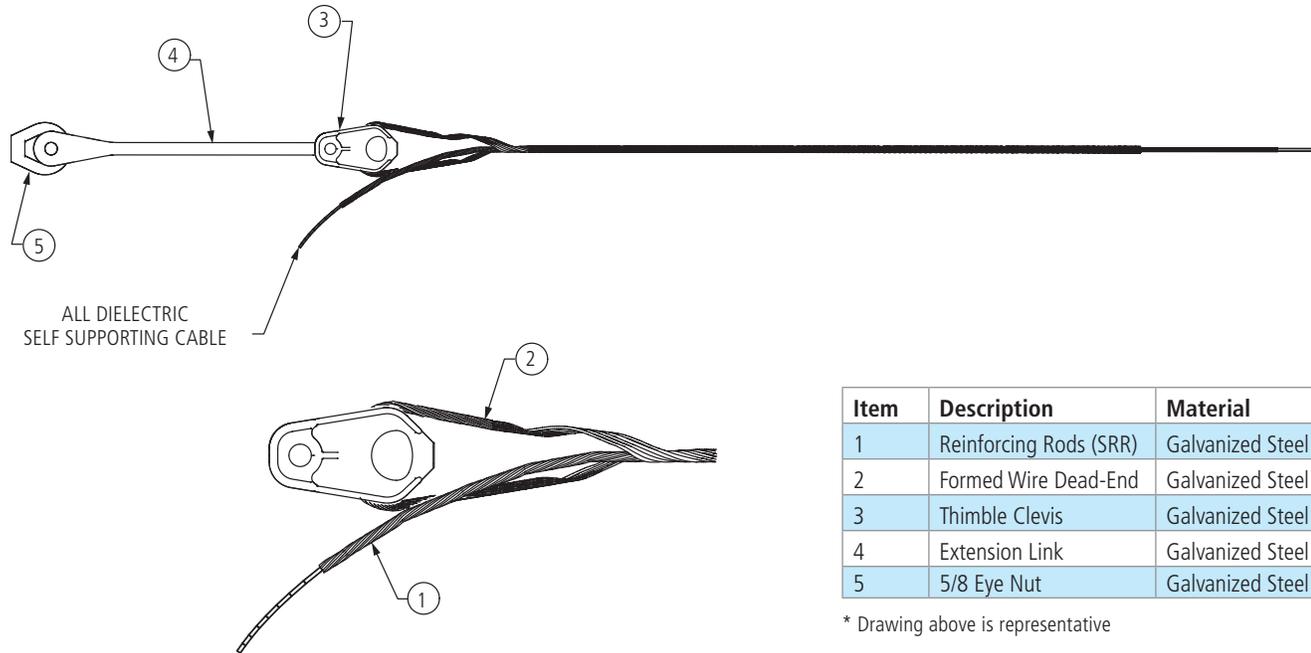
Features

- 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



Flat Drop Dead End

The Flat Drop Dead Ends are designed for use on flat drop cables.

Available with AFL's Multi-Drop Thimble Eye (second photo) which is used to anchor aerial round drop cables to the distribution structure. The Thimble Eye has uniform radial slots that can accommodate up to four formed wire dead ends per thimble eye and support tensioning up to 90 degrees from the installation hardware.



Multi-Drop Thimble Eye
(ordered separately)

Features

- Made of Aluminum Alloy material
- Installation tension is \leq maximum of rated cable load
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space
- Five-rod construction
- Available with Multi-Drop Thimble Eye (ordered separately)

Ordering Information

To order with Drop Dead End with Thimble Eye, add suffix "TE" to AFL No.

AFL NO.	CABLE OD (in.)	LENGTH (in.)	TENSILE STRENGTH (lbs)	WEIGHT (lbs)	COLOR CODE
ADELD4F309/341	0.309 - 0.341	41.3	<MRCL	0.33	Blue



Drop Dead End shown with
Single-Drop Thimble Eye

For more information on the optional Multi-Drop Thimble Eye (ordered separately), see [specification sheet](#).



Round Drop Dead End

The Round Drop Dead Ends are designed for use on round drop cables.

Available with AFL's Multi-Drop Thimble Eye (second photo) which is used to anchor aerial round drop cables to the distribution structure. The Thimble Eye has uniform radial slots that can accommodate up to four formed wire dead ends per thimble eye and support tensioning up to 90 degrees from the installation hardware.



Multi-Drop Thimble Eye
(ordered separately)

Features

- Made of Galvanized Steel material
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space
- Three-rod construction
- Available with Multi-Drop Thimble Eye (ordered separately)

Ordering Information

To order with Drop Dead End with Thimble Eye, add suffix "TE" to AFL No.

AFL NO.	CABLE OD (in.)	LENGTH (in.)	TENSILE STRENGTH (lbs)	WEIGHT (lbs)	COLOR CODE
ADED326/365	0.326 - 0.365	32.48	2, 248	1.76	Green



Drop Dead End shown with
Single-Drop Thimble Eye

For more information on the optional Multi-Drop Thimble Eye (ordered separately), see [specification sheet](#).



Drop Dead End

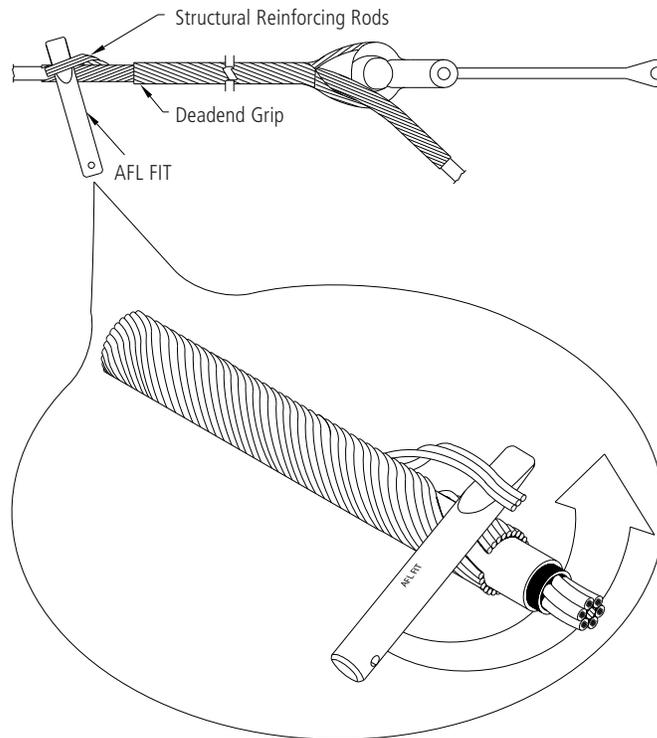


**AFL FIT
(Formed Wire Installation Tool)**

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)



Conversion Kit

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
→

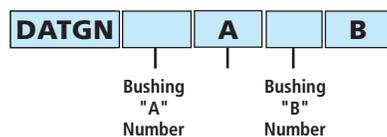
Trunnion Assemblies (cont.)

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	KG
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

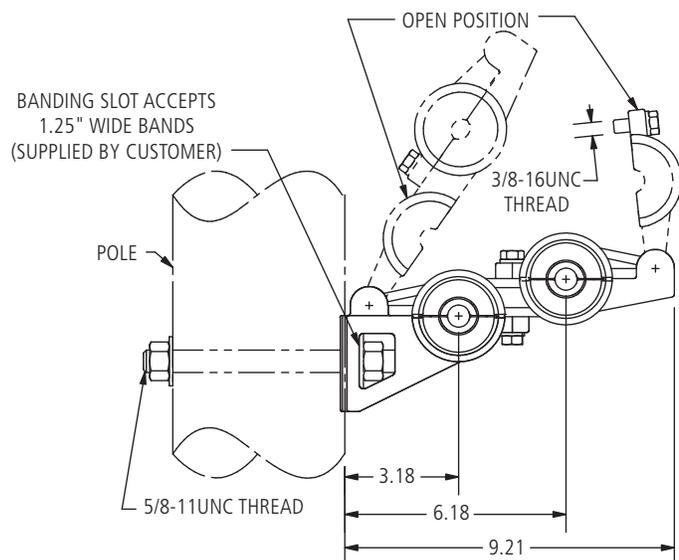
Order by assembling part number as shown:



- 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: **DATGN475A726B**

Notes:

1. Bushing "A" and "B" may be the same or different.
2. Attachment hardware or stainless steel banding to be supplied by customer.
3. To order Conversion Kits, use part number DATGNDCBWH.





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

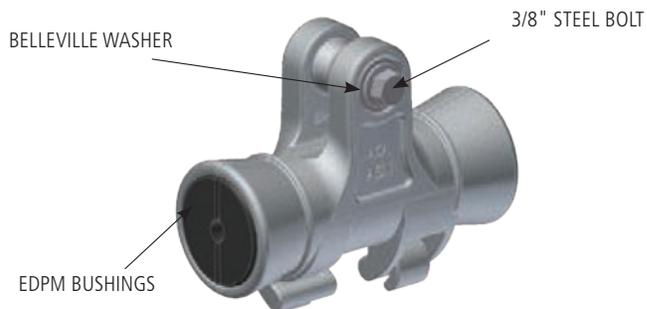
AFL's ADSS suspension unit is used to provide long term performance for spans up to 1200 feet (see span rating below). The interlocking halves of the aluminum body clamp provides positive alignment and utilize our proven EDPM bushings to gently grip the cable. The 3/8" mounting bolt is held captive by an o-ring. This product cannot be used as a stringing device.

Specifications

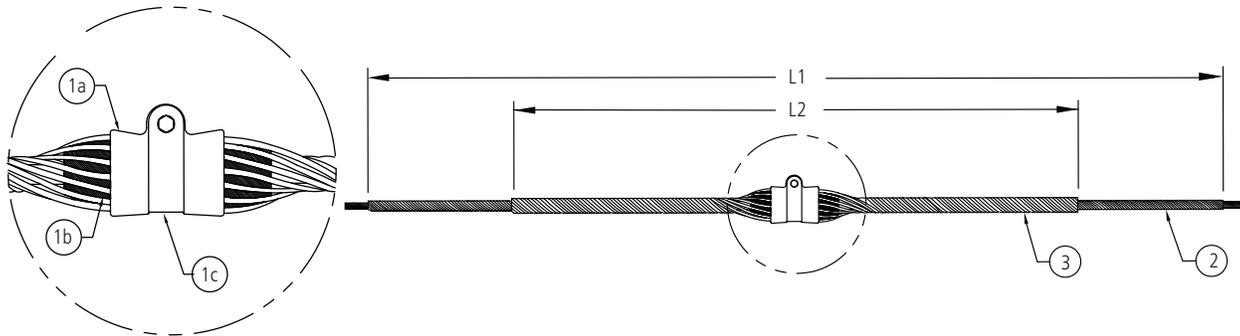
PARAMETER	VALUE
Span Length Rating	600 feet (200 meters) NESC Heavy 900 feet (274 meters) NESC Medium 1200 feet (365 meters) NESC Light
Vertical Load Rating	5000 lbs
Torque Requirement	Mounting bolt should be tightened to 25 ft-lb
Mounting Hardware	5/8" oval eye nut and anchor shackle (both parts not 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 Download	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

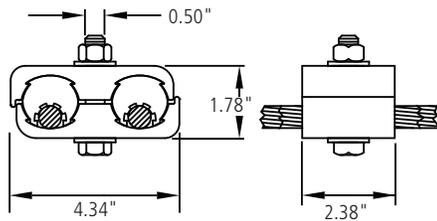
For 0.528" dia. OPGW and 0.484 ADSS with pole banding (Type A), the part number is FDOA-B4B5A.

- 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

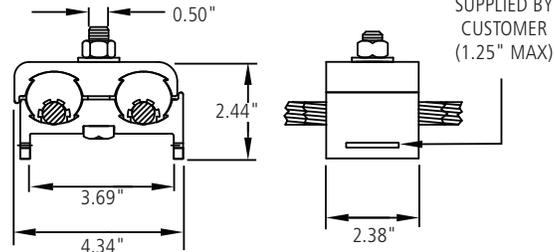
FIG. 1



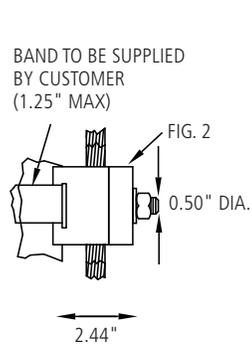
FDOA XXYX

NO ADAPTER

FIG. 2

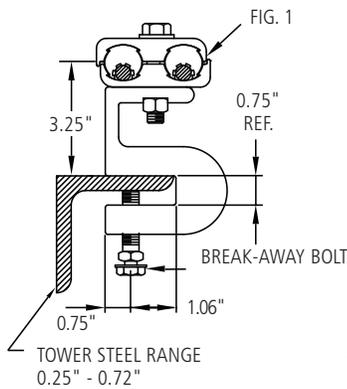


Download Clamp Adapters



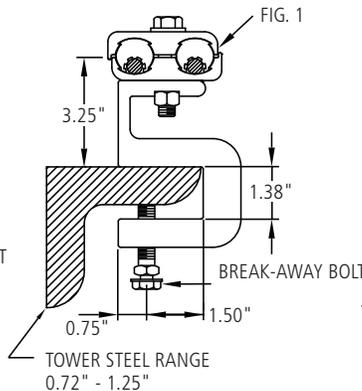
FDOA XXYA

TYPE A ADAPTER WITH FIG. 2 BANDING CONFIGURATION
EST. WEIGHT: 0.96 LBS.



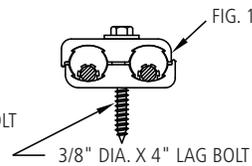
FDOA XXYB

TYPE B ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 1.98 LBS.



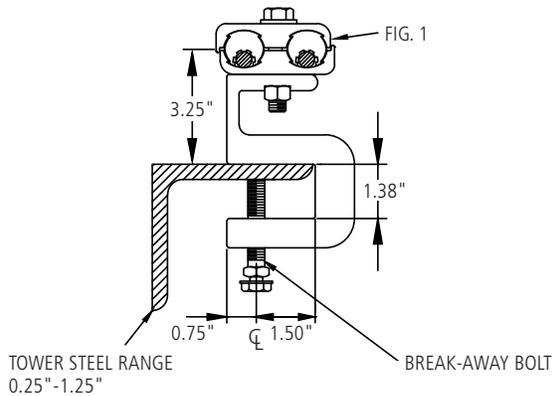
FDOA XXYC

TYPE C ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.



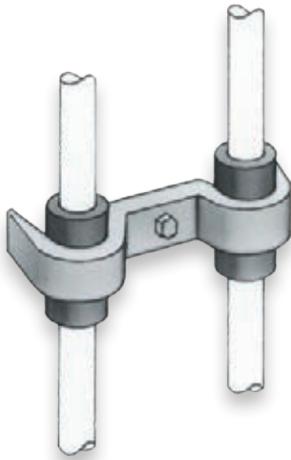
FDOA XXYD

TYPE D ADAPTER WITH FIG. 1 LATTICE CONFIGURATION
EST. WEIGHT: 0.96 LBS.



FDOA XXYE

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

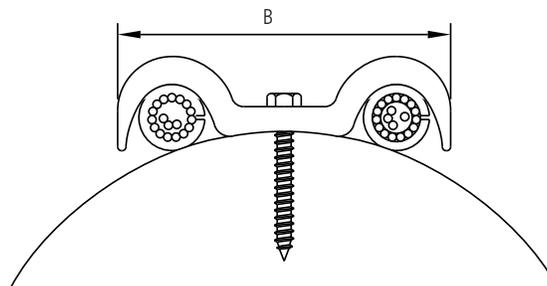
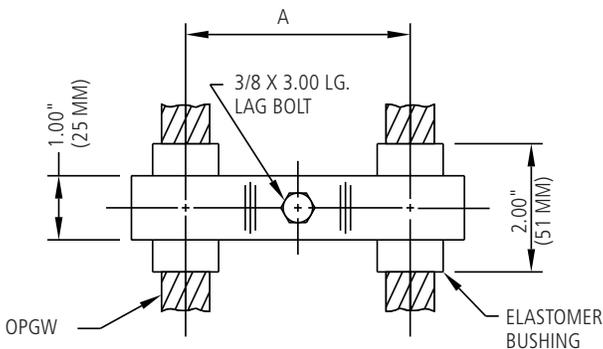
- Slip strength: >100 lbs.

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

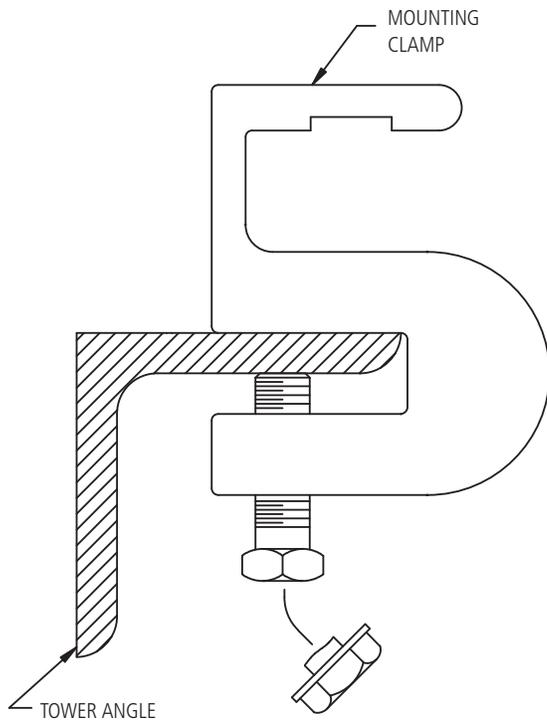


FIG. 1

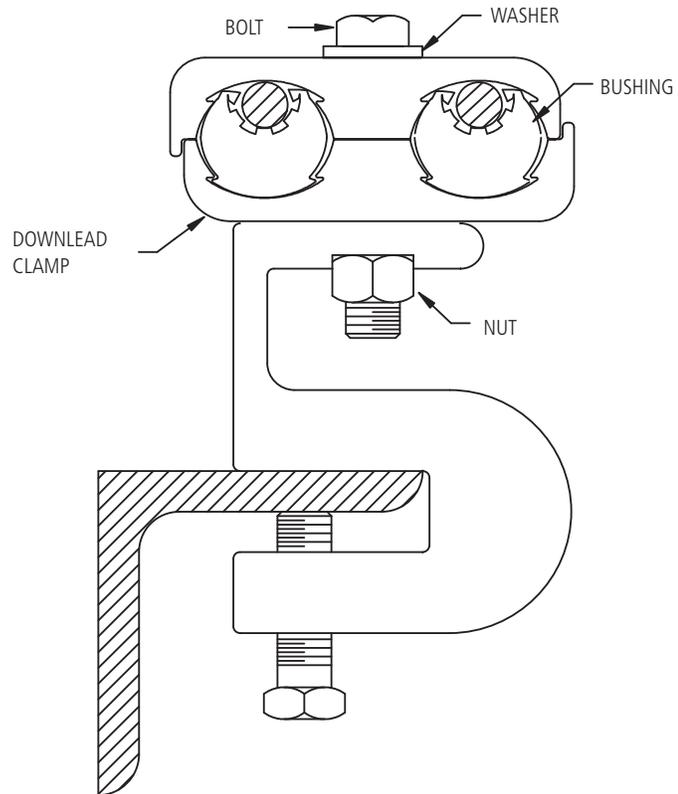


FIG. 2

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.

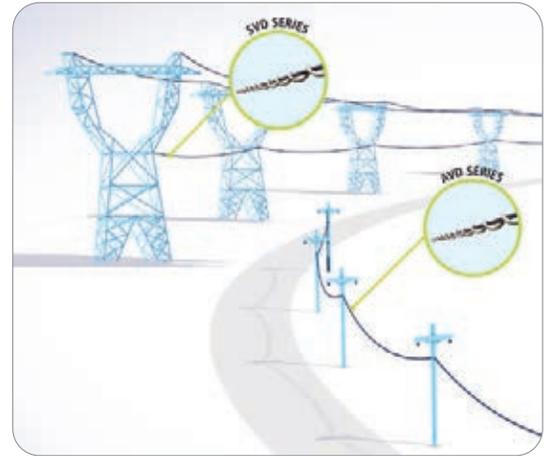
COLOR	RED-B4	GREEN-B5	YELLOW-B6	BLUE-B7	WHITE-B8	BLACK-B9	B10
RANGE	.400 - .500	.501 - .600	.601 - .700	.701 - .800	.801 - .900	.900 - 1.00	1.001 - 1.100

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.

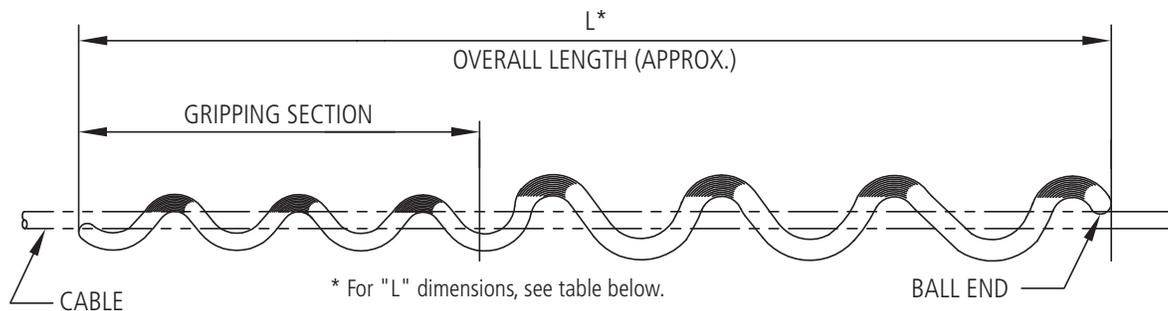
SVD Series Spiral Vibration Dampers

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

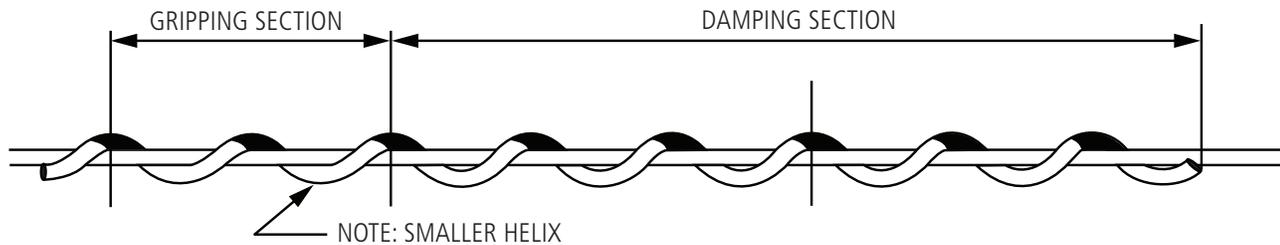
AFL NO.	PLP NO.	CONDUCTOR DIAMETER RANGE INCHES (MM)	"L" ROD LENGTH INCHES (MM)	WEIGHT LBS (KG)	COLOR CODE	STANDARD PACK
SVD250/326HM	5050200	0.250-0.326 (6.35-8.29)	87 (2209)	55 (24.948)	Light Blue	50
SVD327/461HM	5050201	0.327-0.461 (8.30-11.72)	91 (2311)	60 (27.216)	Black	50
SVD462/563HM	5050202	0.462-0.563 (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

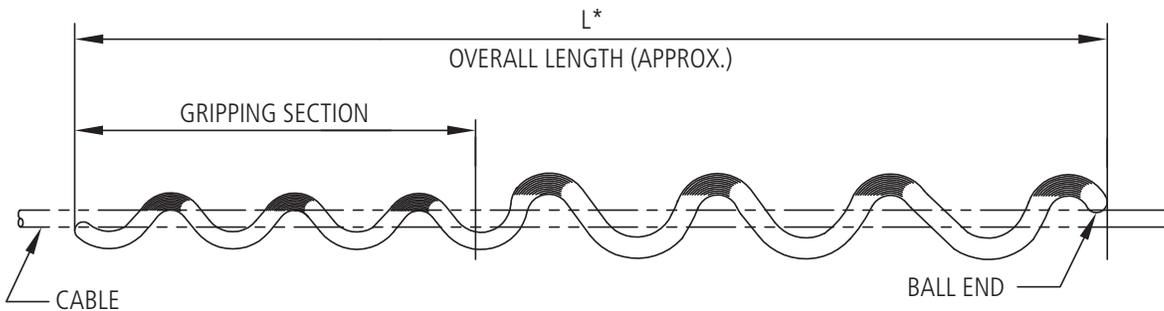
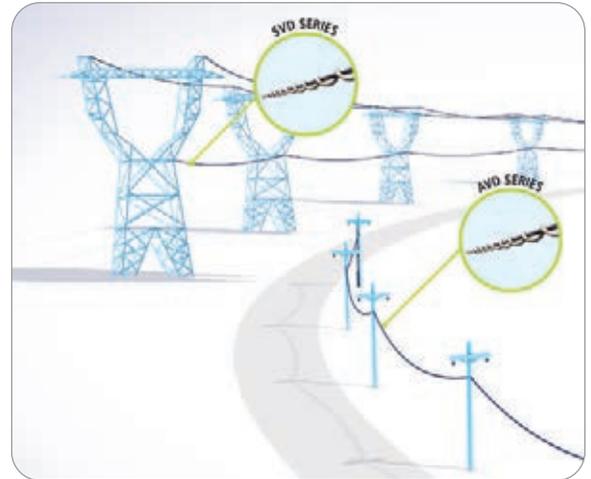
Placement and Spacing

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

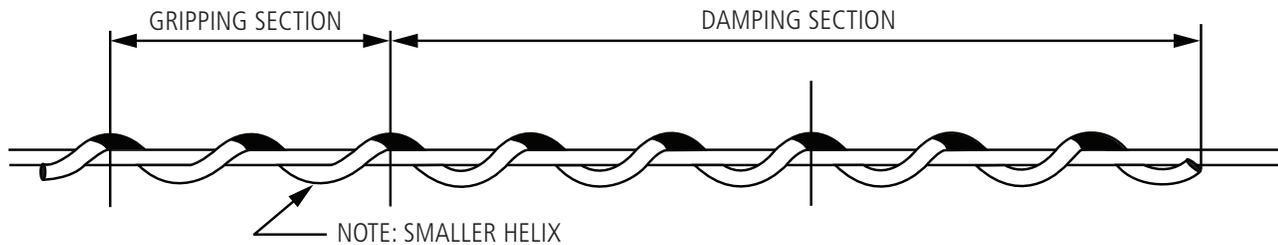
AFL NO.	PLP NO.	CONDUCTOR DIAMETER RANGE inches (mm)	"L" ROD LENGTH inches (mm)	WEIGHT lbs (KG)	STANDARD PACK
AVD250/326	50502393	0.250-0.326 (6.35-8.29)	49 (1244)	27 (12.247)	50
AVD327/461	50502272	0.327-0.461 (8.30-11.72)	51 (1295)	30 (12.701)	50
AVD462/563	50502274	0.462-0.563 (1.73-14.32)	53 (1346)	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.



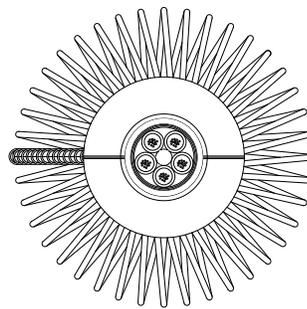
Corona Ring for ADSS Cable

Ordering Information

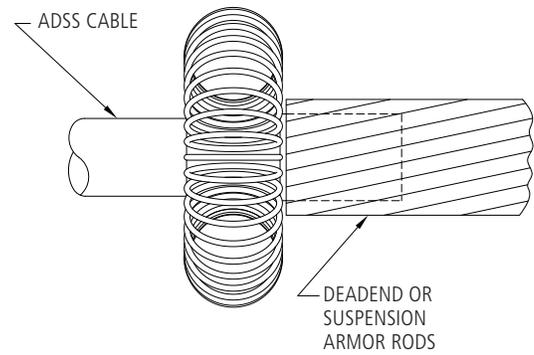
A	CR	XXX
ADSS CABLE	Corona Ring	Cable Diameter in Decimal Inches

Ordering Example:

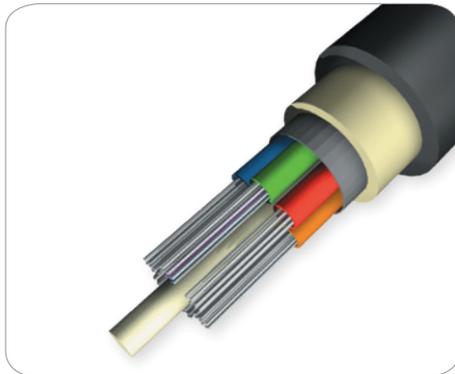
For a .685" diameter ADSS, the AFL number is ACR685



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

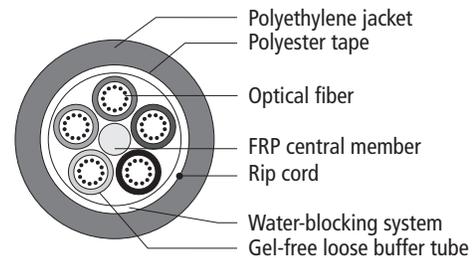
- Distribution
- Underground Duct
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Trunking Lines Direct to Telecommunications Closet
- Local Loop

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.

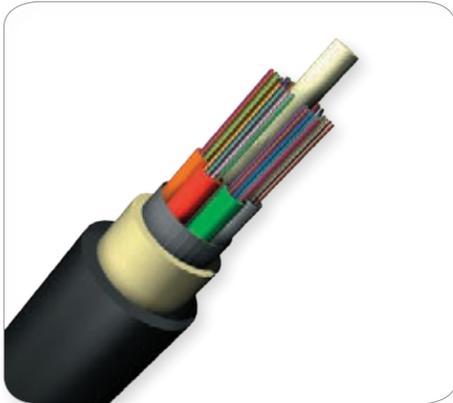
Qualifications

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

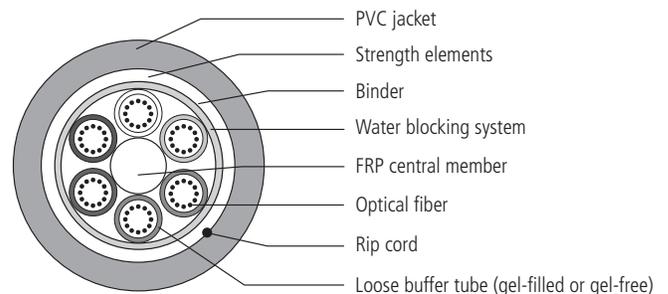
- Underground Duct
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Trunking Lines Direct to Telecommunications Closet
- Local Loop
- Intrabuilding Backbones
- Distance Learning

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

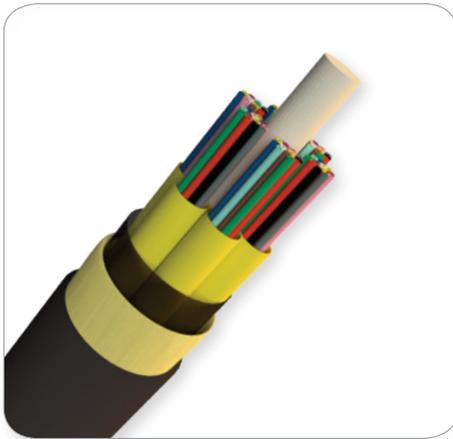
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable
UL	1666 (OFNR)	Cable
ICEA	S-104-696	Cable
CSA	22.2 (FT4)	Cable
TIA	598-D	Fiber

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.

Fiber Optic Cable



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
→

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	

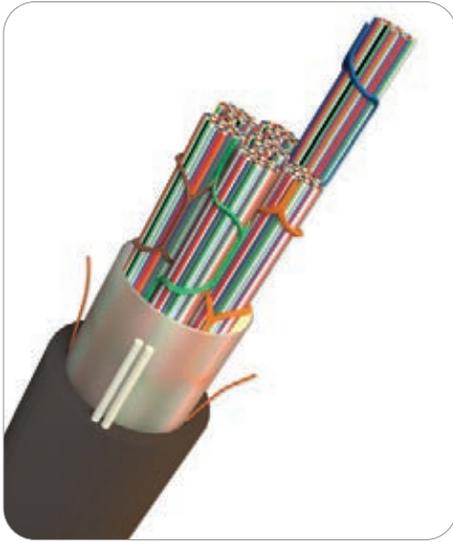
Qualifications

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

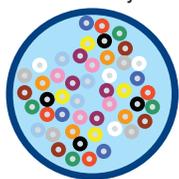
- Data Center Inter-building Connections
- Access Provider Metro Rings
- Service Provider FTTx
- Cable TV Subscriber Networks
- Metro Rail Track-side Network Links
- Suitable for Aerial Lashing, Pulled-in-duct, Air-Jetted-in-Duct
- Campus LAN

SWR Technology

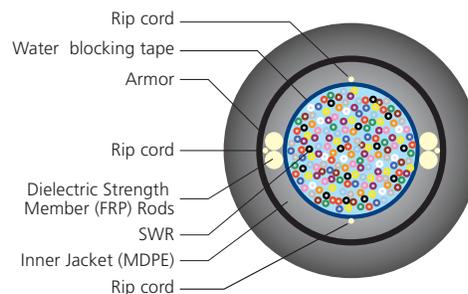


12F SWR®

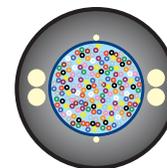
Contra-helical dual binder system



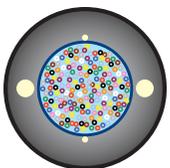
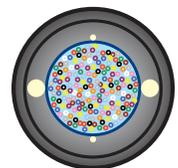
Multiple 12F SWR® Bundle



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

Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 250 μm Fiber/ 250 μm Pitch

Stripe Ring Fiber Identification

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

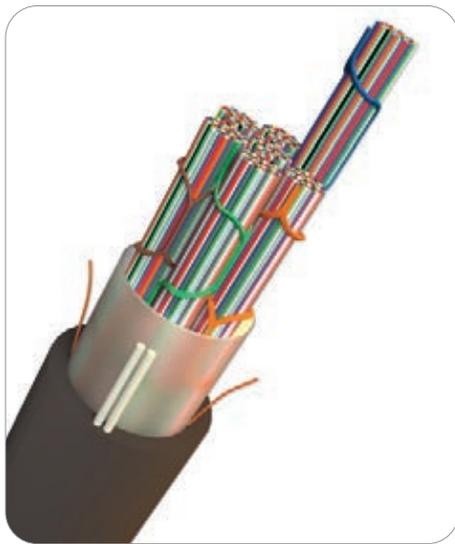
Temperature Specifications

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

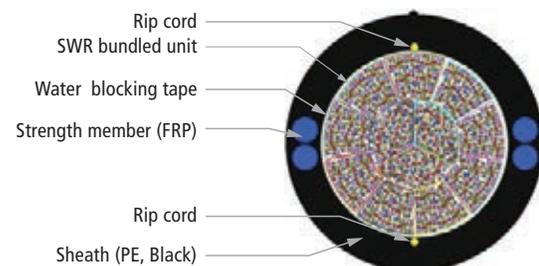
SWR Technology



12F SWR



Multiple 12F SWR Bundle



Non-armored
(864F, 1728F, 3456F
and 6912F)

continued
→

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						
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

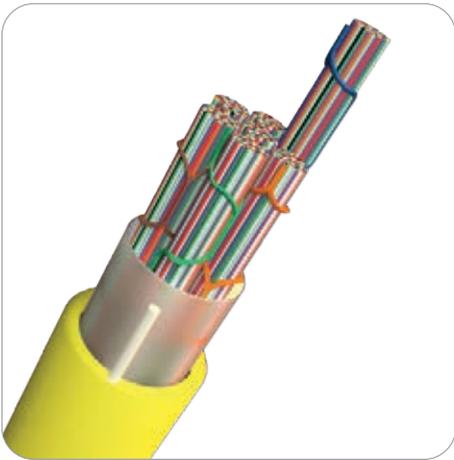
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20	Fiber Optic Cable

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



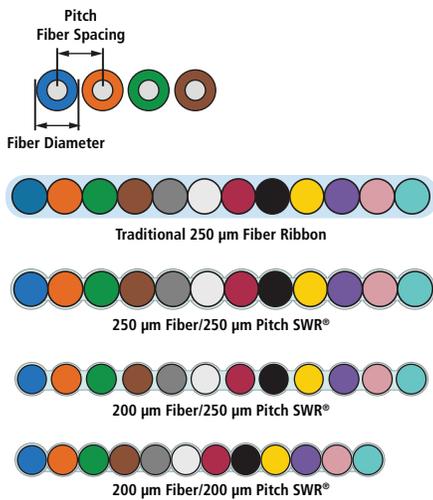
Flame-Retardant RI Indoor Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 µm Fiber/250 µm Pitch

Flame-retardant (FR) RI Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for indoor network applications where riser-rated products are required. The FR RI-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings.

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 a single cable design to cover diverse applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR provides ultra-high density packaging in cable form.

The FR RI-WTC-SWR product set is non-armored and meets Riser, CPR, and Low-Smoke, Zero-Halogen (LSZH) standards using Fujikura 200 µm SR15E-200 fiber (144F to 3456F) with 250 µm pitch constructions. The 250 µm ribbon pitch allows simple mass-fusion splicing with traditional 250 µm diameter ribbon fibers.

Ribbon Pitch Designs



Features

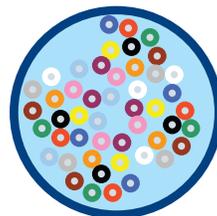
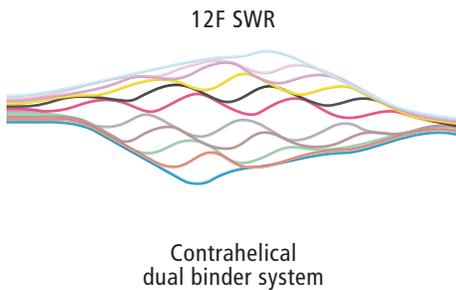
- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- High-density 200 µm diameter fibers with 250 µm ribbon pitch separation for splice compatibility with 250 µm diameter fiber ribbon
- Design optimizes the fiber packing density making WTC/SWR cables the smallest ribbon cables without compromising the robustness of the cable
- Completely gel-free for reduced time to access fiber and prep for splicing

- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Lightweight for easy handling in the field compared to traditional cables
- Suitable for pulling and jetting installations

Applications

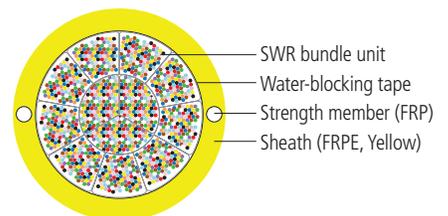
- Indoor installations
- Riser spaces within build structures

SWR Technology



Multiple 12F SWR bundle
72F, 144F, OR 288 bundles
depending on cable fiber count

Cable Components



OFNR-LS
Non-armored
(144F to 3456F)

continued
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Flame-Retardant RI Indoor WTC with SWR® – 200 μm Fiber/250 μm Pitch

Mechanical Data—Non-Armored

AFL NO.	EN 13501-6 CLASSIFICATION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT lbs/1,000 ft (kg/km)	SHORT TERM/DYNAMIC/ 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)
RI-OGNM12WTZTWBE SR15E-200 × 144 (*)	Cca-s1b,d1,a1	144	1 x 144F	0.49 (12.5)	111 (165)	300 (1330)	7.4 (188)	90 (399)	4.9 (125)
RI-OGNM12WTZTWBE SR15E-200 × 192 (*)	Cca-s1b,d1,a1	192	1 x 192F	0.51 (13.0)	118 (175)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RI-OGNM12WTZTWBE SR15E-200 × 288 (*)	Cca-s1b,d1,a1	288	1 x 288F	0.51 (13.0)	128 (190)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RI-OGNM12WTZTWBE SR15E-200 × 432 (*)	Cca-s1b,d1,a1	432	6 x 72F	0.57 (14.5)	144 (215)	300 (1330)	8.6 (218)	90 (399)	5.7 (145)
RI-OGNM12WTZTWBE SR15E-200 × 576 (*)	Cca-s1b,d1,a1	576	8 x 72F	0.61 (15.5)	161 (240)	300 (1330)	9.2 (233)	90 (399)	6.1 (155)
RI-OGNM12WTZTWBE SR15E-200 × 864 (*)	Cca-s1b,d1,a1	864	12 x 72F	0.67 (17.0)	195 (290)	607 (2700)	10.0 (255)	180 (810)	6.7 (170)
RI-OGNM12WTZTWBE SR15E-200 × 1152 (*)	Cca-s1b,d1,a1	1152	8 x 144F	0.71 (18.0)	218 (325)	607 (2700)	10.6 (270)	180 (810)	7.1 (180)
RI-OGNM12WTZTWBE SR15E-200 × 1728 (*)	Cca-s1b,d1,a1	1728	12 x 144F	0.85 (21.5)	319 (475)	607 (2700)	12.7 (323)	180 (810)	8.5 (215)
RI-OGNM12WTZTWBE SR15E-200 × 2880 (*)	Cca-s1,d0,a1	2880	10 x 288F	0.98 (25.0)	413 (615)	607 (2700)	14.8 (375)	180 (810)	9.8 (250)
RI-OGNM12WTZTWBE SR15E-200 × 3456 (*)	Cca-s1,d0,a1	3456	24 x 144F	1.00 (25.5)	453 (675)	607 (2700)	15.1 (383)	180 (810)	10.0 (255)

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Optical Fiber

OPTICAL FIBER TYPE	FIBER DIAMETER	FIBER RIBBON PITCH	OPTICAL FIBER STANDARD	MODE FIELD DIAMETER AT 1310 nm	MAXIMUM ATTENUATION (CABLED) dB/km	
					1383 nm	1550 nm
Fujikura SR15E-200	200 μm	250 μm	ITU-T G.652.D/G.657.A1	8.6 ± 0.4 μm	≤ 0.40	≤ 0.30

Stripe Ring Fiber Identification

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	BINDER UNITS (BU)												RING MARKINGS	
144	1 x 144F	No Binder Unit												1-12 Ring Marking	
192	1 x 192F	No Binder Unit												1-16 Ring Marking	
288	1 x 288F	No Binder Unit												1-24 Ring Marking	
432	6 x 72F	6 Binder Units	1	2	3	4	5	6							1-6 Ring Marking
576	8 x 72F	8 Binder Units	1	2	3	4	5	6	7	8					
864	12 x 72F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1-12 Ring Marking
1152	8 x 144F	8 Binder Units	1	2	3	4	5	6	7	8					
1728	12 x 144F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1-24 Ring Marking
2880	10 x 288F	10 Binder Units	1	2	3	4	5	6	7	8	9	10			
3456	24 x 144F	24 Binder Units*	1	2	3	4	5	6	7	8	9	10	11	12	1 - 12 Ring Marking
			13	14	15	16	17	18	19	20	21	22	23	24	

*For binder units 13-24, the second binder unit is clear

continued
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Flame-Retardant RI Indoor WTC with SWR® – 200 μm Fiber/250 μm Pitch

Temperature Specifications

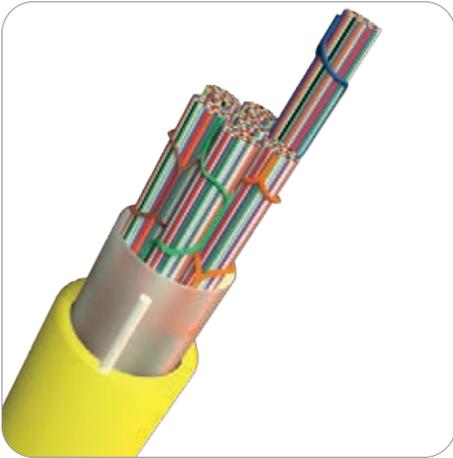
TEMPERATURE RANGE	
INSTALLATION	-14°F to +140°F (-10°C to +60°C)
OPERATING	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)

Qualifications

GOVERNING BODY	STANDARD CODE
UL	1666 (OFNR) 1685 (OFNG-LS)
ANSI/ICEA	S-83-596
IEC	60794-1-22
EU	EN 13501-6 (CPR)

Contact AFL for further details.

Fiber Optic Cable



Flame-Retardant RI Indoor Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 µm Fiber/200 µm Pitch

Flame-retardant (FR) RI Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for indoor network applications where riser-rated products are required. The FR RI-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings.

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 a single cable design to cover diverse applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR provides ultra-high density packaging in cable form.

The FR RI-WTC-SWR product set is non-armored and meets Riser, CPR, and Low-Smoke, Zero-Halogen (LSZH) standards using Fujikura 200 µm SR15E-P200 fiber (144F to 3456F) with 200 µm pitch constructions.

Ribbon Pitch Designs



Features

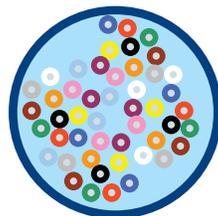
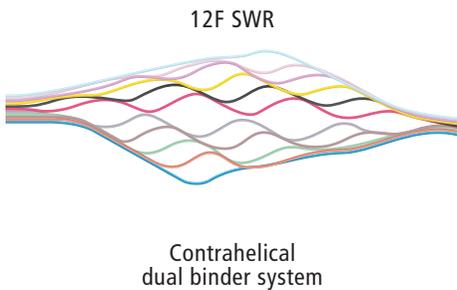
- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC/SWR cables the smallest ribbon cables without compromising the robustness of the cable
- Completely gel-free for reduced time to access fiber and prep for splicing
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways

- Water-blocked core
- Lightweight for easy handling in the field compared to traditional cables
- Suitable for pulling and jetting installations

Applications

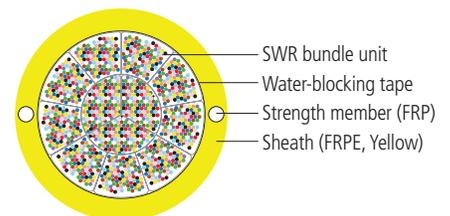
- Indoor installations
- Riser spaces within build structures

SWR Technology



Multiple 12F SWR bundle
72F, 144F, OR 288 bundles
depending on cable fiber count

Cable Components



OFNR-LS
Non-armored
(144F to 3456F)

continued
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Flame-Retardant RI Indoor WTC with SWR® – 200 μm Fiber/200 μm Pitch

Mechanical Data—Non-Armored

AFL NO.	EN 13501-6 CLASSIFICATION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT lbs/1,000 ft (kg/km)	SHORT TERM/DYNAMIC/ 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)
RI-OGNM12WTZTWBE SR15E-P200 × 144 (*)	Cca-s1b,d1,a1	144	1 x 144F	0.49 (12.5)	111 (165)	300 (1330)	7.4 (188)	90 (399)	4.9 (125)
RI-OGNM12WTZTWBE SR15E-P200 × 192 (*)	Cca-s1b,d1,a1	192	1 x 192F	0.51 (13.0)	124 (185)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RI-OGNM12WTZTWBE SR15E-P200 × 288 (*)	Cca-s1b,d1,a1	288	1 x 288F	0.51 (13.0)	124 (185)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RI-OGNM12WTZTWBE SR15E-P200 × 432 (*)	Cca-s1b,d1,a1	432	6 x 72F	0.55 (14.0)	141 (210)	300 (1330)	8.3 (210)	90 (399)	5.5 (140)
RI-OGNM12WTZTWBE SR15E-P200 × 576 (*)	Cca-s1b,d1,a1	576	8 x 72F	0.59 (15.0)	158 (235)	300 (1330)	8.9 (225)	90 (399)	5.9 (150)
RI-OGNM12WTZTWBE SR15E-P200 × 864 (*)	Cca-s1b,d1,a1	864	12 x 72F	0.65 (16.5)	188 (280)	607 (2700)	9.7 (248)	180 (810)	6.5 (165)
RI-OGNM12WTZTWBE SR15E-P200 × 1152 (*)	Cca-s1b,d1,a1	1152	8 x 144F	0.69 (17.5)	208 (310)	607 (2700)	10.3 (263)	180 (810)	6.9 (175)
RI-OGNM12WTZTWBE SR15E-P200 × 1728 (*)	Cca-s1b,d1,a1	1728	12 x 144F	0.83 (21.0)	306 (455)	607 (2700)	12.4 (315)	180 (810)	8.3 (210)
RI-OGNM12WTZTWBE SR15E-P200 × 3456 (*)	Cca-s1,d0,a1	3456	24 x 144F	1.00 (25.5)	453 (675)	607 (2700)	15.1 (383)	180 (810)	10.0 (255)

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Optical Fiber

OPTICAL FIBER TYPE	FIBER DIAMETER	FIBER RIBBON PITCH	OPTICAL FIBER STANDARD	MODE FIELD DIAMETER AT 1310 nm	MAXIMUM ATTENUATION (CABLED) dB/km	
					1383 nm	1550 nm
Fujikura SR15E-P200	200 μm	200 μm	ITU-T G.652.D/G.657.A1	8.6 ± 0.4 μm	≤ 0.40	≤ 0.30

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	FIBER BUNDLES	BINDER UNIT (BU)												RING MARKINGS													
144	1 x 144F	No Binder Unit												1 - 12 Ring Marking													
192	1 x 192F	No Binder Unit												1 - 16 Ring Marking													
288	1 x 288F	No Binder Unit												1 - 24 Ring Marking													
432	6 x 72F	6 Binder Units	1	2	3	4	5	6							1 - 6 Ring Marking												
576	8 x 72F	8 Binder Units	1	2	3	4	5	6	7	8						1 - 6 Ring Marking											
864	12 x 72F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1 - 6 Ring Marking												
1152	8 x 144F	8 Binder Units	1	2	3	4	5	6	7	8						1 - 12 Ring Marking											
1728	12 x 144F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1 - 12 Ring Marking												
3456	24 x 144F	24 Binder Units*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1 - 12 Ring Marking

*For binder units 13-24, the second binder unit is clear

continued
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Flame-Retardant RI Indoor WTC with SWR® – 200 μm Fiber/200 μm Pitch

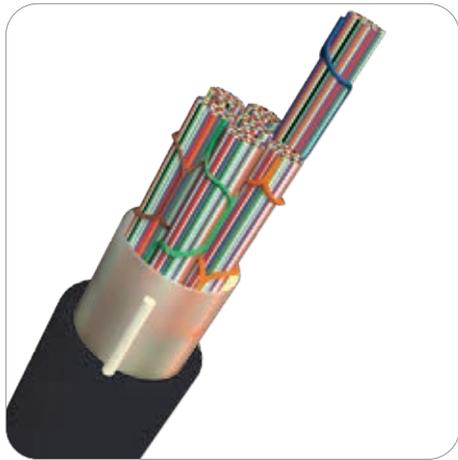
Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-14°F to +140°F (-10°C to +60°C)
OPERATING	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)

Qualifications

GOVERNING BODY	STANDARD CODE
UL	1666 (OFNR) 1685 (OFNG-LS)
ANSI/ICEA	S-83-596
IEC	60794-1-22
EU	EN 13501-6 (CPR)

Contact AFL for further details.



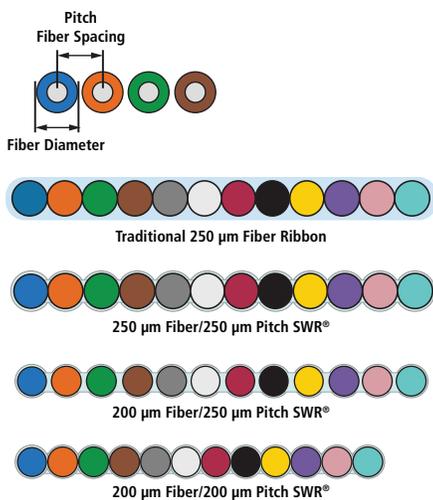
Flame-Retardant RIO Indoor/Outdoor Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 µm Fiber/250 µm Pitch

Flame-retardant (FR) RIO Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for indoor/outdoor network applications where riser-rated products are required. The FR RIO-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings. With the core water-blocking feature, it can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

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 a single cable design to cover diverse applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR provides ultra-high density packaging in cable form.

The FR RIO-WTC-SWR product set is non-armored and meets Riser, CPR, and Low-Smoke, Zero-Halogen (LSZH) standards using Fujikura 200 µm SR15E-200 fiber (144F to 3456F) with 250 µm pitch constructions. The 250 µm ribbon pitch allows simple mass-fusion splicing with traditional 250 µm diameter ribbon fibers.

Ribbon Pitch Designs



Features

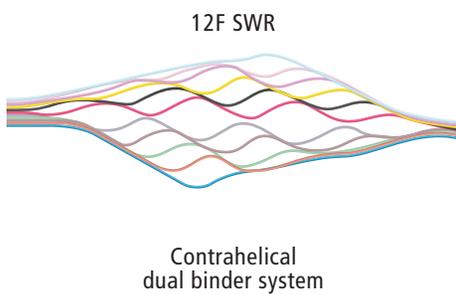
- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- High-density 200 µm diameter fibers with 250 µm ribbon pitch separation for splice compatibility with 250 µm diameter fiber ribbon
- Design optimizes the fiber packing density making WTC/SWR cables the smallest ribbon cables without compromising the robustness of the cable
- Completely gel-free for reduced time to access fiber and prep for splicing

- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Lightweight for easy handling in the field compared to traditional cables
- Suitable for pulling and jetting installations

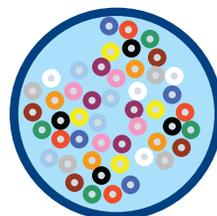
Applications

- Data Center Inter-building Connections
- Blowing or jetting in conduit

SWR Technology

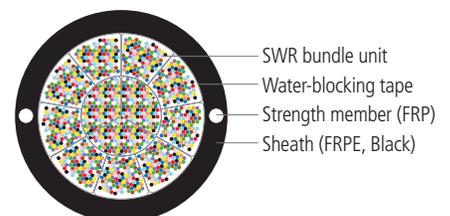


Contra-helical dual binder system



Multiple 12F SWR bundle
72F, 144F, OR 288 bundles depending on cable fiber count

Cable Components



OFNR-LS Non-armored (144F to 3456F)

continued →

Flame-Retardant RIO Indoor/Outdoor WTC with SWR® – 200 µm Fiber/250 µm Pitch

Mechanical Data—Non-Armored

AFL NO.	EN 13501-6 CLASSIFICATION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT lbs/1,000 ft (kg/km)	SHORT TERM/DYNAMIC/ 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)
RIO-OGNM12WTZTWBE SR15E-200 × 144 (*)	Cca-s1b,d1,a1	144	1 x 144F	0.49 (12.5)	111 (165)	300 (1330)	7.4 (188)	90 (399)	4.9 (125)
RIO-OGNM12WTZTWBE SR15E-200 × 192 (*)	Cca-s1b,d1,a1	192	1 x 192F	0.51 (13.0)	118 (175)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RIO-OGNM12WTZTWBE SR15E-200 × 288 (*)	Cca-s1b,d1,a1	288	1 x 288F	0.51 (13.0)	128 (190)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RIO-OGNM12WTZTWBE SR15E-200 × 432 (*)	Cca-s1b,d1,a1	432	6 x 72F	0.57 (14.5)	144 (215)	300 (1330)	8.6 (218)	90 (399)	5.7 (145)
RIO-OGNM12WTZTWBE SR15E-200 × 576 (*)	Cca-s1b,d1,a1	576	8 x 72F	0.61 (15.5)	161 (240)	300 (1330)	9.2 (233)	90 (399)	6.1 (155)
RIO-OGNM12WTZTWBE SR15E-200 × 864 (*)	Cca-s1b,d1,a1	864	12 x 72F	0.67 (17.0)	195 (290)	607 (2700)	10.0 (255)	180 (810)	6.7 (170)
RIO-OGNM12WTZTWBE SR15E-200 × 1152 (*)	Cca-s1b,d1,a1	1152	8 x 144F	0.71 (18.0)	218 (325)	607 (2700)	10.6 (270)	180 (810)	7.1 (180)
RIO-OGNM12WTZTWBE SR15E-200 × 1728 (*)	Cca-s1b,d1,a1	1728	12 x 144F	0.85 (21.5)	319 (475)	607 (2700)	12.7 (323)	180 (810)	8.5 (215)
RIO-OGNM12WTZTWBE SR15E-200 × 2880 (*)	Cca-s1,d0,a1	2880	10 x 288F	0.98 (25.0)	413 (615)	607 (2700)	14.8 (375)	180 (810)	9.8 (250)
RIO-OGNM12WTZTWBE SR15E-200 × 3456 (*)	Cca-s1,d0,a1	3456	24 x 144F	1.00 (25.5)	453 (675)	607 (2700)	15.1 (383)	180 (810)	10.0 (255)

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Optical Fiber

OPTICAL FIBER TYPE	FIBER DIAMETER	FIBER RIBBON PITCH	OPTICAL FIBER STANDARD	MODE FIELD DIAMETER AT 1310 nm	MAXIMUM ATTENUATION (CABLED) dB/km	
					1383 nm	1550 nm
Fujikura SR15E-200	200 µm	250 µm	ITU-T G.652.D/G.657.A1	8.6 ± 0.4 µm	≤ 0.40	≤ 0.30

Stripe Ring Fiber Identification

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	BINDER UNITS (BU)												RING MARKINGS	
144	1 x 144F	No Binder Unit												1-12 Ring Marking	
192	1 x 192F	No Binder Unit												1-16 Ring Marking	
288	1 x 288F	No Binder Unit												1-24 Ring Marking	
432	6 x 72F	6 Binder Units	1	2	3	4	5	6							1-6 Ring Marking
576	8 x 72F	8 Binder Units	1	2	3	4	5	6	7	8					
864	12 x 72F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1-12 Ring Marking
1152	8 x 144F	8 Binder Units	1	2	3	4	5	6	7	8					
1728	12 x 144F	12 Binder Units	1	2	3	4	5	6	7	8	9	10	11	12	1-24 Ring Marking
2880	10 x 288F	10 Binder Units	1	2	3	4	5	6	7	8	9	10			
3456	24 x 144F	24 Binder Units*	1	2	3	4	5	6	7	8	9	10	11	12	1 - 12 Ring Marking
			13	14	15	16	17	18	19	20	21	22	23	24	

*For binder units 13-24, the second binder unit is clear

continued
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Flame-Retardant RIO Indoor/Outdoor WTC with SWR® – 200 μm Fiber/250 μm Pitch

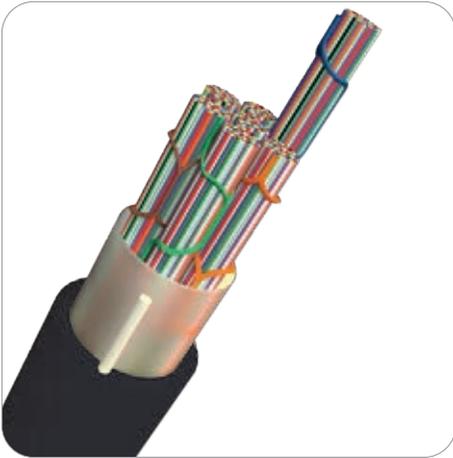
Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-14°F to +140°F (-10°C to +60°C)
OPERATING	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)

Qualifications

GOVERNING BODY	STANDARD CODE
UL	1666 (OFNR) 1685 (OFNG-LS)
ANSI/ICEA	S-83-596
IEC	60794-1-22
EU	EN 13501-6 (CPR)

Contact AFL for further details.



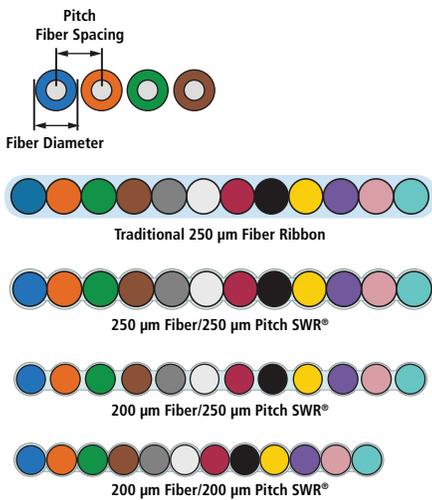
Flame-Retardant RIO Indoor/Outdoor Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 μm Fiber/200 μm Pitch

Flame-retardant (FR) RIO Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for indoor/outdoor network applications where riser-rated products are required. The FR RIO-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings. With the core water-blocking feature, it can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

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 a single cable design to cover diverse applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR provides ultra-high density packaging in cable form.

The FR RIO-WTC-SWR product set is non-armored and meets Riser, CPR, and Low-Smoke, Zero-Halogen (LSZH) standards using Fujikura 200 μm SR15E-P200 fiber (144F to 6912F) with 200 μm pitch constructions.

Ribbon Pitch Designs



Features

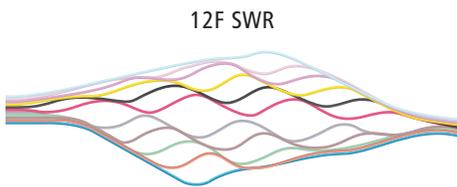
- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC/SWR cables the smallest ribbon cables without compromising the robustness of the cable
- Completely gel-free for reduced time to access fiber and prep for splicing
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways

- Water-blocked core
- Lightweight for easy handling in the field compared to traditional cables
- Suitable for pulling and jetting installations

Applications

- Data Center Inter-building Connections
- Blowing or jetting in conduit

SWR Technology

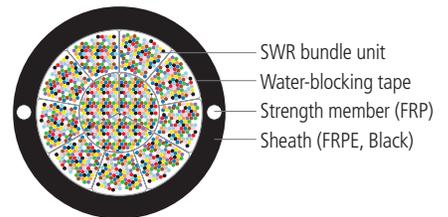


Contra-helical dual binder system



Multiple 12F SWR bundle
72F, 144F, OR 288 bundles depending on cable fiber count

Cable Components



OFNR-LS Non-armored (144F to 6912F)

Flame-Retardant RIO Indoor/Outdoor WTC with SWR® – 200 µm Fiber/200 µm Pitch

Mechanical Data—Non-Armored

AFL NO.	EN 13501-6 CLASSIFICATION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT lbs/1,000 ft (kg/km)	SHORT TERM/DYNAMIC/ 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)
RIO-OGNM12WTZTWBE SR15E-P200 × 144 (*)	Cca-s1b,d1,a1	144	1 x 144F	0.49 (12.5)	111 (165)	300 (1330)	7.4 (188)	90 (399)	4.9 (125)
RIO-OGNM12WTZTWBE SR15E-P200 × 192 (*)	Cca-s1b,d1,a1	192	1 x 192F	0.51 (13.0)	124 (185)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RIO-OGNM12WTZTWBE SR15E-P200 × 288 (*)	Cca-s1b,d1,a1	288	1 x 288F	0.51 (13.0)	124 (185)	300 (1330)	7.7 (195)	90 (399)	5.1 (130)
RIO-OGNM12WTZTWBE SR15E-P200 × 432 (*)	Cca-s1b,d1,a1	432	6 x 72F	0.55 (14.0)	141 (210)	300 (1330)	8.3 (210)	90 (399)	5.5 (140)
RIO-OGNM12WTZTWBE SR15E-P200 × 576 (*)	Cca-s1b,d1,a1	576	8 x 72F	0.59 (15.0)	158 (235)	300 (1330)	8.9 (225)	90 (399)	5.9 (150)
RIO-OGNM12WTZTWBE SR15E-P200 × 864 (*)	Cca-s1b,d1,a1	864	12 x 72F	0.65 (16.5)	188 (280)	607 (2700)	9.7 (248)	180 (810)	6.5 (165)
RIO-OGNM12WTZTWBE SR15E-P200 × 1152 (*)	Cca-s1b,d1,a1	1152	8 x 144F	0.69 (17.5)	208 (310)	607 (2700)	10.3 (263)	180 (810)	6.9 (175)
RIO-OGNM12WTZTWBE SR15E-P200 × 1728 (*)	Cca-s1b,d1,a1	1728	12 x 144F	0.83 (21.0)	306 (455)	607 (2700)	12.4 (315)	180 (810)	8.3 (210)
RIO-OGNM12WTZTWBE SR15E-P200 × 3456 (*)	Cca-s1,d0,a1	3456	24 x 144F	1.00 (25.5)	453 (675)	607 (2700)	15.1 (383)	180 (810)	10.0 (255)
RIO-OGNM12WTZTWBE BIS-B-P200 × 6912 (*)	Cca-s2,d0,a1	6912	24 x 288F	1.22 (31.0)	645 (960)	607 (2700)	18.3 (465)	180 (810)	12.2 (310)
RIO-OGNM12WTZTWBE SR15E-P200 × 6912 (*)	Cca-s1,d0,a1	6912	24 x 288F	1.32 (33.5)	689 (1025)	607 (2700)	19.8 (503)	180 (810)	13.2 (335)

* NOTE: To designate length markings in AFL No., replace asterisk * with (FT) for Feet or (M) for Meters.

Optical Fiber

OPTICAL FIBER TYPE	FIBER DIAMETER	FIBER RIBBON PITCH	OPTICAL FIBER STANDARD	MODE FIELD DIAMETER AT 1310 nm	MAXIMUM ATTENUATION (CABLED) dB/km	
					1383 nm	1550 nm
Fujikura SR15E-P200	200 µm	200 µm	ITU-T G.652.D/G.657.A1	8.6 ± 0.4 µm	≤ 0.40	≤ 0.30

Stripe Ring Fiber Identification

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
288	4 Binder Units	1 - 6 Ring Marking
432	6 Binder Units	
576	8 Binder Units	
864	12 Binder Units	
1152	8 Binder Units	1 - 12 Ring Marking
1728	12 Binder Units	
2880	10 Binder Units	
3456	24 Binder Units*	
6912	24 Binder Units	1 - 24 Ring Marking

*For binder units 13-24, the second binder unit is clear

continued
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Fiber Optic Cable



Flame-Retardant RIO Indoor/Outdoor WTC with SWR® – 200 µm Fiber/200 µm Pitch

Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-14°F to +140°F (-10°C to +60°C)
OPERATING	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)

Qualifications

GOVERNING BODY	STANDARD CODE
UL	1666 (OFNR) 1685 (OFNG-LS)
ANSI/ICEA	S-83-596
IEC	60794-1-22
EU	EN 13501-6 (CPR)

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.

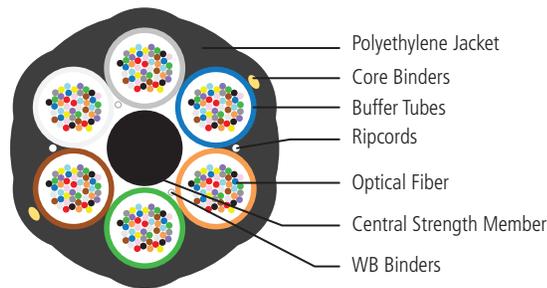
Features

- 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
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LM-Series OSP MicroCore® Cable

Physical and Mechanical Data

LM-SERIES AFL NO.*	FIBER COUNT	FIBERS/ NUMBER OF TUBES**	DIAMETER		WEIGHT LBS/1000FT (KG/KM)	MAXIMUM TENSILE LOAD LBS (N)		MINIMUM BEND RADIUS INCHES (CM)	
			INCHES (MM)	INCHES (MM)		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.

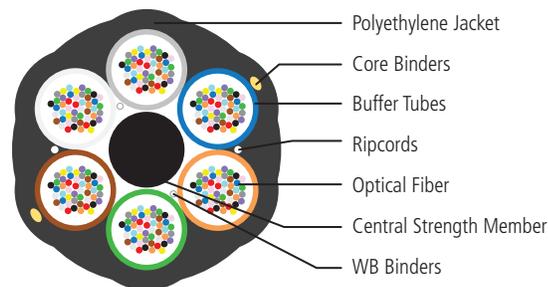
Features

- 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
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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
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.

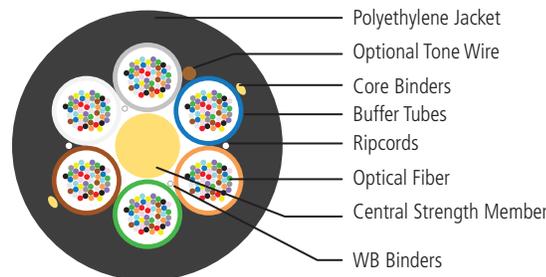
Features

- 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
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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 LBS (N)		MINIMUM BEND RADIUS INCHES (CM)	
			INCHES (MM)	INCHES (MM)			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

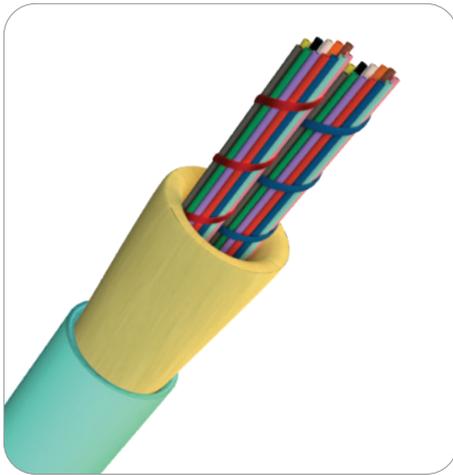
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable*
ICEA	640	Cable
TIA	598-D	Fiber

* 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.



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.

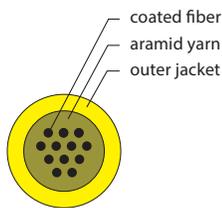
Features

- 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

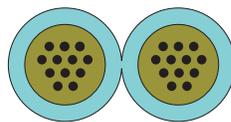
Applications

- Building Interconnections
- Data Centers and Central Offices
- Anywhere MTP connections can be used
- High-density Interconnects
- 40 Gbit and 100 Gbit Ethernet Architecture

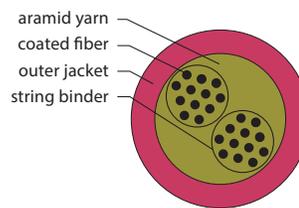
Cable Components



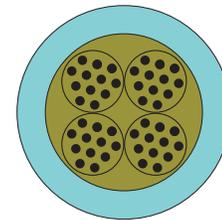
12 Fiber Simplex



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
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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)

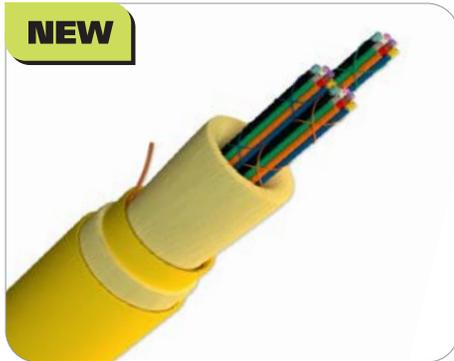
Qualifications

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.

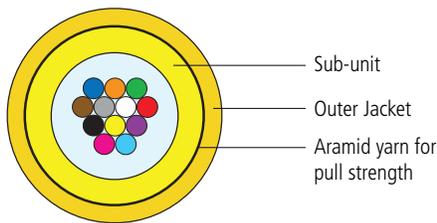
Features

- Fiber counts 8 to 72
- Plenum or LSZH Riser options
- Flame rated
- Installation tension rating of 150 lbs.

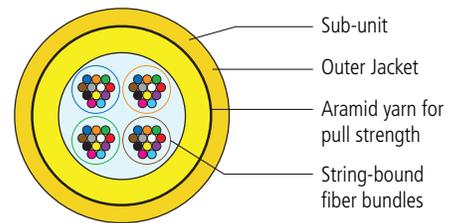
Applications

- 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.

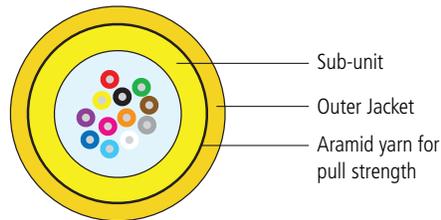
Features

- 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.

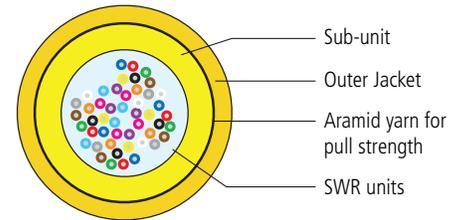
Applications

- 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	

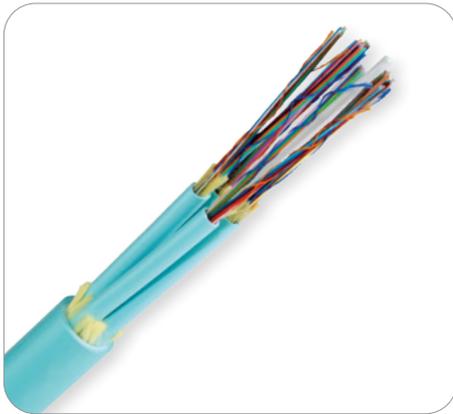
Qualifications

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.

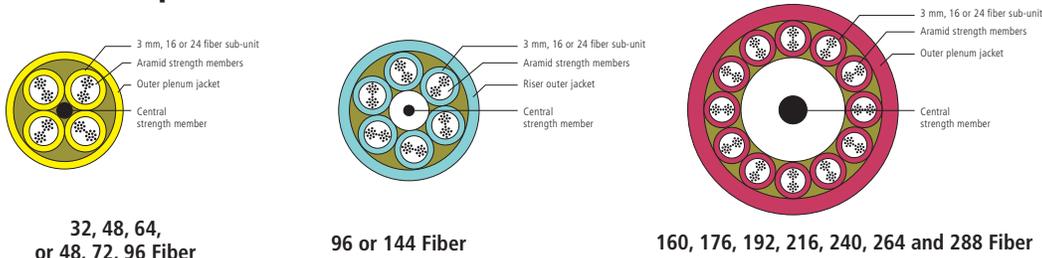
Applications

- 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	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/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	0.47 (11.9)	107 (160)	150 (670)	45 (200)	7.1 (17.9)	4.7 (11.9)
	GQ096*301##B:G68	GE096*301##B:G68	96	6	0	0.47 (11.9)	107 (160)	150 (670)	45 (200)	7.1 (17.9)	4.7 (11.9)
	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	0.47 (11.9)	107 (160)	150 (670)	45 (200)	7.1 (17.9)	4.7 (11.9)
	GQ144*301##B:O6C	GE144*301##B:O6C	144	6	0	0.47 (11.9)	107 (160)	150 (670)	45 (200)	7.1 (17.9)	4.7 (11.9)
	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.



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.

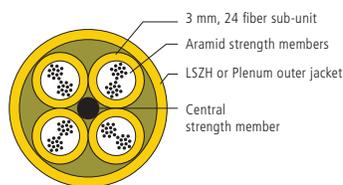
Applications

- 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

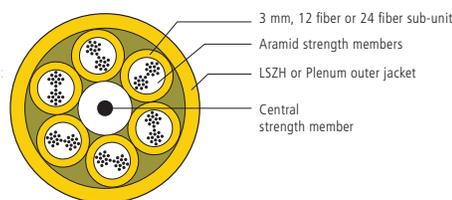
Features

- 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

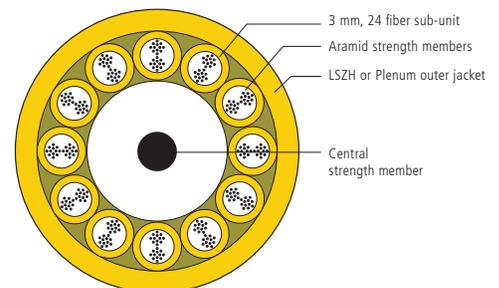
Cable Components



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

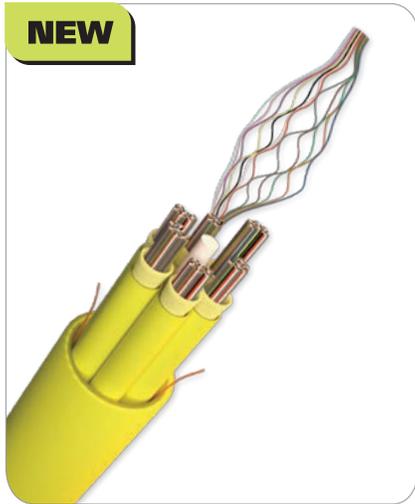
Ordering Information

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.

Fiber Optic Cable



Ultra HD MicroCore® Riser Fiber Optic Cable

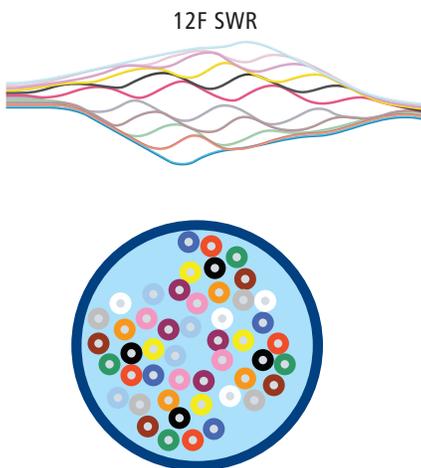
The Ultra HD MicroCore Riser fiber optic cable is the latest development in AFL's sub-unitized MicroCore cable family that uses SpiderWeb Ribbon® (SWR®) technology. Designed to support high fiber density deployments in data center and central office installation environments, the ultra HD sub-unit designs 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

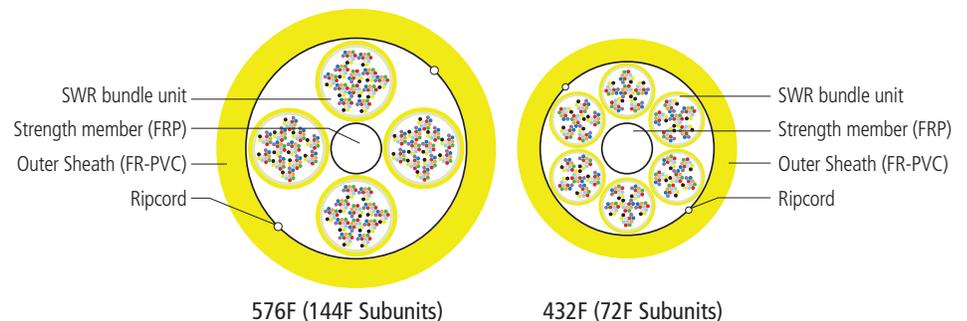
SWR Technology



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.

Fiber Optic Cable



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.

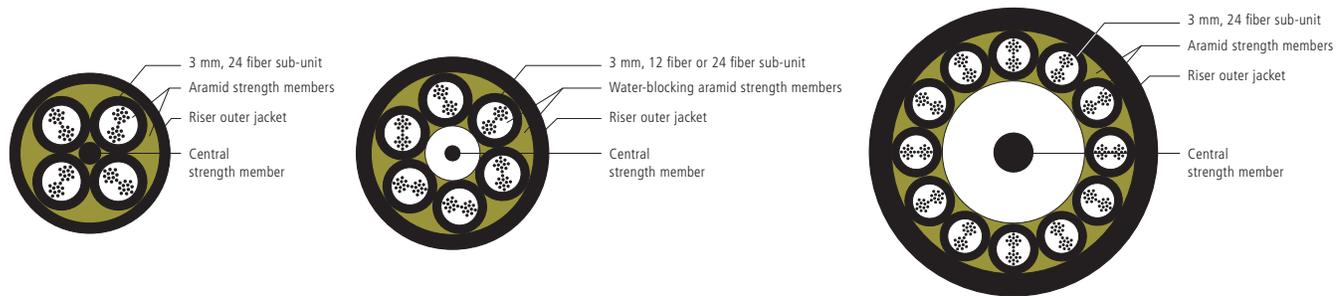
Features

- 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.



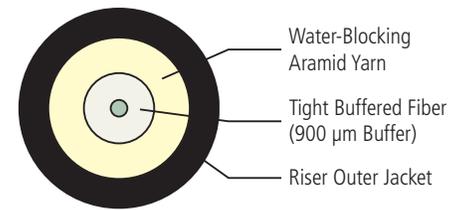
MDU Drop Cable

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

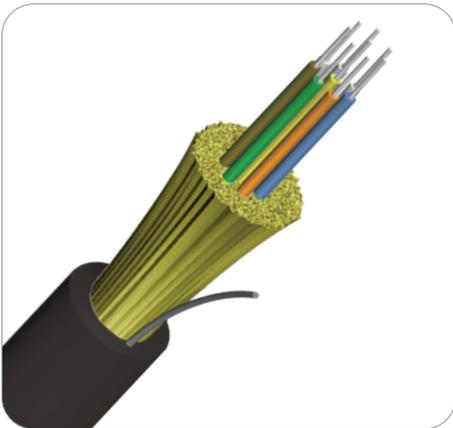
GOVERNING BODY	STANDARD CODE
Telcordia	GR-409 Issue 2
ICEA	ICEA-S-104-696, ICEA S-115-730
Verizon	TPR 9424 Issue 3*

* 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.



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.

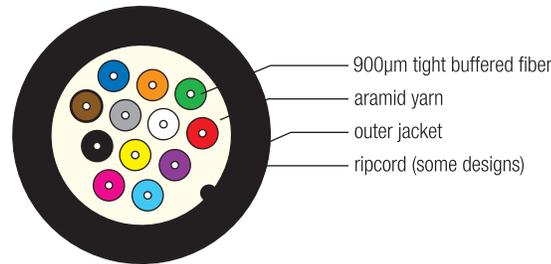
Features

- 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	
					lbs (N)		inches (cm)	
	RISER		inches (mm)	lbs/1000 ft (kg/km)	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.

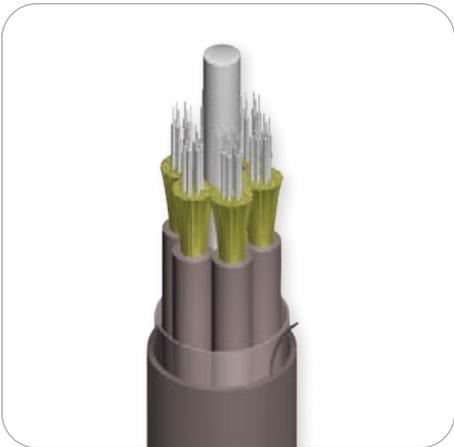
Qualifications

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.

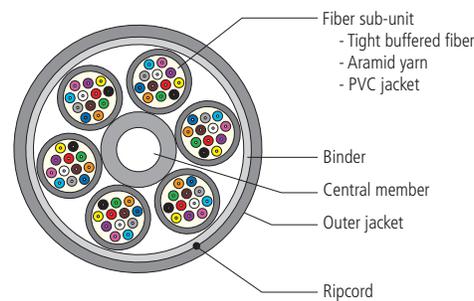
Features

- 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	

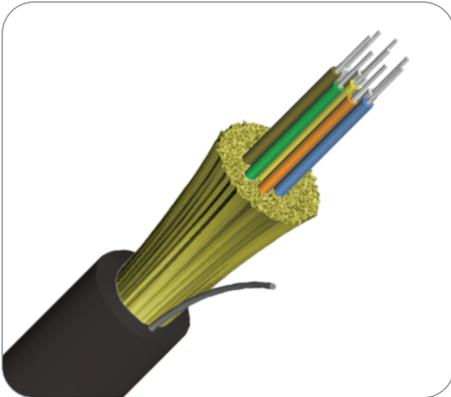
Qualifications

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.

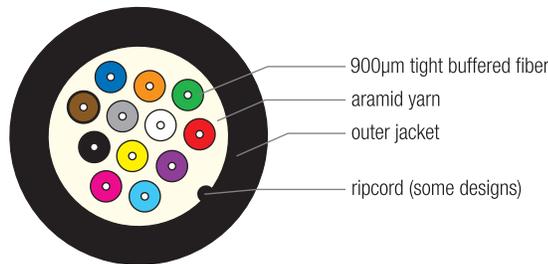
Features

- 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



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	

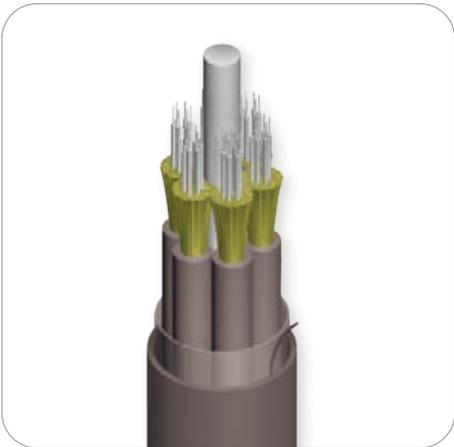
Qualifications

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-swellable aramid and 12 tight buffered fibers.

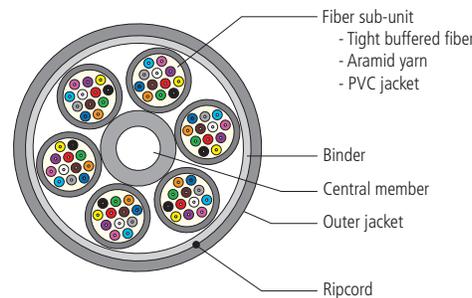
Features

- 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.

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.

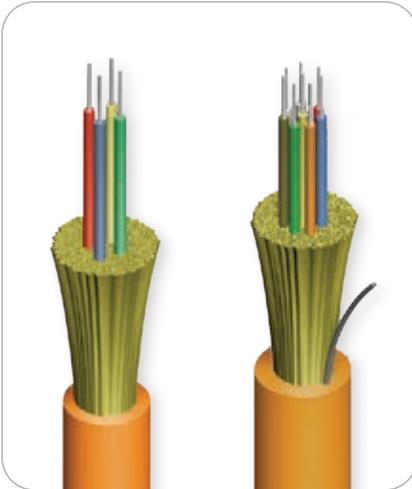


Fiber optic cable that is approved for mining applications.



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.

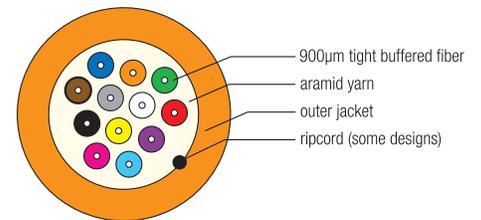
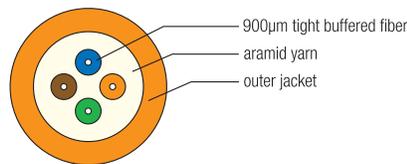
Features

- Fiber counts 4-24
- Buffered to 900 μm
- Mixed fiber designs available

Applications

- Connectorized communications cables with both send-and-receive and send-and-receive 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



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	

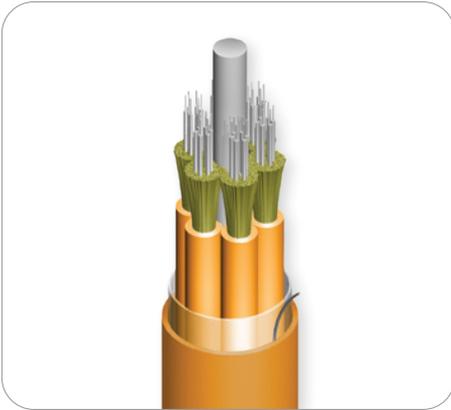
Qualifications

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.

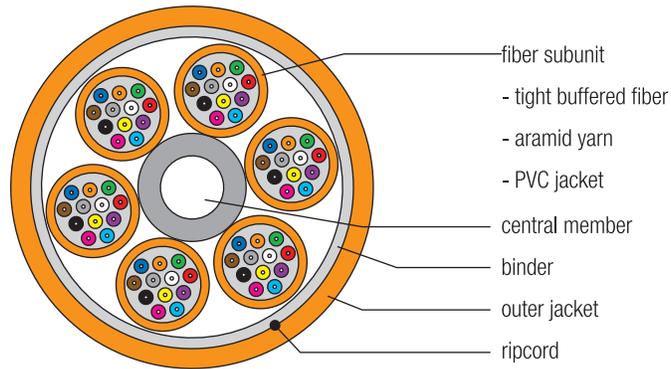
Features

- 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		BENDING RADIUS	
	RISER	PLENUM			RISER	PLENUM	lbs (N)		inches (cm)	
					lbs/1000ft (kg/km)	lbs/1000ft (kg/km)	INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
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	

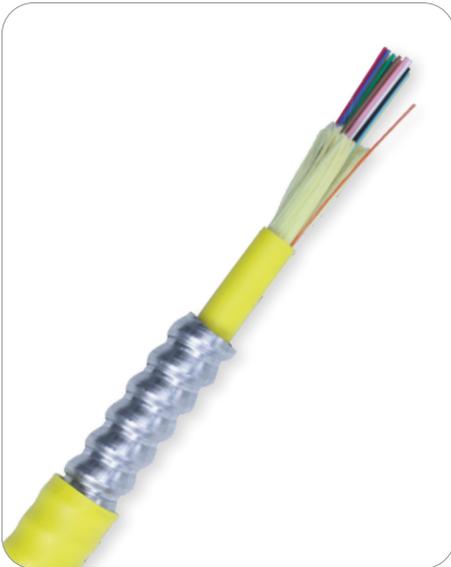
Qualifications

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®.

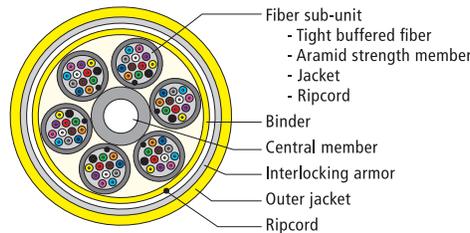
Features

- Fiber counts 4-144
- Aluminum interlocking armor

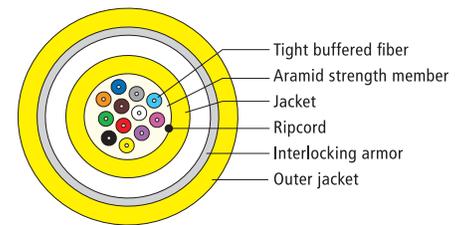
Applications

- 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.

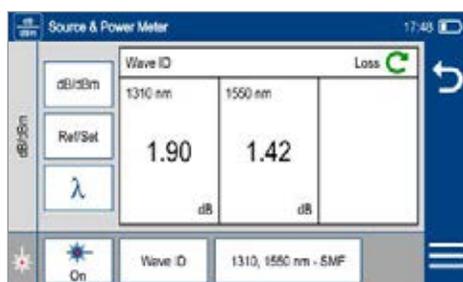
User-friendly: The FS300 enables both expert and novice technicians to quickly and accurately detect, locate, identify and measure optical network components and faults. It applies industry-standard or user-set pass/fail criteria and displays results using LinkMap color-coded icons that immediately show 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 sharing and reporting options: Results can be stored internally, saved to a USB, and downloaded via USB cable or Bluetooth (via Flex App). Reports can be generated directly from the unit using Print-to-PDF feature, or downloaded results can be reported using the included FlexReports™ 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 FlexApp to a smart device for real-time reporting using the included Windows-based FlexReports™ 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	≥37/35 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	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:

- a. All specifications valid at 25 °C unless otherwise specified.
- b. FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2014.
- c. Measured with laser in CW mode at 23 °C ±3 °C.
- d. SNR=1, longest range and pulse width, 3 minute averaging.
- e. 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.
- f. 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.
- g. 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, FlexReports™ Test Results Manager software, 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, FlexReports Basic, USB cable ^a
PLUS	Includes: BAS kit plus 150 m SMF & MMF Fiber Rings, One-Click Cleaner, upgrade to FlexReports 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 FlexReports using USB cable, or performed wirelessly (W1 option) after downloading FlexApp 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 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/AFC	FR-SMF-150-USC-AFC
USC/ALC	FR-SMF-150-USC-ALC
USC/UE2	FR-SMF-150-USC-UE2
ASC/USC	FR-SMF-150-ASC-USC
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) to Female (unpinned)
M	Female (unpinned) to 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, single-mode, APC female to APC male	2900-58-0001MR
Field-replaceable connector, single-mode, APC female to UPC male	2900-58-0002MR
Field-replaceable connector, single-mode, UPC female to APC male	2900-58-0003MR
Field-replaceable connector, single-mode, UPC female to UPC male	2900-58-0004MR
Field-replaceable connector, multimode, UPC female to UPC male	2900-50-0014MR

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.
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 Lightning2 (Multi-Fiber) Connector Inspection Systems

- 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
Generic Requirement	IEC	Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant
	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.

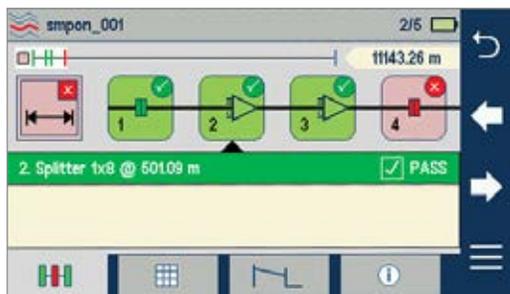
FlexScan® FS200 Single-mode OTDR



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 award-winning FOCIS® family of connector inspection probes for fast, easy single-fiber and/or multi-fiber connector end-face inspection.

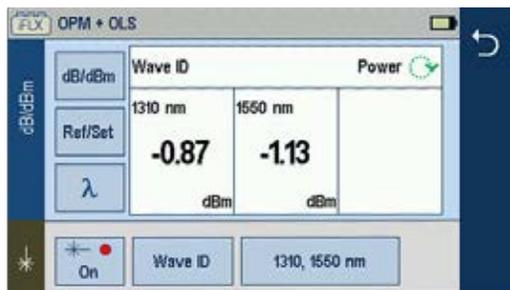
FlexScan results can then be transferred via USB cable, Wi-Fi, or Bluetooth and the free FlexApp running on a mobile device for real-time reporting using the included FlexReports Test Results Manager PC-based software. This real-time monitoring can help avoid mistakes in the field that will require future 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 ≤ +20 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, backlit				
USB Ports	1 host; 1 micro-USB function				
Bluetooth (optional)	Compatible with Windows PC, Android, iOS				
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 & FOCIS Lightning2 (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 Lightning2: 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

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	Bluetooth/Wi-Fi compliant to FCC 47 CFR Part 15C, Part 15.247 subpart C, and FCC Rule Part 1.1.307 (b)(3)(i)(a) SAR
	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
Generic Requirement	IEC	Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant
	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 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.

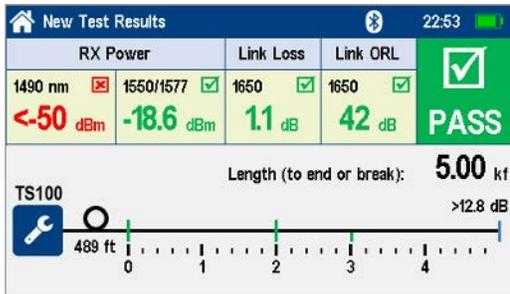
Designed for field use: FlexScan TS100 is small (3.5 x 6 x 1.75 in (86 x 160 x 43 mm)) and weighs less than a pound (0.4 kg). It has a large, bright indoor/outdoor touchscreen, and rechargeable battery that lasts >12 hours for all-day operation.

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.

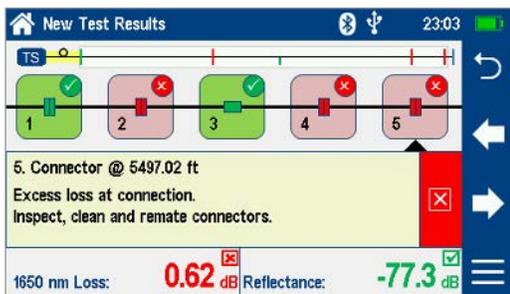
FlexScan® TS100 FTTH PON Troubleshooter



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

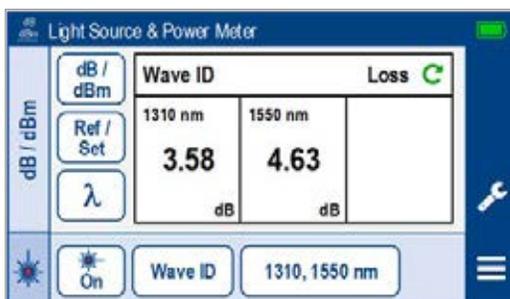
TS100 automatically detects network events such as connections, splices, splitters, and macro-bends. It displays these events with LinkMap® color-coded icons that are easy-to-read and enable users to quickly identify faults requiring action. Touching each event icon displays its pass/fail status, location, 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
Test Method	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)
	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
Generic Requirement	IEC	Compliant to IEC 61280-4-2 for test procedures for installed optical fiber cable plant
	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

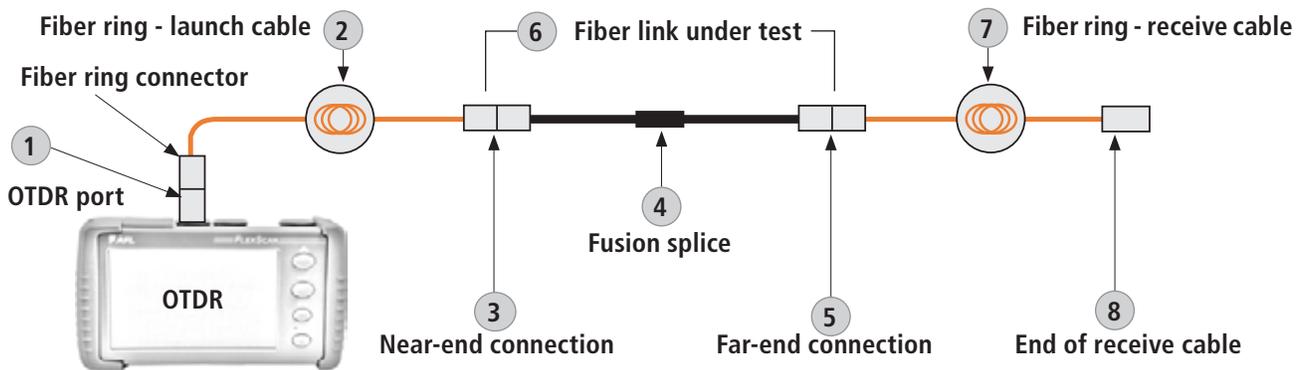
Notes:

- 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.

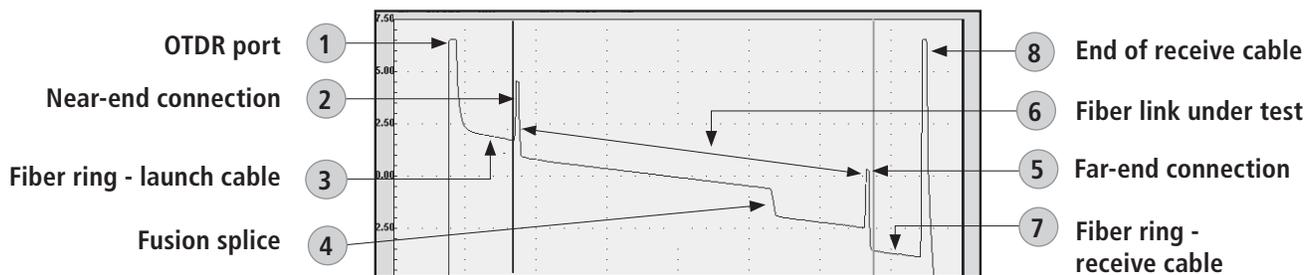
OTDR Fiber Rings

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.

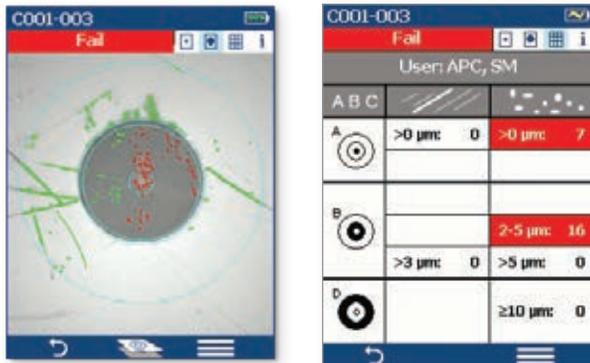
Bundled kits for significant savings: FOCIS Flex is available in kits that include a Basic license for Test Result Manager (TRM® 3.0), user-selected adapter tips and cleaning supplies, and a soft carry case.

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	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	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.

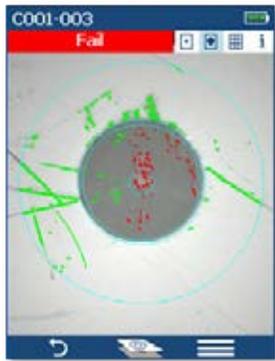
Wide range of adapter tips: Interchangeable adapter tips support connector inspection for a wide range of both single-fiber and multi-fiber patchcords and bulkhead-mounted connectors having either PC or APC polished end-faces.

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



C001-003	
Fail	
User: APC, SM	
A B C	
A	>0 μm: 0 >0 μm: 7
B	2-5 μm: 16
	>3 μm: 0 >5 μm: 0
D	≥10 μm: 0

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) OTRs

- 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



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:

- a. All specifications valid at 23 °C ±2°C (73.4 °F ±3.6 °F).
- b. Large Field of View (LFOV) parameters are provided using LFOV MPO PC and APC adapters.
- c. Operating conditions: 60 tests in 20 minutes, then auto-off; repeat each hour.
- d. Trademarks are the property of their respective owners.

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) OTRDRs

- 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 WiFi2® 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 WiFi2 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.

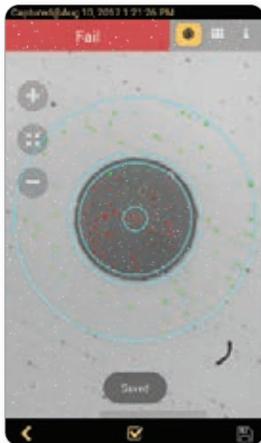
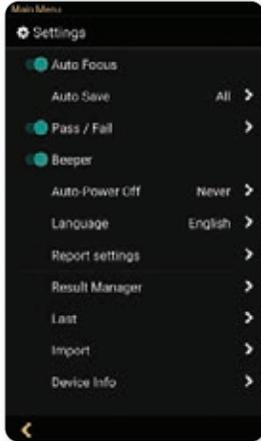
Pass/fail results in seconds: With the press of a single button, FOCIS WiFi2 auto-focuses, captures, centers and analyzes the end-face image to industry standard IEC 61300-3-35 (2015), IPC-8497-1, AT&T TP-76461 and user-defined criteria.

Untethered operation: App-based report generator with results/reports transferable to the aeRos cloud. With rechargeable battery and convenient pass/fail LED feedback, FOCIS WiFi2 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

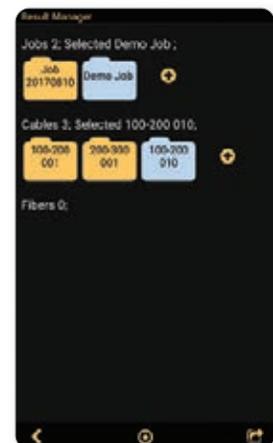
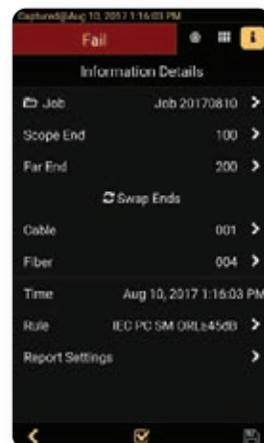
Fiber Inspection



Smart Device Apps: FOCIS WiFi2

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



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



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

Contact Sales@AFLglobal.com to schedule a demonstration or learn how to buy.

Visit www.AFLglobal.com/Test to learn more about FOCIS WiFi2

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

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® SE100 Single-Ended Test Set

Quickly and Easily Verify Continuity and Insertion Loss From One End

US Patent Pending



FlowScout SE100 with 1430 nm Wavelength Optical Reflector

Features

- Verifies fiber continuity and insertion loss at 1430 nm from a single end
- Excess reflection (low ORL) detection at 1550 nm
- Live fiber detection and reporting
- Built-in optical continuous wave (CW) reflectometer
- Combines light source and power meter into a single unit

Applications

Used to verify:

- FTTH continuity and insertion loss during service activation or troubleshooting
- FTTA continuity and insertion loss between Distribution Unit (DU) and Radio Unit (RU)
- Fiber backhaul continuity and insertion loss to demarcation point

AFL's FlowScout SE100 is designed to verify fiber continuity and measure insertion loss to the end of fibers terminated with AFL's 1430 nm Wavelength Optical Reflectors. When a reflector is detected, the FlowScout SE100 immediately reports its presence (confirming continuity to the reflector) and measures insertion loss to the reflector at 1430 nm wavelength. The reflector is near-transparent to PON and other wavelengths, allowing it to remain installed during network operation.

Reduce cost: Combining an optical light source and power meter into one low-cost test set, the FlowScout SE100 enables a single technician to verify continuity and measure insertion loss, reducing equipment costs by over 38% and labor costs by over 50%.

Shorten test time and eliminate setup errors: Traditional two-ended testing requires equipment configuration and test coordination. FlowScout SE100 eliminates time-consuming setup and technician coordination time. It also speeds up testing by reducing visits to subscriber premises, demarcation points, and cell tower climbs.

Enhance customer experience: The FlowScout SE100 eliminates the need for onsite troubleshooting of FTTH drop issues. All testing can be completed from a distribution panel or splitter, eliminating technician time at the subscriber premises and overcoming scheduling and access challenges for both subscribers and service providers.

Increase technician safety: Repeated tower climbs for troubleshooting FTTA fibers are eliminated by using the FlowScout SE100 to test from the ground to optical reflectors installed at the Radio Unit.

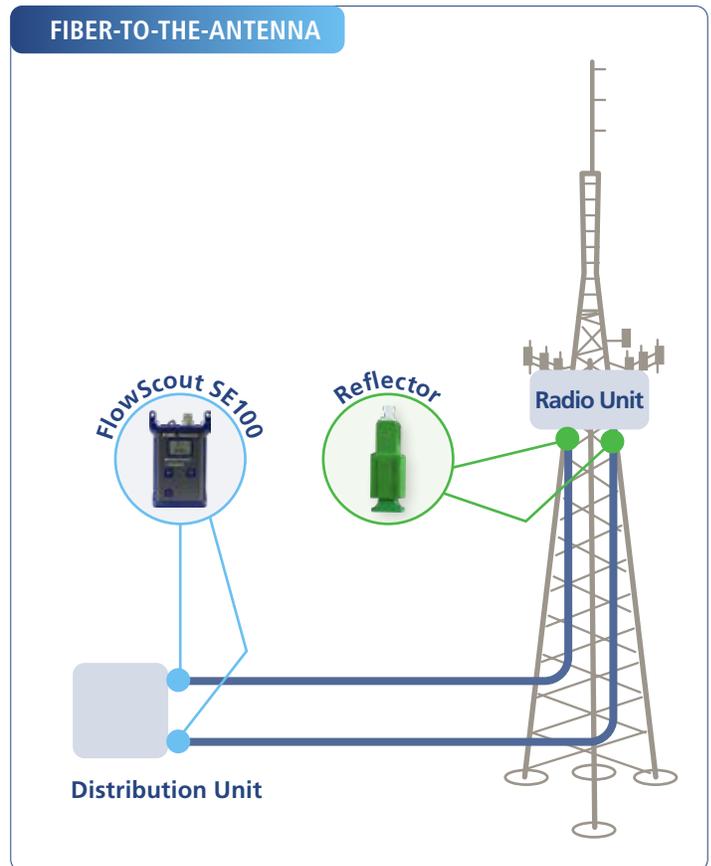
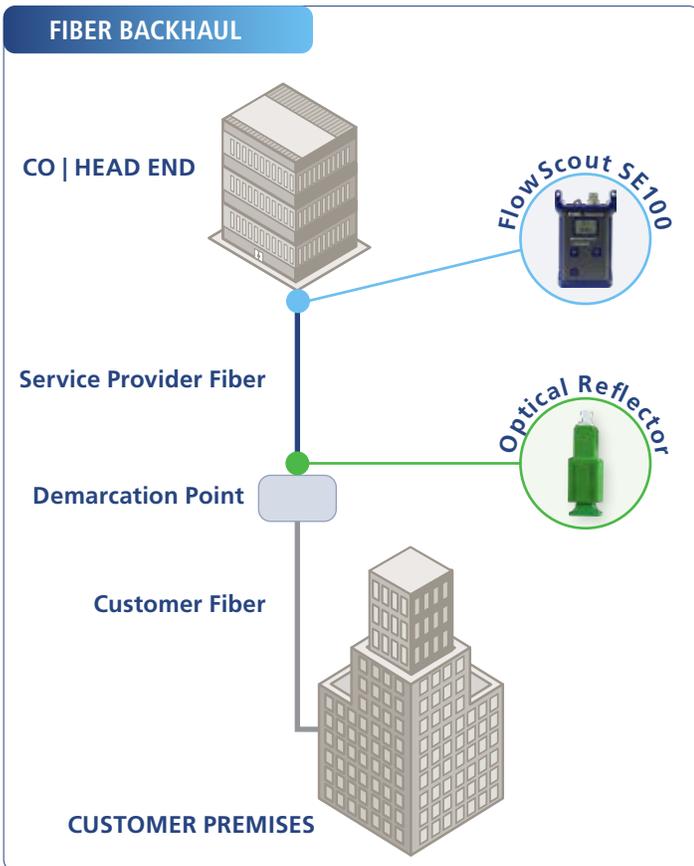
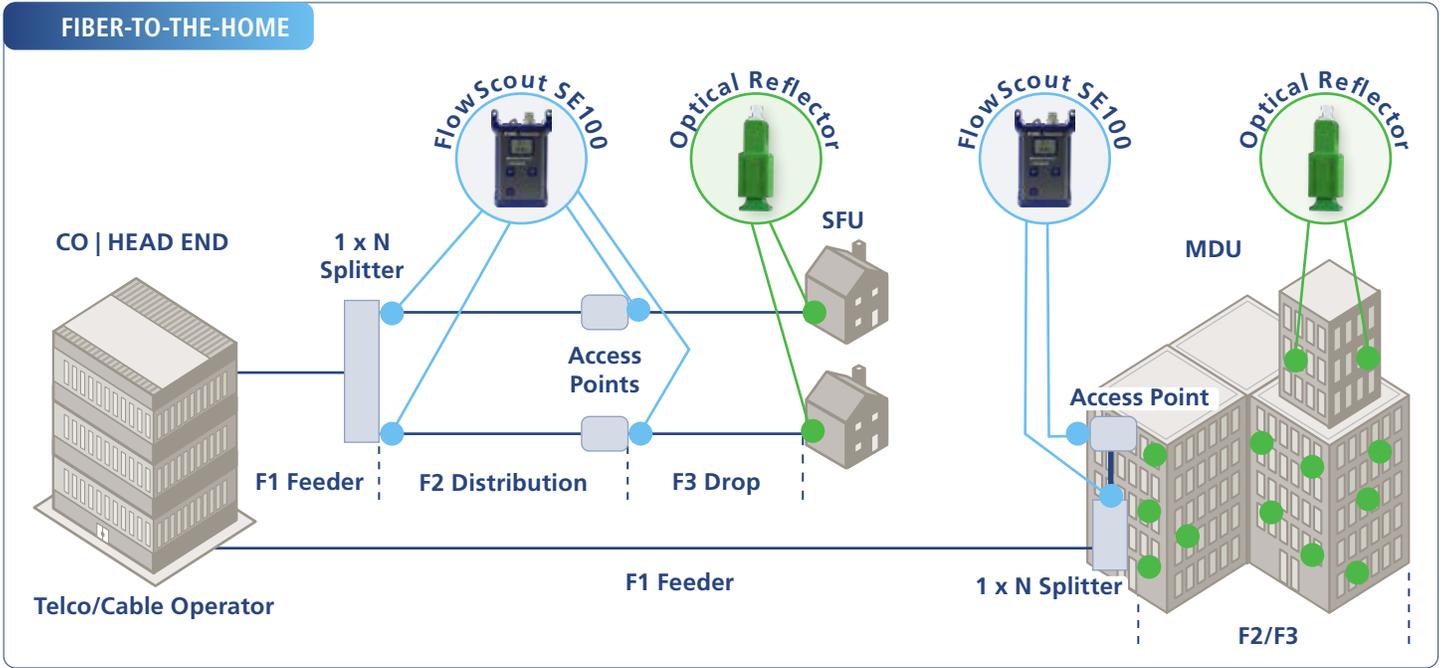
Ensure integrity of test results: FlowScout SE100 alerts the user when excess reflection or a live signal is present on the tested network. Reflection issues from damaged, open, mismatched, or dirty connectors often result in poor network performance. FlowScout SE100 immediately alerts the user and displays ORL when excess reflection is present.

Complements subscriber-installed ONT initiatives: Reducing the need for FTTH premises visits, the FlowScout SE100 solution supports service provider goals to reduce costs by adopting a subscriber self-install ONT methodology.

FlowScout® SE100 Single-Ended Test Set

Example Applications

Optical Loss Testing



FlowScout® SE100 Single-Ended Test Set

Optical Loss Testing

PRODUCT HIGHLIGHTS

- Easy to Use**
- Brightness Control**
- Battery Operated**
- Handheld**
- USB Power Port / Software upgrades**

- Single SC/APC Connection**
Simply plug in the fiber connector and get readings in >5 sec!
- Large LCD display**
Multi-function screen clearly shows all measurements and prompts
- Clear color-coded readings**
LED indicators allow you to view if reflector is detected in seconds
- Easy, one-handed operation**
Easily one hand operation. Large buttons for easy operation
- Durable design for field use**
Protective rubber boot for in-field durability and reliability

Specifications^a

OPTICAL	
Emitter Type	Laser
Safety Class ^b	Class I
Fiber Type	Single-mode; compatible with all G.652, G.655, and G.657 SMF
Calibrated Wavelengths	1430 and 1550 nm
Center Wavelength	1430 ±5 nm; 1550 ±20 nm
Spectral Width (FWHM)	≤5 nm
Output Power Level	-1 to -4 dBm CW
Output Power Stability	±0.1 dB over 1 hour (after 1 minute warmup)
Detector Type	InGaAs PIN
Detection Range	Reflector detected / not detected up to 20 km (18 mi) with optical loss ≤9 dB at 1430 & 1550 nm and 1550 nm ORL ≥25 dB
Insertion Loss Measurement Range	At least 10 dB when ORL ≥25 dB @1550 nm At least 6 dB when ORL in range 14 – 20 dB @ 1550 nm
Loss Accuracy	±1.0 dB for loss in range 0 to 6 dB
Loss Resolution	0.1 dB
Measurement Units	Loss in dB; ORL in dB
GENERAL	
Size (in boot)	14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in)
Weight	≤0.3 kg (≤0.7 lb)
Operating Temperature	-10 °C to +50 °C, 0 to 95% RH (non-condensing)
Storage Temperature	-30 °C to +60 °C, 0 to 95% RH (non-condensing, batteries installed)
Battery Power	2 x AA alkaline batteries; user-replaceable
AC Power	Optional external AC power supply (100-240 VAC, 50-60 Hz; 5VDC @2A)
Battery life	Typical 120 hrs, minimum 75 hrs (continuous operation, backlight off)
Display	Backlit monochrome LCD
Shock and vibration	Drop test, 1 m, 6 planes
Optical port	Fiber-coupled, 2.5 mm ceramic ferrule plus SC/APC connector adapter
Dust Cap	Captive dust cap mounts over SC/APC connector adapter

Notes:

- a. All specifications valid at 25°C unless otherwise specified.
- b. FDA 21 CFR 1040.10 and 1040.11; IEC 60825-1:2014

FlowScout® SE100 Single-Ended Test Set

Ordering Information

FlowScout SE100 kits include the FlowScout SE100 test set, SC/APC to SC/APC patch cord to connect to network under test, reference 1430 nm Wavelength Optical Reflector, wrist strap, and Quick Reference Guide in a convenient soft carry case.

DESCRIPTION	AFL NO.
FlowScout SE100 Single-Ended Test Set	SE100-00-0901PR

Accessories

DESCRIPTION	AFL NO.
ACCESSORIES INCLUDED WITH SE100-00-0901PR KIT	
1430 nm Wavelength Optical Reflector, SC/APC, female-to-male, plug type	8700-03-1430MZ
Universal flip-top dust cap for UCI outputs	8800-00-0072PR
Single-mode test jumper, SC/APC to SC/APC, 2 m, 3 mm jacketed	8700-00-0218MR
Wrist atrap	1400-05-0230PZ
Soft carry case with strap	1400-01-0107MZ
ADDITIONAL OPTIONAL ACCESSORIES	
SC/APC adapter for optical port	2900-50-0011MR

DESCRIPTION	AFL NO.
USB – Micro-B cable, 5 pin, 6 ft	6000-00-0031MR
AC Adapter (shipped with one power plug of customer choice; select one from plugs listed below!)	4050-00-0034MR
<ul style="list-style-type: none"> 4050-00-0030EUMR EU Power Plug for AC charger 4050-00-0030USMR US power plug for AC charger 4050-00-0030SAAMR CN/AUS power plug for AC charger 4050-00-0030UKMR UK power plug for AC charger 	
FlowScout SE100-facing APC female to APC male field-replaceable Port Saver SMF	2900-58-0001MR
One-Click Cleaner Mini 500 SC, ST, FC; 500+ Cleans	8500-05-0009MZ

Recommended Products



FOCIS Flex 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



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 μW 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
	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 complementary AFL fiber optic test and inspection products.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

FlowScout® Through-Mode 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 Through-Mode PON Power Meter (TPPM) 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 FlowScout’s QR code feature can easily collect and transfer test data via any smart devices.

FlowScout® Through-Mode PON Optical Power Meter

Specifications^a

OPTICAL				
MODEL		TPPM-XG		
Upstream	Wavelength	1270 nm	1310 nm	
	Measurement Range	-28 to +13 dBm	-28 to +13 dBm	
Downstream	Wavelength	1490 nm	1550 nm	1577 nm
	Measurement Range	-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 XGPON/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	4050-00-0034USMR
CN/AUS power plug for AC charger	4050-00-0034SAAMR
UK power plug for AC charger	4050-00-0034UKMR

FlowScout® Through-Mode 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

Optical Loss Testing

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)
	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

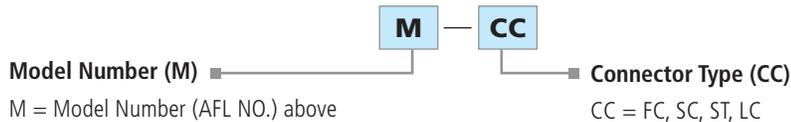
Test kits include light source, power meter, protective rubber boots, AA batteries, adapter caps, and carry case.

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
	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 OLTS kits.

International Sales and Service Contact Information available at www.AFLglobal.com/Test/Contacts

Encircled Flux (EF) Compliant Light Sources and Test Kits

Optical Loss Testing



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 μ m receive test cord

Single-mode Test Ports:

- Light Source with two 9/125 μ m 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 (μ m)	RECEIVE (μ m)	
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
CleTOP –SB Cassette Cleaner	8500-10-0016MZ
CleTOP –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
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- Low cost per clean

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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	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



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

CSM1 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:

- a. All specifications at 25 °C unless otherwise specified.
- b. Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.
- c. 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

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:

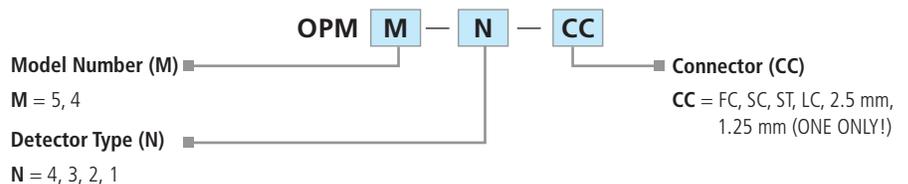
- a. All specifications valid at 25°C unless otherwise specified.
- b. Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.

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):	OPM5 MODEL	OPM4 MODEL	6000-00-0024MR
<ul style="list-style-type: none"> • Connect OPM to PC for data upload to TRM® 2.0 • External Power for OPM (when used with customer supplied USB-A power source) 	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



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

Accessories



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

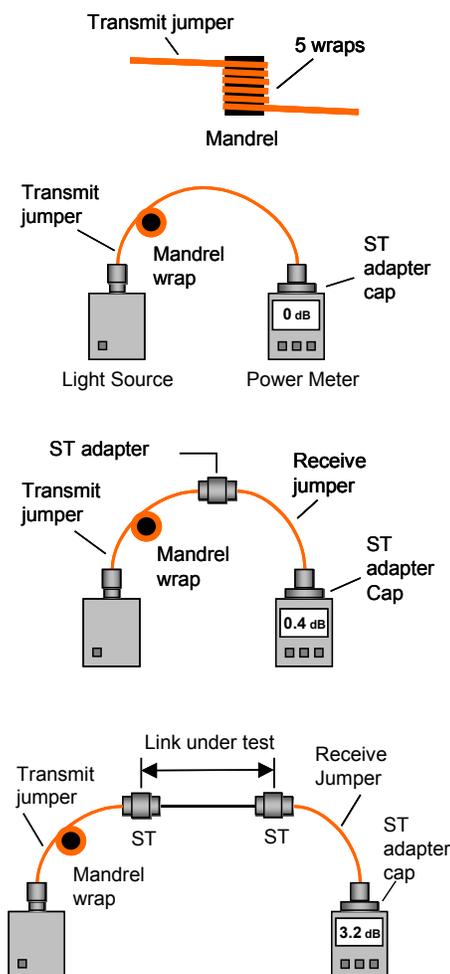
Mandrels

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

Fiber Identification



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

Fiber Identification



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



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 μ m, 900 μ m, 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 μ m, 900 μ m, 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 μ m (bare) coated, 900 μ m 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:

- 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 high speed user data. 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.
- 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® F300 (quad) and F200 (single-mode) OTDRs

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- FleXpress® mode (F200) 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)

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

VFI4 Visual Fault Identifiers



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
	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)

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

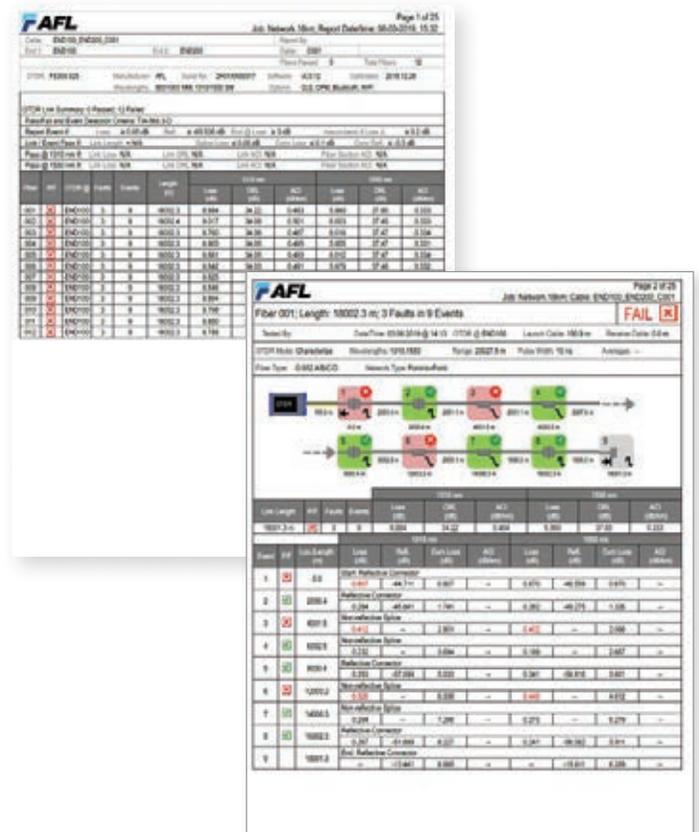
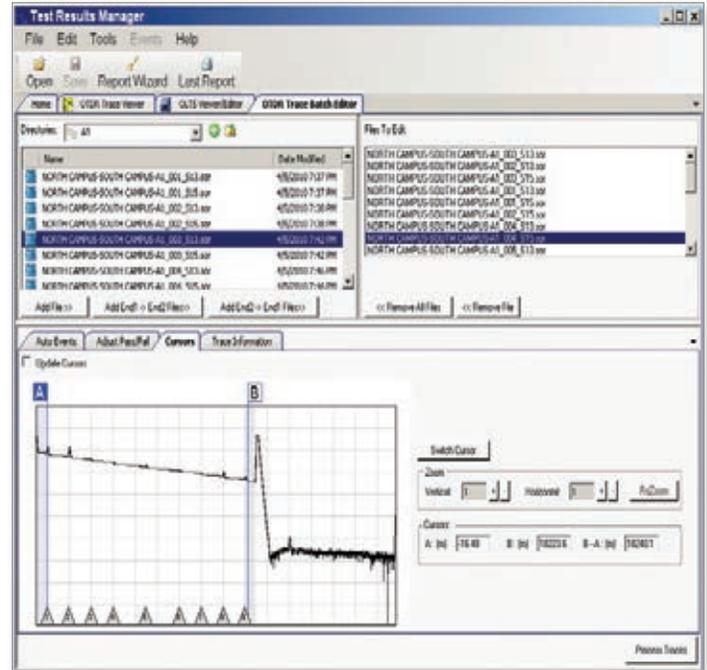
- Generate professional reports by applying edits to a group of fibers for consistency of information and uniformity of results

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.

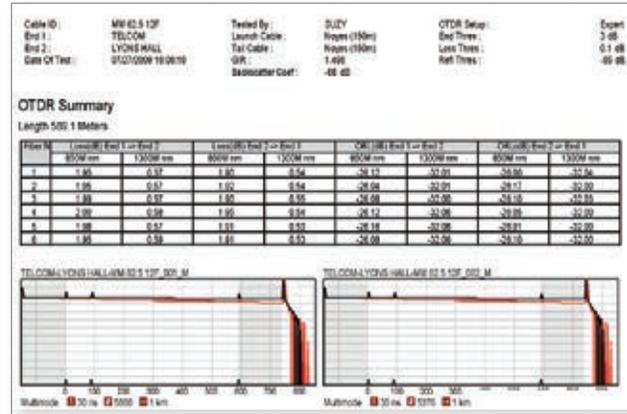


TRM® 2.0/3.0 Test Results Manager

Report Examples

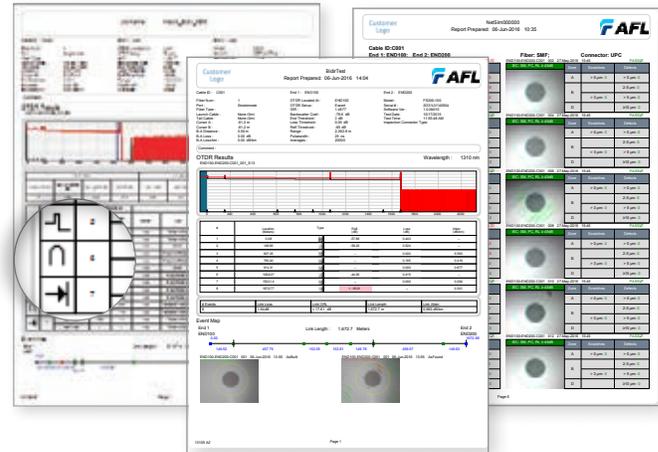
OTDR Cable Summary Page

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

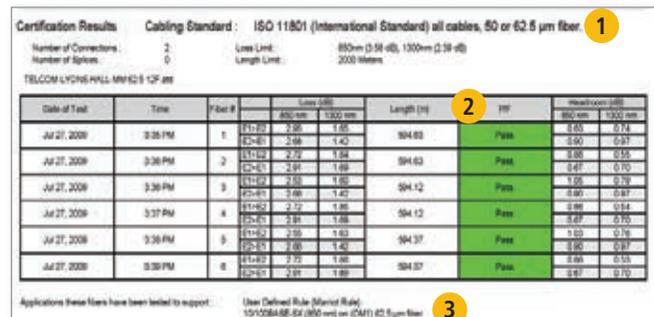
Fiber Detail Results page documents equipment used for testing, job information, test setup, cursor info and OTDR trace with Event map. OPM or Certification results and end-face image and pass/fail results may be included if available (as shown) with an overall Pass or Fail.



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.



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

NEW



MMC-16

MMC-24

Push-Type Cleaners

One-Click® Cleaner MMC

Features

- Cleans high-density, low-insertion-loss pinned or unpinned MMC connectors
- Patented single-action cleaning in a small ergonomic design
- Precise mechanical action delivers consistent cleaning results
- Automatic tape advance ensures each clean is performed with fresh cleaning tape

Applications

- Clean MMC-16 and MMC-24 connectors on jumpers and in adapters
- Maximum density, pre-terminated cabling installations
- High fiber count data center interconnects
- Structured cabling

Designed to clean Very Small Form Factor (VSFF) MMC multi-fiber connectors used in Data Centers and other high density optical networks, the new One-Click Cleaner MMC is a revolutionary push-type cleaner, which simplifies cleaning of the ferrule end-face of both MMC exposed connectors and connectors in adapters.

Ease of use - With its patented push-action cleaning, the One-Click Cleaner MMC removes dirt, dust, and contaminants with just one click. Its straightforward use requires no training. Simply insert and click to clean MMC connectors

Maximized efficiency - By utilizing the one-click design, technicians can speed through the cleaning process. No manual wipes or wet solvents are needed. The mechanical push action instantly advances the optical grade cleaning tape while the cleaning tip is rotated to ensure the MMC end-face is effectively, but gently, cleaned.

Increased uptime - With the move to next-gen VSFF data-center connectivity, it is essential to maintain connections for optimal performance. Using the specialized One-Click Cleaner MMC, technicians can clean MMC-16 and MMC-24 connectors easily and effectively in 1/2 the time as traditional methods leading to reliable signal transmission and extended lifespan of the connector.

Ordering Information

DESCRIPTION	AFL NO.
One-Click Cleaner MMC for MMC-16 Connectors (500+ cleans)	8500-05-MMC16
One-Click Cleaner MMC for MMC-24 Connectors (500+ cleans)	8500-05-MMC24

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

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

Ordering Information

DESCRIPTION	AFL NO.
FiberWipes – 90 optical quality wipes per tub, (1 tub)	9000-03-0025MZ
FiberWipes – case of 24 mini-tubs (2160 total wipes, 90 wipes per mini-tub)	9000-03-0026MZ

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

CleTOP 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

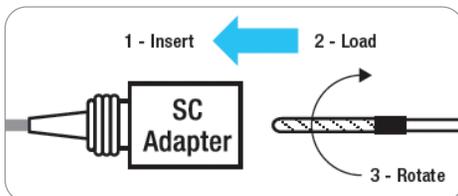
- Clean ferrule end-faces inside the plug-in fiber optic connectors and various adapters
- Cleans adapter alignment sleeves
- Cleans LEMO connectors for video applications

CleTOP ACTs offered by AFL are an easy and efficient means of cleaning fiber optics connectors in adapters and cleaning alignment sleeves. CleTOP 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 CleTOP stick.

Ordering Information

DESCRIPTION	APPLICABLE CONNECTORS	AFL NO.
ACT-01 — 2.5 mm CleTOP Sticks (Box of 200)	FC, SC, ST, D4	8500-10-0024MZ
ACT-02 — 1.25 mm CleTOP Sticks (Box of 200)	LC, MU	8500-10-0022MZ
ACT-03 — 2.0 mm CleTOP Sticks (Box of 200)	Military termini, high definition television camera connectors such as LEMO	8500-10-0023MZ
Double-ended 2.0/2.5 mm CleTOP 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 CleTOP 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 duffle 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, pigtailed 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	
	ITU-T G.657: Avg. 0.02 dB		
Splice Time		SM FAST mode: Avg. 8 to 10 sec.	
		SM AUTO mode: Avg. 11 to 13 sec.	
Applicable Protection Sleeve	Sleeve Type	AUTO mode: Avg. 14 to 16 sec.	
	Sleeve Length	Heat-shrinkable sleeve	
	Sleeve Dia.	Max. 66 mm	
Sleeve Heat Performance	Heat Time	Max. 6.0 mm before shrinking	
		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	Operate: 0 to 95% RH non-condensing	
		Storage: 0 to 95% RH non-condensing	
	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	Approx. 500 recharge cycles	
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	
		Heater clamp: open/close	
Reference Guide	Video and PDF file stored in splicer		
Sheath Clamp	Easy sleeve positioning clamp		
Electrode	Replaceable without tool		



45S



45S Standard Kit



45S on Tripod

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.

Applications

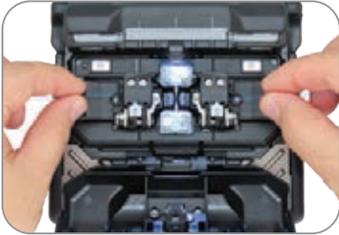
- 5G Small Cell Site
- FTTx drops and terminations
- MDF/IDF splices and terminations
- Rural fiber deployments and restorations

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

Fujikura 45S Fusion Splicer

Features



Simultaneous Fiber Loading



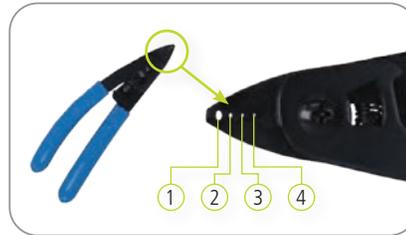
Sleeve Positioning



Work Tray with Neck Strap



CT-16A Adapter Plate on CT-50



Fiber stripper SS-05

- ① For 2.3 mm
- ② For 900 μ m
- ③ For 250 μ m
- ④ For 250 μ m

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 μ m single fiber)	S017111
FH-70-200 (200 μ m single fiber)	S017711
FH-70-900 Fiber Holders (900 μ m single fiber)	S017113
FH-60-LT900 (900 μ m loose buffer tube)	S015181
FUSEConnect® Accessories	
FH-FC-20 (900 μ m within 2.0 mm sheathing) (each)	S014696
FH-FC-30 (900 μ m within 3.0 mm sheathing) (pair)	S014695
FH-FC-900 (900 μ m 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 μ m)	S018328
Portable Tripod Workstation (see web listing for more detail)	S014773

Single Fiber Splicers

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.

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.

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.



35S Standard Kit

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



CT-16 with AD-16A Adapter

Fujikura 35S Fusion Splicer

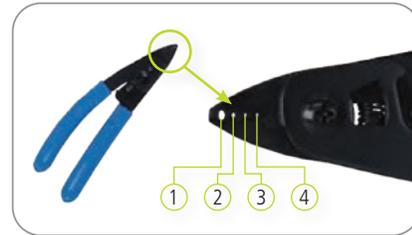
Features



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, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, Work Tray, CC-39 Transit Case, and Two Years 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, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case and Two Years 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, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case, and Two Years 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, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case, and Two Years Warranty	S017510
One Year Extended Warranty	S012996
Two Years 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



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	Dimensions W	Approx. 60,000 fiber cleaves
	Dimensions D	Approx. 120 mm when closing the lever
	Dimensions H	Approx. 95 mm when closing the lever
	Weight	Approx. 58 mm when closing the lever
Environmental condition	Temperature	Approx. 305 g including battery and AD-10-M24
	Humidity	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	Blade rotation	1/4-20UNC
	Replaceable parts	Motorized rotation
		Manual rotation dial
	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

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.





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-16B 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 900 μm coating)	S018328
AD-16B Fiber Adapter (up to 3.0 mm 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

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-CT08-010	5 mm
		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.





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



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.





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)

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.

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

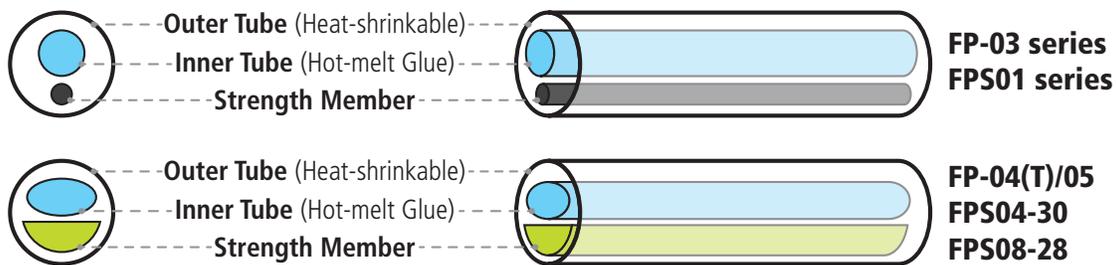
DESCRIPTION	SLEEVE LENGTH	FIBER CLEAVE LENGTH	SLEEVE DIAMETER AFTER SHRINK	MOQ & MOM	AFL NO.
FP-40 Slim Protection Sleeve	40 mm	10 mm	2.3 mm (max.)	1,000 & 100	S018262
FP-60 Slim Protection Sleeve	60 mm	10 mm	2.3 mm (max.)	1,000 & 100	S018263
FP-60	60 mm	10 mm	3.1 mm (max.)	1,000 & 100	S015915
FP-40	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

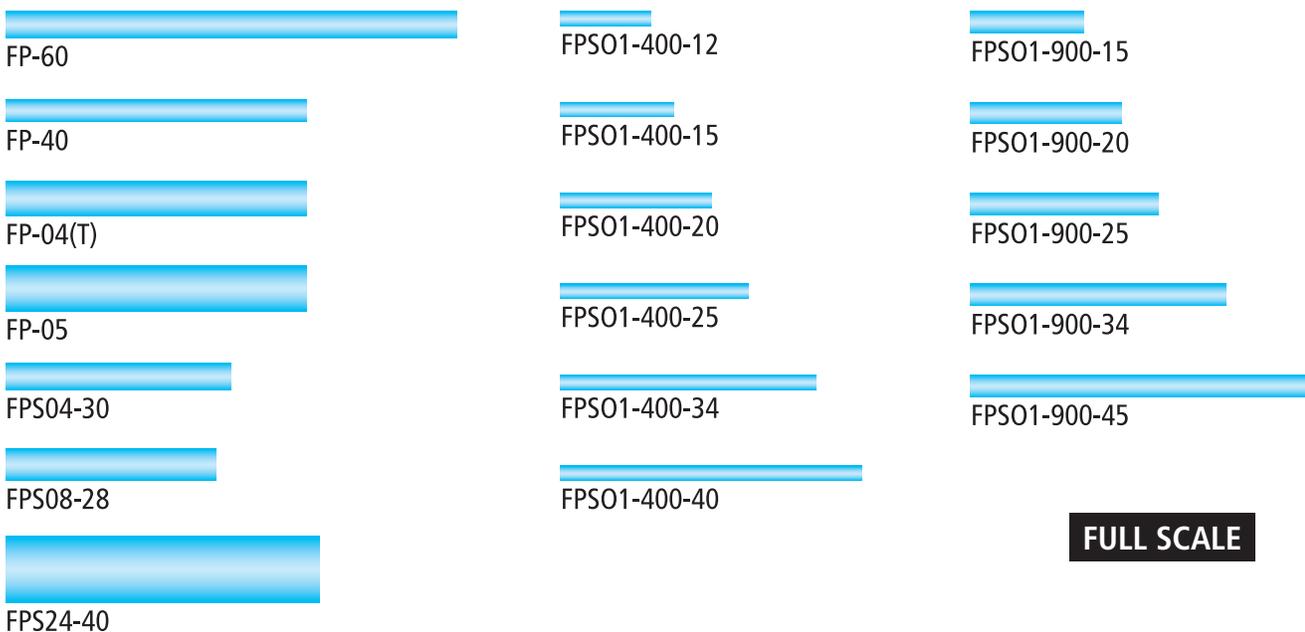
FPS01-900 SERIES FOR SINGLE FIBERS UP TO 900 MICRON FIBER

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



FULL SCALE



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

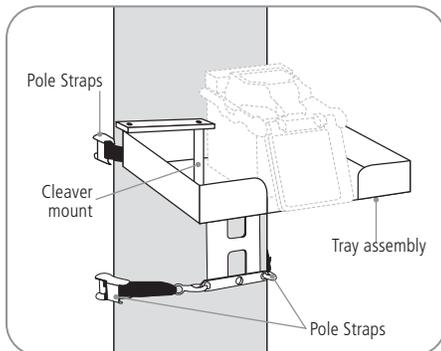
DESCRIPTION	AFL NO.
TS-01 TRIPOD SCREW (required for 12S & 12R models)	S015895



Splicing Workstation

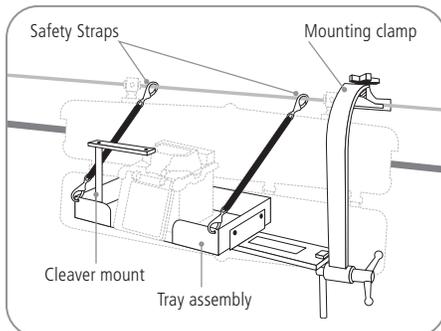


Aerial mounting system



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.

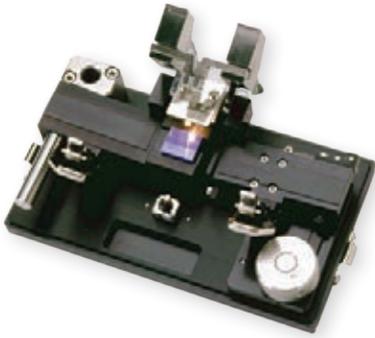
In the aerial environment, the safety straps may be secured to the cable strand to provide security and aid with workstation position adjustment. The safety straps are also used to secure the workstation to the pole, and may be used to raise or lower the workstation.

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



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