



**FIBER OPTIC PRODUCTS**  
**ENTERPRISE SOLUTIONS**

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, and fusion splicing systems.

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

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



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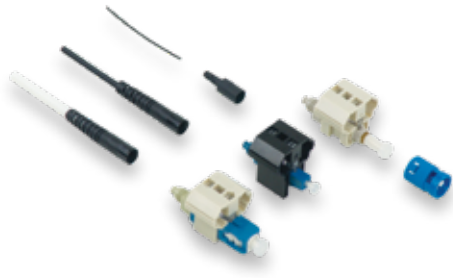
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## Features

- 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
<b>FASTCONNECT SC</b>				
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
<b>FASTCONNECT ST</b>				
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
<b>FASTCONNECT LC</b>				
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 CT08 Cleaver				CS010975
VISUAL FAULT IDENTIFIERS				AFL NO.
VF14 visual fault identifier with 2.5 mm and 1.25 mm adapters				VF14-01-0900PR
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.



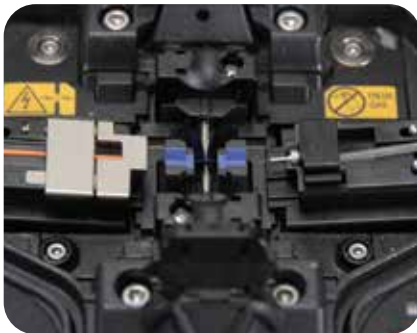


FUSEConnect Connectors (SC, FC, LC, ST)

## FUSEConnect® Fusion-Spliced, Field-Installable Connectors

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

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



FUSEConnect in Fusion Splicer

### Features

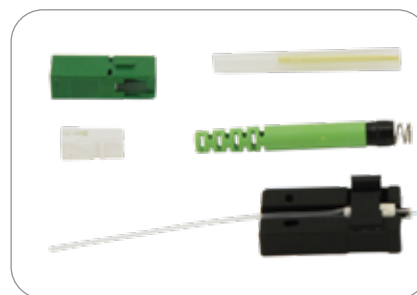
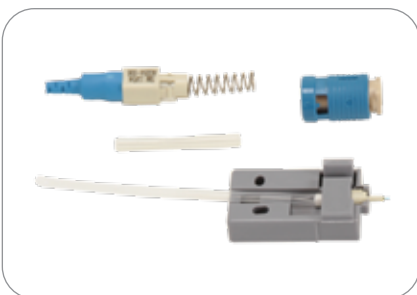
- Field installable
- No adhesives, crimping or polishing
- True APC performance
- Compatible with most fusion splicers

### Applications

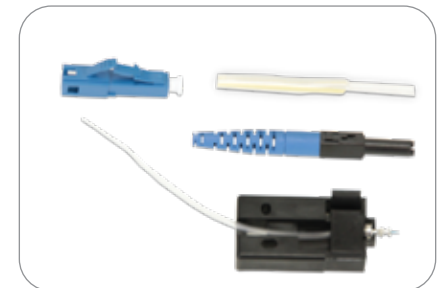
- Connectorization in:
  - RF-overlay FTTP networks
  - Cable TV backbone networks
  - Outside plant
  - FTTD
  - MDU FTTP Cabling
- Central office connector replacement
- Data center installation

### Specifications

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



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



*continued*  
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## FUSEConnect® Fusion-Spliced, Field-Installable Connectors

### Ordering Information

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

\* AFL NO. is for one pack of 6 pieces

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

### Temperature Specifications

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



FUSEConnect MPO Connectors, Cable



FUSEConnect MPO Connectors, Ribbon

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

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

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

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

### Features

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

### Applications

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

### Specifications

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

*continued*  
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## 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.
<b>TOOL KIT</b>	
FUSEConnect MPO Tool Kit	FUSEMPO-TL-KT
<b>ACCESSORIES</b>	
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 Jacketed Ribbon (Pack of 6)	FUSEMPO-BOOT-JK-6

### Temperature Specifications

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

### Qualifications

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

Contact AFL for further details.



Tool Kit Contents

## FASTConnect® Universal Tool Kit

*Now available with the CT50 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 CT08 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



CT08 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 CT08 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.



CT50 Cleaver

### CT50 Cleaver Features

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



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.
<b>FUSECONNECT TOOL KIT (INCLUDES ITEMS BELOW)</b>	<b>FUSE-TL-KT</b>
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

<b>FUSEConnect Accessory Kit (includes items below)</b>	<b>FUSE-AC-KT</b>
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

<b>Cord Splitter Tool</b>	<b>FUSE-ST-TL</b>
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<b>Legacy Splicer Accessories (Required for Fanout Splicing)</b>	
CLAMP-S21B Sheath Clamp	S016853
CLAMP-S60D Sheath Clamp	S014750



## 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.

### 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

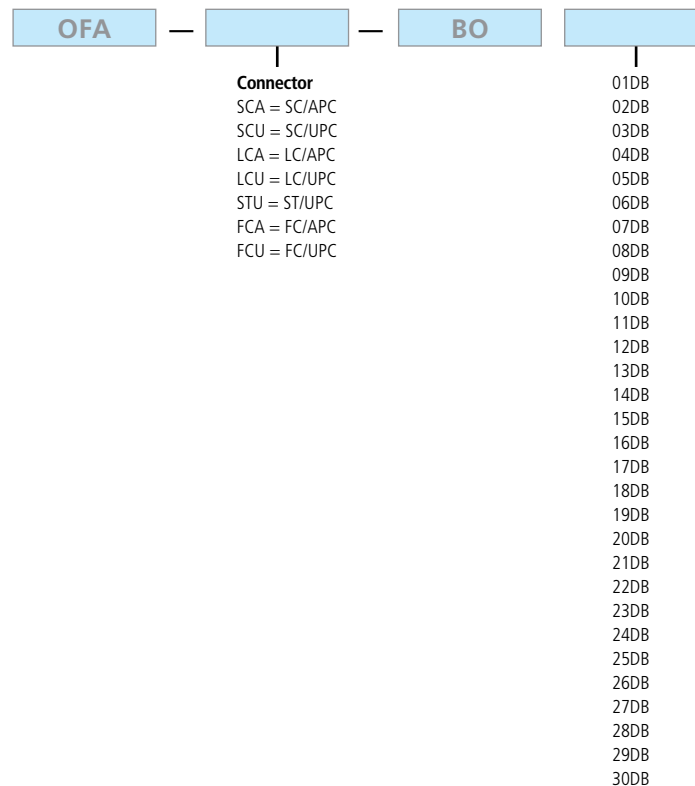
### Application

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

### Specifications

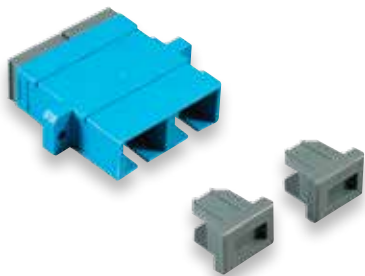
PARAMETER	VALUE
Standard Attenuation Values	5, 10, 15 and 20 dB
Attenuation Tolerance	Standard at 10%
Vibration resistance	<0.1X attenuation value
Operating Temperature Range:	-40°C to +75°C
Storage Temperature Range:	-40°C to +85°C

### Ordering Information





SC Simplex Adapters



SC Duplex 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.

### SC Simplex Adapters

TYPE	MODE	DESCRIPTION	SLEEVE	COLOR	AFL NO.
SC Simplex	MM	Flangeless	Ceramic	Beige	CS013275
SC Simplex	SM	Flangeless	Ceramic	Blue	CS013274
SC Simplex	SM	Flangeless	Ceramic	Green	CS009394
SC Simplex	MM	Flangeless	Ceramic	Aqua	CS013426

### SC Duplex Adapters

TYPE	MODE	DESCRIPTION	SLEEVE	COLOR	AFL NO.
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

## 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	INSERT	COLOR	AFL NO.
FC Simplex	SM	D Mount	Ceramic	Metal	CS013316

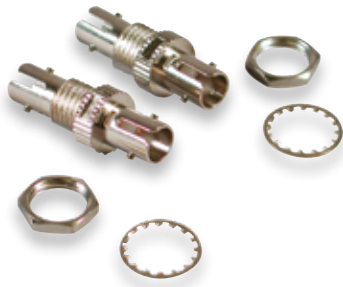
### Qualifications – FC Adapters

GOVERNING BODY	STANDARD CODE
JIS	C5970
Bellcore	GA326

**Contact AFL for further details.**

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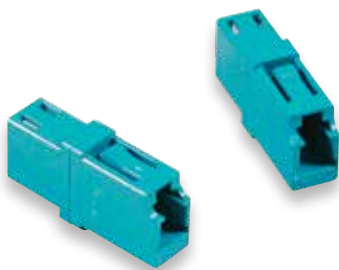




## ST Adapters

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

TYPE	MODE	DESCRIPTION	INSERT	COLOR	AFL NO.
ST Simplex	SM	D Mount	Ceramic	Metal	C094994
ST Simplex	MM	D Mount	Metallic	Metal	C096377



## 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 Duplex	SM	Ceramic	Blue	CS013283
LC Duplex	SM	Ceramic	Green	CS013195
LC Duplex	MM	Ceramic	Beige	CS013282
LC Duplex	MM	Ceramic	Aqua	CS013281
LC Simplex	SM	Ceramic	Blue	CS013424
LC Simplex	MM	Ceramic	Beige	CS013423



## 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	INSERT	COLOR	AFL NO.
MTP	SM/MM	Flange Mount	—	Black	C057010
MTP (aligned keyway)	SM/MM	Flange Mount	—	Grey	CS000211



## Optical Terminators

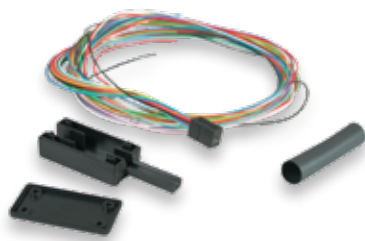
Optical terminators are used to terminate unused connector ports in fiber optic systems so that unwanted reflections are not introduced back into the system. All AFL optical terminators feature zirconia ferrules for long life and durability.

### 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



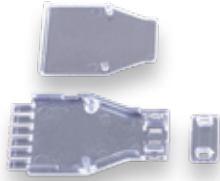
## Fanout Kits

Fanout kits route 250 µm fiber into 900 µm tubes ready for connectorization. Easily installed in minutes, these kits require no special tools. Color-coded tubing allows easy identification. The furcation unit snaps together, eliminating epoxy. Loose tube fanout kits are available in 6 and 12 fiber configurations.

### Ordering Information

CABLE TYPE	FIBER COUNT	LENGTH	AFL NO.
Loose Tube Fanout Kit (for 3.0 mm tube)	6 Fibers	24 inches	C189826
Loose Tube Fanout Kit (for 3.0 mm tube)	12 Fibers	24 inches	C189818
Ribbon-Link® Fanout Kit	6 Fibers	36 inches	C189842
Ribbon-Link Fanout Kit	12 Fibers	36 inches	C189834
Uni-Tube Fanout Kit	6 Fibers	36 inches	C193114
Uni-Tube Fanout Kit	12 Fibers	36 inches	C193122

*continued*  
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1x6 Fiber Router Kit (FC000070)

## Router Kits

AFL router kits are designed to provide a method of safely routing fibers from a loose bundle into smaller fiber counts per tube. The individual tubes can then be terminated using a module (such as the Poli-MOD® Patch and Splice Module), FUSEConnect® MPO, or a fanout kit to be further furcated into individual 900 μm tubes. Easily installed in minutes, these kits require no special tools. Color-coded tubing allows for easy identification. Router tube kits are available in 1x6 and 1x8 configurations.

### Ordering Information

ROUTER KIT CONFIGURATION	INDIVIDUAL TUBE LENGTH	AFL NO.
1x6	4 ft	FC000070
1x8	4 ft	FC000008



1x8 Fiber Router Kit (FC000008)



## 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.

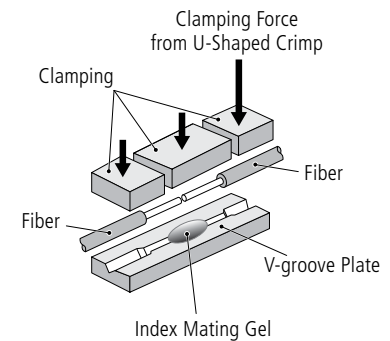
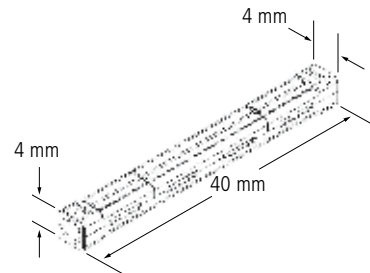
### Features

- Quick splicing time
- Minimal tools
- 250  $\mu\text{m}$  and/or 900  $\mu\text{m}$  fiber capabilities
- Both fiber and coating are secured independently

### Applications

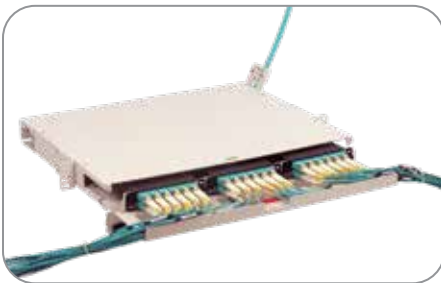
- Restoration
- Premise environments
- Fiber-to-the-Subscriber (FTTx) applications

### Dimensions and Structure



### Ordering Information

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



## LightLink LANSystem 1RU Fiber Termination Patch/Splice Panel

The AFL 1RU Fiber Termination Patch/Splice Panel is designed for use as a rack mount interconnect point where termination and connectivity of up to 36 fibers is desired. The panel design is based on a 1 rack unit height and is provisioned with three LGX® 118 compatible mounting positions that can accommodate adapter plates, XFM® optical cassettes, passive optical modules or any combination therein.

Standard 1RU Fiber Termination Patch Panels are available empty for complete field configuration, half loaded with adapter plates, or stubbed with a factory installed circular premise cable (CPC) or loose tube cable assembly.

Standard 1RU Fiber Patch and Splice Panels are available empty for complete field configuration, half loaded with adapter plates and splice trays, or loaded with pigtails, adapter plates and splice trays.

### Features

- Fits comfortably into new and existing interconnect, cross-connect, customer premise, and co-location environments
- Most common connector styles and types available
- Compatible with industry standard equipment frames
- Modular design
- Slide-out tray with relief cut-outs for simplified connector access
- Optional splice tray kit for on site conversion to patch and splice panel
- Optional front door key lock for heightened protection of internal components

### Applications

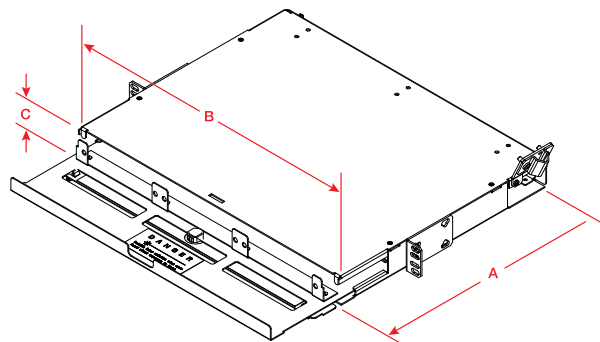
- Telecommunications closets
- Data Centers
- Customer Premise
- LAN / WAN Networks
- Central Offices / Headends
- Hubs / Cabinets / Remote Terminals
- FTTH / FTTB Networks

### Specifications

- Designed around Telcordia® GR-63NEBS
- Aluminum construction per ASTM B209
- Durable textured powder coat finish available in black or white
- Universal 19/23" EIA/TIA rack compatibility
- Standard density: up to 18-fiber
- High density: up to 36-fiber
- LGX 118 compatible
- Standard cable stub location is right rear exiting upward
- 1RU Patch and Splice Panel holds up to three splice tray kits

### Dimensions

DEPTH (A) IN INCHES	WIDTH (B) IN INCHES	HEIGHT (C) IN INCHES	RACK UNITS	CAPACITY	UNLOADED WEIGHT
13.51	17.00	1.75	1	18 / 36	4 lbs.



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

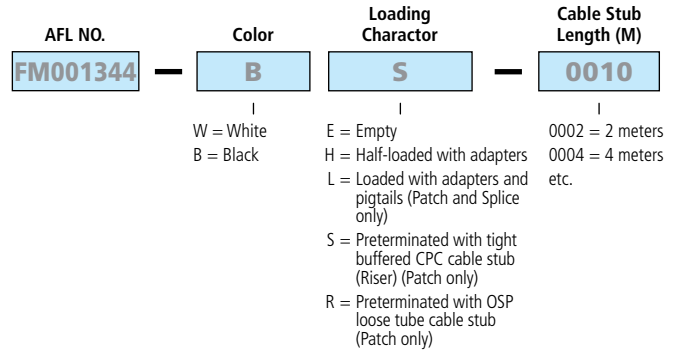
## LightLink LANSystem 1RU Fiber Termination Patch/Splice Panel

### Ordering Information

Select the seven digit AFL panel part number, specify the color, and choose the loading character desired.

When ordering stubbed (S), enter the cable stub length required in meters.

Note: Standard stub is Circular Premise Cable (CPC).



**Example:** Order number for a panel Black in color, loaded with 12 PSC adapters (2 six packs), connectors and a cable stub 10 meters in length.

### Ordering Information

CONFIGURATION	AFL NO.
<b>CON012P—1 RU PATCH PANELS—12 FIBERS—LGX118</b>	
EMPTY	FM001038
12 PSC adapters (2 Six Packs)	FM001344
12 UST adapters (2 Six Packs)	FM001346
12 PST adapters (2 Six Packs)	FM001347
6 UDL (dup) adapters (2 Three Packs)	FM001353
6 PDL (dup) adapters (2 Three Packs)	FM001354
12 ASC adapters (2 Six Packs)	FM001352
12 UFC adapters (2 Six Packs)	FM001349
12 USC adapters (2 Six Packs)	FM001351
12 AFC adapters (2 Six Packs)	FM001350
<b>CON024HD—1 RU HIGH DENSITY PATCH PANELS—24 FIBERS—LGX118</b>	
24 UST adapters (2 Twelve Packs)	FM001355
24 PST adapters (2 Twelve Packs)	FM001356
12 PDL (dup) adapters (2 Six Packs)	FM001348
12 USF (dup) adapters (2 Six Packs)	FM001357
12 ASF (dup) adapters (2 Six Packs)	FM001358

CONFIGURATION	AFL NO.
<b>CNS012P—1RU PATCH AND SPLICE PANELS—12 FIBERS—LGX118</b>	
EMPTY	FM001328
12 PSC adapters (2 Six Packs), Splice Tray	FM001323
12 UST adapters (2 Six Packs), Splice Tray	FM001329
12 PST adapters (2 Six Packs), Splice Tray	FM001325
6 UDL (dup) adapters (2 Three Packs), Splice Tray	FM001334
6 PDL (dup) adapters (2 Three Packs), Splice Tray	FM001335
12 ASC adapters (2 Six Packs), Splice Tray	FM001333
12 UFC adapters (2 Six Packs), Splice Tray	FM001330
12 USC adapters (2 Six Packs), Splice Tray	FM001332
12 AFC adapters (2 Six Packs), Splice Tray	FM001331
<b>CNS024HD—1 RU HIGH-DENSITY PATCH &amp; SPLICE PANELS—24 FIBERS—LGX118</b>	
24 UST adapters (2 Twelve Packs), Splice Tray	FM001336
24 PST adapters (2 Twelve Packs), Splice Tray	FM001337
12 USF (dup) adapters (2 Six Packs), Splice Tray	FM001338
12 ASF (dup) adapters (2 Six Packs), Splice Tray	FM001339

### Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTMB209
Telcordia	GR-63NEBS

### Accessories

DESCRIPTION	AFL NO.
Splice Tray Kit: Single Fusion, 12 fiber, 1RU Patch Panel Standard Density (1 splice tray)	FM002826-1
Splice Tray Kit: Single Fusion, 12 fiber, 1RU Patch Panel High Density (2 splice trays)	FM002826-2
Ribbon Splice Tray Kit: Mass Fusion, 12 fiber, 1RU Patch Panel Standard Density (1 splice tray)	FM002826-1R
Ribbon Splice Tray Kit: Mass Fusion, 12 fiber, 1RU Patch Panel High Density (2 splice trays)	FM002826-2R
Kit, Lock, for CON/CNS Panels	FM001318

### Connector/Adapter Key

TYPE	DESCRIPTION
ASC	SC—Angle Polish, Simplex, SM
ASF	SC—Angle Polish, Duplex, SM
PSC	SC—Physical Polish, Simplex, MM
PSF	SC—Physical Polish, Duplex, MM
USC	SC—Ultra Polish, Simplex, SM
USF	SC—Ultra Polish, Duplex, SM
PST	ST—Physical Polish, Simplex, MM
UST	ST—Ultra Polish, Simplex, SM
AFC	FC—Angle Polish, Simplex, SM
PFC	FC—Physical Polish, Simplex, MM
UFC	FC—Ultra Polish, Simplex, SM
ADL	LC—Angle Polish, Duplex, SM
PLC	LC—Physical Polish, Simplex, MM
PDL	LC—Physical Polish, Duplex, MM
ULC	LC—Ultra Polish, Simplex, SM
UDL	LC—Ultra Polish, Duplex, SM

#### Notes:

- 1) All MM cable is 62.5 μm unless otherwise specified.
- 2) When ordering Empty Termination Patch/Splice Panel, accessories are available for field configuration.



## LightLink LANSystem 2RU Fiber Termination Patch/Splice Panel

The AFL 2RU Fiber Termination Patch/Splice Panel is designed for use as a rack mount interconnect point where termination and connectivity of up to 72 fibers is desired. The panel design is based on a 2 rack unit height and is provisioned with three LGX® 118 compatible mounting positions that can accommodate adapter plates, XFM optical cassettes, passive optical modules or any combination therein.

Standard 2RU Fiber Termination Patch Panels are available empty for complete field configuration, half loaded with adapter plates, or stubbed with a factory installed circular premise cable (CPC) or loose tube cable assembly.

Standard 2RU Fiber Patch and Splice Panels are available empty for complete field configuration, half loaded with adapter plates and splice trays, or loaded with pigtails, adapter plates and splice trays.

### Specifications

- Designed around Telcordia® GR-63NEBS
- Aluminum construction per ASTM B209
- Durable textured powder coat finish available in black or white
- Universal 19/23" EIA/TIA rack compatibility
- Standard density: up to 36 fiber
- High density: up to 72 fiber
- LGX 118 compatible
- Standard cable stub location is right rear exiting upward
- 2RU Patch and Splice Panel holds up to four splice tray kits

### Features

- Fits comfortably into new and existing interconnect, cross-connect, customer premise, and co-location environments
- Most common connector styles and types available
- Compatible with industry standard equipment frames
- Modular design
- Slide-out tray with relief cut-outs for simplified connector access
- Optional splice tray kit for on site conversion to patch and splice panel
- Optional front door key lock for height-ened protection of internal components

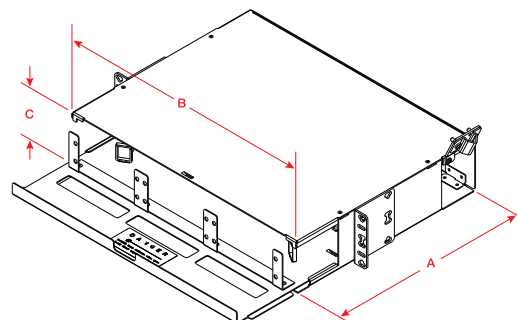
### Applications

- Telecommunications closets
- Data Centers
- Customer Premise
- LAN / WAN Networks
- Central Offices / Headends
- Hubs / Cabinets / Remote Terminals
- FTTH / FTTB Networks

### Dimensions

DEPTH (A) IN INCHES	WIDTH (B) IN INCHES	HEIGHT (C) IN INCHES	RACK UNITS	CAPACITY	UNLOADED WEIGHT
13.51	17.00	3.50	2	36 / 72*	5 lbs.

\* 72 fiber capacity not available in Patch and Splice configuration.



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

## LightLink LANSystem 2RU Fiber Termination Patch/Splice Panel

### Ordering Information

Select the seven digit AFL panel part number, specify the color, and choose the loading character desired.

When ordering stubbed (S), enter the cable stub length required in meters.

Note: Standard stub is Circular Premise Cable (CPC).

AFL NO.	Color	Loading Character	Cable Stub Length (M)
FM001433	B	S	0010
	W = White B = Black	E = Empty H = Half-loaded with adapters L = Loaded with adapters and pigtails (Patch and Splice only) S = Preterminated with tight buffered CPC cable stub (Riser) (Patch only) R = Preterminated with OSP loose tube cable stub (Patch only)	0002 = 2 meters 0004 = 4 meters etc.

**Example:** Order number for a panel Black in color, loaded with 24 PSC adapters (4 six packs), connectors and a cable stub 10 meters in length.

### Ordering Information

CONFIGURATION	AFL NO.
<b>CON024P—2 RU PATCH PANELS—24 FIBERS—LGX118</b>	
EMPTY	FM001029
24 PSC adapters (4 Six Packs) 118 LGX (Beige)	FM001433
24 UST adapters (4 Six Packs) 118 LGX	FM001434
24 PST adapters (4 Six Packs) 118 LGX	FM001435
12 UDL (dup) adapters (4 Three Packs) 118 LGX (Blue)	FM001441
12 PDL (dup) adapters (4 Three Packs) 118 LGX (Beige)	FM001442
24 ASC adapters (4 Six Packs) 118 LGX (Green)	FM001439
24 UFC adapters (4 Six Packs) 118 LGX	FM001436
24 USC adapters (4 Six Packs) 118 LGX (Blue)	FM001438
24 AFC adapters (4 Six Packs) 118 LGX	FM001437

CONFIGURATION	AFL NO.
<b>CNS024P—2U PATCH AND SPLICE PANELS—24 FIBERS—LGX118</b>	
EMPTY	FM001414
24 PSC adapters (4 Six Packs) 118 LGX, Splice tray	FM001411
24 UST adapters (4 Six Packs) 118 LGX, Splice tray	FM001412
24 PST adapters (4 Six Packs) 118 LGX, Splice tray	FM001413
12 UDL (dup) adapters (4 three Packs) 118 LGX , Splice tray	FM001419
12 PDL (dup) adapters (4 three Packs) 118 LGX , Splice tray	FM001420
24 ASC adapters (4 Six Packs) 118 LGX, Splice tray	FM001418
24 UFC adapters (4 Six Packs) 118 LGX, Splice tray	FM001415
24 USC adapters (4 Six Packs) 118 LGX, Splice tray	FM001417
24 AFC adapters (4 Six Packs) 118 LGX, Splice tray	FM001416

**Notes:**  
 1) All MM cable is 62.5 μm unless otherwise specified.  
 2) When ordering Empty Termination Patch/Splice Panel, accessories are available for field configuration.

### Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTMB209
Telcordia	GR-63NEBS

### Accessories

DESCRIPTION	AFL NO.
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04 (1 splice tray)	FM002827-1
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04 (2 splice trays)	FM002827-2
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04 (3 splice trays)	FM002827-3
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04 (4 splice trays)	FM002827-4
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04, Ribbon (1 splice tray)	FM002827-1R
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04, Ribbon (2 splice trays)	FM002827-2R
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04, Ribbon (3 splice trays)	FM002827-3R
Splice Tray Kit: Single Fusion, 12 fiber, 2RU, WME02, WME04, Ribbon (4 splice trays)	FM002827-4R
Kit, Lock, for CON / CNS Panels	FM001318

### Connector/Adapter Key

TYPE	DESCRIPTION
ASC	SC—Angle Polish, Simplex, SM
ASF	SC—Angle Polish, Duplex, SM
PSC	SC—Physical Polish, Simplex, MM
PSF	SC—Physical Polish, Duplex, MM
USC	SC—Ultra Polish, Simplex, SM
USF	SC—Ultra Polish, Duplex, SM
PST	ST—Physical Polish, Simplex, MM
UST	ST—Ultra Polish, Simplex, SM
AFC	FC—Angle Polish, Simplex, SM
PFC	FC—Physical Polish, Simplex, MM
UFC	FC—Ultra Polish, Simplex, SM
ADL	LC—Angle Polish, Duplex, SM
PLC	LC—Physical Polish, Simplex, MM
PDL	LC—Physical Polish, Duplex, MM
ULC	LC—Ultra Polish, Simplex, SM
UDL	LC—Ultra Polish, Duplex, SM





## LightLink LANSystem 7RU Fiber Patch and Splice Panel

The AFL 7RU Fiber Patch and Splice Panel is designed for use as a rack mount interconnect point where termination and connectivity of up to 144 fibers is desired. The two panel design is based on a 7 rack unit height comprised of a 4RU Termination Patch Panel and a 3RU Optical Splice Shelf. The 4RU Termination Patch Panel includes a master plate that is provisioned with 12 LGX® 118 compatible mounting positions. The 3RU Optical Splice Shelf utilizes three STF-48 telescoping splice drawers.

Standard 7RU Fiber Patch and Splice Panels are available empty for complete field configuration, half loaded with adapter plates and STF-48 telescoping splice trays, or loaded with pigtailed, adapter plates and STF-48 telescoping splice trays.

### Specifications

- Designed around Telcordia® GR-63NEBS
- Aluminum construction per ASTM B209
- Durable textured powder coat finish available in black or white
- Universal 19/23" EIA/TIA rack compatibility
- Standard density: up to 72-fiber
- High density: up to 144-fiber
- Fiber storage capacity—one meter per spliced fiber (3 mm jacket)
- Uses three STF-48 telescoping splice drawers
- Two panel package—4U patch and 3U splice
- 12 LGX 118 mm positions

### Features

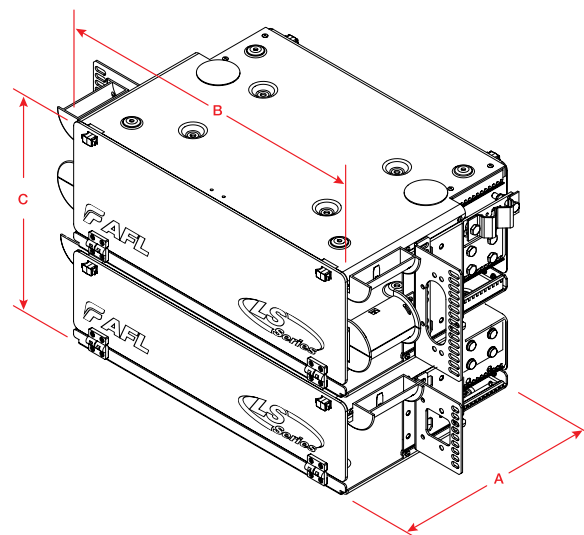
- Fits comfortably into new and existing interconnect, cross-connect, customer premise, and co-location environments
- Most common connector styles and types available
- Compatible with industry standard equipment frames
- LGX-compatible master plate (118 mm)
- Modular design
- Compact and versatile method of organizing splicing and connectivity
- Provides maximum protection of optical components

### Applications

- Telecommunications closets
- Data Centers
- Customer Premise
- LAN / WAN Networks
- Central Offices / Headends
- Hubs / Cabinets / Remote Terminals
- FTTH / FTTB Networks

### Dimensions

DEPTH (A) IN INCHES	WIDTH (B) IN INCHES	HEIGHT (C) IN INCHES	RACK UNITS	FIBER CAPACITY
11.00	17.00	12.25	7	72/144



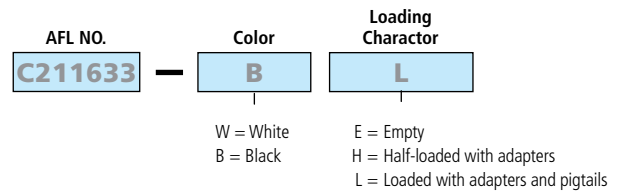
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## LightLink LANSystem 7RU Fiber Patch and Splice Panel

### Ordering Information

Select the seven-digit AFL number, specify the color and choose the loading character desired.

**Example:** Order number for a panel Black in color, loaded with master plate, adapter plates, 72 PSC adapters (12 Six packs), splice drawer (3-48 position), pigtails with connectors, hardware, cable clamp.



**Empty** - Includes master plate, mounting hardware, cable clamp.

**Unloaded** - Includes master plate, adapter plates, adapters, splice drawer (48 & up), hardware, cable clamp.

**Loaded** - Includes master plate, adapter plates, adapters, splice drawer (48 & up), pigtails with connectors, hardware, cable clamp.

### Ordering Information

CONFIGURATION	AFL NO.
<b>CNS072P—7U PATCH &amp; SPLICE PANELS (1 EA. 4U PATCH, 3U SPLICE)—LGX118</b>	
EMPTY	C211615
72 PSC adapters (12 Six Packs)Splice Drawers (3-48 position)	C211633
72 UST adapters (12 Six Packs) Splice Drawers (3-48 position)	C211660
72 PST adapters (12 Six Packs)Splice Drawers (3-48 position)	C211669
36 UDL (dup) adapters (12 Three Packs)Splice Drawers (3-48 position)	FM000244
36 PDL (dup) adapters (12 Three Packs)Splice Drawers (3-48 position)	FM000245
72 ASC adapters (12 Six Packs)Splice Drawers (3-48 position)	C210958
72 UFC adapters (12 Six Packs)Splice Drawers (3-48 position)	C210946
72 USC adapters (12 Six Packs)Splice Drawers (3-48 position)	C210953
72 AFC adapters (12 Six Packs) Splice Drawers (3-48 position)	C210949
36 PSF (dup) adapters (12 Three Packs)Splice Drawers (3-48 position)	FM000246
36 USF (dup) adapters (12 Three Packs)Splice Drawers (3-48 position)	FM000247
36 ASF (dup) adapters (12 Three Packs)Splice Drawers (3-48 position)	FM000248
<b>CNS096P—7U PATCH &amp; SPLICE PANELS (1 EA. 4U PATCH, 3U SPLICE)—LGX118</b>	
EMPTY	C210967
96 UST adapters (12 Eight Packs) Splice Drawers (2-48 position)	C210971
96 UFC adapters (12 Eight Packs) Splice Drawers (2-48 position)	C210976
96 AFC adapters (12 Eight Packs) Splice Drawers (2-48 position)	C210982
96 USC adapters (12 Eight Packs) Splice Drawers (2-48 position)	C210985
96 ASC adapters (12 Eight Packs) Splice Drawers (2-48 position)	C210989

Notes:

1) All MM cable is 62.5 µm unless otherwise specified.

2) When ordering Empty Termination Patch/Splice Panel, accessories are available for field configuration.

### Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTMB209
Telcordia	GR-63NEBS

CONFIGURATION	AFL NO.
<b>CNS144HD—7RU HIGH DENSITY PATCH PANELS (1 EA. 4U PATCH, 3U SPLICE)—LGX118</b>	
72 UDL (dup) adapters (12 Six Packs)Splice Drawers (3-48 position)	C211673
72 PSF (dup) adapters (12 Six Packs)Splice Drawers (3-48 position)	C211637
72 PDL (dup) adapters (12 Six Packs)Splice Drawers (3-48 position)	C211684
72 USF (dup) adapters (12 Six Packs)Splice Drawers (3-48 position)	FM000250
72 ASF (dup) adapters (12 Six Packs)Splice Drawers (3-48 position)	FM000251
144 UST adapters (12 Twelve Packs)Splice Drawers (3-48 position)	FM000252
144 PST adapters (12 Twelve Packs)Splice Drawers (3-48 position)	FM000253
144 UFC adapters (12 Twelve Packs)Splice Drawers (3-48 position)	FM000254
144 USC adapters (12 Twelve Packs)Splice Drawers (3-48 position)	FM000255
144 ASC adapters (12 Twelve Packs)Splice Drawers (3-48 position)	FM000256

### Accessories

DESCRIPTION	AFL NO.
STF-48 Telescoping Splice Drawer	911442-00-00

### Connector/Adapter Key

TYPE	DESCRIPTION
ASC	SC—Angle Polish, Simplex, SM
ASF	SC—Angle Polish, Duplex, SM
PSC	SC—Physical Polish, Simplex, MM
PSF	SC—Physical Polish, Duplex, MM
USC	SC—Ultra Polish, Simplex, SM
USF	SC—Ultra Polish, Duplex, SM
PST	ST—Physical Polish, Simplex, MM
UST	ST—Ultra Polish, Simplex, SM
AFC	FC—Angle Polish, Simplex, SM
PFC	FC—Physical Polish, Simplex, MM
UFC	FC—Ultra Polish, Simplex, SM
ADL	LC—Angle Polish, Duplex, SM
PLC	LC—Physical Polish, Simplex, MM
PDL	LC—Physical Polish, Duplex, MM
ULC	LC—Ultra Polish, Simplex, SM
UDL	LC—Ultra Polish, Duplex, SM

## LightLink LANSystem SPL3RU and SPL5RU—Optical Splice Shelf

The LightLink LANSystem Optical Splice Shelf is designed to provide a convenient in-rack splicing and interconnection point for Outside Plant (OSP) cable entering a Central Office (CO), Controlled Environmental Vault (CEV), Headend (HE) or customer location. Units are available with three or six STF-48 Telescoping Splice Drawers. Each drawer is capable of handling up to 48 individual single-fused or up to 144 mass-fused fibers, with minimum bend radius routing and protection.



SPL3RU



SPL5RU

### Specifications

- Designed around Telcordia® GR-63NEBS
- Aluminum construction per ASTM B209
- Durable textured powder coat finish available in black or white
- Universal 19/23" EIA/TIA rack compatibility

### Features

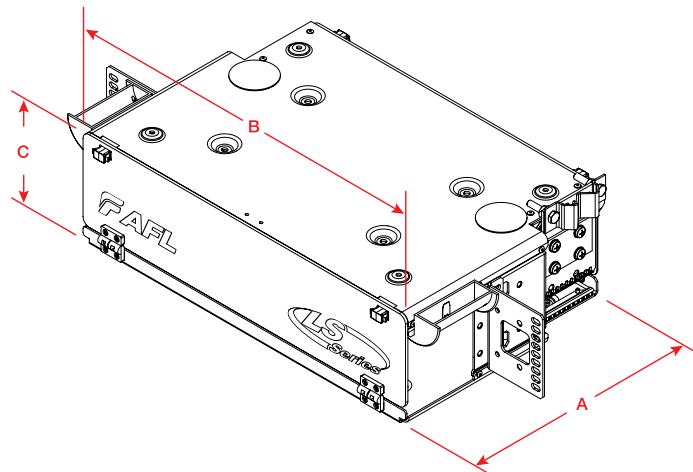
- Fits comfortably into new and existing interconnect, cross-connect, customer premise, and co-location environments
- Compatible with industry standard equipment frames
- For in-rack splicing of outside plant cable to connectorized pigtails or riser cable
- Drawers handle up to 48 single-fused or 144 mass-fused fibers
- Cable entry/exit grommet seals
- Durable and scratch resistant power coated antique white finish
- Hinged plexiglass front and rear door
- Spring loaded latches

### Applications

- Telecommunications closets
- Data Centers
- Customer Premise
- LAN / WAN Networks
- Central Offices / Headends
- Hubs / Cabinets / Remote Terminals
- FTTH / FTTB Networks

### Dimensions

MODEL	NO. OF TRAYS	DEPTH (A) (inches)	WIDTH (B) (inches)	HEIGHT (C) (inches)	RACK UNITS	SPLICE CAPACITY	UNLOADED WEIGHT	MATERIAL GAUGE
SPL3RU	3	11.00	17.00	5.25	3	144 single, 432 mass	8.4 lbs.	2.03 mm
SPL5RU	6	11.00	17.00	8.75	5	288 single, 864 mass	9.0 lbs.	2.03 mm



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Telcordia is a registered trademark of Telcordia Technologies, Inc.

## LightLink LANSystem SPL3RU and SPL5RU—Optical Splice Shelf

### Ordering Information

DESCRIPTION	AFL NO.
<b>SPL3RU</b>	
White, 3RU Optical Splice Shelf—EMPTY	C211777 - W
Black, 3RU Optical Splice Shelf—EMPTY	C211777 - B
White, 3RU Optical Splice Shelf—with 3 telescoping splice drawers	C211781 - W
Black, 3RU Optical Splice Shelf—with 3 telescoping splice drawers	C211781 - B
<b>SPL5RU</b>	
White, 5RU Optical Splice Shelf—EMPTY	C211795 - W
Black, 5RU Optical Splice Shelf—EMPTY	C211795 - B
White, 5RU Optical Splice Shelf—with 6 telescoping splice drawers	C211799 - W
Black, 5RU Optical Splice Shelf—with 6 telescoping splice drawers	C211799 - B

### Accessories

DESCRIPTION	AFL NO.
STF-48 Telescoping Splice Drawer, up to 48 single fused or 144 mass fused splices	911442-00-00
1x8 Universal Core Tube Fiber Routing Kit	FC000008
1x6 Universal Ribbon or Loose Tube Fiber Routing Kit	FC000070

### Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTMB209
Telcordia	GR-63NEBS

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



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

### Features

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

### Applications

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

### Specifications

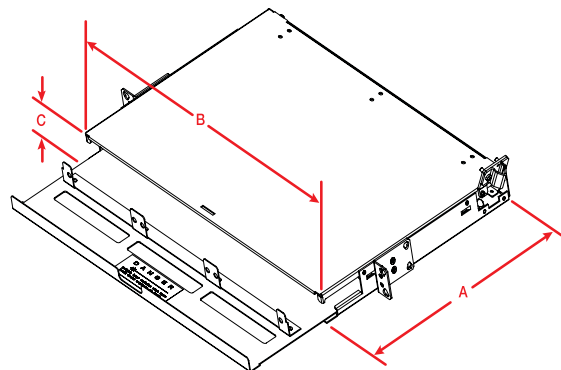
DEPTH (A) (inches)	WIDTH (B) (inches)	HEIGHT (C) (inches)	RACK UNITS	CAPACITY	UNLOADED WEIGHT
15.5	17	1.7	1	(3) LGX 118	13 lbs.

### Ordering Information

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

### Accessories

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



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## Xpress Fiber Management® (XFM) 2RU Patch Panel

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

### Features

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

### Applications

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

### Specifications

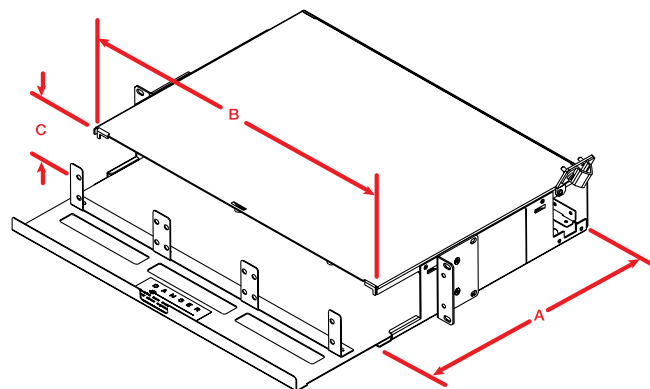
DEPTH (A) IN INCHES	WIDTH (B) IN INCHES	HEIGHT (C) IN INCHES	RACK UNITS	CAPACITY	UNLOADED WEIGHT
15.5	17	3.5	2	(6) LGX 118	15 lbs.

### Ordering Information

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

### Accessories

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



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



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

### Features

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

### Applications

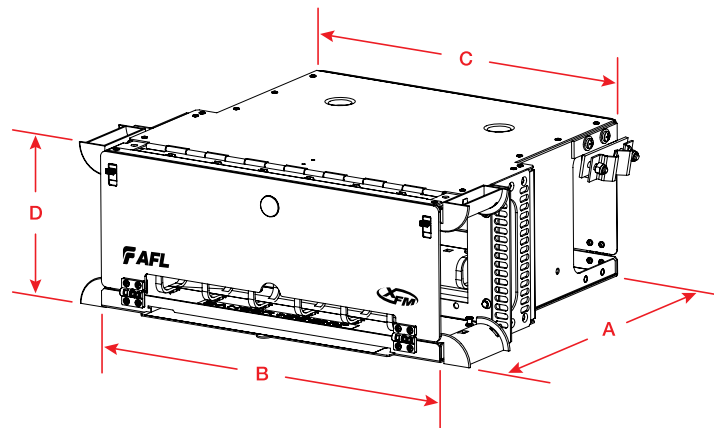
- Data Centers
- Enterprise Networks
- Telecommunications Closets
- Central Offices / Headends

### Specifications

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

### Ordering Information

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



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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







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
WDM	ASCEND HOUSING, 1RU, WDM TRAYS	ASCEND-1RU-W-RT
	ASCEND HOUSING, 2RU, WDM TRAYS	ASCEND-2RU-W-RT
	ASCEND HOUSING, 4RU, WDM TRAYS	ASCEND-4RU-W-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

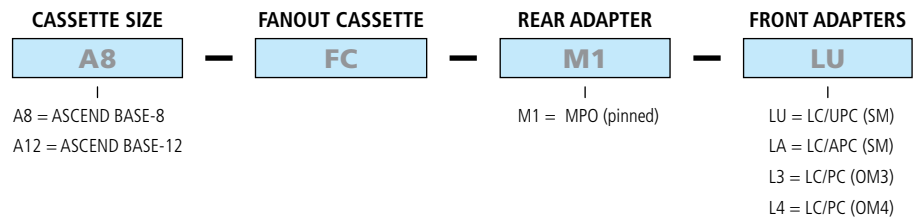
### Features

- 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

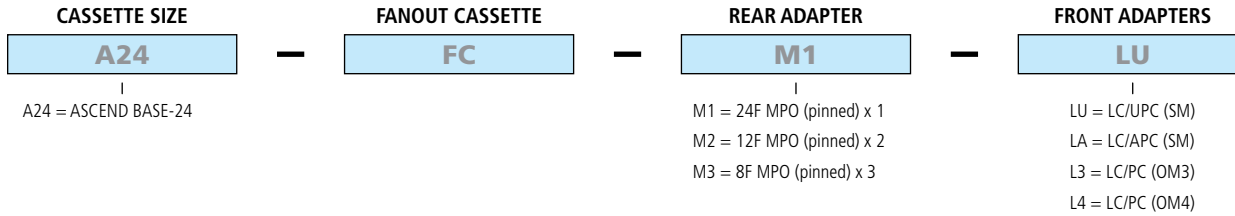
### Ordering Information (BASE-8 and BASE-12)



CATEGORY	DESCRIPTION	AFL NO.
<b>BASE-8 FANOUT CASSETTES</b>	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
<b>BASE-12 FANOUT CASSETTES</b>	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.
<b>BASE-24 FANOUT CASSETTES</b>	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.

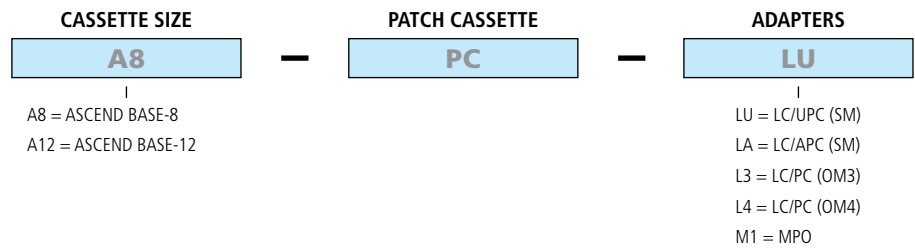
### Features

- 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.
<b>BASE-8 PATCH CASSETTES</b>	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
<b>BASE-12 PATCH CASSETTES</b>	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.

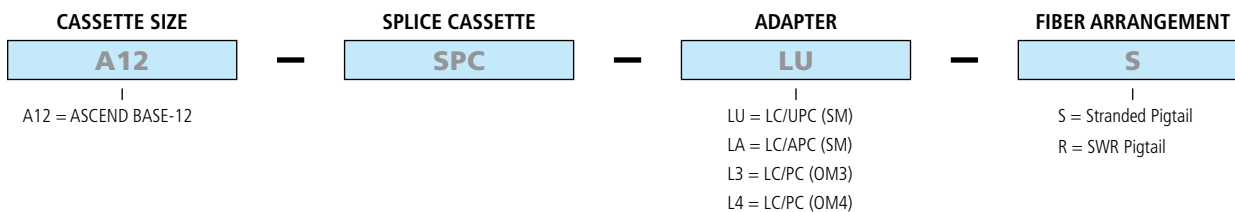
### Applications

- 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



Full Tray Module, Quarter Tray Module and Half Tray Module (clockwise from top)

## Dense Wave Division Multiplexing (DWDM) ASCEND® Modules

AFL's DWDM ASCEND 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 are installed via front entry in ASCEND housings with WDM slide trays and are available in select configurations from 4 to 40 channels.

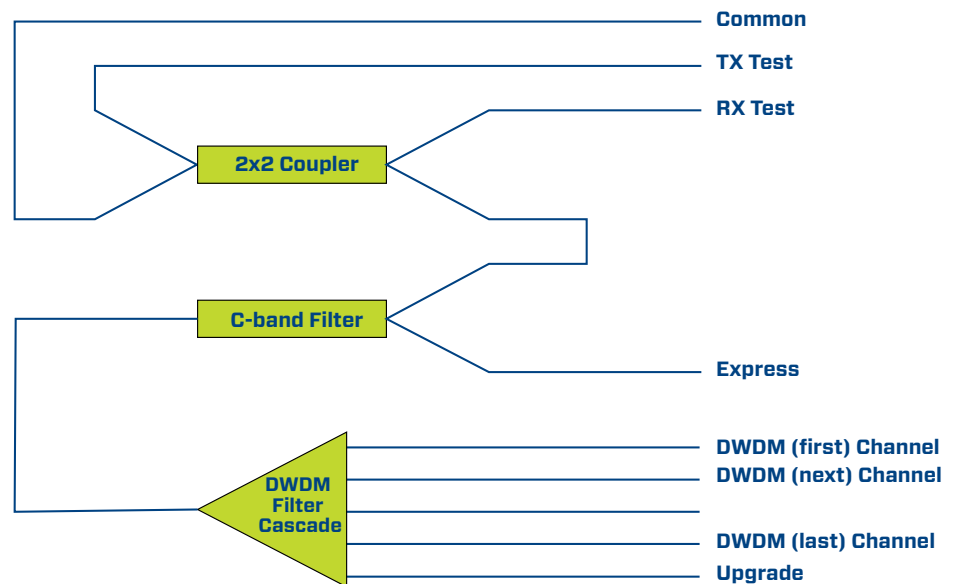
### Features

- 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
- Compatible with ASCEND housings with WDM trays

### 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*
<b>D</b>	<b>A</b>	<b>1</b>	<b>S08</b>	<b>A01</b>	<b>ALCO</b>	<b>Cxx</b>	<b>F</b>
D = Dense WDM	A = AFL Standard	5 = 50 GHz 1 = 100 GHz	S04 = Single Circuit, 4 Channels S08 = Single Circuit, 8 Channels S12 = Single Circuit, 12 Channels S16 = Single Circuit, 16 Channels S20 = Single Circuit, 20 Channels S40 = Single Circuit, 40 Channels	A01 = 1/4 Tray Module A02 = 1/2 Tray Module A03 = Full Tray Module	ALCO = LC/APC Bulkhead ULCO = LC/UPC Bulkhead	Replace <b>xx</b> 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

\* Additional options available, contact AFL for details. **NOTE:** Configuration 'F' unavailable in S04 channel count.

continued  
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## Dense Wave Division Multiplexing (DWDM) ASCEND® Modules

### Optical Specifications \*

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

PARAMETER	REQUIREMENT											
	100 GHz						50 GHz					
<b>Temperature and Input Power</b>												
Operating Temperature/Humidity	-10°C to 65°C; 5 to 95% RH											
Storage Temperature/Humidity	-40°C to 85°C; 5 to 95% RH											
Max. Input Power Rating	300 mW											
<b>Optical Passband</b>												
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)					
<b>Insertion Loss (New Product, 20°C to 25°C) **</b>												
Max IL (dB) – Common to DWDM Ch.	4 Ch	8 Ch	16 Ch	20 Ch	40 Ch	4 Ch	8 Ch	12 Ch	16 Ch	20 Ch	40 Ch	
	2.0	3.0	4.0	4.0	4.0	2.0	3.0	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	3.5	3.5	3.5	1.5	2.5	3.5	3.5	3.5	3.5	
Max IL – Common to Express	1.0 dB											
Common to RX Test	≤21.0 dB											
Express to TX Test	≤22.0 dB											
<b>Isolation</b>												
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											
Max Polarization Mode Dispersion (PMD)	0.3 dB											
<b>Directivity</b>												
DWDM Port Min Directivity	50 dB											
Express Port Min Directivity	45 dB											
Test Port Min Directivity	50 dB											
Min Return Loss (all ports)	45 dB											
<b>Insertion Loss Thermal Stability</b>												
Insertion Loss Thermal Stability – New Prod.	≤0.005 dB/C											
Insertion Loss Thermal Stability – Service Life	≤0.010 dB/C											
Wavelength Thermal Stability	≤0.001 nm/C											
<b>ASCEND Module Size</b>												
	4 Ch	8 Ch	12 Ch	16 Ch	20 Ch	40 Ch						
Quarter (1/4) Tray Module	X	X										
Half (1/2) Tray Module			X	X	X							
Full Tray Module							X					

**NOTES:**

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

\*\* Unless noted, 0.40 dB per mated connector loss is EXCLUDED.

continued  
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## Dense Wave Division Multiplexing (DWDM) ASCEND® 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	1568.11	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
Operation Temperature, Relative Humidity	-10°C to 65°C; 5 to 95% RH-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.**



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  $\leq 0.12$  dB and max IL  $\leq 0.25$  dB for 97% of samples. Elite MTPs maintain max IL  $\leq 0.25$  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

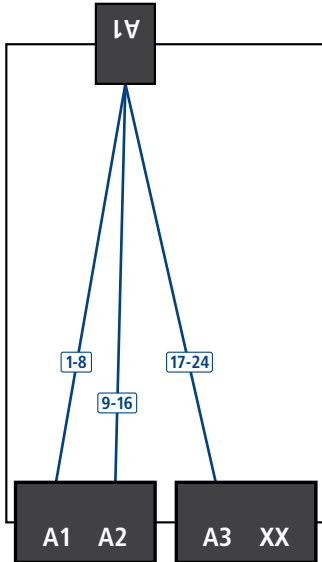
Operating Temperature	-20°C to +75°C
Storage Temperature	-40°C to +85°C

## ASCEND® Conversion Cassettes

### Schematics

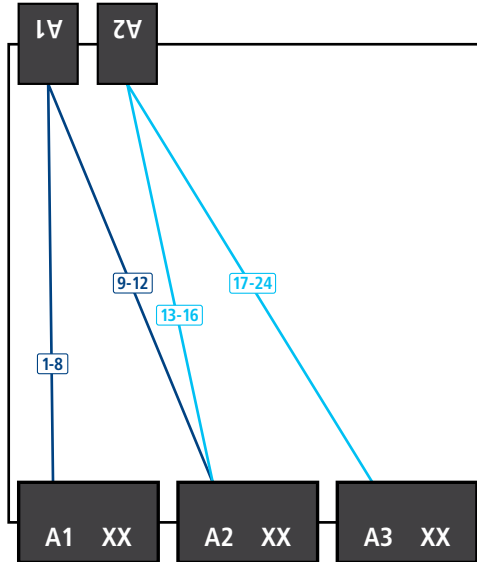
#### BASE-24 to BASE-8

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



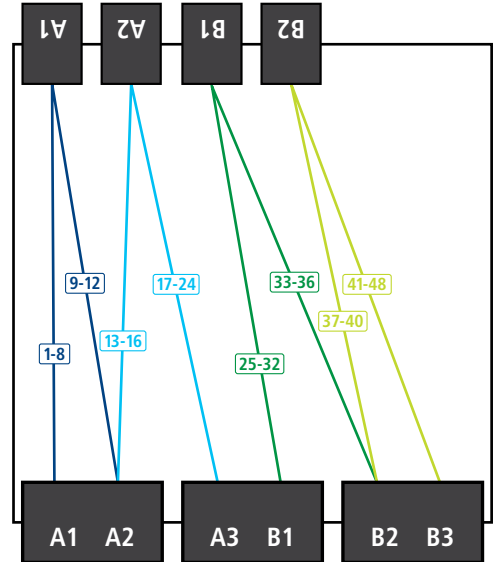
#### BASE-12 to BASE-8 (Single Circuit)

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	≤ 0.3 dB	50% Tap Port	4.1	4.1	50
1550 nm +/- 40 nm		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	50% Tap Port	4.1	4.1	20
1300 nm +/- 20 nm	30% Tap Port	2.6	6.5	20

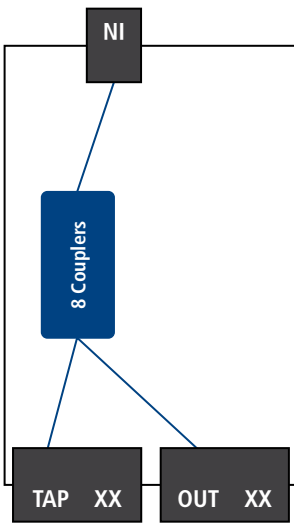


## ASCEND® Tap Cassettes

### Schematics

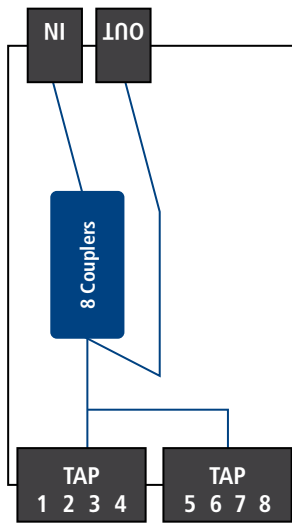
#### BASE-8

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



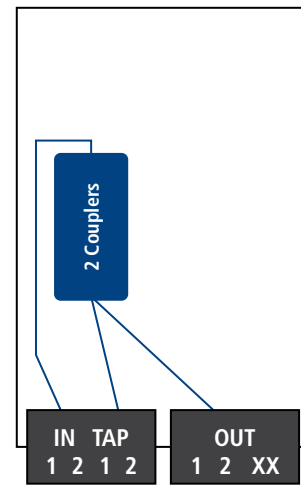
#### BASE-8

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



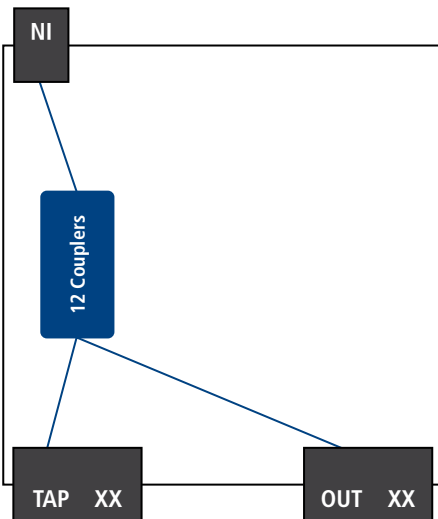
#### BASE-8

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



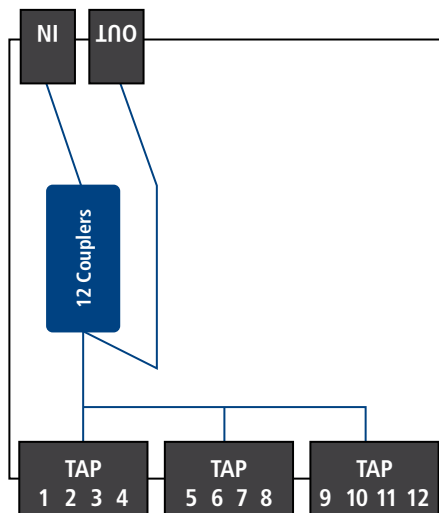
#### BASE-12

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



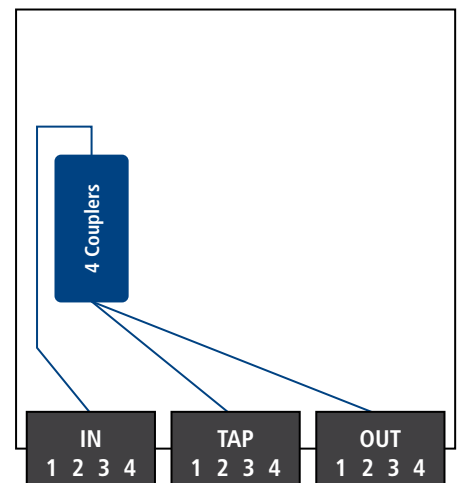
#### BASE-12

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



#### BASE-12

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



## ASCEND® Tap Cassettes

### Ordering Information

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

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

### Qualifications

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





## ASCEND® Patch Cord Assemblies

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

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

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

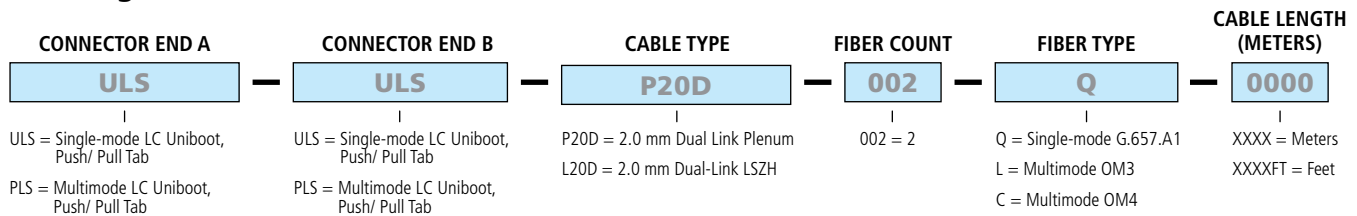
### Applications

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

### Features

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

### Ordering Information



### Specifications

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

### Qualifications

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



Integrated mounting clip

## ASCEND® Trunk Cable Assemblies

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

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

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

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

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

### Features

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

### Applications

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

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

## ASCEND® Trunk Cable Assemblies

### Specifications

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

### Ordering Information

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

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

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

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

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

XXXX = Meters  
 XXXXFT = Feet

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

MF = Method F  
 MA = Method A

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

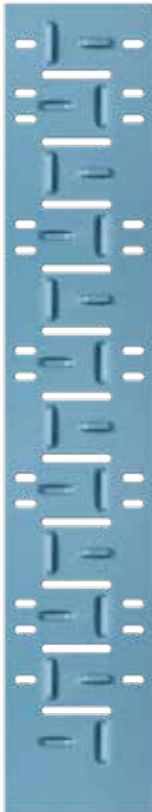
08 = BASE-8  
 12 = BASE-12

ASCEND

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

### Qualifications

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



## ASCEND® Outback Clip Management (OCM) Bracket

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

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

### Features

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

### Applications

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

### Ordering Information

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

### Qualifications

GOVERNING BODY	STANDARD CODE
RoHS	Compliant



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



## MTP® PRO Field Tool for Polarity/Pin Change

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

### Features

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

### Ordering Information

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



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.

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## 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



WME-04 shown empty



WME-04 shown fully loaded

## 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.

### 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

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# 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

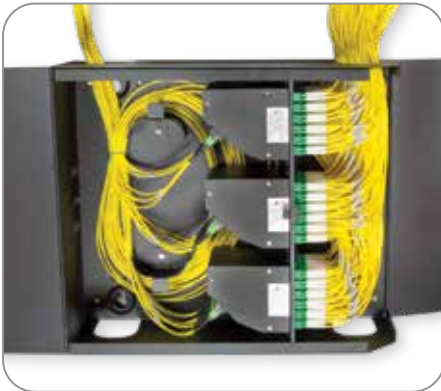
## Connector/Adapter Key

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

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## 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

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## 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	
	UPC - MPO (MALE, APC)	APC - MPO (Male, APC)
12F, LC	FM004756-B	FM004757-B
24F, LC	FM004653-B	N/A

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Telcordia is a registered trademark of Telcordia Technologies, Inc.

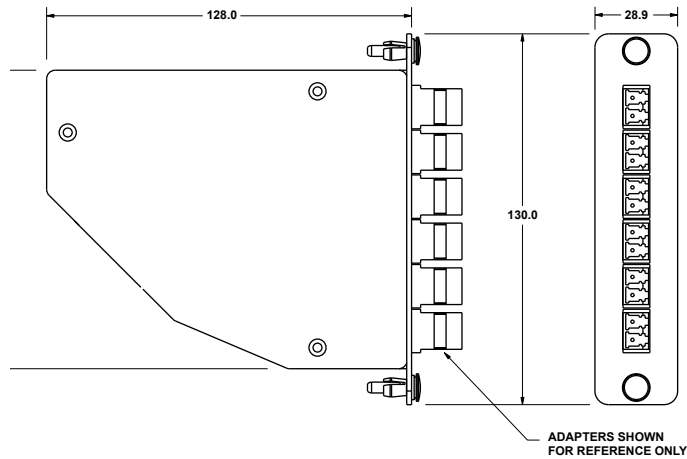
## Xpress Fiber Management® (XFM) MPO Optical Cassettes

### Ordering Information – Accessories

DESCRIPTION	AFL NO.
145 mm Adapter Bracket	FM001636

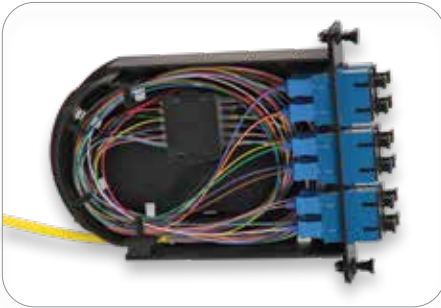
**NOTE:** Allows standard LGX modules, such as AFL's Poli-Mod Interconnect Module and the XFM Optical Cassette, to be mounted into existing Corning Cable Systems™ CCH series and PCH series racks and wall mount products.

### Dimensions



### Qualifications

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



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)

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## 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 <sup>3</sup>	Fiber Type	Fiber Arrangement	Packaging
	E = Empty (Splicing Only) H = Half Loaded (Adapter Plate only) L = Loaded (Adapter Plate & Pigtails) D = DAS Poli-MOD <sup>1</sup>	06 = 6 Fibers/Connectors 12 = 12 Fibers/Connectors 24 = 24 Fibers/Connectors <sup>2</sup> 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.

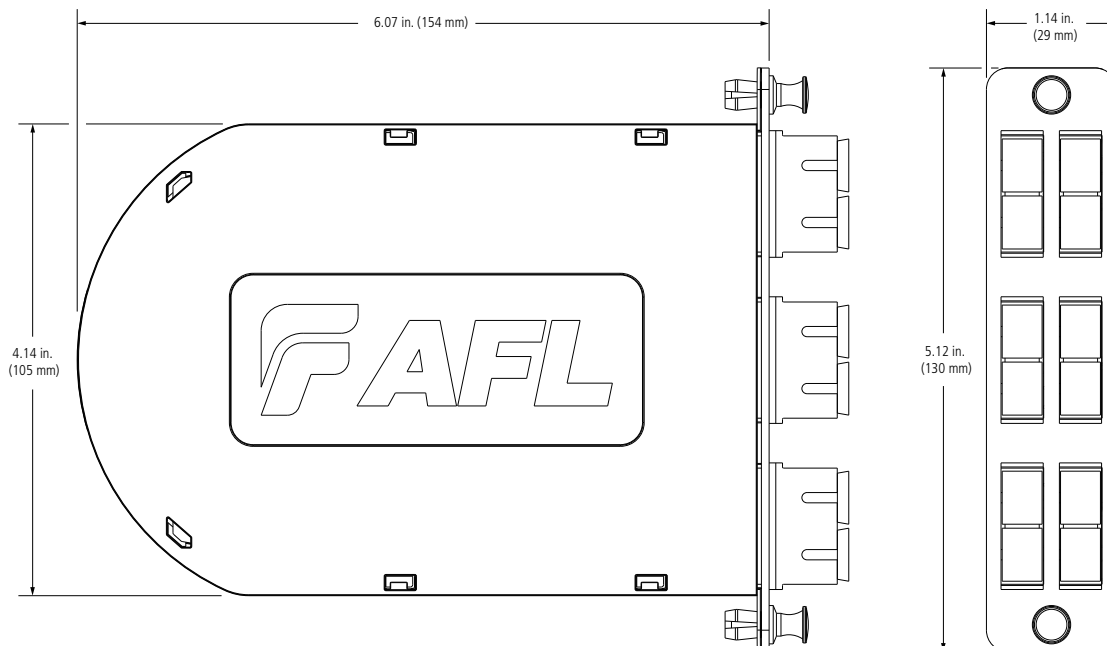
### Adapter Color Codes

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	FM00948-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







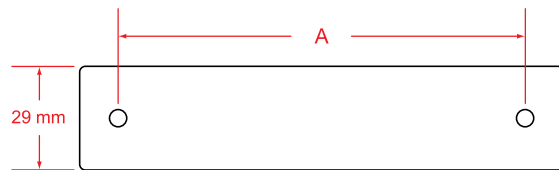
## LightLink Adapter Plates

LightLink Adapter Plates add versatility to AFL's panel product line. Adapter plates are compatible with industry standard platforms allowing for easy upgrades to existing panels. Adapter Plates come preloaded with adapters and are available in 6, 8, 12 and 24 pack versions for single-fiber adapters. Higher fiber counts are achievable with multi-fiber adapters. Blank plates are also available for unused space in panels.

### Features

- Metal Plate with Nylatches
- Polyurethane powder coated (white or black)
- LGX® compatible

### Specifications



DIMENSION A
118 mm LGX®
170 mm LGX®

### Ordering Information

AFL NO.	ADAPTER TYPE	SIMPLEX/DUPLEX/QUAD	ADAPTER COLOR	FIBER COUNT	PLATE HEIGHT	PLATE COLOR
<b>BLANK</b>						
FM003072	BLANK	BLANK	NA	0	LGX (118)	BLACK
FM003462	BLANK	BLANK	NA	0	LGX (118)	WHITE
FM000343	BLANK	BLANK	NA	0	LGX (118)	SMOOTH BLACK
FM003434	BLANK	BLANK	NA	0	LGX (170)	BLACK
FM003433	BLANK	BLANK	NA	0	LGX (170)	WHITE
<b>SC</b>						
FM003295	SC	DUPLEX	AQUA	12F	LGX (118)	BLACK
FM002272	SC	DUPLEX	AQUA	12F	LGX (118)	WHITE
FM003293	SC	DUPLEX	BEIGE	12F	LGX (118)	BLACK
FM002273	SC	DUPLEX	BEIGE	12F	LGX (118)	WHITE
FM003301	SC	DUPLEX	BLACK	12F	LGX (118)	BLACK
FM003297	SC	DUPLEX	BLUE	12F	LGX (118)	BLACK
FM002271	SC	DUPLEX	BLUE	12F	LGX (118)	WHITE
FM002633	SC	DUPLEX	GREEN	12F	LGX (118)	BLACK
FM002634	SC	DUPLEX	GREEN	12F	LGX (118)	WHITE
FM000149	SC	DUPLEX	BEIGE	12F	LGX (170)	WHITE
FM000148	SC	DUPLEX	BEIGE	12F	LGX (170)	BLACK
FM000144	SC	DUPLEX	BLUE	12F	LGX (170)	BLACK
FM000145	SC	DUPLEX	BLUE	12F	LGX (170)	WHITE
FM000152	SC	DUPLEX	GREEN	12F	LGX (170)	BLACK
FM000153	SC	DUPLEX	GREEN	12F	LGX (170)	WHITE
FM003287	SC	DUPLEX	AQUA	6F	LGX (118)	BLACK
FM003285	SC	DUPLEX	BEIGE	6F	LGX (118)	BLACK
FM003398	SC	DUPLEX	BEIGE	6F	LGX (118)	WHITE
FM003299	SC	DUPLEX	BLACK	6F	LGX (118)	BLACK
FM003289	SC	DUPLEX	BLUE	6F	LGX (118)	BLACK
FM003458	SC	DUPLEX	BLUE	6F	LGX (118)	WHITE
FM003283	SC	DUPLEX	GREEN	6F	LGX (118)	BLACK
FM000115	SC	DUPLEX	GREEN	6F	LGX (118)	WHITE

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

## LightLink Adapter Plates

### Ordering Information (cont.)

AFL NO.	ADAPTER TYPE	SIMPLEX/DUPLEX/ QUAD	ADAPTER COLOR	FIBER COUNT	PLATE HEIGHT	PLATE COLOR
<b>SC</b>						
FM003120	SC	SIMPLEX	AQUA	12F	LGX (118)	BLACK
FM003118	SC	SIMPLEX	BEIGE	12F	LGX (118)	BLACK
FM003242	SC	SIMPLEX	BLACK	12F	LGX (118)	BLACK
FM003122	SC	SIMPLEX	BLUE	12F	LGX (118)	BLACK
FM002842-TW	SC	SIMPLEX	BLUE	12F	LGX (118)	WHITE
FM003116	SC	SIMPLEX	GREEN	12F	LGX (118)	BLACK
FM000800-TW	SC	SIMPLEX	GREEN	12F	LGX (118)	WHITE
FM003411	SC	SIMPLEX	BEIGE	12F	LGX (170)	WHITE
FM003409	SC	SIMPLEX	BLUE	12F	LGX (170)	BLACK
FM003407	SC	SIMPLEX	BLUE	12F	LGX (170)	WHITE
FM003414	SC	SIMPLEX	GREEN	12F	LGX (170)	BLACK
FM003455	SC	SIMPLEX	GREEN	12F	LGX (170)	WHITE
FM003098	SC	SIMPLEX	AQUA	6F	LGX (118)	BLACK
FM003096	SC	SIMPLEX	BEIGE	6F	LGX (118)	BLACK
FM003403	SC	SIMPLEX	BEIGE	6F	LGX (118)	WHITE
FM003238	SC	SIMPLEX	BLACK	6F	LGX (118)	BLACK
FM003100	SC	SIMPLEX	BLUE	6F	LGX (118)	BLACK
FM003467	SC	SIMPLEX	BLUE	6F	LGX (118)	WHITE
FM003094	SC	SIMPLEX	GREEN	6F	LGX (118)	BLACK
FM000480	SC	SIMPLEX	GREEN	6F	LGX (118)	WHITE
FM000156	SC	SIMPLEX	BLUE	8F	LGX (118)	BLACK
FM003435	SC	SIMPLEX	BLUE	8F	LGX (118)	WHITE
FM002841	SC	SIMPLEX	GREEN	8F	LGX (118)	BLACK
FM000158	SC	SIMPLEX	GREEN	8F	LGX (118)	WHITE
<b>LC</b>						
FM001004	LC	DUPLEX	GREEN	12F	LGX (118)	WHITE
FM001303	LC	DUPLEX	AQUA	12F	LGX (118)	WHITE
FM003108	LC	DUPLEX	GREEN	12F	LGX (118)	BLACK
FM003110	LC	DUPLEX	BEIGE	12F	LGX (118)	BLACK
FM003112	LC	DUPLEX	AQUA	12F	LGX (118)	BLACK
FM001185	LC	QUAD	AQUA	12F	LGX (118)	BLACK
FM000297	LC	DUPLEX	BLUE	12F	LGX (170)	WHITE
FM000298	LC	DUPLEX	BLUE	12F	LGX (170)	BLACK
FM000301	LC	DUPLEX	GREEN	12F	LGX (170)	WHITE
FM000302	LC	DUPLEX	GREEN	12F	LGX (170)	BLACK
FM000838	LC	DUPLEX	BLUE	24F	LGX (118)	WHITE
FM000851	LC	DUPLEX	BEIGE	24F	LGX (118)	WHITE
FM000853	LC	DUPLEX	AQUA	24F	LGX (118)	WHITE
FM003069	LC	DUPLEX	GREEN	24F	LGX (118)	WHITE
FM001184	LC	QUAD	AQUA	24F	LGX (118)	BLACK
FM000129	LC	DUPLEX	BLUE	24F	LGX (170)	WHITE
FM000130	LC	DUPLEX	BLUE	24F	LGX (170)	BLACK
FM000338	LC	DUPLEX	GREEN	24F	LGX (170)	WHITE
FM000339	LC	DUPLEX	GREEN	24F	LGX (170)	BLACK
FM000348	LC	DUPLEX	BEIGE	24F	LGX (170)	WHITE
FM000349	LC	DUPLEX	BEIGE	24F	LGX (170)	BLACK
FM000289	LC	DUPLEX	BLUE	6F	LGX (118)	WHITE
FM000293	LC	DUPLEX	GREEN	6F	LGX (118)	WHITE
FM000294	LC	DUPLEX	GREEN	6F	LGX (118)	BLACK
FM003092	LC	DUPLEX	BLUE	6F	LGX (118)	BLACK
FM003429	LC	DUPLEX	BEIGE	6F	LGX (118)	WHITE
FM004252	LC	DUPLEX	AQUA	6F	LGX (118)	BLACK

## LightLink Adapter Plates

### Ordering Information (cont.)

AFL NO.	ADAPTER TYPE	SIMPLEX/DUPLEX/ QUAD	ADAPTER COLOR	FIBER COUNT	PLATE HEIGHT	PLATE COLOR
<b>LC</b>						
FM003240	LC	DUPLEX	BLACK	12F	LGX (118)	BLACK
FM003425	LC	DUPLEX	BLUE	12F	LGX (118)	WHITE
FM003465	LC	DUPLEX	BLUE	12F	LGX (118)	BLACK
FM003202	LC	DUPLEX	GREEN	24F	LGX (118)	BLACK
FM003204	LC	DUPLEX	BEIGE	24F	LGX (118)	BLACK
FM003206	LC	DUPLEX	AQUA	24F	LGX (118)	BLACK
FM003208	LC	DUPLEX	BLUE	24F	LGX (118)	BLACK
FM003244	LC	DUPLEX	BLACK	24F	LGX (118)	BLACK
<b>ST</b>						
FM003126	ST	SIMPLEX	METAL SM/MM	12F	LGX (118)	BLACK
FM003456	ST	SIMPLEX	METAL SM/MM	12F	LGX (118)	WHITE
FM000286	ST	SIMPLEX	METAL SM/MM	12F	LGX (170)	BLACK
FM000285	ST	SIMPLEX	METAL SM/MM	12F	LGX (170)	WHITE
FM003104	ST	SIMPLEX	METAL SM/MM	6F	LGX (118)	BLACK
FM003422	ST	SIMPLEX	METAL SM/MM	6F	LGX (118)	WHITE
FM003102	ST	SIMPLEX	METAL SM/MM	6F	LGX (118)	BLACK
FM003441	ST	SIMPLEX	METAL SM/MM	8F	LGX (118)	BLACK
FM003439	ST	SIMPLEX	METAL SM/MM	8F	LGX (118)	WHITE
<b>FC</b>						
FM000284	FC	SIMPLEX	METAL	12F	LGX (118)	BLACK
FM000283	FC	SIMPLEX	METAL	12F	LGX (118)	WHITE
FM003447	FC	SIMPLEX	METAL	12F	LGX (170)	BLACK
FM003446	FC	SIMPLEX	METAL	12F	LGX (170)	WHITE
FM003420	FC	SIMPLEX	METAL, GREEN DUST CAP	6F	LGX (118)	BLACK
FM003419	FC	SIMPLEX	METAL, GREEN DUST CAP	6F	LGX (118)	WHITE
FM003443	FC	SIMPLEX	METAL	8F	LGX (118)	BLACK
FM003442	FC	SIMPLEX	METAL	8F	LGX (118)	WHITE
<b>MISC</b>						
FM003210	HEYCO	SIMPLEX	BLACK	12F	LGX (118)	BLACK
FM003430	MTP	SIMPLEX	BLACK	36F	LGX (118)	BLACK
FM003212	HEYCO	SIMPLEX	BLACK	6F	LGX (118)	BLACK
FM003437	SC-ST HYBRID	SIMPLEX	BLUE-METAL	6F	LGX (118)	WHITE
FM001606	MTP	SIMPLEX	BLACK	72F	LGX (118)	BLACK
FM003005	MTP	SIMPLEX	BLACK	96F	LGX (118)	BLACK



## Pigtail Assemblies for Patch and Splice Panels

AFL's pigtail assemblies help eliminate labor-intensive field termination, yet guarantee reliable performance. Featuring a unified construction allowing for easy fiber identification and rapid installation, these assemblies are built to exceed all TIA and Telcordia® requirements.

### Ordering Information

POLISH	FIBER TYPE	CONNECTOR INTERFACE AFL NO.		
		SC	ST	LC
<b>CPC PIGTAIL KITS, 3 METER, 12-FIBER</b>				
APC	SMF	C152906-0003	—	CS007719-0003
UPC	SMF	C165943-0003	C152671-0003	C223369-0003
PC	62.5 μm	C165463-0003	C223366-0003	C223373-0003
PC	50 μm LO	CS007673-0003	CS007675-0003	CS007677-0003

<b>900 μm TIGHT-BUFFERED PIGTAIL KITS, 3 METER, 12-FIBER</b>				
APC	SMF	C223312-0003	—	CS002951-0003
UPC	SMF	C223492-0003	CS003979-0003	CS001037-0003
PC	62.5 μm	CS000386-0003	CS002150-0003	CS002067-0003
PC	50 μm LO	CS003056-0003	CS003980-0003	CS003058-0003

### Specifications

PARAMETER		VALUE					
		LC	SC	ST	FC	LC-APC	SC-APC
<b>Insertion Loss</b>							
SM	MAX	0.3	0.3	0.5	0.3	0.3	0.5
MM	MAX	0.5	0.5	0.5	0.5		
<b>Return Loss</b>							
SM	MIN	-55.0 dB	-55.0 dB	-55.0 dB	-55.0 dB	-65.0 dB	-65.0 dB
MM	MIN	-20.0 dB					
<b>Cable Bend Radius</b>							
Bend Insensitive	MIN	<15 mm					
Operating Temperature		0°C to +70°C					

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-409	Cable
TIA	GR-326	Connector
ITU	G.652-D, G.657-A1	Single-mode Optical Fiber Only

Telcordia is a registered trademark of Telcordia Technologies, Inc.



## Fanout Kits

Fanout kits route 250  $\mu\text{m}$  fibers into 900  $\mu\text{m}$  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  $\mu\text{m}$  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  $\mu\text{m}$  fibers
- Compatible with FUSEConnect® and FASTConnect® field-installable connectors

### Applications

- Routing 250  $\mu\text{m}$  fibers into 900  $\mu\text{m}$  buffer tubes for termination

### Specifications

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

### 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 $\mu\text{m}$ , 12 tubes, A, 1M



OEE-288/576 Optical Entrance Enclosures



## LightLink Optical Entrance Enclosures

The Optical Entrance Enclosures (OEE) are designed to provide a convenient splicing and interconnection location for outside plant cabling entering a Central Office (CO), Controlled Environmental Vault (CEV) or customer location. Each unit is designed to allow the entrance and management of up to 60 cables for splicing and interconnecting. Cables from termination locations and the outside plant are easily installed and managed. Access to individual fiber splices and fiber bundles are made easy by splice tray and fiber management designs.

### Features

- Manages multiple cable enter and exit facilities
- Each fiber splice tray (sold separately) handles up to 48 single fusion or 144 mass fusion splices
- Enclosures for indoor or outdoor applications
- Internal ground bar and pass through ground lugs

### Specifications

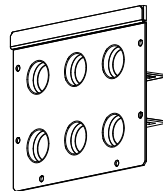
PARAMETER	VALUE
Material	Aluminum or steel
Coatings	Electrostatically applied, powder coat
Color	Granite
Dimensions	See Detail Drawings on following page



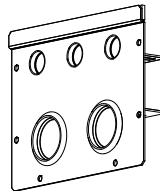
OEE-720/1440 Optical Entrance Enclosures



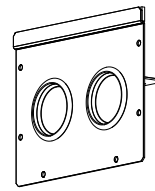
### Accessories – Shingle Kits



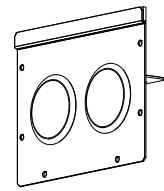
Standard Footprint 6 Ports



Standard Footprint 5 Ports



Standard Footprint 2 Ports - XL



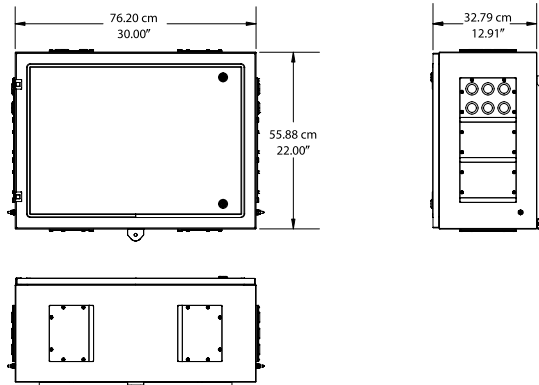
Standard Footprint 2 Ports - XXL

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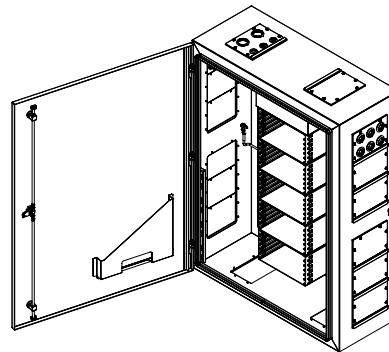
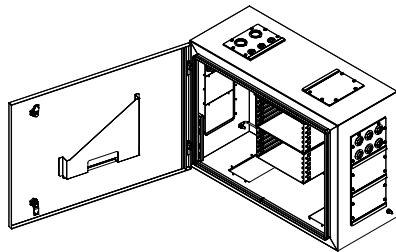
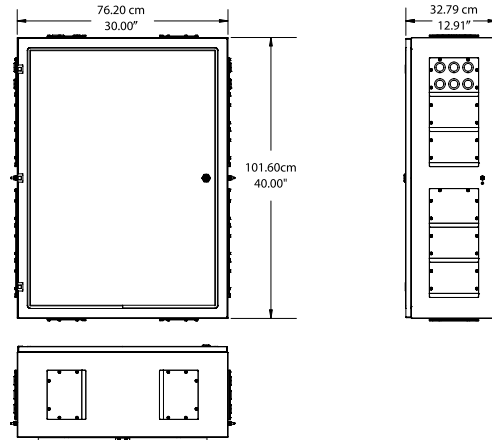
# LightLink Optical Entrance Enclosures

## Dimensions

OEE 288/576



OEE 720/1440



## Qualifications

GOVERNING BODY	STANDARD CODE
NEMA	Type 3

*continued*  
→

## LightLink Optical Entrance Enclosures

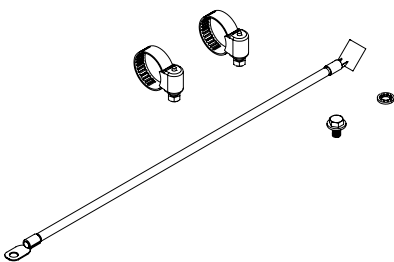
### Ordering Information

DESCRIPTION	MODEL NO.	AFL NO.
<b>OPTICAL ENTRANCE ENCLOSURE</b> 576 Single Fusion or 1728 Mass Fused Splice Capacity, up to 60 Cable Entry Ports Includes: (2) 6-Port Standard Shingles (each port accepts a 0.472-0.7089" Cable) (1) 5-Port Shingles (2 Ports accept a 0.708-0.988" cable, and 3 small Ports accept a cable 0.236-0.473") (4) Medium Sealing and Retention Kits (each supporting a 0.472-0.708" cable) (1) Large Sealing and Retention Kit (each supporting a 0.708-0.988" cable) (3) Metallic Cable Bonding Kits (1) Wall-Mount Hardware (1) OEE Locking Key	OEE-288/576	911309-00-05
<b>OPTICAL ENTRANCE ENCLOSURE</b> 1440 Single Fusion or 4320 Mass Fused Splice Capacity, up to 60 Cable Entry Ports Includes: (2) 6-Port Standard Shingles (each port accepts a 0.472-0.7089" cable) (1) 5-Port Shingles (2 Ports accept a 0.708-0.988" cable, and 3 small Ports accept a cable 0.236-0.473") (4) Medium Sealing and Retention Kits (each supporting a 0.472-0.708" cable) (1) Large Sealing and Retention Kit (each supporting a 0.708-0.988" cable) (3) Metallic Cable Bonding Kits (1) Wall-Mount Hardware (1) OEE Locking Key	OEE-720/1440	911275-00-05

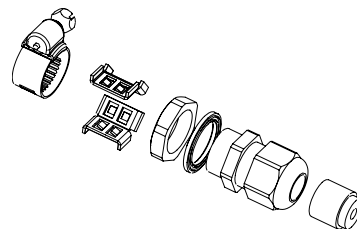
### Accessories

DESCRIPTION	MODEL NO.	AFL NO.
OEE Fiber Splice Tray	STF-48	911442-00-00
Metallic Cable Bonding Kit	MBK-1	911260-00-01
Work Shelf	OEE-WS	911262-00
Cable Retention and Sealing Kit – Small (Accepts 0.236-0.473" O.D. Cable)	CRSK236-473	911310-00-00
Cable Retention and Sealing Kit – Medium (Accepts 0.472-0.708" O.D. Cable, four included with OEE)	CRSK472-708	911310-01-00
Cable Retention and Sealing Kit – Large (Accepts 0.708-0.988" O.D. Cable, one included with OEE)	CRSK708-988	911310-02-00
Cable Retention and Sealing Kit – XLarge (Accepts 0.866-1.25" O.D. Cable)	CRSK866-1250	911310-03-00
Cable Retention and Sealing Kit – XXLarge (Accepts 1.25-1.49" O.D. Cable)	CRSK1250-1490	911310-04-00
Shingle Kit – Standard, 6-Ports (Accepts Six Cables From 0.472-0.708" O.D., two included with OEE)	SK-STD	911261-00-00
Shingle Kit – Standard, 5-Ports (2) Large (0.708-0.988" O.D. Cable Ports) (3) Small (0.236-0.472" O.D. Cable Ports) (One Included with OEE)	SK-LS	911261-01-00
Shingle Kit, Two X-Large, (2) Cable Ports (0.866-1.25" O.D.)	SK-XL	911261-02-00
Shingle Kit, Two XX-Large, (2) Cable Ports (1.25-1.49" O.D.)	SK-XXL	911261-03-00

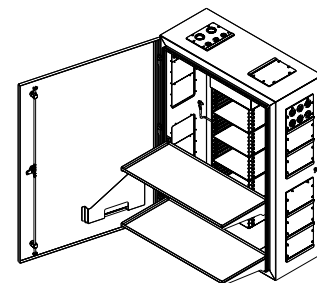
**Cable Bonding Kit**



**Cable Retention and Sealing Kit**



**Work Shelf**







LL-400b shown with optional interconnect module



Hardware kit for external grounding (included)

## LightLink 400b Optical Splicing and Distribution Enclosure

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

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

### Features

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

### Applications

- OSP Splicing
- MDU Splicing
- FTTx Distribution

### Specifications

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

### Ordering Information

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



LL-400sx



LL-400sx in 1010 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
Channel MAH1010 Pedestal	FM000776
Channel MAH1212 Pedestal	FM000655
IDEAA® Module LGX Mount Bracket	EA000061
IDEAA Pigtail Kit	EA000166
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-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.**



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

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

### Notes

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

### Accessories

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



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

<b>RTD</b>	<b>12</b>	<b>XXX</b>	<b>DD</b>	<b>0050</b>	<b>F</b>	
	<b>Ports</b>	<b>Cable End</b>	<b>Cable Type</b>	<b>Tail Length</b>	<b>UOM</b>	<b>Reel</b>
	04 = 4-port 06 = 6-port 08 = 8-port 12 = 12-port	XXX = Pigtail	DD = Dielectric Flat Drop TD = Toneable Flat Drop AD = TITAN ADSS Cable PD = Pushable MicroDrop AN = Armored Drop	*4 digits Example: 0050-F for 50 feet	F = Feet M = Meter	Blank = Standard cable-first payout R = Reversed reel, terminal-first payout

### 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

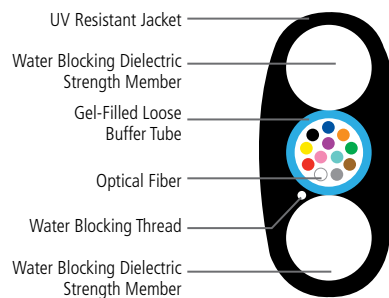
- AFL TRIDENT Hardened Connector ports for speedy customer connections
- Factory terminated on:
  - 250 μm outdoor or 900 μm indoor/outdoor flat drop cable
  - 250 μm armored drop
  - 900 μm pushable/air-jettable MicroDrop
- Flat drop is aerial self-support capable

### Qualifications

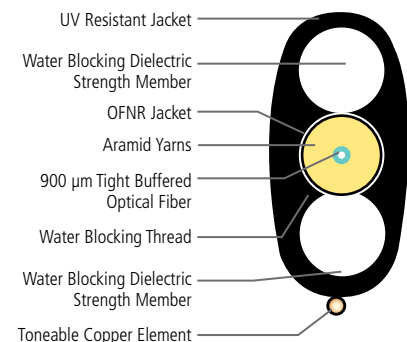
GOVERNING BODY	STANDARD CODE
Telcordia	GR-3120

### Cable Components

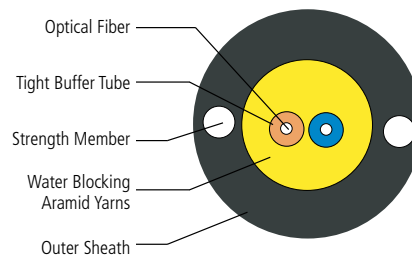
#### Dielectric OSP



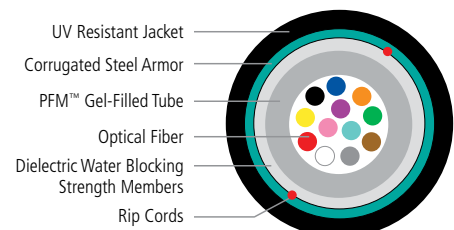
#### Toneable Indoor/Outdoor



#### 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
<b>Outside End Connector</b>	<b>Inside End Connector</b>	<b>Cable Type</b>	<b>Fiber Count</b>	<b>Fiber Type</b>	<b>Cable Length</b>	<b>UOM</b>
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 <sup>2</sup>	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)	<b>Single Port:</b> 0.40- 1.10 (10.0 - 28.0)  <b>Multi-Drop Kit:</b> 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)	18.25 x 8.75 (463.6 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-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 432 single fusion, 864 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

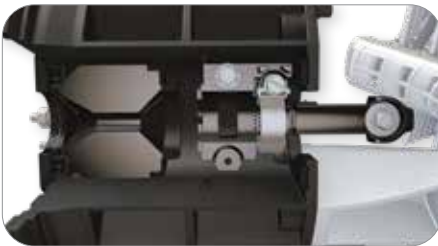
PARAMETER	VALUE
Dimensions – L x D, in (cm)	25.0 x 12.0 (64 x 30)
Weight, No Trays – lb (kg)	25 (11.3)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	432, 3456, 864
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 – 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" – 0.39" (5.0 – 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall

## 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.



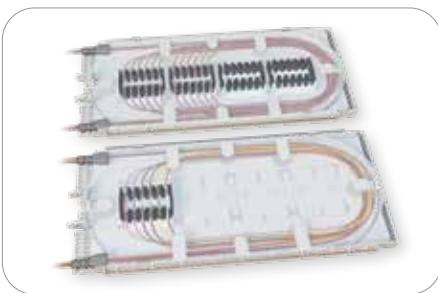
### Cable Entry Ports and Strain Relief

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 2 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 18 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.

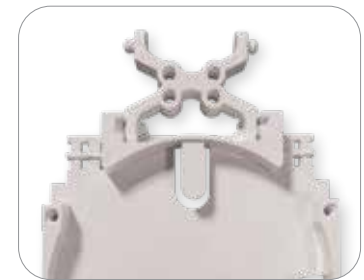
## Ordering Information

<b>AX</b>	<b>2</b>	<b>B</b>	<b>L</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>B</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 per tray. For standard ribbon, AFL recommends half loaded for 12 mass splices single-stacked, or 144 fibers. Adapter kits available to install FOSC® A-B optical trays.

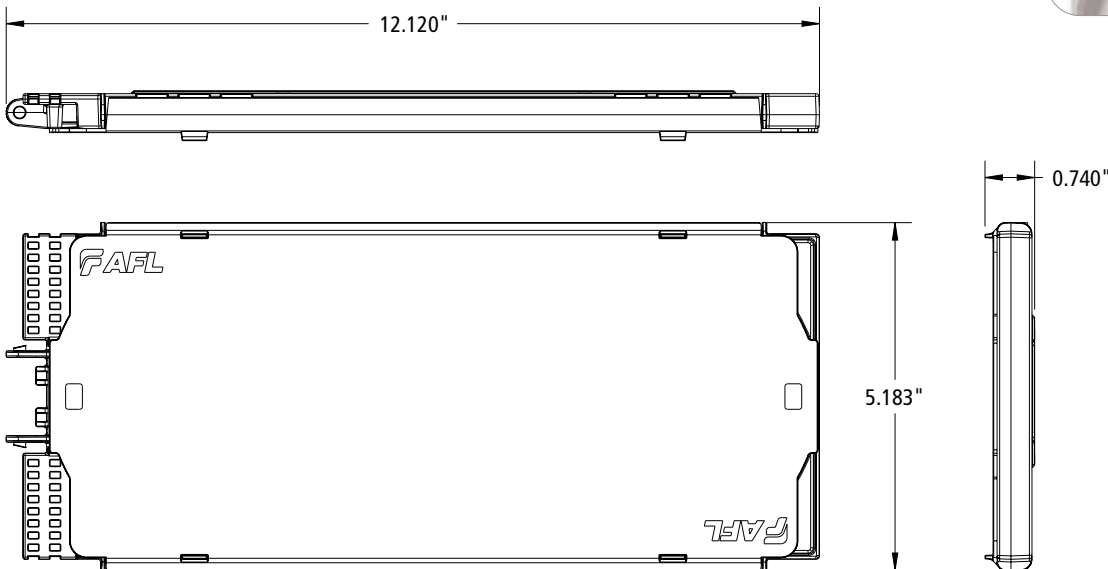


### Ordering Information

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 (576 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	72	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
KIT, APEX, A-B TRAY ADAPTER, 1 Kit of 6 pieces	-	-	AX-ADPTR-ABTRAY-6
KIT, APEX, A-B TRAY ADAPTER, 10 Kits of 6 pieces	-	-	AX-ADPTR-ABTRAY-60

\*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

### Dimensions



## Apex® X-2 Sealed Splice Closure

### Slack Storage Basket and Accessories

The Apex X-2 slack storage basket is molded with a rounded cross section to efficiently maximize space inside of the cylindrical dome closure. The basket has optional accessories such as the segmented basket, which provides a “basket within a basket” to manage ribbon and loose tube slack separately.



### Ordering Information

DESCRIPTION	AFL NO.
Clear segmented basket for X-2. Can be used in combination with the basket cover	AX-KIT-SBASKET-2
Replacement slack storage basket tabs – Pack of 25	AX-KIT-BTAB-25

### Slack Length

CABLE/COMPONENT	TYPE OF OPENING	STRIP LENGTH (INCHES)
WTC/SWR or Non-Matrix Ribbon	Mid Sheath	**111-134
	End Cut	**54-90
Flat Matrix Ribbon Cable	Mid Sheath	*108-110
	End Cut	*54-57
***Loose Tube Cable	Mid Sheath	**111-134
	End Cut	**54-90
<b>STORAGE</b>		
Each additional basket storage loop		23-27
Each additional splice tray service loop		26-27
Sheath to basket for tube retention		8-11
<b>DEFINITION</b>		
Midsheath	Slack loop in basket, service loop in tray, center cut	
End cut	Slack loop in basket, service loop in tray, to far splice	
* Ribbon minimum is slack loop in basket, no slack waterfall splicing in tray		
** Minimum no service loop in splice tray - Maximum allowing for service loop in splice tray		
*** LT storage max tubes	Additional tubes will decrease cable lengths	18 (432/24 per tube)

## Apex® X-2 Sealed Splice Closure

### Installation Accessories and Kits

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

Splice Closures & Accessories



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Mesh Transition Tubing



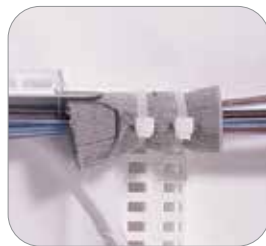
Ring Clamp Replacement Kit



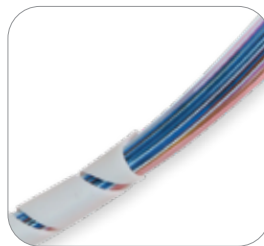
Wedge Replacement Kit



Installation Stand



Foam Retention



Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2

### Ordering Information

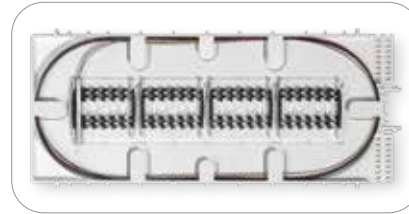
DESCRIPTION	AFL NO.
Aerial strand mount hanger kit	AX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30
1/4" Colored Mesh Transition Tubing, 250' Spool	AX-KIT-TUBE-014-XX*
Single Cable Strain Relief/Attachment Kit	AX-KIT-CBLSTRN
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4
X-2 and X-2S Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-2
X-2 and X-2S 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 Installation Stand	FC104649
Apex X-2 and X-2S Inner Base Gel Replacement Kit	AX-KIT-GEL-2
Apex 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
Silicone Spiral Wrap, 5.5 Foot Length	FC001657
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10
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

\*Replace "XX" with any of the following for colors per the TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ

## 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.
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

### Relevant Standards

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771



## 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 216 single fusion, 432 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 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)	20.0 x 12.0 (51 x 30)
Weight, No Trays – lb (kg)	22 (10)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	216, 1728, 432
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

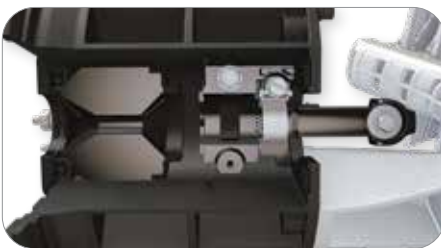


## Apex® X-2S Sealed Splice Closure



### 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.



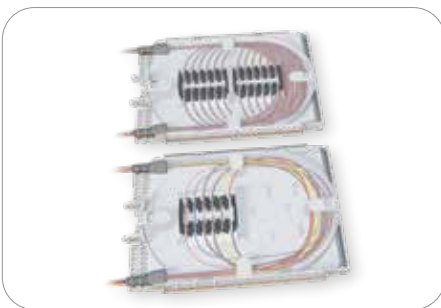
### Cable Entry Ports and Strain Relief

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 2 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 18 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.

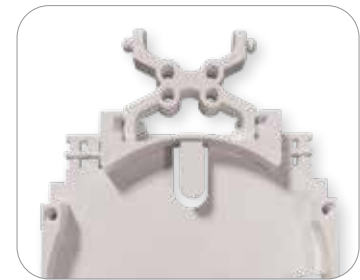
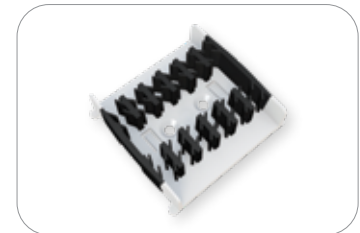
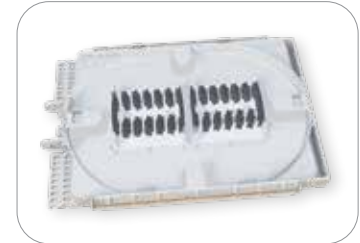
### Ordering Information

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

## Apex® X-2S Sealed Splice Closure

### Splice Trays and Splice Modules

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

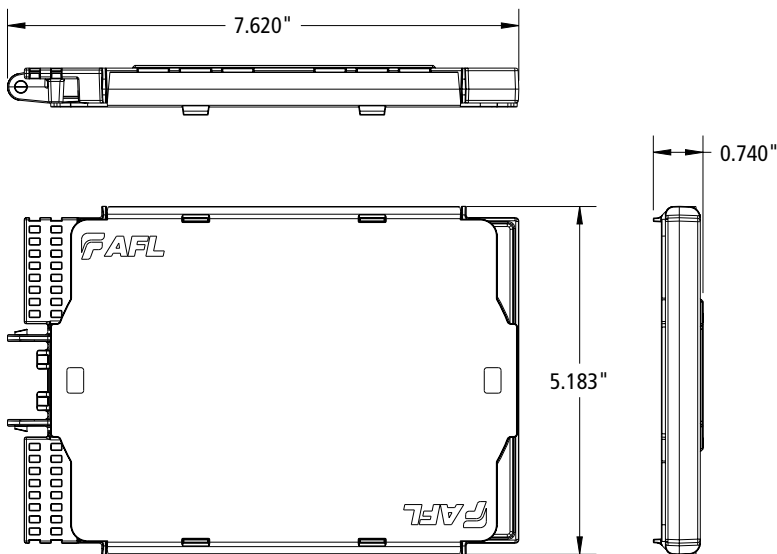


### Ordering Information

DESCRIPTION	TRAY CAPACITY		AFL NO.
	SINGLE	MASS	
X-2S Tray Loaded with One Splice Module	18	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)	36	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
KIT, APEX, A-B TRAY ADAPTER, 1 Kit of 6 pieces	-	-	AX-ADPTR-ABTRAY-6
KIT, APEX, A-B TRAY ADAPTER, 10 Kits of 6 pieces	-	-	AX-ADPTR-ABTRAY-60

\*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

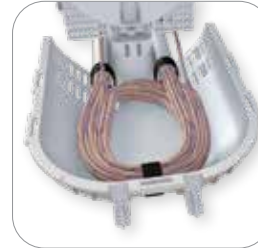
### Dimensions



## Apex® X-2S Sealed Splice Closure

### Slack Storage Basket and Accessories

The Apex X-2S slack storage basket is molded with a rounded cross section to efficiently maximize space inside of the cylindrical dome closure.



### Ordering Information

DESCRIPTION	AFL NO.
Replacement slack storage basket tabs – Pack of 25	AX-KIT-BTAB-25

### Slack Length

CABLE / COMPONENT	TYPE OF OPENING	STRIP LENGTH (INCHES)
WTC/SWR or Non-Matrix Ribbon	Mid Sheath	**80 - 98
	End Cut	**40 - 66
Flat Matrix Ribbon Cable	Mid Sheath	*80 - 82
	End Cut	*40 - 42
***Loose Tube Cable	Mid Sheath	**80 - 98
	End Cut	**40 - 66
<b>STORAGE</b>		
Each additional basket storage loop		16 - 18
Each additional splice tray service loop		17 - 18
Sheath to basket for tube retention		7 - 9
<b>DEFINITION</b>		
Midsheath	Slack loop in basket, service loop in tray, center cut	
End cut	Slack loop in basket, service loop in tray, to far splice	
* Ribbon minimum is slack loop in basket, no slack waterfall splicing in tray		
** Minimum no service loop in splice tray - Maximum allowing for service loop in splice tray		
*** LT storage max tubes	Additional tubes will decrease cable lengths	12 (288/24 per tube)

## Apex® X-2S Sealed Splice Closure

### Installation Accessories and Kits

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



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Mesh Transition Tubing



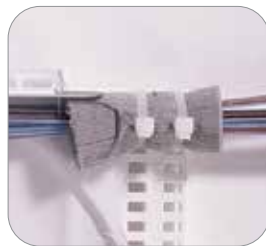
Ring Clamp Replacement Kit



Wedge Replacement Kit



Installation Stand



Foam Retention



Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2

### Ordering Information

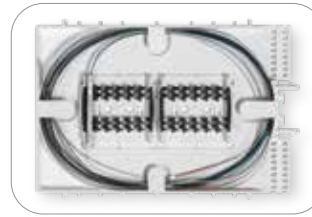
DESCRIPTION	AFL NO.
Aerial strand mount hanger kit	AX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30
1/4" Colored Mesh Transition Tubing, 250' Spool	AX-KIT-TUBE-014-XX*
Single Cable Strain Relief/Attachment Kit	AX-KIT-CBLSTRN
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4
X-2 and X-2S Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-2
X-2 and X-2S 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 Installation Stand	FC104649
Apex X-2 and X-2S Inner Base Gel Replacement Kit	AX-KIT-GEL-2
Apex 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
Silicone Spiral Wrap, 5.5 Foot Length	FC001657
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10
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

\*Replace "XX" with any of the following for colors per the TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ

## 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.
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

### Relevant Standards

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771



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.

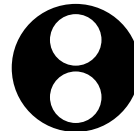
Conversion kits for old LG-100, LG-200, and LG-300 closures allows for "Peel and Seal" grommet technology to be used without changing out the existing closure.

### Features

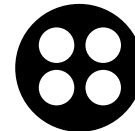
- All Peel and Seal Grommet Systems support loose tube, core tube, dielectric and armored cable designs
- Installation and re-entry using common hand tools
- Accepts a wide range of cable diameters
- Fast and easy to install
- Fits existing AFL LightGuard sealed closures
- Fully sealed to protect fiber 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.)	<b>(2) Express Ports</b> 0.40" - 0.70" (10.0 - 25.4) 0.26" - 0.44" (6.6 - 11.2)
<b>Included Grommets</b> Single in. (mm)	
Double Express Port Only in. (mm)	
<b>Additional Grommets</b> 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

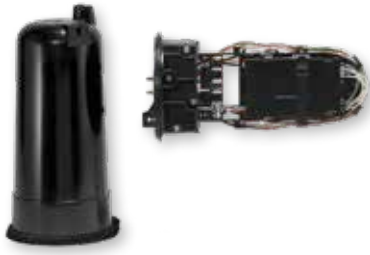
### Specifications

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	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
Single in. (mm)	0.26" - 0.62" (6.6 - 15.7)	0.26" - 0.62" (6.6 - 15.7)
<b>Additional Grommets</b> (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)	18.25" x 8.75" (463.6 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.)		
<b>Included Grommets</b> Single in. (mm)	<b>(2) Express Ports</b> 0.26" - 0.62" (6.6 - 15.7)	<b>(3) Drop Ports</b> 0.26" - 0.62" (6.6 - 15.7)
<b>Additional Grommets</b> (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

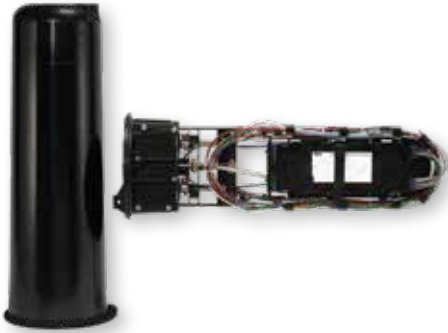
DESCRIPTION	AFL NO.
LG-250-U-0 Fiber Optic Splice Closure—Stores 144 single fusion or 432 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets	FC000002-PS
LL-2400 Single Splice Tray—Stores (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.)	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
<b>Included Grommets</b>	0.40" - 1.00"	0.26" - 0.80"
Single in. (mm)	(10.0 - 25.4)	(6.6 - 20.0)
<b>Additional Grommets</b>	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)	

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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	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
	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)
	<b>Additional Grommets</b>		
	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® 350-20-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	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
	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)
	<b>Additional Grommets</b>		
	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)	

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

### Ordering Information

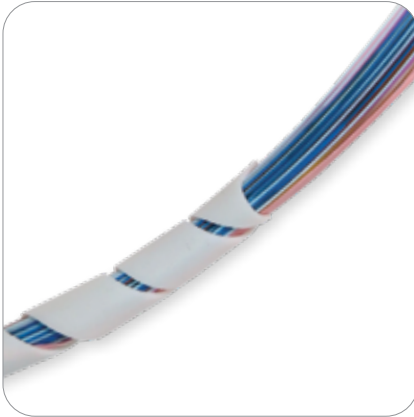
DESCRIPTION	MODEL NO.	AFL NO.
LG-350-27-WTC Fiber Optic Splice Closure—Stores 180 single fusion or 864 mass fusion, includes (2) Express cable kits for sealing/retention and (2) ground terminals with removable bond. Does not include: Cable grounding kits, hanger brackets, splice trays or drop port entry 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

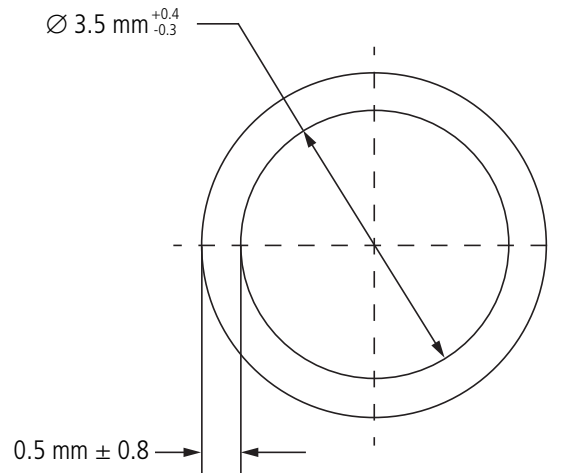
Contact AFL for further details.



## 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.)	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
<b>Included Grommets</b>	0.40" - 1.00"	(4 port) 0.26" - 0.80"
Single in. (mm)	(10.0 - 25.4)	
(4) Flat Drop Only in. (mm)		(6.6 - 20.0)
<b>Additional Grommets</b>		
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.)	<b>(2) Express Ports</b>	<b>(3) Drop Ports</b>
<b>Included Grommets</b>	0.40" - 1.18"	0.30" - 1.08"
Single in. (mm)	(10.0 - 30.0)	(7.6 - 27.4)
<b>Additional Grommets</b>	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 and Quad Express Grommets for LG-350

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

#### Ordering Information

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



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

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

#### Ordering Information

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



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

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

#### Ordering Information

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

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## LightGuard® Sealed Splice Closure Accessories (cont.)



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

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

#### Ordering Information

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



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

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

#### Ordering Information

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



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

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

#### Ordering Information

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



### Universal Aerial Bracket and Extended Offset Bracket

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

#### Ordering Information

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

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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

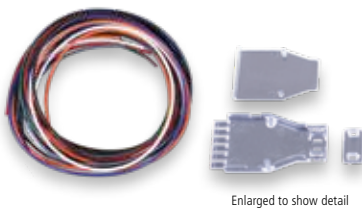


### O-Ring Replacement Kits

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

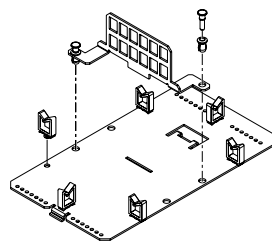
DESCRIPTION	MODEL NO.	AFL NO.
Terminal Adapter for LG-150/250 Sealed Splice Closure	LLAS-200-12SC	FC000068
Terminal Adapter for LG-350 Sealed Splice Closure	LLAS-300-24SC	FC000069

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.

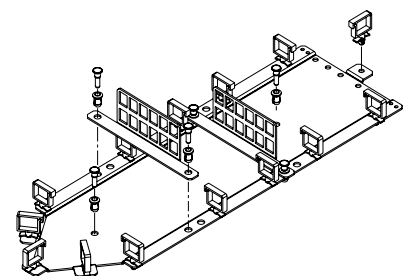
### Accessories Ordering

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 <sup>1,2</sup>				
- 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)	<b>(4) Cable Ports</b> 4 @ 0.38" - 0.82" (7.6 - 20.8)
<b>Additional Grommets</b> Dual Grommet in. (mm)	Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8)
6-port Multi-Drop Grommet in. (mm)	0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	36.00" x 8.0" x 4.0" (914.0 x 203.0 x 102.0)
Weight – lbs. (kg)	8.5 (3.81)

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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 grommeted 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) <b>Additional Grommets</b> Dual Grommet in. (mm)	<b>(4) Cable Ports</b> 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® 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	<b>(4) Cable Ports</b>
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)
<b>Additional Grommets</b>	
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 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) <b>Additional Grommets</b> Dual Grommet in. (mm)	<b>(4) Cable Ports</b> 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® 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	<b>(4) Cable Ports</b>
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)
<b>Additional Grommets</b>	
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 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 grommets 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)	<b>(6) Cable Ports</b> 0.44" - 1.00" (11.2 - 25.4)
<b>Additional Grommets</b> 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® 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	<b>(6) Cable Ports</b> 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)	
<b>Additional Grommets</b>	
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

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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.

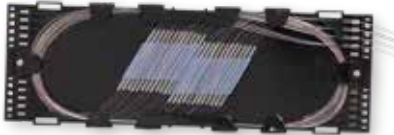
### Qualifications

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

Contact AFL for further details.

## 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

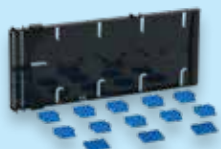
### Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

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	<b>Max trays: 1</b> 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	<b>Max Trays: 4</b> 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	<b>Max Trays: 4</b> 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	<b>Max Trays: 4</b> 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	<b>Max Trays: 5</b> Single: 120 Mass: N/A	<b>Max Trays: 13</b> Single: 312 Mass: N/A	N/A	N/A

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## LightLink Fiber Optic Splice Trays (cont.)

### Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-250-U	LG-350-U	LG-350-AC	LG-350XL-U	LG-350-20-WTC	LG-350-27-WTC
Single Fuse: 60 Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H)  *Note: Contains enough splice holders for 24 mass splices (288 fibers) when using AFL Wrapping Tube Cable.	LL-7644	FA000044	N/A	<b>Max Trays: 6</b> Single: 360 Mass: 72 (864 fiber)	N/A	N/A	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 3</b> Single: 72 Mass: 12 (144 fiber) Mechanical: 36	<b>Max Trays: 8</b> 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	<b>Max Trays: 3</b> Single: 144 Mass: N/A	<b>Max Trays: 8</b> 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	<b>Max Trays: 3</b> Single: N/A Mass: 36 (432 fiber)	<b>Max Trays: 8</b> 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	<b>Max Trays: 5</b> Single: 480 Mass: 120 (1440 fiber)	N/A	<b>Max Trays: 9</b> 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	<b>Max Trays: 6</b> Single: 360 Mass: N/A	N/A	N/A	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 6</b> Single: 360 Mass: 72 (864 fiber)	N/A	N/A	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 4</b> Single: 144 Mass: 48 (576 fiber)	N/A	<b>Max Trays: 4</b> 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	<b>Max Trays: 4</b> Single: N/A Mass: 48 (576 fiber)	N/A	<b>Max Trays: 4</b> 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	<b>Max Trays: 4</b> Single: 144 Mass: N/A	N/A	<b>Max Trays: 4</b> 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	<b>Max Trays: 5</b> Single: N/A Mass: 120 (1440 fiber)	N/A	<b>Max Trays: 9</b> 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	<b>Max Trays: 5</b> Single: 480 Mass: N/A	N/A	<b>Max Trays: 9</b> Single: 864 Mass: N/A	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 4</b> Single: 96 Mass: N/A	N/A	<b>Max Trays: 4</b> 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	<b>Max Trays: 1</b> Single: 32 Mass: N/A	N/A	<b>Max Trays: 1</b> 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	<b>Max Trays: 3</b> Single: 72 Mass: 12 (144 fiber) Mechanical: 36	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 3</b> Single: N/A Mass: 36 (432 fiber)	N/A	<b>Max Trays: 3</b> 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	<b>Max Trays: 12</b> Single: 288 Mass: N/A	<b>Max Trays: 2</b> 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	<b>Max Trays: 8</b> 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	<b>Max Trays: 1</b> Single: 12 Mass: N/A	N/A	N/A	<b>Max Trays: 2</b> 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	<b>Max Trays: 8</b> 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	<b>Max Trays: 1</b> Single: N/A Mass: 8 (96 fiber)	N/A	N/A	<b>Max Trays: 2</b> 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	<b>Max Trays: 1</b> Single: 12 Mass: 8 (96 fiber)	N/A	N/A	<b>Max Trays: 2</b> 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	<b>Max Trays: 3</b> Single: N/A Mass: 12 (144 fiber)	<b>Max Trays: 3</b> Single: N/A Mass: 12 (144 fiber)	<b>Max Trays: 8</b> 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	<b>Max Trays: 4</b> Single: 96 Mass: 16 (192 fiber) Mechanical: 48	<b>Max Trays: 6</b> Single: 144 Mass: 24 (288 fiber) Mechanical: 72	<b>Max Trays: 3</b> Single: 72 Mass: 12 (144 fiber) Mechanical: 36	<b>Max Trays: 9</b> 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	<b>Max Trays: 4</b> Single: 192 Mass: N/A	<b>Max Trays: 6</b> Single: 288 Mass: N/A	<b>Max Trays: 3</b> Single: 144 Mass: N/A	<b>Max Trays: 9</b> 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	<b>Max Trays: 4</b> Single: N/A Mass: 48 (576 fiber)	<b>Max Trays: 6</b> Single: N/A Mass: 72 (864 fiber)	<b>Max Trays: 3</b> Single: N/A Mass: 36 (432 fiber)	<b>Max Trays: 9</b> 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	<b>Max Trays: 4</b> Single: N/A Mass: 16 (192 fiber)	<b>Max Trays: 6</b> Single: N/A Mass: 24 (288 fiber)	<b>Max Trays: 3</b> Single: N/A Mass: 12 (144 fiber)	<b>Max Trays: 9</b> 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	<b>Max Trays: 2</b> 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	<b>Max Trays: 2</b> 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	<b>Max Trays: 5</b> 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	<b>Max Trays: 3</b> 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	<b>Max Trays: 2</b> Single: 72 Mass: 24 (288 fiber)

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## LightLink Fiber Optic Splice Trays (cont.)

### Ordering Information – Splice Tray for Splicing Cabinets and Shelves

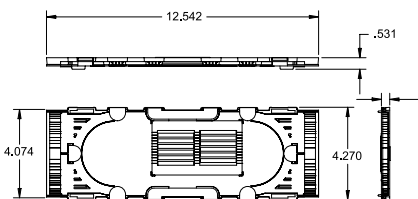
DESCRIPTION	MODEL NO.	AFL NO.
Telescoping Splice Tray - Stores up to 48 single fusion sleeves or 12 mass fusion sleeves (144 fibers). For use in the following products: LL-300, LL-288/576, LL-720/1440, OTSS-SYS1, OSS-SYS2 and OSS-SYS1	STF-48	911442-00-00
FTTx Splice Tray - Stores up to 2 single fusion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

### Ordering Information—Splice Tray Accessories

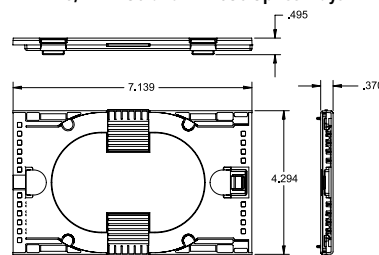
DESCRIPTION	AFL NO.
FP-40 Splice Protection Sleeves, 40 mm length (1000 box/100 pack)	S015916
FP-60 Splice Protection Sleeves, 60 mm length (1000 box/100 pack)	S015915
Single Fusion Splice Chip - 6 splices per chip. (10 pcs. per kit)	FA000034
Single Fusion Splice Chip - 12 splices per chip. (10 pcs.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

### Dimensions

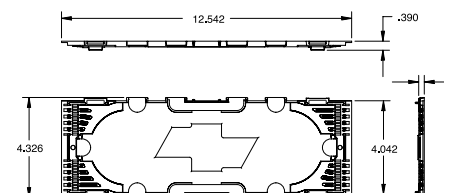
LL-2448 and LL-4848 Splice Trays



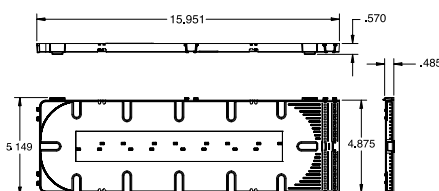
LL-1248, LL-2450 and LL-4850 Splice Trays



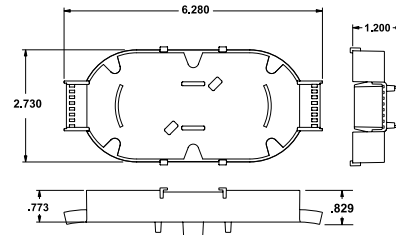
LL-2400 Splice Tray



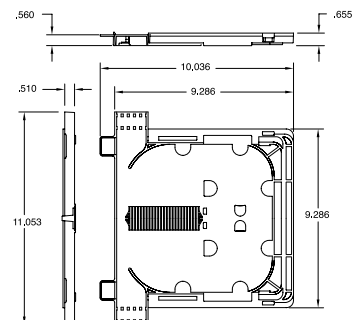
LL-4896 Splice Tray



LL-2425 Splice Tray



OEE Splice Tray



Splice Trays



## Fiber Storage Units

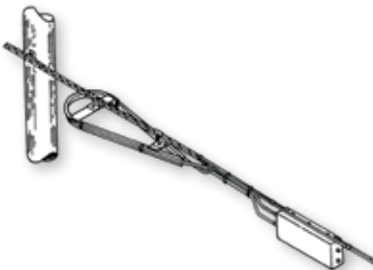
AFL Fiber Storage Units (FSU) are used to conveniently and safely store an extra length of cable along the support strand for later use. Furnished as pairs (kit contains two Fiber Storage Units and two sets of hanger brackets), these FSU's are constructed from either aluminum with a baked acrylic enamel 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

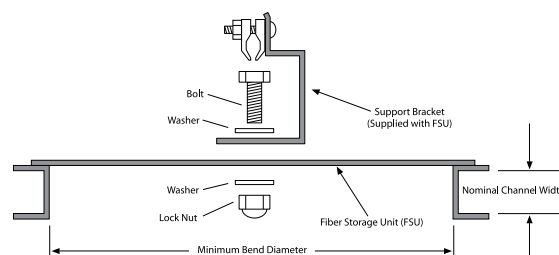
DESCRIPTION	FOSP-12-TMK	FOSP-17-TMK
FOSP Kit (Dielectric)	FA000004	FA000002

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





*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

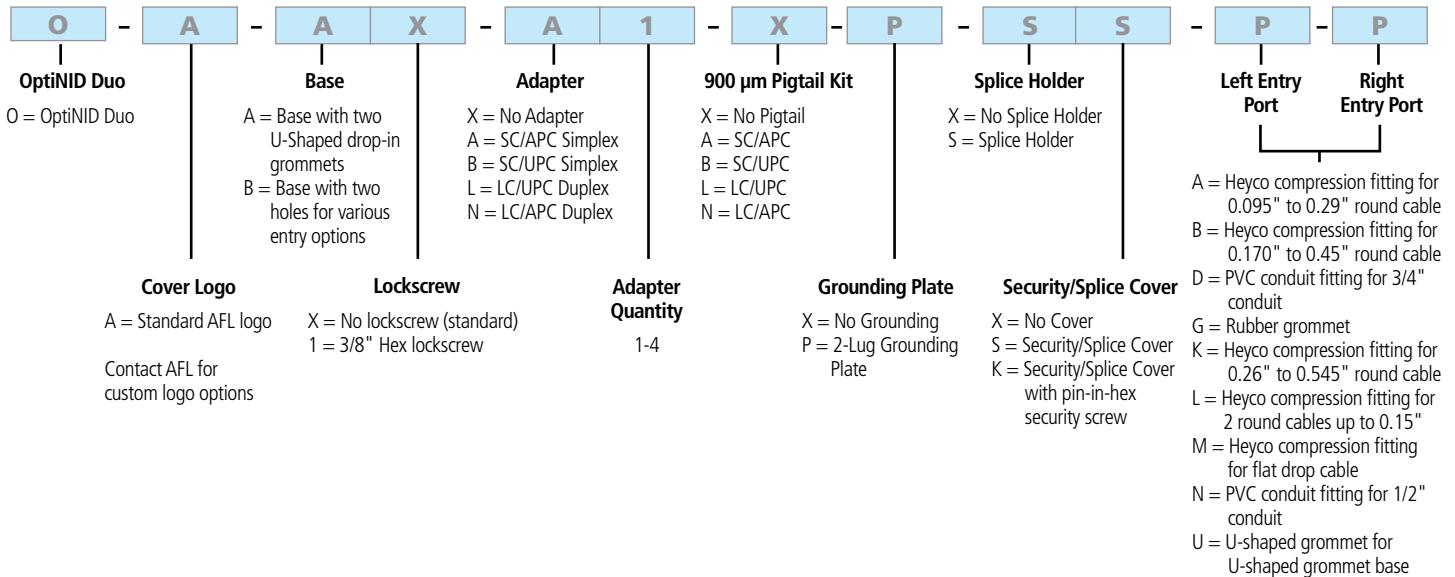
### Specifications

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

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## OptiNID® Duo Optical Demarcation Enclosure

### Ordering Information



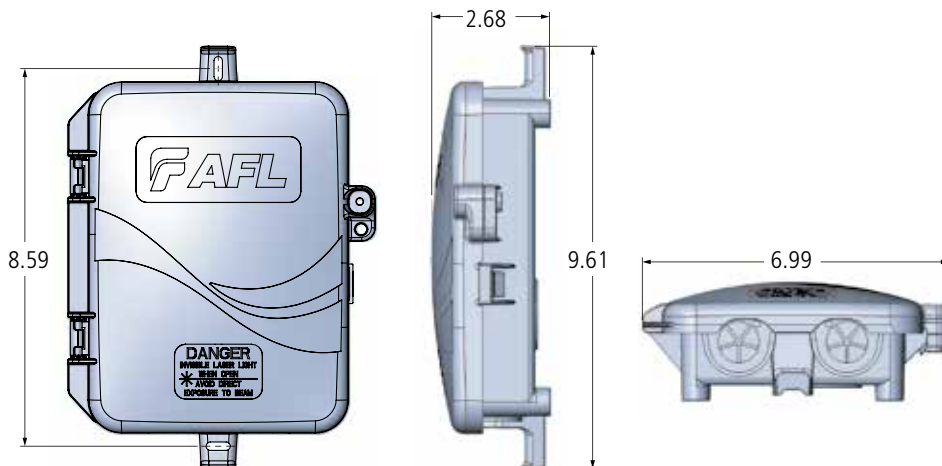
Fiber Demarcation

### 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® 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.
<b>BASE PRODUCT</b> <sup>1,2</sup>	
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
<b>ACCESSORIES</b> <sup>3</sup>	
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.

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## OptiNID® 760XL Optical Demarcation Closure

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

### Features

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

### Specifications

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



OPN-760XL with optional security cover kit



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



3/4" Pipe Fitting Transition Kit

### Ordering Information

DESCRIPTION	AFL NO.
<b>BASE PRODUCT <sup>1,2</sup></b>	
OptiNID OPN-760XL, No Adapters, No Security Cover	DM001000
OptiNID OPN-760XL, No Adapters, Security Cover	DM001022
<b>ACCESSORIES <sup>3</sup></b>	
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.

## 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

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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



## 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.

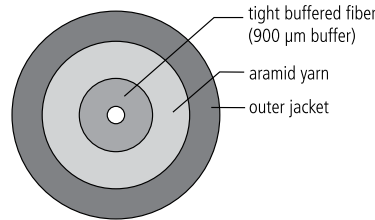
### Features

- 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

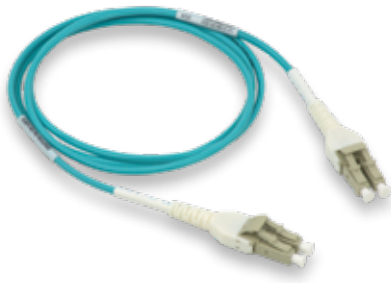
<b>ASC</b>	<b>ASC</b>	<b>RS</b>	<b>001</b>	<b>Q</b>	<b>0010</b>
<b>Connector End A</b>	<b>Connector End B</b>	<b>Cable Type</b>	<b>Fiber Count</b>	<b>Fiber Type</b>	<b>Cable Length (meters)</b>
<b>Single-mode</b> ASC = Angle SC AFC = Angle FC ALC = Angle LC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC	<b>Single-mode</b> ASC = Angle SC AFC = Angle FC ALC = Angle LC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC XXX = No connector	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 = 1	Q = Single-mode* 2 = Multimode 62.5/125 OM1 L = Multimode 50/125 OM3 C = Multimode 50/125 OM4	0010 = 10 meters (specify length)
<b>Multimode</b> PSC = SC MM PFC = FC MM PLC = LC MM PST = ST MM	<b>Multimode</b> PSC = SC MM PFC = FC MM PLC = LC MM PST = ST MM XXX = No connector				

**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

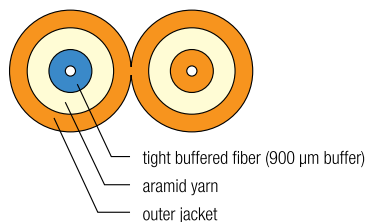
- Flexible, 2-fiber design
- Riser, Plenum and LSZH\* rated cables available (\*contact AFL)

### 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)
<b>Single-mode</b> 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  <b>Multimode</b> PFC = FC MM }* PST = ST MM }* PSF = SC Duplex MM PDL = LC Duplex MM	<b>Single-mode</b> 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  <b>Multimode</b> PFC = FC MM }* PST = ST MM }* PSF = SC Duplex MM PDL = LC Duplex MM XXX = No connector	<b>Zipcord</b> 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 OM3 L = Multimode 50/125 OM3 C = Multimode 50/125 OM4	XXXX (specify length) 0010 = 10 meters
<b>NOTES:</b> 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  $\mu\text{m}$  tight buffered fibers or sub-unitized design with twelve 250  $\mu\text{m}$  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
<b>Single-mode</b> ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC UDL = Ultra LC Duplex  <b>Multimode</b> PSC = SC MM PFC = FC MM PLC = LC MM PST = ST MM PDL = LC Duplex MM* PSF = SC Duplex MM*	<b>Single-mode</b> ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC XXX = No connector  <b>Multimode</b> 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	<b>Leg Diameter</b> 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



## 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.

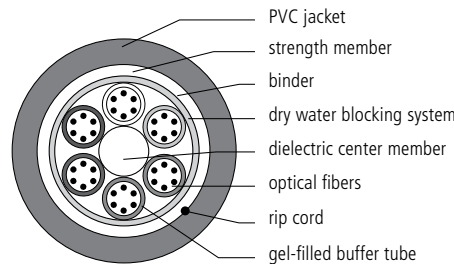
### Applications

- Outdoor Cabinets
- External-Building Runs
- Vaults
- CEVs
- Duct and lashed applications

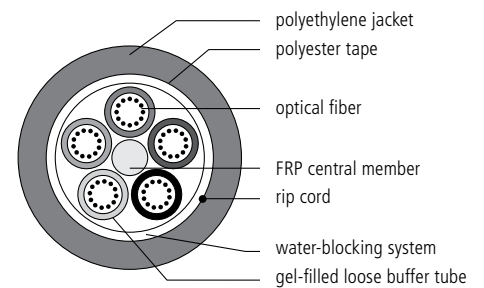
### Features

- Fiber counts from 6 to 144 fibers (up to 432 for Loose Tube)
- 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, ST
- 1.6 mm standard furcation for LC
- UV resistant outer jacket
- S-Z stranded for easy mid-span access
- Gel-filled loose buffer tubes (RL), Gel-filled Loose Tube (LT)

### Cable Components

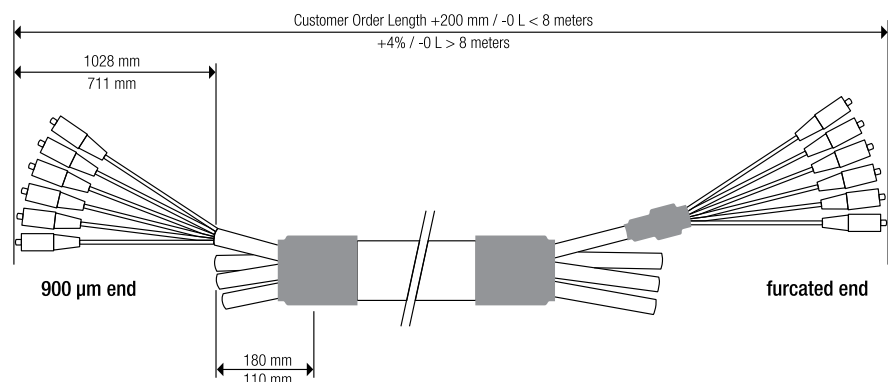


Riser Rated Indoor/Outdoor Loose Tube



Loose Tube

### Dimensions

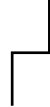


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## Loose Tube and Riser Rated Indoor/Outdoor Loose Tube Cable Assemblies

### Ordering Information

ASC	ASC	LT	024	Q	0010	NN
<b>Connector End A</b>	<b>Connector End B</b>	<b>Cable Type</b>	<b>Fiber Count</b>	<b>Fiber Type</b>	<b>Cable Length (meters)</b>	<b>Leg Diameter</b>
<b>Single-mode</b> ASC = Angle SC AFC = Angle FC USC = Ultra SC UFC = Ultra FC UST = Ultra ST ULC = Ultra LC	<b>Single-mode</b> 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 X = Single-mode ITU-T G.657A BIF	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.

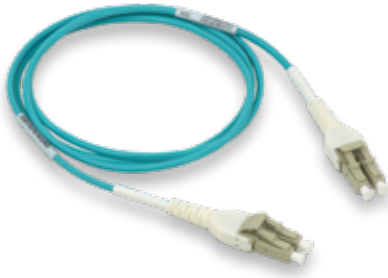
### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-326 GR-20-CORE	Connectors Cable
EIA/TIA		Loose Tube Cable
UL	1666 OFNR	Riser Rated I/O Loose Tube Cable
REA/RUS	PE-90	Loose Tube Cable

### Temperature Range

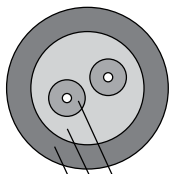
	Riser Rated I/O Loose Tube	Loose Tube
Operating	-40°C to +70°C	-40°C to +70°C
Storage	-40°C to +75°C	-40°C to +75°C
Installation	0°C to +70°C	-30°C to +70°C

Contact AFL for further details.



## Cable Components

### DUAL-Link



tight buffered fiber (900µm buffer)  
aramid yarn  
outer jacket

## LC Uniboot Cable Assemblies

AFL's LC Uniboot cable assemblies offer a more compact design when compared to traditional duplex zipcord assemblies. These assemblies contain two LC connectors encased in a common housing with one boot, terminated on a single, round, two-fiber cable. Utilizing AFL's DUAL-Link 2.0 and 2.4 mm premise cable, LC Uniboot assemblies condense the cable management to half the space used by regular zipcord assemblies. AFL's LC Uniboot cable assemblies offer the best solution for high-density applications.

### Features

- LC duplex connector uses a single housing and single boot
- 2.0 and 2.4 mm DUAL-Link cable

### Applications

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

### Specifications

PARAMETER	VALUE
Insertion Loss (typical)	0.15 dB (SM/MM)
Return Loss (typical)	-55 dB (SM), -30 dB (MM)
Durability	500 cycles
Operating Temperature	0°C to +70°C
Ferrule	Zirconia

### Ordering Information

#### 2.0 mm Plenum DUAL-Link Cable Assemblies

FIBER TYPE	AFL NO.
Single-mode	CS011378-XXXX
Multimode 62.5/125 (OM1)	CS011381-XXXX
Multimode 50/125 (OM3)	CS010640-XXXX
Multimode 50/125 (OM4)	CS011386-XXXX

XXXX = Length (meters)

Example: 0010 = 10

#### 2.4 mm Plenum DUAL-Link Cable Assemblies

FIBER TYPE	AFL NO.
Single-mode	CS011389-XXXX
Multimode 62.5/125 (OM1)	CS011394-XXXX
Multimode 50/125 (OM3)	CS011397-XXXX
Multimode 50/125 (OM4)	CS011400-XXXX

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-326 GR-409	Connectors Cable
EIA/TIA	604-10A(FOCIS 10)	Connectors
RoHS		Cable

**Contact AFL for further details.**



## Fiber-In-A-Box

AFL's "Fiber-In-A-Box" solution offers contractors lightweight, easy to use cable packaging with "out of the box" disbursement of fiber cable. No reel supports or pay-off's are required. Simply set the box down in a convenient place, unlock the built-in braking mechanism and begin pulling. Adjust the braking mechanism to apply the amount of pulling tension required. Stack and configure boxes together to disburse cable from several reels at the same time. Available in lengths of 1000, 2000 and 3000 feet, this unique cable package solution will save contractors valuable time and cost.

### Features

- Easy count printing – descending marks (feet or meters) indicating amount of cable remaining on reel
- Light weight and easy to transport with grips on both sides of the box for easy handling
- Eliminates the need for reel supports and cable spooling equipment
- Unique braking mechanism allows reel to be locked in place within carton during transport and provides control of tension during cable pulls
- Boxes can be stacked and configured to support easy pay-off of multiple cable runs
- Warning under feed-through slot reminds installers of proper pulling methods for optical cable
- Factory packaging ensures cable is not "over-stressed" in non-factory cable cutting operations where personnel may not be sensitive to proper handling of fiber optic cable
- Available in lengths of 1000, 2000 and 3000 feet, depending on cable diameter
- Easy access to reel from top allows installers to repackage excess cable removed from box
- Easy way to organize, store and manage short lengths of excess cable



### Applications

- Horizontal cabling / Fiber-to-the-Desk
- Fiber Drops within MDUs
- Short-to-medium length cable runs between buildings

### Ordering Information

Add suffix "-XMFBOX" to AFL part number to specify "Fiber-In-A-Box" solution, where X indicates length of the cable in thousands of feet (1, 2, or 3).



### AFL Cables available for purchase with "Fiber-In-A-Box" packaging solution:

FIBER COUNT	CABLE TYPE	MF – THOUSANDS OF FEET
1	Simplex, 3 mm	1, 2, 3
2	Zipcord, 3 mm	1, 2
2	Dual-Link (Round), 4.8 mm	1
4	Quad-Link	1
6, 8, 12	Circular Premise Cable	1
2, 4, 6	Indoor/Outdoor Tight Buffered Cable (Plenum or Riser)	1
2	High Impact Indoor Cable	2
4, 6, 8, 12	High Impact Indoor Cable	1



## Simplex Cable

Simplex fiber optic cables provide the strength and flexibility for fiber interconnect applications. AFL offers a broad selection of simplex cordage including Plenum, Riser and LSZH, available in multiple diameters. Our simplex cable is tested to meet Telcordia GR-326 when used in connectorized assemblies. AFL provides customized performance for jacket stiffness and flexibility, diameter, print legend, jacket color and tight buffer strippability. The easy strip option allows removal of up to one meter of 900 µm material without stripping the fiber’s 250 µm coating.

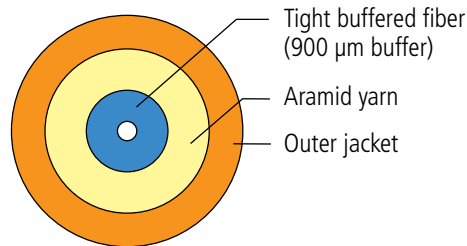
### Features

- 1.6 mm to 2.9 mm outside diameter available
- Easy strip option available
- Custom diameters, colors, and print legends

### Applications

- Trunking lines direct to telecommunications closet
- Fiber patch panels within communications closets
- Long haul networks
- Links between electronic equipment and fiber patch panels
- Connectorized patch cords for cross connect applications

### Cable Components



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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

*continued*  
→

# Simplex Cable

## Mechanical Data

AFL NO.	FIBER COUNT	NOMINAL DIAMETER inches (mm)	WEIGHT		TENSION lbs (N)		BENDING RADIUS inches (cm)		
			RISER lbs/1000 ft (kg/km)	PLENUM lbs/1000 ft (kg/km)	INSTALLATION	LONG TERM	INSTALLATION	LONG TERM	
PLENUM	SP001★301#01	1	0.11 (2.9)	—	6 (9)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SP001★241#01	1	0.09 (2.4)	—	5 (7)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SP001★201#01	1	0.08 (2.0)	—	3 (5)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SP001★161#01	1	0.06 (1.6)	—	2 (3)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
RISER	SA001★301#01	1	0.11 (2.9)	5 (7)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SR001★241#01	1	0.09 (2.4)	3 (5)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SR001★201#01	1	0.08 (2.0)	3 (4)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SR001★161#01	1	0.06 (1.6)	2 (2)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
LSZH	SE001★301#0E	1	0.11 (2.9)	5 (7)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SE001★241#0E	1	0.09 (2.4)	3 (5)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	SE001★201#0E	1	0.08 (2.0)	3 (4)	—	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)

★ 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	6 - White	B - Rose
2 - Orange	7 - Red	C - Aqua
3 - Green	8 - Black	K - Erika Violet (RAL 4003)
4 - Brown	9 - Yellow	
5 - Slate	A - Violet	

## Recommended Products

DESCRIPTION	AFL NO.
Xpress Fiber Management® (XFM®) 1RU Patch Panel	Refer to <a href="#">spec sheet</a> for AFL No.

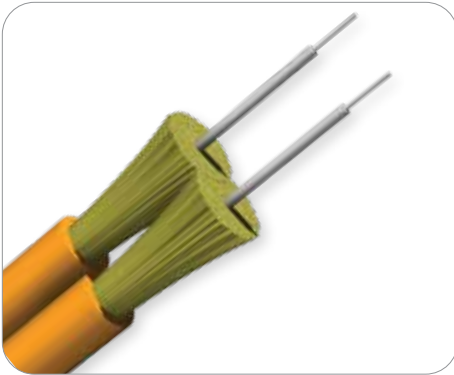
## Qualifications

GOVERNING BODY	STANDARD CODE
IEC	61034-1
IEC	61034-2
IEC	60332-1-1
IEC	60332-1-2
IEC	60754-1
IEC	60754-2
Telcordia	GR-409-CORE
RoHS	Compliant to 2002/95/EC
EIA/TIA	568-133

## Temperature Specifications

	PLENUM	RISER	LSZH
<b>OPERATION</b>	0°C to +70°C	-20°C to +70°C	0°C to +70°C
<b>STORAGE</b>	-40°C to +75°C	-40°C to +75°C	-40°C to +75°C
<b>INSTALLATION</b>	0°C to +70°C	-20°C to +70°C	0°C to +70°C

Contact AFL for more details.



## Zipcord, Dual-link and Micro-Dual Cable

Zipcord, DUAL-link and Micro-Dual cables provide links to the future for such protocols as FDDI, 10 Gigabit Ethernet, ATM, and Fibre Channel. AFL offers a broad selection of duplex cordage including Plenum, Riser and LSZH in multiple diameters. LSZH jacketed cables are OFNR listed. One design for global companies that don't want to maintain multiple cable types for varying global standards.

### Features

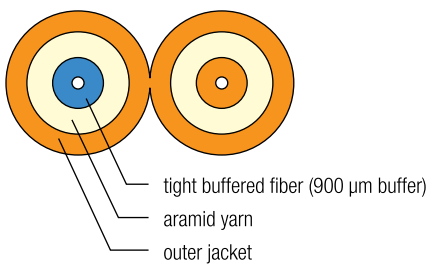
- Flexible, two-fiber design for ease of connections
- Print legend customization
- 12 standard Jacket colors available
- Tight Buffer strippability (easy strip option allows removal of up to 1 meter of 900  $\mu\text{m}$  material without stripping the fiber's 250  $\mu\text{m}$  coating)

### Applications

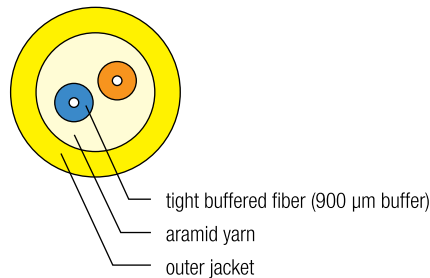
- Communications closet to wall outlet
- Wall outlet to desk
- Connectorized patchcords for interconnect and cross-connect applications
- Easy interface to ESCON<sup>®</sup>, FDDI, and various other duplex connectors

### Cable Components

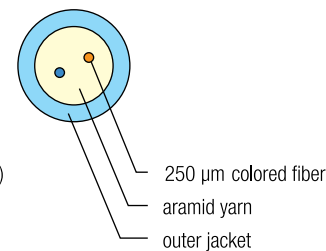
Zipcord



DUAL-Link



Micro-Dual



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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

continued  
→

## Zipcord, Dual-link and Micro-Dual Cable

### Mechanical Data

CABLE TYPE	AFL NO.			FIBER COUNT	NOMINAL DIAMETER inches (mm)	WEIGHT		TENSION		BENDING RADIUS	
	RISER	PLENUM	LSZH			RISER	PLENUM	lbs (N)		inches (cm)	
						lbs/1000 ft (kg/km)	lbs/1000 ft (kg/km)	INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
Zipcord	ZA002★301#01	ZP002★301#01	ZE002★301#0E	2	0.11 x 0.22 (2.9 x 6.0)	10 (15)	12 (18)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	ZR002★241#01	ZP002★241#01	ZE002★241#0E	2	0.09 x 0.19 (2.4 x 4.8)	7 (10)	9 (14)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	ZR002★201#01	ZP002★201#01	ZE002★201#0E	2	0.08 x 0.16 (2.0 x 4.0)	5 (8)	7 (10)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	ZR002★161#01	ZP002★161#01	ZE002★161#0E	2	0.06 x 0.12 (1.6 x 3.2)	4 (6)	7 (6)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
Micro-Dual	DR002★201#0B	DP002★201#0B	DE002★201#0B	2	0.08 (2.0)	3 (5)	5 (7)	22 (100)	7 (30)	1.2 (3.0)	0.78 (2.0)
DUAL-Link	DA002★481#01	DP002★481#01	DE002★481#0E	2	0.19 (4.8)	13 (20)	17 (20)	22 (100)	7 (30)	3.1 (7.2)	2.0 (7.2)
	DR002★281#01	DP002★281#01	DE002★281#0E	2	0.11 (2.8)	5 (7)	6 (9)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)
	DR002★241#01	DP002★241#01	DE002★241#0E	2	0.094 (2.4)	3 (5)	5 (7)	22 (100)	7 (30)	2.0 (5.0)	1.2 (3.0)

★ 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	

### Recommended Products

DESCRIPTION	AFL NO.
FASTConnect® Mechanical Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® Splice-on Connectors	Refer too <a href="#">spec sheet</a> for AFL No.

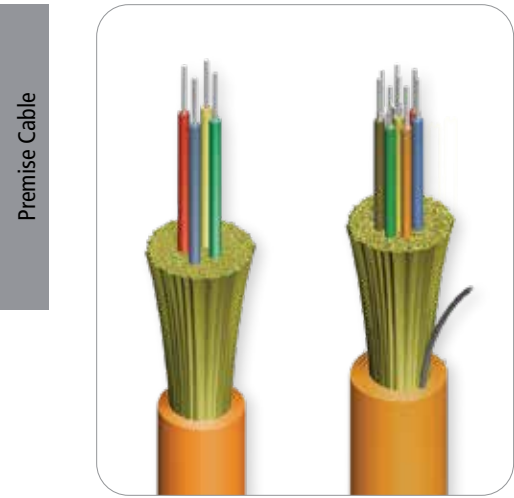
### Temperature Specifications

	PLENUM	RISER
<b>OPERATION</b>	0°C to +70°C	-20°C to +70°C
<b>STORAGE</b>	-40°C to +75°C	-40°C to +75°C
<b>INSTALLATION</b>	0°C to +70°C	-20°C to +70°C

### Qualifications

GOVERNING BODY	STANDARD CODE
IEC	61034-1
IEC	61034-2
IEC	60332-1-1
IEC	60332-1-2
IEC	60754-1
IEC	60754-2
Telcordia	GR-409-CORE
RoHS	Compliant to 2002/95/EC
EIA/TIA	568-133

Contact AFL 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.

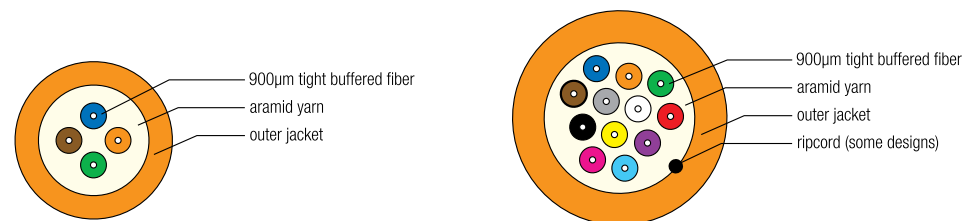
### Features

- 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 <sub>c</sub> (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	

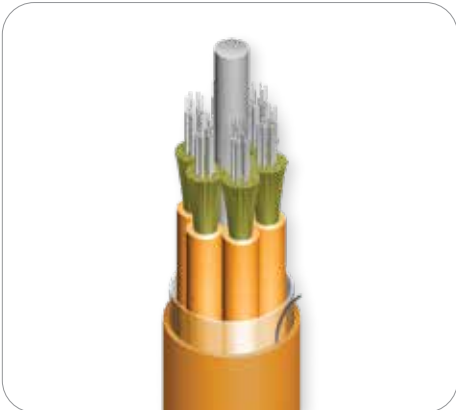
### Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-409-CORE
EIA/TIA	568-A
ICEA	
RoHS	2002/95/EC

### Temperature Specifications

	PLENUM	RISER
<b>INSTALLATION</b>	0°C to +70°C	-20°C to +70°C
<b>OPERATING</b>	0°C to +70°C	-20°C to +70°C
<b>STORAGE</b>	-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.

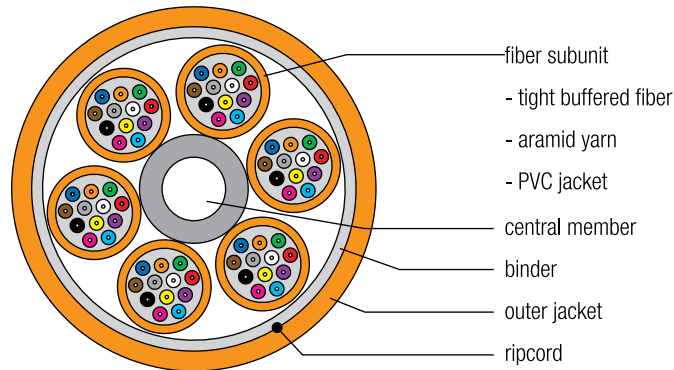
### Features

- 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
- Intra-building "backbones"

### Cable Components



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (DB/KM)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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	

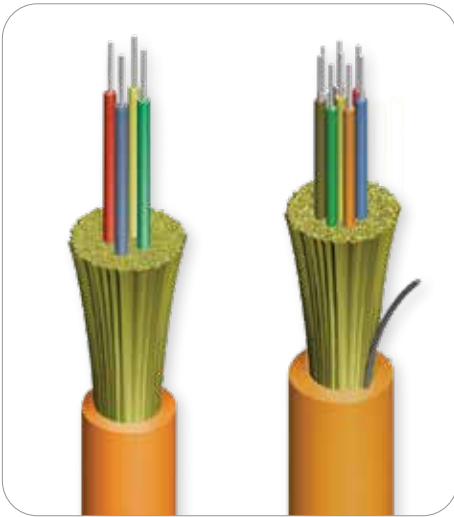
### Qualifications

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
<b>INSTALLATION</b>	0°C to +70°C	-20°C to +70°C
<b>OPERATION</b>	0°C to +70°C	-20°C to +70°C
<b>STORAGE</b>	-40°C to +75°C	-40°C to +75°C

Contact AFL for further details.



## Low Smoke Zero Halogen Distribution Cable

The Low Smoke Zero Halogen (LSZH) Distribution cable family from AFL offers all of the benefits of a traditional 900 μm based optical cable while supporting compliance to stringent international standards for jacket material composition and flame safety. Additionally, AFL's LSZH distribution cable design complies with UL 1666 and UL 1685 standards for OFNR-LS criteria. Circular Premise cable based on 900 μm tight buffer constructions provide the performance and density demanded by today's optical network installation demands. These cable designs support either direct or indirect termination schemes while enabling efficient routing through industry-standard Fiber Management Systems. Cable constructions support the application of Industry-leading multimode fiber as well as single-mode solutions. Both fiber configurations are available in bend-insensitive designs as well.

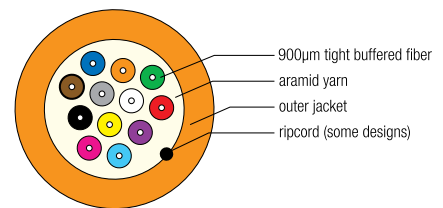
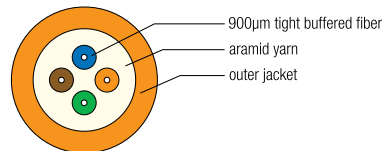
### Features

- 900 μm tight buffer construction
- Fiber counts of 4 to 24 available
- Support either direct or indirect termination schemes
- Mixed fiber designs available

### Applications

- Routing between communications closets and equipment rooms
- Data center trunk cabling
- LAN distribution/intrabuilding backbones
- Environments requiring zero-halogen safety features
- Pre-terminated optical assembly

### Cable Components



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAX. 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	10,000



## Low Smoke Zero Halogen Distribution Cable (cont.)

### Mechanical Data

CABLE TYPE	AFL NO. LSZH	FIBER COUNT	NOMINAL DIAMETER inches (mm)	WEIGHT lbs/1000 ft (kg/km)	TENSION		BENDING RADIUS	
					lbs (N)		inches (cm)	
						INSTALLATION	LONG TERM	INSTALLATION
QUAD-Link	UE004★481#0E	4	0.189 (4.8)	14 (21)	200 (890)	45 (198)	3.8 (9.6)	1.9 (4.8)
CPC	CE006★521#0E	6	0.205 (5.2)	17 (26)	200 (890)	45 (198)	4.1 (10.4)	2.1 (5.2)
	CE008★541#0E	8	0.213 (5.4)	19 (29)	200 (890)	45 (198)	4.3 (10.8)	2.2 (5.4)
	CE012★601#0E	12	0.236 (6.0)	26 (38)	200 (890)	45 (198)	4.8 (12.0)	2.4 (6.0)
	CE018★761#0E	18	0.299 (7.6)	39 (58)	300 (1320)	90 (396)	6.0 (15.2)	3.0 (7.6)
	CE024★841#0E	24	0.331 (8.4)	50 (75)	300 (1320)	90 (396)	6.5 (16.4)	3.3 (8.4)

★ 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	

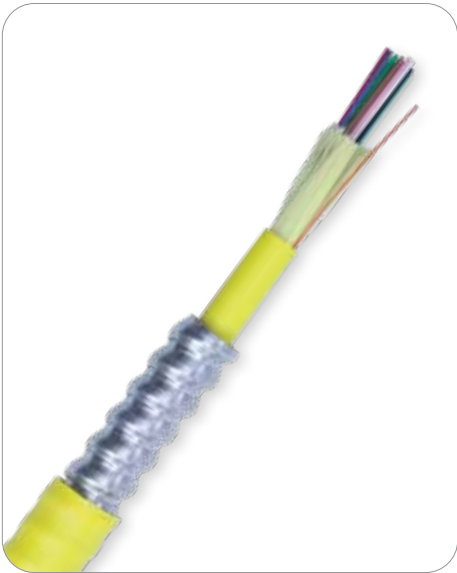
### Qualifications

GOVERNING BODY	STANDARD CODE
EIA/TIA	568
Telcordia	GR-409-CORE Issue 2
IEC	60332, 60754, 61034
UL	1666, 1685 (OFNR-LS)
RoHS	2002/95/EC
REACH	SVHC

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-10°C to +60°C
OPERATING	-40°C to +70°C
STORAGE	-40°C to +70°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®.

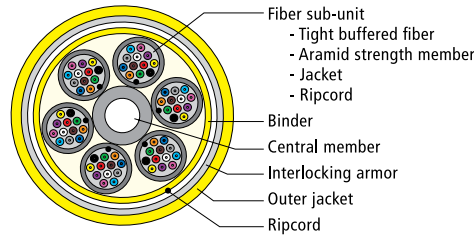
### Features

- Fiber counts 4-144
- Aluminum interlocking armor

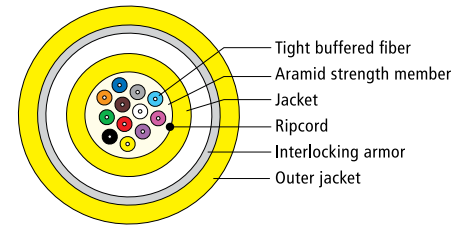
### Applications

- 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)		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	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	

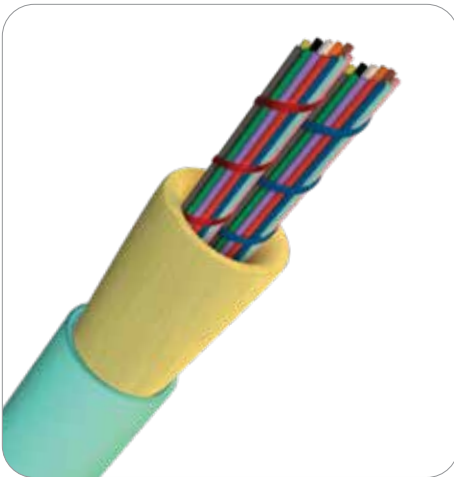
### Qualifications

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.



## 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.

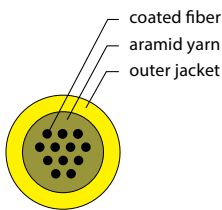
### Features

- 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

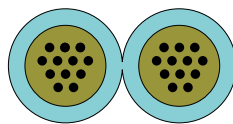
### Applications

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

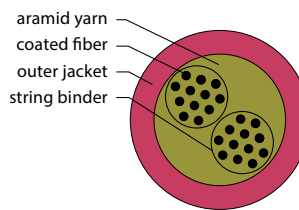
### Cable Components



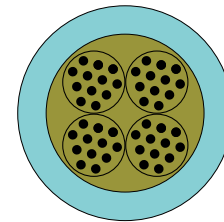
12 Fiber Simplex



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 <sub>c</sub> (MHz•km)	GIGABIT ETHERNET MAX. LINK DISTANCE (meters)		10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters)	
		850 nm	1300 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	850 nm	1300 nm
(6) 62.5 Giga-Link™ 300	OM1	3.5	1.2	N/A	200	600	N/A	300	550	32	—
(5) 50 Giga-Link™ 600	OM2	3.5	1.5	N/A	500	500	N/A	600	600	82	—
(L) 50 Laser-Link 300	OM3	3.0	1.2	N/A	1,500	500	2,000	1,000	550	300	—
(C) 50 Laser-Link 550	OM4	3.0	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(W) AFL Wideband Multimode	OM5	3.0	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(9) Single-mode (ITU G.652.D/G.657.A1)	OS2	N/A	0.5	0.5	N/A	N/A	N/A	N/A	5,000	N/A	10,000

\*Other fiber types available (All ITU G.657 grade SMF available)

continued  
→



## Interconnect Premise MicroCore® Cable

### Mechanical Data

CABLE TYPE	PLENUM	LSZH	FIBER COUNT	NOMINAL DIAMETER	WEIGHT	TENSION lbs (N)		BENDING RADIUS inches (cm)	
	AFL NO.			inches (mm)	lbs/1000 ft (kg/km)	INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
	SP/ZP	SE/ZE							
SINGLE SMALL FORM	SP008◆201#0B	SE008◆201#0B	8	0.08 (2.0)	2.6 (4.0)	22 (98)	7 (30)	1.2 (3.0)	0.8 (2.0)
	SP012◆201#0B	SE012◆201#0B	12	0.08 (2.0)	2.6 (4.0)	22 (98)	7 (30)	1.2 (3.0)	0.8 (2.0)
	SP016◆301#0B	SE016◆301#0B	16	0.12 (3.0)	5.3 (7.9)	22 (98)	7 (30)	1.8 (4.5)	1.2 (3.0)
	SP024◆301#0B	SE024◆301#0B	24	0.12 (3.0)	5.3 (7.9)	22 (98)	7 (30)	1.8 (4.5)	1.2 (3.0)
	SP032◆381#0B	SE032◆381#0B	32	0.15 (3.8)	9.4 (14.0)	22 (98)	7 (30)	2.2 (5.7)	1.5 (3.8)
	SP048◆381#0B	SE048◆381#0B	48	0.15 (3.8)	9.4 (14.0)	22 (98)	7 (30)	2.2 (5.7)	1.5 (3.8)
SIMPLEX	SP008◆301#0B	SE008◆301#0B	8	0.12 (3.0)	5.3 (7.9)	50 (220)	17 (75)	1.8 (4.5)	1.2 (3.0)
	SP012◆301#0B	SE012◆301#0B	12	0.12 (3.0)	5.3 (7.9)	50 (220)	17 (75)	1.8 (4.5)	1.2 (3.0)
	SP024◆381#0B	SE024◆381#0B	24	0.15 (3.8)	10.1 (15.0)	75 (330)	25 (110)	2.2 (5.7)	1.5 (3.8)
	SP048◆401#0B	SE048◆401#0B	48	0.16 (4.0)	9.4 (14.0)	50 (220)	17 (75)	2.4 (6.0)	1.6 (4.0)
	SP048◆481#0B	SE048◆481#0B	48	0.19 (4.8)	14.1 (21.0)	75 (330)	25 (110)	2.8 (7.2)	1.9 (4.8)
	SP064◆451#0B	SE064◆451#0B	64	0.18 (4.5)	13.4 (20.0)	50 (220)	17 (75)	2.7 (6.8)	1.8 (4.5)
	SP072◆481#0B	SE072◆481#0B	72	0.19 (4.8)	16.1 (24.0)	50 (220)	17 (75)	2.8 (7.2)	1.9 (4.8)
ZIPCORD	ZP024◆301#0B	ZE024◆301#0B	24	0.12 (3.0)	12.4 (18.4)	100 (445)	33 (147)	1.8 (4.5)	1.2 (3.0)

◆ Fiber Types – Replace diamond (◆) in AFL No. with number in the Fiber Specifications table on previous page.

# Outer Jacket Color – Replace hashtag (#) in AFL No. with number in the Cable Jacket Color table below.

16 unique colors available for fibers in 16 fiber subunit: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua, Olive, Magenta, Tan, Lime.

### Cable Jacket Color Options

1 - Blue	8 - Black
2 - Orange (OM1 and OM2)	9 - Yellow (SM)
3 - Green	A - Violet
4 - Brown	B - Rose
5 - Slate	C - Aqua (OM3 and OM4)
6 - White	K - Erika Violet (OM4)
7 - Red	L - Lime (Pending for OM5)

### Qualifications

GOVERNING BODY	STANDARD CODE
NFPA	262
IEC	60332
IEC	60754
IEC	61034
Telcordia	GR-409-CORE
RoHS	Compliant to 2002/95/EC

### Temperature Specifications

TEMPERATURE RANGE	
OPERATION	0°C to +70°C
STORAGE	-40°C to +75°C
INSTALLATION	0°C to +70°C

Contact AFL for cable designs.



## Interconnect Premise MicroCore® Cable with SpiderWeb Ribbon® (SWR®) Technology

Interconnect Premise MicroCore cables with SWR are designed for MTP terminations and meet the interconnect standards of Telcordia® GR-409. To minimize the cable's diameter, SWR and aramid strands are packaged in a high performance PVC or LSZH jacket. Fiber counts of 12 and 24 are available. Both Simplex and Zipcord designs are available.

SWR is a bonded fiber design allowing for either a highly efficient ribbonizing application or for individual fiber breakouts. 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.

### Features

- 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
- Exceptional skew performance

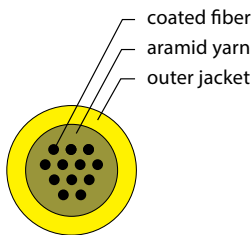
### Applications

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

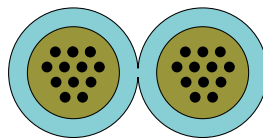


SpiderWeb Ribbon Technology

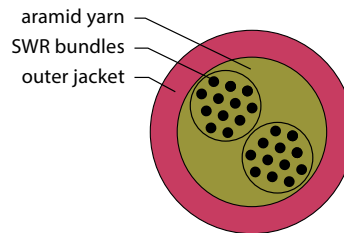
### Cable Components



12 Fiber Simplex



24 Fiber Zipcord  
(3.0 mm only)



24 Fiber Simplex

### SWR Fiber Specifications

CORE SIZE/FIBER TYPE	ISO	MAX. 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 Bend-Insensitive Single-mode (ITU G.652.D/G.657.A1)	OS2	N/A	0.5	0.5		N/A	N/A	N/A	5,000

*continued*  
→



# Interconnect Premise MicroCore® Cable with SpiderWeb Ribbon® (SWR®) Technology

## Mechanical Data

CABLE TYPE	FIBER COUNT	NOMINAL DIAMETER	WEIGHT	TENSION lbs (N)		BENDING RADIUS inches (cm)	
		inches (mm)	lbs/1000 ft (kg/km)	INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
SINGLE SMALL FORM	24	0.12 (3.0)	5.3 (7.9)	22 (98)	7 (30)	1.8 (4.5)	1.2 (3.0)
SIMPLEX	12	0.12 (3.0)	5.3 (7.9)	50 (220)	17 (75)	1.8 (4.5)	1.2 (3.0)
	24	0.15 (3.8)	10.1 (15.0)	75 (330)	25 (110)	2.2 (5.7)	1.5 (3.8)
ZIPCORD	24	0.12 (3.0)	12.4 (18.4)	100 (445)	33 (147)	1.8 (4.5)	1.2 (3.0)

## Ordering Information

CABLE TYPE	FIBER COUNT	AFL NO.	
		SINGLE-MODE	
		PLENUM	LSZH
SINGLE SMALL FORM	24	SP024P301#0R	SE024P301#0R
SIMPLEX	12	SP012P301#0R	SE012P301#0R
	24	SP024P381#0R	SE024P381#0R
ZIPCORD	24	ZP024P301#0R	ZE024P301#0R

Replace # with number corresponding to desired jacket color from Cable Jacket Color Options table below.

## Cable Jacket Color Options

1 - Blue	6 - White	B - Rose
2 - Orange	7 - Red	C - Aqua (OM3 and OM4)
3 - Green	8 - Black	K - Erika Violet (OM4)
4 - Brown	9 - Yellow (SM)	L - Lime
5 - Slate	A - Violet	

## Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
NFPA	262 (ONFP)	Jacket
IEC	60332, 60754, 61034	LSZH/ONFR-LS Jacket
Telcordia	GR-409-CORE	Jacket
RoHS	2002/95/EC	Jacket

## Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	0°C to +70°C
OPERATING	0°C to +70°C
STORAGE	-40°C to +75°C

Contact AFL for further details.



## Ruggedized MicroCore<sup>®</sup> 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.

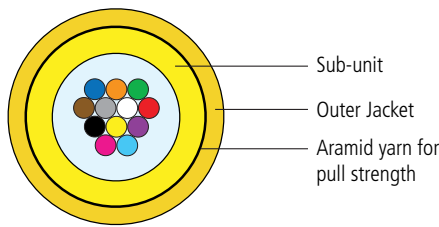
### Features

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

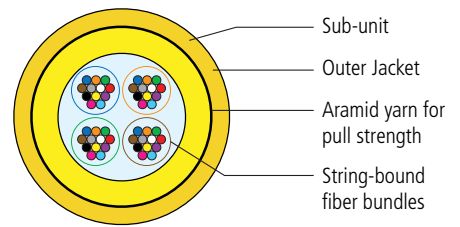
### Applications

- 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
(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
<b>INSTALLATION</b>	- 0°C to +60°C	- 0°C to +60°C
<b>OPERATION</b>	- 0°C to +70°C	- 20°C to +70°C
<b>STORAGE</b>	- 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.

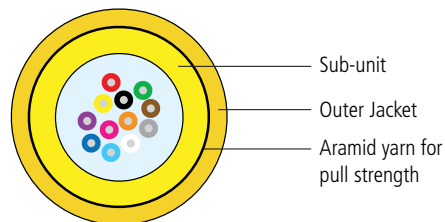
### Features

- 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.

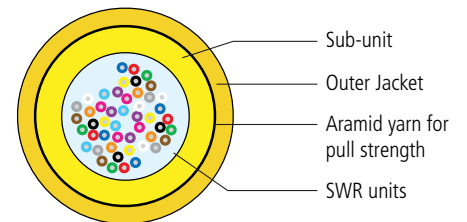
### Applications

- 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 <sub>c</sub> (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	

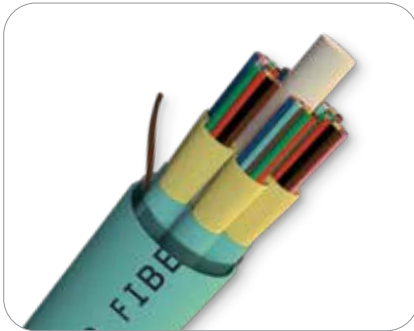
## Qualifications

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
<b>INSTALLATION</b>	0°C to +60°C	0°C to +60°C
<b>OPERATION</b>	0°C to +70°C	-20°C to +70°C
<b>STORAGE</b>	-40°C to +70°C	-40°C to +70°C

Contact AFL for further details.



## Sub-unitized Premise MicroCore® 2.0

AFL Sub-unitized MicroCore 2.0 cables continue to push evolution of high performance premise cabling. Now available in Base-8 cable configurations up to 144 fibers, and Base-12 configurations up to 216 fibers. MicroCore 2.0 can support all of your high-density network needs, offering the highest density 2.0 mm fiber cables available.

Constructed of the highest quality materials to exacting industry standards, these small-diameter cables provide the solution sought out by today's structured cabling professionals. Each sub-cable is independently qualified and is suitable for individual routing paths within the rack/panel architecture. This enables a flexibility of design and deployment not available in comparable high-density designs. Designed for direct termination and supportive of both single-fiber and multifiber architectures, this cable family should serve as the backbone to any deployed system. Cables are constructed with AFL MicroCore technology consistent with a long line of market leading designs.

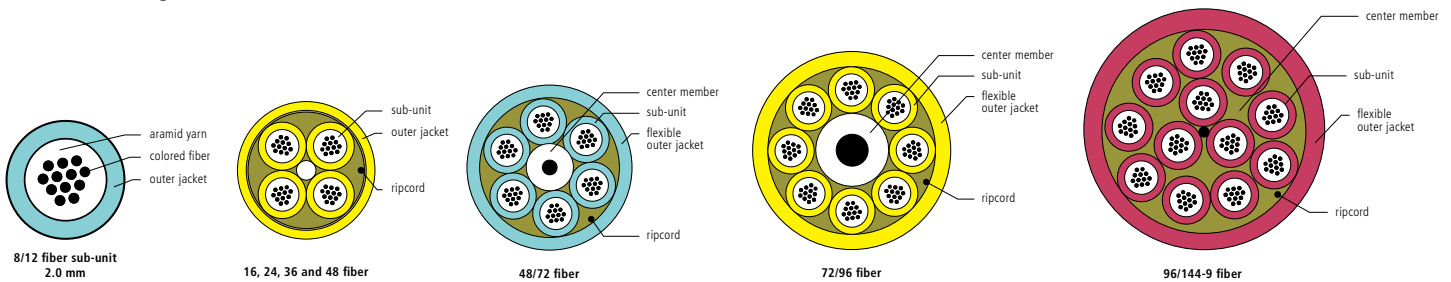
### Features

- 8-fiber sub-units with 16-144 fibers
- 12-fiber sub-units with 24-216 fibers
- Plenum flame-rated jacket
- All aramid tensile strength members within sub-units

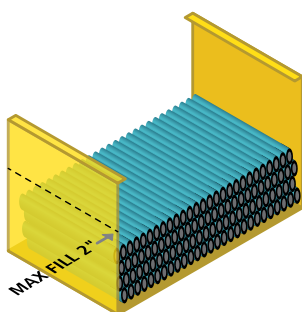
### Applications

- Headend termination to a fiber "backbone"
- Termination of fiber rack systems
- Multifloor deployment where select fibers are used at each floor
- Intra-building "backbones"
- MTP/MPO or MTP to break-out terminations

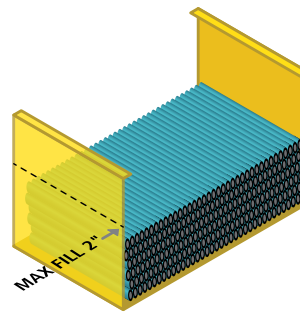
### Cable Components



### 27% Reduction in 72ct Cable Diameter Yields Over 100% Increase in Pathway Capacity



**Current 3.0 Sub-unitized Cable in Tray**  
120 x 72ct cables in standard 4" X 12" tray



**Next Generation Sub-unitized MicroCore 2.0 Cable in Tray**  
250 x 72ct cables in standard 4" X 12" tray





## Sub-unitized Premise MicroCore® 2.0

### Mechanical Data

TYPE	AFL NO.	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						INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
8-FIBER SUBUNITS	GQ016★201##B:848	16	4	2	0.27 (7.0)	32 (47)	150 (660)	45 (198)	4.1 (10.5)	2.7 (7.0)
	GQ032★201##B:848	32	4	0	0.27 (7.0)	33 (49)	150 (660)	45 (198)	4.1 (10.5)	2.7 (7.0)
	GQ048★201##B:868	48	6	0	0.32 (8.2)	42 (63)	150 (660)	45 (198)	4.8 (12.3)	3.2 (8.2)
	GQ064★201##B:888	64	8	0	0.33 (8.5)	35 (52)	150 (660)	45 (198)	5.0 (12.8)	3.3 (8.5)
	GQ072★201##B:898	72	9	0	0.40 (10.3)	81 (120)	150 (660)	45 (198)	6.0 (15.5)	4.0 (10.3)
	GQ096★201##B:8C8	96	12	0	0.40 (10.3)	65 (97)	150 (660)	45 (198)	6.0 (15.5)	4.0 (10.3)
	GQ144★201##B:8I8	144	18	0	0.50 (12.9)	104 (155)	150 (660)	45 (198)	7.5 (19.4)	5.0 (12.9)
12-FIBER SUBUNITS	GQ024★201##B:C4C	24	4	2	0.27 (7.0)	33 (49)	150 (660)	45 (198)	4.1 (10.5)	2.7 (7.0)
	GQ036★201##B:C4C	36	4	1	0.27 (7.0)	33 (49)	150 (660)	45 (198)	4.1 (10.5)	2.7 (7.0)
	GQ048★201##B:C4C	48	4	0	0.27 (7.0)	33 (49)	150 (660)	45 (198)	4.1 (10.5)	2.7 (7.0)
	GQ072★201##B:C6C	72	6	0	0.32 (8.2)	44 (66)	150 (660)	45 (198)	4.8 (12.3)	3.2 (8.2)
	GQ096★201##B:C8C	96	8	0	0.41 (10.5)	84 (125)	150 (660)	45 (198)	6.2 (15.8)	4.1 (10.5)
	GQ144★201##B:CCC	144	12	0	0.40 (10.3)	67 (100)	150 (660)	45 (198)	6.0 (15.5)	4.0 (10.3)
	GQ168★201##B:CIC	168	18	4	0.50 (12.9)	108 (160)	150 (660)	45 (198)	7.5 (19.4)	5.0 (12.9)
	GQ192★201##B:CIC	192	18	2	0.50 (12.9)	108 (160)	150 (660)	45 (198)	7.5 (19.4)	5.0 (12.9)
GQ216★201##B:CIC	216	18	0	0.50 (12.9)	108 (160)	150 (660)	45 (198)	7.5 (19.4)	5.0 (12.9)	

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table below.  
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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

### Cable Jacket Color Options

1 - Blue	6 - White	B - Rose
2 - Orange	7 - Red	C - Aqua
3 - Green	8 - Black	K - Erika Violet (RAL 4003)
4 - Brown	9 - Yellow	
5 - Slate	A - Violet	

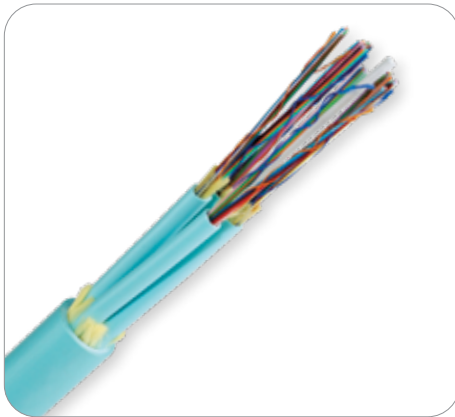
### Temperature Specifications

TEMPERATURE RANGE	
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)

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT	GOVERNING BODY	STANDARD CODE	COMPONENT
NFPA	262 (ONFP)	Outer Jacket	ICEA	S-104-696	Sub-units
Telcordia	GR-409-CORE	Sub-units	RoHS	2002/95/EC	Cable
EIA/TIA	568	Sub-units	IEC		

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.

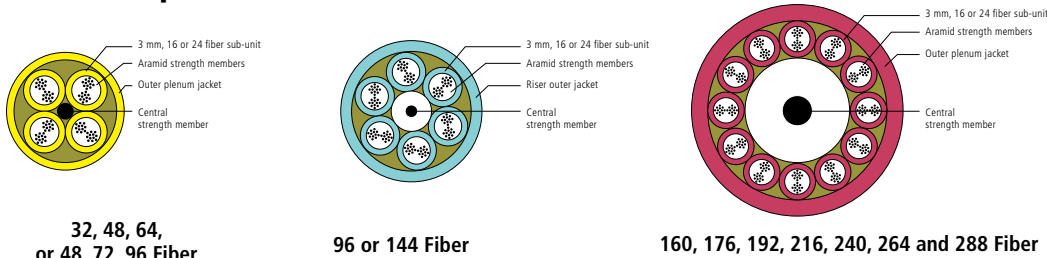
### Applications

- 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 <sub>c</sub> (MHz•km)	GIGABIT ETHERNET MAX. LINK DISTANCE (meters)		10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters)	
		850 nm	1300 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	850 nm	1300 nm
		(6) 62.5 Giga-Link™ 300	OM1	3.5	1.2	N/A		200	600	N/A	300
(5) 50 Giga-Link™ 600	OM2	3.5	1.5	N/A	500	500	N/A	600	600	82	—
(L) 50 Laser-Link 300	OM3	3.0	1.2	N/A	1,500	500	2,000	1,000	550	300	—
(C) 50 Laser-Link 550	OM4	3.0	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(W) AFL Wideband Multimode	OM5	3.0	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(9) Single-mode (ITU G.652.D/G657.A1)	OS2	N/A	0.5	0.5	N/A	N/A	N/A	N/A	5,000	N/A	10,000

\*Other grades of single-mode fiber available.



continued  
→

## Sub-unitized Premise MicroCore® 3.0 Base-16 and Base-24

### Mechanical Data

TYPE	AFL NO. WITH STANDARD LOOSE FIBER		FIBER COUNT	NO. OF SUBS	NO. OF FILLERS	NOMINAL DIAMETER inches (mm)	WEIGHT lbs/1000 ft (kg/km)	TENSION lbs (N)		BENDING RADIUS inches (cm)	
	PLENUM	LSZH						INSTALL	LONG TERM	INSTALL	LONG TERM
16F SUB-UNITS (2X 8F BUNDLES)	GQ032*301##B:G48	GE032*301##B:G48	32	2	2	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ048*301##B:G48	GE048*301##B:G48	48	3	1	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ064*301##B:G48	GE064*301##B:G48	64	4	0	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ080*301##B:G68	GE080*301##B:G68	80	5	1	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
	GQ096*301##B:G68	GE096*301##B:G68	96	6	0	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
	GQ112*301##B:G98	GE112*301##B:G98	112	7	2	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ128*301##B:G98	GE128*301##B:G98	128	8	1	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ144*301##B:G98	GE144*301##B:G98	144	9	0	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ160*301##B:GC8	GE160*301##B:GC8	160	10	2	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
	GQ176*301##B:GC8	GE176*301##B:GC8	176	11	1	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
24F SUB-UNITS (2X 12F BUNDLES)	GQ192*301##B:GC8	GE192*301##B:GC8	192	12	0	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
	GQ048*301##B:O4C	GE048*301##B:O4C	48	2	2	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ072*301##B:O4C	GE072*301##B:O4C	72	3	1	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ096*301##B:O4C	GE096*301##B:O4C	96	4	0	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	GQ120*301##B:O6C	GE120*301##B:O6C	120	5	1	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
	GQ144*301##B:O6C	GE144*301##B:O6C	144	6	0	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
	GQ168*301##B:O9C	GE168*301##B:O9C	168	7	2	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ192*301##B:O9C	GE192*301##B:O9C	192	8	1	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ216*301##B:O9C	GE216*301##B:O9C	216	9	0	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	GQ240*301##B:OCC	GE240*301##B:OCC	240	10	2	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
GQ264*301##B:OCC	GE264*301##B:OCC	264	11	1	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)	
GQ288*301##B:OCC	GE288*301##B:OCC	288	12	0	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)	

\* Fiber Types—Replace asterisk (\*) in AFL No. with number in the Fiber Specifications table on previous page.

# Outer Jacket Color – Replace hashtag (#) in AFL No. with number in the Cable Jacket Color table below.

16 unique colors available for fibers in 16 fiber sub-unit: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua, Olive, Tan, Lime, Magenta

### Cable Jacket Color Options

1 - Blue	8 - Black
2 - Orange (OM1 and OM2)	9 - Yellow (SM)
3 - Green	A - Violet
4 - Brown	B - Rose
5 - Slate	C - Aqua (OM3 and OM4)
6 - White	K - Erika Violet (OM4)
7 - Red	L - Lime (Pending for OM5)

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
NFPA	262 (ONFP) / FT6	Plenum Jacket
IEC	60332, 60754, 61034	LSZH/ONFR-LS Jacket
Telcordia	GR-409-CORE	Jacket
EIA/TIA	568	Jacket
ICEA		Jacket
RoHS	REACH	Jacket

### Temperature Specifications

TEMPERATURE RANGE	
LSZH/PLENUM	
<b>INSTALLATION</b>	0°C to +60°C (32°F to +140°F)
<b>OPERATION</b>	0°C to +70°C (32°F to +158°F)
<b>STORAGE</b>	-40°C to +70°C (-40°F to +158°F)

Contact AFL for further details.



## Sub-unitized Premise MicroCore® 3.0 Base-12

Sub-unitized Premise MicroCore Cables are ideal for 12-144 fiber high performance premise installations where space is a premium. The round cross-sectional building blocks combine to provide a tight package, while enabling high density architecture. Each 12-fiber sub-unit consists of 250 µm colored fibers and aramid strength members enclosed by a high performance jacket. The sub-units are designed to be independently routed in FMS systems.

### Features

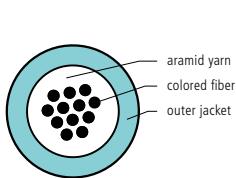
- High performance PVC or LSZH outer jackets available
- No preferential bend typically found in stacked ribbon designs
- Small diameter/superior bend performance
- Aramid tensile strength members within sub-units
- Sub-units are suitable for direct termination with round boot MTP

### Applications

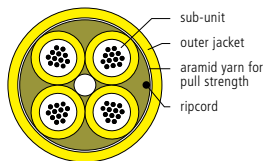
- In-building cable runs where space is a premium
- Trunk applications where flexibility and small required bend radius are needed to route cable.
- High density cable areas like Data Centers and Central Offices
- Lower cost cable runs where easy handling of tight buffered fibers not needed because cable will be spliced to factory terminated pigtailed
- Trunk cables where MTP can be directly terminated on subunits

### Cable Components

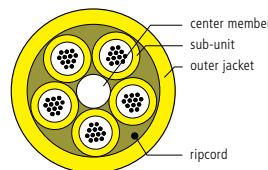
**Key: Q=Plenum, E=LSZH**



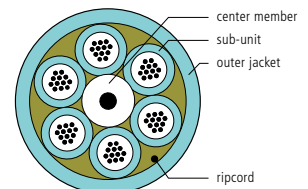
12 fiber sub-unit, Q E



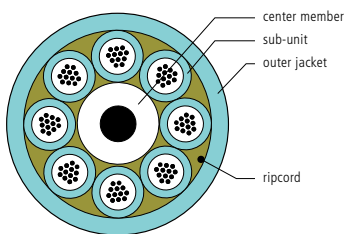
24, 36 and 48 fiber, Q E



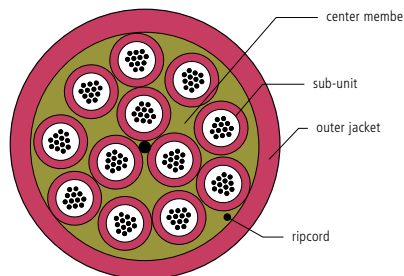
24-60 fiber



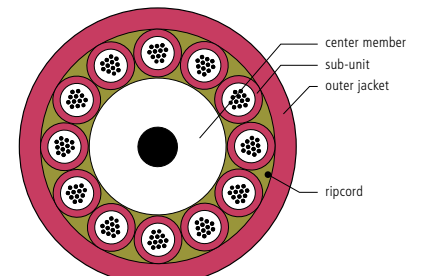
72 fiber, Q E



96 fiber, Q E



144-9 fiber, Q E



144 fiber



## Sub-unitized Premise MicroCore® 3.0 Base-12

### Mechanical Data

AFL NO.		FIBER COUNT	NOMINAL DIAMETER	WEIGHT	TENSION		BENDING RADIUS	
PLENUM	LSZH		inches (mm)	lbs/1000 ft (kg/km)	lbs (N)		inches (cm)	
					INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
GQ024★301##B:C4C	GE024★301##B:C4C	24	0.38 (9.7)	54 (80)	150 (660)	45 (198)	5.7 (15.5)	3.8 (9.7)
GQ036★301##B:C4C	GE036★301##B:C4C	36	0.38 (9.7)	54 (80)	150 (660)	45 (198)	5.7 (15.5)	3.8 (9.7)
GQ048★301##B:C4C	GE048★301##B:C4C	48	0.38 (9.7)	54 (80)	150 (660)	45 (198)	5.7 (15.5)	3.8 (9.7)
GQ072★301##B:C6C	GE072★301##B:C6C	72	0.44 (11.1)	84 (125)	150 (660)	45 (198)	6.6 (16.8)	4.4 (11.1)
GQ096★301##B:C8C	GE096★301##B:C8C	96	0.52 (13.3)	118 (175)	150 (660)	45 (198)	7.8 (19.8)	5.2 (13.3)
GQ144★301##B:CCC	GE144★301##B:CCC	144	0.59 (14.9)	124 (185)	150 (660)	45 (198)	5.8 (14.9)	8.8 (22.4)

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table below.  
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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

### Cable Jacket Color Options

1 - Blue	4 - Brown	7 - Red	A - Violet	K - Erika Violet (RAL 4003)
2 - Orange	5 - Slate	8 - Black	B - Rose	
3 - Green	6 - White	9 - Yellow	C - Aqua	

### Temperature Specifications

	LSZH AND PLENUM	RISER
<b>INSTALLATION</b>	0°C to +70°C	-10°C to +70°C
<b>OPERATION</b>	0°C to +70°C	-10°C to +70°C
<b>STORAGE</b>	-40°C to +70°C	-40°C to +70°C

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
NFPA	262	Plenum Jacket
UL	1666	Riser Jacket
IEC	60754-2, 61034-2, 60332-3-24	LSZH/ONFR-LS Jacket
Telcordia	GR-409-CORE	Jacket
EIA/TIA	568-B3	Jacket
ICEA	S-83-596	Jacket
RoHS	2002/95/EC	Jacket

Contact AFL for further details.



## Sub-unitized Premise MicroCore<sup>®</sup> 3.0 with SpiderWeb Ribbon<sup>®</sup> (SWR<sup>®</sup>) 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.

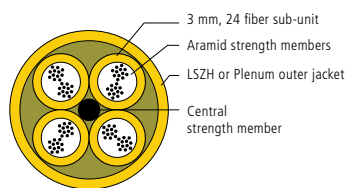
### Applications

- 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

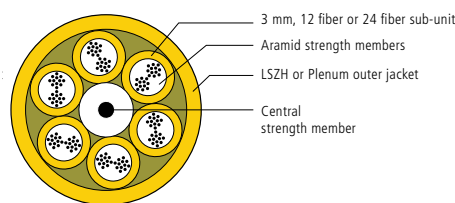
### Features

- 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

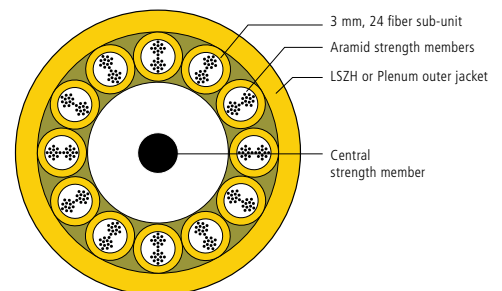
### Cable Components



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	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
6	0	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
7	2	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
8	1	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
9	0	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
10	2	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
11	1	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)
12	0	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)

### SWR Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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

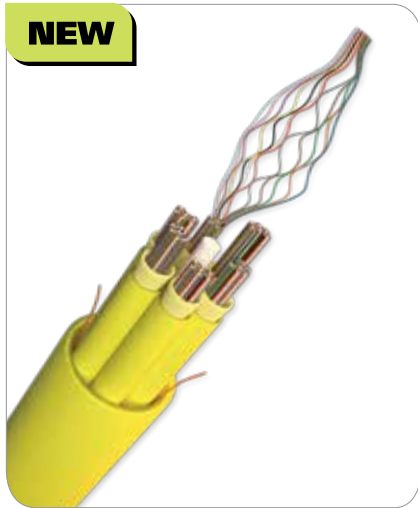
CABLE TYPE	FIBER COUNT	NO. OF SUBS	NO. OF FILLERS	AFL NO.	
				SINGLE-MODE	
				PLENUM	LSZH
12 Fiber Subunit	12	1	3	GQ012P301##R:C4C	GE012P301##R:C4C
	24	2	2	GQ024P301##R:C4C	GE024P301##R:C4C
	36	3	1	GQ036P301##R:C4C	GE036P301##R:C4C
	48	4	0	GQ048P301##R:C4C	GE048P301##R:C4C
	60	5	1	GQ060P301##R:C6C	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®

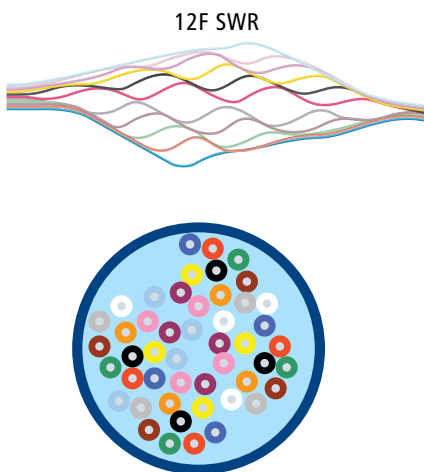
The Ultra HD MicroCore is the latest development in AFL's sub-unitized MicroCore cable family that uses SpiderWeb Ribbon® (SWR®) technology. Designed to support high fiber density deployments in data center and central office installation environments, the ultra HD sub-unit designs optimize splicing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

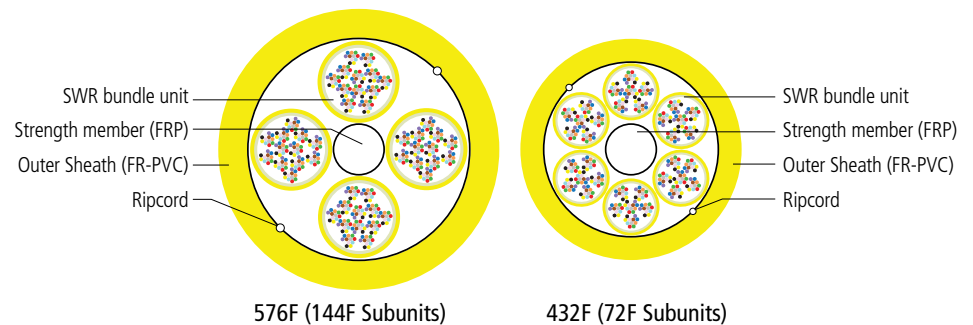
#### SWR Technology



Multiple 12F SWR subunits

72F OR 144F subunits depending on cable fiber count

#### Cable Components





## Ultra HD MicroCore®

### 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

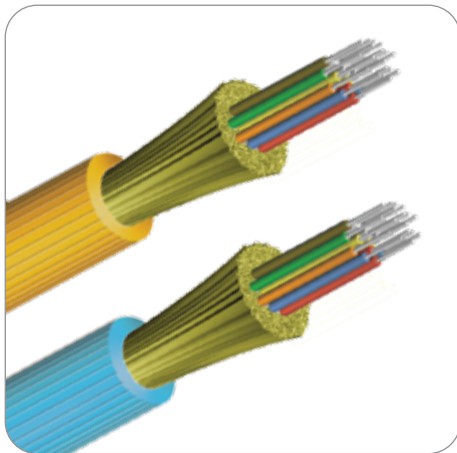
GOVERNING BODY	STANDARD CODE	COMPONENT
UL	1666	Listed Riser
ANSI/ICEA	S-83-596	Fiber
Telcordia	GR-409-CORE Issue 2	Indoor Fiber Optic Cable

### 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.

Fiber Optic Cable



## Enterprise Blown Fiber (eABF®) Cable

eABF cables are designed by AFL to offer the most rugged and reliable enterprise-based blown fiber solution in the market today. The patent pending cable design combines a light-weight, high-drag jacketing system that allows the cable to be blown long distances. The cable series also features additional attributes that set this product above and beyond traditional blown fiber cables. These enhanced features include mechanical strengthening that permits the cable to comply with industry-standard premise interconnect specifications. In addition, the eABF cable series feature flame-resistance characteristics which result in stand-alone riser and plenum rated options suitable for routing outside of the micro-duct system. Because of these mechanical, environmental and optical qualifications, eABF cables can also be installed in third-party, flame-rated duct and pathway systems.

### Applications

- Designed for Data Center Interconnect
- Horizontal Distribution
- Backbone Distribution
- Low-cost fiber upgrade migration strategies

### Features

- Contains water-blocking components for additional fiber protection from accidental water exposure
- Can be installed in eABF duct or third-party rated duct systems
- Complete range of single-mode and multimode fibers to support 10G, 40G and 100G Ethernet architectures
- Aramid-strengthened cable core for robust tensile load bearing capabilities
- OD compatible with 6 mm ID Micro-ducts for higher density fiber pathway solutions
- 96-Fiber count fits into 8.5 mm x 6 mm Micro-duct for up to 2,304 fibers per 24-way Dura-Line FuturePath Duct

### Specifications—eABF Optical Fiber

FIBER TYPE	ISO DESIGNATION	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	1310 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	850 nm	1300 nm
62.5/125	OM1	3.5	1.2	N/A	N/A	200	600	N/A	300	550	32	N/A
50/125	OM2 BIF	3.5	1.2	N/A	N/A	500	500	N/A	600	600	82	N/A
50/125	OM3 BIF	3.0	1.2	N/A	N/A	1500	500	2000	1000	550	300	N/A
50/125	OM4 BIF	3.0	1.2	N/A	N/A	3500	550	4700	1040	550	550	N/A
SM	OS2 (G.652D/G.657.A1)	N/A	N/A	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BIF = Bend Insensitive Fiber

### Estimated Installation Distances

OD/ID	DISTANCE (FT)
V-20 Install Distance—eABF 3.6 mm (6-24 Fibers)	
8.5 x 6	3,000
V-20 Install Distance—eABF 3.8 mm (48 Fibers)	
8.5 x 6	2,500
V-20 Install Distance—eABF 4.5 mm (72-96 Fibers)	
8.5 x 6	1,500

continued  
→

## Enterprise Blown Fiber (eABF) Cable (cont.)

### Mechanical Data—Riser (OFNR)

DURA-LINE NO.	DESCRIPTION	PRODUCT TYPE	FIBER COUNT	NOMINAL DIAMETER	WEIGHT	MAXIMUM TENSILE LOAD		MINIMUM BEND RADIUS	
				INCHES (MM)		LBS/1,000 FT (KG/KM)	SHORT TERM LBS (N)	LONG TERM LBS (N)	SHORT TERM INCHES (MM)
20002960	MicroCable Riser ENT-A SM-6	SMF	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002866	MicroCable Riser ENT-A SM-12	SMF	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20000729	MicroCable Riser ENT-A SM-24	SMF	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20000730	MicroCable Riser ENT-A SM-48	SMF	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003201	MicroCable Riser ENT-A SM-72	SMF	72	0.18 (4.5)	14.0 (20.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
<b>NEW</b> 20003628	MicroCable Riser SMF-72 200 µm	SMF 200 µm	72	0.15 (3.8)	11.0 (16.4)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003630	MicroCable Riser ENT-A SM-96	SMF 200 µm	96	0.18 (4.5)	16.0 (23.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002961	MicroCable Riser ENT-A OM1-6	OM1 (62.5/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002848	MicroCable Riser ENT-A OM1-12	OM1 (62.5/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002962	MicroCable Riser ENT-A OM1-24	OM1 (62.5/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002963	MicroCable Riser ENT-A OM1-48	OM1 (62.5/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003333	MicroCable Riser ENT-A OM1-72	OM1 (62.5/125)	72	0.18 (4.5)	14.0 (20.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002964	MicroCable Riser ENT-A OM2-6	OM2 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002965	MicroCable Riser ENT-A OM2-12	OM2 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002966	MicroCable Riser ENT-A OM2-24	OM2 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002967	MicroCable Riser ENT-A OM2-48	OM2 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003334	MicroCable Riser ENT-A OM2-72	OM2 (50/125)	72	0.18 (4.5)	14.0 (20.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002968	MicroCable Riser ENT-A OM3-6	OM3 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002969	MicroCable Riser ENT-A OM3-12	OM3 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20000695	MicroCable Riser ENT-A OM3-24	OM3 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002883	MicroCable Riser ENT-A OM3-48	OM3 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003335	MicroCable Riser ENT-A OM3-72	OM3 (50/125)	72	0.18 (4.5)	14.0 (20.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002970	MicroCable Riser ENT-A OM4-6	OM4 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002971	MicroCable Riser ENT-A OM4-12	OM4 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002972	MicroCable Riser ENT-A OM4-24	OM4 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20000696	MicroCable Riser ENT-A OM4-48	OM4 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003272	MicroCable Riser ENT-A OM4-72	OM4 (50/125)	72	0.18 (4.5)	14.0 (20.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)

continued



## Enterprise Blown Fiber (eABF) Cable (cont.)

### Mechanical Data—Plenum (OFNP)

DURA-LINE NO.	DESCRIPTION	PRODUCT TYPE	FIBER COUNT	NOMINAL DIAMETER	WEIGHT	MAXIMUM TENSILE LOAD		MINIMUM BEND RADIUS	
				INCHES (MM)	LBS/1,000 FT (KG/KM)	SHORT TERM LBS (N)	LONG TERM LBS (N)	SHORT TERM INCHES (MM)	LONG TERM INCHES (MM)
20002973	MicroCable Plenum ENT-A SM-6	SMF	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002974	MicroCable Plenum ENT-A SM-12	SMF	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002975	MicroCable Plenum ENT-A SM-24	SMF	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20001451	MicroCable Plenum ENT-A SM-48	SMF	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003337	MicroCable Plenum ENT-A SM-72	SMF	72	0.18 (4.5)	15.0 (22.3)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
<b>NEW</b> 20003629	MicroCable Plenum SMF-72 200 µm	SMF 200 µm	72	0.15 (3.8)	11.0 (16.4)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003631	MicroCable Plenum ENT-A SM-96	SMF 200 µm	96	0.18 (4.5)	16.0 (23.8)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002976	MicroCable Plenum ENT-A M1-6	OM1 (62.5/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002977	MicroCable Plenum ENT-A OM1-12	OM1 (62.5/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002978	MicroCable Plenum ENT-A OM1-24	OM1 (62.5/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002979	MicroCable Plenum ENT-A OM1-48	OM1 (62.5/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003338	MicroCable Plenum ENT-A OM1-72	OM1 (62.5/125)	72	0.18 (4.5)	15.0 (22.3)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002980	MicroCable Plenum ENT-A OM2-6	OM2 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002981	MicroCable Plenum ENT-A OM2-12	OM2 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002982	MicroCable Plenum ENT-A OM2-24	OM2 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002983	MicroCable Plenum ENT-A OM2-48	OM2 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003339	MicroCable Plenum ENT-A OM2-72	OM2 (50/125)	72	0.18 (4.5)	15.0 (22.3)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002984	MicroCable Plenum ENT-A OM3-6	OM3 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002985	MicroCable Plenum ENT-A OM3-12	OM3 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002986	MicroCable Plenum ENT-A OM3-24	OM3 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002987	MicroCable Plenum ENT-A OM3-48	OM3 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003340	MicroCable Plenum ENT-A OM3-72	OM3 (50/125)	72	0.18 (4.5)	15.0 (22.3)	22 (100)	7 (30)	3.6 (90)	1.8 (45)
20002988	MicroCable Plenum ENT-A OM4-6	OM4 (50/125)	6	0.14 (3.6)	6.4 (9.5)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002989	MicroCable Plenum ENT-A OM4-12	OM4 (50/125)	12	0.14 (3.6)	6.7 (10.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002990	MicroCable Plenum ENT-A OM4-24	OM4 (50/125)	24	0.14 (3.6)	7.4 (11.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20002919	MicroCable Plenum ENT-A OM4-48	OM4 (50/125)	48	0.15 (3.8)	9.4 (14.0)	22 (100)	7 (30)	1.2 (30)	0.8 (20)
20003341	MicroCable Plenum ENT-A OM4-72	OM4 (50/125)	72	0.18 (4.5)	15.0 (22.3)	22 (100)	7 (30)	3.6 (90)	1.8 (45)

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-409-CORE	Fiber Optic Cable
RoHS	2015/863	Fiber Optic Cable
UL	1666 (OFNR)	Riser Cables
NEC	2005 Art 770.51 (B)	Riser Cables
NFPA	262 OFNP	Plenum Cables

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	0°C to +70°C
OPERATING*	0°C to +70°C
STORAGE	-40°C to +75°C

\*Not intended for outside plant access during operational use.

Contact AFL for packaging details or any further questions.



## eABF® SWR® Enterprise Air-Jetted Fiber Cable

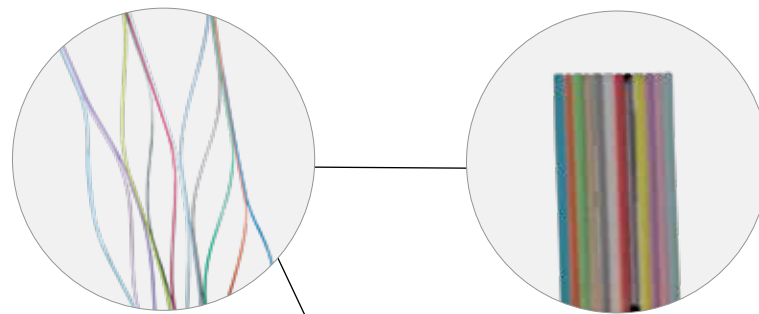
The AFL eABF SWR (SpiderWeb Ribbon®) is a new innovation that combines the best of ribbon fiber mass-fusion functionality and single fiber-bundle packing density to enterprise fiber optic structured cabling materials. The SWR fiber bundle used in this version of the eABF air-jetted fiber optic cable allows for the design of round, high-fiber density geometry yet offers the installer the ability to quickly and efficiently install MPO multi-fiber connectors or mass-fusion splicing without having to sort out and arrange individual fibers. In addition, because of SWR fiber binding system, the individual optical fibers can be easily separated and terminated as single fiber units.

The eABF SWR cable meets the interconnect standards of Telcordia GR-409 and is rated to meet NFPA/NEC flame-safety requirements as a stand-alone cable yet can be jetted thousands of feet in the Dura-Line FuturePath MicroDuct pathway system.

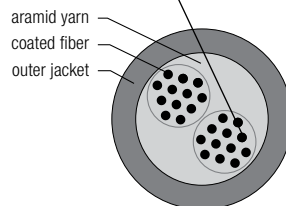
### Features

- 24, 48, 72 and 144 fiber options increase design flexibility without increasing space or installation time (labor costs) requirements
- Riser and Plenum options for use in riser or plenum pathway environments (outside of micro-duct)
- Contains water-blocking components for additional fiber protection from accidental water exposure
- Innovative fiber-ribbon bonding allows for higher density cable than traditional flat, fiber-ribbon
- SpiderWeb Ribbon technology reduces cable diameter to improve pathway space and cooling channel efficiencies
- Cable can be routed within cable management pathways (outside of micro-duct)
- OM3, OM4 and single-mode optical fiber options which support easy migration to IEEE 802.3ba 40GbE and 100GbE applications
- Optimized for high-density terminations for excellent integration with MPO-based and mass-fusion spliced connectivity solutions
- Environment-safe materials reduces concern for handling of cables
- Cables can be de-installed and reused to meet LEED-design guidelines for green building initiatives

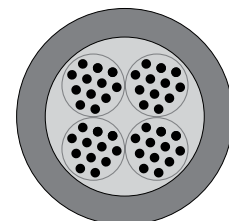
### SWR Technology



### Cable Components



24 Fiber eABF SWR



48 Fiber eABF SWR

*continued*





# eABF® SWR® Enterprise Air-Jetted Fiber Cable

## Ordering Information and Mechanical Data

DURA-LINE NO.	DESCRIPTION	FIBER TYPE	FIBER COUNT	NOMINAL DIAMETER		WEIGHT	MAX. TENSILE LOAD LBS (N)		MIN. BEND RADIUS INCHES (MM)	
				INCHES (MM)	LBS/KFT (KG/KM)		SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
<b>PLENUM</b>										
20003524	MicroCable SWR Plenum ENT-A SMF-SWR-12	SMF-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003525	MicroCable SWR Plenum ENT-A OM3-SWR-12	OM3-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003526	MicroCable SWR Plenum ENT-A OM4-SWR-12	OM4-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003374	MicroCable SWR Plenum ENT-A SMF-SWR-24	SMF-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003375	MicroCable SWR Plenum ENT-A OM3-SWR-24	OM3-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003376	MicroCable SWR Plenum ENT-A OM4-SWR-24	OM4-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003306	MicroCable SWR Plenum ENT-A SMF-SWR-48	SMF-SWR	48	0.16 (4.0)	12 (17.9)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
20003307	MicroCable SWR Plenum ENT-A OM3-SWR-48	OM3-SWR	48	0.16 (4.0)	12 (17.9)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
20003308	MicroCable SWR Plenum ENT-A OM4-SWR-48	OM4-SWR	48	0.16 (4.0)	12 (17.9)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
<b>NEW</b>	20005465	MicroCable Plenum ENT-SWR SM-144 200 µm	SMF-SWR 200 µm	144	0.28 (7.2)	42 (62.5)	22 (100)	7 (30)	7 (160)	4 (80)
<b>RISER</b>										
20003521	MicroCable SWR Riser ENT-A SMF-SWR-12	SMF-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003522	MicroCable SWR Riser ENT-A OM3-SWR-12	OM3-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003523	MicroCable SWR Riser ENT-A OM4-SWR-12	OM4-SWR	12	0.14 (3.5)	7.4 (11.0)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003425	MicroCable Riser ENT-SWR SM-24	SMF-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003424	MicroCable Riser ENT-SWR OM3-24	OM3-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003428	MicroCable Riser ENT-SWR OM4-24	OM4-SWR	24	0.14 (3.5)	8.7 (12.9)	22 (100)	7 (30)	2.0 (56)	1.5 (35)	
20003303	MicroCable Riser ENT-SWR SM-48	SMF-SWR	48	0.16 (4.0)	11 (16.4)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
20003304	MicroCable Riser ENT-SWR OM3-48	OM3-SWR	48	0.16 (4.0)	11 (16.4)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
20003305	MicroCable Riser ENT-SWR OM4-48	OM4-SWR	48	0.16 (4.0)	11 (16.4)	22 (100)	7 (30)	2.5 (60)	1.5 (35)	
20003446	MicroCable SWR Riser ENT-A OM3-SWR-72	OM3-SWR	72	0.18 (4.5)	16 (23.8)	22 (100)	7 (30)	2.7 (67)	1.8 (45)	
20003447	MicroCable SWR Riser ENT-A OM4-SWR-72	OM4-SWR	72	0.18 (4.5)	16 (23.8)	22 (100)	7 (30)	2.7 (67)	1.8 (45)	
20003448	MicroCable SWR Riser ENT-4 SMF-SWR-72	SMF-SWR	72	0.18 (4.5)	16 (23.8)	22 (100)	7 (30)	2.7 (67)	1.8 (45)	
20003882	MicroCable Riser ENT-SWR SM-144	SMF-SWR	144	0.28 (7.2)	30 (44.6)	22 (100)	7 (30)	7 (160)	4 (80)	

## Optical Specifications

FIBER TYPE	MAXIMUM ATTENUATION (dB/km)				OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (MHz•km)	GIGABIT ETHERNET MIN. LINK DISTANCE (Meters)		10 GIGABIT ETHERNET MIN. LINK DISTANCE (Meters)	
	850 nm	1300 nm	1310 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	850 nm	1300 nm
OM3	3.0	1.2	N/A	N/A	1500	500	2000	1000	550	300	N/A
OM4	3.0	1.2	N/A	N/A	3500	550	4700	1040	550	550	N/A
OS2	N/A	N/A	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-409-CORE	Fiber Optic Cable
RoHS	2015/863	Fiber Optic Cable
UL	1666 (ONFR)	Riser Cables
NEC	2005 Art 770.51 (B)	Riser Cables
NFPA	262 OFNP	Plenum Cables

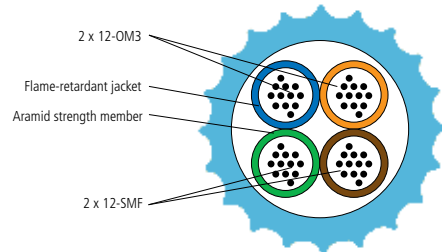
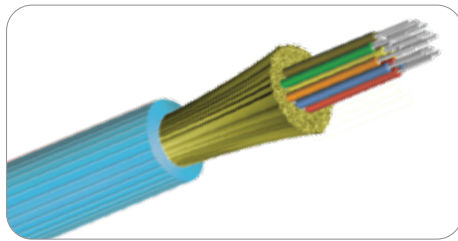
## Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	0°C to +70°C
OPERATING	0°C to +70°C
STORAGE	-40°C to +75°C

\*Not intended for outside plant access during operational use.

Contact AFL for further details.

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Example with OM3 and single-mode fibers

## Hybrid Enterprise Blown Fiber (eABF®) Cable with Various Fiber Combinations

eABF cables are designed by AFL to offer the most rugged and reliable enterprise-based blown fiber solution in the market today. The patent pending cable design combines a light-weight, high-drag jacketing system that allows the cable to be blown long distances. The cable series also features additional attributes that set this product above and beyond traditional blown fiber cables. These enhanced features include mechanical strengthening that permits the cable to comply with industry-standard premise interconnect specifications. In addition, the eABF cable series feature flame-resistance characteristics which result in stand-alone riser rated options suitable for routing outside of the micro-duct system. Because of these mechanical, environmental and optical qualifications, eABF cables can also be installed in third-party flame-rated duct and pathway systems.

### Features

- Flame-resistant cable jacket makes it suitable for routing outside of the micro-duct system
- Complete range of single-mode and multimode fibers to support 10G, 40G and 100G Ethernet architectures
- Aramid-strengthened cable core for robust tensile load bearing capabilities
- OD compatible with 6 mm ID Micro-ducts for higher density fiber pathway solutions
- Contains water-blocking components for additional fiber protection from accidental water exposure

### Applications

- Designed for Data Center Interconnect
- Horizontal Distribution
- Vertical Distribution
- Inter and Intra-building optical circuits
- Low-cost fiber upgrade migration strategies

### Specifications – eABF Optical Fiber

FIBER TYPE	ISO DESIGNATION	MAXIMUM ATTENUATION (DB/KM)			OVERFILL LAUNCH MIN. BANDWIDTH (MHZ-KM)		EMBC (MHZ-KM)	GIGABIT ETHERNET MIN. LINK DISTANCE (METERS)		10 GIGABIT ETHERNET MIN. LINK DISTANCE (METERS)	
		850 NM	1300 NM	1550 NM	850 NM	1300 NM		850 NM	1300 NM	850 NM	1300 NM
50/125	OM3	3.5	1.2	N/A	1500	500	2000	1000	550	300	N/A
SM	OS2	N/A	0.4	0.4	N/A	N/A	N/A	N/A	5000	N/A	10000

### Estimated Installation Distances

OD/ID	AIR (FT/90°S)
8.5 x 6 , V-20 Install Distance—eABF 3.8 mm (6-24 Fibers)	2,300 / 24
8.5 x 6 , V-20 Install Distance—eABF 3.8 mm (48 Fibers)	2000 / 19

### Standard eABF Cable Packaging

PACKAGE TYPE	STD P-U (FT)	PACKAGE WEIGHT	
		WEIGHT REEL	REEL + FULL LENGTH P-U
30 x 15 x 12	15,000	34 (15.5)	208 (311)
Reel-in-Box	1,000	10 (4.5)	23 (34)

### Ordering Information

Many additional Hybrid variations and combinations of eABF cable available. Contact AFL or Dura-Line for additional configurations.

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-409-CORE	Fiber Optic Cable
RoHS	2015/863	Fiber Optic Cable
UL	1666 (OFNR)	Riser Cables
NEC	2005 Art 770.51 (B)	Riser Cables
NFPA	262 OFNP	Plenum Cables

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	0°C to +70°C
OPERATING*	0°C to +70°C
STORAGE	-40°C to +75°C

\*Not intended for outside plant access during operational use.

Contact AFL for further details.





## 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.

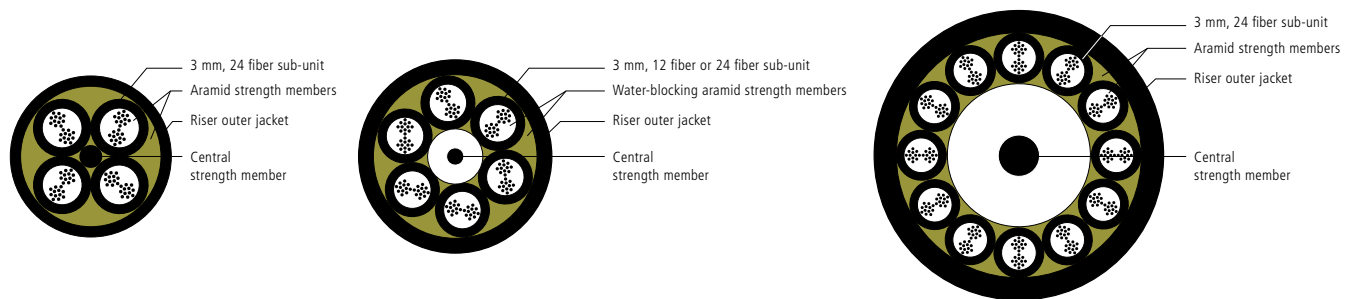
### Features

- 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 <sub>c</sub> (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)	47 (70)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	4	0	0.38 (9.7)	48 (72)	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 (150)	300 (1320)	90 (400)	8.1 (20.6)	5.4 (13.7)
	12	0	0.68 (17.3)	175 (255)	300 (1320)	90 (400)	10.2 (26.0)	6.8 (17.3)
24 Fiber Subunit	1	3	0.38 (9.7)	54 (80)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	2	2	0.38 (9.7)	53 (79)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	3	1	0.38 (9.7)	52 (77)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	4	0	0.38 (9.7)	51 (76)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	6	0	0.46 (11.6)	74 (110)	300 (1320)	90 (400)	6.9 (17.4)	4.6 (11.6)
	12	0	0.68 (17.3)	190 (280)	300 (1320)	90 (400)	10.2 (26.0)	6.8 (17.3)

### Ordering Information—Non-Armored

CABLE TYPE	NO. OF FIBERS	NO. OF SUBS	NO. OF FILLERS	AFL NO.
				BARE FIBER
12 Fiber Subunit	24	2	2	QR024*3018#B:C4C
	48	4	0	QR048*3018#B:C4C
	72	6	0	QR072*3018#B:C6C
	96	8	0	QR096*3018#B:C8C
	144	12	0	QR144*3018#B:CCC
24 Fiber Subunit	24	1	3	QR024*3018#B:O4C
	48	2	2	QR048*3018#B:O4C
	72	3	1	QR072*3018#B:O4C
	96	4	0	QR096*3018#B:O4C
	144	6	0	QR144*3018#B:O6C
	288	12	0	QR288*3018#B:OCC

### Cable Jacket Color Options

1 - Blue	8 - Black
2 - Orange	9 - Yellow (SM)
3 - Green	A - Violet
4 - Brown	B - Rose
5 - Slate	C - Aqua (OM3 and OM4)
6 - White	K - Erika Violet (OM4)
7 - Red	L - Lime

\* Fiber Types – Replace asterisk (\*) in AFL number above with number in the Fiber Specifications table on previous page.

# Subunit Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table at right.

\*\* Item numbers represent AFL standard print and Black outer jacket. All jacket colors are UV stable and contain anti-fungal additive. For best performance, AFL recommends Black Outer Jacket.

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE GR-409-CORE	Water-Blocked Cabled Buffer Tube Core Sub-units
EIA/TIA	598-A	Sub-units
ICEA	S-104-696	Sub-units
RoHS	2002/95/EC	Cable

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-10°C to +70°C
OPERATION	-40°C to +70°C
STORAGE	-40°C to +70°C

Contact AFL for further details.



## Indoor/Outdoor Riser Sub-unitized MicroCore® Cable with SpiderWeb Ribbon® Technology

AFL now offers high fiber count Indoor/Outdoor MicroCore Cables with SpiderWeb Ribbon (SWR®) technology. Waterblocked sub-units are helically stranded to provide sub-unitized cables ranging from 24 to 288 fiber counts. These cables are OFNR listed for use in indoor and indoor/outdoor applications. Both the sub-unit jackets and outer sheath contain a UV stabilizer and anti-fungus protection for use in outdoor applications.

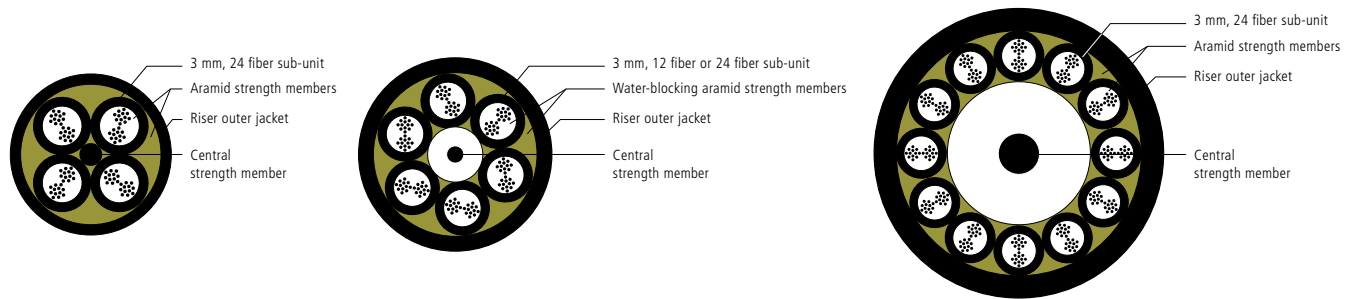
### Features

- Available with 24 to 288 fibers
- Water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant sub-unit jackets and outer sheath

### Applications

- ONFR inside plant and outside plant environments

### Cable Components



### SWR Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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)	47 (70)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	4	0	0.38 (9.7)	48 (72)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	6	0	0.46 (11.6)	70 (104)	300 (1320)	90 (400)	6.9 (17.4)	4.6 (11.6)
	8	0	0.54 (13.7)	94 (140)	300 (1320)	90 (400)	8.1 (20.6)	5.4 (13.7)
	12	0	0.68 (17.3)	165 (245)	300 (1320)	90 (400)	10.2 (26.0)	6.8 (17.3)
24 Fiber Subunit	1	3	0.38 (9.7)	54 (80)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	2	2	0.38 (9.7)	53 (79)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	3	1	0.38 (9.7)	52 (77)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	4	0	0.38 (9.7)	51 (76)	300 (1320)	90 (400)	5.7 (14.6)	3.8 (9.7)
	6	0	0.46 (11.6)	74 (110)	300 (1320)	90 (400)	6.9 (17.4)	4.6 (11.6)
	12	0	0.68 (17.3)	151 (225)	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

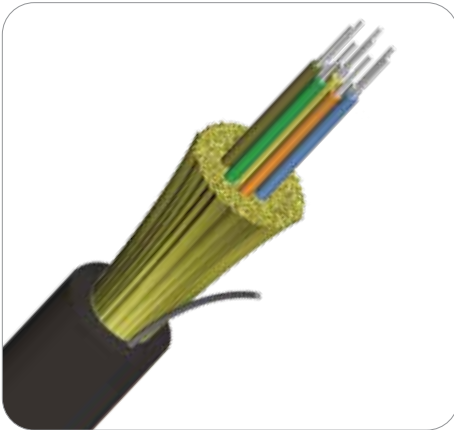
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE GR-409-CORE	Water-Blocked Cabled Buffer Tube Core Sub-units
EIA/TIA	598-A	Sub-units
ICEA	S-104-696	Sub-units
RoHS	2002/95/EC	Cable

### 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.

Fiber Optic Cable



## Indoor/Outdoor Riser Tight Buffered Cable

Indoor/Outdoor Tight Buffered cables are specified for campus network cabling between buildings where interbuilding lengths are short enough that the installer can recognize savings from the lower costs of terminating tight buffered cables.

For indoor applications the cable is OFNR listed. For outdoor applications the cable is manufactured with an outer jacket that incorporates a UV stabilizer for protection against exposure to the sun plus an anti-fungus protection for use in underground applications.

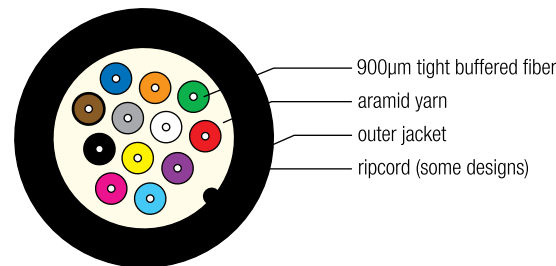
### Features

- Available with 2 to 24 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

### Applications

- ONFR inside plant and outside plant environments
- Campus LAN
- Building Interconnections
- Mining

### Cable Components



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (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 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.

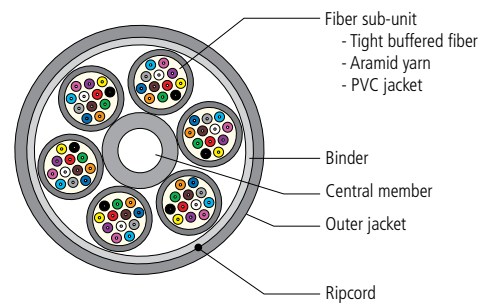
### Features

- 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 <sub>c</sub> (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

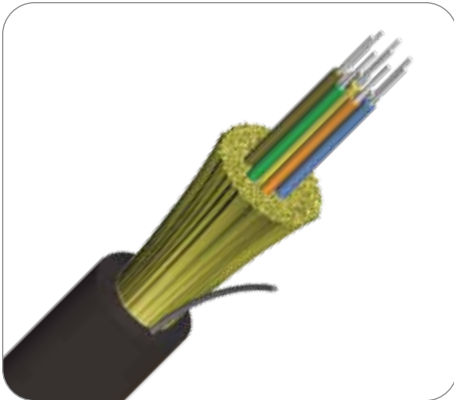
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE GR-409-CORE	Water-Blocked Cabled Buffer Tube Core Sub-units
EIA/TIA	598-A	Sub-units
ICEA	S-104-696	Sub-units
RoHS	2002/95/EC	Cable

### 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.

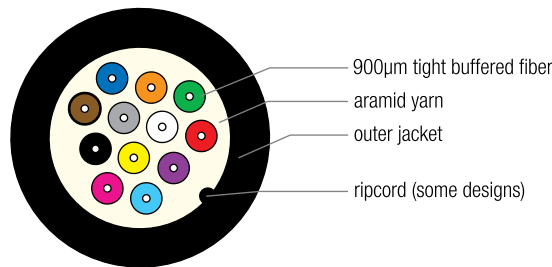
### Features

- 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 <sub>c</sub> (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	

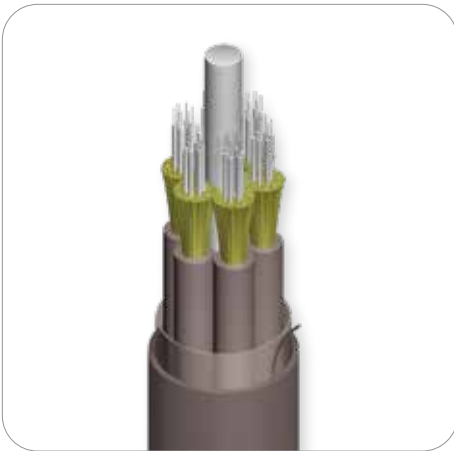
### Qualifications

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-swallowable aramid and 12 tight buffered fibers.

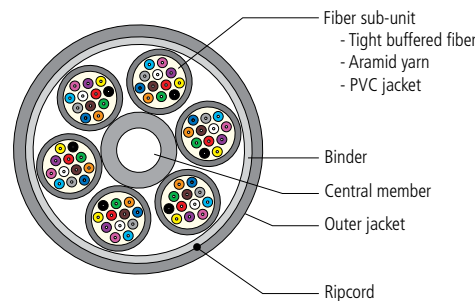
### Features

- Available with 36 to 72 fibers
- 12-fiber water-blocked sub-units
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

### Applications

- ONFP inside plant and outside plant environments

### Cable Components



### Fiber Specifications

CORE SIZE/FIBER TYPE	ISO/IEC	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMB <sub>c</sub> (MHz•km)	GIGABIT ETHERNET MAX. LINK DISTANCE (meters)		10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters)	
		850 nm	1300 nm	1550 nm	850 nm	1300 nm		850 nm	1300 nm	850 nm	1300 nm
(6) 62.5 Giga-Link™ 300	OM1	3.5	1.2	N/A	200	600	N/A	300	550	32	—
(5) 50 Giga-Link™ 600	OM2	3.5	1.5	N/A	500	500	N/A	600	600	82	—
(L) 50 Laser-Link 300	OM3	3	1.2	N/A	1,500	500	2,000	1,000	550	300	—
(C) 50 Laser-Link 550	OM4	3	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(W) AFL Wideband Multimode	OM5	3	1.2	N/A	3,500	500	4,700	1,040	550	550	—
(9) Single-mode (ITU G.652.D/G.657.A1)	OS2	N/A	0.5	0.5	N/A	N/A	N/A	N/A	5,000	N/A	10,000



STOCK ITEM

continued →

## Indoor/Outdoor Multi-unit Plenum Tight Buffered Cable

### Mechanical Data

CABLE TYPE	AFL NO.	FIBER COUNT	NOMINAL DIAMETER	WEIGHT	TENSION		BENDING RADIUS	
	PLENUM		inches (mm)	lbs/1000 ft (kg/km)	lbs (N)		inches (cm)	
			INSTALLATION	LONG TERM	INSTALLATION	LONG TERM		
Indoor/Outdoor Tight Buffered Cable	KQ036★591##1	36	0.62 (15.7)	155 (225)	300 (1320)	90 (396)	9.3 (23.6)	6.2 (15.7)
	KQ048★591##1	48	0.68 (17.2)	190 (280)	300 (1320)	90 (396)	10.2 (25.8)	6.8 (17.2)
	KQ060★591##1	60	0.75 (19.0)	240 (350)	300 (1320)	90 (396)	11.3 (28.5)	7.5 (19.0)
	KQ072★591##1	72	0.82 (20.8)	290 (430)	300 (1320)	90 (396)	12.3 (31.2)	8.2 (20.8)

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.  
 # Outer Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

### Cable Jacket Color Options

1 - Blue	8 - Black
2 - Orange	9 - Yellow
3 - Green	A - Violet
4 - Brown	B - Rose
5 - Slate	C - Aqua
6 - White	K - Erika Violet (RAL 4003)
7 - Red	

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Water-Blocked Cabled Buffer Tube Core
EIA/TIA	598-A/GR-409-CORE	Sub-units
ICEA	S-104-696	Sub-units
RoHS	2002/95/EC	Cable

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-20°C to +75°C
OPERATION	-40°C to +75°C
STORAGE	-40°C to +75°C

Contact AFL for further details.

Premise Cable



## Indoor/Outdoor Armored Tight Buffered Circular Premise Cable

Indoor/Outdoor Armored Tight Buffered CPC Cables incorporate two to 72 fiber count CPC cables in a jacketed, aluminum interlocking armor. Jacketed aluminum interlocking armor provides the best balance of ruggedness, flexibility and low weight.

Indoor/Outdoor Armored Distribution cables provide added protection for campus network cabling between buildings where short installation runs allow for cost savings made by utilizing tight buffered cables. Flame rated cables, both OFCP (Plenum) and OFCR (Riser) rated jackets allow these products to be deployed indoors within the premise and retain compliance to applicable flame safety standards.

For outdoor applications, the cables utilize both UV-stabilized jacketing materials with anti-fungal additives; core cables also contain water-blocking elements to prevent water migration. Products are approved for use in mining applications.

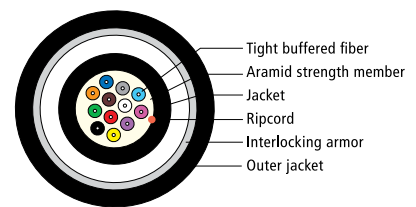
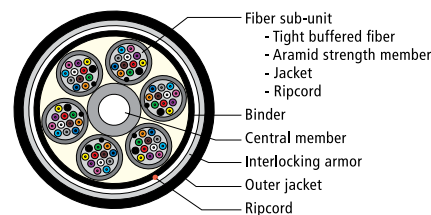
### Features

- Available with 2 to 72 fibers
- Low weight jacketed, interlocking armor
- OFCP (Plenum) and OFCR (Riser) rated jackets
- Moisture-resistant, fungus-resistant and UV-resistant outer jacket

### Applications

- Building Interconnections (Campus LAN)
- Inside plant and outside plant environments
- Mining applications

### Cable Components



### 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	1000	550	300	—
(C) 50 Laser-Link 550	OM4	3.0	1.2	N/A	3,500	500	4,700	1040	550	550	—
(W) AFL Wideband Multimode	OM5	N/A	1.2	N/A	3,500	500	4,700	1040	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 Armored Tight Buffered Circular Premise Cable

## Mechanical Data

AFL NO.		FIBER COUNT	NOMINAL DIAMETER inches (mm)				WEIGHT lbs		TENSION lbs (N)				BENDING RADIUS Inches (cm)	
RISER	PLENUM		RISER	PLENUM	RISER	PLENUM	RISER		PLENUM		INSTALL	LONGTERM	INSTALL	LONGTERM
							INSTALL	LONGTERM	INSTALL	LONGTERM				
KR002★481801-AIAR	KQ002★461801-AIAP	2	0.52 (13.30)	0.52 (13.30)	126	144	150 (660)	45 (198)	300 (1335)	90 (396)	7.8 (199.50)	5.2 (132.00)	7.8 (199.50)	5.2 (132.00)
KR004★481801-AIAR	KQ004★501801-AIAP	4	0.52 (13.30)	0.52 (13.30)	128	147	150 (660)	45 (198)	300 (1335)	90 (396)	7.8 (199.50)	5.2 (132.00)	7.8 (199.50)	5.2 (132.00)
KR006★531801-AIAR	KQ006★541801-AIAP	6	0.52 (13.30)	0.52 (13.30)	133	169	150 (660)	45 (198)	300 (1335)	90 (396)	7.8 (199.50)	5.2 (132.00)	7.8 (199.50)	5.2 (132.00)
KR008★561801-AIAR	KQ008★581801-AIAP	8	0.56 (14.30)	0.56 (14.30)	150	192	150 (660)	45 (198)	300 (1335)	90 (396)	8.4 (214.50)	5.6 (142.00)	8.4 (214.50)	5.6 (142.00)
KR012★651801-AIAR	KQ012★611801-AIAP	12	0.56 (14.30)	0.56 (14.30)	155	198	150 (660)	45 (198)	300 (1335)	90 (396)	8.4 (214.50)	5.6 (142.00)	8.4 (214.50)	5.6 (142.00)
KR018★801801-AIAR	KQ018★751801-AIAP	18	0.63 (15.90)	0.63 (15.90)	191	204	300 (1335)	90 (396)	300 (1335)	90 (396)	9.5 (238.50)	6.3 (160.00)	9.5 (238.50)	6.3 (160.00)
KR024★871801-AIAR	KQ024★791801-AIAP	24	0.68 (17.30)	0.63 (15.90)	214	223	300 (1335)	90 (396)	300 (1335)	90 (396)	10.2 (259.50)	6.8 (172.00)	10.2 (259.50)	6.8 (172.00)
KR024★611881-AIAR	—	24	1.02 (25.90)	—	320	—	300 (1335)	90 (396)	—	—	15.3 (388.50)	10.2 (259.50)	15.3 (388.50)	10.2 (259.50)
KR036★611881-AIAR	KQ036★591881-AIAP	36	1.02 (25.90)	0.96 (24.30)	320	320	300 (1335)	90 (396)	300 (1335)	90 (396)	15.3 (388.50)	10.2 (259.50)	15.3 (388.50)	10.2 (259.50)
KR048★611881-AIAR	KQ048★591881-AIAP	48	1.02 (25.90)	1.02 (25.90)	320	360	300 (1335)	90 (396)	300 (1335)	90 (396)	15.3 (388.50)	10.2 (259.50)	15.3 (388.50)	10.2 (259.50)
KR060★611881-AIAR	KQ060★591881-AIAP	60	1.12 (28.40)	1.12 (28.40)	430	430	300 (1335)	90 (396)	300 (1335)	90 (396)	16.8 (426.00)	11.2 (284.50)	16.8 (426.00)	11.2 (284.50)
KR072★611881-AIAR	KQ072★591881-AIAP	72	1.17 (29.70)	1.22 (30.96)	430	500	300 (1335)	90 (396)	300 (1335)	90 (396)	17.6 (445.50)	11.7 (297.00)	17.6 (445.50)	11.7 (297.00)

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

## Qualifications

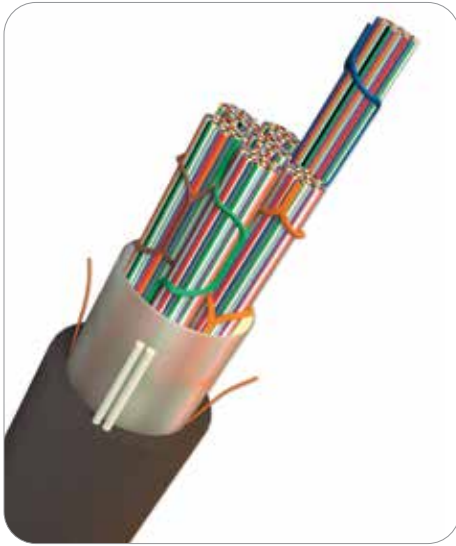
Governing Body	Standard Code	Component
Telcordia	GR-20-CORE GR-409-CORE	Water-Blocked Cabled Buffer Tube Core Weatherized Cable
EIA/TIA	568, 568-A	Sub-units
ICEA	S-104-696	Sub-units
RoHS	2002/95/EC	Cable
MSHA		

## Temperature Specifications

	Temperature Range	
	Plenum	Riser
Installation	-10°C to +70°C	-20°C to +75°C
Operating	-40°C to +70°C	-40°C to +75°C
Storage	-40°C to +70°C	-40°C to +75°C

Contact AFL for further details.

Premise Cable



## 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

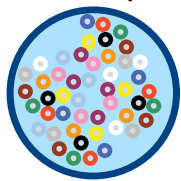
- Data Center Inter-building Connections
- Access Provider Metro Rings
- Service Provider FTTx
- Cable TV Subscriber Networks
- Metro Rail Track-side Network Links
- Suitable for Aerial Lashing, Pulled-in-duct, Air-Jetted-in-Duct
- Campus LAN

### SWR Technology

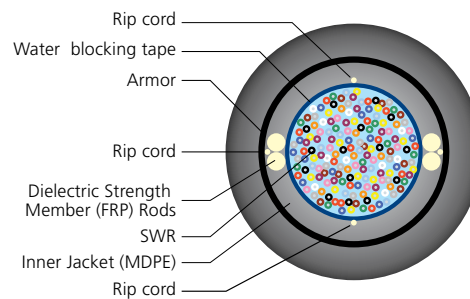


12F SWR®

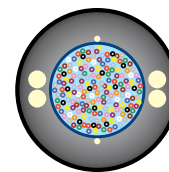
Contra-helical dual binder system



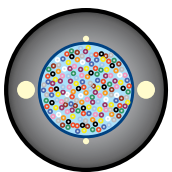
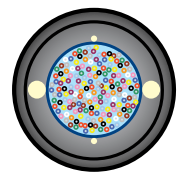
Multiple 12F SWR® Bundle



Armored 4-rod FRP (288F - 1,728F)



Non-armored 4-rod FRP (288F - 1,728F)



Non-armored & Armored 2-rod FRP (144F)

continued  
→

## 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)
<b>ACE FIBER</b>								
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)
<b>SR15E FIBER</b>								
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	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	7	███	13	██████	19	██████████
2	██	8	████	14	███████	20	████████
3	███	9	█████	15	██████	21	█████████
4	████	10	█████	16	███████	22	██████████
5	█████	11	██████	17	████████	23	███████████
6	█████	12	███████	18	█████████	24	███████████

FIBER COUNT	BINDER UNIT (BU)		RING MARKINGS
144F	No Binder Unit		1-12 Ring Marking
288F	No Binder Unit		1-24 Ring Marking
432F	6 Binder Units	1 2 3 4 5 6	
576F	8 Binder Units	1 2 3 4 5 6 7 8	1-6 Ring Marking
864F	12 Binder Units	1 2 3 4 5 6 7 8 9 10 11 12	
1152F	8 Binder Units	1 2 3 4 5 6 7 8	1-12 Ring Marking
1728F	12 Binder Units	1 2 3 4 5 6 7 8 9 10 11 12	1-12 Ring Marking

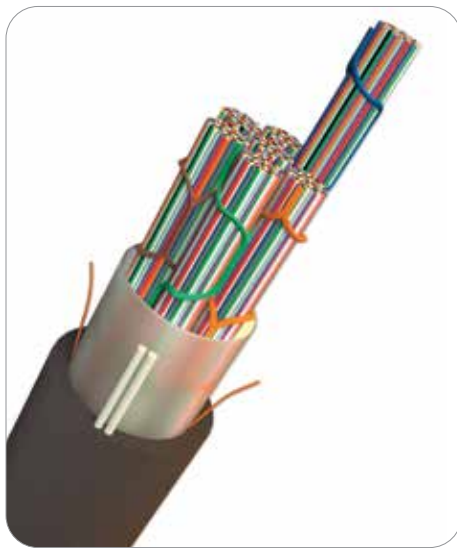
### Temperature Specifications

TEMPERATURE RANGE	
OPERATION	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)
INSTALLATION	-22°F to +140°F (-30°C to +60°C)

### Qualifications

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

Contact AFL for further details.



## Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 μm Fiber/250 μm Pitch

The 200 μm fiber/250 μm pitch Wrapping Tube Cable (WTC), with SpiderWeb Ribbon® (SWR®), is an ultra-high density outside plant cable designed specifically for fiber-to-the-home (FTTH) or access markets. It is compliant with the latest issue of the outside plant cable standard, Telcordia GR-20. With an ultra-high density and a new ribbon technology called SpiderWeb Ribbon®, WTC provides the smallest cable diameter and lowest weight, high-fiber count ribbon cable in the industry. WTC with SWR® cables are available in fiber counts of 864, 1,728, 3,456 and 6,912.

SWR® is a bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. This flexibility allows for a single cable design to cover a diverse set of applications from access networks to high-fiber count mass fusion splicing. With the ability to roll and conform, the SWR® provides for ultra-high density packaging in the WTC.

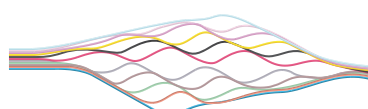
### Features

- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC-SWR cables the smallest ribbon cables without compromising robustness of the cable
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Light weight for easy handling in the field compared to traditional cables
- Completely Gel-free for reduced time to access fiber and prep for splicing

### Applications

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

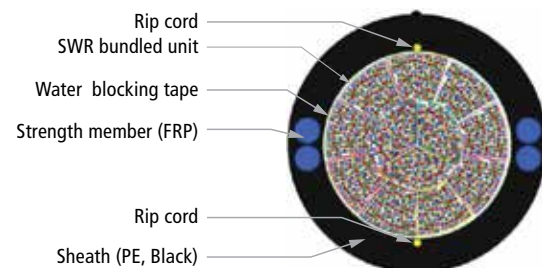
### SWR Technology



12F SWR



Multiple 12F SWR Bundle



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

*continued*  
→

# Wrapping Tube Cable (WTC) with SWR® – 200 µm Fiber/250 µm Pitch

## Mechanical Data—Non-Armored

DESCRIPTION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT lbs/1,000 ft (kg/km)	SHORT TERM/INSTALLATION		LONG TERM/STORAGE/STATIC	
			inches (mm)		MAX TENSILE LOAD lbs (N)	MIN BEND RADIUS inches (mm)	MAX TENSILE LOAD lbs (N)	MIN BEND RADIUS inches (mm)
LWSE-864-BE-C-72-12-00N1D-*	864	12 X 72F	0.63 (16.0)	124 (185)	607 (2700)	12.6 (320)	182 (810)	9.5 (241)
LWSE-1728-BE-C-144-12-00N1D-*	1728	12 X 144F	0.85 (21.5)	202 (300)	607 (2700)	16.9 (430)	182 (810)	12.7 (323)
LWSE-3456-BE-C-144-24-00N1D-*	3456	24 X 144F	1.04 (26.5)	292 (435)	607 (2700)	20.9 (530)	182 (810)	15.7 (399)
LWSE-6912-BE-C-288-24-00N1D-*	6912	24 X 288F	1.38 (35.0)	514 (765)	607 (2700)	27.6 (700)	182 (810)	20.7 (525)

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

## Optical Fiber

FIBER COUNT	FIBER DIA.	FIBER PITCH	FIBER DESIGNATOR	MFD	MAXIMUM ATTENUATION (CABLED) dB/km		
					1310 nm	1383 nm	1550 nm
Fujikura SR15E-200 (864, 1728, 3456, 6912)	200 µm	250 µm	BE (ITU-T G.652.D and G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km

## Stripe Ring Fiber Identification — 864, 1728, 3456

R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	5	██	9	████
2	██	6	███	10	█████
3	███	7	████	11	█████
4	████	8	█████	12	█████

## Stripe Ring Fiber Identification — 6,912

R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	7	███	13	██████	19	██████████
2	██	8	████	14	███████	20	██████████
3	███	9	█████	15	███████	21	██████████
4	████	10	█████	16	███████	22	██████████
5	█████	11	█████	17	███████	23	██████████
6	█████	12	█████	18	███████	24	██████████

FIBER COUNT	BINDER UNIT (BU)	RING MARKINGS
864F	12 Binder Units	1-6 Ring Marking
1728F	12 Binder Units	1-12 Ring Marking
3456F	24 Binder Units*	1-12 Ring Marking
6912F	24 Binder Units*	1-24 Ring Marking

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

## Qualifications

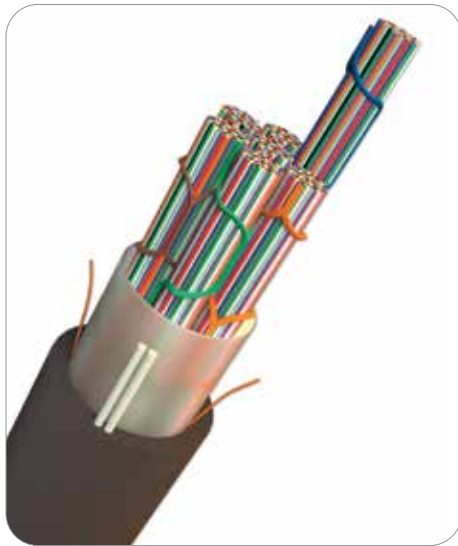
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20	Fiber Optic Cable

## Temperature Specifications

TEMPERATURE RANGE	
OPERATION	-40°F to +158°F (-40°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)
INSTALLATION	-22°F to +140°F (-30°C to +60°C)

Contact AFL for further details.

AFLglobal.com | 800.235.3423



## OSP Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) – 200 μm Fiber/200 μm Pitch

The 200 μm fiber/200 μm pitch Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®) is an ultra-high density outside plant (OSP) 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

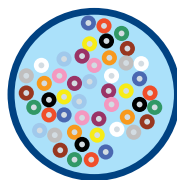
### Applications

- 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

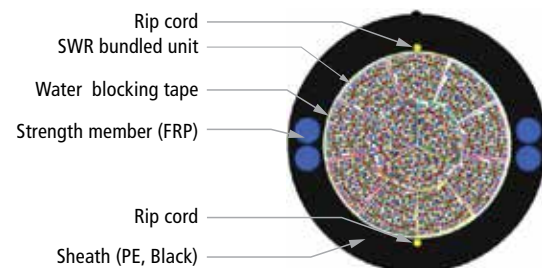
### SWR Technology



12F SWR



Multiple 12F SWR Bundle



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

*continued*  
→

# OSP Wrapping Tube Cable (WTC) with SWR® – 200 μm Fiber/200 μm Pitch

## Mechanical Data—Non-Armored

DESCRIPTION	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)
LWSE-864-BD-C-72-12-00N1D-*	864	12 X 72F	0.59 (15.0)	114 (170)	607 (2700)	11.8 (300)	182 (810)	8.9 (225)
LWSE-1728-BD-C-144-12-00N1D-*	1728	12 X 144F	0.75 (19.0)	178 (265)	607 (2700)	15.0 (380)	182 (810)	11.2 (285)
LWSE-3456-BD-C-144-24-00N1D-*	3456	24 X 144F	1.00 (25.5)	302 (450)	607 (2700)	20.1 (510)	182 (810)	15.1 (383)
LWSE-6912-BB-C-288-24-00N1D-*	6912	24 X 288F	1.17 (29.8)	430 (640)	607 (2700)	23.5 (596)	182 (810)	17.6 (447)

\* 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-P200 (864F, 1728F, 3456F)	200 μm	200 μm	BD (ITU-T G.652.D & G.657.A1)	8.6 ± 0.4 μm	≤ 0.40	≤ 0.40	≤ 0.30
Fujikura BIS-B-P200 (6912F)	200 μm	200 μm	BB (ITU-T G.652.D & G.657.A2)	8.6 ± 0.4 μm	≤ 0.40	≤ 0.40	≤ 0.30

## Stripe Ring Fiber Identification — 864, 1728, 3456

R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	4	███	7	███	10	███
2	██	5	███	8	████	11	████
3	███	6	███	9	█████	12	█████

## Stripe Ring Fiber Identification — 6,912

R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	7	███	13	█████	19	██████████
2	██	8	████	14	██████	20	██████████
3	███	9	█████	15	██████	21	██████████
4	████	10	█████	16	██████	22	██████████
5	█████	11	█████	17	██████	23	██████████
6	█████	12	█████	18	██████	24	██████████

FIBER COUNT	BINDER UNIT (BU)	RING MARKINGS
864F	12 Binder Units	1-6 Ring Marking
1728F	12 Binder Units	1-12 Ring Marking
3456F	24 Binder Units*	1-12 Ring Marking
6912F	24 Binder Units*	1-24 Ring Marking

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

## Qualifications

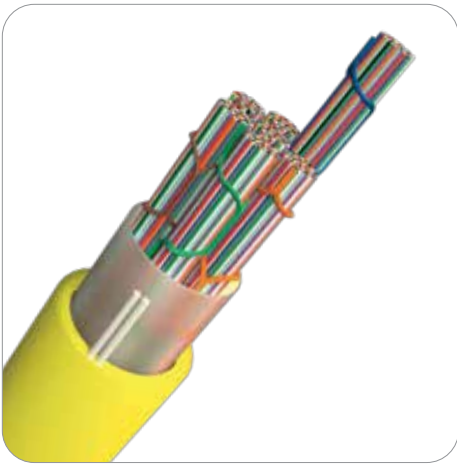
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20	Fiber Optic Cable

Contact AFL for further details.

AFLglobal.com | 800.235.3423

## 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)



## Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)

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

The FR-WTC-SWR product set is available in LSZH, UL 1666 Riser Rated, CPR Classification, non-armored 250 μm SR15E fiber (288F) and 200 μm SR15E-200 fiber (864F and 1728F) constructions.

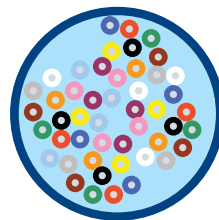
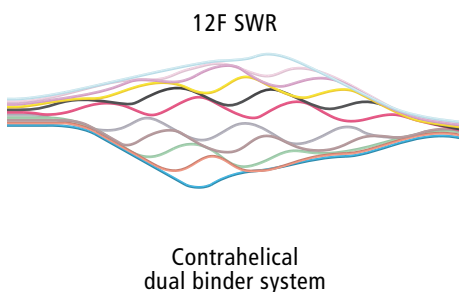
### Features

- Collapsible ribbon reduces size of cable compared to other encapsulated or pliable ribbon technologies
- Design optimizes the fiber packing density making WTC-SWR cables the smallest ribbon cables without compromising robustness of the cable
- Small-diameter cable allows more optical fibers to be placed into crowded or limited-space pathways
- Water-blocked core
- Light weight for easy handling in the field compared to traditional cables
- Completely Gel-free for reduced time to access fiber and prep for splicing

### Applications

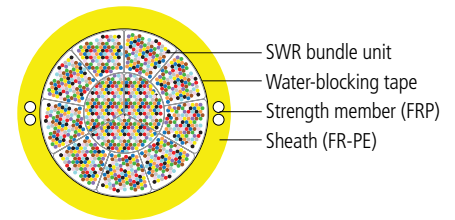
- Riser spaces within build structures
- Data Center Inter-building Connections

### SWR Technology



72F OR 144F bundles depending on cable fiber count

### Cable Components



OFNR-LS Non-armored (288F, 864F, 1728F)

*continued*  
→

## Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)

### Mechanical Data—Non-Armored

DESCRIPTION	EN 13501-6 CLASSIFICATION	FIBER COUNT	BINDER UNIT	NOMINAL DIAMETER	WEIGHT	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)
<b>250 µm SR15E FIBER</b>									
FR-OGNM12WTZTWBE SR15Ex288C	Cca-s1a,d0,a1	288	4 X 72F	0.49 (12.5)	108 (160)	297 (1320)	7.4 (188)	89 (396)	4.9 (125)
<b>200 µm SR15E FIBER</b>									
FR-OGNM12WTZTWBE SR15E-200x864C	Cca-s2,d2,a1	864	12 X 72F	0.65 (16.5)	181 (270)	297 (1320)	9.7 (248)	89 (396)	6.5 (165)
FR-OGNM12WTZTWBE SR15E-200x1728C	Cca-s1,d0,a1	1728	12 X 144F	0.85 (21.5)	276 (410)	297 (1320)	12.7 (323)	89 (396)	8.5 (215)

### Optical Fiber

OPTICAL FIBER (FIBER COUNT)	FIBER DIA.	FIBER PITCH	OPTICAL FIBER STANDARD	MFD	MAXIMUM ATTENUATION (CABLED) dB/km		
					1310 nm	1383 nm	1550 nm
Fujikura SR15E (288F)	250 µm	250 µm	K (ITU-T G.652D/G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km
Fujikura SR15E-200 (864F, 1728F)	200 µm	250 µm	BE (ITU-T G.652.D AND G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km

### Stripe Ring Fiber Identification

R NO.	STRIPE RING MARKING	R NO.	STRIPE RING MARKING
1	█	7	███ █ █
2	██	8	████ █ █ █
3	███	9	█████ █ █ █ █
4	████	10	██████ █ █ █ █ █
5	█████	11	███████ █ █ █ █ █ █
6	██████	12	████████ █ █ █ █ █ █ █

FIBER COUNT	BINDER UNIT (BU)	RING MARKINGS
288F	4 Binder Units 1 2 3 4	
864F	12 Binder Units 1 2 3 4 5 6 7 8 9 10 11 12	1-6 Ring Marking
1728F	12 Binder Units 1 2 3 4 5 6 7 8 9 10 11 12	1-12 Ring Marking

### Qualifications

GOVERNING BODY	STANDARD CODE
UL	1666, Listed Riser 1685, Fire Propagation and Low Smoke
ANSI/ICEA	S-83-596
EU	EN 13501-6 (CPR)

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	+14°F to +140°F (-10°C to +60°C)
OPERATING	-4°F to +158°F (-20°C to +70°C)
STORAGE	-40°F to +158°F (-40°C to +70°C)

Contact AFL for further details.



## LM-Series OSP MicroCore® Cable

AFL OSP MicroCore® cable series (LM-Series) is designed for outside plant installation in microduct conduit systems. The foundation of the design is the multi-fiber-set, gel-filled buffer tube construction. The kink-resistant buffer tube contains multiple 12-fiber sets of color-coded fibers. Each set within the buffer tube is grouped using dual color-coded binder threads. The dry-blocked core is made up of SZ-stranded buffer tubes around a central strength member. The low-friction, high-strength overall jacketing system protects the cable-core while providing an optimized cable package supporting high-speed, long-distance jetting performance. The unique, high-fiber density geometry yields a cable construction that can accommodate up to 432 fibers and can be blown into microducts ranging in inside diameters from 10 mm to 16 mm.

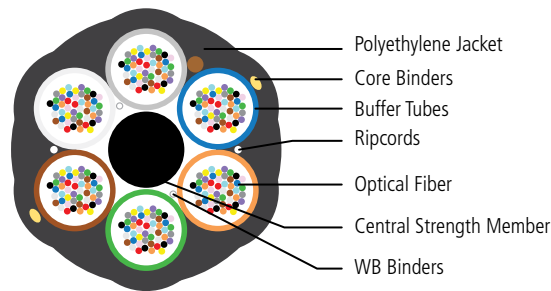
### Features

- 12 up to 432 fibers
- Low-friction outer jacket designed for air-blown installations
- Robust, kink-resistant buffer tubes reduce time and handling issues associated with enclosure build-outs
- 300lb installation tensile load rating
- OD compatible with 10 mm to 16 mm inside diameter microducts

### Applications

- Long-haul, middle-mile and metro-loop
- Campus inter-building backbone distribution
- Low-cost fiber upgrade migration strategies

### Cable Components



*continued*  
→



## LM-Series OSP MicroCore® Cable

### Physical and Mechanical Data

LM-SERIES AFL NO.*	FIBER COUNT	FIBERS/ NUMBER OF TUBES**	DIAMETER		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
Single-mode	9	ITU-T G.652D / 657.A1	9.2 µm nominal	0.35	0.25
Corning 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 <a href="#">spec sheet</a> for AFL No.
Apex X-2S Sealed Splice Closure	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® MPO Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® Field-installable Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
LMHD-Series OSP MicroCore® Cable	Refer to <a href="#">spec sheet</a> for AFL No.
Poli-MOD® Patch and Splice Module	Refer to <a href="#">spec sheet</a> for AFL No.

### Temperature Specifications

TEMPERATURE RANGE	
OPERATION	-30°C to +70°C
STORAGE	-30°C to +75°C
INSTALLATION	-10°C to +40°C

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
ANSI/ICEA	S-122-744	Cable
TIA	598-D	Fiber

Contact AFL for further details.



## LM200-Series OSP MicroCore® Cable

The product design integrates 200 µm buffered single-mode fiber which allows for reduced diameter cables compared to traditional OSP micro-cables. The foundation of the design is the multi-fiber-set, gel-filled buffer tube construction. The kink-resistant buffer tube contains multiple 12-fiber sets of color-coded fibers. Each set within the buffer tube is grouped using dual color-coded binder threads. The dry-blocked core is made up of six buffer tubes SZ-stranded around a central strength member. The low-friction, high-strength overall jacketing system protects the cable-core while providing an optimized cable package supporting high-speed, long-distance jetting performance. The LM200-Series is the right choice for use in bundled micro-duct pathways allowing for future, incremental cable additions as network circuits and bandwidth requirements increase.

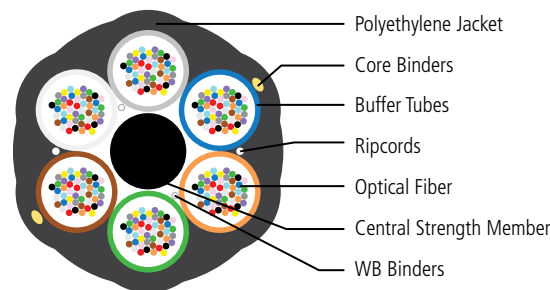
### Features

- 24 to 432 fibers
- Robust, kink-resistant buffer tubes reduce time and handling issues associated with enclosure build-outs
- Low-friction jacketing system allows for longer jetting distances
- Designed for use in bundled micro-duct pathways allowing for future, optical circuit additions

### Applications

- Long-haul, Local Loop FTTx, Campus Backbone connections for 10G, 40G, and 100G network transmission speeds
- Air-jetted into bundled micro-ducts
- Congested pathway over-ride installations

### Cable Components



*continued*  
→

## LM200-Series OSP MicroCore® Cable

### Physical and Mechanical Data

LM200-SERIES AFL NO.*	FIBER COUNT	FIBERS/ NUMBER OF TUBES**	DIAMETER		WEIGHT  LBS/1000FT (KG/KM)	MAXIMUM TENSILE LOAD LBS (N)		MINIMUM BEND RADIUS INCHES (CM)	
			INCHES (MM)	INCHES (MM)		INSTALLATION	OPERATION	INSTALLATION	OPERATION
LM024xO6101NS	24	24/1 (5 fillers)	0.248 (6.3)	0.315 (8)	21 (31)	200 (890)	60 (267)	5 (13)	4 (10)
LM048xO6101NS	48	24/2 (4 fillers)	0.248 (6.3)	0.315 (8)	22 (33)	200 (890)	60 (267)	5 (13)	4 (10)
LM072xO6101NS	72	24/3 (3 fillers)	0.248 (6.3)	0.315 (8)	23 (34)	200 (890)	60 (267)	5 (13)	4 (10)
LM096xO6101NS	96	24/4 (2 fillers)	0.248 (6.3)	0.315 (8)	24 (36)	200 (890)	60 (267)	5 (13)	4 (10)
LM144xO6101NS	144	24/6	0.248 (6.3)	0.315 (8)	26 (39)	200 (890)	60 (267)	5 (13)	4 (10)
LM288xR6101NS	288	48/6	0.319 (8.1)	0.394 (10)	43 (65)	300 (1334)	90 (400)	6.5 (17)	5 (13)
LM432xT6101NS	432	72/6	0.409 (10.4)	0.512 (13)	70 (104)	300 (1334)	90 (400)	8.5 (21)	6.5 (16)

\* "x" denotes fiber type. See optical fiber specification table to complete AFL part number.

\*\* Fibers are arranged in 12-fiber sets identified by colored binder threads. For fiber identification details [click here](#).

### Optical Fiber Specifications

FIBER TYPE	"X"	STANDARD	MODE FIELD DIAMETER	ATTENUATION	
				1300 nm	1550 nm
200 µm Single-mode	BC	ITU-T G.652.D / 657.A1	9.2 µm nominal	0.35	0.25
Corning 200 µm Single-mode	BA	ITU-T G.652.D / 657.A1	9.2 µm nominal	0.35	0.25

### Standard Packaging Details

FIBER COUNT	REEL DIMENSIONS (Flange x Width)	STANDARD REEL LENGTH	REEL WEIGHT	TYPICAL TOTAL WEIGHT
24-288	48 x 36 in.	19,000 ft (5,791 m)	140 lbs (64 kg)	1,100 lbs (500 kg)
432	58 x 38 in.	19,000 ft (5,791 m)	435 lbs (197 kg)	1,900 lbs (862 kg)

### Recommended Products

DESCRIPTION	AFL NO.
Apex® X-2 Sealed Splice Closure	Refer to <a href="#">spec sheet</a> for AFL No.
Apex® X-2S Sealed Splice Closure	Refer to <a href="#">spec sheet</a> for AFL No.
Poli-MOD® Patch and Splice Module	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® MPO Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® Field-installable Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.

### Temperature Specifications

TEMPERATURE RANGE	
OPERATION	-30°C to +70°C
STORAGE	-30°C to +75°C
INSTALLATION	-10°C to +40°C

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Water-Blocked Cabled Buffer Tube Core
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.

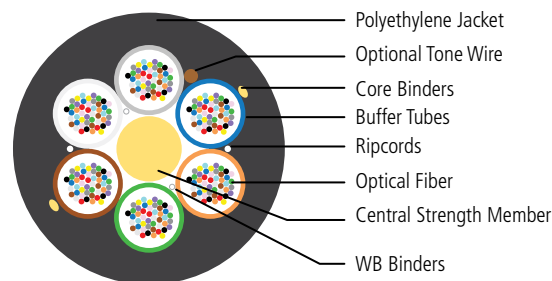
### Features

- 12 up to 432 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		MINIMUM BEND RADIUS	
			INCHES (MM)	INCHES (MM)			LBS (N)		INCHES (CM)	
							INSTALLATION	OPERATION	INSTALLATION	OPERATION
LM012xC6201#1	12	12/1 (5 fillers)	0.40 (10.1)	0.512 (13)	53 (78)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM024xC6201#1	24	12/2 (4 fillers)	0.40 (10.1)	0.512 (13)	53 (79)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM048xC6201#1	48	12/4 (2 fillers)	0.40 (10.1)	0.512 (13)	54 (81)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM072xC6201#1	72	12/6	0.40 (10.1)	0.512 (13)	56 (83)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM096xO6201#1	96	24/4 (2 fillers)	0.40 (10.1)	0.512 (13)	56 (83)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM144xO6201#1	144	24/6	0.40 (10.1)	0.512 (13)	57 (85)	600 (2670)	180 (801)	8 (20)	6 (15)	
LM288xR6201#1	288	48/6	0.49 (12.4)	0.630 (16)	86 (129)	600 (2670)	180 (801)	10 (25)	7.5 (19)	
LM432xOI201#1	432	24/18	0.58 (14.6)	0.787 (20)	117 (174)	600 (2670)	180 (801)	12 (30)	9 (22)	

- \* Replace # with "N" for all-dielectric cable or "T" for toneable option. "x" denotes fiber type. See Optical Fibers Options table below.
- \*\* Fibers are arranged in 12-fiber sets identified by colored binder threads. For fiber identification details [click here](#).
- \*\*\* Weights provided for all-dielectric designs, toneable cables will have a slightly increased weight. Contact AFL for details.

## Optical Fiber Options

FIBER TYPE	"X"	STANDARD	MODE FIELD DIAMETER	ATTENUATION	
				1300 nm	1550 nm
Single-mode	9	ITU-T G.652D / 657.A1	9.2 µm nominal	0.35	0.25
Corning 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 <a href="#">spec sheet</a> for AFL No.
Apex® X-2S Sealed Fiber Optic Splice Closure	Refer to <a href="#">spec sheet</a> for AFL No.
Poli-MOD® Patch and Splice Module	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® Field-installable Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
FUSEConnect® MPO Splice-on Connectors	Refer to <a href="#">spec sheet</a> for AFL No.
LM-Series OSP MicroCore® Cable	Refer to <a href="#">spec sheet</a> 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.



## LMZ-Series OFNG-LS I/O MicroCore®

AFL's LMZ-Series Indoor/Outdoor OFNG-LS MicroCore product line is a flame-rated Low Smoke Zero Halogen (LSZH) cable optimized for mass transit metro rail communications networks. The product line meets NFPA 130 requirements for transit and passenger rail systems making it ideal for trackside and station-to-station air-jetting applications by eliminating the need to put contractors on the track to perform installations. The LMZ-Series is available in 24 to 432 fibers.

### Features

- Low-smoke, zero-halogen construction reduces harmful toxic gases emitted when combusted
- Optimized air-jetting cable design is ideally suited for low-cost micro-duct installation
- Ruggedized Indoor/Outdoor Rated cable structure
- Can be routed throughout network without a need for separate OSP and ISP cables
- Loose buffer tube core construction using 200 µm single-mode fiber

### Applications

- Metro-rail station-to-station tunnel networks
- Airport terminal-to-terminal connections
- Industrial complex communications infrastructure

### Temperature Specifications

TEMPERATURE RANGE	
<b>INSTALLATION</b>	-10°C to +40°C
<b>OPERATING</b>	-30°C to +70°C
<b>STORAGE</b>	-30°C to +55°C

## Ordering Information and Fiber Specifications

AFL NO.	FIBER COUNT	FIBERS/ NO. OF TUBES**	NOMINAL DIAMETER	MIN. MICRODUCT INNER DIAMETER	WEIGHT	MAXIMUM TENSILE LOAD		MINIMUM BEND	
						lbs (N)		inches (cm)	
						INSTALLATION	OPERATION	INSTALLATION	OPERATION
LMZ024*O6101NS	24	24/1 (5 fillers)	0.346 (8.8)	0.512 (13)	58 (87)	200 (890)	60 (267)	7 (18)	6 (14)
LMZ048*O6101NS	48	24/2 (4 fillers)	0.346 (8.8)	0.512 (13)	59 (88)	200 (890)	60 (267)	7 (18)	6 (14)
LMZ072*O6101NS	72	24/3 (3 fillers)	0.346 (8.8)	0.512 (13)	60 (90)	200 (890)	60 (267)	7 (18)	6 (14)
LMZ096*O6101NS	96	24/4 (2 fillers)	0.346 (8.8)	0.512 (13)	61 (91)	200 (890)	60 (267)	7 (18)	6 (14)
LMZ144*O6101NS	144	24/6	0.346 (8.8)	0.512 (13)	63 (94)	200 (890)	60 (267)	7 (18)	6 (14)
LMZ288*R6101NS	288	48/6	0.413 (10.5)	0.590 (15)	85 (126)	300 (1334)	90 (400)	8.5 (21)	6.5 (16)
LMZ432*T6101NS	432	72/6	0.512 (13.0)	0.787 (20)	126 (188)	600 (2670)	180 (801)	10.5 (26)	8 (20)

\* Fiber Types – Replace asterisk (\*) in AFL number with letters in the Fiber Specifications table below. For example, LMZ024BCO6101NS.

\*\* Fibers are arranged in buffer tubes using 12-fiber sets. Each set is identified by colored binder threads.

## Optical Fiber Specifications

FIBER TYPE	STANDARD	MODE FIELD DIAMETER 1310 nm	ATTENUATION	
			1310 nm	1550 nm
(BC) 200 µm Single-mode	ITU-T G.652.D / 657.A1	9.2 µm nominal	0.35	0.25
(BA) Corning 200 µm Single-mode	ITU-T G.652.D / 657.A1	9.2 µm nominal	0.35	0.25

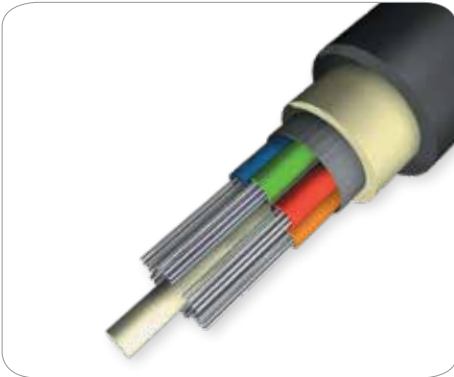
## Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable*
ICEA	S-104-696	Cable
UL	1685 (OFNG-LS)	Cable
CSA	22.2 (FT4)	Cable
NFPA	130 12.2	Cable
TIA	598-D	Fiber

\* Temperature range as specified

**Contact AFL for further details.**

Premise Cable



## 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

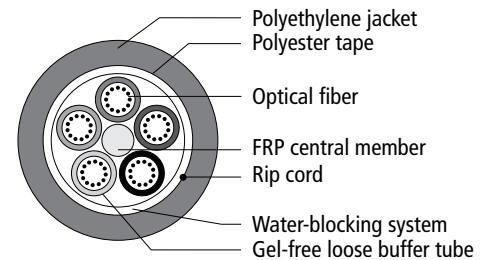
- Distribution
- Underground Duct
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Trunking Lines Direct to Telecommunications Closet
- Local Loop

### 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

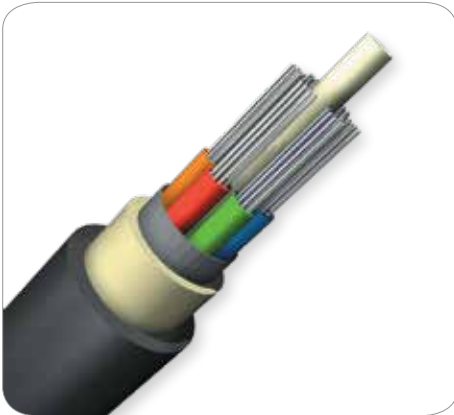
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable
ICEA	640	Cable
TIA	598-D	Fiber

### 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.





## Listed Gel-Free, LSZH, Loose Tube Cable (LL Series)

AFL's LL-Series Gel-Free fiber optic cables are designed for use in traditional network communication infrastructures deployed in environments requiring the performance of outside plant cabling with the safety of a listed low smoke zero halogen solution. Applications in confined spaces such as tunnels and mine shafts require low smoke zero halogen materials to enhance life safety and minimize damage to sensitive electronic equipment in the event of a fire.

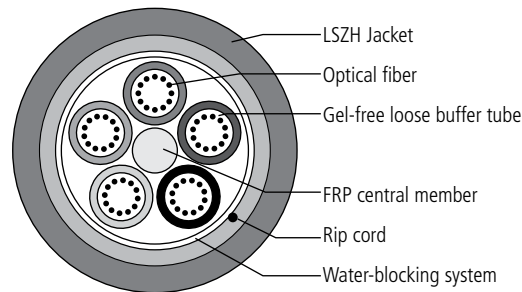
### Features

- 6 to 144 fibers
- Gel-free buffer tubes for ease of fiber prep
- Reverse-oscillated (SZ stranded) core to allow slack for mid-span fiber access
- UV-stabilized outer jacket

### Applications

- Industrial
- Electric utility
- Mining
- Mass transit

### Cable Components



### Optical Information

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
(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) 50/125 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

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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## Listed Gel-Free, LSZH, Loose Tube Cable (LL Series)

### Mechanical Data

AFL NO.	FIBER COUNT	NO. OF TUBES		NOMINAL DIAMETER	NOMINAL WEIGHT	MAXIMUM TENSILE LOAD		MINIMUM BEND RADIUS	
		FIBERS/ TUBE	INCHES (MM)	LBS/1,000FT (KG/KM)	LBS (N)		INCHES (CM)		
					SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	
LL012★C5101N1D	12	1/12 (4 fillers)	0.39 (9.8)	49 (73)	600 (2670)	180 (800)	7.8 (20)	3.9 (10)	
LL024★C5101N1D	24	2/12 (3 fillers)	0.39 (9.8)	49 (72)	600 (2670)	180 (800)	7.8 (20)	3.9 (10)	
LL036★C5101N1D	36	3/12 (2 fillers)	0.39 (9.8)	48 (72)	600 (2670)	180 (800)	7.8 (20)	3.9 (10)	
LL048★C5101N1D	48	4/12 (1 filler)	0.39 (9.8)	48 (71)	600 (2670)	180 (800)	7.8 (20)	3.9 (10)	
LL060★C5101N1D	60	5/12 (no fillers)	0.39 (9.8)	48 (71)	600 (2670)	180 (800)	7.8 (20)	3.9 (10)	
LL072★C6101N1D	72	6/12 (no fillers)	0.42 (10.6)	55 (82)	600 (2670)	180 (800)	8.4 (21)	4.2 (11)	
LL096★C8101N1D	96	8/12 (no fillers)	0.48 (12.3)	75 (118)	600 (2670)	180 (800)	9.6 (25)	4.8 (12)	
LL144★CC101N1D	144	12/12 (no fillers)	0.62 (15.8)	119 (178)	600 (2670)	180 (800)	12.4 (32)	6.2 (16)	

Note: Diameter and weight subject to change without notice

★ Fiber Types – Replace asterisk (★) in AFL number with number corresponding to desired fiber type below.

5 = 50/125 μm multimode GIGA-Link™ 600  
 6 = 62.5/125 μm multimode GIGA-Link™ 300  
 8 = 62.5/125 μm multimode GIGA-Link™ 1000

### Recommended Products for LSZH Loose Tube Cable

DESCRIPTION	AFL NO.
Extreme Low Temp LSZH Double Jacket I/O Loose Tube (LA Series)	See <a href="#">specification sheet</a> for AFL No.

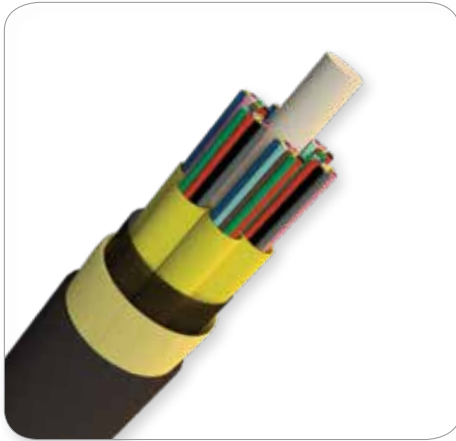
### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable
ICEA	S-104-696	Cable
IEEE	1202	Cable
UL	1685 (OFNG-LS)	Cable
CSA	22.2 (FT4)	Cable
NFPA	130 and 502	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 more details.



## LQ-Series Plenum-rated Indoor/Outdoor Loose Tube

The LQ-Series I/O plenum-rated fiber optic loose tube cables are designed to reduce network cabling costs by eliminating the need to use different cables within a pathway that includes outside plant (OSP) and inside plant (ISP) segments. This dual rating allows for the LQ-Series cable to be transitioned from the OSP pathway and routed within the building space without the need to splice to a separate flame-rated cable installed in a protective conduit. This feature saves space, material costs and installation time.

The cable construction consists of 12-fiber, gel-free buffer tubes stranded around a central strength member. The finished core is jacketed with a highly flame-retardant, UV-resistant thermoplastic. The LQ-Series cable is available with 12 up to 144 single-mode or multimode fibers.

### Applications

- Inter-building campus backbone connections
- Suitable for installing in OSP buried pathways or above-ground exposed cable trays
- Cable routes that require cables to transit OSP spaces and inside plant environments that require cables to be riser or plenum rated

### Fiber Specifications

FIBER TYPE	ISO/IEC	AFL FIBER IDENTIFIER	MAXIMUM ATTENUATION (dB/km)			OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		EMBC (MHz•km)	GIGABIT ETHERNET MAX. LINK DISTANCE (meters)		10 GIGABIT ETHERNET MAX. LINK DISTANCE (meters)	
			850 nm	1310 nm	1550 nm	850 nm	1310 nm		850 nm	1300 nm	850 nm	1300 nm
62.5 Giga-Link™ 300	OM1	6	3.5	1.2	N/A	200	600	N/A	300	550	32	—
50 Giga-Link™ 600	OM2	5	3.5	1.5	N/A	500	500	N/A	600	600	82	—
50 Laser-Link 300	OM3	L	3.0	1.2	N/A	1,500	500	2,000	1,000	550	300	—
50 Laser-Link 550	OM4	C	3.0	1.2	N/A	3,500	500	4,700	1,040	550	550	—
Single-mode (ITU G.652.D/G.657.A1)	OS2	9	N/A	0.4	0.3	N/A	N/A	N/A	N/A	5,000	N/A	10,000

continued  
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## LQ-Series — Plenum-rated Indoor/Outdoor Loose Tube

### Mechanical Data

AFL NO.	FIBER COUNT	DIAMETER inches (mm)	WEIGHT lbs/1000ft (kg/km)	SHORT-TERM/INSTALLATION		LONG-TERM/STATIC	
				MAX TENSILE LOAD lbs (N)	MIN BEND RADIUS inches (cm)	MAX TENSILE LOAD lbs (N)	MIN BEND RADIUS inches (cm)
LQ012*3018#B:C4C	12	0.39 (10.0)	62 (92)	300 (1334)	5.9 (15)	90 (400)	3.9 (10)
LQ024*3018#B:C4C	24	0.39 (10.0)	62 (93)	300 (1334)	5.9 (15)	90 (400)	3.9 (10)
LQ036*3018#B:C4C	36	0.39 (10.0)	63 (94)	300 (1334)	5.9 (15)	90 (400)	3.9 (10)
LQ048*3018#B:C4C	48	0.39 (10.0)	64 (95)	300 (1334)	5.9 (15)	90 (400)	3.9 (10)
LQ072*3018#B:C6C	72	0.46 (11.8)	91 (135)	600 (2669)	7.0 (18)	180 (801)	4.6 (12)
LQ096*3018#B:C8C	96	0.54 (13.6)	125 (185)	600 (2669)	8.0 (21)	180 (801)	5.4 (14)
LQ144*3018#B:CCC	144	0.69 (17.5)	220 (315)	600 (2669)	10.4 (26)	180 (801)	6.9 (18)

\* Fiber Types – Replace asterisk (\*) in AFL number with number in the Fiber Specifications table on previous page.

# Subunit Jacket Color – Replace hashtag (#) in AFL number with number in the Cable Jacket Color table below.

### Cable Jacket Color Options

1 - Blue	8 - Black
2 - Orange	9 - Yellow
3 - Green	A - Violet
4 - Brown	B - Rose
5 - Slate	C - Aqua
6 - White	K - Erika Violet (RAL 4003)
7 - Red	

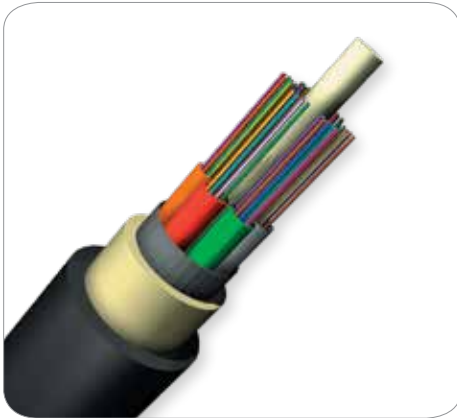
### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE, Issue 4	Fiber, Cable
ICEA	S-104-696, 2013	Cable
UL	444	Outer Jacket
NEC	OFNP, CSA FT-6	Cable

### Temperature Specifications

TEMPERATURE RANGE	
OPERATION	-40°C to +70°C
STORAGE	-40°C to +70°C
INSTALLATION	-15°C to +60°C

Contact AFL for your customized cable solution.



## Extreme Low Temp LSZH Double Jacket I/O Loose Tube (LA Series)

The LA-Series is specially designed for applications that demand reliable performance in harsh environment installations. The cable construction incorporates a variety of packaging technologies that allow for operation in extremely low temperatures, mechanically abusive installations, and highly caustic and acidic environments. The cable core is constructed using materials and engineered geometry that optimizes the isolation of the optical fibers from the stresses and strains imparted on the cable in extreme environments. The outer jacketing is designed to further protect the ruggedized core assembly with a multiplying system made up of a double-ply, low smoke zero halogen (LSZH) flame resistant jacketing system that integrates a layer of aramid yarn between the inner and outer sheaths.

### Features

- 12 to 144 fibers
- Gel-filled and gel-free buffer tubes available
- 2x Crush Resistance compared to standard fiber optic cables
- 2x Cold Impact Resistance compared to standard fiber optic cables
- Self-supporting capability (contact AFL for more information)

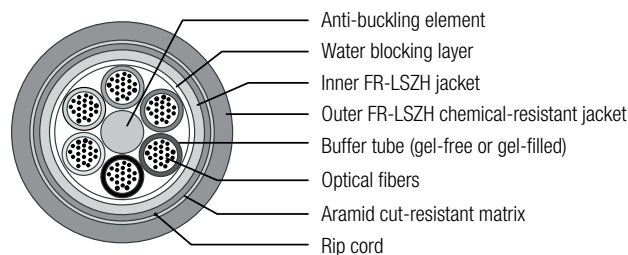
### Applications

- Oil and Gas fields
- Low Temperature Environments
- Refineries
- Mining
- Mass Transit

### Mechanical

PARAMETER	VALUE
Crush	440N/CM
Cold Impact	8.8 N*m

### 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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## Extreme Low Temp LSZH Double Jacket I/O Loose Tube (LA Series)

### Ordering Information

AFL NO.	FIBER COUNT	NOMINAL DIAMETER		NOMINAL WEIGHT		MAXIMUM TENSILE LOAD LBS (N)		MINIMUM BEND RADIUS INCHES (CM)	
		INCHES	MM	LBS/1,000 FT	KG/KM	INSTALLATION	OPERATION	INSTALLATION	OPERATION
<b>GEL-FREE</b>									
LA012★C6111N1D	12	0.575	14.6	140	209	990 (4400)	290 (1300)	13(29.4)	6 (14.6)
LA024★C6111N1D	24	0.575	14.6	139	207	990 (4400)	290 (1300)	13(29.4)	6 (14.6)
LA048★C6111N1D	48	0.575	14.6	136	202	990 (4400)	290 (1300)	13(29.4)	6 (14.6)
LA072★C6111N1D	72	0.575	14.6	133	197	990 (4400)	290 (1300)	13(29.4)	6 (14.6)
LA096★C8111N1D	96	0.638	16.2	156	233	990 (4400)	290 (1300)	15(32.6)	6 (16.2)
LA144★CC111N1D	144	0.776	19.7	199	297	990 (4400)	290 (1300)	18(396)	8 (19.7)
<b>GEL-FILLED</b>									
LA012★C6111N1	12	0.606	15.4	154	229	1000 (4,450)	400 (1,780)	13 (31)	6 (16)
LA024★C6111N1	24	0.606	15.4	154	229	1000 (4,450)	400 (1,780)	13 (31)	6 (16)
LA048★C6111N1	48	0.606	15.4	153	227	1000 (4,450)	400 (1,780)	13 (31)	6 (16)
LA072★C6111N1	72	0.606	15.4	152	225	1000 (4,450)	400 (1,780)	13 (31)	6 (16)

★ Fiber Types – Replace asterisk (★) in AFL number with number in the Fiber Specifications table on previous page.

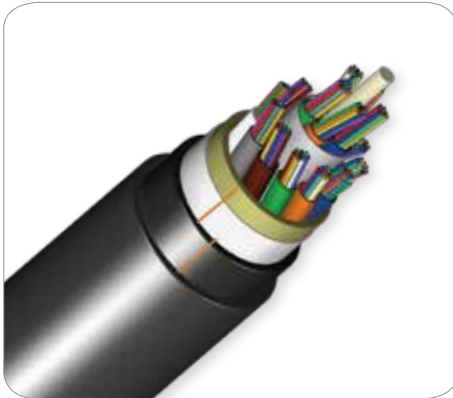
### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable
ICEA	S-104-696	Cable
IEEE	1202	Cable
UL	1651 and 1685 (OFNG-LS)	Cable
CSA	22.2 (FT4)	Cable
NFPA	130	Cable
TIA	598-D	Fiber

### Temperature Specifications

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

Contact AFL for more details.



## All-Dielectric Armored Rodent-Resistant OSP Loose Tube (LN Series)

AFL's All-dielectric Rodent-Resistant cable is designed for environments that have an increased risk of rodent infestation and disturbance. The LN-series product line covers the range of fiber counts of up to 432 fibers. The ultra-hard, non-metallic outer polymer shell reduces the risk of transmission interruptions in vital OSP network interconnections.

### Features

- Fiber counts up to 432
- All-dielectric Armor
- Double jacket design provides additional protection to the fibers
- Gel-filled tubes are reverse-oscillated (SZ stranded) to allow slack for mid-span access

### Applications

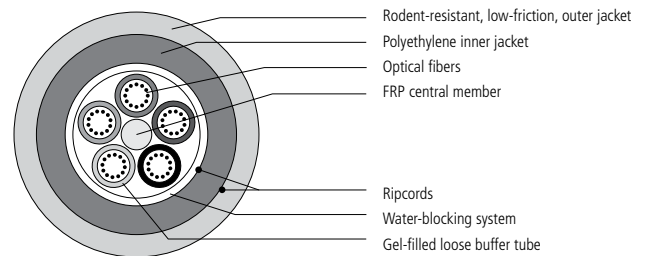
- Direct Buried
- Long Haul Networking
- Building Interconnections (Campus LAN)
- Steam-tunnel Substreet Drainage Networks
- Airport (FAA-E-2761c, Type B)

### Typical Lengths

FIBER COUNT	MAXIMUM LENGTHS*			
	SINGLE-MODE		MULTIMODE	
	FEET	METERS	FEET	METERS
6 - 60	22,900	7,000	22,900	8,000
72 - 96	22,900	7,000	22,900	7,000
108 - 120	22,900	7,000	22,900	7,000
132 - 144	22,600	6,900	22,600	6,900
146 - 216	17,000	5,200	17,000	5,200
218 - 288	15,000	4,600	15,000	4,600
290 - 432	10,800	3,300	10,800	3,300

\* 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
(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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## All-Dielectric Armored Rodent-Resistant OSP Loose Tube (LN Series)

### Ordering Information

AFL NO.	FIBER COUNT	NUMBER OF TUBES/FIBERS	NOMINAL DIAMETER		NOMINAL WEIGHT		MAXIMUM TENSILE LOAD		MINIMUM BEND RADIUS	
			INCHES	MM	LBS/1,000FT	KG/KM	LBS (N)		INCHES (CM)	
							SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
LN006★C5101N1	6	1w/6 (4 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN012★C5101N1	12	1w/12 (4 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN018★C5101N1	18	1w/12,1w/6 (3 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN024★C5101N1	24	2w/12 (3 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN030★C5101N1	30	2w/12,1w/6 (2 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN036★C5101N1	36	3w/12 (2 fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN048★C5101N1	48	4w/12 (1 filler)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN060★C5101N1	60	5w/12 (no fillers)	0.49	12.5	56	84	600 (2670)	200 (890)	9.8 (25)	7.4 (19)
LN072★C6101N1	72	6w/12 (no fillers)	0.53	13.4	65	97	600 (2670)	200 (890)	10.6 (27)	8.0 (21)
LN084★C8101N1	84	7w/12 (1 filler)	0.60	15.2	81	121	600 (2670)	200 (890)	12.0 (31)	9.0 (23)
LN096★C8101N1	96	8w/12 (no fillers)	0.60	15.2	81	121	600 (2670)	200 (890)	12.0 (31)	9.0 (23)
LN108★CA101N1	108	9w/12 (1 filler)	0.67	17.1	101	151	600 (2670)	200 (890)	13.4 (35)	10.1 (26)
LN120★CA101N1	120	10w/12 (no fillers)	0.67	17.1	101	151	600 (2670)	200 (890)	13.4 (35)	10.1 (26)
LN132★CC101N1	132	11w/12 (1 filler)	0.75	19.0	123	184	600 (2670)	200 (890)	15.0 (39)	11.3 (29)
LN144★CC101N1	144	12w/12 (no fillers)	0.75	19.0	123	184	600 (2670)	200 (890)	15.0 (39)	11.3 (29)
LN216★CI301N1	216	18w/12 (no fillers)	0.76	19.3	125	187	600 (2670)	200 (890)	15.2 (39)	11.4 (29)
LN288★OC101N1	288	12w/24 (no fillers)	0.73	18.6	183	272	600 (2670)	200 (890)	14.6 (38)	11.0 (28)
LN432★OI301N1	432	18w/24 (no fillers)	0.72	18.4	181	269	600 (2670)	200 (890)	14.4 (37)	10.8 (28)

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

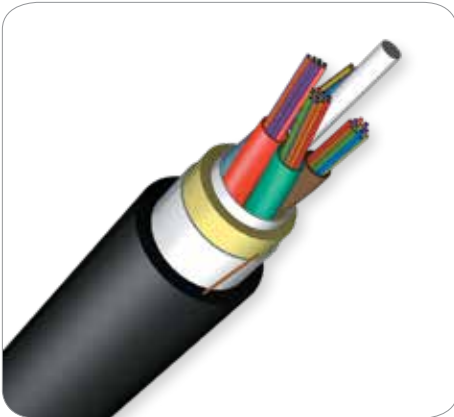
GOVERNING BODY	STANDARD CODE	COMPONENT
Telcordia	GR-20-CORE	Cable
ICEA	640	Cable
TIA	598-D	Fiber

### 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.





## 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.

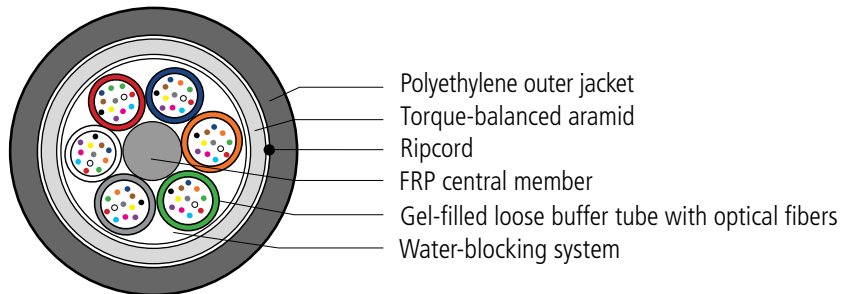
### Features

- Gel-filled tubes are reverse-oscillated to allow slack for mid-span access
- Up to 288 fibers in cable
- Pole-to-pole span lengths up to 1100 feet
- Single jacket design decreases the diameter and weight when compared to double jacket ADSS cable; thus reducing pole loading
- No separation requirement of ADSS from conductors per National Electric Safety Code (NESC) section 235

### Applications

- Electric utility distribution power lines
  - Framed in supply or communications space
- Underground duct
- Enterprise OSP networks
- Fiber-to-the-X networks

### Cable Components (Representative)



### Optical Information

FIBER TYPE	MAXIMUM ATTENUATION (dB/km)				OVERFILL LAUNCH MIN. BANDWIDTH (MHz•km)		GIGABIT ETHERNET MINIMUM LINK DISTANCE (meters)	
	850 nm	1300 nm	1310 nm	1550 nm	850 nm	1300 nm	850 nm	1300 nm
(9) Single-mode	N/A	N/A	0.35	0.25	N/A	N/A	N/A	5000
(6) 62.5/125 GIGA-Link™ 300	3.5	1.2	N/A	N/A	200	600	300	550
(5) 50/125 GIGA-Link™ 600	2.9	0.9	N/A	N/A	500	500	600	600
(L) 50 Laser-Link™ 300	2.9	0.9	N/A	N/A	1500	500	900	550

Gigabit Ethernet Minimum Link Distances are based on "bandwidth"/modal dispersion constraints. Actual link distances may be constrained by attenuation, depending on specific loss budget.

continued  
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## Flex-Span® ADSS Fiber Optic Cable

### Reel Information

ITEM	REEL A		REEL B		REEL C		REEL D		REEL E	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
Reel Height	42	106.7	58	147.3	66	167.6	72	167.6	84	213.4
Reel Width Outside	36	91.4	38	96.5	42	106.7	42	106.7	40	101.6
Reel Width Inside	32	81.6	32	81.3	36	91.4	36	91.4	34	86.4
Drum Diameter	23	58.7	28	71.1	36	91.4	36	91.4	35	88.9
Arbor Hole Diameter	3	7.9	3	7.9	3	7.9	3	7.9	3	7.9
Reel Weight with Lagging	180 lbs	82 kg	420 lbs	191 kg	685 lbs	311 kg	710 lbs	311 kg	950 lbs	431 kg

AFL provides ADSS cable on several standard sizes of non-returnable wooden reels. Non-standard reel sizes are available upon request.

### Typical Maximum Lengths

CABLE DIAMETER	REEL CAPACITY	
	feet	meters
< 0.85" (21.6 mm)	23,000	7,000

NOTE: Longer lengths may be available upon request.

### Recommended Products for ADSS Fiber Optic Cable

DESCRIPTION	AFL NO.
<b>Fiber Optic Cable Accessories</b>	
ADSS Formed Wire Deadends	Refer to the <a href="#">ADSS Formed Wire Deadends spec sheet</a> for specific AFL No.
ADSS Suspension Unit	Refer to the <a href="#">ADSS Suspension Unit spec sheet</a> for specific AFL No.
ADSS Trunnion Assemblies	Refer to the <a href="#">ADSS Trunnion Assemblies spec sheet</a> for specific AFL No.
ADSS Temporary Grip	Refer to the <a href="#">ADSS Temporary Grip spec sheet</a> for specific AFL No.
AGC Downlead Clamp for ADSS	Refer to the <a href="#">AGC Downlead Clamp for ADSS spec sheet</a> for specific AFL No.
AVD Series Spiral Vibration Dampers	Refer to the <a href="#">AVD Series Spiral Vibration Dampers spec sheet</a> for specific AFL No.
Coil Brackets	Refer to the <a href="#">Coil Brackets spec sheet</a> 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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## Flex-Span® ADSS Fiber Optic Cable

NESC LIGHT @ 1.5% INSTALLATION SAG				
SPAN (ft)	AFL NO.	WEIGHT (lbs/ft)	DIAMETER (inches)	MRCL (lbs)
<b>48 FIBERS</b>				
700	AE048★W520AA4	0.049	0.382	698
1050	AE048★W520EA3	0.052	0.390	1089
<b>72 FIBERS</b>				
700	AE072★O620A08	0.080	0.484	913
1050	AE072★O620EA1	0.083	0.492	1338
<b>96 FIBERS</b>				
700	AE096★O620A08	0.082	0.484	913
1050	AE096★O620EA1	0.085	0.492	1338
<b>144 FIBERS</b>				
700	AE144★O620A08	0.085	0.484	913
1050	AE144★O620EA1	0.087	0.492	1338
<b>288 FIBERS</b>				
700	AE288★OC20EA0	0.185	0.732	1594
800	AE288★OC20EA3	0.187	0.736	1780

NESC MEDIUM @ 1.5% INSTALLATION SAG				
SPAN (ft)	AFL NO.	WEIGHT (lbs/ft)	DIAMETER (inches)	MRCL (lbs)
<b>48 FIBERS</b>				
500	AE048★W520AA4	0.049	0.382	698
700	AE048★W520EA3	0.052	0.390	1089
<b>72 FIBERS</b>				
500	AE072★O620A08	0.080	0.484	913
700	AE072★O620EA1	0.083	0.492	1338
<b>96 FIBERS</b>				
500	AE096★O620A08	0.082	0.484	913
700	AE096★O620EA1	0.085	0.492	1338
<b>144 FIBERS</b>				
500	AE144★O620A08	0.085	0.484	913
700	AE144★O620EA1	0.087	0.492	1338
<b>288 FIBERS</b>				
500	AE288★OC20EA0	0.185	0.732	1594
700	AE288★OC20EA3	0.187	0.736	1780

NESC HEAVY @ 1.5% INSTALLATION SAG				
SPAN (ft)	AFL NO.	WEIGHT (lbs/ft)	DIAMETER (inches)	MRCL (lbs)
<b>48 FIBERS</b>				
300	AE048★W520AA4	0.049	0.382	698
450	AE048★W520EA3	0.052	0.390	1089
<b>72 FIBERS</b>				
300	AE072★O620A08	0.080	0.484	913
450	AE072★O620EA1	0.083	0.492	1338
<b>96 FIBERS</b>				
300	AE096★O620A08	0.082	0.484	913
450	AE096★O620EA1	0.085	0.492	1338
<b>144 FIBERS</b>				
300	AE144★O620A08	0.085	0.484	913
450	AE144★O620EA1	0.087	0.492	1338
<b>288 FIBERS</b>				
300	AE288★OC20EA0	0.185	0.732	1594
450	AE288★OC20EA3	0.187	0.736	1780

NOTE: Diameter and weight subject to change without notice.

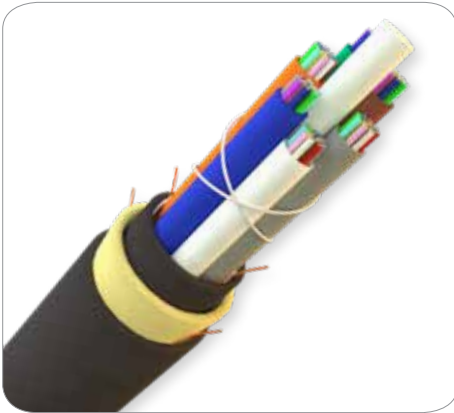
★ Fiber Types – Replace asterisk (★) in AFL number with number corresponding to desired fiber type below.

9 = Single-mode

5 = 50/125 μm multimode GIGA-Link™ 600

6 = 62.5/125 μm multimode GIGA-Link™ 300

L = 50/125 μm multimode Laser-Link™ 300



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

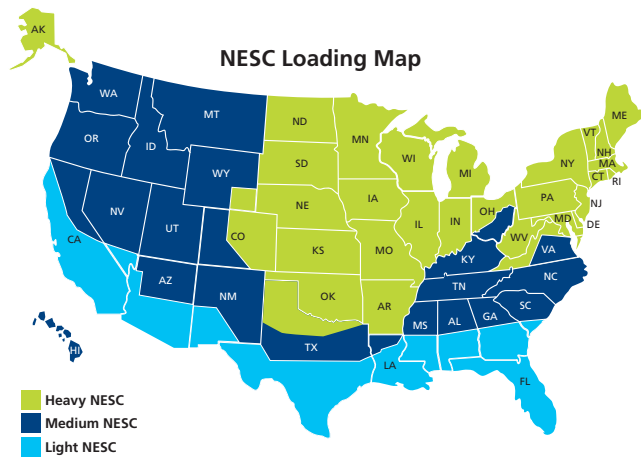
AFL-ADSS® (All-Dielectric Self-Supporting) fiber optic cable is designed for outside plant aerial transmission and distribution environments. As its name indicates, there are no metallic components and the cable does not require a support or messenger wire. These attributes allow the cable to be installed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

### Features

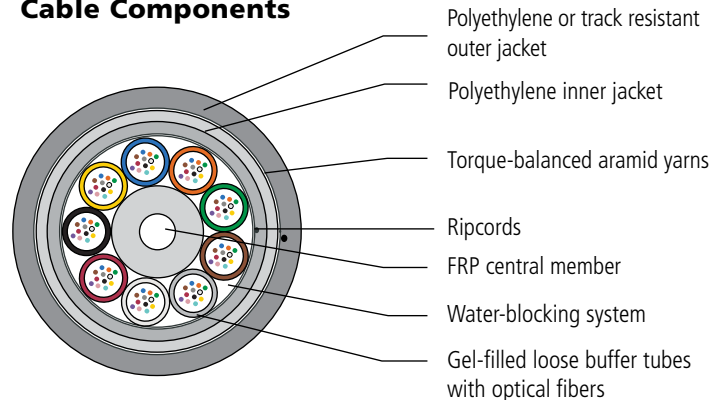
- Up to 432 fibers in cable
- Designs capable of span lengths up to 3500 ft.
- Double jacket designs provide additional protection to the fibers for longer span lengths and higher strength requirements
- Track-resistant outer jacket available for high voltage transmission lines for space potential values 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.

<b>A</b>	<b>XXX</b>	<b>XXXX</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	Fiber Count <sup>1</sup> 012 to 432	Span Length <sup>2</sup> 0100 to 2500	Unit of Measure F = Feet M = Meters	NESC Loading Condition <sup>3</sup> 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 115 kV B = ≥115 kV

- NOTES:**
1. Fiber counts available for 12-432 fibers.
  2. Span lengths available from 100-2500 feet (or meters). Please contact AFL for span lengths outside this range.
  3. 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.
<b>Fiber Optic Cable Accessories</b>	
ADSS Wedge Dead End	Refer to the <a href="#">ADSS Wedge Dead End spec sheet</a> for specific AFL No.
ADSS Suspension Unit	Refer to the <a href="#">ADSS Suspension Unit spec sheet</a> for specific AFL No.
ADSS Trunnion Assemblies	Refer to the <a href="#">ADSS Trunnion Assemblies spec sheet</a> for specific AFL No.
ADSS Temporary Grip	Refer to the <a href="#">ADSS Temporary Grip spec sheet</a> for specific AFL No.
AGC Downlead Clamp for ADSS	Refer to the <a href="#">AGC Downlead Clamp for ADSS spec sheet</a> for specific AFL No.
AVD Series Spiral Vibration Dampers	Refer to the <a href="#">AVD Series Spiral Vibration Dampers spec sheet</a> for specific AFL No.
Coil Brackets	Refer to the <a href="#">Coil Brackets spec sheet</a> for specific AFL No.
Standoff Bracket for ADSS Hardware Clamps	Refer to the <a href="#">Standoff Bracket for ADSS Hardware Clamps spec sheet</a> for specific AFL No.

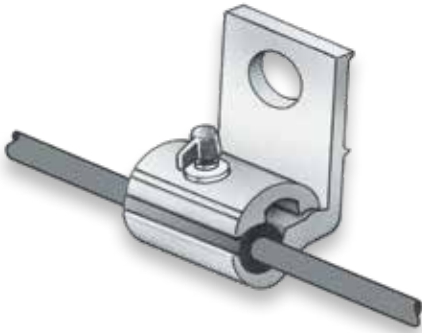
## Temperature Specifications

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.
<b>Aerial Drop 256</b> maximum line angle = 17° (150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light)	AMBB256
<b>Aerial Drop 307</b> maximum line angle = 17° (220 ft NESC heavy, 400 ft NESC medium, 675 ft NESC light)	AMBB307
<b>ADSS Mini-Span 424</b> maximum line angle = 17° (275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light)	AMBB424
<b>ADSS Mini-Span 484</b> maximum line angle = 17° (275 ft NESC heavy, 400 ft NESC medium, 525 ft NESC light)	AMBB484-535
<b>ADSS Mini-Span 535</b> 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.
<b>ADSS Mini-Span 323</b> maximum line angle = 20°(175 ft NESC heavy, 300 ft NESC medium, 500 ft NESC light)	ATS321/330
<b>ADSS Mini-Span 383</b> maximum line angle = 20°(180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light)	ATS371/383



ADESDFW2-256 and 307

## 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



ADELD2E-323T and 383T

### 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
<b>ADSS Mini-Span 383</b> 180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light	ADELD2E-383T
<b>ADSS Mini-Span 424</b> 275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light	ADELD2E-424005



ADELD2E-424005TE  
\* shown with optional thimble eye

**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.



Single Trunnion Cable Support



Double Trunnion Cable Support (closed)



Double Trunnion Cable Support (open)

## Trunnion Assemblies— Single and Double Cables

AFL offers trunnions with various mounting capabilities: bolted, banded or standoff. Trunnions reduce installation costs by functioning as a pull-through during installation (maximum line angle for stringing is 15° total, 7.5° per side, number of structures not to exceed 30). No block or pulley is needed provided these conditions are met.

### Features

- May be used as a pull-through by removing the bushing inserts
- Double cable supports option
- High-strength aluminum
- Smaller and more compact design
- Facilitates faster installation
- Color-coded range taking inserts for easy identification
- Versatile mounting styles to fit different structure types: bolted, banded or standoff
- Banding and pole hardware supplied by customer
- Lowers the total cost of installation
- Span Length: 600 ft.—NESC Heavy  
1,200 ft.—NESC Light

### Ordering Information—Single Cable Support

AFL NO.	CABLE O.D. RANGE		ESTIMATED WEIGHT		BUSHING COLOR CODE
	INCHES	MILLIMETERS	LBS	KG	
ATGN325/375	0.325" - 0.375"	8.26 - 9.53	2.06	.934	Green + White
ATGN376/419	0.376" - 0.419"	9.55 - 10.64	2.06	.934	Orange + White
ATGN420/474	0.420" - 0.474"	10.67 - 12.05	2.05	.930	Purple + White
ATGN475/525	0.475" - 0.525"	12.07 - 13.34	2.05	.930	Blue
ATGN526/575	0.526" - 0.575"	13.36 - 14.61	2.05	.930	Orange
ATGN576/625	0.576" - 0.625"	14.63 - 15.88	2.04	.925	Brown
ATGN626/675	0.626" - 0.675"	15.90 - 17.15	2.04	.925	Green
ATGN676/725	0.676" - 0.725"	17.17 - 18.42	2.03	.921	White
ATGN726/775	0.726" - 0.775"	18.44 - 19.69	2.03	.921	Red
ATGN776/825	0.776" - 0.825"	19.71 - 20.96	2.02	.916	Purple
ATGN826/875	0.826" - 0.875"	20.98 - 22.23	2.02	.916	Yellow
ATGN876/925	0.876" - 0.925"	22.25 - 23.50	2.02	.916	Pink
ATGN926/959	0.926" - 0.959"	23.52 - 24.36	2.02	.916	Blue + White
ATGN960/1045	0.960" - 1.045"	24.38 - 26.54	2.02	.916	Gray

### Application Notes:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.
2. As a stringing block:  
Maximum line angle = 15° (7.5° per side)  
Maximum number of structures = 30
3. For final installation:  
Maximum line angle = 22° (11° per side)

*continued*  
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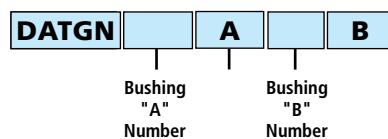
## Trunnion Assemblies (cont.)

### 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

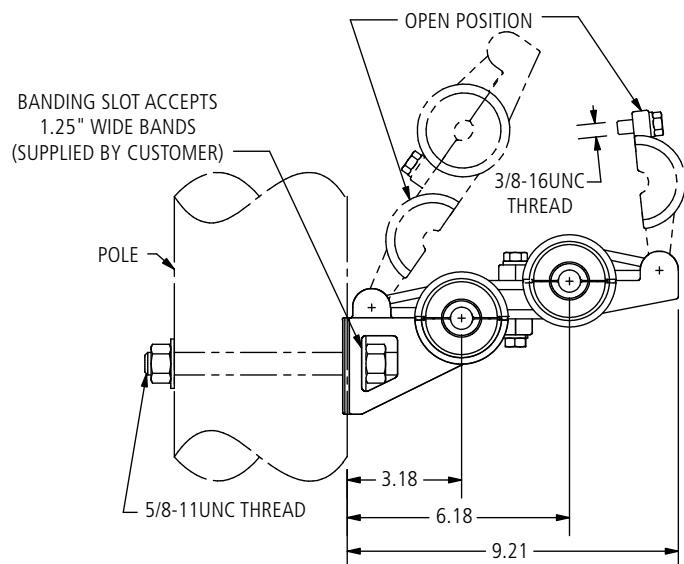
Order by assembling part number as shown:



- 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

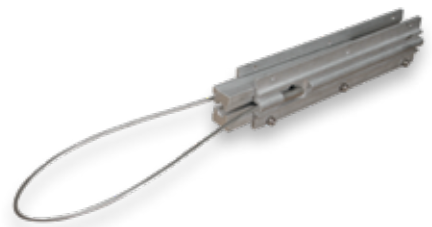
### Notes:

1. Bushing "A" and "B" may be the same or different.
2. Attachment hardware or stainless steel banding to be supplied by customer.





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

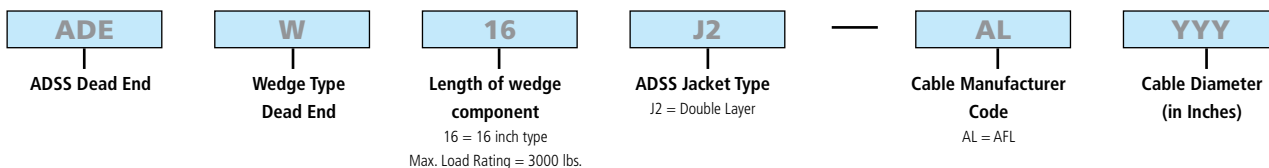
- Wedge-type design is safer than spiral wrap style dead ends
- Fewer parts, smaller and easier to store
- Attaches to structure via common pole hardware sold separately (thimble eye, ram's head, etc.)

### Features

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

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

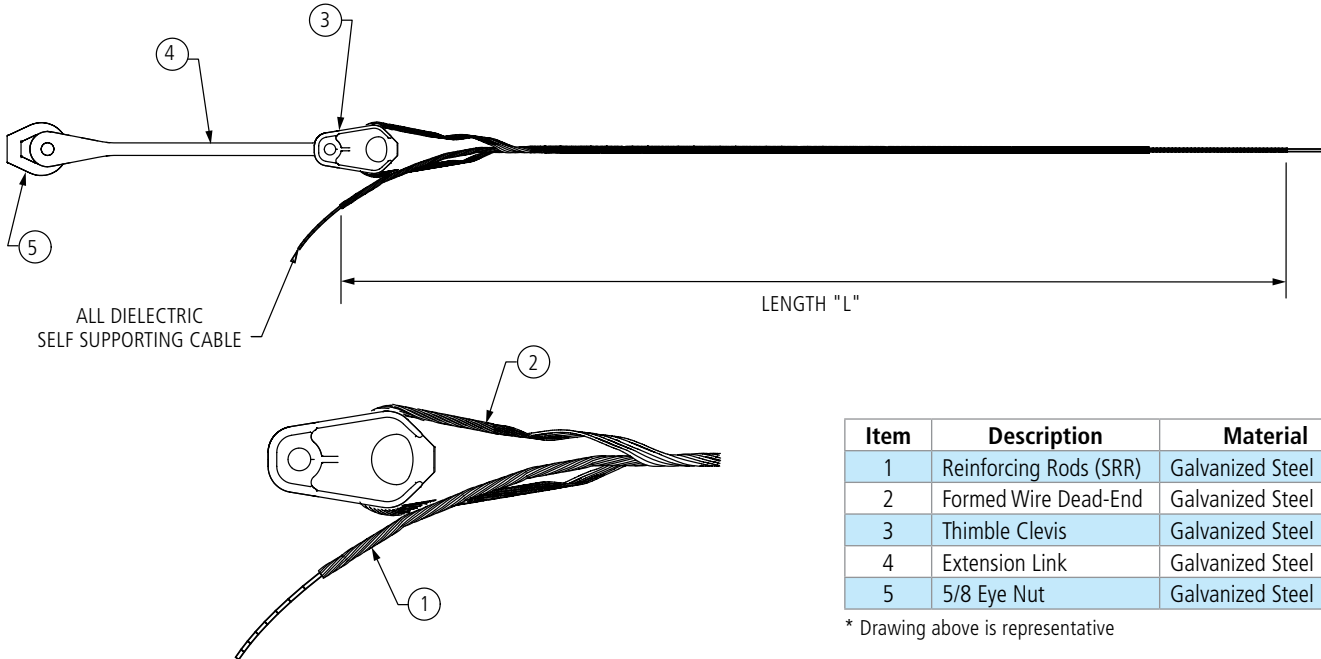
### Ordering Information for Double Jacket Cables



#### 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.

## 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	Galvanized Steel
4	Extension Link	Galvanized Steel
5	5/8 Eye Nut	Galvanized Steel

\* Drawing above is representative

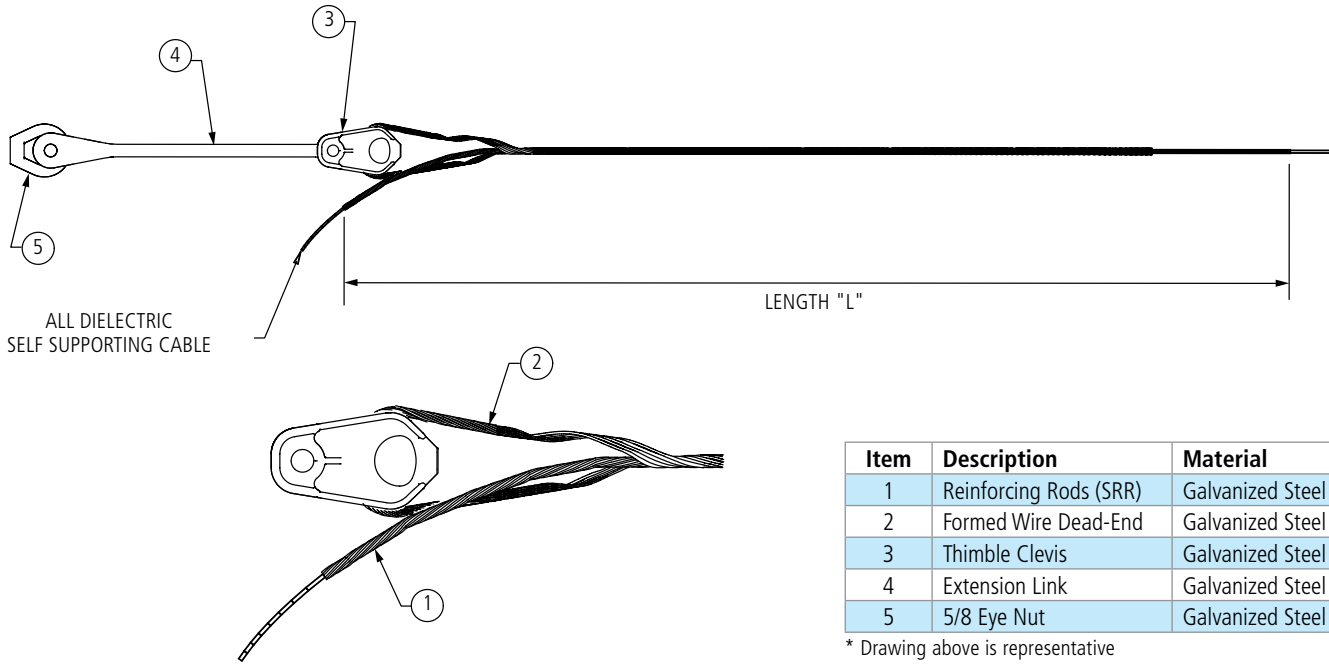
### Features

- 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
ADESE400/424C	.400-.424	48	Black
ADESE425/451C	.425-.451	48	Yellow
ADESE452/481C	.452-.481	48	Green
ADESE482/510C	.482-.510	48	Orange
ADESE511/542C	.511-.542	48	Blue
ADESE543/577C	.543-.577	48	White
ADESE578/613C	.578-.613	48	Red
ADESE614/651C	.614-.651	48	Black
ADESE652/692C	.652-.692	48	Yellow
ADESE693/737C	.693-.737	48	Green
ADESE738/784C	.738-.784	48	Orange
ADESE785/834C	.785-.834	48	Blue
ADESE835/889C	.835-.889	48	White
ADESE890/945C	.890-.945	48	Red
ADESE946/1007C	.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



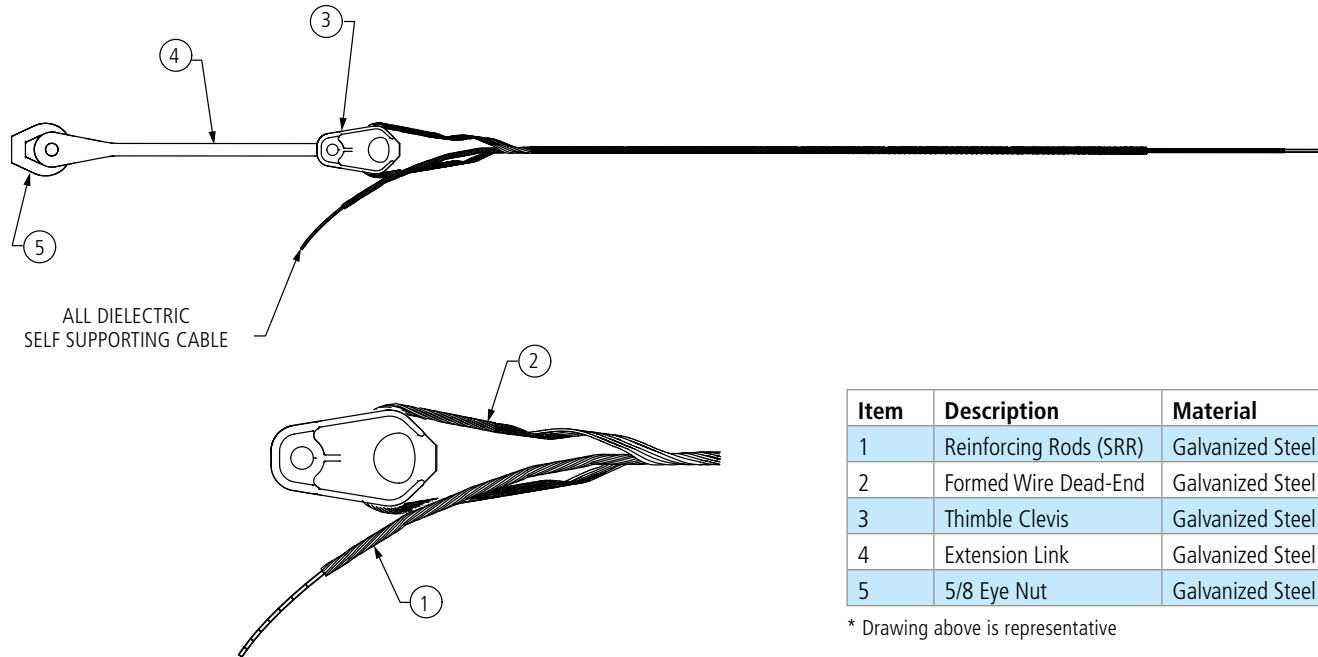
### Features

- 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

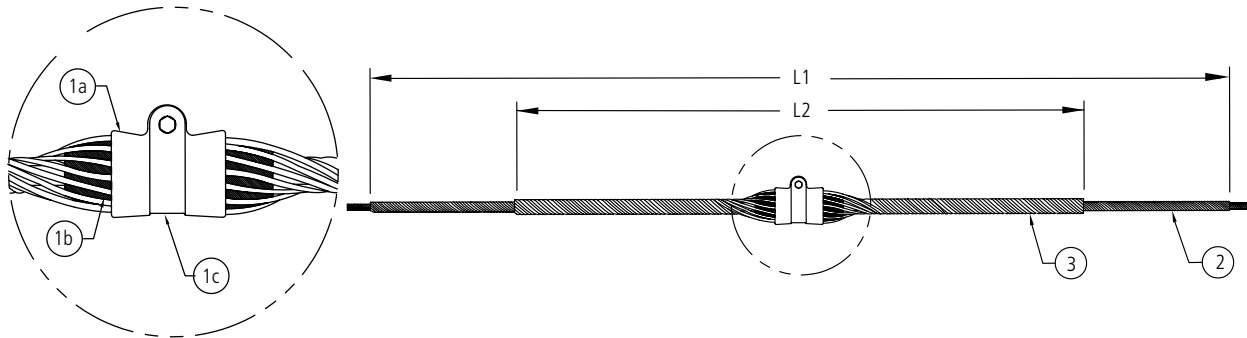
### Features

- 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

## Formed Wire Suspension for ADSS Cable



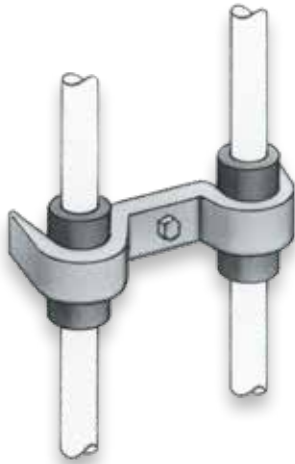
### Features

- 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



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**

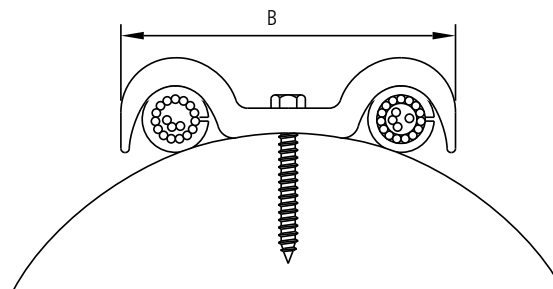
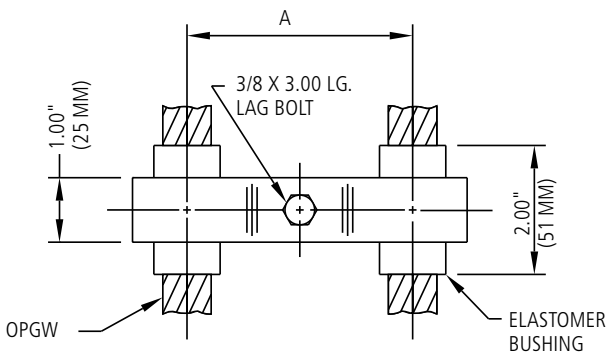
- Slip strength: >100 lbs.

**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

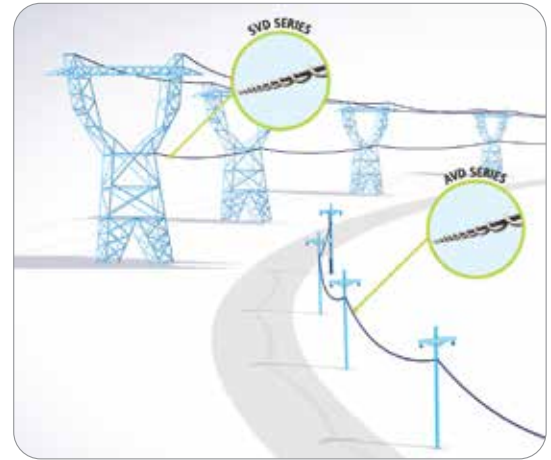
**Ordering Example:** For AC-64/528 AlumaCore OPGW, the part number is OGW469/561.



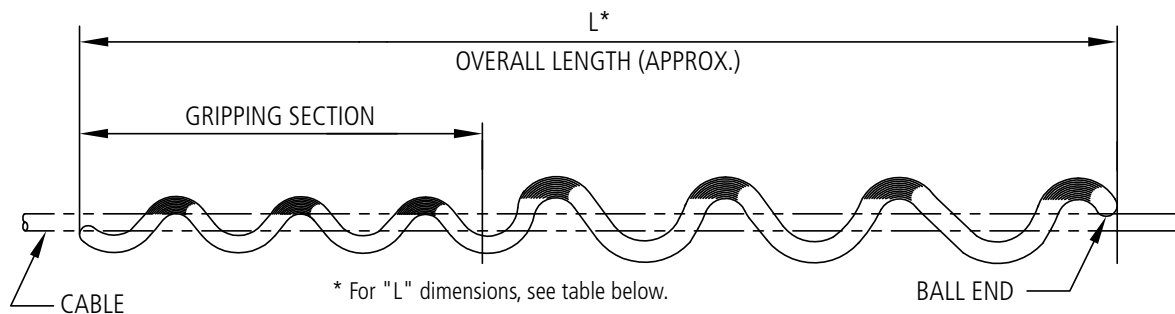
## SVD Series Spiral Vibration Dampers

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

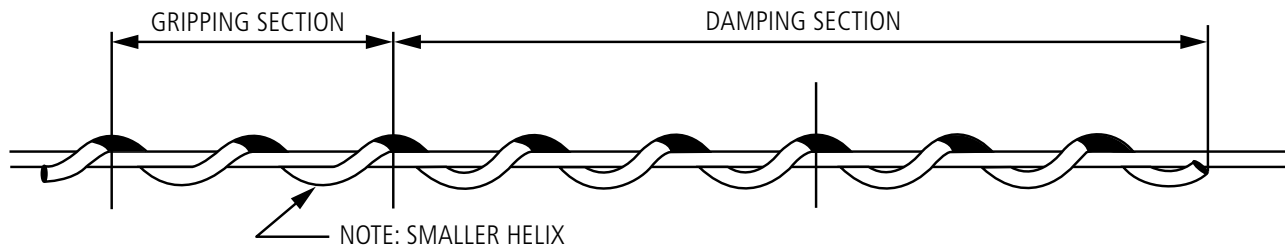
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## SVD Series Spiral Vibration Dampers (cont.)

### 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

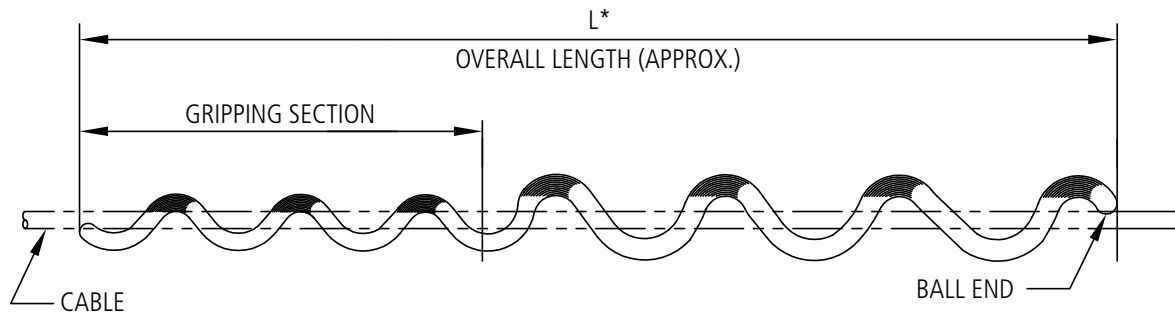
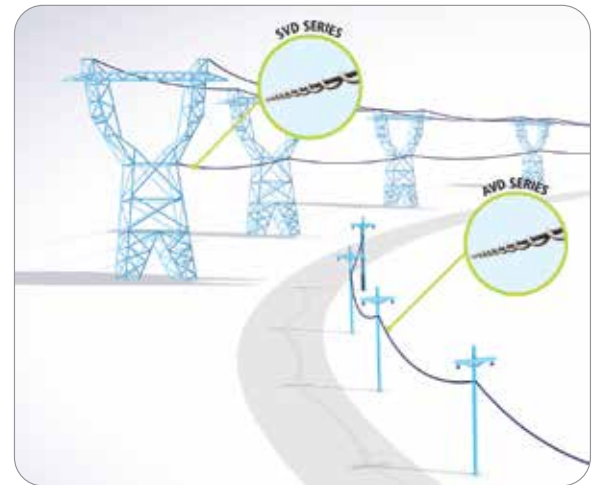
### Placement and Spacing

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

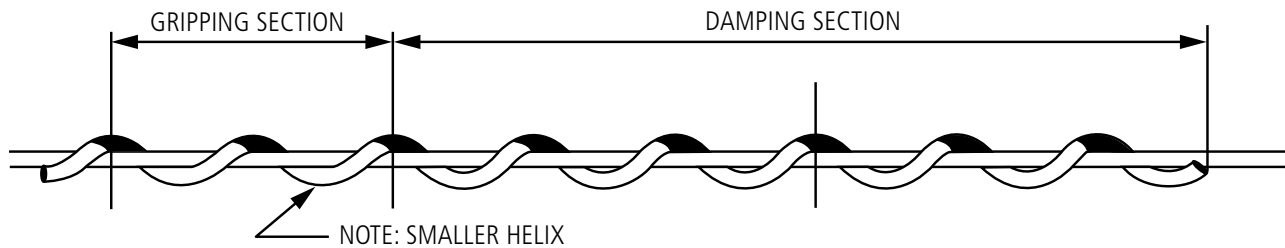
AFL NO.	PLP NO.	CONDUCTOR DIAMETER RANGE inches (mm)	"L" ROD LENGTH inches (mm)	WEIGHT lbs (KG)	STANDARD PACK
AVD250/326	50502393	0.250-0.326 (6.35-8.29)	49 (1244)	27 (12.247)	50
AVD327/461	50502272	0.327-0.461 (8.30-11.72)	51 (1295)	30 (12.701)	50
AVD462/563	50502274	0.462-0.563 (1.73-14.32)	53 (1346)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



## 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

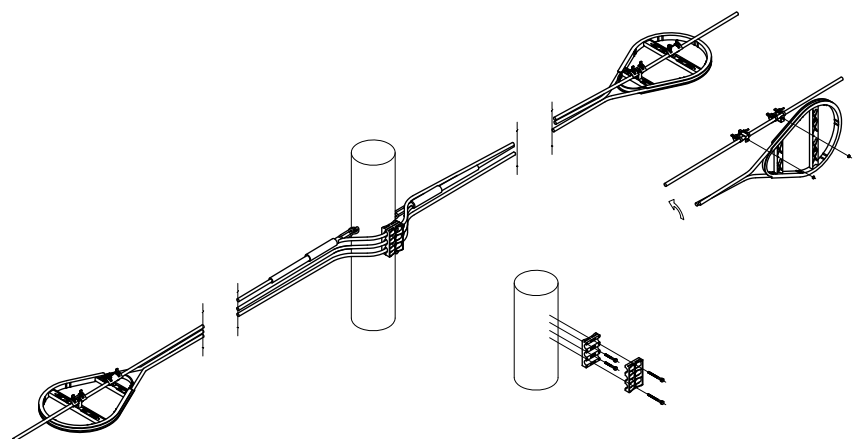
DESCRIPTION	FOSP-ADSS-12	FOSP-ADSS-17
FOS ADSS Kit	FA000049	FA000050

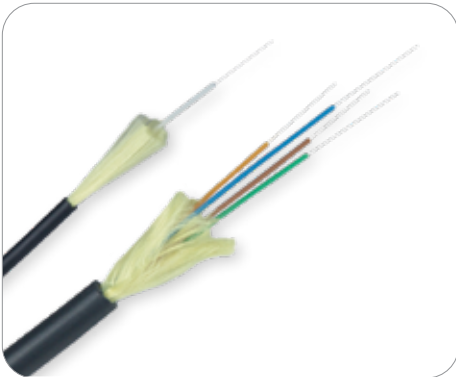
Kits contain one pair of FOSP and two sets of hanger brackets.

### Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTM A153, ASTM B695

### Typical Installation Diagram





## Tactical Tight Buffered Cable

AFL Tactical Tight Buffered Cables are ideal for use in installations where extreme environmental conditions are present. Designed to be deployed and retrieved in the field, AFL's Tactical Tight Buffered Cables are highly resistant to damage caused by repeated impacts crushing forces, abrasion and extreme temperatures.

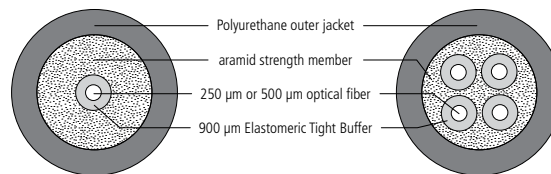
### Features

- Cut resistant, fire retardant, LSZH polyurethane jacket
- Highly flexible construction allows for multiple deployments
- All aramid strength members
- Performance in wide temperature range
- UV, Fungus and water resistant
- High impact and crush resistance
- Durable in high traffic areas
- MIL-PRF-49291 qualified fiber available (-RH designation)

### Applications

- Field deployment in abusive environments
- Temporary installation of critical communications lines where quick retrieval and re-use is necessary
- High Traffic areas
- Security and Sensing applications
- Broadcast deployments
- Installations in harsh environments

### Cable Components



### Specifications

CHARACTERISTIC	TEST PROCEDURE	PERFORMANCE
Tensile and elongation	EIA/TIA-455-33	
Operating tensile strength	EIA/TIA-455-33	
Low-temp flexibility	EIA/TIA-455-37	
Cyclic flexing	EIA/TIA-455-104	2000
Crush resistance	EIA/TIA-455-41	1800 N/cm or greater
Impact	EIA/TIA-455-25	200
Temperature cycling	EIA/TIA-455-3	-46°C to 85°C
Temperature/humidity cycling	EIA/TIA-455-5 Method B	
Life aging	EIA/TIA-455-4	
Freezing water immersion	EIA/TIA-455-98	



## Tactical Tight Buffered Cable

### Mechanical Data

AFL NO.	FIBER COUNT	NOMINAL DIAMETER		NOMINAL WEIGHT		MAXIMUM TENSILE LOAD		MINIMUM BEND RADIUS	
		INCHES	(MM)	LBS/1000FT	(KG/KM)	LBS (N)		INCHES (CM)	
						INSTALLATION	LONG TERM	INSTALLATION	LONG TERM
X5002*551#0H	2	0.22	(5.5)	16.2	(25)	400 (1780)	130 (578)	2.2 (5.5)	1.1 (2.8)
X5004*551#0H	4	0.22	(5.5)	16.2	(25)	400 (1780)	130 (578)	2.2 (5.5)	1.1 (2.8)
X5002*581#0H	2	0.23	(5.8)	21.5	(32)	400 (1780)	130 (578)	3.4 (8.7)	2.3 (5.8)
X5004*581#0H	4	0.23	(5.8)	21.5	(32)	400 (1780)	130 (578)	3.4 (8.7)	2.3 (5.8)
X5006*611#0H	6	0.24	(6.1)	22.2	(33)	400 (1780)	130 (578)	3.6 (9.2)	2.4 (6.1)
X5008*641#0H	8	0.25	(6.4)	28.8	(44)	470 (2090)	160 (712)	2.5 (6.4)	1.3 (3.2)
X5012*641#0H	12	0.25	(6.4)	30.8	(47)	470 (2090)	160 (712)	2.5 (6.4)	1.3 (3.2)

Note: Diameter and weight subject to change without notice

500 µm primary coated fiber available, replace H in AFL number with number corresponding below.

G = 500 µm Coated Optical Fiber

H = 250 µm Coated Optical Fiber

Replace asterisk (\*) in AFL No. with corresponding fiber type below.

5 = 50/125 µm multimode GIGA-Link™ 600

6 = 62.5/125 µm multimode GIGA-Link™ 300

9 = Bend Insensitive G.657A1 single-mode

L = 50/125 µm OM3

C = 50/125 µm OM4

Replace hashtag (#) in AFL No. with jacket color. See Tactical Cable Ordering Guide.

Customer specified print available.

See Tactical Cable Ordering Guide AFL No. designations.

### Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
EIA/TIA	EIA/TIA-455-33, EIA/TIA-455-37, EIA/TIA-455-104, EIA/TIA-455-41, EIA/TIA-455-25, EIA/TIA-455-3, EIA/TIA-455-5 Method B, EIA/TIA-455-4, EIA/TIA-455-98	Fiber Optic Cable
U.S. Department of Defense	MIL-PRF-49291 MIL-PRF-85045	Optical Fiber Fiber Optic Cable

### Temperature Specifications

TEMPERATURE RANGE	
INSTALLATION	-46°C to +85°C
OPERATION	-46°C to +85°C
STORAGE	-55°C to +85°C

Contact AFL for further details.



Bluetooth®

90S+

## 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.



In Work Tray



Wind Protector Open

### 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.
<b>90S+ Fusion Splicer (machine only)</b> <b>Includes:</b> 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
<b>90S+ Fusion Splicer Kit (with cleaver)</b> <b>Includes:</b> 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
<b>90S+ Fusion Splicer without Bluetooth (machine only)</b> <b>Includes:</b> 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.
<b>Cleavers</b>	
CT08 Cleaver	S017004
CT50 Cleaver	S017030
<b>Fiber Holders (pair)</b>	
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
<b>FUSEConnect® Accessories</b>	
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
<b>Power Supply Options and Equipment</b>	
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.
<b>Miscellaneous</b>	
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



#### Fiber Holders

- Wide range of sizes for various applications
- Loose & Tight Buffer options available



#### Portal Tripod Work Station

- Sturdy work tray supports the splicer, cleaver and accessories
- Tripod supports a load capacity of up to eleven pounds



#### V-Groove Cleaning Kit

- Removes environmental contamination from the v-groove of the splicer
- Maintains performance and ensures fiber alignment



## Fujikura 90S+ Fusion Splicer

### Specifications

PARAMETER		VALUE	
Fiber Alignment Method		Active core alignment	
Fiber Count Can Be Spliced		Single fiber	
Applicable Fiber	Fiber Type	Single-mode optical fiber	
	Cladding Diameter	Multimode optical fiber	
Applicable Coating	Sheath Clamp	80 to 150 µm	
	Coating dia.:	Max. 3,000 µm	
Fiber Splice Performance	Splice Loss	Cleave length: 5 to 16 mm	
		ITU-T G.652: Avg. 0.02 dB	
		ITU-T G.651: Avg. 0.01 dB	
		ITU-T G.653: Avg. 0.04 dB	
		ITU-T G.654: Avg. 0.04 dB	
		ITU-T G.655: Avg. 0.04 dB	
	Splice Time	ITU-T G.657: Avg. 0.02 dB	
SM FAST mode: Avg. 8 to 10 sec.			
Applicable Protection Sleeve	SM AUTO mode: Avg. 11 to 13 sec.		
	Sleeve Type	AUTO mode: Avg. 14 to 16 sec.	
	Sleeve Length	Heat-shrinkable sleeve	
Sleeve Heat Performance	Sleeve Dia.	Max. 66 mm	
	Heat Time	Max. 6.0 mm before shrinking	
Fiber Tensile Test Force	Heat Time	60 mm slim mode: Avg. 9 to 10 sec.	
Electrode Life	Heat Time	60 mm mode: Avg. 13 to 15 sec.	
Physical Description	Dimensions W	Approx. 2.0 N	
	Dimensions D	Approx. 5,000 splices	
	Dimensions H	Approx. 170 mm without projection	
	Weight	Approx. 173 mm without projection	
Environmental Condition	Temperature	Approx. 150 mm without projection	
	Humidity	Approx. 2.8 kg including battery	
	Altitude	Operate: -10 to 50°C	
AC Adaptor	Input	Storage: -40 to 80°C	
	Output	Operate: 0 to 95% RH non-condensing	
Battery Pack	Capacity	Storage: 0 to 95% RH non-condensing	
	Temperature	Max. 5,000 m	
	Battery Life	AC100 to 240 V, 50/60 Hz, Max. 1.5 A	
	Recharge Time	Type	
	Display	LCD Monitor	Rechargeable Lithium Ion
		Magnification	Output
Interface	External Led Lamp	Approx. DC14.4V / 6,380 mAh	
	Ribbon Stripper	Approx. 300 splice and heat cycles	
	Wireless	Recharge: 0 to 30°C	
	Splice Mode	Storage: -20 to 30°C	
Data Storage	Heat Mode	Approx. 500 recharge cycles	
	Splice Result	Approx. 5-8 hours from empty	
	Splice Image	TFT 5 inches with touch screen	
	Screw Hole For Tripod	Magnification	200 to 320x
Other Features	Automatic Functions	LED lamp	
	Reference Guide	PC	
	Sheath Clamp	External Led Lamp	
	Electrode	Ribbon Stripper	
	Splice mode select by fiber type analysis	Wireless	
	Discharge power calibration	Splice Mode	
	Wind protector: open/close	Heat Mode	
Sheath clamp: open	Splice Result		
Heater lid: open/close	Splice Image		
Heater clamp: open/close	Reference Guide		
Easy sleeve positioning clamp	Sheath Clamp		
Replaceable without tool	Electrode		



## Fujikura 41S+ Fusion Splicer

The Fujikura 41S+ is a fully ruggedized, two camera, active cladding alignment fusion splicer. Enabled by Warm Splice Imaging (WSI), the 41S+ can determine the alignment of the fiber cores by observing the splice during the heating process. This delivers splice loss estimates with a greater level of accuracy than those based on cladding only alignment. Active Blade Management (ABM) via Bluetooth® connection with the CT50 Fiber Cleaver tracks usage and enables automated blade rotation as needed, mitigating fiber reburns. The new Active Fusion Control (AFC) technology further reduces reburns by improving splice losses for fibers with poor cleave angles. With the combination of ABM and AFC, the Fujikura 41S+ contains a robust set of splicing features that will reduce the likelihood of poor splice installations or repairs.

A 6-second splice time and 25-second shrink time offers unmatched speed and productivity, while an easy-to-use touchscreen monitor provides simple and intuitive menu navigation. Interchangeable sheath clamps or fiber holders provide versatility for user preference, and compatibility with splice-on connectors. The extended-life battery is rated for up to 200 splice and heat cycles. Long-life electrodes provide 5,000 splices and help minimize downtime for replacement and stabilization. The large 5" monitor provides a crystal-clear image, even in the brightest sunlight. Software updates are accomplished via the internet allowing users to quickly update their software as new splice programs become available.

Backed by the best service team in the industry, the Fujikura 41S+ is the ideal splicer to use when portability, ruggedness, and reliability are needed for splicing applications.



Workstation in Transit Case



Workstation on Transit Case

### Features

- Warm Splice Imaging (WSI) loss estimation technology
- Improved real-time arc control for fibers with poor cleave angles
- Bluetooth enabled cleaver management
- Two camera, active cladding alignment
- 5" touchscreen monitor
- Interchangeable sheath clamps and fiber holders
- Fully ruggedized for shock, moisture and dust resistance
- Extended-life electrodes, 5,000 splices, exchangeable without tools

### Ordering Information

DESCRIPTION	AFL NO.
<b>Fujikura 41S+ Fusion Splicer</b> <b>Includes:</b> Fujikura 41S+ Fusion Splicer, S31A Sheath clamps (installed), FH-70-250 Fiber Holders (pair), FH-70-900 Fiber Holders (pair), SP-01 Set Plates, ADC-19A AC Adapter, BTR-11A Battery Pack (installed), ACC-09 Power Cord, ELCT2-16B Spare Electrodes (pair), Screwdriver, Operation Manual on CD, Quick Reference Guide, SS-03 Single Fiber Stripper and CC-36 Transit Case	S017090
<b>Fujikura 41S+ Fusion Splicer Kit with CT50 Cleaver</b> <b>Includes:</b> Fujikura 41S+ Fusion Splicer, CT50 Cleaver, S31A Sheath clamps (installed), FH-70-250 Fiber Holders (pair), FH-70-900 Fiber Holders (pair), SP-01 Set Plates, ADC-19A AC Adapter, BTR-11A Battery Pack (installed), ACC-09 Power Cord, ELCT2-16B Spare Electrodes (pair), Screwdriver, Operation Manual on CD, Quick Reference Guide, SS-03 Single Fiber Stripper and CC-36 Transit Case	S017091
One Year Extended Warranty	S012996
Two Year Extended Warranty	S013000

## Fujikura 41S+ Fusion Splicer

### Recommended Accessories

DESCRIPTION	AFL NO.
<b>Cleavers</b>	
CT50 Cleaver	S017030
CT08 Cleaver	S017004
<b>Fiber Holders</b>	
FH-70-250 Fiber Holder (pair)	S017111
FH-70-900 Fiber Holder (pair)	S017113
FH-60-LT900 Fiber Holder (pair)	S015181
<b>Batteries</b>	
BTR-11A Battery Pack	S017354
<b>FUSEConnect® Accessories</b>	
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

DESCRIPTION	AFL NO.
<b>Miscellaneous</b>	
CLAMP-S31A Sheath Clamps	S017100
CLAMP-S31B Sheath Clamps for loose buffer 900 µm	S017101
SP-01 Set Plate (pair)	S017106
ELCT2-16B Electrodes	S017103
ADC-19A AC Adapter	S017104
ACC-09 Power Cord	S014390
CC-36 Transit Case	S017105
USB Cable	S014777
Splicer V-Groove Cleaning Kit	S014397
SS03 Single Fiber Stripper (3 hole)	S017098
SS01 Single Fiber Stripper (1 hole)	S017099

## Fujikura 41S+ Fusion Splicer

### Specifications

PARAMETER		VALUE
Fiber alignment method		Active cladding alignment
Fiber count can be spliced		Single fiber
Applicable optical fiber	Fiber type	Single mode optical fiber Multi mode optical fiber
	Cladding dia.	Approx. 125 μm
Applicable coating	Sheath clamp	Coating dia. : Max. 3000 μm Cleave length : 5 to 16 mm
	Splice loss	ITU-T G.652 : Avg. 0.03 dB ITU-T G.651 : Avg. 0.01 dB ITU-T G.653 : Avg. 0.05 dB ITU-T G.655 : Avg. 0.05 dB ITU-T G.657 : Avg. 0.03 dB
Fiber splice performance	Splicing time	SM FAST mode : Avg. 6 sec. AUTO mode : Avg. 9 sec.
	Sleeve type	Heat shrinkable sleeve
Applicable protection sleeve	Sleeve length	Max. 66 mm
	Sleeve dia.	Max. 6 mm before shrinking
	Heat time	60 mm mode : Avg. 26sec.
Sleeve heat performance	Heat time	60 mm mode : Avg. 26sec.
Fiber tensile test force		Approx. 2.0 N
Electrode life		Approx. 5,000 splices
Physical description	Dimensions W	Approx. 131 mm without projection
	Dimensions D	Approx. 201 mm without projection
	Dimensions H	Approx. 79 mm without projection
	Weight	Approx. 1.3 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. 5,000m
AC adaptor	Input	AC 100 to 240V, 50/60Hz, Max. 1A
	Type	Rechargeable Lithium Ion
	Output	Approx. DC 14.4V, 3360mA
Battery pack	Capacity	Approx. 200 splice and heat cycles
	Temperature	Recharge : 0 to 40°C Storage : -20 to 30°C
	Battery life	Approx. 500 recharge cycles
Display	LCD monitor	TFT 5.0 inches with touch screen
	Magnification	132 to 300x
Illumination	V-grooves	LED lamp
Interface	PC	USB2.0 MINI B type
	Wireless	Bluetooth® 4.1 LE
Data storage	Splice mode	100 splice modes
	Heat mode	30 heat modes
	Splice result	10,000 results
	Fiber image	100 images
Screw hole for tripod		1/4-20UNC
Other features	Automatic functions	Fiber heat calibration
	Sheath clamp	Easy sleeve positioning
	Loss Estimate	Warm splice image estimation
	Electrode	Tool less replaceable electrode



 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  $\mu\text{m}$  and 250  $\mu\text{m}$  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  $\mu\text{m}$  loose fiber



Wind Protector Open

## Fujikura 90R Fusion Splicer


### Ordering Information

DESCRIPTION	AFL NO.
<b>90R Fusion Splicer (machine only)</b> <b>Includes:</b> BTR-15 Battery, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, Work Tray, CC-39 Transit Case with Carrying Strap and Two Year Warranty	S017509
<b>90R Fusion Splicer Kit (with cleaver &amp; thermal stripper)</b> <b>Includes:</b> BTR-15 Battery, CT50 Cleaver, RS03 Stripper, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty	S017511
<b>90R Fusion Splicer without Bluetooth (machine only)</b> <b>Includes:</b> BTR-15 Battery, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty	S017540
<b>90R Fusion Splicer Kit without Bluetooth (with cleaver &amp; thermal stripper)</b> <b>Includes:</b> BTR-15 Battery, CT50 Cleaver, RS01 Stripper, ADC-20 AC Adapter, ACC-14 AC Cord, ELCT2-16B Spare Electrodes (pair) with spare V-Grooves (VG12-01), FH-70-12 Fiber Holders (pair), USB Cable, Alcohol Dispenser, Splicer Carrying Strap, Quick Reference Guide, TS-03 Tripod Screw, Video Instruction Manual, CC-39 Transit Case with Carrying Strap and Two Year Warranty	S017510
One Year Extended Warranty	S012996
Two Year Extended Warranty	S013000

### Recommended Products for the 90R


DESCRIPTION	AFL NO.
<b>Cleavers and Strippers</b>	
CT50 Cleaver	S017030
RS01 Thermal Stripper	S016815
RS02 Thermal Stripper	S016816
RS03 Thermal Stripper	S016817
<b>Fiber Holders (pair)</b>	
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
<b>FUSEConnect® Accessories</b>	
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
<b>Batteries and Power Cords</b>	
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.
<b>Miscellaneous</b>	
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



**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
	Heater clamp : open/close	
Reference Guide	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. 3mm coating diameter
Cleave Length	Fiber plate	Coating shape. : Refer to splicer fiber holder options
	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		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	

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

### 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
FDB-05 Fiber Dust Box	S017121

**Splice+** is a smartphone application that works in cooperation with Fujikura's splicers, cleavers and ribbon fiber strippers which have Bluetooth capability.

Get the **Splice+** app at the Apple App store or at Google Play.





Shown in CC-34 Carrying Case



## CT08 Fiber Cleaver

The CT08 cleaver is an extremely rugged, durable, and easy to use single fiber cleaver. Ideal for FTTH applications, the CT08 provides unmatched levels of impact resistance and also eliminates the requirement for tools during blade rotation. A thumbwheel on the bottom of the cleaver is utilized for blade rotation, and the blade position indicator has been relocated to enable quick and easy viewing. The top clamp opens to a position past vertical allowing for easy viewing, cleaning, and adjustment of the cleave length. The blade is retracted automatically when opening the top clamp and is activated upon closing, making this a true one-step cleaver. The cleaver blade and fiber clamping mechanism is extremely easy to replace in the field. A manual scrap collector is included.

### Features

- Dedicated for single fiber cleaving
- Ruggedized design withstands extreme shock levels
- Tool free blade rotation
- Simple one-step operation
- Blade and clamp/anvil assembly are field serviceable

### Specifications

ITEM		VALUE
Applicable Fiber	Fiber type	Single mode optical fiber Multi mode optical fiber
	Fiber count	Single fiber
	Cladding dia.	Approx. 125 μm
Applicable Coating	Fiber plate	AD-50 : Max. 3 mm coating diameter
	Fiber holder	Coating shape. : Refer to splicer fiber holder options
Cleave Length	Fiber plate	AD-50 [CD = coating diameter] CD= 250 μm or less : 5 to 20 mm 250 μm < CD < 1000 μm : 10 to 20 mm 1000 μm < CD < 3 mm : 14 to 20 mm
	Fiber holder	Approx. 10mm
Cleave Angle	Single fiber	Avg. 0.3 to 0.9 degrees
Blade Life		Approx. 48,000 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. 185 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
Screw hole for tripod		1/4-20UNC
Other features	Blade rotation	Manual rotation dial
	Replaceable parts	Blade Clamp arm

## CT08 Fiber Cleaver

### Ordering Information

DESCRIPTION	APPLICATION	FIBER HANDLING SYSTEM	CLEAVE LENGTH	AFL NO.
CT08 <b>Includes:</b> AD-50 Adapter Plate, CC-34 Carrying Case, Hex Wrench, Scrap Collector and Instruction Manual	Single Fibers: 160 to 900 µm coating, 125 µm cladding	Purchased separately FH-70-250 FH-70-900	See Specifications Table on previous page	S017004

### Accessories

DESCRIPTION	AFL NO.
AD-50 Single Fiber Adapter Plate	S017010
AD-10-M24 Fiber Plate	S017335
SPA-CT08-10 Spacer	S017011
CC-34 Transit Case	S017012
CB-07 Replacement Blade for CT08 Cleaver	S017013
ARM-CT08-01 Replacement Arm Set	S017014
SC-CT08-01 Side Cover	S017015
BRW-CT08-01 Blade Rotary Wheel	S017110
FDB-04 Fiber Dust Box	S017120



## Thermal Strippers

The RS01, RS02, RS03 and RS03-80 Thermal Strippers provide superior stripping performance for both single and multi-fiber stripping. The fast heating time of 3 seconds speeds productivity. The ergonomic design, combined with the low level of force needed for stripping, makes the RS series comfortable and easy to use for high fiber count applications. The strippers are also capable of stripping 200 µm coated fibers and ribbons. An audible beep and illuminated LED signal indicate that the proper heating temperature has been reached. A temperature selection switch permits easy field optimization for different fibers or operating conditions. These strippers accept all Fujikura field and factory style fiber holders.

Bluetooth® capabilities on the RS02 and RS03 models provide a convenient way to program the stripper for user preferences via an Android or iOS smartphone app. The RS03 model includes a powerful Lithium-Ion battery that delivers enough power for 600 stripping cycles. The RS03-80 is offered for stripping 80 µm cladding fiber applications.

For those situations and locations where Bluetooth-enabled devices are not permitted, the RS01 model is available with all of the features of the RS02 model but without the Bluetooth technology.

### Features

- 3 Second heating time with beep and LED notification
- Low pulling force needed for stripping
- Stripping capability for 200 µm coated fibers and ribbons
- Ergonomic design
- Bluetooth capable for wireless connection with smartphones (RS02, RS03 and RS03-80)
- High capacity battery provides approximately 600 stripping cycles (RS03 and RS03-80)

### Ordering Information

DESCRIPTION	AFL NO.
<b>Strippers</b>	
<b>RS01 Thermal Stripper</b> Includes: RS01 Thermal Stripper, DCC-11 and Instruction manual	S016815
<b>RS02 Thermal Stripper</b> Includes: RS02 Thermal Stripper, DCC-11, HEX-01 Hex Wrench, BRS-02 Brush and Instruction manual	S016816
<b>RS03 Thermal Stripper</b> 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
<b>RS03-80 Thermal Stripper</b> 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
<b>POWER SUPPLY</b>	
ADC-09A AC Adapter (RS01/RS02/RS03)	S016820
ACC-09 Power cord	S014390
BTR-12 Battery (RS03)	S016832
<b>Miscellaneous</b>	
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

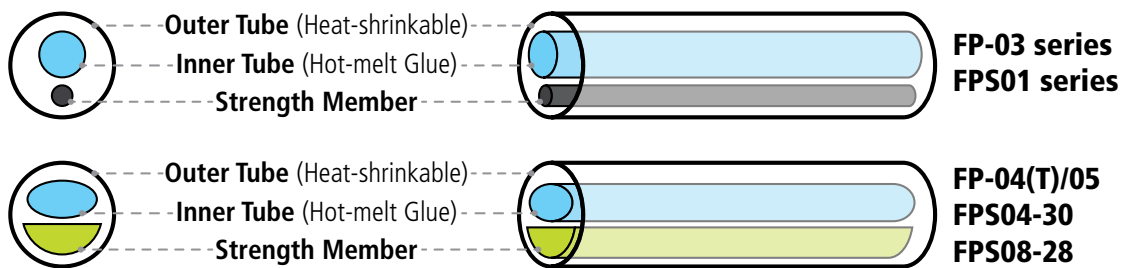
DESCRIPTION	SLEEVE LENGTH	FIBER CLEAVE LENGTH	SLEEVE DIAMETER AFTER SHRINK	PACKAGING	AFL NO.
FP-60	60 mm	16 mm	3.1 mm (max.)	1000 Box/100 Pack	S015915
FP-40	40 mm	10 mm	3.1 mm (max.)	1000 Box/100 Pack	S015916

#### SLEEVES FOR UP TO 250 MICRON COATED RIBBON

DESCRIPTION	FIBER COUNT	SLEEVE LENGTH	FIBER CLEAVE LENGTH	SLEEVE DIAMETER AFTER SHRINK	PACKAGING	AFL NO.
FP-04(T)	Up to 8 fibers	40 mm	10 mm	4.0 mm (max.)	250 Box/25 Pack	S002105
FP-05	Up to 12 fibers	40 mm	10 mm	4.5 X 4.0 mm (max.)	250 Box/5 Pack	S003027
FP-05-28	Up to 12 fibers	28 mm	10 mm	4.5 mm (max.)	250 Box/25 Pack	S014720
FPS04-30	Up to 4 fibers	30 mm	10 mm	2.4 mm (max.)	1,000 Box/25 Pack	S010848
FPS08-28	Up to 8 fibers	28 mm	10 mm </td <td>3.3 X 2.7 mm (max.)</td> <td>500 Box/25 Pack</td> <td>S013560</td>	3.3 X 2.7 mm (max.)	500 Box/25 Pack	S013560
FPS24-40	Up to 24 fibers	40 mm	10 mm	8.0 X 4.0 mm (max.)	200 Box/5 Pack	S013004

### Specifications

PARAMETER	DESCRIPTION	VALUE
Outer tube	FP-60/40/03 series	Polyolefin based on Polyethylene
	FPS-04(T) / FP-05	Ethylene-Vinyl Acetate
Inner Tube	ALL	Ethylene-Vinyl Acetate
Strength member	FP-60/40/03 series	Stainless steel
	FP-04(T) / FP-05	Heat-resistant glass
Operation condition (after shrink)		-10 to 50°C, 0 to 95% RH (Non dew)
Storage condition (before shrink)		-40 to 60°C, Non dew



## Splice Protection Sleeves

### Micro Sleeves: Dimensions & Applicable Fiber

#### FPS01-400 SERIES FOR SINGLE FIBERS UP TO 400 MICRON FIBER

DESCRIPTION	SLEEVE LENGTH	FIBER CLEAVE LENGTH	SLEEVE DIAMETER AFTER SHRINK	PACKAGING	AFL NO.
FPS01-400-12	12 mm	4 mm	1.5 mm	50 Pack	S014088
FPS01-400-15	15 mm	5 mm	1.5 mm	50 Pack	S012668
FPS01-400-20	20 mm	8 mm	1.5 mm	50 Pack	S012672
FPS01-400-25	25 mm	10 mm	1.5 mm	50 Pack	S012676
FPS01-400-34	34 mm	15 mm	1.5 mm	50 Pack	S012680
FPS01-400-40	40 mm	16 mm	1.5 mm	1,250 Box	S011914

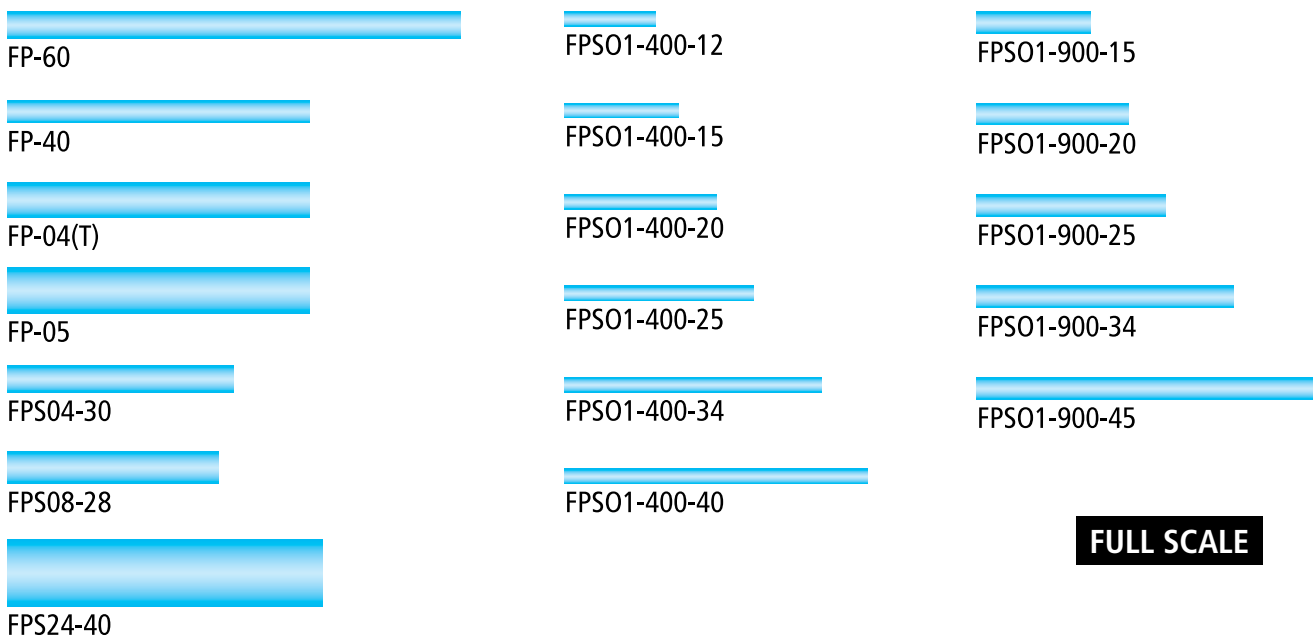
#### FPS01-900 SERIES FOR SINGLE FIBERS UP TO 900 MICRON FIBER

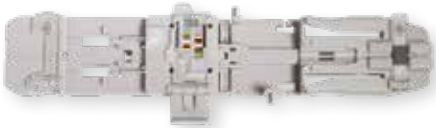
DESCRIPTION	SLEEVE LENGTH	FIBER CLEAVE LENGTH	SLEEVE DIAMETER AFTER SHRINK	PACKAGING	AFL NO.
FPS01-900-15	15 mm	4 mm	2.3 mm	50 Pack	S012684
FPS01-900-20	20 mm	6 mm	2.3 mm	50 Pack	S012688
FPS01-900-25	25 mm	6 mm	2.3 mm	50 Pack	S011954
FPS01-900-34	34 mm	13 mm	2.3 mm	50 Pack	S012692
FPS01-900-45	45 mm	16 mm	2.3 mm	50 Pack	S012696

### Specifications

PARAMETER	DESCRIPTION	VALUE
Outer tube	FPS01 series / FPS04-30 / FPS08-28 / FPS24-40	Polyolefin based on Polyethylene
Inner Tube	ALL	Ethylene-Vinyl Acetate
Strength member	FPS01 series	Stainless steel
	FPS04-30 / FPS08-28 / FPS24-40	Heat-resistant glass
Operation condition (after shrink)		-10 to 50°C, 0 to 95% RH (Non dew)
Storage condition (before shrink)		-40 to 60°C, Non dew

### Type Variations





RT-02



RT-02 with FH-70-12PC

## RT-02 Ribbonizing Tool

The RT-02 is the latest ribbonizing tool from Fujikura, and the first universal ribbonizing tool on the market suitable for forming a temporary ribbon from loose 200 μm or 250 μm fibers. This is also the first tool that features a glue-less process for ribbonizing and splicing 12 fiber ribbons. This saves time and money by eliminating operating inefficiencies such as cure time and contamination of splicing equipment. Simply choose the applicable fiber holder in conjunction with the RT-02 to ribbonize 200 μm or 250 μm fibers. With this tool, you can now realize the benefits of mass fusion splicing when installing the latest generation of loose fiber micro cables.

### Features

- No glue required
- 200 μm and 250 μm compatible
- Loading with color code sequence not required
- Fibers load directly into fiber holder
- Left and right fiber holder color codes printed on tool

### Applications

- Ribbonizing 200 μm and 250 μm loose fibers
- 200 μm and 250 μm MPO termination
- Mass fusion splicing loose fiber cables

### Ordering Information

DESCRIPTION	AFL NO.
RT-02 (tool only)	S017465
FH-70-12PC (pair of pitch conversion holders for 200 μm loose fibers)	S017464
FH-70-12 (pair – standard 12F ribbon holders)	S017119



## 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.



FAT-04

### 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

## 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.



FAA-03A

### 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.
<b>Portable Tripod Workstation Kit – Includes:</b> 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
<b>Portable Work Tray – Includes:</b> Portable work tray with cleaver mount assembly and canvas carrying case	S014753
<b>Tripod – Includes:</b> Tripod with pan head and quick release platform (make and model of tripod may change without notice)	S014751

### Optional Accessories

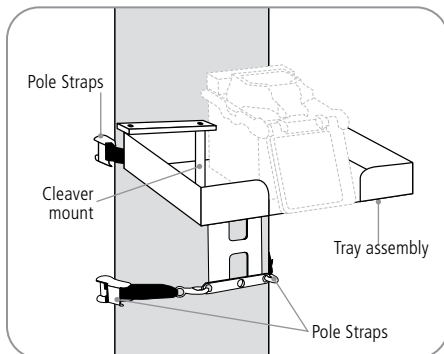
DESCRIPTION	AFL NO.
<b>TS-01 TRIPOD SCREW</b> (required for 12S & 12R models)	S015895



Splicing Workstation

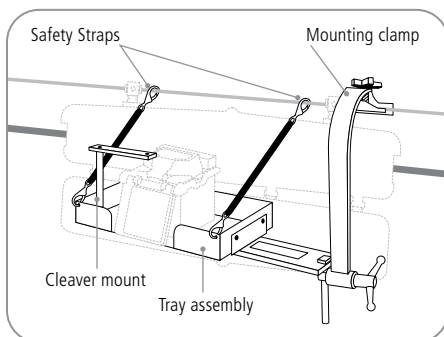


Aerial mounting system



**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.

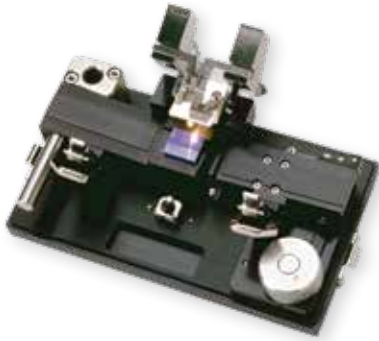
In the aerial environment, the safety straps may be secured to the cable strand to provide security and aid with workstation position adjustment. The safety straps are also used to secure the workstation to the pole, and may be used to raise or lower the workstation.

### 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.
<b>ASW-02 Splicing Workstation (Full kit with aerial mounting system)</b> 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
<b>ASW-02 Splicing Workstation (Without aerial mounting system)</b> 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

## FlexScan® FS300 Quad OTDR

Be ready for anything with this all-in-one solution



### Features

- Multimode and Single-mode OTDR, including PON test
- SmartAuto® 1-button automated testing for fast results
- Pocket-sized, weighs less than 1 pound, 12-hour battery
- LinkMap® color-coded icons for easy troubleshooting
- Integrated Source, Power Meter and VFL
- Robust reporting including Print-to-PDF
- Available with field-replaceable connector

### Applications

- OTDR and insertion loss test and reporting
- Fast, accurate Pt-to-Pt and PON verification and troubleshooting
- Locate faults exceeding industry or user pass/fail thresholds
- Visually pinpoint location of macrobends or breaks

AFL's FlexScan FS300 Quad OTDR is an all-in-one solution for detecting, identifying, locating and resolving single-mode and multimode optical network issues. It is designed for both novice and expert technicians working in a range of environments from data centers to fiber-to-the-home, as well as local and wide area networks. The FlexScan FS300 automates test setup, shortens test time and simplifies results interpretation, improving efficiency and reducing costs.

**All-in-one test capability:** The FlexScan FS300 includes an integrated VFL, power meter and light source. It can be easily paired to AFL's award-winning FOCIS family of inspection scopes for single-fiber and/or MPO and OptiTip® multifiber inspection, ensuring technicians have everything they need to locate and resolve optical network issues.

**Performance-packed:** With SmartAuto automated multi-pulse acquisition, 37 dB dynamic range and best-in-class dead zones, FlexScan Quad OTDRs test multimode and single-mode networks – including FTTH PONs and POLANs up to 1:64 split ratio – while still detecting and measuring events <2 meters apart.

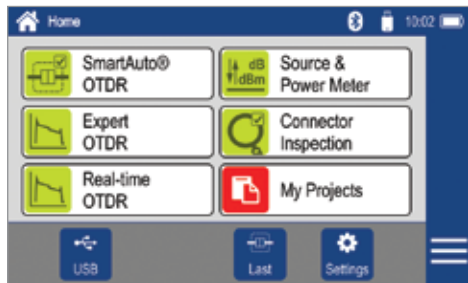
**User-friendly:** The FS300 enables both expert and novice technicians to quickly and accurately detect, locate, identify and measure optical network components and faults. It applies industry-standard or user-set pass/fail criteria and displays results using LinkMap color-coded icons that immediately show the health of the network.

**Pocket-sized:** The FlexScan FS300's small form factor still delivers 12-hour battery operation plus a large, bright, indoor/outdoor, 5-inch 800 x 480 touchscreen display that doesn't need a stylus.

**Multiple Reporting Options:** Reports can be generated directly from the unit using Print-to-PDF feature or files can be transferred wirelessly or uploaded via USB to the included Windows® compatible TRM® 3.0 Test Results Manager software.

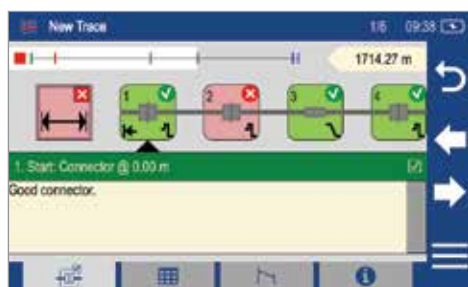
**Field-replaceable connector:** With AFL's optional field-replaceable connector, avoid expensive service repairs to replace connectors damaged due to poor cleaning practices and/or normal wear-and-tear.

## FlexScan® FS300 Quad OTDR



### Dramatically Reduces Test Time

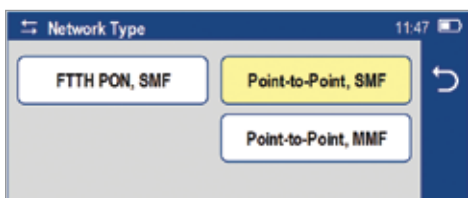
In SmartAuto mode, FlexScan OTDRs automatically analyze and test the network using a variety of network-optimized settings to precisely locate, characterize and identify network events with one button push. Loss and reflectance are measured for connectors, splices, splitters and macro-bends. FlexScan even checks for live fiber and verifies OTDR launch quality before initiating a test.



### Simplifies Network Troubleshooting

LinkMap® color-coded icons enable even novice users to easily and accurately troubleshoot optical networks. LinkMap clearly identifies fiber start, end, connectors, splices, PON splitters, and macro-bends.

A LinkMap Summary provides end-to-end link length, loss and ORL. Loss and reflectance of detected events is compared to industry-standard or user-defined pass/fail thresholds and displayed with clear pass/fail indications. Users can instantly toggle between LinkMap and Trace views.



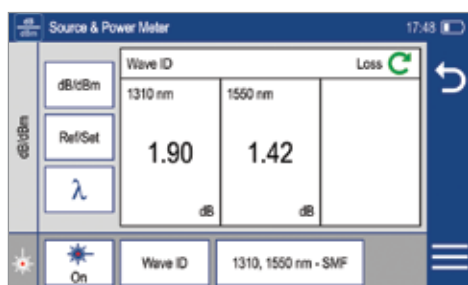
### Multimode and Single-mode plus PON Testing in One OTDR

FlexScan Quad OTDRs are the ideal test tool for verifying and/or maintaining both single-mode and multimode networks. Unlike most Quad OTDRs, FS300 OTDRs test both point-to-point networks and FTTH PONs/Passive Optical LANs (POLANs).

### Connectivity

FlexScan OTDRs easily pair with AFL's ward-winning FOCIS® family of connector inspection probes for fast, easy single-fiber and/or multi-fiber connector end-face inspection. Images and pass/fail results can be transferred to the FlexScan for display and/or archiving with OTDR results.

FlexScan results can be transferred wirelessly via the free FlexScan App to a smart device for real-time reporting using the included Windows-based TRM® 3.0 Test Results Manager software. Monitoring test results in real-time can detect mistakes while the tech is still in the field, preventing future truck rolls.



### OTDR, OLTS, and VFL Testing with a Single Tool

FlexScan optionally includes a Wave ID optical light source (OLS) and optical power meter (OPM). With Wave ID, the OPM auto-synchronizes to a single or multi-wavelength Wave ID optical signal transmitted by an AFL light source. The OPM reports detected wavelengths and measures power and loss at each wavelength, saving significant test time and eliminating setup errors.

The integrated Visual Fault Locator's eye-safe red laser enables users to visually pinpoint the location of macro-bends and fiber breaks often found in splice closures and fiber cabinets.

## FlexScan® FS300 Quad OTDR

### Specifications<sup>a</sup>

OTDR	MULTIMODE	SINGLE-MODE
Emitter Type	Laser	
Safety Class <sup>b</sup>	Class I	
Fiber Type	Multimode; compatible with OM1-OM5	Single-mode; compatible with all G.65x
Wavelengths <sup>c</sup>	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 <sup>d</sup>	≥29/29 dB @ 850/1300 nm	≥37/36 dB @ 1310/1550 nm
Event Dead Zone <sup>e</sup>	≤0.8 m @ 850/1300 nm typical	≤0.8 m @ 1310/1550 nm typical
Attenuation Dead Zone <sup>f</sup>	≤3.0 m	≤3.5 m
PON Dead Zone <sup>g</sup>	Not applicable	≤25 m
Pulse Widths	3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1 μs	3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 5, 10, 20 μs
Range Settings	250 m to 30 km	250 m to 240 km
Data Points	Up to 300,000	
Data Spacing	≥5 cm to ≤16 m	
Group Index of Refraction	1.3000 to 1.7000	
Distance Uncertainty	±(1 + 0.0025% x distance + data point spacing) m	
Linearity	±0.03 dB/dB	
Loss Resolution	0.001 dB	
Reflectance Range	850 nm: -20 to -58 dB; 1300 nm: -20 to -63 dB	1310/1550 nm: -20 to -65 dB
Reflectance Resolution	0.01 dB	
Reflectance Accuracy	±2 dB	
ORL Range	20 to 60 dB	
ORL Resolution	0.01 dB	
ORL Accuracy	±2 dB over range 30 to 55 dB; ±4 dB over range 20-30 dB and 55-60 dB	
Trace File Format	.SOR, Telcordia SR-4731 Issue 2	
OTDR Results Storage	Internal or external USB memory	
Internal Storage	Minimum 4 GB internal non-volatile memory (App SW + >5000 traces typical)	
Internal Launch Fiber	≥30 m internal MM launch fiber	≥50 m internal SM launch fiber
OTDR Modes	Supports SmartAuto, Expert, Real-Time for PON & point-to-point networks	
Real-time Refresh Rate	1 to 4 Hz	
Live Fiber Protection	No OTDR damage when connected to live fiber delivering ≤ +18 dBm at wavelength(s) in range 825 to 1675 nm	
Live Fiber Detection	Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 825 to 1675 nm	

#### Notes:

- All specifications valid at 25 °C unless otherwise specified.
- FDA 21 CFR 1040.10 & 1040.11, IEC 60825-1: 2014.
- Measured with laser in CW mode at 23 °C ±3 °C.
- SNR=1, longest range and pulse width, 3 minute averaging.
- Maximum distance between two points 1.5 dB down each side of a reflective peak caused by an event with a -45 dB (or smaller) reflectance. Test pulse width is 3 or 5 ns.
- Maximum distance from the start of a trace spike caused by an event with a -45 dB (or smaller) reflectance, to the point where the trace returns to and stays within ±0.5 dB of backscatter. Test pulse width is 3 or 5 ns.
- Recovery to within 0.5 dB of backscatter after 1:16 splitter (≤13 dB loss) using 100 ns pulse width.



# FlexScan® FS300 Quad OTDR

## Specifications<sup>a</sup>

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 <sup>b</sup>
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 <sup>c</sup> : ±0.1 dB; Long-term <sup>d</sup> : ±0.05 dB
MM Output Stability	Short-term <sup>e</sup> : ±0.20 dB; Long-term <sup>f</sup> : ±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 <sup>b</sup>
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

OTDRs and Troubleshooters

## FlexScan® FS300 Quad OTDR

FlexScan FS300 models are available in five kit configurations: Basic, PLUS, PRO, BIPM, and MPO. All kits include FS300 with AC charger, battery, carry strap, SC/2.5 mm connector adapters, TRM® 3.0, quick reference user guide, and carry case.

### Ordering Information

FS300-325 Basic, Plus, PRO, BIPM kits Order Entry: **FS300-325-[KIT]-[Pn]-[Wn]-[C]-[CC]-[LNG]-[AC]-[SMFR]-[MMFR]-[TIP]**

FS300-325 MPO kits (SMF and MMF) Order Entry: **FS300-325-[MKIT]-P1-[Wn]-[LNG]-[AC]-[MPOC]** where:

[KIT]	FS300 FlexScan Kit Configuration
<b>BAS</b>	Includes: FS300, soft case, TRM® 3.0 Basic, USB cable <sup>a</sup>
<b>PLUS</b>	Includes: BAS kit plus 150 m SMF & MMF Fiber Rings, One-Click Cleaner, upgrade to TRM 3.0 Advanced, user-selected soft or hard carry case
<b>PRO</b>	Includes: PLUS kit plus FOCIS Flex with two user-selected adapter tips
<b>BIPM</b>	Includes: PRO kit plus OFI-BIPMe

[MKIT]	FS300-325 MPO Kit Configuration
<b>SMPO</b>	SMF MPO test kit; Includes SMF MPO switch, launch cables, carry case
<b>MMPO</b>	MMF MPO test kit; Includes MMF MPO switch, launch cables, carry case

[PN]	OPTICAL LIGHT SOURCE (OLS) and Optical Power Meter (OPM)
<b>P0</b>	No OLS, no OPM
<b>P1</b>	850/1300 MM; 1310/1550 SM Source and Power Meter

[WN]	Bluetooth/WiFi Configuration
<b>W0</b>	No Bluetooth or WiFi
<b>W1<sup>b</sup></b>	Includes WiFi and Bluetooth

[C]	OTDR / Source Connector Type
<b>A</b>	APC (recommended)
<b>U</b>	UPC

[CC] <sup>c</sup>	Carry Case Option
<b>S1</b>	Standard soft case for FlexScan, Fiber Rings, FOCIS Flex, accessories (Basic, PLUS, PRO kits only)
<b>S2</b>	Large soft case for FlexScan, Fiber Rings, FOCIS Flex, OFI-BIPMe, accessories (PLUS, PRO, BIPM kits only)
<b>H1</b>	Hard carry case (PLUS, PRO, BIPM Kits only)

[LNG]	Language
<b>ENG</b>	English
<b>CHS</b>	Chinese Simp.
<b>CHT</b>	Chinese Trad.
<b>CZE</b>	Czech
<b>DEU</b>	German
<b>DNK</b>	Danish

[LNG]	Language
<b>FIN</b>	Finnish
<b>FRA</b>	French
<b>ITA</b>	Italian
<b>JPN</b>	Japanese
<b>KOR</b>	Korean
<b>NOR</b>	Norwegian

[LNG]	Language
<b>POL</b>	Polish
<b>POR</b>	Portuguese
<b>SPA</b>	Spanish
<b>TUR</b>	Turkish
<b>VNM</b>	Vietnamese

[AC]	Destination Country	AC Plugs
<b>US</b>	USA	2-pin, US
<b>EU</b>	European Union	2-pin, EU
<b>UK</b>	United Kingdom	3-pin, UK
<b>CN</b>	China, Australia	2-pin, SAA

#### Notes:

- Results can be transferred from FlexScan to TRM® 3.0 using USB cable, or performed wirelessly (W1 option) after downloading FlexScan App from 'Google play' or 'App Store'.
- FlexScans equipped with Bluetooth option (W1) support Bluetooth transfer of results via FlexScan App for remote reporting using TRM 3.0.
- Basic kit always ships with S1 (Standard Soft Case); MPO kit always ships with MPO-specific soft case.

[SMFR]	150 m SMF Fiber Ring
<b>Absent</b>	N/A in Basic kits
<b>USC/USC</b>	FR-SMF-150-USC-USC
<b>USC/UFC</b>	FR-SMF-150-USC-UFC
<b>USC/ULC</b>	FR-SMF-150-USC-ULC
<b>USC/UST</b>	FR-SMF-150-USC-UST
<b>USC/ASC</b>	FR-SMF-150-USC-ASC
<b>USC/AFC</b>	FR-SMF-150-USC-AFC
<b>USC/ALC</b>	FR-SMF-150-USC-ALC
<b>USC/UE2</b>	FR-SMF-150-USC-UE2
<b>ASC/UFC</b>	FR-SMF-150-ASC-UFC
<b>ASC/ULC</b>	FR-SMF-150-ASC-ULC
<b>ASC/UST</b>	FR-SMF-150-ASC-UST
<b>ASC/ASC</b>	FR-SMF-150-ASC-ASC
<b>ASC/AFC</b>	FR-SMF-150-ASC-AFC
<b>ASC/ALC</b>	FR-SMF-150-ASC-ALC
<b>ASC/AE2</b>	FR-SMF-150-ASC-AE2

[MMFR]	150 m OM1 (62.5 μm) Fiber Ring
<b>Absent</b>	N/A in Basic kits
<b>USC/UST1</b>	FR-OM1-150-USC-UST
<b>USC/USC1</b>	FR-OM1-150-USC-USC
<b>USC/ULC1</b>	FR-OM1-150-USC-ULC
<b>USC/UFC1</b>	FR-OM1-150-USC-UFC

[MMFR]	150 m OM2 (50 μm) Fiber Ring
<b>Absent</b>	N/A in Basic kits
<b>USC/UST2</b>	FR-OM2-150-USC-UST
<b>USC/USC2</b>	FR-OM2-150-USC-USC
<b>USC/ULC2</b>	FR-OM2-150-USC-ULC
<b>USC/UFC2</b>	FR-OM2-150-USC-UFC

[MMFR]	150 m OM3/4/5-compatible Fiber Ring
<b>Absent</b>	N/A in Basic kits
<b>USC/UST3</b>	FR-OM3-150-USC-UST
<b>USC/USC3</b>	FR-OM3-150-USC-USC
<b>USC/ULC3</b>	FR-OM3-150-USC-ULC
<b>USC/UFC3</b>	FR-OM3-150-USC-UFC

[TIP]	FOCIS Flex Tips and Cleaning (PRO only)
<b>Blank</b>	Option not available in Basic and PLUS kits
<b>SC</b>	SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click
<b>FC</b>	FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm One-Click
<b>LC</b>	LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm One-Click
<b>ASC</b>	SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click
<b>AFC</b>	FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm One-Click
<b>ALC</b>	LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm One-Click

[MPOC]	MPO Launch Cable Network Connector
<b>F</b>	Female (unpinned)
<b>M</b>	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 <a href="http://www.AFLglobal.com">www.AFLglobal.com</a>	Cleaning Supplies

#### Field-Replaceable OTDR Connector (Optical Port Ferrule Saver)

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables or patch cords or normal wear-and-tear. Equip your FlexScan FS300 with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the port saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

DESCRIPTION	AFL NO.
Field-replaceable connector; APC female to APC male	2900-58-0001MR
Field-replaceable connector; APC female to UPC male	2900-58-0002MR
Field-replaceable connector; UPC female to APC male	2900-58-0003MR
Field-replaceable connector; UPC female to UPC male	2900-58-0004MR

#### Connector Adapters

CONNECTOR ADAPTER	AFL NO.		
	OTDR/OLS PORT	OPM PORT	VFL PORT
FC	2900-50-0002MR	2900-52-0001MR	N/A
SC	2900-50-0003MR	2900-52-0002MR	N/A
ST	2900-50-0004MR	2900-52-0003MR	N/A
LC	2900-50-0006MR	2900-52-0004MR	N/A
SC/APC	2900-50-0011MR	N/A	N/A
2.5 mm Universal	N/A	2900-52-0005MR	2900-50-0007MR
1.25 mm Universal	N/A	2900-52-0006MR	2900-50-0010MR

## FlexScan® FS300 Quad OTDR

### Test Management and Reporting Software

DESCRIPTION	AFL NO.
TRM® 3.0 with Basic License (OTDR Trace/OLTS Viewer, Batch Editor and Reports), USB delivery (included with all FS300 kits)	TRM3-BASIC
TRM 3.0 upgrade from Basic to Advanced License, USB delivery	TRM3-UPGRADE
TRM 3.0 upgrade from Basic to Advanced License, email delivery	TRM3-UP-EMAIL
FlexScan App (Android Google play)	Free Download

### Recommended Products



#### FOCIS Flex and FOCIS Lightning (Multi-Fiber) Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



#### OFI-BIPMe Optical Fiber Identifier

- World class signal sensitivity
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter option

### Qualifications

CATEGORY	REGULATION/STANDARD	QUALIFICATION
CE Marking	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
Safety/EMC/EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 61010-1 for safety requirements for electrical equipment
	IEC	Compliant to IEC 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
	Telcordia	Compliant to GR-196-CORE 4.5.1 for requirements on electromagnetic interference
	FCC	Compliant to code of federal regulations FCC 47 CFR 15 on unlicensed transmissions
	FDA	Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products
RoHS	IEC	Compliant to IEC 60825-1 for safety of laser products
	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)
Test Method	TIA	Compliant to TIA-568.3-D for test and measurement requirements for premises optical fiber cabling and components
	IEC	Compliant to IEC 11801 for test and measurement requirements for optical fiber cabling for use within premises
	AS/NZS	Compliant to AS/NZS 3080 for test and measurement requirements for optical fiber cabling for use within premises
	TIA	Compliant to TIA-526-7 for test procedures for installed optical fiber cable plant
	TIA	Compliant to TIA-526-14 for test procedures for installed optical fiber cable plant
	IEC	Compliant to IEC 14763-3 for systems and methods for the inspection and testing of installed optical fiber cabling
	AS/NZS	Compliant to AS/NZS 14763.3 for systems and methods for the inspection and testing of installed optical fiber cabling
	IEC	Compliant to IEC 61280-4-1 for test procedures for installed optical fiber cable plant
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about FlexScan FS300 OTDR.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts)

## FlexScan® FS200 Single-mode OTDR

Pocket-sized, Performance-packed, User-friendly, and Affordable



### Features

- Flexpress® mode completes OTDR tests in <5 seconds
- Test up to 1:64 PON with 25 m PON dead zone
- Easy to understand LinkMap® results with pass/fail indications
- Single, dual or triple wavelength single-mode
- Single port for in- and out-of-service OTDR tests
- Integrated source, power meter, VFL (visual fault locator)
- Integrated MPO Switch control via USB
- Rugged, lightweight, hand-held for field use
- Available with field-replaceable Port Saver connector

### Applications

- PON or point-to-point network verification or troubleshooting
- OTDR testing plus insertion loss and power measurements
- Locate faults exceeding industry or user pass/fail thresholds
- Visually pinpoint location of macro-bends or breaks

AFL's FlexScan FS200 OTDR is an all-in-one solution for detecting, identifying, locating, and resolving single-mode optical network issues. It is designed for both novice and expert technicians working in a range of environments, from FTTH PON to point-to-point networks. It applies industry-standard or user-set pass/fail criteria and displays results using LinkMap color-coded icons to show the health of the network. FlexScans automate test setup, shorten test time, and simplify results interpretation improving efficiency and reducing costs.

**All-in-one test capability:** The FlexScan FS200 includes an integrated VFL, power meter, and light source. It can be easily paired to AFL's award-winning FOCIS family of inspection scopes, ensuring technicians have everything they need to locate and quickly resolve optical network issues.

**Performance-packed:** With SmartAuto multi-pulse acquisition, up to 37 dB dynamic range, and best-in-class 25 m PON dead zone, FlexScan FS200 PON OTDRs test FTTH PONs up to 1:64 while still detecting and measuring events only meters apart.

**Fast!** Flexpress mode completes dual-wavelength tests in <5 seconds – 10 x faster than conventional OTDRs! For multi-fiber testing, FS200s automatically control AFL's MFS Multi-Fiber Switch (12-fiber MPO switch) to further reduce multi-fiber test time.

**Pocket-sized:** At 3.5 x 6 x 1.75 in. (86 x 160 x 43 mm) and less than one pound (0.4 kg), FlexScan FS200 OTDRs truly fit in your pocket, yet still provide a large, bright indoor/outdoor touchscreen display, and all-day operation.

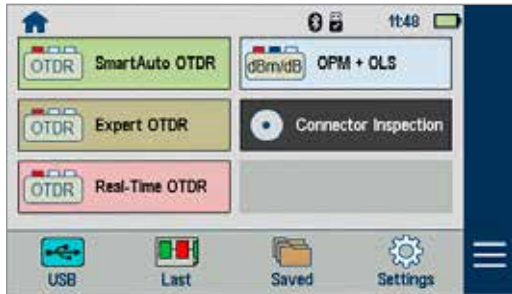
**Multiple sharing and reporting options:** Results can be stored internally, saved to a USB, and uploaded via USB cable, Bluetooth (via FlexApp) or Wi-Fi for real-time reporting using the included FlexReports Test Results Manager software.

**Convenient cost-saving kits:** Bundle the FlexScan FS200 with your choice of launch cable, FOCIS Flex connector inspection probe and tips, and/or AFL's universal optical fiber identifier (OFI-BIPMe) for significant cost-savings!

**PON-optimized FTTH-PRO kits** combine FS200-303/304 with a FOCIS Flex Inspection probe, 4 adapter tips, and launch cables for both SC/APC and LC/APC networks.

**Field-replaceable Port Saver connector:** With AFL's optional field-replaceable Port Saver, avoid expensive service repairs to replace connectors damaged due to poor cleaning practices and/or normal wear-and-tear.

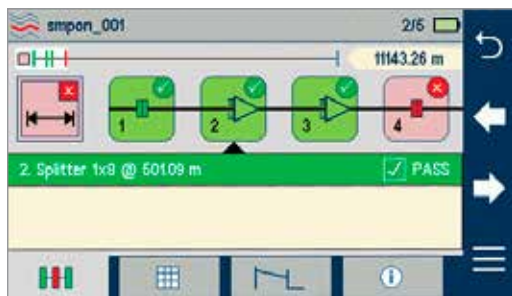
## FlexScan® FS200 Single-mode OTDR



### Dramatically Reduces Test Time

In SmartAuto mode, FlexScan OTDRs automatically analyze and test the network using a variety of network-optimized settings to precisely locate, characterize and identify network events with one button push. Loss and reflectance are measured for connectors, splices, splitters and macro-bends. FlexScan even checks for live fiber and verifies OTDR launch quality before initiating a test.

FlexScan's Flexpress mode completes dual-wavelength tests in seconds, reducing test time by 10x compared to conventional OTDRs. For multi-fiber testing, FlexScan's automatically control AFL's MPO Switch, testing 12 fibers at the touch of a single button.



### Simplifies Network Troubleshooting

LinkMap with pass/fail enables even novice users to easily and accurately troubleshoot optical networks. LinkMap presents an icon-based view of the tested network clearly identifying fiber start, end, connectors, splices, PON splitters, and macro-bends.

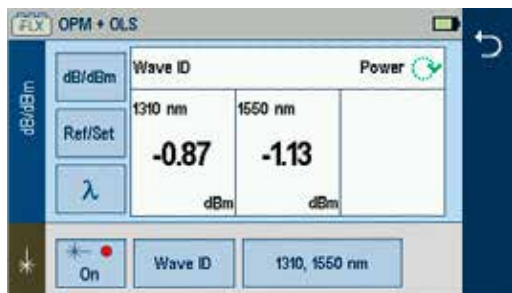
A LinkMap summary provides end-to-end link length, loss and ORL. Loss and reflectance are displayed with clear pass/fail indications. Users can instantly toggle between LinkMap and Trace views.



### Connectivity

FlexScan OTDRs easily pair with AFL's ward-winning FOCIS® family of connector inspection probes for fast, easy single-fiber and/or multi-fiber connector end-face inspection.

FlexScan results can then be transferred via USB cable, Wi-Fi, or Bluetooth and the free FlexApp running on a mobile device for real-time reporting using the included FlexReports Test Results Manager PC-based software. This real-time monitoring can help avoid mistakes in the field that will require future truck rolls.



### OTDR, OLTS, and VFL Testing with a Single Tool

FlexScan optionally includes a Wave ID optical light source (OLS) and optical power meter (OPM). With Wave ID, the OPM auto-synchronizes to a single or multi-wavelength Wave ID optical signal transmitted by an AFL light source. The OPM reports detected wavelengths and measures power and loss at each wavelength, saving significant test time and eliminating setup errors.

The integrated VFL's eye-safe red laser enables users to visually pinpoint the location of macro-bends and fiber breaks often found in splice closures and fiber cabinets.

## FlexScan® FS200 Single-mode OTDR

FlexScan OTDRs are available with 1310/1550/1625, 1310/1550/1650, 1310/1550, and 1650 nm only wavelengths. The 1310 and 1550 nm versions are available with integrated optical light source (OLS), optical power meter (OPM), visual fault locator (VFL) and Bluetooth/Wi-Fi.

### Specifications<sup>a</sup>

MODEL: FS200-XXX	-60	-100	-300	-303	-304
<b>OTDR</b>					
Emitter Type	Laser				
Safety Class <sup>b</sup>	Class I				
Fiber Type	Single-mode				
Wavelengths (nm)	1650	1310/ 1550	1310/ 1550	1310/ 1550/ 1625	1310/ 1550/ 1650
Center λ Tolerance <sup>c</sup>	1310/1550/1650: ± 20 nm; 1625 +30/-5 nm				
Dynamic Range <sup>d</sup> (dB)	37	32/30	37/36	37/36/37	37/36/37
Event Dead Zone <sup>e</sup> (m)	0.8	0.8	0.8	0.8	0.8
Atten. Dead Zone <sup>f</sup> (m)	3.5	3.6	3.5	3.5	3.5
PON Dead Zone <sup>g</sup> (m)	30	N/A	25/25	25/25/30	25/25/30
Max Split Ratio	1:64 (FS200-60/30x only); N/A (FS200-100)				
Pulse Widths	3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 10 μs; 20 μs (FS200-300/300/304 only)				
Range Settings	250 m to 240 km				
Data Points	Up to 300,000 (Expert mode .SOR file)				
Data Spacing	5 cm to 16 m				
Index of Refraction	1.3000 to 1.7000				
Distance Uncertainty	±(1 + 0.003% x distance + data point spacing) m				
Linearity (dB/dB)	±0.05				
Trace File Format	Telcordia SR-4731 Issue 2 compatible .SOR				
Trace Storage Medium	4 GB internal memory (> 5000 traces typical); External USB memory stick				
Data Transfer to PC	USB cable or Bluetooth® (option)				
OTDR Modes	SmartAuto, Expert, Real-time				
Flexpress Fast Test	FS200-300/303/304				
Display Modes	LinkMap Summary, LinkMap Events, Trace				
Refresh Rate	Up to 4 Hz (Real-time mode)				
Live Fiber Protection	No OTDR damage with input power ≤ +15 dBm for wavelength(s) in range 1260 to 1675 nm				
Live Fiber Detection	Reports live fiber with input signal ≥ -35 dBm for wavelength(s) in range 1260 to 1675 nm				
PON Filter Isolation	>50 dB for 1260 nm ≤ wavelength ≤ 1600 nm				
Live PON OTDR Test	1625 or 1650 nm using filtered detector				

#### 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 100 ns pulse width.
- Max temperature while charging is +45 °C.

MODEL: FS200-XXX	-60	-100	-300	-303	-304
<b>VISUAL FAULT LOCATOR (VFL)</b>					
Emitter Type	Visible red laser, 650 ±20 nm				
Safety Class <sup>b</sup>	Class II				
Output Power	0.8 mW into single-mode fiber (-1 dBm ±0.5 dB)				
Modes	CW, 2 Hz flashing				
<b>OPTICAL LASER SOURCE - OLS (Optional)</b>					
Emitter Type	Laser				
Safety Class <sup>b</sup>	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				
<b>OPTICAL POWER METER -OPM (Optional)</b>					
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)				
<b>GENERAL</b>					
Size (in boot)	86 x 160 x 43 mm				
Weight	0.4 kg				
Operational Temperature <sup>h</sup>	-10 °C to +50 °C, 0 to 95 % RH (non-condensing)				
Storage Temperature	-40 °C to +70 °C, 0 to 95 % RH (non-condensing)				
Power	Rechargeable Li-Pol or AC adapter				
Battery Life	>12 hours, Telcordia test conditions				
Display	4.3 in color touchscreen LCD, 480x272, backlight				
USB Ports	1 host; 1 micro-USB function				
Bluetooth (optional)	Compatible with Windows PC, Android				
Wi-Fi	Download results & update software via IEEE 802.11 Wi-Fi				

# FlexScan® FS200 Single-mode OTDR

## Ordering Information

All kits include a FlexScan FS200 with AC charger, battery, carry strap, SC/2.5 mm connector adapters, FlexReports, USB cable, and carry case.

FS200-XXX-Basic, Plus, PRO, BIPM Kits Order Entry: **FS200-[MOD]-[KIT]-[PW]-[C]-[CC]-[LNG]-[AC]-[FR]-[TIP]**

FS200-XXX-MPO Kits Order Entry: **FS200-[MOD]-MPO-P1-W1-[C]-[LNG]-[AC]-[MPOC]**

FS200-303/304-FTTH PRO Kits Order Entry: **FS200-[MOD]-FTTH-PRO-[CC]-[LNG]-[AC]** where:

[MOD]	FS200 FlexScan OTDR Configuration
<b>60</b>	1650 nm filtered Live PON Troubleshooting OTDR
<b>100</b>	1310/1550 nm Verification and Troubleshooting OTDR
<b>300</b>	1310/1550 Pt-to-Pt & PON Verification and Troubleshooting OTDR
<b>303</b>	1310/1550/1625 Pt-to-Pt and PON Verification and Troubleshooting OTDR
<b>304</b>	1310/1550/1650 Pt-to-Pt and PON Verification and Troubleshooting OTDR

[KIT]	FS200 FlexScan Kit Configuration / Kit Contents
<b>BAS</b>	Includes: FS200, FlexReports Basic, USB cable <sup>a</sup> , soft case
<b>PLUS</b>	Includes: BAS Kit plus 150 m SMF Fiber Ring, One-Click Cleaner, upgrade to FlexReports Advanced, soft or hard carry case
<b>PRO</b>	Includes: PLUS Kit plus FOCIS Flex with two user-selected adapter tips
<b>FTTH-PRO</b>	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)
<b>BIPM</b>	Includes: PRO Kit plus OFI-BIPMe
<b>MPO</b>	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
<b>P0-W0</b>	No Source, Power Meter, or Bluetooth/WiFi (FS200-60/100 only)
<b>P0-W1 <sup>b</sup></b>	No Source or Power Meter; Includes Bluetooth/WiFi (FS200-300/304 only)
<b>P1-W0</b>	No Bluetooth/WiFi (-303/304 only); Includes Source, Power Meter
<b>P1-W1 <sup>b</sup></b>	Includes Source, Power Meter, Bluetooth/Wi-Fi

[C]	OTDR / Source Connector Type
<b>A</b>	APC (recommended)
<b>U</b>	UPC (available in all models except FS200-60)

[CC] <sup>c</sup>	Carry Case Option (PLUS, PRO, FTTH-PRO, BIPM Kits)
<b>S1</b>	Large soft case for FS200, fiber ring, FOCIS Flex, OFI-BIPMe, accessories
<b>S2</b>	Medium soft case for FS200, fiber ring, FOCIS Flex, accessories
<b>H1</b>	Hard carry case for FS200, fiber ring, FOCIS Flex, OFI-BIPMe, accessories

[LNG]	Language
<b>ENG</b>	English
<b>CHS</b>	Chinese Simplified
<b>CHT</b>	Chinese Traditional
<b>CZE</b>	Czech
<b>DEU</b>	German
<b>DNK</b>	Danish
<b>FIN</b>	Finnish
<b>FRA</b>	French
<b>ITA</b>	Italian

[LNG]	Language
<b>JPN</b>	Japanese
<b>KOR</b>	Korean
<b>NOR</b>	Norwegian
<b>POL</b>	Polish
<b>POR</b>	Portuguese
<b>SPA</b>	Spanish
<b>TUR</b>	Turkish
<b>VNM</b>	Vietnamese

[AC]	Destination Country	AC Plugs
<b>US</b>	USA	2-pin, US
<b>EU</b>	European Union	2-pin, EU
<b>UK</b>	United Kingdom	3-pin, UK
<b>CN</b>	China, Australia	2-pin, SAA

[FR]	150 m SMF Fiber Ring
<b>Absent</b>	N/A in Basic Kits
<b>USC/USC</b>	FR-SMF-150-USC-USC
<b>USC/UFC</b>	FR-SMF-150-USC-UFC
<b>USC/ULC</b>	FR-SMF-150-USC-ULC
<b>USC/UST</b>	FR-SMF-150-USC-UST
<b>USC/ASC</b>	FR-SMF-150-USC-ASC
<b>USC/AFC</b>	FR-SMF-150-USC-AFC
<b>USC/ALC</b>	FR-SMF-150-USC-ALC
<b>USC/UE2</b>	FR-SMF-150-USC-UE2
<b>ASC/UFC</b>	FR-SMF-150-ASC-UFC
<b>ASC/ULC</b>	FR-SMF-150-ASC-ULC
<b>ASC/UST</b>	FR-SMF-150-ASC-UST
<b>ASC/ASC</b>	FR-SMF-150-ASC-ASC
<b>ASC/AFC</b>	FR-SMF-150-ASC-AFC
<b>ASC/ALC</b>	FR-SMF-150-ASC-ALC
<b>ASC/AE2</b>	FR-SMF-150-ASC-AE2

[TIP]	FOCIS Flex Tips and Cleaning (PRO only)
<b>Blank</b>	Option not available in Basic & PLUS Kits
<b>SC</b>	SC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning
<b>FC</b>	FC-UPC bulkhead tip, 2.5 mm UPC ferrule tip, 2.5 mm cleaning
<b>LC</b>	LC-UPC bulkhead tip, 1.25 mm UPC ferrule tip, 1.25 mm cleaning
<b>ASC</b>	SC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning
<b>AFC</b>	FC-APC bulkhead tip, 2.5 mm APC ferrule tip, 2.5 mm cleaning
<b>ALC</b>	LC-APC bulkhead tip, 1.25 mm APC ferrule tip, 1.25 mm cleaning

[MPOC]	MPO Launch Cable Network Connector
<b>F</b>	Female (unpinned) to Female (unpinned)
<b>M</b>	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 <a href="http://www.AFLglobal.com">www.AFLglobal.com</a>	Cleaning Supplies

#### Field-Replaceable OTDR Connector (Optical Ferrule Port Saver)

Protect your OTDR ports from damage due to mating with dirty or damaged launch cables or patch cords or normal wear-and-tear. Equip your FlexScan FS200 with a field-replaceable connector, which installs in seconds and accepts AFL's tool-free interchangeable SC, LC, FC and ST connector adapters.

Replace damaged connectors in the field: When normal wear-and-tear or poor cleaning practices damage the port saver's end-face, replace it in seconds without having to return the OTDR to a service center for an expensive and time-consuming repair.

DESCRIPTION	AFL NO.
FlexScan-facing APC female to APC male field-replaceable Port Saver connector	2900-58-0001MR
FlexScan-facing APC female to UPC male field-replaceable Port Saver connector	2900-58-0002MR
FlexScan-facing UPC female to APC male field-replaceable Port Saver connector	2900-58-0003MR
FlexScan-facing UPC female to UPC male field-replaceable Port Saver connector	2900-58-0004MR

#### Connector Adapters


CONNECTOR ADAPTER	AFL NO.		
	OTDR/OLS PORT	OPM PORT	VFL PORT
FC	2900-50-0002MR	2900-52-0001MR	N/A
SC	2900-50-0003MR	2900-52-0002MR	N/A
ST	2900-50-0004MR	2900-52-0003MR	N/A
LC	2900-50-0006MR	2900-52-0004MR	N/A
SC/APC	2900-50-0011MR	2900-52-0002MR	N/A
2.5 mm Universal	N/A	2900-52-0005MR	2900-50-0007MR
1.25 mm Universal	N/A	2900-52-0006MR	2900-50-0010MR

# FlexScan® FS200 Single-mode OTDR

## Test Management and Reporting Software


DESCRIPTION	AFL NO.
FlexReports Advanced, one seat license on USB	RPTS-AD-USB-1
FlexReports Advanced, one seat, Upgrade from TRM® 3 Advanced on USB. Users must have TRM-3 Advanced license	RPTS-UP-TRM3-1
FlexReports Basic, available for download on AFL Software Resources website	FlexReports Basic
FlexApp data transfer mobile App, available on Google Play and Apple App Store	FlexApp

## Recommended Products



**FOCIS Flex and FOCIS Lightning (Multi-Fiber) Connector Inspection**

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis
- FOCIS Lightning: extremely fast multi-fiber auto-analysis for datacom and telecom inspection applications



**OFI-BIPMe Optical Fiber Identifier**

- Works on all fiber types including BIF
- Trigger lock, positive stop for optimum detection
- Integrated optical power meter

## Qualifications

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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about FlexScan FS200 OTDR.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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<sup>a</sup>

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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://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  $\mu\text{m}$  multimode, 62.5  $\mu\text{m}$  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 <sup>a</sup>	
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 <sup>a</sup>		◆
AE2	E2000/APC		Special Order <sup>a</sup>		◆
OTA	OptiTap APC		Special Order <sup>a</sup>		
TRD	TRIDENT APC		Special Order <sup>a</sup>		

### Supported Single Fiber Multimode Fiber Ring Configurations

CONNECTOR TYPE		STANDARD SMF FIBER RINGS		SPECIAL ORDER SMF FIBER RINGS <sup>a</sup>	
ID	DESCRIPTION	CC1	CC2	CC1	CC2
USC	SC/UPC	◆	◆		
ULC	LC/UPC		◆	◆	◆
UFC	FC/UPC		◆	◆	◆
UST	ST/UPC		◆	◆	◆
UE2	E2000/UPC		Special Order <sup>a</sup>		

## 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<sup>a</sup>

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<sup>a</sup>

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<sup>b</sup>

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

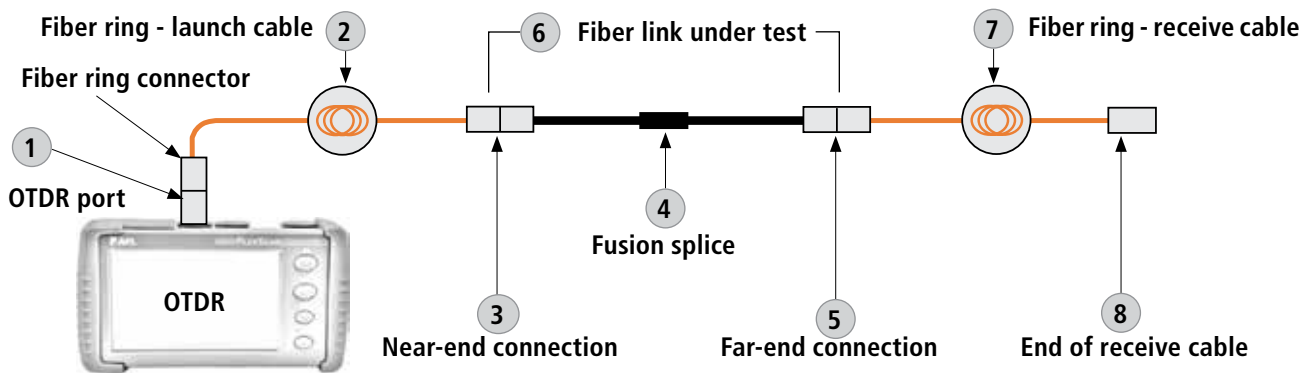
#### Notes:

- 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.

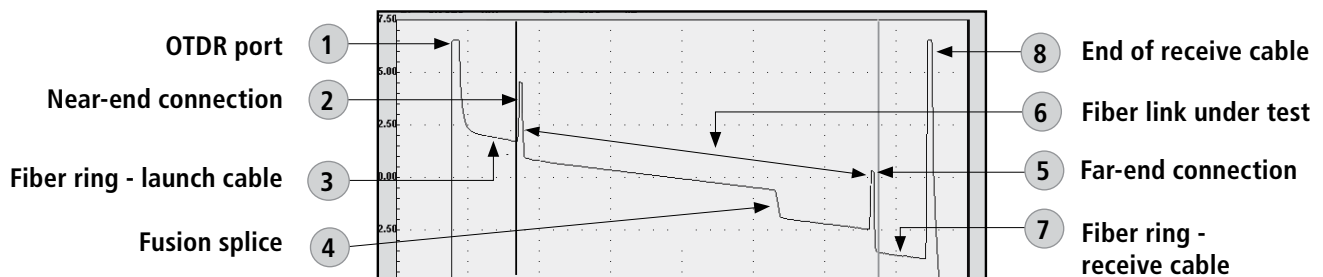
## OTDR Fiber Rings

### 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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about Fiber Rings.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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.

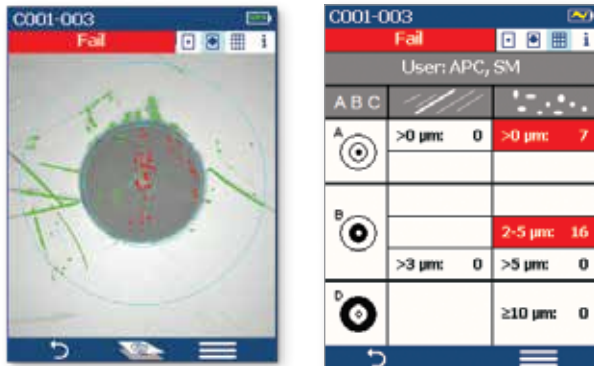
**Bundled kits for significant savings:** FOCIS Flex is available in kits that include a Basic license for Test Result Manager (TRM® 3.0), user-selected adapter tips and cleaning supplies, and a soft carry case.

**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 <sup>a</sup>

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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about FOCIS Flex.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts).

## FOCIS Lightning<sup>®</sup>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<sup>®</sup>.

**Pass/Fail results in seconds:** FOCIS Lightning2 was designed to quickly inspect multi-fiber connectors and bulkheads, such as MPO and MTP<sup>®</sup>, 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<sup>™</sup> 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<sup>®</sup>2 Multi-Fiber Optic Connector Inspection System

## Specifications<sup>a</sup>

OPTICAL PORT PARAMETERS	SPECIFICATION
Field of View (FOV; viewed on FOCIS Lightning2)	LFOV <sup>b</sup> Live: 4333 x 6500 μm and 4333 x 5418 μm LFOV <sup>b</sup> 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 <sup>b</sup> : 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 <sup>b</sup> : 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
<b>OPERATING FEATURES</b>	
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
<b>ENVIRONMENT PARAMETERS</b>	
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:

- 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

## Specifications<sup>a</sup>

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 <sup>c</sup> ; 5 hours continuous <sup>c</sup>
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<sup>®</sup>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 <sup>®</sup> 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<sup>®</sup> FS300 (quad) and FS200 (single-mode) OTDRs**

- SmartAuto<sup>®</sup> 1-button automated testing for fast results
- LinkMap<sup>®</sup> color-coded icons for easy troubleshooting
- Flexpress<sup>®</sup> mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



**One-Click<sup>®</sup> Cleaner MPO / MPO-16**

- Ideal for Data Centers and high density optical networks
- Designed to work on MTP<sup>®</sup>/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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about FOCIS Lightning2.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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 in two models: an intelligent base (iB1) model with an integrated display and compact base (cB1) model that requires a paired smart device. Both models, depending on the chosen configuration, 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.

ROGUE OLTS Certifier can also be connected to AFL's Multi-Fiber Switch (MFS) for certifying both 8- and 12-fiber MPO terminated cables bi-directionally to IEEE 40 and 100G test limits. An optional MFS add-on kit contains two Multi-Fiber Switches for either multimode or single-mode testing. The MFS communicates to ROGUE OLTS Certifier via a 30 cm test cord connected to the optical test port.

**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.

The mobile App, TURBO, which is used on the paired smart devices required for cB1 models, is available for free download from Google play.

## ROGUE® OLTS Certifier

### Specifications<sup>a</sup>

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 <sup>b</sup>	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 <sup>c</sup>	±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	cB1	iB1
Size	23 x 11 x 7 cm (8.8 x 4.3 x 2.8 in)	23.5 x 13.3 x 7.6 cm (9.25 x 5.25 x 3.0 in)
Weight	1.3 kg (2.9 lb)	1.56 kg (3.46 lb)
Operating Temperature	-10 °C to +50 °C, 0 to 90 % RH (non-condensing)	-10 °C to +50 °C, 0 to 90 % RH (non-condensing)
Storage Temperature	-20 °C to +60 °C, 0 to 90 % RH (non-condensing)	-20 °C to +60 °C, 0 to 90 % RH (non-condensing)
Power	Rechargeable Li-Ion or AC power adapter	Rechargeable Li-Ion or AC power adapter
Battery Life	>8 hours continuous testing	>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 cB1 or 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 cB1 Base, Quad SM/MM	ROGUE cB1 Base, Quad SM/MM Module, battery, AC charger, adjustable carry strap, carry case	RGK-CERT01
ROGUE OLTS Certifier kit with cB1 Base, Dual SM ports	ROGUE cB1 Base, Dual Ports SM Module, battery, AC charger, adjustable carry strap, carry case	RGK-CERT03
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 cB1 Base; contains ROGUE cB1 Base, Dual Ports SM Module, battery, AC charger, adjustable carry strap	RGK-OLTS03
ROGUE OLTS with iB1 Base; contains ROGUE iB1 Base, Dual Ports SM Module, battery, AC charger, adjustable carry strap	RGK-OLTS03B1
ROGUE cB1, Compact Base; contains ROGUE cB1 Base, battery, AC charger, adjustable carry strap	RG-C01
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 cB1 Base Kickstand	RGA-STND-01
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 kit with cB1 Bases and required smart devices (optional purchase)

## 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



#### Multi-Fiber Switch

- Converts a single port module into a multi-fiber MPO tester
- Dual wavelength, single-mode or multimode
- 12F MPO port for connection to MPO cable under test



#### 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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about ROGUE OLTS Certifier.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts)

## FlowScout® PON Optical Power Meter

US Patent 9,602,200 and US Patent 10,771,153



### Features

- Detect multiple wavelengths automatically - NO setup required!
- Detects GPON, XGS-PON, and Video signals all at once
- Rugged and water resistant, IP54 rating
- Field-swappable connector adapters
- Large color touchscreen display daylight viewable
- Rechargeable Li-Polymer battery

### Applications

- Detects and measures PON upstream and downstream signals
- PON network activation
- BPON, EPON, GPON, 10G-EPON, XG-PON, XGS-PON, Video network verification and troubleshooting
- Evaluate PON power level Pass/Fail based on limits

AFL is a trusted supplier of optical testing equipment with more than 30 years of experience and tens of thousands of units in the field. AFL's full range of N.I.S.T. traceable power meters are used for testing single-mode and/or multimode fiber networks.

**Designed for all:** AFL's power meters are designed to meet the demands in an outside plant environment. The FlowScout PON optical power meter easily withstands a one-meter drop and has splash resistant controls that are easy to use, even with gloves on.

**Flexible and efficient:** A range of field-swappable output adapters support multiple connector styles and enables access for easy cleaning. The efficient design ensures a long run time from its rechargeable Li-Polymer battery and includes an auto-off feature to save power.

**Stores test results:** The built-in File Management system allows technicians to organize test results into multiple files and transfer them via USB to a PC for analyzing, generating reports, and printing. The FlowScouts QR code feature can easily collect and transfer test data via any smart devices.

# FlowScout® PON Optical Power Meter

## Specifications<sup>a</sup>

OPTICAL						
MODEL		TPPM-GP (Upcoming)		TPPM-XG		
Upstream	Wavelength	1310 nm		1270 nm	1310 nm	
	Measurement Range	-28 to +13 dBm		-28 to +13 dBm	-28 to +13 dBm	
Downstream	Wavelength	1490 nm	1550 nm	1490 nm	1550 nm	1577 nm
	Measurement Range	-50 to +13 dBm	-35 to +26 dBm	-50 to +13 dBm	-35 to +26 dBm	-50 to +17 dBm
Accuracy <sup>b</sup>		±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](http://www.AFLglobal.com).

DESCRIPTION	AFL NO.
FlowScout PON optical power meter XGPN/XGSPON	TPPM-XG
<b>INCLUDED ACCESSORIES</b>	
(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
<b>AFL ships one power plug (of customer choice) along with the order. Please select one out of the four plugs listed below.</b>	
EU Power Plug for AC charger	4050-00-0034EUMR
US power plug for AC charger	4050-00-0034NAMR
CN/AUS power plug for AC charger	4050-00-0034SAAMR
UK power plug for AC charger	4050-00-0034UKMR


## FlowScout® PON Optical Power Meter

### Recommended Products




**Optical Light Sources**

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources



**One-Click® Cleaners**

- Patented single-action
- Variety of sizes and types
- Low cost per clean



**VF14 Visual Fault Identifier**

- Eye-safe Class 3R visible red laser source, 650 nm
- Output power of  $\leq 5.0$  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)
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://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<sup>a</sup>

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 <sup>b</sup>		0 dBm, 9 μm single-mode		0 dBm, 9 μm single-mode <sup>c</sup>	
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

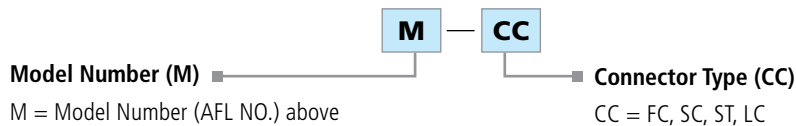
Test kits include light source, power meter, protective rubber boots, AA batteries, adapter caps, and carry case.

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 <sup>b</sup>	◆
SLP5-FTTH	OPM5-4D	OLS7-FTTH	SM			◆	◆	◆	45 <sup>b</sup>	◆
SMLP5-5	OPM5-2D	OLS4	MM SM	◆	◆	◆		◆	40 @ 850/1300 nm <sup>a</sup> 60 @ 1310/1550 nm <sup>b</sup>	◆

**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.
<b>LIGHT SOURCE CONNECTOR ADAPTERS</b>	
FC connector adapter	2900-50-0002MR
SC connector adapter	2900-50-0003MR
ST connector adapter	2900-50-0004MR
LC connector adapter	2900-50-0006MR
<b>POWER METER CONNECTOR ADAPTERS</b>	
FC connector adapter	8800-00-0200
SC connector adapter	8800-00-0209
ST connector adapter	8800-00-0202
LC connector adapter	8800-00-0225
<b>ENCIRCLED FLUX (EF) MODE CONTROLLER</b>	
FC to FC, 50/125 µm	8700-06-0001MR
FC to FC, 2.5/125 µm	8700-06-0002MR
SC to SC, 50/125 µm	8700-06-0003MR
SC to SC, 62.5/125 µm	8700-06-0004MR
SC to LC, 50/125 µm	8700-06-0005MR
SC to LC, 62.5/125 µm	8700-06-0006MR
<b>MULTIMODE TEST CORDS (50/125 µm – 2 meters)</b>	
FC/FC	8700-00-0093
SC/ST	8700-00-0064
SC/SC	8700-00-0065
LC/LC	8700-00-0082


DESCRIPTION	AFL NO.
<b>SINGLE-MODE TEST CORDS (9/125 µm – 2 meters)</b>	
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
<b>MATING ADAPTERS (Bulkheads)</b>	
FC/FC	8400-00-0004MR
SC/SC	8400-00-0045MR
ST/ST	8400-00-0020
LC/LC	8400-00-0075
<b>CLEANING SUPPLIES</b>	
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about OLTS kits.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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 <sup>a,e</sup>

OPTICAL SPECIFICATIONS: OLS4, OLS2-DUAL & OLS1-DUAL MODELS								
MODEL	OLS1-DUAL (Single Port <sup>b</sup> )		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 <sup>c</sup>		0 dBm, 9 μm single-mode <sup>d</sup>		0 dBm, 9 μm single-mode		>-20 dBm, 62.5 μm multimode <sup>c</sup>	
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://www.AFLglobal.com/Test/Contacts)

### OFS300 Optical Microscope



#### Features

- Laser safety filter installed
- 200x image size
- 2.5 mm Universal adapter included
- Long battery life with 2 x AA alkaline
- Rugged, hand-held, easy-to-use

#### Applications

- Verify connectors are clean prior to connecting to network
- Inspect end-faces for scratches or pits
- Eliminate the most common network fault (bad connectors)

Designed for field use, the OFS300 scope delivers a high-quality end-face image at 200x magnification. It quickly identifies scratches, dirt, or other problems normally associated with poor network performance.

A large percentage of network failures are caused by dirty or damaged end-faces on fiber optic connectors. Inspecting jumper end-faces prior to connection is critical to network performance. The OFS300 scope provides a quality optical inspection tool at an affordable price.

**Safe:** A built-in laser safety filter provides >40 dB IR protection to reduce risk of injury to the eye if accidentally viewing an active fiber.

**Universal adapter:** The OFS300 features a Universal adapter cap mount that accepts a variety of thread-on style adapter caps (ordered separately) to easily inspect many connector styles.

**Ease-of-use:** A momentary power switch located on the top panel keeps one hand free for focusing. For stationary work, the tripod mount allows the OFS300 to attach to any standard tripod.

**Long-life:** The OFS300 offers 60 hours of continuous battery life from standard 2 x AA batteries and features an LED indicator, which will flash when batteries require replacement.



# OFS300 Optical Microscope

## Specifications <sup>a</sup>

OPTICAL SPECIFICATIONS	
Nominal Magnification	200X
Adapter Mount	Universal, thread-on
Safety Filter	Schott KG3, >40 dB IR
GENERAL SPECIFICATIONS	
Operating Temperature	0 °C to +50 °C
Storage Temperature	-20 °C to +50 °C
Power	2 x AA batteries
Battery Life	>60 hours
Weight in Use	0.67 kg (1.5 lb)
Size (H x W x D)	13 x 5 x 20 cm (5 x 2 x 8 in)

**Note:**

a. All specifications valid at 25 °C unless otherwise specified.

## Ordering Information

DESCRIPTION	AFL NO.
<b>OFS300 Inspection Kit.</b> Includes OFS300 Inspection Scope, 2 x AA batteries, neck strap, 2.5 mm Universal adapter cap, users guide.	OFS300
OFS300 angled SC adapter tip	8800-00-0220
OFS300 angled FC adapter tip	8800-00-0218
OFS300 angled E2000 adapter tip	8800-00-0229
OFS300 angled MTP/MPO adapter tip	8800-00-0234
OFS300 UPC MTP/MPO adapter tip	8800-00-0233
OFS300 1.25 mm Universal male adapter tip	8800-00-0236
OFS300 2.5 mm Universal male adapter tip	8800-00-0219
OFS300 SMC 0° adapter tip	8800-00-0235
OFS300 1.6 mm (pin) adapter tip	8800-00-0244
OFS300 2.0 mm (pin) adapter tip	8800-00-0248
OFS300 EC (radial) adapter tip	8800-00-0277

## 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)

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## OPM5 and OPM4 Optical Power Meters



OPM5 Optical Power Meter

### Features

- Rugged, dependable, and backed by industry-best 5-year warranty
- Wave ID tests up to three wavelengths simultaneously - slashing test time
- Field-swappable connector adapters for maximum flexibility
- Long battery life from globally available AA batteries

### Applications

- Passive Optical Networks (PON) testing
- OPM(5/4)-4D (Filtered-InGaAs) for high power (+26 dBm) CATV broadband networks or DWDM system applications
- OPM(5/4)-3D (InGaAs) for telecommunications networks
- OPM(5/4)-2D (Ge) for premises LAN/WAN multimode or single-mode networks
- OPM4-1D (Silicon) for multimode/plastic optical fiber applications

AFL is a trusted supplier of optical testing equipment with more than 30 years of experience and tens of thousands of units in use in the field. AFL's full range of power meters are used for testing single-mode and/or multimode fiber networks. Power meters with wave ID can detect two or more wavelengths simultaneously – decreasing test time and reducing user errors when paired with AFL wave ID light sources.

**Designed for the real world:** AFL's power meters are designed to meet the demands of the outside plant environment. They withstand the one-meter drop test and have splash resistant controls that are easy to use, even with gloves on.

**Flexible and efficient:** A range of field-swappable output adapters enables access for cleaning optical ports and supports multiple connector styles. The efficient design provides long test time from globally available AA batteries. Equipped with five-minute auto-off feature to save power.

**Reduce test time and errors:** Wave ID (Triple, Dual, or Single) decreases test time while reducing technician errors.

**Stores test results:** AFL's OPM5 stores optical reference at each calibrated wavelength. This enables technicians to organize test results into multiple files and transfer stored results via USB to the included PC-based TRM® 2.0 software for analyzing, generating reports, and printing. Users can generate network Pass/Fail results demonstrating compliance to industry standards and illustrate headroom. Fully N.I.S.T. traceable.

## OPM5 and OPM4 Optical Power Meters

### Specifications <sup>a</sup>

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, 780, 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 <sup>b</sup>	±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:**

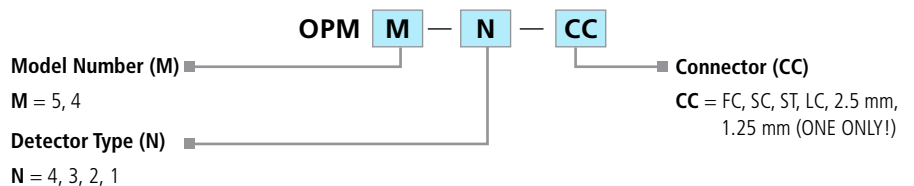
- a. All specifications valid at 25°C unless otherwise specified.
- b. Accuracy measured at 25 °C and -10 dBm per N.I.S.T. standards.

### 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<sup>®</sup> 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	780	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.		
<b>ADAPTER CAPS</b>			
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		
<b>USB CABLE</b>			
USB Cable: PC (USB-A) to OPM (USB-MINI B):	OPM5 MODEL	OPM4 MODEL	6000-00-0024MR
<ul style="list-style-type: none"> <li>Connect OPM to PC for data upload to TRM® 2.0</li> <li>External Power for OPM (when used with customer supplied USB-A power source)</li> </ul>	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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

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## 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  $\mu\text{m}$ , 900  $\mu\text{m}$ , 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<sup>®</sup> 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<sup>a</sup>

<b>OPTICAL</b>	
Wavelength	1550 ±20 nm
Spectral Width	5 nm (maximum)
Output Power	+1.75 dBm ±1 dB peak into 9/125 µm fiber @ +25 °C
<b>GENERAL</b>	
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<sup>a, b</sup>

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

<b>OPTICAL</b>	
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
<b>GENERAL</b>	
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 <sup>c</sup>
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<sup>a</sup>

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 <sup>b</sup>	±0.25 dB
Resolution	0.01 dB
Measurement Units	dB, dBm, µW
Fiber ID Mode <sup>e</sup>	
Wavelength	1550 nm
Measurement Range <sup>c</sup>	+10 to -35 dBm
Accuracy <sup>d</sup>	±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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://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<sup>a</sup>

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 <sup>b</sup>					
Insertion Loss (IL) & Minimum Detect Level <sup>c</sup> 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 <sup>b</sup>
Detector Sensitivity	+10 to -60 dBm at modulated tone; +10 to -40 dBm at CW or Traffic <sup>b</sup>
Accuracy <sup>d</sup>	±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 <sup>e</sup>
Dimensions (W x H x D)	5.0 x 11.5 x 21.2 cm (1.9 x 4.5 x 8.3 in) <sup>f</sup>
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
<b>OPTIONAL ADAPTERS (ordered separately)</b>	
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about OFI-BIPM/-BIPMe.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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  $\mu$ m, 900  $\mu$ 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  $\mu$ m, 900  $\mu$ 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  $\mu$ m (bare) coated, 900  $\mu$ 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<sup>a</sup>

DETECTABLE SIGNAL RANGE					
FIBER TYPE <sup>b</sup>	PARAMETER	TEST CONDITIONS <sup>c</sup>	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 <sup>d</sup>	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 <sup>e</sup>	+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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about Optical Fiber Identifiers.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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  $\mu\text{m}$ , 900  $\mu\text{m}$  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  $\mu\text{m}$ , 900  $\mu\text{m}$ , 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:** 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 <sup>a</sup>

DETECTABLE SIGNAL RANGE			
FIBER TYPE <sup>b</sup>	PARAMETER	TEST CONDITIONS <sup>c</sup>	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 <sup>d</sup>			
Detector Type	InGaAs		
Wavelength Range	800 - 1700 nm		
Calibrated Size of Fiber and Wavelength	N/A		
Fiber Stress	<100 kPSI max		
Fiber Size	250 µm, 900 µm, ribbon, 2 mm or 3 mm and jacketed fiber		
Tone Detection	2000 ± 100 Hz		
GENERAL SPECIFICATIONS			
Display Type	N/A		
Power	1 9-Volt Alkaline		
Battery Life	>10,000 operations typical		
Operation Temperature	0°C to 50°C 90 % RH (Non-condensing)		
Storage Temperature	-30°C to +60°C 90 % RH (Non-condensing)		
Dimensions (H x W x D)	22 x 3.8 x 2.8 cm (8.5 x 1.5 x 1.1 in)		
Weight	210 g (7.5 oz)		

### Notes:


- All specifications stated above are as measured at 25°C.
- 250 µm coated fiber parameters are specified with OFI plunger in the "250/900/RIB" position. 2 mm/ 3 mm jacketed fiber parameters are specified with OFI plunger in the "2 mm/3 mm" position.
- CW is a light signal that is not modulated. Traffic is a light signal modulated by a random data sequence. Tone is a light signal modulated into a nominal 50% duty cycle square wave.
- Unless noted otherwise, all specifications are typical. Actual results can vary by several dB depending on fiber type, coating material, jacket color, jacket hardness, and other factors.

# OFI-200 Optical Fiber Identifier

## Ordering Information


INCLUDES	AFL NO.
Users guide and carry case	OFI-200D

## Recommended Products



**FlexScan® FS300 (quad) and FS200 (single-mode) OTDRs**

- SmartAuto® 1-button automated testing for fast results
- LinkMap® color-coded icons for easy troubleshooting
- Flexpress® mode (FS200) completes OTDR test in <5 seconds!
- Integrated Source, Power Meter and VFL



**Optical Light Sources**

- Encircled Flux Compliant
- 5-Year Product Warranty
- Integrated LED and Laser light sources

## Qualifications

CATEGORY	REGULATION/STANDARD	QUALIFICATION
CE Marking	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
Safety /EMC /EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 61010-1 for safety requirements for electrical equipment
	IEC	Compliant to IEC 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
RoHS	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)

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## VFI4 Visual Fault Identifier



### Features

- 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
- 2.5 mm universal adapter (included) accepts FC, SC, ST, etc. connectors
- 1.25 mm universal adapter (included) accepts LC and MU connectors

### 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

ADAPTER, 2.5MM, VFI4, ZIRCONIA SLEEVE, SPLIT, ROHS  
ADAPTER, 1.25MM, VFI4, ZIRCONIA SLEEVE, SPLIT, ROHS

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 Identifier

### Specifications<sup>a</sup>

OPTICAL	
Emitter Type	Laser, Class IIIa FDA 21 CFR 1040.10 and 1040.11, Class 3R IEC 60825-1:2014
Wavelength	650 nm ±15 nm
Output Power	5 mW maximum
Modulation	2 Hz or CW selected

GENERAL	
Adapter	2.5 mm Universal, 1.25 mm Universal
Power	1 AA battery, <30 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)

#### Notes:

a. All specifications valid at 25°C unless otherwise specified.

### Ordering Information

DESCRIPTION	AFL NO.
VFI4 visual fault identifier with 2.5 mm and 1.25 mm adapters	VFI4-01-0900PR

### Adapters


DESCRIPTION	AFL NO.
2.5 mm Universal for VFI port	2900-50-0013MR
1.25 mm Universal for VFI port	2900-50-0012MR

### Recommended Products



**One-Click® Cleaner Mini**

- Small compact design with single action cleaning
- Automatically advance ensures each clean is performed with fresh cleaning tape
- 100 clean and 500 clean versions available
- Low cost per clean



**FASTConnect® Field-Installable Connectors**

- Field-installable, takes less than a minute to complete
- Fast and easy to terminate
- Low insertion/return loss
- Reusable

### Qualifications

CATEGORY	REGULATION/STANDARD	QUALIFICATION
CE Marking	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
Safety/EMC/EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 61010-1 for safety requirements for electrical equipment
	IEC	Compliant to IEC 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
	FDA	Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products
RoHS	IEC	Compliant to IEC 60825-1 for safety of laser products
	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)

Contact [Sales@AFLglobal.com](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about MT Tracer

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://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](http://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

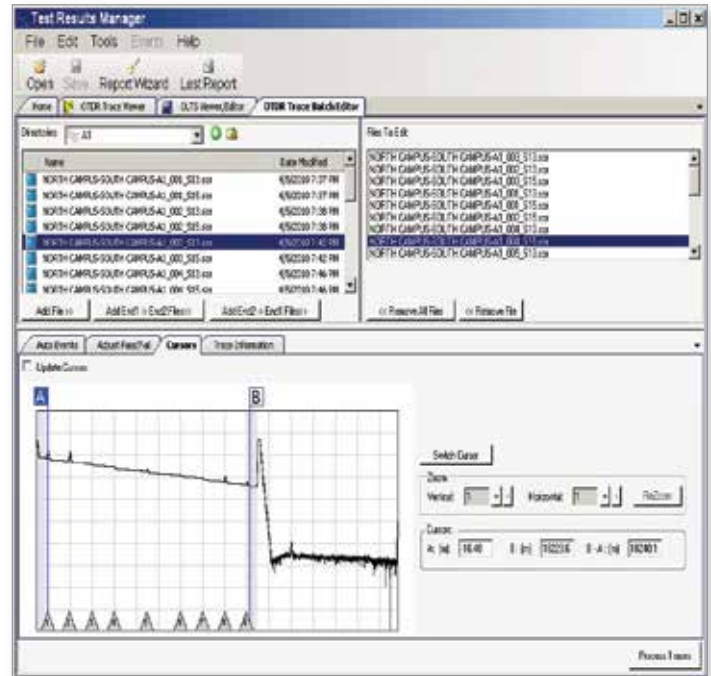
- Generate professional reports by applying edits to a group of fibers for consistency of information and uniformity of results

## 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.

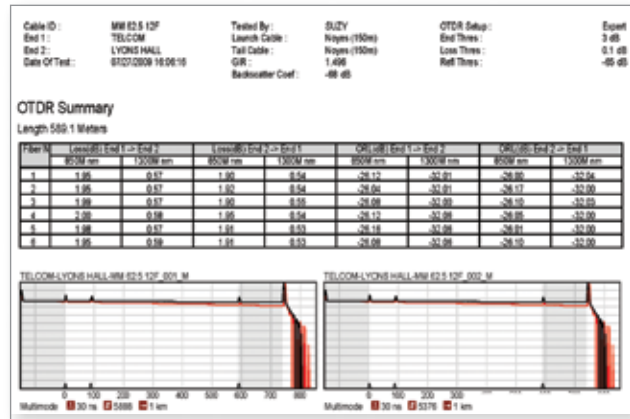


# TRM® 2.0/3.0 Test Results Manager

## 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

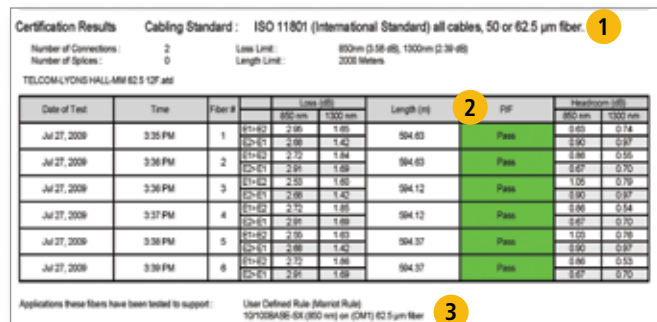
Fiber Detail Results page documents equipment used for testing, job information, test setup, cursor info and OTDR trace with Event map. OPM or Certification results and end-face image and pass/fail results may be included if available (as shown) with an overall Pass or Fail.



### 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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Test](http://www.AFLglobal.com/Test) to learn more about TRM.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts)

## Push-Type Cleaners



SC/ST/FC

MU/LC

Mini-100  
SC, ST, FC

Mini-100  
MU/LC



Ultra 2.5

D-LC

### 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.

#### 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.

## 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
<b>BOXES OF 5 UNITS</b>	
One-Click Cleaner SC, ST, FC (box of 5 units)	8500-05-0021MZ
One-Click Cleaner MU/LC (box of 5 units)	8500-05-0022MZ
One-Click Cleaner Mini-100 SC, ST, FC (box of 5 units)	8500-05-0025MZ
One-Click Cleaner Mini-100 MU/LC (box of 5 units)	8500-05-0026MZ
One-Click Ultra Cleaner 2.5 SC, ST, FC (box of 5 units)	8500-05-0027MZ
One-Click Cleaner MPO-16 (box of 5 units)	8500-05-0023MZ

## Push-Type Cleaners

Cleaning Supplies



NEOCLEAN-E Models (E1, E2, E3)



NEOCLEAN-M and NEOCLEAN-M2

### NEOCLEAN Cleaners

#### 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.

**NEOCLEAN-M2** is designed for cleaning MPO-16 and MTP-16 multi-fiber multi-row connectors used in data centers and other high-density optical network environments.

#### 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-ES1	Pack of 3 replacement cartridges for NEOCLEAN-E1		8500-15-0903MZ
NEOCLEAN-ES2	Pack of 3 replacement cartridges for NEOCLEAN-E2		8500-15-0904MZ
NEOCLEAN-ES3	Pack of 3 Replacement cartridges for NEOCLEAN-E3		8500-15-0905MZ
NEOCLEAN-M	For MPO/MTP	600+	8500-15-0909MZ
NEOCLEAN-M2	For MPO-16/MPT-16		8500-15-0910MZ

### 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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Clean](http://www.AFLglobal.com/Clean) to learn more about Push-Type Cleaners.

International Sales and Service Contact Information available at [www.AFLglobal.com/Test/Contacts](http://www.AFLglobal.com/Test/Contacts)

## CleTOP Optical Fiber Connector Cleaner



### 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.
<b>CLETOP – S SERIES</b>	
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.
<b>CLETOP ORIGINAL SERIES</b>	
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Clean](http://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](http://www.AFLglobal.com/Test/Contacts)

## Cleaning Fluids and Wipes

### FCC2 Enhanced Fiber Connector Cleaner and Preparation Fluid

Cleaning Supplies



#### 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

Cleaning Supplies



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

#### FiberAide 1

- Hermetically sealed wipes remain uncontaminated and ready for use
- Foil-backed wipes protect skin from cleaning solvents and cable gel
- Packaging contains no glues to leach out
- Solvent safe – wipes may be moistened to provide wet / dry cleaning



FiberAide 1

#### Ordering Information

DESCRIPTION	AFL NO.
FiberWipes – case of 24 mini-tubs (2160 total wipes, 90 wipes per mini-tub)	9000-03-0026MZ
FiberAide 1 – case of 600 packets (60 bundles, 10 packets per bundle)	9000-03-0027MZ

#### Recommended Products



##### FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



##### Cleto 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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Clean](http://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](http://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.
<b>CCT CONNECTOR CLEANING TIPS - DOUBLE-ENDED</b>			
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
<b>CCT TIPS ARE AVAILABLE IN BULK PACKS OF SINGLE-ENDED STICKS. PACKS OF 50 STICKS PACKAGED IN BOXES OF 6 PACKS (300 sticks)</b>			
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

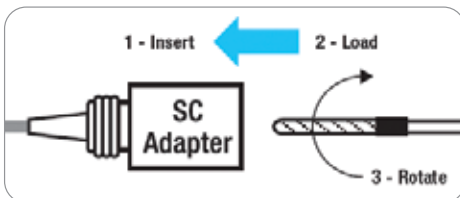
- Clean ferrule end-faces inside the plug-in fiber optic connectors and various adapters
- Cleans adapter alignment sleeves
- Cleans LEMO connectors for video applications

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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Clean](http://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](http://www.AFLglobal.com/Test/Contacts)

## Cleaning Kits



FCP1 Kit



FCP2 Kit



FCP3 Kit

### Features

- Mix of wet and dry cleaning products for most applications
- MPO/MTP® Option
- Field portable
- Convenient refill options

### Applications

- Field cleaning connectors on jumpers and through bulkhead adapters
- Clean SC, ST, FC, LC, MU, and MPO connectors
- Clean a variety of contaminants

Cleaning saves time and money! Over 85% of network failures can be traced back to dirty and damaged connectors. The foolproof way to avoid these outages is to inspect and clean every connector, every time - without fail. You should even inspect new ones right out of the box. Proper fiber hygiene can extend the life of connectors and reduces replacement costs. FCP Cleaning Kits from AFL offer a complete selection of fiber optic cleaning products for field cleaning of connector end-faces in a convenient carry case.

FCP1 kits consist of a wall or rack mountable carry case, FCC2 Fiber Connector Cleaner and Preparation Fluid, CCT Connector Cleaning Tips, Cletop-SB, and color-coded instructions.

FCP2 kits include FCC2 Fiber Connector Cleaner and Preparation Fluid, FCC3 Debris Destroyer® Fiber Cleaning Pen, WFW FiberWipes™, Cletop SB, One-Click Cleaners for SC, ST, FC, LC/MU, MPO connectors, and a field portable duffel bag.

FCP3 kits include FCC2 Fiber Connector Cleaner and Preparation Fluid, FCC3 Debris Destroyer® Fiber Cleaning Pen, CCT Connector Cleaning Tips, Cletop-SB, One-Click Cleaners for SC, ST, FC, LC/MU, MPO connectors, and an easy-access soft carry case.

## Cleaning Kits


### Ordering Information

FCP1 WALL/RACK MOUNTABLE FIELD PORTABLE CLEANING KITS CONTENTS / ITEMS DESCRIPTION	AFL NO.		
	FCP1-00-0901	FCP1-00-0907	FCP1-00-0914
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 CONTENTS / ITEMS DESCRIPTION	AFL NO.	
	FCP2-10-0900	FCP2-00-0901
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 CONTENTS / ITEMS DESCRIPTION	AFL NO.	
	FCP3-00-0900	FCP3-00-0901
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](mailto:Sales@AFLglobal.com) to schedule a demonstration or learn how to buy.

Visit [www.AFLglobal.com/Clean](http://www.AFLglobal.com/Clean) to learn more about Cleaning Kits.

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