Fiber*Express* Field Termination
FX Fusion Splice-On Connectors

FX Fusion Splice-On Connectors

Belden's FX Fusion Splice-On connectors combine the benefits of fusion splicing with the versatility of a field-installable connector to provide superior performance and installation reliability.

FASTER
- Faster deployment with increased first pass termination yield

EASIER
- Easier termination technique with automated splicing tools
- Easier with existing termination tools and compatible splicers

BETTER
- Better insertion and return loss performance for futureproof networks
- Better versatility for both indoor and outdoor environments

Connector Performance

Fiber Type	Maximum Insertion Loss	Minimum Reflectance
Singlemode UPC	0.3 dB	-55 dB
Singlemode APC	0.3 dB	-65 dB
Multimode OM1	0.25 dB	-25 dB
Multimode OM3/OM4	0.2 dB	-25 dB

FT3SC900FS01, FX Fusion OM3/OM4 SC Connector with 900/250 µm Boot, Aqua

FX Fusion Multimode Connectors

Description	Part Number		
	Multimode, OM1 - Beige	Multimode, OM3/OM4 - Aqua	Multimode, OM4 - Erika Violet
LC with 900/250 µm Boot, 1/Pack	FT1LC900FS01	FT3LC900FS01	FT4LC900FS01
SC with 900/250 µm Boot, 1/Pack	FT1SC900FS01	FT3SC900FS01	FT4SC900FS01
LC with 2 mm Boot, 1/Pack	FT1LC2MMFS01	FT3LC2MMFS01	FT4LC2MMFS01
SC with 2 mm Boot, 1/Pack	FT1SC2MMFS01	FT3SC2MMFS01	FT4SC2MMFS01

FX Fusion connectors with 900/250 µm boot are not compatible for termination on breakout kits.

FTSLB2MMFS01, FX Fusion OS2/APC LC Connector with 2 mm Boot, Green

FX Fusion Singlemode Connectors

Description	Part Number	
	Singlemode, OS2 - Blue	Singlemode, OS2/APC - Green
LC with 900/250 µm Boot, 1/Pack	FTSLC900FS01	FTSLB900FS01
SC with 900/250 µm Boot, 1/Pack	FTSSC900FS01	FTSSB900FS01
LC with 2 mm Boot, 1/Pack	FTSLC2MMFS01	FTSLB2MMFS01
SC with 2 mm Boot, 1/Pack	FTSSC2MMFS01	FTSSB2MMFS01

FX Fusion connectors with 900/250 µm boot are not compatible for termination on breakout kits.

Fiber*Express* Field Termination (continued)

FX Fusion Splicer Installation Kits and Accessories

Improve Installer Comfort, Repeatability and Performance

Belden's FX Fusion installation kits and active cladding alignment splicer delivers affordable, high-quality performance for consistent and reliable terminations.

FX Fusion Splicer

Description	Part Number
FX Fusion Active Cladding Splicer Kit (includes splicer, splice holder, charger, spare electrodes, cooling tray, carrying case with strap, screwdriver, and fiber seath clamps)*	FXFSTOSPL

*Belden's FX Fusion splicer is compatible with Splice Holder Family 2, part #FXFSSHFM2 (included), when terminating FX Fusion connectors

FXFSTOSPL, FX Fusion Active Cladding Splicer Kit

FX Fusion Installation Kits

Description	Part Number
Standard Tool Kit (Standard Cleaver, Fiber Preparation Tools)	FXFSTOSTK
Precision Tool Kit (Precision Cleaver, Fiber Preparation Tools)	FXFSTOPTK

FXFSTOSCL, FX Fusion Standard Cleaver

FX Fusion Accessories

Installation Kit Accessories

Description	Part Number
Precision Cleaver	FXFSTOPCL
Standard Cleaver	FXFSTOSCL
Slitter for Jacketed Fiber	FXFSTOSLT
Splice Holder Family 1	FXFSSHFM1
Splice Holder Family 2	FXFSSHFM2
Splice Holder Family 3	FXFSSHFM3

For a complete list of FX Fusion compatible splicers and holders, please visit www..com/splice-on and refer to the installation tools reference guide.

Splicer Kit Accessories and Spare Parts

Description	Part Number
AC Adapter/Charger	FXFSTOSAC
Shoulder Strap	FXFSTOSSS
Cleaning Brushes	FXFSTOSCB
Fiber Holders/Clamps	FXFSTOSFC
Spare Electrode	FXFSTOSSE
Cooling Tray	FXFSTOSCT
Carrying Case	FXFSTOSCC
User Guide CD	FXFSTOSCD
Keys for Lock	FXFSTOSKY
Screwdriver	FXFSTOSSD
Yellow Tackle Box	FXFSTOSTB

FXFSSHFM2, Splice Holder Family 2

FX Fusion Connectors

Fixed Letter Series	1. Choose Fiber Type	4. Choose Connector for Patch Side	3. Choose Cable Type	2. Choose Product Family	5. Choose Packaging
FT	3	LC	900	F	S01

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Connector	
LC	LC Simplex
LB	LC/APC Simplex
SC	SC Simplex
SB	SC/APC Simplex

Cable Type	
900	Tight Buffer
2MM	Jacketed

Product Family	
F	Splice-On

Packaging	
S01	Single Pack

Fiber*Express* Field Termination
FX Brilliance Universal Connectors

FX Brilliance Universal Connectors

Brilliant in design and universal in implementation, FX Brilliance Universal no-epoxy, no-polish, no-crimp field-installable connectors make fiber field termination faster, easier and better with our industry-leading design.

FASTER
- Faster fiber termination in as few as 5 seconds
- Faster installation proficiency through simple termination technique
- Faster 250 µm direct installation eliminating break-out kits

EASIER
- Easier with no epoxy or polishing
- Easier no-crimp design
- Easier with duplex clips to hold TX/RX pairs together

BETTER
- Better termination yield with integrated VFL feedback
- Better universal cable support for 250 µm, 900 µm, 2 mm Jacketed, 3 mm Jacketed
- Better universal fiber support for OM1, OM2, OM3, OM4 as well as OS2

Three Simple Steps

Connector Performance	Maximum Insertion Loss	Typical Insertion Loss	Return Loss
Multimode	0.5 dB	0.2 dB	25 dB
Singlemode UPC	0.5 dB	0.3 dB	50 dB
Singlemode APC	0.5 dB	0.3 dB	60 dB

Description	Part Number		
	Multimode, OM1	Multimode, OM3/OM4 - Aqua	Multimode, OM4 - Erika Violet
LC with 900 µm Boot, 25 per package	AX105200-B25	AX105202-B25	AX105252-B25
SC with 900 µm Boot, 25 per package	AX105205-B25	AX105207-B25	AX105253-B25
ST with 900 µm Boot, 25 per package	AX105210-B25	AX105212-B25	AX105254-B25

Replace -B25 with -S1 for sample 1 per package.

Description	Part Number			
	Singlemode, OS2		Singlemode, OS2/APC	
	1 per package	25 per package	1 per package	25 per package
LC with 900 µm Boot	AX105203-S1	AX105203-B25	–	–
SC with 900 µm Boot	AX105208-S1	AX105208-B25	AX105209-S1	AX105209-B25
ST with 900 µm Boot	AX105213-S1	AX105213-B25	–	–

FX Brilliance Universal includes a boot for 900 µm Tight Buffered fiber. Boots for 2 mm/3 mm Jacketed fiber are sold separately.

Description	Part Number
250 µm Boot, 25 per package	FXBUB0250B25N
2 mm Jacketed Boot, 25 per package	AX105214-B25
3 mm Jacketed Boot, 25 per package	AX105215-B25

Description	Part Number
LC Duplex Clip (Black), 25 per package	FXBUCLLDB25N
SC Duplex Clip (Black), 25 per package	FXBUCLSDB25N

Fiber*Express* Field Termination (continued)
FX Brilliance Universal Installation Kits and Accessories

Improve Installer Comfort, Repeatability and Performance

Although termination of the FX Brilliance Universal connector can be done with no specialized tools, installation kits are available with all the tools necessary to prepare the fiber as well as to provide a stable work platform to achieve optimal installation results.

FX Brilliance Installation Kit

Description	Part Number
Precision Installation Kit (Basic Kit, Fiber Preparation Tools, Precision Cleaver and Visual Fault Locator)	AX104271

FX Brilliance Accessories

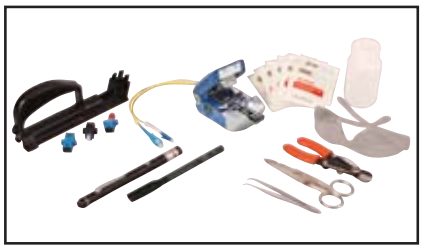
Description	Part Number
Precision Cleaver	AX104286
Precision Cleaver Replacement Blade (for FC-7 cleaver)	AX104293
Precision Cleaver Replacement Blade (for FC-7R and FC-8R cleavers)	AX104593
Support Handle with Adapters	AX104276
Support Handle LC Adapter	AX104289
Support Handle SC Adapter	AX104290
Support Handle ST Adapter	AX104291
Visual Fault Locator (VFL-250) with Adapter Cords	AX104283
Visual Fault Locator (VFL-125) LC-LC Adapter Cord	AX203567
Visual Fault Locator (VFL-125/250) LC-SC Adapter Cord (valid for ST also)	AX203568
Visual Fault Locator (VFL-250) SC-SC Adapter Cord (valid for ST also)	AX203569
Visual Fault Locator (VFL-125) LC-SC/APC Adapter Cord & Support Handle SC/APC Adapter	AX203895
Visual Fault Locator (VFL-250) SC-SC/APC Adapter Cord & Support Handle SC/APC Adapter	AX203930
Fiber/Cable Stripper	AX103151
Pen Marker	AX104279
Refurbishing Materials (80 alcohol wipes and a black pen marker)	AX100951
Safety Glasses	AX104282
Scissors	AX104280
Tweezers	AX104278
Waste Bottle	AX104281

Ensure Durable Rugged Installation on 250 µm Fiber

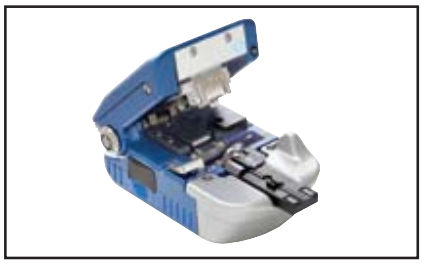
Field Breakout kits are available to provide a durable 900 µm coating for 250 µm fibers to ensure optimal retention, flex and twist support without sacrificing the outdoor performance of loose-tube cables or the small diameter of mini-distribution cables.

FX Breakout Kits

Description	Part Number
Breakout Kit for 2.0 mm Subunits, 6-fiber, 1-Pack	AX101100
Breakout Kit for 3.0 mm Subunits, 12-fiber, 1-Pack	AX101101
Breakout kit for 5.2 mm Subunits (Central Tube), 6-fiber, 1-Pack	AX104695
Breakout kit for 5.2 mm Subunits (Central Tube), 12-fiber, 1-Pack	AX104696

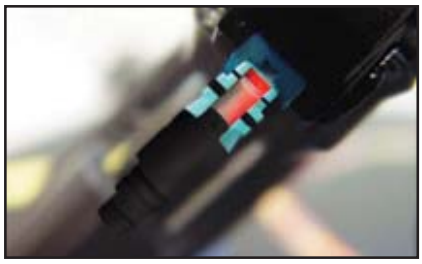


AX104271, FX Brilliance Precision Installation Kit



AX104286, FX Brilliance Precision Cleaver

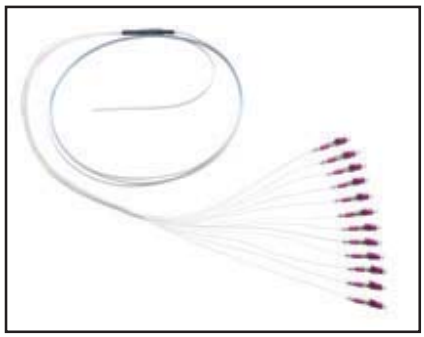
AX104276, Support Handle with Adapters



When used with the VFL, a light can be seen through the clear window on the connector body until a fiber has been properly terminated

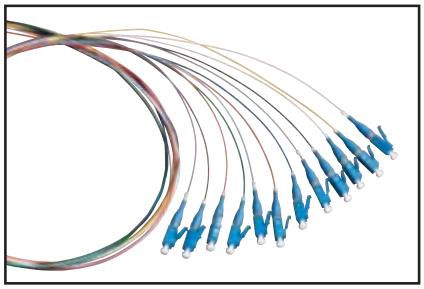
You can use the FX UHD Splice Cassette (see page 4) with the 250 µm Boot to eliminate the need to install a Break-out kit.

Fiber*Express* Field Termination (continued)
FX Pigtails



FT4LC250PR12, FX Mass-fusion Pigtail, OM4 Erika Violet, LC Simplex, 2 m

FT4LCRIBPS019ME, FX Mass-fusion Pigtail, OM4 Erika Violet, LC Simplex, 9 m



FTSLC900PR12, FX LC Color-coded Pigtail Kit, Singlemode

Established technology with a pedigree of resilience. Traditional fusion splice-on connectors with pigtails provide factory-polished performance with field-termination convenience within harsh environments.

FASTER

- Faster connector identification with color-coded pigtail kits
- Faster delivery with standard LC, SC or ST 2 meter pigtail kits
- Faster installation with Mass-Fusion pigtail kits

EASIER

- Easier field-termination with factory pre-terminated connectors
- Easier ordering with intuitive *Smart*Part numbers

BETTER

- Better quality with precision factory-polished connectors
- Better insertion loss at 0.2 dB MPO-12 and 0.15 dB Max IL OM4

Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.2	3.0/1.2	–	
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5	
Fire Rating	OFN (<= 3 m) OFNP for Interconnect Ribbon 12-fiber (> 3 m) OFNR for all other cables (> 3 m)				
Cable Style	900 µm Color-coded fiber kit (6 or 12 colors from TIA-598) 900 µm single fiber OM1-Gray, OM3/OM4-Aqua, OS2-White 250 µm Bare ribbon fiber Interconnect Simplex/Duplex, 2 mm/3 mm cords Interconnect Ribbon 12-fiber cable				
Standard Length	2 meters				
Connector Performance - LC/SC/ST					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - MPO					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.0	3.0/1.0	–	
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5	
Fire Rating	OFN (<= 3 m) OFNP (> 3 m)				
Cable Style	250 µm Bare ribbon fiber Interconnect Ribbon 12-fiber cable Interconnect Mini-Round 2 mm				
Standard Length	2 meters				
Connector Performance - MPO					
IL Max. (dB)	0.5	0.35	0.2	–	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	–	APC - 60

The default fan-out is 0.5 m when there is a transition in a pigtail kit: 900 µm Color-coded fiber kit or 250 µm Bare Ribbon fiber (R06 or R12).

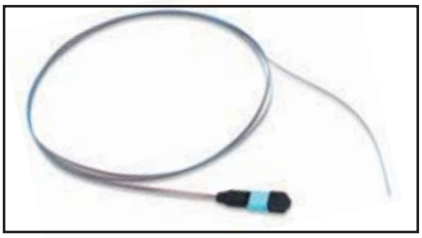
Fiber*Express* Field Termination (continued)
FX Pigtails

Mass fusion splicing can fuse up to all 12 fibers in one ribbon at once. Mass fusion pigtails come with all 12 fibers terminated and a ribbonized open end. Splicers splice entire ribbons simultaneously.

Standard Mass-Fusion Pigtail Kits (Connector on 250 µm Ribbon)

Description	Part Number				
	OM1	OM3	OM4	OS2	OS2/APC
MPO-12 (m)	–	FT3MM250PS01	FT4MM250PS01	–	FTSMM250PS01
LC	–	FT3LC250PR12	FT4LC250PR12	FTSLC250PR12	FTSLB250PR12
SC	FT1SC250PR12	FT3SC250PR12	–	FTSSC250PR12	FTSSB250PR12

Standard Mass-Fusion Color-coded Pigtail Kits contain a 12-fiber ribbon with a 0.5 m 900 µm fanout with 12 connectors, 2 m in total length.



FT3MM250PS01, FX MPO Bare Ribbon Pigtail, OM3 Aqua, MPO(m), 2 m

Standard Pigtail Kits (Connector on 900 µm Fiber)

Description	Part Number				
	OM1	OM3	OM4	OS2	OS2/APC
LC	–	FT3LC900PR12	FT4LC900PR12	FTSLC900PR12	FTSLB900PR12
SC	FT1SC900PR12	FT3SC900PR12	FT4SC900PR12	FTSSC900PR12	FTSSB900PR12
ST	FT1ST900PR12	FT3ST900PR12	–	FTSST900PR12	–

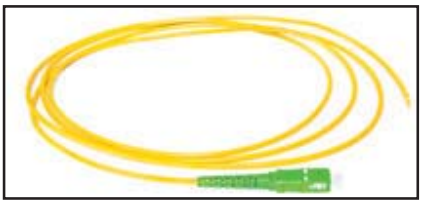
Standard Color-coded Pigtail Kits contain 12 color-coded 900 µm fibers, 2 m in length.

FT4MMRIBPS019ME, FX MPO Jacketed Ribbon Pigtail, OM4 Erika Violet, MPO(m), 9 m

Standard Single Pigtails (Connector on Tight Buffer Fiber)

Description	Part Number				
	OM1	OM3	OM4	OS2	OS2/APC
LC	–	FT3LC900PS01	FT4LC900PS01	FTSLC900PS01	FTSLB900PS01
SC	FT1SC900PS01	FT3SC900PS01	FT4SC900PS01	FTSSC900PS01	FTSSB900PS01
ST	FT1ST900PS01	FT3ST900PS01	–	FTSST900PS01	–

Standard Single 900 µm Tight Buffer Pigtails contain 1 unit, 2 m in length.



FTSSB3MMPS01, FX Pigtail, Jacketed Simplex 3.0 mm Cord, OS2 Yellow, SC/APC Simplex

Standard Single Pigtails (Connector on Jacketed Fiber)

Description	Part Number				
	OM1	OM3	OM4	OS2	OS2/APC
MPO-12(m)	–	FT3MM3MMPS01	FT4MM3MMPS01	–	FTSMM3MMPS01
LC	–	FT3LC2MMPS01	FT4LC2MMPS01	FTSLC2MMPS01	FTSLB2MMPS01
LC Duplex	–	FT3LD2MMPS01	FT4LD2MMPS01	FTSLD2MMPS01	FTSLA2MMPS01
SC	FT1SC3MMPS01	FT3SC3MMPS01	FT4SC3MMPS01	FTSSC3MMPS01	FTSSB3MMPS01
SC Duplex	FT1SD3MMPS01	FT3SD3MMPS01	FT4SD3MMPS01	FTSSD3MMPS01	FTSSA3MMPS01
ST Simplex	FT1ST3MMPS01	FT3ST3MMPS01	–	FTSST3MMPS01	–

Standard Single-Jacketed Pigtails contain 1 unit, 2 m in length.

FT4LD2MMPS01, FX Pigtail, Jacketed Duplex 2.0 mm Cord, OM4 Erika Violet, LC Duplex

Fusion Splice Heat Shrink Protector Sleeves

Description	Part Number
Heat Shrink Splice Protector Sleeves, 900 µm to 900 µm, 2.5 mm round x 60 mm long, 25/package	FXFUHS900AB25
Heat Shrink Splice Protector Sleeves, 900 µm to 250 µm, 2.0 mm round x 40 mm long, 25/package	FXFUHS9T2CB25
Heat Shrink Splice Protector Sleeves, 250 µm to 250 µm, 1.5 mm round x 40 mm long, 25/package	FXFUHS250DB25
Heat Shrink Splice Protector Sleeves, 250 µm 12-fiber Ribbon, oval x 40 mm long, 12/package	FXFUHSRIBEB12

See page 10, Tailored Pigtails - Building a *Smart*Part Number table, for more options.

Mass-fusion pigtails drastically reduce the amount of labor time spent on fiber terminations (up to 50%) and increase maximum of fiber terminations per day (around 3.5 times more than traditional single splicing).

Fiber*Express* Field Termination (continued)

FX Pigtails

Tailored FX Pigtails

Building a *Smart*Part Number

FX Feild Termination	1. Choose Fiber Type	2. Choose Connectors	3. Choose Cable Type	4. Choose Product Family	5. Choose Packaging	6. Choose Length	7. Choose Jacket/ Buffer Color
FT	3	LC	900	P	R12	3M	D

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Connectors	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
MM	MPO-12 (m)
MF	MPO-12 (f)

Cable Type	
250	Bare Ribbon 250 µm Fiber
RIB	Jacketed Ribbon
900	900 µm Tight Buffer
2MM	2 mm Jacketed
3MM	3 mm Jacketed

Product Family	
P	Pigtails

Packaging	
S01	Single Pack
R06	Rainbow 6 Pk
R12	Rainbow 12 Pk

Length
2M
3M
4M
5M
6M
7M
8M
9M

Buffer Color	
O	Orange
S	Gray
W	White
Y	Yellow
A	Aqua
E	Erika V.
D	Default Color

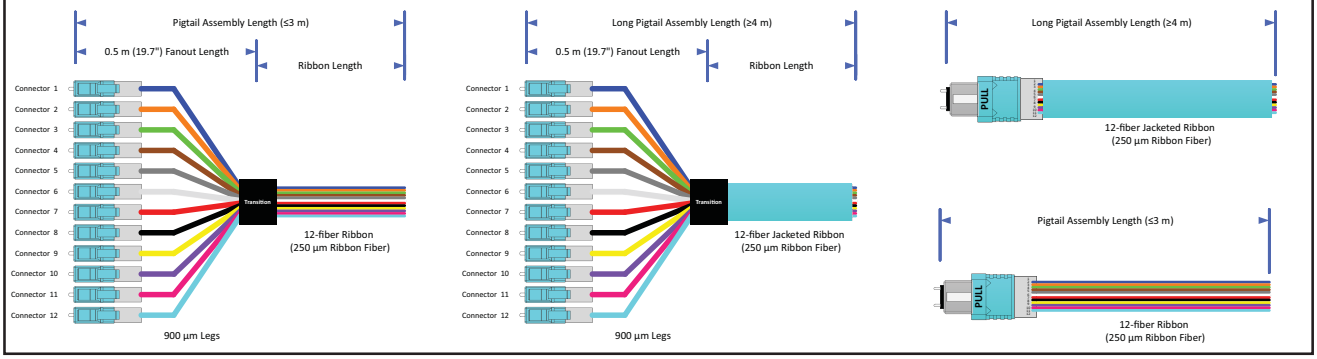
Use of Tailored part numbers:

Color - Default color (D) is only used with cable type (250 µm or 900 µm) and Packaging (R06 or R12)

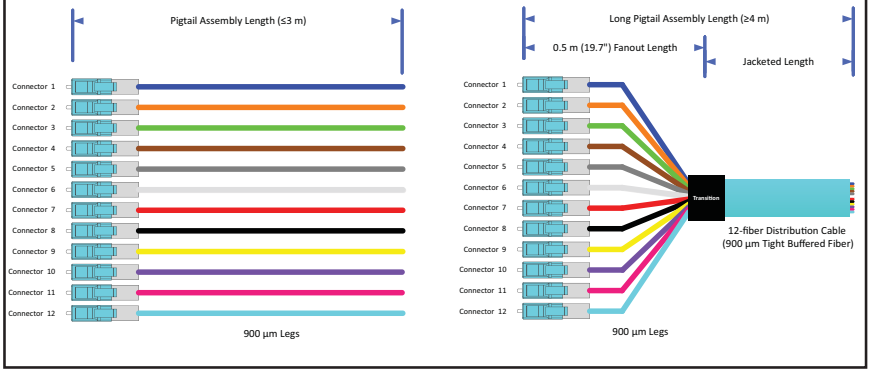
Examples:

FT3LC900PR123MD - FX Field-Termination Pigtail, OM3, LC Simplex, Tight Buffer 900 µm, Color-Coded 12-Fiber, 3 m
FTSST900PR125MY - FX Field-Termination Pigtail, OS2, ST, Tight Buffer 900 µm, Color-Coded 12-Fiber, 5 m, Yellow Jacket
FT3MMRIBPS014MA - FX Field-Termination Pigtail, OM3, MPO-12 (M), Jacketed Ribbon, Single-Ended, 4 m, Aqua Jacket

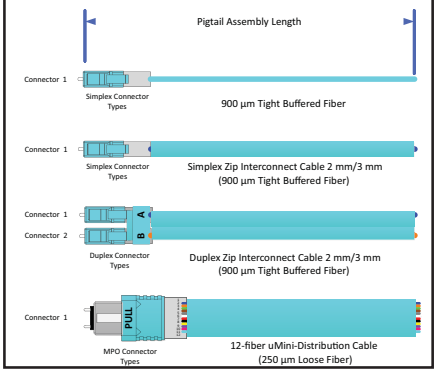
Mass Fusion Pigtail Kits



Pigtail Kits



Single Pigtails



Please contact for any help configuring/validating *Smart*Part Numbers or for any other custom Engineered solutions

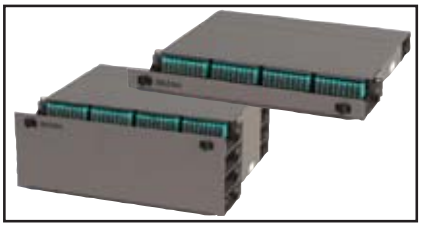
Fiber*Express* Patch Panel Systems
FX UHD Housings and Shelves

Elegantly simple yet uncompromisingly flexible. Ultra high-density rack-mount fiber connectivity system, crafted for effortless installation and maintenance.

FASTER
- Faster field-termination with high-accessibility sliding and tilting drawers
- Faster pre-term installation with simple fixed shelves and cassettes

EASIER
- Easier installation with tool-less removable drawers and lightweight housings
- Easier port identification with clear visible labeling
- Easier to configure with flexible port count LC, SC, ST and MPO modules

BETTER
- Better fiber protection with covered patch cord tray
- Better high density offering with 18-port modules for up to 72 LC Duplex ports per 1U
- Better visibility with light colored Titanium finish



Top: AX104681, FX Ultra HD 1U Patch Panel Housing
Bottom: AX104683, FX UHD 4U Patch Panel Housing
(shown loaded)

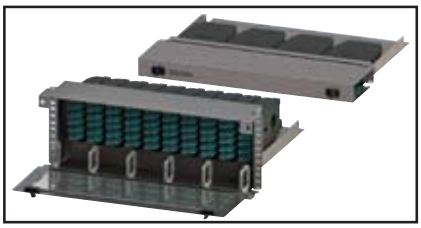
AX104681, FX UHD Patch Panel 1U with Mounted Splice Housing Kit (AX104684)

FX UHD Housings

Feature-rich housings are fully enclosed to provide protection for exposed 250 µm and 900 µm fibers coupled with sliding and tilting drawers to speed up and simplify installation and maintenance.

Description	Number of Module Bays	Total LC Duplex/ MPO Ports using FX Ultra Frames and Cassettes	Total LC Duplex/ MPO Ports using FX UHD Frames and Cassettes	Part Number	
				Titanium	Black
1U Housing with Front and Rear Cable Tray	4	48	72	**AX104681**	**AX105563**
2U Housing with Front and Rear Cable Tray	8	96	144	**AX104682**	**AX105564**
4U Housing with Front and Rear Cable Tray	16	192	288	**AX104683**	**AX105565**
4U 23" Housing with Front and Rear Cable Tray	20	240	360	**AX105379**	**–**
Optional 1U Splice Housing Kit, 144 splices (add up to 4 on the 4U Housing)[1]	N/A	N/A	N/A	**AX104684**	**AX105678**
Optional Patch Cord Tray Cover, 19"[2]	N/A	N/A	N/A	**AX105162**	**AX105672**

1. Up to 4 splice housing kits can be added to 4U housings. Splice housing kits are only compatible with standard 19" rack mount housings.
2. Use with 1U or 4U housings to protect the contents of the topmost patch cord tray. Patch cord tray cover is included with 23" housings.



Top: AX105164, FX UHD 1U Patch Panel Standard Shelf
Bottom: AX105167, FX UHD 4U Patch Panel Recessed Shelf
(shown loaded)

AX105813 FX UHD 1U Bezel

FX UHD Shelves, Single Cassette Holder

Entry-level cost effective solutions for pre-terminated systems.

Description	Number of Module Bays	Total LC Duplex/ MPO Ports using FX Ultra Frames and Cassettes	Total LC Duplex/ MPO Ports using FX UHD Frames and Cassettes	Part Number	
				Titanium	Black
1U FX UHD Bezel	4	48	72	**AX105813**	**AX105812**
1U Standard Fixed Shelf	4	48	72	**AX105164**	**AX105673**
1U Recessed Fixed Shelf	4	48	72	**AX105165**	**AX105674**
4U Standard Fixed Shelf	10	120	180	**AX105166**	**AX105675**
4U Recessed Fixed Shelf	10	120	180	**AX105167**	**AX105676**
FX UHD Single & Double Cassette Holders				**Magnetic**	**Non-Magnetic**
Single Cassette Holder (Black Finish)	1	18	12	**FXFUBRSHM**	**FXFUBRSHS**
Double Cassette Holder (Black Finish)	1	36	24	**FXFUBRDHM**	**FXFUBRDHS**

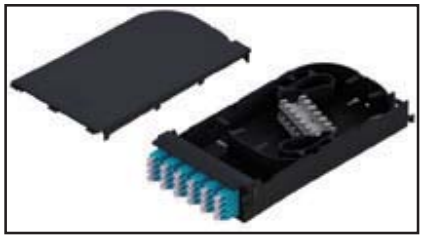
See the FX UHD System Product Bulletin (PB500) for further options

Top: FXFUBRSHM, FX UHD Single Cassette Holder with Magnetic Attachment
Bottom: FXFUBRDHM FX UHD Double Cassette Holder with Magnetic Attachment

Fiber*Express* Patch Panel Systems (continued)
FX UHD and FX Ultra Cassettes

FCSH18LDMF, FX UHD Cassette, OS2, 18 Ports, MPO-12 (female), LC Duplex, Type-A, Blue Adapters

FC3U12LDMF1A, FX Ultra Cassette, OM3, 12 Ports, MPO-12 (female), LC Duplex, Type-A ALT, Aqua Adapters



FC3H12LDFS, FX UHD Splice Cassette, OM3, 12 Ports, LC duplex, Aqua Adapters

FCZH00BBFS, FX UHD Empty Splice Cassette

FX UHD and FX Ultra Cassettes

Featuring the highest density at 72 LC Duplex or MPO ports per 19" rack unit FX UHD family is the ideal choice for high-port count applications such as in the data center.

Unique 1" pull-out feature of the FX Ultra family provides a medium density solution with a superior ease of use for day-to-day MAC (moves, adds and changes) within the Enterprise or cross-connect within the data center.

Standard Type-A Cassettes (Base12)

Description			Part Number				
Patch Ports (fibers)	Trunk Ports	Family	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex to MPO-12(12f) Female							
18 (36)	3	FX UHD*	–	FC3H18LDMF	FC4H18LDMF	FCSH18LDMF	FCSH18LAMF
12 (24)	2	FX Ultra	FC1U12LDMF	FC3U12LDMF	FC4U12LDMF	FCSU12LDMF	FCSU12LAMF
SC Duplex to MPO-12(12f) Female							
6 (12)	1	FX Ultra	FC1U06SDMF	FC3U06SDMF	FC4U06SDMF	FCSU06SDMF	FCSU06SAMF
SC Simplex to MPO-12(12f) Female							
12 (12)	1	FX Ultra	–	–	–	FCSU12SCMF	FCSU12SBMF

*Optional HD Patch cord release tool AX104685

Standard Type-A-Alternate Cassettes (Base12)

Description			Part Number				
Patch Ports (fibers)	Trunk Ports	Family	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex to MPO-12(12f) Female							
18 (36)	3	FX UHD	–	FC3H18LDMF1A	FC4H18LDMF1E	FCSH18LDMF1B	FCSH18LAMF1G
12 (24)	2	FX Ultra	FC1U12LDMF1T	FC3U12LDMF1A	FC4U12LDMF1E	FCSU12LDMF1B	FCSU12LAMF1G
SC Duplex to MPO-12(12f) Female							
6(12)	1	FX Ultra	FC1U06SDMF1T	FC3U06SDMF1A	FC4U06SDMF1E	FCSU06SDMF1B	FCSU06SAMF1G
SC Simplex to MPO-12(12f) Female							
12(12)	1	FX Ultra	–	–	–	FCSU12SCMF1B	FCSU12SBMF1G

Standard Splice Cassettes

Description	Part Number				
Patch Ports (fibers)	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters	OS2/APC Green Adapters
MPO Type-A (Key-Up/Key-Down)					
12 (144)	FC1H12MPFS	FC3H12MPFS	FC4H12MPFS	–	FCSH12MPFS
LC Duplex					
12 (24)	FC1H12LDFS	FC3H12LDFS	FC4H12LDFS	FCSH12LDFS	FCSH12LAFS
SC Duplex					
6 (12)	FC1H06SDFS	FC3H06SDFS	FC4H06SDFS	FCSH06SDFS	–
SC Simplex					
12 (12)	–	–	–	–	FCSH12SBFS
ST (Metal Adapters)					
12 (12)	← FCSH12STFS →				
Splice Only (No Adapters)					
N/A (144)	← FCZ00BBFS →				

FX Brilliance Universal (page 4) or FX Pigtails (page 6) and Heat Shrink Splice Protector Sleeves (page 7) sold separately.

Fiber*Express* Patch Panel Systems (continued)

FX UHD and FX Ultra Cassettes

Standard FX UHD Angled Cassettes (Base12)

Description	Left			Right		
Patch Ports (fibers)	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters
LC Duplex to MPO-12(12f) Female Type-A						
12(24)	FC3L12LDMF	FC4L12LDMF	FCSL12LDMF	FC3R12LDMF	FC4R12LDMF	FCSR12LDMF
LC Duplex to MPO-12 (12f) Female Type-A Alternate						
12(24)	FC3L12LDMF1A	FC4L12LDMF1E	FCSL12LDMF1B	FC3R12IDMF1A	FC4R12LDMF1E	FCSR12LDMF1B
SC Duplex to MPO-12(12f) Female Type-A						
6 (12)	FC3L06SDMF	FC4L06SDMF	FCSL06SDMF	FC3R06SDMF	FC4R06SDMF	FCSR06SDMF
SC Duplex to MPO-12(12f) Female Type-A Alternate						
6 (12)	FC3L06SDMF1A	FC4L06SDMF1E	FCSL06SDMF1B	FC3R06SDMF1A	FC4R06SDMF1E	FCSR06SDMF1B

FX UHD Angled Cassettes, 12 Ports, LC Duplex and 6 Ports, SC Duplex. See Tailored *Smart*Part numbers for Details.

FX UHD Angled Cassettes (shown installed in FX UHD 1U Housing with Angleflex Copper Patch Patch)

Tailored FX UHD and FX Ultra Cassettes (Base12)

Building a *Smart*Part Number

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count (Patch Side)	4. Choose Connector (Patch Side)	5. Choose Connector (Trunk Side)	6. Choose Polarity (Trunk)	7. Choose Adapter Color
FC	3	U	03	LD	MM	A	A

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Product Family	
H	FX UHD
U	FX Ultra (1" Pull)
L	FX U Angled Left
R	FX U Angled Right

Port Count (Patch Side)
03
06
12
18

Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST

Connector (Trunk Side)	
MM	MPO-12 (m)
MF	MPO-12 (f)

Polarity (Trunk)	
A	Type-A
1	Type-A ALT.

Adapter Color	
T	Beige
N	Black
A	Aqua
E	Erika V.
B	Blue
G	Green

For further options contact for custom Engineered solutions.

Fiber*Express* Patch Panel Systems (continued)
FX UHD and FX Ultra Cassettes

FC3U034MMF, FX UHD Optimizer Cassette, OM3, Aqua Adapters

FCSU12LD4F, FX Ultra Cassette, OM3, 12 Ports, MPO-12 (female), LC Duplex, Type SR4 (Base8), Aqua Adapters

FX UHD Base8 Cassettes

Optimized for SR4 and PSM4 based architectures like 40G and 100G Ethernet as well as Compute, Switch and Storage equipment with groupings of 4, 8 and 12 ports. Base8 Cassettes optimize costs when used with Base8 MPO Trunks and Patch cords by eliminating dark fiber associated with SR4 & PSM4 architectures.

Standard SR4 Optimizer Cassettes (Base8)

Description			Part Number		
Patch Ports (fibers)	Trunk Ports	Family	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2/APC Green Adapters
MPO-12(8f) Male to MPO-12(12f) Female					
6 x MPO-12 (8f)	4 x MPO-12 (12f)	FX Ultra	**FC3U064MMF**	**FC4U064MMF**	**FCSU064MMF**
3 x MPO-12 (8f)	2 x MPO-12 (12f)	FX Ultra	**FC3U034MMF**	**FC4U034MMF**	**FCSU034MMF**

Standard SR4 Cassettes (Base8)

Description			Part Number		
Patch Ports (fibers)	Trunk Ports	Family	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters
LC Duplex to MPO-12(8f) Female					
16 (32)	4	FX UHD	**FC3H16LD4F**	**FC4H16LD4F**	**FCSH16LD4F**
12 (24)	3	FX Ultra	**FC3U12LD4F**	**FC4U12LD4F**	**FCSU12LD4F**
8 (16)	2	FX Ultra	**FC3U08LD4F**	**FC4U08LD4F**	**FCSU08LD4F**
4 (8)	1	FX Ultra	**FC3U04LD4F**	**FC4U04LD4F**	**FCSU04LD4F**

Standard SR4 Angled Cassettes (Base8)

Description	Left			Right		
Patch Ports (fibers)	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters
LC Duplex to MPO-12(8f) Female						
12 (24)	**FC3L12LD4F**	**FC4L12LD4F**	**FCSL12LD4F**	**FC3L12LD4F**	**FC4L12LD4F**	**FCSL12LD4F**

Tailored FX UHD and FX Ultra Cassettes (Base8)

Building a *Smart*Part Number

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count (Patch Side)	4. Choose Connector (Patch Side)	5. Choose Connector (Trunk Side)	6. Choose Polarity (Trunk)	7. Choose Adapter Color
FC	3	U	04	LD	4M	4	A

Fiber Type	
3	OM3
4	OM4
S	OS2

Product Family	
H	FX UHD
U	FX Ultra
L	FX U Angled Left
R	FX U Angled Right

Port Count (Patch Side)	
04	4 Ports
08	8 Ports
12	12 Ports
16	16 Ports

Connector (Patch Side)	
LD	LC Duplex

Connector (Trunk Side)	
4M	MPO-12 (8f) Male
4F	MPO-12 (8f) Female

Polarity (Trunk)	
4	SR4 (Base8)

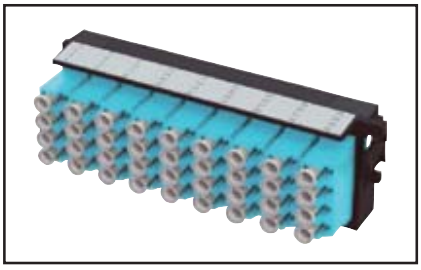
Adapter Color	
A	Aqua
E	Erika V.
B	Blue

For further options contact for custom Engineered solutions.

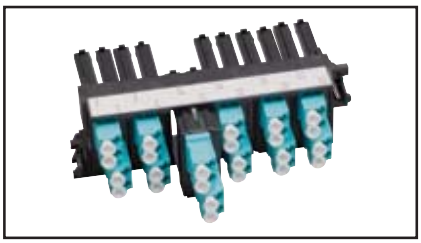
Fiber*Express* Patch Panel Systems (continued)
FX UHD and FX Ultra Frames

Standard FX UHD and FX Ultra Frames

Description		Part Number				
Patch Ports (fibers)	Family	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters	SM/APC Green Adapters
MPO Type-A (Key-Up/Key-Down)						
18	FX UHD	–	**FF3H18MP**	**FF4H18MP**	–	**FFSH18MP**
12	FX Ultra	–	**FF3U12MP**	**FF4U12MP**	–	**FFSU12MP**
LC Duplex						
18 (36)	FX UHD	–	**FF3H18LD**	**FF4H18LD**	**FFSH18LD**	**FFSH18LA**
12 (24)	FX Ultra	**FF1U12LD**	**FF3U12LD**	**FF4U12LD**	**FFSU12LD**	**FFSU12LA**
SC Duplex						
6 (12)	FX Ultra	**FF1U06SD**	**FF3U06SD**	**FF4U06SD**	**FFSU06SD**	**FFSU06SA**
SC Simplex						
12 (12)	FX Ultra	–	–	–	**FFSU12SC**	**FFSU12SB**
ST						
12 (12), Metal	FX Ultra	← **FFSU12ST** →				–



FF3H18LD, FX UHD Frame, OM3, 18 Ports, LC Duplex, Aqua Adapters



FF3U12LD, FX Ultra Frame, OM3, 12 Ports, LC Duplex, Aqua Adapters

Tailored FX UHD and FX Ultra Frames

Building a *Smart*Part Number

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count	4. Choose Connector for Patch Side	5. Choose Adapter Color
FF	3	H	18	LD	A

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Product Family	
H	FX UHD
U	FX Ultra (1" Pull)

Port Count (Patch Side)
03
06
12
18

Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex
LS	LC Duplex w/Shutters
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
SS	SC Duplex w/ Shutters
SR	SC Simplex w/ Shutters
ST	ST
MP	MPO Up/Down
MR	MPO Up/Up

Adapter Color	
T	Beige
N	Black
A	Aqua
E	Erika V.
B	Blue
G	Green

FX UHD is a fixed bezel FX Ultra has a 1" pull-out

Fiber*Express* Patch Panel Systems (continued)
FX UHD and FX Ultra Splitter Cassettes and TAP Cassettes

AX104681, FX UHD Housing (shown loaded from left to right with, FCSH12SBFS, FX UHD Splice Cassette, SCSH2116SLF, FX UHD Splitter Cassette, 2 x FCSH12LAFS, FX UHD Splice Cassettes)

SCSH2116SLF, FX UHD Splitter Cassette, OS2, Dual 1x16 Splitter, SC/APC Upstream Ports, LC/APC Downstream Ports

SCSU1208SLF, FX Ultra Splitter Cassette, OS2, Single 2x8 Splitter, SC/APC Upstream Ports, LC/APC Downstream Ports

TC4H044F4F4M, OM4 TAP Cassette, 4 Live A MPO (8f) Ports, 4 MPO (8f) TAP Ports

Splitters beginning with the prefix "SCSU" represent Belden's FX Ultra cassette family. These cassettes feature our unique 1" pull-out feature that delivers superior ease of use for day-to-day MAC (moves, adds, and changes).

Splitter Cassette

Description (Upstream/Downstream)	Splitter	Part Number
SC/APC to LC/APC	Single 2x8	**SCSU1208SLF**
SC/APC to LC/APC	Single 2x16	**SCSU1216SLF**
SC/APC to LC/APC	Dual 2x8	**SCSU2208SLF**
MPO/APC to LC/APC	Quad 2x8	**SCSH4208MLF**
LC/APC to LC/APC	Quad 1x8	**SCSH4108LLF**
LC/APC to LC/APC	Dual 2x16	**SCSH2216LLF**
SC/APC to LC/APC	Dual 1x16	**SCSH2116SLF**
SC/APC to LC/APC	Single 2x32	**SCSH1232SLF**

FX UHD and FX Ultra Traffic Analysis Port (TAP)

Belden's TAP cassettes allows for monitoring of communication over Fiber cables to ensure quality of service, and provide security/troubleshooting capabilities.

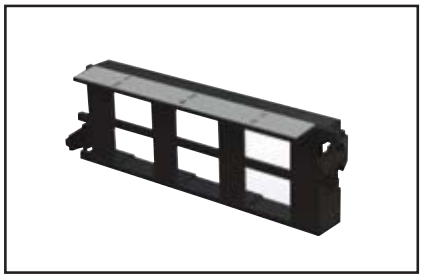
TAP Cassette

Part Number			Number of Live A-Ports	TAP Ratio	Live A-Port	Live B-Port	TAP Port
OM4	OM4 (Aqua)	OM3					
TC4H06LDMFLD	**TC4H06LDMFLD7A**	**TC3H06LDMFLD**	6	70/30	LC Duplex	MPO Female (12f)	LC Duplex
TC4H02LDLDLD	**TC4H02LDLDLD7A**	**TC3H02LDLDLD**	2	70/30	LC Duplex	LC Duplex	LC Duplex
TC4H06LDMFMM	**TC4H06LDMFMM7A**	**TC3H06LDMFMM**	6	70/30	LC Duplex	MPO Female (12f)	MPO Male (12f)
TC4H044F4F4M	**TC4H044F4F4M7A**	**TC3H044F4F4M**	4	70/30	MPO Female (8f)	MPO Female (8f)	MPO Male (8f)

Fiber*Express* Patch Panel Systems (continued)
FX UHD and FX Ultra Adapters and Accessories

Standard FX Ultra KeyConnect Frames

Patch Ports	Description	Part Number
6	FX Ultra KeyConnect Frame 6-Port	FFZH06KC
8	FX Ultra KeyConnect Frame 8-Port	FFZH08KC



FFZH06KC, FX Ultra KeyConnect Frame, 6-Port

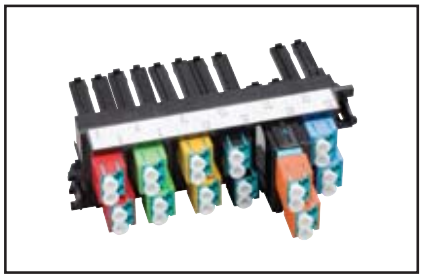
KeyConnect Fiber Modules

Description	Part Number		
	Almond	Elec. White	Black
LC Duplex - OM3 (Aqua Adapter)	AX104937	AX104938	AX104939
LC Duplex - OM4 (Erika Violet Adapter)	AX105641-AL	AX105641-EW	AX105641-BK
SC Simplex OM1 (Beige Adapter)	AX102683	AX102684	AX102685
SC Simplex - OM3 (Aqua Adapter)	AX105643-AL	AX105643-EW	AX105643-BK
ST- Metal	AX102242	AX102243	AX102244

Standard Copper KeyConnect Adapters

Description	Part Number		
	Black	Blue	White
10GX RJ45 Coupler	AX104024	AX104019	AX104023
10GX RJ45 Modular Jack	AX102283	AX102288	AX102282
CAT6+ RJ45 Coupler	AX104215	AX104210	AX104214
CAT6+ RJ45 Modular Jack	AX101321	AX101326	AX101320

Above adapters are for Black Bezels. Contact your local representative for a complete listing of KeyConnect adapters in other colors.

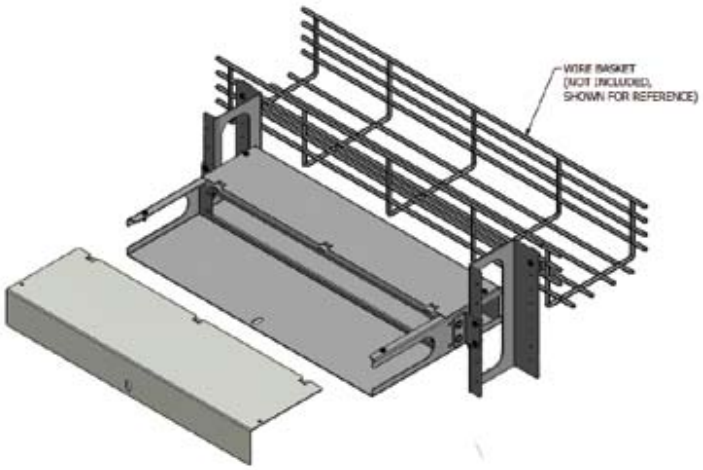


AX104572, FX Color-coded Icon Kit, (shown on frame)

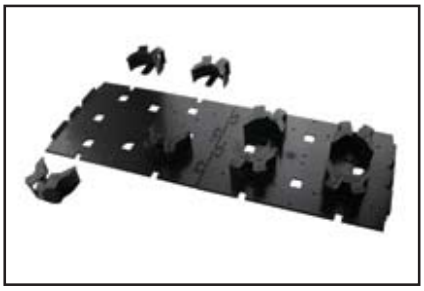
Standard FX UHD Accessories

Description	Part Number
FX UHD Blank Plate	FFZH00BB
FX UHD Patch Cord Release Tool	AX104685
FX Ultra LC Duplex Color-coded Icon Kit	AX104572
FX UHD Fiber Management Spool kit, includes base plates and eight spool segments	AX105700
1U Rackmount Enclosure for Cable Tray Mounting	XPE-S0003
1U 19" to 23" Extender Bracket	9810-0100
2U 19" to 23" Extender Bracket	9811-0200
4U 19" to 23" Extender Bracket	9813-0400

AX104024, 10GX RJ45 Coupler



XPE-S0003, FX UHD Basket Hanger for 1U FX UHD Patch Panel Housings and Shelves.



AX105700, FX UHD Fiber Management Spool Kit

Fiber*Express* Patch Panel Systems (continued)

FX UHD and FX Ultra Wall Mount and Accessories

AX106818, FX UHD Stackable Wall Mount Patch Panel

Clean, simple, lightweight wall mount unit that accepts all cassettes and frames from the FX UHD ecosystem. The FX UHD wall mount is a modular platform; A vertically stacked configuration creates an interconnect, while the patching spaces can be combined in a horizontal configuration to make a proper cross-connect. There are two separate compartments, one for the main service area (lockable) and one for the patching space. Ideal for MDUs and Passive Optical LAN applications.

FX UHD Wall Mount

Description	Part Number
FX UHD Wall Mount Patch Panel, Black	**AX106817**
FX UHD Wall Mount Patch Panel, Gray	**AX106818**

4 cassettes; 4 frames; 48 fibers (SC, SCD, ST, LCD); 4 FXU Fusion Trays, 8-inch (AX103912)

AX103928, FX Ultra Stackable Wall Mount Patch Panel

FX Ultra Wall Mount and Accessories

Resolute protection while maintaining the utmost adaptability. Complete selection of fiber enclosures provides effortless security and protection while leveraging both the flexibility and density of the FX UHD frames and cassettes.

FASTER

- Faster installation with easy access and lightweight housing
- Faster installation with pre-terminated cassettes

EASIER

- Easier configuration with FX UHD and FX Ultra modules in LC, SC and ST
- Easier security with optical door lock
- Easier expansion with stackable design

BETTER

- Better with support for Pre-Term and Field-Term including splicing
- Better management with independent doors for trunk and patching sides
- Better density with up to 36 LC Duplex ports

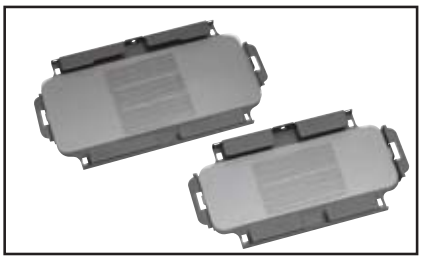
AX103930, FX Ultra Wall Mount Splice Enclosure

AX103928 and AX103932, FX Ultra Wall Mount Patch Panel with Spacer

FX Ultra Wall Mount

Description	Number of Module Bays	Splice Trays	Part Number
Stackable Wall Mount Patch Panel, Black	2	2 x 8” (Up to 48-Splices)	**AX103928**
Stackable Wall Mount Splice Enclosure	0	4 x 10” (Up to 144-Splices)	**AX103930**

Splice trays sold separately



FX Ultra Splice Trays

FX Ultra Splice Trays

Description	Splices per Tray	Part Number
8” Splice Tray	24	**AX103912**
10” Splice Tray	36	**AX103913**

All splice trays accommodate 2.5 mm OD single fiber splice protectors up to 80 mm in length or part number FXFUHS900AB25

FX Ultra Wall Mount Accessories

Description	Part Number
2-inch Spacer, Black	**AX103932**
Door Lock Kit	**AX103934**

Fiber*Express* Patch Panel Systems (continued)

FX Rack and Wall Mount Patch Panels, Adapter Strips and Accessories

Economical yet effective. Low to medium density rack mount fiber panels with simple adapter strips are the mainstay for fiber field termination.

FASTER

- Faster access to rear side (trunk) connectivity without removing patch cords

EASIER

- Easier on the budget with economical adapter strips
- Easier access to the trunk side connectivity with swing out faceplate

BETTER

- Better support for mixed field-term connectivity including splicing
- Better use of valuable space through a compact footprint

Rack Mount Patch Panels

Description	Maximum Number of Adapter Strips	Splice Trays	Part Number
1U Rack Mount	2	1 x 8" (Up to 24-Splices)	**AX100041**
2U Rack Mount	4	2 x 8" (Up to 48-Splices)	**AX100068**
3U Rack Mount (Rear Access)	4	2 x 8" (Up to 48-Splices)	**AX104934**
4U Rack Mount	8	4 x 8" (Up to 96-Splices)	**AX100116**

Wall Mount Patch Panels

Description	Maximum Number of Adapter Strips	Splice Trays	Part Number
Small Wall-Mount	2	1 x 8" (Up to 24-Splices)	**AX100495**
Medium Wall-Mount	4	2 x 8" (Up to 48-Splices)	**AX100540**
Large Wall-Mount	8	4 x 8" (Up to 96-Splices)	**AX100542**

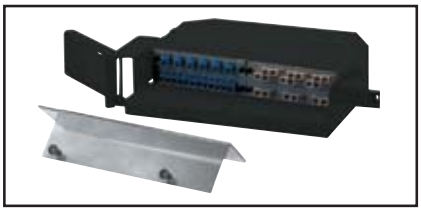
Standard Optical Fiber Adapter Strips

		Part Number			
Patch Ports (fibers)	Family	OM1 Beige Adapters	OM3 Aqua Adapters	SM Blue Adapters	SM/APC Green Adapters
LC Duplex					
12 (24)	FX Patch	**AX101741**	–	**AX101743**	**AX105561**
6 (12)	FX Patch	**AX101729**	–	**AX101731**	**AX105537**
SC Duplex					
6 (12)	FX Patch	**AX100098**	–	**AX101409**	**AC301420**
3 (6)	FX Patch	**AX100094**	–	**AX101407**	–
SC Simplex					
12 (12)	FX Patch	–	–	**AX100532**	**AC302349**
ST					
12 (12)	FX Patch	←	**AX100528**	→	–
6 (6)	FX Patch	←	**AX100534**	→	–

Standard Optical Fiber Accessories

Description	Part Number
FX Patch Blank Strip	**AX100066**
1U Front Cover, Smoked Plexiglas	**AX100045**
8" Splice Kit (Tray, Holders, Wiremarkers & Cover)	**A0649869**

AX100041, FX 12/24 Port (1U) Rack Mount Patch Panel



AX100068, FX 24/48 Port (2U) Rack Mount Patch Panel (shown loaded)

AX104934, FX (3U) Rack Mount Patch Panel (Rear Access) (shown loaded)

AX100116, FX 48/96 Port (4U) Rack Mount Patch Panel (shown loaded)

AX100495, Small Wall Mount

Fiber*Express* Patch Panel Systems (continued)
FX ECX Housings

ECX-01U, FX ECX 1U Housing

ECX-02U, FX ECX 2U Housing

ECX-04U, FX ECX 4U Housing

Belden's FX Enterprise Closet X (ECX) Patch Panel system is an elegant, intuitive and flexible solution that has been designed to maximize installer flexibility when compared to industry-leading solutions. FX ECX has been optimized for LAN environments, and provides an easy-to-deploy, efficient solution for installers.

FASTER
- Faster installation with fewer detachable components
- Faster field termination with removable clear top covers (all panels) and removable front and rear housing (4U)

EASIER
- Easier frequent MAC work with front and rear removable cassettes (patent pending)
- Easier to configure with flexible port count LC, SC, ST and MPO couplers as well as KeyConnect compatibility (copper and multimedia modules)
- Easier port identification with retractable label holder and compatibility with LabelFlex labels (optional)

BETTER
- Better fiber routing with slack management integrated into the splice cassette lid (eliminates pinch points)
- Better management with multiple built-in options for cable and patch cords strain relief
- Better flexibility to support all modern field-termination techniques (Splice trays, Splice cassettes, Splice-on connectors, Mechanical splice connectors)

FX ECX Housings

Description	Number of Module Bays	Total LC Duplex using ECX Frames	Total LC Duplex using ECX Cassettes	Part Number
1U Housing	2 Cassettes or Frames	32	24	**ECX-01U**
2U Housing	4 Cassettes or Frames	96	72	**ECX-02U**
4U Housing	12 Cassettes or Frames	192	144	**ECX-04U**

Fiber*Express* Patch Panel Systems (continued)
FX ECX Kits and Accessories

FX ECX Universal Accessories

Description	Part Number
Door Lock Kit	ECX-LOCKKIT
FX ECX Intermediare Strain Relief	ECX-INTERSTR
Managements Clips	ECX-MGTCLIPS
LabelFlex Label Pack for ECX Patch Panels, White (4/Sh)(10Sh/Pk)	ECX-LBF-PK10

FX ECX 4U Housing Accessories

Description	Part Number
4U Splice Tray Kit	ECX-SPLICEKIT
4U Rack Mounting Bracket 3 In	ECX-BRKTMNT-3
4U Rack Mounting Bracket Flush	ECX-BRKTMNT-0
4U Rear External Strain Relief (Angled)	ECX-4U-EXSTRA
4U External Strain Relief	ECX-4U-EXSTR
4U Internal Strain Relief	ECX-4U-INSTR
4U Labelkit	ECX-LBL-4U

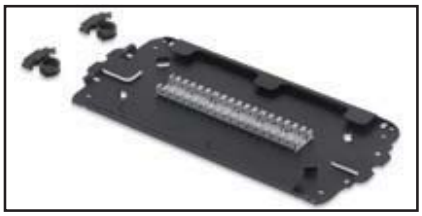
FX ECX 1U/2U Housing Accessories

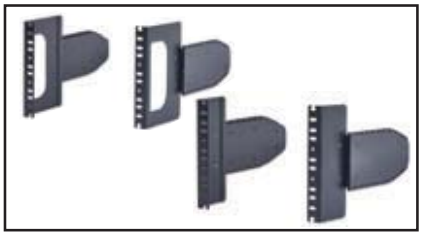
Description	Part Number
1U/2U Rear External Strain Relief (Angled)	ECX-1U2U-EXSTRA
1U/2U External Strain Relief	ECX-1U2U-EXSTR
1U/2U Internal Strain Relief	ECX-1U2U-INSTR
1U Labelkit	ECX-LBL-1U
2U Labelkit	ECX-LBL-2U

FX ECX panels can be labeled using the LabelFlex software and pack of labels p/n ECX-LBF-PK10

ECX-LOCKKIT, Door Lock Kit

ECX-MGTCLIPS, Management Clips


ECX-SPLICEKIT, Splice Tray Kit


ECX-BRKTMNT-3 / ECX-BRKTMNT-0, 4U Rack Mounting Brackets

ECX-4U-EXSTR, 4U Rear External Strain Relief

ECX-INTERSTR, ECX-4U-INTSTR, 4U Internal Strain Relief

ECX-1U2U-EXSTR, ECX-1U2U-EXSTRA, 1U/2U Rear External Strain Relief (Angled and non-angled)

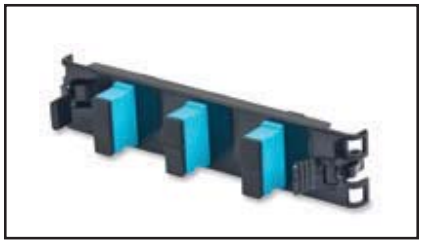
Fiber*Express* Patch Panel Systems (continued)

FX ECX Frames

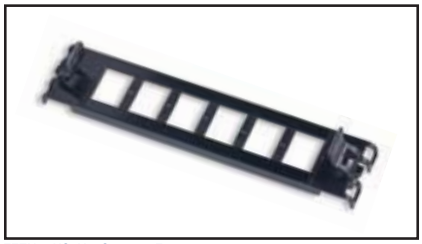
FFSX06LD, LC Duplex Frame, OS2 Blue Adapters

FF1X12LD, LC Duplex Frame, OM1 Beige Adapters

FF4X16LD, LC Duplex Frame, OM4 Ericka Violet Adapters



FF3X03SD, SC Duplex Frame, OM3 Aqua Adapters



FFZX06KC, KeyConnect Frame

Standard FX ECX Frames

Description - Patch Ports (fibers)	OM1 (Beige Adapters)	OM3 (Aqua Adapters)	OM4 (Erika Violet Adapters)	OS2 (Blue Adapters)	OS2 APC (Green Adapters)
LC Duplex					
6 (12)	FF1X06LD	FF3X06LD	FF4X06LD	FFSX06LD	FFSX06LA
12 (24)	FF1X12LD	FF3X12LD	FF4X12LD	FFSX12LD	FFSX12LA
16 (32)	FF1X16LD	FF3X16LD	FF4X16LD	FFSX16LD	FFSX16LA
SC Duplex					
3 (6)	FF1X03SD	FF3X03SD	FF4X03SD	FFSX03SD	FFSX03SA
6 (12)	FF1X06SD	FF3X06SD	FF4X06SD	FFSX06SD	FFSX06SA
KeyConnect Frames					
4 Ports	FFZX04KC				
6 Ports	FFZX06KC				
Blank Frame	FFZX00BB				

Tailored FX ECX Frames

Building a *Smart*Part Number

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count	4. Choose Connector for Patch Side
FF	S	F	06	SC

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Product Family	
X	ECX

Port Count (Patch Side)
03
06
08
12
16

Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
MP	MPO Up/Down

Fiber*Express* Patch Panel Systems (continued)

FX ECX Splice and Splitter Cassettes

Standard FX ECX Splice Cassettes

Description - Patch Ports (fibers)	OM1 (Beige Adapters)	OM3 (Aqua Adapters)	OM4 (Erika Violet Adapters)	OS2 (Blue Adapters)	OS2 APC (Green Adapters)
LC Duplex					
6 (12)	**FC1X06LDFS**	**FC3X06LDFS**	**FC4X06LDFS**	**FCSX06LDFS**	**FCSX06LAFS**
12 (24)	**FC1X12LDFS**	**FC3X12LDFS**	**FC4X12LDFS**	**FCSX12LDFS**	**FCSX12LAFS**
SC Duplex					
3 (6)	**FC1X03SDFS**	**FC3X03SDFS**	**FC4X03SDFS**	**FCSX03SDFS**	**FCSX03SAFS**
6 (12)	**FC1X06SDFS**	**FC3X06SDFS**	**FC4X06SDFS**	**FCSX06SDFS**	**FCSX06SAFS**

FCSX06LAFS, LC Duplex Splice Cassette, OS2 APC Green Adapters

Tailored FX ECX Splice Cassettes

Building a *Smart*Part Number

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count	4. Choose Connector for Patch Side	4. Choose Connector for Patch Side
FC	S	F	06	SC	FS

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Product Family	
X	ECX

Port Count (Patch Side)
03
06
08
12

Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
MP	MPO Up/Down

Connector (Trunk Side)	
FS	Splice Cassette

FC1X12SCFS, SC Simplex Splice Cassette, OM1 Beige Adapters

FC4X12LDFS, LC Duplex Splice Cassette, OM4 Ericka Violet Adapters

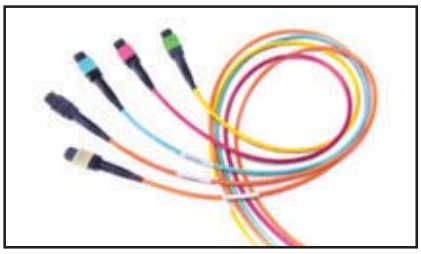
Standard FX ECX Splitter Cassettes

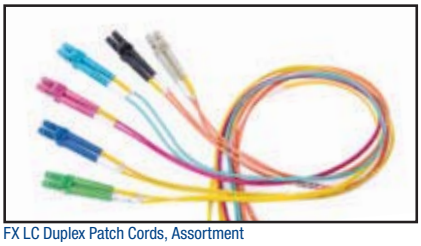
Description (Upstream/Downstream)	Splitter	Item Number
SC/APC to LC/APC	Single 2x8	**SCSX1208SLF**
SC/APC to LC/APC	Single 2x16	**SCSX1216SLF**
SC/APC to LC/APC	Dual 2x8	**SCSX2208SLF**
MPO/APC to LC/APC	Quad 2x8	**SCSX4208MLF**
LC/APC to LC/APC	Quad 1x8	**SCSX4108LLF**
LC/APC to LC/APC	Dual 2x16	**SCSX2216LLF**
SC/APC to LC/APC	Dual 1x16	**SCSX2116SLF**
SC/APC to LC/APC	Single 2x32	**SCSX1232SLF**
SC/APC to LC/APC	Single 1x32	**SCSX1132SLF**

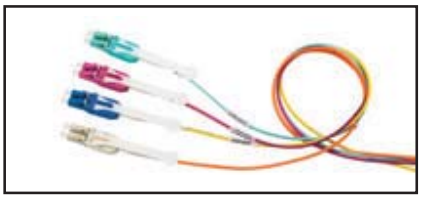
FCSX06SDFS, SC Duplex Splice Cassette, OS2 Blue Adapters

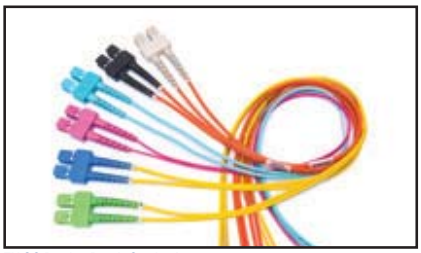
FCSX12MPFS, MPO Key Up/Down Splice Cassette, OS2 APC Green Adapters

Fiber*Express* Pre-Terminated Assemblies
FX Patch Cords


FX MPO-12(f) Patch Cords, Assortment


FX LC Duplex Patch Cords, Assortment


FX LC Duplex UHD Uniboot Patch Cords, Assortment


FX SC Duplex Patch Cords, Assortment

FX ST Patch Cords, Assortment

Uncomplicated, robust, versatile and conveniently available. Superior quality and performance FX patch cords deliver a robust design to withstand the rigours of daily use in both off- the-shelf standard configurations and rapid custom tailored installations.

FASTER
- Faster delivery with off-the shelf availability of standard items
- Faster identification of fiber type with Erika Violet for OM4 cable and connectors

EASIER
- Easier installation in dense cable trays with small diameter cord options
- Easier ordering with simple intelligent *Smart*Part Numbers
- Easier polarity management with industry leading easy-to-use duplex clips

BETTER
- Better architectural flexibility with low-loss OM4 0.2 dB MPO and 0.15 dB LC connectors
- Better ruggedization with larger diameter cord options
- Better flexibility with multiple connector options including LC, SC, ST and MPO
- Better quality through exhaustive design validation against TIA standards

FX Patch Cords - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.0/1.2	3.0/1.0	–	
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5	
Fire Rating	LC/SC/ST: Riser				
Cable Style	LC: Interconnect Duplex Zip 2 mm LC Uniboot: Interconnect Mini-Round 2 mm SC/ST/Hybrid: Interconnect Duplex Zip 3 mm				
Jacket Color	Orange	Aqua	Erika Violet	Yellow	Yellow
Connector Performance - LC/SC/ST					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Polarity	A-TO-B / B-TO-A				
Connector Color	Beige	Aqua	Erika Violet	Blue	Green
Cable Performance - MPO					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.0/1.2	3.0/1.0	–	
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5	
Fire Rating	Plenum				
Cable Style	MPO-12: Interconnect Mini-Round 2 mm				
Jacket Color	Orange	Aqua	Erika Violet	Yellow	Yellow
Connector Performance - MPO					
IL Max. (dB)	0.5	0.35	0.2	–	0.5
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	–	APC - 60
Polarity	Type-B				
Connector Color	Beige	Aqua	Erika Violet	Blue	Green

FX Accessory Duplex Clips

Description	Part Number				
	OM1 Beige	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2 Green
LC Duplex	FXFACLLDB25T	FXFACLLDB25A	FXFACLLDB25E	FXFACLLDB25B	FXFACLLDB25G
Mini-LC Duplex	← FXFACLLMB25N (Black) →				

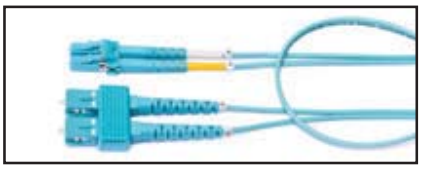
Fiber*Express* Pre-Terminated Assemblies (continued)

FX Patch Cords

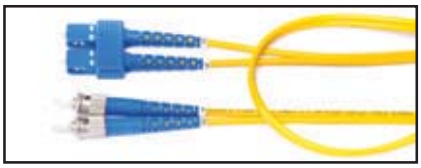
Standard FX Patch Cords

Length (m)	OM1 Beige/Orange	OM3 Aqua	OM4 Erika Violet	OS2 Blue/Yellow	OS2/APC Green/Yellow
MPO-12(8f) Female to MPO-12(8f) Female - Base8					
2	–	FP34F4F002M	FP44F4F002M	–	FPS4F4F002M
3	–	FP34F4F003M	FP44F4F003M	–	FPS4F4F003M
5	–	FP34F4F005M	FP44F4F005M	–	FPS4F4F005M
MPO-12(12f) Female to MPO-12(12f) Female - Base12					
2	–	FP3MFMF002M	FP4MFMF002M	–	FPSMFMF002M
3	–	FP3MFMF003M	FP4MFMF003M	–	FPSMFMF003M
5	–	FP3MFMF005M	FP4MFMF005M	–	FPSMFMF005M
MPO-24 Female to MPO-24 Female					
2	–	FP3NFNF002M	FP4NFNF002M	–	FPSNFNF002M
3	–	FP3NFNF003M	FP4NFNF003M	–	FPSNFNF003M
5	–	FP3NFNF005M	FP4NFNF005M	–	FPSNFNF005M
LC Duplex UHD Uniboot to LC Duplex UHD Uniboot					
2	–	FP3LULU002M	FP4LULU002M	FPSLULU002M	–
3	–	FP3LULU003M	FP4LULU003M	FPSLULU003M	–
5	–	FP3LULU005M	FP4LULU005M	FPSLULU005M	–
LC Duplex to LC Duplex					
2	FP1LDLD002M	FP3LDLD002M	FP4LDLD002M	FPSLDLD002M	FPSLALA002M
3	FP1LDLD003M	FP3LDLD003M	FP4LDLD003M	FPSLDLD003M	FPSLALA003M
5	FP1LDLD005M	FP3LDLD005M	FP4LDLD005M	FPSLDLD005M	FPSLALA005M
SC Duplex to SC Duplex					
2	FP1SDSD002M	FP3SDSD002M	FP4SDSD002M	FPSSDSD002M	FPSSASA002M
3	FP1SDSD003M	FP3SDSD003M	FP4SDSD003M	FPSSDSD003M	FPSSASA003M
5	FP1SDSD005M	FP3SDSD005M	FP4SDSD005M	FPSSDSD005M	FPSSASA005M
ST to ST (Duplex Cord)					
2	FP1STST002M	FP3STST002M	FP4STST002M	FPSSTST002M	–
3	FP1STST003M	FP3STST003M	FP4STST003M	FPSSTST003M	–
5	FP1STST005M	FP3STST005M	FP4STST005M	FPSSTST005M	–
Hybrid: LC Duplex to SC Duplex					
2	FP1LDSD002M	FP3LDSD002M	FP4LDSD002M	FPSLDSD002M	FPSLASA002M
3	FP1LDSD003M	FP3LDSD003M	FP4LDSD003M	FPSLDSD003M	FPSLASA003M
5	FP1LDSD005M	FP3LDSD005M	FP4LDSD005M	FPSLDSD005M	FPSLASA005M
Hybrid: SC Duplex to ST					
2	FP1LDST002M	FP3LDST002M	–	FPSLDST002M	–
3	FP1LDST003M	FP3LDST003M	–	FPSLDST003M	–
5	FP1LDST005M	FP3LDST005M	–	FPSLDST005M	–
LC Simplex UHD to LC Simplex UHD, Simplex cord					
2	–	–	–	FPSLILI002M	FPSLFLF002M
3	–	–	–	FPSLILI003M	FPSLFLF003M
5	–	–	–	FPSLILI005M	FPSLFLF005M

FP4LDLD003M, LC Duplex to LC Duplex, Duplex Zip Cord, OM4 Erika Violet



FP3LDSD003M, Hybrid LC Duplex to SC Duplex, OM3 Aqua



FPSSDST003M, Hybrid SC Duplex to ST, OS2 Blue

FPSLILI00M5, LC Simplex UHD to LC Simplex UHD, OS2 Yellow

LC Duplex UHD Uniboot: Easy tool-free removal, flexible Pull-tab, better airflow, high density applications (FX UHD 18-port modules).

Fiber*Express* Pre-Terminated Assemblies (continued)

FX Patch Cords

FP4LULU003M, LC Duplex UHD Uniboot to LC Duplex UHD Uniboot, OM4 Erika Violet

Standard FX Patch Cords

Building a *Smart*Part Number

FX Patch Cord	1. Choose Fiber Type	2. Choose Connector 1	3. Choose Connector 2	4. Choose Length*
FP	3	LD	LD	003M

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2

Connector 1	
LD	LC Duplex
LC	LC/APC Duplex
LI	LC Duplex UHD
LU	LC Duplex UHD Uniboot
LF	LC/APC Simplex UHD
SD	SC Duplex
SA	SC/APC Duplex
ST	ST
4F	MPO-12 (F) Base 8
MF	MPO-12 (F)
NF	MPO-24 (f)

Connector 2	
LD	LC Duplex
LA	LC/APC Duplex
LI	LC Simplex UHD
LU	LC Duplex UHD Uniboot
LF	LC/APC Simplex UHD
SD	SC Duplex
SA	SC/APC Duplex
ST	ST
4F	MPO-12 (F) Base 8
MF	MPO-12 (F)
NF	MPO-24 (f)

Length*
00M3 to 015M *use M as decimal

See FX Patch cords - Standard Performance table for standard defaults (Page 24).

Tailored FX Patch Cords

Building a *Smart*Part Number

FX Patch Cord	1. Choose Fiber Type	2. Choose Connector 1	3. Choose Connector 2	4. Choose Length*	5. Choose Fire Rating	6. Choose Cable Construction	7. Choose Polarity	8. Choose Jacket Color
FP	3	LD	LD	003M	R	3	X	A

Fiber Type	
1	OM1
2	OM2
3	OM3
4	OM4
S	OS2

Connector 1	
LD	LC Duplex
LC	LC Simplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC Simplex UHD
LU	LC Duplex UHD Uniboot
LF	LC/APC Simplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
4M	MPO-12 (M) Base 8
4F	MPO-12 (F) Base 8
MM	MPO-12 (M)
MF	MPO-12 (F)
NM	MPO-24 (m)
NF	MPO-24 (f)

Connector 2	
LD	LC Duplex
LC	LC Simplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC Simplex UHD
LU	LC Duplex UHD Uniboot
LF	LC/APC Simplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
4M	MPO-12 (M) Base 8
4F	MPO-12 (F) Base 8
MM	MPO-12 (M)
MF	MPO-12 (F)
NM	MPO-24 (m)
NF	MPO-24 (f)
ZZ	OPEN

Length*
00M3 to 100M M Meters use M as decimal

Fire Rating	
R	Riser
P	Plenum
L	LSZH

Cable Construction	
2	Duplex ZipCord 2.0 mm
3	Duplex ZipCord 3.0 mm
4	Simplex Cord 2.0 mm
5	Simplex Cord 3.0 mm
6	Round 2.0 mm
7	Round 3.0 mm

Polarity	
X	A/B (Cross)
S	A/A (Straight)
A	Type-A
B	Type-B
C	Type-C

Jacket Color	
O	Orange
Y	Yellow
A	Aqua
E	Erika V.

Examples:

FP3LULU020MR6XA - FX Patch Cord, OM3, LC Duplex UHD Uniboot - LC Duplex UHD Uniboot, 20 m, OFNR, Round 2.0 mm, A-to-B, Aqua Jacket

FP4LDLD030MR2XE - FX Patch Cord, OM4, LC Duplex - LC Duplex, 30 m, OFNR, Duplex Zip 2.0 mm, A-to-B, Erika Violet Jacket

FP4LDLD030MR2XE - FX Patch Cord, OS2, SC Duplex - SC Duplex, 5 m, OFNP, Duplex Zip 3.0 mm, A-to-B, Yellow Jacket

FP3LDLH010MR2XA - FX Patch Cord, OM3, LC Duplex - LC Duplex UHD, 10 m, OFNR, Duplex Zip 2.0 mm, A-to-B, Aqua Jacket

FP4MFMF005MP6AE - FX Patch Cord, OM4, MPO-12 (F) - MPO-12 (F), 5 m, OFNP, Round 2.0 mm, Type-A, Erika Violet Jacket

Tailored FX Patch Cord SPN table should ONLY be used for any product combination that is not covered by the Standard FX Patch Cords configurator above.

Please contact for any help configuring/validating *Smart*Part Numbers or for any other custom Engineered solutions

Fiber*Express* Pre-Terminated Assemblies (continued)

FX Hydra Patch Cords

Uniquely suited within dense fixed environments. Compact alternative for statically configured patch cords and pre-term cassettes eliminates connection points to improve performance and alleviate space constraints.

LPM transition on Hydra patch cord

FASTER

- Faster deployment at the switch with MPO to LC fanout construction
- Faster installation with lighter LPM transitions, 40% less weight

EASIER

- Easier upgradability from 10G to 40G or 100G with MPO connectivity
- Easier patch panel attachment with LPM transitions

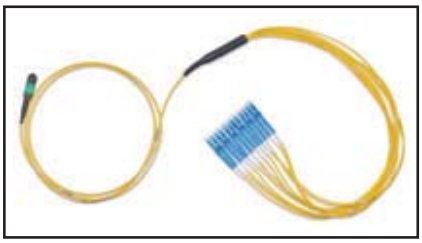
BETTER

- Better identification of fiber type with Erika Violet for OM4 cable and connectors
- Better cable stress with LPM integrated transition boot for best bend radius control
- Better airflow and cable routing with our new smaller (25%) LPM transition

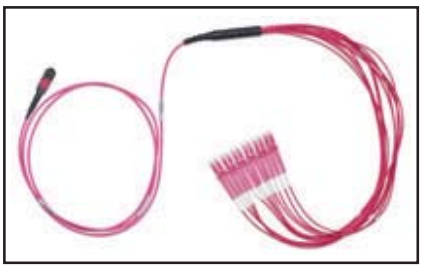
FX Hydra Patch Cords - Standard Performance

Description	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST				
IL Max. 850 nm/1300 nm (dB/Km)	3.0/1.2	3.0/1.0	–	
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	0.5/0.5	
Fire Rating	Plenum			
Cable Style	MPO: Interconnect Mini-Round 3.0 mm LC Uniboot: Interconnect Mini-Round 2.0 mm LC: Interconnect Simplex Zip 2.0 mm			
Jacket Color	Aqua	Erika Violet	Yellow	Yellow
Connector Performance - LC				
IL Max. (dB)	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	UPC - 55	APC - 65
Fanout Length	0.5 m, In-Line			
Connector Color	Aqua	Erika Violet	Blue	Green
Connector Performance - MPO				
IL Max. (dB)	0.35	0.2	–	0.5
Polish - RL Typ. (dB)	PC - 30	PC - 30	–	APC - 60
Polarity	Type-A			
Connector Color	Aqua	Erika Violet	Blue	Green

See duplex clips on page 24



FPSLDMF002M, FX Hydra Patch Cord, OS2, MPO-12F (F) to 6 x LC Duplex, 2 m



FP4LDMF002M, FX Hydra Patch Cord, OM4, MPO-12F (F) to 6 x LC Duplex, 2 m

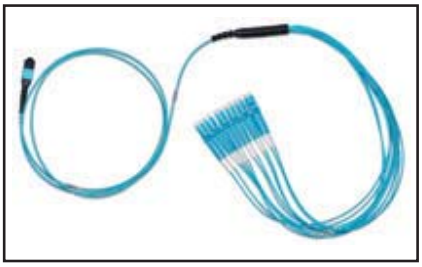
Standard FX Hydra Patch Cords

Description	OM3 Aqua	OM4 Erika Violet	OS2 Blue/Yellow
Base12 Duplex			
MPO-12(12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	**FP3LUMF002M**	**FP4LUMF002M**	**FPSLUMF002M**
MPO-12(12f) Female to 6 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	**FP3LDMF002M**	**FP4LDMF002M**	**FPSLDMF002M**
Base8 Duplex for SR4 (QSFP+/QSFP28) Transceivers			
MPO-12(8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	**FP3LU4F002M**	**FP4LU4F002M**	**FPSLU4F002M**
MPO-12(8f) Female to 4 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	**FP3LD4F002M**	**FP4LD4F002M**	**FPSLD4F002M**

New LPM (Low Pressure Mold) transition – smaller and lighter

Fiber*Express* Pre-Terminated Assemblies (continued)

FX Hydra Patch Cords



FP3LDMF002M, FX Hydra Patch Cord, OM3, MPO-12F (F) to 6 x LC Duplex, 2 m

Standard FX Hydra Patch Cords

Building a *Smart*Part Number

FX Patch Cord	1. Choose Fiber Type	2. Choose Connector 1	3. Choose Connector 2	4. Choose Length*
FP	3	LD	MF	003M

Fiber Type	
3	OM3
4	OM4
S	OS2

Connector 1	
LD	LC Duplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LU	LC Duplex UHD Uni

Connector 2	
MM	MPO-12 (m)
MF	MPO-12 (f)
4M	MPO-12 (M) Base 8
4F	MPO-12 (F) Base 8

Length*
001M to 015M *use M as decimal

See FX Hydra Patch cords - Standard Performance table for standard defaults (Page 27)

Tailored FX Hydra Patch Cords

Building a *Smart*Part Number

FX Patch Cord	1. Choose Fiber Type	2. Choose Connector 1	3. Choose Connector 2	4. Choose Length	5. Choose Fire Rating	6. Choose Cable Construction	7. Choose Polarity	8. Choose Jacket Color
FP	3	LD	MF	003M	P	7	A	A

Fiber Type	
1	OM1
2	OM2
3	OM3
4	OS4
S	OS2

Connector 1	
LD	LC Duplex
LC	LC Simplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC-Simplex UHD
LU	LC-Duplex UHD Uni
LF	LC/APC Simplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST

Connector 2	
MM	MPO-12 (m)
MF	MPO-12 (f) Female
4M	MPO-12 (M) Base 8
4F	MPO-12 (F) Base 8

Length
001M to 300M *use M as decimal

Fire Rating	
P	Plenum
L	LSZH

Cable Construction	
7	Round 3.0 mm

Polarity	
A	Type-A (Straight Polarity)
B	Type-B (Reversed Polarity)
4	SR4

Jacket Color	
O	Orange
Y	Yellow
A	Aqua
E	Erika V.

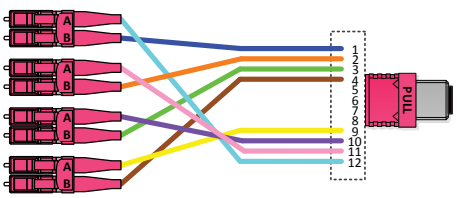
Examples:

FP3LDMF020MP7AA - FX Patch Cord, OM3, 6 x LC Duplex -MPO-12 (F), 20 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket
FP4LUMM010MP7AA - FX Patch Cord, OM4, 6 x LC Duplex UHD Uniboot - MPO-12 (M), 10 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket
FP3LDMM005MP7BA - FX Patch Cord, OM3, 6 x LC Duplex - MPO-12 (M), 5 m, OFNP, Round 3.0 mm, Type-B, Aqua Jacket
FP4LDMF025MP7AE - FX Patch Cord, OM4, 6 x LC Duplex - MPO-12 (F), 25 m, OFNP, Round 3.0 mm, Type-A, Erika Violet Jacket

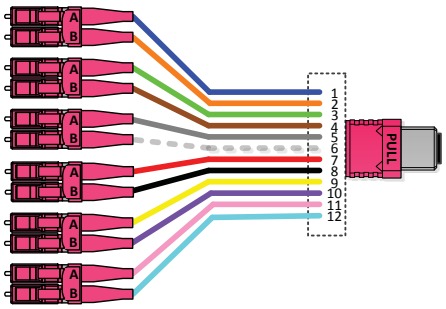
Tailored FX Hydra Patch Cords SPN table should ONLY be used for any product combination that is not covered by the Standard FX Hydra Patch Cords configurator above.

Please contact for any help configuring/validating *Smart*Part Numbers or for any other custom Engineered solutions

FX Hydra Patch Cord SR4 Polarity MPO-12 8 Fiber (Base8)



FX Hydra Patch Cord Type A Polarity MPO-12 12 Fiber (Base12)



Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks

Industry-leading low-loss MPO trunks are the foundation of Faster, Easier and Better pre-terminated fiber connectivity solutions revolutionizing the data center. Quality is enhanced through exhaustive design validation against TIA standards.

LPM transition on Hydra patch cord

FASTER

- Faster fiber-type identification with Erika Violet for OM4 Cable, Connectors and Adapters
- Faster installation with pre-terminated solutions and 40% lighter LPM transition
- Faster pulling eye removal in less than 20 seconds with LPM transition and pulling tension of up to 100 lbs

EASIER

- Easier installation with 3-flange reel and default pulling eye
- Easier ordering with simple, intelligent *Smart*Part Numbers
- Easier upgradeability to 40G and 100G with MPO pre-term solutions
- Easier patch panel attachment with LPM transition

FM4MMB1010M, FX MPO Trunk, OM4, MPO-12 (Male to Male), Type-B, 1 x MPO-12 (12 fibers), 10 m, OFNP, Mini- Distribution 4.8 mm (Double-Jacket), Erika Violet Jacket

BETTER

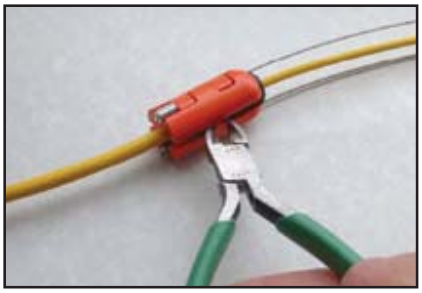
- Better architectural flexibility with high-performance 0.2 dB OM4 MPO connectors
- Better cable stress with LPM integrated transition boot for best bend radius control
- Better contamination control with Data Center Ready packaging

FX MPO Trunks - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM
Cable Performance				
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.0/1.2	3.0/1.0	–
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5
Fire Rating	Plenum			
Cable Style	uMini-Distributon and Mini-Distribution cables			
Jacket Color	Orange	Aqua	Erika Violet	Yellow
Connector Performance - MPO-12				
IL Max. (dB)	0.5	0.35	0.2	0.5
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60
Fanout Length	0.5 m, In-Line			
Connector Color	Orange	Aqua	Erika Violet	Yellow
Connector Performance - MPO-24				
IL Max. (dB)	–	0.35	0.35	0.75
Polish - RL Typ. (dB)	–	PC - 30	PC - 30	APC - 60
Connector Color	Orange	Aqua	Erika Violet	Green

FM4MMB1010M, FX MPO Trunk, OM4, MPO-12 (Male to Male), Type-B, 1 x MPO-12 (12 fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), Erika Violet Jacket

Fiber*Express* Pre-Terminated Assemblies (continued)
FX MPO Trunks


New Pulling Eye

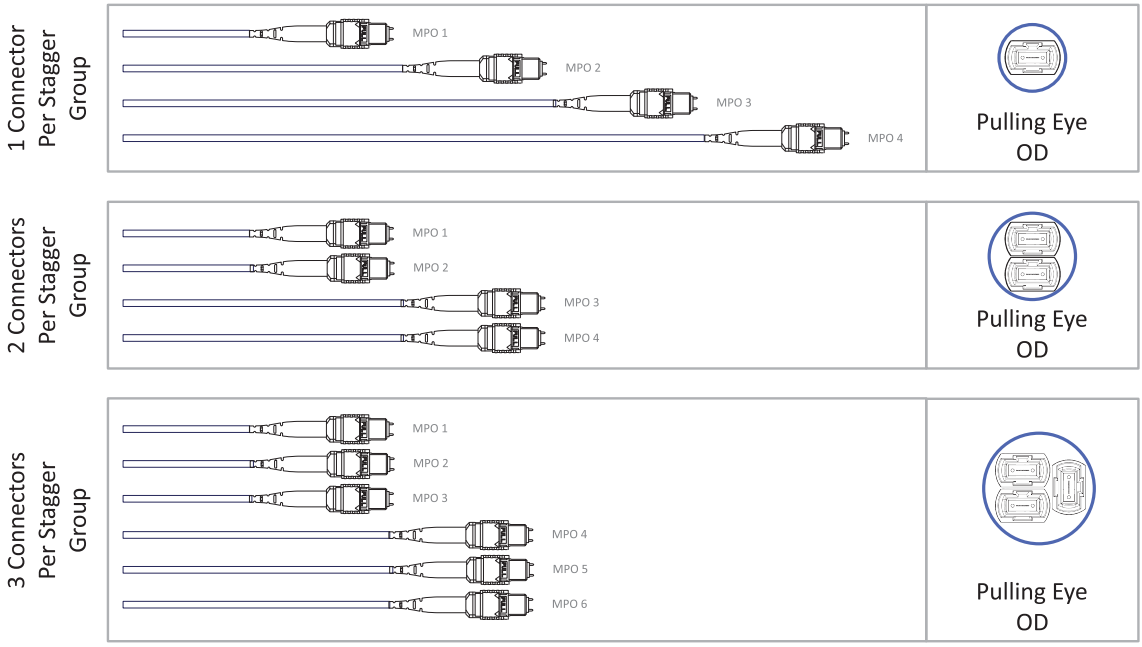
FX Trunks Pulling Eye

Belden's new low-pressure mold (LPM) makes transition points lighter, smaller and easier to handle during installation, and allows the addition of unique features - like our new pulling eye.

Pulling Eye Diameter

Description	12-Fiber	24-Fiber	36-Fiber	48-Fiber	72-Fiber	96-Fiber	144-Fiber
Installation Diameter - MPO-12 (Total Connectors)	**1**	**2**	**3**	**4**	**6**	**8**	**12**
1 Connector per Bundle, 8 cm Bundle Stagger		22 mm	22 mm	22 mm	22 mm	22 mm	22 mm
2 Connectors per Bundle, 8 cm Bundle Stagger				25.4 mm	25.4 mm	25.4 mm	25.4 mm
3 Connectors per Bundle, 8 cm Bundle Stagger					30.0 mm	30.0 mm	30.0 mm
4 Connectors per Bundle, 8 cm Bundle Stagger						31.7 mm	31.7 mm
6 Connectors per Bundle, 8 cm Bundle Stagger							38.1 mm
One Bundle, No Stagger (in-line)	22 mm	25.4 mm	30.0 mm	31.7 mm	38.1 mm	41.9 mm	50.8 mm

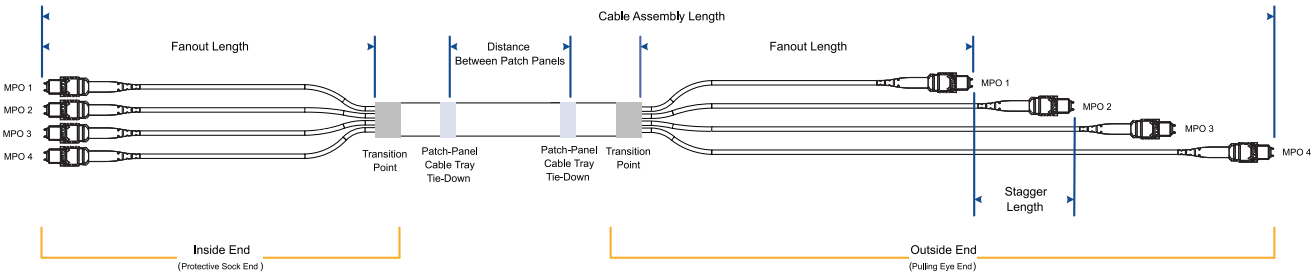
Standard FX MPO Trunks 12F (Indoor) have a more robust cable construction using a Mini-Distribution cable (Double Jacket 4.8 mm). They are designed for safe pulling, and to withstand the rigors of installation while providing sufficient support (wire basket support).



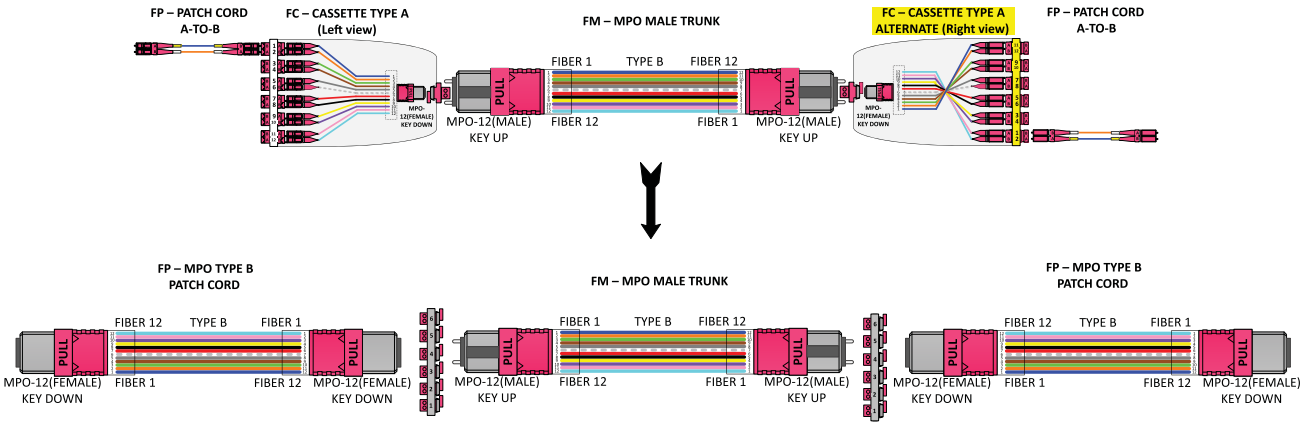
4 and 6 Connectors Per Stagger Group available

Fiber*Express* Pre-Terminated Assemblies (continued)
FX MPO Trunks

FX MPO Trunks Diagram



MPO Pre-Term Solution 2 points of connections (Using Type B trunks) 10G installation and migration to 40G solution



Keys to a Successful Upgrade:

- **Be Ready for 40GBase-SR4 and future 100GBase-SR4 → MPO-12 fiber Connectors & Male to Male Trunk Assemblies**
- **Simplify Port Numbers → Type-A & Type-A-ALTERNATE Polarity Cassettes at each end of the channel**
- **Reduce Replacement Parts → Identical Patch Cords on Both Ends**
- **Prevent Damage to Active Equipment → MPO Female to Female Patch Cords**

Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks

FM3MMB1010M, FX MPO Trunk, OM3, MPO-12 (Male to Male), TYPE-B, 1 x MPO-12 (12 fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), Aqua Jacket

Standard FX MPO Trunks - Base12 - Building a *Smart*Part Number

FX MPO Trunk	1. Choose Fiber Type	2. Choose Connectors	3. Connector Gender	4. Choose Polarity	5. Choose Connector Count	6. Choose Length
FM	3	M	M	B	3	010M

Fiber Type	
3	OM3
4	OM4
S	OS2

Connectors	
M	MPO-12(12F)

Connector Gender	
M	Male to Male
F	Female to Female
E	Extension (M to F)
P	Male to Open
R	Female to Open

Polarity (outside)	
A	Type-A
B	Type-B
C	Type-C

Connector Count	
1	12 Fibers
2	24 Fibers
3	36 Fibers
4	48 fibers
6	72 Fibers
8	96 Fibers
D	144 Fibers

Length
005M to 500M
M Meters
*use M as decimal

See FX MPO Trunks - Standard Performance table for standard defaults (Page 29)

Examples:

FM3MMB1010M - FX MPO Trunk OM3, MPO-12 (Male to Male), Type-B, 1 MPO (12 Fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), Aqua Jacket.

FM4MMB4030M - FX MPO Trunk OM4, MPO-12 (Male to Male), Type-B, 4 MPO (48 Fibers), 30 m, OFNP, Mini-Distribution (2.0 mm Sub-Units) Fan-Out: 0.5 m In-Line, Erika Violet Jacket.

FMSMFAD025M - FX MPO Trunk OS2, MPO-12 (Female to Female), Type-A, 12 MPO (144 Fibers), 25 m, OFNP, Mini-Distribution (2.0 mm Sub-Units) Fan-Out: 0.5 m In-Line, Yellow Jacket.

Tailored FX MPO Trunks - Base12 - Building a *Smart*Part Number

FX MPO Trunk	1. Choose Fiber Type	2. Choose Connectors	3. Choose Connector Gender	4. Choose Polarity (outside)	5. Choose Connector Count (per side)	6. Choose Length	7. Choose Fire Rating	8. Choose Cable Construction	9. Choose Fan-Out Length & Geometry	10. Choose Jacket Color
FM	3	M	M	B	4	010M	P	M	E	A

Fiber Type	
1	OM1
2	OM2
3	OM3
4	OM4
S	OS2

Connectors	
M	MPO-12 (12F)

Connector Gender	
M	Male to Male
F	Female to Female
E	Extension (M to F)
P	Male to Open
R	Female to Open

Polarity (outside)	
A	Type-A
B	Type-B
C	Type-C

Connector Count	
1	12 Fibers
2	24 Fibers
3	36 Fibers
4	48 Fibers
6	72 Fibers
8	96 Fibers
D	144 Fibers

Length
005M to 500M
M Meters
*use M as decimal

Fire Rating	
P	Plenum
I	I/O Plenum
A	Plenum Armored (AIA)
B	Plenum I/O Armored (AIA)
L	LSZH

Cable Construction	
U	uMini-D
M	Mini-D

Fan-Out Geometry	
D	None (1 Conn.)
D	0.5 m x In-Line (>2 Conn.)
E	1.0 m x In-Line
F	1.5 m x In-Line
G	2.0 m x In-Line
1	0.5 m x Stag 80 mm/1 conn.
2	0.5 m x Stag 80 mm/2 conn.
3	0.5 m x Stag 80 mm/3 conn.
4	0.5 m x Stag 80 mm/4 conn.
N	No Pulling Eye
B	Pulling Eye at both ends

Jacket Color	
O	Orange
N	Black
Y	Yellow
A	Aqua
E	Erika Violet

Tailored FX MPO Trunks SPN table should ONLY be used for any product combination that is not covered by the Standard FX MPO Trunks configurator above.

Use of Tailored part numbers:

- Fiber Type: For any OM1 and OM2 trunk.
- Fire Rating: For any Plenum Armored, I/O Plenum, I/O Plenum Armored, LSZH trunks.
- Cable Construction:
  - "M" Mini-Distribution cable used for indoor Plenum 12F (1 conn.), for I/O Plenum, for Plenum Armored, for I/O Plenum Armored and LSZH.
  - "U" uMini-Distribution cable used for indoor Plenum >=24F (>=2 conn.).
- Fan-Out Length & Geometry: Different fan-out lengths and stagger options, No Pulling Eye, Pulling eye at both ends.

Examples:

FM3MMB1010MPMNA - FX MPO Trunk OM3, MPO-12 (Male to Male), Type-B, 1 MPO (12 Fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), No Pulling Eye, Aqua Jacket.

FM4MMB4020MAMDE - FX MPO Trunk OM4, MPO-12 (Male to Male), Type-B, 4 MPO (48 Fibers), 20 m, OFCP, (Plenum Armored), Mini-Distribution (3.0 mm Sub-Units) Fan-Out: 0.5 m In-Line, Erika Violet Jacket.

FMSMFA2030MPM1Y - FX MPO Trunk OS2, MPO-12 (Female to Female), Type-A, 2 MPO (24 Fibers), 30 m, OFNP, Mini-Distribution (3.0 mm Sub-Units) Fan-Out: 0.5 m Staggered 80 mm/ 1 CONN, Yellow Jacket.

Please contact for any help configuring/validating *Smart*Part Numbers or for any other custom Engineered solutions

Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks

Standard FX MPO Trunks - Base8 - Building a *Smart*Part Number

FX MPO Trunk	1. Choose Fiber Type	2. Choose Connectors	3. Connector Gender	4. Choose Polarity	5. Choose Connector Count	6. Choose Length
FM	3	4	M	B	3	010M

Fiber Type	
3	OM3
4	OM4
S	OS2

Connectors	
4	MPO-12 (8F)

Connector Gender	
M	Male to Male
F	Female to Female
E	Extension (M to F)
P	Male to Open
R	Female to Open

Polarity (outside)	
A	Type-A
B	Type-B
C	Type-C

Connector Count	
1	8 Fibers
2	16 Fibers
3	24 Fibers
4	32 fibers
6	48 Fibers
8	64 Fibers
D	96 Fibers

Length
005M to 500M
M Meters
*use M as decimal

See FX MPO Trunks - Standard Performance table for standard defaults (Page 29)

Examples:

FM34MB1010M - FX MPO Trunk OM3, MPO-12 Base 8 (Male to Male), Type-B, 1 MPO (8 Fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), Aqua Jacket.

FMS4FAD025M - FX MPO Trunk OS2, MPO-12 Base 8 (Female to Female), Type-A, 12 MPO (96 Fibers), 25 m, OFNP, Mini-Distribution (2.0 mm Sub-Units) Fan-Out: 0.5 m In-Line, Yellow Jacket.

Tailored FX MPO Trunks - Base8 - Building a *Smart*Part Number

FX MPO Trunk	1. Choose Fiber Type	2. Choose Connectors	3. Choose Connector Gender	4. Choose Polarity (outside)	5. Choose Connector Count (per side)	6. Choose Length	7. Choose Fire Rating	8. Choose Cable Construction	9. Choose Fan-Out Length & Geometry	10. Choose Jacket Color
FM	3	4	M	B	3	010M	P	U	E	A

Fiber Type	
3	OM3
4	OM4
S	OS2

Connectors	
4	MPO-12 (8F)

Connector Gender	
M	Male to Male
F	Female to Female
E	Extension (M to F)
P	Male to Open
R	Female to Open

Polarity (outside)	
A	Type-A
B	Type-B
C	Type-C

Connector Count	
1	8 Fibers
2	16 Fibers
3	24 Fibers
4	32 Fibers
6	48 Fibers
8	64 Fibers
D	96 Fibers

Length
005M to 500M
M Meters
*use M as decimal

Fire Rating	
P	Plenum
I	I/O Plenum
A	Plenum Armored (AIA)
B	Plenum I/O Armored (AIA)
L	LSZH

Cable Construction	
U	uMini-D
M	Mini-D

Fan-Out Geometry	
D	None (1 Conn.)
D	0.5 m x In-Line (>2 Conn.)
E	1.0 m x In-Line
F	1.5 m x In-Line
G	2.0 m x In-Line
1	0.5 m x Stag 80 mm/1 conn.
2	0.5 m x Stag 80 mm/2 conn.
3	0.5 m x Stag 80mm/3 conn.
4	0.5 m x Stag 80 mm/4 conn.
N	No Pulling Eye
B	Pulling Eye at both ends

Jacket Color	
O	Orange
N	Black
Y	Yellow
A	Aqua
E	Erika Violet

Tailored FX MPO Trunks SPN table should ONLY be used for any product combination that is not covered by the Standard FX MPO Trunks configurator above.

Use of Tailored part numbers:

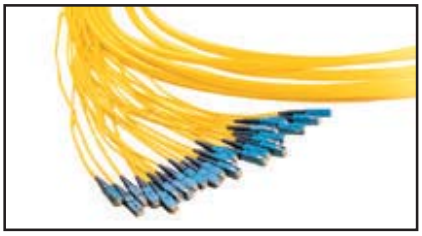
- Fiber Type: For any OM1 and OM2 trunk.
- Fire Rating: For any Plenum Armored, I/O Plenum, I/O Plenum Armored, LSZH trunks.
- Cable Construction:
  "M" Mini-Distribution cable used for indoor Plenum 12F (1 conn.), for I/O Plenum, for Plenum Armored, for I/O Plenum Armored and LSZH.
  "U" uMini-Distribution cable used for indoor Plenum >=24F (>=2 conn.).
- Fan-Out Length & Geometry: Different fan-out lengths and stagger options, No Pulling Eye, Pulling eye at both ends.

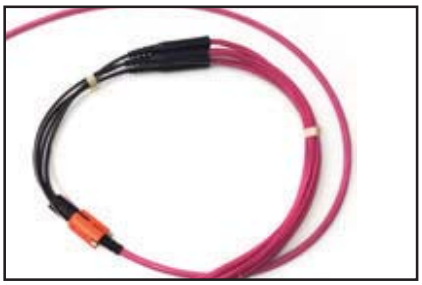
Examples:

FM34MB1010MPMNA - FX MPO Trunk OM3, MPO-12 Base 8 (Male to Male), Type-B, 1 MPO (8 Fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), No Pulling Eye, Aqua Jacket.

FM44MB4020MAMDE - FX MPO Trunk OM4, MPO-12 Base 8 (Male to Male), Type-B, 4 MPO (32 Fibers), 20 m, OFCP, (Plenum Armored), Mini-Distribution (3.0 mm Sub-Units) Fan-Out: 0.5 m In-Line, Erika Violet Jacket.

Fiber*Express* Pre-Terminated Assemblies (continued)
FX Multi-Fiber Trunks


FX Multi-fiber Trunk, OS2, 24F, Yellow jacket


FX Multi-fiber Trunk, OM4, 48F, Erika Violet jacket

FX Multi-fiber Trunk, OS2, 12F, OS2, Yellow jacket

All FX Multi-Fiber Trunks come with new FX Trunks Pulling Eye. (See page 30 for more information)

Highly configurable, multi-fiber pre-terminated cable assemblies are engineered for maximum performance and crafted ensuring superior quality.

Belden's new low-pressure mold (LPM) makes transition points lighter, smaller and easier to handle during installation, and allows the addition of unique features - like our new pulling eye. The new pulling eye that allows installers to quickly pull up to 100 lbs of force with faster removal.

FASTER

- Faster fiber-type identification with Erika Violet for OM4 Cable, Connectors and Adapters
- Faster installation with pre-terminated solutions and 40% lighter LPM transition
- Faster pulling eye removal in less than 20 seconds with LPM transition and pulling tension of up to 100 lbs

EASIER

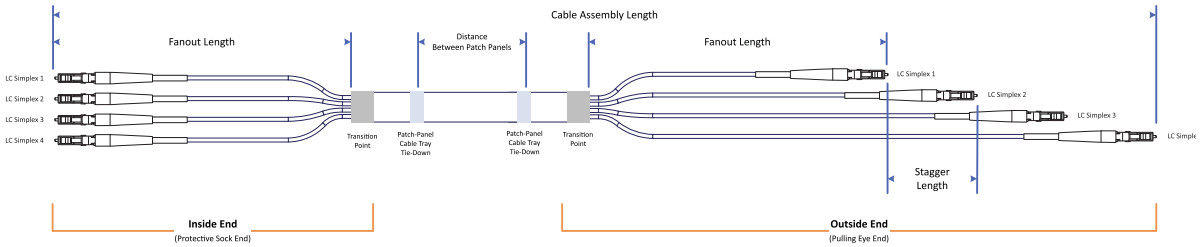
- Easier installation with 3-flange reel and default pulling eye
- Easier ordering with simple, intelligent *Smart*Part Numbers
- Easier upgradeability to 40G and 100G with MPO pre-term solutions
- Easier patch panel attachment with LPM transition

BETTER

- Better architectural flexibility with high-performance 0.2 dB OM4 MPO connectors
- Better cable stress with LPM integrated transition boot for best bend radius control
- Better contamination control with Data Center Ready packaging

FX Multi-Fiber Trunks - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.0/1.2	3.0/1.0	–	–
IL Max. 1310 nm/1550 nm (dB/Km)	–	–	–	0.5/0.5	
Fire Rating	Plenum				
Cable Style	µMini-Distributon and Mini-Distribution cables				
Jacket Color	Orange	Aqua	Erika Violet	Yellow	Yellow
Connector Performance - MPO					
IL Max. (dB)	0.5	0.35	0.2	–	0.5
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	–	APC - 60
Connector Color	Beige	Aqua	Erika Violet	–	Green
Connector Performance - LC/SC					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Connector Color	Beige	Aqua	Erika Violet	Blue	Green



Fiber*Express* Pre-Terminated Assemblies (continued)
FX Multi-Fiber Trunks

FX Multi-Fiber Trunks - Building a *Smart*Part Number

FX Multi-Fiber Assemblies	1. Choose Fiber Type	2. Choose Fiber Count	3. Choose Connector 1	4. Choose Fan-out Const x Length: Conn 1	5. Choose Connector 2	6. Fan-out Const x Length: Conn 2	7. Fire Rating	8. Choose Length & Unit of Measure
A	3	12	LD	A	LD	A	P	030M

Fiber Type	
1	OM1
2	OM2
3	OM3
4	OS4
S	OS2

Fiber Count	
06	6 Fibers
08	8 Fibers
12	12 Fibers
16	16 Fibers
24	24 Fibers
32	32 Fibers
36	36 Fibers
48	48 Fibers
64	64 Fibers
72	72 Fibers
96	96 Fibers
A8	144 Fibers

Connector 1	
LD	LC Duplex
LC	LC Simplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC-Simplex UHD
LU	LC-Duplex UHD Uni
LE	LC/APC Duplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST

Cable Construction	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line

Connector 2	
LD	LC Duplex
LC	LC Simplex
LM	Mini-LC Duplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC-Simplex UHD
LU	LC-Duplex UHD Uni
LE	LC/APC Duplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
4M	MPO-12 (M) SR4
4F	MPO-12 (F) SR4
MM	MPO-12 (M)
MF	MPO-12 (F)
ZZ	OPEN

Cable Construction	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line
Z	250 µm x OPEN
1	Jacketed x 0.5 m x Stag 80 mm/1 con
2	Jacketed x 0.5 m x Stag 80 mm/2 con
3	Jacketed x 0.5 m x Stag 80 mm/3 con
4	Jacketed x 0.5 m x Stag 80 mm/4 con
6	Jacketed x 0.5 m x Stag 80 mm/6 con
R	900 µm x 0.5 m x Stag 80 mm/1 con
S	900 µm x 0.5 m x Stag 80 mm/2 con
T	900 µm x 0.5 m x Stag 80 mm/3 con
U	900 µm x 0.5 m x Stag 80 mm/4 con
V	900 µm x 0.5 m x Stag 80 mm/6 con

Fire Rating	
P	Plenum
I	I/O Plenum
A	Plenum Armored (AIA)
B	Plenum I/O Armored (AIA)
L	LSZH

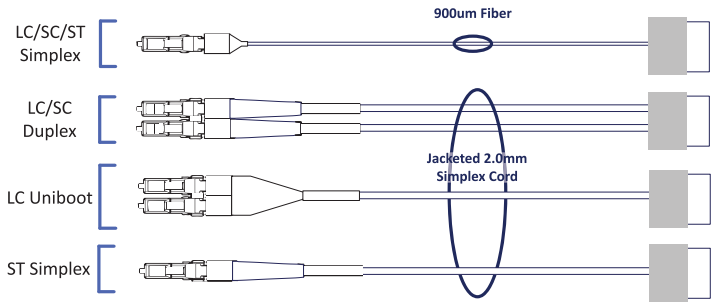
Length
005M to 500M
M = Meters
*use M as decimal

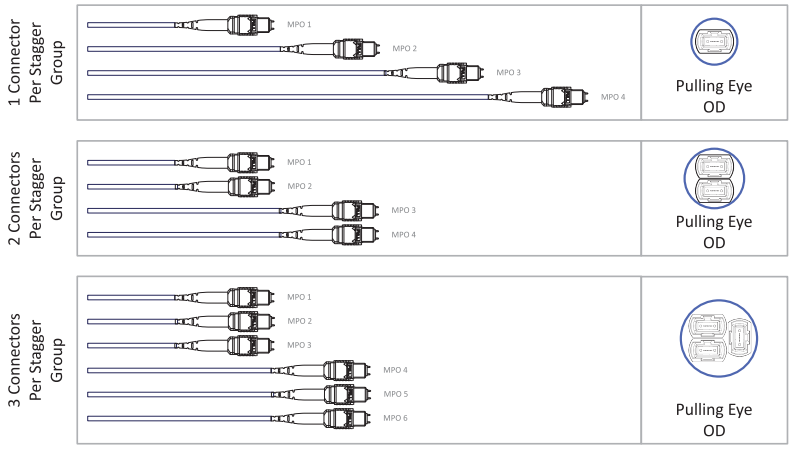
Examples:

A412LDELDEP020M - FX Multi-Fiber Trunk, OM4, 12 Fibers, LC Duplex (Jacketed x 0.5m x In-Line) - LC Duplex (Jacketed x 0.5m x In-Line), OFNP, 20 m, Erika Violet Jacket

A324LCALCAP050M - FX Multi-Fiber Trunk, OM3, 24 Fibers, LC Simplex (900UM x 0.5m x In-Line) - LC Simplex (900UM x 0.5m x In-Line), OFNP, 50 m, Aqua Jacket

AS48LDFSCBP030M - FX Multi-Fiber Trunk, OS2, 48 Fibers, LC Duplex (Jacketed x 1.0m x In-Line) - SC Simplex (900UM x 1.0m x In-Line), OFNP, 30 m, Yellow Jacket





4 and 6 Connectors Per Stagger Group available

Fiber*Express* Workstation Connectivity

FX Outlet Boxes

FWSWBF04SB, FX W-Box, 4 x SC/APC Simplex

Strategically placed connectivity through overt design. Compact low-port count field-term or pre-term distributed consolidation points minimizing installation time by maximizing trunk capacity.

FASTER

- Faster installation with a variety of surface mount options

EASIER

- Easier distribution of low port count connectivity and breakouts with self-contained designs
- Easier field-termination with easily accessible consolidation points

BETTER

- Better options for pre-term and field-term including splicing

FX Wall Boxes (W-Box)

Protect and manage field-terminated fiber within a compact easily mounted termination box supporting both Mechanical Splice and Fusion Splice termination techniques.

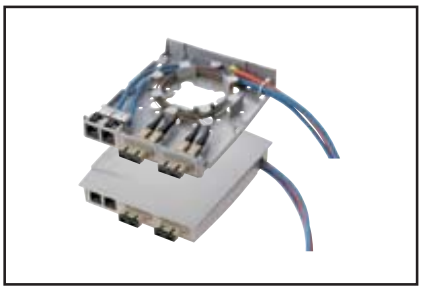
Description	Part Number			
	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
FX Wall-Box, 1x SC Simplex	–	–	FWSWBF01SC	FWSWBF01SB
FX Wall-Box, 2x SC Simplex	–	–	FWSWBF02SC	FWSWBF02SB
FX Wall-Box, 4x SC Simplex	–	–	FWSWBF04SC	FWSWBF04SB

FW3MBP06LD, FX M-Box Pre-Term, 6 x LC Duplex, 1 MPO-12(f), OM3

FX Multi Boxes (M-Box)

Extremely compact, the feature rich M-Box is ideally suited for floor box and consolidation point applications. Supporting pre-terminated MPO-12(f) connectivity with an integrated fanout to LC, 1G and 10G Ethernet can be quickly deployed and re-deployed eliminating field termination. When the need arises additional versions of the M-Box are fully equipped to handle and protect field termination including both mechanical splice and pigtail fusion splicing techniques.

Description	Part Number			
	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
FX Multi-Box Pre-Term MPO-12(f) to 6 x LC Duplex	FW3MBP06LD	FW4MBP06LD	FWSMBP06LD	FWSMBP06LA
FX Multi-Box Field-Term, (with Pigtails)	FW3MBS06LD	FW4MBS06LD	FWSMBS06LD	FWSMBS06LA
FX Multi-Box Field-Term, (without Pigtails)	FW3MBF06LD	FW4MBF06LD	FWSMBF06LD	FWSMBF06LA



A0643206, MDVO Multimedia Outlet Box (shown terminated)

MDVO Multimedia Outlet Boxes

The MDVO Multimedia Outlet Box brings unique versatility for multimedia work area installations. The box design provides cable management and helps maintain cable bend radius. The low profile design and side-entry of the outlet box offers better protection for patch cords. The outlet box can accept up to six MDVO-style modules or three SC Duplex footprint adapters.

The MDVO Multimedia Outlet Box can be mounted directly on the wall or attached to standard electrical boxes. Included with the MDVO Multimedia box are three 1-port SC Duplex footprint mounting bezels and three 2-port MDVO adapters.

Description	Part Number	
	Almond	White
MDVO Multimedia Outlet Box, 6-Port	A0643206	A0643207

*See the copper catalog for a larger selection.

For MediaFlex Faceplates, Interface MDVO Faceplates and MDVO adapters, please refer to Copper Catalog (Pages 54-59).

Fiber*Express* Workstation Connectivity (continued)
FX Outlet Boxes, Multimedia Modules and Adapters

Multi-User Outlet Boxes

The Multi-User Outlet Box is a versatile box that can be used in many different applications. The outlet box can accommodate up to 24 connections of any type: UTP, fiber or coax. The outlet box is ideal for use as a multi-user telecommunications assembly, or simply as a high-density multimedia telecommunications outlet. The Multi-User Outlet Box can also be used as a wall mounted patch panel in confined areas, such as shallow rooms and cabinets.

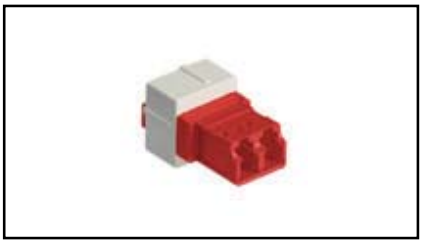
Description	Part Number		
	Almond	Elec. White	Black
Multi-User Outlet Box, 24-MDVO Ports (Empty)	AX100220	AX100221	AX100222
Multi-User KeyConnect 12-Port Adapter Strip	–	–	AX104615
Multi-User MDVO 12-Port Adapter Strip	–	–	AX100223

AX100222, Multi-User Outlet Box (shown here with optional modules)

MDVO Fiber Adapter Modules

Description	Part Number		
	Almond	Elec. White	Black
LC Duplex - OM3 (Aqua Adapter)	AX105505-AL	AX105505-WH	AX105505-BK
SC Simplex - OM3 (Aqua Adapter)	AX105697-AL	AX105697-WH	AX105697-BK

All MDVO Adapter Modules listed above come in quantities of 25 per package
Please contact for any help configuring/validating *Smart*Part Numbers or for any other custom Engineered solutions



AX102101, OM4 MDVO Adapter Module with LC Keyed Red Adapter, White Holder

KeyConnect Multimedia Modules

Description	Part Number		
	Almond	Elec. White	Black
LC Duplex OM1 (Beige Adapter)	AX102415	AX102416	AX102417
LC Duplex OM3 (Aqua Adapter)	AX104937	AX104938	AX104939
LC Duplex OM4 (Erika Violet Adapter)	AX105641-AL	AX105641-EW	AX105641-BK
LC Duplex SM (Blue Adapter)	AX102419	AX102420	AX102421
LC Duplex SM/APC (Green Adapter)	AX105642-AL	AX105642-EW	AX105642-BK
SC Simplex OM1 (Beige Adapter)	AX102683	AX102684	AX102685
SC Simplex OM3 (Aqua Adapter)	AX105643-AL	AX105643-EW	AX105643-BK
SC Simplex SM (Blue Adapter)	AX102686	AX102687	AX102688
SC/APC Simplex SM (Green Adapter)	AX105374-AL	AX105374-EW	AX105374-BK
ST (Metal) Compatible MM/SM	AX102242	AX102243	AX102244

AX104939, KeyConnect Adapter, LC Duplex, OM3 (Aqua Adapter), Black Holder

Standard Duplex Footprint Fiber Adapters

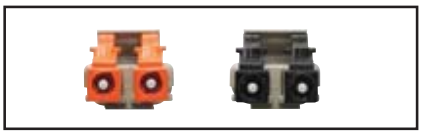
Description	Part Number			
	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
SC Duplex, Flangeless	AX105691-B25	AX105692-B25	AX105002-B25	AX105646-B25
SC Duplex w/Shutters, Flangeless	–	–	AX105693-B25	AX105694-B25

Refer to the copper catalog for a larger selection of workstation connectivity options.

For MediaFlex Faceplates, KeyConnect Faceplates and KeyConnect adapters, please refer to Copper Catalog (Pages 51-57).

Fiber*Express* Secure/Keyed LC System

FX Secure/Keyed LC System

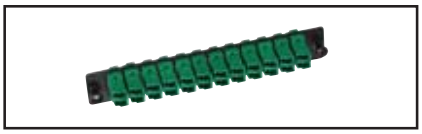


FX Secure/Keyed LC System

FX Brilliance Connectors

FX Secured/Keyed LC Ultra Cassette

FX Secure/Keyed LC Manager Module



FX Secure/Keyed LC Adapter Strip

The FX Secure/Keyed LC System allows for physical segregation of network segments in secure fiber cabling infrastructures. All Secure/Keyed LC products are available with 12 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is highly tamper-resistant and cannot be reproduced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The Secure/Keyed LC Adapter Modules, Frames, Cassettes and Adapter Strips can be used in all mounting hardware for workstation area, Consolidation Point or Telecom Room applications. The Secure/Keyed LC FX Manager Modules can be used in 19- and 23-inch FX Manager Shelves to provide a high-density management system.

The Secure/Keyed LC FX Ultra Frames and Cassettes can be used with the FX UHD Rack and FX Ultra Wall-mount Patch Panels to provide an Ultra high-density patching system that is easy to deploy, operate and maintain, while ensuring maximum uptime, uninterrupted availability and superior performance.

The Secure/Keyed LC Patch Cords and Pigtails are offered in Multimode 62.5 µm (OM1), laser-optimized 50 µm (OM3 and OM4) and Singlemode (OS2) for the most demanding network performance.

The Secure/Keyed LC Brilliance Universal Field Installable Connectors are available in Multimode 50 µm laser-optimized (OM4, OM3 compatable) and Singlemode (OS2) fiber versions.

FX Secure/Keyed LC System

Description	Splices
LC Key1	Red
LC Key2	Green
LC Key3	Yellow
LC Key4	Black
LC Key5	Orange
LC Key6	Blue
LC Key7	Violet
LC Key8	Rose
LC Key9	Aqua
LC KeyA	Brown
LC KeyB	Slate
LC KeyC	White

For additional details, please refer to the Secure/Keyed LC System Product Bulletin PB275.

Fiber*Express* Optic Cables
Introduction

The optical fiber cables featured in this section have been expanded to meet advances in technology and the demands of both commercial and industrial applications. Refer to page 3 for selecting a fiber type, color coding information, and optical specifications. Belden's extensive line of indoor and outdoor cable products is offered in tight buffer and loose tube designs. Armored, burial, and ruggedized designs are suited to a host of industrial environments. For each product design, items for OM1, OM2, OM3, OM4, and OS2 (Singlemode) items have been developed.

fiber products are third party tested by either ETL or UL and approved for use according to the National Electric Code.

Customer Service

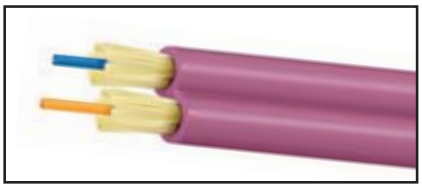
Many fiber designs are available from stock through our Distributors. For your new or custom application that you do not locate in this section, contact Customer Service at 1-800--1 (800.235.3361) for additional information or to request a quote. Further product and technical information is also available on our web site at www..com.

Jacket Color Chart

Cable Type		Jacket Color
Indoor Cables: Interconnect, Breakout, Distribution, Mini-Distribution and Tray Optic		
OM1 & OM2		**Orange**
OM3		**Aqua**
OM4		**Erika Violet (Standard) Aqua (Optional)**
OS2		**Yellow**
Hybrid Indoor Cables: Breakout, Distribution & Mini-Distribution		
Primary Fiber Type	**Secondary Fiber Type**	**Jacket Color**
OS2	OM1	**Orange**
OS2	OM3	**Aqua**
OS2	OM4	**Erika Violet (Standard)**
OM3	OM1	**Aqua**
OM4	OM1	**Erika Violet (Standard) Aqua (Optional)**
Indoor/Outdoor & Outdoor Cables: Distribution, Loose Tube, OSP		
OM1, OM2, OM3, OM4, OS2		**Black**
Specialty Cables: Tactical		
OM1, OM2, OM3, OM4, OS2		**Black**

See page 3, FX Systems chart for technical performance.
The part numbers in the following pages represent standard fiber cables, additional constructions, colors, and stripes are available. Please contact your representative for more information.

Documents contributing to LEED points are available at info..com/leed-credits



FI4I002RB, Duplex Optical Fiber Interconnect Cable

Fiber*Express* Interconnect Cables

Tight Buffer — Riser and Plenum Rated

Supple and compact yet undoubtedly resilient. Small form factor FX interconnect cables provide the right combination of flexibility, small size and robustness needed to withstand the rigours of daily patching without sacrificing density.

Applications:

- Patching
- Inside Cabinets
- Workstation Equipment Connections

Specifications

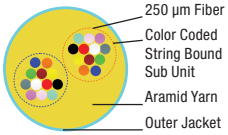
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

Storage	-40°C to 70°C (-40°F to 158°F)
Installation	0°C to 50°C (32°F to 122°F)
Operation	-20°C to 70°C (-4°F to 158°F)

Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- IEC 60332-3-24, IEC 61034-2, IEC 60754-1&2 (LSZH - FRPE)
- ICEA S-83-596

Zip Cord (900µm Fiber)

Description	Construction	Fiber Count	Fiber	Cable OD		Weight		Tensile Strength			
								Operation		Installation	
				mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Simplex		1	900 µm TB	2.0	0.08	4	3	66	15	220	50
		1		3.0	0.11	7	5				
Duplex Zip		2	900 µm TB	2.0 x 4.0	0.08 x 0.16	7	5	66	15	220	50
		2		3.0 x 5.8	0.11 x 0.22	16	11				

Standard Configurations

Fiber Count	Part Number		
	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Simplex 2.0 mm - Riser			
1	FI3I001RB	FI4I001RB	FISI001RB
Simplex 3.0 mm - Riser			
1	FI3I001RC	FI4I001RC	FISI001RC
Duplex 2.0 mm - Riser			
2	FI3I002RB	FI4I002RB	FISI002RB
Duplex 3.0 mm - Riser			
2	FI3I002RC	FI4I002RC	FISI002RC

For an exhaustive selection contact customer service or your local Representative for more details.

Mini Round (250 µm Fiber)

Description	Construction	Fiber Count	Fiber	Cable OD		Weight		Tensile Strength			
								Operation		Installation	
				mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Duplex Mini-Round		2	250 µm	2.0	0.08	3.4	2.3	133	30	445	100
Mini-Round 8f		8	250 µm	2.0	0.08	3.4	2.3	133	30	445	100
Mini-Round 12f		12	250 µm	2.0	0.08	3.4	2.3	133	30	445	100

Standard Configurations

Fiber Count	Part Number		
	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Mini-Round 2.0 mm - Plenum			
2	FI3I002P0	FI4I002P0	FISI002P0
8	FI3I008P0	FI4I008P0	FISI008P0
12	FI3I012P0	FI4I012P0	FISI012P0

Fiber*Express* Breakout Cables

Tight Buffer — Indoor Riser, Plenum and LSZH Rated

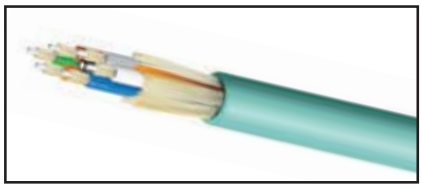
Robust terminations in demanding environments. All the ease of 900 µm tight buffered termination with only one fiber per sub-unit enables the ultimate bond between the connector and the cables' Aramid yarns resulting in unmatched strength and durability.

Applications:

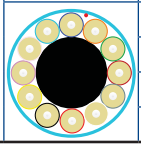
- Horizontal distribution for Fiber-to-the-desk
- In-building backbone
- Factory floor automation
- Broadcast and A/V in-building installations

Additional Options

- 2.5 mm and 2.9 mm Subunits



FI3B006PB, Optical Fiber Breakout Cable

Description	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Color-coded Sub-Units		2	900 µm TB	2.0	6.6	0.26	36	24	400	90	800	180
		4	900 µm TB	2.0	8.2	0.32	52	35	755	170	1535	345
		6	900 µm TB	2.0	9.1	0.36	80	54	1025	230	2070	465
		8			10.3	0.41	103	69	1335	300	2670	600
		10			11.6	0.46	128	86				
		12			13.1	0.51	164	110				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber Count	Part Number			
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Plenum				
2	FI1B002PB	FI3B002PB	FI4B002PB	FISB002PB
4	FI1B004PB	FI3B004PB	FI4B004PB	FISB004PB
6	FI1B006PB	FI3B006PB	FI4B006PB	FISB006PB
12	FI1B012PB	FI3B012PB	FI4B012PB	FISB012PB
LSZH/Riser				
2	FI1B002LB	FI3B002LB	FI4B002LB	FISB002LB
4	FI1B004LB	FI3B004LB	FI4B004LB	FISB004LB
6	FI1B006LB	FI3B006LB	FI4B006LB	FISB006LB
12	FI1B012LB	FI3B012LB	FI4B012LB	FISB012LB

For an exhaustive selection contact customer service or your local Representative for more details.

Specifications

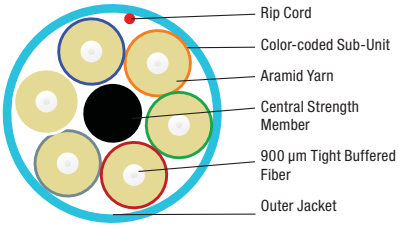
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

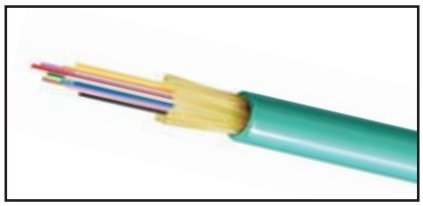
Storage	-40°C to 70°C (-40°F to 158°F)
Installation (Plenum/LSZH)	0°C to 60°C 32°F to 140°F
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum/LSZH)	-20°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFNP/OFN FT.6 (PLENUM - PVC or PVDF)
- ICEA S-83-596



FI3D012P9, Optical Fiber Distribution Cable

Fiber*Express* Distribution Cables

Tight Buffer — Indoor Riser and Plenum Rated

Fast installation, easy termination. Sub-unitized cables provide easy routing and 900 µm tight-buffered fiber supporter fast and robust field-termination.

Applications:

- Horizontal distribution for Fiber-to-the-desk
- In-building backbone
- Factory floor automation
- Data Center EDA areas

Indoor Specifications

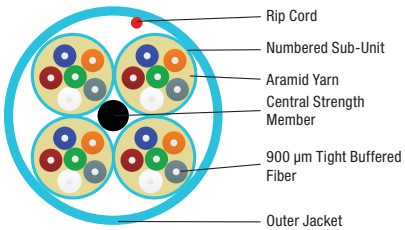
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

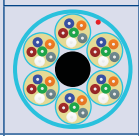
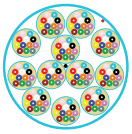
Storage	-40°C to 70°C (-40°C to 158°F)
Installation (Plenum/LSZH)	0°C to 60°C (32°F to 140°F)
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum/LSZH)	-20°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-83-596

Description	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		2	900 µm TB	N/A	4.8	0.19	22	15	222	50	556	125
		4	900 µm TB	N/A	4.8	0.19	25	17	222	50	556	125
		6					31	21				
		8			5.8	0.23	36	24	334	75	667	150
		10					39	26				
		12					43	29				
		16			8.8	0.35	64	43	556	125	1112	250
		24					80	54				
Unitized 6-Fiber Sub-Units		24	900 µm TB	4.5	13.1	0.52	145	97	1001	225	2002	450
		36			16.0	0.63	221	148	1668	375	3336	750
Unitized 12-Fiber Sub-Units		36	900 µm TB	5.5	14.1	0.56	162	109	1001	225	2002	450
		48			15.5	0.61	207	139	1423	320	2847	640
		72			19.0	0.75	321	216	2002	450	4226	950
		96			22.8	0.90	536	360	2780	625	5560	1250
		144			25.4	1.00	602	404	4226	950	8452	1900

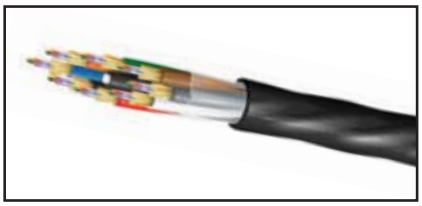
Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber*Express* Distribution Cables (continued)
Tight Buffer — Indoor Riser and Plenum Rated

Standard Indoor Configurations

Fiber Count	Part Number			
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Non-Unitized - Riser				
2	FI1D002R9	FI3D002R9	FI4D002R9	FISD002R9
6	FI1D006R9	FI3D006R9	FI4D006R9	FISD006R9
12	FI1D012R9	FI3D012R9	FI4D012R9	FISD012R9
24	FI1D024R9	FI3D024R9	FI4D024R9	FISD024R9
Non-Unitized - Plenum				
2	FI1D002P9	FI3D002P9	FI4D002P9	FISD002P9
6	FI1D006P9	FI3D006P9	FI4D006P9	FISD006P9
12	FI1D012P9	FI3D012P9	FI4D012P9	FISD012P9
24	FI1D024P9	FI3D024P9	FI4D024P9	FISD024P9
Unitized 6 Fiber subunits riser				
24	FI1D024RJ	FI3D024RJ	FI4D024RJ	FISD024RJ
Unitized 6 Fiber subunits plenum				
24	FI1D024PJ	FI3D024PJ	FI4D024PJ	FISD024PJ
Unitized 12 Fiber subunits plenum				
36	FI1D036PK	FI3D036PK	FI4D036PK	FISD036PK
48	FI1D048PK	FI3D048PK	FI4D048PK	FISD048PK
72	FI1D072PK	FI3D072PK	FI4D072PK	FISD072PK
96	FI1D096PK	FI3D096PK	FI4D096PK	FISD096PK
144	FI1D144PK	FI3D144PK	FI4D144PK	FISD144PK

For an exhaustive selection contact customer service or your local Representative for more details.



FDSD096PK, Optical Fiber Indoor/Outdoor Distribution Cable

Fiber*Express* Distribution Cables (continued)

Tight Buffer — Indoor/Outdoor Riser, Plenum and LSZH Rated

Indoor/Outdoor Specifications

- Environmental Protection
  - UV Resistant Jacket
  - Moisture Resistant Jacket
  - Fungus Resistant Jacket
  - Water Blocking Aramid
  - Water Blocking Tape

Indoor/Outdoor Specifications

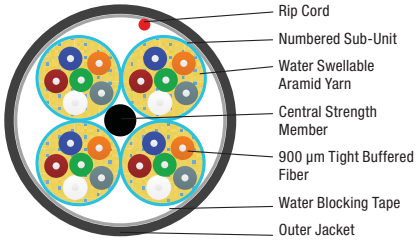
Bend Radius (vs. Cable OD)

Installation	20 x OD
Operation	10 x OD

Temperature Range

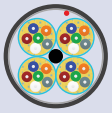
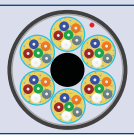
Storage	-40°C to 70°C (-40 to 158°F)
Installation	-20 to 70°C (-4 to 158°F)
Operation	-40 to 70°C (-40 to 158°F)

Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-20-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-104-696

Description	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		2	900 µm TB	N/A	4.8	0.19	22	15	222	50	556	125
		4	900 µm TB	N/A	4.8	0.19	25	17	222	50	556	125
		6					31	21				
		8			5.8	0.23	36	24	334	75	667	150
		10					39	26				
		12					43	29				
		16			8.8	0.35	64	43	556	125	1112	250
		24					80	54				
Unitized 6-Fiber Sub-Units		24	900 µm TB	4.5	13.1	0.52	145	97	1001	225	2002	450
		36			16.0	0.63	221	148	1668	375	3336	750
Unitized 12-Fiber Sub-Units		36	900 µm TB	5.5	14.1	0.56	162	109	1001	225	2002	450
		48			15.5	0.61	207	139	1423	320	2847	640
		72			19.0	0.75	321	216	2002	450	4226	950
		96			22.8	0.90	536	360	2780	625	5560	1250
		144			25.4	1.00	602	404	4226	950	8452	1900

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

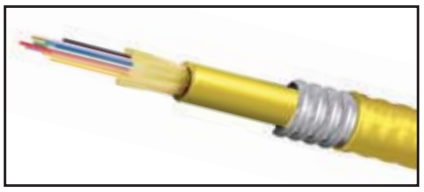
Fiber*Express* Distribution Cables (continued)

Tight Buffer — Indoor/Outdoor Riser, Plenum and LSZH Rated

Standard Indoor/Outdoor Configurations

Fiber Count	Part Number			
	OM1 Black	OM3 Black	OM4 Black	OS2 Black
Non-Unitized - Riser/LSZH				
2	FD1D002L9	FD3D002L9	FD4D002L9	FDSD002L9
6	FD1D006L9	FD3D006L9	FD4D006L9	FDSD006L9
12	FD1D012L9	FD3D012L9	FD4D012L9	FDSD012L9
24	FD1D024L9	FD3D024L9	FD4D024L9	FDSD024L9
Non-Unitized - Riser				
2	FD1D002R9	FD3D002R9	FD4D002R9	FDSD002R9
6	FD1D006R9	FD3D006R9	FD4D006R9	FDSD006R9
12	FD1D012R9	FD3D012R9	FD4D012R9	FDSD012R9
24	FD1D024R9	FD3D024R9	FD4D024R9	FDSD024R9
Non-Unitized Plenum				
2	FD1D002P9	FD3D002P9	FD4D002P9	FDSD002P9
6	FD1D006P9	FD3D006P9	FD4D006P9	FDSD006P9
12	FD1D012P9	FD3D012P9	FD4D012P9	FDSD012P9
24	FD1D024P9	FD3D024P9	FD4D024P9	FDSD024P9
Unitized 6-Fiber Sub-Units - Riser				
24	FD1D024RJ	FD3D024RJ	FD4D024RJ	FDSD024RJ
Unitized 6-Fiber Sub-Units - Plenum				
24	FD1D024PJ	FD3D024PJ	FD4D024PJ	FDSD024PJ
Unitized 12-Fiber Sub-Units - Riser/LSZH				
48	FD1D048LK	FD3D048LK	FD4D048LK	FDSD048LK
72	FD1D072LK	FD3D072LK	FD4D072LK	FDSD072LK
96	FD1D096LK	FD3D096LK	FD4D096LK	FDSD096LK
144	FD1D144LK	FD3D144LK	FD4D144LK	FDSD144LK
Unitized 12-Fiber Sub-Units - Plenum				
48	FD1D048PK	FD3D048PK	FD4D048PK	FDSD048PK
72	FD1D072PK	FD3D072PK	FD4D072PK	FDSD072PK
96	FD1D096PK	FD3D096PK	FD4D096PK	FDSD096PK
144	FD1D144PK	FD3D144PK	FD4D144PK	FDSD144PK

For an exhaustive selection contact customer service or your local Representative for more details.



FISD012A9, Optical Fiber Armored Distribution Cable, Indoor

Fiber*Express* Armored Distribution Cables

Tight Buffer — Indoor, Riser and Plenum Rated

Heightened Protection with simple termination. Augmenting the easy termination of Distribution cable with interlocking armor to provide an elevated resistance to cutting, crushing and the gnawing of rodents all while eliminating the additional expense of innerduct.

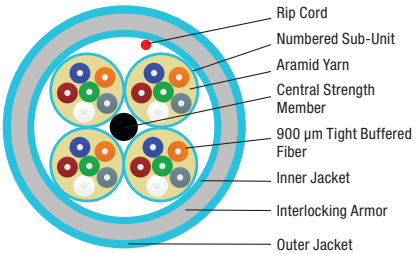
Applications:

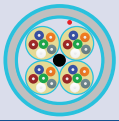
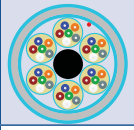
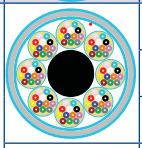
- Campus/Inter Building
- Telecom Trunks
- Industrial
- Rugged Environments

Indoor Specifications

Bend Radius (vs. Cable OD)	
Installation	20 x OD
Operation	15 x OD
Temperature Range	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation (Plenum/LSZH)	0°C to 60°C (32°F to 140°F)
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum/LSZH)	-20°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

Legend



Description	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		6	900 µm TB	N/A	14.5	0.57	189	127	360	81	1201	270
		12			15.7	0.62	150	223	400	90	1334	300
		24			17.0	0.67	335	225				
Unitized 6-Fiber Sub-Units		24	900 µm TB	4.5	21.5	0.85	391	263	890	200	2700	600
		36			25.3	1.00	548	368				
Unitized 12-Fiber Sub-Units		48	900 µm TB	5.5	24.6	0.97	540	363	890	200	2700	600
		72			27.8	1.09	716	481				
		96			32.5	1.28	930	625				
		144			35.6	1.40	1005	675				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Compliance

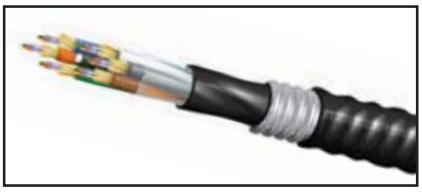
- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-83-596

Fiber*Express* Armored Distribution Cables (continued)
Tight Buffer — Indoor Riser and Plenum Rated

Standard Indoor Armored Configurations

Fiber Count	Part Number			
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Non-Unitized Riser				
6	FI1D006F9	FI3D006F9	FI4D006F9	FISD006F9
12	FI1D012F9	FI3D012F9	FI4D012F9	FISD012F9
24	FI1D024F9	FI3D024F9	FI4D024F9	FISD024F9
Non-unitized Plenum				
6	FI1D006A9	FI3D006A9	FI4D006A9	FISD006A9
12	FI1D012A9	FI3D012A9	FI4D012A9	FISD012A9
24	FI1D024A9	FI3D024A9	FI4D024A9	FISD024A9
Unitized 6 fiber sub-units plenum				
24	FI1D024AJ	FI3D024AJ	FI4D024AJ	FISD024AJ
Unitized 12 fiber sub-units plenum				
48	FI1D048AK	FI3D048AK	FI4D048AK	FISD048AK
72	FI1D072AK	FI3D072AK	FI4D072AK	FISD072AK
96	FI1D096AK	FI3D096AK	FI4D096AK	FISD096AK
144	FI1D144AK	FI3D144AK	FI4D144AK	FISD144AK

For an exhaustive selection contact customer service or your local Representative for more details.

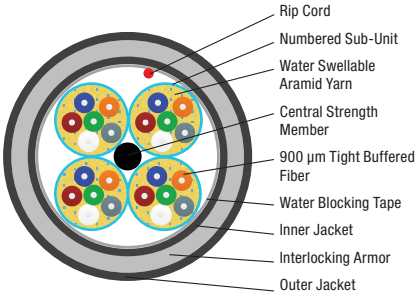


FD4D096AK, Optical Fiber Armored Distribution Cable, Indoor/Outdoor

Indoor/Outdoor Specifications

Bend Radius (vs. Cable OD)	
Installation	20 x OD
Operation	15 x OD
Temperature Range	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-20°C to 70°C (-4°F to 158°F)
Operation	-40°C to 70°C (-40°F to 158°F)

Legend



Compliance

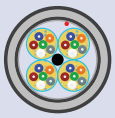
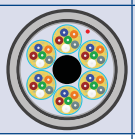
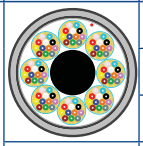
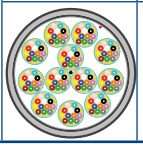
- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-20-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-104-696

Fiber*Express* Armored Distribution Cables (continued)

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

Indoor/Outdoor Specifications

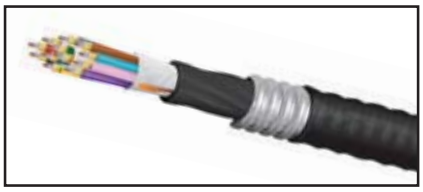
- Environmental Protection
  - UV Resistant Jacket
  - Moisture Resistant Jacket
  - Fungus Resistant Jacket
  - Water Blocking Aramid
  - Water Blocking Tape

Description	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		6	900 µm TB	N/A	14.5	0.57	189	127	360	81	1201	270
		12			15.7	0.62	150	223	400	90	1334	300
		24			17.0	0.67	335	225				
Unitized 6-Fiber Sub-Units		24	900 µm TB	4.5	21.5	0.85	391	263	890	200	2700	600
		36			25.3	1.00	548	368				
Unitized 12-Fiber Sub-Units		48	900 µm TB	5.5	24.6	0.97	540	363	890	200	2700	600
		72			27.8	1.09	716	481				
		96			32.5	1.28	930	625				
		144			35.6	1.40	1005	675				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber*Express* Armored Distribution Cables (continued)

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

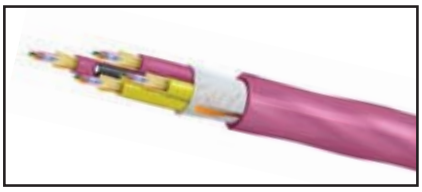


FD3D144AK, Optical Fiber Armored Distribution Cable, Indoor/Outdoor

Standard Indoor / Outdoor Armored Configurations

Fiber Count	Part Number			
	OM1 Black	OM3 Black	OM4 Black	OS2 Black
Non-Unitized Riser				
6	FD1D006F9	FD3D006F9	FD4D006F9	FDSD006F9
12	FD1D012F9	FD3D012F9	FD4D012F9	FDSD012F9
24	FD1D024F9	FD3D024F9	FD4D024F9	FDSD024F9
Non-unitized Plenum				
6	FD1D006A9	FD3D006A9	FD4D006A9	FDSD006A9
12	FD1D012A9	FD3D012A9	FD4D012A9	FDSD012A9
24	FD1D024A9	FD3D024A9	FD4D024A9	FDSD024A9
Unitized 6 fiber sub-units plenum				
24	FD1D024AJ	FD3D024AJ	FD4D024AJ	FDSD024AJ
Unitized 12 fiber sub-units plenum				
48	FD1D048AK	FD3D048AK	FD4D048AK	FDSD048AK
72	FD1D072AK	FD3D072AK	FD4D072AK	FDSD072AK
96	FD1D096AK	FD3D096AK	FD4D096AK	FDSD096AK
144	FD1D144AK	FD3D144AK	FD4D144AK	FDSD144AK

For an exhaustive selection contact customer service or your local Representative for more details.



FIEDH22PK, Optical Fiber Hybrid Cable

Fiber*Express* Hybrid Distribution Cables

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

Hybrid cables combine multiple grades of fiber in a single unitized cable easily supporting various applications in a single cable which minimize installation labor.

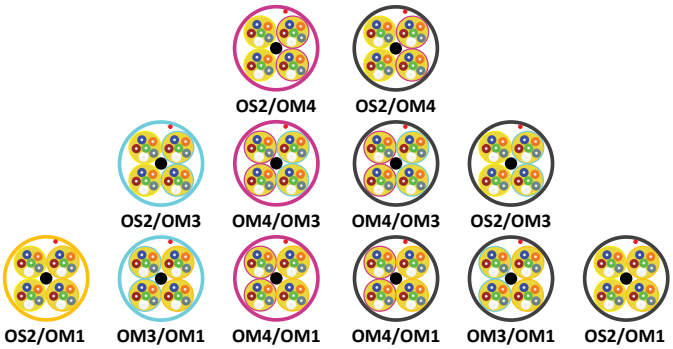
Applications

- In building backbones
- Factory floor automation
- Broadcast and A/V in-building installation

Additional Options

- Breakout Cable
- uMini-Distribution Cable
- 2-fiber to 144-fiber constructions
- Additional fiber grade combinations

Standard Hybrid Cable Color



Hybrid Distribution Configurations

Building a *Smart*Part Number

1. Choose FX Fiber Cable: FI
2. Choose Fiber Grade (Primary/Secondary): H
3. Choose Family: D
4. Choose Fiber Configuration: H22
5. Choose Flammability Rating and Protection: P
6. Choose Subunit Type/ Configuration: J

FX Fiber Cable	
FI	Indoor Cable
FD	Indoor/Outdoor Cable

Fiber Grade (PRI/ SEC)	
E	OS2/OM4
H	OS2/OM3
F	OS2/OM1
K	OM4/OM1
M	OM3/OM1

Family	
D	Distribution

Fiber Configuration	
H13	4 Subunits, 1 Primary Subunit, 3 Secondary subunits
H22	4 Subunits, 2 Primary Subunits, 2 Secondary Subunits
H31	4 Subunits, 3 Primary Subunits, 1 Secondary Subunit

Flammability Rating and Protection	
Plenum Group	
P	Plenum (OFNP)
A	Plenum Interlocked Aluminum Armor (OFCP)
Riser Group	
R	Riser (OFNR)
F	Riser Interlocked Aluminum Armor (OFCR)

Subunit Type/ Configuration	
J	4.5 mm Subunit, 6 x 900 µm Fiber
K	5.5 mm Subunit, 12 x 900 µm Fiber

For an exhaustive selection contact customer service or your local Representative for more details.

Examples:

FIHDH22PJ - Unitized – 6 fiber subunits and for FDEDH31AK's description to say Unitized 12 fiber subunits.

FDEDH31AK - FX Indoor/Outdoor Cable, Hybrid Distribution Tight Buffered Cable, Unitized, 48 fiber (36 fiber OS2, 12 fiber OM4), Plenum Armored, Black Jacket

Fiber*Express* Reel-In-A-Box Packaging

Breakout, Distribution and Mini-Distribution — Indoor Riser and Plenum Rated

Lightweight and easy to handle Reel-In-A-Box simplifies fiber cable payout. Rugged box construction and locking reel hub ensures both the box and fiber arrive on the job site intact and the adjustable hub tension always results in the optimal pulling condition.

Applications

- In building backbone
- Horizontal distribution for Fiber-to-the-desk
- Passive Optical Networking / Passive Optical LAN
- Broadcast and A/V in-building installations

Reel-In-A-Box Sizes

- 500 ft. (152 m) per box
- 1000 ft. (305 m) per box

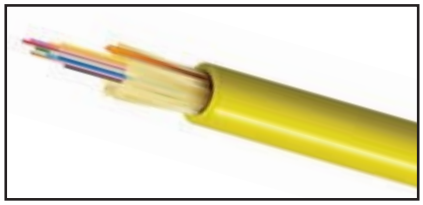
Additional Options

- Interconnect Cable (page 40)
  - Simplex, Duplex and Mini-Round
- Breakout Cable (page 41)
  - Up to 4 fibers
- Indoor Distribution Cable (page 42)
  - Up to 12 fibers
- Indoor/Outdoor Distribution Cable (page 44)
  - Up to 12 fibers
- Indoor uMini-Distribution Cable (page 51)
  - Up to 12 fibers

Standard Configurations

Fiber Count	Part Number			
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
1000 ft. Box – Interconnect (3 mm Zip Cord), Plenum				
1	FI1I001PC0BK	FI3I001PCABK	FI4I001PCEBK	FISI001PCYBK
2	FI1I002PC0BK	FI3I002PCABK	FI4I002PCEBK	FISI002PCYBK
1000 ft. Box – Breakout, Plenum				
2	FI1B002PB0BK	FI3B002PBABK	FI4B002PBEBK	FISB002PBYBK
4	FI1B004PB0BK	FI3B004PBABK	FI4B004PBEBK	FISB004PBYBK
1000 ft. Box – Distribution, Plenum				
2	FI1D002P90BK	FI3D002P9ABK	FI4D002P9EBK	FISD002P9YBK
4	FI1D004P90BK	FI3D004P9ABK	FI4D004P9EBK	FISD004P9YBK
6	FI1D006P90BK	FI3D006P9ABK	FI4D006P9EBK	FISD006P9YBK
12	FI1D012P90BK	FI3D012P9ABK	FI4D012P9EBK	FISD012P9YBK
1000 ft. Box – uMini-Distribution, Plenum				
12	FI1M012P20BK	FI3M012P2ABK	FI4M012P2EBK	FISM012P2YBK

For an exhaustive selection contact customer service or your local Representative for more details.



FISM012P1, Optical Fiber µMini-Distribution Cable

Fiber*Express* µMini Distribution Cables

Indoor Riser and Plenum Rated

Reduce diameter and prepare for the future. 250 µm sub-unitized fiber provides the basis for MPO terminations while reducing size and weight all while maintaining compatibility with traditional LC/SC/ST terminations utilizing simple break out kits or labor saving mass fusion splicing.

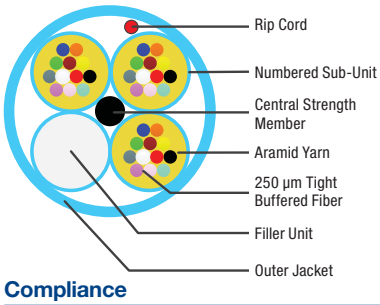
Applications:

- In-building backbone
- Data Centers
- Broadcast and AV in-building installations

Indoor Specifications

Bend Radius (vs. Cable OD)	
Installation	15 x OD
Operation	10 x OD
Temperature Range	
Storage	-40°C to 70°C (-40°C to 158°F)
Installation (Plenum/LSZH)	0°C to 60°C (32°F to 140°F)
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum/LSZH)	-20°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

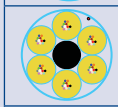
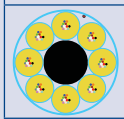
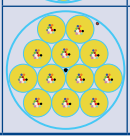
Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-83-596

Base12

Name	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength lsb-f			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor µMini-Distribution Cable												
Non-Unitized		12	250 µm	N/A	3.0	0.12	9	6	200.3	45	445	100
Unitized 12-Fiber Sub-Units		12	250 µm	3.0	4.8	0.18	11	7	200.3	45	668	150
		24		2.0	6.5	0.26	38	26				
		36										
		48										
		72			7.5	0.30	54	36				
		96			8.7	0.34	72	49				
		144			9.9	0.39	80.5	54.1				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Standard Indoor Configurations

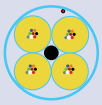
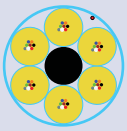
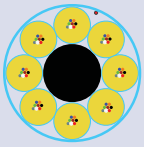
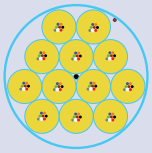
Fiber Count	Part Number		
	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Non-unitized - Plenum			
12	FI3M012P2	FI4M012P2	FISM012P2
Double-Jacket Unitized - Plenum			
12	FI3M012P0	FI4M012P0	FISM012P0
Unitized - Plenum			
24	FI3M024P1	FI4M024P1	FISM024P1
36	FI3M036P1	FI4M036P1	FISM036P1
48	FI3M048P1	FI4M048P1	FISM048P1
72	FI3M072P1	FI4M072P1	FISM072P1
144	FI3M144P1	FI4M144P1	FISM144P1

For an exhaustive selection contact customer service or your local Representative for more details.

Fiber*Express* µMini Distribution Cables

Indoor Riser and Plenum Rated

Base8

Name	Construction	Fiber Count	Fiber	Sub-Unit OD	Cable OD		Weight		Tensile Strength lsb-f			
									Operation		Installation	
				mm	mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor µMini-Distribution Cable												
Non-Unitized		8	250 µm	N/A	3.0	0.12	9	6	200.3	50	445	100
Unitized 8-Fiber Sub-Units		8	250 µm	3.0	4.8	0.18	11	7	200.3	45	668	150
Unitized 8-Fiber Sub-Units		24	250 µm	2.0	6.5	0.26	38	26	200.3	45	668	150
		32										
		48			7.5	0.30	54	36				
		64			8.7	0.34	72	49				
		96			9.9	0.39	80.5	54.1				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber Count	Part Number		
	OM3 Aqua	OM4 Erika Violet	OS2 Yellow
Non-Unitized Plenum			
8	FI3M008P2	FI4M008P2	FISM008P2
Double Jacket Unitized - Plenum			
8	FI3M008P8	FI4M008P8	FISM008P8
Unitized Plenum			
24	FI3M024P8	FI4M024P8	FISM024P8
32	FI3M032P8	FI4M032P8	FISM032P8
48	FI3M048P8	FI4M048P8	FISM048P8
64	FI3M064P8	FI4M064P8	FISM064P8
96	FI3M096P8	FI4M096P8	FISM096P8

For an exhaustive selection contact customer service or your local Representative for more details.

Indoor Specifications

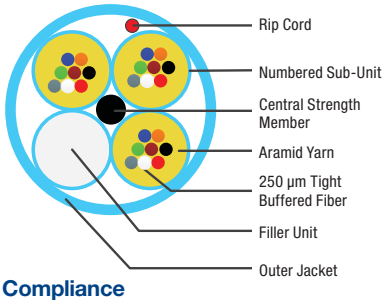
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

Storage	-40°C to 70°C (-40°C to 158°F)
Installation (Plenum/LSZH)	0°C to 60°C (32°F to 140°F)
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum/LSZH)	-20°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

Legend



Compliance

- TIA/EIA-568-C.3
- ISO/IEC 11801, 2nd Edition
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFxR/OFx FT.4 (RISER - PVC)
- NEC/CEC OFxR/OFx FT.4 (LSZH - FRPE)
- NEC/CEC OFxR/OFx FT.6 (PLENUM - PVC or PVDF)
- ICEA S-83-596

FSSL096NG, Optical Fiber All Dielectric Loose Tube Cable, Outdoor

Fiber*Express* All Dielectric Loose Tube Cables

Single Jacket Loose Tube — Outdoor

Gel-filled or dry-blocked buffer tubes prevent water migration. Full dielectric construction, no grounding required. Available with up to 144 fibers. Length markings in meters for easy determination of cable length.

Applications:

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Industrial outside plant (OSP Type)

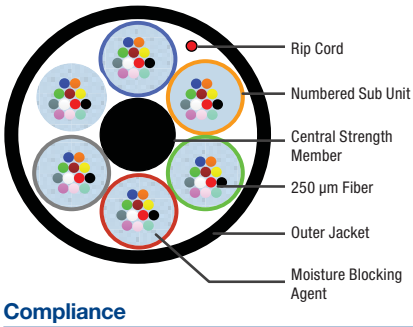
Jacket Specifications

Jacket Material	
Outdoor	PE
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

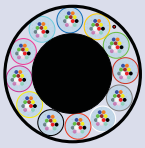
Temperature Range (Outdoor Series)	
Storage	-40°C to 75°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-87-640
- GR-20-CORE

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Sub-Units		6	10.5	0.41	87	59	2700	600	890	200
Unitized 12-Fiber Sub-Units		12 24 36 48	10.5	0.41	87	59	2700	600	890	200
		72	11.5	0.45	106	71				
		96	13.2	0.52	136	91				
		144	17	0.67	220	148				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber Count	Part Number				
	OM1	OM2	OM3	OM4	OS2
Outside Plant — Gel Filled Buffer Tubes					
6	FS1L006NF	FS2L006NF	FS3L006NF	FS4L006NF	FSSL006NF
12	FS1L012NG	FS2L012NG	FS3L012NG	FS4L012NG	FSSL012NG
24	FS1L024NG	FS2L024NG	FS3L024NG	FS4L024NG	FSSL024NG
36	FS1L036NG	FS2L036NG	FS3L036NG	FS4L036NG	FSSL036NG
48	FS1L048NG	FS2L048NG	FS3L048NG	FS4L048NG	FSSL048NG
72	FS1L072NG	FS2L072NG	FS3L072NG	FS4L072NG	FSSL072NG
96	FS1L096NG	FS2L096NG	FS3L096NG	FS4L096NG	FSSL096NG
144	FS1L144NG	FS2L144NG	FS3L144NG	FS4L144NG	FSSL144NG
Outside Plant — Dry Buffer Tubes					
6	FS1L006NC	FS2L006NC	FS3L006NC	FS4L006NC	FSSL006NC
12	FS1L012ND	FS2L012ND	FS3L012ND	FS4L012ND	FSSL012ND
24	FS1L024ND	FS2L024ND	FS3L024ND	FS4L024ND	FSSL024ND
36	FS1L036ND	FS2L036ND	FS3L036ND	FS4L036ND	FSSL036ND
48	FS1L048ND	FS2L048ND	FS3L048ND	FS4L048ND	FSSL048ND
72	FS1L072ND	FS2L072ND	FS3L072ND	FS4L072ND	FSSL072ND
96	FS1L096ND	FS2L096ND	FS3L096ND	FS4L096ND	FSSL096ND
144	FS1L144ND	FS2L144ND	FS3L144ND	FS4L144ND	FSSL144ND

Fiber*Express* All Dielectric Loose Tube Cables (continued)

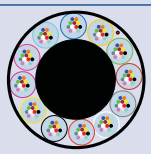
Single Jacket Loose Tube - Outdoor

Gel-filled or dry-blocked buffer tubes prevent water migration. Full dielectric construction, no grounding required. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Length markings in meters for easy determination of cable length.

Applications:

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor

FD4L048RG, Optical Fiber All Dielectric Loose Tube Cable, Outdoor

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Sub-Units		6	12.9	0.51	164	110	2700	600	890	200
Unitized 12-Fiber Sub-Units		12 24 36 48	12.9	0.51	164	110	2700	600	890	200
		72	13.7	0.54	190	128				
		96	15.5	0.61	237	159				
		144	19.3	0.76	361	243				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	No. of Fibers Per Bundle	Smart Part to Legacy Part Number Cross				
		OM1	OM2	OM3	OM4	OS2
Riser (NEC/CEC OFNR/OFN FT.4) Indoor/Outdoor — Gel Filled Buffer Tubes						
6	6	FD1L006RF	FD2L006RF	FD3L006RF	FD4L006RF	FDSL006RF
12	12	FD1L012RG	FD2L012RG	FD3L012RG	FD4L012RG	FDSL012RG
24	12	FD1L024RG	FD2L024RG	FD3L024RG	FD4L024RG	FDSL024RG
36	12	FD1L036RG	FD2L036RG	FD3L036RG	FD4L036RG	FDSL036RG
48	12	FD1L048RG	FD2L048RG	FD3L048RG	FD4L048RG	FDSL048RG
72	12	FD1L072RG	FD2L072RG	FD3L072RG	FD4L072RG	FDSL072RG
96	12	FD1L096RG	FD2L096RG	FD3L096RG	FD4L096RG	FDSL096RG
144	12	FD1L144RG	FD2L144RG	FD3L144RG	FD4L144RG	FDSL144RG
Riser (NEC/CEC OFNR/OFN FT.4) Indoor/Outdoor — Dry Buffer Tubes						
6	6	FD1L006RC	FD2L006RC	FD3L006RC	FD4L006RC	FDSL006RC
12	12	FD1L012RD	FD2L012RD	FD3L012RD	FD4L012RD	FDSL012RD
24	12	FD1L024RD	FD2L024RD	FD3L024RD	FD4L024RD	FDSL024RD
36	12	FD1L036RD	FD2L036RD	FD3L036RD	FD4L036RD	FDSL036RD
48	12	FD1L048RD	FD2L048RD	FD3L048RD	FD4L048RD	FDSL048RD
72	12	FD1L072RD	FD2L072RD	FD3L072RD	FD4L072RD	FDSL072RD
96	12	FD1L096RD	FD2L096RD	FD3L096RD	FD4L096RD	FDSL096RD
144	12	FD1L144RD	FD2L144RD	FD3L144RD	FD4L144RD	FDSL144RD

Jacket Specifications

Jacket Material	
Riser	PVC
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

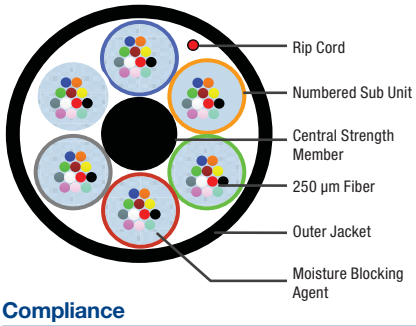
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

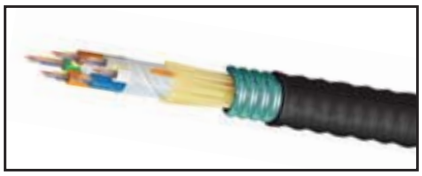
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Temperature Range (Riser Series)	
Storage	-40°C to 75°C
Operating	-40°C to 70°C

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-104-696
- GR-20-CORE



FSSL0726D, Optical Fiber Loose Tube Cable, Outdoor

Fiber*Express* Armored Loose Tube Cables

Single Jacket, Single Armor Loose Tube — Outdoor

Gel-filled or dry-blocked buffer tubes prevent water migration. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 144 fibers. Length markings in meters for easy determination of cable length.

Applications:

- Direct burial
- Low to high fiber count requirements
- Inter-building duct installations
- Industrial outside plant (OSP Type)

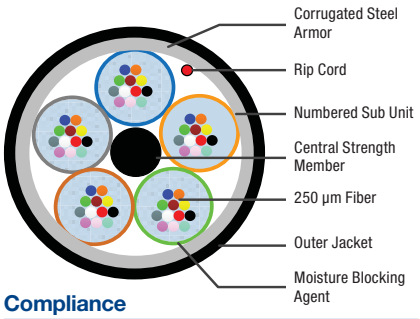
Jacket Specifications

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	Thermoplastic
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

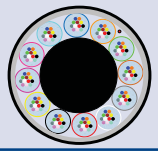
Temperature Range (Outdoor)	
Storage	-40°C to 75°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-87-640
- GR-20-CORE

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Sub-Units		6	13.2	0.52	140	94	2700	600	800	180
Unitized 12-Fiber Sub-Units		12 24 36 48	13.2	0.52	140	94	2700	600	800	180
		72	14	0.55	161	108				
		96	15.8	0.62	193	130				
		144	19.6	0.77	285	192				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	No. of Fibers Per Bundle	Part Number				
		OM1	OM2	OM3	OM4	OS2
Outside Plant — Gel Filled Buffer Tubes						
6	6	FS1L0066F	FS2L0066F	FS3L0066F	FS4L0066F	FSSL0066F
12	12	FS1L0126G	FS2L0126G	FS3L0126G	FS4L0126G	FSSL0126G
24	12	FS1L0246G	FS2L0246G	FS3L0246G	FS4L0246G	FSSL0246G
48	12	FS1L0486G	FS2L0486G	FS3L0486G	FS4L0486G	FSSL0486G
72	12	FS1L0726G	FS2L0726G	FS3L0726G	FS4L0726G	FSSL0726G
96	12	FS1L0966G	FS2L0966G	FS3L0966G	FS4L0966G	FSSL0966G
144	12	FS1L1446G	FS2L1446G	FS3L1446G	FS4L1446G	FSSL1446G
Outside Plant — Dry Buffer Tubes						
6	6	FS1L0066C	FS2L0066C	FS3L0066C	FS4L0066C	FSSL0066C
12	12	FS1L0126D	FS2L0126D	FS3L0126D	FS4L0126D	FSSL0126D
24	12	FS1L0246D	FS2L0246D	FS3L0246D	FS4L0246D	FSSL0246D
48	12	FS1L0486D	FS2L0486D	FS3L0486D	FS4L0486D	FSSL0486D
72	12	FS1L0726D	FS2L0726D	FS3L0726D	FS4L0726D	FSSL0726D
96	12	FS1L0966D	FS2L0966D	FS3L0966D	FS4L0966D	FSSL0966D
144	12	FS1L1446D	FS2L1446D	FS3L1446D	FS4L1446D	FSSL1446D

Fiber*Express* Armored Loose Tube Cables (continued)

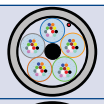
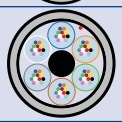
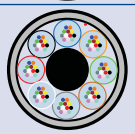
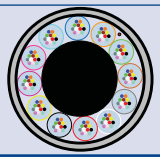
Double Jacket, Single Armor Loose Tube — Outdoor

Gel-filled buffer tubes prevent water migration. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 216 fibers. Length markings in meters for easy determination of cable length.

Applications:

- Direct burial
- Low to high fiber count requirements
- Inter-building duct installations
- Industrial outside plant (OSP Type)

FS3H0726G, Optical Fiber Loose Tube Cable, Outdoor

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Sub-Units		6	15.5	0.62	200	134	2670	600	890	200
Unitized 12-Fiber Sub-Units		12 24 36 48	15.5	0.62	200	134	2670	600	890	200
		72	16.4	0.65	206	138				
		96	18.2	0.72	254	170				
		144	22.9	0.9	385	259				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	No. of Fibers Per Bundle	Part Number				
		OM1	OM2	OM3	OM4	OS2
Outdoor Armored						
6	6	**FS1H0066F**	**FS2H0066F**	**FS3H0066F**	**FS4H0066F**	**FSSH0066F**
12	12	**FS1H0126G**	**FS2H0126G**	**FS3H0126G**	**FS4H0126G**	**FSSH0126G**
24	12	**FS1H0246G**	**FS2H0246G**	**FS3H0246G**	**FS4H0246G**	**FSSH0246G**
36	12	**FS1H0366G**	**FS2H0366G**	**FS3H0366G**	**FS4H0366G**	**FSSH0366G**
48	12	**FS1H0486G**	**FS2H0486G**	**FS3H0486G**	**FS4H0486G**	**FSSH0486G**
72	12	**FS1H0726G**	**FS2H0726G**	**FS3H0726G**	**FS4H0726G**	**FSSH0726G**
96	12	**FS1H0966G**	**FS2H0966G**	**FS3H0966G**	**FS4H0966G**	**FSSH0966G**
144	12	**FS1H1446G**	**FS2H1446G**	**FS3H1446G**	**FS4H1446G**	**FSSH1446G**

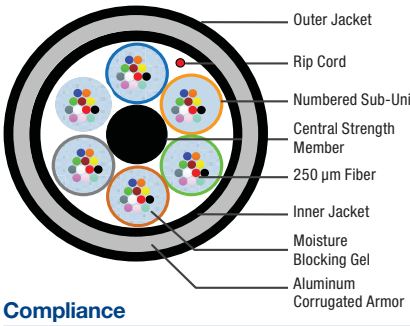
Jacket Specifications

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	Thermoplastic
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

Temperature Range (Outdoor)	
Storage	-40°C to 75°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-87-640
- GR-20-CORE

FDSH0965G, Optical Fiber Loose Tube Cable, Indoor/Outdoor

Fiber*Express* Armored Loose Tube Cables (continued)

Double Jacket, Single Armor Loose Tube — Indoor/Outdoor

Gel-filled buffer tubes prevent water migration. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 216 fibers. Length markings in meters for easy determination of cable length.

Applications:

- Direct burial
- Low to high fiber count requirements
- Inter-building duct installations
- Indoor/outdoor

Jacket Specifications

Jacket Material	
Riser	PVC
Buffer Tube	Thermoplastic
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

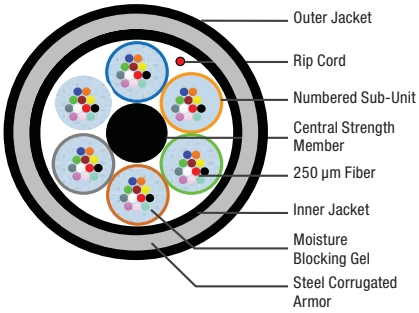
Ratings

Riser	OFCR

Specifications

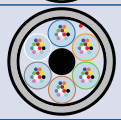
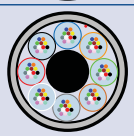
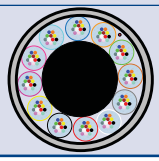
Temperature Range (Riser)	
Storage	-40°C to 80°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-104-696
- GR-20-CORE

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Sub-Units		6	13.7	0.54	205	138	2700	600	890	200
Unitized 12-Fiber Sub-Units		12 24 36 48	13.7	0.54	205	138	2700	600	890	200
		72	16.8	0.66	256	172				
		96	17.8	0.7	307	206				
		144	22.4	0.88	449	302				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	No. of Fibers Per Bundle	Part Number				
		OM1	OM2	OM3	OM4	OS2
Riser (NEC/CEC OFCR/OFC FT.4) Indoor/Outdoor						
6	6	FD1H0065F	FD2H0065F	FD3H0065F	FD4H0065F	FDSH0065F
12	12	FD1H0125G	FD2H0125G	FD3H0125G	FD4H0125G	FDSH0125G
24	12	FD1H0245G	FD2H0245G	FD3H0245G	FD4H0245G	FDSH0245G
36	12	FD1H0365G	FD2H0365G	FD3H0365G	FD4H0365G	FDSH0365G
48	12	FD1H0485G	FD2H0485G	FD3H0485G	FD4H0485G	FDSH0485G
72	12	FD1H0725G	FD2H0725G	FD3H0725G	FD4H0725G	FDSH0725G
96	12	FD1H0965G	FD2H0965G	FD3H0965G	FD4H0965G	FDSH0965G
144	12	FD1H1445G	FD2H1445G	FD3H1445G	FD4H1445G	FDSH1445G

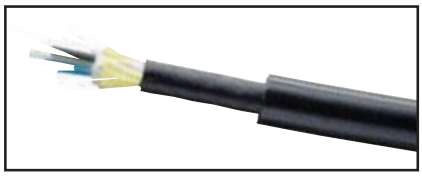
Fiber*Express* Heavy Duty Loose Tube Cables

Double Jacket, Heavy Duty Loose Tube — Outdoor

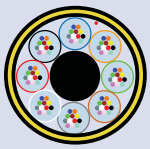
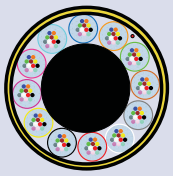
Gel-filled buffer tubes prevent water migration. Available with up to 216 fibers.

Applications:

- Direct burial
- Harsh environments
- Applications requiring good ozone-, moisture- and weather-resistance



Optical Fiber Heavy Duty Loose Tube Cable

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 12-Fiber Sub-Units		2	12.5	0.49	125	84	2700	600	890	200
		4								
		6								
Unitized 12-Fiber Sub-Units		12	12.5	0.49	125	84	2700	600	890	200
		24								
		36								
		48								
		72	13.4	0.53	144	97				
		96	15.2	0.6	180	121				
		144	19	0.75	274	184				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	No. of Fibers Per Bundle	Part Number				
		OM1	OM2	OM3	OM4	OS2
Outdoor						
2	2	FS1H002NF	FS2H002NF	FS3H002NF	FS4H002NF	FSSH002NF
4	4	FS1H004NF	FS2H004NF	FS3H004NF	FS4H004NF	FSSH004NF
6	6	FS1H006NF	FS2H006NF	FS3H006NF	FS4H006NF	FSSH006NF
8	8	FS1H008NG	FS2H008NG	FS3H008NG	FS4H008NG	FSSH008NG
12	12	FS1H012NG	FS2H012NG	FS3H012NG	FS4H012NG	FSSH012NG
18	12	FS1H018NG	FS2H018NG	FS3H018NG	FS4H018NG	FSSH018NG
24	12	FS1H024NG	FS2H024NG	FS3H024NG	FS4H024NG	FSSH024NG
36	12	FS1H036NG	FS2H036NG	FS3H036NG	FS4H036NG	FSSH036NG
48	12	FS1H048NG	FS2H048NG	FS3H048NG	FS4H048NG	FSSH048NG
72	12	FS1H072NG	FS2H072NG	FS3H072NG	FS4H072NG	FSSH072NG
96	12	FS1H096NG	FS2H096NG	FS3H096NG	FS4H096NG	FSSH096NG
144	12	FS1H144NG	FS2H144NG	FS3H144NG	FS4H144NG	FSSH144NG
216	12	FS1H216NG	FS2H216NG	FS3H216NG	FS4H216NG	FSSH216NG

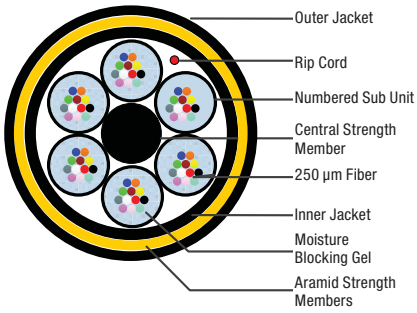
Jacket Specifications

Jacket Material	
Outdoor	PE
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Core Wrap	Water Swellable Tape
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

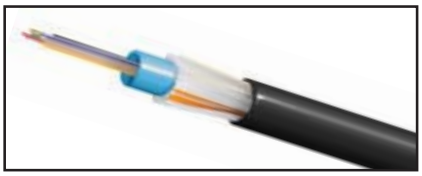
Temperature Range	
Storage	-40°C to 75°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA S-87-640
- GR-20-CORE



FSSC012N0, Optical Fiber Central Loose Tube Cable, Outdoor

Fiber*Express* Central Tube Cables

Loose Tube — Outdoor and Outdoor Armored

Economical option for low fiber counts. Quick and easy end preparation. Fully waterblocked with gel-filled buffer tube. No rods – easy handling. Crush, impact and abrasion resistant.

Applications:

- Campus OSP backbones
- Drop cable
- Telecommunications and data trunk
- Direct burial (armored only)
- Lashed aerial

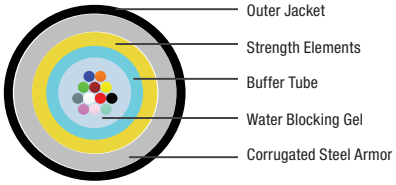
Jacket Specifications

Jacket Material	PE
Buffer Tube	PBT
Core Wrap	Water Swellable Tape
Strength Member	Fiberglass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

Temperature Range	
Storage	-40°C to 75°C
Operating	-40°C to 70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Legend



Compliance

- TIA/EIA-568-C.3
- GR-20-CORE
- ICEA S-87-640

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Outdoor										
Single Subunit		2 4 6 8 12 24	7.8	0.31	50	34	2700	600	890	200

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	Part Number				
	OM1	OM2	OM3	OM4	OS2
Outdoor					
2	FS1C002N0	FS2C002N0	FS3C002N0	FS4C002N0	FSSC002N0
4	FS1C004N0	FS2C004N0	FS3C004N0	FS4C004N0	FSSC004N0
6	FS1C006N0	FS2C006N0	FS3C006N0	FS4C006N0	FSSC006N0
8	FS1C008N0	FS2C008N0	FS3C008N0	FS4C008N0	FSSC008N0
10	FS1C010N0	FS2C010N0	FS3C010N0	FS4C010N0	FSSC010N0
12	FS1C012N0	FS2C012N0	FS3C012N0	FS4C012N0	FSSC012N0

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Outdoor Armored										
Single Subunit		2 4 6 8 12 24	12.2	0.48	140	95	2700	600	890	200

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

No. of Fibers	Part Number				
	OM1	OM2	OM3	OM4	OS2
Outdoor Armored					
2	FS1C00260	FS2C00260	FS3C00260	FS4C00260	FSSC00260
4	FS1C00460	FS2C00460	FS3C00460	FS4C00460	FSSC00460
6	FS1C00660	FS2C00660	FS3C00660	FS4C00660	FSSC00660
8	FS1C00860	FS2C00860	FS3C00860	FS4C00860	FSSC00860
10	FS1C01060	FS2C01060	FS3C01060	FS4C01060	FSSC01060
12	FS1C01260	FS2C01260	FS3C01260	FS4C01260	FSSC01260

Fiber*Express* Drop Cables
Tight Buffer — Indoor/Outdoor Riser Rated

Fast installation, easy termination. Cables provide easy routing and 900 µm tight-buffered fiber support fast and robust field terminations. Ideal for fiber to the subscriber applications.

Indoor/Outdoor Specifications:
***Environmental Protection**

- UV Resistant Jacket
- Moisture Resistant Jacket
- Fungus Resistant Jacket
- Water blocking aramid

Name	Construction	Fiber Count	Cable OD		Weight		Tensile Strength lsb-f			
							Operation		Installation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
1 Fiber Drop Cable		1	4.8	0.19	21	14	200	40	445	100

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Fiber Count	Part Number	
	Black	White
Drop cable with ITU G.657.B3 Glass — Riser		
1	FDCP001R9	FDCP001R9W
Drop cable with ITU G.657.B3 Glass — Riser — 450m Reel-In-A-Box Put-Up		
1	FDCP001R9NBY	FDCP001R9WBY

Specifications

Temperature Range

Storage	-40°C to 75°C
Operating	-40°C to 70°C

Min. Bend Radius

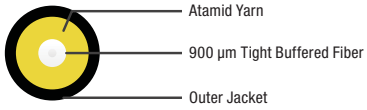
Installation	0.2" (5 mm)
Long Term	0.2" (5 mm)

Temperature Range

Temperature Range

Storage	-40°C to 75°C
Operating	-40°C to 70°C

Legend



Compliance

- TIA/EIA-568-C.3
- ICEA-S-104-696
- C(ETL)US TYPE OFNR
- CSA OFN FT4
- TPR.9424

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Faster.
Easier.
Better.

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*Smart*Part Number Configurator

Fiber Optic Cable

To use the configuration matrices, make a selection from each category (some selections will require measurements) and combine to form a custom part number.

Part number example from configuration shown below: **FI3B004PB**

FI	3	B	004	P	B
FX Fiber Cable	Fiber Type	Family	Fiber Count	Fire Rating & Protection	Subunit Type / Configuration
Breakout Cable					
FI Indoor Cable	1 OM1	B Breakout	002 2 Fibers	Plenum Group	B 2.0 mm, 1 x 900 µm Fiber
FD Indoor/Outdoor Cable	3 OM3		004 4 Fibers	P Plenum (OFNP)	
	4 OM4		006 6 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)		008 8 Fibers	Riser Group	
			010 10 Fibers	R Riser (OFNR)	
			012 12 Fibers	F Riser Interlocked Aluminum Armor (OFCR)	
Non-Unitized Distribuion Cable					
FI Indoor Cable	1 OM1	D Distribution	002 2 Fibers	Plenum Group	9 900 µm Fiber
FD Indoor/Outdoor Cable	3 OM3		004 4 Fibers	P Plenum (OFNP)	
	4 OM4		006 6 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)		012 12 Fibers	Riser Group	
			024 24 Fibers	R Riser (OFNR)	
				F Riser Interlocked Aluminum Armor (OFCR)	
Unitized Distribuion Cable					
FI Indoor Cable	1 OM1	D Distribution	024 24 Fibers	Plenum Group	J 4.5 mm, 6 x 900 µm Fiber
FD Indoor/Outdoor Cable	3 OM3		036 36 Fibers	P Plenum (OFNP)	K 5.5 mm, 12 x 900 µm Fiber
	4 OM4		048 48 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)		072 72 Fibers	Riser Group	
	Hybrid Assignments (Primary/Secondary)		096 96 Fibers	R Riser (OFNR)	
	E OS2/OM4		144 144 Fibers	F Riser Interlocked Aluminum Armor (OFCR)	
	F OS2/OM1		Hybrid Configurations		
	H OS2/OM3		H31 4 Subunits		
	K OM4/OM1		H22 4 Subunits		
	M OM3/OM1		H13 4 Subunits		
Mini-Distribution Cable (Non-Unitized)					
FI Indoor Cable	3 OM3	M Mini-Distribution	012 12 Fibers	Plenum Group	0 250 µm Fiber
	4 OM4			P Plenum (OFNP)	2 3.0 mm, 12 x 250 µm Fiber
	S OS2 (G.657.A1)			A Plenum Interlocked Aluminum Armor (OFCP)	
Mini-Distribution Cable (Unitized)					
FI Indoor Cable	3 OM3	M Mini-Distribution	024 24 Fibers	Plenum Group	1 2.0 mm, 12 x 250 µm Fiber
	4 OM4		036 36 Fibers	P Plenum (OFNP)	
	S OS2 (G.657.A1)		048 48 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
			072 72 Fibers		
			096 96 Fibers		
			144 144 Fibers		
Loose-Tube					
FI Indoor Cable	1 OM1	L Loose-Tube (Single-Jacket)	012 12 Fibers	CM	D 12 Fibers per Tube Dry
FS Outdoor Cable	3 OM3		024 24 Fibers	N CM (OFN)	G 12 Fibers per Tube Gel
	4 OM4		036 36 Fibers	6 CM Corrugated Steel Tape Armor	
	S OS2 (G.657.A1)		048 48 Fibers	Riser Group	
			072 72 Fibers	R Riser (OFNR)	
			096 96 Fibers	5 Riser Corrugated Steel Tape Armor (OFCR)	
			144 144 Fibers		