



**BELDEN**

# Optical Fiber Catalog

Belden FiberExpress® Systems

Americas

[belden.com](http://belden.com)

## Belden FiberExpress® Systems Reduce Complexity and Increase Flexibility

Involved in the development of optical fiber components for over 50 years, Belden is a leading supplier of high-quality, cost-effective optical fiber cabling systems. The FiberExpress (FX) Systems are the culmination of Belden's experience and expertise in a variety of applications, including data centers, premise and campus network backbone infrastructures, fiber-to-the-desk (FTTD) applications, and horizontal and centralized cabling systems. Guaranteed to meet or exceed all applicable TIA/EIA, ISO/IEC and IEEE standards, each end-to-end FX System is designed to reduce complexity, increase flexibility and speed up installation.

Belden fiber systems are:

### Reliable

- A leading supplier of high-quality, cost-effective fiber cabling systems for over 50 years
- Built for easy installation and termination
- Futureproof solutions to support emerging technologies

### Available

- In-house manufacturing facilities, material-sourcing capabilities
- Short lead times and easy-to-order components with SmartPart numbers
- Distinct industry partnerships to expand capabilities and solve complex challenges

### Configurable

- Tailored systems from our performance-driven portfolio
- Forward-thinking expertise for systems built to support your requirements
- Leverage our trusted portfolio, expertise and partnerships to design your purpose-build solution

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# A Complete Approach to Fiber Optic Cabling

Belden FX Systems are available in a variety of performance levels to provide value and meet the price point for a wide variety of applications. Each system is uniquely color-coded for easy identification in the field.

The following is a recap of the **five Belden FX Systems** that are offered today:

Belden System	FX OM1	FX OM3	FX OM4	FX OM5	FX SM
<b>Standard</b>	OM1 - 62.5 $\mu$ m Multimode Non-Bend-Insensitive TIA-492AAAA ANSI/TIA-568-D.3 ISO/IEC 11801	OM3 - 50 $\mu$ m Multimode Bend-Insensitive TIA-492AAAC ANSI/TIA-568-D.3 ISO/IEC 11801	OM4 - 50 $\mu$ m Multimode Bend-Insensitive TIA-492AAD ANSI/TIA-568-D.3 ISO/IEC 11801	OM5 - 50 $\mu$ m Multimode Bend-Insensitive TIA-492AAAE ANSI/TIA-568-D.3 ISO/IEC 11801	OS2 - 9 $\mu$ m Singlemode Bend-Insensitive TIA-492CAAB ANSI/TIA-568-D.3 ISO/IEC 11801 ITU G.657.A1
<b>Ethernet Applications</b>	Legacy 1G up to 275 m	1G up to 550 m 10G up to 300 m 40G/100G up to 100 m	10G up to 400 m 40G/100G up to 150 m	10G up to 400 m 40G/100G up to 150 m	10G up to 30/40 km 40G/100G up to 10/40 km
<b>Fiber Channel Applications</b>	Legacy 1G up to 300 m	4G up to 380 m 8G up to 300 m 16G up to 100 m	16G up to 125 m	16G up to 125 m	4/8/16G up to 10 km
<b>Fiber Cable and Assemblies Jacket Color</b>	Orange	Aqua	Erika Violet Aqua (optional)*	Lime Green	Yellow
<b>Connector and Adapter Color</b>	Beige	Aqua	Erika Violet Aqua (optional)*	Lime Green	Blue Green (APC)
<b>Pre-Term Connector Loss</b>	MPO-12 0.5 dB LC/SC/ST 0.25 dB	MPO-12 0.35 dB LC/SC/ST 0.25 dB	MPO-12 0.2 dB LC/SC/ST 0.15 dB	MPO-12 0.2 dB LC/SC/ST 0.15 dB	MPO-12 0.35 dB LC/SC/ST 0.25 dB
<b>Fiber Cable Loss</b>	Tight Buffer (900 $\mu$ m) 3.5 dB @ 850 nm 1.25 dB @ 1300 nm Enterprise Loose-tube (250 $\mu$ m) 3.25 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 $\mu$ m) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 $\mu$ m) 0.5 dB @ 1310 nm 0.5 dB @ 1550 nm Enterprise Loose-tube (250 $\mu$ m) 0.4 dB @ 1310 nm 0.3 dB @ 1550 nm
<b>Min. EMB (MHz-km)</b>	N/A	2000 @ 850 nm	4700 @ 850 nm	4700 @ 850 nm	N/A
<b>Min. OFL Bandwidth (MHz-km)</b>	200 @ 850 nm 500 @ 1300 nm	1500 @ 850 nm 500 @ 1300 nm	3500 @ 850 nm 500 @ 1300 nm	3500 @ 850 nm 500 @ 1300 nm	N/A

\* Belden standard OM4 products use Erika Violet cable with Erika Violet connectors. Aqua OM4 cable and connectors are available as tailored products by selecting OM4 fiber with the Aqua color code. Other combinations of fiber type and color will continue to use the default connector colors with the specified cable jacket color.

# FiberExpress Field Termination

## FX Fusion Splice-On Connectors

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.

### Features and Benefits

- Excellent performance deployment with increased first-pass termination yield
- Fast termination technique that can be completed with automated splicing tools
- Compatible with existing termination tools and fusion splicers
- No stripping or cleaning is required on the connector fiber stub
- No crimping, polishing or adhesives necessary for termination
- Superior insertion and return loss performance for future-proof networks
- Versatility of the product allows for both indoor and outdoor installation environments



FX Fusion Splice-On Connectors

### Connector Performance

Fiber Type	Maximum Insertion Loss	Typical Return Loss
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
Multimode OM5	0.2 dB	25 dB

### FX Fusion Multimode Connectors



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

Description	Belden Part Number		
	OM1 (Beige)	OM3/OM4 (Aqua)	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 2 mm boot are not compatible for termination on fanout kit.

### FX Fusion Singlemode Connectors



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

Description	Belden Part Number	
	OS2 (Blue)	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 2 mm boot are not compatible for termination on fanout kit.





## FiberExpress Field Termination (continued)

### FX Fusion, Connectors, Tools and Accessories

#### FX Fusion Connectors SmartPart Configurator

FX Field Termination	1. Choose Fiber Type	2. Choose Connector	3. Choose Cable Type	4. Choose Product Family	5. Choose Packaging
<b>FT</b>	<b>3</b>	<b>LC</b>	<b>900</b>	<b>F</b>	<b>S01</b>
	<b>Fiber Type</b>	<b>Connector</b>	<b>Cable Type</b>	<b>Product Family</b>	<b>Packaging</b>
	1 OM1	LC LC Simplex	900 Tight Buffer	F Splice-On	S01 Single Pack
	3 OM3	LA LC/APC Simplex	2MM Jacketed		
	4 OM4	SD SC Simplex			
	5 OM5	SA SC/APC Simplex			
	S OS2				

#### Example:

**FT3LC900F501** - FX Fusion Splice-On Connector, OM3/OM4, LC simplex, 900/250 μm, aqua housing, 1-pack

#### FX Fusion Installation Kits

Description	Belden 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

#### Installation Kit Accessories

Description	Belden 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
Splice Holder Family 4	FXFSSHFM4
Splice Holder Family 1 (for Breakout Kit 900 μm)	FXFSSHFM1LB
Splice Holder Family 2 (for Breakout Kit 900 μm)	FXFSSHFM2LB



FXFSSHFM2, Splice Holder Family 2

For a complete list of FX Fusion-compatible splicers and holders, please visit [www.belden.com/products/connectors/fiber-connectors/fusion-splice-on-connectors](http://www.belden.com/products/connectors/fiber-connectors/fusion-splice-on-connectors) and refer to the installation tools reference guide.

# FiberExpress Field Termination

## 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.

### Features and Benefits

- Fast and easy termination in as few as 5 seconds
- No epoxy or polishing and duplex clips to hold TX/RX pairs together
- Excellent termination yield with integrated VFL feedback
- No breakout kits are required for 250  $\mu$ m direct installation
- Ideal for sustainable applications with a no-crimp installation that allows re-termination to improve efficiency and reduce connector waste
- Works with all connectors, fiber and cable types
- Excellent network performance, thanks to superior design and manufacturing process



FX Brilliance Universal Connectors

### Three Simple Steps

1. Insert Fiber



2. Activate Tab



3. Install Boot



### Connector Performance

Fiber Type	Maximum Insertion Loss	Typical Insertion Loss	Typical 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	55 dB

### FX Brilliance Multimode Connectors

Description	Belden Part Number		
	OM1 (Beige)	OM3/OM4 (Aqua)	OM4 (Erika Violet)
LC with 900 $\mu$ m Boot, 25 per package	AX105200-B25	AX105202-B25	AX105252-B25
SC with 900 $\mu$ m Boot, 25 per package	AX105205-B25	AX105207-B25	AX105253-B25
ST with 900 $\mu$ m Boot, 25 per package	AX105210-B25	AX105212-B25	AX105254-B25

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

### FX Brilliance Singlemode Connectors

Description	Belden Part Number			
	OS2 (Blue)		OS2/APC (Green)	
	1 per package	25 per package	1 per package	25 per package
LC with 900 $\mu$ m Boot	AX105203-S1	AX105203-B25	—	—
SC with 900 $\mu$ m Boot	AX105208-S1	AX105208-B25	AX105209-S1	AX105209-B25
ST with 900 $\mu$ m Boot	AX105213-S1	AX105213-B25	—	—

FX Brilliance Universal includes a boot for 900  $\mu$ m tight-buffered fiber. Boots for 2 mm/3 mm jacketed fiber are sold separately.

### FX Brilliance Accessories

Description	Belden Part Number	Description	Belden Part Number
250 $\mu$ m Boot, 25 per package	FXBUBO250B25N	LC Duplex Clip (Black), 25 per package	FXBUCLLDB25N
2 mm Jacketed Boot, 25 per package	AX105214-B25	SC Duplex Clip (Black), 25 per package	FXBUCLSDB25N
3 mm Jacketed Boot, 25 per package	AX105215-B25		





## FiberExpress 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 without 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	Belden Part Number
Precision Installation Kit (Basic Kit, Fiber Preparation Tools, Precision Cleaver and Visual Fault Locator)	AX104271

#### FX Brilliance Accessories

Description	Belden 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 Cord	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



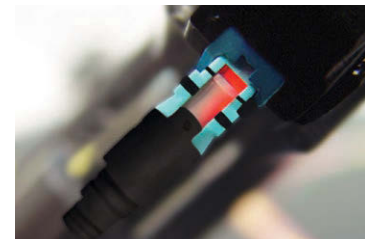
AX104271, FX Brilliance Precision Installation Kit



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

#### Ensure Durable, Rugged Installation on 250 µm Fiber

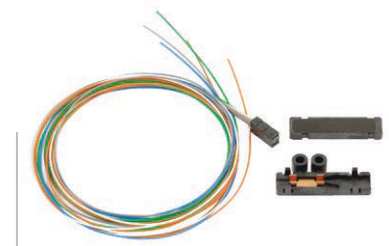
Field breakout kits are available to provide a durable 900 µm coating for 250 µm fibers to ensure optimal retention, flex and twist support without sacrificing the outdoor performance of loose-tube cables or the small diameter of Mini-Distribution Cables.

#### FX Breakout Kits

Description	Belden 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

#### OptiTuff Breakout Kits

Description	Belden Part Number
OptiTuff Mini Fiber Cable Transition Kit 2f x 2 mm Yellow	AX109696
OptiTuff Mini Fiber Cable Transition Kit 2f x 2 mm Erika Violet	AX109697
OptiTuff Breakout Kit for 4.0 mm - 2 x 900 µm	AX109698
OptiTuff Mini Fiber Cable Transition Kit 6f/12f/24f x 3 mm Yellow	AX109699
OptiTuff Mini Fiber Cable Transition Kit 6f/12f/24f x 3 mm Erika Violet	AX109700
OptiTuff Mini Fiber Cable Transition Kit 24f to 2 x 3 mm Yellow	AX109701
OptiTuff Mini Fiber Cable Transition Kit 24f to 2 x 3 mm Erika Violet	AX109702
OptiTuff Breakout Kit for 4.0 mm - 6 x 900 µm	AX109703
OptiTuff Breakout Kit for 4.0 mm - 12 x 900 µm	AX109704



AX109704, OptiTuff Breakout Kit, 12-Fiber with 36 inches, 900 µm Buffer Tubes



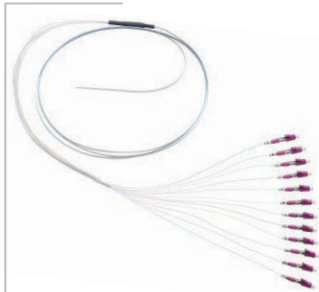
You can use the FX UHD Splice Cassette (see page 19) with the 250 µm boot to eliminate the need to install a breakout kit.

## FiberExpress Field Termination (continued) FX Pigtails

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.

### Features and Benefits

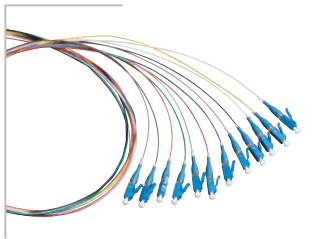
- Excellent factory-polished performance with field-termination convenience
- Fast installation with mass fusion pigtail kits
- Easy termination with factory-terminated connectors
- Connector identification with color-coded pigtail kits
- Better insertion loss at 0.2 dB MPO-12 and 0.15 dB Max IL OM4



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

### Standard Performance - LC/SC/ST

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
<b>Cable Performance - LC/SC/ST</b>					
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	0.5/0.5
Standard Length	2 m				
<b>Fire Rating - Cable Style</b>	<b>Non-rated</b> - 900 μm color-coded fiber kit (6 or 12 colors from TIA-598) <b>Non-rated</b> - 900 μm single fiber OM1-Gray, OM3/OM4-Aqua, OS2-White <b>Non-rated</b> - 250 μm bare ribbon fiber <b>OFNR</b> - Interconnect simplex/duplex, 2 mm/3 mm cords <b>OFNP</b> - Interconnect ribbon 12-fiber cable				
<b>Connector Performance - LC/SC/ST</b>					
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

### Standard Performance - MPO

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
<b>Cable Performance - MPO</b>					
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	0.5/0.5
Standard Length	2 m				
<b>Fire Rating - Cable Style</b>	<b>Non-rated</b> - 250 μm bare ribbon fiber <b>OFNP</b> - Interconnect ribbon 12-fiber cable <b>OFNP</b> - μMini-Distribution 3 mm				
<b>Connector Performance - MPO</b>					
IL Max. (dB)	0.5	0.35	0.2	—	0.50
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	—	APC - 60

The default fanout 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).





## FiberExpress 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. Entire ribbons can be spliced simultaneously.

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

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

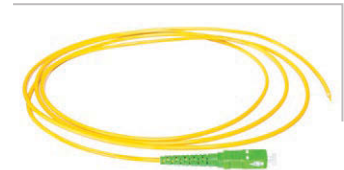
Standard color-coded pigtail kits contain 12 color-coded 900 µm fibers, 2 m in length.



### Standard Single Pigtails (Connector on Tight-Buffer Fiber)

Description	Belden 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.



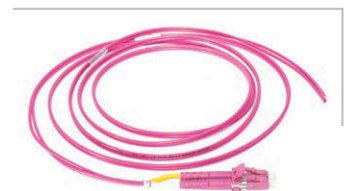
FT4MMRIBPS019ME, FX MPO Jacketed Ribbon Pigtail, OM4 Erika Violet, MPO (M), 9 m

### Standard Single Pigtails (Connector on Jacketed Fiber)

Description	Belden 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.

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



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

### Fusion Splice Heat Shrink Protector Sleeves

Description	Belden 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 *SmartPart* Number table, for more options.

## FiberExpress Field Termination (continued) FX Pigtails

### Tailored FX Pigtails SmartPart Configurator

FX Field Termination	1. Choose Fiber Type	2. Choose Connector	3. Choose Cable Type	4. Choose Product Family	5. Choose Packaging	6. Choose Length	7. Choose Buffer Color
<b>FT</b>	<b>3</b>	<b>LC</b>	<b>900</b>	<b>P</b>	<b>R12</b>	<b>3M</b>	<b>D</b>
Fiber Type	Connectors	Cable Type	Product Family	Packaging	Length	Buffer Color	
1 OM1	LD LC Duplex	250 Bare Ribbon 250 $\mu$ m Fiber	P Pigtails	S01 Single Pack	2M	O Orange	
3 OM3	LC LC Simplex	RIB Jacketed Ribbon		R06 Rainbow 6 Pk	3M	S Gray	
4 OM4	LA LC/APC Duplex	900 900 $\mu$ m Tight Buffer		R12 Rainbow 12 Pk	4M	W White	
5 OM5	LB LC/APC Simplex	2MM 2 mm Jacketed			5M	Y Yellow	
S OS2	SD SC Duplex	3MM 3 mm Jacketed			6M	A Aqua	
	SC SC Simplex				7M	E Erika V.	
	SA SC/APC Duplex				8M	D Default Color	
	SB SC/APC Simplex				9M		
	ST ST						
	MM MPO-12 (M)						
	MF MPO-12 (F)						

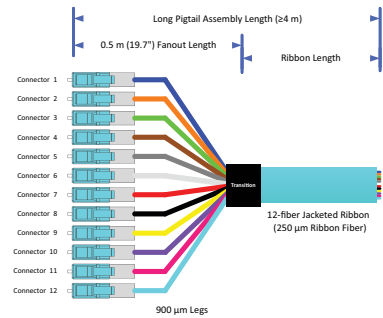
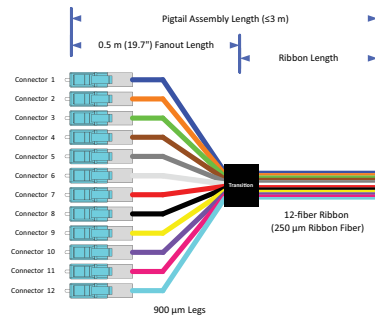
#### Examples:

- FT3LC900PR123MD** - FX Field-Termination Pigtail, OM3, LC Simplex, Tight Buffer 900  $\mu$ m, Color-Coded 12-fiber, 3 m
- FTSST900PR125MY** - FX Field-Termination Pigtail, OS2, ST, Tight Buffer 900  $\mu$ m, 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

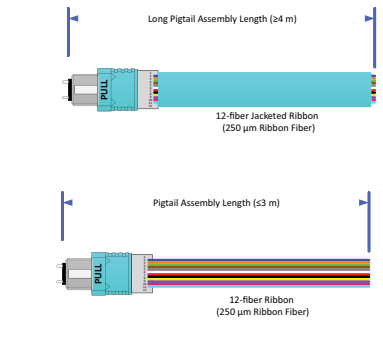
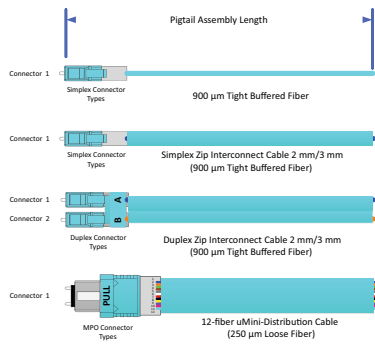
#### Use of tailored part numbers:

Color - Default color (D) is only used with cable type (250  $\mu$ m or 900  $\mu$ m) and packaging (R06 or R12)

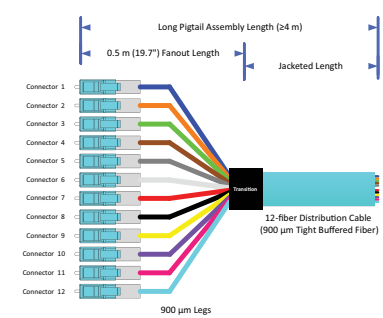
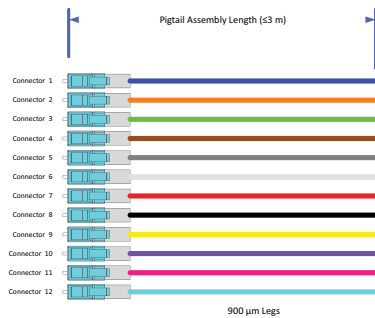
### Mass Fusion Pigtail Kits



### Single Pigtails



### Pigtail Kits



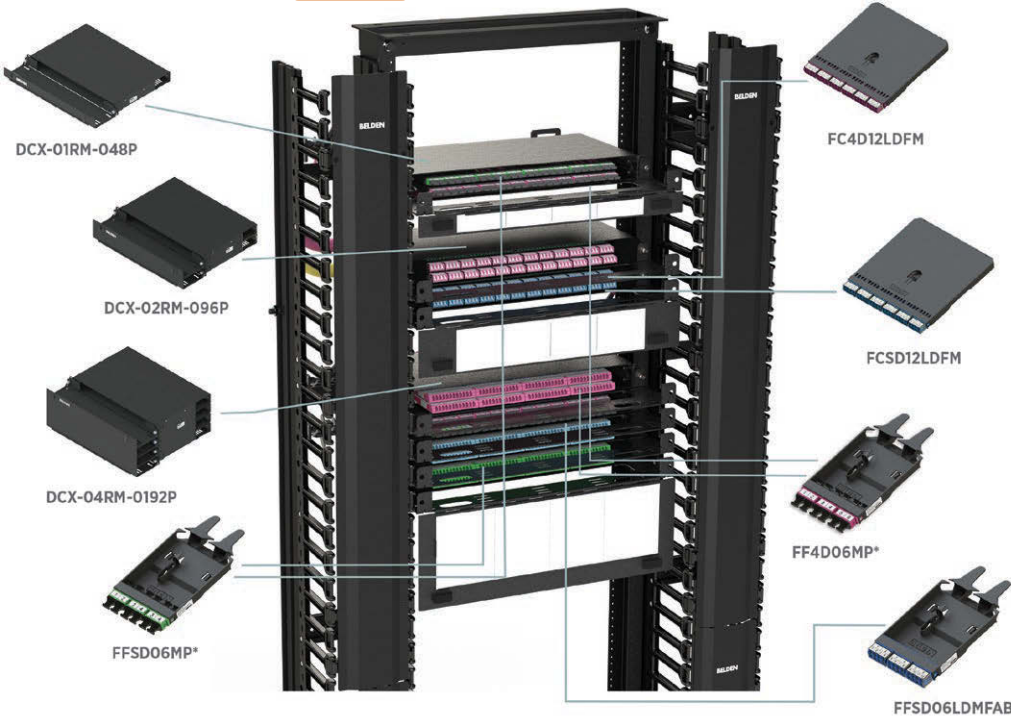


# DCX System

DCX Introduction



Front view



\* FX DCX Frames available in non-flippable version. Contact us for more information.

## Introducing the DCX System

Handle large numbers of fiber connections and increase fiber density without compromising on ease of use. The new DCX System optimizes the ROI of your fiber infrastructure, reducing capital and operating expenses to offer lower total cost of ownership.

Shown in these images is the rack-mount versions; DCX was originally introduced as an Optical Distribution Frame (ODF).

See in the following pages the full set of products in the DCX System.

Back view



## DCX System (continued) DCX Optical Distribution Frame (ODF) Cabinets

DCX ODF Cabinets are fully configurable, front-access cabinets that serve as the main building block for a large fiber cross-connect or as a high-density fiber interconnect. They protect fiber connections with a lockable front door and side panels that can be unclipped from the inside. Assemble side by side and/or back to back for scalability.

DCX is a complete fiber system that supports ODF and rack-mount deployments.

### DCX ODF Cabinets, Seismic 84x36x15, 8 Housing\* 8 Cable Distribution Brackets, 8 Patch Cord Spools



DCXS11-22121-22 - DCX Cabinet, Left-Right (8-Housing Cabinet\*)  
Not available in USA

Description	Maximum Capacity		Belden Part Number
	DCX Housings	LC Duplex Ports (fibers)	
Left-Right, White, No Top Panel, No Bottom Panel, No Doors, No Side Panel, No Rear Panel	8	2304 (4608)	DCXS11-00000-22
Right-Left, White, No Top Panel, No Bottom Panel, No Doors, No Side Panel, No Rear Panel	8	2304 (4608)	DCXS21-00000-22
Left-Right, White, Brush + 8 Top Cable Entry Brackets, Brush + 8 Bottom Cable Entry Brackets, Bifold Plexi Door, Solid Side Panel, Full Rear Panel	8	2304 (4608)	DCXS11-33121-22
Right-Left, White, Brush + 8 Top Cable Entry Brackets, Brush + 8 Bottom Cable Entry Brackets, Bifold Plexi Door, Solid Side Panel, Full Rear Panel	8	2304 (4608)	DCXS21-33121-22
Left-Right, White, Brush + 8 Top Cable Entry Brackets, Brush + 8 Bottom Cable Entry Brackets, Bifold Plexi Door, No Side Panel, Full Rear Panel	8	2304 (4608)	DCXS11-33101-22
Right-Left, White, Brush + 8 Top Cable Entry Brackets, Brush + 8 Bottom Cable Entry Brackets, Bifold Plexi Door, No Side Panel, Full Rear Panel	8	2304 (4608)	DCXS21-33101-22

\*8-housing cabinets not available in the USA



DCXT21-44121-33 - DCX Cabinet, Right-Left (10-Housing Cabinet)

### DCX ODF Cabinets, Seismic 84x36x15, 10 Housing 10 Cable Distribution Brackets, 10 Patch Cord Spools

Description	Maximum Capacity		Belden Part Number
	DCX Housings	LC Duplex Ports (fibers)	
Left-Right, White, No Top Panel, No Bottom Panel, No Doors, No Side Panel, No Rear Panel	10	1920 (3840)	DCXT11-00000-33
Right-Left, White, No Top Panel, No Bottom Panel, No Doors, No Side Panel, No Rear Panel	10	1920 (3840)	DCXT21-00000-33
Left-Right, White, Brush + Top Cable Entry Brackets, Brush + Bottom Cable Entry Brackets, Bifold Plexi Door, Solid Side Panel, Full Rear Panel	10	1920 (3840)	DCXT11-44121-33
Right-Left, White, Brush + Top Cable Entry Brackets, Brush + Bottom Cable Entry Brackets, Bifold Plexi Door, Solid Side Panel, Full Rear Panel	10	1920 (3840)	DCXT21-44121-33
Left-Right, White, Brush + Top Cable Entry Brackets, Brush + Bottom Cable Entry Brackets, Bifold Plexi Door, No Side Panel, Full Rear Panel	10	1920 (3840)	DCXT11-44101-33
Right-Left, White, Brush + Top Cable Entry Brackets, Brush + Bottom Cable Entry Brackets, Bifold Plexi Door, No Side Panel, Full Rear Panel	10	1920 (3840)	DCXT21-44101-33

### DCX Cabinets SmartPart Configurator

1. Choose Type		2. Choose Cable Flow		3. Choose Color		4. Choose Top Panel		5. Choose Bottom Panel		6. Choose Door		7. Choose Side Panel		8. Choose Rear Panel		9. Choose Attachment		10. Choose Spools	
DCX	S	1	1	2	2	1	2	1	2	2	2								
Type	Cable Flow	Color	Top Panel	Bottom Panel	Doors	Side Panel	Rear Panel	Cable Attachment	Spools										
S	Seismic 84x36x15	1 Left-Right	1 White	0 None	0 None	0 None	0 None	0 None	0 None										
T	10 Housings 84x36x15	2 Right-Left	2 Black	1 Blank	1 Blank	1 Bifold-Plexi	1 Plexi	1 Full	4 Cable Distribution Brackets										
				2 Brush + 4 Top Cable Entry Brackets	2 Brush + 4 Bottom Cable Entry Brackets	2 Bifold-Perf	2 Solid	2 Cable Management	1 8 Cable Distribution Brackets										
				3 Brush + 8 Top Cable Brackets	3 Brush + 8 Bottom Cable Brackets	3 Bifold-Solid			2 8 Cable Distribution Brackets										
				4 Brush + 10 Top Cable Brackets	4 Brush + 8 Angle Bottom Cable Brackets				3 10 Cable Distribution Brackets										

**Example:**

DCXS11221222 - DCX ODF Cabinet, Seismic, Left-Right, White, Brush + 4 Top Cable Entry Brackets, Brush + 4 Bottom Cable Entry Brackets, Bifold-Plexi, Solid Side Panel, Full Rear Panel, 8 cable distribution brackets and 8 cable management spools

**Please Note:**

- By default, top, bottom, side and rear panels are powder coated to match frame color.
- By default, door, cable distribution brackets and spool metal supports are black medium texture.
- Standard white enclosures will have black doors and standard black enclosures will have black doors. Consult factory for special color options and/or enclosure configurations.



## DCX System (continued)

### DCX ODF Accessories and Housings

Order as a basic cabinet frame and dress on-site with doors, sides and cable management accessories. Pre-configured cabinets can be upgraded with additional cable entry brackets, cable distribution brackets and patch cord spools as fiber terminations increase. A patch cord management storage module can be inserted between side-by-side assemblies to manage patch cords that run to other cabinets. In-cabinet channel kits can create horizontal patch cord management channels.

#### DCX ODF Accessories

Description	Belden Part Number
DCX Cable Attachment Brackets - Top (4 Brackets for 24 Cables)	DCX-TOPE-KIT03W
DCX Cable Attach Brackets - Bottom (4 Brackets for 24 Cables) Office White	DCX-BOTE-KIT02W
DCX Cable Distribution Attachment Kit (1 Bracket w/ 2 Plastic Holders Up to 24 LPM Transition Per Holder) Black	DCX-CABV-KIT01B
DCX Patch Cord Spool Kit (1 Telescopic Spool + Management Bar) Black	DCX-SPOO-KIT02B
DCX Horizontal In-Cabinet Channel Kit (One Patch Cord Tray) Central Office White	DCX-HINC-KIT01W
DCX Horizontal In-Cabinet Short Channel Kit (For End Cabinet) Central Office White	DCX-HINC-KIT02W
DCX Patch Cord Storage Module Central Office White w/ Black Door w/ 15 Spools	DCX-PCST-MOD01W
DCX Horizontal In-Cabinet Front-to-Back Patch Cord Bridge Black	DCX-HINB-KIT01B



DCX-PCST-MOD01W



DCX-HINB-KIT01B

#### DCX Housings

DCX ODF Housings are available in left-to-right and right-to-left cable flow configurations for optimized management with a front-access design with 8- or 12\*- tray options that pull out for easy access to cables connected to the back of adapter frames and cassettes. DCX Rack-Mount Housings are available in 3 configurations providing easy access to connectors in high-density and are compatible with all DCX cassettes and Adapter Frames. DCX Zero U Housings are equipped with magnets to attach to any metal surface or stack for multiple cassettes. These versatile mounting devices work with DCX Cassettes and Adapter Frames.

#### DCX ODF Housings

Description	Number of Modules			Total LC Duplex Ports	Cabinet Compatibility	Belden Part Number
	Base-24	Base-12	Base-8			
576-Fiber, Left-Right Cable Flow, with 12 Trays, Trunk & Patch Management	24	48	72	288	8 Housing	DCX-04FM-LR*
576-Fiber, Right-Left Cable Flow, with 12 Trays, Trunk & Patch Management	24	48	72	288	8 Housing	DCX-04FM-RL*
384-Fiber, Left-Right Cable Flow, with 8 Trays, Trunk & Patch Management	16	32	48	192	10 Housing	DCX-384F-LR
384-Fiber, Right-Left Cable Flow, with 8 Trays, Trunk & Patch Management	16	32	48	192	10 Housing	DCX-384F-RL

\* This model not available in the USA.



DCX-384F-LR and DCX-384F-RL

#### DCX Rack-Mount Housings

Description	Number of Modules		Total LC Duplex Ports	Belden Part Number
	Base-12	Base-8		
DCX 1U Patch Panel Housing 48-Port (1 Tray) Empty, Black Finish	8	12	48	DCX-01RM-048P
DCX 2U Patch Panel Housing 96-Port (2 Trays) Empty, Black Finish	16	24	96	DCX-02RM-096P
DCX 4U Patch Panel Housing 192-Port (4 Trays) Empty, Black Finish	32	48	192	DCX-04RM-192P



DCX-02RM-096P

#### DCX Zero U Housings

Description	Number of Modules			Total LC Duplex Ports	Belden Part Number
	Base-24	Base-12	Base-8		
DCX Zero U Tray, Small with Magnets for 1 DCX Cassette Base-12, 1 Keystone Port, Black	—	1	1	6	DCX-ZUTR-S
DCX Zero U Bracket, Large with Magnets for 2 DCX Cassettes Base-12, 2 Keystone Ports, Black	1	2	3	12	DCX-ZUTR-L



DCX-ZUTR-S and DCX-ZUTR-L

## DCX System (continued) DCX Cassettes and Adapter Frames

DCX Adapter Frames and Cassettes have a modular, compact design that allows for assembly of two (Base-24), four (Base-12) or six (Base-8) cassettes per housing tray.



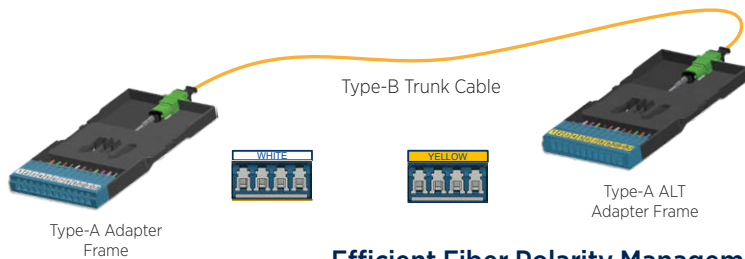
FF4D06LDMFAE and FF4D04LD4F

### DCX Pre-Terminated Adapter Frames *SmartPart* Configurator

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 Type	7. Choose Color	
<b>FF</b>	<b>4</b>	<b>D</b>	<b>06</b>	<b>LD</b>	<b>MF</b>	<b>A</b>	<b>E</b>
Fiber Type	Product Family	Port Count (Patch Side)	Connector (Patch Side)	Connector (Trunk Side)	Type	Color	
3 OM3	D DCX	04 4-port	LD LC Duplex	MF MPO-12 (12f) Female	A Type-A	A Aqua	
4 OM4		06 6-port	LA LC/APC Duplex	MM MPO-12 (12m) Male	1 Type-A ALT	E Erika Violet	
5 OM5				4F MPO-12 (8f) Female	4 SR4	B Blue	
S OS2				4M MPO-12 (8m) Male		G Green	
						L Lime Green	

**Example:**

**FF4D06LDMFAE** - DCX Pre-Terminated Adapter Frame, OM4, DCX, 6-port, LC Duplex to MPO-12F, Type-A, Erika Violet



### Efficient Fiber Polarity Management Using TIA-568 Method B (modified)

- Type-A cassettes maintain polarity (Tx to Rx) while using standard A-B patch cords on both ends of the fiber link.
- Alternate design maintains port sequence identical on both ends of the link.

### DCX Pre-Terminated Cassettes (MPO-SC)



FCSD06SDMF

Description	Patch Ports (fibers)	Belden Part Number				
		OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	SM Blue Adapters	SM/APC Green Adapters
SC Duplex to MPO-12 (12f) Female	6 (12)	FC3D06SDMF	FC4D06SDMF	—	FCSD06SDMF	FCSD06SAMF
SC Duplex to MPO-12 (8f) Female	4 (8)	FC3D04SD4F	FC4D04SD4F	—	FCSD04SD4F	FCSD04SA4F





## DCX System (continued)

### DCX Cassettes and Adapter Frames

#### DCX Adapter Frames

Description	Patch Ports (fibers)	Belden Part Number				
		OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2/UPC Blue Adapters	OS2/APC Green Adapters
MPO	4 (48)	FF3D04MP	FF4D04MP	FF5D04MP	—	FFSD04MP
	6 (72)	FF3D06MP	FF4D06MP	FF5D06MP	—	FFSD06MP
LC Duplex	4 (8)	FF3D04LD	FF4D04LD	FF5D04LD	FFSD04LD	FFSD04LA
	6 (12)	FF3D06LD	FF4D06LD	FF5D06LD	FFSD06LD	FFSD06LA
SC Duplex	3 (6)	FF3D03SD	FF4D03SD	—	FFSD03SD	FFSD03SA



FF4D04MP and FFSD06LD

#### DCX Adapter Frames SmartPart Configurator

1. Choose Fiber Type

**FF**

2. Choose Product Family

**3**

3. Choose Port Count (Patch Side)

**D**

4. Choose Connector

**04**

**LD**

Type	Product Family	Port Count	Connector
3 OM3	D DCX	04 4-Port	LD LC/UPC
4 OM4		06 6-Port	LA LC/APC
5 OM5			SD SC/UPC
S OS2			SA SC/APC
			MP MPO

Example:

FF3D04LD - DCX Adapter Frame, OM3, DCX, 4-Port, LC/UPC

#### DCX Splice Cassettes

Description	Patch Ports (fibers)	Belden Part Number				
		OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	SM Blue Adapters	SM/APC Green Adapters
LC Duplex - Includes 250 µm discreet pigtails, splice tray and heat shrink splice protector sleeves	6 (12)	FC3D06LDFP	FC4D06LDFP	FC5D06LDFP	FCSD06LDFP	FCSD06LAFP
	12 (24)	FC3D12LDFP	FC4D12LDFP	FC5D12LDFP	FCSD12LDFP	FCSD12LAFP
LC Duplex - Includes 250 µm ribbon pigtails, splice tray and heat shrink splice protector sleeves	6 (12)	FC3D06LDFM	FC4D06LDFM	FC5D06LDFM	FCSD06LDFM	FCSD06LAFM
	12 (24)	FC3D12LDFM	FC4D12LDFM	FC5D12LDFM	FCSD12LDFM	FCSD12LAFM
LC Duplex - Pigtails, trays, protector sleeves sold separately	6 (12)	FC3D06LDFS	FC4D06LDFS	FC5D06LDFS	FCSD06LDFS	FCSD06LAFS
	12 (24)	FC3D12LDFS	FC4D12LDFS	FC5D12LDFS	FCSD12LDFS	FCSD12LAFS
SC Duplex - Includes 250 µm discreet pigtails, splice tray and heat shrink splice protector sleeves	6 (12)	FC3D06SDFP	FC4D06SDFP	—	FCSD06SDFP	FCSD06SAFP
	6 (12)	FC3D06SDFM	FC4D06SDFM	—	FCSD06SDFM	FCSD06SAFM
SC Duplex - Includes 250 µm ribbon pigtails, splice tray and heat shrink splice protector sleeves	6 (12)	FC3D06SDFM	FC4D06SDFM	—	FCSD06SDFM	FCSD06SAFM
	6 (12)	FC3D06SDFM	FC4D06SDFM	—	FCSD06SDFM	FCSD06SAFM
SC Duplex - Pigtails, trays, protector sleeves sold separately	6 (12)	FC3D06SDFS	FC4D06SDFS	—	FCSD06SDFS	FCSD06SAFS
	6 (12)	FC3D06SDFS	FC4D06SDFS	—	FCSD06SDFS	FCSD06SAFS



FCSD12LDFP

#### DCX Splice Cassettes SmartPart Configurator

1. Choose Fiber Type

**FC**

2. Choose Product Family

**S**

3. Choose Port Count (Patch Side)

**D**

4. Choose Connector (Patch Side)

**06**

5. Choose Connector (Trunk Side)

**LA**

6. Choose Type

**FP**

7. Choose Color

**X**

**G**

Fiber Type	Product Family	Port Count (Patch Side)	Connector (Patch Side)	Connector (Trunk Side)	Type	Color
3 OM3	D DCX	06 6-port	LD LC Duplex	FP Preloaded Stranded Pigtails	X Pair Flipped	A Aqua
4 OM4		12 12-port*	LA LC/APC Duplex	FM Preloaded w/Ribbon Pigtail		E Erika Violet
5 OM5			SD SC Duplex	FS Empty		B Blue
S OS2			SA SC/APC Duplex			G Green
						L Lime Green

\* 12-port only available with LA and LD

Example:

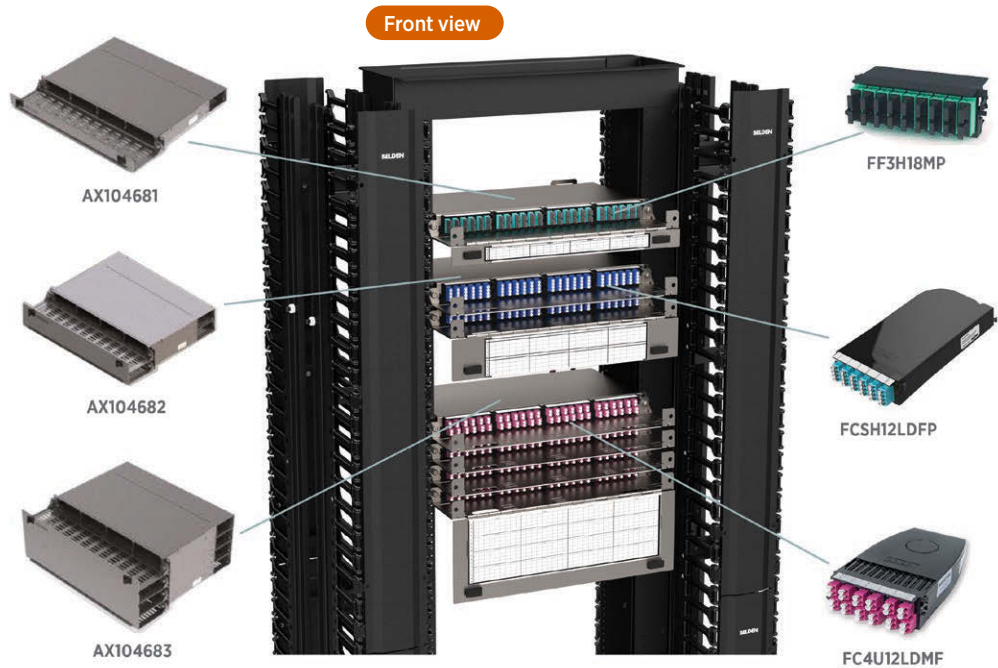
FCSD06LAFPXG - DCX Splice Cassette, OS2, DCX, 6-Port, LC/APC Duplex to Preloaded Standard Pigtails, Pair Flipped, Green

## FiberExpress Patch Panel Systems

FX UHD Introduction

### FX UHD Patch Panel System

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



\* Configuration shown as an example.



\* Fiber cables depicted in this image include: FISD024P9



## FiberExpress Patch Panel Systems (continued)

### FX UHD Housings and Shelves

#### 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 <sup>3</sup>	Belden Part Number	
				Titanium	Black
1U Housing with Front and Rear Cable Tray	4	48	72	<b>AX104681</b>	<b>AX105563</b>
2U Housing with Front and Rear Cable Tray	8	96	144	<b>AX104682</b>	<b>AX105564</b>
4U Housing with Front and Rear Cable Tray	16	192	288	<b>AX104683</b>	<b>AX105565</b>
4U 23" Housing with Front and Rear Cable Tray	20	240	360	<b>AX105379</b>	—
Optional 1U Splice Housing Kit, 144 Splices (add up to 4 on the 4U Housing) <sup>S1</sup>	N/A	N/A	N/A	<b>AX104684</b>	<b>AX105678</b>
Optional Patch Cord Tray Cover, 19" <sup>2</sup>	N/A	N/A	N/A	<b>AX105162</b>	<b>AX105672</b>

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.

3. 16- and 18-port cassette not available in USA.



AX105565, FX UHD 4U Housing

#### FX UHD Bezel, Shelves, Cassette Holders

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 <sup>1</sup>	Belden Part Number	
				Titanium	Black
1U FX UHD Bezel	4	48	72	<b>AX105813</b>	<b>AX105812</b>
1U Standard Fixed Shelf	4	48	72	<b>AX105164</b>	<b>AX105673</b>
1U Recessed Fixed Shelf	4	48	72	<b>AX105165</b>	<b>AX105674</b>
4U Standard Fixed Shelf	10	120	180	<b>AX105166</b>	<b>AX105675</b>
4U Recessed Fixed Shelf	10	120	180	<b>AX105167</b>	<b>AX105676</b>
FX UHD Single & Double Cassette Holders				Magnetic	Non-Magnetic
Single Cassette Holder (Black Finish)	1	18	12	<b>FXFUBRSHM</b>	<b>FXFUBRSHS</b>
Double Cassette Holder (Black Finish)	2	36	24	<b>FXFUBRDHM</b>	<b>FXFUBRDHS</b>

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

1. 16- and 18-port cassettes not offered in USA.



AX105813, FX UHD 1U Bezel



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

Bottom: FXFUBRDHM FX UHD Double Cassette Holder with Magnetic Attachment

## FiberExpress Patch Panel Systems (continued) FX UHD and FX Ultra Cassettes

### FX UHD and FX Ultra Cassettes

Featuring the highest density at 72 LC Duplex or MPO ports per 19" rack unit<sup>1</sup>, the 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 high-density solution with superior ease of use for day-to-day MAC (moves, adds and changes) within the enterprise or cross-connect within the data center.



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

### Standard Type-A Cassettes (Base-12)

Description			Belden Part Number				
Patch Ports (fibers)	Trunk Ports	Family	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex to MPO-12 (12f) Female							
18 (36) <sup>1</sup>	3	FX UHD*	FC3H18LDMF	FC4H18LDMF	FC5H18LDMF	FCSH18LDMF	FCSH18LAMF
12 (24)	2	FX Ultra	FC3U12LDMF	FC4U12LDMF	FC5H12LDMF	FCSU12LDMF	FCSU12LAMF
SC Duplex to MPO-12 (12f) Female							
6 (12)	1	FX Ultra	FC3U06SDMF	FC4U06SDMF	—	FCSU06SDMF	FCSU06SAMF
SC Simplex to MPO-12 (12f) Female							
12 (12)	1	FX Ultra	—	—	—	FCSU12SCMF	FCSU12SBMF



FC3U12LDMFIA, FX Ultra Cassette, OM3, 12-Ports, MPO-12 (female), LC Duplex, Type-A ALT, Aqua Adapters

### Standard Type-A-Alternate Cassettes (Base-12)

Description			Belden Part Number				
Patch Ports (fibers)	Trunk Ports	Family	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex to MPO-12 (12f) Female							
18 (36) <sup>1</sup>	3	FX UHD*	FC3H18LDMFIA	FC4H18LDMFIE	FC5H18LDMFIL	FCSH18LDMFIB	FCSH18LAMF1G
12 (24)	2	FX Ultra	FC3U12LDMFIA	FC4U12LDMFIE	FC5H12LDMFIL	FCSU12LDMFIB	FCSU12LAMF1G
SC Duplex to MPO-12 (12f) Female							
6 (12)	1	FX Ultra	FC3U06SDMFIA	FC4U06SDMFIE	—	FCSU06SDMFIB	FCSU06SAMF1G
SC Simplex to MPO-12 (12f) Female							
12 (12)	1	FX Ultra	—	—	—	FCSU12SCMF1B	FCSU12SBMF1G

\*Use optional HD patch cord release tool AX104685 for disconnect

<sup>1</sup>Not available in the USA



FX UHD Angled Cassettes, 12-Ports, LC Duplex and 6-Ports, SC Duplex

### Standard FX UHD Angled Cassettes (Base-12)

Description	Left			Right		
	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM 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)	FC3L12LDMFIA	FC4L12LDMFIE	FCSL12LDMFIB	FC3R12LDMFIA	FC4R12LDMFIE	FCSR12LDMFIB
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)	FC3L06SDMFIA	FC4L06SDMFIE	FCSL06SDMFIB	FC3R06SDMFIA	FC4R06SDMFIE	FCSR06SDMFIB





# FiberExpress Patch Panel Systems (continued)

## FX UHD and FX Ultra Cassettes

### Tailored FX UHD and FX Ultra Cassettes (Base-12) SmartPart Configurator

Fiber Cassette	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
<b>FC</b>	<b>3</b>	<b>U</b>	<b>03</b>	<b>LD</b>	<b>MF</b>	<b>A</b>	<b>A</b>
Fiber Type	Product Family	Port Count (Patch Side)	Connector (Patch Side)	Connector (Trunk Side)	Polarity (Trunk)	Adapter Color	
3 OM3	H FX UHD	03	LD LC Duplex	MM MPO-12 (m)	A Type-A	T Beige	
4 OM4	U FX Ultra (1" Pull)	06	LA LC/APC Duplex	MF MPO-12 (f)		N Black	
5 OM5	L FX U Angled Left	12	SD SC Duplex			A Aqua	
S OS2	R FX U Angled Right	18	SC SC Simplex			E Erika V.	
			SA SC/APC Duplex			B Blue	
			SB SC/APC Simplex			G Green	
			ST ST				

For more options, contact Belden for custom-engineered solutions. Highest density available with FX UHD style. Maximum density with SC or ST Connectors is 12-fiber.

When using standard adapter colors (OM1=beige, OM3=aqua, OM4=EV, OS2=blue) with type-A, the last 2 digits are not needed.

#### Example:

**FC4U06LDMMAA** - FX Ultra Cassette OM4 6-port LC Duplex to MPO-12 (12f) Male, Aqua Adapters

### Standard Splice Cassettes (Preloaded)

Description	Belden Part Number				
	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex with preloaded single pigtails (250 µm)					
6 (12)	FC3H06LDFFP	FC4H06LPFP	FC5H06LDFFP	FCSH06LDFFP	FCSH06LAFP
12 (24)	FC3H12LDFFP	FC4H12LPFP	FC5H12LDFFP	FCSH12LDFFP	FCSH12LAFP
LC Duplex with preloaded ribbon pigtails					
6 (12)	FC3H06LDFM	FC4H06LDFM	FC5H06LDFM	FCSH06LDFM	FCSH06LAFM
12 (24)	FC3H12LDFM	FC4H12LPFM	FC5H12LDFM	FCSH12LDFM	FCSH12LAFM



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

### Standard Splice Cassettes

Description	Belden Part Number				
	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
MPO Type-A (Key-Up/Key-Down)					
12 (144)	FC3H12MPFS	FC4H12MPFS	FC5H06LDFS	—	FCSH12MPFS
LC Duplex					
12 (24)	FC3H12LDFS	FC4H12LDFS	FC5H12LDFS	FCSH12LDFS	FCSH12LAFS
SC Duplex					
6 (12)	FC3H06SDFS	FC4H06SDFS	—	FCSH06SDFS	—
SC Simplex					
12 (12)	—	—	—	—	FCSH12SBFS
ST (Metal Adapters)					
12 (12)	← FCSH12STFS →		—	← FCSH12STFS →	
Splice Only (No Adapters)					
N/A (144)	← FCHZ00BBFS →				



FCZH00BBFS, FX UHD Empty Splice Cassette (cable to cable)

FX Brilliance Universal (page 6) or FX Pigtails (page 8) and Heat Shrink Splice Protector Sleeves (page 9) sold separately.

## FiberExpress Patch Panel Systems (continued) FX UHD and FX Ultra Cassettes



FCSU12LD4F, FX Ultra Cassette, OS2, 12-Ports, MPO-12 (female), LC Duplex, Type SR4 (Base-8), Aqua Adapters

### Belden FX UHD Base-8 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. Belden Base-8 Cassettes optimize costs when used with Base-8 MPO Trunks and Patch-Cords by eliminating dark fiber associated with SR4 and PSM4 architectures.

### Standard SR4 Cassettes (Base-8)

Description			Belden 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) <sup>1</sup>	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

1. Not available in the USA



FC3U034MMF, FX UHD Optimizer Cassette, OM3, Aqua Adapters

### Standard SR4 Angled Cassettes (Base-8)

Description	Left			Right		
	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	SM Blue Adapters
LC Duplex to MPO-12 (8f) Female						
12 (24)	FC3L12LD4F	FC4L12LD4F	FC3L12LD4F	FC3L12LD4F	FC4L12LD4F	FC3L12LD4F

### Standard SR4 Optimizer Cassettes (Base-8)

Description			Belden 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 Optimizer Alternate Cassettes (Base-8)

Description			Belden 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	FC3U064MMFIA	FC4U064MMFIE	FCSU064MMFIG
3 x MPO-12 (8f)	2 x MPO-12 (12f)	FX Ultra	FC3U034MMFIA	FC4U034MMFIE	FCSU034MMFIG

## Tailored FX UHD and FX Ultra Cassettes (Base-8) SmartPart Configurator

Fiber Cassette	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	4	U	04	LD	4M	4	A
Fiber Type	Product Family	Port Count (Patch Side)	Connector (Patch Side)	Connector (Trunk Side)	Polarity (Trunk)	Adapter Color	
3 OM3	H FX UHD	04 4-Ports	LD LC Duplex	4M MPO-12 (8f) Male	4 SR4 (Base-8)	A Aqua	
4 OM4	U FX Ultra	08 8-Ports		4F MPO-12 (8f) Female		E Erika V.	
5 OM5	L FX U Angled Left	12 12-Ports				B Blue	
S OS2	R FX U Angled Right	16 16-Ports					

#### Example:

FC4U04LD4M4A - Fiber Cassette, OM4, FX Ultra, 4-Port, LC Duplex to MPO-12 (8f) Male, SR4 (Base-8), Aqua

For more options, contact Belden for custom-engineered solutions.



# FiberExpress Patch Panel Systems (continued)

## FX UHD and FX Ultra Frames

### Standard FX UHD and FX Ultra Frames

Description		Belden Part Number					
Patch Ports (fibers)	Family	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OM5 Lime Green Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
MPO Type-A (Key-Up/Key-Down)							
18	FX UHD	—	FF3H18MP	FF4H18MP	FF5H18MP	—	FFSH18MP
12	FX Ultra	—	FF3U12MP	FF4U12MP	FF5U12MP	—	FFSU12MP
LC Duplex							
18 (36)	FX UHD	—	FF3H18LD	FF4H18LD	FF5H18LD	FFSH18LD	FFSH18LA
12 (24)	FX Ultra	FFIU12LD	FF3U12LD	FF4U12LD	FC5U12LD	FFSU12LD	FFSU12LA
SC Duplex							
6 (12)	FX Ultra	FFIU06SD	FF3U06SD	FF4U06SD	—	FFSU06SD	FFSU06SA
SC Simplex							
12 (12)	FX Ultra	—	—	—	—	FFSU12SC	FFSU12SB
ST							
12 (12), Metal	FX Ultra	← FFSU12ST →				—	

### Tailored FX UHD and FX Ultra Frames *SmartPart* Configurator

Fixed Letter Series

**FF**

1. Choose Fiber Type

**4**

Fiber Type	Product Family
3 OM3	H FX UHD
4 OM4	U FX Ultra (1" Pull)
5 OM5	
S OS2	

2. Choose Product Family

**H**

3. Choose Port Count

**18**

Port Count (Patch Side)	Connector (Patch Side)
03 3-Ports	LD LC Duplex
06 6-Ports	LA LC/APC Duplex
12 12-Ports	LS LC Duplex w/ Shutters
16 16-Ports	SD SC Duplex
18 18-Ports	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

4. Choose Connector (Patch Side)

**LD**

5. Choose Adapter Color

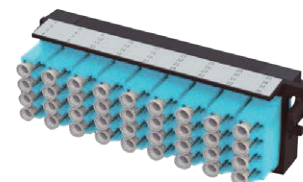
**A**

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

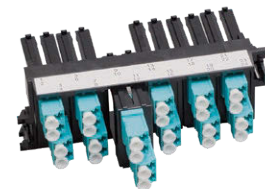
Highest density available with FX UHD style. Maximum density with SC or ST connectors is 12-fiber.

**Example:**

FF4H18LDA - Fiber Frames, OM4, FX UHD, 18-Ports, LC Duplex, Aqua



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



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



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

## FiberExpress 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, 2x12 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

### Splitter Cassette

Description (Upstream/Downstream)	Splitter	Belden 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



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 MACs (moves, adds and changes).

### FX UHD and FX Ultra Traffic Analysis Port (TAP)

TAP cassettes allow for monitoring of communication over fiber cables to ensure quality of service and provide security/troubleshooting capabilities.

### TAP Cassette

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



## FiberExpress Patch Panel Systems (continued)

### FX UHD and FX Ultra Adapters and Accessories

#### Standard FX Ultra KeyConnect Frames

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



FFZH06KC, FX Ultra KeyConnect Frame, 6-Port

#### Standard Copper KeyConnect Adapters

Description	Belden Part Number		
	Black	Blue	White
10GX RJ45 Coupler	AX104024	AX104019	AX104023
10GX RJ45 Modular Jack	RVAMJKUBK-S1	RVAMJKUBL-S1	RVAMJKUEW-S1
CAT6+ RJ45 Coupler	AX104215	AX104210	AX104214
CAT6+ RJ45 Modular Jack	RV6MJKUBK-S1	RV6MJKUBL-S1	RV6MJKUEW-S1
10GX UTP REVConnect Plug	RVAFPUBK-S1	-	-
10GX REVConnect Coupler Black T568A/B (includes 1 core)	RVACPKUBK-S1	-	-
10GX STP REVConnect Plug	RVAFPSME-S1	-	-
10GX REVConnect Coupler Black T568A/B Bulk Pack (includes 24 cores)	RVACPKUBK-B24	-	-



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

Above adapters are for Black Bezels. Contact your local Belden representative for a complete listing of KeyConnect adapters in other colors. For KeyConnect Multimedia Adapters, see page 47.



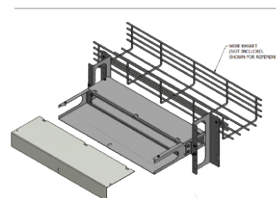
AX104024, 10GX RJ45 Coupler

#### Standard FX UHD Accessories

Description	Belden 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 Rack-Mount Enclosure for Cable Tray Mounting	XPE-S0003
2U Rack-Mount Enclosure for Wire Tray/Ladder Rack Mounting	XPE-2U-0001
4U Rack-Mount Enclosure for Wire Tray/Ladder Rack Mounting	XPE-4U-0001
1U 19" to 23" Extender Bracket	9810-0100
2U 19" to 23" Extender Bracket	9811-0200
4U 19" to 23" Extender Bracket	9813-0400



AX105700, FX UHD Fiber Management Spool Kit



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



The information for KeyConnect Multimedia Modules can be found under FiberExpress Workstation Connectivity on page 47.



## FiberExpress Patch Panel Systems (continued) FX UHD and FX Ultra Wall-Mount and Accessories



AX106818, FX UHD Stackable Wall-Mount Patch Panel

### FX UHD Wall-Mount

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	Number of Module Bays	Splice Trays	Belden Part Number
FX UHD Wall-Mount Patch Panel, Black	4	4 x 8" (Up to 96 Splices)	AX106817
FX UHD Wall-Mount Patch Panel, Gray	4	4 x 8" (Up to 96 Splices)	AX106818

Splice trays sold separately



AX103930, FX Ultra Wall-Mount Splice Enclosure

### 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.

### FX Ultra Wall-Mount

Description	Number of Module Bays	Splice Trays	Belden 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



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

### FX Ultra Splice Trays

Description	Splices per Tray	Belden 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	Belden Part Number
2" Spacer, Black	AX103932
Door Lock Kit	AX103934



FX Ultra Splice Trays

# FiberExpress ECX LAN Patching System

FX ECX Introduction

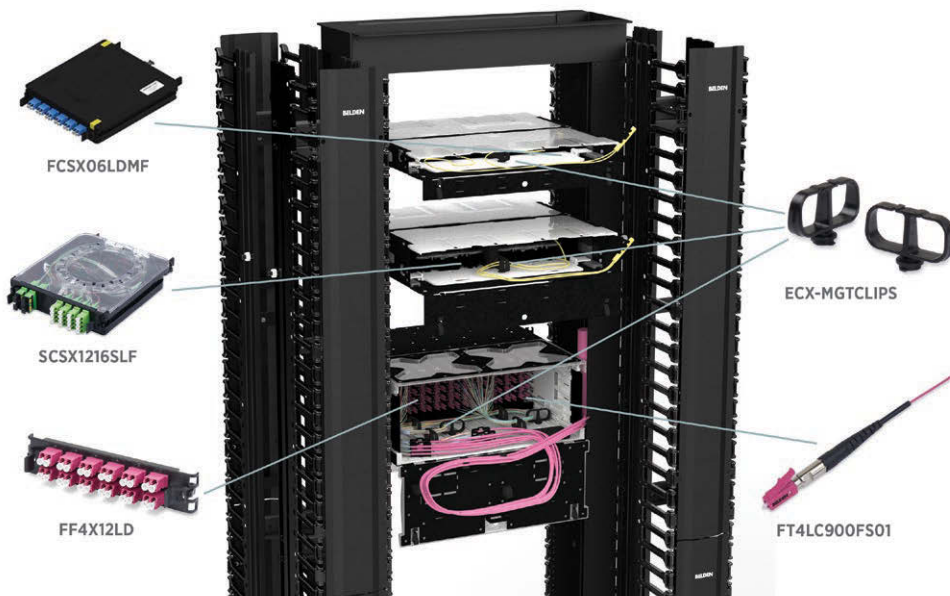


Front view



\* Configuration shown as an example

Back view



\* Fiber cables depicted in this image (top to bottom) include FMSMB1005M, FISD024P9, FI4D024P9

## FX ECX Patch Panel System

FX Enterprise Closet X (ECX) Patch Panel system is an elegant, intuitive and flexible solution that is 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.

## FiberExpress Patch Panel Systems (continued)

### FX ECX Housings and Frames

#### FX ECX Housings

##### Rack-Mount



ECX-04U, FX ECX Rack-Mount Housing

Description	Number of Module Bays	Total LC Duplex Using ECX Frames	Total LC Duplex Using ECX Cassettes	Belden Part Number
1U Housing	2 Cassettes or Frames	32	24	ECX-01U
2U Housing	4 Cassettes or Frames	64	48	ECX-02U
4U Housing	12 Cassettes or Frames	192	144	ECX-04U

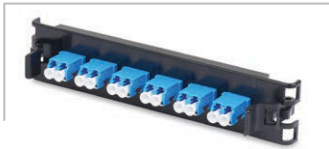
##### Wall-Mount



ECX-06WM, FX ECX Wall-Mount

Description	Number of Module Bays	Total LC Duplex Using ECX Frames	Total LC Duplex Using ECX Cassettes	Belden Part Number
2-Module Housing	2 Cassettes or Frames	32	24	ECX-02WM
4-Module Housing	4 Cassettes or Frames	64	48	ECX-04WM
6-Module Housing	6 Cassettes or Frames	96	72	ECX-06WM

#### Standard FX ECX Frames



FFSX06LD, LC Duplex Frame, OS2 Blue Adapters



FF4X16LD, LC Duplex Frame, OM4 Erika Violet Adapters

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



FF3X03SD, SC Duplex Frame, OM3 Aqua Adapters



FFZX06KC, KeyConnect Frame

#### Tailored FX ECX Frames *SmartPart* Configurator

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count	4. Choose Connector (Patch Side)
FF	S	X	06	SC
<b>Fiber Type</b>	<b>Product Family</b>	<b>Port Count (Patch Side)</b>	<b>Connector (Patch Side)</b>	
1 OM1	X OS2	03 3-Ports	LD LC Duplex	
3 OM3		06 6-Ports	LA LC/APC Duplex	
4 OM4		08 8-Ports	SD SC Duplex	
5 OM5		12 12-Ports	SC SC Simplex	
S OS2		16 16-Ports	SA SC/APC Duplex	
			SB SC/APC Simplex	
			ST ST	
			MP MPO Up/Down	

Maximum density with SC connectors is 16 fibers.

##### Example:

**FFSX06SC** - FX ECX Frame, OS2, 6-ports, SC simplex, Blue adapters



## FiberExpress Patch Panel Systems (continued)

### FX ECX Cassettes

#### Standard FX ECX Splice and Pre-loaded Cassettes

Description	Belden Part Number				
	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
<b>LC Duplex</b>					
6 (12)	FC1X06LDFS	FC3X06LDFS	FC4X06LDFS	FCSX06LDFS	FCSX06LAFS
12 (24)	FC1X12LDFS	FC3X12LDFS	FC4X12LDFS	FCSX12LDFS	FCSX12LAFS
<b>LC Duplex (loaded with Pigtailed)</b>					
6 (12)	—	FC3X06LDLDFP	FC4X06LDLDFP	FCSX06LDLDFP	—
12 (24)	—	FC3X12LDLDFP	FC4X12LDLDFP	FCSX12LDLDFP	—
<b>SC Duplex</b>					
3 (6)	FC1X03SDFS	FC3X03SDFS	FC4X03SDFS	FCSX03SDFS	FCSX03SAFS
6 (12)	FC1X06SDFS	FC3X06SDFS	FC4X06SDFS	FCSX06SDFS	FCSX06SAFS
<b>SC Duplex (loaded with Pigtailed)</b>					
6 (12)	—	FC3X03SDLDFP	FC4X03SDLDFP	—	FCSX03SDFP
12 (24)	—	FC3X06SDLDFP	FC4X06SDLDFP	—	FCSX06SDFP



FCSX06LAFS, LC Duplex Splice Cassette, OS2 APC Green Adapters



FC1X12SDFS, SC Simplex Splice Cassette, OM1 Beige Adapters

#### Tailored FX ECX Splice Cassettes SmartPart Configurator

Fixed Letter Series	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count	4. Choose Connector (Patch Side)	5. Choose Connector (Trunk Side)
<b>FC</b>	<b>S</b>	<b>X</b>	<b>06</b>	<b>SC</b>	<b>FS</b>
	<b>Fiber Type</b>	<b>Product Family</b>	<b>Port Count (Patch Side)</b>	<b>Connector (Patch Side)</b>	<b>Connector (Trunk Side)</b>
	1 OM1	X ECX	03 3-Ports	LD LC Duplex	FS Splice Cassette
	3 OM3		06 6-Ports	LA LC/APC Duplex	FP Pre-Loaded Cassette*
	4 OM4		08 8-Ports	SD SC Duplex	FT Field Termination Cassette
	5 OM5		12 12-Ports	SC SC Simplex	
	S OS2			SA SC/APC Duplex	
				SB SC/APC Simplex	
				ST ST	
				MP MPO Up/Down	

#### Example:

FCSX06SCFS - FX ECX splice cassette, OS2, 6-ports, SC simplex to splice cassette

Maximum density with SC connectors is 12 fibers.

\* Pre-loaded cassette not available in OM1 or with ST connectors.

\* Field Termination Cassette is only available in LC and SC (simplex and duplex) options.



FC4X12LDFS, LC Duplex Splice Cassette, OM4 Erika Violet Adapters



FCSX06SDFS, SC Duplex Splice Cassette, OS2 Blue Adapters

#### Standard FX ECX Splitter Cassettes

Description (Upstream/Downstream)	Splitter	Belden Part Number
SC/APC to LC/APC	Single 1x2	SCSX1102SLF
SC/APC to LC/APC	Single 1x4	SCSX1104SLF
SC/APC to LC/APC	Single 1x8	SCSX1108SLF
SC/APC to LC/APC	Single 1x16	SCSX1116SLF
SC/APC to LC/APC	Single 1x32	SCSX1132SLF
SC/APC to LC/APC	Single 2x4	SCSX1204SLF
SC/APC to LC/APC	Single 2x8	SCSX1208SLF
SC/APC to LC/APC	Single 2x16	SCSX1216SLF
SC/APC to LC/APC	Single 2x32	SCSX1232SLF
SC/APC to LC/APC	Dual 1x16	SCSX2116SLF
SC/APC to LC/APC	Dual 2x8	SCSX2208SLF
LC/APC to LC/APC	Dual 2x16	SCSX2216LLF
LC/APC to LC/APC	Quad 1x8	SCSX4108LLF
MPO/APC to LC/APC	Quad 2x8	SCSX4208MLF



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

## FiberExpress Patch Panel Systems (continued) FX ECX Cassettes, Kits and Accessories



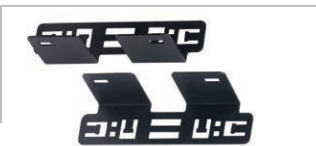
ECX-MGTCLIPS, Management Clips



ECX-SPLICEKIT, Splice Tray Kit



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



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



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

### Standard Type-A Cassettes (Base-12)

Description		Belden Part Number			
Patch Ports (fibers)	Trunk Ports	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
12 (24)	2	FC3X12LDMF	FC4X12LDMF	FCSX12LDMF	FCSX12LAMF
6 (12)	1	FC3X06LDMF	FC4X06LDMF	FCSX06LDMF	FCSX06LAMF
6 (12)	1	FC3X06SDMF	FC4X06SDMF	FCSX06SDMF	FCSX06SAMF
12 (24)	1	FC3X12SCMF	FC4X12SCMF	FCSX12SCMF	FCSX12SBMF

### Standard SR4 Cassettes (Base-8)

Description		Belden Part Number			
Patch Ports (fibers)	Trunk Ports	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
12 (24)	3	FC3X12LD4F	FC4X12LD4F	FCSX12LD4F	—
8 (16)	2	FC3X08LD4F	FC4X08LD4F	FCSX08LD4F	—
4 (8)	1	FC3X04LD4F	FC4X04LD4F	FCSX04LD4F	—

### FX ECX Universal Accessories

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

### FX ECX 4U Housing Accessories

Description	Belden Part Number
4U Splice Tray Kit	ECX-SPLICEKIT
4U Rack Mounting Bracket 3 In	ECX-BRKTMT-3
4U Rack Mounting Bracket Flush	ECX-BRKTMT-0
4U Rear External Strain Relief (Angled)	ECX-4U-EXSTR
4U External Strain Relief	ECX-4U-EXSTR
4U Internal Strain Relief	ECX-4U-INSTR
4U Label Kit	ECX-LBL-4U
4U Frame Support	ECX-FRMESUPT
4U Patch Panel Support	ECX-4U-SUPT

### FX ECX 1U/2U Housing Accessories

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





## FiberExpress 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.

#### Rack-Mount Patch Panels

Description	Maximum Number of Adapter Strips	Splice Trays	Belden 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	Belden 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

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

#### Standard Optical Fiber Accessories

Description	Belden Part Number
FX Patch Blank Strip	AX100066
1U Front Cover, Smoked Plexiglass	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)



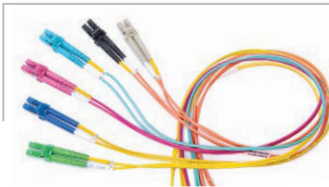
AX100495, Small Wall-Mount

# FiberExpress Pre-Terminated Assemblies

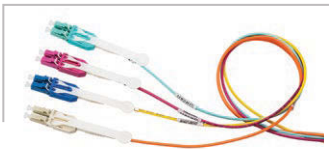
## FX Patch Cords



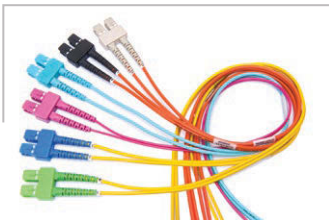
FX MPO-12 (F) Patch Cords, Assortment



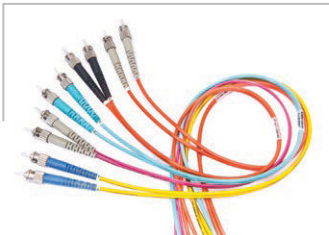
FX LC Duplex Patch Cords, Assortment



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 rigors of daily use in both off-the-shelf standard configurations and rapid custom tailored installations.

### Features and Benefits

- Low-loss OM4 0.2 dB MPO and 0.15 LC connectors for architectural flexibility
- Exhaustive design validation against TIA standards for better quality
- Can be deployed in dense cable trays with small-diameter cord options for easier installation
- Quick, off-the shelf availability of standard items for fast delivery

### FX Patch Cords - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX OM5	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	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	Lime Green	Yellow	Yellow
Connector Performance - LC/SC/ST						
IL Max. (dB)	0.25	0.25	0.15	0.15	0.25	0.25
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Polarity	A-TO-B / B-TO-A					
Connector Color	Beige	Aqua	Erika Violet	Lime Green	Blue	Green
Cable Performance - MPO-12						
IL Max. 850 nm/1300 nm (dB/km)	3.5/1.2	3.0/1.2	3.0/1.0	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	Lime Green	Yellow	Yellow
Connector Performance - MPO						
IL Max. (dB)	0.5	0.35	0.2	0.2	—	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	PC - 30	—	APC - 60
Polarity	Type-B					
Connector Color	Beige	Aqua	Erika Violet	Lime Green	Blue	Green

### FX Accessory Duplex Clips

Description	Belden Part Number					
	OM1 Beige	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Blue	OS2 Green
LC Duplex	FXFACLLDB25T	FXFACLLDB25A	FXFACLLDB25E	FXFACLLDB25L	FXFACLLDB25B	FXFACLLDB25G



# FiberExpress Pre-Terminated Assemblies (continued)

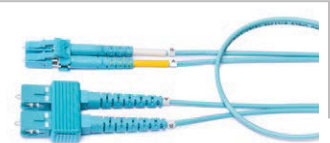
## FX Patch Cords

### Standard FX Patch Cords

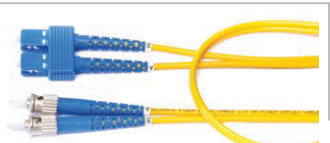
Length (m)	Belden Part Number					
	OM1 Beige/Orange	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Blue/Yellow	OS2/APC Green/Yellow
<b>MPO-12 (8f) Female to MPO-12 (8f) Female - Base-8</b>						
2	—	FP34F4F002M	FP44F4F002M	FP54F4F002M	—	FPS4F4F002M
3	—	FP34F4F003M	FP44F4F003M	FP54F4F003M	—	FPS4F4F003M
5	—	FP34F4F005M	FP44F4F005M	FP54F4F005M	—	FPS4F4F005M
<b>MPO-12 (12f) Female to MPO-12 (12f) Female - Base-12</b>						
2	—	FP3MFMF002M	FP4MFMF002M	FP5MFMF002M	—	FPSMFMF002M
3	—	FP3MFMF003M	FP4MFMF003M	FP5MFMF003M	—	FPSMFMF003M
5	—	FP3MFMF005M	FP4MFMF005M	FP5MFMF005M	—	FPSMFMF005M
<b>MPO-24 Female to MPO-24 Female</b>						
2	—	FP3NFNFO02M	FP4NFNFO02M	FP5NFNFO02M	—	FPSNFNFO02M
3	—	FP3NFNFO03M	FP4NFNFO03M	FP5NFNFO03M	—	FPSNFNFO03M
5	—	FP3NFNFO05M	FP4NFNFO05M	FP5NFNFO05M	—	FPSNFNFO05M
<b>LC Duplex UHD Uniboot to LC Duplex UHD Uniboot</b>						
2	—	FP3LULU002M	FP4LULU002M	FP5LULU002M	FPSLULU002M	—
3	—	FP3LULU003M	FP4LULU003M	FP5LULU003M	FPSLULU003M	—
5	—	FP3LULU005M	FP4LULU005M	FP5LULU005M	FPSLULU005M	—
<b>LC Duplex to LC Duplex</b>						
2	FP1LDLD002M	FP3LDLD002M	FP4LDLD002M	FP5LDLD002M	FPSLDLD002M	FPSLALA002M
3	FP1LDLD003M	FP3LDLD003M	FP4LDLD003M	FP5LDLD003M	FPSLDLD003M	FPSLALA003M
5	FP1LDLD005M	FP3LDLD005M	FP4LDLD005M	FP5LDLD005M	FPSLDLD005M	FPSLALA005M
<b>SC Duplex to SC Duplex</b>						
2	FP1SDSD002M	FP3SDSD002M	FP4SDSD002M	—	FPSSSDSD002M	FPSSASA002M
3	FP1SDSD003M	FP3SDSD003M	FP4SDSD003M	—	FPSSSDSD003M	FPSSASA003M
5	FP1SDSD005M	FP3SDSD005M	FP4SDSD005M	—	FPSSSDSD005M	FPSSASA005M
<b>ST to ST (Duplex Cord)</b>						
2	FP1STST002M	FP3STST002M	FP4STST002M	—	FPSSTST002M	—
3	FP1STST003M	FP3STST003M	FP4STST003M	—	FPSSTST003M	—
5	FP1STST005M	FP3STST005M	FP4STST005M	—	FPSSTST005M	—
<b>Hybrid: LC Duplex to SC Duplex</b>						
2	FP1LDSD002M	FP3LDSD002M	FP4LDSD002M	—	FPSLDSD002M	FPSLASA002M
3	FP1LDSD003M	FP3LDSD003M	FP4LDSD003M	—	FPSLDSD003M	FPSLASA003M
5	FP1LDSD005M	FP3LDSD005M	FP4LDSD005M	—	FPSLDSD005M	FPSLASA005M
<b>Hybrid: SC Duplex to ST</b>						
2	FP1SDST002M	FP3SDST002M	—	—	FPSSDST002M	—
3	FP1SDST003M	FP3SDST003M	—	—	FPSSDST003M	—
5	FP1SDST005M	FP3SDST005M	—	—	FPSSDST005M	—
<b>LC Simplex UHD to LC Simplex UHD, Simplex Cord</b>						
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



FPSLILI005M, LC Simplex UHD to LC Simplex UHD, OS2 Yellow

## FiberExpress Pre-Terminated Assemblies (continued) FX Patch Cords



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

### Standard FX Patch Cords *SmartPart* Configurator

<b>FX Patch Cord</b>	<b>1. Choose Fiber Type</b>	<b>2. Choose Connector 1</b>	<b>3. Choose Connector 2</b>	<b>4. Choose Length*</b>
<b>FP</b>	<b>3</b>	<b>LD</b>	<b>LD</b>	<b>003M</b>
	<b>Fiber Type</b>	<b>Connector 1</b>	<b>Connector 2</b>	<b>Length*</b>
	1 OM1	LD LC Duplex	LD LC Duplex	003M to 015M *use M as decimal
	3 <b>OM3</b>	LA LC/APC Duplex	LA LC/APC Duplex	
	4 OM4	LI LC Duplex UHD	LI LC Simplex UHD	
	5 OM5	LU LC Duplex UHD Uniboot	LU LC Duplex UHD Uniboot	
	S OS2	LF LC/APC Simplex UHD	LF LC/APC Simplex UHD	
		SD SC Duplex	SD SC Duplex	
		SA SC/APC Duplex	SA SC/APC Duplex	
		ST ST	ST ST	
		4F MPO-12 (F) Base-8	4F MPO-12 (F) Base-8	
		MF MPO-12 (F)	MF MPO-12 (F)	
		NF MPO-24 (F)	NF MPO-24 (F)	

See FX Patch Cords - Standard Performance Table for standard defaults (page 30).

### Tailored FX Patch Cords *SmartPart* Configurator

<b>FX Patch Cord</b>	<b>1. Choose Fiber Type</b>	<b>2. Choose Connector 1</b>	<b>3. Choose Connector 2</b>	<b>4. Choose Length*</b>	<b>5. Choose Fire Rating</b>	<b>6. Choose Cable Construction</b>	<b>7. Choose Polarity</b>	<b>8. Choose Jacket Color</b>
<b>FP</b>	<b>3</b>	<b>LD</b>	<b>LD</b>	<b>003M</b>	<b>R</b>	<b>3</b>	<b>X</b>	<b>A</b>
	<b>Fiber Type</b>	<b>Connector 1</b>	<b>Connector 2</b>	<b>Length*</b>	<b>Fire Rating</b>	<b>Cable Construction</b>	<b>Polarity</b>	<b>Jacket Color</b>
	1 OM1	LD LC Duplex	LD LC Duplex	003M to 100M M Meters use M as decimal	R Riser	1 Duplex ZipCord 1.6 mm (for DCX systems)	X A/B (Cross)	O Orange
	3 <b>OM3</b>	LC LC Simplex	LC LC Simplex		P Plenum	2 Duplex ZipCord 2.0 mm	S A/A (Straight)	A Aqua
	4 OM4	LA LC/APC Duplex	LA LC/APC Duplex		L LSZH	3 <b>Duplex ZipCord 3.0 mm</b>	A Type-A	E Erika Violet
	5 OM5	LB LC/APC Simplex	LB LC/APC Simplex			4 Simplex Cord 2.0 mm	B Type-B	L Lime Green
	S OS2	LI LC Simplex UHD	LI LC Simplex UHD			5 Simplex Cord 3.0 mm	C Type-C	Y Yellow
		LU LC Duplex UHD Uniboot	LU LC Duplex UHD Uniboot			6 Round 2.0 mm		
		LF LC/APC Simplex UHD	LF LC/APC Simplex UHD			7 Round 3.0 mm		
		SD SC Duplex	SD SC Duplex			9 Simplex ZipCord 1.6 mm (for DCX systems)		
		SC SC Simplex	SC SC Simplex					
		SA SC/APC Duplex	SA SC/APC Duplex					
		SB SC/APC Simplex	SB SC/APC Simplex					
		ST ST	ST ST					
		4M MPO-12 (M) Base-8	4M MPO-12 (M) Base-8					
		4F MPO-12 (F) Base-8	4F MPO-12 (F) Base-8					
		MM MPO-12 (M)	MM MPO-12 (M)					
		MF MPO-12 (F)	MF MPO-12 (F)					
		NM MPO-24 (M)	NM MPO-24 (M)					
		NF MPO-24 (F)	NF MPO-24 (F)					
		ZZ OPEN						

**Example:**

**FP3LDLD003MR3XA** - FX Patch Cord, OM3, LC Duplex to LC Duplex - 3 m, Riser, Duplex ZipCord 3.0 mm, A/B Cross, Aqua Jacket

**FP4LDLD020MR2XE** - FX Patch Cord, OM4, LC Duplex to LC Duplex, 20 m, OFNR, Duplex Zip 2.0 mm, A-to-B, Erika Violet Jacket

**FP5LDLD002MR1XY** - FX Patch Cord, OS2, LC Duplex to LC Duplex, 2 m, OFNR, Duplex Zip 1.6 mm, A-to-B, Yellow 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 Belden for any help configuring/validating *SmartPart* numbers or for any other custom engineered solutions.



## FiberExpress Pre-Terminated Assemblies (continued)

### FX Hydra Patch Cords

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

### Features and Benefits

- Shift from 10G to 40G or 100G with MPO connectivity for easy upgradability
- Erika Violet for OM4 cable and connectors help you quickly find Hydra Patch Cords
- MPO-to-LC fanout construction for faster deployment at the switch
- Small-transition-point construction for better airflow
- High-performance 0.2 dB OM4 MPO connectors and customized stagger and fanout lengths for ultimate flexibility



LPM transition on Hydra Patch Cord

### FX Hydra Patch Cords - Standard Performance

Description	FX OM3	FX OM4	FX OM5	FX SM	FX SM/APC
<b>Cable Performance - LC/SC/ST</b>					
IL Max. 850 nm/1300 nm (dB/Km)	3.0/1.2	3.0/1.0	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	Lime Green	Yellow	Yellow
<b>Connector Performance - LC</b>					
IL Max. (dB)	0.25	0.15	0.15	0.25	0.25
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Fanout Length	0.5 m, In-Line				
Connector Color	Aqua	Erika Violet	Lime Green	Blue	Green
<b>Connector Performance - MPO-12</b>					
IL Max. (dB)	0.35	0.2	0.2	—	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	—	APC - 60
Polarity	Type-A				
Connector Color	Aqua	Erika Violet	Lime Green	Blue	Green

See duplex clips on page 30



FP3LDMF002M, FX Hydra Patch Cord, OS2, MPO-12 (F) to 6 x LC Duplex, 2 m



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

### Standard FX Hydra Patch Cords

Description	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Blue/Yellow
<b>Base-12 Duplex</b>				
MPO-12 (12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	FP3LUMF002M	FP4LUMF002M	FP5LUMF002M	FP3LUMF002M
MPO-12 (12f) Female to 6 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	FP3LDMF002M	FP4LDMF002M	FP5LDMF002M	FP3LDMF002M
<b>Base-8 Duplex for SR4 (QSFP+/QSFP28) Transceivers</b>				
MPO-12 (8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	FP3LU4F002M	FP4LU4F002M	FP5LU4F002M	FP3LU4F002M
MPO-12 (8f) Female to 4 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	FP3LD4F002M	FP4LD4F002M	FP5LD4F002M	FP3LD4F002M



## FiberExpress Pre-Terminated Assemblies (continued) FX Hydra Patch Cords



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

### Standard FX Hydra Patch Cords *SmartPart* Configurator

FX Patch Cord	1. Choose Fiber Type	2. Choose Connector 1	3. Choose Connector 2	4. Choose Length*
<b>FP</b>	<b>3</b>	<b>LD</b>	<b>MF</b>	<b>003M</b>
	<b>Fiber Type</b>	<b>Connector 1</b>	<b>Connector 2</b>	<b>Length*</b>
	3 OM3	LD LC Duplex	MM MPO-12 (M)	001M to 015M
	4 OM4	LM Mini-LC Duplex	MF MPO-12 (F)	*use M as decimal
	5 OM5	LA LC/APC Duplex	4M MPO-12 (M) Base-8	
	S OS2	LU LC Duplex UHD Uniboot	4F MPO-12 (F) Base-8	

See FX Hydra Patch Cords - Standard Performance Table for standard defaults (page 33)

### Tailored FX Hydra Patch Cords *SmartPart* Configurator

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
<b>FP</b>	<b>3</b>	<b>LD</b>	<b>MF</b>	<b>020M</b>	<b>P</b>	<b>7</b>	<b>A</b>	<b>A</b>
<b>Fiber Type</b>	<b>Connector 1</b>	<b>Connector 2</b>	<b>Length</b>	<b>Fire Rating</b>	<b>Cable Construction</b>	<b>Polarity</b>	<b>Jacket Color</b>	
1 OM1	LD LC Duplex	MM MPO-12 (M)	001M to 300M	P Plenum	7 Round 3.0 mm	A Type-A (Straight Polarity)	O Orange	
3 OM3	LC LC Simplex	MF MPO-12 (F)	*use M as decimal	L LSZH		B Type-B (Reversed Polarity)	A Aqua	
4 OS4	LA LC/APC Duplex	4M MPO-12 (M) Base-8				4 SR4	E Erika Violet	
5 OM5	LB LC/APC Simplex	4F MPO-12 (F) Base-8					L Lime Green	
S OS2	LI LC Simplex UHD						Y Yellow	
	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							

#### Examples:

**FP3LDMF020MP7AA** - FX Patch Cord, OM3, 6 x LC Duplex - MPO-12 (F), 20 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket

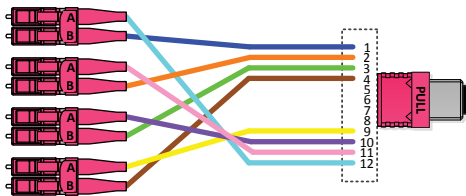
**FP4LUMM010MP7AA** - FX Patch Cord, OM4, 6 x LC Duplex UHD Uniboot - MPO-12 (M), 10 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket

**FP3LDMM005MP7BA** - FX Patch Cord, OM3, 6 x LC Duplex - MPO-12 (M), 5 m, OFNP, Round 3.0 mm, Type-B, Aqua Jacket

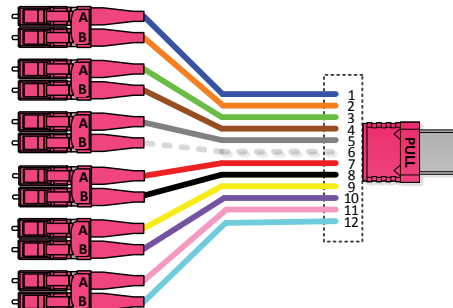
Tailored FX Hydra Patch Cords SPN table should ONLY be used for any product combination that is not covered by the Standard FX Hydra Patch Cords configurator above.

Please contact Belden for any help configuring/validating *SmartPart* Numbers or for any other custom engineered solutions.

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



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





## FiberExpress 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.

### Features and Benefits

- Data Center Ready packaging keeps areas cleaner for better contamination control
- Move from 40G and 100G with MPO pre-term solutions for better upgradability
- Exhaustive design validation against TIA standards to enhance quality
- Optimum performance with 0.2 dB OM4 MPO connectors
- Pre-terminated solutions, a 40% lighter LPM transition, 3-flange reel and default pulling eye make for quick deployment

### FX MPO Trunks - Standard Performance

Description	FX OM3	FX OM4	FX OM5	FX SM
<b>Cable Performance</b>				
IL Max. 850 nm/1300 nm (dB/Km)	3.0/1.2	3.0/1.0	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	Aqua	Erika Violet	Lime Green	Yellow
<b>Connector Performance - MPO-12</b>				
IL Max. (dB)	0.35	0.2	0.2	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60
Fanout Length	0.5 m, In-Line			
Connector Color	Aqua	Erika Violet	Lime Green	Yellow

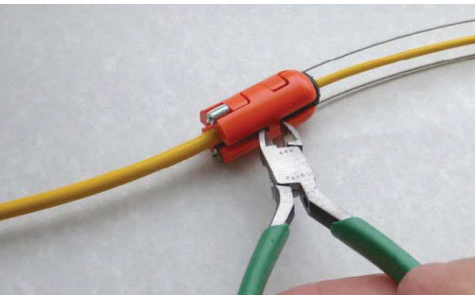


FM4MMB1030M, FX MPO Trunk, OM4, MPO-12 (Male to Male), Type-B, 1 x MPO-12 (12 fibers), 30 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), Erika Violet Jacket



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

## FiberExpress Pre-Terminated Assemblies (continued) FX MPO Trunks



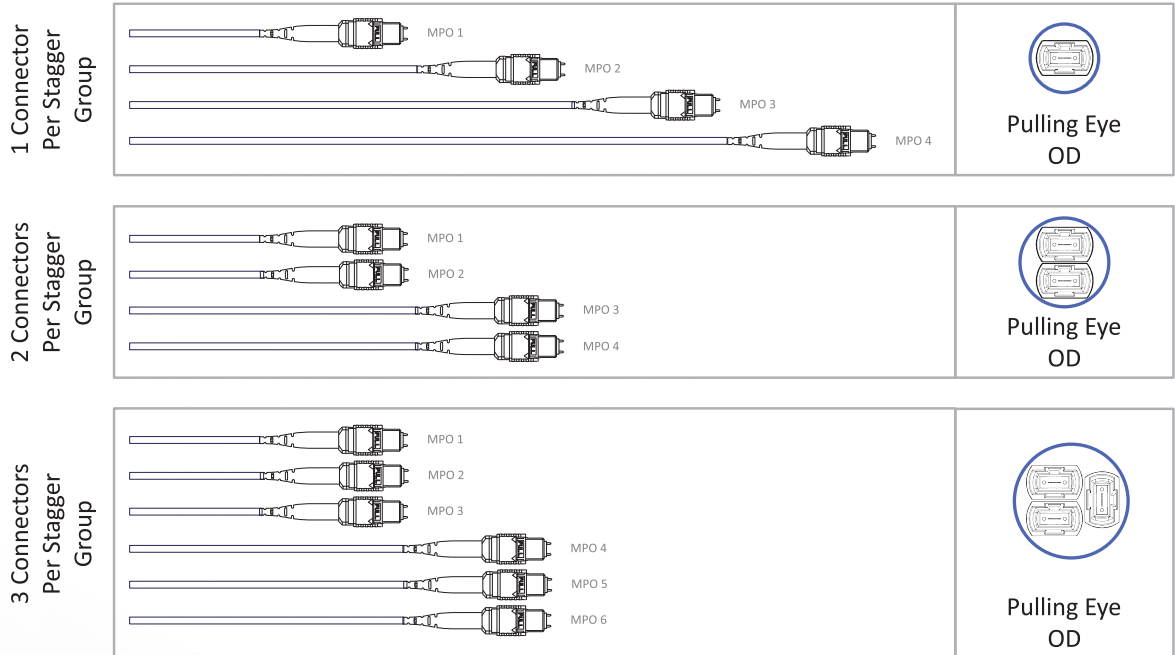
New Pulling Eye

### 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



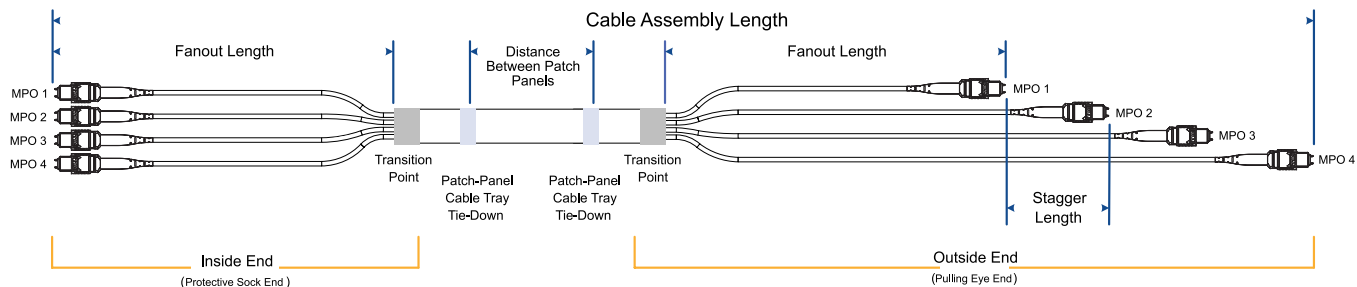
4 and 6 Connectors Per Stagger Group Available



# FiberExpress Pre-Terminated Assemblies (continued)

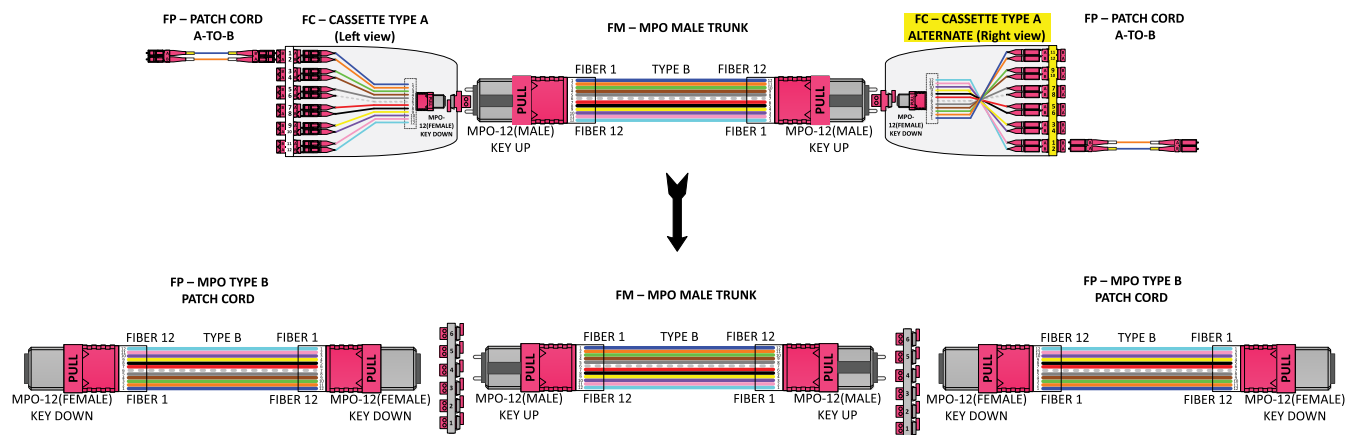
## FX MPO Trunks

### FX MPO Trunks Diagram



## Belden 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 and Male-to-Male trunk assemblies
- Simplify port numbers: Type-A and 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 4 MPO Female-to-Female patch cords

## FiberExpress Pre-Terminated Assemblies (continued) FX MPO Trunks

### Standard FX MPO Trunks - Base-12 SmartPart Configurator



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

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	Connectors	Connector Gender	Polarity (outside)	Connector Count	Length
3 OM3	M MPO-12 (12f)	M Male to Male	A Type-A	1 12 Fibers	005M to 500M M Meters *use M as decimal
4 OM4		F Female to Female	B Type-B	2 24 Fibers	
5 OM5		E Extension (M to F)	C Type-C	3 36 Fibers	
S OS2		P Male to Open		4 48 fibers	
		R Female to Open		6 72 Fibers	
				8 96 Fibers	
				D 144 Fibers	

#### Examples:

**FM3MMB3010M** - FX MPO Trunk OM3, MPO-12 (Male to Male), Type-B, 3 MPO (36 fibers), 10 m, OFNP, Mini-Distribution (2.0 mm Subunits) Fanout: 0.5 m In-Line, 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 Subunits) Fanout: 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 Subunits) Fanout: 0.5 m In-Line, Yellow Jacket.

See FX MPO Trunks - Standard Performance table for standard defaults (page 35)

### Tailored FX MPO Trunks - Base-12 SmartPart Configurator

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 Fanout Length & Geometry	10. Choose Jacket Color
FM	4	M	M	B	4	010M	P	U	E	E

Fiber Type	Connectors	Connector Gender	Polarity (outside)	Connector Count	Length	Fire Rating	Cable Construction	Fanout Geometry	Jacket Color
4 OM3	M MPO-12 (12f)	M Male to Male	A Type-A	1 12 Fibers	005M to 500M M Meters *use M as decimal	P Plenum	U μMini-D	D None (1 Conn.)	A Aqua
4 OM4			B Type-B	2 24 Fibers		I I/O Plenum		D 0.5 m x In-Line (>2 Conn.)	E Erika Violet
5 OM5			C Type-C	3 36 Fibers		A Plenum Armored (AIA)		E 1.0 m x In-Line (For DCX System)	L Lime Green
S OS2				4 48 Fibers		B Plenum I/O Armored (AIA)	F 1.5 m x In-Line	Y Yellow	
		E Extension (M to F)	6 72 Fibers	L LSZH		G 2.0 m x In-Line	N Black		
		P Male to Open	8 96 Fibers			1 0.5 m x Stag 80 mm/1 Conn.			
		R Female to Open	D 144 Fibers		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				

#### Use of tailored part numbers:

- 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. MPO-12) and 24F (2 conn. MPO-12), for I/O plenum, for plenum armored, for I/O plenum armored and LSZH.
  - » "U" μMini-Distribution cable used for indoor plenum >=36F (>=3 conn. MPO-12).
- Fanout length and geometry: different fanout lengths and stagger options, no pulling eye, pulling eye at both ends.

#### Examples:

**FM4MMB4010MPUEE** - FX MPO Trunk OM4, MPO-12 (Male to Male), Type-B, 4 MPO (48 fibers), 10 m, OFNP, Mini-Distribution (2.0 mm Subunits), Fanout: 1.0 m In-Line, Erika Violet Jacket.

**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), Fanout: 0.5 m In-Line, No Pulling Eye, Aqua Jacket.

**FMSMFA2030MPMIY** - FX MPO Trunk OS2, MPO-12 (Female to Female), Type-A, 2 MPO (24 fibers), 30 m, OFNP, Mini-Distribution 4.8 mm (Double Jacket), Fanout: 0.5 m Staggered 80 mm/ 1 CONN, Yellow Jacket.

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.

Please contact Belden for any help configuring/validating SmartPart Numbers or for any other custom engineered solutions.





# FiberExpress Pre-Terminated Assemblies (continued)

## FX MPO Trunks

### Standard FX MPO Trunks - Base-8 SmartPart Configurator

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

Fiber Type	Connectors	Connector Gender	Polarity (outside)	Connector Count	Length
3 OM3	4 MPO-12 (8f)	M Male to Male	A Type-A	1 8 Fibers	005M to 500M M Meters *use M as decimal
4 OM4		F Female to Female	B Type-B	2 16 Fibers	
5 OM5		E Extension (M to F)	C Type-C	3 24 Fibers	
S OS2		P Male to Open		4 32 fibers	
		R Female to Open		6 48 Fibers	
				8 64 Fibers	
				D 96 Fibers	

See FX MPO Trunks - Standard Performance table for standard defaults (Page 35)

#### Examples:

**FM34MB3010M** - FX MPO Trunk OM3, MPO-12 Base-8 (Male to Male), Type-B, 3 MPO (24 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 Subunits) Fanout: 0.5 m In-Line, Yellow Jacket.

### Tailored FX MPO Trunks - Base-8 SmartPart Configurator

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 Fanout Length & Geometry	10. Choose Jacket Color
<b>FM</b>	<b>3</b>	<b>4</b>	<b>M</b>	<b>B</b>	<b>3</b>	<b>010M</b>	<b>P</b>	<b>M</b>	<b>E</b>	<b>A</b>

Fiber Type	Connectors	Connector Gender	Polarity (outside)	Connector Count	Length	Fire Rating	Cable Construction	Fanout Geometry	Jacket Color
3 OM3	4 MPO-12 (8f)	M Male to Male	A Type-A	1 8 Fibers	005M to 500M M Meters *use M as decimal	P Plenum	U μMini-D	D None (1 Conn.)	A Aqua
4 OM4		F Female to Female	B Type-B	2 16 Fibers		I I/O Plenum	M Mini-D	D 0.5 m x In-Line (>2 Conn.)	E Erika Violet
5 OM5		E Extension (M to F)	C Type-C	3 24 Fibers		A Plenum Armored (AIA)		E 1.0 m x In-Line	O Lime Green
S OS2		P Male to Open		4 32 Fibers		B Plenum I/O Armored (AIA)		F 1.5 m x In-Line	Y Yellow
		R Female to Open		6 48 Fibers		L LSZH		G 2.0 m x In-Line	N Black
				8 64 Fibers				1 0.5 m x Stag 80 mm/1 Conn.	
				D 96 Fibers			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		

#### 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 8F (1 conn. MPO-12 Base-8) and 16F (2 conn. MPO-12 Base-8) and 24F (3 conn. MPO-12 Base-8), for I/O plenum, for plenum armored, for I/O plenum armored and LSZH.
  - » "U" μMini-Distribution cable used for indoor plenum >=32F (>=4 conn. MPO-12 Base-8).
- Fanout length and geometry: different fanout lengths and stagger options, no pulling eye, pulling eye at both ends.

#### Examples:

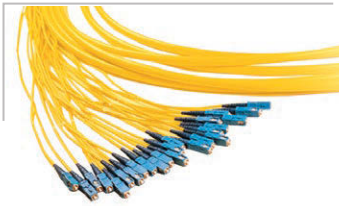
**FM34MB3010MPMEA** - FX MPO Trunk OM3, MPO-12 Base-8 (Male to Male), Type-B, 1 MPO (8 fibers), 10 m, OFNP, Mini-Distribution 4.8 mm (Double-Jacket), No Pulling Eye, Aqua Jacket.

**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 Subunits) Fanout: 0.5 m In-Line, Erika Violet Jacket.

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.

Please contact Belden for any help configuring/validating SmartPart Numbers or for any other custom engineered solutions.

## FiberExpress Pre-Terminated Assemblies (continued) FX Multi-Fiber Trunks



FX Multi-Fiber Trunk, OS2, 24f, Yellow Jacket

Highly configurable Multi-Fiber Trunks are engineered for maximum performance and crafted to ensure superior quality. Belden's 1.6 mm Multi-Fiber Trunks are designed to manage cable density and allow for airflow. Available in many length, color, fiber and connector configurations, they're quick and easy to pull and install. They also offer simple polarity management with easy-to-use LC duplex clips.

### Features and Benefits

- 3-flange reel and default pulling eye for easier installation
- Erika Violet for OM4 cable, connectors and adapters for fast identification of fiber type
- Keep contamination under control with Data Center Ready packaging
- Pre-terminated solutions are designed to save lots of time



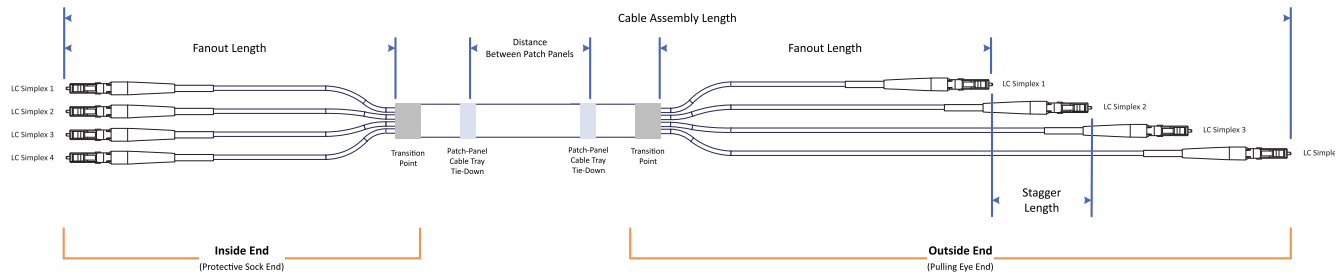
FX Multi-Fiber Trunk; Close-Up of LPM Transition

### FX Multi-Fiber Trunks - Standard Performance

Description	FX OM3	FX OM4	FX OM5	FX SM	FX SM/APC
<b>Cable Performance</b>					
IL Max. 850 nm/1300 nm (dB/km)	3.0/1.2	3.0/1.0	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	Aqua	Erika Violet	Lime Green	Yellow	Yellow
<b>Connector Performance - MPO</b>					
IL Max. (dB)	0.35	0.2	0.2	—	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	—	APC - 60
Connector Color	Aqua	Erika Violet	Lime Green	—	Green
<b>Connector Performance - LC/SC</b>					
IL Max. (dB)	0.25	0.15	0.15	0.25	0.25
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Connector Color	Aqua	Erika Violet	Lime Green	Blue	Green



FX Multi-Fiber Trunk, OS2, 12f, Yellow Jacket





# FiberExpress Pre-Terminated Assemblies (continued)

## FX Multi-Fiber Trunks

### FX Multi-Fiber Trunks SmartPart Configurator

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

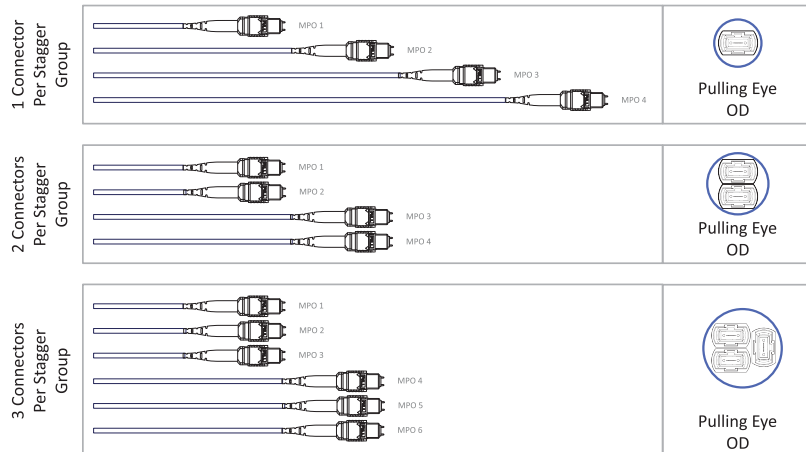
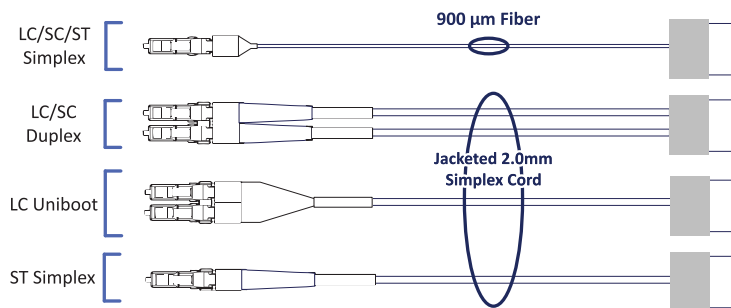
Fiber Type	Fiber Count	Connector 1	Cable Construction 1	Connector 2	Cable Construction 2	Fire Rating	Length
1 OM1	06 6 Fibers	LD LC Duplex	A 900 µm x 0.5 m x In-Line	LD LC Duplex	A 900 µm x 0.5 m x In-Line	P Plenum	005M to 500M
3 OM3	08 8 Fibers	LC LC Simplex	B 900 µm x 1.0 m x In-Line	LC LC Simplex	B 900 µm x 1.0 m x In-Line	I I/O Plenum	M = Meters *use M as decimal
4 OM4	12 12 Fibers	LA LC/APC Duplex	C 900 µm x 1.5 m x In-Line	LA LC/APC Duplex	C 900 µm x 1.5 m x In-Line	A Plenum Armored (AIA)	
5 OM5	16 16 Fibers	LB LC/APC Simplex	D 900 µm x 2.0 m x In-Line	LB LC/APC Simplex	D 900 µm x 2.0 m x In-Line	B Plenum I/O Armored (AIA)	
S OS2	24 24 Fibers	LI LC Simplex UHD	E Jacketed x 0.5 m x In-Line	LI LC Simplex UHD	E Jacketed x 0.5 m x In-Line	B Plenum I/O Armored (AIA)	
	32 32 Fibers	LU LC Duplex UHD Uniboot	F Jacketed x 1.0 m x In-Line	LU LC Duplex UHD Uniboot	F Jacketed x 1.0 m x In-Line	L LSZH	
	36 36 Fibers	LE LC/APC Duplex UHD	G Jacketed x 1.5 m x In-Line	LE LC/APC Duplex UHD	G Jacketed x 1.5 m x In-Line		
	48 48 Fibers	SD SC Duplex	H Jacketed x 2.0 m x In-Line	SD SC Duplex	H Jacketed x 2.0 m x In-Line		
	64 64 Fibers	SC SC Simplex	7 Jacketed x 1.6 mm x 1.0 m In-Line	SC SC Simplex	Z 250 µm x OPEN		
	72 72 Fibers	SA SC/APC Duplex		SA SC/APC Duplex	1 Jacketed x 0.5 m x Stag 80 mm/1 Conn.		
	96 96 Fibers	SB SC/APC Simplex		SB SC/APC Simplex	2 Jacketed x 0.5 m x Stag 80 mm/2 Conn.		
	A8 144 Fibers	ST ST		ST ST	3 Jacketed x 0.5 m x Stag 80 mm/3 Conn.		
				4M MPO-12 (M) SR4	4 Jacketed x 0.5 m x Stag 80 mm/4 Conn.		
				4F MPO-12 (F) SR4	6 Jacketed x 0.5 m x Stag 80 mm/6 Conn.		
				MM MPO-12 (M)	7 Jacketed x 1.6 mm x 1.0 m In-Line		
				MF MPO-12 (F)	R 900 µm x 0.5 m x Stag 80 mm/1 Conn.		
				ZZ OPEN	S 900 µm x 0.5 m x Stag 80 mm/2 Conn.		
					T 900 µm x 0.5 m x Stag 80 mm/3 Conn.		
					U 900 µm x 0.5 m x Stag 80 mm/4 Conn.		
					V 900 µm x 0.5 m x Stag 80 mm/6 Conn.		

#### Examples:

**A412LDLDEP030M** - FX Multi-Fiber Trunk, OM4, 12 Fibers, LC Duplex (Jacketed x 0.5 m x In-Line) - LC Duplex (Jacketed x 0.5 m x In-Line), OFNP, 30 m, Erika Violet Jacket

**A324LCLCAP050M** - FX Multi-Fiber Trunk, OM3, 24 Fibers, LC Simplex (900 µm x 0.5 m x In-Line) - LC Simplex (900 µm x 0.5 m x In-Line), OFNP, 50 m, Aqua Jacket

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



4 and 6 Connectors Per Stagger Group Available

## FiberExpress Pre-Terminated Assemblies (continued) Matrix Switch Fiber Harnesses (from Thinklogical)



Simplify fiber installation, configuration and maintenance to and from Thinklogical Matrix Switches with new Thinklogical Fiber Harnesses. A perfect match for Thinklogical Matrix Switch I/O Cards, the harnesses support clean, streamlined cable bays for reliable operation. Save time by pulling one Thinklogical Fiber Harness instead of managing bundles of loose cables. The harnesses are designed with enough slack to enable easy removal and swapping of the switch I/O cards. Completely configurable, the solution can be ordered to meet your specifications and requirements from fiber and connector type to leg quantity and length.

### Fiber Harnesses

Matrix Switch	Number of Cards	Ports Per Card	Fibers Per Card	Number of Trunks	Assembly Fiber Count	Location
TLX1280	40	32	64	4	16	Top & Bottom
TLX640 / VX640	32	20	40	2	20	Top & Bottom
TLX320 / VX320	20	16	32	2	16	Bottom
TLX160	16	10	20	1	20	Bottom
TLX80 / VX80	16	5	10	1	10	Bottom

TL Harness, Kit TLX1280 (Top), OM4, 4 x Trunks (fill one card), LC Duplex (1.6 mm x Staggered) - LC Simplex (900 μm x 1.0 m x In-Line), OFNP, 10 m, Erika Violet Jacket

### SmartPart Configurator

Please select from options below to build your SmartPart number.

TL Trunks	1. Choose Fiber Type	2. Choose Switch Type	3. Choose Switch Side A Port Numbers	4. Choose Switch Side A Connectors	5. Choose Switch Side A Fanout & Direction	6. Choose Side B Connectors	7. Choose Side B Fanout Const x Length	8. Choose Length & Unit of Measure
<b>TL</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>LD</b>	<b>T</b>	<b>LC</b>	<b>B</b>	<b>010M</b>
Fiber Type	Switch Type	Side A Port Numbers	Connector Side A	Fanout Side A	Connector Side B	Fanout Side B	Length	
3 OM3	1 TLX1280	1 TLX1280 - 4 x harnesses (kit) 01-32 port (01-64 fibers)	LD LC Duplex	TLX1280, TLX640/VX640	LD LC Duplex	A 900 μm x 0.5 m x In-Line	5 M to 500 M M=Meters *use M as decimal	
4 OM4 EV	2 TLX640/VX640	2 TLX640 - 2 x harnesses (kit) 01-20 ports (01-40 fibers)	LA LC/APC Duplex	T From Top	LC LC Simplex	B 900 μm x 1.0 m x In-Line		
9 OM4 AQ	3 TLX320/VX320	3 TLX320 - 2 x harnesses (kit) 01-16 ports (01-32 fibers)		B From Bottom	LA LC/APC Duplex	C 900 μm x 1.5 m x In-Line		
S OS2	4 TLX160	4 TLX160 - 01-10 ports (01-20 fibers)		TLX320/VX320, TLX160, TLX80/VX80	LB LC/APC Simplex	D 900 μm x 2.0 m x In-Line		
	5 TLX80/VX80	5 TLX80 - 01-05 ports (01-10 fibers)		B From Bottom	SD SC Duplex	E Jacketed x 0.5 m x In-Line		
		A TLX160 - 01-10 ports (01-20 fibers)			SC SC Simplex	F Jacketed x 1.0 m x In-Line		
		A TLX80 - 01-05 ports (01-10 fibers)			SA SC/APC Duplex	G Jacketed x 1.5 m x In-Line		
					SB SC/APC Simplex	H Jacketed x 2.0 m x In-Line		
					ST ST			
					TLX1280, TLX320, VX320 Only			
					QM MPO-12 Base-8 (M) Type A			
					QF MPO-12 Base-8 (F) Type A			

#### Notes:

- Fanout construction for jacketed legs:
  - » LC/SC/ST → 1.6 mm
  - » MPO → 3 mm (Mini-D)
- Fire rating: plenum (OFNP)
- Protective sock installed at both ends
- Pulling eye at outside end is installed for assemblies equal to or longer than 5 m
- Connector colors: OM3 — Aqua, OM4 — Erika Violet, OS2/APC — Green
- Jacket colors: OM3 — Aqua, OM4 — Erika Violet, OS2 — Yellow

#### Example:

**TL411LDTLCB010M** - TL Harness, Kit TLX1280 (Top), OM4, 4 x Trunks (Fill One Card), LC Duplex (1.6MM x Staggered) - LC Simplex (900 μm x 1.0 m x In-Line), OFNP, 10 m, Erika Violet Jacket



# FiberExpress Pre-Terminated Assemblies (continued)

## Matrix Switch Fiber Harnesses Drawings

### LC-LC Fiber Harness for TLX1280/TLX320/VX320 Matrix Switches



### LC-LC Fiber Harness for TLX640/VX640/TLX160 Matrix Switches



### LC-LC Fiber Harness for TLX80/VX80 Matrix Switches



### MPO-LC Fiber Harness for TLX1280/TLX320/VX320 Matrix Switches





## FiberExpress Pre-Terminated Assemblies (continued) OptiTuff Mini Pre-Terminated Fiber Trunks



OptiTuff Mini Trunk, OM4, 12 Fibers, LC Duplex (Jacketed x 1.0 m x In-Line) - LC Duplex (Jacketed x 1.0 m x In-Line), A/B (Cross), 5 m, Erika Violet



OptiTuff Mini Trunk, OS2, 12 Fibers, MPO-12 Male (Jacketed x 1.0 m x In-Line) - MPO-12 Male (Jacketed x 1.0 m x In-Line), Type B, 5 m, Yellow Jacket



OptiTuff Mini Trunk, OS2, 12 Fibers, LC Simplex (900 μm x 1.0 m x In-Line) - SC Simplex (900 μm x 1.0 m x In-Line), A-to-A, OFNP, 10 m, Yellow Jacket

OptiTuff Mini Pre-Terminated Fiber Trunks are the only cable assemblies that combine the durability of metal armored solutions with the performance and installation ease of non-armored solutions. These cable assemblies don't just stand above other cable assemblies in their category—they stand alone. They provide a cost-effective, ruggedized option to replace traditional metal armored and non-armored fiber pre-terminated products in data centers, enterprise LAN environments, hospitality, gaming and casinos, etc.—with no grounding or conduit required. Fewer layers and the elimination of metal armor creates a lightweight assembly with a high level of flexibility, plus a small diameter and small bend radius for easy installation and pulling.

### OptiTuff Mini Fiber Trunks - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX OM5	FX SM	FX SM/APC
<b>Cable Performance</b>						
IL Max. 850 nm/1300 nm (dB/km)	3.5/1.2	3.0/1.2	3.0/1.0	3.0/1.0	—	—
IL Max. 1310 nm/1550 nm (dB/km)	—	—	—	—	0.5/0.5	0.5/0.5
Fire Rating	Plenum					
Cable Style	μMini-Distribution and Mini-Distribution cables					
Jacket Color	Orange	Aqua	Erika Violet	Lime Green	Yellow	Yellow
<b>Connector Performance - LC/SC/ST</b>						
IL Max. (dB)	0.25	0.25	0.15	0.15	0.25	0.25
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Fanout Length	0.5 m (In-Line) for UHD/ECX mm			1.0 m (In-Line) for DCX mm		
Connector Color	Beige	Aqua	Erika Violet	Lime Green	Blue	Green
<b>Connector Performance - MPO</b>						
IL Max. (dB)	0.50	0.35	0.2	0.2	—	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	PC - 30	—	APC - 60
Fanout Length	0.5 m (In-Line) for UHD/ECX mm			1.0 m (In-Line) for DCX mm		
Connector Color	Beige	Aqua	Erika Violet	Lime Green	Blue	Green

### Standard OptiTuff Mini Trunk Configurations

Description	Fiber Count	Belden Part Number		
		OM4	OS2 - UPC	OS2 - APC
10 m LC Duplex to LC Duplex with 1 m x 1.6 mm legs	2	FY42LDFLDFX010M	FYS2LDFLDFX010M	FYS2LAFLAFX010M
	6	FY46LDFLDFX010M	FYS6LDFLDFX010M	FYS6LAFLAFX010M
	12	FY4ALDFLDFX010M	FYSALDFLDFX010M	FYSALAFLAFX010M
	24	FY4CLDFLDFX010M	FYSCLDFLDFX010M	FYSCLAFLAFX010M
10 m LC Simplex to LC Simplex with 1 m x 900 μm legs	12	FY4ALCBLCBS010M	FYSALCBLCBS010M	FYSALBBLBBS010M
	24	FY4CLCBLCBS010M	FYSCLCBLCBS010M	FYSCLBBLBBS010M
10 m MPO to MPO Type B Base-12 (1 m fanout)	12	FY4AMMFMFB010M	—	FYSAMMFMFB010M
	24	FY4CMMFMFB010M	—	FYSCMMFMFB010M
10 m MPO to MPO Type B Base-8 (1 m fanout)	8	FY484MF4MFB010M	—	FYS84MF4MFB010M
	16	FY4B4MF4MFB010M	—	FYSB4MF4MFB010M
	24	FY4C4MF4MFB010M	—	FYSC4MF4MFB010M



# FiberExpress Pre-Terminated Assemblies (continued)

## OptiTuff Mini Pre-Terminated Fiber Trunks

### SmartPart Configurator

Please select from options below to build your SmartPart number.

FX OptiTuff	1. Fiber Type	2. Fiber Count	3. Choose Connector 1	4. Choose Fanout Const x Length: Conn 1	5. Choose Connector 2	6. Choose Fanout Const x Length: Conn 2	7. Choose Subunit Type/ Configuration	8. Choose Length & Unit of Measure
<b>FY</b>	<b>4</b>	<b>A</b>	<b>LD</b>	<b>F</b>	<b>LD</b>	<b>F</b>	<b>X</b>	<b>030M</b>

Fiber Type	Fiber Count	Connector 1	Fanout Const 1	Connector 2	Fanout Const 2	Polarity	Length
4 OM4	1 1 Fiber	LD LC Duplex	A 900 μm x 0.5 m x In-Line	LD LC Duplex	A 900 μm x 0.5 m x In-Line	X A/B (Cross)	5 M to 500 M M=Meters *use M as decimal
5 OS2	2 2 Fibers	LC LC Simplex	B 900 μm x 1.0 m x In-Line	LC LC Simplex	B 900 μm x 1.0 m x In-Line	S A/A (Straight)	
	4 4 Fibers	LA LC/APC Duplex	C 900 μm x 1.5 m x In-Line	LA LC/APC Duplex	C 900 μm x 1.5 m x In-Line	A Type A	
	6 6 Fibers	LB LC/APC Simplex	D 900 μm x 2.0 m x In-Line	LB LC/APC Simplex	D 900 μm x 2.0 m x In-Line	B Type B	
	8 8 Fibers	LU LC Duplex UHD Uni.	E Jacketed x 0.5 m x In-Line	LU LC Duplex UHD Uni.	E Jacketed x 0.5 m x In-Line	C Type C	
A 12 Fibers	SD SC Duplex	F Jacketed x 1.0 m x In-Line	F Jacketed x 1.0 m x In-Line	SD SC Duplex	F Jacketed x 1.0 m x In-Line	4 SR4	
B 16 Fibers	SC SC Simplex	G Jacketed x 1.5 m x In-Line	G Jacketed x 1.5 m x In-Line	SC SC Simplex	G Jacketed x 1.5 m x In-Line		
C 24 Fibers	SA SC/APC Duplex	H Jacketed x 2.0 m x In-Line	H Jacketed x 2.0 m x In-Line	SA SC/APC Duplex	H Jacketed x 2.0 m x In-Line		
	SB SC/APC Simplex			SB SC/APC Simplex			
	ST ST			ST ST			
	4M MPO-12 (M) 40G			4M MPO-12 (M) 40G			
	4F MPO-12 (F) 40G			4F MPO-12 (F) 40G			
	MM MPO-12 (M)			MM MPO-12 (M)			
	MF MPO-12 (F)			MF MPO-12 (F)			
				ZZ OPEN			

### Notes:

- Cable overall diameter: 4 mm
- Environment: indoor
- Flame ratings: OFNP-FT6
- Jacket color: yellow for singlemode and Erika Violet for OM4
- Connectors: LC (SX and DX), LC Uniboot, SC (SX and DX), ST, MPO
- Legs: MPO-12 Base-12 and Base-8 (3 mm), LC/SC/ST (1.6 mm or 900 μm), LC Uniboot (2 mm)
- Furcation tubes and connector colors to match today's assembly standards
- Cable pulling tension: 25 lbs
- Pulling eye at outside end is installed for assemblies longer than or equal to 5 m

### Examples:

**FY4ALDFLDFX030M** - FX OptiTuff Mini Trunk, OM4, 12 fibers, LC Duplex (Jacketed x 1.0 m x In-Line) - LC Duplex (Jacketed x 1.0 m x In-Line), A to B, OFNP, 30 m, Erika Violet Jacket

**FY4AMMFMFB010M** - FX OptiTuff Mini Trunk, OM4, 12 fibers, MPO 12(M) (Jacketed x 1.0 m x In-Line) - MPO 12(M) (Jacketed x 1.0 m x In-Line), Type-B, OFNP, 10 m, Erika Violet Jacket

**FY4ALDFMFA005M** - FX OptiTuff Mini Trunk, OM4, 12 fibers, LC Duplex (Jacketed x 1.0 m x In-Line) - MPO-12 (M) (Jacketed x 1.0 m x In-Line), Type-A, OFNP, 5 m, Erika Violet Jacket

# FiberExpress Workstation Connectivity

## FX Outlet Boxes

Belden offers a wide variety of workstation outlet systems designed for maximum flexibility, durability, aesthetics and manageability.

### Features and Benefits

- Large variety of surface mount options
- Available in pre-term and field-term, including splicing options
- Field termination with easily accessible consolidation points

### 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.



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

Description	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
SC Simplex				
FX Wall-Box, 1x SC	—	—	FWSWBF01SC	FWSWBF01SB
FX Wall-Box, 2x SC	—	—	FWSWBF02SC	FWSWBF02SB
FX Wall-Box, 4x SC	—	—	FWSWBF04SC	FWSWBF04SB
LC Duplex (F)				
FX Wall-Box, 1x (2) LC	FW3WBF01LD	FW4WBF01LD	FWSWBF01LD	FWSWBF01LA
FX Wall-Box, 2x (4) LC	FW3WBF02LD	FW4WBF02LD	FWSWBF02LD	FWSWBF02LA
FX Wall-Box, 4x (8) LC	FW3WBF04LD	FW4WBF04LD	FWSWBF04LD	FWSWBF04LA

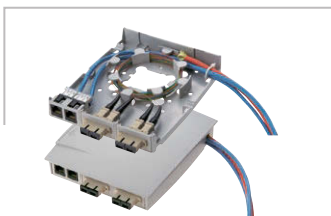


FW3MBP06LD, FX M-Box Pre-Term, 6 x LC Duplex, 1 MPO-12(f), OM3

### 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.

Description	Belden 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, Multimedia Outlet Box (shown terminated)

### Multimedia Outlet Boxes

The Multimedia Outlet Box design provides cable management and helps maintain cable bend radius. The outlet box can accept up to six modular jacks or multimedia modules using 2-port inserts and three SC Duplex adapters using special bezel. The Multimedia Outlet Box can be mounted directly on the wall or attached to standard electrical boxes. Included with the Multimedia Box are three SC duplex mounting bezels and three modular jack adapters.

Description	Belden Part Number	
	KeyConnect	MDVO
Multimedia Outlet Box, 6-port, Gray	AX107293	A0643205
Multimedia Outlet Box, 6-port, Almond	AX107294	A0643206
Multimedia Outlet Box, 6-port, White	AX107295	A0643207
Multimedia Outlet Box, 6-port, Black	AX107296	A0643208

Blank inserts included (50% of ports)

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



## FiberExpress Workstation Connectivity (continued)

### FX Outlet Boxes, Multimedia Modules and Adapters

#### Multi-User Outlet Boxes

The Multi-User Outlet Box can accommodate up to 24 connections of any type: UTP, fiber or coax. 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	Belden Part Number		
	Almond	Elec. White	Black
Multi-User Outlet Box, 24-MDVO Ports (Empty)	<b>AX100220</b>	<b>AX100221</b>	<b>AX100222</b>
Multi-User KeyConnect 12-Port Adapter Strip	—	—	<b>AX104615</b>
Multi-User MDVO 12-Port Adapter Strip	—	—	<b>AX100223</b>



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

#### MDVO Fiber Adapter Modules

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

All MDVO Adapter Modules listed above come in quantities of 25 per package.

Please contact Belden for any help configuring/validating SmartPart Numbers or for any other custom engineered solutions.



AX105505-WH, OM3 MDVO adapter module with LD Adapter, White Holder

#### KeyConnect Multimedia Modules

Description	Belden Part Number			
	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2/UPC Blue Adapters	OS2/APC Green Adapters
LC Duplex - Almond, w/o shutter (25-pk)	<b>FXWSKC3LDNB25DA</b>	<b>FXWSKC4LDNB25DE</b>	<b>FXWSKC3LDNB25DB</b>	<b>FXWSKC3LANB25DG</b>
LC Duplex - Elec. White, w/o shutter (25-pk)	<b>FXWSKC3LDNB25WA</b>	<b>FXWSKC4LDNB25WE</b>	<b>FXWSKC3LDNB25WB</b>	<b>FXWSKC3LANB25WG</b>
LC Duplex - Black, w/o shutter (25-pk)	<b>FXWSKC3LDNB25NA</b>	<b>FXWSKC4LDNB25NE</b>	<b>FXWSKC3LDNB25NB</b>	<b>FXWSKC3LANB25NG</b>
SC Simplex - Almond, w/o shutter (25-pk)	<b>FXWSKC3SCNB25DA</b>	<b>FXWSKC4SCNB25DE</b>	<b>FXWSKC3SCNB25DB</b>	<b>FXWSKC3SCNB25DG</b>
SC Simplex - Elec. White, w/o shutter (25-pk)	<b>FXWSKC3SCNB25WA</b>	<b>FXWSKC4SCNB25WE</b>	<b>FXWSKC3SCNB25WB</b>	<b>FXWSKC3SCNB25WG</b>
SC Simplex - Black, w/o shutter (25-pk)	<b>FXWSKC3SCNB25NA</b>	<b>FXWSKC4SCNB25NE</b>	<b>FXWSKC3SCNB25NB</b>	<b>FXWSKC3SCNB25NG</b>
SC/APC Simplex - Almond, w/o shutter (25-pk)	—	—	<b>FXWSKC3SANB25DB</b>	<b>FXWSKC3SANB25DG</b>
SC/APC Simplex - Elec. White, w/o shutter (25-pk)	—	—	<b>FXWSKC3SANB25WB</b>	<b>FXWSKC3SANB25WG</b>
SC/APC Simplex - Black, w/o shutter (25-pk)	—	—	<b>FXWSKC3SANB25NB</b>	<b>FXWSKC3SANB25NG</b>



FXWSKC3LDNB25NA, KeyConnect Adapter, LC Duplex, OM3 (Aqua Adapter), Black Holder

#### Standard Duplex Footprint Fiber Adapters

Description	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
SC Duplex, Flangeless	<b>AX105691-B25</b>	<b>AX105692-B25</b>	<b>AX105002-B25</b>	<b>AX105646-B25</b>
SC Duplex w/Shutters, Flangeless	—	—	<b>AX105693-B25</b>	<b>AX105694-B25</b>

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

## FiberExpress Secure/Keyed LC System

FX Secure/Keyed LC System, Pigtails and Connectors

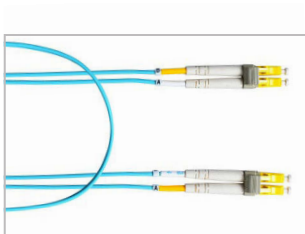
The FX Secure/Keyed LC System allows for physical segregation of network segments in secure fiber cabling infrastructures. All Secure/Keyed LC products are available with 12 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is highly tamper-resistant and cannot be reproduced inside a standard LC connector to violate the network security. All products comply with the FOCIS10 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.

Secure/Keyed LC is available in FX Ultra and FX ECX platforms with adapter frames, splice cassettes and pre-terminated cassettes for a high-density patching system that is easy to deploy, operate and maintain while ensuring maximum uptime, uninterrupted availability and superior performance. Workstation modules are also available with keystone footprint to configure secure outlets using KeyConnect faceplate and outlet boxes.



FX Secure/Keyed LC System



LC Keyed Patch Cords

### FX Secure/Keyed LC System

Key Number	Key Color	Color Code (adapters)	Color Code (connectors)
LC Key 1	Red	R	1
LC Key 2	Green	G	2
LC Key 3	Yellow	Y	3
LC Key 4	Black	N	4
LC Key 5	Orange	O	5
LC Key 6	Blue	B	6
LC Key 7	Violet	V	7
LC Key 8	Rose	P	8
LC Key 9	Aqua	A	9
LC Key 10	Brown	M	A
LC Key 11	Slate	S	B
LC Key 12	White	W	C

### LC Keyed Pigtails

Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
LC Keyed Single Pigtails				
900 µm single	FT3Wx900PS01	FT4Wx900PS01	FT5Wx900PS01	FTSWx900PS01
LC Keyed Ribbon Pigtails				
250 µm ribbon	FT3Wx250PR12	FT4Wx250PR12	FT5Wx250PR12	FTSWx250PR12

Replace **x** with the Color Code for Connectors from the table above.

### LC Keyed Brilliance Connectors

Description	Belden Part Numbers	
	OM3/OM4	OS2
Red	AX105228-B25	AX105240-B25
Green	AX105229-B25	AX105241-B25
Yellow	AX105230-B25	AX105242-B25
Black	AX105231-B25	AX105243-B25
Orange	AX105232-B25	AX105244-B25
Blue	AX105233-B25	AX105245-B25
Violet	AX105234-B25	AX105246-B25
Rose	AX105235-B25	AX105247-B25
Aqua	AX105236-B25	AX105248-B25
Brown	AX105237-B25	AX105249-B25
Slate	AX105238-B25	AX105250-B25
White	AX105239-B25	AX105251-B25

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





## FiberExpress Secure/Keyed LC System (continued)

### LC Keyed FX Ultra and ECX Frames and Splice Cassettes

#### LC Keyed FX Ultra Frames - Compatible with All Fiber Types

Description	Belden Part Numbers
Patch Ports (fibers)	Universal Adapters (MM/SM)
LC Keyed Adapter Frames	
6 (12)	FFSU06LKx
12 (24)	FFSU12LKx

Replace **x** with the Color Code for Adapters from page 48.



FFSU12LKO, LC Keyed FX Ultra Frame

#### LC Keyed FX Ultra HD Splice Cassettes

Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
Patch Ports (fibers)				
Preloaded with 250 µm single pigtails				
6 (12)	FC3H06LKFPNx	FC4H06LKFPNx	FC5H06LKFPNx	FCSH06LKFPNx
12 (24)	FC3H12LKFPNx	FC4H12LKFPNx	FC5H12LKFPNx	FCSH12LKFPNx
Preloaded with 250 µm ribbon pigtails				
6 (12)	FC3H06LKFMNx	FC4H06LKFMNx	FC5H06LKFMNx	FCSH06LKFMNx
12 (24)	FC3H12LKFMNx	FC4H12LKFMNx	FC5H12LKFMNx	FCSH12LKFMNx
Empty (no pigtails, used for field connectors)				
6 (12)	—	—	—	FCSH06LKFSNx
12 (24)	—	—	—	FCSH12LKFSNx

Replace **x** with the Color Code for Adapters from page 48.



FCSH12LKFPY, LC Keyed FX Ultra HD Splice Cassette

#### LC Keyed FX Ultra Pre-Terminated Cassettes

Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
Patch Ports (fibers)				
LC Keyed to MPO-12 (12f) Female Type-A				
6 (12)	FC3U06LKMFAx	FC4U06LKMFAx	FC5U06LKMFAx	FCSU06LKMFAx
12 (24)	FC3U12LKMFAx	FC4U12LKMFAx	FC5U12LKMFAx	FCSU12LKMFAx
LC Keyed to MPO-12 (12f) Female Type-A Alternate				
6 (12)	FC3U06LKMFIx	FC4U06LKMFIx	FC5U06LKMFIx	FCSU06LKMFIx
12 (24)	FC3U12LKMFIx	FC4U12LKMFIx	FC5U12LKMFIx	FCSU12LKMFIx

Replace **x** with the Color Code for Adapters from page 48.



FCSU12LKMFA, LC Keyed FX Ultra Pre-Terminated Cassette

#### LC Keyed FX ECX Frames - Compatible with All Fiber Types

Description	Belden Part Numbers
Patch Ports (fibers)	Universal Adapters (MM/SM)
LC Keyed Adapter Frames	
6 (12)	FFSX06LKx
12 (24)	FFSX12LKx

Replace **x** with the Color Code for Adapters from page 48.



FFSX12LKW, FX Secure/Keyed LC Ultra Cassette

#### LC Keyed FX ECX Splice Cassettes

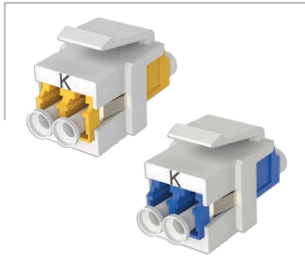
Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
Patch Ports (fibers)				
Preloaded with 250 µm single pigtails				
6 (12)	FC3X06LKFPNx	FC4X06LKFPNx	FC5X06LKFPNx	FCSX06LKFPNx
12 (24)	FC3X12LKFPNx	FC4X12LKFPNx	FC5X12LKFPNx	FCSX12LKFPNx
Empty (used for field connectors)				
6 (12)	—	—	—	FCSX06LKFFTx

Replace **x** with the Color Code for Adapters from page 48.

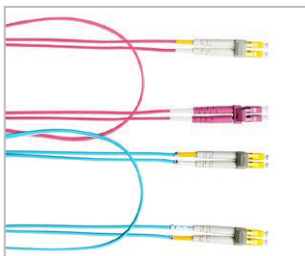


FCSX06LKFPNG, LC Keyed FX ECX Splice Cassette

## FiberExpress Secure/Keyed LC System (continued) FX ECX Pre-Terminated Cassettes, KeyConnect Modules and Patch Cords



FXWSKCSLKNB25WY,  
FXWSKCSLKNB25WB, LC Keyed  
KeyConnect Modules



FP3K3K3003MR2XA,  
FP4K3LD003MR2XE, LC Keyed  
Patch Cords

### LC Keyed FX ECX Pre-Terminated Cassettes

Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
LC Keyed to MPO-12 (12f) Female Type-A				
6 (12)	FC3X06LKMFAx	FC4X06LKMFAx	FC5X06LKMFAx	FCSX06LKMFAx
12 (24)	FC3X12LKMFAx	FC4X12LKMFAx	FC5X12LKMFAx	FCSX12LKMFAx

Replace **x** with the Color Code for Adapters from page 48.

### LC Keyed KeyConnect Modules - Compatible with All Fiber Types

Description	Belden Part Numbers	
	Universal Adapter (MM/SM) KeyConnect Modules (25-pack)	Non-Keyed to Keyed LC (hybrid) Universal Adapter Modules (25-pack)
Clear Insert	FXWSKCSLKNB25Cx	FXWSKCSLYNB25Cx
Almond Insert	FXWSKCSLKNB25Dx	FXWSKCSLYNB25Dx
White Insert	FXWSKCSLKNB25Wx	FXWSKCSLYNB25Wx
Black Insert	FXWSKCSLKNB25Nx	FXWSKCSLYNB25Nx

Replace **x** with the Color Code for Adapters from page 48.

### LC Keyed Patch Cords

Description	Belden Part Numbers			
	OM3	OM4	OM5	OS2
Keyed LC Duplex to Keyed LC Duplex				
2 m	FP3KxKx002MR2XA	FP4KxKx002MR2XE	FP5KxKx002MR2XL	FPSKxKx002MR2XY
3 m	FP3KxKx003MR2XA	FP4KxKx003MR2XE	FP5KxKx003MR2XL	FPSKxKx003MR2XY
5 m	FP3KxKx005MR2XA	FP4KxKx005MR2XE	FP5KxKx005MR2XL	FPSKxKx005MR2XY
Keyed LC Duplex to LC Duplex				
2 m	FP3KxLD002MR2XA	FP4KxLD002MR2XE	FP5KxLD002MR2XL	FPSKxLD002MR2XY
3 m	FP3KxLD003MR2XA	FP4KxLD003MR2XE	FP5KxLD003MR2XL	FPSKxLD003MR2XY
5 m	FP3KxLD005MR2XA	FP4KxLD005MR2XE	FP5KxLD005MR2XL	FPSKxLD005MR2XY

Replace **x** with the Color Code for Connectors from page 48.

### SmartPart Configurator

Please select from options below to build your *SmartPart* number.

FX Keyed Patch Cord	1. Choose Fiber Type	2. Choose Color	3. Choose Connector	4. Choose Length & Unit of Measure	5. Choose Fire Rating	6. Choose Zip Cord	7. Choose	8. Choose Jacket Color
<b>FP</b>	<b>4</b>	<b>K1</b>	<b>LD</b>	<b>030M</b>	<b>R</b>	<b>2</b>	<b>X</b>	<b>E</b>

Fiber Type	Color	Connector 1	Length	Fire Rating	Cord	X or S	Jacket Color
3 OM3	K1 Keyed Red	LD LC Duplex	5 M to 500 M M=Meters *use M as decimal	R Riser	2 Duplex Zip Cord	X A/B (cross)	A Aqua
4 OM4	K2 Keyed Green	LC LC Simplex		P Plenum		S A/A (straight)	E Erika Violet
5 OM5	K3 Keyed Yellow	LA LC/APC Duplex		L LSZH		O Lime Green	
5 OS2	K4 Keyed Black	LB LC/APC Simplex				Y Yellow	
	K5 Keyed Orange	SD SC Duplex					
	K6 Keyed Blue	SC SC Simplex					
	K7 Keyed Violet	SA SC/APC Duplex					
	K8 Keyed Rose	SB SC/APC Simplex					
	K9 Keyed Aqua	ST ST					
	KA Keyed Brown	ZZ Open					
	KB Keyed Slate						
	KC Keyed White						

# FiberExpress Optic Cables

## Introduction

The optical fiber cables featured in this section have been expanded to meet advances in technology and the demands of commercial 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 harsh environments. For each product design, items for OM1, OM3, OM4, OM5 and OS2 (singlemode) items have been developed. Belden fiber products are third-party tested by either ETL or UL and approved for use according to the National Electrical Code.

### Customer Service

Many fiber designs are available from stock through our distributors. For a new or custom application that you can not locate in this section, contact customer service at 800-BELDEN-1 (800.235.3361) for additional information or to request a quote. Further product and technical information is also available at [www.belden.com](http://www.belden.com).

### Jacket Color Chart

Cable Type	Jacket Color	
<b>Indoor Cables</b>		
OM1	Orange	
OM3	Aqua	
OM4	Erika Violet (Standard) Aqua (Optional)	
OM5	Lime Green	
OS2	Yellow	
<b>Indoor/Outdoor &amp; Outdoor Cables</b>		
All fiber grades	Black	
<b>Specialty Cables: Tactical</b>		
All fiber grades	Black	
<b>Composite Indoor Cables</b> - The jacket color corresponds to the highest grade of multimode in a composite indoor cable. See example below:		
Primary Fiber Type	Secondary Fiber Type	Jacket Color
OS2	OM1	Orange
OM4	OM1	Erika Violet (Standard) Aqua (Optional)

See page 3, FX Systems chart, for technical performance.

The part numbers on the following pages represent standard fiber cables. Additional constructions, colors and stripes are available. Please contact your Belden representative for more information.



Documents contributing to LEED points are available at [belden.com/About/leed-credits](http://belden.com/About/leed-credits)

# Fiber Optic Cable

## SmartPart Number Configurator

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:

**FDSD012P9**

FX Fiber Indoor/Outdoor Cable, OS2, Distribution, 12 Fibers, Plenum (OFNP), Non-Unitized, 900 μm Fiber

FD	S	D	012	P	9
FX Fiber Cable	Fiber Type	Family	Fiber Count	Fire Rating & Protection	Subunit Type / Configuration
<b>Breakout Cable</b>					
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		
	5 OM5		008 8 Fibers	Riser Group	
	S OS2 (G.657.A1)		010 10 Fibers	R Riser (OFNR)	
				012 12 Fibers	
<b>Distribution Cable (Non-Unitized)</b>					
FI Indoor Cable	3 OM3	D Distribution	002 2 Fibers	Plenum Group	9 900 μm Fiber
FD Indoor/Outdoor Cable	4 OM4		004 4 Fibers	P Plenum (OFNP)	
	5 OM5		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)	
<b>Distribution Cable (Unitized)</b>					
FI Indoor Cable	3 OM3	D Distribution	024 24 Fibers	Plenum Group	J 4.5 mm, 6 x 900 μm Fiber
FD Indoor/Outdoor Cable	4 OM4		036 36 Fibers	P Plenum (OFNP)	K 5.5 mm, 12 x 900 μm Fiber
	5 OM5		048 48 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)		072 72 Fibers	Riser Group	
	Composite Assignments (Primary/Secondary)		096 96 Fibers	R Riser (OFNR)	
	E OS2/OM4		144 144 Fibers	F Riser Interlocked Aluminum Armor (OFCR)	
	F OS2/OM1		Composite Configurations		
	H OS2/OM3		H31 4 Subunits		
	K OM4/OM1		H22 4 Subunits		
	M OM3/OM1		H13 4 Subunits		
	<b>Mini-Distribution Cable (Non-Unitized)</b>				
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
	5 OM5			A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)				
<b>Mini-Distribution Cable (Unitized)</b>					
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)	2 3.0 mm, 12 x 250 μm Fiber
	5 OM5		048 48 Fibers	A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)		072 72 Fibers		
			096 96 Fibers		
			144 144 Fibers		
<b>Loose-Tube</b>					
FD Indoor/Outdoor 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	
	5 OM5		048 48 Fibers	Riser Group	
	S OS2 (G.657.A1)		072 72 Fibers	R Riser (OFNR)	
			096 96 Fibers	5 Riser Corrugated Steel Tape Armor (OFCR)	
			144 144 Fibers		

For an exhaustive selection, contact Belden customer service or your local Belden representative.



# FiberExpress Breakout Cables

Tight Buffer — Indoor Riser, Plenum and LSZH Rated

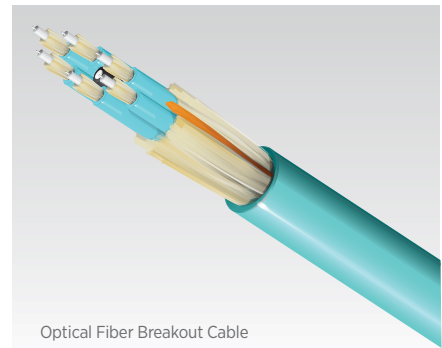
Robust terminations in demanding environments. The ease of 900 μm tight-buffered termination with only one fiber per subunit enables the ultimate bond between the connector and the cables' aramid yarns, resulting in unmatched strength and durability.

### Applications:

- Horizontal distribution for fiber-to-the-desk
- In-building backbone
- Factory floor automation
- Broadcast and AV in-building installations

### Additional Options

- 2.5 mm and 2.9 mm subunits



Optical Fiber Breakout Cable

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*			Weight*		Tensile Strength			
					mm		in.	kg/km	lb/1000 ft.	Installation		Operation	
					mm	mm			N	lbs-f	N	lbs-f	
Color-Coded Subunits		2	900 μm TB	2.0	5.8	0.23	31	21	800	180	400	90	
		4	900 μm TB	2.0	6.7	0.26	46	31	1335	300	400	90	
		6	900 μm TB	2.0	7.8	0.31	65	44	1335	300	400	90	
		12	900 μm TB	2.0	10.6	0.42	100	67	2670	600	800	180	

\* Above specifications provide the representation for riser/LSZH constructions. Please consult individual technical data sheets for exact plenum constructions specifications.

## Specifications

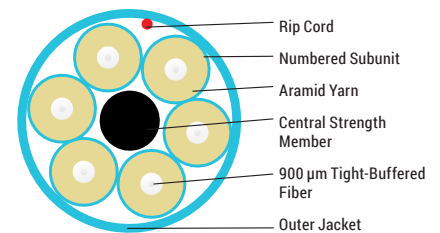
### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

### Temperature Range

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

## Legend



## Standard Indoor Breakout Cables

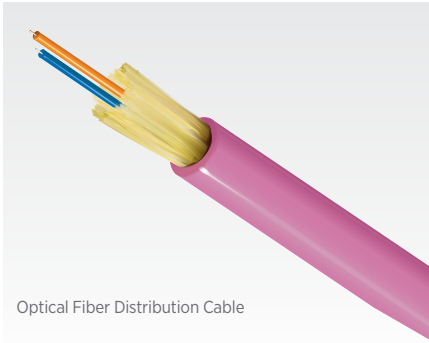
Fiber Count	Belden Part Number				
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Plenum					
2	F11B002PB	F13B002PB	F14B002PB	F15B002PB	F1SB002PB
4	F11B004PB	F13B004PB	F14B004PB	F15B004PB	F1SB004PB
6	F11B006PB	F13B006PB	F14B006PB	F15B006PB	F1SB006PB
12	F11B012PB	F13B012PB	F14B012PB	F15B012PB	F1SB012PB
Riser					
2	F11B002RB	F13B002RB	F14B002RB	F15B002RB	F1SB002RB
4	F11B004RB	F13B004RB	F14B004RB	F15B004RB	F1SB004RB
6	F11B006RB	F13B006RB	F14B006RB	F15B006RB	F1SB006RB
12	F11B012RB	F13B012RB	F14B012RB	F15B012RB	F1SB012RB

For an exhaustive selection, contact Belden customer service or your local Belden representative.

## Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-83-596





Optical Fiber Distribution Cable

## FiberExpress Distribution Cables

### Tight Buffer — Indoor Riser, Plenum Rated

Fast installation, easy termination. Subunitized cables provide easy routing and 900 μm tight-buffered fiber supports 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

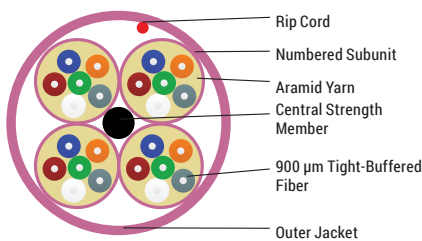
#### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

#### Temperature Range

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

### Legend



### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM PVC)
- ICEA S-83-596

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
					mm		lb/1000 ft.		Installation		Operation	
					mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		2	900 μm TB	N/A	4.7	0.19	21	14	660	200	200	45
		4	900 μm TB	N/A	5.6	0.22	25	17				
		6			30	21						
		8			33	22						
		10			39	27						
12	40	27										
24	8.3	0.33	63	42	1320	300	400	90				
Unitized 6-Fiber Subunits		24	900 μm TB	4.5	13.7	0.54	128	86	2670	600	800	180
		36			16.3	0.64	211	142				
Unitized 12-Fiber Subunits		36	900 μm TB	5.5	16.8	0.66	222	149	2670	600	800	180
		48			16.8	0.66	219	147				
		72			20.3	0.80	332	223				
		96			24.2	0.95	476	320				
144	27.3	1.08	531	357								

\*Above specifications provide the representation for riser-PVC constructions. Consult individual technical data sheets for other construction specifications.



# FiberExpress Distribution Cables (continued)

Tight Buffer — Indoor Riser, Plenum Rated LSZH

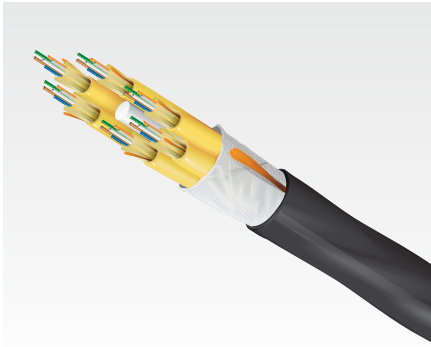
## Standard Indoor Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
<b>Non-Unitized - Riser</b>				
2	FI3D002R9	FI4D002R9	FI5D002R9	FISD002R9
6	FI3D006R9	FI4D006R9	FI5D006R9	FISD006R9
12	FI3D012R9	FI4D012R9	FI5D012R9	FISD012R9
24	FI3D024R9	FI4D024R9	FI5D024R9	FISD024R9
<b>Non-Unitized - Plenum</b>				
2	FI3D002P9	FI4D002P9	FI5D002P9	FISD002P9
6	FI3D006P9	FI4D006P9	FI5D006P9	FISD006P9
12	FI3D012P9	FI4D012P9	FI5D012P9	FISD012P9
24	FI3D024P9	FI4D024P9	FI5D024P9	FISD024P9
<b>Unitized 6-Fiber Subunits Riser</b>				
24	FI3D024RJ	FI4D024RJ	FI5D024RJ	FISD024RJ
<b>Unitized 6-Fiber Subunits Plenum</b>				
24	FI3D024PJ	FI4D024PJ	FI5D024PJ	FISD024PJ
<b>Unitized 12-Fiber Subunits Plenum</b>				
36	FI3D036PK	FI4D036PK	FI5D036PK	FISD036PK
48	FI3D048PK	FI4D048PK	FI5D048PK	FISD048PK
72	FI3D072PK	FI4D072PK	FI5D072PK	FISD072PK
96	FI3D096PK	FI4D096PK	FI5D096PK	FISD096PK
144	FI3D144PK	FI4D144PK	FI5D144PK	FISD144PK

OM1 available upon request. For an exhaustive selection, contact Belden customer service or your local Belden representative.



## FiberExpress Distribution Cables (continued) Tight Buffer — Indoor/Outdoor Riser, Plenum and LSZH Rated



Optical Fiber Indoor/Outdoor Distribution Cable

### Indoor/Outdoor Specifications

- Environmental Protection
  - UV-resistant jacket
  - Moisture-resistant jacket
  - Fungus-resistant Jacket
- Waterblocking aramid
- Waterblocking tape

### Indoor/Outdoor Specifications

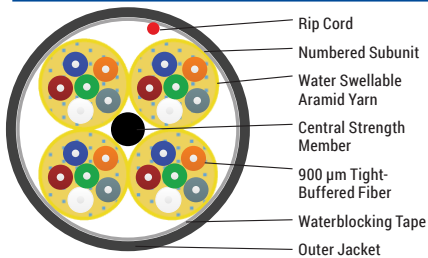
#### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

#### Temperature Range

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

### Legend



### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-104-696

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
					mm		kg/km lb/1000 ft.		Installation		Operation	
					mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Non-Unitized		2	900 μm TB	N/A	4.7	0.19	21	14	660	150	200	45
		4	900 μm TB	N/A	5.6	0.22	25	17				
		6			31	21						
		8			33	22						
		10			39	26						
		12			40	27						
16	63	42										
24	63	42	1320	300	400	90						
Unitized 6-Fiber Subunits		24	900 μm TB	4.5	14.3	0.56	161	108	2670	300	800	180
		36			17.0	0.67	221	148				
Unitized 12-Fiber Subunits		36	900 μm TB	5.5	17.5	0.69	220	149	2670	600	800	180
		48			17.5	0.69	234	157				
		72			20.9	0.82	341	229				
		96			24.8	0.98	512	344				
		144			27.9	1.10	561	377				

\*Above specifications provide the representation for riser-PVC constructions. Consult individual technical data sheets for other construction specifications.



## FiberExpress Distribution Cables (continued)

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

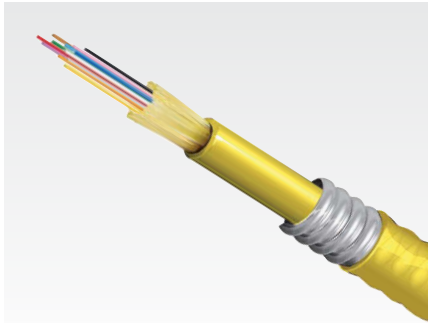
### Standard Indoor/Outdoor Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Black	OM4 Black	OM5 Black	OS2 Black
<b>Non-Unitized - Riser</b>				
2	FD3D002R9	FD4D002R9	FD5D002R9	FSD002R9
6	FD3D006R9	FD4D006R9	FD5D006R9	FSD006R9
12	FD3D012R9	FD4D012R9	FD5D012R9	FSD012R9
24	FD3D024R9	FD4D024R9	FD5D024R9	FSD024R9
<b>Non-Unitized Plenum</b>				
2	FD3D002P9	FD4D002P9	FD5D002P9	FSD002P9
6	FD3D006P9	FD4D006P9	FD5D006P9	FSD006P9
12	FD3D012P9	FD4D012P9	FD5D012P9	FSD012P9
24	FD3D024P9	FD4D024P9	FD5D024P9	FSD024P9
<b>Unitized 6-Fiber Subunits - Riser</b>				
24	FD3D024RJ	FD4D024RJ	FD5D024RJ	FSD024RJ
<b>Unitized 6-Fiber Subunits - Plenum</b>				
24	FD3D024PJ	FD4D024PJ	FD5D024PJ	FSD024PJ
<b>Unitized 12-Fiber Subunits - Plenum</b>				
48	FD3D048PK	FD4D048PK	FD5D048PK	FSD048PK
72	FD3D072PK	FD4D072PK	FD5D072PK	FSD072PK
96	FD3D096PK	FD4D096PK	FD5D096PK	FSD096PK
144	FD3D144PK	FD4D144PK	FD5D144PK	FSD144PK

OM1 available upon request.

For an exhaustive selection, contact Belden customer service or your local Belden representative.





Optical Fiber Armored Distribution Cable, Indoor

## FiberExpress 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
- Rugged environments

### Indoor Specifications

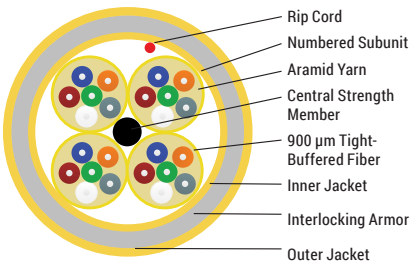
#### Bend Radius (vs. Cable OD)

Installation	20 x OD
Operation	10 x OD

#### Temperature Range

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

### Legend



### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFCR FT4 (RISER - PVC)
- NEC/CEC OFCP FT6 (PLENUM - PVC)
- ICEA S-83-596

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
					mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
									N	lbs-f	N	lbs-f
Non-Unitized		6	900 μm TB	N/A	12.5	0.49	204	137	660	150	200	45
		12			13.5	0.53	213	143				
		24			16.4	0.64	249	167				
Unitized 12-Fiber Subunits		48	900 μm TB	5.5	26.9	1.06	549	365	2670	600	800	180
		72			30.4	1.20	687	461				
		96			34.7	1.37	895	601				
		144			37.8	1.49	990	665				

\*Above specifications provide the representation for riser-PVC constructions. Consult individual technical data sheets for other construction specifications.

### Standard Indoor Armored Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
<b>Non-Unitized Riser</b>				
6	FI3D006F9	FI4D006F9	FI5D006F9	FISD006F9
12	FI3D012F9	FI4D012F9	FI5D012F9	FISD012F9
24	FI3D024F9	FI4D024F9	FI5D024F9	FISD024F9
<b>Non-Unitized Plenum</b>				
6	FI3D006A9	FI4D006A9	FI5D006AK	FISD006A9
12	FI3D012A9	FI4D012A9	FI5D012AK	FISD012A9
24	FI3D024A9	FI4D024A9	FI5D024AK	FISD024A9
<b>Unitized 12-Fiber Subunits Riser</b>				
48	FI3D048FK	FI4D048FK	FI5D048FK	FISD048FK
72	FI3D072FK	FI4D072FK	FI5D072FK	FISD072FK
96	FI3D096FK	FI4D096FK	FI5D096FK	FISD096FK
144	FI3D144FK	FI4D144FK	FI5D144FK	FISD144FK
<b>Unitized 12-Fiber Subunits Plenum</b>				
48	FI3D048AK	FI4D048AK	FI5D048AK	FISD048AK
72	FI3D072AK	FI4D072AK	FI5D072AK	FISD072AK
96	FI3D096AK	FI4D096AK	FI5D096AK	FISD096AK
144	FI3D144AK	FI4D144AK	FI5D144AK	FISD144AK

OM1 available upon request.

For an exhaustive selection, contact Belden customer service or your local Belden representative.



## FiberExpress Armored Distribution Cables (continued)

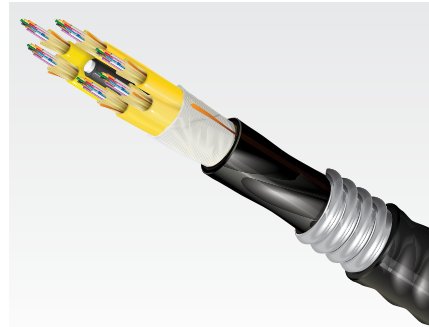
### Tight Buffer — Indoor/Outdoor, Riser/LSZH and Plenum Rated

#### Indoor/Outdoor Specifications

- Environmental Protection
  - UV-resistant jacket
  - Moisture-resistant jacket
  - Fungus-resistant Jacket
- Waterblocking aramid
- Waterblocking tape

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*				Weight*				Tensile Strength			
					mm		in.		kg/km		lb/1000 ft.		Installation		Operation	
					mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f				
Non-Unitized		6	900 μm TB	N/A	12.5	0.49	204	137	660	300	200	45				
		12			13.5	0.53	213	143								
		24			16.4	0.64	249	167					1320	150	400	90
Unitized 12-Fiber Subunits		48	900 μm TB	5.5	27.6	1.09	616	414	2670	600	800	180				
		72			31.0	1.22	713	479								
		96			35.3	1.39	939	631								
		144			38.4	1.51	1049	705								

\*Above specifications provide the representation for riser-PVC constructions. Consult individual technical data sheets for other construction specifications.



Optical Fiber Armored Distribution Cable, Indoor/Outdoor

#### Indoor/Outdoor Specifications

##### Bend Radius (vs. Cable OD)

Installation	20 x OD
Operation	10 x OD

##### Temperature Range

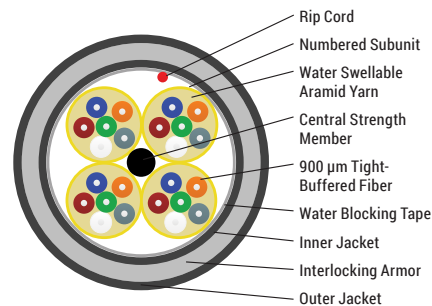
Storage	-40°C to 70°C (-40°F to 158°F)
Installation (Riser)	-10°C to 60°C (-4°F to 140°F)
Installation (Plenum)	0°C to 70°C (32°F to 158°F)
Operation	-40°C to 70°C (-40°F to 158°F)

#### Standard Indoor/Outdoor Armored Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Black	OM4 Black	OM5 Black	OS2 Black
<b>Non-Unitized Riser</b>				
6	FD3D006F9	FD4D006F9	FD5D006F9	FDSD006F9
12	FD3D012F9	FD4D012F9	FD5D012F9	FDSD012F9
24	FD3D024F9	FD4D024F9	FD5D024F9	FDSD024F9
<b>Non-unitized Plenum</b>				
6	FD3D006A9	FD4D006A9	FD5D006AK	FDSD006A9
12	FD3D012A9	FD4D012A9	FD5D012AK	FDSD012A9
24	FD3D024A9	FD4D024A9	FD5D024AK	FDSD024A9
<b>Unitized 12-Fiber Subunits Plenum</b>				
48	FD3D048AK	FD4D048AK	FD5D048AK	FDSD048AK
72	FD3D072AK	FD4D072AK	FD5D072AK	FDSD072AK
96	FD3D096AK	FD4D096AK	FD5D096AK	FDSD096AK
144	FD3D144AK	FD4D144AK	FD5D144AK	FDSD144AK

OM1 available upon request.  
For an exhaustive selection, contact Belden customer service or your local Belden representative.

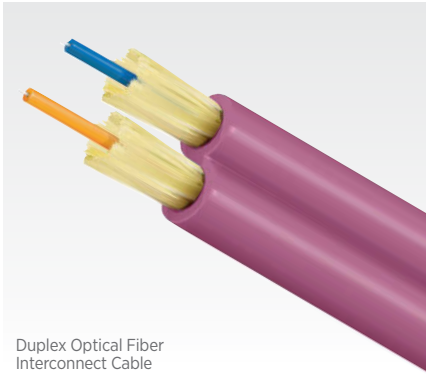
#### Legend



#### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFCR FT4 (RISER - PVC)
- NEC/CEC OFCR FT4 (LSZH - FRPE)
- NEC/CEC OFCP FT6 (PLENUM - PVC)
- ICEA S-104-696





## FiberExpress Interconnect Cables

### Tight Buffer — Riser/LSZH 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 rigors 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°C to 158°F)
Installation (Plenum, Riser/LSZH)	0°C to 60°C (32°F to 140°F)
Operation (Plenum, Riser/LSZH)	0°C to 70°C (32°F to 158°F)

### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-83-596

### Zip Cord (900 μm Fiber)

Description	Construction	Fiber Count	Fiber	Cable OD*		Weight*		Tensile Strength			
				mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
Simplex		1	900 μm TB	2.0	0.08	4	3	220	50	67	15
				3.0	0.11	7	5				
Duplex Zip		2	900 μm TB	2.0 x 4.0	0.08 x 0.16	10	7	220	50	67	15
				3.0 x 5.8	0.11 x 0.22	16	11				

\*Consult individual technical data sheets for exact specifications.

### Standard Zip Cord Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Simplex 2.0 mm - Riser				
1	FI3I001RB	FI4I001RB	FI5I001RB	FISI001RB
Simplex 3.0 mm - Riser				
1	FI3I001RC	FI4I001RC	FI5I001RC	FISI001RC
Duplex 2.0 mm - Riser				
2	FI3I002RB	FI4I002RB	FI5I002RB	FISI002RB
Duplex 3.0 mm - Riser				
2	FI3I002RC	FI4I002RC	FI5I002RC	FISI002RC

For an exhaustive selection, contact Belden customer service or your local Belden representative.

### Mini Round (250 μm Fiber)

Description	Construction	Fiber Count	Fiber	Cable OD*		Weight*		Tensile Strength			
				mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
Duplex Mini-Round		2	250 μm	2.0	0.08	3.4	2.3	100	22	30	7
Mini-Round 8f		8	250 μm	2.0	0.08	3.4	2.3	100	22	30	7
Mini-Round 12f		12	250 μm	2.0	0.08	3.4	2.3	100	22	30	7

\*Consult individual technical data sheets for exact specifications.

### Standard Mini Round Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Mini-Round 2.0 mm - Plenum				
2	FI3I002PO	FI4I002PO	FI5I002PO	FISI002PO
8	FI3I008PO	FI4I008PO	FI5I008PO	FISI008PO
12	FI3I012PO	FI4I012PO	FI5I012PO	FISI012PO



# FiberExpress Composite Distribution Cables

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

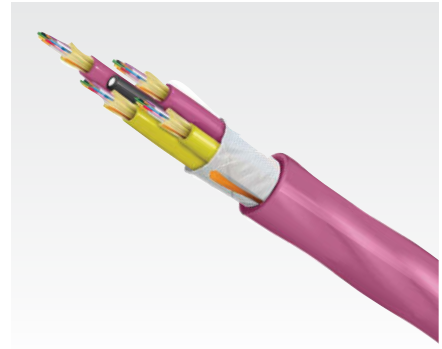
Composite cables combine multiple grades of fiber in a single unitized cable that easily supports various applications in a single cable to minimize installation labor.

### Applications

- In-building backbones
- Factory floor automation
- Broadcast and AV in-building installation

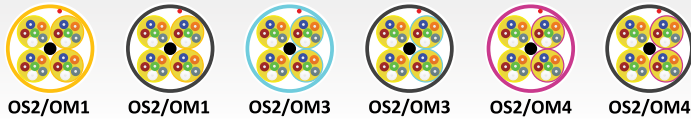
### Additional Options

- Breakout cable
- μMini-Distribution cable
- 2-fiber to 144-fiber constructions
- Additional fiber-grade combinations



Optical Fiber Composite Cable

### Standard Composite Cable Color



Jacket color for **indoor cables** is determined by the multimode fiber type.  
 Jacket color for **indoor/outdoor cables** is always Black.

## Composite Distribution Configurations SmartPart Configurator

1. Choose FX Fiber Cable

**FI**

FX Fiber Cable	
FI	Indoor Cable
FD	Indoor/Outdoor Cable

2. Choose Fiber Grade (Primary/Secondary)

**H**

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

3. Choose Family

**D**

Family	
D	Distribution

4. Choose Fiber Configuration

**H22**

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

5. Choose Flammability Rating and Protection

**P**

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)

6. Choose Subunit Type/ Configuration

**K**

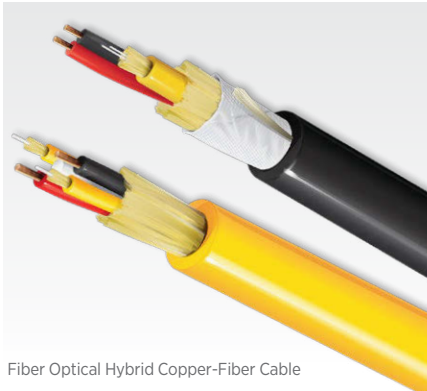
Subunit Type/ Configuration	
Plenum Group	
J	4.5 mm Subunit, 6 x 900 μm Fiber
K	5.5 mm Subunit, 12 x 900 μm Fiber

For an exhaustive selection, contact Belden customer service or your local Belden representative.

### Examples:

**FIHDH22PK** - FX Indoor, OS2 / OM3, Distribution Tight Buffer, 24 Fibers / 24 Fibers, OFNP, Subunits (12f), Aqua Jacket

**FDEDH31AK** - FX Indoor/Outdoor, OS2 / OM4, Distribution Tight Buffer, 36 Fibers / 12 Fibers, OFCP Aluminum Interlocked Armor, Subunits (12f), Black Jacket



Fiber Optical Hybrid Copper-Fiber Cable

## FiberExpress Hybrid Copper-Fiber Cables

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

Take advantage of the benefits of DC power and fiber in one cable, safely transmitting up to 100W of low-voltage power and data over long distances to remote locations where standard power is unavailable or too costly to install. Cables can be used for indoor (plenum and riser) and indoor/outdoor (plenum and riser) applications and also reduce inventory costs through stocking and managing one cable vs. two.

### Applications:

- DAS
- POLAN/PON
- Power over longer distances
- Entrance space

### Indoor Specifications

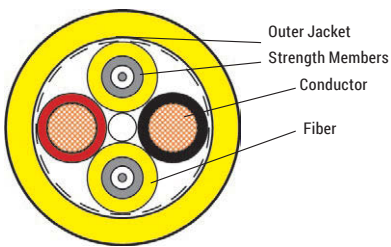
#### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

#### Temperature Range

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

### Legend



### Compliance

- ICEA S-120-742
- RoHS II 2011/65/EU
- ANSI/TIA-568.3

### Fiber Color (Outer Jacket/Fiber Subunit)

OM3	Aqua / Aqua
OM4	Erika Violet / Erika Violet
OS2 (G.657.A1)	Yellow / Yellow
Indoor/Outdoor	Black / Fiber type color

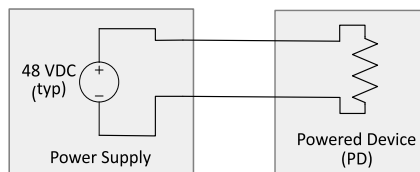
Description	Construction	Fire Rating	Subunit Type	Fiber Count	#Conductors x AWG	Sub-unit OD	Cable OD*		Weight*		Tensile Strength			
							mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
Indoor			Breakout	2	2 x 14	2.0	6.8	0.267	79	53	1330	300	400	90
							6.4	0.252	64	43				
							6.3	0.246	55	37				
							8.7	0.342	95	64				
							8	0.315	79	51				
							8	0.315	71	48				
Plenum			Distribution	6	2 x 14	4.8	8.9	0.352	97	65	2670	600	800	180
							8.6	0.34	82	55				
							8.4	0.332	73	49				
Indoor/Outdoor			Breakout	2	2 x 14	2.0	7.4	0.291	82	55	1330	300	400	90
							7.0	0.276	67	45				
							6.9	0.270	60	40				
							9.3	0.366	101	68				
							8.6	0.339	85	57				
							8.6	0.339	77	52				
			Distribution	6	2 x 14	4.8	9.6	0.376	103	69	2670	600	800	180
							9.2	0.364	88	59				
							9	0.356	79	53				

\*Above specifications provide the representation for riser-PVC constructions. Consult individual technical data sheets for other construction specifications.

Belden offers many options for remote power delivery. The cables on pages 62 and 63 are for delivering DC power. For Fault-Managed Power System cables, see pages 64 and 65. For PoE cabling, see the Belden Copper Systems Catalog at [www.belden.com](http://www.belden.com).

### Remote Power Delivery Systems

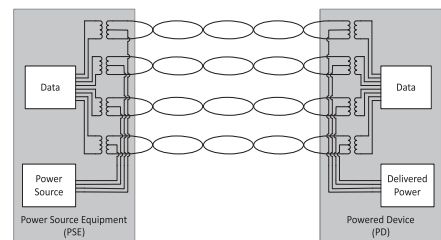
#### DC Systems



Low-Medium Power (15-100W)  
Medium Distance (up to 1000 m)

Belden Solutions:  
New Gen + Fiber Cable  
Hybrid Cable  
Fiber Connectivity

#### PoE



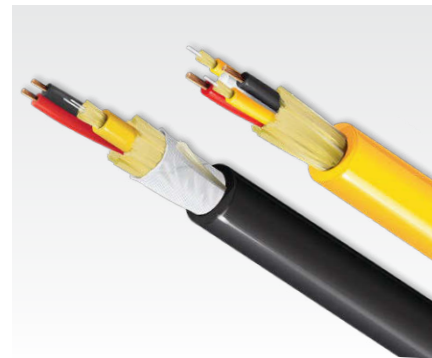
Low-Medium Power (15-100W max)  
Short Distance (100 m max)

Belden Solutions:  
Category Cable  
REVConnect



# FiberExpress Hybrid Copper-Fiber Cables (continued)

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated



Fiber Optical Hybrid Copper-Fiber Cable

## Standard FX Hybrid Copper-Fiber Breakout Cables

# Conductors x AWG	Belden Part Number			
	OM3	OM4	OM5	OS2
	Breakout (2f)	Breakout (2f)	Breakout (2f)	Breakout (2f)
Indoor Plenum				
2 x 14	HI3B0020214PB	HI4B0020214PB	HISB0020214PB	HISB0020214PB
2 x 16	HI3B0020216PB	HI4B0020216PB	HISB0020216PB	HISB0020216PB
2 x 18	HI3B0020218PB	HI4B0020218PB	HISB0020218PB	HISB0020218PB
Indoor/Outdoor Plenum				
2 x 14	HD3B0020214PB	HD4B0020214PB	HD5B0020214PB	HDSB0020214PB
2 x 16	HD3B0020216PB	HD4B0020216PB	HD5B0020216PB	HDSB0020216PB
2 x 18	HD3B0020218PB	HD4B0020218PB	HD5B0020218PB	HDSB0020218PB

## Standard FX Hybrid Copper-Fiber Distribution Cables

# Conductors x AWG	Belden Part Number			
	OM3	OM4	OM5	OS2
	Distribution (6f)	Distribution (6f)	Distribution (6f)	Distribution (6f)
Indoor Plenum				
2 x 14	HI3D0060214PJ	HI4D0060214PJ	HISD0060214PJ	HISD0060214PJ
2 x 16	HI3D0060216PJ	HI4D0060216PJ	HISD0060216PJ	HISD0060216PJ
2 x 18	HI3D0060218PJ	HI4D0060218PJ	HISD0060218PJ	HISD0060218PJ
Indoor/Outdoor Plenum				
2 x 14	HD3D0060214PJ	HD4D0060214PJ	HD5D0060214PJ	HDS0060214PJ
2 x 16	HD3D0060216PJ	HD4D0060216PJ	HD5D0060216PJ	HDS0060216PJ
2 x 18	HD3D0060218PJ	HD4D0060218PJ	HD5D0060218PJ	HDS0060218PJ

## Indoor/Outdoor Specifications

### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

### Temperature Range

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

## Tailored FX Hybrid Copper-Fiber Cables SmartPart Configurator

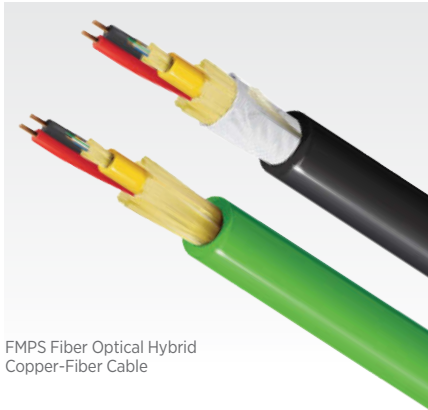
1. Choose FX Fiber Cable	2. Choose Fiber Type	3. Choose Family	4. Choose Fiber Count	5. Choose Conductor Count	6. Choose Copper Type	7. Choose Fire Rating	8. Choose Subunit Type/ Configuration
<b>HI</b>	<b>3</b>	<b>B</b>	<b>002</b>	<b>02</b>	<b>16</b>	<b>R</b>	<b>C</b>
<b>FX Fiber Cable</b>	<b>Fiber Type</b>	<b>Family</b>	<b>Fiber Count</b>	<b>Conductor Count</b>	<b>Copper Type</b>	<b>Fire Rating</b>	<b>Sub-Unit Type/ Configuration</b>
HI Indoor Hybrid Cable	1 OM1 3 OM3	B Breakout D Distribution	Breakout 001 1 Fiber 002 2 Fibers Distribution 006 6 Fibers	02 2 Conductors	12 12 AWG 14 14 AWG 16 16 AWG 18 18 AWG 20 20 AWG	P Plenum A Plenum AIA R Riser F Riser AIA L Riser LSZH C Riser LSZH AIA	B 2.0 mm Sub (1F x 900 µm) Breakout C 3.0 mm Sub (1F x 900 µm) Distribution J 4.8 mm Sub (Up to 6F x 900 µm)

For an exhaustive selection, contact Belden customer service or your local Belden representative.

### Examples:

**HI3D0060214RJ** - FX Hybrid Indoor, OS2, Distribution, 6 Fibers, 02 x 14 AWG, CL3R-OF, 4.5 mm Sub x 900 µm, Yellow Jacket

**HI4D0020212PJ** - FX Hybrid Indoor, OM4, Distribution, 2 Fibers, 02 x 12 AWG, CL3P-OF, 4.5 mm Sub x 900 µm, Erika Violet Jacket



FMPS Fiber Optical Hybrid Copper-Fiber Cable

## FMPS\* Hybrid Copper-Fiber Cables

### Tight Buffer — Indoor Plenum and LSZH Rated

Twisted pairs provide improved electrical performance, easy identification and quick installation. Hybrid cables reduce stock with only one cable to manage and labor costs with only one cable to pull. Cables are designed to effectively and safely carry data and large amounts of power across long distances.

#### Applications:

- DAS
- POLAN/PON
- Power over longer distances
- Entrance space

### Indoor Specifications

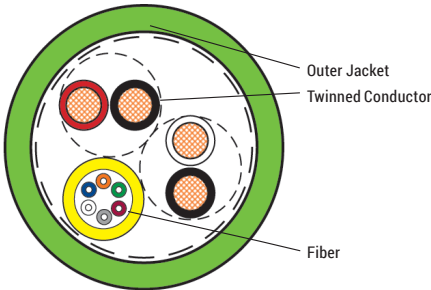
#### Bend Radius (vs. Cable OD)

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 60°C (32°F to 140°F)
Operation	0°C to 70°C (32°F to 158°F)

### Legend



### Compliance

- ICEA S-120-742
- RoHS
- ANSI/TIA-568.3
- CL4P-OF
- CL4P-OF-FMP

### Fiber Color (Outer Jacket/Fiber Subunit)

OM3	Apple Green/Aqua
OM4	Apple Green/Erika Violet
OS2 (G.657.A1)	Apple Green/Yellow
Indoor/Outdoor	Black/Fiber type color

### \* FMPS - Fault-Managed Power System

Description	Construction	Fire Rating	Subunit Type	Fiber Count	#Pairs x AWG	Sub-Unit OD	Cable OD				Weight				Tensile Strength			
							mm	mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f			
Indoor		Plenum	Breakout	2	2 x 16	2.0	10.3	0.407	116	78	2670	600	800	180				
							9.0	0.353	88	59								
							3.0	10.8	0.426	127					85			
			Distribution	6	2 x 16	4.8	11.9	0.469	148	99								
							2 x 18	10.9	0.43	119					80			
							Indoor/Outdoor		Plenum	Breakout					2	2.0	10.9	0.431
2 x 18	9.6	0.377	92	62														
	Distribution	6	2 x 16	4.8	11.4	0.45		132		89								
					2 x 18	10.3		0.407		104	70							
2 x 16	13	0.513	170	114														
2 x 18	11.5	0.454	125	84														

Consult individual technical data sheets for exact specifications.

### FMPS Hybrid Copper-Fiber Breakout Cables

# Conductors x AWG	Belden Part Number			
	OM3	OM4	OM5	OS2
	Breakout (2f)	Breakout (2f)	Breakout (2f)	Breakout (2f)
Indoor Plenum				
2 x 16	DHIP162U3B02B	DHIP162U4B02B	DHIP162U5B02B	DHIP162USB02B
2 x 18	DHIP182U3B02B	DHIP182U4B02B	DHIP182U5B02B	DHIP182USB02B
Indoor/Outdoor Plenum				
2 x 16	DHWP162U3B02B	DHWP162U4B02B	DHWP162U5B02B	DHWP162USB02B
2 x 18	DHWP182U3B02B	DHWP182U4B02B	DHWP182U5B02B	DHWP182USB02B

### FMPS Hybrid Copper-Fiber Distribution Cables

# Conductors x AWG	Belden Part Number			
	OM3	OM4	OM5	OS2
	Distribution (6f)	Distribution (6f)	Distribution (6f)	Distribution (6f)
Indoor Plenum				
2 x 16	DHIP162U3D06J	DHIP162U4D06J	DHIP160U5D06J	DHIP162USD06J
2 x 18	DHIP182U3D06J	DHIP182U4D06J	DHIP180U5D06J	DHIP182USD06J
Indoor/Outdoor Plenum				
2 x 16	DHWP162U3D06J	DHWP162U4D06J	DHWP160U5D06J	DHWP162USD06J
2 x 18	DHWP182U3D06J	DHWP182U4D06J	DHWP180U5D06J	DHWP182USD06JE30



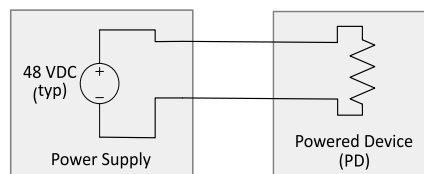
# FMPS\* Hybrid Copper-Fiber Cables (continued)

Tight Buffer — Indoor Plenum Rated

Belden offers many options for remote power delivery. The cables on pages 64 and 65 are for Fault-Managed Power Systems. For delivering DC power, see pages 62 and 63. For PoE cabling, see the Belden Copper Systems Catalog at [www.belden.com](http://www.belden.com).

## Remote Power Delivery Systems

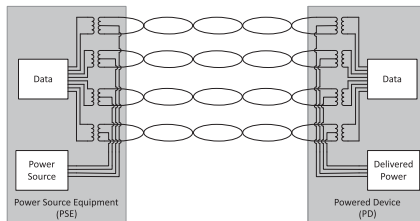
### DC Systems



Low-Medium Power (15-200W)  
Medium Distance (up to 1000 m)

Belden Solutions:  
New Gen + Fiber Cable  
Hybrid Cable  
Fiber Connectivity

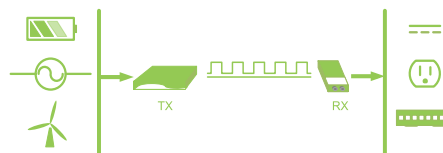
### PoE



Low-Medium Power (15-100W max)  
Short Distance (100 m max)

Belden Solutions:  
Category Cable  
REVConnect<sup>®</sup>

### Digital Electricity™



High Power (up to 2000W)  
Long Distance (up to 2000 m)

Belden Solutions:  
DE Copper Cable  
DE Hybrid Cable  
Fiber Connectivity

## Hybrid Digital Electricity™ Cables (Power and Data Transmission) SmartPart Configurator

1. Choose FX Fiber Cable

DH

2. Choose Cable Location

I

3. Choose Fire Rating

P

4. Choose Copper Type

16

5. Choose Pair Count

2

6. Choose Cable Shielding

U

7. Choose Fiber Type

4

8. Choose Family

B

9. Choose Fiber Count

02

10. Choose Fiber Subunit Configuration

C

FX Fiber Cable	Location	Fire Rating	Copper Type	Pair Count	Shielding	Fiber Type	Family	Fiber Count	Subunit Type/ Configuration
DH	Hybrid DE	I Indoor	P Plenum	16 16 AWG	2 2 Pairs	U Unshielded	3 OM3	02 2 Fibers	Breakout
	W Waterblocked-Indoor/Outdoor	L LSZH CMR-OF/FT4-STI	18 18 AWG	4 4 Pairs		4 OM4	D Distribution	04 4 Fibers	B 2.0 mm Sub (1F x 900 μm)
				8 8 Pairs		S OS2 (G.657.A1)		06 6 Fibers	C 3.0 mm Sub (1F x 900 μm)
								12 12 Fibers	J 1 Fiber Distribution Tube (900 μm)

For an exhaustive selection, contact Belden customer service or your local Belden representative.

### Examples:

**DHIP162U4B02C** - Indoor, 16 AWG, 2 Stranded Tinned-Copper Pairs, OM4, Breakout, 2 Fiber Strands, 3.0 mm Subunit, Unshielded, Plenum CL4P-OF Rated, Apple Green Jacket

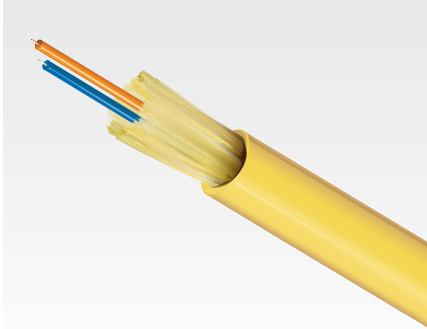
**DHIP182USD06J** - Indoor, 18 AWG, 2 Stranded Tinned-Copper Pairs, OS2, Distribution, 6 Fiber Strands, 1 Fiber Distribution Tube, Unshielded, Plenum CL4P-OF Rated, Apple Green Jacket

\* Plenum default jacket color is Apple Green. Waterblocked-Indoor/Outdoor default jacket color is black. Length specified at the time of order.

\* LSZH cable is compliant to NFPA130 rating

Digital Electricity is a Trademark of VoltServer.





Optical Fiber μMini-Distribution Cable

## FiberExpress μMini-Distribution Cables

### Indoor Plenum, Riser/LSZH Rated

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

#### Applications:

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

### Indoor Specifications

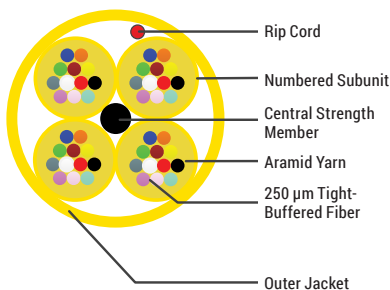
#### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

#### Temperature Range

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

### Legend



### Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-83-596

### Base-12

Name	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength lbs-f			
					mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
Indoor μMini-Distribution Cable												
Non-Unitized		12	250 μm	N/A	3.0	0.12	9	6	220	50	134	30
Unitized 12-Fiber Subunits		12	250 μm	2.0	3.0	0.18	22	15	668	150	200	45
		24			3.0	0.18	22	15				
		48			7.1	0.28	48	32				
		72			7.6	0.30	54	36				
		96			8.6	0.34	73	79				
		144			9.9	0.39	80	54				

\*Above specifications provide the representation for Plenum constructions. Consult individual technical data sheets for other construction specifications.

### Standard Indoor μMini-Distribution Base-12 Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Non-Unitized - Plenum				
12	FI3M012P2	FI4M012P2	FI5M012P2	FISM012P2
Double Jacket - Plenum				
12	FI3M012P0	FI4M012P0	FI5M012P0	FISM012P0
24	FI3M024P0	FI4M024P0	FI5M024P0	FISM024P0
Unitized - Plenum				
36	FI3M036P1	FI4M036P1	FI5M036P1	FISM036P1
48	FI3M048P1	FI4M048P1	FI5M048P1	FISM048P1
72	FI3M072P1	FI4M072P1	FI5M072P1	FISM072P1
144	FI3M144P1	FI4M144P1	FI5M144P1	FISM144P1

For an exhaustive selection, contact Belden customer service or your local Belden representative.



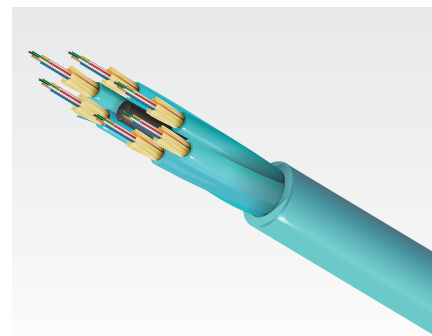
# FiberExpress μMini-Distribution Cables (continued)

Indoor Plenum, Riser/LSZH Rated

## Base-8

Name	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*			Weight*		Tensile Strength lbs-f			
					mm	mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
										N	lbs-f	N	lbs-f
Indoor μMini-Distribution Cable													
Non-Unitized		8	250 μm	N/A	3.0	0.12	9	6	220	50	75	17	
Double Jacket		8	250 μm	3.0	4.8	0.18	22	15	668	150	200	45	
		16	250 μm	3.0	4.8	0.18	22	15	668	150	200	45	
Unitized 8-Fiber Subunits		24	250 μm	2.0	7.0	0.27	49	33	668	150	200	45	
		32											
		48											
		64			8.2	0.32	63	42					
		64			10.5	0.41	125	84					
		96			10.3	0.40	97	65					

\* Above specifications provide the representation for Plenum constructions. Consult individual technical data sheets for other construction specifications.



Optical Fiber μMini-Distribution Cable

## Indoor Specifications

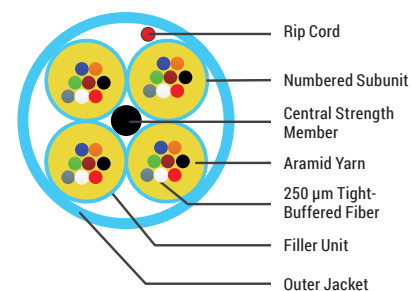
### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

### Temperature Range

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

## Legend



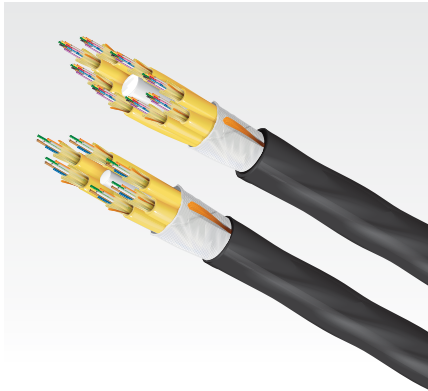
## Standard Indoor μMini-Distribution Base-8 Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Non-Unitized Plenum				
8	FI3M008P2	FI4M008P2	FI5M008P2	FISM008P2
Double Jacket - Plenum				
8	FI3M008P0	FI4M008P0	FI5M008P0	FISM008P0
16	FI3M016P0	FI4M016P0	FI5M016P0	FISM016P0
Unitized Plenum				
24	FI3M024P8	FI4M024P8	FI5M024P8	FISM024P8
32	FI3M032P8	FI4M032P8	FI5M032P8	FISM032P8
48	FI3M048P8	FI4M048P8	FI5M048P8	FISM048P8
64	FI3M064P8	FI4M064P8	FI5M064P8	FISM064P8
96	FI3M096P8	FI4M096P8	FI5M096P8	FISM096P8

For an exhaustive selection, contact Belden customer service or your local Belden representative.

## Compliance

- ANSI/TIA-568.3
- ISO/IEC 11801
- Telcordia GR-409-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-83-596



## FiberExpress μMini-Distribution Cables

### Indoor/Outdoor Plenum-Rated

Dry waterblocking technology used within tubes and under jacket. Available as plenum-rated cable, eliminating the need for service entrance splicing to in-building cable. Small diameter and bend radius facilitate installation in tight spaces. It can be used for pre-terminated assemblies and field-termination. Full dielectric construction, no grounding required. Available with up to 144 fibers. Fibers grouped into sets of 12 for maximum density. Length markings in meters for easy determination of cable length.

- Applications:**
- Intra-building
  - Data centers

### Indoor/Outdoor Specifications

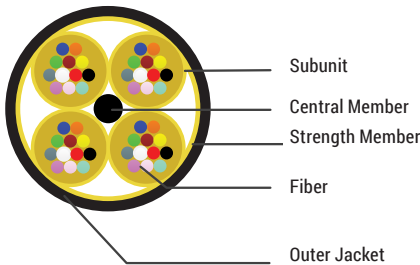
#### Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

#### Temperature Range

Storage	-20°C to 70°C (-20°F to 158°F)
Installation (Plenum)	0°C to 60°C (32°F to 158°F)
Operation (Plenum)	-20°C to 70°C (-4°F to 158°F)

### Legend



### Compliance

- ICEA S-104-696
- ANSI/TIA-568.3
- NEC/CEC OFNP FT6 (PLENUM)
- RoHS II 2011/65/EU
- REACH EC1907-2006

Name	Construction	Fiber Count	Fiber	Subunit OD		Cable OD		Weight		Tensile Strength lbs-f			
				mm	mm	in.	kg/km	lb/1000 ft.	Installation		Operation		
<b>Indoor/Outdoor μMini-Distribution Cable</b>													
Non-Unitized		6	250 μm	3.3	6.9	0.27	49	33	1350	300	400	90	
		12		3.3	6.9	0.27	49	33	1350	300	400	90	
Unitized 12-Fiber Sub-Units		24		3.0	10.7	0.42	97	65	1800	405	540	120	
		32											
		48											
		64											
		96											
		144											

\* Above specifications provide the representation for Plenum constructions. Consult individual technical data sheets for other construction specifications.

### Standard Indoor/Outdoor μMini-Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
<b>Double Jacket</b>				
6	FD3M006P2	FD4M006P2	FD5M006P2	FDSM006P2
12	FD3M012P2	FD4M012P2	FD5M012P2	FDSM012P2
<b>Unitized - Plenum</b>				
24	FD3M024P2	FD4M024P2	FD5M024P2	FDSM024P2
36	FD3M036P2	FD4M036P2	FD5M036P2	FDSM036P2
48	FD3M048P2	FD4M048P2	FD5M048P2	FDSM048P2
72	FD3M072P2	FD4M072P2	FD5M072P2	FDSM072P2
96	FD3M096P2	FD4M096P2	FD5M096P2	FDSM096P2
144	FD3M144P2	FD4M144P2	FD5M144P2	FDSM144P2

For an exhaustive selection, contact Belden customer service or your local Belden representative.



# OptiTuff® Mini Fiber Cables

## All-Dielectric Armored Cable

OptiTuff Mini Fiber Cable is the only cable that combines the durability of metal armored solutions with the performance and installation ease of non-armored solutions. This cable doesn't just stand above other cables in its category—it stands alone. It provides a cost-effective, ruggedized option to replace traditional metal armored and non-armored fiber products in FTTx, POL/PON and raised-floor applications—with no grounding or conduit required. Fewer layers and the elimination of metal armor create a lightweight cable with a high level of flexibility, plus a small diameter and small bend radius for easy cable preparation, installation and pulling.

### Applications:

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



### OptiTuff Mini Fiber Cables

Fiber Count	Belden Part Number	
	OM4 Erika Violet	OS2 Yellow
6	FI4X006W0	FISX006W0
12	FI4X012W0	FISX012W0
24	FI4X024W0	FISX024W0

### OptiTuff SmartPart Configurator

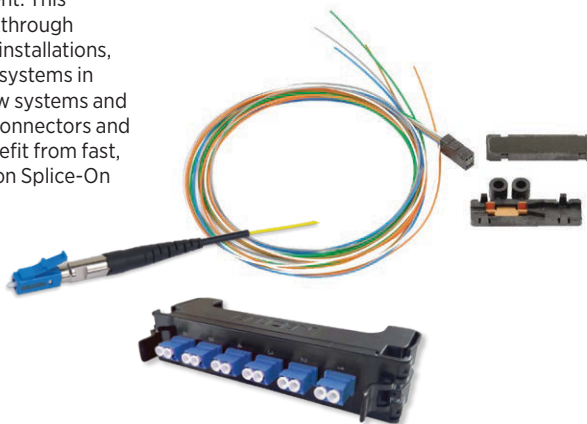
FX Fiber Cable	1. Choose Fiber Type	2. Choose Family	3. Choose Fiber Count	4. Choose Fire Rating	5. Choose Configuration
FI	S	X	006	W	0
Fiber Type	Fiber Type	Family	Fiber Count	Fire Rating & Protection	Subunit Type/Configuration
FI Indoor Cable	S OS2 (G.657.A1) 4 OM4	X Mini Fiber Cable	002 2 Fibers 006 6 Fibers 012 12 Fibers 024 24 Fibers	Plenum Group W OptiTuff Plenum (OFNP)	0 250 µm Fiber Non Unitized

#### Example:

FISX006W0 - FX Indoor, OS2, OptiTuff Mini, 6 Fibers, OFNP, 250 µm, Yellow Jacket

## OptiTuff Connectivity and Cable Management

OptiTuff Mini Fiber Cables are now compatible with FX Fusion Splice-On Connectors and FX ECX Patch Panel Systems for improved connectivity and cable management. This advancement continues the revolutionary breakthrough that OptiTuff Mini Fiber Cables provide for fiber installations, enabling installers to use space-saving OptiTuff systems in many types of fiber applications. By creating new systems and making improvements to the transition points, connectors and patch panels in our existing FX line, you can benefit from fast, easy installation plus compatibility with FX Fusion Splice-On Connectors and FX ECX Patch Panel Systems.



### Specifications

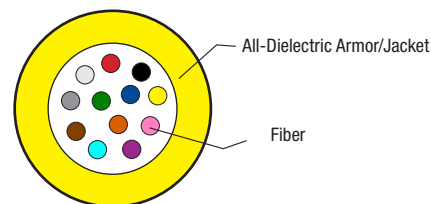
#### Temperature Range (Indoor)

Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-10°C to 60°C (-22°F to 140°F)
Operation	-20°C to 70°C (-40°F to 158°F)

#### Min Bend Radius

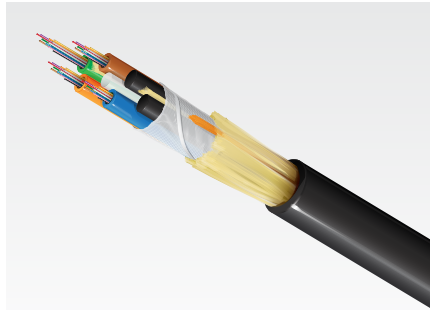
Installation	4x OD
Long Term	4x OD

### Legend



### Compliance

- ANSI/TIA-568.3
- ICEA S-83-596
- RoHS II 2011/65/EU
- NEC/CEC OFNP FT6 (PLENUM)



Optical Fiber All-Dielectric Loose-Tube Cable, Outdoor

## FiberExpress 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
- Outside plant (OSP type)

### Jacket Specifications

<b>Jacket Material</b>	Outdoor	PE
<b>Buffer Tube</b>		Thermoplastic
<b>Color Code (Buffer)</b>		Per TIA/EIA-598
<b>Jacket Color</b>		Black

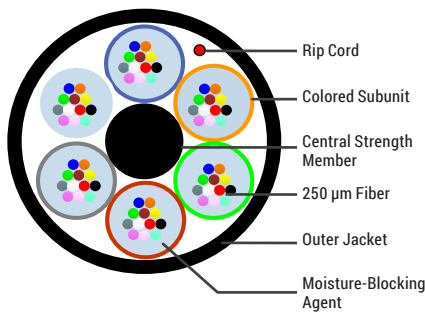
### Specifications

<b>Min. Bend Radius</b>		
Installation	15 x OD	
Long Term	10 x OD	

#### Temperature Range (Outdoor Series)

Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-30°C to 60°C (-22°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)

### Legend



### Compliance

- ANSI/TIA-568.3
- ICEA S-87-640
- GR-20-CORE
- RoHS II 2011/65/EU
- REACH EC1907-2006

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	9.2	0.36	60	40	2670	600	800	180
Unitized 12-Fiber Subunits		12	10.5	0.41	71	48	2670	600	800	180
		24								
		36								
		48								
		72	10.8	0.43	82	55				
	96	12.3	0.49	115	77					
	144	15.8	0.62	167	112					

\*Above specifications provide the representation for gel-filled loose-tube. Consult individual technical data sheets for dry loose-tube specifications.

### Standard Single Jacket Loose-Tube Outdoor Cables

Fiber Count	Belden Part Number				
	OM1	OM3	OM4	OM5	OS2
Outside Plant - Gel-Filled Buffer Tubes					
12	FS1L012NG	FS3L012NG	FS4L012NG	FS5L012NG	FSSL012NG
24	FS1L024NG	FS3L024NG	FS4L024NG	FS5L024NG	FSSL024NG
36	FS1L036NG	FS3L036NG	FS4L036NG	FS5L036NG	FSSL036NG
48	FS1L048NG	FS3L048NG	FS4L048NG	FS5L048NG	FSSL048NG
72	FS1L072NG	FS3L072NG	FS4L072NG	FS5L072NG	FSSL072NG
96	FS1L096NG	FS3L096NG	FS4L096NG	FS5L096NG	FSSL096NG
144	FS1L144NG	FS3L144NG	FS4L144NG	FS5L144NG	FSSL144NG
Outside Plant - Dry Buffer Tubes					
12	FS1L012ND	FS3L012ND	FS4L012ND	FS5L012ND	FSSL012ND
24	FS1L024ND	FS3L024ND	FS4L024ND	FS5L024ND	FSSL024ND
36	FS1L036ND	FS3L036ND	FS4L036ND	FS5L036ND	FSSL036ND
48	FS1L048ND	FS3L048ND	FS4L048ND	FS5L048ND	FSSL048ND
72	FS1L072ND	FS3L072ND	FS4L072ND	FS5L072ND	FSSL072ND
96	FS1L096ND	FS3L096ND	FS4L096ND	FS5L096ND	FSSL096ND
144	FS1L144ND	FS3L144ND	FS4L144ND	FS5L144ND	FSSL144ND

This design incorporates one or more moisture-blocking agents located between the outside of each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.



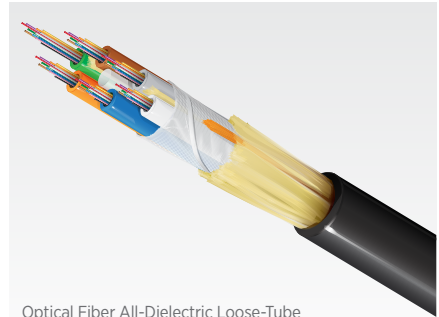
## FiberExpress All-Dielectric Loose-Tube Cables (continued)

### Single Jacket Loose-tube - Indoor/Outdoor

Gel-filled or dry-blocked buffer tubes prevent water migration. Full dielectric construction, no grounding required. Available as riser-rated cable, 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



Optical Fiber All-Dielectric Loose-Tube Cable, Outdoor

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	11.0	0.43	113	76	2670	600	800	180
Unitized 12-Fiber Subunits		12	11.0	0.43	110	76	2670	600	800	180
		24								
		36								
		48								
		72	11.4	0.45	127	85				
	96	12.9	0.51	164	110					
	144	17.8	0.64	256	172					

\*Above specifications provide the representation for Plenum constructions. Consult individual technical data sheets for other construction specifications.

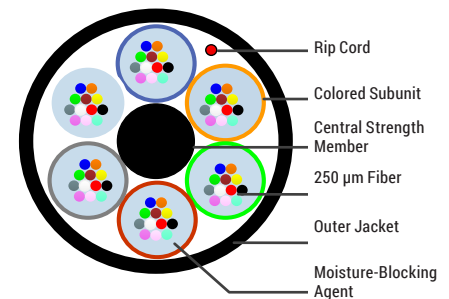
### Jacket Specifications

<b>Jacket Material</b>	PVC
Riser	
<b>Buffer Tube</b>	Thermoplastic
<b>Color Code (Buffer)</b>	Per TIA/EIA 598
<b>Jacket Color</b>	Black

### Specifications

<b>Min. Bend Radius</b>	
Installation	15 x OD
Long Term	10 x OD
<b>Temperature Range (Riser Series)</b>	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-10°C to 60°C (-22°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)

### Legend



### Standard Single Jacket Loose-Tube Indoor/Outdoor Cables

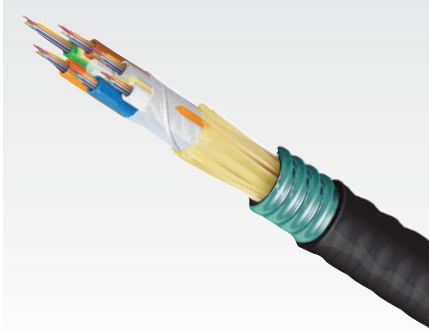
Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
Indoor/Outdoor Riser – Gel-Filled Buffer Tubes					
12	12	FD1L012RG	FD3L012RG	FD4L012RG	FDSL012RG
24	12	FD1L024RG	FD3L024RG	FD4L024RG	FDSL024RG
36	12	FD1L036RG	FD3L036RG	FD4L036RG	FDSL036RG
48	12	FD1L048RG	FD3L048RG	FD4L048RG	FDSL048RG
72	12	FD1L072RG	FD3L072RG	FD4L072RG	FDSL072RG
96	12	FD1L096RG	FD3L096RG	FD4L096RG	FDSL096RG
144	12	FD1L144RG	FD3L144RG	FD4L144RG	FDSL144RG
Indoor/Outdoor Riser – Dry Buffer Tubes					
12	12	FD1L012RD	FD3L012RD	FD4L012RD	FDSL012RD
24	12	FD1L024RD	FD3L024RD	FD4L024RD	FDSL024RD
36	12	FD1L036RD	FD3L036RD	FD4L036RD	FDSL036RD
48	12	FD1L048RD	FD3L048RD	FD4L048RD	FDSL048RD
72	12	FD1L072RD	FD3L072RD	FD4L072RD	FDSL072RD
96	12	FD1L096RD	FD3L096RD	FD4L096RD	FDSL096RD
144	12	FD1L144RD	FD3L144RD	FD4L144RD	FDSL144RD

This design incorporates one or more moisture-blocking agents located between the outside of each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.

### Compliance

- ANSI/TIA-568.3
- ICEA S-104-696
- GR-20-CORE
- NEC/CEC OFNR FT4 (RISER - PVC)





Optical Fiber Loose-Tube Cable, Outdoor

## FiberExpress 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
- Outside plant (OSP type)

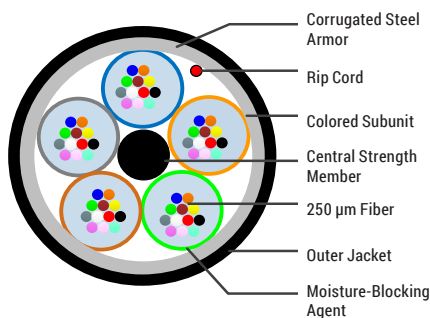
### Jacket Specifications

Jacket Material	PE
Outdoor	
Buffer Tube	Thermoplastic
Aarmor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598
Jacket Color	Black

### Specifications

Min. Bend Radius	
Installation	20 x OD
Long Term	10 x OD
Temperature Range (Outdoor)	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-30°C to 60°C (-22°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)

### Legend



### Compliance

- ANSI/TIA-568.3
- ICEA S-87-640
- GR-20-CORE

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	13.5	0.53	150	101	2670	600	800	180
Unitized 12-Fiber Subunits		12	13.5	0.53	156	105	2670	600	800	180
		24								
		36								
		48								
		72	14.5	0.57	177	119				
		96	15.5	0.61	207.4	137				
		144	18.5	0.73	280	188				

\* Above specifications provide the representation for gel-filled loose-tube. Consult individual technical data sheets for dry loose-tube specifications.

### Standard Single Jacket Single Armor Loose-Tube Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
Outside Plant – Gel-Filled Buffer Tubes					
12	12	FS1L0126G	FS3L0126G	FS4L0126G	FSSL0126G
24	12	FS1L0246G	FS3L0246G	FS4L0246G	FSSL0246G
48	12	FS1L0486G	FS3L0486G	FS4L0486G	FSSL0486G
72	12	FS1L0726G	FS3L0726G	FS4L0726G	FSSL0726G
96	12	FS1L0966G	FS3L0966G	FS4L0966G	FSSL0966G
144	12	FS1L1446G	FS3L1446G	FS4L1446G	FSSL1446G
Outside Plant – Dry Buffer Tubes					
12	12	FS1L0126D	FS3L0126D	FS4L0126D	FSSL0126D
24	12	FS1L0246D	FS3L0246D	FS4L0246D	FSSL0246D
48	12	FS1L0486D	FS3L0486D	FS4L0486D	FSSL0486D
72	12	FS1L0726D	FS3L0726D	FS4L0726D	FSSL0726D
96	12	FS1L0966D	FS3L0966D	FS4L0966D	FSSL0966D
144	12	FS1L1446D	FS3L1446D	FS4L1446D	FSSL1446D

This design incorporates one or more moisture-blocking agents located between the outside of each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.



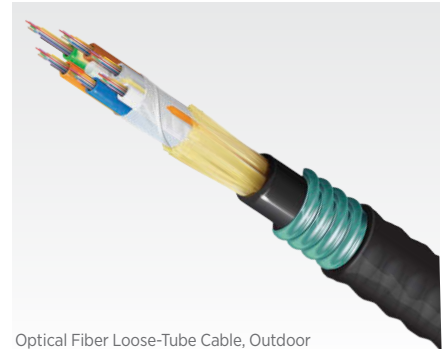
# FiberExpress Armored Loose-Tube Cables (continued)

## 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
- Outside plant (OSP type)



Optical Fiber Loose-Tube Cable, Outdoor

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f				
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation		
							N	lbs-f	N	lbs-f	
Unitized 6-Fiber Subunits		6	15.5	0.61	177	119	2670	600	800	180	
		12	15.5	0.61	179	120					
		24									
		36									
Unitized 12-Fiber Subunits		72	15.5	0.61	191	128	2670	600	800	180	
		96	17.5	0.69	225	151					
		205	20.6	0.81	293	197					

\* Above specifications provide the representation for gel-filled loose-tube. Consult individual technical data sheets for dry loose-tube specifications.

### Jacket Specifications

<b>Jacket Material</b>	Outdoor	PE
<b>Buffer Tube</b>		Thermoplastic
<b>Armor</b>		Corrugated Steel Tape
<b>Color Code (Buffer)</b>		Per TIA/EIA-598
<b>Jacket Color</b>		Black

### Specifications

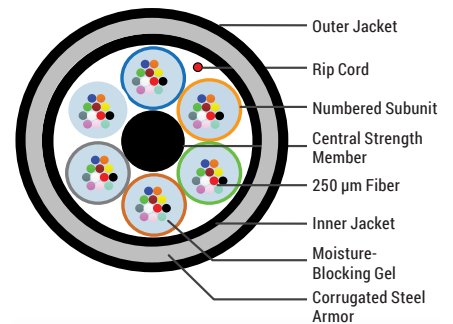
<b>Min. Bend Radius</b>		
Installation		20 x OD
Long Term		10 x OD
<b>Temperature Range (Outdoor)</b>		
Storage		-40°C to 70°C (-40°F to 158°F)
Installation		-30°C to 60°C (-22°F to 140°F)
Operating		-40°C to 70°C (-40°F to 158°F)

## Standard Double Jacket Single Armor Loose-Tube Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
<b>Outdoor Armored – Gel-Filled Buffer Tubes</b>					
12	12	FS1H0126G	FS3H0126G	FS4H0126G	FSSH0126G
24	12	FS1H0246G	FS3H0246G	FS4H0246G	FSSH0246G
36	12	FS1H0366G	FS3H0366G	FS4H0366G	FSSH0366G
48	12	FS1H0486G	FS3H0486G	FS4H0486G	FSSH0486G
72	12	FS1H0726G	FS3H0726G	FS4H0726G	FSSH0726G
96	12	FS1H0966G	FS3H0966G	FS4H0966G	FSSH0966G
144	12	FS1H1446G	FS3H1446G	FS4H1446G	FSSH1446G
<b>Outdoor Armored – Dry Buffer Tubes</b>					
12	12	FS1H0126D	FS3H0126D	FS4H0126D	FSSH0126D
24	12	FS1H0246D	FS3H0246D	FS4H0246D	FSSH0246D
36	12	FS1H0366D	FS3H0366D	FS4H0366D	FSSH0366D
48	12	FS1H0486D	FS3H0486D	FS4H0486D	FSSH0486D
72	12	FS1H0726D	FS3H0726D	FS4H0726D	FSSH0726D
96	12	FS1H0966D	FS3H0966D	FS4H0966D	FSSH0966D
144	12	FS1H1446D	FS3H1446D	FS4H1446D	FSSH1446D

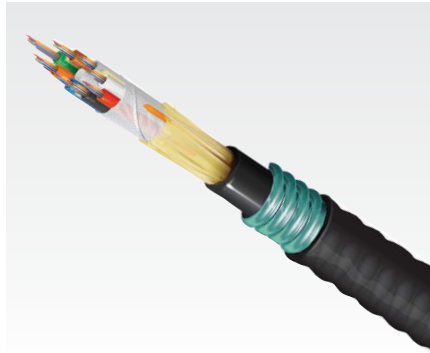
This design incorporates one or more moisture-blocking agents located between the outside of each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.

### Legend



### Compliance

- ANSI/TIA-568.3
- ICEA S-87-640
- GR-20-CORE



Optical Fiber Loose-Tube Cable, Indoor/Outdoor

## Jacket Specifications

<b>Jacket Material</b>	PVC
<b>Riser</b>	
<b>Buffer Tube</b>	Thermoplastic
<b>Armor</b>	Corrugated Steel Tape
<b>Color Code (Buffer)</b>	Per TIA/EIA 598-C
<b>Jacket Color</b>	Black

## Ratings

<b>Riser</b>	OFCR
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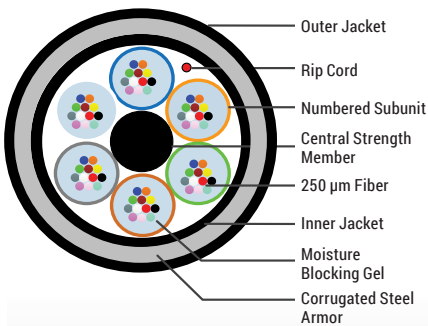
## Specifications

<b>Temperature Range (Riser)</b>	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-10°C to 60°C (14°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)

## Min. Bend Radius

Installation	20 x OD
Long Term	10 x OD

## Legend



## Compliance

- ANSI/TIA-568.3
- ICEA S-104-696
- GR-20-CORE
- NEC/CEC OFNR FT4 (RISER - PVC)

## FiberExpress 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

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	15.5	0.61	237	159	2670	600	800	180
		12	15.5	0.61	237	159				
		24								
		36								
Unitized 12-Fiber Subunits		72	15.5	0.61	237	159	2670	600	800	180
		96	16.5	0.65	266	179				
Unitized 12-Fiber Subunits		144	17.5	0.69	314	211	2670	600	800	180
		144	17.5	0.69	314	211				

\* Above specifications provide the representation for gel-filled loose-tube. Consult individual technical data sheets for dry loose-tube specifications.

## Standard Double Jacket Single Armor Loose-Tube Indoor/Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
<b>Indoor/Outdoor Armored Riser - Gel-Filled Buffer Tubes</b>					
12	12	FD1H0125G	FD3H0125G	FD4H0125G	FDSH0125G
24	12	FD1H0245G	FD3H0245G	FD4H0245G	FDSH0245G
36	12	FD1H0365G	FD3H0365G	FD4H0365G	FDSH0365G
48	12	FD1H0485G	FD3H0485G	FD4H0485G	FDSH0485G
72	12	FD1H0725G	FD3H0725G	FD4H0725G	FDSH0725G
96	12	FD1H0965G	FD3H0965G	FD4H0965G	FDSH0965G
144	12	FD1H1445G	FD3H1445G	FD4H1445G	FDSH1445G
<b>Indoor/Outdoor Armored Riser - Dry Buffer Tubes</b>					
12	12	FD1H0125D	FD3H0125D	FD4H0125D	FDSH0125D
24	12	FD1H0245D	FD3H0245D	FD4H0245D	FDSH0245D
36	12	FD1H0365D	FD3H0365D	FD4H0365D	FDSH0365D
48	12	FD1H0485D	FD3H0485D	FD4H0485D	FDSH0485D
72	12	FD1H0725D	FD3H0725D	FD4H0725D	FDSH0725D
96	12	FD1H0965D	FD3H0965D	FD4H0965D	FDSH0965D
144	12	FD1H1445D	FD3H1445D	FD4H1445D	FDSH1445D

This design incorporates one or more moisture-blocking agents located between the outside of each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.



# FiberExpress 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

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	11.7	0.46	88	88	2670	600	800	180
		12	12.8	0.51	103	69	2670	600	800	180
		24								
		36								
48										
Unitized 12-Fiber Subunits		72	13.3	0.52	115	77				
		96	14.7	0.58	146	98				
		144	18.2	0.72	210	141				

\* Above specifications provide the representation for gel-filled loose-tube. Consult individual technical data sheets for dry loose-tube specifications.



Optical Fiber Heavy-Duty Loose-Tube Cable

### Jacket Specifications

<b>Jacket Material</b>	Outdoor	PE
<b>Buffer Tube</b>		Thermoplastic
<b>Core Wrap</b>		Water-Swellable Tape
<b>Color Code (Buffer)</b>		Per TIA/EIA-598
<b>Jacket Color</b>		Black

### Specifications

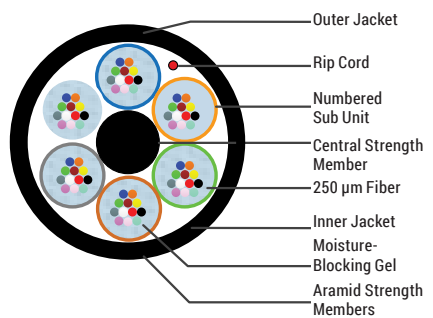
<b>Temperature Range</b>		-40°C to 70°C
Storage		(-40°F to 158°F)
Installation		-30°C to 60°C
		(-22°F to 140°F)
Operating		-40°C to 70°C
		(-40°F to 158°F)
<b>Min. Bend Radius</b>		
Installation		15 x OD
Long Term		10 x OD

## Standard Double Jacket Heavy-Duty Loose-Tube Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
<b>Outdoor Heavy-Duty - Gel-Filled Buffer Tubes</b>					
12	12	FS1H012NG	FS3H012NG	FS4H012NG	FSSH012NG
24	12	FS1H024NG	FS3H024NG	FS4H024NG	FSSH024NG
36	12	FS1H036NG	FS3H036NG	FS4H036NG	FSSH036NG
48	12	FS1H048NG	FS3H048NG	FS4H048NG	FSSH048NG
72	12	FS1H072NG	FS3H072NG	FS4H072NG	FSSH072NG
96	12	FS1H096NG	FS3H096NG	FS4H096NG	FSSH096NG
144	12	FS1H144NG	FS3H144NG	FS4H144NG	FSSH144NG
216	12	FS1H216NG	FS3H216NG	FS4H216NG	FSSH216NG
<b>Outdoor Heavy-Duty - Dry Buffer Tubes</b>					
12	12	FS1H012ND	FS3H012ND	FS4H012ND	FSSH012ND
24	12	FS1H024ND	FS3H024ND	FS4H024ND	FSSH024ND
36	12	FS1H036ND	FS3H036ND	FS4H036ND	FSSH036ND
48	12	FS1H048ND	FS3H048ND	FS4H048ND	FSSH048ND
72	12	FS1H072ND	FS3H072ND	FS4H072ND	FSSH072ND
96	12	FS1H096ND	FS3H096ND	FS4H096ND	FSSH096ND
144	12	FS1H144ND	FS3H144ND	FS4H144ND	FSSH144ND
216	12	FS1H216ND	FS3H216ND	FS4H216ND	FSSH216ND

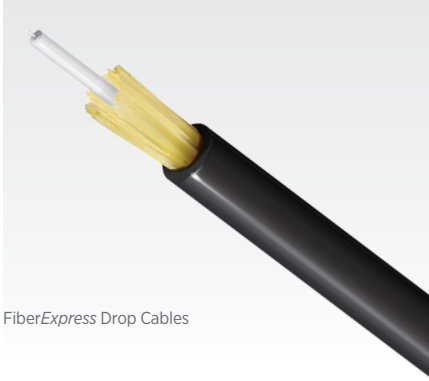
This design incorporates one or more moisture-blocking agents located between the outside each fiber bundle and the inner wall of each loose-tube, but not within each fiber bundle itself, so as to protect the outside of each fiber bundle and prevent water penetration along the length of the loose-tube.

### Legend



### Compliance

- ANSI/TIA-568.3
- ICEA S-87-640
- GR-20-CORE



FiberExpress Drop Cables

## FiberExpress Drop Cables

### Tight Buffer — Indoor/Outdoor Riser Rated

Fast installation, easy termination. Cables provide easy routing and 900  $\mu\text{m}$  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

### Specifications

#### Temperature Range

Storage -40°C to 70°C  
(-40°F to 158°F)

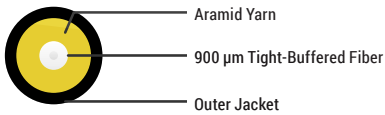
Installation -10°C to 60°C  
(14°F to 140°F)

Operating -40°C to 70°C  
(-40°F to 158°F)

#### Min. Bend Radius

Installation 2.9" or 15 x OD  
Long Term 2.0" or 10 x OD

### Legend



Aramid Yarn

900  $\mu\text{m}$  Tight-Buffered Fiber

Outer Jacket

### Compliance

- ANSI/TIA-568.3
- ICEA-S-104-696
- NEC/CEC OFNR FT4 (RISER - PVC)
- TPR.9424

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

Consult individual technical data sheets for exact specifications.

### Standard Indoor/Outdoor Drop Cables

Fiber Count	Belden 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 — 450 m Reel-In-A-Box Put-Up		
1	FDCP001R9NBY	FDCP001R9WBY



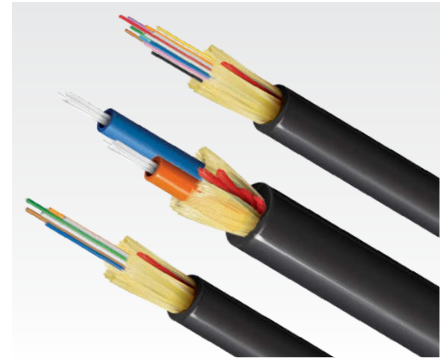
# FiberExpress Tactical Cables

## Tight Buffer - Outdoor


Rated for outside plant applications, providing unprecedented flexibility coupled with high crush resistance. The cable's military-inspired MaxiBend™ Tactical Fiber provides the utmost durability for repeated deployment and retrieval in severe environments.

### Applications:

- Re-deployable audio/video communications
- Outdoor news, sporting and other events
- Harsh environments



Optical Fiber Tactical Cable

Description	Construction	Fiber Count	Cable OD		Weight		Tensile Strength			
			mm	in.	kg/km	lb/1000 ft.	Installation		Operation	
							N	lbs-f	N	lbs-f
Tactical		2	5.80	0.230	32	22	1780	400	578	130
		4	5.80	0.230	32	22	1780	400	578	130
		6	6.10	0.240	33	22	1780	400	578	130
		12	6.40	0.250	44	29	2090	470	712	160
		24	8.51	0.335	58	39	2980	670	979	220

Consult individual technical data sheets for exact specifications.

## Standard Tactical Cables

Fiber Count	Belden Part Number	
	OM1	OS2
2	FN1D002N9	FNSD002N9
4	FN1D004N9	FNSD004N9
6	FN1D006N9	FNSD006N9
8	FN1D008N9	FNSD008N9
12	FN1D012N9	FNSD012N9
24	Special	FNSD024N9

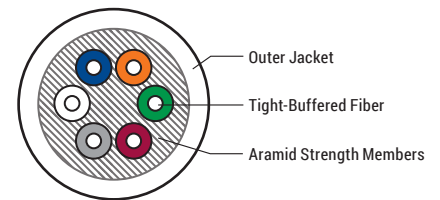
## Jacket Specifications

<b>Jacket Material</b>	UV-Resistant PU
<b>Buffer Tube</b>	
Type	Thermoplastic Tight Buffer
Diameter	900 μm TB
<b>Strength Member</b>	Aramid Yarn
<b>Assembly</b>	Color-Coded Fibers with Strength Members
<b>Jacket Color</b>	Black

## Specifications

<b>Temperature Range</b>	
Storage	-55°C to 85°C (-67°F to 185°F)
Operating	-46°C to 85°C (-50°F to 185°F)
Installation	-46°C to 85°C (-50°F to 185°F)

## Legend



## Fiber and Subunit

1	Blue
2	Orange
3	Green
4	Brown
5	Gray
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua
13-24	Striped

## Compliance

- ANSI/TIA-568.3
- RoHS II 2011/65/EU
- REACH EC1907-2006



Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
9810-0100	23	AX104289	7	AX105251-B25	49	DCX-CABV-KIT01B	13	ECX-04U	26
9811-0200	23	AX104290	7	AX105252-B25	6	DCX-HINB-KIT01B	13	ECX-4U-EXSTR	28
9813-0400	23	AX104291	7	AX105253-B25	6	DCX-HINC-KIT01W	13	ECX-4U-EXSTRA	28
<b>A</b>		AX104293	7	AX105254-B25	6	DCX-HINC-KIT02W	13	ECX-4U-INSTR	28
A0643205	46	AX104572	23	AX105379	17	DCX-PCST-MOD01W	13	ECX-4U-SUPT	28
A0643206	46	AX104593	7	AX105505-AL	47	DCXS11-00000-22	12	ECX-BRKTMTNT-0	28
A0643207	46	AX104615	47	AX105505-BK	47	DCXS11-33101-22	12	ECX-BRKTMTNT-3	28
A0643208	46	AX104681	17	AX105505-WH	47	DCXS11-33121-22	12	ECX-FRMESUPT	28
A0649869	29	AX104682	17	AX105537	29	DCXS21-00000-22	12	ECX-INTERSTR	28
AC301420	29	AX104683	17	AX105561	29	DCXS21-33101-22	12	ECX-LBF-PK10	28
AC302349	29	AX104684	17	AX105563	17	DCXS21-33121-22	12	ECX-LBL-IU	28
AX100041	29	AX104685	23	AX105564	17	DCX-SPOO-KIT02B	13	ECX-LBL-2U	28
AX100045	29	AX104695	7	AX105565	17	DCXT11-00000-33	12	ECX-LBL-4U	28
AX100066	29	AX104696	7	AX105646-B25	47	DCXT11-44101-33	12	ECX-LOCKKIT	28
AX100068	29	AX104934	29	AX105672	17	DCXT11-44121-33	12	ECX-MGTCLIPS	28
AX100094	29	AX105002-B25	47	AX105673	17	DCXT21-00000-33	12	ECX-SPLICEKIT	28
AX100098	29	AX105162	17	AX105674	17	DCXT21-44101-33	12	<b>F</b>	
AX100116	29	AX105164	17	AX105675	17	DCXT21-44121-33	12	FC1X03SDFS	27
AX100220	47	AX105165	17	AX105676	17	DCX-TOPE-KIT03W	13	FC1X06LDFS	27
AX100221	47	AX105166	17	AX105678	17	DCX-ZUTR-L	13	FC1X06SDFS	27
AX100222	47	AX105167	17	AX105691-B25	47	DCX-ZUTR-S	13	FC1X12LDFS	27
AX100223	47	AX105200-B25	6	AX105692-B25	47	DHIP160U5D06J	64	FC3D04SD4F	14
AX100495	29	AX105202-B25	6	AX105693-B25	47	DHIP162U3B02B	64	FC3D06LDFM	15
AX100528	29	AX105203-B25	6	AX105694-B25	47	DHIP162U3D06J	64	FC3D06LDFP	15
AX100532	29	AX105203-S1	6	AX105697-AL	47	DHIP162U4B02B	64	FC3D06LDFM	15
AX100534	29	AX105205-B25	6	AX105697-BK	47	DHIP162U4D06J	64	FC3D06SDFM	15
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FI4M064P8	67	FI5M036P1	66	FISM048P1	66	FP3NFNF005M	31	FP5MFMF005M	31
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FI5D006F9	58	FI5D006F9	58	FNSD008N9	77	FP4LDLD003M	31	FPSKxKx005MR2XY	50
FI5D006P9	55	FI5D006P9	55	FNSD012N9	77	FP4LDLD005M	31	FPSKxLD002MR2XY	50
FI5D006R9	55	FI5D006R9	55	FNSD024N9	77	FP4LDMF002M	33	FPSKxLD003MR2XY	50
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## About Belden

Belden Inc. delivers the infrastructure that makes the digital journey simpler, smarter and secure. We're moving beyond connectivity—from what we make to what we make possible through a performance-driven portfolio, forward-thinking expertise and purpose-built solutions. With a legacy of quality and reliability spanning 120-plus years, we have a strong foundation to continue building the future. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia and Africa. For more information, visit us at [www.belden.com](http://www.belden.com); follow us on Facebook, LinkedIn and Twitter.



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