BELDEN



Optical Fiber Catalog

Belden Fiber*Express*® Systems

Americas

belden.com

Belden Fiber*Express*® 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 Fiber*Express* (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
Standard	OM1 - 62.5 µm Multimode Non-Bend-Insensitive TIA-492AAAA ANSI/TIA-568-D.3 ISO/IEC 11801	OM3 - 50 µm Multimode Bend-Insensitive TIA-492AAAC ANSI/TIA-568-D.3 ISO/IEC 11801	OM4 - 50 µm Multimode Bend-Insensitive TIA-492AAAD ANSI/TIA-568-D.3 ISO/IEC 11801	OM5 - 50 µm Multimode Bend-Insensitive TIA-492AAAE ANSI/TIA-568-D.3 ISO/IEC 11801	OS2 - 9 µm Singlemode Bend-Insensitive TIA-492CAAB ANSI/TIA-568-D.3 ISO/IEC 11801 ITU G.657.A1
Ethernet Applications	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
Fiber Channel Applications	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
Fiber Cable and Assemblies Jacket Color	Orange	Aqua	Erika Violet Aqua (optional)*	Lime Green	Yellow
Connector and Adapter Color	Beige	Aqua	Erika Violet Aqua (optional)*	Lime Green	Blue Green (APC)
Pre-Term Connector Loss	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
Fiber Cable Loss	Tight Buffer (900 µm) 3.5 dB @ 850 nm 1.25 dB @ 1300 nm Enterprise Loose-tube (250 µm) 3.25 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm Enterprise Loose-tube (250 µm) 3.0 dB @ 850 nm 1.0 dB @ 1300 nm	Tight Buffer (900 µm) 0.5 dB @ 1310 nm 0.5 dB @ 1550 nm Enterprise Loose-tube (250 µm) 0.4 dB @ 1310 nm 0.3 dB @ 1550 nm
Min. EMB (MHz·km)	N/A	2000 @ 850 nm	4700 @ 850 nm	4700 @ 850 nm	N/A
Min. OFL Bandwidth (MHz·km)	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.

Fiber*Express* 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



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

FX Fusion Multimode Connectors

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.



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

FX Fusion Singlemode Connectors

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.

Fiber*Express* Field Termination (continued)

FX Fusion, Connectors, Tools and Accessories

FX Fusion Connectors *Smart*Part Configurator

FX Field Termination	1. Choose Fiber Type	2. Choose Connector	3. Choose Cable Type	4. Choose Product Family	5. Choose Packaging
FT	3	LC	900	F	S01

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

Connector	
LC	LC Simplex
LA	LC/APC Simplex
SD	SC Simplex
SA	SC/APC Simplex

Cable Type	
900	Tight Buffer
2MM	Jacketed

Product Family	
F	Splice-On

Packaging	
S01	Single Pack

Example:

FT3LC900FS01 - 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

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



FXFSSHFM2, Splice Holder Family 2

Fiber*Express* Field Termination

FX Brilliance Universal Connectors



FX Brilliance Universal Connectors

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

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 µm 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

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 µm Boot, 25 per package	**AX105200-B25**	**AX105202-B25**	**AX105252-B25**
SC with 900 µm Boot, 25 per package	**AX105205-B25**	**AX105207-B25**	**AX105253-B25**
ST with 900 µm Boot, 25 per package	**AX105210-B25**	**AX105212-B25**	**AX105254-B25**

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

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 µm Boot	**AX105203-S1**	**AX105203-B25**	—	—
SC with 900 µm Boot	**AX105208-S1**	**AX105208-B25**	**AX105209-S1**	**AX105209-B25**
ST with 900 µm Boot	**AX105213-S1**	**AX105213-B25**	—	—

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

FX Brilliance Accessories

Description	Belden Part Number
250 µm Boot, 25 per package	**FXBUBO250B25N**
2 mm Jacketed Boot, 25 per package	**AX105214-B25**
3 mm Jacketed Boot, 25 per package	**AX105215-B25**

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

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.



AX104271, FX Brilliance Precision Installation Kit

FX Brilliance Installation Kit

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



AX104286, FX Brilliance Precision Cleaver

FX Brilliance Accessories

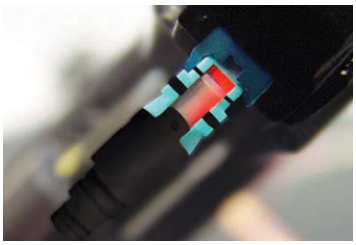
Description	Belden Part Number
Precision Cleaver	AX104286
Precision Cleaver Replacement Blade (for FC-7 cleaver)	AX104293
Precision Cleaver Replacement Blade (for FC-7R and FC-8R cleavers)	AX104593
Support Handle with Adapters	AX104276
Support Handle LC Adapter	AX104289
Support Handle SC Adapter	AX104290
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



AX104276, Support Handle with Adapters

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.



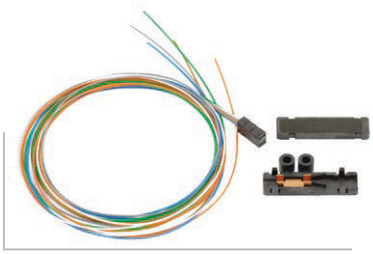
When used with the VFL, a light can be seen through the clear window on the connector body until a fiber has been properly terminated

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.

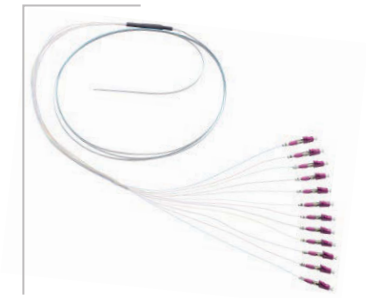
Fiber*Express* Field Termination (continued)

FX Pigtails

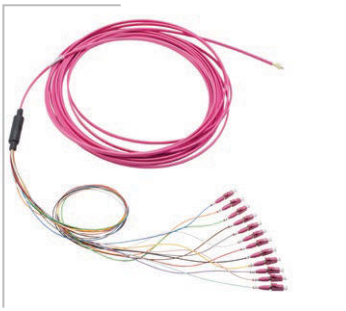
Established technology with a pedigree of resilience. Traditional Fusion Splice-On Connectors with pigtails provide factory-polished performance with field-termination convenience within harsh environments.

Features and Benefits

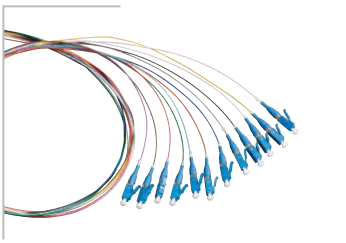
- Excellent factory-polished performance with field-termination convenience
- Fast installation with mass fusion pigtail kits
- Easy termination with factory-terminated connectors
- Connector identification with color-coded pigtail kits
- Better insertion loss at 0.2 dB MPO-12 and 0.15 dB Max IL OM4



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
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/km)	3.5/1.2	3.25/1.2	3.0/1.2	—	—
IL Max. 1310 nm/1550 nm (dB/km)	—	—	—	0.5/0.5	0.5/0.5
Standard Length	2 m				
Fire Rating - Cable Style	**Non-rated** - 900 µm color-coded fiber kit (6 or 12 colors from TIA-598) **Non-rated** - 900 µm single fiber OM1-Gray, OM3/OM4-Aqua, OS2-White **Non-rated** - 250 µm bare ribbon fiber **OFNR** - Interconnect simplex/duplex, 2 mm/3 mm cords **OFNP** - Interconnect ribbon 12-fiber cable				
Connector Performance - LC/SC/ST					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65

Standard Performance - MPO

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - MPO					
IL Max. 850 nm/1300 nm (dB/km)	3.5/1.2	3.25/1.0	3.0/1.0	—	—
IL Max. 1310 nm/1550 nm (dB/km)	—	—	—	0.5/0.5	0.5/0.5
Standard Length	2 m				
Fire Rating - Cable Style	**Non-rated** - 250 µm bare ribbon fiber **OFNP** - Interconnect ribon 12-fiber cable **OFNP** - µMini-Distribution 3 mm				
Connector Performance - MPO					
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).

Fiber*Express* Field Termination (continued)

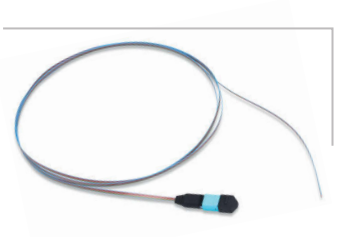
FX Pigtails

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

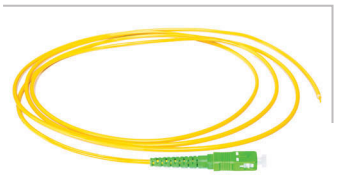


FT4MMRIBPS019ME, FX MPO Jacketed Ribbon Pigtail, OM4 Erika Violet, MPO (M), 9 m

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.

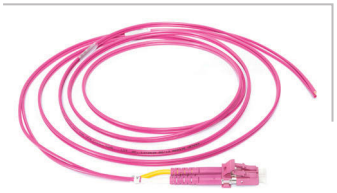


FTSSB3MMPS01, FX Pigtail, Jacketed Simplex 3.0 mm Cord, OS2 Yellow, SC/APC Simplex

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.



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 *Smart*Part Number table, for more options.

FiberExpress Field Termination (continued)

FX Pigtails

Tailored FX Pigtails *Smart*Part 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
FT	3	LC	900	P	R12	3M	D

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

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

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

Product Family	
P	Pigtails

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

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

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

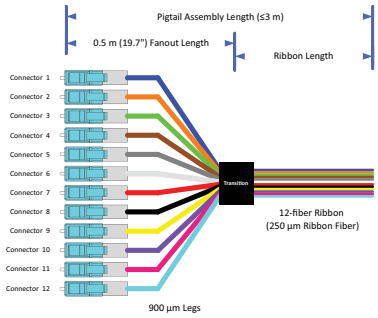
Examples:

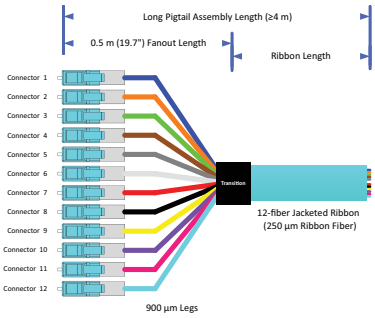
FT3LC900PR123MD - FX Field-Termination Pigtail, OM3, LC Simplex, Tight Buffer 900 µm, Color-Coded 12-fiber, 3 m
FTSST900PR125MY - FX Field-Termination Pigtail, OS2, ST, Tight Buffer 900 µm, Color-Coded 12-fiber, 5 m, Yellow Jacket
FT3MMRIBPS014MA - FX Field-Termination Pigtail, OM3, MPO-12 (M), Jacketed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

Use of tailored part numbers:

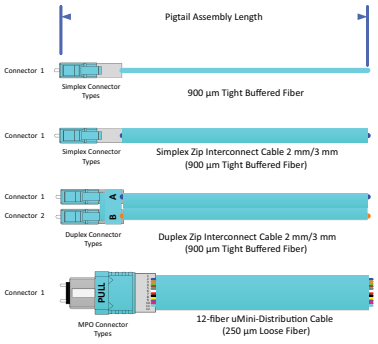
Color - Default color (D) is only used with cable type (250 µm or 900 µm) and packaging (R06 or R12)

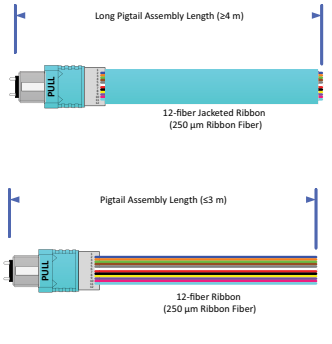
Mass Fusion Pigtail Kits



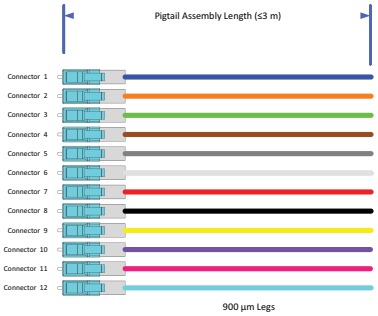


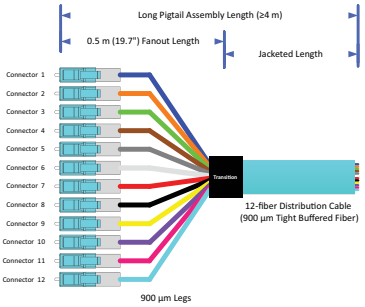
Single Pigtails





Pigtail Kits

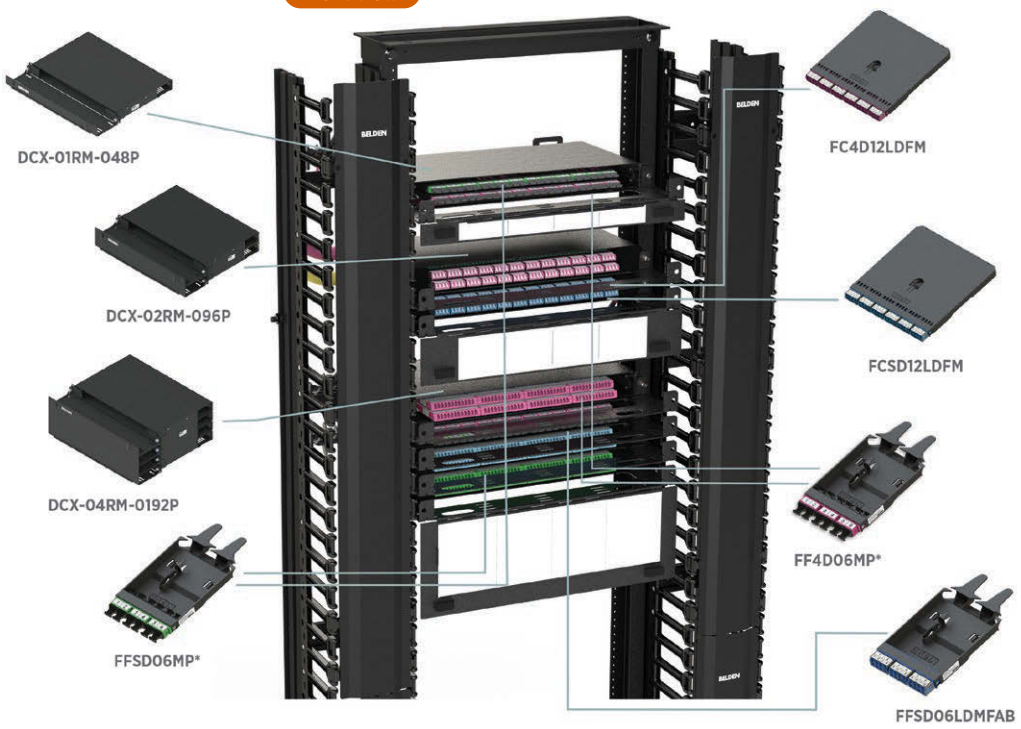




DCX System

DCX Introduction

Front view



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

Back view



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.

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.



DCXS11-22121-22 - DCX Cabinet, Left-Right (8-Housing Cabinet*)

Not available in USA



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

DCX ODF Cabinets, Seismic 84x36x15, 8 Housing*

8 Cable Distribution Brackets, 8 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	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**

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 *Smart*Part 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

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	0	None
T	10 Housings 84x36x15	2	Right-Left	2	Black	1	Blank	1	Blank	1	Bifold-Plexi	1	Plexi	1	Full	1	4 Cable Distribution Brackets	1	4 Spools
						2	Brush + 4 Top Cable Entry Brackets	2	Brush + 4 Bottom Cable Entry Brackets	2	Bifold-Perf	2	Solid	2	Cable Management	2	8 Cable Distribution Brackets	2	8 Spools
						3	Brush + 8 Top Cable Brackets	3	Brush + 8 Bottom Cable Brackets	3	Bifold-Solid					3	10 Cable Distribution Brackets	3	10 Spools
						4	Brush + 10 Top Cable Brackets	4	Brush + 8 Angle Bottom Cable Brackets										

Example:

DCXS112212122 - 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 *Smart*Part 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
FF	4	D	06	LD	MF	A	E

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

Product Family	
D	DCX

Port Count (Patch Side)	
04	4-port
06	6-port

Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex

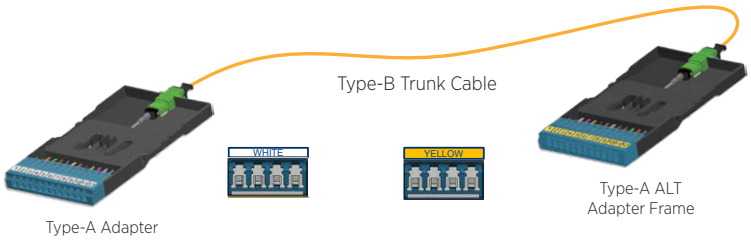
Connector (Trunk Side)	
MF	MPO-12 (12f) Female
MM	MPO-12 (12m) Male
4F	MPO-12 (8f) Female
4M	MPO-12 (8m) Male

Type	
A	Type-A
1	Type-A ALT
4	SR4

Color	
A	Aqua
E	Erika Violet
B	Blue
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



Type-A Adapter Frame

Type-A ALT Adapter Frame

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.



FCSD06SDMF

DCX Pre-Terminated Cassettes (MPO-SC)

		Belden Part Number				
Description	Patch Ports (fibers)	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 *Smart*Part Configurator

	1. Choose Fiber Type	2. Choose Product Family	3. Choose Port Count (Patch Side)	4. Choose Connector
FF	3	D	04	LD

Type	
3	OM3
4	OM4
5	OM5
S	OS2

Product Family	
D	DCX

Port Count	
04	4-Port
06	6-Port

Connector	
LD	LC/UPC
LA	LC/APC
SD	SC/UPC
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
SC Duplex - Includes 250 µm ribbon pigtails, splice tray and heat shrink splice protector sleeves	6 (12)	FC3D06SDFM	FC4D06SDFM	—	FCSD06SDFM	FCSD06SAFM
SC Duplex - Pigtails, trays, protector sleeves sold separately	6 (12)	FC3D06SDFS	FC4D06SDFS	—	FCSD06SDFS	FCSD06SAFS



FCSD12LDFP

DCX Splice Cassettes *Smart*Part 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
FC	S	D	06	LA	FP	X	G

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

Product Family	
D	DCX

Port Count (Patch Side)	
06	6-port
12	12-port*

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

Connector (Trunk Side)	
FP	Preloaded Stranded Pigtails
FM	Preloaded w/Ribbon Pigtail
FS	Empty

Type	
X	Pair Flipped

Color	
A	Aqua
E	Erika Violet
B	Blue
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

FX UHD Patch Panel System

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

Front view



* Configuration shown as an example.

Back view



* Fiber cables depicted in this image include: FISD024P9

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

1. Up to 4 splice housing kits can be added to 4U housings. Splice housing kits are only compatible with standard 19" rack-mount housings.
2. Use with 1U or 4U housings to protect the contents of the topmost patch cord tray. Patch cord tray cover is included with 23" housings.
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 [1]	Belden Part Number	
				Titanium	Black
1U FX UHD Bezel	4	48	72	**AX105813**	**AX105812**
1U Standard Fixed Shelf	4	48	72	**AX105164**	**AX105673**
1U Recessed Fixed Shelf	4	48	72	**AX105165**	**AX105674**
4U Standard Fixed Shelf	10	120	180	**AX105166**	**AX105675**
4U Recessed Fixed Shelf	10	120	180	**AX105167**	**AX105676**
FX UHD Single & Double Cassette Holders				Magnetic	Non-Magnetic
Single Cassette Holder (Black Finish)	1	18	12	**FXFUBRSHM**	**FXFUBRSHS**
Double Cassette Holder (Black Finish)	2	36	24	**FXFUBRDHM**	**FXFUBRDHS**

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

Fiber*Express* 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 [1], 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) [1]	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**



FC3U12LDMF1A, 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) [1]	3	FX UHD*	**FC3H18LDMF1A**	**FC4H18LDMF1E**	**FC5H18LDMF1L**	**FCSH18LDMF1B**	**FCSH18LAMF1G**
12 (24)	2	FX Ultra	**FC3U12LDMF1A**	**FC4U12LDMF1E**	**FC5H12LDMF1L**	**FCSU12LDMF1B**	**FCSU12LAMF1G**
SC Duplex to MPO-12 (12f) Female							
6 (12)	1	FX Ultra	**FC3U06SDMF1A**	**FC4U06SDMF1E**	—	**FCSU06SDMF1B**	**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

[1] 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		
Patch Ports (fibers)	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)	**FC3L12LDMF1A**	**FC4L12LDMF1E**	**FCSL12LDMF1B**	**FC3R12IDMF1A**	**FC4R12LDMF1E**	**FCSR12LDMF1B**
SC Duplex to MPO-12 (12f) Female Type-A						
6 (12)	**FC3L06SDMF**	**FC4L06SDMF**	**FCSL06SDMF**	**FC3R06SDMF**	**FC4R06SDMF**	**FCSR06SDMF**
SC Duplex to MPO-12 (12f) Female Type-A Alternate						
6 (12)	**FC3L06SDMF1A**	**FC4L06SDMF1E**	**FCSL06SDMF1B**	**FC3R06SDMF1A**	**FC4R06SDMF1E**	**FCSR06SDMF1B**

Fiber*Express* Patch Panel Systems (continued)

FX UHD and FX Ultra Cassettes

Tailored FX UHD and FX Ultra Cassettes (Base-12) *Smart*Part 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	3	U	03	LD	MF	A	A

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

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

Port Count (Patch Side)
03
06
12
18

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

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

Polarity (Trunk)	
A	Type-A

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

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				
Patch Ports (fibers)	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)	**FC3H06LDFP**	**FC4H06LPFP**	**FC5H06LDFP**	**FCSH06LDFP**	**FCSH06LAFP**
12 (24)	**FC3H12LDFP**	**FC4H12LPFP**	**FC5H12LDFP**	**FCSH12LDFP**	**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				
Patch Ports (fibers)	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)	← **FCZH00BBFS** →				



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.

Fiber*Express* 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 12ports. 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) [1]	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		
Patch Ports (fibers)	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**	**FCSL12LD4F**	**FC3L12LD4F**	**FC4L12LD4F**	**FCSL12LD4F**

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	**FC3U064MMF1A**	**FC4U064MMF1E**	**FCSU064MMF1G**
3 x MPO-12 (8f)	2 x MPO-12 (12f)	FX Ultra	**FC3U034MMF1A**	**FC4U034MMF1E**	**FCSU034MMF1G**

Tailored FX UHD and FX Ultra Cassettes (Base-8) *Smart*Part 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	
3	OM3
4	OM4
5	OM5
S	OS2

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

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

Connector (Patch Side)	
LD	LC Duplex

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

Polarity (Trunk)	
4	SR4 (Base-8)

Adapter Color	
A	Aqua
E	Erika V.
B	Blue

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	**FF1U12LD**	**FF3U12LD**	**FF4U12LD**	**FC5U12LD**	**FFSU12LD**	**FFSU12LA**
SC Duplex							
6 (12)	FX Ultra	**FF1U06SD**	**FF3U06SD**	**FF4U06SD**	—	**FFSU06SD**	**FFSU06SA**
SC Simplex							
12 (12)	FX Ultra	—	—	—	—	**FFSU12SC**	**FFSU12SB**
ST							
12 (12), Metal	FX Ultra	←		**FFSU12ST**		→	—

Tailored FX UHD and FX Ultra Frames *Smart*Part Configurator

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

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

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

Port Count (Patch Side)	
03	3-Ports
06	6-Ports
12	12-Ports
16	16-Ports
18	18-Ports

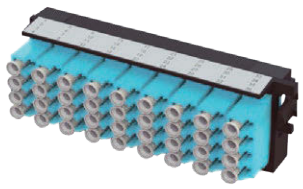
Connector (Patch Side)	
LD	LC Duplex
LA	LC/APC Duplex
LS	LC Duplex w/Shutters
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
SS	SC Duplex w/ Shutters
SR	SC Simplex w/ Shutters
ST	ST
MP	MPO Up/Down
MR	MPO Up/Up

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

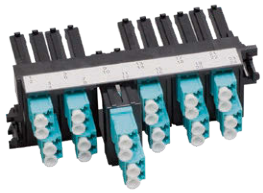
Highest density available with FX UHD style. Maximum density with SC or ST connectors is 12-fiber.

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

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.



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

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**

Fiber*Express* 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**	-	-

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.



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



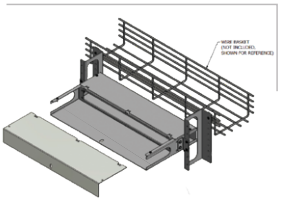
AX104024, 10GX RJ45 Coupler

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 Fiber*Express* Workstation Connectivity on page 47.

Fiber*Express* 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**

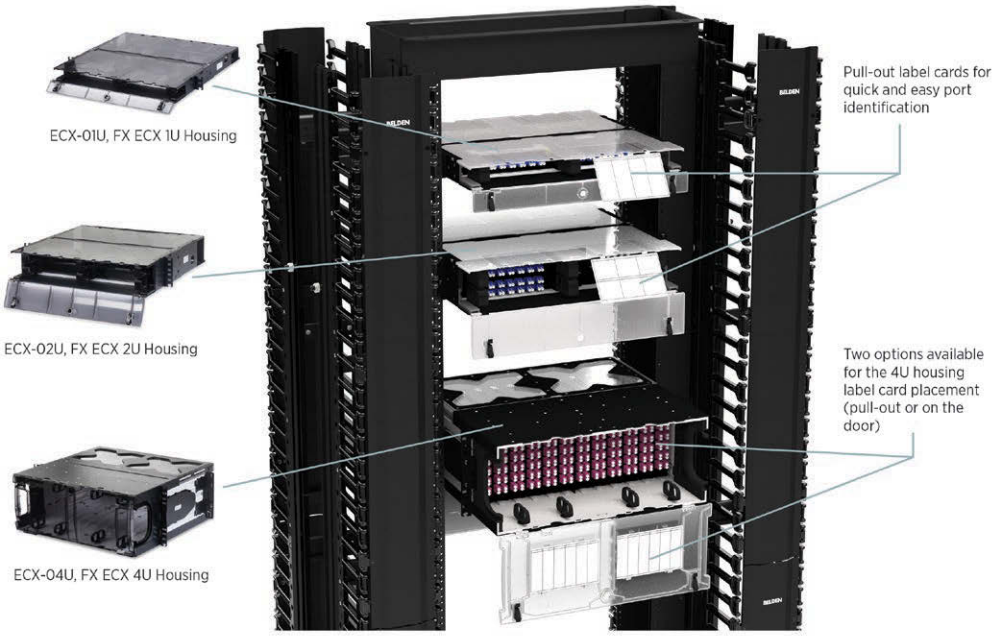


FX Ultra Splice Trays

Fiber*Express* ECX LAN Patching System

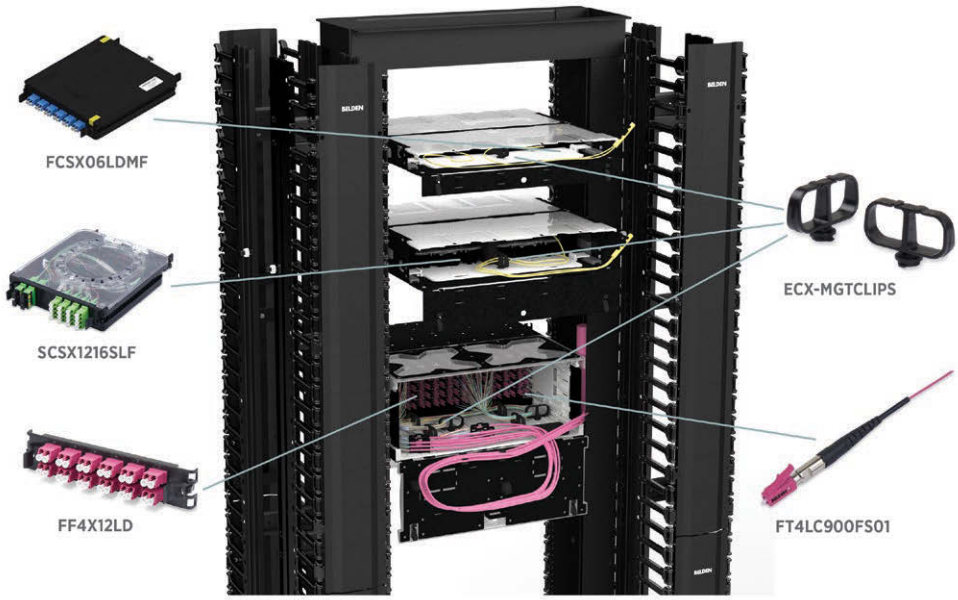
FX ECX Introduction

Front view



* Configuration shown as an example

Back view



* Fiber cables depicted in this image (top to bottom) include FMSMMB1005M, 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



ECX-04U, FX ECX Rack-Mount Housing



ECX-06WM, FX ECX Wall-Mount



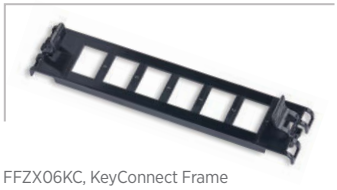
FFSX06LD, LC Duplex Frame, OS2 Blue Adapters



FF4X16LD, LC Duplex Frame, OM4 Ericka Violet Adapters



FF3X03SD, SC Duplex Frame, OM3 Aqua Adapters



FFZX06KC, KeyConnect Frame

FX ECX Housings

Rack-Mount

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

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

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

Tailored FX ECX Frames *Smart*Part 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

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

Product Family	
X	ECX

Port Count (Patch Side)	
03	3-Ports
06	6-Ports
08	8-Ports
12	12-Ports
16	16-Ports

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

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				
Patch Ports (fibers)	OM1 Beige Adapters	OM3 Aqua Adapters	OM4 Erika Violet Adapters	OS2 Blue Adapters	OS2/APC Green Adapters
LC Duplex					
6 (12)	**FC1X06LDFS**	**FC3X06LDFS**	**FC4X06LDFS**	**FCSX06LDFS**	**FCSX06LAFS**
12 (24)	**FC1X12LDFS**	**FC3X12LDFS**	**FC4X12LDFS**	**FCSX12LDFS**	**FCSX12LAFS**
LC Duplex (loaded with Pigtails)					
6 (12)	–	**FC3X06LDFP**	**FC4X06LDFP**	**FCSX06LDFP**	–
12 (24)	–	**FC3X12LDFP**	**FC4X12LDFP**	**FCSX12LDFP**	–
SC Duplex					
3 (6)	**FC1X03SDFS**	**FC3X03SDFS**	**FC4X03SDFS**	**FCSX03SDFS**	**FCSX03SAFS**
6 (12)	**FC1X06SDFS**	**FC3X06SDFS**	**FC4X06SDFS**	**FCSX06SDFS**	**FCSX06SAFS**
SC Duplex (loaded with Pigtails)					
6 (12)	–	**FC3X03SDFP**	**FC4X03SDFP**	–	**FCSX03SAFP**
12 (24)	–	**FC3X06SDFP**	**FC4X06SDFP**	–	**FCSX06SAFP**



FCSX06LAFS, LC Duplex Splice Cassette, OS2 APC Green Adapters



FC1X12SCFS, SC Simplex Splice Cassette, OM1 Beige Adapters

Tailored FX ECX Splice Cassettes *Smart*Part 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)
FC	S	X	06	SC	FS

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

Product Family	
X	ECX

Port Count (Patch Side)	
03	3-Ports
06	6-Ports
08	8-Ports
12	12-Ports

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

Connector (Trunk Side)	
FS	Splice Cassette
FP	Pre-Loaded Cassette*
FT	Field Termination Cassette

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 Ericka 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

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**



ECX-SPLICEKIT, Splice Tray Kit

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**



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

FX ECX 4U Housing Accessories

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



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



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

FX ECX 1U/2U Housing Accessories

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

Fiber*Express* Patch Panel Systems (continued)

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

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

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
LC Duplex					
12 (24)	FX Patch	**AX101741**	–	**AX101743**	**AX105561**
6 (12)	FX Patch	**AX101729**	–	**AX101731**	**AX105537**
SC Duplex					
6 (12)	FX Patch	**AX100098**	–	**AX101409**	**AC301420**
3 (6)	FX Patch	**AX100094**	–	**AX101407**	–
SC Simplex					
12 (12)	FX Patch	–	–	**AX100532**	**AC302349**
ST					
12 (12)	FX Patch	←	**AX100528**	→	–
6 (6)	FX Patch	←	**AX100534**	→	–

Standard Optical Fiber Accessories

Description	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)



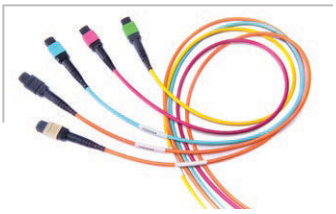
AX100116, FX 48/96 Port (4U) Rack-Mount Patch Panel (shown loaded)



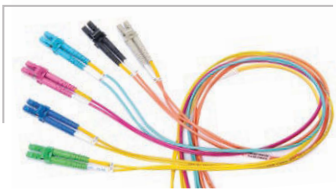
AX100495, Small Wall-Mount

Fiber*Express* Pre-Terminated Assemblies

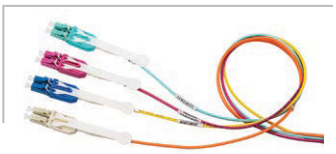
FX Patch Cords



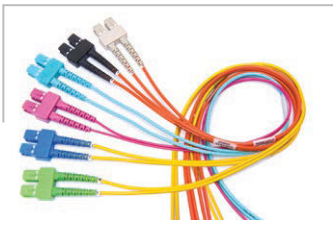
FX MPO-12 (F) Patch Cords, Assortment



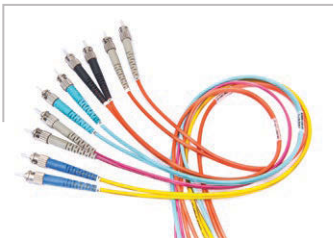
FX LC Duplex Patch Cords, Assortment



FX LC Duplex UHD Uniboot Patch Cords, Assortment



FX SC Duplex Patch Cords, Assortment



FX ST Patch Cords, Assortment

Uncomplicated, robust, versatile and conveniently available. Superior quality and performance. FX patch cords deliver a robust design to withstand the 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**

Fiber*Express* Pre-Terminated Assemblies (continued)

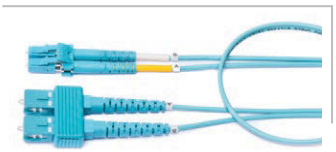
FX Patch Cords

Standard FX Patch Cords

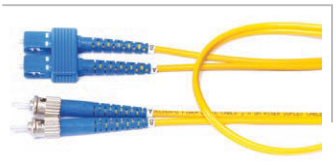
Length (m)	Belden Part Number					
	OM1 Beige/Orange	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Blue/Yellow	OS2/APC Green/Yellow
MPO-12 (8f) Female to MPO-12 (8f) Female - Base-8						
2	—	FP34F4F002M	FP44F4F002M	FP54F4F002M	—	FPS4F4F002M
3	—	FP34F4F003M	FP44F4F003M	FP54F4F003M	—	FPS4F4F003M
5	—	FP34F4F005M	FP44F4F005M	FP54F4F005M	—	FPS4F4F005M
MPO-12 (12f) Female to MPO-12 (12f) Female - Base-12						
2	—	FP3MFMF002M	FP4MFMF002M	FP5MFMF002M	—	FPSMFMF002M
3	—	FP3MFMF003M	FP4MFMF003M	FP5MFMF003M	—	FPSMFMF003M
5	—	FP3MFMF005M	FP4MFMF005M	FP5MFMF005M	—	FPSMFMF005M
MPO-24 Female to MPO-24 Female						
2	—	FP3NFNF002M	FP4NFNF002M	FP5NFNF002M	—	FPSNFNF002M
3	—	FP3NFNF003M	FP4NFNF003M	FP5NFNF003M	—	FPSNFNF003M
5	—	FP3NFNF005M	FP4NFNF005M	FP5NFNF005M	—	FPSNFNF005M
LC Duplex UHD Uniboot to LC Duplex UHD Uniboot						
2	—	FP3LULU002M	FP4LULU002M	FP5LULU002M	FPSLULU002M	—
3	—	FP3LULU003M	FP4LULU003M	FP5LULU003M	FPSLULU003M	—
5	—	FP3LULU005M	FP4LULU005M	FP5LULU005M	FPSLULU005M	—
LC Duplex to LC Duplex						
2	FP1LDLD002M	FP3LDLD002M	FP4LDLD002M	FP5LDLD002M	FPSLDLD002M	FPSLALA002M
3	FP1LDLD003M	FP3LDLD003M	FP4LDLD003M	FP5LDLD003M	FPSLDLD003M	FPSLALA003M
5	FP1LDLD005M	FP3LDLD005M	FP4LDLD005M	FP5LDLD005M	FPSLDLD005M	FPSLALA005M
SC Duplex to SC Duplex						
2	FP1SDSD002M	FP3SDSD002M	FP4SDSD002M	—	FPSSDSD002M	FPSSASA002M
3	FP1SDSD003M	FP3SDSD003M	FP4SDSD003M	—	FPSSDSD003M	FPSSASA003M
5	FP1SDSD005M	FP3SDSD005M	FP4SDSD005M	—	FPSSDSD005M	FPSSASA005M
ST to ST (Duplex Cord)						
2	FP1STST002M	FP3STST002M	FP4STST002M	—	FPSSTST002M	—
3	FP1STST003M	FP3STST003M	FP4STST003M	—	FPSSTST003M	—
5	FP1STST005M	FP3STST005M	FP4STST005M	—	FPSSTST005M	—
Hybrid: LC Duplex to SC Duplex						
2	FP1LDSD002M	FP3LDSD002M	FP4LDSD002M	—	FPSLDSD002M	FPSLASA002M
3	FP1LDSD003M	FP3LDSD003M	FP4LDSD003M	—	FPSLDSD003M	FPSLASA003M
5	FP1LDSD005M	FP3LDSD005M	FP4LDSD005M	—	FPSLDSD005M	FPSLASA005M
Hybrid: SC Duplex to ST						
2	FP1SDST002M	FP3SDST002M	—	—	FPSSDST002M	—
3	FP1SDST003M	FP3SDST003M	—	—	FPSSDST003M	—
5	FP1SDST005M	FP3SDST005M	—	—	FPSSDST005M	—
LC Simplex UHD to LC Simplex UHD, Simplex Cord						
2	—	—	—	—	FPSLILI002M	FPSLFLF002M
3	—	—	—	—	FPSLILI003M	FPSLFLF003M
5	—	—	—	—	FPSLILI005M	FPSLFLF005M



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



FP3LDSD003M, Hybrid LC Duplex to SC Duplex, OM3 Aqua



FPSSDST003M, Hybrid SC Duplex to ST, OS2 Blue



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

Fiber*Express* Pre-Terminated Assemblies (continued)

FX Patch Cords



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

Standard FX Patch Cords *Smart*Part Configurator

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

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

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

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

Length*
003M to 015M *use M as decimal

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

Tailored FX Patch Cords *Smart*Part 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
FP	3	LD	LD	003M	R	3	X	A

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

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

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

Length*
003M to 100M M Meters use M as decimal

Fire Rating	
R	Riser
P	Plenum
L	LSZH

Cable Construction	
1	Duplex ZipCord 1.6 mm (for DCX systems)
2	Duplex ZipCord 2.0 mm
3	Duplex ZipCord 3.0 mm
4	Simplex Cord 2.0 mm
5	Simplex Cord 3.0 mm
6	Round 2.0 mm
7	Round 3.0 mm
9	Simplex ZipCord 1.6 mm (for DCX systems)

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

Jacket Color	
O	Orange
A	Aqua
E	Erika Violet
L	Lime Green
Y	Yellow

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

FPSLDLD002MR1XY - 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 *Smart*Part numbers or for any other custom engineered solutions.

Fiber*Express* 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.



LPM transition on Hydra Patch Cord

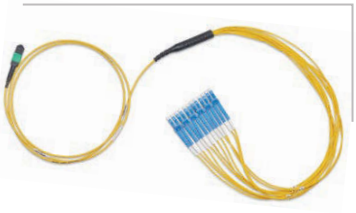
Features and Benefits

- 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

FX Hydra Patch Cords - Standard Performance

Description	FX OM3	FX OM4	FX OM5	FX SM	FX SM/APC
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/Km)	3.0/1.2	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
Connector Performance - LC					
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
Connector Performance - MPO-12					
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



FPSLDMF002M, 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
Base-12 Duplex				
MPO-12 (12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	**FP3LUMF002M**	**FP4LUMF002M**	**FP5LUMF002M**	**FPSLUMF002M**
MPO-12 (12f) Female to 6 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	**FP3LDMF002M**	**FP4LDMF002M**	**FP5LDMF002M**	**FPSLDMF002M**
Base-8 Duplex for SR4 (QSFP+/QSFP28) Transceivers				
MPO-12 (8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	**FP3LU4F002M**	**FP4LU4F002M**	**FP5LU4F002M**	**FPSLU4F002M**
MPO-12 (8f) Female to 4 x LC Duplex, 0.5 m In-Line Fanout, 2 m in length	**FP3LD4F002M**	**FP4LD4F002M**	**FP5LD4F002M**	**FPSLD4F002M**

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 *Smart*Part Configurator

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

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

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

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

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

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

Tailored FX Hydra Patch Cords *Smart*Part 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
FP	3	LD	MF	020M	P	7	A	A

Fiber Type	
1	OM1
3	OM3
4	OS4
5	OM5
S	OS2

Connector 1	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC Simplex UHD
LU	LC Duplex UHD Uniboot
LF	LC/APC Simplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST

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

Length
001M to 300M *use M as decimal

Fire Rating	
P	Plenum
L	LSZH

Cable Construction	
7	Round 3.0 mm

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

Jacket Color	
O	Orange
A	Aqua
E	Erika Violet
L	Lime Green
Y	Yellow

Examples:

FP3LDMF020MP7AA - FX Patch Cord, 0M3, 6 x LC Duplex -MPO-12 (F), 20 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket

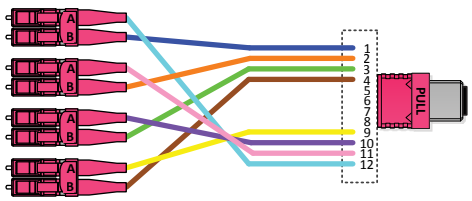
FP4LUMM010MP7AA - FX Patch Cord, 0M4, 6 x LC Duplex UHD Uniboot - MPO-12 (M), 10 m, OFNP, Round 3.0 mm, Type-A, Aqua Jacket

FP3LDMM005MP7BA - FX Patch Cord, 0M3, 6 x LC Duplex - MPO-12 (M), 5 m, OFNP, Round 3.0 mm, Type-B, Aqua Jacket

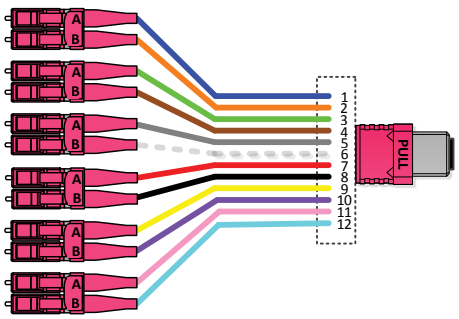
Tailored FX Hydra Patch Cords SPN table should ONLY be used for any product combination that is not covered by the Standard FX Hydra Patch Cords configurator above.

Please contact Belden for any help configuring/validating *Smart*Part 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)



Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks

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

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
Cable Performance				
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
Connector Performance - MPO-12				
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



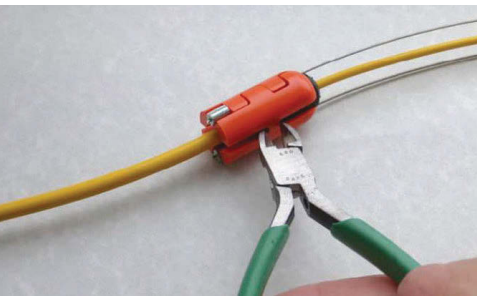
FM4MMB1030M, FX MPO Trunk, OM4, MPO-12 (Male to Male), Type-B, 1 x MPO-12 (12 fibers), 30 m, OFNP, Mini- Distribution 4.8 mm (Double-Jacket), Erika Violet Jacket



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

Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks



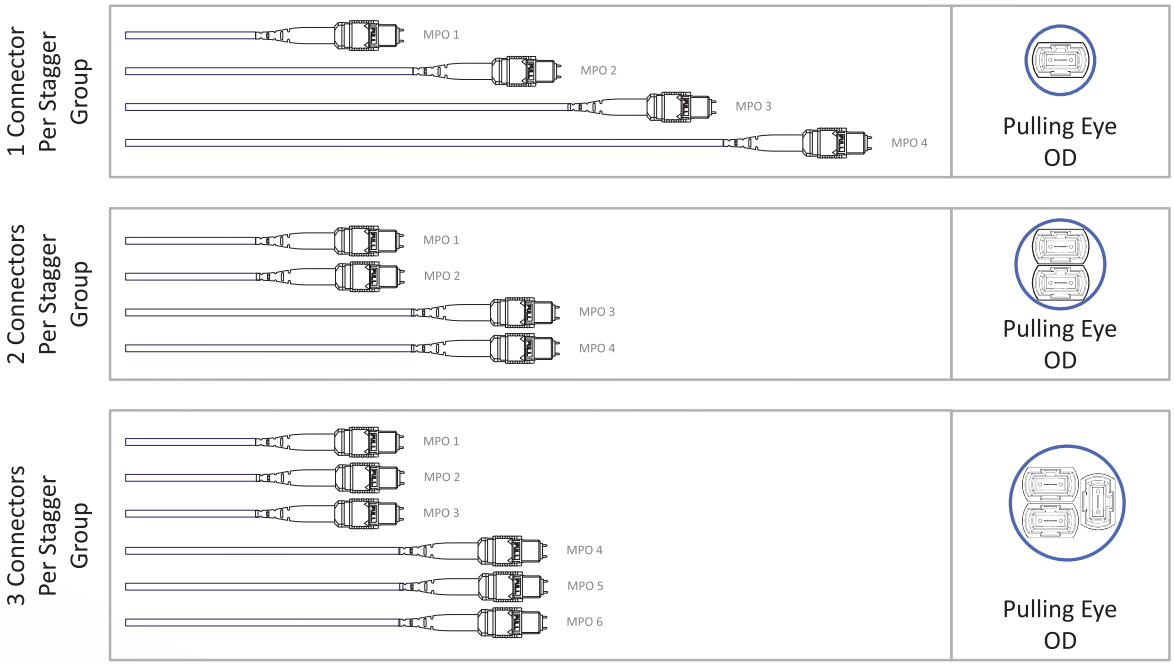
New Pulling Eye

FX Trunks Pulling Eye

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

Pulling Eye Diameter

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

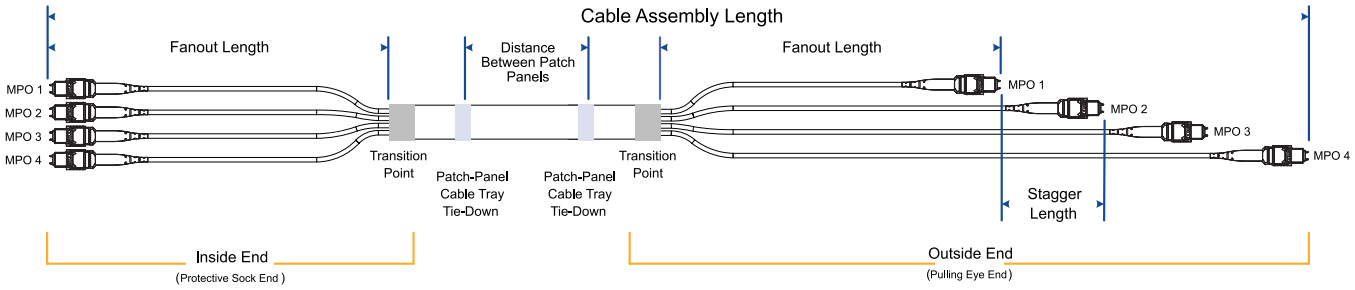


4 and 6 Connectors Per Stagger Group Available

FiberExpress Pre-Terminated Assemblies (continued)

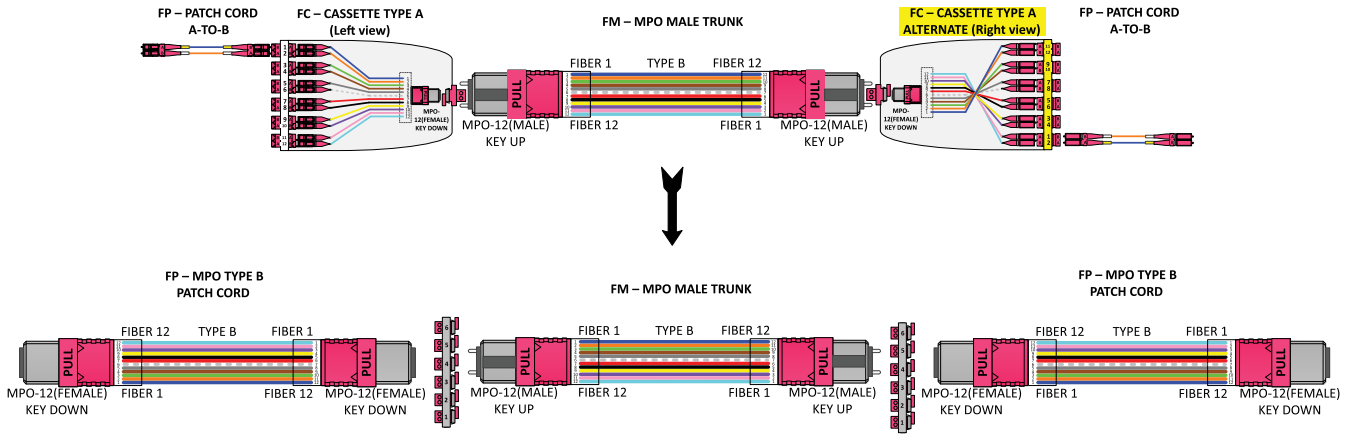
FX MPO Trunks

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

Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks



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

Standard FX MPO Trunks - Base-12 *Smart*Part Configurator

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

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

Connectors	
M	MPO-12 (12f)

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

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

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

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

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 *Smart*Part 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	
4	OM3
4	OM4
5	OM5
S	OS2

Connectors	
M	MPO-12 (12f)

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

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

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

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

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

Cable Construction	
U	µMini-D
M	Mini-D

Fanout Geometry	
D	None (1 Conn.)
D	0.5 m x In-Line (>2 Conn.)
E	1.0 m x In-Line (For DCX System)
F	1.5 m x In-Line
G	2.0 m x In-Line
1	0.5 m x Stag 80 mm/1 Conn.
2	0.5 m x Stag 80 mm/2 Conn.
3	0.5 m x Stag 80 mm/3 Conn.
4	0.5 m x Stag 80 mm/4 Conn.
N	No Pulling Eye
B	Pulling Eye at Both Ends

Jacket Color	
A	Aqua
E	Erika Violet
L	Lime Green
Y	Yellow
N	Black

Use of tailored part numbers:

- Fire rating: for any plenum armored, I/0 plenum, I/0 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/0 plenum, for plenum armored, for I/0 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.

FMSMFA2030MPM1Y - 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 *Smart*Part Numbers or for any other custom engineered solutions.

Fiber*Express* Pre-Terminated Assemblies (continued)

FX MPO Trunks

Standard FX MPO Trunks - Base-8 *Smart*Part Configurator

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

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

Connectors	
4	MPO-12 (8f)

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

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

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

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

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

Examples:

FM34MB3010M - FX MPO Trunk 0M3, MPO-12 Base-8 (Male to Male), Type-B, 3 MPO (24 fibers), 10 m, 0FNP, Mini-Distribution 4.8 mm (Double-Jacket), Aqua Jacket.

FMS4FAD025M - FX MPO Trunk 0S2, MPO-12 Base-8 (Female to Female), Type-A, 12 MPO (96 fibers), 25 m, 0FNP, Mini-Distribution (2.0 mm Subunits) Fanout: 0.5 m In-Line, Yellow Jacket.

Tailored FX MPO Trunks - Base-8 *Smart*Part 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	3	4	M	B	3	010M	P	M	E	A

Fiber Type	
3	OM3
4	OM4
5	OM5
S	OS2

Connectors	
4	MPO-12 (8f)

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

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

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

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

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

Cable Construction	
U	µMini-D
M	Mini-D

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

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

Use of tailored part numbers:

- Fiber type: for any OM1 and OM2 trunk.
- Fire rating: for any plenum armored, I/0 plenum, I/0 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/0 plenum, for plenum armored, for I/0 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 0M3, MPO-12 Base-8 (Male to Male), Type-B, 1 MPO (8 fibers), 10 m, 0FNP, Mini-Distribution 4.8 mm (Double-Jacket), No Pulling Eye, Aqua Jacket.

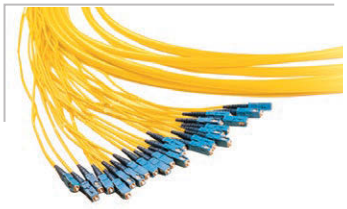
FM44MB4020MAMDE - FX MPO Trunk 0M4, MPO-12 Base-8 (Male to Male), Type-B, 4 MPO (32 fibers), 20 m, 0FCP, (Plenum Armored), Mini-Distribution (3.0 mm Subunits) Fanout: 0.5 m In-Line, Erika Violet Jacket.

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 *Smart*Part Numbers or for any other custom engineered solutions.

Fiber*Express* 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



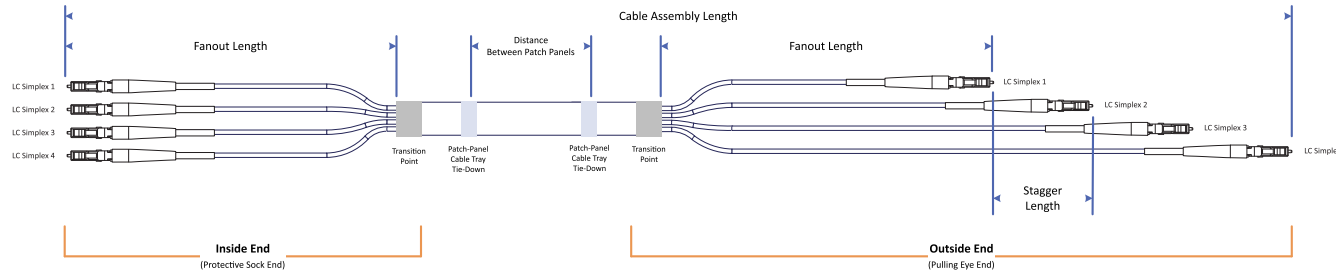
FX Multi-Fiber Trunk; Close-Up of LPM Transition



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

FX Multi-Fiber Trunks - Standard Performance

Description	FX OM3	FX OM4	FX OM5	FX SM	FX SM/APC
Cable Performance					
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
Connector Performance - MPO					
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
Connector Performance - LC/SC					
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



Fiber*Express* Pre-Terminated Assemblies (continued)

FX Multi-Fiber Trunks

FX Multi-Fiber Trunks *Smart*Part 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
A	4	12	LD	E	LD	E	P	030M

Fiber Type	
1	OM1
3	OM3
4	OM4
5	OM5
S	OS2

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

Connector 1	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LI	LC Simplex UHD
LU	LC Duplex UHD Uniboot
LE	LC/APC Duplex UHD
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST

Cable Construction 1	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line
7	Jacketed x 1.6 mm x 1.0 m In-Line

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

Cable Construction 2	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line
Z	250 µm x OPEN
1	Jacketed x 0.5 m x Stag 80 mm/1 Conn.
2	Jacketed x 0.5 m x Stag 80 mm/2 Conn.
3	Jacketed x 0.5 m x Stag 80 mm/3 Conn.
4	Jacketed x 0.5 m x Stag 80 mm/4 Conn.
6	Jacketed x 0.5 m x Stag 80 mm/6 Conn.
7	Jacketed x 1.6 mm x 1.0 m In-Line
R	900 µm x 0.5 m x Stag 80 mm/1 Conn.
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.

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

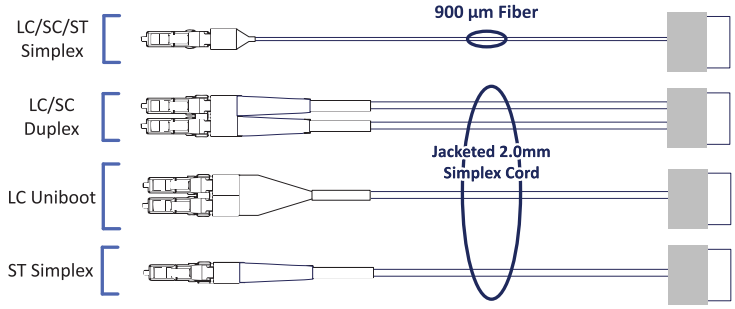
Length
005M to 500M M = Meters *use M as decimal

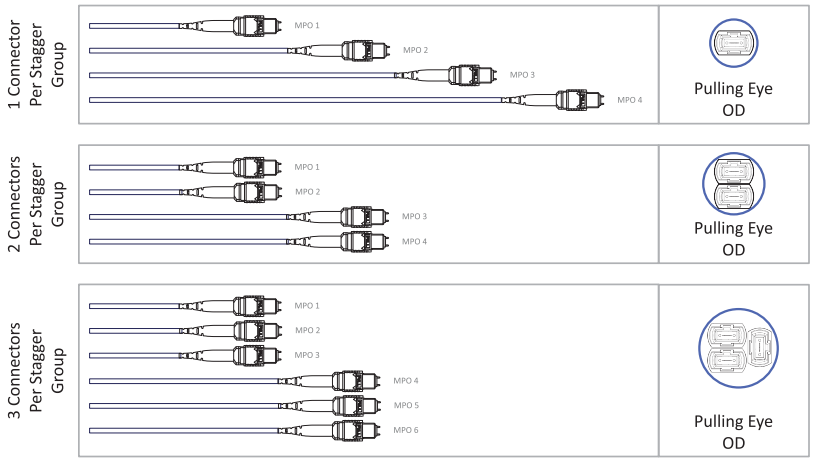
Examples:

A412LDELDEP030M - 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

A324LCALCAP050M - 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

Fiber*Express* Pre-Terminated Assemblies (continued)

Matrix Switch Fiber Harnesses (from Thinklogical)



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

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

*Smart*Part Configurator

Please select from options below to build your *Smart*Part 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
TL	4	1	1	LD	T	LC	B	010M

Fiber Type	
3	OM3
4	OM4 EV
9	OM4 AQ
S	OS2

Switch Type	
1	TLX1280
2	TLX640/ VX640
3	TLX320/ VX320
4	TLX160
5	TLX80/ VX80

Side A Port Numbers	
1	TLX1280 - 4 x harnesses (kit) 01-32 port (01-64 fibers)
2	TLX640 - 2 x harnesses (kit) 01-20 ports (01-40 fibers)
3	TLX320 - 2 x harnesses (kit) 01-16 ports (01-32 fibers)
A	TLX160 - 01-10 ports (01-20 fibers)
A	TLX80 - 01-05 ports (01-10 fibers)

Connector Side A	
LD	LC Duplex
LA	LC/APC Duplex

Fanout Side A	
TLX1280, TLX640/ VX640	
T	From Top
B	From Bottom
TLX320/VX320, TLX160, TLX80/VX80	
B	From Bottom

Connector Side B	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
TLX1280, TLX320, VX320 Only	
QM	MPO-12 Base-8 (M) Type A
QF	MPO-12 Base-8 (F) Type A

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

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

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



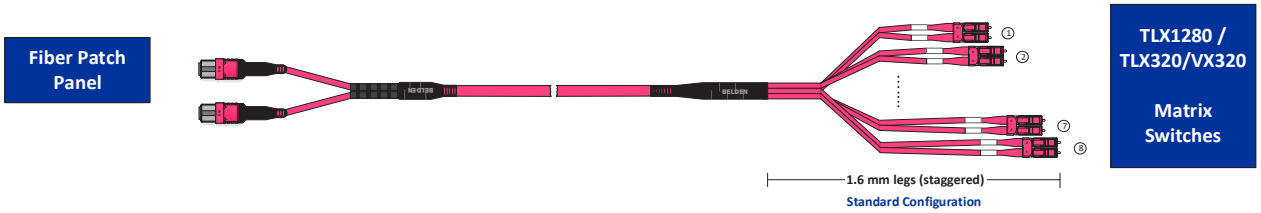
LC-LC Fiber Harness for TLX640/VX640/TLX160 Matrix Switches



LC-LC Fiber Harness for TLX80/VX80 Matrix Switches



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



Fiber*Express* 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
Cable Performance						
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-Distributon and Mini-Distribution cables					
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
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
Connector Performance - MPO						
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	**FY4AMMFMMFB010M**	—	**FYSAMMFMMFB010M**
	24	**FY4CMMFMMFB010M**	—	**FYSCMMFMMFB010M**
10 m MPO to MPO Type B Base-8 (1 m fanout)	8	**FY484MF4MFB010M**	—	**FYS84MF4MFB010M**
	16	**FY4B4MF4MFB010M**	—	**FYSB4MF4MFB010M**
	24	**FY4C4MF4MFB010M**	—	**FYSC4MF4MFB010M**

Fiber*Express* Pre-Terminated Assemblies (continued)

OptiTuff Mini Pre-Terminated Fiber Trunks

*Smart*Part Configurator

Please select from options below to build your *Smart*Part 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
FY	4	A	LD	F	LD	F	X	030M

Fiber Type	
4	OM4
5	OS2

Fiber Count	
1	1 Fiber
2	2 Fibers
4	4 Fibers
6	6 Fibers
8	8 Fibers
A	12 Fibers
B	16 Fibers
C	24 Fibers

Connector 1	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LU	LC Duplex UHD Uni.
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
4M	MPO-12 (M) 40G
4F	MPO-12 (F) 40G
MM	MPO-12 (M)
MF	MPO-12 (F)

Fanout Const 1	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line

Connector 2	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
LU	LC Duplex UHD Uni.
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
4M	MPO-12 (M) 40G
4F	MPO-12 (F) 40G
MM	MPO-12 (M)
MF	MPO-12 (F)
ZZ	OPEN

Fanout Const 2	
A	900 µm x 0.5 m x In-Line
B	900 µm x 1.0 m x In-Line
C	900 µm x 1.5 m x In-Line
D	900 µm x 2.0 m x In-Line
E	Jacketed x 0.5 m x In-Line
F	Jacketed x 1.0 m x In-Line
G	Jacketed x 1.5 m x In-Line
H	Jacketed x 2.0 m x In-Line
Z	250 µm x OPEN

Polarity	
X	A/B (Cross)
S	A/A (Straight)
A	Type A
B	Type B
C	Type C
4	SR4

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

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

FY4AMMFMMFB010M - 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

FY4ALDFMMFA005M - 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

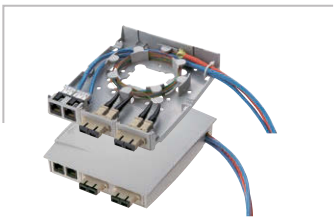
Belden offers a wide variety of workstation outlet systems designed for maximum flexibility, durability, aesthetics and manageability.



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



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



A0643206, Multimedia Outlet Box (shown terminated)

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.

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**

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**

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.

Fiber*Express* 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)	**AX100220**	**AX100221**	**AX100222**
Multi-User KeyConnect 12-Port Adapter Strip	—	—	**AX104615**
Multi-User MDVO 12-Port Adapter Strip	—	—	**AX100223**



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

MDVO Fiber Adapter Modules

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

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

Please contact 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)	**FXWSKC3LDNB25DA**	**FXWSKC4LDNB25DE**	**FXWSKCSLDNB25DB**	**FXWSKCSLANB25DG**
LC Duplex - Elec. White, w/o shutter (25-pk)	**FXWSKC3LDNB25WA**	**FXWSKC4LDNB25WE**	**FXWSKCSLDNB25WB**	**FXWSKCSLANB25WG**
LC Duplex - Black, w/o shutter (25-pk)	**FXWSKC3LDNB25NA**	**FXWSKC4LDNB25NE**	**FXWSKCSLDNB25NB**	**FXWSKCSLANB25NG**
SC Simplex - Almond, w/o shutter (25-pk)	**FXWSKC3SCNB25DA**	**FXWSKC4SCNB25DE**	**FXWSKCSSCNB25DB**	**FXWSKCSSCNB25DG**
SC Simplex - Elec. White, w/o shutter (25-pk)	**FXWSKC3SCNB25WA**	**FXWSKC4SCNB25WE**	**FXWSKCSSCNB25WB**	**FXWSKCSSCNB25WG**
SC Simplex - Black, w/o shutter (25-pk)	**FXWSKC3SCNB25NA**	**FXWSKC4SCNB25NE**	**FXWSKCSSCNB25NB**	**FXWSKCSSCNB25NG**
SC/APC Simplex - Almond, w/o shutter (25-pk)	—	—	**FXWSKCSSANB25DB**	**FXWSKCSSANB25DG**
SC/APC Simplex - Elec. White, w/o shutter (25-pk)	—	—	**FXWSKCSSANB25WB**	**FXWSKCSSANB25WG**
SC/APC Simplex - Black, w/o shutter (25-pk)	—	—	**FXWSKCSSANB25NB**	**FXWSKCSSANB25NG**



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	**AX105691-B25**	**AX105692-B25**	**AX105002-B25**	**AX105646-B25**
SC Duplex w/Shutters, Flangeless	—	—	**AX105693-B25**	**AX105694-B25**

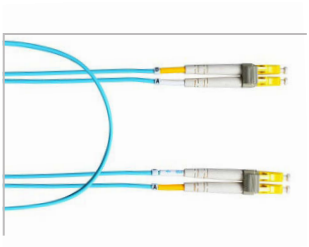
Refer to the Belden copper catalog for a larger selection of workstation connectivity options.

FiberExpress Secure/Keyed LC System

FX Secure/Keyed LC System, Pigtails and Connectors



FX Secure/Keyed LC System



LC Keyed Patch Cords

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

The Secure/Keyed LC Adapter Modules, Frames, Cassettes and Adapter Strips can be used in all mounting hardware for workstation area, consolidation point or telecom room applications.

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

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			
Patch Ports (fibers)	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.

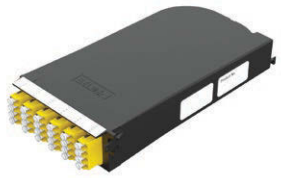


FFSU12LKO, LC Keyed FX Ultra Frame

LC Keyed FX Ultra HD Splice Cassettes

Description	Belden Part Numbers			
Patch Ports (fibers)	OM3	OM4	OM5	OS2
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			
Patch Ports (fibers)	OM3	OM4	OM5	OS2
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)	FC3U06LKMF1x	FC4U06LKMF1x	FC5U06LKMF1x	FCSU06LKMF1x
12 (24)	FC3U12LKMF1x	FC4U12LKMF1x	FC5U12LKMF1x	FCSU12LKMF1x

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



FCSU12LKMFAR, 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			
Patch Ports (fibers)	OM3	OM4	OM5	OS2
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

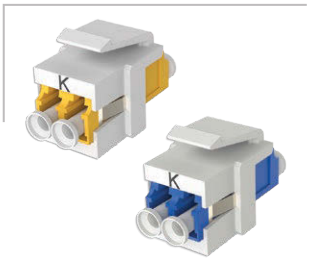
Replace x with the Color Code for Adapters from page 48.



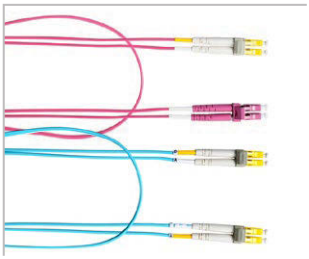
FCSX06LKFPNG, LC Keyed FX ECX Splice Cassette

Fiber*Express* 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			
Patch Ports (fibers)	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	
Insert color	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.

*Smart*Part Configurator

Please select from options below to build your *Smart*Part 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
FP	4	K1	LD	030M	R	2	X	E

Fiber Type	
3	OM3
4	OM4
5	OM5
5	OS2

Color	
K1	Keyed Red
K2	Keyed Green
K3	Keyed Yellow
K4	Keyed Black
K5	Keyed Orange
K6	Keyed Blue
K7	Keyed Violet
K8	Keyed Rose
K9	Keyed Aqua
KA	Keyed Brown
KB	Keyed Slate
KC	Keyed White

Connector 1	
LD	LC Duplex
LC	LC Simplex
LA	LC/APC Duplex
LB	LC/APC Simplex
SD	SC Duplex
SC	SC Simplex
SA	SC/APC Duplex
SB	SC/APC Simplex
ST	ST
ZZ	Open

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

Fire Rating	
R	Riser
P	Plenum
L	LSZH

Cord	
2	Duplex Zip Cord

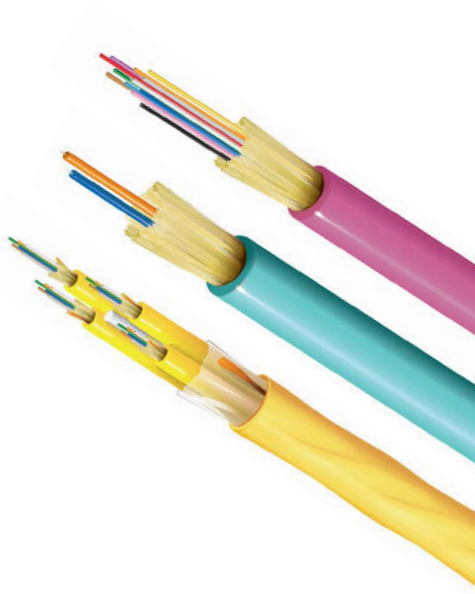
X or S	
X	A/B (cross)
S	A/A (straight)

Jacket Color	
A	Aqua
E	Erika Violet
O	Lime Green
Y	Yellow

Fiber*Express* Optic Cables

Introduction

The optical fiber cables featured in this section have been expanded to meet advances in technology and the demands of 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.

Jacket Color Chart

Cable Type	Jacket Color
Indoor Cables	
OM1	Orange
OM3	Aqua
OM4	Erika Violet (Standard) Aqua (Optional)
OM5	Lime Green
OS2	Yellow
Indoor/Outdoor & Outdoor Cables	
All fiber grades	Black
Specialty Cables: Tactical	
All fiber grades	Black

Composite Indoor Cables - 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

BELDEN

Fiber Optic Cable

*Smart*Part 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**
Breakout Cable					
FI Indoor Cable	1 OM1	B Breakout	002 2 Fibers	Plenum Group	B 2.0 mm, 1 x 900 µm Fiber
FD Indoor/Outdoor Cable	3 OM3		004 4 Fibers	P Plenum (OFNP)	
	4 OM4		006 6 Fibers		
	5 OM5		008 8 Fibers	Riser Group	
	S OS2 (G.657.A1)		010 10 Fibers	R Riser (OFNR)	
			012 12 Fibers		
Distribution Cable (Non-Unitized)					
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)	
Distribution Cable (Unitized)					
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		
Mini-Distribution Cable (Non-Unitized)					
FI Indoor Cable	3 OM3	M Mini-Distribution	012 12 Fibers	Plenum Group	0 250 µm Fiber
	4 OM4			P Plenum (OFNP)	2 3.0 mm, 12 x 250 µm Fiber
	5 OM5			A Plenum Interlocked Aluminum Armor (OFCP)	
	S OS2 (G.657.A1)				
Mini-Distribution Cable (Unitized)					
FI Indoor Cable	3 OM3	M Mini-Distribution	024 24 Fibers	Plenum Group	1 2.0 mm, 12 x 250 µm Fiber
	4 OM4		036 36 Fibers	P Plenum (OFNP)	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		
Loose-Tube					
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.

Fiber*Express* Breakout Cables

Tight Buffer — Indoor Riser, Plenum and LSZH Rated

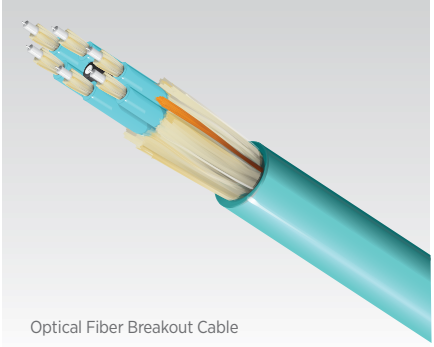
Robust terminations in demanding environments. The ease of 900 µm tight-buffered termination with only one fiber per subunit enables the ultimate bond between the connector and the cables' aramid yarns, resulting in unmatched strength and durability.

Applications:

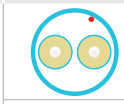
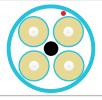
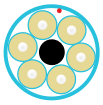
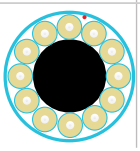
- Horizontal distribution for fiber-to-the-desk
- In-building backbone
- Factory floor automation
- Broadcast and AV in-building installations

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			
									Installation		Operation	
				mm	mm	in.	kg/km	lb/1000 ft.	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.

Standard Indoor Breakout Cables

Fiber Count	Belden Part Number				
	OM1 Orange	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Plenum					
2	FI1B002PB	FI3B002PB	FI4B002PB	FI5B002PB	FISB002PB
4	FI1B004PB	FI3B004PB	FI4B004PB	FI5B004PB	FISB004PB
6	FI1B006PB	FI3B006PB	FI4B006PB	FI5B006PB	FISB006PB
12	FI1B012PB	FI3B012PB	FI4B012PB	FI5B012PB	FISB012PB
Riser					
2	FI1B002RB	FI3B002RB	FI4B002RB	FI5B002RB	FISB002RB
4	FI1B004RB	FI3B004RB	FI4B004RB	FI5B004RB	FISB004RB
6	FI1B006RB	FI3B006RB	FI4B006RB	FI5B006RB	FISB006RB
12	FI1B012RB	FI3B012RB	FI4B012RB	FI5B012RB	FISB012RB

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

Specifications

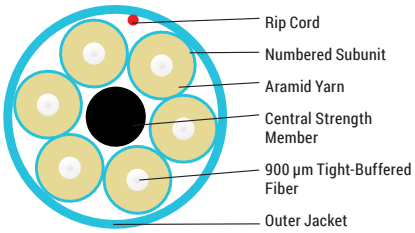
Bend Radius (vs. Cable OD)

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

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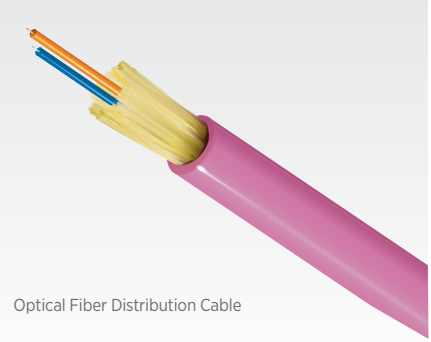


Optical Fiber Distribution Cable

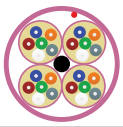
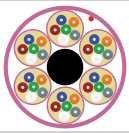
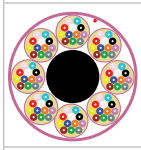
Fiber*Express* Distribution Cables

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

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
									Installation		Operation	
				mm	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			6.6	0.26	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.

Indoor Specifications

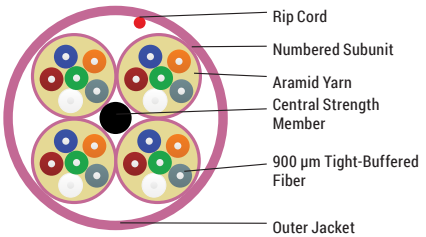
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

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

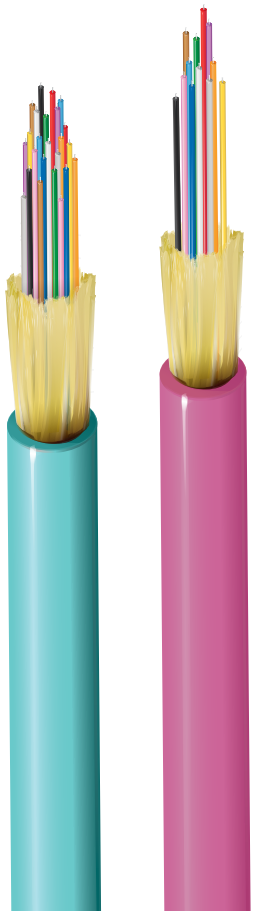
FiberExpress Distribution Cables (continued)

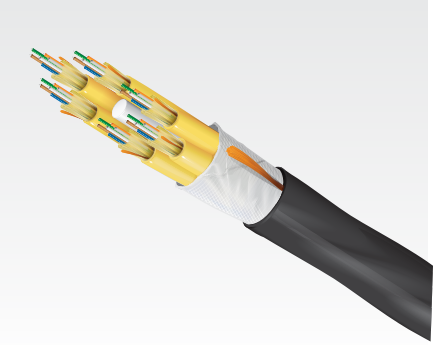
Tight Buffer — Indoor Riser, Plenum Rated LSZH

Standard Indoor Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Non-Unitized - Riser				
2	FI3D002R9	FI4D002R9	FI5D002R9	FISD002R9
6	FI3D006R9	FI4D006R9	FI5D006R9	FISD006R9
12	FI3D012R9	FI4D012R9	FI5D012R9	FISD012R9
24	FI3D024R9	FI4D024R9	FI5D024R9	FISD024R9
Non-Unitized - Plenum				
2	FI3D002P9	FI4D002P9	FI5D002P9	FISD002P9
6	FI3D006P9	FI4D006P9	FI5D006P9	FISD006P9
12	FI3D012P9	FI4D012P9	FI5D012P9	FISD012P9
24	FI3D024P9	FI4D024P9	FI5D024P9	FISD024P9
Unitized 6-Fiber Subunits Riser				
24	FI3D024RJ	FI4D024RJ	FI5D024RJ	FISD024RJ
Unitized 6-Fiber Subunits Plenum				
24	FI3D024PJ	FI4D024PJ	FI5D024PJ	FISD024PJ
Unitized 12-Fiber Subunits Plenum				
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.





Optical Fiber Indoor/Outdoor Distribution Cable

Indoor/Outdoor Specifications

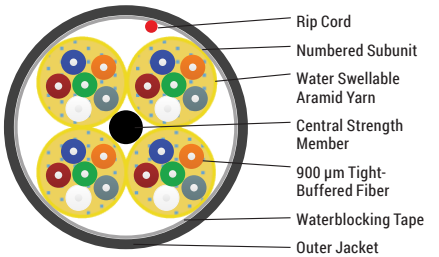
Bend Radius (vs. Cable OD)

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

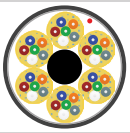
- ANSI/TIA-568.3
- ISO/IEC 11801
- RoHS II 2011/65/EU
- REACH EC1907-2006
- NEC/CEC OFNR FT4 (RISER - PVC)
- NEC/CEC OFNR FT4 (LSZH - FRPE)
- NEC/CEC OFNP FT6 (PLENUM - PVC)
- ICEA S-104-696

Fiber*Express* Distribution Cables (continued)

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

Indoor/Outdoor Specifications

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

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
									Installation		Operation	
				mm	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			6.6	0.26	33	22				
		10					39	26				
		12					40	27				
		16			8.3	0.33	63	42	1320	300	400	90
		24					63	42				
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.

Fiber*Express* Distribution Cables (continued)

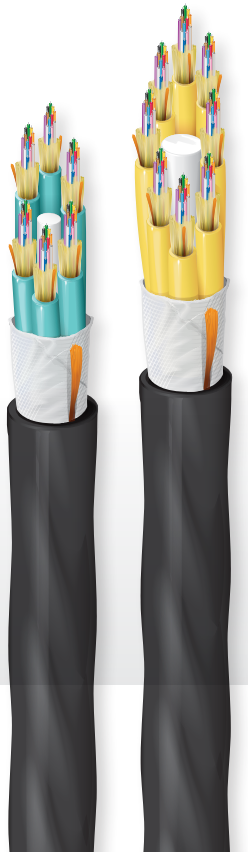
Tight Buffer — Indoor/Outdoor Riser, Plenum and LSZH Rated

Standard Indoor/Outdoor Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Black	OM4 Black	OM5 Black	OS2 Black
Non-Unitized - Riser				
2	FD3D002R9	FD4D002R9	FD5D002R9	FDSD002R9
6	FD3D006R9	FD4D006R9	FD5D006R9	FDSD006R9
12	FD3D012R9	FD4D012R9	FD5D012R9	FDSD012R9
24	FD3D024R9	FD4D024R9	FD5D024R9	FDSD024R9
Non-Unitized Plenum				
2	FD3D002P9	FD4D002P9	FD5D002P9	FDSD002P9
6	FD3D006P9	FD4D006P9	FD5D006P9	FDSD006P9
12	FD3D012P9	FD4D012P9	FD5D012P9	FDSD012P9
24	FD3D024P9	FD4D024P9	FD5D024P9	FDSD024P9
Unitized 6-Fiber Subunits - Riser				
24	FD3D024RJ	FD4D024RJ	FD5D024RJ	FDSD024RJ
Unitized 6-Fiber Subunits - Plenum				
24	FD3D024PJ	FD4D024PJ	FD5D024PJ	FDSD024PJ
Unitized 12-Fiber Subunits - Plenum				
48	FD3D048PK	FD4D048PK	FD5D048PK	FDSD048PK
72	FD3D072PK	FD4D072PK	FD5D072PK	FDSD072PK
96	FD3D096PK	FD4D096PK	FD5D096PK	FDSD096PK
144	FD3D144PK	FD4D144PK	FD5D144PK	FDSD144PK

OM1 available upon request.

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



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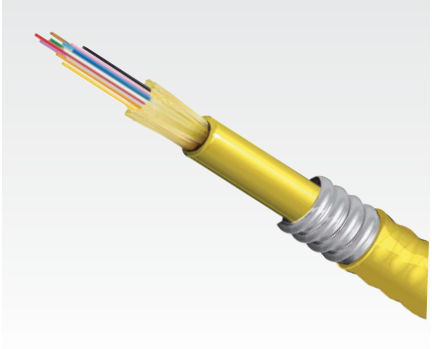


Optical Fiber Armored Distribution Cable, Indoor

Fiber*Express* Armored Distribution Cables

Tight Buffer — Indoor, Riser and Plenum Rated

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

Applications:

- Campus/inter-building
- Telecom trunks
- Rugged environments

Indoor Specifications

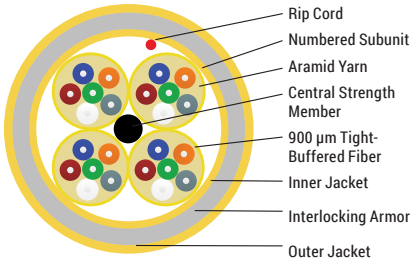
Bend Radius (vs. Cable OD)

Installation	20 x OD
Operation	10 x OD

Temperature Range

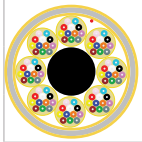
Storage	-40°C to 70°C (-40°F to 158°F)
Installation (Plenum)	0°C to 60°C (32°F to 140°F)
Installation (Riser)	-10°C to 60°C (14°F to 140°F)
Operation (Plenum)	0°C to 70°C (32°F to 158°F)
Operation (Riser)	-20°C to 70°C (-4°F to 158°F)

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			
									Installation		Operation	
				mm	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	150	200	45
		12			13.5	0.53	213	143				
		24			16.4	0.64	249	167	1320	300	400	90
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
Non-Unitized Riser				
6	FI3D006F9	FI4D006F9	FI5D006F9	FISD006F9
12	FI3D012F9	FI4D012F9	FI5D012F9	FISD012F9
24	FI3D024F9	FI4D024F9	FI5D024F9	FISD024F9
Non-Unitized Plenum				
6	FI3D006A9	FI4D006A9	FI5D006AK	FISD006A9
12	FI3D012A9	FI4D012A9	FI5D012AK	FISD012A9
24	FI3D024A9	FI4D024A9	FI5D024AK	FISD024A9
Unitized 12-Fiber Subunits Riser				
48	FI3D048FK	FI4D048FK	FI5D048FK	FISD048FK
72	FI3D072FK	FI4D072FK	FI5D072FK	FISD072FK
96	FI3D096FK	FI4D096FK	FI5D096FK	FISD096FK
144	FI3D144FK	FI4D144FK	FI5D144FK	FISD144FK
Unitized 12-Fiber Subunits Plenum				
48	FI3D048AK	FI4D048AK	FI5D048AK	FISD048AK
72	FI3D072AK	FI4D072AK	FI5D072AK	FISD072AK
96	FI3D096AK	FI4D096AK	FI5D096AK	FISD096AK
144	FI3D144AK	FI4D144AK	FI5D144AK	FISD144AK

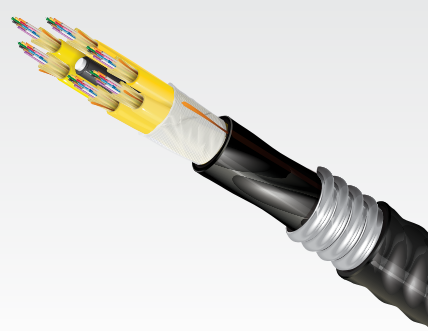
OM1 available upon request.
For an exhaustive selection, contact Belden customer service or your local Belden representative.

Fiber*Express* 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



Optical Fiber Armored Distribution Cable, Indoor/Outdoor

Description	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength			
									Installation		Operation	
				mm	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.

Standard Indoor/Outdoor Armored Distribution Cables

Fiber Count	Belden Part Number			
	OM3 Black	OM4 Black	OM5 Black	OS2 Black
Non-Unitized Riser				
6	FD3D006F9	FD4D006F9	FD5D006F9	FDSD006F9
12	FD3D012F9	FD4D012F9	FD5D012F9	FDSD012F9
24	FD3D024F9	FD4D024F9	FD5D024F9	FDSD024F9
Non-unitized Plenum				
6	FD3D006A9	FD4D006A9	FD5D006AK	FDSD006A9
12	FD3D012A9	FD4D012A9	FD5D012AK	FDSD012A9
24	FD3D024A9	FD4D024A9	FD5D024AK	FDSD024A9
Unitized 12-Fiber Subunits Plenum				
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.

Indoor/Outdoor Specifications

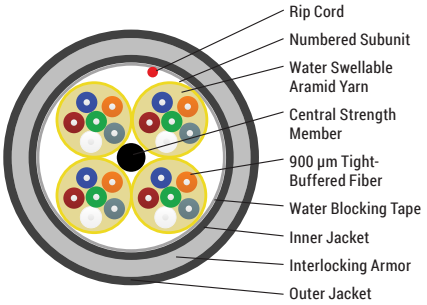
Bend Radius (vs. Cable OD)

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)

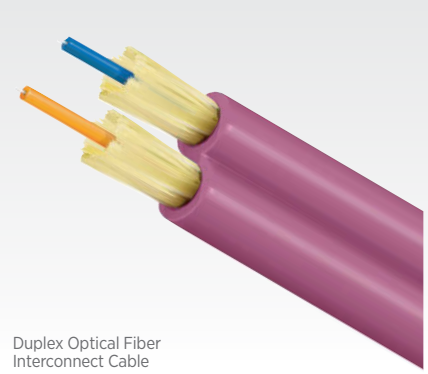
Legend



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

BELDEN



Duplex Optical Fiber Interconnect Cable

Fiber*Express* 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

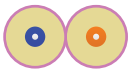
Temperature Range

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			
								Installation		Operation	
				mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Simplex		1	900 µm TB	2.0	0.08	4	3	220	50	67	15
		1		3.0	0.11	7	5				
Duplex Zip		2	900 µm TB	2.0 x 4.0	0.08 x 0.16	10	7				
		2		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			
								Installation		Operation	
				mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Duplex Mini-Round		2	250 µm	2.0	0.08	3.4	2.3	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	FI3I002P0	FI4I002P0	FI5I002P0	FISI002P0
8	FI3I008P0	FI4I008P0	FI5I008P0	FISI008P0
12	FI3I012P0	FI4I012P0	FI5I012P0	FISI012P0

Fiber*Express* Composite Distribution Cables

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

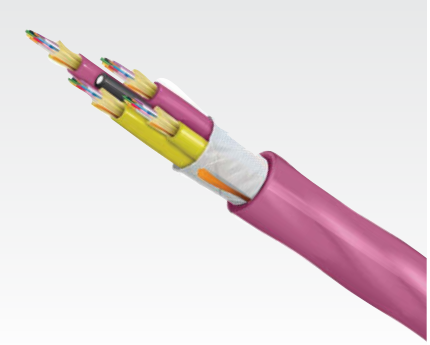
Composite cables combine multiple grades of fiber in a single unitized cable that easily supports various applications in a single cable to minimize installation labor.

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 *Smart*Part Configurator

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

FX Fiber Cable	
FI	Indoor Cable
FD	Indoor/Outdoor Cable

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

Family	
D	Distribution

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

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

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

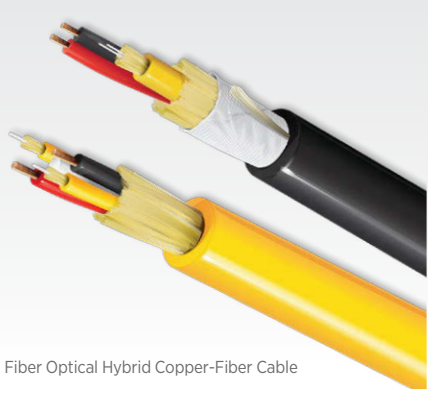
For an exhaustive selection, contact Belden customer service or your local Belden representative.

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

BELDEN



Fiber Optical Hybrid Copper-Fiber Cable

Fiber*Express* 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

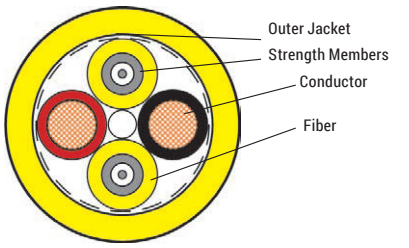
Bend Radius (vs. Cable OD)

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

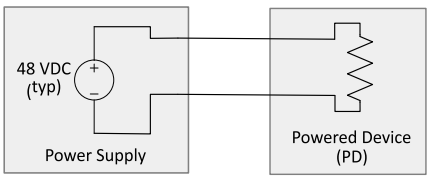
Description	Construction	Fire Rating	Subunit Type	Fiber Count	#Conductors x AWG	Sub-unit OD	Cable OD*		Weight*		Tensile Strength			
											Installation		Operation	
						mm	mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor		Plenum	Breakout	2	2 x 14	2.0	6.8	0.267	79	53	1330	300	400	90
					2 x 16		6.4	0.252	64	43				
					2 x 18		6.3	0.246	55	37				
					2 x 14	3.0	8.7	0.342	95	64				
					2 x 16		8	0.315	79	51				
					2 x 18		8	0.315	71	48				
			Distribution	6	2 x 14	4.8	8.9	0.352	97	65	2670	600	800	180
					2 x 16		8.6	0.34	82	55				
					2 x 18		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
					2 x 16		7.0	0.276	67	45				
					2 x 18		6.9	0.270	60	40				
					2 x 14	3.0	9.3	0.366	101	68				
					2 x 16		8.6	0.339	85	57				
					2 x 18		8.6	0.339	77	52				
			Distribution	6	2 x 14	4.8	9.6	0.376	103	69	2670	600	800	180
					2 x 16		9.2	0.364	88	59				
					2 x 18		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*.

Remote Power Delivery Systems

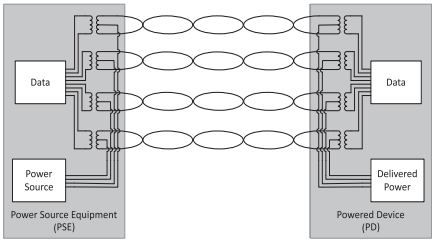
DC Systems



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

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

PoE

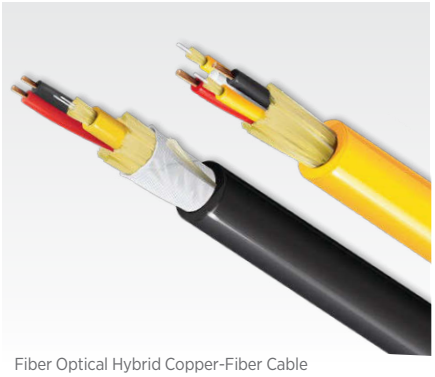


Low-Medium Power (15-100W max)
Short Distance (100 m max)

Belden Solutions:
Category Cable
REVConnect

Fiber*Express* 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	HI5B0020214PB	HISB0020214PB
2 x 16	HI3B0020216PB	HI4B0020216PB	HI5B0020216PB	HISB0020216PB
2 x 18	HI3B0020218PB	HI4B0020218PB	HI5B0020218PB	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	HI5D0060214PJ	HISD0060214PJ
2 x 16	HI3D0060216PJ	HI4D0060216PJ	HI5D0060216PJ	HISD0060216PJ
2 x 18	HI3D0060218PJ	HI4D0060218PJ	HI5D0060218PJ	HISD0060218PJ
Indoor/Outdoor Plenum				
2 x 14	HD3D0060214PJ	HD4D0060214PJ	HD5D0060214PJ	HDSD0060214PJ
2 x 16	HD3D0060216PJ	HD4D0060216PJ	HD5D0060216PJ	HDSD0060216PJ
2 x 18	HD3D0060218PJ	HD4D0060218PJ	HD5D0060218PJ	HDSD0060218PJ

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 *Smart*Part 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
HI	3	B	002	02	16	R	C

FX Fiber Cable	
HI	Indoor Hybrid Cable
HD	Indoor/Outdoor Hybrid Cable

Fiber Type	
1	OM1
3	OM3
4	OM4
S	OS2 (G.657.A1)
B	G.657.A2/B2
C	G.657.B3

Family	
B	Breakout
D	Distribution

Fiber Count	
Breakout	
001	1 Fiber
002	2 Fibers
Distribution	
006	6 Fibers

Conductor Count	
02	2 Conductors

Copper Type	
12	12 AWG
14	14 AWG
16	16 AWG
18	18 AWG
20	20 AWG

Fire Rating	
P	Plenum
A	Plenum AIA
R	Riser
F	Riser AIA
L	Riser LSZH
C	Riser LSZH AIA

Sub-Unit Type/ Configuration	
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:

HISD0060214RJ - 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

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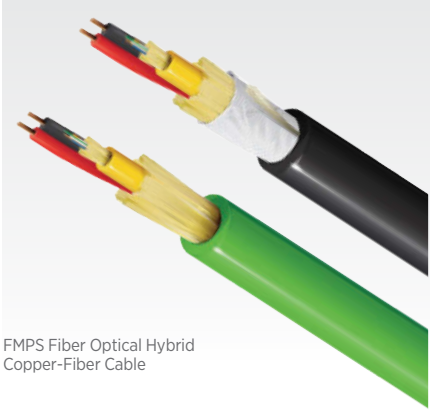


FMPS Fiber Optical Hybrid Copper-Fiber Cable

FMPS* Hybrid Copper-Fiber Cables

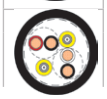
Tight Buffer — Indoor Plenum and LSZH Rated

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

* FMPS - Fault-Managed Power System

Description	Construction	Fire Rating	Subunit Type	Fiber Count	#Pairs x AWG	Sub-Unit OD	Cable OD		Weight		Tensile Strength			
											Installation		Operation	
						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
					2 x 18		9.0	0.353	88	59				
					2 x 16	3.0	10.8	0.426	127	85				
					2 x 18		9.7	0.383	100	67				
			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 x 16	2.0	10.9	0.431	121	81	2670	600	800	180
					2 x 18		9.6	0.377	92	62				
					2 x 16	3.0	11.4	0.45	132	89				
					2 x 18		10.3	0.407	104	70				
			Distribution	6	2 x 16	4.8	13	0.513	170	114				
					2 x 18		11.5	0.454	125	84				

Consult individual technical data sheets for exact specifications.

Indoor Specifications

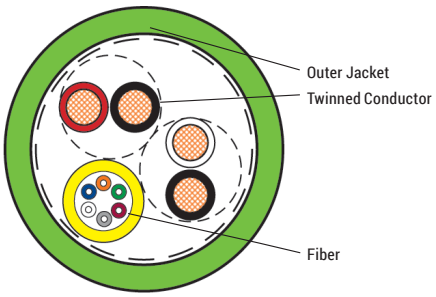
Bend Radius (vs. Cable OD)

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 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

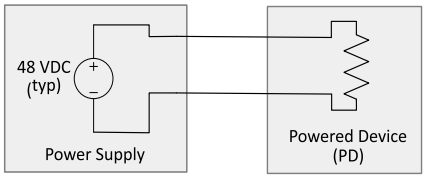
FMPS* Hybrid Copper-Fiber Cables (continued)

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*.

Remote Power Delivery Systems

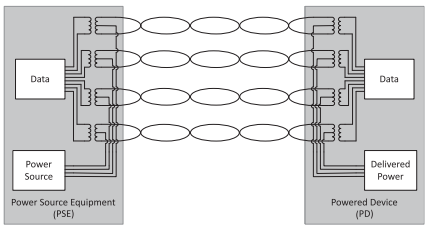
DC Systems



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

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

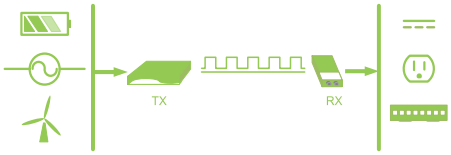
PoE



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

Belden Solutions:
Category Cable
REVConnect*

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) *Smart*Part Configurator

1. Choose FX Fiber Cable	2. Choose Cable Location	3. Choose Fire Rating	4. Choose Copper Type	5. Choose Pair Count	6. Choose Cable Shielding	7. Choose Fiber Type	8. Choose Family	9. Choose Fiber Count	10. Choose Fiber Subunit Configuration
DH	I	P	16	2	U	4	B	02	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	B	Breakout	02	2 Fibers	Breakout	
		W	Waterblocked-Indoor/Outdoor	L	LSZH CMR-OF/FT4-ST1	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	Distribution: Unitized	
																		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

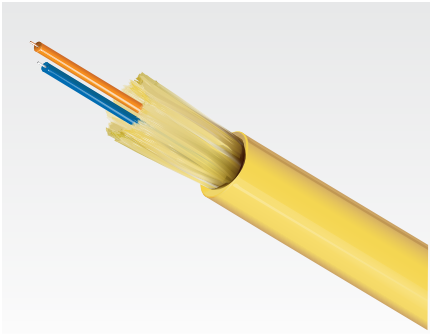
DHIP182USD06J - Indoor, 18 AWG, 2 Stranded Tinned-Copper Pairs, OS2, Distribution, 6 Fiber Strands, 1 Fiber Distribution Tube, Unshielded, Plenum CL4P-OF Rated , Apple Green Jacket

* 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.

BELDEN



Optical Fiber µMini-Distribution Cable

Fiber*Express* µMini-Distribution Cables

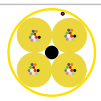
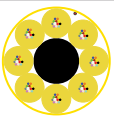
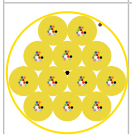
Indoor Plenum, Riser/LSZH Rated

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

Base-12

Name	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength lbs-f			
									Installation		Operation	
				mm	mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor µMini-Distribution Cable												
Non-Unitized		12	250 µm	N/A	3.0	0.12	9	6	220	50	134	30
Unitized 12-Fiber Subunits		12	250 µm	3.0	4.8	0.18	22	15	668	150	200	45
		24		3.0	4.8	0.18	22	15				
		48		2.0	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.

Indoor Specifications

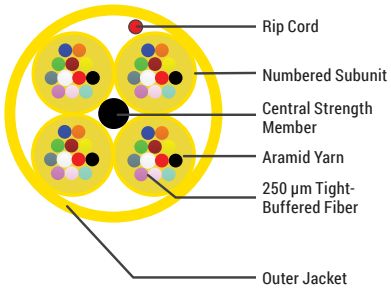
Bend Radius (vs. Cable OD)

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

Standard Indoor µMini-Distribution Base-12 Cables

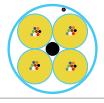
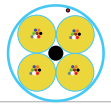
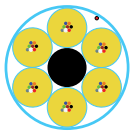
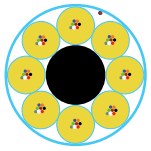
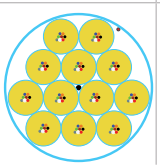
Fiber Count	Belden Part Number			
	OM3 Aqua	OM4 Erika Violet	OM5 Lime Green	OS2 Yellow
Non-Unitized - Plenum				
12	FI3M012P2	FI4M012P2	FI5M012P2	FISM012P2
Double Jacket - Plenum				
12	FI3M012P0	FI4M012P0	FI5M012P0	FISM012P0
24	FI3M024P0	FI4M024P0	FI5M024P0	FISM024P0
Unitized - Plenum				
36	FI3M036P1	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

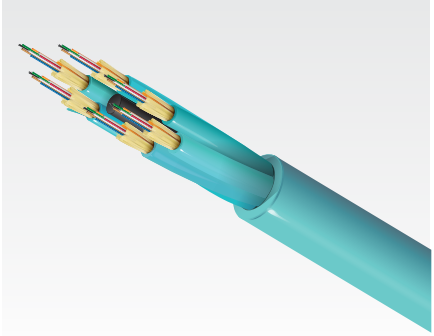
Name	Construction	Fiber Count	Fiber	Subunit OD	Cable OD*		Weight*		Tensile Strength lbs-f			
									Installation		Operation	
				mm	mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor µMini-Distribution Cable												
Non-Unitized		8	250 µm	N/A	3.0	0.12	9	6	220	50	75	17
Double Jacket		8	250 µm	3.0	4.8	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			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.

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.



Optical Fiber µMini-Distribution Cable

Indoor Specifications

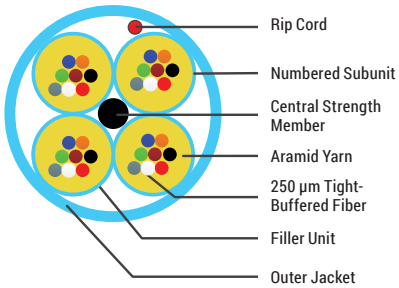
Bend Radius (vs. Cable OD)

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)

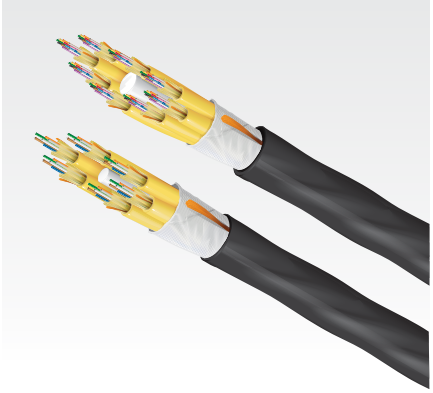
Legend



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

BELDEN



Fiber*Express* 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

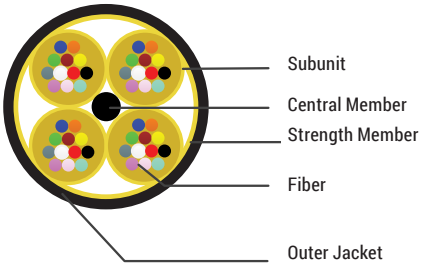
Bend Radius (vs. Cable OD)

Installation	15 x OD
Operation	10 x OD

Temperature Range

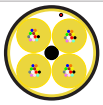
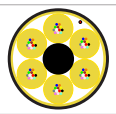
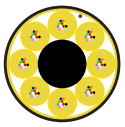
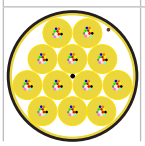
Storage	-20°C to 70°C (-20°F to 158°F)
Installation (Plenum)	0°C to 60°C (32°F to 158°F)
Operation (Plenum)	-20°C to 70°C (-4°F to 158°F)

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			
									Installation		Operation	
				mm	mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Indoor/Outdoor µMini-Distribution Cable												
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			10.7	0.42	97	65				
		64			11.3	0.44	109	73				
		96			13.1	0.52	144	97				
		144			17.3	0.68	271	182				

* 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
Double Jacket				
6	FD3M006P2	FD4M006P2	FD5M006P2	FDSM006P2
12	FD3M012P2	FD4M012P2	FD5M012P2	FDSM012P2
Unitized - Plenum				
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.

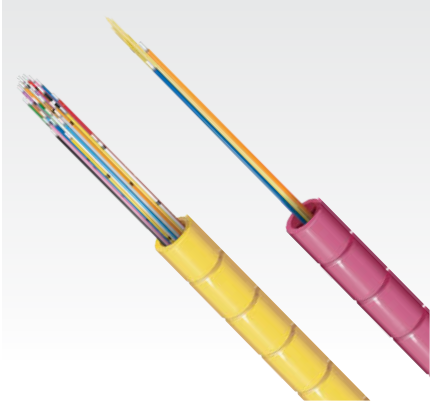
OptiTuff® Mini Fiber Cables

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 *Smart*Part 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

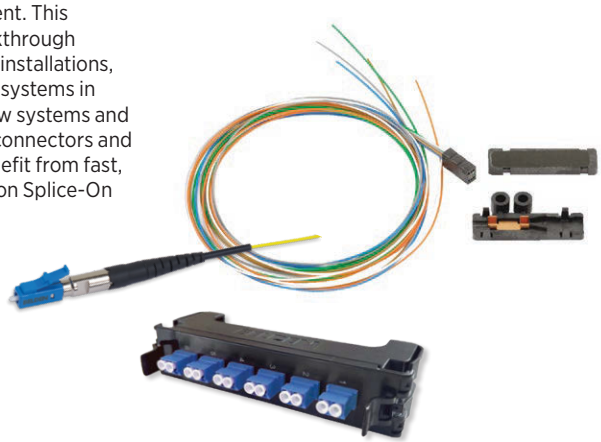
Fiber Type		Fiber Type		Family		Fiber Count		Fire Rating & Protection		Subunit Type/ Configuration	
FI	Indoor Cable	S	OS2 (G.657.A1)	X	Mini Fiber Cable	002	2 Fibers	Plenum Group		0	250 µm Fiber Non Unitized
		4	OM4			006	6 Fibers	W	OptiTuff Plenum (OFNP)		
						012	12 Fibers				
						024	24 Fibers				

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 more 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

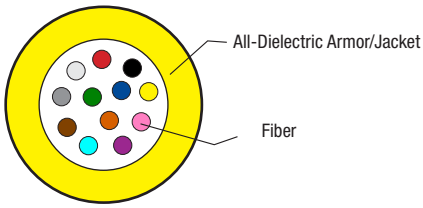
Temperature Range (Indoor)

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

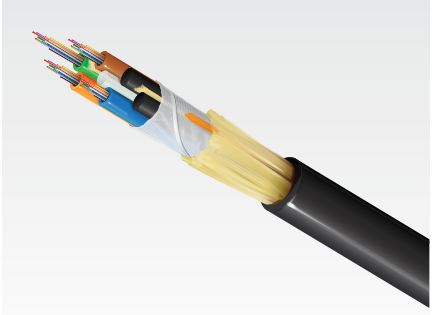
Legend



Compliance

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

BELDEN



Optical Fiber All-Dielectric Loose-Tube Cable, Outdoor

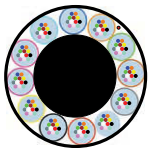
Fiber*Express* All-Dielectric Loose-Tube Cables

Single Jacket Loose-tube - Outdoor

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

Applications:

- Medium- to high- fiber-count requirements
- Inter-building duct installations
- Lashed aerial
- Outside plant (OSP type)

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	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 24 36 48	10.5	0.41	71	48	2670	600	800	180
		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.

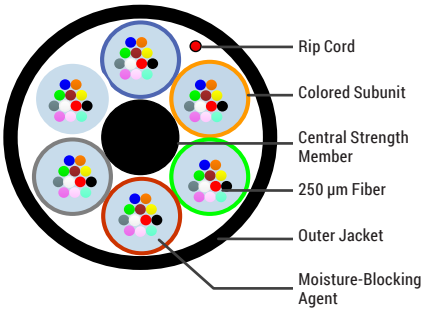
Jacket Specifications

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

Specifications

Min. Bend Radius	
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

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.

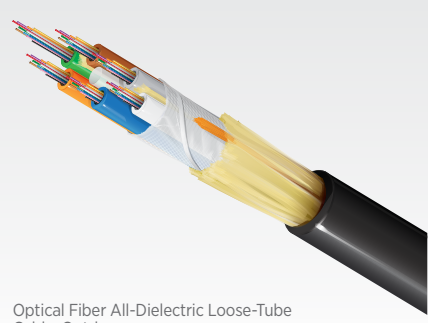
FiberExpress All-Dielectric Loose-Tube Cables (continued)

Single Jacket Loose-tube - Indoor/Outdoor

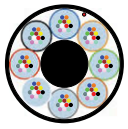
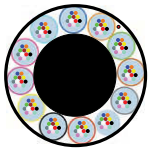
Gel-filled or dry-blocked buffer tubes prevent water migration. Full dielectric construction, no grounding required. Available as riser-rated cable, eliminating the need for service entrance splicing to in-building cable. Length markings in meters for easy determination of cable length.

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			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	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 24 36 48	11.0	0.43	110	76	2670	600	800	180
		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.

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.

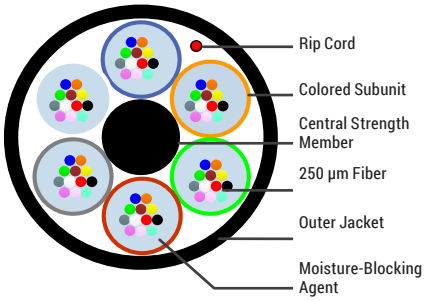
Jacket Specifications

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

Specifications

Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Temperature Range (Riser Series)	
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)

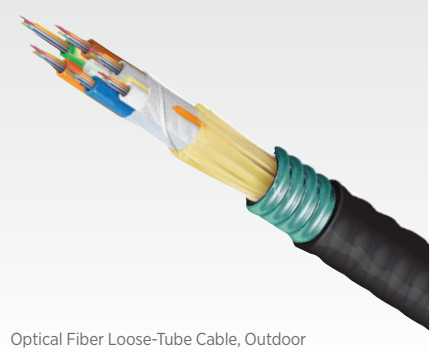
Legend



Compliance

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

BELDEN



Optical Fiber Loose-Tube Cable, Outdoor

Fiber*Express* Armored Loose-Tube Cables

Single Jacket, Single Armor Loose-tube – Outdoor

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

Applications:

- Direct burial
- Low- to high- fiber-count requirements
- Inter-building duct installations
- Outside plant (OSP type)

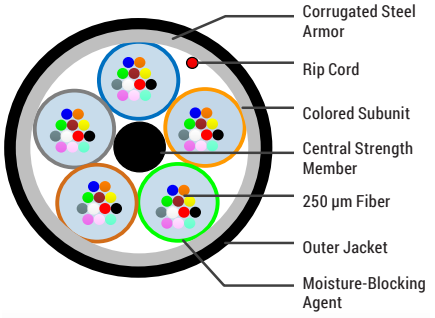
Jacket Specifications

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

Specifications

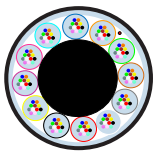
Min. Bend Radius	
Installation	20 x OD
Long Term	10 x OD
Temperature Range (Outdoor)	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-30°C to 60°C (-22°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)

Legend



Compliance

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

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	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 24 36 48	13.5	0.53	156	105	2670	600	800	180
		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.

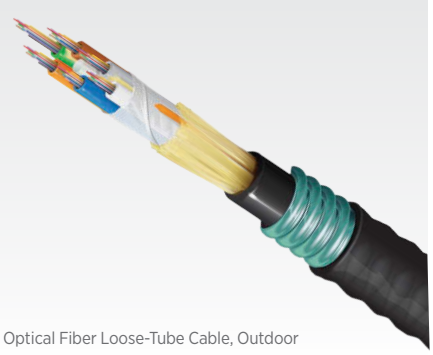
Fiber*Express* Armored Loose-Tube Cables (continued)

Double Jacket, Single Armor Loose-tube – Outdoor

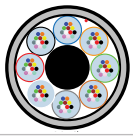
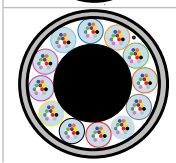
Gel-filled buffer tubes prevent water migration. Available as riser-rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 216 fibers. Length markings in meters for easy determination of cable length.

Applications:

- Direct burial
- Low-to-high fiber-count requirements
- Inter-building duct installations
- Outside plant (OSP type)



Optical Fiber Loose-Tube Cable, Outdoor

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	15.5	0.61	177	119	2670	600	800	180
Unitized 12-Fiber Subunits		12 24 36 48	15.5	0.61	179	120	2670	600	800	180
		72	15.5	0.61	191	128				
		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.

Standard Double Jacket Single Armor Loose-Tube Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
Outdoor Armored – Gel-Filled Buffer Tubes					
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
Outdoor Armored – Dry Buffer Tubes					
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.

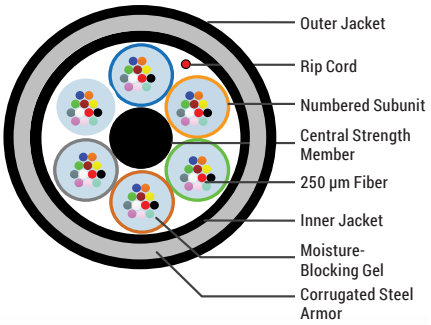
Jacket Specifications

Jacket Material	
Outdoor	PE
Buffer Tube	Thermoplastic
Armor	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

BELDEN



Optical Fiber Loose-Tube Cable, Indoor/Outdoor

Jacket Specifications

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

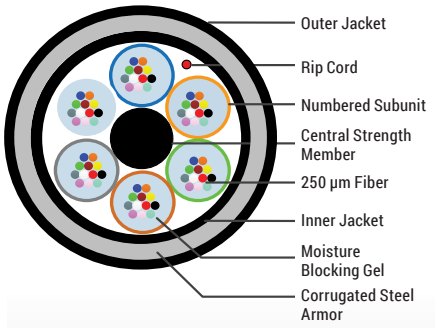
Ratings

Riser	OFCR

Specifications

Temperature Range (Riser)	
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)

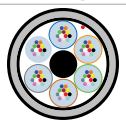
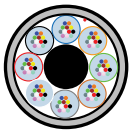
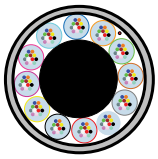
Fiber*Express* Armored Loose-Tube Cables (continued)

Double Jacket, Single Armor Loose-tube – Indoor/Outdoor

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

Applications:

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

Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	15.5	0.61	237	159	2670	600	800	180
Unitized 12-Fiber Subunits		12 24 36 48	15.5	0.61	237	159	2670	600	800	180
		72	15.5	0.61	237	159				
		96	16.5	0.65	266	179				
		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
Indoor/Outdoor Armored Riser - Gel-Filled Buffer Tubes					
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
Indoor/Outdoor Armored Riser - Dry Buffer Tubes					
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.

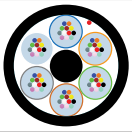
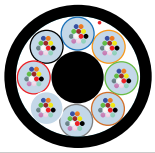
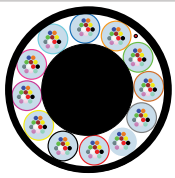
Fiber*Express* Heavy Duty Loose-Tube Cables

Double Jacket, Heavy-Duty Loose-tube – Outdoor

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

Applications:

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

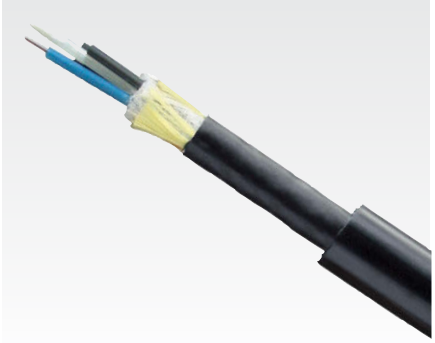
Name	Construction	Fiber Count	Cable OD*		Weight*		Tensile Strength lbs-f			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Unitized 6-Fiber Subunits		6	11.7	0.46	88	88	2670	600	800	180
Unitized 12-Fiber Subunits		12 24 36 48	12.8	0.51	103	69	2670	600	800	180
		72	13.3	0.52	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.

Standard Double Jacket Heavy-Duty Loose-Tube Outdoor Cables

Fiber Count	No. of Fibers Per Subunit	Belden Part Number			
		OM1	OM3	OM4	OS2
Outdoor Heavy-Duty - Gel-Filled Buffer Tubes					
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
Outdoor Heavy-Duty - Dry Buffer Tubes					
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.



Optical Fiber Heavy-Duty Loose-Tube Cable

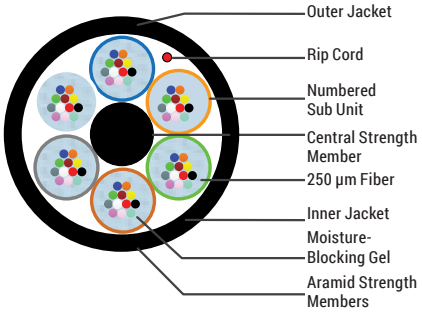
Jacket Specifications

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

Specifications

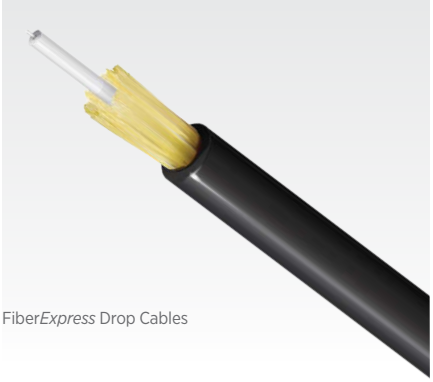
Temperature Range	
Storage	-40°C to 70°C (-40°F to 158°F)
Installation	-30°C to 60°C (-22°F to 140°F)
Operating	-40°C to 70°C (-40°F to 158°F)
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD

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 µm tight-buffered fiber support fast and robust field terminations. Ideal for fiber-to-the-subscriber applications.

Indoor/Outdoor Specifications: Environmental Protection

- UV-resistant jacket
- Moisture-resistant jacket
- Fungus-resistant jacket
- Water-blocking aramid

Specifications

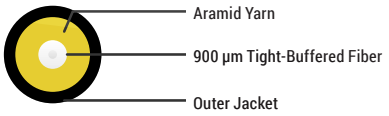
Temperature Range

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



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			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	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

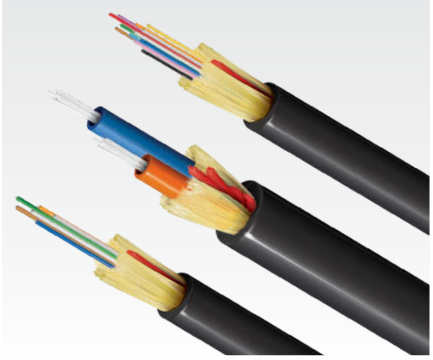
FiberExpress Tactical Cables

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			
							Installation		Operation	
			mm	in.	kg/km	lb/1000 ft.	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**

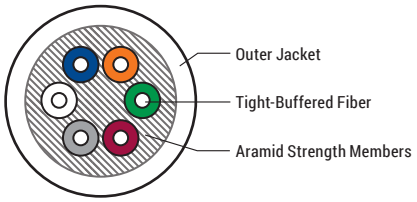
Jacket Specifications

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

Specifications

Temperature Range	
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

BELDEN

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HISB0020218PB	63
HISD0060214PJ	63
HISD0060216PJ	63
HISD0060218PJ	63
R	
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RV6MJKUBL-S1	23
RV6MJKUEW-S1	23
RVACPKUBK-B24	23
RVACPKUBK-S1	23
RVAFPSME-S1	23
RVAFPUBK-S1	23
RVAMJKUBK-S1	23
RVAMJKUBL-S1	23
RVAMJKUEW-S1	23
S	
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SCSH2116SLF	22
SCSH2216LLF	22
SCSH4108LLF	22
SCSH4208MLF	22
SCSU1208SLF	22
SCSU1216SLF	22
SCSU2208SLF	22
SCSX1102SLF	27
SCSX1104SLF	27
SCSX1108SLF	27
SCSX1116SLF	27
SCSX1132SLF	27
SCSX1204SLF	27
SCSX1208SLF	27
SCSX1216SLF	27
SCSX1232SLF	27
SCSX2116SLF	27
SCSX2208SLF	27
SCSX2216LLF	27
SCSX4108LLF	27
T	
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TC3H06LDMFLD	22
TC3H06LDMFMM	22
TC3H044F4F4M	22
TC4H02LDLDLD	22
TC4H02LDLDLD7A	22
TC4H06LDMFLD	22
TC4H06LDMFLD7A	22
TC4H06LDMFMM	22
TC4H06LDMFMM7A	22
TC4H044F4F4M	22
TC4H044F4F4M7A	22
X	
XPE-2U-0001	23
XPE-4U-0001	23
XPE-S0001	23
XPE-S0003	23



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About Belden

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