

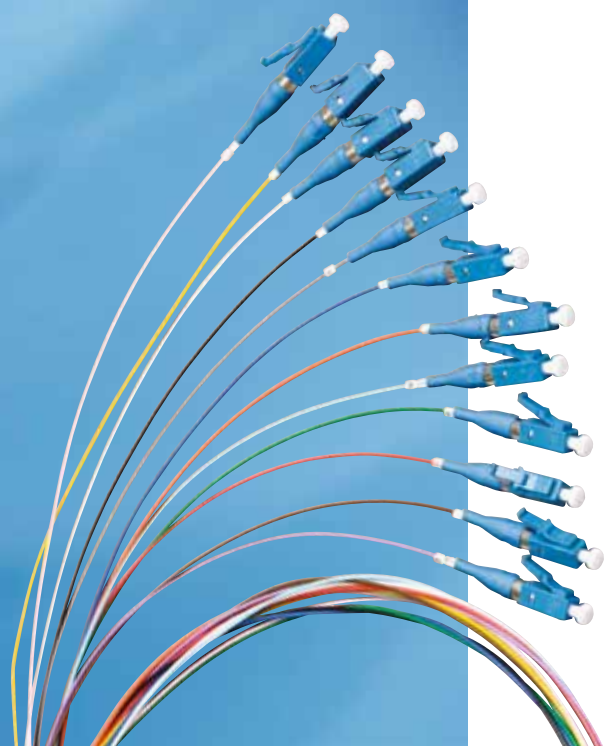
Our End-to-End Expertise.
Your End-to-End Solution.



Fiber Cable Assemblies

Section Table of Contents

■ Fiber Cable Assemblies	
FX@E LSZH Rated Assemblies	32-39
LSZH Patch Cords	32-33
LSZH Pigtail and Patch Cord Configurators	34-35
LSZH Trunk Assemblies	36-37
LSZH Trunk Assemblies Configurators	38-39
FX CMR/CMP Rated Assemblies	40-45
CMR/CMP Patch Cords	40-41
CMR/CMP Patch Cords and Cable Assemblies Configurators	42-43
CMR/CMP Trunk Assemblies	44-45
SFP+ Active Optical Cable/Transceiver	46-47



LSZH Patch Cords



FX MPO-12(f) Patch Cords, Assortment



FX LC Duplex Patch Cords, Assortment



FX SC Duplex Patch Cords, Assortment



FX ST Patch Cords, Assortment

FiberExpress Pre-Terminated Assemblies – FX Patch Cords

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

Faster

- Faster delivery with off-the shelf availability of standard items
- Faster identification of fiber type with Erika Violet for OM4 cables

Easier

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

Better

- Better architectural flexibility with low-loss OM4 0.2 dB MPO and 0.15 dB LC connectors
- Better ruggedization with larger diameter cord options
- Better flexibility with multiple connector options including LC, SC, ST and MPO

FX Patch Cords - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.2	3.0/1.2	-	
IL Max. 1310 nm/1550 nm (dB/Km)	-	-	-	0.5/0.5	
Fire Rating	LC/SC/ST: LSZH				
Cable Style	LC: Interconnect Duplex Zip 2 mm SC/ST/Hybrid: Interconnect Duplex Zip 3 mm				
Connector Performance - LC/SC/ST					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Polarity	A-T0-B / B-T0-A				
Cable Performance - MPO					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.0	3.0/1.0	-	
IL Max. 1310 nm/1550 nm (dB/Km)	-	-	-	0.5/0.5	
Fire Rating	LSZH				
Cable Style	MPO-12: Interconnect Mini-Round 2 mm				
Connector Performance - MPO					
IL Max. (dB)	0.5	0.35	0.2	-	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	-	APC - 60
Polarity	Type-B				

Our End-to-End Expertise.
Your End-to-End Solution.



FX@E LSZH Patch Cords (Standard)

Length in M	OM1	OM3	OM4	OS2	OS2/APC
LC Duplex to LC Duplex 2mm zipcord					
2m	-	GP-32LDLD002M	GP-42LDLD002M	GP-S2LDLD002M	GP-S2LALA002M
3m	-	GP-32LDLD003M	GP-42LDLD003M	GP-S2LDLD003M	GP-S2LALA003M
5m	-	GP-32LDLD005M	GP-42LDLD005M	GP-S2LDLD005M	GP-S2LALA005M
7m	-	GP-32LDLD007M	GP-42LDLD007M	GP-S2LDLD007M	GP-S2LALA007M
SC Duplex to SC Duplex 2mm zipcord					
2m	GP-12SDSD002M	GP-32SDSD002M	GP-42SDSD002M	GP-S2SDSD002M	GP-S2SASA002M
3m	GP-12SDSD003M	GP-32SDSD003M	GP-42SDSD003M	GP-S2SDSD003M	GP-S2SASA003M
5m	GP-12SDSD005M	GP-32SDSD005M	GP-42SDSD005M	GP-S2SDSD005M	GP-S2SASA005M
7m	GP-12SDSD007M	GP-32SDSD007M	GP-42SDSD007M	GP-S2SDSD007M	GP-S2SASA007M
ST to ST 2mm zipcord					
2m	GP-12STST002M	GP-32STST002M	GP-42STST002M	GP-S2STST002M	-
3m	GP-12STST003M	GP-32STST003M	GP-42STST003M	GP-S2STST003M	-
Hybrid: LC Duplex to SC Duplex 2mm zipcord					
2m	GP-12LSDSD002M	GP-32LSDSD002M	GP-42LSDSD002M	GP-S2LSDSD002M	GP-S2LASA002M
3m	GP-12LSDSD003M	GP-32LSDSD003M	GP-42LSDSD003M	GP-S2LSDSD003M	GP-S2LASA003M
Hybrid: SC Duplex to ST 2mm zipcord					
2m	GP-12SDST002M	GP-32SDST002M	-	GP-S2SDST002M	-
3m	GP-12SDST003M	GP-32SDST003M	-	GP-S2SDST003M	-

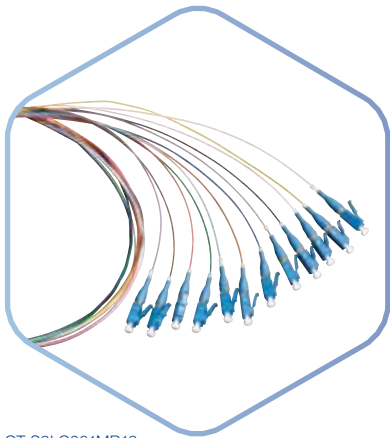
FX@E LSZH MPO Patch Cords (Standard)

Length in M	OM1	OM3	OM4	OS2	OS2/APC
MPO BASE-8 Female to MPO BASE-8 Female					
5m	-	GP-374F4F005M	GP-474F4F005M	-	GP-S74F4F005M
15m	-	GP-374F4F015M	GP-474F4F015M	-	GP-S74F4F015M
30m	-	GP-374F4F030M	GP-474F4F030M	-	GP-S74F4F030M
MPO BASE-12 Female to MPO BASE-12 Female					
5m	-	GP-37MFMF005M	GP-47MFMF005M	-	GP-S7MFMF005M
15m	-	GP-37MFMF015M	GP-47MFMF015M	-	GP-S7MFMF015M
30m	-	GP-37MFMF030M	GP-47MFMF030M	-	GP-S7MFMF030M

FX@E LSZH Hydra Patch Cords (Standard)

Length in M	OM1	OM3	OM4	OS2	OS2/APC
MPO BASE-12 Female to LC Duplex (Fan-out 1.5m x In-line)					
5m	-	GP-37MFLD005MA	GP-47MFLD005MA	-	GP-S7MFLD005MA
15m	-	GP-37MFLD015MA	GP-47MFLD015MA	-	GP-S7MFLD015MA
30m	-	GP-37MFLD030MA	GP-47MFLD030MA	-	GP-S7MFLD030MA
SR4/PSM4: MPO BASE-8 Female to LC Duplex (Fan-out 1.5m x In-line)					
5m	-	GP-374FLD005M4	GP-474FLD005M4	-	GP-S74FLD005M4
15m	-	GP-374FLD015M4	GP-474FLD015M4	-	GP-S74FLD015M4
30m	-	GP-374FLD030M4	GP-474FLD030M4	-	GP-S74FLD030M4

LSZH Pigtail and Patch Cord Configurators



GT-S9LC001MR12,
FX LC Color-coded Pigtail Kit, Singlemode

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.

Faster

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

Easier

- Easier field-termination with factory pre-terminated connectors
- Easier ordering with intuitive SmartPart numbers

Better

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

Standard Performance

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

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

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

Our End-to-End Expertise.
Your End-to-End Solution.



FX@E LSZH MPO Patch Cords

MPO Patch cords	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity
GP-	3	7	MF	MF	003M	A
	3 OM3	7 3mm Round Cord	4 M MPO Base-8 (M)	4 M MPO Base-8 (M)	005M to 100M *use M as decimal	A Type-A 4 SR4/PSM4 ONLY USED IF APPLICABLE FOR NON-STANDARD
	4 OM4		4 F MPO Base-8 (F)	4 F MPO Base-8 (F)		
	S OS2		M M MPO Base-12 (M)	M M MPO Base-12 (M)		
			M F MPO Base-12 (F)	M F MPO Base-12 (F)		

FX@E LSZH Hydra Patch Cords

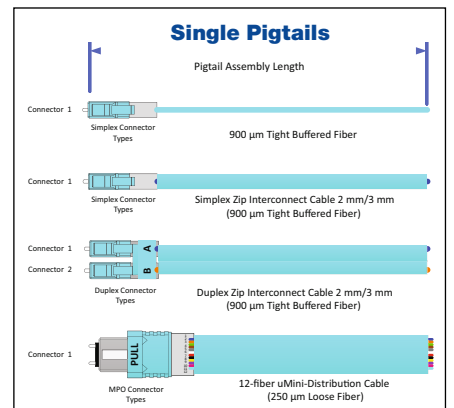
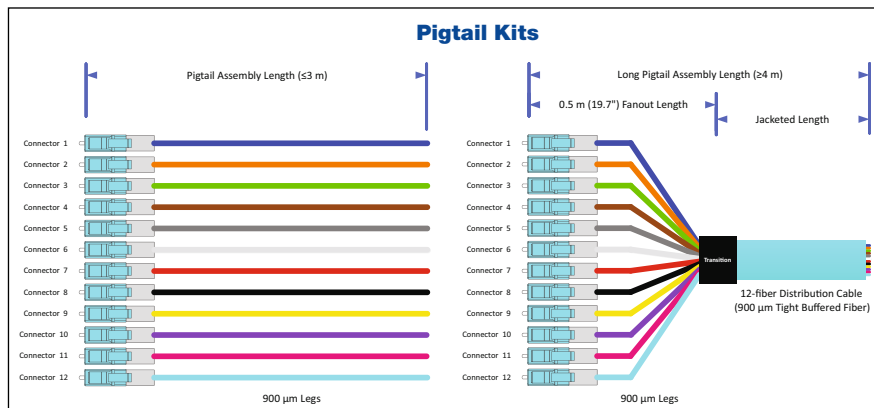
Hydra	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity
GP-	3	7	MM	LD	003M	A
	3 OM3	7 3mm Round Cord	4 M MPO Base-8 (M)	L D LC Duplex	005M to 100M *use M as decimal	A Type-A 4 SR4/PSM4 ONLY USED IF APPLICABLE FOR NON-STANDARD
	4 OM4	9 900u	4 F MPO Base-8 (F)	L C LC Simplex		
	S OS2		M M MPO Base-12 (M)	L A LC/APC Duplex		
			M F MPO Base-12 (F)	L B LC/APC Simplex		
				L B LC/APC Simplex		
				S D SC Duplex		
				S C SC Simplex		
				S A SC/APC Duplex		
				S B SC/APC Simplex		

FX@E LSZH Patch Cords

Patch cords	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity
GP-	3	2	LD	LD	003M	X
	1 OM1	2 2mm Duplex Zip Cord	L D LC Duplex	L D LC Duplex	005M to 100M *use M as decimal	X A/B (Cross) S A/A (Straight) ONLY USED IF APPLICABLE FOR NON-STANDARD
	3 OM3	3 3mm Duplex Zip Cord	L C LC Simplex	L C LC Simplex		
	4 OM4	4 2mm Simplex Cord	L A LC/APC Duplex	L A LC/APC Duplex		
	S OS2	5 3mm Simplex Cord	L B LC/APC Simplex	L B LC/APC Simplex		
			S D SC Duplex	S D SC Duplex		
			S C SC Simplex	S C SC Simplex		
			S A SC/APC Duplex	S A SC/APC Duplex		
			S B SC/APC Simplex	S B SC/APC Simplex		
			F C FC	F C FC		
			F A FC/APC	F A FC/APC		
			S T ST	S T ST		

FX@E LSZH Pigtails

Pigtails	Fiber	Cable Type	Connector	Length in M	Packaging
GT-	3	9	LC	001M	R12
	1 OM1	9 900u	L D LC Duplex	005M to 009M *use M as decimal	S01 Single Pack (for 900u MPO only)
	3 OM3	2 2mm Duplex Zip Cord	L C LC Simplex		B12 12 Pack 900u
	4 OM4	4 2mm Simplex Cord	L A LC/APC Duplex		R12 Rainbow 12 Pack (900u)
	S OS2		L B LC/APC Simplex		S1 Single Pack only for Jacketed pigtails
			S D SC Duplex		
			S C SC Simplex		
			S A SC/APC Duplex		
			S B SC/APC Simplex		
			F C FC		
			F A FC/APC		
			S T ST		
			4 M MPO Base-8 (M)		
			4 F MPO Base-8 (F)		
			M M MPO Base-12 (M)		
			M F MPO Base-12 (F)		
			N M MPO Base-24 (M)		
			N F MPO Base-24 (F)		



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

LSZH Trunk Assemblies



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



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

FX MPO Trunk Assemblies

Innovative performance with ingrained simplicity. Industry-leading low-loss MPO Trunks are the foundation of Easier, Faster and Better pre-terminated fiber connectivity solutions revolutionizing the data center.

Faster

- Faster identification of fiber type with Erika Violet for OM4 Cable, Connectors and Adapters
- Faster installation with pre-terminated solutions

Easier

- Easier installation with 3-flange reel and default pulling eye
- Easier ordering with simple intelligent *SmartPart* Numbers
- Easier upgradability to 40G and 100G with MPO pre-term solutions

Better

- Better architectural flexibility with high-performance 0.2 dB OM4 MPO connectors
- Better quality through exhaustive design validation against TIA standards
- Better contamination control with Data Center ready packaging

FX MPO Trunk Assemblies - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM
Cable Performance				
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.0	3.0/1.0	-
IL Max. 1310 nm/1550 nm (dB/Km)	-	-	-	0.35/0.25
Fire Rating	Plenum			
Cable Style	uMini-Distributon and Mini-Distribution cables			
Connector Performance - MPO-12				
IL Max. (dB)	0.5	0.35	0.2	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60
Fanout Length	0.5 m, In-Line			
Connector Performance - MPO-24				
IL Max. (dB)	0.5	0.35	0.35	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60

Our End-to-End Expertise.
Your End-to-End Solution.



FX@E LSZH Multi-fiber Assemblies

Length in M	OM1	OM3	OM4	OS2	OS2/APC
LC Duplex to LC Duplex 2mm zipcord					
10m	-	G-3LLDLD010M	G-4LLDLD010M	G-SLLDLD010M	G-SLLALA010M
15m	-	G-3LLDLD015M	G-4LLDLD015M	G-SLLDLD015M	G-SLLALA015M
20m	-	G-3LLDLD020M	G-4LLDLD020M	G-SLLDLD020M	G-SLLALA020M
30m	-	G-3LLDLD030M	G-4LLDLD030M	G-SLLDLD030M	G-SLLALA030M
SC Duplex to SC Duplex 2mm zipcord					
10m	G-1LSDSD010M	G-3LSDSD010M	G-4LSDSD010M	G-SLSDSD010M	G-SLSASA010M
15m	G-1LSDSD015M	G-3LSDSD015M	G-4LSDSD015M	G-SLSDSD015M	G-SLSASA015M
20m	G-1LSDSD020M	G-3LSDSD020M	G-4LSDSD020M	G-SLSDSD020M	G-SLSASA020M
30m	G-1LSDSD030M	G-3LSDSD030M	G-4LSDSD030M	G-SLSDSD030M	G-SLSASA030M
Hybrid: LC Duplex to SC Duplex 2mm zipcord					
10m	G-1LLDSD010M	G-3LLDSD010M	G-4LLDSD010M	G-SLLDSD010M	G-SLLASA010M
15m	G-1LLDSD015M	G-3LLDSD015M	G-4LLDSD015M	G-SLLDSD015M	G-SLLASA015M

FX@E LSZH MPO Trunk Cables

Length in M	OM1	OM3	OM4	OS2	OS2/APC
MPO BASE-8 Female to MPO BASE-8 Female					
10m	-	G-3L4F4F010MB	G-4L4F4F010MB	-	G-SL4F4F010MB
20m	-	G-3L4F4F020MB	G-4L4F4F020MB	-	G-SL4F4F020MB
30m	-	G-3L4F4F030MB	G-4L4F4F030MB	-	G-SL4F4F030MB
MPO BASE-12 Female to MPO BASE-12 Female					
10m	-	G-3LMFMF010MB	G-4LMFMF010MB	-	G-SLMFMF010MB
20m	-	G-3LMFMF020MB	G-4LMFMF020MB	-	G-SLMFMF020MB
30m	-	G-3LMFMF030MB	G-4LMFMF030MB	-	G-SLMFMF030MB

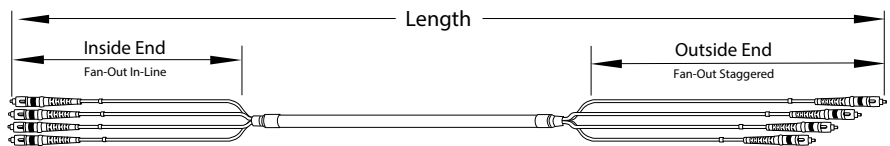
FX@E LSZH Hydra Trunk Cables

Length in M	OM1	OM3	OM4	OS2	OS2/APC
MPO BASE-12 Female to LC Duplex (Fan-out 0.5m x In-line)					
5m	-	G-3LMFLD010MB	G-4LMFLD010MB	-	G-SLMFLA010MB
15m	-	G-3LMFLD020MB	G-4LMFLD020MB	-	G-SLMFLA020MB
30m	-	G-3LMFLD030MB	G-4LMFLD030MB	-	G-SLMFLA030MB
SR4/PSM4: MPO BASE-8 Female to LC Duplex (Fan-out 0.5m x In-line)					
5m	-	G-3L4FLD010MB	G-4L4FLD010MB	-	G-SL4FLA010MB
15m	-	G-3L4FLD020MB	G-4L4FLD020MB	-	G-SL4FLA020MB
30m	-	G-3L4FLD030MB	G-4L4FLD030MB	-	G-SL4FLA030MB

LSZH Trunk Assemblies Configurators

FX Multi-Fiber Cable Assemblies

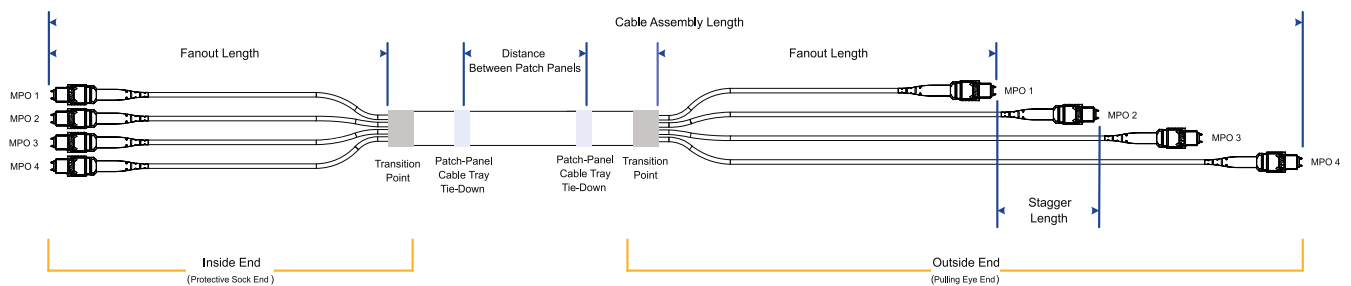
Superior consistent craftsmanship culminating in near instantaneous installation. Highly configurable multi-fiber pre-terminated cable assemblies are engineering for maximum performance and crafted ensuring superior quality.



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		19.5 mm	19.5 mm	19.5 mm	19.5 mm	19.5 mm	19.5 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)	19.5 mm	25.4 mm	30.0 mm	31.7 mm	38.1 mm	41.9 mm	50.8 mm

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



Our End-to-End Expertise.
Your End-to-End Solution.



FX@E LSZH MPO Trunk Cable Assemblies

MPO Trunks	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity	Fiber Count	Fan-Out Geometry
G-	3	L	MF	MF	005M	A	B	1
	3 OM3	L LSZH	4 M MPO Base-8 (M)	4 M MPO Base-8 (M)	005M to 500M	A Type-A	C 24 Fiber	D 0.5m x In-line
	4 OM4	C CPR C Class LSZH	4 F MPO Base-8 (F)	4 F MPO Base-8 (F)		B Type-B	F 48 Fiber	E 1.0m x In-line
	S OS2	I I/O LSZH All Dielectric	M M MPO Base-12 (M)	M M MPO Base-12 (M)		C Type-C	I 72 Fiber	F 1.5m x In-line
		O Outdoor All Dielectric	M F MPO Base-12 (F)	M F MPO Base-12 (F)		4 SR4/PSM4	J 96 Fiber	G 2.0m x In-line
		R Outdoor Armored					K 144 Fiber	1 0.5m x Staggered 80mm - 1 conn.
								2 0.5m x Staggered 80mm - 2 conn.
							3 0.5m x Staggered 80mm - 3 conn.	
							4 0.5m x Staggered 80mm - 4 conn.	
							6 0.5m x Staggered 80mm - 6 conn.	

ONLY USED for HIGH FIBER COUNT

FX@E LSZH Hydra Trunk Cable Assemblies

Hydra Trunks	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity	Fiber Count	Fan-Out Geometry
G-	4	2	MF	LD	005M	4	B	E
	3 OM3	L LSZH	4 M MPO Base-8 (M)	L D LC Duplex	005M to 500M	A Type-A	C 24 Fiber	D 0.5m x In-line
	4 OM4	C CPR C Class LSZH	4 F MPO Base-8 (F)	L C LC Simplex		4 SR4/PSM4	F 48 Fiber	E 1.0m x In-line
	S OS2		M M MPO Base-12 (M)	L A LC/APC Duplex				F 1.5m x In-line
			M F MPO Base-12 (F)	L B LC/APC Simplex				G 2.0m x In-line
				S D SC Duplex				
				S C SC Simplex				
				S A SC/APC Duplex				
				S B SC/APC Simplex				

ONLY USED for HIGH FIBER COUNT

FX@E LSZH Multi-fiber Trunk Cable Assemblies

Multi-fiber Trunks	Fiber	Cable Type	Connector 1	Connector 2	Length in M	Polarity	Fiber Count	Fan-Out Geometry
G-	S	D	LD	LD	005M	X	A	E
	3 OM3	L LSZH	L D LC Duplex	L D LC Duplex	005M to 500M	X A/B (Cross)	1 1 Fiber	D 0.5m x In-line
	4 OM4	C CPR C Class LSZH	L C LC Simplex	L C LC Simplex		S A/A (Straight)	2 2 Fiber	E 1.0m x In-line
	S OS2	I I/O LSZH All Dielectric	L A LC/APC Duplex	L A LC/APC Duplex			A 12 Fiber	F 1.5m x In-line
		O Outdoor All Dielectric	L B LC/APC Simplex	L B LC/APC Simplex			C 24 Fiber	G 2.0m x In-line
		R Outdoor Armored	S D SC Duplex	S D SC Duplex			F 48 Fiber	
			S C SC Simplex	S C SC Simplex				
			S A SC/APC Duplex	S A SC/APC Duplex				
			S B SC/APC Simplex	S B SC/APC Simplex				

ONLY USED for HIGH FIBER COUNT



CMR/CMP 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

FiberExpress Pre-Terminated Assemblies – FX Patch Cords

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

Faster

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

Easier

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

Better

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

FX Patch Cords - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.2	3.0/1.2	-	
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				
Connector Performance - LC/SC/ST					
IL Max. (dB)	0.25	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	UPC - 55	APC - 65
Polarity	A-TO-B / B-TO-A				
Cable Performance - MPO					
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.0	3.0/1.0	-	
IL Max. 1310 nm/1550 nm (dB/Km)	-	-	-	0.5/0.5	
Fire Rating	Plenum				
Cable Style	MPO-12: Interconnect Mini-Round 2 mm				
Connector Performance - MPO					
IL Max. (dB)	0.5	0.35	0.2	-	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	-	APC - 60
Polarity	Type-B				

Our End-to-End Expertise.
Your End-to-End Solution.



FX Accessory Duplex Clips

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

Standard FX Patch Cords

Length (m)	OM1 Beige/Orange	OM3 Aqua	OM4 Erika Violet	OS2 Blue/Yellow	OS2/APC Green/Yellow
MPO-12(8f) Female to MPO-12(8f) Female - Base8					
2	-	FP34F4F002M	FP44F4F002M	-	FPS4F4F002M
3	-	FP34F4F003M	FP44F4F003M	-	FPS4F4F003M
5	-	FP34F4F005M	FP44F4F005M	-	FPS4F4F005M
MPO-12(12f) Female to MPO-12(12f) Female - Base12					
2	-	FP3MFMF002M	FP4MFMF002M	-	FPSMFMF002M
3	-	FP3MFMF003M	FP4MFMF003M	-	FPSMFMF003M
5	-	FP3MFMF005M	FP4MFMF005M	-	FPSMFMF005M
MPO-24 Female to MPO-24 Female					
2	-	FP3NFNF002M	FP4NFNF002M	-	FPSNFNF002M
3	-	FP3NFNF003M	FP4NFNF003M	-	FPSNFNF003M
5	-	FP3NFNF005M	FP4NFNF005M	-	FPSNFNF005M
LC Duplex UHD Uniboot to LC Duplex UHD Uniboot					
2	-	FP3LULU002M	FP4LULU002M	FPSLULU002M	-
3	-	FP3LULU003M	FP4LULU003M	FPSLULU003M	-
5	-	FP3LULU005M	FP4LULU005M	FPSLULU005M	-
LC Duplex to LC Duplex					
2	FP1LDLD002M	FP3LDLD002M	FP4LDLD002M	FPSLDLD002M	FPSLALA002M
3	FP1LDLD003M	FP3LDLD003M	FP4LDLD003M	FPSLDLD003M	FPSLALA003M
5	FP1LDLD005M	FP3LDLD005M	FP4LDLD005M	FPSLDLD005M	FPSLALA005M
SC Duplex to SC Duplex					
2	FP1SDSD002M	FP3SDSD002M	FP4SDSD002M	FPSSDSD002M	FPSSASA002M
3	FP1SDSD003M	FP3SDSD003M	FP4SDSD003M	FPSSDSD003M	FPSSASA003M
5	FP1SDSD005M	FP3SDSD005M	FP4SDSD005M	FPSSDSD005M	FPSSASA005M
ST to ST (Duplex Cord)					
2	FP1STST002M	FP3STST002M	FP4STST002M	FPSSTST002M	-
3	FP1STST003M	FP3STST003M	FP4STST003M	FPSSTST003M	-
5	FP1STST005M	FP3STST005M	FP4STST005M	FPSSTST005M	-
Hybrid: LC Duplex to SC Duplex					
2	FP1LSDSD002M	FP3LSDSD002M	FP4LSDSD002M	FPSLSDSD002M	FPSLASA002M
3	FP1LSDSD003M	FP3LSDSD003M	FP4LSDSD003M	FPSLSDSD003M	FPSLASA003M
5	FP1LSDSD005M	FP3LSDSD005M	FP4LSDSD005M	FPSLSDSD005M	FPSLASA005M
Hybrid: SC Duplex to ST					
2	FP1LDST002M	FP3LDST002M	-	FPSLDST002M	-
3	FP1LDST003M	FP3LDST003M	-	FPSLDST003M	-
5	FP1LDST005M	FP3LDST005M	-	FPSLDST005M	-
LC Simplex UHD to LC Simplex UHD, Simplex cord					
2	-	-	-	FPSLIL002M	FPSLFLF002M
3	-	-	-	FPSLIL003M	FPSLFLF003M
5	-	-	-	FPSLIL005M	FPSLFLF005M





FP4LUMF002M, FX Hydra Patch Cord, OM4, MPO-12F (F) to 6 x LC Duplex UHD Uniboot, 2 m



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



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

CMR/CMP Patch Cords and Cable Assemblies Configurators

FX Hydra Patch Cords

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

Faster

- Faster deployment at the switch with MPO to LC fanout construction

Easier

- Easier upgradability from 10G to 40G or 100G with MPO connectivity

Better

- Better identification of fiber type with Erika Violet for OM4 cable and connectors
- Better airflow with small transition point construction

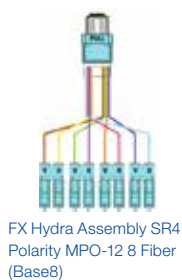
FX Hydra Assemblies - Standard Performance

Description	FX OM3	FX OM4	FX SM	FX SM/APC
Cable Performance - LC/SC/ST				
IL Max. 850 nm/1300 nm (dB/Km)	3.25/1.0	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			
Connector Performance - LC				
IL Max. (dB)	0.25	0.15	0.35	0.35
Polish - RL Typ. (dB)	PC - 30	PC - 30	UPC - 55	APC - 65
Fanout Length	0.5 m, In-Line			
Connector Performance - MPO				
IL Max. (dB)	0.35	0.2	-	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	-	APC - 60
Polarity	Type-A			

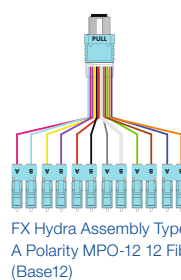
See duplex clips on page 18

Standard FX Hydra Assemblies

Description	OM3 Aqua	OM4 Erika Violet	OS2 Blue/Yellow
Base12 Duplex			
MPO-12(12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	FP3LUMF002M	FP4LUMF002M	FPSLUMF002M
MPO-12(12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 3 m in length	FP3LUMF003M	FP4LUMF003M	FPSLUMF003M
MPO-12(12f) Female to 6 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 5 m in length	FP3LUMF005M	FP4LUMF005M	FPSLUMF005M
Base8 Duplex for SR4 (QSFP+/QSFP28) Transceivers			
MPO-12(8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 2 m in length	FP3LU4F002M	FP4LU4F002M	FPSLU4F002M
MPO-12(8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 3 m in length	FP3LU4F003M	FP4LU4F003M	FPSLU4F003M
MPO-12(8f) Female to 4 x LC Duplex UHD Uniboot, 0.5 m In-Line Fanout, 5 m in length	FP3LU4F005M	FP4LU4F005M	FPSLU4F005M



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



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

Our End-to-End Expertise.
Your End-to-End Solution.



FX CMP/R MPO Patch Cords

MPO cords	Fiber	Connector 1	Connector 2	Length in M	Fire Rating	Cable Type	Polarity
FP	3	MF	MF	005M	R	7	A
	3 OM3	M M MPO Base-12 (M)	M M MPO Base-12 (M)	005M to 100M	R Riser	7 3mm Round Cord	A Type-A
	4 OM4	M F MPO Base-12 (F)	M F MPO Base-12 (F)		P Plenum		4 SR4/PSM4
	S OS2	4 M MPO Base-8 (M)	4 M MPO Base-8 (M)				
		4 F MPO Base-8 (F)	4 F MPO Base-8 (F)				

FX CMP/R Hydra Assemblies

Hydra cords	Fiber	Connector 1	Connector 2	Length in M	Fire Rating	Cable Type	Polarity
FP	3	LD	MM	005M	R	7	A
	1 OM1	L D LC Duplex	M M MPO Base-12 (M)	005M to 100M	R Riser	7 3mm Round Cord	A Type-A
	3 OM3	L C LC Simplex	M F MPO Base-12 (F)		P Plenum		4 SR4/PSM4
	4 OM4	L A LC/APC Duplex	4 M MPO Base-8 (M)				
	S OS2	L B LC/APC Simplex	4 F MPO Base-8 (F)				
		S D SC Duplex					
		S C SC Simplex					
		S A SC/APC Duplex					
		S B SC/APC Simplex					

FX CMP/R Patch Cords

Patch cords	Fiber	Connector 1	Connector 2	Length in M	Fire Rating	Cable Type	Polarity
FP	3	LD	LD	003M	R	2	X
	1 OM1	L D LC Duplex	L D LC Duplex	005M to 100M	R Riser	2 2mm Duplex Zip Cord	X A/B (Cross)
	3 OM3	L C LC Simplex	L C LC Simplex		P Plenum	3 3mm Duplex Zip Cord	S A/A (Straight)
	4 OM4	L A LC/APC Duplex	L A LC/APC Duplex			4 2mm Simplex Cord	
	S OS2	L B LC/APC Simplex	L B LC/APC Simplex			5 3mm Simplex Cord	
		S D SC Duplex	S D SC Duplex				
		S C SC Simplex	S C SC Simplex				
		S A SC/APC Duplex	S A SC/APC Duplex				
		S B SC/APC Simplex	S B SC/APC Simplex				
		F C FC	F C FC				
		F A FC/APC	F A FC/APC				
		S 2 ST2	S 2 ST2				
		S T ST	S T ST				

FX CMP/R Pigtailed

Pigtail cords	Fiber	Connector	Cable type	Product Family	Packaging	Length in M
FT	3	LC	900	P	R12	2M
	1 OM1	L D LC Duplex	250 250u	P Fusion pigtail	S01 Single Pack (for MPO only)	1M to 9M
	3 OM3	L C LC Simplex	900 900u		R12 Rainbow 12 Pack	
	4 OM4	L A LC/APC Duplex	2MM 2mm Simplex Cord			
	S OS2	L B LC/APC Simplex	3MM 3mm Simplex Cord			
		S D SC Duplex				
		S C SC Simplex				
		S A SC/APC Duplex				
		S B SC/APC Simplex				
		F C FC				
		F A FC/APC				
		S T ST				
		M M MPO Base-12 (M)				
		M F MPO Base-12 (F)				

CMR/CMP Trunk Assemblies



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



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

FX MPO Trunk Assemblies

Innovative performance with ingrained simplicity. Industry-leading low-loss MPO Trunks are the foundation of Easier, Faster and Better pre-terminated fiber connectivity solutions revolutionizing the data center.

Faster

- Faster identification of fiber type with Erika Violet for OM4 Cable, Connectors and Adapters
- Faster installation with pre-terminated solutions

Easier

- Easier installation with 3-flange reel and default pulling eye
- Easier ordering with simple intelligent *SmartPart* Numbers
- Easier upgradability to 40G and 100G with MPO pre-term solutions

Better

- Better architectural flexibility with high-performance 0.2 dB OM4 MPO connectors
- Better quality through exhaustive design validation against TIA standards
- Better contamination control with Data Center ready packaging

FX MPO Trunk Assemblies - Standard Performance

Description	FX OM1	FX OM3	FX OM4	FX SM
Cable Performance				
IL Max. 850 nm/1300 nm (dB/Km)	3.5/1.2	3.25/1.0	3.0/1.0	-
IL Max. 1310 nm/1550 nm (dB/Km)	-	-	-	0.35/0.25
Fire Rating	Plenum			
Cable Style	uMini-Distribution and Mini-Distribution cables			
Connector Performance - MPO-12				
IL Max. (dB)	0.5	0.35	0.2	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60
Fanout Length	0.5 m, In-Line			
Connector Performance - MPO-24				
IL Max. (dB)	0.5	0.35	0.35	0.75
Polish - RL Typ. (dB)	PC - 30	PC - 30	PC - 30	APC - 60

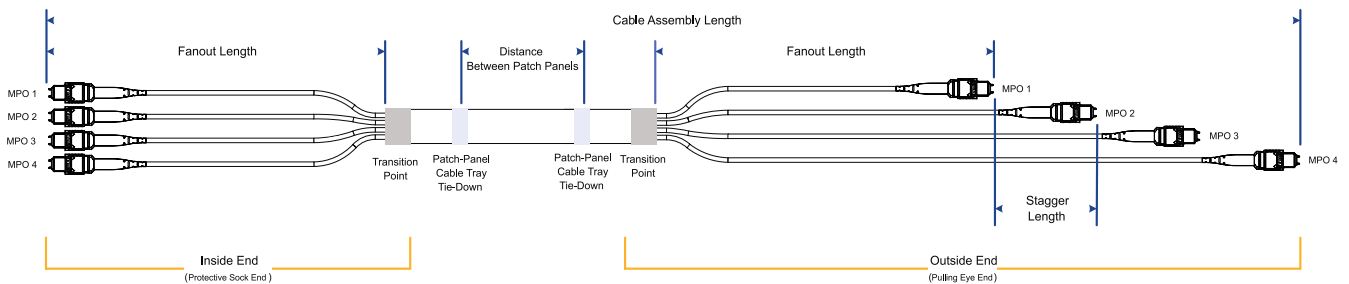
Our End-to-End Expertise.
Your End-to-End Solution.



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		19.5 mm	19.5 mm	19.5 mm	19.5 mm	19.5 mm	19.5 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)	19.5 mm	25.4 mm	30.0 mm	31.7 mm	38.1 mm	41.9 mm	50.8 mm

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



FX CMR MPO Trunk Cables

Length in M	OM1	OM3	OM4	OS2	OS2/APC
MPO BASE-12 Female to MPO BASE-12 Female					
10m	-	FM3MFB1010M	FM4MFB1010M	-	FMSMFB1010M
20m	-	FM3MFB1020M	FM4MFB1020M	-	FMSMFB1020M
30m	-	FM3MFB1030M	FM4MFB1030M	-	FMSMFB1030M
MPO BASE-12 (8f) Female to MPO BASE-12 (8f) Female					
10m	-	FM34FB1010M	FM44FB1010M	-	FMS4FB1010M
20m	-	FM34FB1020M	FM44FB1020M	-	FMS4FB1020M
30m	-	FM34FB1030M	FM44FB1030M	-	FMS4FB1030M

FX CMR/P MPO Trunk Cable Assemblies

MPO Trunks	Fiber	Connector	Gender	Polarity	Fiber Count	Length in M	Fire Rating	Cable Type	Fan-Out Geometry
FM	4	M	F	B	2	005M	P	M	1
	3 OM3	4 MPO Base-8	M Male to Male	A Type-A	1 12 Fiber	005M to 100M	R Riser	Mini-Distribution 3.0mm	D 0.5 m x In-line
	4 OM4	M MPO Base-12	F Female to Female	B Type-B	2 24 Fiber		P Plenum		E 1.0 m x In-line
	S OS2		E Male to Female		3 36 Fiber				F 1.5 m x In-line
			P Male to Open		4 48 Fiber				G 2.0 m x In-line
			R Female to Open		6 72 Fiber				1 0.5 m x Staggered 80 mm - 1 conn.
					8 96 Fiber				2 0.5 m x Staggered 80 mm - 2 conn.
					D 144 Fiber		3 0.5 m x Staggered 80 mm - 3 conn.		
								4 0.5 m x Staggered 80 mm - 4 conn.	
								6 0.5 m x Staggered 80 mm - 6 conn.	



SFP+ Active Optical Cable/ Transceiver

Save money without compromising speed or system performance with Belden's Active Optical Cable (AOC) and Optical Transceiver. Achieve high coupling efficiency of ~60%, high yield and low power consumption with these reliable solutions. A customized connectivity solution using Belden's fiber optic products will provide what you need to drive higher speeds and improve data connectivity while reducing operating costs.



Benefits

- Lower-cost solution when compared to traditional fiber installation
- Works with most major brands of networking equipment
- Lower total cost of ownership



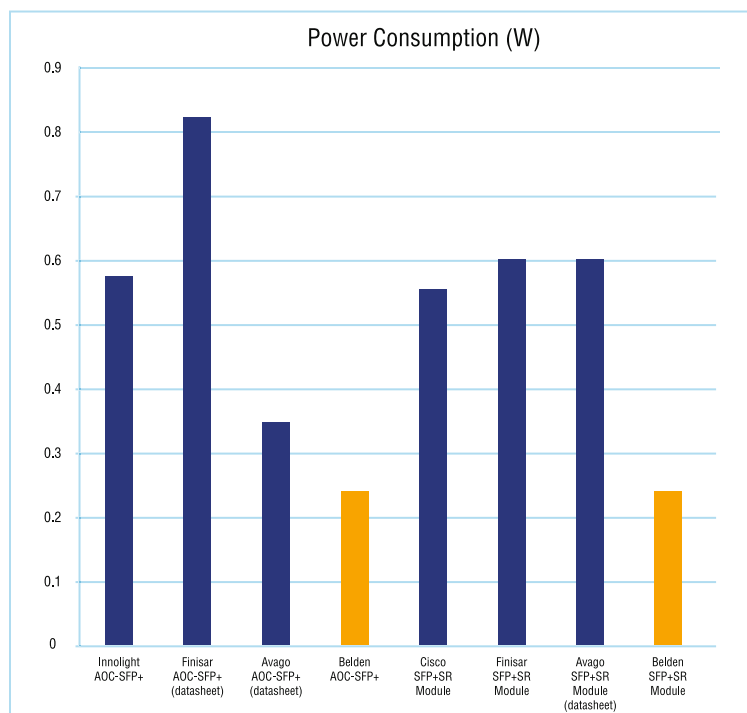
Features

- Low power consumption
< 0.3 W per Transceiver
< 0.6 W for AOC
- Low-cost proprietary light coupling and assembly
- Easy-release pull tabs



Key Applications

- InfiniBand (SDR, DDR, QDR, FDR-10)
- 10G Ethernet
- Fibre channel (10GFC)
- Top-of-rack switching
- Storage area networks



Our End-to-End Expertise.
Your End-to-End Solution.



Ordering Information

To use the configuration matrices, make a selection from each category and combine to form a custom part number. See examples below.

Active Optical Cable

Part number example from configuration shown below:

AS+S+10G001MLSO

A	S+		S+		10		G		001M		L		S		O	
FX AOC	Inside End		Outside End		Performance/ Application		Compatibility		Length & Measure		Flammability		Temperature Range		Jacket Color	
	S+	SFP+	S+	SFP+	10	10G	G	Generic	001M	1 m	L	LSZH	S	Standard (0°C - 70°C)	0	Orange
							1	Cisco	003M	3 m	P	Plenum				
									005M	5 m						
									008M	8 m						
									010M	10 m						
									020M	20 m						
									100M	100 m						
									150M	150 m						

Optical Transceiver

Part number example from configuration shown below:

MS+10G300MS-S1

M		S+		10		G		300M		S		-S1	
FX Module		Inside End		Performance/ Application		Compatibility		Reach		Temperature Range		Unit per Pack	
M	Multimode Module	S+	SFP+	10	10G	G	Generic	300M	300 m	S	Standard (0°C-70°C)	-S1	1 unit pack
						1	Cisco					-B10	10 unit pack
												-B20	20 unit pack

