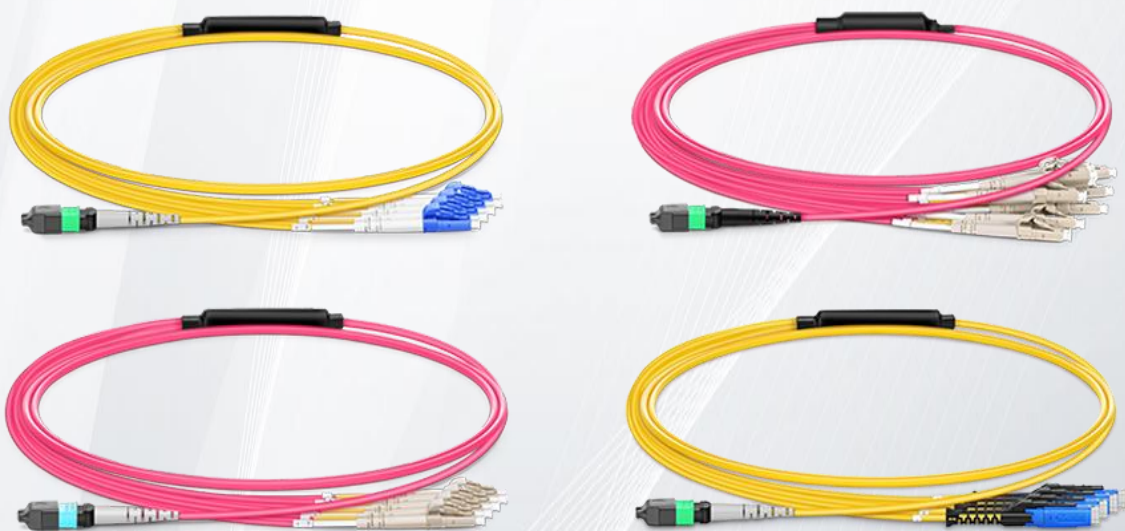


MTP®/MPO Harnesses

For Storage Area Network (SAN), Local Area Network (LAN) switch, and Equipment Distribution Area (EDA) patch field applications



MTP®MPO Harnesses

MTP®/MPO harnesses are factory terminated and tested to deliver verified optical performance and reliability for improved network integrity. They comprise 8, 12, 16, or 24 fiber cables that terminate in an MTP®/MPO connector on one end and 4, 6, 8, or twelve pairs of LC/SC/ST/FC/MDC connectors on the other. MTP®/MPO connectors minimize insertion loss, decrease equipment wear and tear, and ensure a physically secure connection. This enables seamless migration from duplex-based 10G systems to 40G and 100G MTP® applications based on parallel optics for Storage Area Network (SAN), Local Area Network (LAN) switch, and Equipment Distribution Area (EDA) patch field applications.

Features

- US Conec MTP® Connector with Optimal 0.35dB Low Insertion Loss
- Bend Insensitive Fiber Allows Tighter Cable Bends for Slack Storage and Routing
- Color-Coded Connector Boots for Easy Identification
- Available in OS2, OM3, and OM4 Fiber
- MTP®/MPO-12 Available in 8, 12, 24, 36, 48, 72, 96, and 144 Fiber Counts
- MTP®-24 Available in 24, 48, 72, 96, and 144 Fiber Counts
- Available in Plenum (OFNP) and LSZH Cable Jackets
- Available in Female (Non-Pinned) and Male (Pinned)
- Available in Type A and Type B Standard Polarities
- Available in Pulling Eye to Protect the Fiber Ends During Installation

Standards Compliance

Component	Governing Body	Standard Code
Cable	EIA/TIA	568
Single Mode Fiber	ITU-T	G.657.A1
Connectors	IEC	61754-7
Connectors	TIA	604-5
Multi-Fiber Connectors	Telcordia	GR-1435-CORE
Fiber and Connectors	RoHS	2011/65/EU and (EU)2015/863

Transmission Distance

Multimode fiber backbone cabling distances for 10 Gbps, 40 Gbps, and 100 Gbps applications.

Backbone Application	Standard Specified Max. Distance		
	OM3	OM4	OM5
10GBASE-SR (850nm)	300m (984ft)	400m (1312ft)	400m (1312ft)
40GBASE-SR4	100m (328ft)	150m (492ft)	150m (492ft)
40G BiDi	100m (328ft)	150m (492ft)	200m (689ft)
40GBASE-eSR4	300m (984ft)	400m (1312ft)	400m (1312ft)
40G SWDM4	240m (787ft)	350m (1148ft)	440m (1444ft)
100GBASE-SR10	100m (328ft)	150m (492ft)	150m (492ft)
100GBASE-SR4	70m (230ft)	100m (328ft)	100m (328ft)
100GBASE-eSR4	200m (689ft)	300m (984ft)	300m (984ft)
100G SWDM4	75m (246ft)	100m (328ft)	150m (492ft)

Construction

Connector Type	
Connector A	MTP®, MPO
Connector B	LC Duplex, SC Duplex, LC Simplex, SC Simplex, FC Simplex, ST Simplex, MDC Duplex
Connector Gender (MTP®/MPO)	Female, Male
Connector Brand (MTP®)	US Conec
Polish Type	UPC, APC
Cable Jackets	
OS2 9/125 μm	Yellow
OM4 50/125 μm	Magenta
OM3 50/125 μm	Aqua
MTP® Connectors	
OS2 9/125 μm	Green
OM4 50/125 μm	Aqua (UPC), Green (APC)
OM3 50/125 μm	Aqua
LC/MDC Connectors	
OS2 9/125 μm	Blue (UPC), Green (APC)
OM4 50/125 μm	Beige
OM3 50/125 μm	Beige
Connector Boots	
MTP®-8	Gray
MTP®/MPO-12	Black
MTP®-16	Black
MTP®-24	Red

	OS2 9/125 μm	OM4 50/125 μm	OM3 50/125 μm
MTP®-8			
MTP®-12			
MTP®-16			-
MTP®-24			
MPO-12			-
LC			
MDC		-	-

Mechanical Characteristics

Fiber Count	Outside Diameter			Tensile Load	
	Trunk	Breakout (Duplex)	Breakout (Simplex)	Long-term	Short-term

MTP®/MPO-12 Harnesses

8 Fibers	3.0mm	2.0mm	2.0/0.9mm	80N	240N
12 Fibers	3.0mm	2.0mm	2.0/0.9mm	80N	240N
24 Fibers	7.2mm	2.0mm	2.0/0.9mm	80N	240N
36 Fibers	9.3mm	2.0mm	2.0/0.9mm	80N	240N
48 Fibers	9.5mm	2.0mm	2.0/0.9mm	80N	240N
72 Fibers	11.7mm	2.0mm	2.0/0.9mm	80N	240N
96 Fibers	12.0mm	2.0mm	2.0/0.9mm	80N	240N
144 Fibers	17.3mm	2.0mm	2.0/0.9mm	80N	240N

MTP®-16 Harnesses

16 Fibers	3.0mm	2.0mm	2.0/0.9mm	80N	240N
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MTP®-24 Harnesses

24 Fibers	3.0mm	2.0mm	2.0/0.9mm	80N	240N
48 Fibers	7.2mm	2.0mm	2.0/0.9mm	80N	240N
72 Fibers	9.3mm	2.0mm	2.0/0.9mm	80N	240N
96 Fibers	9.5mm	2.0mm	2.0/0.9mm	80N	240N
144 Fibers	11.7mm	2.0mm	2.0/0.9mm	80N	240N

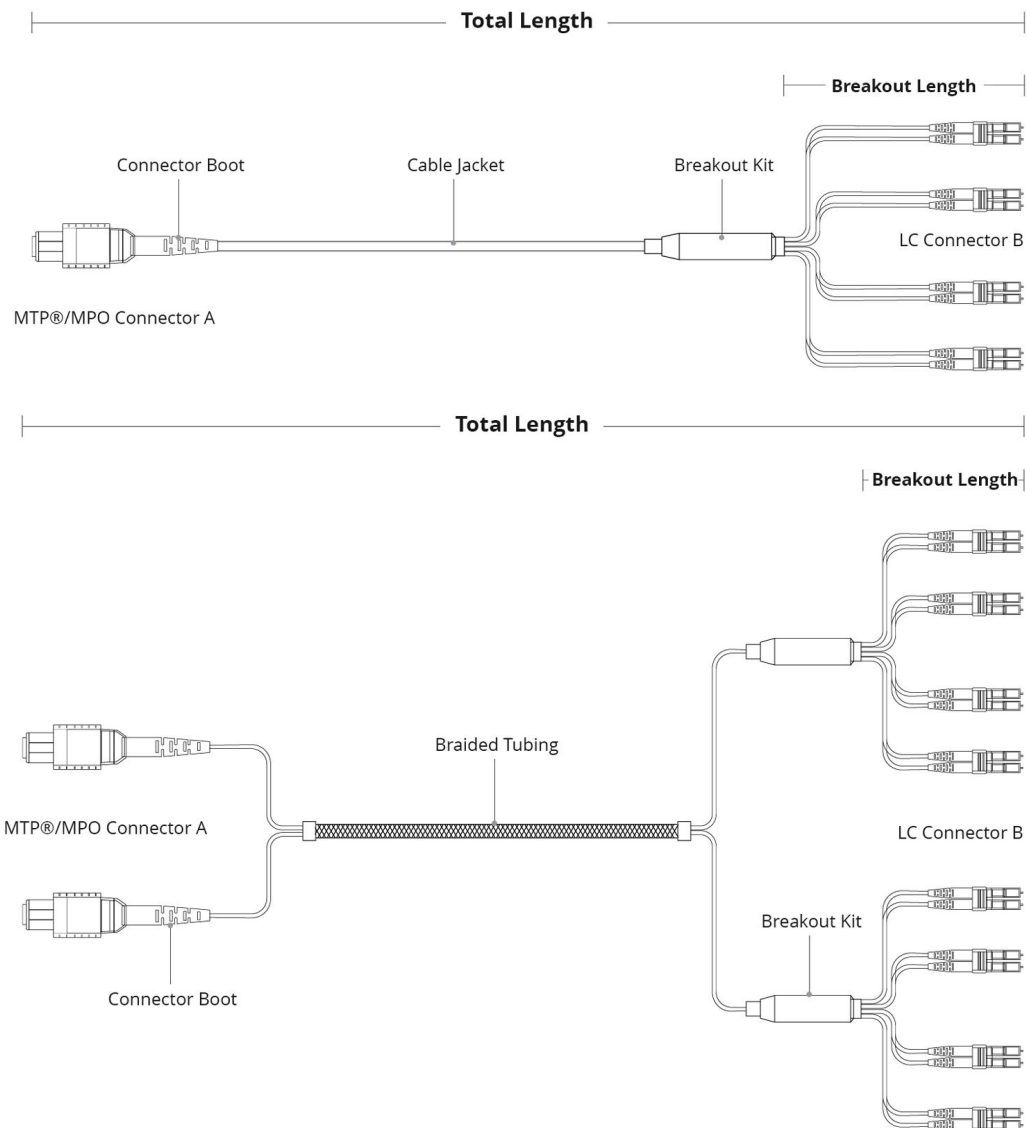
Note:

- As for MTP®/MPO-12 cables, the 24 fibers indicate 2 bundles (2x 12F). And as for MTP®/MPO-24 cables, the 48 fibers indicate 2 bundles (2x 24F). The 'bundle' means a combination of several fibers.

Performance Characteristics

	OS2	OM4	OM3
Polarity	Type A	Type A	Type A
	Type B	Type B	Type B
Cable Jacket	Plenum (OFNP)	Plenum (OFNP)	Plenum (OFNP)
	LSZH	LSZH	LSZH
Fiber Core Diameter	9/125μm	50/125μm	50/125μm
Glass Fiber	G.657.A1	Bend Insensitive Fiber	Bend Insensitive Fiber
Minimum Bend Radius	10mm	7.5mm	7.5mm
Wavelength	1310/1550nm	850/1300nm	850/1300nm
Insertion Loss (MTP®/MPO)	≤0.35dB	≤0.35dB	≤0.35dB
Return Loss (MTP®/MPO)	≥65dB	UPC≥20/27dB, APC≥45dB	UPC≥20/27dB, APC≥45dB
Insertion Loss (LC)	UPC≤0.2dB	UPC≤0.2dB	UPC≤0.2dB
	APC≤0.3dB		
Return Loss (LC)	UPC≥50dB	UPC≥30dB	UPC≥30dB
	APC≥60dB		
Insertion Loss (MDC)	UPC≤0.3dB	-	-
Return Loss (MDC)	UPC≥50dB	-	-
Attenuation (1310/1550nm)	≤0.35dB/km at 1310nm	-	-
	≤0.21dB/km at 1550nm		
Attenuation (850/1300nm)	-	≤2.3dB/km at 850nm	≤2.3dB/km at 850nm
		≤0.6dB/km at 1300nm	≤0.6dB/km at 1300nm
Operating Temperature	Plenum (OFNP): -10 to 60°C (14 to 140°F) LSZH: -10 to 70°C (14 to 158°F)		
Storage Temperature	Plenum (OFNP): -10 to 70°C (14 to 158°F) LSZH: -20 to 70°C (-4 to 158°F)		

MTP®/MPO Harnesses Options



MTP®-12 Harnesses Options

Fiber Type	Fiber Count	Cable Jacket	Connector A	Connector B	Polarity	Pulling Eye
• OS2	• 8	• Plenum (OFNP)	• MTP® Female UPC	• LC UPC Duplex	• Type A	• None
• OM4	• 12	• LSZH	• MTP® Female APC	• LC UPC Simplex	• Type B	• End A
• OM3	• 24		• MTP® Male UPC	• SC UPC Duplex		• End B
	• 36		• MTP® Male APC	• SC UPC Simplex		• Both Ends
	• 48			• FC UPC Simplex		
	• 72			• ST UPC Simplex		
	• 96			• LC APC Duplex		
	• 144			• LC APC Simplex		
				• SC APC Duplex		
				• SC APC Simplex		
				• FC APC Simplex		
				• ST APC Simplex		

MTP®-16 Harnesses Options

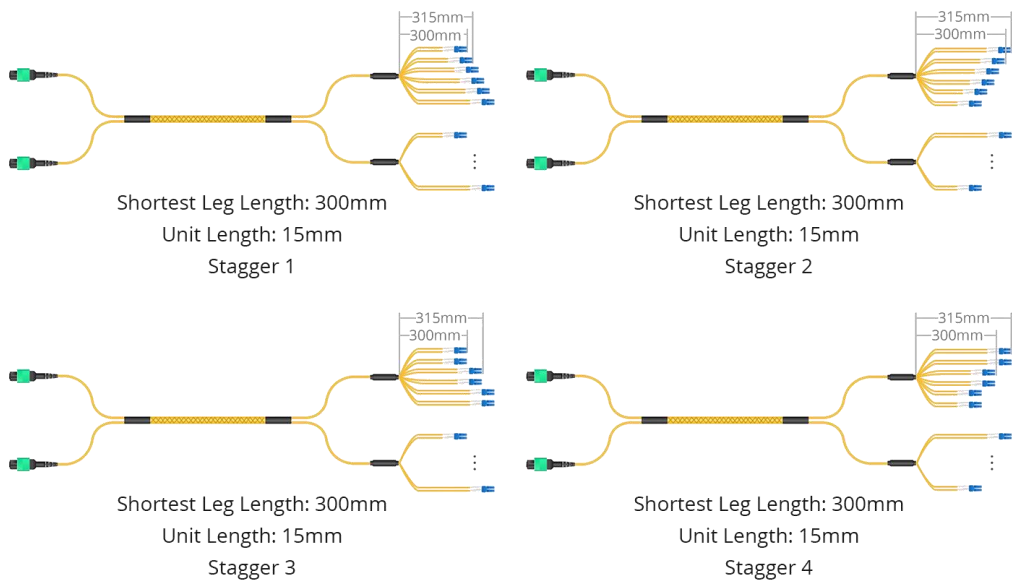
Fiber Type	Fiber Count	Cable Jacket	Connector A	Connector B	Polarity	Pulling Eye
• OS2	• 16	• Plenum (OFNP)	• MTP® Female APC	• LC UPC Duplex	• Straight Through	• None
• OM4		• LSZH	• MTP® Male APC		• Crossover	• End A
• OM3						• End B
						• Both Ends

MTP®-24 Harnesses Options

Fiber Type	Fiber Count	Cable Jacket	Connector A	Connector B	Polarity	Pulling Eye
• OS2	• 24	• Plenum (OFNP)	• MTP® Female UPC	• LC UPC Duplex	• Type A	• None
• OM4	• 48	• LSZH	• MTP® Female APC	• LC UPC Simplex	• Type B	• End A
• OM3	• 72		• MTP® Male UPC	• SC UPC Duplex		• End B
	• 96		• MTP® Male APC	• SC UPC Simplex		• Both Ends
	• 144			• FC UPC Simplex		
				• ST UPC Simplex		
				• LC APC Duplex		
				• LC APC Simplex		
				• SC APC Duplex		
				• SC APC Simplex		
				• FC APC Simplex		
				• ST APC Simplex		

MPO-12 Harnesses Options

Fiber Type	Fiber Count	Cable Jacket	Connector A	Connector B	Polarity	Pulling Eye
• OS2	• 8	• Plenum (OFNP)	• MPO Female UPC	• LC UPC Duplex	• Type A	• None
• OM4	• 12	• LSZH	• MPO Female APC	• LC UPC Simplex	• Type B	• End A
	• 24		• MPO Male UPC	• SC UPC Duplex		• End B
	• 36		• MPO Male APC	• SC UPC Simplex		• Both Ends
	• 48			• FC UPC Simplex		
	• 72			• ST UPC Simplex		
	• 96			• LC APC Duplex		
	• 144			• LC APC Simplex		
				• SC APC Duplex		
				• SC APC Simplex		
				• FC APC Simplex		
				• ST APC Simplex		



MTP®/MPO Harnesses Options (Breakout Length)

Bundle Count	Total Length (m)	Breakout Length
1 Bundle	[0.5, 0.7)	0.3m
1 Bundle	[0.7, 1.7)	0.3m, 0.5m, Stagger1, Stagger 2, Stagger 3, Stagger 4
1 Bundle	[1.7, 3.2)	0.3m, 0.5m, 1m, 1.5m, Stagger1, Stagger 2, Stagger 3, Stagger 4
1 Bundle	[3.2, +∞)	0.3m, 0.5m, 1m, 1.5m, 2m, 3m, Stagger1, Stagger 2, Stagger 3, Stagger 4
2-12 Bundles	[2, 3.3)	0.3m, 0.5m, Stagger1, Stagger 2, Stagger 3, Stagger 4
2-12 Bundles	[3.3, 4.8)	0.3m, 0.5m, 1m, 1.5m, Stagger1, Stagger 2, Stagger 3, Stagger 4
2-12 Bundles	[4.8, +∞)	0.3m, 0.5m, 1m, 1.5m, 2m, 3m, Stagger1, Stagger 2, Stagger 3, Stagger 4

Products Listing

ID	Description
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MTP®-8 Harnesses

68048	MTP-8 APC to 4 x LC UPC Harness, 8 Fibers, OS2, Type B, 1m (3ft)
68047	MTP-8 to 4 x LC UPC Harness, 8 Fibers, OM4, Type B, 1m (3ft)
139611	MTP-8 APC to 4 x MDC UPC Harness, 8 Fibers, OS2, Type B, 1m (3ft)

MTP®-12 Harnesses

31099	Customized MTP-12 Harness, 8-144F, OS2
31097	Customized MTP-12 Harness, 8-144F, OM4
31098	Customized MTP-12 Harness, 8-144F, OM3

MTP®-16 Harnesses

150166	MTP-16 APC to 8 x LC UPC Harness, 16 Fibers, OS2, Crossover, 1m (3ft)
118108	MTP-16 APC to 8 x LC UPC Harness, 16 Fibers, OM4, Crossover, 1m (3ft)
370371	Customized MTP-16 Harness, 16F, OS2
370367	Customized MTP-16 Harness, 16F, OM4
370369	Customized MTP-16 Harness, 16F, OM3

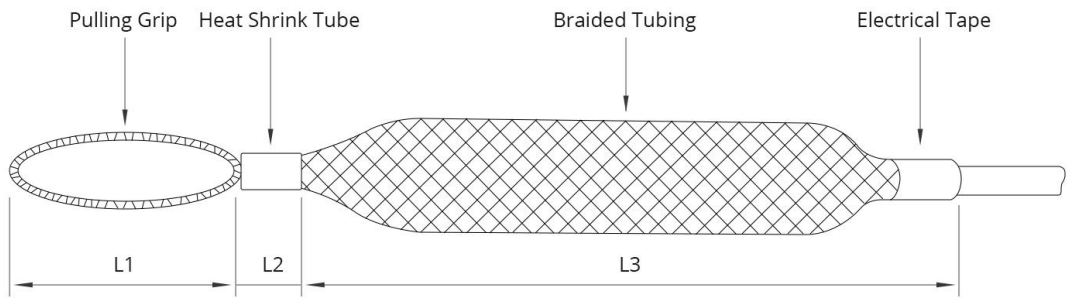
MTP®-24 Harnesses

31066	Customized MTP-24 Harness, 24-144F, OS2
25884	Customized MTP-24 Harness, 24-144F, OM4
31065	Customized MTP-24 Harness, 24-144F, OM3

MPO-12 Harnesses

226643	Customized MPO-12 Harness, 8-144F, OS2
226641	Customized MPO-12 Harness, 8-144F, OM4

Pulling Eye Information



Bundle Count	Total Length (Cable)	L1 Length (Pulling Eye)	L2 Length (Pulling Eye)	L3 Length (Pulling Eye)
1 Bundle	<1m	100±20mm	50-60mm	400mm
1 Bundle	≥1m	100±20mm	50-60mm	Depending on the total length of the cable.
2-24 Bundles	-	100±20mm	50-60mm	300/500+350mm