Contents

MPO/MTP®

OPTKO provides a full line of high performance MTP /MPO fiber cable assembly, they are designed for high-density backplane and Printed Circuit Board (PCB) applications in data and telecommunication systems. With the based on single ferrule MT technology, our MTP /MPO fiber cable assembly can be up to single ferrule with 24 fiber cores connections.

OPTKO MT Series Solution includes MTP /MPO Patch Cords, MTP /MPO Harness Cables, and MTP /MPO Trunk Cables. With the sourcing MPO connectors from Japan and MTP connectors from US Conec, production with our advanced equipments under our experienced and skilled technique, all our MTP /MPO fiber cable assembly products are designed to meet or exceed EIA/TIA, IEC and Telcordia standards for performance and reliability. The MTP /MPO cassettes and patch panels are available as well.

Technical Specifications

Optical Performance

Connector Type	Performance Level		Standard		High		Ultra	
Connector	Mode	Endface	IL(max) (dB)	RL(min) (dB)	IL(max) (dB)	RL(min) (dB)	IL(max)(dB)	RL(min)(dB)
MPO/MTP	SM	12F/APC	<=0.50	>60	<=0.35	>60	<=0.15	>60
		24F/APC	<=0.75	>60	<=0.5	>60	N/A	N/A
	MM	12F/PC	<=0.50	>20	<=0.35	>20	<=0.15	>20
		24F/PC	<=0.50	>20	<=0.35	>20	N/A	N/A
LC/SC/FC/ST	SM	APC	<=0.30	>60	<=0.20	>65	<=0.10	>65
		UPC	<=0.20	>50	<=0.15	>55	<=0.10	>55
	MM	PC	<=0.20	>30	<=0.15	>40	<=0.10	>40

Note:

1.Test wavelength:SM@1310/1550nm,MM@850/1300nm;

2.Standard conformance: GR-326,GR-1435.

Mechanical Properties

Item		Criteria	Conformance
△IL after 50 matings	MPO/MTP	<=0.3dB	GR-1435
△IL after 500 matings	LC/SC/FC/ST	<=0.2dB	IEC 61300-2-2
Min Bend Radius (Dynamic)		20*OD (Cable Diameter)	
Min Bend Radius (Static)		10*OD (Cable Diameter)	

Environment Conditions

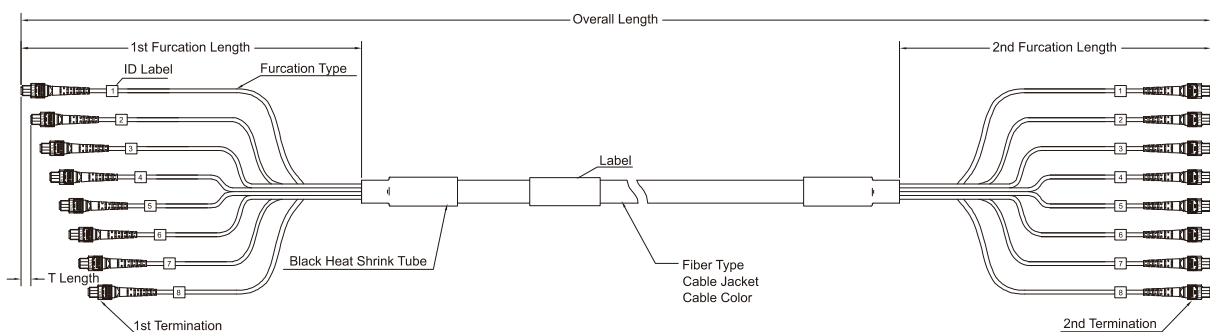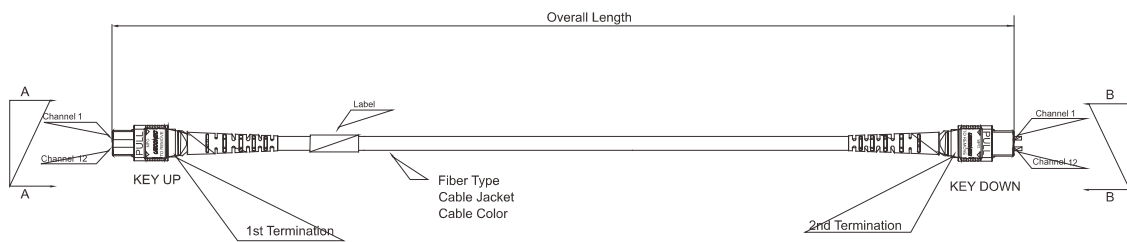| Item	Criteria	Conformance
Controlled Environment	-10~60°C	IEC 61753-1
Uncontrolled Environment	-40~85°C	

MPO/MTP® Trunk Cables

OPTKO provides a full line of high performance MTP® /MPO fiber cable assembly, they are designed for high-density backplane and Printed Circuit Board (PCB) applications in data and telecommunication systems. With the based on single ferrule MT technology, our MTP® /MPO fiber cable assembly can be up to single ferrule with 24 fiber cores connections.

OPTKO MT Series Solution includes MTP® /MPO Patch Cords, MTP® /MPO Harness Cables, and MTP® /MPO Trunk Cables. With the sourcing MPO connectors from Japan and MTP connectors from US Conec, production with our advanced equipments under our experienced and skilled technique, all our MTP® /MPO fiber cable assembly products are designed to meet or exceed EIA/TIA, IEC and Telcordia standards for performance and reliability. The MTP® /MPO cassettes and patch panels are available as well.

◎ Features

- Data center systems cabling
- Available in 12, 24, 36, 48, 72, 96, 144, or custom fiber counts
- Available in OM1, OM2, OM3, OM4 and OS2 fiber types

- RoHS compliant – Riser, Plenum, and LSZH rated cables available
- 100% factory tested
- Custom configurations available upon request

Order Information

Connector Type		Cable Type	Overall Length		Fiber Type	Jacket Type	Polarity	Pulling Eye
	End 1	End 2	Fiber Counts		Fiber Type	Jacket Type		
KMT	XXXX	XXXX	XX	X	X	XXX	X	X

Connector Type

TF	MTP Female
TM	MTP Male
OF	MPO Female
OM	MPO Male

Cable Type

2S	12F Standard
2L	12F Lowloss
4S	24F Standard
4L	24F Lowloss
6S	16F Standard
6L	16F Lowloss
3S	32F Standard
3L	32F Lowloss

Overall Length

12	12F
24	24F
36	36F
48	48F
72	72F
96	96F
...	...

Fiber Type

9	SM OS2
1	OM1 62.5/125
2	OM2 50/125
3	OM3 50/125
4	OM4 50/125
5	OM5 50/125
7	G.657.A1
A	G.657.A2
B	G.657.B3

Jacket Type

001	1m
002	2m
010	10m
...	...

Jacket Type

A	Method A
B	Method B
C	Method C

Polarity

0	None
1	One end
2	Both ends

R	OFNR (Riser)
P	OFNP (Plenum)
L	LSZH

OPTKO
®
Communications

MPO/MTP® Harness Cables

OPTKO provides the MTP®/MPO fiber cable assembly, with the based on single ferrule MT technology, can provides up to single ferrule with 24 fiber cores connections. For reducing the physical space r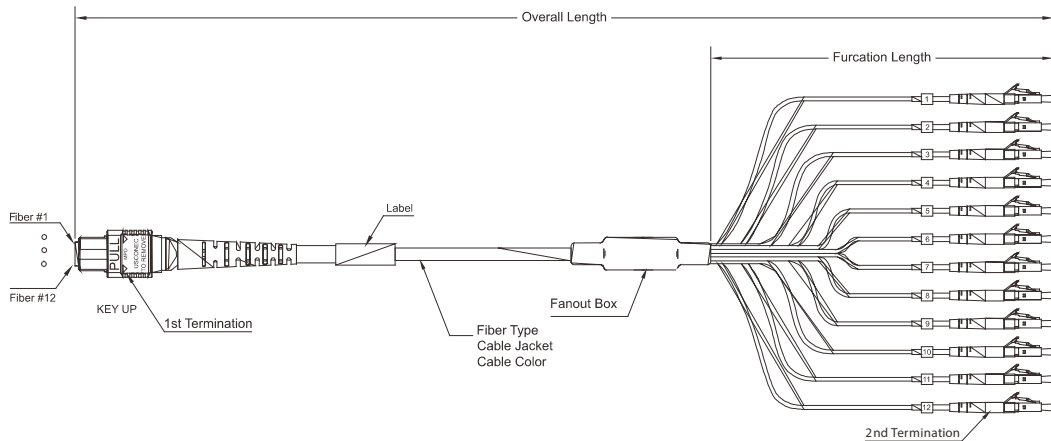equirement. MTP /MPO solution can be various connector kits, with metal guide pins and precise housing dimensions to ensure fiber alignment when mating.

OPTKO patchcords are assembled with high-grade connectors, the ferrules are made of excellent quality zirconia. Apart from simplex patchcords, duplex patchcords are also available. All patchcords provided by OPTKO are guaranteed to meet our specifications. For special requests on test reports or other specification, please contact us.
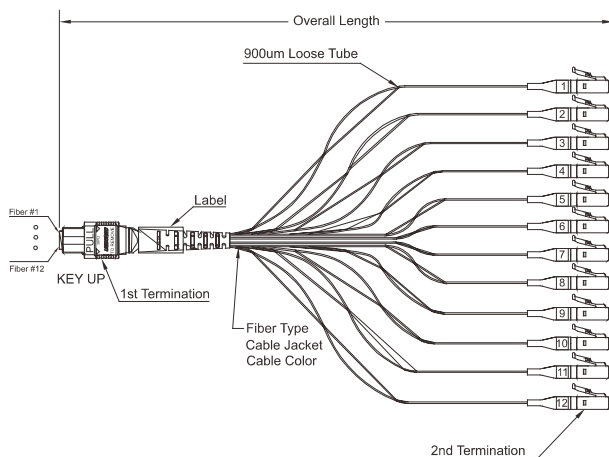
◎ Features

- Data center systems cabling
- Pre-terminated MTP®/MPO to SC, LC, MU, ST, MT-RJ connectors
- Custom "T" and "Even" alignment type available
- Suitable for MTP®/MPO cassettes and patch panels
- Available in OM1, OM2, OM3, OM4 and OS2 fiber types

- Ro HScompliant – Riser, Plenum, and LSZHrated cables available
- 100% factory tested
- Custom configurations available upon request
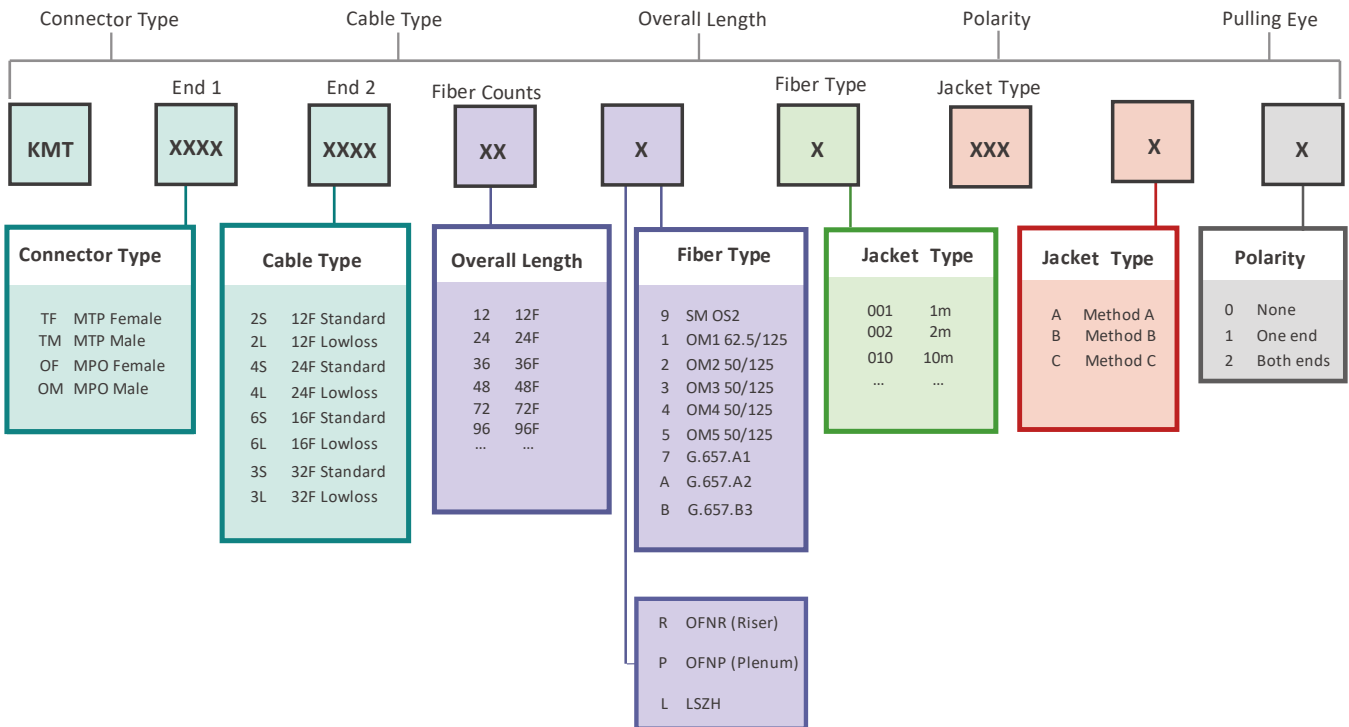
Series: MFH=MTP® /MPO Fanout Harness Cables

Series: MDH=MTP® /MPO Direct Harness Cables

OPTKO®
Communications

Order Information

Connector Type		Cable Type		Overall Length			Polarity		Pulling Eye
	End 1	End 2	Fiber Counts			Fiber Type	Jacket Type		
KMT	XXXX	XXXX	XX	X	X	X	XXX	X	X

Connector Type

TF	MTP Female
TM	MTP Male
OF	MPO Female
OM	MPO Male

Cable Type

2S	12F Standard
2L	12F Lowloss
4S	24F Standard
4L	24F Lowloss
6S	16F Standard
6L	16F Lowloss
3S	32F Standard
3L	32F Lowloss

Overall Length

12	12F
24	24F
36	36F
48	48F
72	72F
96	96F
...	...

Fiber Type

9	SM OS2
1	OM1 62.5/125
2	OM2 50/125
3	OM3 50/125
4	OM4 50/125
5	OM5 50/125
7	G.657.A1
A	G.657.A2
B	G.657.B3

R	OFNR (Riser)
P	OFNP (Plenum)
L	LSZH

Jacket Type

001	1m
002	2m
010	10m
...	...

Jacket Type

A	Method A
B	Method B
C	Method C

Polarity

0	None
1	One end
2	Both ends

MPO/MTP® Loopbacks

OPTKO provides the MTP /MPO fiber cable assembly, with the based on single ferrule MT technology, can provides up to single ferrule with 24 fiber cores connections. For reducing the physical space requirement. MTP /MPO solution can be various connector kits, with metal guide pins and precise housing dimensions to ensure fiber alignment when mating.

OPTKO patchcords are assembled with high-grade connectors, the ferrules are made of excellent quality zirconia. Apart from simplex patchcords, duplex patchcords are also available. All patchcords provided by OPTKO are guaranteed to meet our specifications. For special requests on test reports or other specification, please contact us.

Features

- Bend Insensitive fiber with Low loss connector
- Options for 12-or 24-Fibers MPO/MTP® interface
- Applicable in any MPO/MTP® adaptor and other device ports
- Custom configurations available
- Easy Insertion and Extraction
- An additional protection shell available

◎ Specification

Item (The other side)	Singlemode		Multimode	
Connector Type	MPO/MTP®			
	Standard	Elite/Low loss	Standard	Elite/Low loss
Insertion Loss	≤1.5dB	≤0.7dB	≤1.0dB	≤0.7dB
Return Loss	≥50dB	≥50dB	≥20dB	≥20dB
Durability	≤0.1dB typical change, 500 matings			
Operating Temperature	-40°C to +75°C			
Fiber Type	OS2/G657A1		OM3/OM4 Bend Insensitive fiber	

OPTKO®
Communications

MPO/MTP® Cassettes

OPTKO provides the MTP /MPO fiber cable assembly, with the based on single ferrule MT technology, can provides up to single ferrule with 24 fiber cores connections. For reducing the physical space requirement. MTP /MPO solution can be various connector kits, with metal guide pins and precise housing dimensions to ensure fiber alignment when mating.

OPTKO patchcords are assembled with high-grade connectors, the ferrules are made of excellent quality zirconia. Apart from simplex patchcords, duplex patchcords are also available. All patchcords provided by OPTKO are guaranteed to meet our specifications. For special requests on test reports or other specification, please contact us.

Features

- Bend Insensitive fiber with Low loss connector
- Options for 12-or 24-Fibers MPO/MTP® interface
- Applicable in any MPO/MTP® adaptor and other device ports

- Custom configurations available
- Easy Insertion and Extraction
- An additional protection shell available

Ordering Examples

Order Information	CTA3F3FCSA1A
Dimension (H*W*D)	35 x 136 x 101.5 (mm)
Mounting Hole Distance	126 mm
Capacity	1 x 12F MTP - 12F LC
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	CTA3F3HCSA1A
Dimension (H*W*D)	35 x 136 x 101.5 (mm)
Mounting Hole Distance	126 mm
Capacity	2 x 12F MTP - 24F LC
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	CTA3F3HCSA1B
Dimension (H*W*D)	35 x 109.5 x 101.5 (mm)
Mounting Hole Distance	101.5 mm
Capacity	2 x 12F MTP - 24F LC
Material	Cold-rolled steel

OPTKO®
Communications

Order Information	CTA3A3KCHO1A
Dimension (H*W*D)	35 x 136 x 101.5 (mm)
Mounting Hole Distance	126 mm
Capacity	4 x 12F MTP - 6 x 8F MTP
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

| Order Information	CTD3A3KCHO1A
Dimension (H*W*D)	35 x 136 x 101.5 (mm)
Mounting Hole Distance	126 mm
Capacity	2x 24F MTP - 6 x 8F MTP
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	CTA1F2HGSA1A
Dimension (H*W*D)	35 x 136 x 101.5 (mm)
Mounting Hole Distance	126 mm
Capacity	2x 12F MTP - 24F LC
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

MPO/MTP® Modular Enclosures

With the sourcing MPO connectors from Japan and MTP connectors from US Conec, production with our advanced equipments under our experienced and skilled technique, all our MTP /MPO fiber cable assembly products are designed to meet or exceed EIA/TIA, IEC and Telcordia standards for performance and reliability.

◎ Features

- Bend Insensitive fiber with Low loss connector
- Options for 12-or 24-Fibers MPO/MTP® interface
- Applicable in any MPO/MTP® adaptor and other device ports

- Custom configurations available
- Easy Insertion and Extraction
- An additional protection shell available
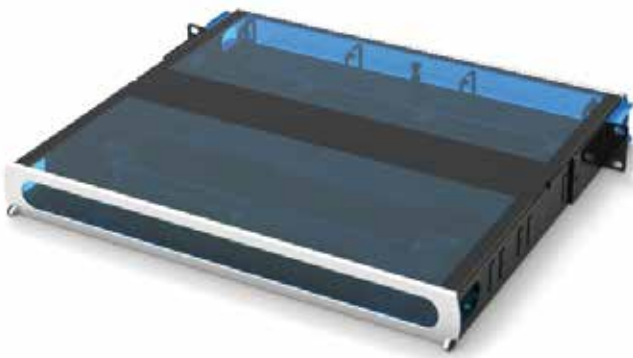
Ordering Examples

Order Information	ME01U072A1P
Dimension (H*W*D)	1U*482*400 (mm)
Capacity	3*24F Cassette or Panel
Material	Cold-rolled steel
Surface treatment	Black Powder Coated
Weight	3kg

Order Information	ME01U072A1D
Dimension (H*W*D)	1U*482*400 (mm)
Capacity	3*24F Cassette or Panel
Material	Cold-rolled steel
Surface treatment	Black Powder Coated
Weight	4.5kg

Order Information	ME02U144A1D
Dimension (H*W*D)	2U*482*400 (mm)
Capacity	6*24F Cassette or Panel
Material	Cold-rolled steel
Surface treatment	Black Powder Coated
Weight	6kg

Order Information	ME04U288A1F
Dimension (H*W*D)	4U*482*400 (mm)
Capacity	12*24F Cassette or Panel
Material	Cold-rolled steel
Surface treatment	Black Powder Coated
Weight	5kg

Adapter Plates

OPTKO offers a full range of high-performing and high-density fiber optic adapter plates, its come in several different sizes (Model A and Model B) and used in conjunction with Fibero patch panels or enclosures, the fiber adapter plates provide plug-and-play fiber connectivity, faster deployment, and easier moves, adds and changes; OPTKO adapter plates are offered in MPO/MTP®, LC, SC, and ST versions.

Features

- Simple to use, convenient installation
- Compatible with panels and enclosures
- Standard MPO/MTP®, LC, SC, ST connector options to suit specific applications.

- Easy to install with Push/Pull fastener
- Customized products available
- Connects fiber jumpers between equipment areas and fiber distribution areas
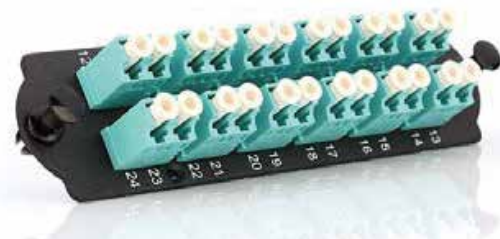
Ordering Examples

Order Information	FPADD24F1A
Dimension (H*W*D)	136*35(mm)
Mounting Hole Distance	126(mm)
Capacity	12/24F LC Duplex
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	FPBDD12F1A
Dimension (H*W*D)	136*35(mm)
Mounting Hole Distance	126(mm)
Capacity	12F/ SC Duplex
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	FPGSE06P1A
Dimension (H*W*D)	136*35(mm)
Mounting Hole Distance	126(mm)
Capacity	6 ports MTP
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

Order Information	FPOOONA1A
Dimension (H*W*D)	136*35(mm)
Mounting Hole Distance	126(mm)
Capacity	
Material	Cold-rolled steel
Surface treatment	Black Powder Coated

OPTKO®
Communications

MPO Connectors

OPTKO MPO Connector is a multi-fiber connector with its MT ferrule, designed for high-density backplane and Printed Circuit Board (PCB) applications in Datacom and Telecom systems. MPO connector offers up to 12 times the density of standard connectors, providing significant space and cost savings, it has a pair of grooves running parallel to the fibers for metal guide pins that align the ferrules when mated.

OPTKO MPO Connectors are available for terminated jumpers with standard singlemode and multimode, as well as Super Low Loss (MPO) versions with 8-fiber, 12-fiber and 24-fiber.

◎ Features

● Precision molded multi-fiber MT ferrule
● Push-pull latching
● Compact design

● Both of Female and Male type are available
● JIS C5982, IEC 61754-7 standard compliant
● Telcordia GR-1435-CORE standard compliant

OM3 Aqua
With mini ribbon boot

SM Green
With flat ribbon boot

SM Yellow
With 3.0mm round boot

OM3 Aqua
With mini ribbon boot

SM Green
With flat ribbon boot

SM Yellow
With 3.0mm round boot

Series: MPO MAX Connector		Pin Type		Fiber Counts		Performance Level	
606		F	Female	4	12F	1	MM Standard
		M	Male	8	24F	2	MM Low Loss
				12	12F	3	SM Standard
				24	24F	4	SM Low Loss
				...	...		

Ordering Example： 606-F121-A3

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Communications

MPO Adapters

OPTKO MPO Connector is a multi-fiber connector with its MT ferrule, designed for high-density backplane and Printed Circuit Board (PCB) applications in Datacom and Telecom systems. MPO connector offers up to 12 times the density of standard connectors, providing significant space and cost savings, it has a pair of grooves running parallel to the fibers for metal guide pins that align the ferrules when mated.

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◎ Features

- Precision molded multi-fiber MT ferrule
- Push-pull latching
- Compact design
- Both of Female and Male type are available
- JIS C5982, IEC 61754-7 standard compliant
- Telcordia GR-1435-CORE standard compliant

◎ Specification

MPO Series	MM Standard		MM Super Low Loss		SM Standard		SM Super Low Loss	
Insertion Loss	Typical (all fibers)	0.20dB	Typical (all fibers)	0.08dB	Typical (all fibers)	0.25dB	Typical (all fibers)	0.10dB
	Maximum (single fiber)	0.40dB	Maximum (single fiber)	0.25dB	Maximum (single fiber)	0.75dB	Maximum (single fiber)	0.35dB
Return Loss	≥25dB (Flat Polish)		≥25dB (Flat Polish)		≥60dB (8° Angle Polish)		≥60dB (8° Angle Polish)	
Durability Temperature	≤0.2dB change, 1000 matings		≤0.2dB change, 1000 matings		≤0.3dB change, 500 matings		≤0.3dB change, 500 matings	
Operating	-40ºC to +75ºC							
Available Ferrules	4, 8, 12, 24		8, 12		4, 8, 12, 24		8, 12	

*SM Standard 24-Fiber(single fiber)=Typical 0.5dB and Maximum 1.0dB;
*MM Standard 24-Fiber=Typical 0.2dB and Maximum 0.6dB; MM Super Low Loss ferrule will use SM Pin to guarantee IL.

MPO Adapter, No Flange

Series: MPO MAX Adapter	Adapter Flange		Key Type		Adapter Color	
666	1	With Falnge	UD	Key up-key down	A	Aqua
	2	No Falnge	UU	Key up-key up	V	Heather Violet
					H	Gray
					K	Black
					…	…

Ordering Example： 666-1UD-K

Polarity for 12F MPO/MTP® Jumpers

◎ Polarity A

Polarity A

Channel "A" (Left)		Channel "B" (Right)	Fiber Color
1		1	Blue
2		2	Orange
3		3	Green
4		4	Brown
5		5	Gray
6		6	White
7		7	Red
8		8	Black
9		9	Yellow
10		10	Violet
11		11	Pink
12		12	Aqua

White Mark
Channel 1
Channel 12
View A-A

View B-B
Channel 12
Key
Channel 1
White Mark

Key up
Position 1
PULL PUSH
Position 12

Key Down
Position 1
PUSH PULL
Position 12

◎ Polarity B

Polarity B

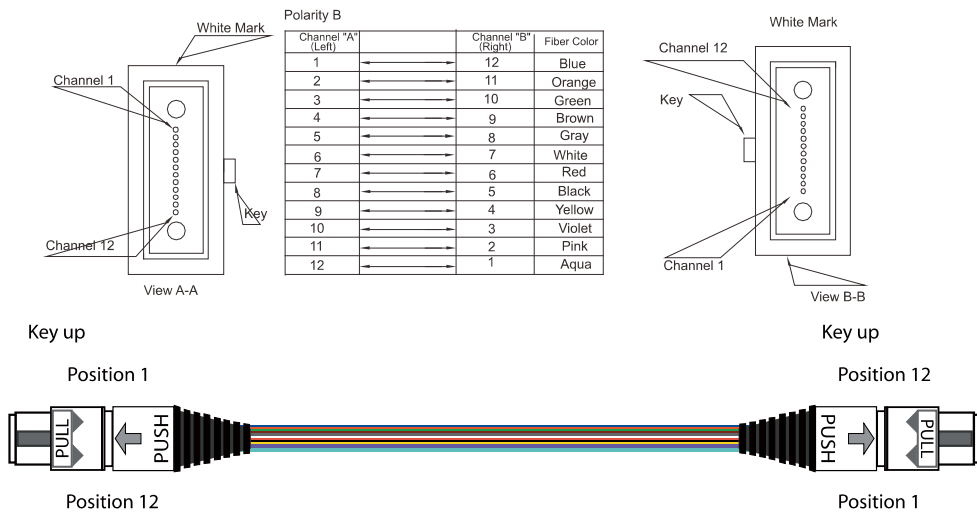| Channel "A" (Left)		Channel "B" (Right)	Fiber Color
1		12	Blue
2		11	Orange
3		10	Green
4		9	Brown
5		8	Gray
6		7	White
7		6	Red
8		5	Black
9		4	Yellow
10		3	Violet
11		2	Pink
12		1	Aqua

White Mark
Channel 1
Channel 12
View A-A

White Mark
Channel 12
Key
Channel 1
View B-B

Key up
Position 1
PULL PUSH
Position 12

Key up
Position 12
PUSH PULL
Position 1

◎ Polarity C

Polarity C

Channel "A" (Left)		Channel "B" (Right)	Fiber Color
1		2	Blue
2		3	Orange
3		4	Green
4		5	Brown
5		6	Gray
6		7	White
7		8	Red
8		9	Black
9		10	Yellow
10		11	Violet
11		12	Pink
12		1	Aqua

White Mark
Channel 1
Channel 12
View A-A

View B-B
Channel 12
Key
Channel 1
White Mark

Key up
Position 1
PULL PUSH
Position 12

Key Down
Position 1
PUSH PULL
Position 12