

DATASHEET

24F MPO-LC Staggered harness Cables

Ideal for Data Center High Density Cabling System



OMC INDUSTRY CO.LIMITED



24F MPO-LC Staggered harness Cables

Description

24 cores MPO Female to 12 LC Duplex(12xLC uniboot;24 LC Simplex) Staggered harness Cables assemblies.

24F MPO- LC/SC/FC/ST Staggered harness Cables are terminated with MPO and LC/SC/FC/ST connector on both ends. The 24pcs(12pcs for LC uniboot;24 LC Simplex) fanout cables are optimized for 40G QSFP+ PLR4 to 10G SFP+ LR optics direct connection and high-density data center applications. Have staggered length . It's specifically designed for high-density fiber patching in data centers which need space saving and reduce cable management troubles.

24F MPO- LC/SC/FC/ST Staggered harness Cables designed for 100GBASE-SR10 CXP/CFP Interconnect Solution,100GBASE-LR4 and high-density data center. It is optimized for 10/40/100G high-density data center applications. This 24 Fiber harness cable is used for connecting (12) SFP+ into a MPO adapter panel and MPO trunk.

Products Materials

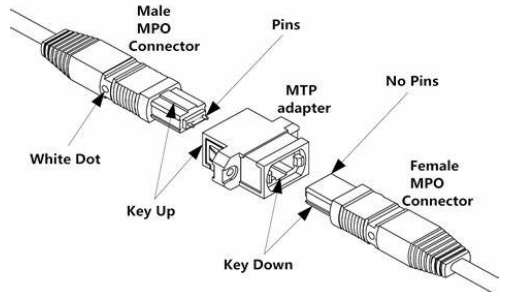
Connector	Reference	Housing Details
MPO Singlemode	IEC 61754-7	SM APC: Green connector+black boot (Standard Loss MPO) SM APC: Yellow connector+black boot (Super low loss MPO)
MPO Multimode	IEC 61754-7	OM1&OM2 PC: Beige connector+black boot (Standard Loss MPO) OM3&OM4 PC: Aqua connector+black boot (Standard &Super low loss MPO) OM3&OM4 PC: Heather Violet connector+black boot (Standard loss MPO)

IEC Staggered IEC-61754-7; IEC61755, Telcordia GR-1435-CORE, JIS C5982; TIA-604-5(FOCIS5) compliant

Structured cabling per TIA-568-C

10G Fiber Channel Compliant

40G and 100G IEEE 802.3

Connector	Fiber Channel
 MPO (Male) - Pins MPO (Female) – No Pins	
MPO Connectors	24 Fibers
Note: Female connector need to connect with male connector type. 	

Other connectors' Industrial Standard:

SC: TIA/EIA, FOCIS3, GR-326.NTT-SC IEC61754-4 and JIS C5973.

LC: TIA/EIA, FOCIS10, GR-326 EIA/TIA-604-10, IEC61754-20 and JIS C5973.

FC: EIA /TIA-604-04, FOCIS4, NTT-FC, GR-326. IEC61754-13 and JIS C5973

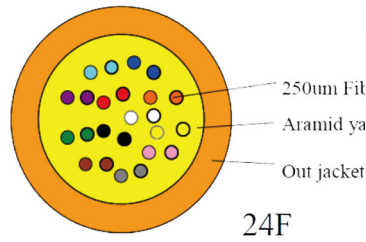
ST: TIA/EIA, FOCIS2, GR-326. IEC61754-2 and JIS C5973 Etc.

E2000: IEC61754-15



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Cable Parameters-24F Microfiber cable



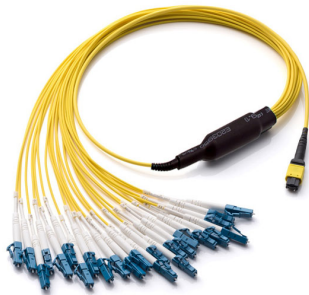
Fiber Count	OD(mm)	Minimum allowable Tensile Strength (N)	minimum allowable Crush Load(N/100mm)	Minimum Bending Radius(MM)
24	3.0±0.15	Short-term: 180; Long-term: 90	Short-term: 500; Long-term: 150	Static: 10D Dynamic: 20D

Available for

G657A1 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 G657A2/B2 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 G657B3 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 OM1 62.5/125 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 OM2 50/125 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 OM3 50/125 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 OM4 50/125 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000
 OM5 50/125 MPO-LC, MPO-SC, MPO-FC, MPO-SC, MPO-ST, MPO-E2000

LC Uni-boot connector is available for many kinds of different Uni-boot

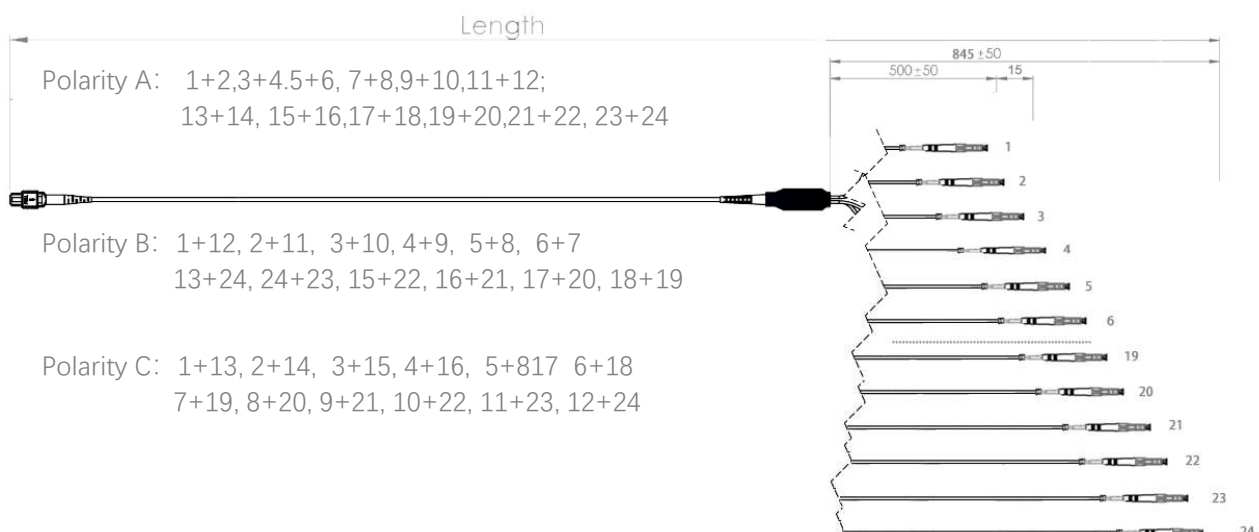
Products Details



Type 1

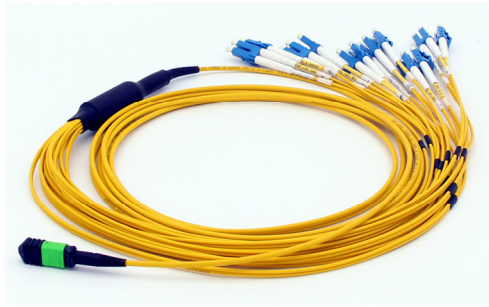
MPO –24 x LC Simplex structure

Fanout 2.0mm or 0.9mm OD leg.
 Fanout length: 0.5m
 MPO can be Female and Male
 Main cable OD:3.0mm



The cable's Polarity method is not fixed. Customer can use it as Polarity A and B freely.
 Other connectors such as SC,FC,E2000... are available

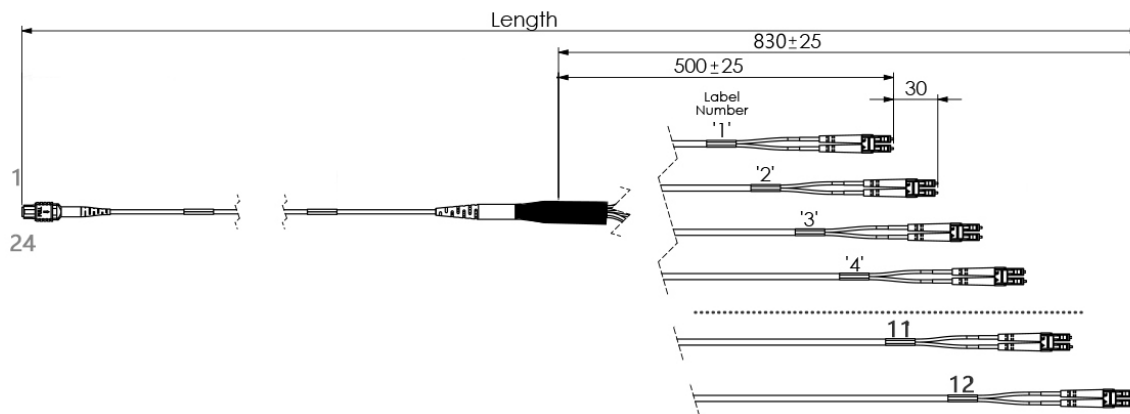
Products Details



Type 2 MPO –12 x LC Duplex structure

Fanout 2.0x4.1mm/0.9mm OD leg.
Fanout length: 0.5m
MPO can be Female and Male
Main cable OD:3.0mm

Polarity for MPO-LC Duplex type cable



Polarity A: 1+2,3+4,5+6, 7+8,9+10,11+12;
13+14, 15+16,17+18,19+20,21+22, 23+24

Polarity B: 1+12, 2+11, 3+10, 4+9, 5+8, 6+7
13+24, 24+23, 15+22, 16+21, 17+20, 18+19

Polarity C: 1+13, 2+14, 3+15, 4+16, 5+17, 6+18
7+19, 8+20, 9+21, 10+22, 11+23, 12+24

The cable's Polarity method is fixed. Customer can use it in Polarity A or B.
Other connectors such as SC,FC,E2000... are available

Push Pull Tab For Senko MPO



MPO-PLUS[®]

High Density Push Pull tab

HD Tab allows
MPO Plus use in
High Density rack
applications





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Type 3

MPO –6 x Uni-boot LC structure

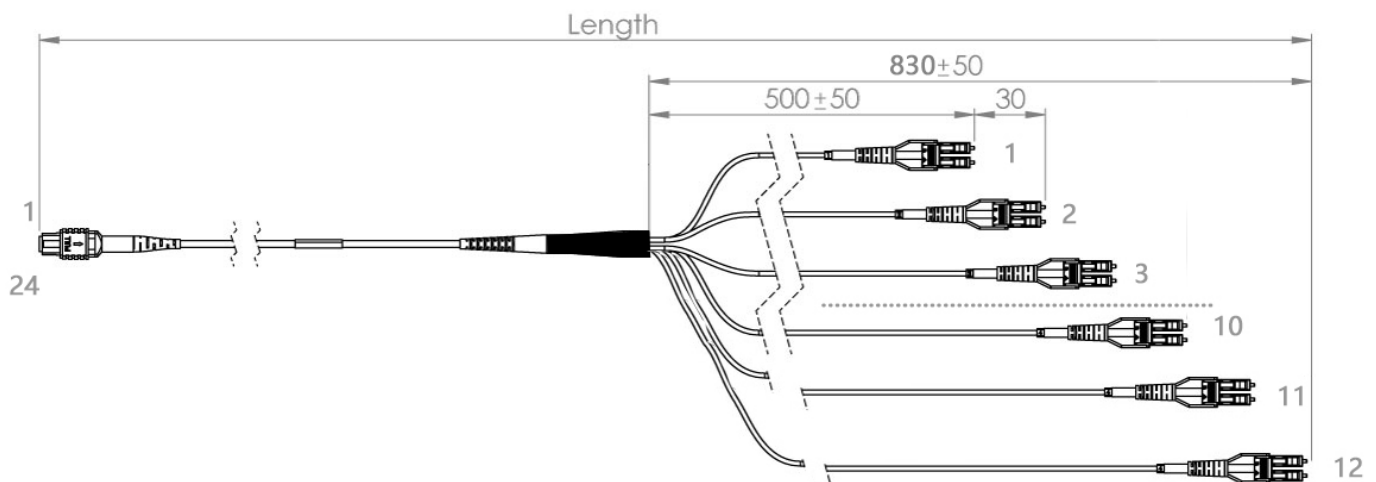
Fanout 2.0mm/3.0mm OD leg.

Fanout length: 0.5m

MPO can be Female and Male

Main cable OD:3.0mm

LC connector is available for many kinds of different



Polarity A: 1+2,3+4,5+6, 7+8,9+10,11+12;
13+14, 15+16,17+18,19+20,21+22, 23+24

Polarity C: 1+13, 2+14, 3+15, 4+16, 5+17, 6+18
7+19, 8+20, 9+21, 10+22, 11+23, 12+24

Polarity B: 1+12, 2+11, 3+10, 4+9, 5+8, 6+7
13+24, 14+23, 15+22, 16+21, 17+20, 18+19

The cable's Polarity method is fixed. Customer can use it in Polarity A or B or C
Uni-boot LC Saved fanout cable space up to 50%, easy to cable management.

LC Uni-boot connector is available for many kinds of different Uni-boot

- OME service**
- 1, Cable color, printing word, material of cable jacket, connector's color
 - 2, OEM Label, Identify ring, cable's label, box, shipping marks
 - 3. Different quality Level.

Optical Specifications

Spec items.	Single mode (APC 8-degree polished)	Multimode (PC Flat polish)
Insertion loss (MPO) (IEC 61300-3-34)	Standard loss: $\leq 0.75\text{dB}(\text{max})$, $\leq 0.50\text{dB}$ (Typical) Super Low loss: $\leq 0.35\text{dB}(\text{max})$, $\leq 0.20\text{dB}$ (Typical)	Standard loss: $\leq 0.6\text{dB}(\text{max})$, ≤ 0.50 (Typical) Super Low loss: $\leq 0.35\text{dB}(\text{max})$, $\leq 0.20\text{dB}$ (Typical)
Insertion loss (LC/SC/FC/ST) (IEC 61300-3-6)	$\leq 0.3\text{dB}$	$\leq 0.3\text{dB}$
Return loss(MPO)	$\geq 60\text{dB}$ (8degree polishing)	$\geq 25\text{dB}$
Return loss(LC/SC/FC/ST)	APC $\geq 60\text{dB}$; UPC $\geq 50\text{dB}$	$\geq 35\text{dB}$
Durability	$< 0.3\text{dB}$ typical change, 200 matings	
Interchangeability	$\leq 0.2\text{dB}$	
Tensile strength	$> 70\text{N}$	
Operating Temperature	-40 to $+ 85^{\circ}\text{C}$	

MPO End-Face 3D Interference Index

Item (IEC-61300-3-30)			Minimum	Maximum
Radius of curvature (mm)	ROC-X(ABS)		2000	\
	ROC-Y(ABS)		50mm	\
Angle	Angle-X		-0.2°	-0.2°
	Angle-Y	APC	7.85°	8.15°
		PC	-0.2°	-0.2°
Fiber height (nm)			1000nm	3500nm
Max.DH.All Fiber:			-300nm	300nm
DH.Adj:			-300nm	300nm
DH.Ave Fiber:			-300nm	300nm
Core Dip:	SM		N/A	N/A
	MM		-200nm	300nm

LC/SC/FC/ST End-Face Geometry 3D Interference Index

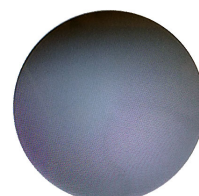
Items	Connector	PC End-face	APC End-face
Radius of Curvature	SC/FC/ST	10~25 mm	5~12 mm
	LC/MU	7~25 mm	5~15 mm
Apex Offset	$\leq 50 \mu\text{m}$		
Fiber Spherical Height	$\pm 100 \text{ nm}$		
Angular Offset	$8^{\circ} \pm 0.5^{\circ}$		

End-face Quality (LC/SC/FC/ST SM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 25	None	None	IEC 61300-3-35:2015
B: Cladding	25 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	



SM UPC



SM APC

End-face Quality (LC/SC/FC/ST MM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 65	None	None	IEC 61300-3-35:2015
B: Cladding	65 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	



MM PC



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Packaging

This easily taken and well-protected fiber patch cable package has been labelled and marked by OMC as default standard carton size : 34*22*15 cm; 44*34*24 cm ; 54*39*34 cm . Which carton to be used depends on goods Qty . Packing can be customized.



1, Self-seal PE Bag



2 Bubble Bag



3, Paper Carton



4, fumig-free Pallet

The merits of MTP/MPO Patch cable/trunk cable generally include:

High quality—MTP/MPO Patch cable/trunk cables are factory pre-terminated, tested and packaged along with the test reports. These reports serve as long-term documentation and quality control.

Decreasing cable volume—MTP/MPO Patch cable/trunk cables have very small diameters, which decrease the cable volume and improve the air-conditioning conditions in data centers.

Time saving—With the special plug and play design, MTP/MPO Patch cable/trunk cables can be incorporated and immediately plugged in. It greatly helps reduce the installation time.

Application

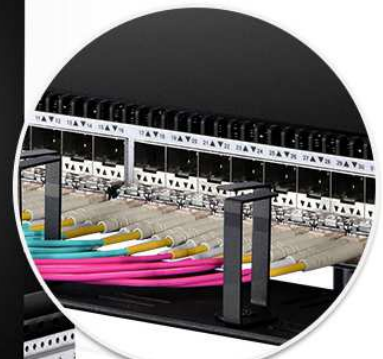
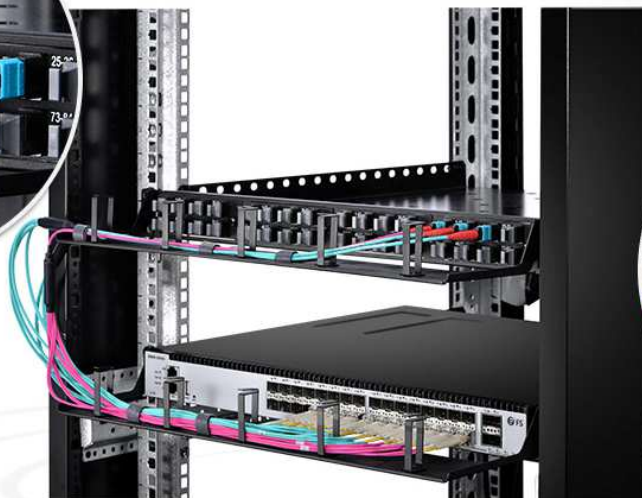
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All of OMC's MPO Connectors are from Senko/Nissin/Sumitomo. MPO Patch cable/trunk cable is a kind of high density cable assemblies which is generally use in three areas.

- 1, The Data Center application with high dense degree environment
- 2, The optical fiber to the building
- 3, The internal connector application in fiber equipment.



1× MPO connector for adapter panel



12× LC connectors for 10G SFP+



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Order Index

Products	Fiber & cable	Fiber	Connect- or A	Connector B	Main Cable Color	Fanout cable	Fanout Cable Color	Cable Jacket	Polarity	length
M1 -Senko MPO without tab	1- 8F round cable	1-G652D	1- Standard loss Female	1-LC UPC Staggered	A-Blue	1-0.9mm- 30cm	A-Blue	H-LSZH	0- Simplex connector	1-1m
M2-MTP without tab	2-12F round cable	2-G657A1	2-Standard loss male	2-LC APC Staggered	B-Orange	2-2.0mm- 50cm	B-Orange	C-PVC	A-Polarity A	1.5-1.5m
M3-China MPO	3-16F round cable	3-G657A2/ B2	3- Super Low loss Female	3-LC PC Uniboot V1	C-Green	3-2.0mm- different length	C-Green	F-OFNR	B-Polarity B	2-2m
M4-Senko MPO with tab	4-20F round cable	4-G657B3	4-Super low loss male	4-LC PC Uniboot V2	D-Brown	4-3.0mm uniboot- 50cm	D-Brown	P-OFNP	C-Polarity C	..
M5-MTP with tab	5-24F round cable	5-BIF om1		5-LC PC Uniboot with Pull Tab V1	E-Grey	5-.0mm uniboot- different length	E-Grey	U-PU		
	6-8F ribbon cable	6-BIF om2		6-LC PC Uniboot with flat Clip	F-Whitie		F-Whitie			
	7-12F ribbon cable	7-BIF om3		7-LC PC Uniboot with Pull Tab V2	G-Red		G-Red			
	8-8F ribbon bare fiber	8-BIF om4		8-LC PC Uniboot with Push-Pull Tab V1	H-Black		H-Black			
	9-12F ribbon bare fiber	9-BIF om5		9-LC APC Uniboot V1	I-Yellow		I-Yellow			
				0-LC APC Uniboot V2	J-Purple		J-Purple			
				A-LC APC Uniboot with Pull Tab V1	K-Pink		K-Pink			
				B-LC APC Uniboot with flat Clip	L-Aqua		L-Aqua			
				C-LC APC Uniboot with Pull Tab V2	M- Magenta		M-Magenta			
				D-LC APC Uniboot with Push-Pull Tab V1			0-different colors			
				E-SC PC Connector						
				F-FC PC Connector						
				G-ST PC Connector						
				H-SC APC Connector						
				I-FC APC Connector						
				J-E2000 PC Connector						
				K-E2000 APC Connector						