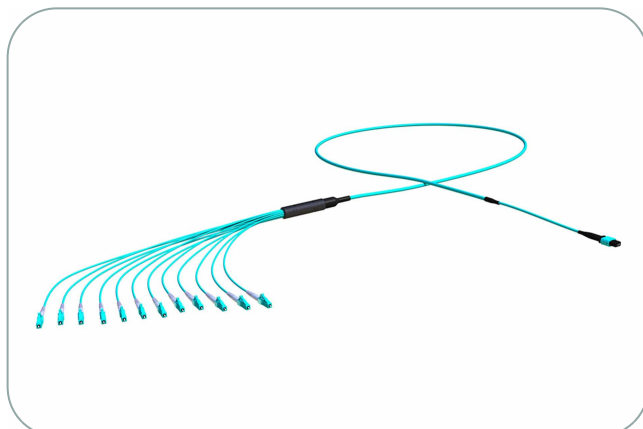# MPO MicroCable Fan-Out Assembly

MPO Fan-Out Assemblies interface multifiber MPO with discrete single fiber (LC/SC) connectors. Assemblies are typically used to directly interconnect MPO cassettes, panels or backbone trunk assemblies with the active equipment ports, saving costly data center rack space and easing fiber management. Replacing traditional MPO module Fan-Out Assemblies reduce amount of interconnection improving power budget cost effectiveness. MPO MicroCable Fan-Out Assemblies are offered in all fiber types and variety of core counts (from 12 to 144 x fibers) using a compact and rugged MicroCable structure. The compact cable optimizes cable-way use and improve the airflow. Proprietary design of AFL® Breakout Module provides robust, safe and secure transition between cable and discrete connector tails. MPO Fan-Outs are built with highest quality components. Low Loss Premium MPO and LC terminations are offered featuring low insertion loss for demanding power budgets critical applications.

Features

- OS1/OS2 G.657A1, OM3, OM4
- 12 x Fiber Ferrule MPO connector female (Un-pinned) or male (Pinned)
- 12 x Cores single jacket MicroCable 3 mm OD Patch/ double jacket MicroCable 4.5 mm OD Trunk version
- Multisubunit 24, 48, 72, 96, 144 cores MicroCable versions available
- LSZH, OFNP, OFNR cable jacket types selection
- Simplex and Duplex LC tails generic options
- Optimized performance: Low loss Premium MPO, discrete Premium (LC, SC) connectors and OM4 fiber assures low insertion losses and power penalties in tight power budget high speed network environment.
- High density: Ruggedized fan-out allows for direct connection between backbone and active equipment eliminating rack space usage.
- Rapid deployment: Factory terminated modular system saves installation and reconfiguration time during moves, ads and changes.
- Reliability: 100% tested - combination of high quality components and manufacturing quality control guarantees product to the highest standards.

Applications

- Data Centre Infrastructure

- Storage Area Network- Fiber Channel

Specifications

ELEMENT	CHARACTERISTICS
Fiber	OS1/OS2 G.657A1, OM3, OM4,
Tail Dimensions	2mm Simplex Tails Fanout 2mm Duplex Tails Fanout
MPO Connectors	MPO 12 Fiber Ferrules Boot Colour: Black Body Sleeve Colour: MM (Beige), MM Elite (Aqua), SM (Green), SM Elite (Yellow)
Other Terminations	LC, SC, LC/APC, SC/APC
Cable Diameter	12/24 Cores Trunk Double Jacket OD MAX: 4.5 ± 0.3 mm 12/24 Cores Patch Single Jacket OD MAX: 3.0 ± 0.3 mm
Crush Resistance	DoubleJacket 4.5mm OD- 1000N/100mm; SingleJacket 3mmOD- 500N/100mm
Cable Tensile Strength	DoubleJacket 4.5mm OD (Short) 400N; SingleJacket 3mm OD (Short) 200N
Cable Strength Member	Aramid
Storage Temperature	-20 ~ +60°C
Installation Temperature	-5 ~ +50°C
Operation Temperature	-20 ~ +60°C

Connector Performance

CONNECTOR PERFORMANCE - MPO/MTP	IL AVERAGE	IL MAX	RETURN LOSS
MPO Premium (MM)	0.10 dB	0.35 dB	N/A
MPO Premium (SM)	0.10 dB	0.35 dB	>60 dB

OPTICAL PERFORMANCE*	MM PREMIUM	SM PREMIUM	CONFORMANCE
IL Max/Master (Acceptance)	0.15 dB	0.15 dB	IEC 61300-3-4
Ave/Master	0.08 dB	0.12 dB	IEC 61300-3-4
Ave/Random	0.10 dB	0.12 dB	IEC 61300-3-34
RL(Min Acceptance)	NA	55/65**	IEC 61300-3-6

* Connector Performance table does not refer to E2A terminations ** UPC/APC

Cable Performance

CABLED FIBRE TYPE (ISO/IEC 11801)	OS1/OS2	OM1	OM2	OM3	OM4
Attenuation Coefficient [dB/km]	≤ 0.38 Max (1300 nm) ≤ 0.25 Max (1300 nm) ≤ 0.34 Typ (1550 nm) ≤ 0.19 typ (1550 nm)	≤ 3.5 Max (850 nm) ≤ 1.5 Max (1300 nm) ≤ 2.9 Typ (850 nm) ≤ 1.2 typ (1300 nm)	≤ 3.5 Max (850 nm) ≤ 1.5 Max (1300 nm) ≤ 2.7 Typ (850 nm) ≤ 0.9 typ (1300 nm)	≤ 3.5 Max (850 nm) ≤ 1.5 Max (1300 nm) ≤ 2.7 Typ (850 nm) ≤ 0.9 typ (1300 nm)	≤ 3.5 Max (850 nm) ≤ 1.5 Max (1300 nm) ≤ 2.7 Typ (850 nm) ≤ 0.9 typ (1300 nm)
Minimum Bandwidth: Overfilled Launch [Mhz-km]	N/A	≥ 200 (850nm) ≥ 500 (1300nm)	≥ 500 (850nm) ≥ 500 (1300nm)	≥ 1500 (850nm) ≥ 500 (1300nm)	≥ 3500 (850nm) ≥ 500 (1300nm)

CABLED FIBRE TYPE (ISO/IEC 11801)	OS1/OS2	OM1	OM2	OM3	OM4
Minimum Bandwidth: Laser Effective Modal Bandwidth [Mhz-km]	N/A	N/A	N/A	≥ 2000 (850nm)	≥ 4700 (850nm)

Ordering Information

Code	Fiber Type		Cable Type		Fiber Count		Jacket Material		Color		Code	End A		End B		Fanout		Connector		Unit		Length	
M	3	OM3	DS	24F Double Jacket 4.5mm	B	12	L	LSZH	9	YELLOW	P	U	MPO F	A	LC	L	Fanout 1 to A (Simplex / Crossed)	036	MPO 12 / SX 2mm F/F	M	Meters	1	1
	4	OM4	DQ	24F Single Jacket 3mm	F	24	E	CPR Eca	C	AQUA		V	MPO M	B	LCA	M	Fanout 1 to B (default)	044	MPO 12 / DX 2mm F/F	F	Feet	2	2
	7	G.657A1					C	CPR Cca*	D	ERIKA VIOLET*				C	LC Uniboot			048	MPO 12 / UNI 2mm F/F			3	3
							B	CPR B2ca*						D	SC			089	MPO 12 / LCR UNI 2mm F/F			5	5
							R	OFNR						E	SCA							10	10
							Q	OFNR UL Listed														XX	Specify
							P	OFNP															
							A	OFNP UL Listed															

Legacy Ordering information

Connector End A		Fiber Count		Connector End B		Fiber Type		Cable Construction		Tail Type		Cable Length		Length Unit		Cable Jacket Type		Jacket Colour		Discrete Termination Grade	
MF	MPO (F)	12	12 core	LC	LC	OM3	OM3 50/125 MicroCable	D	Double jacket 4.5mm OD	F	Ruggedized Fanout SX 2mm Tails	1	1	leave blank	metre	leave blank	LSZH	leave blank	Standard colours: OM1 and OM2 Orange OM3 and OM4 Aqua 7A1 Yellow	leave blank	Standard
MPF	MPO Premium (F)	24	24 core	LCA	LC/APC*	OM4	OM4 50/125 MicroCable	P	Single jacket 3mm OD	A	Ruggedized Fanout DX 2mm Tails 1 to A	2	2	FT	Feet	RI	Riser	EV	Erika Violet (OM4)	/P	Low Loss Premium

FAFL

MM	MPO (M)	48	48 core	SC	SC	7A1	G.657A1 MicroCable			B	Ruggedized Fanout DX 2mm Tails 1 to B	3	3			PL	Plenum					
MPM	MPO Premium (M)	72	72 core	SCA	SC/APC*							5	5			RIUL	Riser UL					
		96	96 core	**LCR	LC Uniboot Reversible Polarity							10	10			PLUL	Plenum UL					
		144	144 core	LCU	LC Uniboot							xx	Specify			E****	LSZH CPR Euroclass Eca					

* Selection for SM only. ** LCR: Contact account manager for Suitability ***MTP US Conec MPO Connectors Available on Request- Add suffix "-US" to the end of PN **** Standard Stock Profile Double Jacket 4.5mm OD Only

Example Part Number

MPF		12		LC		OM4		P		F		1				PL				/P

MPF12LCOM4PF1PL/P - Fanout 12Core MPO Premium (F)-LC OM4 50/125 MicroCable 3mm OD 2mm SX Plenum Aqua 1mtr -Premium