

MPO Jumpers

MPO-8 · MPO-12 · MPO-24 · Corning SMF-28 Ultra APC · OM4 / OM5 UPC · Type A / B / C



Shown, left to right: MPO-12 jumpers in singlemode APC (yellow jacket, green connectors), OM4 (aqua) and OM5 (lime green), 0.12 in [3.0 mm] round jacket. Right: end faces, key up: pinned with two guide pins, unpinned with guide holes; 12 fibers in one row.

OVERVIEW

MPO patching, configured per order

One Optics MPO jumpers link MPO cassettes, panels and parallel-optic transceivers in high-density fiber runs. Each jumper is built to order: choose 8, 12 or 24 fibers, pinned or unpinned at each end, the polarity type, the jacket rating and the length.

Singlemode jumpers use Corning SMF-28 Ultra fiber (G.652.D and G.657.A1 compliant, bend-insensitive) with APC polished US Conec MTP connectors. OM4 and OM5 multimode jumpers use 50/125 µm laser-optimized fiber with UPC (flat) US Conec MTP connectors for 40G to 400G parallel-optic links. Every jumper is 100% tested for end-face cleanliness and end-face geometry.

8 / 12 / 24

FIBERS PER MPO

A / B / C

POLARITY TYPES

0.35 dB
LOW-LOSS MPO IL
MAX
100%

END FACES TESTED

FEATURES & APPLICATIONS

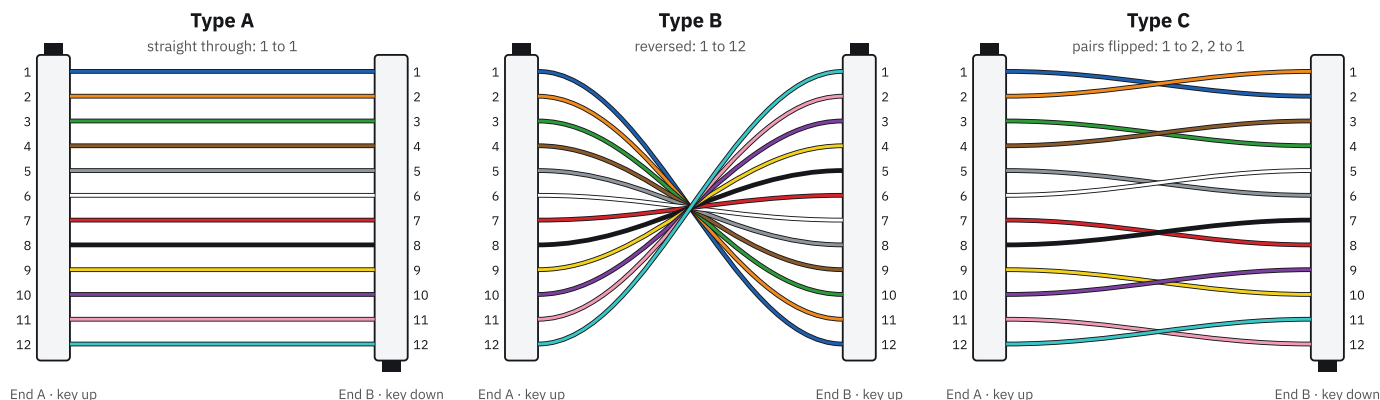
- ✓ **8, 12 or 24 fibers** per MPO connector
- ✓ **Corning SMF-28 Ultra**, G.657.A1 bend-insensitive
- ✓ **APC singlemode, UPC (flat) multimode** MPO connectors
- ✓ **Pinned or unpinned** at each end, key up
- ✓ **All polarity types:** Type A, B or C (see page 2)
- ✓ **Low loss:** 0.35 dB max per mated pair (low-loss US Conec MTP)
- ✓ **0.12 in [3.0 mm]** round jacket: LSZH, riser (OFNR) or plenum (OFNP)
- ✓ **OM4 (aqua) and OM5 (lime green)** multimode, 50/125 µm
- ✓ **Applications:** MPO cassette and panel patching; 40/100G-SR4, 400G-SR8 and SR4.2 parallel optics

MATCHED TO ONE OPTICS MPO CASSETTES

The MPC-24-LC-A (Type A) and MPC-24-LC-U (Method B / Universal) MPO pass-through cassettes have two pinned (male) MTP-12 APC singlemode ports at the rear. Connect them with unpinned (female) MPO-12 APC singlemode jumpers or trunks, polarity matched to the cassette: Method A or C for -A, Method B for -U (page 2).

POLARITY EXPLAINED

Every fiber link has to carry each transmitter (Tx) to a receiver (Rx) at the far end. In an MPO link the **polarity type** sets which fiber position at End A lands on which position at End B. All three types are available on One Optics MPO jumpers and trunks: **Type A, Type B and Type C**.



Type A, straight through. Key up at End A, key down at End B. Position 1 stays position 1, so the order is unchanged. Pair it with MPC-24-LC-A cassettes and a crossed cord at one end.

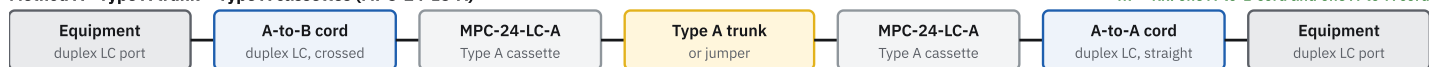
Type B, reversed. Key up at both ends. Position 1 lands on 12, 2 on 11, and so on. It is the type used end to end for parallel-optic transceivers and with Method B / Universal cassettes (MPC-24-LC-U).

Type C, pairs flipped. Key up at End A, key down at End B, with each pair swapped: 1 to 2, 2 to 1, 3 to 4. The trunk does the Tx/Rx crossover, so standard A-to-B cords work at both ends.

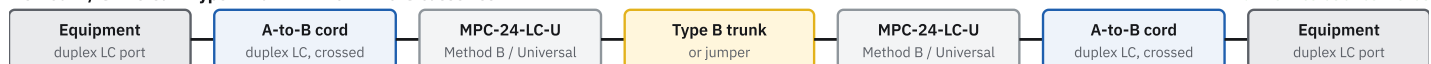
Fiber positions as seen at each end, key up or down as marked. TIA-598 colors. Schematic, not to scale.

BUILDING A CHANNEL THAT WORKS

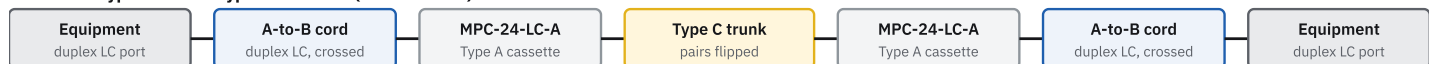
Method A · Type A trunk + Type A cassettes (MPC-24-LC-A)



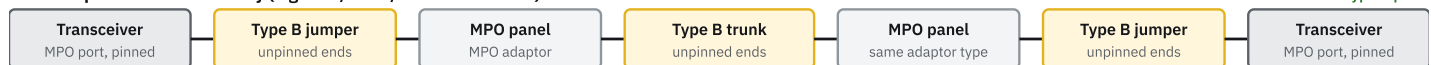
Method B / Universal · Type B trunk + MPC-24-LC-U cassettes



Method C · Type C trunk + Type A cassettes (MPC-24-LC-A)



Parallel optics · MPO all the way (e.g. 40G/100G/400G SR4 or DR4)



One Optics pass-through cassettes: MPC-24-LC-A (Type A) and MPC-24-LC-U (Polarity Method B / Universal, for Type B trunks). The industry also calls Method B cassettes "Universal". Each row is one complete link; keep every part in the link from the same row. "A-to-B" is the common crossed duplex LC cord; "A-to-A" is straight.

WHEN TO USE EACH

- Method B / Universal for new builds that will run parallel optics now or later: the same Type B trunk works for duplex and MPO transceivers. Use the One Optics MPC-24-LC-U Method B / Universal cassette at both ends.
- Method A to match existing Type A cassettes such as the One Optics MPC-24-LC-A. Mark the A-to-A cord end so it is not swapped.
- Method C for duplex-only links on Type A cassettes where you want A-to-B cords everywhere. Not for parallel optics.

TWO QUICK CHECKS

- Count the flips.** Between two MPO transceivers, count the Type B jumpers and trunks in the link: the total must be odd (1 or 3), with the same adaptor type in both panels. Singlemode APC panels use key-up to key-down adaptors. A single Type B jumper works on its own.
- Pinned meets unpinned.** Every mated MPO pair is one pinned and one unpinned connector. Transceivers and the rear MPO ports of our cassettes are pinned, so the trunk or jumper going into them is unpinned.
- Not sure? Send us both ends of the link and we will specify the polarity.

SPECIFY WITH YOUR ORDER

ITEM	OPTIONS	YOUR SELECTION
Fiber count	8, 12 or 24	
Fiber type	Singlemode (OS2), OM4 or OM5; OM3 on request	
End A connector	MPO, pinned or unpinned	
End B connector	MPO, pinned or unpinned	
Polarity	Type A, B or C	
Jacket	LSZH, riser (OFNR) or plenum (OFNP)	
Length	Meters	
Quantity		

SPECIFICATIONS

Fiber, singlemode	Corning SMF-28 Ultra, G.652.D / G.657.A1
Fiber, multimode	OM4 or OM5 50/125 µm laser-optimized; OM5 wideband (WBMMF)
Connector	MPO-8, MPO-12 or MPO-24 (US Conec MTP), pinned or unpinned
Polish	APC (singlemode); UPC, flat (multimode)
Polarity	Type A, B or C
Insertion loss, standard MPO	0.75 dB singlemode, 0.60 dB multimode max per mated pair
Insertion loss, low-loss MPO	0.35 dB max per mated pair
Return loss	Singlemode APC 60 dB min; multimode 20 dB min
Bandwidth, multimode	OM4, OM5: 4700 MHz·km EMB at 850 nm; OM5: 2470 MHz·km at 953 nm
Attenuation, multimode	3.0 / 1.5 dB/km max at 850 / 1300 nm; OM5: 2.3 dB/km at 953 nm
Reach, multimode	40G-SR4: 150 m; 100G-SR4, 400G-SR8: 100 m; 400G-SR4.2: OM4 100 m, OM5 150 m
Jacket	0.12 in [3.0 mm] round; LSZH, OFNR or OFNP
Color code	Singlemode: yellow jacket, green connectors; OM4: aqua jacket, violet connectors; OM5: lime green jacket, aqua connectors
Min. bend radius, singlemode	0.39 in [10 mm]
Operating temperature	14 to 158 °F [-10 to 70 °C]
Testing	100% end-face cleanliness and end-face geometry

ORDERING

Part number format **MPO- [count] - [ends] - [polarity] - [fiber] - [NN]M**
COUNT
08 · 12 · 24 fibers

ENDS
M = pinned (male) · **F** = unpinned (female)
FF · MF · MM: first letter is End A

POLARITY
A · B · C
FIBER · LENGTH
SM singlemode APC · **OM4 · OM5** multimode
UPC
NN = meters

Standard lengths: 1, 3, 5, 7, 10, 15, 20, 25 and 30 m, connectors included; custom lengths on request. Example: MPO-12-FF-A-SM-05M (Type A), MPO-12-FF-B-SM-05M (Type B), MPO-12-FF-C-SM-05M (Type C), MPO-12-FF-B-OM4-03M (OM4, Type B), MPO-24-FF-A-OM5-10M (OM5, Type A). OM3 on request.

Contact sales for pricing. Test data and certificate of conformance available on request. Specifications subject to change. Rev A · 2026-10.