ZUOYEAL

TECHNICAL DATA SHEET

MPO PATCH CORD · 4 - 144 FIBRES

4 - 144 F

MPO

MODEL **SM / MM**

MPO trunk and harness assemblies from 4 to 144 fibres, standard or low-loss ferrules, polarity A / B / C.

FIBRE COUNT	INSERTION LOSS
4 - 144 F	**≤ 0.35 dB low loss**
POLARITY	TEMP
A / B / C	**−40 to +80 °C**



01 OVERVIEW

Description & features

An MPO (Multi-fibre Push-On) patch cable is a high-density multi-fibre connector solution for high-speed transmission in modern networks. It integrates multiple fibres (typically 12, 24 or 48) into one compact connector, which gives efficient connectivity in space-constrained environments such as data centres, cloud computing and 5G networks.

FEATURES

- High density: 12 / 24 / 48 fibres in a single interface.
- Optimized for 40G, 100G, 400G and emerging 800G Ethernet.
- Modular design: MPO trunks and MPO-to-LC breakout harnesses.
- RoHS, REACH and SvHC compliant materials.

APPLICATIONS

- Telecommunication networks and 5G
- Data centre
- Enterprise network
- FTTH
- Broadband network

02 SPECIFICATION

Cable & MPO connector

CHARACTERISTICS	VALUE
Fiber model	SM / MM
Fiber type	G657A, G652D, G657B | OM1 - OM5
Fiber count	4 / 8 / 12 / 24 / 36 / 48 / 72 / 96 / 144 F
Cable material	LSZH
Length	Support customize

MPO CONNECTOR

PARAMETER	SPECIFICATION
Connector components	MPO / MTP (US Conec)
PIN	Male or female
Polarity	A (straight) / B (reversed) / C (pairs flipped)
Ferrule	PC / APC
Insertion loss — standard	≤ 0.7 dB
Insertion loss — low loss	≤ 0.35 dB
Return loss — standard	MM: PC ≥ 20 dB | SM: PC ≥ 40 dB, APC ≥ 55 dB
Return loss — low loss	MM: PC ≥ 30 dB | SM: PC ≥ 50 dB, APC ≥ 60 dB
Operating temperature	−40 to +80 °C

The insertion-loss figures are the optical performance of any plug connected to a standard plug through a standard adapter. The inherent loss of the intermediate cables is taken into account during testing.

03 HARNESS

LC / SC connector performance

PARAMETER	SPECIFICATION
Connector components	LC, SC
Ferrule	UPC / APC
Insertion loss	MM ≤ 0.25 dB | SM ≤ 0.30 dB
Return loss	MM: UPC ≥ 30 dB | SM: UPC ≥ 50 dB, APC ≥ 60 dB
Repeatability	≤ 0.1 dB
Durability	≤ 0.2 dB typical change, 1,000 matings
Operating temperature	−40 to +80 °C

The insertion-loss figures are the optical performance of any plug connected to a standard plug through a standard adapter. The inherent loss of the intermediate cables is taken into account during testing.

MPO-LC HARNESS

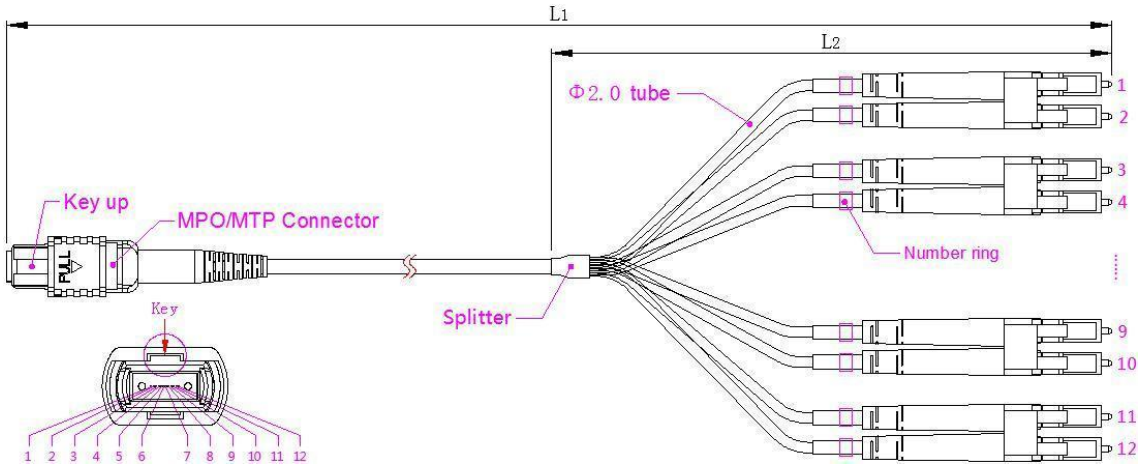


FIG. 3 MPO to 12 × LC harness, 2.0 mm legs with number rings

04 POLARITY

MPO-MPO polarity

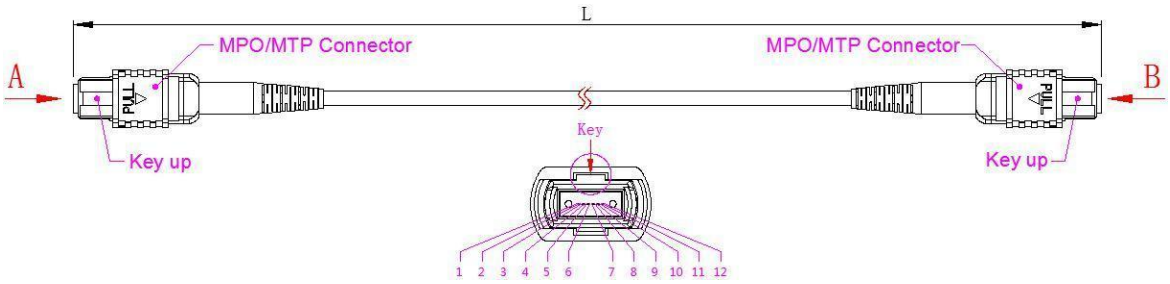


FIG. 4 12-fibre MPO-MPO polarity

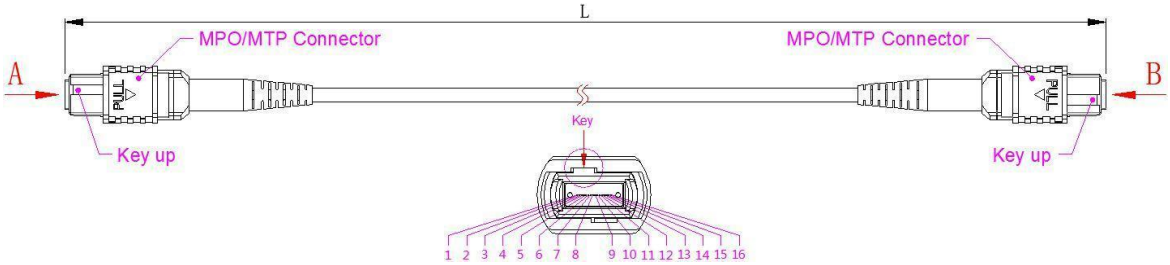


FIG. 5 16-fibre MPO-MPO polarity

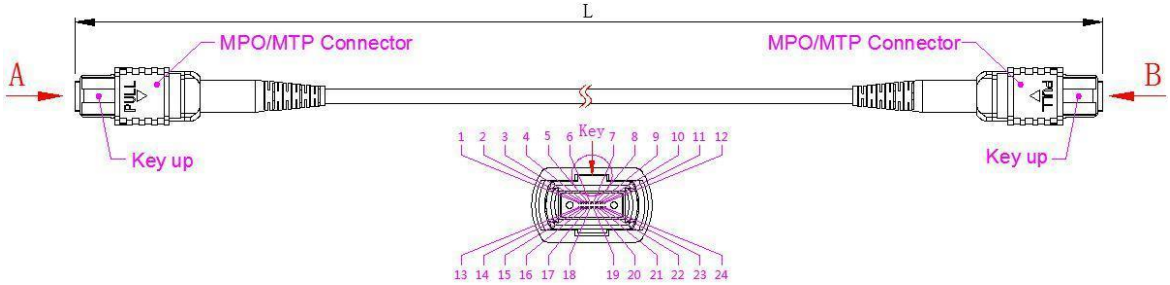


FIG. 6 24-fibre MPO-MPO polarity

05 COLOUR CODE

Channel colour assignment

Colour sequence for 12- and 24-channel MPO assemblies, with the A-side and B-side colours for polarity A, B and C.

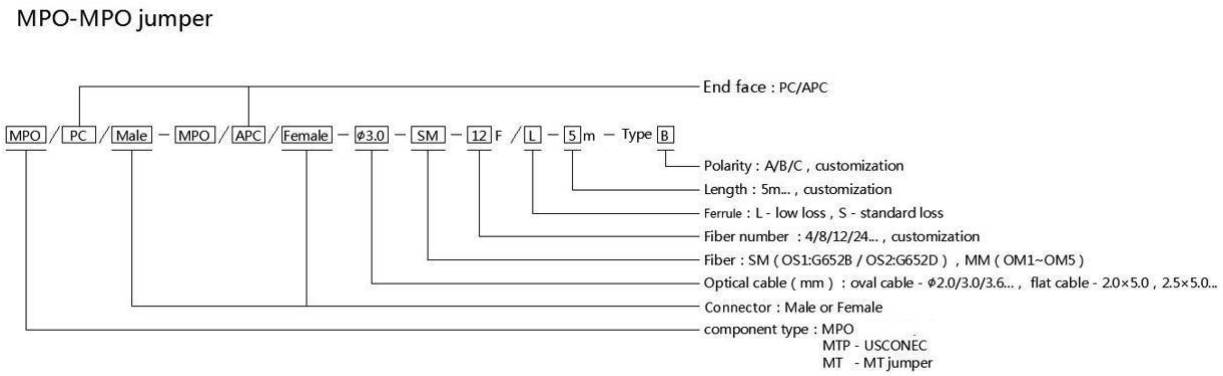
Channel	A side color	B side color		
		Polarity A	Polarity B	Polarity C
1	Blue	Dot blue	Dot turquoise	Dot orange
2	Orange	Dot orange	Dot pink	Dot blue
3	Green	Dot green	Dot magenta	Dot brown
4	Brown	Dot brown	Dot yellow	Dot green
5	Grey	Dot grey	Dot black	Dot white
6	White	Dot white	Dot red	Dot grey
7	Red	Dot red	Dot white	Dot black
8	Black	Dot black	Dot grey	Dot red
9	Yellow	Dot yellow	Dot brown	Dot magenta
10	Magenta	Dot magenta	Dot green	Dot yellow
11	Pink	Dot pink	Dot orange	Dot turquoise
12	Turquoise	Dot turquoise	Dot blue	Dot pink
13	Dot blue	Blue	Turquoise	Orange
14	Dot orange	Orange	Pink	Blue
15	Dot green	Green	Magenta	Brown
16	Dot brown	Brown	Yellow	Green
17	Dot grey	Grey	Black	White
18	Dot white	White	Red	Grey
19	Dot red	Red	White	Black
20	Dot black	Black	Grey	Red
21	Dot yellow	Yellow	Brown	Magenta
22	Dot magenta	Magenta	Green	Yellow
23	Dot pink	Pink	Orange	Turquoise
24	Dot turquoise	Turquoise	Blue	Pink

Channel colour code, channels 1 - 24

06 ORDERING

Part number structure

Order code example for an MPO-MPO jumper; every field can be customized.



MPO-MPO jumper part number structure

ORDER CODE FIELDS

- Component type: MPO, MTP (US Conec) or MT jumper.
- Connector: male or female; ferrule PC or APC.
- Cable: round 2.0 / 3.0 / 3.6 mm or flat 2.0 × 5.0 / 2.5 × 5.0 mm.
- Fibre: SM (OS1 G652B, OS2 G652D) or MM (OM1 - OM5).
- Fibre number 4 / 8 / 12 / 24 F, custom values on request.
- Ferrule grade: L for low loss, S for standard loss.
- Length 5 m and up, customized; polarity A / B / C or custom.

PACKING

- 1 pc per polybag.
- 50 - 100 pcs per carton box.

ZUOYEAL

ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

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This datasheet describes the MPO patch cord at the time of publication. Dimensions and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

MPO · 12 / 24 F · 40G / 100G / 400G

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