

# CONNECTIVITY PRODUCTS



## MPO (MTP) Optical Systems

MPO Optical System consists of MPO Cable Assembly and MPO hybrid break-out which are available in SM and MM versions. MPO cable assemblies are multi-fibre cables using single MPO connectors of 6, 8, 12 & 24 that are used to interconnect pre-terminated devices.

The MTP/MPO assemblies are suitable for high density back plane and Printed Circuit Board (PCB) solutions in data and telecom systems providing significant space and cost savings.

Precision moulded thermoplastic MT ferrules together with metal guide pins and precise housing dimensions ensure fibre alignment when mating. Push-pull latching mechanism with audible click ensures proper connection.

MPO (MT) Optical System offers the following complete product set to provide unique advantages to the installer and extremely easy network installation:



1. MPO to MPO Backbone Cable Assembly	Available in 6, 8, 12 & 24 fibre version
2. MPO Hybrid Break out Cable Assembly	MPO to any connector in 6, 8, 12 & 24 fibre versions on 250um fibre, 900um, 2mm or 3mm cable
3. MPO Break out Module	MPO-duplex LC (24 LC connections)/ MPO-SC (12 SC connections)
4. MPO Sliding Panel	MPO panel to accommodate 3 MPO modules
5. MPO Front Plate	To blank the cut out of the front panel or mount connectors

### Features & Advantages

- ❖ Extreme Simplicity – reduces implementation time
- ❖ Easy cable management and routing
- ❖ Compact Designs, holding up to 24 fibres
- ❖ Factory Terminated & tested – saves time and ensures reliability
- ❖ Can be re-deployed – preserves initial investment
- ❖ RoHS compliant

### Compliance Standards

Cable	: TIA/EIA-568-B, IEC 793-1, 794-1, ISO/IEC 11801
MPO	: TIA/EIA-604-5-A (FOCIS 5), GR-1435-CORE
Assembly	: GR-2866-CORE, GR-326-CORE
Testing	: EIA/TIA-526-14A

### Applications

- ❖ Data centre cabling infrastructure
- ❖ Backbone terminations in telecommunication rooms and main distribution rooms
- ❖ High density connection between equipment
- ❖ Horizontal distribution for FTTx application
- ❖ Gigabit Ethernet, CATV and Video transmission
- ❖ Telecommunications Networks
- ❖ Active Device/ Transceiver Interface

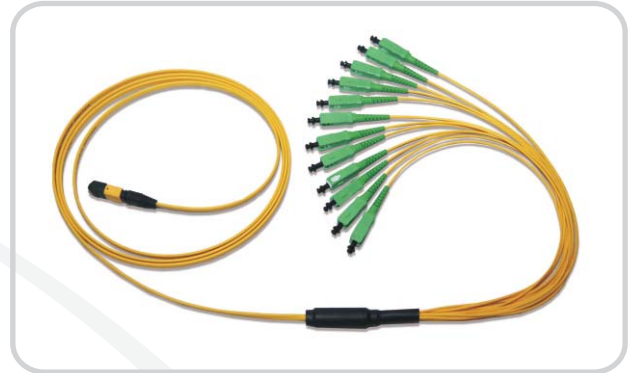


## MPO (MTP) Optical Systems

### Cable Types

MPO assemblies are available in the following fibre and cable versions :

Construction	Fibre Types
❖ Round Micro-fibre	❖ 62.5/125 (OM1)
❖ Flat Ribbon	❖ 50/125 (OM2)
❖ Armoured Cable	❖ 50/125 (laser optimised OM3)
❖ MPO Breakout - 250µm,	❖ Singlemode (OS1)
❖ 900µm, 2mm & 3mm branches	❖ Bend insensitive



Fire Rating	Fibre Count
LSZH, Riser & Plenum	6, 8, 12 & 24

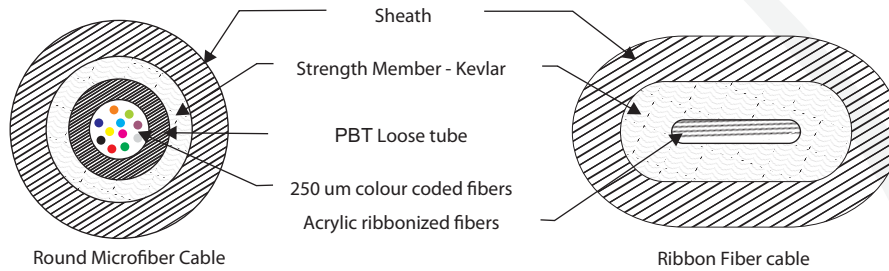


Fig.1: Cross Section of Round and Ribbon Cable

### Specifications

	Multimode		Singlemode	
	Insertion Loss	Return Loss	Insertion Loss	Return Loss
MPO-MPO Patchcord	Typ : 0.50dB Max : 0.75dB	>20dB	Typ : 0.35dB Max : 0.50dB	>60dB
MPO Hybrid Break-out (SC, ST, FC, E-2000, LC, MU) *	MPO : 0.50dB (typ), Max: 0.75dB  Hybrid : 0.20dB Max: 0.40dB	>20dB	MPO : 0.35dB (typ), Max : 0.50dB  Hybrid : 0.20dB (typ), Max : 0.30dB	>60dB
Operating Temperature	-40 to 80°C			
Mating Durability	500 cycles			

Break-out assemblies are also available in LGX versions suitable for assembling in 1U and 3U rack mountable panels.



# CONNECTIVITY PRODUCTS

## MPO (MTP) Optical Systems



### Size & Dimensions

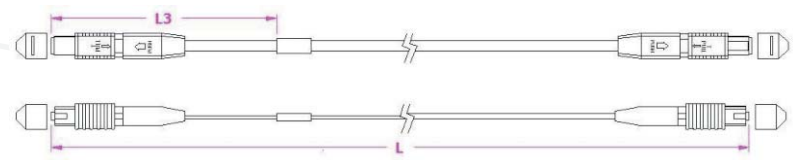


Fig.2: MPO-M PO Backbone Cable Assembly

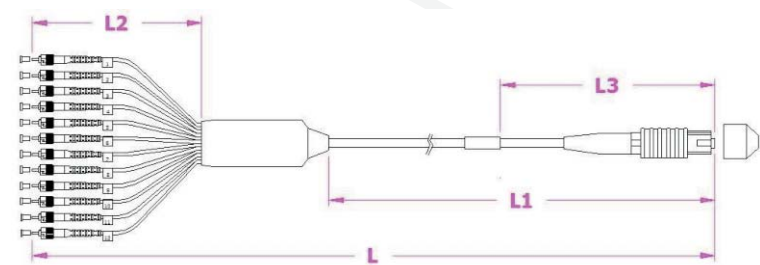


Fig. 3: MPO Hybrid break-out cable assembly

**FIBRE CHANNEL IDENTIFICATION**

Fibre Id. #	Fibre Colour	Fibre Id. #
1	Blue	13
2	Orange	14
3	Red	15
4	Green	16
5	Yellow	17
6	Brown	18
7	Violet	19
8	Black	20
9	Turquoise	21
10	Pink	22
11	Grey	23
12	White	24

**CASSIETTE FRONT PANEL**

Fig. 4: MPO to LC/ SC break out module Schematic

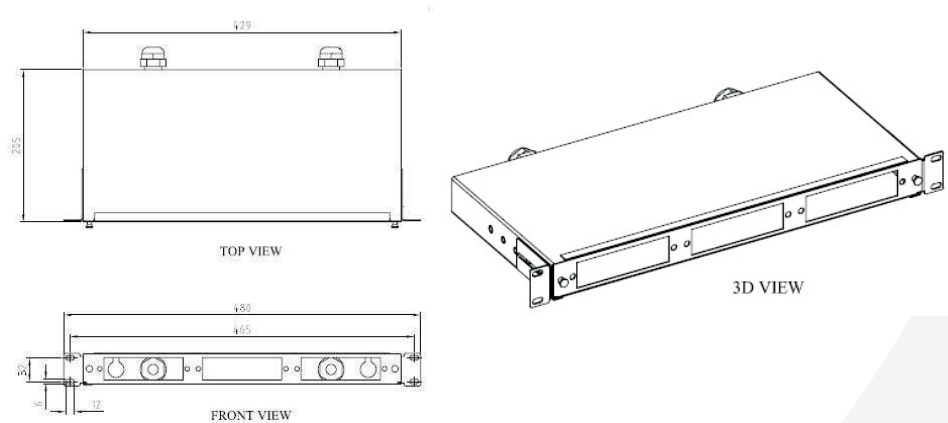


Fig. 5: MPO Sliding Patchpanel

## MPO (MTP) Optical Systems

### Dimensional Tolerances

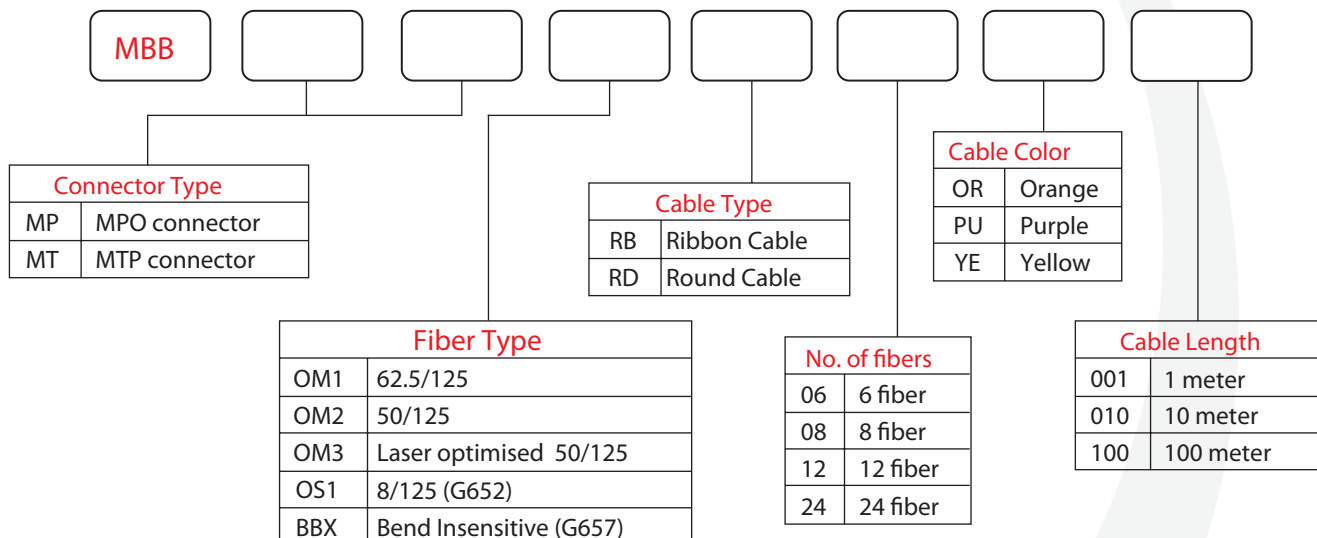
Overall Length (L) – refer fig. 2 & 3	:	$L \pm 0.15$ (m)
Length of MPO connector end ( $L_1$ ) – fig. 3	:	$L_1 \pm 0.10$ (m)
Branch out length ( $L_2$ ) – fig. 3	:	$L_2 \pm 0.10$ (m)
Traceability label distance ( $L_3$ ) – fig. 2 & 3	:	$150 \pm 10$ mm (on MPO connector side for break out assemblies)

For break out assemblies, lengths may be made to the needs of the customer and depending on the installation requirement

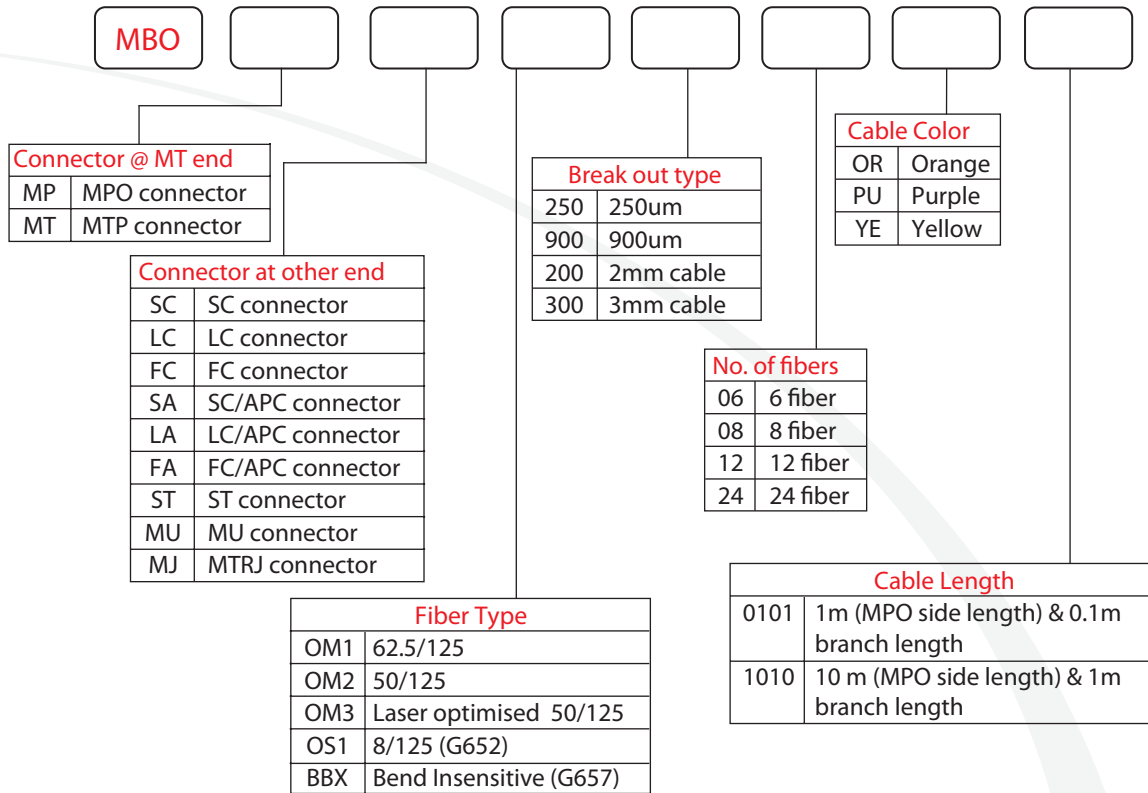
\* Custom assemblies are available on demand

### Ordering Information

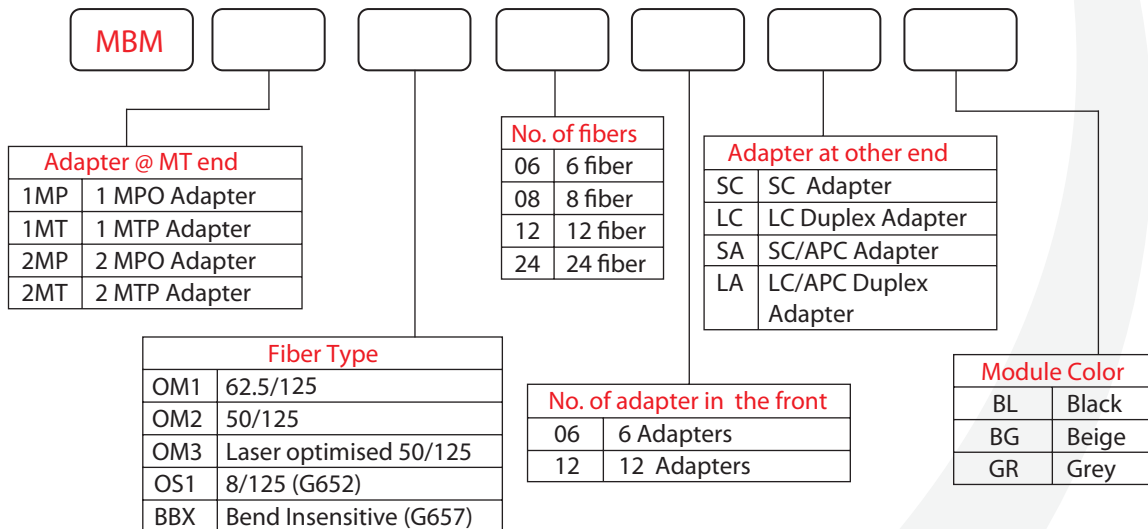
a) For Backbone Cable Assembly:



### b) For Break out Cable Assembly:



### c) For MPO Breakout Module



# CONNECTIVITY PRODUCTS

## MPO (MTP) Optical Systems



d) For MPO Sliding Panel : MPP3MBMBL (black)  
: MPP3MBMBG (beige)  
: MPP3MBMGR (grey)

e) For MPO Blanking plate : MBPBL (black)  
: MBPBG (beige)  
: MBPGR (grey)