

FHD Base-8 MTP®-LC Cassettes

High Density, Pre-terminated, Modular, Ultra-Low-Loss Cassette System



Application

FHD Base-8 cassettes provide a reliable interface between 8-fibre MTP®/MPO connectors and LC duplex connectors. Pre-terminated and pre-tested, they deliver verified optical performance and reliability, ensuring fast installation and enhanced network integrity. With low insertion loss and improved performance specifications, these cassettes support more mated pairs and longer link distances. This enables efficient deployment in high-density environments, maximizing rack space utilization and offering design flexibility. They also integrate seamlessly with high-density fiber cable assemblies and FHD enclosures, supporting robust connectivity for remote sites and data center applications.

Features

- Pre-terminated and pre-tested fibers eliminate complex, craft-sensitive field terminations and ensure high quality.
- Supports up to 96 LC fibers in 1U space, enabling optimal density and efficient rack utilization.
- Plug-and-play modules enable rapid installation of multiple fiber links, reducing deployment time.
- Low insertion loss supports more mated pairs and extended link distances for flexible network design.
- Ceramic ferrules and alignment sleeves ensure stable optical performance and long-term reliability.
- Universal polarity is designed to be deployed on both ends of a Method B trunk link.
- Uses bend insensitive fiber compliant with Telcordia, EIA/TIA, and IEC standards to ensure interoperability.

Standards Compliance

- TIA-942 data center design guidelines
- ANSI/TIA-568.3-D
- ANSI/TIA-604-5 for connector intermateability
- RoHS 2011/65/EU

Product Constructions

			
Front Connector	LC Duplex	LC Duplex Shuttered	LC Quad
Rear Connector	Single Mode: MTP® Adapter(s) with Male Ferrules (pins)		
	Multimode: MTP® Adapter(s) with Male Ferrules (pins)		
Fiber Count	8/16	24	24
Fiber Mode	Single Mode: OS2 9/125µm		
	Multimode: OM4 50/125µm		
Body Material	Aluminium (AL5052)		
Sleeves Material	Zirconia Ceramic		
Housing Type	Cassette		
Dimensions (HxWxD)	1.38"x4.29"x4.64" (35x109x118mm)		

Environmental Properties

Operating Temperature	-10 to 60°C (14 to 140°F)
Storage Temperature	-10 to 60°C (14 to 140°F)

Performance Properties

			
Polarity	Universal	Universal	Universal
Insertion Loss (Front)	Single Mode: UPC $\leq 0.2\text{dB}$		
	Multimode: $\leq 0.2\text{dB}$		
Insertion Loss (Rear)	Single Mode: Ultra Low $\leq 0.35\text{dB}$		
	Multimode: Ultra Low $\leq 0.35\text{dB}$		
Return Loss (Front)	Single Mode: $\geq 50\text{dB}$		
	Multimode: $\geq 30\text{dB}$		
Return Loss (Rear)	Single Mode: $\geq 60\text{dB}$		
	Multimode: $\geq 20\text{dB}$		
Polish Type (Front)	Single Mode: UPC		
	Multimode: UPC		
Polish Type (Rear)	Single Mode: MTP® (APC)		
	Multimode: MTP® (UPC)		
Durability (Front)	1000 Mating Cycles		
Durability (Rear)	500 Mating Cycles		

Color Codes

Fiber Mode	Polish Type	Adapter Color
OS2	APC	Green
	UPC	Blue
OM3	UPC	Aqua
OM4	UPC	Aqua
OM5	UPC	Lime Green

Note: Color coding is currently only for the front connector.

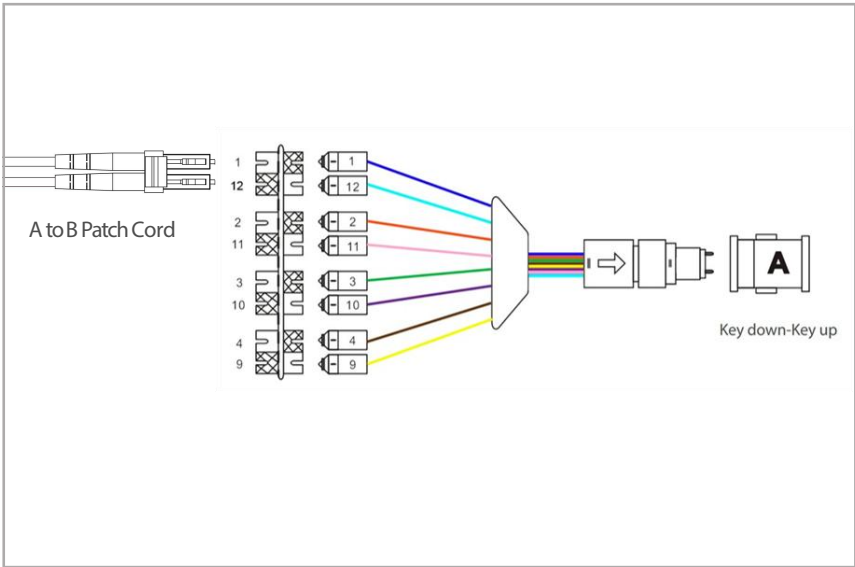
Polarity Illustration

I. MTP® -8 Cassette, Universal



Port Labeling	12	11	10	9
	1	2	3	4

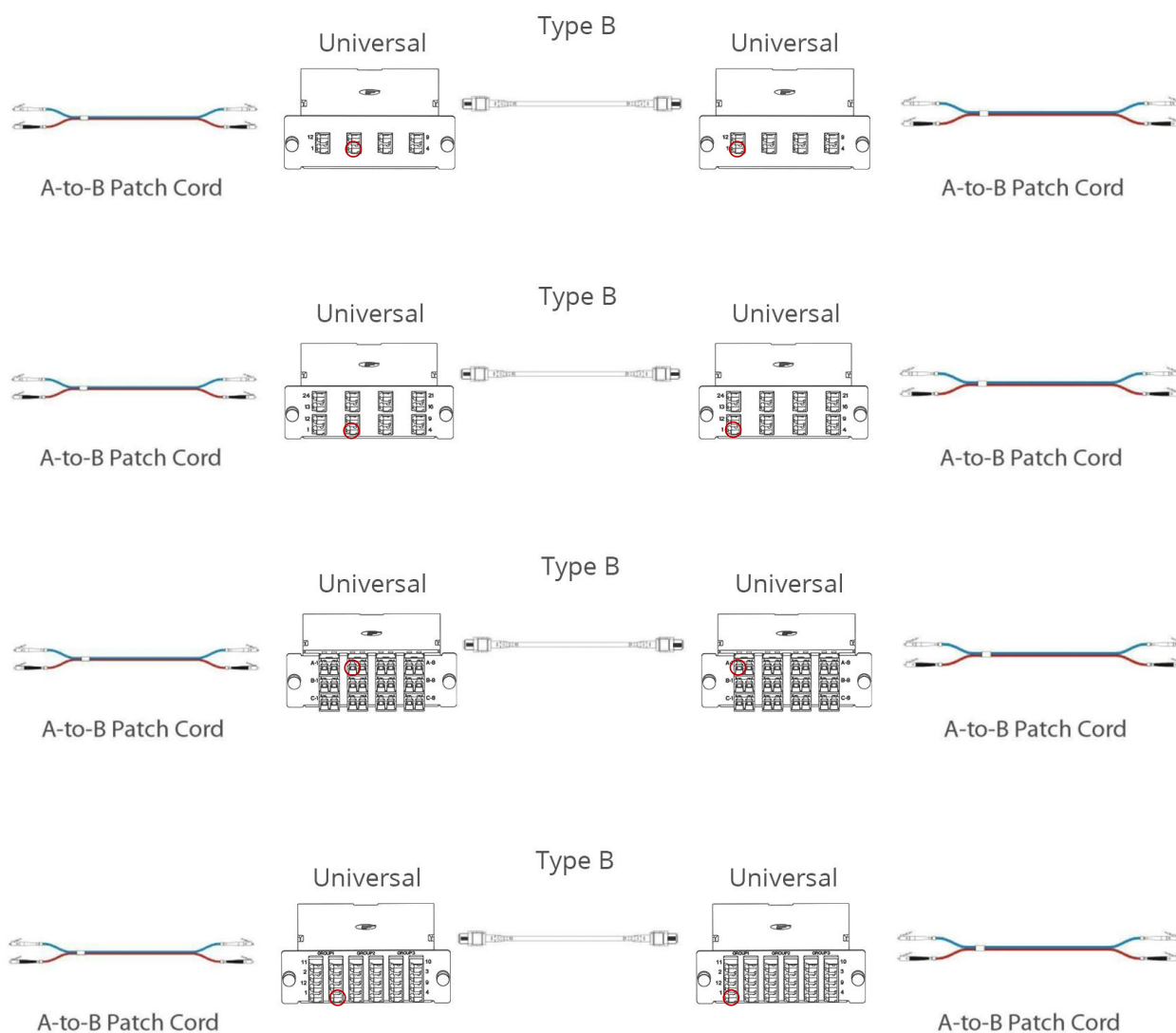
Inner Sequence	12	11	10	9
	1	2	3	4



Note: Universal polarity to be used at both ends of a Method B trunk reduces the complexity of a fiber network, ensuring consistent polarity, and streamlining network maintenance.

Pin Assignment			
Port ID	Discrete Connector Position	Fiber Color	MTP Connector Position
1	A	Blue	1
	B	Aqua	12
2	A	Orange	2
	B	Rose	11
3	A	Green	3
	B	Violet	10
4	A	Brown	4
	B	Yellow	9

Method for Achieving Fiber Polarity

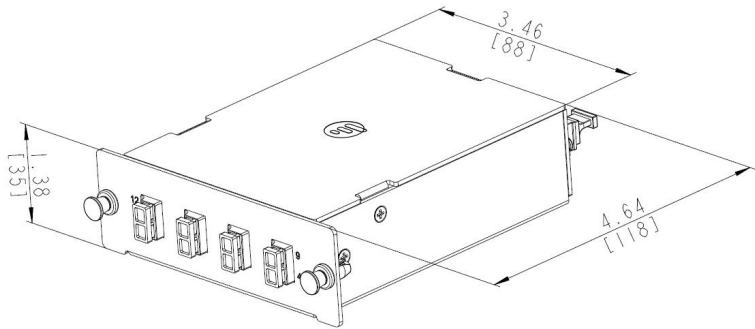
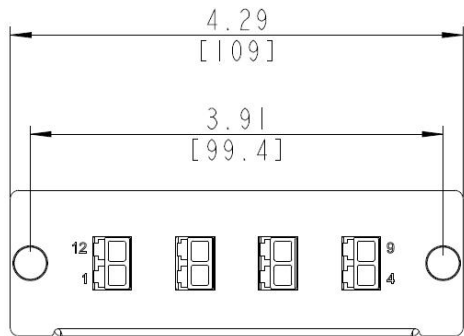


Note: The transmission of the signal is P2 in and P1 out.

Universal cassettes can also be used to convert transceiver ports at 4:1 (utilizing 8 of 12 fibers or MTP® -8 Cassettes)

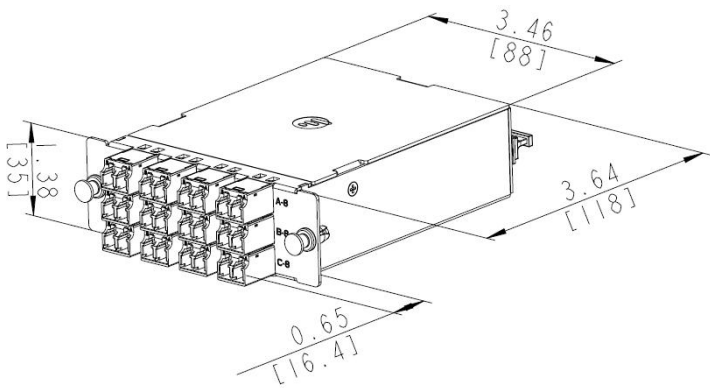
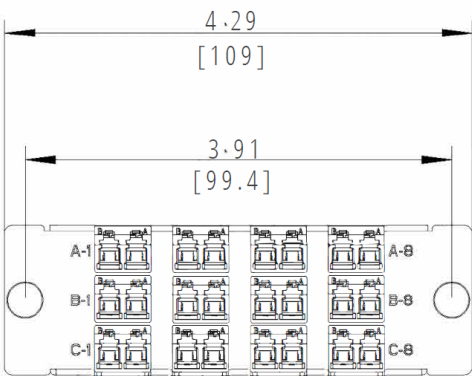
Layout and Dimensions

8/16F LC Duplex & 24F LC Quad Cassette



Note: 8/16F LC duplex and 24F LC quad cassettes are of the same dimensions.

24F LC Shuttered Cassette



Ordering Information

Fiber Mode	Front Connector	Rear Connector	Fiber Count	Front Color	Polarity
• OS2	• LC APC	• MTP®-8	• 8	• Green	• Type A
• OM3	• LC UPC	• MTP®-12	• 12	• Blue	• Type AF
• OM4	• SC APC	• MTP®-24	• 16	• Aqua	• Universal
• OM5	• SC UPC		• 24	• Magenta	
	• MDC UPC		• 36	• Lime Green	
			• 48		

Note:

- MTP connector (single mode) with APC polish and pinned (male) type by default.
- MTP connector (multimode) with UPC polish and pinned (male) type by default.
- Type B polarity is available for multimode only.
- Universal polarity is supported by MTP-12 and MTP-8 only.
- SC interface is available for 12-fiber configuration only.

Products Listing

8-Fiber Cassettes

ID	Description
68401	OS2 Single Mode, Universal, 8 Fibers, MTP®-8 (Male) to 4 x LC Duplex (Blue)
68402	OM4 Multimode, Universal, 8 Fibers, MTP®-8 (Male) to 4 x LC Duplex (Aqua)

16-Fiber Cassettes

ID	Description
230555	OM4 Multimode, Universal, 16 Fibers, 2 x MTP®-8 (Male) to 8 x LC Duplex (Aqua)

24-Fiber Cassettes

ID	Description
143164	OS2 Single Mode, Universal, 24 Fibers, 3 x MTP®-8 (Male) to 6 x LC Quad (Blue)
68399	OM4 Multimode, Universal, 24 Fibers, 3 x MTP®-8 (Male) to 6 x LC Quad (Aqua)
181822	OS2 Single Mode, Universal, 24 Fibers, 3 x MTP®-8 (Male) to 12 x Shuttered LC Duplex (Blue)
181823	OM4 Multimode, Universal, 24 Fibers, 3 x MTP®-8 (Male) to 12 x Shuttered LC Duplex (Aqua)

Matching Products

Fiber Enclosures

ID	Description
96427	1U Rack Mount Enclosure Unloaded, Tool-less Removable Top Cover, Holds up to 4 x FHD® Cassettes or Panels
70361	1U Rack Mount Enclosure Unloaded, Sliding Drawer, Holds up to 4 x FHD® Cassettes, Panels, or Splice Trays
145167	1U Rack Mount Enclosure Unloaded, Sliding and Tilt-down Drawer, Holds up to 4 x FHD® Cassettes or Panels
70419	1U Rack Mount Modular Enclosure Unloaded, Rear Cable Managers, Holds up to 4 x FHD® Cassettes or Panels
50550	Wall Mount Enclosure Unloaded, 2 Ports, Holds up to 2 x FHD® Cassettes or Panels, 2 x Splice Trays

MTP® Jumpers

ID	Description
317743	1m (3ft) MTP® Jumper, MTP®-8 APC (Female) to MTP®-8 APC (Female), 8 Fibers, Single Mode (OS2), Plenum (OFNP), 0.35dB Max, Type B
317731	1m (3ft) MTP® Jumper, MTP®-8 UPC (Female) to MTP®-8 UPC (Female), 8 Fibers, Multimode (OM4), Plenum (OFNP), 0.35dB Max, Type B

Fiber Patch Cables

ID	Description
40191	1m (3ft) Fiber Patch Cable, 2 Fibers, LC UPC Duplex to LC UPC Duplex, Single Mode (OS2), Riser (OFNR), 2.0mm
40180	1m (3ft) Fiber Patch Cable, 2 Fibers, LC UPC Duplex to LC UPC Duplex, Multimode (OM4), Riser (OFNR), 2.0mm

High Density Cables

ID	Description
72166	1m (3ft) LC UPC to LC UPC Flat Clip Uniboot Duplex OS2 Single Mode Riser (OFNR) 2.0mm BIF Fiber Optic Patch Cable
72170	1m (3ft) LC UPC to LC UPC Flat Clip Uniboot Duplex OM4 Multimode Riser (OFNR) 2.0mm BIF Fiber Optic Patch Cable