

FHD Base-24 MTP®-LC Cassettes

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



Application

FHD Base-24 cassettes provide a reliable interface between 24-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.
- A Method A link can be built using a combination of Type A and Type AF cassettes.
- 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

Fiber Count	24
Fiber Mode	Single Mode: OS2 9/125µm Multimode: OM3 50/125µm, OM4 50/125µm, OM5 50/125µm
Front Connector	Single Mode: LC Duplex Multimode: LC Duplex
Rear Connector	Single Mode: MTP® Adapter(s) with Male Ferrules (pins) Multimode: MTP® Adapter(s) with Male Ferrules (pins)
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	Type A/AF
Insertion Loss (Front)	Single Mode: LC UPC ≤0.2dB Multimode: LC UPC ≤0.2dB
Insertion Loss (Rear)	Single Mode: MTP® Standard ≤0.75dB, Ultra Low ≤0.35dB Multimode: MTP® Standard ≤0.6dB, Ultra Low ≤0.35dB
Return Loss (Front)	Single Mode: LC ≥50dB Multimode: LC ≥30dB
Return Loss (Rear)	Single Mode: MTP® ≥60dB Multimode: MTP® ≥20dB
Polish Type (Front)	Single Mode: LC (UPC) Multimode: LC (UPC)
Polish Type (Rear)	Single Mode: MTP® (APC) Multimode: MTP® (UPC)
Durability (Front)	LC 1000 Mating Cycles
Durability (Rear)	MTP® 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.

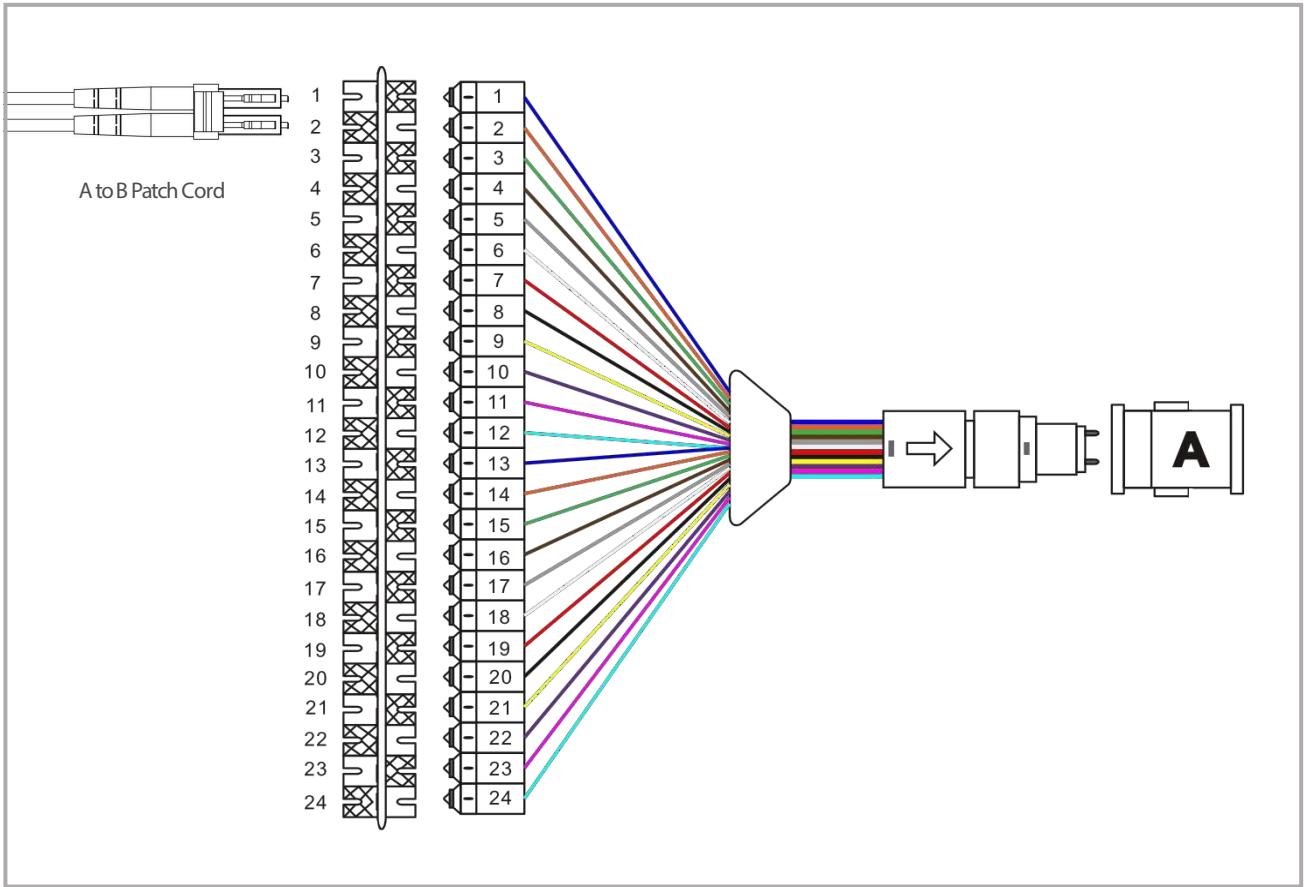
Polarity Illustration

I. MTP® -24 Cassette, Type A



Port Labeling	14	16	18	20	22	24
	13	15	17	19	21	23
	2	4	6	8	10	12
	1	3	5	7	9	11

Inner Sequence	14	16	18	20	22	24
	13	15	17	19	21	23
	2	4	6	8	10	12
	1	3	5	7	9	11



Note: Type A and Type AF are used as a pair in a two cassette method A link.

Polarity Illustration

I. MTP® -24 Cassette, Type A

Pin Assignment			
Port ID	Discrete Connector Position	Fiber Color	MTP Connector Position
1	A	Blue	1
	B	Orange	2
2	A	Green	3
	B	Brown	4
3	A	Slate	5
	B	White	6
4	A	Red	7
	B	Black	8
5	A	Yellow	9
	B	Violet	10
6	A	Rose	11
	B	Aqua	12
7	A	Blue	13
	B	Orange	14
8	A	Green	15
	B	Brown	16
9	A	Slate	17
	B	White	18
10	A	Red	19
	B	Black	20
11	A	Yellow	21
	B	Violet	22
12	A	Rose	23
	B	Aqua	24

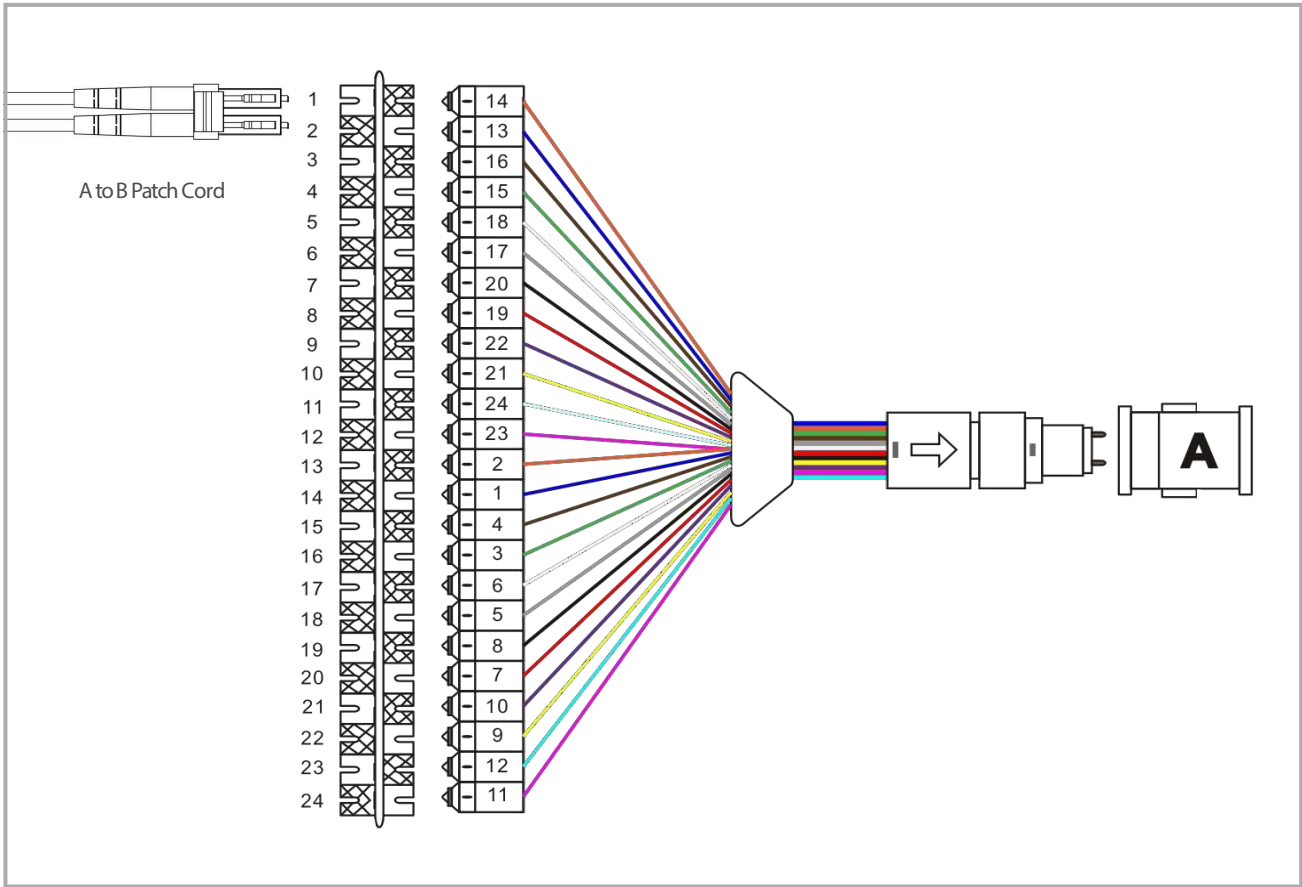
Polarity Illustration

II. MTP® -24 Cassette, Type AF



Port Labeling	14	16	18	20	22	24
	13	15	17	19	21	23
	2	4	6	8	10	12
	1	3	5	7	9	11

Inner Sequence	1	3	5	7	9	11
	2	4	6	8	10	12
	13	15	17	19	21	23
	14	16	18	20	22	24



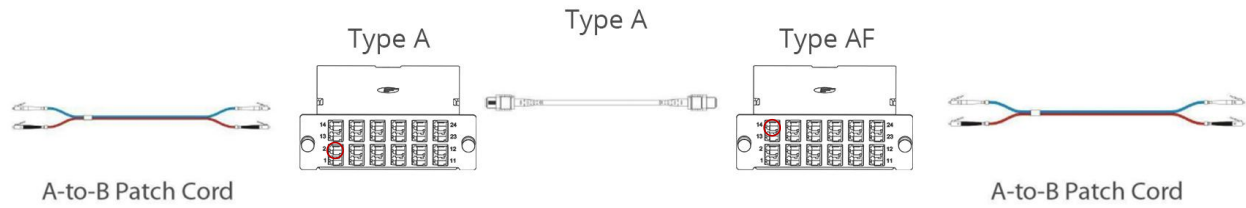
Note: Type A and Type AF are used as a pair in a two cassette method A link.

Polarity Illustration

II. MTP® -24 Cassette, Type AF

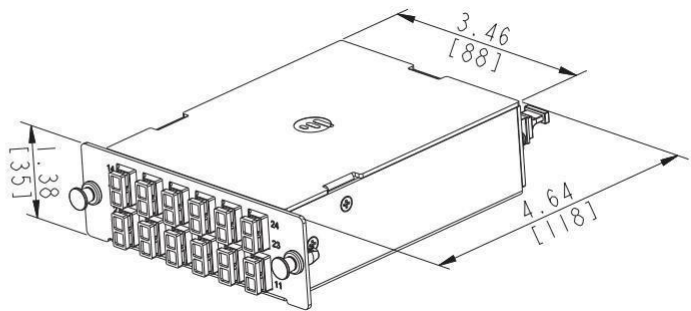
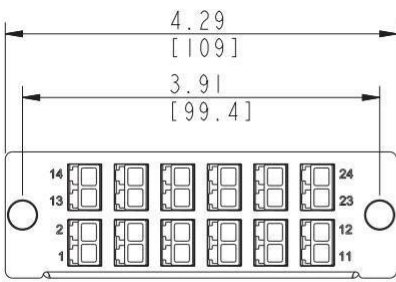
Pin Assignment			
Port ID	Discrete Connector Position	Fiber Color	MTP Connector Position
1	A	Orange	14
	B	Blue	13
2	A	Brown	16
	B	Green	15
3	A	White	18
	B	Slate	17
4	A	Black	20
	B	Red	19
5	A	Violet	22
	B	Yellow	21
6	A	Aqua	24
	B	Rose	23
7	A	Orange	2
	B	Blue	1
8	A	Brown	4
	B	Green	3
9	A	White	6
	B	Slate	5
10	A	Black	8
	B	Red	7
11	A	Violet	10
	B	Yellow	9
12	A	Aqua	12
	B	Rose	11

Method for Achieving Fiber Polarity



Note: The transmission of the signal is P2 in and P14 out.

Layout and Dimensions



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

24-Fiber Cassettes

ID	Description
57023	OS2 Single Mode, Type A, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Blue)
68549	OS2 Single Mode, Type AF, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Blue)
57024	OM4 Multimode, Type A, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Aqua)
68550	OM4 Multimode, Type AF, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Aqua)
174250	OM5 Multimode, Type A, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Lime Green)
174251	OM5 Multimode, Type AF, 24 Fibers, MTP®-24 (Male) to 12 x LC Duplex (Lime Green)

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
72421	1m (3ft) MTP® Jumper, MTP®-24 APC (Female) to MTP®-24 APC (Female), 24 Fibers, Single Mode (OS2), Plenum (OFNP), 0.35dB Max, Type A
317789	5m (16ft) MTP® Jumper, MTP®-24 UPC (Female) to MTP®-24 UPC (Female), 24 Fibers, Multimode (OM3), Plenum (OFNP), 0.35dB Max, Type A
68041	1m (3ft) MTP® Jumper, MTP®-24 UPC (Female) to MTP®-24 UPC (Female), 24 Fibers, Multimode (OM4), Plenum (OFNP), 0.35dB Max, Type A
183676	1m (3ft) MTP® Jumper, MTP®-24 UPC (Female) to MTP®-24 UPC (Female), 24 Fibers, Multimode (OM5), Plenum (OFNP), 0.35dB Max, Type A

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
41730	1m (3ft) Fiber Patch Cable, 2 Fibers, LC UPC Duplex to LC UPC Duplex, Multimode (OM3), 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
69091	1m (3ft) Fiber Patch Cable, 2 Fibers, LC UPC Duplex to LC UPC Duplex, Multimode (OM5), Riser (OFNR), 2.0mm