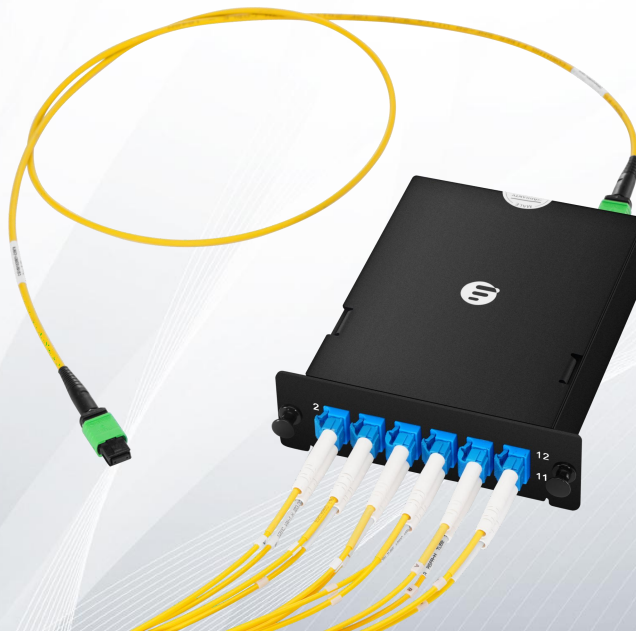


FHD MTP® 12/24 Cassettes Datasheet

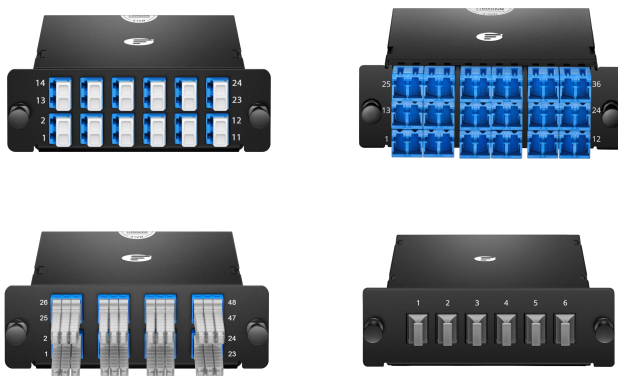
HIGH DENSITY

Pre-terminated Modular Cassette System



Description

FHD Fiber Optic MTP® Cassettes consist of pre-terminated LC, SC, MDC or MTP® adapters for quick and easy deployment in high density applications and provide efficient utilization of rack space and design flexibility. The cassettes interconnect with high-density fiber cable assemblies for quick connection of remote or data center applications.



Features

- High-density modular design, up to 144 fibers (LC) in 1U for efficient utilization.
- Pre-terminated cassette for improved reliability and quick deployment.
- High performance connectors to achieve a low loss optical budget.
- Plug-N-play modules allow fast installation of multiple fiber links.
- Offered in a wide range of performance and polarity configurations.
- The bend insensitive fiber compliant to Telcordia, EIA/TIA and IEC standards.

I. Product Constructions

Fiber Count	12 Fibers/24 Fibers/36 Fibers/48 Fibers
Fiber Mode	Multimode: OM3 50/125µm, OM4 50/125µm, OM5 50/125µm Single Mode: OS2 9/125µm
Front Connector	Multimode: LC/SC Duplex (UPC), MTP® Adapter(s) with Male Ferrules (pins) and UPC Polish Single Mode: LC/SC Duplex (UPC/APC), MDC Duplex (UPC), MTP® Adapter(s) with Male Ferrules (pins) and APC Polish
Rear Connector	Multimode: MTP® Adapter(s) with Male Ferrules (pins) and UPC Polish Single Mode: MTP® Adapter(s) with Male Ferrules (pins) and APC Polish
Polarity Type	Type A/AF/B1/B2/Universal
Material	Aluminium (AL5052)
Dimensions (HxWxD)	1.38"x4.29"x4.64" (35x109x118mm), 1.38"x4.29"x6.22" (35x109x158mm)

II. Performance Properties

Rear Connector	US Conec MTP®
Insertion Loss	Multimode: Stand IL 0.6dB max. Ultra Low IL 0.35dB Max. Single Mode: Stand IL 0.75dB Max. Ultra Low IL 0.35dB Max.
Return Loss	Multimode: ≥20dB Single Mode: ≥60dB
Connector Durability	US Conec MTP® Connector Meets TIA/EIA-568.C.3A.4.9 Durability: 500 Mating Cycles

Note:

The US Conec MTP® connectors are fully compliant with the MPO standards, achieving higher performance levels when compared to generic MPO connectors.

III. Performance Properties

Front Connector	LC/SC/MDC Duplex or MTP® Adapter(s)
Fiber Mode	Multimode/Single Mode
Material of Sleeve	Zirconia Ceramic
Insertion Loss	Multimode: UPC $\leq 0.2\text{dB}$, UPC (Pigtail) $\leq 0.3\text{dB}$ Single Mode: APC $\leq 0.3\text{dB}$, UPC $\leq 0.2\text{dB}$, UPC (Pigtail) $\leq 0.3\text{dB}$
Return Loss	Multimode: UPC $\geq 30\text{dB}$ Single Mode: APC $\geq 60\text{dB}$, UPC $\geq 50\text{dB}$

IV. Environmental Characteristics

Operating Temperature	-10°C-60°C
Storage Temperature	-10°C-60°C

Standards Compliance

- ISO9001 Certificate
- RoHS Compliant
- ISO14001 Compliant

Polarity Illustration

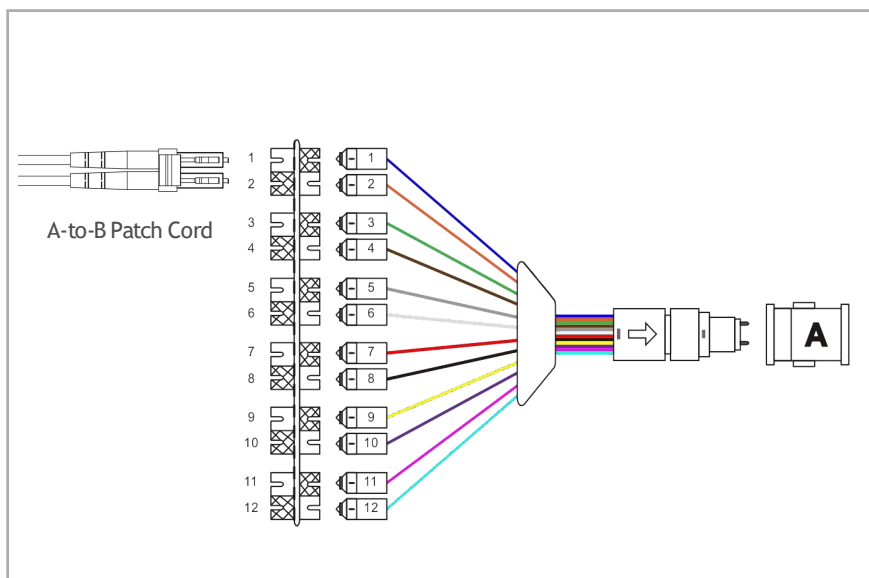
In any installation, it is important to ensure that the transmitter at one end matches the corresponding receiver at the other end. FS provides a number of intelligent solutions that can help you manage and optimize your network and its connectivity.

I. MTP® -12 Cassette, Type A



Port Labeling	2	4	6	8	10	12
	1	3	5	7	9	11

Inner Sequence	2	4	6	8	10	12
	1	3	5	7	9	11

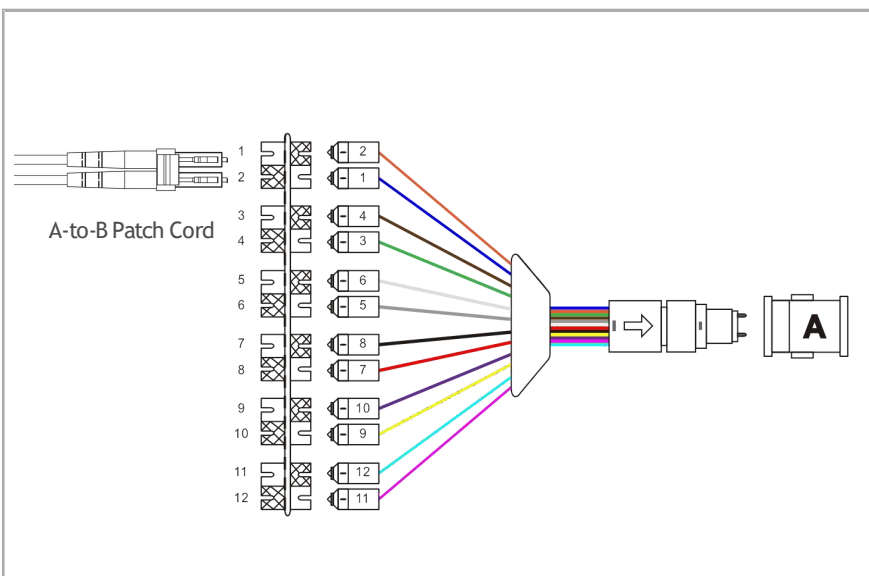


II. MTP® -12 Cassette, Type AF



Port Labeling	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



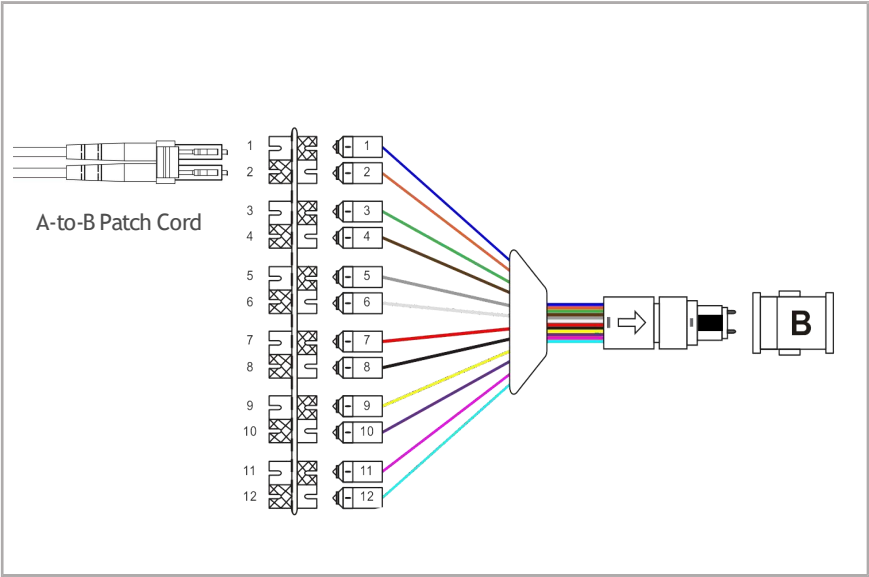
Note: Type A and Type AF are used as a pair in a two cassette method A link.

III. MTP® -12 Cassette, Type B1



Port Labeling	2	4	6	8	10	12
	1	3	5	7	9	11

Inner Sequence	2	4	6	8	10	12
	1	3	5	7	9	11

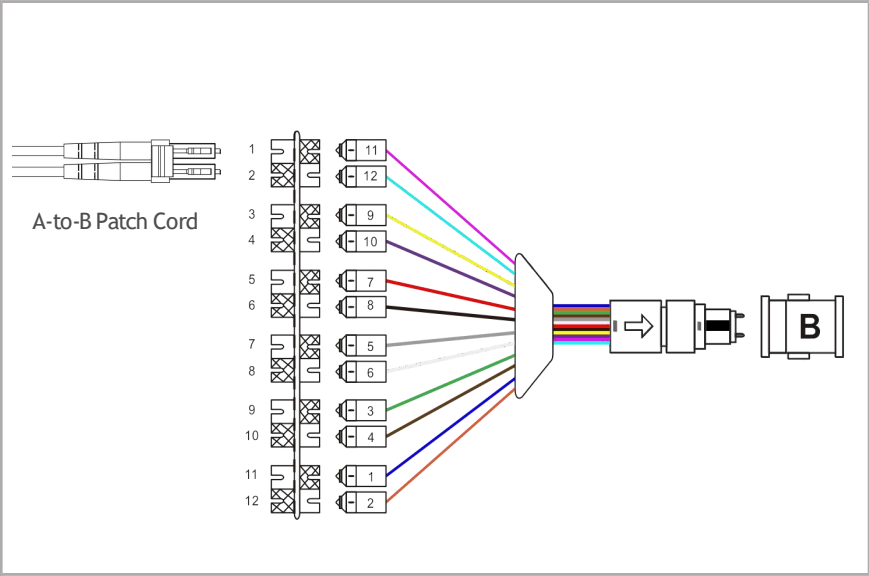


IV. MTP® -12 Cassette, Type B2



Port Labeling	2	4	6	8	10	12
	1	3	5	7	9	11

Inner Sequence	12	10	8	6	4	2
	11	9	7	5	3	1



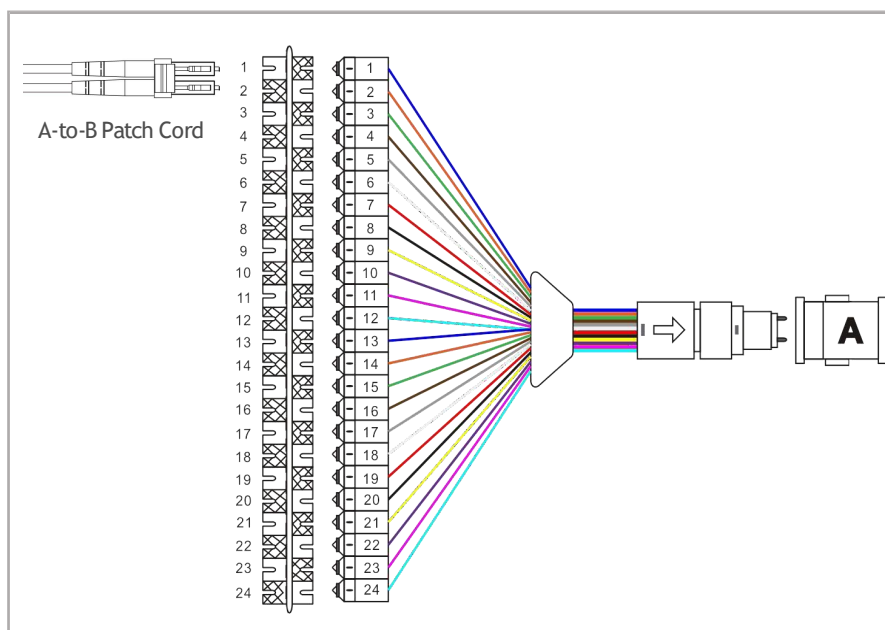
Note: Type B1 and Type B2 are used as a pair in a two cassette method B link.

VI. 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

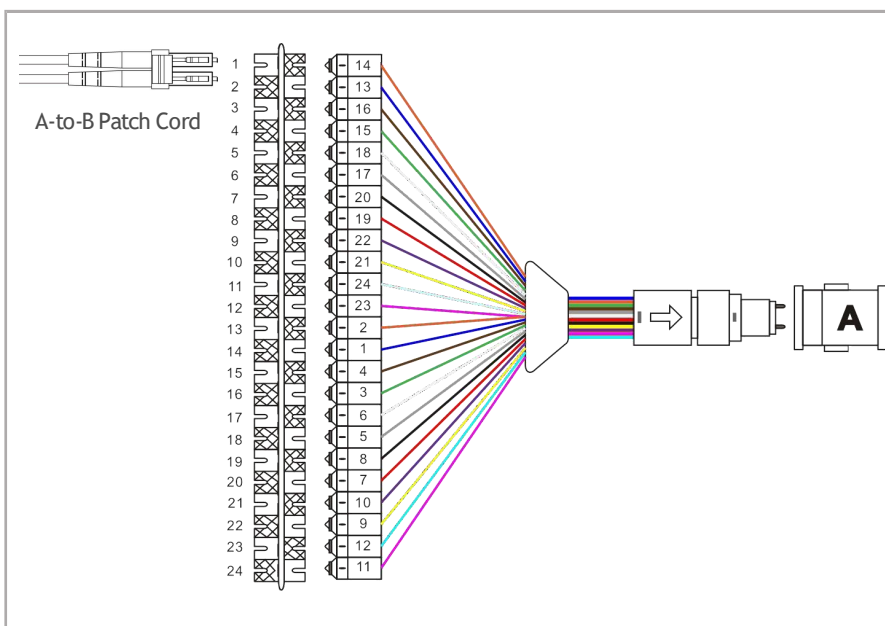


VIII. MTP® -24 Cassette, Type AF



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



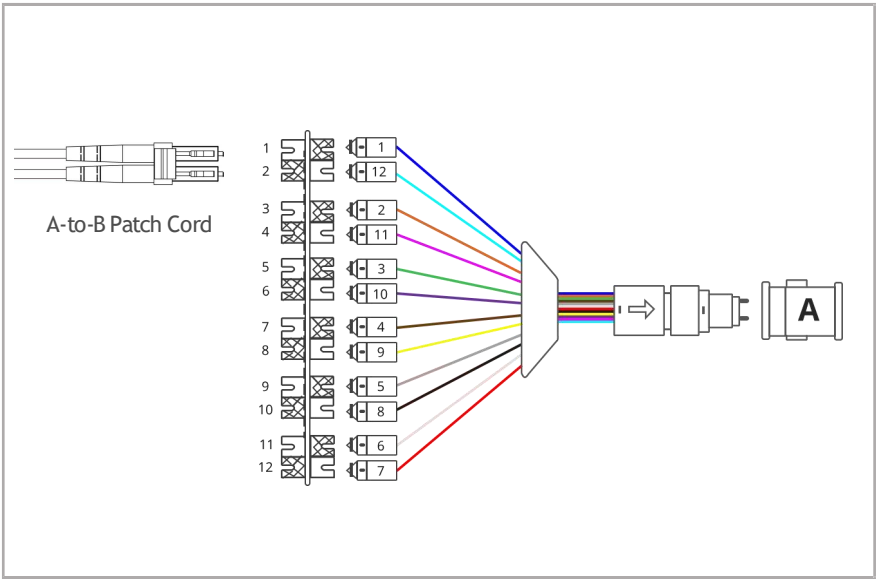
Note: Type A and Type AF are used as a pair in a two cassette method A link.

V. Universal



Port Labeling	2	4	6	8	10	12
	1	3	5	7	9	11

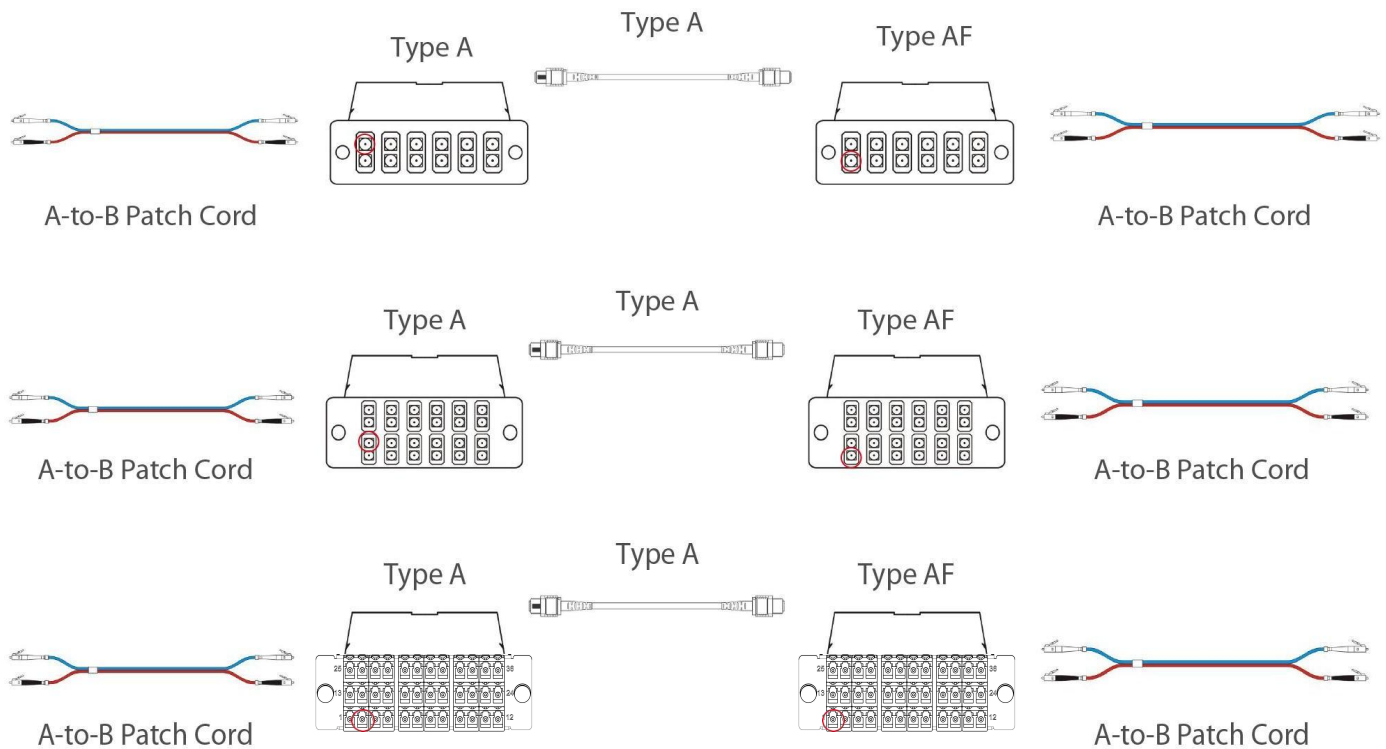
Inner Sequence	12	11	10	9	8	7
	1	2	3	4	5	6



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.

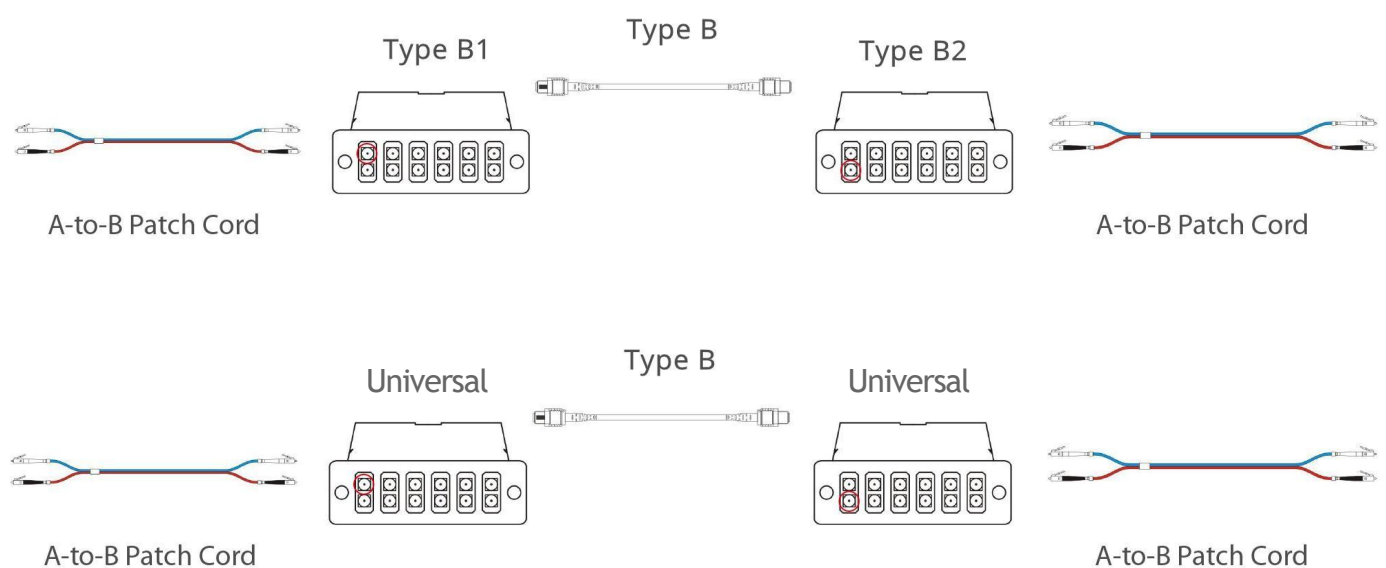
VII. Method for Achieving Fiber Polarity

1. Connectivity Method A for Duplex Signals



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

2. Connectivity Method B for Duplex Signals



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

VIII. Pin Assignment

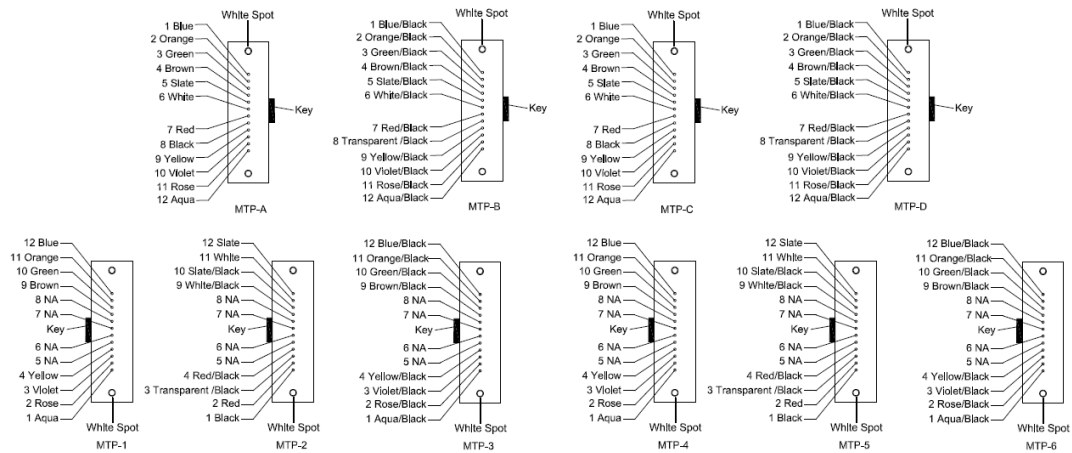
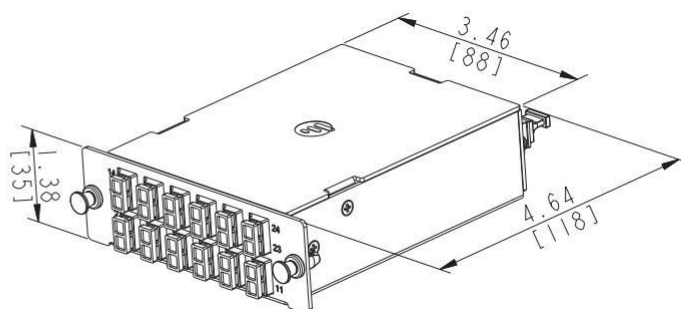
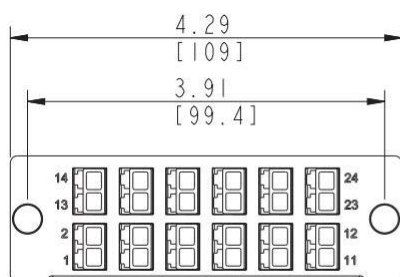


Table 2 Fiber Chart:

250um Fiber Colors	12F MTP-A	12F MTP	250um Fiber Colors	12F MTP-B	12F MTP	250um Fiber Colors	12F MTP-C	12F MTP	250um Fiber Colors	12F MTP-D	12F MTP
Blue	Channel 1	Channel 12 (MTP1)	Blue/Black	Channel 1	Channel 12 (MTP3)	Blue	Channel 1	Channel 12 (MTP4)	Blue/Black	Channel 1	Channel 12 (MTP6)
Orange	Channel 2	Channel 11 (MTP1)	Orange/Black	Channel 2	Channel 11 (MTP3)	Orange	Channel 2	Channel 11 (MTP4)	Orange/Black	Channel 2	Channel 11 (MTP6)
Green	Channel 3	Channel 10 (MTP1)	Green/Black	Channel 3	Channel 10 (MTP3)	Green	Channel 3	Channel 10 (MTP4)	Green/Black	Channel 3	Channel 10 (MTP6)
Brown	Channel 4	Channel 9 (MTP1)	Brown/Black	Channel 4	Channel 9 (MTP3)	Brown	Channel 4	Channel 9 (MTP4)	Brown/Black	Channel 4	Channel 9 (MTP6)
Slate	Channel 5	Channel 12 (MTP2)	Slate/Black	Channel 5	Channel 10 (MTP2)	Slate	Channel 5	Channel 12 (MTP5)	Slate/Black	Channel 5	Channel 10 (MTP5)
White	Channel 6	Channel 11 (MTP2)	White/Black	Channel 6	Channel 9 (MTP2)	White	Channel 6	Channel 11 (MTP5)	White/Black	Channel 6	Channel 9 (MTP5)
Red	Channel 7	Channel 2 (MTP2)	Red/Black	Channel 7	Channel 4 (MTP2)	Red	Channel 7	Channel 2 (MTP5)	Red/Black	Channel 7	Channel 4 (MTP5)
Black	Channel 8	Channel 1 (MTP2)	Transparent /Black	Channel 8	Channel 3 (MTP2)	Black	Channel 8	Channel 1 (MTP5)	Transparent /Black	Channel 8	Channel 3 (MTP5)
Yellow	Channel 9	Channel 4 (MTP1)	Yellow/Black	Channel 9	Channel 4 (MTP3)	Yellow	Channel 9	Channel 4 (MTP4)	Yellow/Black	Channel 9	Channel 4 (MTP6)
Violet	Channel 10	Channel 3 (MTP1)	Violet/Black	Channel 10	Channel 3 (MTP3)	Violet	Channel 10	Channel 3 (MTP4)	Violet/Black	Channel 10	Channel 3 (MTP6)
Rose	Channel 11	Channel 2 (MTP1)	Rose/Black	Channel 11	Channel 2 (MTP3)	Rose	Channel 11	Channel 2 (MTP4)	Rose/Black	Channel 11	Channel 2 (MTP6)
Aqua	Channel 12	Channel 1 (MTP1)	Aqua/Black	Channel 12	Channel 1 (MTP3)	Aqua	Channel 12	Channel 1 (MTP4)	Aqua/Black	Channel 12	Channel 1 (MTP6)

Layout and Dimensions

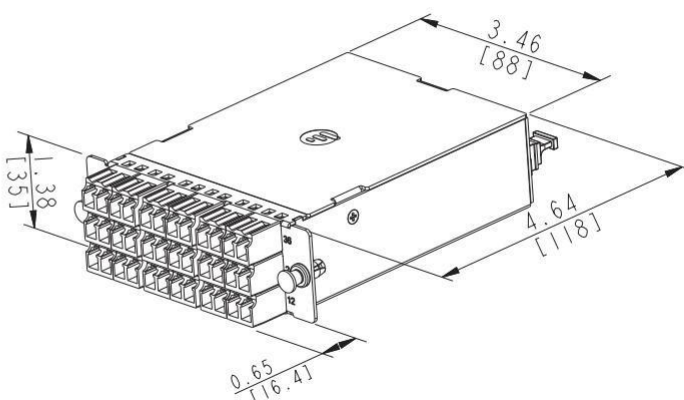
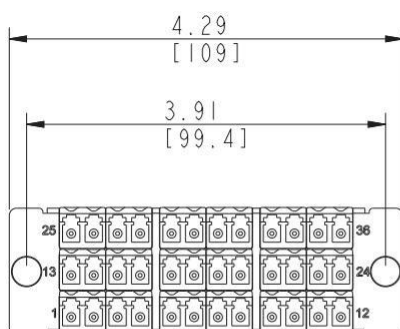
• 12/24F LC & 12F SC Cassette



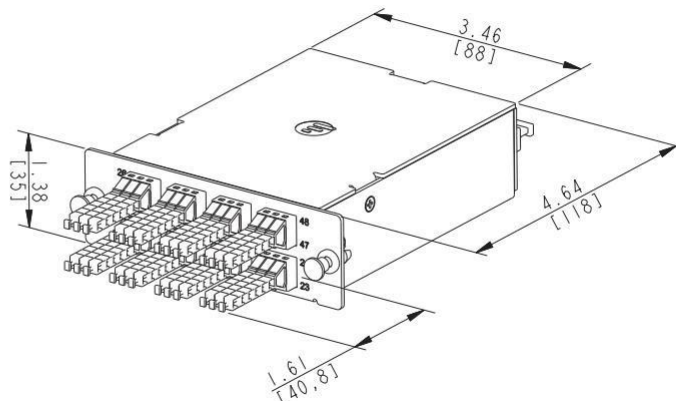
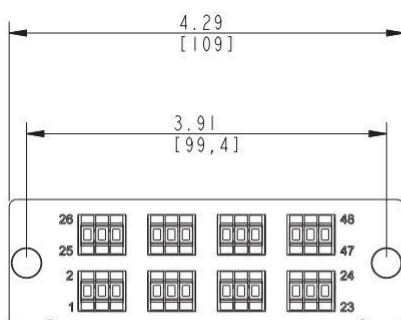
Note:

12F/24F LC and 12F SC Cassettes are of the same dimensions.

• 36F LC Cassette



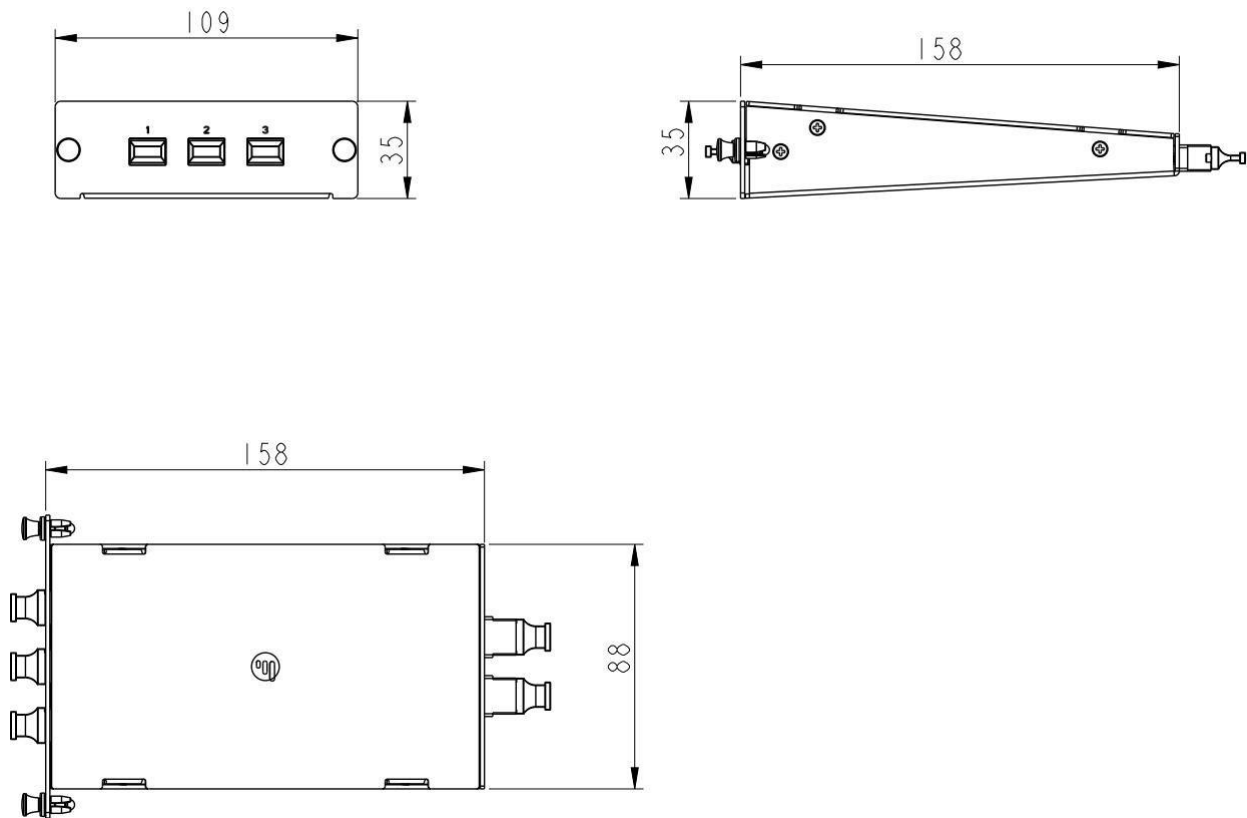
• 48F MDC Cassette



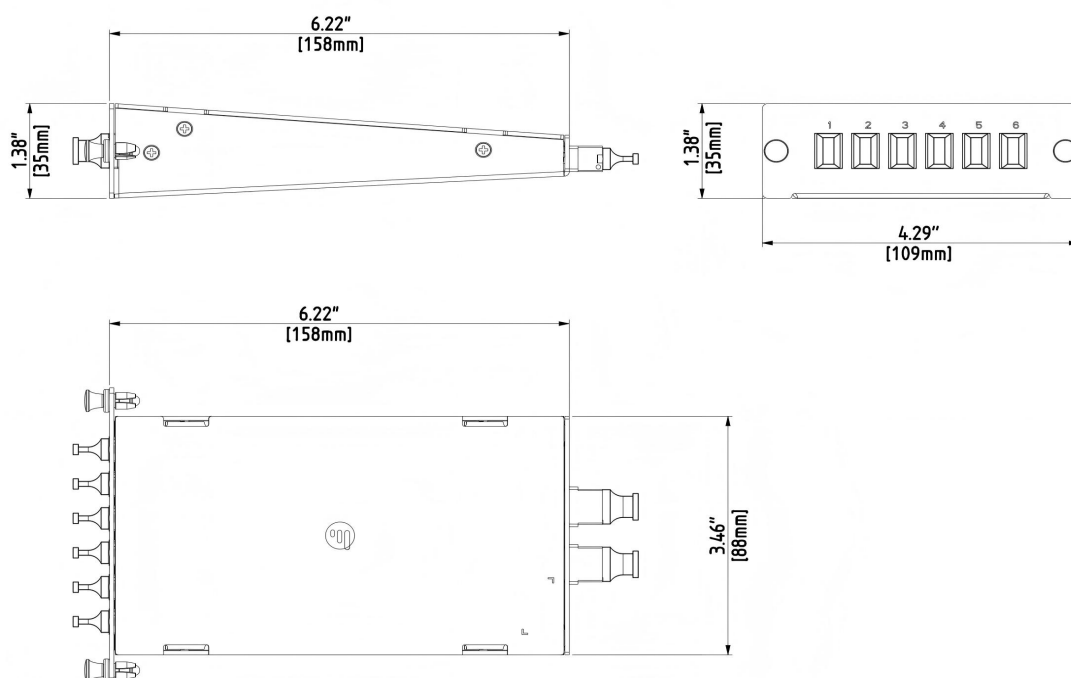
Dimensions are in inches. (Dimensions in parentheses are in millimeters).

Layout and Dimensions

• 12/24F MTP® -MTP® Cassette



• 48F MTP® -MTP® Cassette



Ordering Information

A	B	C	D	E	F	G	H	I
Fiber Count	Rear Connector	Fiber Mode	Front Connector	Polish Type	Insertion Loss (dB)	Polarity	Front Color	Rear Color
12F	MTP®-12	OS2	LC Duplex	UPC	Elite 0.35	Type A	Blue	Black
24F	MTP®-24	OM3	SC Duplex	APC	Standard 0.6/0.75	Type AF	Aqua	
36F		OM4	MDC Duplex			Type B1	Black	
48F		OM5	MTP®-8			Type B2	Lime Green	
						Universal		

Note:

Type B: Multimode cassettes only

Universal: MTP®-12 cassettes and some MTP®-24 Cassettes

SC Adapter: 12-Fiber only

MTP Connector (Single Mode): APC polish as default

MTP Connector (Multimode): UPC polish as default

Hot Products

ID	Description
#57016	MTP®-12 to 6x LC Duplex, 12 Fibers OS2 Single Mode FHD MTP® Cassette, Type A
#57017	MTP®-12 to 6x LC Duplex, 12 Fibers OM4 Multimode FHD MTP® Cassette, Type A
#174246	MTP®-12 to 6x LC Duplex, 12 Fibers OM5 Multimode FHD MTP® Cassette, Type A
#57023	MTP®-24 to 12x LC Duplex, 24 Fibers OS2 Single Mode FHD MTP® Cassette, Type A
#57024	MTP®-24 to 12x LC Duplex, 24 Fibers OM4 Multimode FHD MTP® Cassette, Type A
#174250	MTP®-24 to 12x LC Duplex, 24 Fibers OM5 Multimode FHD MTP® Cassette, Type A
#57341	2x MTP®-12 to 12x LC Duplex, 24 Fibers OS2 Single Mode FHD MTP® Cassette, Type A
#57342	2x MTP®-12 to 12x LC Duplex, 24 Fibers OM4 Multimode FHD MTP® Cassette, Type A
#174248	2x MTP®-12 to 12x LC Duplex, 24 Fibers OM5 Multimode FHD MTP® Cassette, Type A
#105333	3x MTP®-12 to 18x Shuttered LC Duplex, 36 Fibers OS2 Single Mode FHD MTP® Cassette, Type A
#105335	3x MTP®-12 to 18x Shuttered LC Duplex, 36 Fibers OM4 Multimode FHD MTP® Cassette, Type A
#147014	4x MTP®-12 to 8x 3-Port MDC Duplex, 48 Fibers OS2 Single Mode FHD MTP® Cassette, Type A

ID	Description
#167162	MTP®-24 to 3x MTP®-8, 24 Fibers OS2 Single Mode FHD MTP® Cassette, Universal
#230557	MTP®-24 to 3x MTP®-8, 24 Fibers OM4 Multimode FHD MTP® Cassette, Universal
#382901	2 x MTP®-24 to 6 x MTP®-8, 48 Fibers OM4 Multimode FHD MTP® Cassette, Universal
#230559	2x MTP®-12 to 3x MTP®-8 , 24 Fibers OS2 Single Mode FHD MTP® Cassette, Universal
#167163	2x MTP®-12 to 3x MTP®-8 , 24 Fibers OM4 Multimode FHD MTP® Cassette, Universal
#230561	2x MTP®-12 to 3x MTP®-8 , 24 Fibers OM5 Multimode FHD MTP® Cassette, Universal
#167161	4x MTP®-12 to 6x MTP® -8, 48 Fibers OM4 Multimode FHD MTP® Cassette, Universal

* More products information please click >

Matching Products

ID	Description
#96427	1U Rack Mount FHD High Density Fiber Enclosure Unloaded, Holds up to 4x FHD Cassettes or Panels
#70361	Upgrading 1U Rack Mount FHD High Density Slide-out Fiber Enclosure Unloaded
#73205	Upgrading 2U Rack Mount FHD High Density Slide-out Fiber Enclosure Unloaded
#73206	Upgrading 4U Rack Mount FHD High Density Slide-out Fiber Enclosure Unloaded
#50550	2-Door 2-Adapter Panel Wall Mount Fiber Enclosure
#70419	1U Rack Mount FHD Modular Fiber Enclosure Panel, Holds up to 4x FHD Cassette or Panels
#68299	LC UPC to LC UPC Duplex 0.15dB IL OM4 Multimode PVC (OFNR) 2.0mm BIF Fiber Optic Patch Cable
#40191	LC UPC to LC UPC Duplex OS2 Single Mode PVC (OFNR) 2.0mm Fiber Optic Patch Cable
#68018	MTP® Jumper, MTP®-12 APC (Female) to MTP®-12 APC (Female), 12 Fibers, OS2, Plenum (OFNP), 0.35dB Max, Type B
#68041	MTP® Jumper, MTP®-24 UPC (Female) to MTP®-24 UPC (Female), 24 Fibers, OM4, Plenum (OFNP), 0.35dB Max, Type A
#72166	LC UPC to LC UPC Flat Clip Uniboot Duplex OS2 PVC (OFNR) 2.0mm BIF Fiber Optic Patch Cable
#72170	LC UPC to LC UPC Flat Clip Uniboot Duplex OM4 PVC (OFNR) 2.0mm BIF Fiber Optic Patch Cable
#105341	Fiber/Copper Connector Insertion & Extraction Tool for LC/SC/MU/MT-RJ/RJ45 Connectors
#130963	1m (3ft) MDC UPC to MDC UPC Uniboot Duplex OS2 Single Mode Fiber Patch Cable 2.0mm
#68107	MTP® Jumper, MTP®-12 UPC (Female) to MTP®-12 UPC (Female), 12 Fibers, OM4, Plenum (OFNP), 0.35dB Max, Type A
#31012	Customized 24-144 Fibers MTP®-24 OS2 Single Mode Elite Trunk Cable, Yellow
#68047	MTP® Harness, MTP®-8 UPC (Female) to 4 LC UPC Duplex, 8 Fibers, OM4, Plenum (OFNP), Type B

Note: 36F fiber cassettes are not recommended to fit in FHD series wall mount enclosure (#50550).