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ASSEMBLIES
MTP12 Harness

DESCRIPTION
MTP12 Harness Assemblies provide a streamlined breakout from high-density backbone cabling to active equipment. Featuring one MTP12 connector on one end and discrete connectors (such as LC duplex) on the other, these assemblies are optimized for 12-fiber applications, including 100GBASE-SR10, 120G Ethernet, and other multi-lane parallel optic deployments.

Built with bend-insensitive fiber and precision-terminated MTP® connectors, each harness is fully customizable by length, fiber type, polarity, and jacket rating. All assemblies are factory-tested for low insertion loss and are compliant with TIA-568 and IEC 61754-7 standards, ensuring exceptional performance and reliability in mission-critical environments.

CONNECTOR COMPLIANCE
- TIA/EIA-604-5 (FOCIS 5) – MPO/MTP® Interface Standard
- IEC 61754-7 – International Standard for MPO Connectors

FEATURE
- Compact and space-efficient design
- High-performance cable construction
- Precision-polished ferrules for low IL and high RL

APPLICATION COMPLIANCE
- TIA-568-C / TIA-568-D – Structured Cabling Systems
- IEEE 802.3 – 40G/100G Ethernet (40GBASE-SR4, 100GBASE-SR10)
- Optical Internetworking Forum (OIF) – Parallel Optics Support
- Infiniband – SDR, DDR, QDR Compliant
- 10G Fibre Channel
- SNAP12, POP4, QSFP, CXP – Transceiver Interface Compatibility

PRODUCT COMPLIANCE
DM-REG-COMP-001.pdf

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TECHNICAL SPECIFICATIONS

Construction	Description
Connector Type	MTP12 MTP12 APC Elite Single-mode MTP12 PRO Elite MTP12 APC Multimode LC duplex, 2.0mm legs LC simplex, 2.0mm legs LC APC duplex, 2.0mm legs MDC UPC MDC APC LC UPC Uniboot LC APC Uniboot
Fiber Count	012
Fiber Type	Single-mode OS2 (Bend Radius: 5.0mm, 7.5mm, 10mm) Multimode OM1/OM2/OM3/OM4/OM5 (WBMMF)
Polarity	Type A, Type B, Type C, Type U (QSFP - Universal)
Jacket Color	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua, Lime Green
Cable Rating	Indoor, OFNP (Plenum), Indoor OFNR (Riser), Indoor LSZH

CONNECTOR PERFORMANCE SPECIFICATIONS

Connector Type	Max Insertion Loss (IL)	Return Loss (RL)
MTP® Single-mode UPC	≤ 0.35 dB	≥ 65 dB
MTP® Single-mode APC	≤ 0.35 dB	≥ 65 dB
MTP® Multimode	≤ 0.60 dB	≥ 20 dB
MDC Single-mode UPC	≤ 0.35 dB	≥ 55 dB
MDC Single-mode APC	≤ 0.20 dB	≥ 65 dB
MDC Multimode	≤ 0.20 dB	≥ 25 dB
LC Single-mode UPC	≤ 0.20 dB	≥ 55 dB
LC Single-mode APC	≤ 0.20 dB	≥ 65 dB
LC Multimode	≤ 0.20 dB	≥ 40 dB

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FIBER CONSTRUCTION & COMPLIANCE SPECIFICATIONS

Fiber Type	Compliances	Available Fiber Types
Single-mode OS2	ICEA S-83-596 (UL 1666) TIA-492-CAAB TIA-568-C.3 TIA-568-D	G.657.A1 (10mm bend radius) G.657.A2 / B2 (7.5mm bend radius) G.657.B3 (5mm bend radius)
Multimode 62.5 µm OM1	ICEA S-83-596 (UL 1666) TIA-492-AAAA-A TIA-568-C.3 TIA-568-D ISO/IEC 11801 OM1 IEC 60793-2-10	62.5 µm core, OM1 multimode optical fiber
Multimode 50 µm OM3 / OM4 / OM5	ICEA S-83-596 (UL 1666) TIA-568-C.3 TIA-568-D IEC 60793-2-10	OM3: TIA-492-AAAC-B, A1a.2 to IEC 60793-2-10 OM4: TIA-492-AAAD, A1a.3 to IEC 60793-2-10 OM5: TIA-492-AAAE, A1-OM5 to IEC 60793-2-10

OPTICAL CHARACTERISTICS

Fiber Type	Core Size [µm]	Wavelength [nm]	Max. Attenuation [dB/km]	Link Length [m]	Bandwidth (EMB High Performance) [MHz·km]
OS2	9	1310 / 1550	0.5 @ 1310 0.4 @ 1550	10,000/5,000 (1/10Gb/s @ 1550nm)	N/A
OM1	62.5	850 / 1300	3.5 @ 850 1.5 @ 1300	300 (10Gb/s @ 850nm)	220
OM2	50	850 / 1300	3.5 @ 850 1.5 @ 1300	150 (10Gb/s @ 850nm)	550
OM3	50	850 / 1300	3.0 @ 850 1.0 @ 1300	300 (10Gb/s @ 850nm)	2000
OM4	50	850 / 1300	3.0 @ 850 1.0 @ 1300	550 (10Gb/s @ 850nm)	4700
OM5	50	850 / 1300	3.0 @ 850 1.0 @ 1300	550 (10Gb/s @ 850nm)	4700

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ORDERING INFORMATION: MTP12 HARNESS

AA	BB	012	C	D	E	F	xxx	M

AA & BB	Connector Type
45	MTP12 Non-pinned
46	MTP12 Pinned
E4	MTP12 APC Elite Single-mode Non-pinned
E6	MTP12 APC Elite Single-mode Pinned
40	MTP12 PRO Elite Non-pinned
41	MTP12 PRO Elite Pinned
50	MTP12 APC Multimode Non-pinned
51	MTP12 APC Multimode Pinned
31	LC duplex, 2.0mm legs
32	LC simplex, 2.0mm legs
38	LC APC duplex, 2.0mm legs
07	MDC UPC Uniboot, Reversible
08	MDC APC Uniboot, Reversible
E1	LC UPC Uniboot, Reversible
E8	LC APC Uniboot, Reversible

012	12 Fiber
CC	**Fiber Type**
Y	Single-mode OS2 10mm bend (standard)
L	Single-mode OS2 7.5mm bend
Z	Single-mode OS2 5.0mm bend
F	OM1
E	OM2
G	OM3
M	OM4
W	OM5 (WBMMF)
D	**Polarity Type**
A	Type A
B	Type B
C	Type C
U	Type U (QSFP - Universal)

E	Jacket Color
B	Blue
N	Orange
G	Green
W	Brown
T	Slate
H	White
R	Red
K	Black
Y	Yellow
V	Violet
S	Rose
A	Aqua
L	Lime Green
F	**Rating**
2	Indoor, OFNP (Plenum)
9	Indoor, OFNR (Riser)
Z	Indoor, LSZH
xxx	**Length in Meters (M)**

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