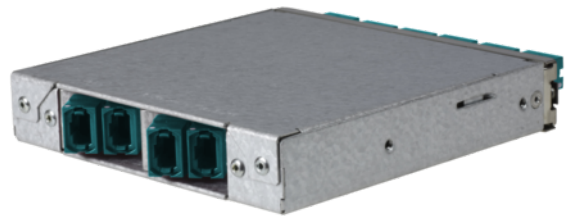


tML[®] Xtended - FO Dark Fiber Module 4x MPO/MTP[®] w/o Pins/6x MPO/MTP[®] w. Pins 50/125 μ OM3, SR4



tML[®] - tde Modular Link

tML[®] is a patented, modular cabling system consisting of the three key components module, trunk cable and rack mount enclosure. The system components are 100 percent manufactured, pre-assembled and tested in Germany. They enable plug-and-play installation on site - especially in data centres, but also in industrial environments - within the shortest possible time. The system is characterized by highest packing density and highest flexibility during migration to higher transmission rates. Fibre optic and TP modules can be combined in one rack mount enclosure. 96x fibre optics LC Duplex or 96x MPO connectors can be used modularly on a 19-inch height unit. Thanks to its patented polarity and dark fibre modules, the tML system offers the simplest migration options to 100G and more.



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Technical Data

The end faces of the connectors are optimized by means of Lasercleaving and machine polish. The MPO/MTP[®]plug has a defined fiber height of 1 - 3.5 μ . The max. adjacent fiber height difference is 0.2 μ m and for all fibers 0.3 μ m. All system components (modules, trunk cables and patch cords) are co-ordinated for the reaching of the performance particularly. The module is marked with sequential serial number and article number. The modules are ROHS compliant.

Entry	2 x MPO/MTP [®] Female Adapter (aqua) back
Exit	6 x MPO/MTP [®] Male Adapter (aqua) front
Tests	Interferometer, Insertion Loss, Return Loss and Visual Final Inspection; all measured values are electronically archived
	QS-Managementsystem ISO 9001, ISO 14001 and TL 9000

Box	Galvanized steel sheet
Front Panel	Stainless steel
Dimensions	110 x 108 x 20 mm

FO Connectors

Connector

Type	MPO/MTP [®] Female Push Pull Locking (aqua)
Ferrule	12 Fiber MM Elite [®] ferrule, PPS
Boot colour	Black
Manufacturer	tde/US Conec

Optical Performance

Fiber	Type	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
50/125 μ OM3	MPO/MTP [®]	850 nm	\leq 0.20 dB	0.35 dB	25 dB

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Optical Performance

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50/125 μ OM3	MPO/MTP [®]	850 nm	≤ 0.20 dB	0.35 dB	25 dB

FO Adapters

Type	MPO/MTP [®]
Application	Multimode OM3
Design	without Flange
Connector style	SC Simplex
Key Orientation	Type A, Key up/down
Color	Aqua
Material	Plastic
Sleeve	--
Shutter	--
Standards	IEC 61754-7 TIA 604-5
Manufacturer	US Conec

FO Fiber

Type	Draka OM3 50/125 μ m multimode fiber (C12)	
Standards and Norms	IEC 60793-2-10 Category A1a.2;	EN 50 173:2002 category OM3
	EN 60793-2-10: type A1a.2	ISO/IEC 11801:2002 category OM3
	ITU Recommendation G.651	IEEE 802.3 - 2002 incl. amendment 802.3ae - 2002.
	TIA/EIA-492 AAAB	

Attenuation according to IEC 60793-1-40

Maximum value of cable at 850 nm	≤ 3.0 dB/km
Maximum value of cable at 1300 nm	≤ 1.0 dB/km
Maximum value of fiber (for reference only) at 850 nm	≤ 2.5 dB/km
Maximum value of fiber (for reference only) at 1300 nm	≤ 0.8 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fiber lengths	Max. 0.1 dB/km

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Bandwidth according to IEC 60793-1-41

OFL value at 850 nm	1500 MHz*km
OFL value at 1300 nm	500 MHz*km
Effective Modal Bandwidth (EMB) Effective Modal Bandwidth I assured by means of differential mode delay (DMD) measurement as specified in IEC 60793-1-49	2000 MHz*km

Group index of refraction according to IEC 60793-1-22

Group index of refraction at 850 nm	1.482
Group index of refraction at 1300 nm	1.477

Other properties according to IEC 60793-1-xx

Attribute	Measurement method	Limits
Core diameter	IEC/EN 60793-1-20	50 \pm 2.5 μ m
Cladding diameter	IEC/EN 60793-1-20	125.0 \pm 1.0 μ m
Cladding non-circularity	IEC/EN 60793-1-20	\leq 1.0%
Core non-circularity	IEC/EN 60793-1-20	\leq 5%
Core -cladding concentricity error	IEC/EN 60793-1-20	\leq 1.5 μ m
Primary coating diameter - uncoloured	IEC/EN 60793-1-21	242 \pm 7 μ m
Primary coating diameter - coloured	IEC/EN 60793-1-21	250 \pm 15 μ m
Primary coating non-circularity	IEC/EN 60793-1-21	\leq 5%
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	\leq 10 μ m
Proof stress level	IEC/EN 60793-1-30	\geq 0.7 (\approx 1 %)
Typical average strip force	IEC/EN 60793-1-32	1.7 N
Strip force (peak)	IEC/EN 60793-1-32	1.3 N \leq F _{peak.strip} \leq 8.9 N
Numerical aperture	IEC/EN 60793-1-43	0.200 \pm 0.015

Product variants & accessories

Art.-No.	Description
TML-M06MPP/04MP50G3X	tML [®] Xtended - FO Dark Fiber Module 4x MPO/MTP [®] w/o Pins/6x MPO/MTP [®] w. Pins 50/125 μ OM3, SR4
TML-M06MPP/04MP50G4X	tML [®] Xtended - FO Dark Fiber Module 4x MPO/MTP [®] w/o Pins/6x MPO/MTP [®] w. Pins 50/125 μ OM4, SR4
TML-M06MPP/04MP50G5X	tML [®] Xtended - FO Dark Fiber Module 4x MPO/MTP [®] w/o Pins/6x MPO/MTP [®] w. Pins 50/125 μ OM5, SR4