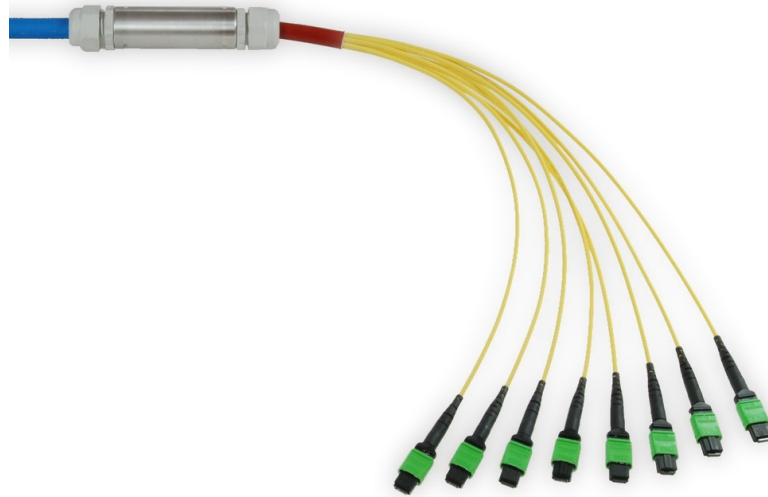


tML[®] - FO Trunk Cable MPO/MPO 96E9/125 μ OS2 LSHF Crossover, Length: xxx



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.

The tML[®] - FO trunk cable is intended for the connection of two tML[®]- FO Modules.



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tML[®] - FO Trunk Cable MPO/MPO 96E9/125µ OS2 LSHF Crossover, Length: xxx

Technical Data

The tML[®]- FO trunk cable is preterminated with MPO/MTP[®]connectors on both ends. 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 - 3.5µ. The max. adjacent fiber height difference is 0.2µm and for all fibers 0.3µm. All system components (modules, trunk cables and patch cords) are co-ordinated for the reaching of the performance particularly. The fan-out unit is optimized for tML[®] - Cable Mounting Bracket for Fan-out Units. The module is marked with sequential serial number and article number.

FO Connectors

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 - 3.5µ. The max. adjacent fiber height difference is 0.2µm and for all fibers 0.3µm.

Connector

Type	MPO/MTP [®] Female Push Pull Locking (Green)
Ferrule	12 Fiber SM Elite [®] ferrule, PPS
Boot colour	Black
Temperature range	-40°C bis +75°C
Manufacturer	tde/US Conec

Optical Performance

Fiber	Type	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
9/125µ OS2	MPO/MTP [®] APC	1310 / 1550 nm	≤ 0.10 dB	0.25 dB	75 dB

FO Fan-Out

Ø Single unit length	3.0 mm
Shortest Single unit length	68 ± 5 cm
Highest Single unit length	78 ± 5 cm
Number of stepping	1

FO Cables

Mechanical characteristics

Temperature range	Storage -25 to +70°C, IEC 60794-1-22 F1
	Pulling in -10 to +50°C
	Operation -25 to +60°C
Tensile performance	IEC 60794-1-21 E1
Crush resistance	IEC 60794-1-21 E3
Impact	IEC 60794-1-21 E4
Repeated bending	IEC 60794-1-21 E6
Torsion	IEC 60794-1-21 E7

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Bend	IEC 60794-1-21 E11
Water penetration	IEC 60794-1-22 F5

General characteristics

Sheath colour	green, similar to RAL 6016
Zero halogen, no corrosive gases	IEC 60754-1/-2, EN 60754-1/-2, VDE 0482-754-1/-2
Flame propagation	IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2
Flame spread	IEC 60332-3-24, EN 50266-2-4, VDE 0482-266-2-4
Smoke density	IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2
Reaction to fire (Euroclasses)	EN 13501-6: E _{ca}

Cabletype	Universal U-DQ(ZN)BH for indoor and outdoor use
	non metallic, dry interstices, rodent protection, flame retardant, in accordance with IEC 60332.1 and IEC 60332.3 C
Fibertype	Corning E9/125 G.652.D
No. of fibers	96
Loose tube	8
Sheath \varnothing	13.5 mm
Weight	198 kg/km
Bending radius	205 mm
Tensile load	6000 N
Crush resistance	3000 N continuous
	5000 N short term
Fire load	808 kWh/km
	3200 MJ/km

FO Fiber

Optical properties

Maximum attenuation (cabled)	1310 nm: 0.34 / 1383 nm: 0.34* dB/km (*post hydrogen aging performance)
Maximum Chromatic Dispersion	3.5 ps/(nm x km)
Zero Dispersion Wavelength λ_0	1304 $\leq \lambda_0 \leq$ 1324 nm
Maximim Zero Dispersion Slope S ₀	0.092 ps/(nm ² x km)
Mode-Filed Diameter	9.2 +/- 0,4 μ m
Maximum Cable Cut-off Wavelength λ_{CC}	1260 nm
PDM Link Design Value	\leq 0.04 ps/ \sqrt km
Max. individual fibre PMD	\leq 0.1 ps/ \sqrt km
Max. individual cable PMD	\leq 0.2 ps/ \sqrt km
Refractive Index	1.4676

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Mechanical properties

Cladding diameter	125.0 +/- 1.0 μ m
Maximum Core/Cladding Concentricity Error	0.5 μ m
Maximum Cladding Non-Circularity	0.7 %
Coating diameter	245 +/-5 μ m
Maximum Cladding/Coating Concentricity Error	12 μ m
Operating temperature range	-60 to +85°C
Test load	100 kpsi

Product variants & accessories

Art.-No.	Description
TML-MP/MP09B12Exxx	tML [®] - FO Trunk Cable MPO/MPO 12E9/125 μ OS2 LSHF Crossover, Length: xxx
TML-MP/MP09B24Exxx	tML [®] - FO Trunk Cable MPO/MPO 24E9/125 μ OS2 LSHF Crossover, Length: xxx
TML-MP/MP09B48Exxx	tML [®] - FO Trunk Cable MPO/MPO 48E9/125 μ OS2 LSHF Crossover, Length: xxx
TML-MP/MP09B72Exxx	tML [®] - FO Trunk Cable MPO/MPO 72E9/125 μ OS2 LSHF Crossover, Length: xxx
TML-MP/MP09B96Exxx	tML [®] - FO Trunk Cable MPO/MPO 96E9/125 μ OS2 LSHF Crossover, Length: xxx