tML® - FO Trunk Cable 1x MPO Female/1x MPO Female 12G50/125µ OM2 LSHF, Type C, Length: xxx

trans data elektronik GmbH

Description

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. Heart of the system are the rear MPO/MTP® and Telco connectors, which can be used to connect at least six or twelve ports at a time. Depending on the module configuration, transfer rates of up to 400G are currently possible with SR4. The fibre optic and TP modules can be used together in a module carrier with a very high port density. The tde offers its tML® cabling system as a proven tML® standard system and in the highly innovative variants tML® 12, tML® 24, tML® 32 and now tML® 24+ System for extreme scalability and very easy migration to higher transmission rates such as 40G, 100G, 200G, 400G and 800G and more.

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

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 hieght 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.

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FO Connectors

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

Optical Performance

Fiber	Type	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
50/125µ OM2	MPO/MTP®	850 nm	≤ 0.25 dB	0.45 dB	20 dB
62.5/125µ OM1	MPO/MTP®	850 nm	≤ 0.25 dB	0.45 dB	

FO Fan-Out

Fan-out length	50 mm
Ø Fan-out	16 mm

Vers. 17.12.2019

tde – trans data elektronik GmbH
Network components,
Cable technology and Fibre optics

ISO 9001, TL 9000
and ISO 14001 certified

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Ø Single unit	3.0 mm
Single unit length	78 ± 5 cm (not stepped)

FO Cables

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

General characteristics

Sheath colour	green, similar to RAL 6016
Zero halogen, non 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: D_{ca}-s2,d1,a1

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 G50/125 OM2
No. of fibers	12
Loose tube	1
Sheath ø	7.6 mm
Weight	67 kg/km
Bending radius	115 mm
Tensile load short term	3.000 N

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Tensile load continuous	1.000 N
Crush resistance short term	5.000 N
Crush resistance continuous	3.000 N
Fire load	275 kWh/km
	990 MJ/km

Length tolerances (prefabricated with plugs)

Tolerances for lengths up to 40m	± 100 cm
Tolerances for lengths up to 100m	± 100 cm
Tolerances for lengths from 100m	± 2%

FO Fiber

Attenuation typical (cabled)	850 nm: 2.5 / 1300 nm: 0.5 dB/km
Attenuation maximum (cabled)	850 nm: 2.7 / 1300 nm: 0.7 dB/km
OFL bandwidth as per TIA/EIA 455-204 and IEC 60793-1-41	850 nm: 700 / 1300 nm: 500 MHz x km
High-Performance EMB bandwidth as per TIA/EIA 455-220A and IEC 60793-1-49	850 nm: 850 MHz x km
Refractive Index	850 nm: 1.480 / 1300 nm: 1.479

Technical properties

Bending radius		No. of windings (turns)	Max. induced attenuation
37.5 mm		100	850 nm: ≤ 0.05 / 1300 nm: ≤ 0.15 dB/km
15 mm		2	850 nm: ≤ 0.1 / 1300 nm: ≤ 0.3 dB/km
7.5 mm		2	850 nm: ≤ 0.2 / 1300 nm: ≤ 0.5 dB/km

Geometrical and mechanical characteristics

Numerical Aperture	0.200 +/- 0.015

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Core Ø	50.0 +/- 2.5 µm
Maximum Core Non-Circularity	5 %
Cladding Ø	125.0 +/- 1.0 µm
Maximum Cladding Non-Circularity	1.0 %
Maximum Cladding/Core Concentricity Error	1.5 µm
Maximum Coating Concentricity Error	12 µm
Coating Ø	242 +/- 5 µm
Test load	100 kpsi

Art.-No.	Description
TML-MP/MP50B12Gxxx	tML® - FO Trunk Cable 1x MPO Female/1x MPO Female 12G50/125µ OM2 LSHF, Type C, Length: xxx
TML-MP/MP50B24Gxxx	tML® - FO Trunk Cable 2x MPO Female/2x MPO Female 24G50/125µ OM2 LSHF, Type C, Length: xxx
TML-MP/MP50B48Gxxx	tML® - FO Trunk Cable 4x MPO Female/4x MPO Female 48G50/125µ OM2 LSHF, Type C, Length: xxx

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