

tML[®] - TP Trunk Cable Telco F/F 180° shielded 1000BaseT PUR length: xx meters



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. 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 200G 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[®] Xtended, tML[®] 24 System and now tML[®] 32 System for extreme scalability and very easy migration to higher transmission rates such as 40G, 100G, 200G and 400G.

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



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Technical Data

tML[®] - TP Trunk Cable is preterminated on both ends with a Telco 50pos. female connector. The cable is very slim and flexible. Each cable is marked with sequential serial number and article number.

Cable	S/FTP Round Cable 24x2xAWG 27/7, Pet-Al foil around each pair, 3 layers of screened pairs (2+8+14), PUR
Outer Diameter	14.5 mm
Weight	158 kg/km
bending radius without load	8xD mm
bending radius with load	4xD mm
Connectors	2 x Telco 50pos. Female 180° shielded with screws
Tests	Link Performance Tests, Elektronischer Test on short-circuit and Visual Final Inspection; all measured values are electronically archived
	QS-Managementsystem nach ISO 9001, ISO 14001 und TL 9000

xx - stands for the cable length in meters (max. length is 60m)

TP Cable

Cable construction

Leader	Cu-strands, blank Ø 0.42 mm
Isolation	Form-Skin polyethylene, Ø 0.98 mm
Standing	2 wires to the pair
Pair shielding	aluminium- coated plastic compound foil
Stranding to the soul	24 Pair (PiMF) to the soul in Layering (2+8+14)
Overall shielding	wrapping double aluminium- coated plastic compound foil
	Drain wire AWG26 tinned
	Cu-braid 24x8x0.18 mm tinned (about 77 % coverage)
Protective sheath	PUR
	Wall thickness 1.3 mm

Technical offer date

Colour	black
Outside diameter	15.2 mm
Fire load	2383 MJ/km
	0.606 kWh/m
Weight	237 kg/km
Cu-number	140
Traction	600 N

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Mechanical properties

Bending radii	≥ 75 mm without tensile load
	≥ 150 mm with tensile load
Operating temperature range	resting -20 °C to +60°C
	moved 0 °C to +50°C

electrical properties (for 20°C ± 5°C)

Loop resistance	≤ 340 Ω/km
Unbalance resistor	≤ 3 %
Insulation resistance (500 V)	≥ 2000 MΩ x km
Capacity for 800 Hz	nom. 43 nF/km
Unbalance capacity (pair/earth)	≤ 1500 pF/km
Impedance (1-100 MHz)	(100 ± 15) Ω
Relative propagation speed	about 79 %
Signal propagation delay	≤ 427 ns/100 m
Runtime difference	≤ 12 ns/100 m
Test voltage (DB) Core/core and core/screen	1000 V
Coupling resistance	for 1 MHz ≤ 10 mΩ/m
	for 10 MHz ≤ 10 mΩ/m
	for 30 MHz ≤ 30 mΩ/m
	for 100 MHz ≤ 60 mΩ/m

Transmission properties acc. category 5e (for 20°C)

f	Damping	NEXT	PS-NEXT	ELFEXT	PS-ELFEXT	Return loss
(MHz)	(dB/10m) nom.	(dB) min. / nom.	(dB) min. / nom.	(dB/10m) min. / nom.	(dB/10m) min. / nom.	(dB) min.
1	0.3	65 / 71	62 / 68	64 / 68	61 / 65	23
4	0.6	56 / 62	53 / 59	52 / 56	49 / 53	24
10	1.0	50 / 56	47 / 53	44 / 48	41 / 45	25
16	1.3	47 / 53	44 / 50	40 / 44	37 / 41	25
20	1.4	46 / 51	43 / 48	38 / 42	35 / 39	25
31.2	1.8	43 / 49	40 / 46	34 / 38	31 / 35	25
62.5	2.6	38 / 44	35 / 41	28 / 32	25 / 29	23
100	3.2	35 / 41	32 / 38	24 / 28	21 / 25	21
125	3.6	- / 40	- / 37	- / 26	- / 23	

Product variants & accessories

Art.-No.	Description
TML-TELCO-FF-xx	tML [®] - TP Trunk Cable Telco F/F 180° shielded 1000BaseT PUR length: xx meters