tBL® - TP Trunk Cable both ends RJ45 DC 6fold Module Cat.6A UC Future 24x2xAWG23 LSHF

\*\*tBL® - tde Basic Link (TP)

tBL® tde Basic Link (TP) is a complete system solution for structured cabling in Cat6A for transfer rates of up to 10GbE in real time. The tBL® - cabling link corresponds to a permanent link in accordance with ISO / IEC 11801 (EN 50173). The RJ45 modules are available in the form factors  Keystone (KS) and Data Center (DC). The compact design of the 6fold RJ45 DC module allows a high packing density of up to 48 RJ45 ports on 1U. The RJ45 module is connected to the tBL® - cable termination block by simply plugging. The slim cable termination block can be easily assembled on the cable by using the tBL® - crimp tool and is suitable for preterminated cables. The modular design of individual RJ45 modules are interchangeable at any time without termination. A cost effective alternative product is the RJ45 keystone module without cable termination block in the tool-less design.

The system solution is complemented by an extensive portfolio of carrier systems. These include design-capable data outlets, floor box frames, Consolidation points, DIN rail modules and patch panels in 1/2 and 1U.

\*\*TP Trunk Cables

\*\*TECHNISCHE\_DATEN

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| --- | --- |
| xxxx | Length in cm |

\*\*\*TP RJ45 Modules

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| System platforms | tML®/ tSML |
|   | 4x tBL® - 6fold Modules can be integrated in a tSML - TP Module. |
|   | 1x tBL® - 6fold Module can be integrated in a tML® - TP Module. |
| Equipping | 6x tBL® RJ45 DC Module Cat.6A |

\*\*\*TP RJ45 Modules

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| Type | RJ45 Jack shielded |
| Connector standard | IEC 60603-7-5-1 |
| Certification | GHMT |
| Installation dimension | 19.3 x 14.7 mm |
| Mating force | ≤30 N |
| Mating cycles (RJ45 side) | ≥750 |
| Mating cycles (opposite side) | ≥100 |
| Housing material | nickel-plated die-cast zinc |
| Insulation components material | PC aqua |
| Gold plating in contact area | 30 µ" |
| Contacting | AWG 27-22 |
| Cable diameter | 5-10 mm |

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| Connection class | IP20 |
| Temperature range | -40°C to +70°C |

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| Contact resistance | ≤20 mΩ |
| Insulation resistance between contacts | ≥500 MΩ |
| Dielectric withstanding voltage contact – contact | ≥1000 V DC/AC |
| Dielectric withstanding voltage contact – screen | ≥1500 V DC/AC |
| Current-carrying capacity at 50°C | 1.25 A |
| PoE+ per IEEE 802.3at | PoE+ |

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| 10 GbE | supported |
| Cat.6A | ISO/IEC 11801 AM1 and AMD2, Link length: >1 m |

\*\*\*TP Termination Block

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| Construction | plastic with insulation displacement connection |
| Gold plating termination block | 30 µ" |
| Color | transparent yellow |
| Application | Installation cable with solid wire, AWG 22 to AWG 24 and flex. |
|   | Plug bears small flag-like installation guide with color codes for pin-out according to EIA/TIA 568 A and B. |

\*\*\*TP Cable

|  |  |
| --- | --- |
| Type | UC FUTURE COMPACT AWG23/1 Cat.7 S/FTP 24P |
| Conductor | Bare copper wire, diamter 0.56 mm (AWG23) |
| Insulation | Foam-skin PP, diameter 1.4 mm |
| Twisting | 2 insulated wires to the pair |
| Pair screening | Pet-Al foil around each pair |
| Stranding | 3 layers of screened pairs (2+8+14) |
| Screen | Tinned copper braid, ≥ 65% coverage |
| Sheath | LSHF |

Application
IEEE 802.3: 10Base-T; 100Base-T; 10GBase-T, ISDN; xDSL
IEEE 802.5 16 MB; ISDN; TPDDI; ATM155Mbit/s
The conductor diameter is smaller compared to the standard installation cables. This leads to an increased attenuation and therefore the operating distance is reduced (80 m instead of 90 m installation cable in standard permanent link).

Standards
IEC 61156-6 work area cable
ISO/IEC 11801
EN 50173-5;EN 50288-4-2
IEEE 802.3af

Flame resistance
IEC 60332-1
LSHF-FR IEC 60332-3-24; IEC 60754-2; IEC 61034; EN 50399 Class Dca

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| Minimum bending radius | Without load | ≥ 100 mm |
|   | With load | ≥ 200 mm |
| Temperature range  | During operation | -20°C up to +60°C |
|   | During installation | 10°C up to +40°C |

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| Loop resistance |   | ≤ 176 Ω/km |
| Resistance unbalance |   | ≤ 2% |
| Test voltage | core/core | 1000 VDC 1 min |
|   | core/screen | 1000 VDC 1 min |
| Capacitance | 800 Hz | Nom. 43 nF/km |
| Capacitance unbalance |   | ≤ 1500 pF/km |
| Impedance | 1-100 MHz | 100 Ω± 5 Ω |
| Nominal velocity of propagation |   | ca. 79% |
| Propagation delay | Nominal | < 450 ns/100m |
| Delay skew | Nominal | < 15 ns/100m |
| Insulation resistance | 500 V | ≥ 2000 MΩkm |
| Transfer impedance | bei 1 MHz | ≤ 5 mΩ /m |
|   | bei 10 MHz | ≤ 5 mΩ /m |
|   | bei 30 MHz | ≤ 10 mΩ /m |
| Coupling attenuation |   | ≥ 85 dB |

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| F in MHZ | Atten- uation dB/90m | NEXT dB | PS- NEXT dB | ACR dB/100m | PS-ACR dB/100m | ELFEXT dB/100m | PS- ELFEXT dB/100m | Return loss dB |
| 1.0 | 1.8 | 100 | 97 | 98 | 95 | 105 | 105 | - |
| 4.0 | 3.4 | 100 | 97 | 97 | 94 | 105 | 102 | 27 |
| 10.0 | 5.4 | 100 | 97 | 95 | 92 | 97 | 94 | 30 |
| 16.0 | 6.8 | 100 | 97 | 93 | 90 | 93 | 90 | 30 |
| 20.0 | 7.7 | 100 | 97 | 92 | 89 | 91 | 88 | 30 |
| 31.2 | 9.6 | 100 | 97 | 90 | 87 | 87 | 84 | 30 |
| 62.5 | 13.7 | 100 | 97 | 86 | 83 | 81 | 78 | 30 |
| 100.0 | 17.4 | 100 | 97 | 83 | 80 | 77 | 74 | 30 |
| 125.0 | 19.5 | 95 | 92 | 75 | 72 | 75 | 72 | 26 |
| 155.5 | 21.9 | 94 | 91 | 72 | 69 | 73 | 70 | 26 |
| 175.0 | 23.3 | 93 | 90 | 70 | 67 | 72 | 69 | 25 |
| 200.0 | 25.0 | 92 | 89 | 67 | 64 | 71 | 68 | 25 |
| 250.0 | 28.1 | 90 | 87 | 62 | 59 | 69 | 66 | 24 |
| 300.0 | 30.9 | 89 | 86 | 58 | 55 | 67 | 64 | 24 |
| 400.0 | 38.3 | 87 | 84 | 48 | 45 | 64 | 61 | 23 |
| 500.0 | 43.0 | 86 | 83 | 43 | 40 | 61 | 58 | 22 |
| 600.0 | 44.8 | 85 | 82 | 40 | 37 | 60 | 57 | 22 |

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| Designation | J-09YS(ST)CH |
| Outer diameter | 18 mm |
| Fire load | 3120 MJ/km |
| Fire load | 0.87 kWh/m |
| Reaction to Fire | Dca-s2, d2, a1 |
| Weight | 330 kg/km |
| Copper content | 165 kg/km |
| Tensile force | 840 N |