

tBL<sup>®</sup> - TP Trunk Cable both ends preterminated 6x termination block Cat.6<sub>A</sub> UC Future 24x2xAWG23

LSHF



## tBL<sup>®</sup> - tde Basic Link (TP)

tBL<sup>®</sup> 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<sup>®</sup> - 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<sup>®</sup> - cable termination block by simply plugging. The slim cable termination block can be easily assembled on the cable by using the tBL<sup>®</sup> - crimp tool and is suitable for preterminated cables. The modular design of individual RJ45 modules are interchangeable at any time without termination. The RJ45 modules are optional with a LID - Light ID function available. This feature facilitates searching of related ports within a cable link. 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.



**tde<sup>®</sup> trans data elektronik GmbH**

**Headquarter address:**

Lingener Str. 2  
D-49626 Bippen/Ohrte  
Tel.: +49 5435 9511 0  
Fax.: +49 5435 9511 32

**Sales office address:**

Prinz-Friedrich-Karl-Str. 46  
D-44135 Dortmund  
Tel.: +49 231 914 36 99  
Fax.: +49 231 914 31 29

info@tde.de | www.tde.de

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## Technical Data

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

### TP Termination Block

|                                |  |
|--------------------------------|--|
| 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

#### Construction

|                |  |
|----------------|--|
| Type           | UC FUTURE COMPACT AWG23/1 Cat.7 S/FTP 24P  |
| Conductor      | Bare copper wire, diameter 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 85% 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 D<sub>ca</sub>

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## Mechanical properties

|                        |                     |                   |
|------------------------|---------------------|-------------------|
| 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  |

## Electrical properties at 20°C ± 5°C

|                                 |             |                            |
|---------------------------------|-------------|----------------------------|
| Loop resistance                 |             | ≤ 176 Ω/km                 |
| Resistance unbalance            |             | ≤ 2%                       |
| Test voltage                    | core/core   | 1000 V <sub>DC</sub> 1 min |
|                                 | core/screen | 1000 V <sub>DC</sub> 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                    |

## Electrical Data (nominal) acc. to Cat.7 (at 20°C)

| F in  | Attenuation | NEXT | PS-NEXT | ACR     | PS-ACR  | ELFEXT  | PS-ELFEXT | Return loss |
|-------|-------------|------|---------|---------|---------|---------|-----------|-------------|
| MHZ   | dB/90m      | dB   | dB      | dB/100m | dB/100m | dB/100m | dB/100m   | 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          |

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|       |      |    |    |    |    |    |    |    |
|-------|------|----|----|----|----|----|----|----|
| 500.0 | 43.0 | 86 | 83 | 43 | 40 | 61 | 58 | 22 |
| 600.0 | 44.8 | 85 | 82 | 40 | 37 | 60 | 57 | 22 |

## Technical Data

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

## Product variants & accessories

| Art.-No.            | Description  |
|---------------------|--|
| T-T6D/T6D-N23Cxxxx  | tBL <sup>®</sup> - TP Trunk Cable both ends RJ45 DC 6fold Module Cat.6 <sub>A</sub> UC Future 24x2xAWG23 LSHF                |
| T-T6D/T6D-N23CxxxxU | tBL <sup>®</sup> - TP Trunk Cable both ends RJ45 DC 6fold Module (one enclosed) Cat.6 <sub>A</sub> UC Future 24x2xAWG23 LSHF |
| T-TKT/TKT-N23Cxxxx  | tBL <sup>®</sup> - TP Trunk Cable both ends preterminated 6x termination block Cat.6 <sub>A</sub> UC Future 24x2xAWG23 LSHF  |