



# DATA TRANSMISSION CABLES

## U/UTP 4 x 2 x 0.54 cat.6

IEC 11801/ EN 50173-1, EIA/TIA 568C2

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REVISION: 0

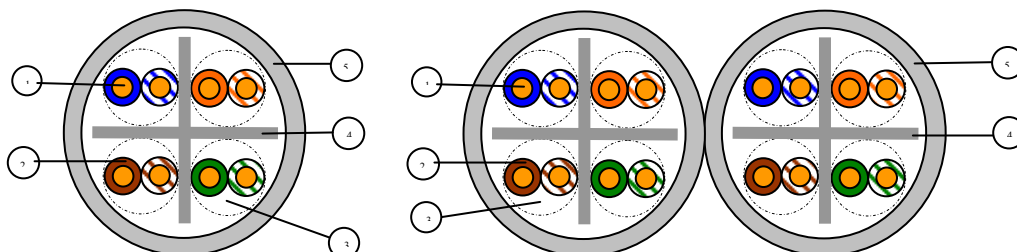
DATE: 28/03/2014

PAGE: 1 / 1

### CABLE DESCRIPTION – APPLICATIONS

Installation cables for structured horizontal cabling. These cables are ideal for LAN data transmission in all Ethernet (IEEE802.3) applications up to 1000Base-T.

### CABLE DESIGN



Note: drawing is not to scale

1. Conductor: 100% copper solid wire
2. Insulation: PE compound
3. Twisting: 2 cores twisted in a pair
4. Separating cross element: LSFRZH or MDPE compound
5. Outer jacket: PVC, LSFRZH or MDPE compound



Only for PVC sheathed cables-simplex

| Cable type    | Dimension            | Sheath | Standard Sheath Colour <sup>1</sup> | Outer diameter <sup>2</sup> (mm) | Cable weight <sup>2</sup> (kg/km) |
|---------------|----------------------|--------|-------------------------------------|----------------------------------|-----------------------------------|
| Indoor        | 4 x 2 x 0.54mm       | PVC    | Grey                                | 6.5                              | 45                                |
| Indoor Duplex | 2 x (4 x 2 x 0.54mm) | PVC    | Grey                                | 6.5 x 13.5                       | 92                                |
| Indoor        | 4 x 2 x 0.54mm       | LSFRZH | Grey                                | 6.5                              | 40                                |
| Indoor Duplex | 2 x (4 x 2 x 0.54mm) | LSFRZH | Grey                                | 6.5 x 13.5                       | 82                                |
| Outdoor       | 4 x 2 x 0.54mm       | MDPE   | Black                               | 7.0                              | 42                                |

<sup>1</sup>: available also in other colours if requested.

<sup>2</sup>: typical values.

### OPERATING CONDITIONS

| Temperature range | Static         | Dynamic        |
|-------------------|----------------|----------------|
| Indoor            | -20°C to +60°C | 0°C to +50°C   |
| Outdoor           | -30°C to +70°C | -10°C to +50°C |

### BASIC ELECTRICAL CHARACTERISTICS (20°C)

|                            |  |
|----------------------------|--|
| DC Conductor Resistance    | ≤ 86 Ohm/km  |
| Insulation Resistance      | ≥ 5000 MΩ·Km / 500 VDC                               |
| Mutual Capacitance         | 50±2 nF/km / 1.0 KHz                                 |
| Capacitance pair to ground | ≤ 500 pF/km / 1.0 KHz                                |
| Characteristic Impedance   | 100 ± 15% Ω / 1-100 MHz<br>100 ± 18% Ω / 100-250 MHz |
| Velocity of Propagation    | 68 % nom.  |
| LCL                        | 80 dB min. / 64 KHz                                  |
| Operating Voltage          | 100 V max.   |
| Dielectric Strength        | 1000 Volts / 1 minute DC                             |

<sup>3</sup>: can comply with IEC 60332-3-24 if special FR LSZH compound is requested.

### BASIC TRANSMISSION CHARACTERISTICS (20°C) (typical values)

| Frequency MHz | Attenuation dB/100m |               | NEXT dB    |               | ELFEXT dB  |               | Return loss dB |               |
|---------------|---------------------|---------------|------------|---------------|------------|---------------|----------------|---------------|
|               | Cat 6 max.          | Typical value | Cat 6 min. | Typical value | Cat 6 min. | Typical value | Cat 6 min.     | Typical value |
| 1             | 2.1                 | 1.8           | 75         | 90            | 68         | 80            | 20.0           | 25            |
| 4             | 3.8                 | 3.5           | 66         | 80            | 56         | 75            | 23.0           | 30            |
| 10            | 6.0                 | 5.6           | 60         | 75            | 48         | 70            | 25.0           | 34            |
| 16            | 7.6                 | 7.0           | 57         | 70            | 44         | 65            | 25.0           | 35            |
| 31.25         | 10.7                | 10.1          | 53         | 67            | 38         | 60            | 23.6           | 35            |
| 62.5          | 15.5                | 14.4          | 48         | 63            | 32         | 55            | 21.5           | 33            |
| 100           | 19.9                | 18.5          | 45         | 60            | 28         | 52            | 20.1           | 30            |
| 200           | 29.1                | 26.9          | 41         | 57            | 22         | 50            | 18.0           | 28            |
| 250           | 33.0                | 30.3          | 39         | 53            | 20         | 47            | 17.3           | 25            |

### IDENTIFICATION COLOUR CODING

| Pair 1 |            | Pair 2 |              | Pair 3 |             | Pair 4 |             |
|--------|------------|--------|--------------|--------|-------------|--------|-------------|
| Blue   | White\Blue | Orange | White\Orange | Green  | White\Green | Brown  | White\Brown |

### SHEATH MARKING

“CABLEL UTP 4x2x0.54 Verified by Underwriters Laboratories in accordance with CAT6 ISO/IEC 11801 + TIA/EIA 568C2 -UL registration No – Length m”.  
for PVC sheathed cables-simplex

### PACKING

The cables are delivered in non-returnable carton boxes of 305m or on plywood bobbins of 500m or 1000m.

Any particular requirements about packing, drum marking, cable length per drum can be provided if requested.