

# PAAR-TRONIC-Li-2YCY / -Li-2YCYV PE-insulated, low capacitance,

Termini-Point®, EMC-preferred type, meter marking



B

## Technical data

- PE-insulated data cable
- **Temperature range**  
flexing -5°C to +70°C  
fixed installation -30°C to +80°C
- **Conductor resistance** (loop) at 20°C  
0,22 mm<sup>2</sup> max. 186 Ohm/km  
0,34 mm<sup>2</sup> max. 115 Ohm/km  
0,5 mm<sup>2</sup> max. 78,5 Ohm/km
- **Operating top level voltage**  
max. 250 V (not for purposes of high current and power installation)
- **Test voltage**  
core/core 2000 V  
core/screen 1000 V
- **Insulation resistance** min. 5 GOhm x km
- **Mutual capacitance** at 800 Hz  
>4 pairs max. 60 nF/km  
≤4 pairs values extended by 20%
- **Impedance** 100 Ohm ±15
- **Line attenuation** (approx. value)  
0,22 mm<sup>2</sup> at 100 kHz 9,0 dB/km  
0,34 mm<sup>2</sup> at 100 kHz 6,6 dB/km  
0,50 mm<sup>2</sup> at 100 kHz 6,0 dB/km  
0,22 mm<sup>2</sup> at 1 MHz 25,0 dB/km  
0,34 mm<sup>2</sup> at 1 MHz 20,0 dB/km  
0,50 mm<sup>2</sup> at 1 MHz 18,0 dB/km
- **Inductance** approx. 0,66 mH/km
- **Cross-talk attenuation**  
up 1 MHz min. 50 dB  
up 10 MHz min. 40 dB
- **Minimum bending radius**  
flexing 12x cable Ø  
fixed installation 7,5x cable Ø

## Cable structure

- Bare copper stranded wires, 7-wires, adapted to DIN VDE 0881, suitable for Termini-Point® and solder-free connection technique
- Conductor make-up  
0,22 mm<sup>2</sup> = 7x0,20 mm  
0,34 mm<sup>2</sup> = 7x0,25 mm  
0,5 mm<sup>2</sup> = 7x0,30 mm
- Core insulation of PE, compound type2Y11 to DIN VDE 0207 part 2
- Core colours to DIN 47100 with colour repetition
- Cores stranded in pairs with optimal lay-length
- Pairs stranded in layers with optimal lay-length
- Core wrapping with foil
- Tinned copper braided screening, coverage approx. 85%
- Special PVC outer sheath YM2 grey, to DIN VDE 0207 part 5
- Type . . . Yv with reinforced outer sheath of special PVC YM2 black for underground laying
- with meter marking, change-over in 2009

## Properties

- PVC outer sheath self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- These cables make enormous advantages possible for fast and cost-effective contact-making using the Termini-Point® connection technique. With this solder-free connection technique, the stranded conductor is crimped together with a sleeve onto a contact pin without prior stripping of the insulation material
- The twisted-pair lay-up prevents electrical unbalances within the cable and this thus effectively suppresses cross-talking effects
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

## Note

- At 0,22 mm<sup>2</sup> is designed for applications with Sub-D connectors.
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- Termini-Point® registered trade mark AMP.
- To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

## Application

These PE-insulated data cables with twisted pairs are used in particular for the interference-free transmission of data and signals over longer distances. The high transmission rates are particularly suitable for RS 422 and RS 485 interfaces. These cables are suitable for fixed installations as well as for flexing applications, for free movement without forced motion and without tensile stress, in dry and moist environments, though not for outdoor applications (sheath colour grey). The version . . . Yv, colour black with reinforced outer sheath, is suitable for installation in the ground. **EMC** = Electromagnetic compatibility

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

### PAAR-TRONIC-Li-2YCY grey

| Part No. | No. pairs x cross-sec. mm <sup>2</sup> | Outer ø ca. mm | Cop. weight kg / km | Weight ca. kg / km | AWG-No. |
|----------|--|----------------|---------------------|--------------------|---------|
| 21111    | 2 x 2 x 0,22                           | 6,4            | 26,0                | 48,0               | 24      |
| 21112    | 3 x 2 x 0,22                           | 6,7            | 31,0                | 66,0               | 24      |
| 21113    | 4 x 2 x 0,22                           | 7,3            | 38,0                | 82,0               | 24      |
| 21114    | 8 x 2 x 0,22                           | 9,0            | 62,0                | 123,0              | 24      |
| 21115    | 10 x 2 x 0,22                          | 10,5           | 79,0                | 165,0              | 24      |
| 21117    | 2 x 2 x 0,34                           | 7,6            | 35,0                | 68,0               | 22      |
| 21118    | 3 x 2 x 0,34                           | 8,0            | 44,0                | 77,0               | 22      |
| 21119    | 4 x 2 x 0,34                           | 8,6            | 53,0                | 95,0               | 22      |
| 21120    | 8 x 2 x 0,34                           | 11,2           | 86,0                | 158,0              | 22      |
| 21121    | 10 x 2 x 0,34                          | 12,5           | 104,0               | 195,0              | 22      |
| 21123    | 2 x 2 x 0,5                            | 8,4            | 49,0                | 74,0               | 20      |
| 21124    | 3 x 2 x 0,5                            | 8,8            | 60,0                | 109,0              | 20      |
| 21125    | 4 x 2 x 0,5                            | 9,6            | 73,0                | 128,0              | 20      |
| 21126    | 8 x 2 x 0,5                            | 12,3           | 124,0               | 223,0              | 20      |
| 21127    | 10 x 2 x 0,5                           | 14,5           | 155,0               | 265,0              | 20      |

### PAAR-TRONIC-Li-2YCYv black for underground laying

| Part No. | No. pairs x cross-sec. mm <sup>2</sup> | Outer ø ca. mm | Cop. weight kg / km | Weight ca. kg / km | AWG-No. |
|----------|--|----------------|---------------------|--------------------|---------|
| 21129    | 2 x 2 x 0,22                           | 8,0            | 26,0                | 60,0               | 24      |
| 21130    | 3 x 2 x 0,22                           | 8,3            | 31,0                | 79,0               | 24      |
| 21131    | 4 x 2 x 0,22                           | 8,9            | 38,0                | 96,0               | 24      |
| 21132    | 8 x 2 x 0,22                           | 10,6           | 62,0                | 140,0              | 24      |
| 21133    | 10 x 2 x 0,22                          | 12,1           | 79,0                | 184,0              | 24      |
| 21135    | 2 x 2 x 0,34                           | 9,2            | 35,0                | 83,0               | 22      |
| 21136    | 3 x 2 x 0,34                           | 9,6            | 44,0                | 92,0               | 22      |
| 21137    | 4 x 2 x 0,34                           | 10,2           | 53,0                | 112,0              | 22      |
| 21138    | 8 x 2 x 0,34                           | 12,8           | 86,0                | 179,0              | 22      |
| 21139    | 10 x 2 x 0,34                          | 14,1           | 104,0               | 219,0              | 22      |
| 21141    | 2 x 2 x 0,5                            | 10,0           | 49,0                | 90,0               | 20      |
| 21142    | 3 x 2 x 0,5                            | 10,4           | 60,0                | 126,0              | 20      |
| 21143    | 4 x 2 x 0,5                            | 11,2           | 73,0                | 146,0              | 20      |
| 21144    | 8 x 2 x 0,5                            | 13,9           | 124,0               | 246,0              | 20      |
| 21145    | 10 x 2 x 0,5                           | 16,0           | 155,0               | 292,0              | 20      |

Dimensions and specifications may be changed without prior notice. (RB01)