



Technical data

- Special core insulation of PE
- **Conductor resistance**
0,5 mm²: max. 39,2 Ohm/km
0,75 mm²: max. 24,6 Ohm/km
1,3 mm²: max. 14,2 Ohm/km
- **Temperature range**
flexing -5°C to +50°C
fixed installation -40°C to +70°C
- **Operating top level voltage**
max. 300 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
core/core 0,5 mm²: 60 nF/km
for 1 and 2 pairs: 75 nF/km
core/core 0,75 mm²: 65 nF/km
for 1 and 2 pairs: 110 nF/km
core/core 1,3 mm²: 75 nF/km
for 1 and 2 pairs: 100 nF/km
- **Inductance** max. 0,75 mH/km
- **Cross-talk attenuation**
min. 0,88 dB/km at 60 kHz
- **Minimum bending radius**
approx. 7,5x cable Ø

Cable structure

- Bare copper stranded wires
0,5 mm² (7x0,3 mm)
0,75 mm² (7x0,37 mm)
1,3 mm² (7x0,49 mm)
- Core insulation of PE
- Cores colours with numbering pair: a-core black, b-core white triple: a-core black, b-core white, c-core red with number print 1/1, 2/2, etc.
- Cores twisted to pairs with optimum pitch
- Pairs stranded in layer + 1 communication core 0,5 mm², PE-insulated, orange (communication core for multicore version)
- Core wrapping with foil
- Electrostatic screen (St) of plastics-coated metal foil and tinned drain-wire 0,5 mm² (7x0,3 mm)
- PVC outer jacket, reinforced
- Colour black (RAL 9005) or blue (RAL 5015)
- with blue outer jacket for hazardous areas to hazard type -i- for intrinsically safe installation according to DIN EN 60079-14 and IEC 60079-14 section 12.2.2 (VDE 0165 part 1)
- with meter marking, change-over in 2009
- Wall-thickness to DIN VDE 0816 part 1, table 7, col. 1

Properties

- 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)
- The electrostatic screen protect the screened pairs against outer electrostatic interference fields
- Low level of line attenuations and low mutual capacitances enable long transmission distances and fast pulse acceleration
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm².
- Cop.Weight including communication core and drain-wire.
- Control cable with blue outer jacket, see catalog part A.

Application

Instrumentation cables are used in data processing and process control.

Instrumentation cables are suitable for fixed installations in damp locations, in open spaces and for underground laying.

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

| Part No. | No.pairs x cross-sec. mm ² | Outer sheath colour | Outer Ø ca. mm | Cop. weight kg / km | Weight ca. kg / km | AWG-No. | Part No. | No.pairs x cross-sec. mm ² | Outer sheath colour | Outer Ø ca. mm | Cop. weight kg / km | Weight ca. kg / km | AWG-No. |
|----------|---------------------------------------|---------------------|----------------|---------------------|--------------------|---------|----------|---------------------------------------|---------------------|----------------|---------------------|--------------------|---------|
| 20099 | 1 x 2 x 0,5 | black | 7,5 | 15,0 | 74,0 | 20 | 20235 | 1 x 2 x 0,5 | blue | 7,5 | 15,0 | 74,0 | 20 |
| 20100 | 2 x 2 x 0,5 | black | 10,2 | 30,0 | 117,0 | 20 | 20236 | 2 x 2 x 0,5 | blue | 10,2 | 30,0 | 117,0 | 20 |
| 20101 | 4 x 2 x 0,5 | black | 11,0 | 50,0 | 140,0 | 20 | 20237 | 4 x 2 x 0,5 | blue | 11,0 | 50,0 | 140,0 | 20 |
| 20233 | 6 x 2 x 0,5 | black | 12,6 | 70,0 | 190,0 | 20 | 20238 | 6 x 2 x 0,5 | blue | 12,6 | 70,0 | 190,0 | 20 |
| 20102 | 8 x 2 x 0,5 | black | 13,8 | 90,0 | 215,0 | 20 | 20239 | 8 x 2 x 0,5 | blue | 13,8 | 90,0 | 215,0 | 20 |
| 20103 | 10 x 2 x 0,5 | black | 14,6 | 110,0 | 220,0 | 20 | 20240 | 10 x 2 x 0,5 | blue | 14,6 | 110,0 | 220,0 | 20 |
| 20104 | 12 x 2 x 0,5 | black | 15,7 | 130,0 | 280,0 | 20 | 20241 | 12 x 2 x 0,5 | blue | 15,7 | 130,0 | 280,0 | 20 |
| 20105 | 16 x 2 x 0,5 | black | 17,5 | 170,0 | 352,0 | 20 | 20242 | 16 x 2 x 0,5 | blue | 17,5 | 170,0 | 352,0 | 20 |
| 20106 | 20 x 2 x 0,5 | black | 18,5 | 210,0 | 385,0 | 20 | 20243 | 20 x 2 x 0,5 | blue | 18,5 | 210,0 | 385,0 | 20 |
| 20107 | 24 x 2 x 0,5 | black | 20,2 | 250,0 | 468,0 | 20 | 20244 | 24 x 2 x 0,5 | blue | 20,2 | 250,0 | 468,0 | 20 |
| 20108 | 36 x 2 x 0,5 | black | 24,0 | 370,0 | 656,0 | 20 | 20245 | 36 x 2 x 0,5 | blue | 24,0 | 370,0 | 656,0 | 20 |
| 20109 | 48 x 2 x 0,5 | black | 27,4 | 490,0 | 854,0 | 20 | 20246 | 48 x 2 x 0,5 | blue | 27,4 | 490,0 | 854,0 | 20 |
| 20149 | 1 x 2 x 0,75 | black | 7,9 | 20,0 | 74,0 | 18 | 20169 | 1 x 2 x 0,75 | blue | 7,9 | 20,0 | 74,0 | 18 |
| 20150 | 2 x 2 x 0,75 | black | 10,6 | 35,0 | 123,0 | 18 | 20170 | 2 x 2 x 0,75 | blue | 10,6 | 35,0 | 123,0 | 18 |
| 20151 | 4 x 2 x 0,75 | black | 11,7 | 65,0 | 164,0 | 18 | 20171 | 4 x 2 x 0,75 | blue | 11,7 | 65,0 | 164,0 | 18 |
| 20152 | 8 x 2 x 0,75 | black | 14,6 | 125,0 | 258,0 | 18 | 20172 | 8 x 2 x 0,75 | blue | 14,6 | 125,0 | 258,0 | 18 |
| 20153 | 10 x 2 x 0,75 | black | 15,8 | 154,0 | 305,0 | 18 | 20173 | 10 x 2 x 0,75 | blue | 15,8 | 154,0 | 305,0 | 18 |
| 20154 | 12 x 2 x 0,75 | black | 17,0 | 185,0 | 350,0 | 18 | 20174 | 12 x 2 x 0,75 | blue | 17,0 | 185,0 | 350,0 | 18 |
| 20155 | 16 x 2 x 0,75 | black | 19,0 | 245,0 | 445,0 | 18 | 20175 | 16 x 2 x 0,75 | blue | 19,0 | 245,0 | 445,0 | 18 |
| 20156 | 20 x 2 x 0,75 | black | 21,5 | 298,0 | 520,0 | 18 | 20176 | 20 x 2 x 0,75 | blue | 21,5 | 298,0 | 520,0 | 18 |
| 20157 | 24 x 2 x 0,75 | black | 23,2 | 365,0 | 620,0 | 18 | 20177 | 24 x 2 x 0,75 | blue | 23,2 | 365,0 | 620,0 | 18 |
| 20158 | 36 x 2 x 0,75 | black | 28,2 | 532,0 | 940,0 | 18 | 20178 | 36 x 2 x 0,75 | blue | 28,2 | 532,0 | 940,0 | 18 |
| 20159 | 48 x 2 x 0,75 | black | 32,0 | 708,0 | 1250,0 | 18 | 20179 | 48 x 2 x 0,75 | blue | 32,0 | 708,0 | 1250,0 | 18 |
| 20125 | 1 x 2 x 1,3 | black | 8,8 | 31,0 | 102,0 | - | 20247 | 1 x 2 x 1,3 | blue | 8,8 | 31,0 | 102,0 | - |
| 20132 | 1 x 3 x 1,3 | black | 9,7 | 44,0 | 116,0 | - | 20255 | 1 x 3 x 1,3 | blue | 9,7 | 44,0 | 116,0 | - |
| 20126 | 2 x 2 x 1,3 | black | 11,7 | 62,0 | 161,0 | - | 20248 | 2 x 2 x 1,3 | blue | 11,7 | 62,0 | 161,0 | - |
| 20127 | 4 x 2 x 1,3 | black | 13,5 | 114,0 | 230,0 | - | 20249 | 4 x 2 x 1,3 | blue | 13,5 | 114,0 | 230,0 | - |
| 20234 | 6 x 2 x 1,3 | black | 16,0 | 168,0 | 310,0 | - | 20250 | 6 x 2 x 1,3 | blue | 16,0 | 168,0 | 310,0 | - |
| 20128 | 8 x 2 x 1,3 | black | 16,8 | 218,0 | 377,0 | - | 20251 | 8 x 2 x 1,3 | blue | 16,8 | 218,0 | 377,0 | - |
| 20129 | 12 x 2 x 1,3 | black | 19,3 | 322,0 | 515,0 | - | 20252 | 12 x 2 x 1,3 | blue | 19,3 | 322,0 | 515,0 | - |
| 20130 | 16 x 2 x 1,3 | black | 22,0 | 426,0 | 656,0 | - | 20253 | 16 x 2 x 1,3 | blue | 22,0 | 426,0 | 656,0 | - |
| 20131 | 24 x 2 x 1,3 | black | 26,5 | 684,0 | 952,0 | - | 20254 | 24 x 2 x 1,3 | blue | 26,5 | 684,0 | 952,0 | - |

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