

# RD-H(ST)H Bd instrumentation cable, halogen-free



## Technical data

- Halogen-free data transmission cable adapted to DIN VDE 0815
- **Conductor resistance**  
max. 73,6 Ohm/km (0,5 mm<sup>2</sup>)  
max. 36,8 Ohm/km (1,0 mm<sup>2</sup>)
- **Temperature range**  
flexing -5 °C to +50 °C  
fixed installation to +70 °C
- **Operating top level voltage**  
(not for purposes of high current and power installation)  
max. 225 V
- **Test voltage**  
core/core 500 V  
core/screen 2000 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
at 800 Hz max. 100 nF/km  
(this value may be exceeded by 20% with a make-up up to 4 pairs)
- **Impedance** at 1 kHz (nominal values)  
450 Ohm (0,5 mm<sup>2</sup>)  
320 Ohm (1,0 mm<sup>2</sup>)
- **Capacity unbalance**  
at 800 Hz max. 200 pF/100 m  
(20% of the values, but one value up to 200 pF is allowed)
- **Cross-talk attenuation**  
at min. 10 kHz, 60 dB/500 m
- **Line attenuation** at 1 kHz (nominal values)  
1,2 dB/km (0,5 mm<sup>2</sup>)  
0,9 dB/km (1,0 mm<sup>2</sup>)
- **Bending radius**  
approx. 7,5x cable ø

## Application

The halogen-free data transmission cable RD-H(ST)H are used for measurement and control technology for transmission of analog and digital signals up to frequencies of approx. 10 kHz. The twisted pairs with short pitches (<50 mm for 0,5 mm<sup>2</sup>) and different lay-lengths which lead good cross-talk attenuation values in a unit.

These cables are used in inside buildings (in special cases in open air, but with sufficient protection against sunlight is necessary).

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

## Cable structure

- Bare copper stranded wires 0,5 mm<sup>2</sup> (7x0,3) or 1,0 mm<sup>2</sup> (7x0,43)
- Core insulation, halogen-free polymer compound
- Cores twisted in pairs, with short lay-length (approx. 20 pitch/m ±50 mm)
- 4 pairs stranded to a unit
- Holding tape units with number coding
- Units stranded in concentric layers
- Core wrapping
- Electrostatic screen of plastic coated aluminium foil and drain wire tinned, 0,5 mm<sup>2</sup>
- Outer jacket, halogen-free, polymer compound, flame resistant
- Colour grey (RAL 7032)
- Core colours  
pair no./a-core/b-core  
1/blue/red  
2/grey/yellow  
3/green/brown  
4/white/black  
(4 pairs 1 unit)

## Properties

- The static screen protects the transmission circuits against outer electrical interferences
- The halogen-free cables prevent the fire propagation and compared to PVC cables exist only a low smoke density under flame influence
- This results no decomposition products which destroy equipments, machines and buildings by corrosion

## Tests

- Flame test to VDE 0482-332-3, BS 4066 part 3/ DIN EN 60332-3/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases according to VDE 0482 part 267/ DIN EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Smoke density according to VDE 0482 part 1034-1+2, IEC 61034-1+2/ DIN EN 61034-1+2 BS 7622 part 1+2 (equivalent DIN VDE 0472 part 816)

## Note

- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.

| Part no. | No.pairs x cross-sec. mm <sup>2</sup> | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|---------------------------------------|--------------------|---------------------|------------------------|---------|
| 20200    | 2 x 2 x 0,5                           | 7,0                | 26,0                | 70,0                   | 20      |
| 20201    | 4 x 2 x 0,5                           | 9,0                | 46,0                | 110,0                  | 20      |
| 20202    | 8 x 2 x 0,5                           | 11,6               | 86,0                | 190,0                  | 20      |
| 20203    | 12 x 2 x 0,5                          | 13,5               | 127,0               | 240,0                  | 20      |
| 20204    | 16 x 2 x 0,5                          | 14,0               | 167,0               | 300,0                  | 20      |
| 20205    | 20 x 2 x 0,5                          | 16,0               | 209,0               | 360,0                  | 20      |
| 20206    | 24 x 2 x 0,5                          | 17,5               | 250,0               | 420,0                  | 20      |
| 20207    | 28 x 2 x 0,5                          | 19,0               | 290,0               | 480,0                  | 20      |
| 20208    | 32 x 2 x 0,5                          | 21,0               | 331,0               | 570,0                  | 20      |
| 20209    | 36 x 2 x 0,5                          | 21,5               | 372,0               | 614,0                  | 20      |
| 20210    | 40 x 2 x 0,5                          | 22,5               | 412,0               | 680,0                  | 20      |
| 20211    | 44 x 2 x 0,5                          | 23,5               | 453,0               | 700,0                  | 20      |
| 20212    | 48 x 2 x 0,5                          | 24,0               | 494,0               | 790,0                  | 20      |
| 20213    | 64 x 2 x 0,5                          | 30,0               | 658,0               | 1040,0                 | 20      |
| 20214    | 80 x 2 x 0,5                          | 33,0               | 821,0               | 1300,0                 | 20      |
| 20215    | 96 x 2 x 0,5                          | 36,0               | 986,0               | 1510,0                 | 20      |

| Part no. | No.pairs x cross-sec. mm <sup>2</sup> | Outer Ø approx. mm | Cop. weight kg / km | Weight approx. kg / km | AWG-No. |
|----------|---------------------------------------|--------------------|---------------------|------------------------|---------|
| 20216    | 2 x 2 x 1                             | 9,0                | 47,0                | 110,0                  | 17      |
| 20217    | 4 x 2 x 1                             | 12,0               | 89,0                | 190,0                  | 17      |
| 20218    | 8 x 2 x 1                             | 16,5               | 172,0               | 320,0                  | 17      |
| 20219    | 12 x 2 x 1                            | 17,5               | 255,0               | 435,0                  | 17      |
| 20220    | 16 x 2 x 1                            | 19,5               | 338,0               | 560,0                  | 17      |
| 20221    | 20 x 2 x 1                            | 21,0               | 423,0               | 680,0                  | 17      |
| 20222    | 24 x 2 x 1                            | 23,0               | 507,0               | 800,0                  | 17      |
| 20223    | 28 x 2 x 1                            | 27,0               | 590,0               | 905,0                  | 17      |
| 20225    | 32 x 2 x 1                            | 29,0               | 674,0               | 1080,0                 | 17      |
| 20226    | 36 x 2 x 1                            | 30,0               | 757,0               | 1260,0                 | 17      |
| 20227    | 40 x 2 x 1                            | 31,0               | 841,0               | 1330,0                 | 17      |
| 20228    | 44 x 2 x 1                            | 34,0               | 924,0               | 1410,0                 | 17      |
| 20229    | 48 x 2 x 1                            | 32,5               | 1008,0              | 1550,0                 | 17      |
| 20230    | 64 x 2 x 1                            | 39,0               | 1342,0              | 2000,0                 | 17      |
| 20231    | 80 x 2 x 1                            | 43,0               | 1676,0              | 2470,0                 | 17      |
| 20232    | 96 x 2 x 1                            | 47,0               | 2016,0              | 2970,0                 | 17      |

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