

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



## Technical data

- Halogen-free data transmission cable adapted to DIN VDE 0815
- **Conductor resistance** (loop)  
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 -30°C to +70°C
- **Operating peak voltage** max. 225 V  
(not for purposes of high current and power installation)
- **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>)
- **Minimum bending radius**  
7,5x cable Ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)

## Cable structure

- Bare copper-conductor, multi-wires
- Conductor construction:  
0,5 mm<sup>2</sup> = 7x0,3 mm  
1 mm<sup>2</sup> = 7x0,43 mm
- Core insulation of halogen-free polymer compound
- Core identification coloured  
pair-no.1: a-core = BU; b-core = RD  
pair-no.2: a-core = GY; b-core = YE  
pair-no.3: a-core = GN; b-core = BN  
pair-no.4: a-core = WH; b-core = BK
- Cores twisted in pairs, with short lay-length (approx. 20 pitch/m ± 50 mm)
- 4 pairs stranded to a unit (unit labelled with numbers printed plastic helix)
- Units stranded in concentric layers
- Foil wrapping
- Electrostatic screen of plastic coated aluminium foil and drain wire tinned, 0,5 mm<sup>2</sup>
- Outer sheath of halogen-free, polymer compound, flame resistant
- Sheath colour grey (RAL 7032)

## 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 acc. to  
DIN VDE 0482-332-3, BS 4066 part 3,  
DIN EN 60332-3, IEC 60332-3 (previously  
DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases  
acc. to DIN VDE 0482 part 267,  
DIN EN 50267-2-2, IEC 60754-2  
(equivalent DIN VDE 0472 part 813)
- Smoke density acc. to DIN 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>.

## 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/EC.

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.	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	20216	2 x 2 x 1	9,0	47,0	110,0	18
20201	4 x 2 x 0,5	9,0	46,0	110,0	20	20217	4 x 2 x 1	12,0	89,0	190,0	18
20202	8 x 2 x 0,5	11,6	86,0	190,0	20	20218	8 x 2 x 1	16,5	172,0	320,0	18
20203	12 x 2 x 0,5	13,5	127,0	240,0	20	20219	12 x 2 x 1	17,5	255,0	435,0	18
20204	16 x 2 x 0,5	14,0	167,0	300,0	20	20220	16 x 2 x 1	19,5	338,0	560,0	18
20205	20 x 2 x 0,5	16,0	209,0	360,0	20	20221	20 x 2 x 1	21,0	423,0	680,0	18
20206	24 x 2 x 0,5	17,5	250,0	420,0	20	20222	24 x 2 x 1	23,0	507,0	800,0	18
20207	28 x 2 x 0,5	19,0	290,0	480,0	20	20223	28 x 2 x 1	27,0	590,0	905,0	18
20208	32 x 2 x 0,5	21,0	331,0	570,0	20	20225	32 x 2 x 1	29,0	674,0	1080,0	18
20209	36 x 2 x 0,5	21,5	372,0	614,0	20	20226	36 x 2 x 1	30,0	757,0	1260,0	18
20210	40 x 2 x 0,5	22,5	412,0	680,0	20	20227	40 x 2 x 1	31,0	841,0	1330,0	18
20211	44 x 2 x 0,5	23,5	453,0	700,0	20	20228	44 x 2 x 1	34,0	924,0	1410,0	18
20212	48 x 2 x 0,5	24,0	494,0	790,0	20	20229	48 x 2 x 1	32,5	1008,0	1550,0	18
20213	64 x 2 x 0,5	30,0	658,0	1040,0	20	20230	64 x 2 x 1	39,0	1342,0	2000,0	18
20214	80 x 2 x 0,5	33,0	821,0	1300,0	20	20231	80 x 2 x 1	43,0	1676,0	2470,0	18
20215	96 x 2 x 0,5	36,0	986,0	1510,0	20	20232	96 x 2 x 1	47,0	2016,0	2970,0	18

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