

# RD-H(St)H

## Data transmission cable



HELUKABEL® RD-H(St)H 4x2x0,5 QMM / 20201 225 V CE

### TECHNICAL DATA

#### Data cable in alignment with DIN VDE 0815

<b>Temperature range</b>	flexible -5°C to +50°C fixed -30°C to +70°C
<b>Peak operating voltage</b>	225 V (not for high power current installation purposes)
<b>Test voltage core/core</b>	500 V
<b>Test voltage core/screen</b>	2000 V
<b>Conductor resistance at 20°C</b>	0.5 mm <sup>2</sup> : max. 39.2 Ohm/km 1 mm <sup>2</sup> : max. 18.4 Ohm/km
<b>Mutual capacitance core/core</b>	at 800 Hz 2 - 4 pairs: approx. 120 pF/m 8 - 96 pairs: approx. 100 pF/m
<b>Capacitive coupling k<sub>1</sub></b>	at 800 Hz, max. 200 pF/100m; 20% of the values, but at least one value may amount up to 400 pF/100m
<b>Characteristic impedance</b>	at 1 kHz 0.5 mm <sup>2</sup> : 450 Ohm 1 mm <sup>2</sup> : 320 Ohm (approx. value)
<b>Cable attenuation</b>	at 1 kHz 0.5 mm <sup>2</sup> : 1.2 dB/km 1 mm <sup>2</sup> : 0.9 dB/km (approx. value)
<b>Crosstalk attenuation</b>	at 10 kHz, 60.00 dB (approx. value)
<b>Minimum bending radius</b>	fixed 7.5x Outer-Ø

### ■ CABLE STRUCTURE

- Copper wire bare, stranded
- Wire structure:  
0.5 mm<sup>2</sup>: 7 x 0.30 mm  
1 mm<sup>2</sup>: 7 x 0.43 mm

- Core insulation: halogen-free polymer
- Core identification: colour coded, per bundle:  
Pair no. 1: a-core = blue; b-core = red  
Pair no. 2: a-core = grey; b-core = yellow  
Pair no. 3: a-core = green; b-core = brown  
Pair no. 4: a-core = white; b-core = black
- Cores stranded in pairs with optimal lay lengths, 4 pairs stranded into bundles with optimal lay lengths, bundles stranded in layers with optimal lay lengths
- Bundle identification: synthetic helix with printed digits
- Foil wrapping
- Drain wire, tinned copper, stranded (0.5 mm<sup>2</sup> = 7 x 0.3 mm)
- Screen: plastic-coated aluminium foil (St), approx. overlap 25%
- Outer sheath: halogen-free polymer
- Sheath colour: grey (RAL 7032)

### ■ PROPERTIES

- halogen-free
- pair stranding with short and varied lay lengths within a bundle, leads to good crosstalk attenuation values

### ■ TESTS

- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- bundle fire test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

### ■ APPLICATION

Halogen-free data transmission cables are used in measurement and control technology for the transmission of digital and analogue signals up to a frequency of 10 kHz. These cables are used inside buildings and outdoors, however, not without UV protection.

### ■ NOTES

- the conductor is metrically (mm<sup>2</sup>) constructed, AWG numbers are approximated, and are for reference only
- 2-pair cables: cores stranded to a star quad

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20200	2 x 2 x 0.5	20	7.0	26.0	70.0
20201	4 x 2 x 0.5	20	9.0	46.0	110.0
20202	8 x 2 x 0.5	20	11.6	86.0	190.0
20203	12 x 2 x 0.5	20	13.5	127.0	240.0
20204	16 x 2 x 0.5	20	14.0	167.0	300.0
20205	20 x 2 x 0.5	20	16.0	209.0	360.0
20206	24 x 2 x 0.5	20	17.5	250.0	420.0
20207	28 x 2 x 0.5	20	19.0	290.0	480.0
20208	32 x 2 x 0.5	20	21.0	331.0	570.0
20209	36 x 2 x 0.5	20	21.5	372.0	614.0
20210	40 x 2 x 0.5	20	22.5	412.0	680.0
20211	44 x 2 x 0.5	20	23.5	453.0	700.0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20212	48 x 2 x 0.5	20	24.0	494.0	790.0
20213	64 x 2 x 0.5	20	30.0	658.0	1040.0
20214	80 x 2 x 0.5	20	33.0	821.0	1300.0
20215	96 x 2 x 0.5	20	36.0	986.0	1510.0
20216	2 x 2 x 1	18	9.0	47.0	110.0
20217	4 x 2 x 1	18	12.0	89.0	190.0
20218	8 x 2 x 1	18	16.5	172.0	320.0
20219	12 x 2 x 1	18	17.5	255.0	435.0
20220	16 x 2 x 1	18	19.5	338.0	560.0
20221	20 x 2 x 1	18	21.0	423.0	680.0
20222	24 x 2 x 1	18	23.0	507.0	800.0
20223	28 x 2 x 1	18	27.0	590.0	905.0

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20225	32 x 2 x 1	18	29.0	674.0	1080.0
20226	36 x 2 x 1	18	30.0	757.0	1260.0
20227	40 x 2 x 1	18	31.0	841.0	1330.0
20228	44 x 2 x 1	18	32.5	924.0	1410.0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20229	48 x 2 x 1	18	34.0	1008.0	1550.0
20230	64 x 2 x 1	18	39.0	1342.0	2000.0
20231	80 x 2 x 1	18	43.0	1676.0	2470.0
20232	96 x 2 x 1	18	47.0	2016.0	2970.0