



# Traction cable

## RADOX DATABUS 110 OHM 4X2X0.5 XM S FR

### Product description:

RADOX DATABUS 110 OHM

Cable with 0.5 mm<sup>2</sup> - cores, overall screen

Impedance:

110 Ohm

Hazard level:

M (extra low temperature resistant, extra oil and fuel resistant)

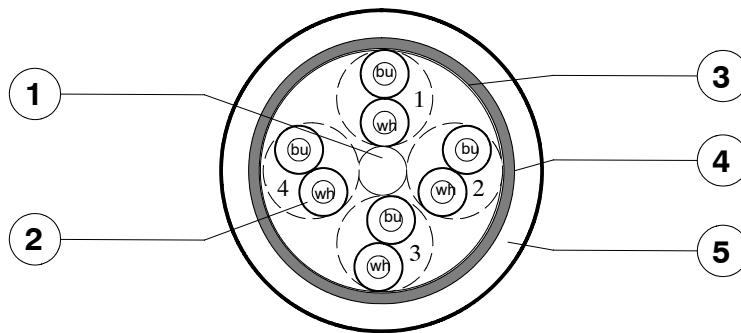
### General features:

Halogen-free, electron-beam cross-linked cable with improved behaviour in case of fire, easy to strip, soldering resistant and flexible. Cable for symmetrical data transmission with impedance of 110 Ohm with very good transmission properties at high frequencies.

### Application:

The cable is intended for fixed installation inside railway vehicles or for installation in applications where limited alternating bending stresses occur during operation.

Guidelines for selection and installation are described in standard EN 50343.



1. Filler	PE-LD		
2. 4 pairs 2x0.5 mm <sup>2</sup>	Conductor : tin plated copper Insulation : RADOX FOAM FR Colours : blue, white Two cores blue and white twisted Both cores in pair are numbered	D : 2.1 mm D : 4.2 mm 1 ... 4	
3. Wrapping	Tape		
4. EMC - Screen	Tin plated copper braid	D : 9.8 mm	
5. Sheath	RADOX EM 104, colour : black	D : 11.3±0.3 mm	

**Marking:** RADOX DATABUS 110 OHM 4X2X0.5 XM S FR 12565275- [prod.- no.] [date of manufacture]

### Designation legend

X : Core insulation material is not defined in EN 50264- 1

M : Sheet material EM 104 according to EN 50264- 1

S : Overall screen

FR : Cable with circuit integrity in case of fire

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The product fulfils the test and specification requirements described in this document for the stated areas of application and operating conditions. HUBER+SUHNER AG does not expressly or implicitly guarantee performance under additional or changed conditions. Deviations are to be agreed upon in writing.
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### Technical data:

Conductor resistance at 20°C	0.5 mm <sup>2</sup>	≤ 40.1	Ω / km
Insulation resistance at 20°C		> 100	MΩ · km
Capacitance	core / core	≤ 56	pF / m
	core / screen	≤ 88	pF / m
Impedance	f = 0.5 ... 3 MHz	110 ± 15	Ω
Attenuation	f = 1.0 MHz	≤ 1.6	dB / 100m
	f = 3.0 MHz	≤ 3.2	dB / 100m
Transferimpedance	f ≤ 30 MHz	≤ 100	mΩ/m
Near end crosstalk <sub>nom.</sub>	f = 1 MHz	50	dB
	f = 3 MHz	45	dB
Voltage rating		300	V AC
Test voltage		2 000	V AC
Temperature range	fixed installation	- 50 ... + 90	°C
Min. bending radius	fixed installation	3 x D	
Cable weight		approx. 18.3	kg / 100m

### NB:

The upper temperature limit is determined by long term ageing according to EN 50305 Par. 7 and extrapolation to 20,000 hours. The lower temperature limit is determined by bending and elongation tests according to EN 60811-1-4 Par. 8, respectively low temperature behaviour tests for static conditions, e.g. for fixed installation according to GOST 20.57.406-81 - method 204-1 and GOST 17491-80.

The specified bending radii require a careful and proper handling using proven fastening technologies.

### The cable is in conformity with:

#### Circuit integrity in case of fire

Resistance to fire with mechanical shock, D ≤ 20 mm ..... 30 Min. .... EN 50200

#### Fire protection on railway vehicles, hazard level ..... 1 - 4 ..... DIN 5510

Vertical flame spread ..... 50 < L ≤ 540 mm ..... EN 60332-1-2

Smoke density ..... T ≥ 60 % ..... EN 61034-2

Corrosivity of combustion gases ..... pH ≥ 4.3, C ≤ 10 μS/mm EN 50267-2-2

Amount of halogen acid gas ..... HCl + HBr ≤ 0.5 % ..... EN 50267-2-1

Content of fluorine ..... HF ≤ 0.1 % ..... EN 60684-2, 45.2

Toxicity ..... ITC ≤ 3 ..... EN 50305, 9.2

#### Requirement of hazard level code M

(according to EN 50264-1 or EN 50306-1)

Extra low temperature ..... - 40°C

Extra oil resistance ..... IRM 902, 72h, 100°C

Extra fuel resistance ..... IRM 903, 168h, 70°C