



Traction cable

RADOX DATABUS 120 OHM nx0.5 XM S FR

Product description:

RADOX DATABUS 120 OHM

Cables with 0.5 mm² - cores, overall screen and fire barrier

Impedance:

120 Ohm

Hazard level:

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

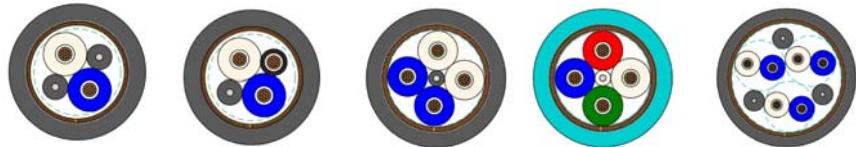
General features:

Halogen-free, electron-beam cross-linked cables with improved behaviour in case of fire and maintain circuit integrity, easy to strip, soldering resistant and flexible. Cable for symmetrical data transmission with impedance of 120 Ohm with very good transmission properties at high frequencies.

Application:

The cores are 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 the standard EN 50343.



Marking: HUBER+SUHNER RADOX DATABUS 120 OHM [Construction] XM S FR [Part-No.] [Batch-No.] [date of manufacture]

Construction [mm ²]	2x0.5	2x0.5+0.5	4x0.5	4x0.5	3X2X0.5
Part-No.	12 560 433	12 560 565	12 583 053	85027880	12 582 195
Cores of Databus					
Conductor	Tin plated copper wire D _{nom.} = 0.88 mm				
Insulation	Databus: RADOX FOAM FR				
Core Diameter nom. [mm]	2.75	2.75	2.75	2.75	2.75
Colours of Pairs	WH- BU	WH- BU	WH- BU, no 1 WH- BU, no 2	WH- BU RD- GN	WH- BU, no 1 WH- BU, no 2 WH- BU, no 3
Additional Core [mm²]	-	0.5	-	-	-
Conductor	-	Tin plated copper wire D _{nom.} = 0.88 mm	-	-	-
Insulation	-	RADOX GKW	-	-	-
Core Diameter nom. [mm]	-	1.70	-	-	-
Colours of Insulation		BK			
Construction of Cable					
Twists of Cores	pair	pair	quad	quad	pairs
Fillers	RADOX 125 REC				
Wrapping	Tape	-	Tape		
EMC - Screen	Tin plated copper braid				
Braiding- Diameter nom. [mm]	6.6	6.6	7.4	7.4	11.9
Wrapping	Tape	-	Tape		
Sheath	RADOX EM 104				
Colour	black			turquoise	black
Diameter [mm]	8.6 ± 0.3	8.6 ± 0.3	9.6 ± 0.3	9.6 ± 0.3	14.1 ± 0.4
Fireload [kJ/m]	1287	1236	1694	1694	2950
Cable weight [kg/100 m]	10.4	10.6	13.6	13.6	24.3
Applications:					
MVB	X	X	X	X	X
CAN	X	X			X
RS 485	X		X	X	

Designation legend

X : Core insulation material is not defined in the standard 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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Technical data:

Insulation resistance at 20°C	> 100	MΩ · km
Conductor resistance at 20 °C	≤ 40.1	Ω / km
Mutual capacitance	core / core	≤ 46 pF / m
Impedance _{nom.}	f = 0.75 ... 3 MHz	120 Ω
Attenuation _{nom.}	f = 1.0 MHz	15 dB / km
	f = 3.0 MHz	20 dB / km
Transferimpedance	f ≤ 20 MHz	≤ 20 mΩ/m
Near end crosstalk	f = 0.75 ... 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	6 x D

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 cables are in conformity with:

Circuit integrity in case of fire

Resistance to fire with mechanical shock, $D \leq 20$ mm 30 Min. EN 50200

Fire protection on railway vehicles, hazard level HL1 - HL3 EN 45545

Vertical flame spread $50 < L \leq 540$ mm EN 60332-1-2

Vertical flame spread, bunched, $6 < D < 12$ mm $L \leq 2.5$ m EN 50305, 9.1.1 (EN 60332-3-25)

Smoke density $T \geq 70$ % EN 61034-2

Toxicity $ITC \leq 6$ EN 50305, 9.2

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

Vertical flame spread $50 < L \leq 540$ mm EN 60332-1-2

Smoke density $T \geq 60$ % EN 61034-2

Corrosivity of combustion gases $pH \geq 4.3, C \leq 10 \mu S/mm$ EN 50267-2-2

Amount of halogen acid gas $HCl + HBr \leq 0.5$ % EN 50267-2-1

Content of fluorine $HF \leq 0.1$ % EN 60684-2, 45.2

Toxicity $ITC \leq 3$ 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