



Traction cable

RADOX DATABUS 120 OHM nx0.5 XM S

Product description:

RADOX DATABUS 120 OHM

Cables with 0.5 mm² - cores, overall screen

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, 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 standard EN 50343.



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

Construction [mm ²]	2x0.5	2x0.5+0.5	2x2x0.5	4x0.5	2x2x0.5+2x0.5	4x0.5+4x0.25
Part- No.	12 552 038	12 552 039	12 552 040	12 552 044	12 552 041	12 553 902
Cores of Databus						
Conductor	Tin plated copper wire					
Core Diameter _{nom.} [mm]	0.88	0.88	0.88	0.88	0.88	0.88
Insulation	Databus: RADOX FOAM					
Core Diameter _{nom.} [mm]	2.3	2.3	2.3	2.3	2.3	2.3
Colours of Pairs	BU- RD	BU- RD	BU- RD BN- GY	BU- RD BN- GY	BU- RD BN- GY	BU- RD BN- GY
Additional Core [mm ²]	-	0.5	-	-	2x0.5	4x0.25
Conductor	-	Tin plated copper wire	-	-	Tin plated copper wire	Tin plated copper wire
Core Diameter _{nom.} [mm]	-	0.88	-	-	0.88	0.60
Insulation	-	RADOX GKW	-	-	RADOX GKW	RADOX GKW
Core Diameter _{nom.} [mm]	-	1.40	-	-	1.70	1.10
Colours of Insulation		BK			BK/YE	WH, num. 1- 4
Construction of Cable						
Twists of Cores	pairs	pairs	pairs	quad	pairs	quad
Fillers	PE- LD	PE- LD	PE- LD	PE- LD	-	PE- LD
Wrapping	Tape					
EMC - Screen	Tin plated copper braid					
Braiding- Diameter _{nom.} [mm]	5.4	5.5	9.5	6.4	9.4	6.4
Wrapping	Tape		Tape			
Sheath	RADOX EM 104 Colour: black					
Diameter [mm]	6.8 ± 0.3	6.8 ± 0.3	11.2 ± 0.4	7.9 ± 0.3	11.3 ± 0.4	7.9 ± 0.3
Fireload [kJ/m]	775	741	1840	976	1731	959
Cable weight [kg/100 m]	6.3	6.8	15.4	8.9	17.4	9.6
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



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Technical data:

Conductor resistance at 20°C	0.5 mm ²	≤ 40.1	Ω / km
	0.25 mm ²	≤ 90.1	Ω / km
Insulation resistance at 20°C		> 100	MΩ · km
Capacitance	core / core	≤ 46	pF / m
Impedance _{nom.}	f = 0.75 ... 3 MHz	120	Ω
Attenuation _{nom.}	f = 1.5 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	3 x D	
	sporadic movement	5 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:

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