



Traction cable

RADOX RAILCAT CAT5e 4X22AWG XM S FR

Product description:

RADOX RAILCAT CAT5e Databus cable with fire barrier
 Impedance: 100 Ohm
 Hazard level: M (extra low temperature resistant, extra oil and fuel resistant)

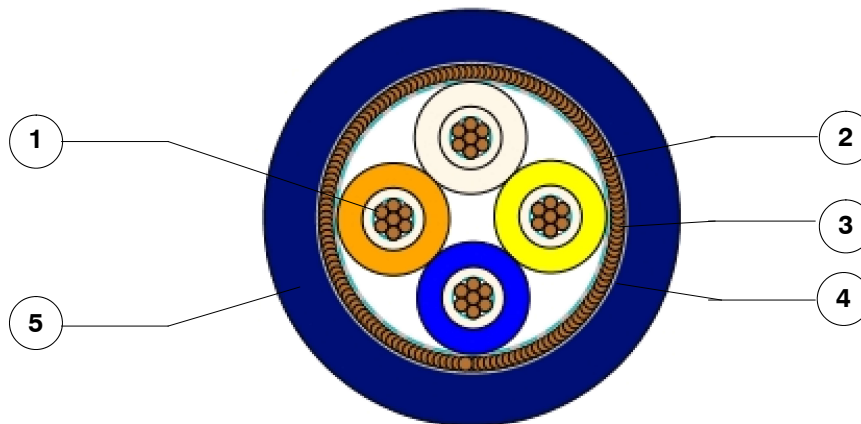
General features:

Halogen-free, electron-beam cross-linked cable with improved behaviour in case of fire and maintain circuit integrity, easy to strip, soldering resistant and flexible. The cable is designed according to the requirements of EN 50288-2-2, IEC 61156-6 and EN 50289-4-16.

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 installation are described in standard EN 50343.



1.	4 Cores 22 AWG	Conductor: stranded tin plated copper Insulation: RADOX FOAM FR Colours: pair 1: white-blue pair 2: yellow-orange Construction: twisted star 4 (quad)	D : 0.8 mm D : 2.1 mm
2.	Screen	Laminated Alu - tape	
3.	EMC-screen	Tin plated copper braid	D : 5.75 mm
4.	Wrapping	Tape	
5.	Sheath	RADOX EM104, Colour: blue	D : 7.8 ± 0.3 mm

Marking:

[a] HUBER+SUHNER RADOX RAILCAT CAT5e 4X22AWG XM S FR 85078658-[b] [c] [d]

	example:
[a] Meter marking (in m)	= 001234 = m
[b] Batch number	1234567
[c] Production week and year	03-2017
[d] Production place (only if China)	CN

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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	≤ 54.7	Ω / km
Resistance unbalance at 20 °C	≤ 1.1	Ω / km
Voltage rating	.....	300	.....	V AC
Test voltage, 50 Hz, 1 min	.....	2000	.....	V AC
Screening attenuation	..... 30 MHz ≤ f ≤ 100 MHz	.....	≥ 40	..... dB
Transfer impedance	..... f ≤ 30 MHz	.....	≤ 200	..... mΩ/m
Temperature range	..... fixed installation	.....	- 40 ... + 90	..... °C
Fire load	.....	1060	.....	kJ/m
Min. bending radius	..... fixed installation	.....	6 x D	
Cable weight	.....	approx. 9	.....	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 60811-504/505, 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.

Data transmission

Characteristic Impedance	..... f = 100MHz	.....	100 ± 5	.....	Ω
Signal propagation	.....	.....	66	.....	%
Capacitance	..... core / core	.....	≤ 70	.....	pF / m
	..... core / screen	.....	≤ 110	.....	pF / m

Frequency (MHz)	Attenuation (db/100m)		NEXT (db) Pr/Pr		FEXT (db) Pr/Pr		Return loss (db)	
	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
1	2	3.2	80	65.3	80	64		
4	4	6	76	56.3	70	52	35	23
10	6.5	9.5	67	50.3	65	44	35	25
31.5	10.5	17.1	60	42.9	58	34	35	23.6
62.5	14	24.8	56	38.4	59	28	33	21.5
100	18	32.0	53	35.3	67	24	33	20.1



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The cables are in conformity with:

Circuit integrity in case of fire

Circuit integrity under fire conditions with mechanical shock 120 Min. EN 50289-4-16

Fire protection on railway vehicles, hazard level	HL1 - HL3	EN 45545-2
Vertical flame spread	50 mm < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched, 6 < D < 12 mm	L ≤ 2.5 m	EN 60332-3-25
Smoke density	T ≥ 70 %	EN 61034-2
Corrosivity of combustion gases	pH ≥ 4.3, C ≤ 10 μS/mm	EN 60754-2
Amount of halogen acid gas	HCl + HBr ≤ 0.5 %	EN 60754-1
Content of fluorine	HF ≤ 0.1 %	EN 60684-2, 45.2
Toxicity	ITC ≤ 6	EN 50305, 9.2

Fire safety, class

O1.8.1.2.1 (single)

GOST 31565

P1b.8.1.2.1 (bundle)

Vertical flame spread	50 mm < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched	L ≤ 2.5 m	EN 60332-3-22
Corrosivity of combustion gases	pH ≥ 4.3, C ≤ 10 μS/mm	EN 60754-2
Amount of halogen acid gas	HCl + HBr ≤ 0.5 %	EN 60754-1
Toxicity	40 < Tx ≤ 120 g/m ³	GOST 12.1.044-89
Smoke density	T ≥ 60 %	EN 61034-2

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