

Traction cable

RADOX 4 GKW-AX EN 50264-3-1 1800V MM

Product description:

RADOX 4 GKW-AX EN 50264-3-1 1800V MM	Single core cables with reduced wall insulation dimensions
Nominal voltage:	1800 / 3000 V AC
Hazard level:	M (extra low temperature, extra oil and extra fuel resistant)

General features:

Halogen free, electron-beam crosslinked cores with improved behaviour in case of fire, easy to strip, soldering iron resistant and flexible. Excellent ozone, chemical, weather and UV resistance (for black).

The cables are in accordance with standard EN 50264-3-1.

Application:

The cables are intended for permanent installation in rail vehicles or for applications in which a limited alternating bending stress occur during service. Guidelines for selection and installation are described in the standards EN 50355 and EN 50343.

General composition of cable:



1. Conductor	Stranded tin plated copper, acc. to EN 60228 cl. 5
Wrapping (optional)	Tape
2. Insulation inner layer	RADOX EI 110, colour: white
3. Insulation outer layer	RADOX EI 109, colour: black
4. Sheath	RADOX EM 104, colour: black

Marking:

[a] **HUBER+SUHNER RADOX 4 GKW-AX EN 50264-3-1 1800V** [b] **MM** [c]-[d] [e] [f] [g]

	example:
[a] Meter marking (in m)	= 123456 = m
[b] Cross section (in mm ²)	1X150
[c] Part number	12345678
[d] Batch number	1234567
[e] Production week and year	03-2017
[f] Production place (only if China)	CN
[g] CRCC certification (only if available)	CRCC10218P11529R1M-2

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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:

Voltage rating cond.-earth	U ₀	1800	V AC
Voltage rating cond.-cond.	U	3000	V AC
maximum permissible Voltage rating AC cond.-earth		2100	V AC
maximum permissible Voltage rating AC cond.-cond.	U _m	3600	V AC
maximum permissible Voltage rating DC cond.-earth	V ₀	2700	V DC
maximum permissible Voltage rating DC cond.-cond.		4500	V DC
Test Voltage		6500	V AC
		15000	V DC

Temperature range - 50 ... + 125 °C

Min. bending radius

fixed installation	cable diameter ≤ 12 mm	3 x D
	cable diameter > 12 mm	4 x D
sporadic movements	cable diameter ≤ 12 mm	4 x D
	cable diameter > 12 mm	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 60811-504/505, 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.

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	HL1 - HL3	EN 45545-2
Vertical flame spread	50 < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched, D ≤ 6 mm	L ≤ 1.5 m	EN 50305, 9.1.2
Vertical flame spread, bunched, 6 < D < 12 mm	L ≤ 2.5 m	EN 60332-3-25
Vertical flame spread, bunched, D ≥ 12 mm	L ≤ 2.5 m	EN 60332-3-24
Smoke density	T ≥ 70 %	EN 61034-2
Content of fluorine	HF ≤ 0.1 %	EN 60684-2, 45.2

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

Applicable documents:

- 586554 Current rating for single core cables

Table 1: Standard Types RADOX 4 GKW-AX EN 50264-3-1 1800V MM

Core Size [mm ²]	Conductor ¹⁾			Tape	Core		Cable		Fire	Combustible	Cable	H+S
	Type	Ø	R ₂₀		Ø	Colours	Ø	Colour	Load	Material	Weight	Part No.
	nom. [n x mm]	nom. [mm]	max. [Ω/km]		[mm]		[mm]		nom. [kJ/m]	nom. [kg/100m]	nom. [kg/100m]	
1X1.5	37 x 0.22	1.5	13.7	no	4.1	BK	5.85±0.15	BK	550	4.0	5.2	85175105
1X2.5	61 x 0.23	1.9	8.21	no	4.6	BK	6.15±0.15	BK	590	4.2	6.4	85175106
1X4	61 x 0.28	2.4	5.09	no	5.0	BK	6.65±0.15	BK	675	4.7	8.1	85175107
1X6	84 x 0.30	2.9	3.39	no	5.5	BK	7.15±0.15	BK	750	5.3	10.4	85175108
1X10	80 x 0.40	3.8	1.95	no	6.8	BK	8.4±0.15	BK	1005	6.9	15.5	85175109
1X16	121 x 0.40	5.3	1.24	yes	8.3	BK	9.9±0.20	BK	1332	8.9	21.9	85175110
1X16	121 x 0.40	5.3	1.24	no	8.6	BK	10.4±0.20	BK	1450	10	23.0	12585365
1X25	189 x 0.40	6.6	0.795	yes	10.2	BK	12.2±0.25	BK	2025	14	33.9	85175111
1X25	189 x 0.40	6.6	0.795	no	10.5	BK	12.7±0.25	BK	2165	15	35.0	12585366
1X35	266 x 0.40	7.7	0.565	yes	11.4	BK	13.4±0.25	BK	2342	16	44.1	85175112
1X35	266 x 0.40	7.8	0.565	no	11.7	BK	13.9±0.25	BK	2495	17	46.0	12585367
1X50	378 x 0.40	9.2	0.393	yes	12.9	BK	14.9±0.25	BK	2749	18	58.6	85175113
1X50	378 x 0.40	9.2	0.393	no	13.2	BK	15.4±0.25	BK	2915	20	61	12585368
1X70	348 x 0.50	11.4	0.277	yes	15.1	BK	17.2±0.30	BK	3288	22	81	85175114
1X70	348 x 0.50	11.4	0.277	no	15.4	BK	17.7±0.30	BK	3495	24	83	12585369
1X95	456 x 0.50	12.9	0.210	yes	17.4	BK	19.5±0.30	BK	4252	28	105	85175115
1X95	456 x 0.50	12.9	0.210	no	17.7	BK	20.0±0.30	BK	4445	30	108	12585370
1X120	570 x 0.50	14.5	0.164	yes	19.1	BK	21.3±0.30	BK	4799	31	129	85175116
1X150	722 x 0.50	16.0	0.132	yes	20.6	BK	23.1±0.30	BK	5468	36	158	85175117
1X185	874 x 0.50	17.8	0.108	yes	22.8	BK	25.4±0.40	BK	9509	43	193	85175118
1X240	1147 x 0.50	20.8	0.0817	yes	25.9	BK	28.6±0.40	BK	7485	49	245	85175119
1X300	1443 x 0.50	23.0	0.0654	yes	28.1	BK	30.8±0.40	BK	8241	54	298	85175120
1X400	1952 x 0.50	26.5	0.0495	yes	32.1	BK	35.1±0.40	BK	10280	68	398	85175121

¹⁾ Conductor according to EN 60228