

Traction cable

RADOX 9 GKW-AX (EN 50264-3-1) 3600V M

Product description:

RADOX 9 GKW-AX (EN 50264-3-1) 3600V M	Single core cables with reduced wall insulation dimensions
Nominal voltage:	3600 / 6000 V AC
Hazard level:	M (extra low temperature, extra oil and extra fuel resistant)

General features:

Halogen free, electron-beam crosslinked cables with improved behaviour in case of fire, easy to strip, soldering resistant and flexible. Excellent ozone, chemical, weather and UV resistance (for black). The cables are in accordance with EN 50264-3-1, but significantly thinner.

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
2. Separator (optional)	Tape
3. Insulation inner layer	RADOX EI 110, colour: red
4. Insulation outer layer	RADOX EI 109, colour: black, unless otherwise specified

Marking:

[a] HUBER+SUHNER RADOX 9 GKW-AX (EN 50264-3-1) 3600V [b] M [c]-[d] [e] [f] [g]

	example:
[a] Meter marking (in m)	= 001234 = m
[b] Construction	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	3600	V AC
Voltage rating cond.-cond.	U	6000	V AC
maximum permissible Voltage rating AC cond.-earth		4300	V AC
maximum permissible Voltage rating AC cond.-cond.	U _m	7200	V AC
maximum permissible Voltage rating DC cond.-earth	V ₀	5400	V DC
maximum permissible Voltage rating DC cond.-cond.		9000	V DC
Test voltage		11000	V AC
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 movement	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
Toxicity	ITC ≤ 6	EN 50305, 9.2

Fire protection on railway vehicles	Fulfilled	NFPA 130
Vertical flame spread, bunched	L ≤ 1.5 m	UL 1685, 12 (FT4 exp.)
Smoke density	TSR ≤ 150 m ² , PSRR ≤ 0.40 m ² /s	UL 1685, 12 (FT4 exp.)

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

Traction cable

RADOX 9 GKW-AX (EN 50264-3-1) 3600V M

Table 1A: Customized Types RADOX 9 GKW-AX (EN 50264-3-1) 3600V M

Core Size [mm ²]	Conductor ¹⁾			Tape optional	Core ²⁾		Fire Load nom. [kJ/m]	Combustible Material nom. [kg/100m]	Cable Weight nom. [kg/100m]	H+S Part No.
	Type nom. [n x mm]	Ø nom. [mm]	R ₂₀ max. [Ω/km]		Ø [mm]	Colours				
1X1.5	37 x 0.22	1.50	13.7	no	4.5±0.1	BK	315	2.2	3.5	12537829
						GY				84096994
1X2.5	61 x 0.23	1.90	8.21	no	5.1±0.1	BK	405	2.7	4.9	12537830
1X4	61 x 0.28	2.40	5.09	no	5.7±0.1	BK	490	3.3	6.8	12537831
1X6	84 x 0.30	2.90	3.39	no	6.3±0.1	BK	580	3.9	9	12537832
1X10	80 x 0.40	3.80	1.95	no	7.5±0.15	BK	780	5.4	14	12545520
						OG				12583017
1X16	121 x 0.40	5.30	1.24	yes	9.4±0.15	BK	1195	8	21	12544525
1X25	189 x 0.40	6.60	0.795	yes	11.0±0.3	BK	1590	10	30	12547257
						OG				85088677
1X35	266 x 0.40	7.70	0.565	yes	12.6±0.3	BK	2035	13	42	12547260
1X50	378 x 0.40	9.20	0.393	yes	14.6±0.3	BK	2660	17	58	12545521
1X70	348 x 0.50	11.4	0.277	yes	16.7±0.3	BK	3065	19	78	12547262
1X95	456 x 0.50	12.9	0.210	yes	18.7±0.3	BK	3765	24	101	12547264
1X120	570 x 0.50	14.5	0.164	yes	21.0±0.3	BK	4730	30	128	12545522
1X150	722 x 0.50	16.0	0.132	yes	23.2±0.3	BK	5820	36	158	12547268
1X185	874 x 0.50	17.8	0.108	yes	25.0±0.3	BK	6360	40	190	12545523
1X240	1147 x 0.50	20.8	0.0817	yes	28.0±0.3	BK	7145	45	241	12547678
1X300	1443 x 0.50	23.0	0.0654	yes	30.8±0.3	BK	8590	54	298	12551573
1X400	1952 x 0.50	26.5	0.0495	yes	35.3±0.5	BK	10935	68	398	12564160

¹⁾ Conductor according to EN 60228

²⁾ Core colour in bold is the H+S standard core colour