

Traction cable

RADOX 3 GKW EN 50264-3-2 600V MM S

HUBER+SUHNER

Product description:

RADOX 3 GKW EN 50264-3-2 600V MM S

Nominal voltage:

Multicore cables with reduced wall dimensions, screened (overall screen)

600 / 1000 V AC

Hazard level:

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

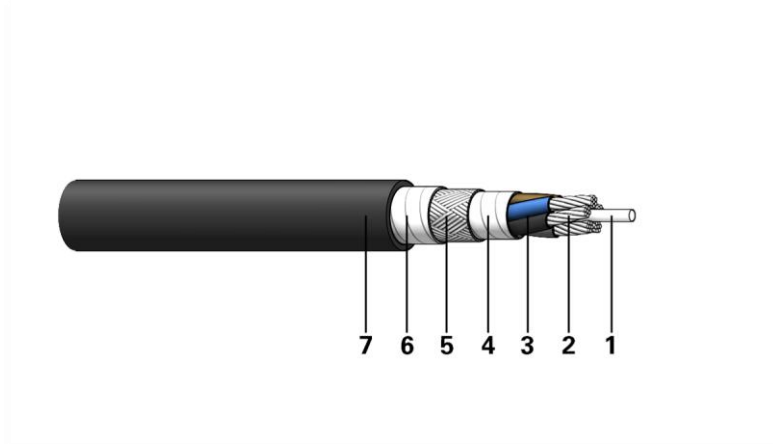
General features:

Halogen free electron-beam crosslinked cores with improved behaviour in case of fire, easy to strip, soldering iron resistant and flexible. Meet the requirements of EN 50264-3-2 standard.

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. Fillers (optional) | RADOX 125 REC |
| 2. Conductor: | Stranded tin plated copper, acc. to EN 60228 cl. 5 |
| 3. Insulation inner layer | RADOX EI 110, colour: white |
| Insulation outer layer | RADOX EI 109, colour: black, unless otherwise specified |
| 4. Separator (optional) | Tape |
| 5. EMC-screen | Tin plated copper braid |
| 6. Separator | Tape |
| 7. Sheath | RADOX EM 104, colour: black |

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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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Marking:

[a] HUBER+SUHNER RADOX 3 GWK EN 50264-3-2 600V [b] MM S [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

Technical Data:

Voltage rating cond.-earth	U ₀	600	V AC
Voltage rating cond.-cond.	U	1000	V AC
maximum permissible Voltage rating AC cond.-earth		720	V AC
maximum permissible Voltage rating AC cond.-cond.	U _m	1200	V AC
maximum permissible Voltage rating DC cond.-earth	V ₀	900	V DC
maximum permissible Voltage rating DC cond.-cond.		1500	V DC
Test Voltage		3500	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 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 behavior 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

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:

- 586556 Current rating for multi core cables

Traction cable

RADOX 3 GKW EN 50264-3-2 600V MM S

Table 1: Standard Types RADOX 3 GKW EN 50264-3-2 600V MM S

Cable ¹⁾ Type [n x mm ²]	Conductor ²⁾		Core ²⁾		Screen ³⁾		Cable		Fire	Combustible	Cable	H+S
	Ø nom. [mm]	R ₂₀ max. [Ω/km]	Ø nom. [mm]	Colours	Ø nom. [mm]	nom. [mm ²]	Ø [mm]	Colour	Load nom. [kJ/m]	Material nom. [kg/100m]	Weight nom. [kg/100m]	Part No.
2X1.5	1.45	13.7	2.85	BK	6.3	1.67	8.2±0.3	BK	910	7.0	11.1	85171460
2X1.5	1.52	13.7	3.00	BK	6.5	2.10	8.3±0.3	BK	850	6.1	11	12585382
3X1.5	1.45	13.7	2.85	BK	6.7	1.96	8.7±0.3	BK	999	7.5	13.2	12586211
3G1.5	1.45	13.7	2.85	BK-GNYY	6.7	1.96	8.7±0.3	BK	999	7.5	13.2	12586212
4X1.5	1.45	13.7	2.85	BK	7.6	2.82	9.4±0.3	BK	1108	8.2	15.9	85171463
4G1.5	1.45	13.7	2.85	BK-GNYY	7.6	2.82	9.4±0.3	BK	1108	8.2	15.9	85171464
4X1.5	1.52	13.7	3.00	BK	8.1	3.30	10.0±0.3	BK	1220	9.3	18	12586213
4G1.5	1.52	13.7	3.00	BK-GNYY	8.1	3.30	10.0±0.3	BK	1220	9.3	18	12586214
2X2.5	1.94	8.21	3.30	BK	7.3	2.82	9.0±0.3	BK	1043	7.8	14.5	12586215
3X2.5	1.94	8.21	3.30	BK	7.8	2.82	9.5±0.3	BK	1092	8.3	17.7	12586216
3G2.5	1.94	8.21	3.30	BK-GNYY	7.8	2.82	9.5±0.3	BK	1092	8.3	17.7	84085219
4X2.5	1.94	8.21	3.30	BK	8.6	2.65	10.8±0.4	BK	1469	11.1	22.6	85171477
4G2.5	1.94	8.21	3.30	BK-GNYY	8.6	2.65	10.8±0.4	BK	1469	11.1	22.6	85171478
4X2.5	1.94	8.21	3.35	BK	9	3.80	11.1±0.4	BK	1500	11	24	12586217
4G2.5	1.94	8.21	3.35	BK-GNYY	9	3.80	11.1±0.4	BK	1500	11	24	12586218
2X4	2.35	5.09	3.90	BK	8.4	2.50	10.6±0.4	BK	1761	12.4	21.6	85171481
2X4	2.40	5.09	4.25	BK	9.2	3.70	11.3±0.4	BK	1720	12	23	12586219
3X4	2.35	5.09	3.90	BK	8.9	2.65	11.2±0.4	BK	1581	11.9	24.7	85171482
3G4	2.35	5.09	3.90	BK-GNYY	8.9	2.65	11.2±0.4	BK	1581	11.9	24.7	85171483
3X4	2.40	5.09	4.25	BK	10.1	5.50	12.2±0.4	BK	1780	13	29	12586220
4X4	2.35	5.09	3.90	BK	10.3	4.00	12.5±0.4	BK	1918	14.3	31.7	85171484
4G4	2.35	5.09	3.90	BK-GNYY	10.3	4.00	12.5±0.4	BK	1918	14.3	31.7	85171485
4X4	2.40	5.09	4.25	BK	11.4	6.30	13.5±0.4	BK	2145	16	36	12586221
4G4	2.40	5.09	4.25	BK-GNYY	11.4	6.30	13.5±0.4	BK	2145	16	36	85006436
2X6	2.85	3.39	4.30	BK	9.2	2.80	11.3±0.4	BK	1620	12	25	85171487
2X6	2.93	3.39	4.85	BK	10.6	5.50	12.7±0.4	BK	2065	15	31	12586222
3X6	2.85	3.39	4.30	BK	9.8	2.95	12.0±0.4	BK	1718	12.7	31.1	85171488
3X6	2.93	3.39	4.85	BK	11.4	6.30	13.6±0.4	BK	2205	16	38	12586223
4X6	2.85	3.39	4.30	BK	11.3	4.47	13.5±0.4	BK	2123	15.9	40.7	85171489
4G6	2.85	3.39	4.30	BK-GNYY	11.3	4.47	13.5±0.4	BK	2123	15.9	40.7	85171490
4X6	2.93	3.39	4.85	BK	12.9	7.10	15.1±0.4	BK	2770	19	47	12586224
4G6	2.93	3.39	4.85	BK-GNYY	12.9	7.10	15.1±0.4	BK	2770	19	47	12586225
2X10	3.78	1.95	5.20	BK	11.1	4.24	13.8±0.4	BK	2332	17.6	38.8	85171492
3X10	3.78	1.95	5.20	BK	11.9	4.47	14.8±0.4	BK	2512	18.8	49.1	85171493
3X10	3.89	1.95	5.75	BK	13.3	7.10	15.6±0.4	BK	2810	20	54	12586227
4X10	3.78	1.95	5.20	BK	13.6	6.73	16.4±0.5	BK	2967	21.9	63.2	85171494
4G10	3.78	1.95	5.20	BK-GNYY	13.6	6.73	16.4±0.5	BK	2967	21.9	63.2	85171495
2X16	5.30	1.24	6.75	BK	14.4	7.53	16.6±0.5	BK	3290	23	56.1	12586230

RADOX 3 GKW EN 50264-3-2 600V MM S

Cable ¹⁾ Type [n x mm ²]	Conductor ²⁾		Core ²⁾		Screen ³⁾		Cable		Fire	Combustible	Cable	H+S
	Ø nom. [mm]	R ₂₀ max. [Ω/km]	Ø nom. [mm]	Colours	Ø nom. [mm]	nom. [mm ²]	Ø [mm]	Colour	Load nom. [kJ/m]	Material nom. [kg/100m]	Weight nom. [kg/100m]	Part No.
3X16	5.30	1.24	6.75	BK	15.5	7.92	18.0±0.5	BK	3559	25.4	72	85171499
3X16	5.30	1.24	6.75	BK	16.4	10.6	19.2±0.5	BK	3900	28	80	12586231
4X16	5.30	1.24	6.75	BK	17.6	9.51	20.1±0.5	BK	4365	30.7	91.9	85171500
4G16	5.30	1.24	6.75	BK-GNYYE	17.6	9.51	20.1±0.5	BK	4365	30.7	91.9	85171501
4X16	5.30	1.24	6.75	BK	18.4	12.3	21.4±0.5	BK	4880	35	102	12586232
1G25+3X35	6.60+7.80	0.795+0.565	8.45+9.70	BK-GNYYE	25.1	17.6	28.9±0.6	BK	9445	65	195	85106727
2X25	6.55	0.795	8.30	BK	17.5	8.91	20.3±0.5	BK	4970	36.1	85.2	85171504
3X25	6.55	0.795	8.30	BK	18.8	9.51	21.8±0.5	BK	5307	37.8	108	85171505
3X25	6.60	0.795	8.60	BK	19.7	12.4	22.7±0.5	BK	5670	40	115	12586234
4X25	6.55	0.795	8.30	BK	21.1	11.3	24.5±0.5	BK	6701	46.7	139	85171506
2X50	9.20	0.393	11.2	BK	23.5	14.4	27.0±0.6	BK	8645	62	157	85171518
3X50	9.20	0.393	11.2	BK	25.3	16.2	28.9±0.6	BK	9053	63	201	85171520
3X50	9.30	0.393	11.6	BK	26.4	20.8	30.8±0.6	BK	9570	65	215	12585383

¹⁾ X: one colour, numbered

G: one green-yellow core, others one colour, numbered

V: various colours

²⁾ Construction details of the core is according Technical Datasheet 586781

³⁾ Metallic screen coverage according EN 50264-1

Table 1A: Customized Types RADOX 3 GKW (EN 50264-3-2) 600V MM S

Cable ¹⁾ Type [n x mm ²]	Conductor ²⁾		Core ²⁾		Screen ³⁾		Cable		Fire	Combustible	Cable	H+S
	Ø nom. [mm]	R ₂₀ max. [Ω/km]	Ø nom. [mm]	Colours	Ø nom. [mm]	nom. [mm ²]	Ø [mm]	Colour	Load nom. [kJ/m]	Material nom. [kg/100m]	Weight nom. [kg/100m]	Part No.
2X0.5	0.84	40.1	1.95	BK	4.46	1.18	5.9±0.3	BK	463	3.6	5.5	85171437
3X0.5	0.84	40.1	1.95	BK	4.77	1.37	6.2±0.3	BK	498	3.8	6.4	85171438
4X0.5	0.84	40.1	1.95	BK	5.29	1.57	6.7±0.3	BK	571	4.3	7.5	85171439
6X0.5	0.84	40.1	1.95	BK	6.61	2.51	8.05±0.3	BK	835	6.2	11.1	85171440
16X0.5	0.84	40.1	1.95	BK	9.91	4.00	12.0±0.4	BK	1815	13.4	24	85171442
6X2X0.5	0.84	40.1	1.95	BK	11.89	4.71	13.9±0.4	BK	2331	17.5	27	85171445
2X0.75	1.10	26.7	2.20	BK	4.96	1.28	6.40±0.3	BK	538	4.2	6.8	85171447
3X0.75	1.10	26.7	2.20	BK	5.31	1.57	6.75±0.3	BK	580	4.4	8.0	85171448
4X0.75	1.10	26.7	2.20	BK	5.89	1.77	7.3±0.3	BK	663	5	9.5	85171449
5X0.75	1.10	26.7	2.20	BK	6.71	2.51	8.15±0.3	BK	828	6.2	12.1	85171450
8X0.75	1.10	26.7	2.20	BK	8.96	2.80	10.7±0.4	BK	1545	11.2	19.6	85171451
10X0.75	1.10	26.7	2.20	BK	9.51	3.76	11.2±0.4	BK	1429	10.5	21.2	85171452
12X0.75	1.10	26.7	2.20	BK	9.86	4.00	11.6±0.4	BK	1586	11.8	24	85171453
5X2X0.75	1.10	26.7	2.20	BK	11.3	6.34	14.2±0.4	BK	2307	17.4	30.5	85171454
2X1	1.22	20.0	2.45	BK	5.46	1.47	6.9±0.3	BK	629	4.9	8	85171455

RADOX 3 GKW EN 50264-3-2 600V MM S

Cable ¹⁾ Type [n x mm ²]	Conductor ²⁾		Core ²⁾		Screen ³⁾		Cable		Fire	Combustible	Cable	H+S
	Ø nom. [mm]	R ₂₀ max. [Ω/km]	Ø nom. [mm]	Colours	Ø nom. [mm]	nom. [mm ²]	Ø [mm]	Colour	Load nom. [kJ/m]	Material nom. [kg/100m]	Weight nom. [kg/100m]	Part No.
3X1	1.22	20.0	2.45	BK	5.85	1.67	7.25±0.3	BK	672	5.1	9.3	85171456
4X1	1.22	20.0	2.45	BK	6.50	1.96	7.9±0.3	BK	780	5.8	11.2	85171457
7X1	1.22	20.0	2.45	BK	7.91	2.50	9.5±0.3	BK	1160	8.6	17.1	85171458
5X1.5	1.45	13.7	2.85	BK	8.51	2.65	10.2±0.4	BK	1364	9.9	18.7	85171465
5G1.5	1.45	13.7	2.85	BK-GNYE	8.51	2.65	10.2±0.4	BK	1364	9.9	18.7	85171466
6X1.5	1.45	13.7	2.85	BK	9.41	2.95	11.1±0.4	BK	1639	11.7	22.1	85171467
7X1.5	1.45	13.7	2.85	BK	9.11	2.95	10.8±0.4	BK	1518	10.9	22.5	85171468
7G1.5	1.45	13.7	2.85	BK-GNYE	9.11	2.95	10.8±0.4	BK	1518	10.9	22.5	85171469
7G1.5	1.52	13.7	3.00	BK-GNYE	9.92	5.55	12.0±0.3	BK	1760	13.2	28.2	84133632
8X1.5	1.45	13.7	2.85	BK	11.4	4.47	13.5±0.4	BK	2478	17.7	31.9	85171470
12X1.5	1.45	13.7	2.85	BK	12.8	6.73	14.8±0.4	BK	2587	18.6	40	85171472
5G2.5	1.94	8.21	3.30	BK-GNYE	9.81	3.76	11.5±0.4	BK	1746	12.6	27.3	85171479
7X2.5	1.94	8.21	3.30	BK	10.6	4.24	12.7±0.4	BK	1943	14.4	34	85171480
8X2.5	1.94	8.21	3.30	BK	13.1	6.73	15.3±0.5	BK	2971	21.4	45.7	85208145
5X4	2.35	5.09	3.90	BK	11.3	4.47	13.4±0.4	BK	2218	16.2	37.5	85171486
5X6	2.85	3.39	4.30	BK	12.6	6.34	14.7±0.4	BK	2468	18.1	49.9	85171491
5X10	3.78	1.95	5.20	BK	15.3	7.92	17.8±0.5	BK	3454	25	75.7	85171496
5G10	3.78	1.95	5.20	BK-GNYE	15.3	7.92	17.8±0.5	BK	3454	25	75.7	85171497
5X16	5.30	1.24	6.75	BK	19.4	10.1	21.9±0.5	BK	5925	39.7	114.6	85171502
5G16	5.30	1.24	6.75	BK-GNYE	19.4	10.1	21.9±0.5	BK	5925	39.7	114.6	85171503
5G16	5.30	1.24	6.75	BK-GNYE	20.9	13.7	24.2±0.5	BK	6265	44.4	126	85002921
4X95	12.9	0.207	15.3	BK	39.5	40.8	42.9±0.7	BK	17667	121	469	85139751

¹⁾ X: one colour, numbered

G: one green-yellow core, others one colour, numbered

V: various colours

²⁾ Construction details of the core is according Technical Datasheet 586781

³⁾ Metallic screen coverage according EN 50264-1