

SAFETY CABLES

(N)HXCH FE180/ E30-E60 (K011)

Halogen-free energy cable with insulation
integrity and circuit integrity, screened



TECHNICAL DATA



Standard

adapted to DIN VDE 0266
HD 604.5H
DIN VDE 0276-604, part 0, 1 and 5G
DIN VDE 0276-627, part 1 and 7H



Certificate

VDE Germany
VDE Reg. No. K011



Test Voltage

core/core 4 kV / 50 Hz



Rated Voltage

0.6/1 kV



Bending radius (min.)

12 x Ø of cable



Fire properties

EN 60332-1-2: flame retardant
EN 60754-2: halogen-free, non-corrosive
combustion gases
EN IEC 60332-3-24: reduced flame
propagation



EN 61034-2: low smoke emission

DIN VDE 0472-814: insulation integrity FE180
DIN 4102-12: circuit integrity: E30-E60



Temperature range

Laying temperature: min. -5°C
Operating temperature: -30°C up to 90°C
Conductor temperature: max. 90°C
Short circuit temperature: max. 250°C

DESIGN



1

Copper conductor, round solid (RE) resp. round stranded (RM)

2

Core insulation (silicone rubber)

3

Inner covering (halogen-free tape and halogen free polymer compound)

4

Concentric screen (bare copper wires), counter helix (copper tape) and halogen-free plastic tape

5

Sheath (halogen-free polymer compound, orange)

Number of cores x nominal cross-section / cross-section of screen (mm ²)	Max. conductor resistance (Ω/km)	Current rating in the air (A)	Outer diameter appr. (mm)	Total weight appr. (kg/km)
2 x 1.5 RE / 1.5	12.1	28	14.0	249
3 x 1.5 RE / 1.5	12.1	25	14.5	274
4 x 1.5 RE / 1.5	12.1	25	15.4	309
5 x 1.5 RE / 1.5	12.1	16	16.4	348
7 x 1.5 RE / 2.5	12.1	16	17.4	420
10 x 1.5 RE / 2.5	12.1	13	20.9	572
12 x 1.5 RE / 2.5	12.1	13	21.4	618
14 x 1.5 RE / 2.5	12.1	12	22.3	676
19 x 1.5 RE / 4	12.1	11	24.3	831
24 x 1.5 RE / 6	12.1	10	28.5	1091
30 x 1.5 RE / 6	12.1	9	30.0	1245
40 x 1.5 RE / 10	12.1	8	33.9	1590
2 x 2.5 RE / 2.5	7.41	37	14.8	296
3 x 2.5 RE / 2.5	7.41	33	15.4	330
4 x 2.5 RE / 2.5	7.41	33	16.3	376
5 x 2.5 RE / 2.5	7.41	22	17.4	427
7 x 2.5 RE / 2.5	7.41	21	18.6	513
10 x 2.5 RE / 4	7.14	18	23.0	732
12 x 2.5 RE / 4	7.14	17	23.6	798
14 x 2.5 RE / 6	7.14	15	24.6	898
19 x 2.5 RE / 6	7.14	14	26.9	1103
24 x 2.5 RE / 10	7.14	13	31.5	1443
30 x 2.5 RE / 10	7.14	12	33.2	1657
40 x 2.5 RE / 10	7.14	11	37.0	2084
2 x 4 RE / 4	4.61	49	16.2	362
3 x 4 RE / 4	4.61	43	16.9	409
4 x 4 RE / 4	4.61	43	18.0	471
5 x 4 RE / 4	4.61	28	19.2	537
7 x 4 RE / 4	4.61	27	20.5	651
10 x 4 RE / 6	4.61	27	24.7	930
12 x 4 RE / 6	4.61	27	25.4	1022
14 x 4 RE / 6	4.61	27	26.5	1129
19 x 4 RE / 10	4.61	25	29.6	1452
2 x 6 RE / 6	3.08	62	17.2	445
3 x 6 RE / 6	3.08	54	18.0	510
4 x 6 RE / 6	3.08	54	19.1	591
5 x 6 RE / 6	3.08	36	20.5	678
2 x 10 RE / 10	1.83	85	19.2	600
3 x 10 RE / 10	1.83	75	20.1	701
4 x 10 RE / 10	1.83	75	21.4	824
5 x 10 RE / 10	1.83	49	23.1	962
2 x 16 RM / 16	1.15	113	21.5	834
3 x 16 RM / 16	1.15	100	22.5	992
4 x 16 RM / 16	1.15	100	24.2	1175



Number of cores x nominal cross-section / cross-section of screen (mm²)	Max. conductor resistance (Ω/km)	Current rating in the air (A)	Outer diameter appr. (mm)	Total weight appr. (kg/km)
5 x 16 RM / 16	1.15	65	26.1	1380
1 x 25 RM / 16	0.727	152	15.2	535
3 x 25 RM / 16	0.727	136	26.5	1388
4 x 25 RM / 16	0.727	136	28.6	1670
5 x 25 RM / 16	0.727	90	31.2	1997
1 x 35 RM / 16	0.524	217	16.4	640
3 x 35 RM / 16	0.524	165	28.9	1733
4 x 35 RM / 16	0.524	165	31.3	2117
5 x 35 RM / 16	0.524	165	34.3	2558
1 x 50 RM / 16	0.387	265	18.2	786
3 x 50 RM / 25	0.387	201	32.8	2326
4 x 50 RM / 25	0.387	201	35.9	2855
5 x 50 RM / 25	0.387	201	39.4	3441
3 x 70 RM / 35	0.268	255	38.1	3171
4 x 70 RM / 35	0.268	255	41.6	3902
5 x 70 RM / 35	0.268	255	45.6	4707
3 x 95 RM / 50	0.193	314	43.0	4261
4 x 95 RM / 50	0.193	314	47.1	5266
5 x 95 RM / 50	0.193	314	51.8	6366
3 x 120 RM / 70	0.153	364	46.1	5277
4 x 120 RM / 70	0.153	364	50.6	6526
5 x 120 RM / 70	0.153	364	55.9	7901
1 x 150 RM / 16	0.124	557	25.7	1828
3 x 150 RM / 70	0.124	416	50.7	6338
4 x 150 RM / 70	0.124	416	55.8	7880
5 x 150 RM / 70	0.124	416	61.5	9534
3 x 185 RM / 95	0.099	480	56.5	8001
4 x 185 RM / 95	0.099	480	62.1	9896
4 x 240 RM / 120	0.075	565	69.5	12673



System / System Manufacturer	System identification	Classification	Range	Distance (a) /Width (b) / Load (g)	AbP number	Laying type No.
Normtrag	Abstandschele	E60	$n \times \geq 1.5/1.5$	$a \leq 300 \text{ mm}$	P-MPA-E-23-003	1.3
Normtrag	Bügelchele	E60	$n \times \geq 1.5/1.5$	$a \leq 300 \text{ mm}$	P-MPA-E-23-003	1.4
Normtrag	Bügelchele mit LW	E60	$n \times \geq 1.5/1.5$	$a \leq 600 \text{ mm}$	P-MPA-E-23-003	1.5
Normtrag	Rinne	E30	$n \times \geq 1.5/1.5$	$a \leq 1200 \text{ mm}$ $b = 300 \text{ mm}$ $g \leq 10 \text{ kg/m}$	P-MPA-E-23-003	1.2
Normtrag	Leiter	E30	$n \times \geq 1.5/1.5$	$a \leq 1200 \text{ mm}$ $b = 400 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	1.1
OBO Bettermann	RKSM 630 + AW55/31	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b = 300 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	2.1
OBO Bettermann	RKSM 640 + AW55/41	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b = 400 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	2.2
OBO Bettermann	GRM 55/ + AW15/ (AWG15/)	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b \leq 400 \text{ mm}$ $g \leq 15 \text{ kg/m}$	P-MPA-E-23-003	5.1
OBO Bettermann	2031-M/15	E60	$n \times \geq 1.5/1.5 - n \times \leq 25$	$a \leq 600 \text{ mm}$ $g \leq 2 \text{ kg/m}$	P-MPA-E-23-003	6.1
OBO Bettermann	2031-M/30	E60	$n \times \geq 1.5/1.5$	$a \leq 600 \text{ mm}$ $g \leq 3 \text{ kg/m}$	P-MPA-E-23-003	6.2
OBO Bettermann	2031-M/70	E60	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$ $g \leq 6 \text{ kg/m}$	P-MPA-E-23-003	6.3
OBO Bettermann	2056/M	E60	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$	P-MPA-E-23-003	8.1
OBO Bettermann	732/733	E60	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$	P-MPA-E-23-003	8.2
OBO Bettermann	Stahlpanzerrohr M	E30	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$	P-MPA-E-23-003	11.1
Niedax	RLVC 60.300 + KTAS300	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b = 300 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	3.1
Niedax	RLVC 60.400 + KTAS400	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b = 400 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	3.2
Niedax	MTC 54.400 + KTAS400	E60	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b \leq 400 \text{ mm}$ $g \leq 15 \text{ kg/m}$	P-MPA-E-23-003	4.2
Niedax	SHS15	E60	$n \times \geq 1.5/1.5 - n \times \leq 25$	$a \leq 600 \text{ mm}$ $g \leq 3 \text{ kg/m}$	P-MPA-E-23-003	7.1
Niedax	SHS30	E60	$n \times \geq 1.5/1.5$	$a \leq 600 \text{ mm}$ $g \leq 3 \text{ kg/m}$	P-MPA-E-23-003	7.2
Niedax	SHS80	E30	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$ $g \leq 6 \text{ kg/m}$	P-MPA-E-23-003	7.3
Niedax	Bügelchele B	E60	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$	P-MPA-E-23-003	9.1
Niedax	Abstandschele SAS	E60	$n \times \geq 1.5/1.5$	$a \leq 800 \text{ mm}$	P-MPA-E-23-003	9.2
Niedax	LLK	E60	$n \times \geq 1.5/1.5$	$a \leq 500 \text{ mm}$ $g \leq 3 \text{ kg/m}$	P-MPA-E-23-003	12.1
Niedax	RLVC 60.300 E5 + TAH	E30	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b = 300 \text{ mm}$ $g \leq 20 \text{ kg/m}$	P-MPA-E-23-003	3.3
Niedax	MTC 54.200 + KTAS200	E30	$n \times \geq 1.5/1.5$	$a \leq 1500 \text{ mm}$ $b \leq 200 \text{ mm}$ $g \leq 15 \text{ kg/m}$	P-MPA-E-23-003	4.1



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