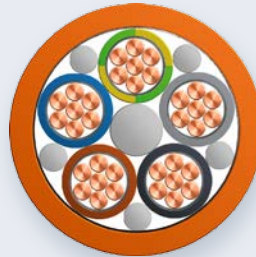


# BETAflam® Safety cables

DIN VDE 0266



## Advantages

- Very high safety standards
- System circuit integrity acc. to DIN 4102 part 12
- DIN approved with LEONI BETAfixss® cable support system
- Halogen-free
- In compliance with RoHS directive

## BETAflam® NHXH FE180 / E30-E60

### Applications

Power cable 0.6 / 1 kV for fixed installation in cable systems with improved fire performance and system circuit integrity acc. to DIN 4102 part 12, e.g. for:

- lighting of escape routes
- fire alarm systems
- smoke exhaust systems
- recommended in areas where people gather and for protection of valuables

### Construction

■ Conductors	Bare annealed copper
■ Flame barrier	MICA tape
■ Insulation	BETAflam® cross-linked
■ Inner covering	Tape or filler
■ Sheath	BETAflam® copolymer
■ Core identification	acc. to VDE 0266 resp. HD 308 S2
■ Sheath colour	Orange

### Electrical characteristics

Rated voltage	$U_0/U$ 0.6 / 1 kV
Test voltage	4 kV with 50 Hz

### Thermal characteristics

Operation temperature	- 30 °C up to + 90 °C
Laying temperature	- 5 °C up to + 70 °C
Short circuit temperature (temperature peak < 5 s)	up to + 250 °C

### Bending radius

cable design	single core	multiple core
during laying	$> 15 \times \text{outer } \varnothing$	$> 12 \times \text{outer } \varnothing$
fixed	$> 8 \times \text{outer } \varnothing$	$> 7 \times \text{outer } \varnothing$

### Laying conditions

- Fixed installation indoor, in air or concrete
- Laying in earth or water only in water-proof dry tubes
- Outdoor laying only when protected from direct sunlight and other external impacts

### Standards / Material properties

- Halogen-free: IEC 60754-1, EN 50267-2-1, VDE 0482-267-2-1
- No corrosive gases: IEC 60754-2, EN 50267-2-2, VDE 0482-267-2-2
- No toxic gases: NF X 70-100
- Low smoke density: IEC 61034-1 and -2, EN 61034-1 and -2, VDE 0482-1034-1 and -2
- Flame retardant: IEC 60332-1, EN 60332-1, VDE 0482-332-1
- No flame propagation: IEC 60332-3-10 and -3-24, EN 60332-3-10-24, VDE 0482-332-3-24
- Circuit integrity FE180: IEC 60331-11 and -21, VDE 0472-814
- Circuit integrity with shock: EN 50200 PH90 (up to  $\varnothing$  20 mm)
- System circuit integrity: DIN 4102-12, E30 or E60, depending on laying system

Cable type	Constrution	Core function	Outer Ø	Weight	Cu factor
	n × mm <sup>2</sup>				
NHXXH-J FE180/E30-E60	1 × 4 RE	PE	7.3	101	38
NHXXH-J FE180/E30-E60	1 × 6 RE	PE	7.8	121	58
NHXXH-J FE180/E30-E60	1 × 10 RE	PE	8.6	166	96
NHXXH-J FE180/E30-E60	1 × 16 RM	PE	10.3	238	154
NHXXH-J FE180/E30-E60	1 × 25 RM	PE	11.9	343	240
NHXXH-J FE180/E30-E60	1 × 35 RM	PE	13.0	457	336
NHXXH-J FE180/E30-E60	1 × 50 RM	PE	14.8	583	480
NHXXH-J FE180/E30-E60	1 × 70 RM	PE	16.6	813	672
NHXXH-J FE180/E30-E60	1 × 95 RM	PE	19.0	1066	912
NHXXH-J FE180/E30-E60	1 × 120 RM	PE	20.8	1319	1152
NHXXH-J FE180/E30-E60	1 × 150 RM	PE	22.9	1607	1440
NHXXH-J FE180/E30-E60	1 × 185 RM	PE	25.3	1986	1776
NHXXH-J FE180/E30-E60	1 × 240 RM	PE	28.3	2623	2304
NHXXH-J FE180/E30-E60	1 × 300 RM	PE	32.2	3471	2880
NHXXH-J FE180/E30-E60	1 × 400 RM	PE	35.9	4300	3840
NHXXH-J FE180/E30-E60	1 × 500 RM	PE	39.7	5400	4800
NHXXH-O FE180/E30-E60	1 × 4 RE	L	7.3	101	38
NHXXH-O FE180/E30-E60	1 × 6 RE	L	7.8	121	58
NHXXH-O FE180/E30-E60	1 × 10 RE	L	8.6	166	96
NHXXH-O FE180/E30-E60	1 × 16 RM	L	10.3	238	154
NHXXH-O FE180/E30-E60	1 × 25 RM	L	11.9	343	240
NHXXH-O FE180/E30-E60	1 × 35 RM	L	13.0	457	336
NHXXH-O FE180/E30-E60	1 × 50 RM	L	14.8	583	480
NHXXH-O FE180/E30-E60	1 × 70 RM	L	16.6	813	672
NHXXH-O FE180/E30-E60	1 × 95 RM	L	19.0	1066	912
NHXXH-O FE180/E30-E60	1 × 120 RM	L	20.8	1319	1152
NHXXH-O FE180/E30-E60	1 × 150 RM	L	22.9	1607	1440
NHXXH-O FE180/E30-E60	1 × 185 RM	L	25.3	1986	1776
NHXXH-O FE180/E30-E60	1 × 240 RM	L	28.3	2623	2304
NHXXH-O FE180/E30-E60	1 × 300 RM	L	32.2	3471	2880
NHXXH-O FE180/E30-E60	1 × 400 RM	L	35.9	4300	3840
NHXXH-O FE180/E30-E60	1 × 500 RM	L	39.7	5400	4800
NHXXH-O FE180/E30-E60	2 × 1.5 RE	LN	11.8	167	29
NHXXH-O FE180/E30-E60	2 × 2.5 RE	LN	12.6	198	48
NHXXH-O FE180/E30-E60	2 × 4 RE	LN	13.1	233	77
NHXXH-O FE180/E30-E60	2 × 6 RE	LN	14.1	285	115
NHXXH-O FE180/E30-E60	2 × 10 RE	LN	15.7	408	192
NHXXH-O FE180/E30-E60	2 × 16 RM	LN	18.9	566	307
NHXXH-O FE180/E30-E60	2 × 25 RM	LN	22.0	839	480
NHXXH-J FE180/E30-E60	3 × 1.5 RE	LNPE	12.4	183	43
NHXXH-J FE180/E30-E60	3 × 1.5 RE	LNPE	12.4	183	43
NHXXH-J FE180/E30-E60	3 × 2.5 RE	LNPE	13.3	221	72
NHXXH-J FE180/E30-E60	3 × 2.5 RE	LNPE	13.3	221	72
NHXXH-J FE180/E30-E60	3 × 4 RE	LNPE	13.7	268	115
NHXXH-J FE180/E30-E60	3 × 6 RE	LNPE	14.9	337	173
NHXXH-J FE180/E30-E60	3 × 10 RE	LNPE	16.6	472	288
NHXXH-J FE180/E30-E60	3 × 16 RM	LNPE	20.1	736	461
NHXXH-J FE180/E30-E60	3 × 25 RM	LNPE	23.4	1069	720
NHXXH-J FE180/E30-E60	3 × 35 RM	LNPE	25.9	1369	1008
NHXXH-J FE180/E30-E60	3 × 50 RM	LNPE	29.8	2198	1440
NHXXH-J FE180/E30-E60	3 × 70 RM	LNPE	33.7	3023	2016
NHXXH-J FE180/E30-E60	3 × 95 RM	LNPE	38.8	3461	2736

-J = with gn/ye conductor ●  
 -O = without gn/ye conductor  
 RE = round solid, class 1  
 RM = round stranded, class 2

L = colour phase conductor br/bk/gr ●●●  
 N = colour neutral conductor bl ●  
 NR = colour phase conductors bk ● / numbered  
 PE = colour earth conductor gn/ye ●

Order no.	
Germany	Switzerland
LKI 8000 0100 0000	
LKI 8000 0200 0000	
LKI 8000 0300 0000	
LKI 8000 0400 0000	
LKI 8000 0500 0000	
LKI 8000 0600 0000	300555
LKI 8000 0700 0000	
LKI 8000 0800 0000	305088
LKI 8000 0900 0000	
LKI 8000 1000 0000	
LKI 8000 1100 0000	306238
LKI 8000 1200 0000	306262
LKI 8000 1300 0000	
LKI 8000 1400 0000	
LKI 8000 1500 0000	
LKI 8000 1600 0000	
LKI 8000 7200 0000	
LKI 8000 7300 0000	305101
LKI 8000 7400 0000	305102
LKI 2119 9700 0000	211997
LKI 8000 7500 0000	
LKI 8000 7600 0000	
LKI 8000 7700 0000	
LKI 8000 7800 0000	
LKI 8000 7900 0000	
LKI 8000 8000 0000	305089
LKI 8000 8100 0000	305090
LKI 3012 2600 0000	301226
LKI 8000 8200 0000	
LKI 8000 8300 0000	
LKI 8000 8400 0000	
LKI 8000 8500 0000	
LKI 1912 2500 0000	191225
LKI 3000 6000 0000	300060
LKI 3028 0300 0000	302803
LKI 8000 8800 0000	
LKI 8000 8900 0000	
LKI 8000 9000 0000	
LKI 8000 9100 0000	
LKI 1912 2700 0000	191227
LKI 8000 2500 0000*	19122705*
LKI 1912 3200 0000	191232
LKI 8000 2600 0000*	19123205*
LKI 2120 6600 0000	212066
LKI 2139 2700 0000	213927
LKI 2139 4500 0000	213945
LKI 2139 4600 0000	213946
LKI 2139 2800 0000	213928
LKI 2177 0500 0000	217705
LKI 8000 2700 0000	
LKI 8000 2800 0000	
LKI 2207 8900 0000	220789

\* Standardized length 1 × 500 m  
 Further designs upon request

Cable type	Construction n × mm <sup>2</sup>	Core function	Outer Ø mm	Weight kg / km	Cu factor kg / km	Order no.	
						Germany	Switzerland
NHXXH-J FE180/E30-E60	3 × 120 RM	LNPE	42.7	4600	3456		
NHXXH-J FE180/E30-E60	3 × 150 RM	LNPE	47.3	5400	4320		
NHXXH-J FE180/E30-E60	3 × 185 RM	LNPE	52.4	6200	5328		
NHXXH-J FE180/E30-E60	3 × 25 + 16 RM	3LPE	25.2	1505	874	LKI 8000 3300 0000	
NHXXH-J FE180/E30-E60	3 × 35 + 16 RM	3LPE	27.4	1850	1162	LKI 8000 3400 0000	
NHXXH-J FE180/E30-E60	3 × 50 + 25 RM	3LPE	32.1	2490	1680	LKI 8000 3500 0000	
NHXXH-J FE180/E30-E60	3 × 70 + 35 RM	3LPE	36.4	3389	2352	LKI 8000 3600 0000	
NHXXH-J FE180/E30-E60	3 × 95 + 50 RM	3LPE	41.0	4529	3216	LKI 8000 3800 0000	
NHXXH-J FE180/E30-E60	3 × 120 + 70 RM	3LPE	45.6	5562	4128	LKI 8000 3900 0000	
NHXXH-J FE180/E30-E60	3 × 150 + 70 RM	3LPE	49.5	6918	4992	LKI 8000 4000 0000	
NHXXH-J FE180/E30-E60	3 × 185 + 95 RM	3LPE	54.2	7351	6240	LKI 8000 4100 0000	
NHXXH-J FE180/E30-E60	3 × 240 + 120 RM	3LPE	61.3	9810	8064		
NHXXH-J FE180/E30-E60	4 × 1.5 RE	3LPE	13.4	212	58	LKI 1912 2800 0000	191228
NHXXH-J FE180/E30-E60	4 × 2.5 RE	3LPE	14.4	275	96	LKI 1912 3300 0000	191233
NHXXH-J FE180/E30-E60	4 × 4 RE	3LPE	15.0	339	154	LKI 2137 0600 0000	213706
NHXXH-J FE180/E30-E60	4 × 6 RE	3LPE	16.2	427	230	LKI 1912 3600 0000	191236
NHXXH-J FE180/E30-E60	4 × 10 RE	3LPE	18.0	592	384	LKI 1912 3800 0000	191238
NHXXH-J FE180/E30-E60	4 × 16 RM	3LPE	22.1	903	614	LKI 1912 4000 0000	191240
NHXXH-J FE180/E30-E60	4 × 25 RM	3LPE	26.0	1381	960	LKI 1912 4200 0000	191242
NHXXH-J FE180/E30-E60	4 × 35 RM	3LPE	28.8	1790	1344	LKI 1912 4400 0000	191244
NHXXH-J FE180/E30-E60	4 × 50 RM	3LPE	33.2	2485	1920	LKI 2144 7400 0000	214474
NHXXH-J FE180/E30-E60	4 × 70 RM	3LPE	37.7	3321	2688	LKI 2177 0600 0000	217706
NHXXH-J FE180/E30-E60	4 × 95 RM	3LPE	43.2	4437	3648	LKI 2176 1600 0000	217616
NHXXH-J FE180/E30-E60	4 × 120 RM	3LPE	47.8	5610	4608	LKI 2205 0600 0000	220506
NHXXH-J FE180/E30-E60	4 × 150 RM	3LPE	52.8	6914	5760	LKI 8000 4400 0000	
NHXXH-J FE180/E30-E60	4 × 185 RM	3LPE	58.4	8890	7104	LKI 8000 4500 0000	
NHXXH-J FE180/E30-E60	4 × 240 RM	3LPE	65.7	10960	9216	LKI 8000 4600 0000	220068
NHXXH-J FE180/E30-E60	5 × 1.5 RE	3LNPE	14.6	268	72	LKI 1912 2900 0000	191229
NHXXH-J FE180/E30-E60	5 × 2.5 RE	3LNPE	15.7	336	120	LKI 1912 3400 0000	191234
NHXXH-J FE180/E30-E60	5 × 4 RE	3LNPE	16.2	411	192	LKI 1912 3500 0000	191235
NHXXH-J FE180/E30-E60	5 × 6 RE	3LNPE	17.7	545	288	LKI 1912 3700 0000	191237
NHXXH-J FE180/E30-E60	5 × 10 RE	3LNPE	20.0	739	480	LKI 1912 3900 0000	191239
NHXXH-J FE180/E30-E60	5 × 16 RM	3LNPE	24.3	1123	768	LKI 1912 4100 0000	191241
NHXXH-J FE180/E30-E60	5 × 25 RM	3LNPE	28.8	1657	1200	LKI 1912 4300 0000	191243
NHXXH-J FE180/E30-E60	5 × 35 RM	3LNPE	32.2	2231	1680	LKI 1912 4500 0000	191245
NHXXH-J FE180/E30-E60	5 × 50 RM	3LNPE	37.5	3015	2400	LKI 2138 6100 0000	213861
NHXXH-J FE180/E30-E60	5 × 70 RM	3LNPE	42.2	4101	3360	LKI 3012 7300 0000	301273
NHXXH-J FE180/E30-E60	5 × 95 RM	3LNPE	48.1	5544	4560	LKI 2126 5900 0000	212659
NHXXH-J FE180/E30-E60	5 × 120 RM	3LNPE	53.7	7300	5760	LKI 8000 5100 0000	
NHXXH-J FE180/E30-E60	7 × 1.5 RE	NRPE	16.1	334	101	LKI 1912 3000 0000	191230
NHXXH-J FE180/E30-E60	7 × 2.5 RE	NRPE	17.3	422	168	LKI 2144 7300 0000	214473
NHXXH-J FE180/E30-E60	7 × 4 RE	NRPE	17.5	520	269	LKI 8000 5200 0000	
NHXXH-J FE180/E30-E60	12 × 1.5 RE	NRPE	20.5	520	173	LKI 1912 3100 0000	191231
NHXXH-J FE180/E30-E60	12 × 2.5 RE	NRPE	22.2	661	288	LKI 3031 9300 0000	303193
NHXXH-J FE180/E30-E60	19 × 1.5 RE	NRPE	23.9	755	274	LKI 8000 6400 0000	
NHXXH-J FE180/E30-E60	19 × 2.5 RE	NRPE	25.9	1186	456	LKI 8000 6500 0000	
NHXXH-J FE180/E30-E60	24 × 1.5 RE	NRPE	27.7	961	346	LKI 2139 6000 0000	213960
NHXXH-J FE180/E30-E60	24 × 2.5 RE	NRPE	30.1	1255	576	LKI 8000 6800 0000	
NHXXH-J FE180/E30-E60	30 × 1.5 RE	NRPE	29.6	1105	432	LKI 8000 6900 0000	304412
NHXXH-J FE180/E30-E60	30 × 2.5 RE	NRPE	32.4	1522	720	LKI 8000 7000 0000	304413

-J = with gn/ye conductor ●  
 -O = without gn/ye conductor  
 RE = round solid, class 1  
 RM = round stranded, class 2

L = colour phase conductor br/bk/gr ● ● ●  
 N = colour neutral conductor bl ●  
 NR = colour phase conductors bk ● / numbered  
 PE = colour earth conductor gn/ye ●