

CPR
Cca

CE

RoHS

I

III

UV

MIN -15°C

MAX +90°C

TFKable

FLAMEBLOCKER FXQJ/XCMK-HF 0,6/1 kV

SS 424 14 18, HD603-5P, HD 604-A3 5-I, IEC 60502-1

– XLPE insulated and LSOH sheathed power cable with concentric copper conductor



Applications:

XLPE insulated and halogen-free thermoplastic compound sheathed power cables for the supply of electrical energy. Special for installations where fire and emissions of smoke and toxic fumes create a potential threat. The concentric conductor is allowed to use as neutral, protective or earthed conductor. Simultaneously, this also is permitted to apply as a screen for example earth-connected protection against contact. Not suitable for use in water; can be installed in the ground

Standard length cable packing: 500 or 1000m on drums. Other forms of packing and delivery are available on request

Construction

Conductors

Copper annealed circular compacted stranded conductor class 2 (RM) or stranded sector – shaped conductor class 2 (SM) acc. to EN 60228

Insulation

Special XLPE compound type DIX3 acc. to HD 603.1

Cable core

Insulated conductors are twisted together with eventually filler

Inner covering

filling compound up to 10mm² and LSOH tape above 10mm²

Concentric conductor

Round copper wires and copper tape

Sheath

Special LSOH compound type HM4 acc. to HD 604

Colour of sheath

Black. Other colours are available at customer request

Core identification

(Other colours are available at customer request)

1-core

Black

2-core

Blue, brown

3-core

Brown, black, grey

4-core

Blue, brown, black, grey

5-core

Blue, brown, black, grey, black

Characteristic

Maximum conductor operating temperature

+90°C

Lowest ambient temperature for fixed installation

-30°C

Lowest installation temperature

-15°C

Maximum short-circuit conductor temperature

+250°C

Minimum bending radius

15 x D single core cables,
12 x D multicore cables,
D – overall diameter

In the final bending, if made carefully and smoothly as a single bend in one direction only and left in the final position, the minimum bending radius values may be reduced by 30%

Max. permissible tensile stress with cable grip for Cu-conductor

50 N/mm²

Test voltage

3.5kV AC 50Hz, 5min

Current of short-circuit (1 sec)

143 x nominal cross section conductor (A)

Fire performance

Flame retardant	IEC 60332-1-2, IEC 60332-3-24 (SS 4241475 F4C)
Smoke density	IEC 61034-2: light transmittance values sl >60 % sta >80 %
Gases evolved during combustion	IEC 60754-1, IEC 60754-2, DIN EN 50267-2-2: pH ≥ 4,3; conductivity a1 ≤ 2,5 μS/mm a2 ≤ 10 μS/mm

Parameters

Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20°C	CPR class reaction to fire
n × mm²	mm	kg/km	Ω/km	
2x10RM/2,5*	16,7	477	1,83/7,41	-
2x16RM/2,5*	19,1	485	1,15/7,41	-
2x25RM/16*	23,8	884	0,727/1,15	Cca
2x35RM/16*	25,9	1099	0,524/1,15	Cca
2x50RM/25*	29,4	1476	0,387/0,727	Cca
3x6RM/6*	16,2	451	3,08/3,08	-
3x16RM/16*	20,9	775	1,15/1,15	Cca
3x25RM/16*	25,0	1095	0,727/1,15	Cca
3x35RM/16*	27,3	1440	0,524/1,15	Cca
3x35SM/16	23,3	1340	0,524/1,15	Cca
3x50SM/25	27,3	1816	0,387/0,727	Cca
3x70SM/35	31,2	2558	0,268/0,524	Cca
3x95SM/50	34,3	3457	0,193/0,387	Cca
3x120SM/70	36,9	4360	0,153/0,268	Cca
3x150SM/70	41,0	5231	0,124/0,268	Cca
3x185SM/95	46,2	6546	0,0991/0,193	Cca
3x240SM/120	51,0	8492	0,0754/0,153	Cca
3x300SM/150	55,0	10596	0,0601/0,124	Cca
4x2,5RM/2,5*	14,5	315	7,41/7,41	-
4x6RM/6*	17,3	523	3,08/3,08	-
4x10RM/10*	19,6	758	1,83/1,83	Dca
4x16RM/16*	21,4	930	1,15/1,15	Cca
4x25RM/16*	27,1	1413	0,727/1,15	Cca
4x35RM/16*	29,6	1738	0,524/1,15	Cca
4x35SM/16	27,1	1718	0,524/1,15	Cca
4x50SM/25	30,6	2319	0,387/0,727	Cca
4x70SM/35	34,9	3260	0,268/0,524	Cca
4x95SM/50	38,5	4407	0,193/0,387	Cca
4x120SM/70	43,3	5593	0,153/0,268	Cca
4x150SM/70	47,4	6692	0,124/0,268	Cca
4x185SM/95	52,0	8421	0,0991/0,193	Cca
4x240SM/120	58,8	10947	0,0754/0,153	Cca
4x300SM/150	62,6	13329	0,0601/0,124	Cca
5x16RM/16*	24,2	1119	1,15/1,15	Cca
5x25RM/16*	29,3	1637	0,727/1,15	Cca
5x50RM/25*	37,1	2874	0,387/0,727	Cca

*based on standard

Current ratings*

Operating temperature at conductor 90°C; ambient air temperature 30°C

Installation		
Number of loaded cores	3	3
Laying in air		
Cross-section, mm ²	Current ratings in Ampere (A)	
1,5	25	27
2,5	33	36
4	43	47
6	54	59
10	75	81
16	100	109
25	136	146
35	165	179
50	201	218
70	255	275
95	314	336
120	364	388
150	416	438
185	480	501
240	565	580
300	643	654
400	737	733
500	807	825

The values are referred to the following basic conditions

Laying in air	
Ambient temperature	30°C
Load factor	1.0
Arrangement	Free in air, protection against direct solar radiation, no external heat sources, unrestricted dissipation of heat

Correction factors for various ambient air temperatures

Ambient temperature, °C	10	15	20	25	30	35	35	45	50
Rating factor	1.22	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71

* As defined in DIN VDE 0276-604,

Conversion factors for deviating ambient temperature defined in DIN VDE 0298 part 4.

Current ratings*

Operating temperature at conductor 90°C; ambient air temperature 30°C

Installation		
Number of loaded cores	3	3
Laying in air		
Cross-section, mm²	Current ratings in Ampere (A)	
1,5	25	27
2,5	33	36
4	43	47
6	54	59
10	75	81
16	100	109
25	136	146
35	165	179
50	201	218
70	255	275
95	314	336
120	364	388
150	416	438
185	480	501
240	565	580
300	-	654
400	-	733
500	-	825

Current ratings for control cables – HD 627 S1

Number of loaded cores	3
Laying in air	
Cross-section, mm²	Current ratings in Ampere (A)
1.5	25
2.5	33
4	43

The values are referred to the following basic conditions

Laying in air	
Ambient temperature	30°C
Load factor	1.0
Arrangement	Free in air, protection against direct solar radiation, no external heat sources, unrestricted dissipation of heat

Correction factors for various ambient air temperatures

Ambient temperature, °C	10	15	20	25	30	35	35	45	50
Rating factor	1.15	1.12	1.08	1.04	1.00	0.96	0.96	0.87	0.82

Conversion factors for multicore cable (≥ 5 cores)

The conversion factors are to be used for laying the cables in air, to the values given in above tables

Number of loaded cores	Laying in air
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40
40	0.35
61	0.30

Note: valid for cross-section 1.5 to 10 mm²

** As defined in DIN VDE 0276-604, DIN VDE 0276-627, HD 604-S1, HD 627 S1.*

Conversion factors for deviating ambient temperature defined in DIN VDE 0298 part 4.