

AEMCMK-HF C / AXQJ C / IFSI-EMC-AI C

Aluminium power cable EMC

0,6/1 (1,2) kV

Application

Aluminium power cable for fixed installations indoors and outdoors. May be buried directly in soil. Can also be used in medical facilities where higher fire class is required. EMC shielded cable gives an excellent protection against electromagnetic disturbances. The conductor insulation must be protected against UV-radiation. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free and flame-retardant according to CPR-class Cca-s1,d1,a1.



Design

Standards	SFS 5546, SEK TS 424 14 18-1, HD 604 5 I & D, IEC 60502-1
Reaction to fire	Cca-s1,d1,a1; EN 13501-6, EN 50575:2014+A1:2016
Conductor	Sector shaped, stranded aluminium, EN/IEC 60228 class 2
Insulation	Cross-linked polyethylene XLPE
Core Identification	Brown, black, grey Blue, brown, black, grey
Inner covering	Plastic tape
Metal screen	EMC-copper foil and copper wires
Oversheath	UV-protected polyolefin compound, Black
EMC-Shield	Copper foil with 100 % coverage

Temperature limits

Max. conductor temperature °C	90
Max. cond. temp. short circuit max. 5 s °C	250
Min. cable temperature during operation °C	-50
Min. cable temperature during handling °C	-15
Min. cable temperature during transport °C	-25

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Technical information	3x35/16	3x50/16	3x70/21	3x95/29	3x120/41	3x150/41	3x185/57	3x240/72	3x300/88	4x35/16
Product code	1149282	1149283	1149284	1149285	1149286	1149287	1149288	1149289	1149290	1149294
Nominal cross-sectional area of conductor mm ²	35	50	70	95	120	150	185	240	300	35
Nominal thickness of insulation mm	0,9	1,0	1,1	1,1	1,2	1,4	1,6	1,7	1,8	0,9
Nominal size of metal screen mm ²	16	16	21	29	41	41	57	72	88	16
Nominal thickness of oversheath mm	1,8	1,8	2,0	2,1	2,3	2,3	2,5	2,7	3,0	1,8
Fire load MJ/m	6,098	7,191	9,219	11,170	14,516	17,865	22,736	26,340	32,441	7,396
Fire load kWh/m	1,694	1,997	2,561	3,103	4,032	4,963	6,316	7,317	9,012	2,055
Nominal cable diameter mm	22,180	23,640	27,130	31,550	35,930	39,290	44,460	48,070	55,670	24,090
Nominal cable weight kg/km	726,262	866,357	1174,929	1538,668	1987,120	2314,870	2894,954	3675,127	4560,378	864,139
Nominal weight of copper kg/m	0,193	0,198	0,256	0,330	0,453	0,464	0,619	0,764	0,945	0,199
Nominal weight of aluminium kg/m	0,273	0,375	0,544	0,751	0,949	1,165	1,414	1,910	2,357	0,364
Maximum forces during installation when pulling by										
Max. pulling force by pulling-eye kN	1,6	2,3	3,2	4,3	5,4	6,8	8,3	10,8	13,5	2,1
Max. pulling force by pulling-stocking kN	1,6	2,3	3,2	4,3	5,4	6,8	8,3	8,5	8,5	2,1
Minimum bending radii										
During handling and installation, phase conductor cm	17	20	24	27	31	35	38	43	50	16
During handling and installation, cable cm	27	28	33	38	43	47	53	58	67	29
In final installation, phase conductor cm	12	14	17	19	22	24	27	30	35	11
In final installation, cable cm	19	20	23	27	30	33	37	40	47	20
Minimum bending radii										
During handling and installation, cable m	0,27	0,28	0,33	0,38	0,43	0,47	0,53	0,58	0,67	0,29
In final installation, cable m	0,19	0,20	0,23	0,27	0,30	0,33	0,37	0,40	0,47	0,20
DC resistance										
Max. DC resistance of conductor at 20 °C Ω/km	0,868	0,641	0,443	0,320	0,253	0,206	0,164	0,125	0,100	0,868
Maximum DC resistance at 20 °C, metal screen Ω/km	1,15	1,15	0,868	0,641	0,443	0,443	0,320	0,253	0,206	1,15

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Technical information	3x35/16	3x50/16	3x70/21	3x95/29	3x120/41	3x150/41	3x185/57	3x240/72	3x300/88	4x35/16
Current ratings										
Cables in air (25 °C)										
two loaded conductor, conductor 70 °C A	115	140	180	218	254	293	335	395	457	115
three loaded conductor, conductor 70 °C A	100	122	156	190	220	255	291	343	396	100
two loaded conductor, conductor 90 °C A	140	171	219	267	312	360	413	489	565	140
three loaded conductor, conductor 90 °C A	125	152	194	236	274	316	361	425	490	125
Cables in air (30 °C)										
two loaded conductor, conductor 70 °C A	111	135	173	210	244	282	322	380	439	111
three loaded conductor, conductor 70 °C A	96	117	150	183	212	245	280	330	381	96
two loaded conductor, conductor 90 °C A	135	164	211	257	300	346	397	470	543	135
three loaded conductor, conductor 90 °C A	120	146	187	227	263	304	347	409	471	120
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 65 °C A	125	150	185	220	255	280	330	375	430	125
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m										
Cables in the ground, conductor 90 °C A	98	117	144	172	197	220	250	290	326	98
Maximum thermal short circuit current during 1 s										
Phase (initial 65 °C, final 250 °C) kA	3,6	5,2	7,3	9,8	12,4	15,5	19,2	24,9	31,1	3,6
Phase (initial 90 °C, final 250 °C) kA	3,4	4,8	6,7	9,0	11,4	14,2	17,5	22,6	28,2	3,4
Metal screen (initial 80 °C, final 250 °C) kA	2,4	2,4	3,1	4,3	6,1	6,1	8,5	10,7	13,0	2,4

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Technical information	4x50/16	4x70/21	4x95/29	4x120/41	4x150/41	4x185/57	4x240/72	4x300/88
Product code	1149295	1149296	1149297	1149298	1149299	1149300	1149301	1149302
Nominal cross-sectional area of conductor mm ²	50	70	95	120	150	185	240	300
Nominal thickness of insulation mm	1,0	1,1	1,1	1,2	1,4	1,6	1,7	1,8
Nominal size of metal screen mm ²	16	21	29	41	41	57	72	88
Nominal thickness of oversheath mm	1,9	2,1	2,2	2,3	2,5	2,7	2,9	3,1
Fire load MJ/m	9,454	12,108	14,201	18,239	22,779	28,129	34,801	39,423
Fire load kWh/m	2,626	3,363	3,945	5,066	6,328	7,814	9,667	10,951
Nominal cable diameter mm	27,920	31,320	35,320	40,470	44,700	49,360	56,170	59,920
Nominal cable weight kg/km	1089,344	1470,928	1905,209	2428,013	2897,958	3572,498	4633,412	5575,963
Nominal weight of copper kg/m	0,211	0,269	0,341	0,467	0,480	0,633	0,789	0,958
Nominal weight of aluminium kg/m	0,500	0,725	1,001	1,265	1,554	1,886	2,547	3,143
Maximum forces during installation when pulling by								
Max. pulling force by pulling-eye kN	3,0	4,2	5,7	7,2	9,0	11,1	14,4	18,0
Max. pulling force by pulling-stocking kN	3,0	4,2	5,7	7,2	8,5	8,5	8,5	8,5
Minimum bending radii								
During handling and installation, phase conductor cm	19	23	26	29	32	37	43	46
During handling and installation, cable cm	34	38	42	49	54	59	67	72
In final installation, phase conductor cm	13	16	18	20	23	26	30	32
In final installation, cable cm	23	26	30	34	38	41	47	50
Minimum bending radii								
During handling and installation, cable m	0,34	0,38	0,42	0,49	0,54	0,59	0,67	0,72
In final installation, cable m	0,23	0,26	0,30	0,34	0,38	0,41	0,47	0,50
DC resistance								
Max. DC resistance of conductor at 20 °C Ω/km	0,641	0,443	0,320	0,253	0,206	0,164	0,125	0,100
Maximum DC resistance at 20 °C, metal screen Ω/km	1,15	0,868	0,641	0,443	0,443	0,320	0,253	0,206

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two loaded conductor, conductor 70 °C A	140	180	218	254	293	335	395	457
three loaded conductor, conductor 70 °C A	122	156	190	220	255	291	343	396
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Cables in air (30 °C)								
two loaded conductor, conductor 70 °C A	135	173	210	244	282	322	380	439
three loaded conductor, conductor 70 °C A	117	150	183	212	245	280	330	381
two loaded conductor, conductor 90 °C A	164	211	257	300	346	397	470	543
three loaded conductor, conductor 90 °C A	146	187	227	263	304	347	409	471
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m								
Cables in the ground, conductor 65 °C A	150	185	220	255	280	330	375	430
Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m								
Cables in the ground, conductor 90 °C A	117	144	172	197	220	250	290	326
Maximum thermal short circuit current during 1 s								
Phase (initial 65 °C, final 250 °C) kA	5,2	7,3	9,8	12,4	15,5	19,2	24,9	31,1
Phase (initial 90 °C, final 250 °C) kA	4,8	6,7	9,0	11,4	14,2	17,5	22,6	28,2
Metal screen (initial 80 °C, final 250 °C) kA	2,4	3,1	4,3	6,1	6,1	8,5	10,7	13,0