

## EMCMK-HF / EXQJ-EMC / FXQJ-EMC / IFSI-EMC-Cu

### Copper power cable EMC

### 0,6/1 (1,2) kV

#### Application

Copper power cable for fixed installations indoors and outdoors. May be buried directly in soil. 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 Dca-s2,d2,a2.



#### Design

<b>Standards</b>	SFS 5546, SS 424 14 18, HD 604 5 I & D, IEC 60502-1
<b>Reaction to fire</b>	Dca-s2,d2,a2; EN 13501-6, EN 50575:2014+A1:2016
<b>Conductor</b>	1,5-6 mm <sup>2</sup> circular solid copper, EN/IEC 60228 class 1 10-25 mm <sup>2</sup> circular stranded copper, EN/IEC 60228 class 2 35-300 mm <sup>2</sup> sector shaped stranded copper, EN/IEC 60228 class 2
<b>Insulation</b>	Cross-linked polyethylene XLPE
<b>Core</b>	Brown, black, grey
<b>Identification</b>	Blue, brown, black, grey
<b>Inner covering</b>	Plastic tape
<b>Metal screen</b>	EMC-copper foil and copper wires
<b>Oversheath</b>	UV-protected polyolefin compound, Black
<b>EMC-Shield</b>	Copper foil with 100 % coverage

#### Temperature limits

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

2024-10-10 13:52:43

Technical information	2x1,5/1,5	2x2,5/2,5	2x4/4	2x6/6	2x10/10	2x16/16	3x1,5/1,5	3x2,5/2,5	3x4/4	3x6/6
<b>Product code</b>	<b>1146739</b>	<b>1146740</b>	<b>1146741</b>	<b>1146743</b>	<b>1146744</b>	<b>1146745</b>	<b>1146690</b>	<b>1146691</b>	<b>1146692</b>	<b>1146693</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	1,5	2,5	4	6	10	16	1,5	2,5	4	6
Nominal thickness of insulation mm	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7
Nominal size of metal screen mm <sup>2</sup>	1,5	2,5	4	6	10	16	1,5	2,5	4	6
Nominal thickness of oversheath mm	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
Fire load MJ/m	2,087	2,428	2,778	3,139	4,175	5,102	2,401	2,710	3,061	3,403
Fire load kWh/m	0,580	0,675	0,772	0,872	1,160	1,417	0,667	0,753	0,850	0,945
Nominal cable diameter mm	11,930	13,050	14,070	15,110	17,890	20,370	12,700	13,730	14,630	15,330
Nominal cable weight kg/km	199,258	254,884	324,394	404,655	594,674	831,480	228,986	285,202	362,894	461,070
Metall weight Cu kg/m	0,051	0,075	0,119	0,170	0,277	0,438	0,065	0,100	0,155	0,230
<b>Maximum forces during installation when pulling by</b>										
Max. pulling force by pulling-eye kN	0,2	0,3	0,4	0,6	1,0	1,6	0,2	0,4	0,6	0,9
Max. pulling force by pulling-stocking kN	0,1	0,1	0,1	0,2	0,3	0,5	0,1	0,1	0,2	0,3
<b>Minimum bending radii</b>										
During handling and installation, cable cm	14	16	17	18	21	24	15	16	18	18
In final installation, cable cm	10	11	12	13	15	17	11	12	12	13
<b>Minimum bending radii</b>										
During handling and installation, cable m	0,14	0,16	0,17	0,18	0,21	0,24	0,15	0,17	0,18	0,18
In final installation, cable m	0,10	0,11	0,12	0,13	0,15	0,17	0,11	0,12	0,12	0,13
<b>DC resistance</b>										
Max. DC resistance of conductor at 20 °C Ω/km	12,1	7,41	4,61	3,08	1,83	1,15	12,1	7,41	4,61	3,08
Maximum DC resistance at 20 °C, metal screen Ω/km	12,1	7,41	4,61	3,08	1,83	1,15	12,1	7,41	4,61	3,08

2024-10-10 13:52:43

Technical information	2x1,5/1,5	2x2,5/2,5	2x4/4	2x6/6	2x10/10	2x16/16	3x1,5/1,5	3x2,5/2,5	3x4/4	3x6/6
<b>Current ratings</b>										
<b>Cables in air (25 °C)</b>										
two loaded conductor, conductor 70 °C A	23	31	42	53	73	98	23	31	42	53
three loaded conductor, conductor 70 °C A							19	26	35	45
two loaded conductor, conductor 90 °C A	27	37	51	66	89	120	27	37	51	66
three loaded conductor, conductor 90 °C A							24	33	44	56
<b>Cables in air (30 °C)</b>										
two loaded conductor, conductor 70 °C A	22	30	40	51	70	94	22	30	40	51
three loaded conductor, conductor 70 °C A							18,5	25	34	43
two loaded conductor, conductor 90 °C A	26	36	49	63	86	115	26	36	49	63
three loaded conductor, conductor 90 °C A							23	32	42	54
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 65 °C A	26	35	46	57	77	100	26	35	46	57
<b>Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 90 °C A	27	35	46	58	77	100	23	30	39	49
<b>Maximum thermal short circuit current during 1 s</b>										
Phase (initial 65 °C, final 250 °C) kA	0,2	0,3	0,6	0,9	1,6	2,5	0,2	0,3	0,6	0,9
Phase (initial 90 °C, final 250 °C) kA	0,2	0,3	0,5	0,8	1,4	2,3	0,2	0,3	0,5	0,8
Metal screen (initial 80 °C, final 250 °C) kA	0,2	0,4	0,6	0,9	1,5	2,4	0,2	0,4	0,6	0,9

2024-10-10 13:52:43

Technical information	3x10/10	3x16/16	3x25/16	3x35/16	3x50/25	3x70/35	3x95/50	3x120/70	3x150/70	3x185/95
<b>Product code</b>	<b>1146694</b>	<b>1146695</b>	<b>1146696</b>	<b>1256647</b>	<b>1256648</b>	<b>1256649</b>	<b>1256650</b>	<b>1256651</b>	<b>1256652</b>	<b>1256653</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	10	16	25	35	50	70	95	120	150	185
Nominal thickness of insulation mm	0,7	0,7	0,9	0,9	1,0	1,1	1,1	1,2	1,4	1,6
Nominal size of metal screen mm <sup>2</sup>	10	16	16	16	25	35	50	70	70	95
Nominal thickness of oversheath mm	1,8	1,8	1,8	1,8	1,8	2,0	2,1	2,3	2,4	2,5
Fire load MJ/m	4,964	6,079	8,001	6,647	8,075	10,643	12,329	15,243	18,536	22,964
Fire load kWh/m	1,379	1,689	2,223	1,846	2,243	2,956	3,425	4,234	5,149	6,379
Nominal cable diameter mm	18,850	21,370	25,820	23,100	26,350	30,400	33,540	36,740	40,050	45,140
Nominal cable weight kg/km	689,779	968,651	1391,298	1370,007	1866,688	2574,598	3461,335	4391,702	5257,714	6635,991
Metall weight Cu kg/m	0,369	0,578	0,871	1,102	1,548	2,160	2,980	3,804	4,562	5,791
<b>Maximum forces during installation when pulling by</b>										
Max. pulling force by pulling-eye kN	1,5	2,4	3,8	5,3	7,5	10,5	14,3	18,0	20,0	20,0
Max. pulling force by pulling-stocking kN	0,5	0,7	1,1	1,6	2,3	3,2	4,3	5,4	6,8	8,3
<b>Minimum bending radii</b>										
During handling and installation, cable cm	23	26	31	28	32	36	40	44	48	54
In final installation, cable cm	16	18	22	19	22	26	28	31	34	38
<b>Minimum bending radii</b>										
During handling and installation, cable m	0,23	0,26	0,31	0,28	0,32	0,36	0,40	0,44	0,48	0,54
In final installation, cable m	0,16	0,18	0,22	0,19	0,22	0,26	0,28	0,31	0,34	0,38
<b>DC resistance</b>										
Max. DC resistance of conductor at 20 °C Ω/km	1,83	1,15	0,727	0,524	0,387	0,268	0,193	0,153	0,124	0,0991
Maximum DC resistance at 20 °C, metal screen Ω/km	1,83	1,15	1,15	1,15	0,727	0,524	0,387	0,268	0,268	0,193

2024-10-10 13:52:43

Technical information	3x10/10	3x16/16	3x25/16	3x35/16	3x50/25	3x70/35	3x95/50	3x120/70	3x150/70	3x185/95
<b>Current ratings</b>										
<b>Cables in air (25 °C)</b>										
two loaded conductor, conductor 70 °C A	73	98	124	154	187	241	293	341	394	451
three loaded conductor, conductor 70 °C A	62	83	105	131	159	204	248	287	332	379
two loaded conductor, conductor 90 °C A	89	120	155	192	234	301	366	426	492	564
three loaded conductor, conductor 90 °C A	78	104	132	164	200	256	310	360	415	474
<b>Cables in air (30 °C)</b>										
two loaded conductor, conductor 70 °C A	70	94	119	148	180	232	282	328	379	434
three loaded conductor, conductor 70 °C A	60	80	101	126	153	196	238	276	319	364
two loaded conductor, conductor 90 °C A	86	115	149	185	225	289	352	410	473	542
three loaded conductor, conductor 90 °C A	75	100	127	158	192	246	298	346	399	456
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 65 °C A	77	100	130	160	190	240	285	325	370	420
<b>Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 90 °C A	65	84	107	129	153	188	226	257	287	324
<b>Maximum thermal short circuit current during 1 s</b>										
Phase (initial 65 °C, final 250 °C) kA	1,6	2,5	3,9	5,5	7,8	10,9	14,9	18,8	23,5	28,9
Phase (initial 90 °C, final 250 °C) kA	1,4	2,3	3,6	5,0	7,2	10,0	13,6	17,2	21,5	26,5
Metal screen (initial 80 °C, final 250 °C) kA	1,5	2,4	2,4	2,4	3,7	5,2	7,4	10,4	10,4	14,1

2024-10-10 13:52:43

Technical information	3x240/120	3x300/150	4x1,5/1,5	4x2,5/2,5	4x4/4	4x6/6	4x10/10	4x16/16	4x25/16	4x35/16
<b>Product code</b>	<b>1256654</b>	<b>1256655</b>	<b>1146710</b>	<b>1146711</b>	<b>1146712</b>	<b>1146713</b>	<b>1146714</b>	<b>1146715</b>	<b>1146716</b>	<b>1256664</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	240	300	1,5	2,5	4	6	10	16	25	35
Nominal thickness of insulation mm	1,7	1,8	0,7	0,7	0,7	0,7	0,7	0,7	0,9	0,9
Nominal size of metal screen mm <sup>2</sup>	120	150	1,5	2,5	4	6	10	16	16	16
Nominal thickness of oversheath mm	2,7	2,9	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8
Fire load MJ/m	27,944	31,568	2,569	3,022	3,111	3,990	5,950	6,631	9,408	8,294
Fire load kWh/m	7,762	8,769	0,714	0,839	0,864	1,108	1,653	1,842	2,613	2,304
Nominal cable diameter mm	51,000	53,900	12,820	14,140	14,570	16,840	20,270	23,010	27,960	26,040
Nominal cable weight kg/km	8639,822	10662,168	241,776	313,675	380,724	542,583	833,971	1149,498	1683,143	1740,074
Metall weight Cu kg/m	7,597	9,496	0,078	0,115	0,191	0,281	0,462	0,721	1,101	1,415
<b>Maximum forces during installation when pulling by</b>										
Max. pulling force by pulling-eye kN	20,0	20,0	0,3	0,5	0,8	1,2	2,0	3,2	5,0	7,0
Max. pulling force by pulling-stocking kN	8,5	8,5	0,1	0,2	0,2	0,4	0,6	1,0	1,5	2,1
<b>Minimum bending radii</b>										
During handling and installation, cable cm	61	65	15	17	17	20	24	28	34	31
In final installation, cable cm	43	45	11	12	12	14	17	19	23	22
<b>Minimum bending radii</b>										
During handling and installation, cable m	0,61	0,65	0,15	0,17	0,17	0,20	0,24	0,28	0,34	0,31
In final installation, cable m	0,43	0,45	0,11	0,12	0,12	0,14	0,17	0,19	0,23	0,22
<b>DC resistance</b>										
Max. DC resistance of conductor at 20 °C Ω/km	0,0754	0,0601	12,1	7,41	4,61	3,08	1,83	1,15	0,727	0,524
Maximum DC resistance at 20 °C, metal screen Ω/km	0,153	0,124	12,1	7,41	4,61	3,08	1,83	1,15	1,15	1,15

2024-10-10 13:52:43

Technical information	3x240/120	3x300/150	4x1,5/1,5	4x2,5/2,5	4x4/4	4x6/6	4x10/10	4x16/16	4x25/16	4x35/16
<b>Current ratings</b>										
<b>Cables in air (25 °C)</b>										
two loaded conductor, conductor 70 °C A	535	617	23	31	42	53	73	98	124	154
three loaded conductor, conductor 70 °C A	447	517	19	26	35	45	62	83	105	131
two loaded conductor, conductor 90 °C A	667	771	27	37	51	66	89	120	155	192
three loaded conductor, conductor 90 °C A	560	646	24	33	44	56	78	104	132	164
<b>Cables in air (30 °C)</b>										
two loaded conductor, conductor 70 °C A	514	593	22	30	40	51	70	94	119	148
three loaded conductor, conductor 70 °C A	430	497	18,5	25	34	43	60	80	101	126
two loaded conductor, conductor 90 °C A	641	741	26	36	49	63	86	115	149	185
three loaded conductor, conductor 90 °C A	538	621	23	32	42	54	75	100	127	158
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 65 °C A	480	550	26	35	46	57	77	100	130	160
<b>Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m</b>										
Cables in the ground, conductor 90 °C A	375	419	23	30	39	49	65	84	107	129
<b>Maximum thermal short circuit current during 1 s</b>										
Phase (initial 65 °C, final 250 °C) kA	37,5	46,9	0,2	0,3	0,6	0,9	1,6	2,5	3,9	5,5
Phase (initial 90 °C, final 250 °C) kA	34,3	43,1	0,2	0,3	0,5	0,8	1,4	2,3	3,6	5,0
Metal screen (initial 80 °C, final 250 °C) kA	17,8	22,2	0,2	0,4	0,6	0,9	1,5	2,4	2,4	2,4

2024-10-10 13:52:43

Technical information	4x50/25	4x70/35	4x95/50	4x120/70	4x150/70	4x185/95	4x240/120	4x300/150
<b>Product code</b>	<b>1256665</b>	<b>1256666</b>	<b>1256667</b>	<b>1256668</b>	<b>1256669</b>	<b>1256670</b>	<b>1256671</b>	<b>1256672</b>
Nominal cross-sectional area of conductor mm <sup>2</sup>	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 <sup>2</sup>	25	35	50	70	70	95	120	150
Nominal thickness of oversheath mm	1,9	2,1	2,2	2,4	2,5	2,7	2,9	3,1
Fire load MJ/m	10,298	13,341	15,362	19,046	23,292	29,362	35,026	40,383
Fire load kWh/m	2,861	3,706	4,267	5,291	6,470	8,156	9,729	11,217
Nominal cable diameter mm	29,560	34,110	37,540	41,630	45,430	51,040	56,420	61,200
Nominal cable weight kg/km	2372,530	3271,296	4400,647	5584,246	6719,730	8479,631	10999,194	13648,701
Metall weight Cu kg/m	1,979	2,764	3,815	4,856	5,865	7,417	9,733	12,185
<b>Maximum forces during installation when pulling by</b>								
Max. pulling force by pulling-eye kN	10,0	14,0	19,0	20,0	20,0	20,0	20,0	20,0
Max. pulling force by pulling-stocking kN	3,0	4,2	5,7	7,2	8,5	8,5	8,5	8,5
<b>Minimum bending radii</b>								
During handling and installation, cable cm	35	41	45	50	55	61	68	73
In final installation, cable cm	25	29	32	35	38	43	47	51
<b>Minimum bending radii</b>								
During handling and installation, cable m	0,35	0,41	0,45	0,50	0,55	0,61	0,68	0,73
In final installation, cable m	0,25	0,29	0,32	0,35	0,38	0,43	0,47	0,51
<b>DC resistance</b>								
Max. DC resistance of conductor at 20 °C Ω/km	0,387	0,268	0,193	0,153	0,124	0,0991	0,0754	0,0601
Maximum DC resistance at 20 °C, metal screen Ω/km	0,727	0,524	0,387	0,268	0,268	0,193	0,153	0,124



2024-10-10 13:52:43

Technical information	4x50/25	4x70/35	4x95/50	4x120/70	4x150/70	4x185/95	4x240/120	4x300/150
<b>Current ratings</b>								
<b>Cables in air (25 °C)</b>								
two loaded conductor, conductor 70 °C A	187	241	293	341	394	451	535	617
three loaded conductor, conductor 70 °C A	159	204	248	287	332	379	447	517
two loaded conductor, conductor 90 °C A	234	301	366	426	492	564	667	771
three loaded conductor, conductor 90 °C A	200	256	310	360	415	474	560	646
<b>Cables in air (30 °C)</b>								
two loaded conductor, conductor 70 °C A	180	232	282	328	379	434	514	593
three loaded conductor, conductor 70 °C A	153	196	238	276	319	364	430	497
two loaded conductor, conductor 90 °C A	225	289	352	410	473	542	641	741
three loaded conductor, conductor 90 °C A	192	246	298	346	399	456	538	621
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>								
Cables in the ground, conductor 65 °C A	190	240	285	325	370	420	480	550
<b>Cables in the ground (20 °C and 2,5 K.m/W), Installation depth 0,7 m</b>								
Cables in the ground, conductor 90 °C A	153	188	226	257	287	324	375	419
<b>Maximum thermal short circuit current during 1 s</b>								
Phase (initial 65 °C, final 250 °C) kA	7,8	10,9	14,9	18,8	23,5	28,9	37,5	46,9
Phase (initial 90 °C, final 250 °C) kA	7,2	10,0	13,6	17,2	21,5	26,5	34,3	43,1
Metal screen (initial 80 °C, final 250 °C) kA	3,7	5,2	7,4	10,4	10,4	14,1	17,8	22,2