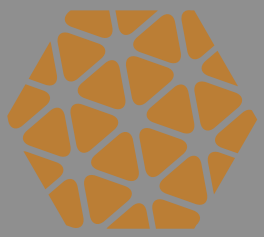

MARINE AND OFFSHORE CABLES BY HELKAMA

POWER CABLES
MV CABLES
FIRE RESISTANT CABLES
INSTRUMENTATION CABLES
HEAT RESISTANT CABLES
WATER SPRAY RESISTANT + WATER JET RESISTANT CABLES

HELKAMA – a true specialist in marine cables

Helkama Bica Oy is a Finnish family enterprise specializing in marine and offshore cables. The company has a sound track record in cable excellence going back more than 50 years. Helkama's high technical quality has been achieved by continuous development work and research. In this catalogue we present Helkama's most comprehensive range of marine cables, distributed in the US, Canada and the Caribbean by CEE Inc..

All Helkama marine cables are halogen-free to meet the high requirements of safety on board. Halogen-free cables remarkably improve the fire safety of the ships by not emitting toxic burning fumes or thick smoke. In addition no corrosive gases damaging the ship and its equipment are emitted in case of a fire. Using the latest technology, Helkama has been able to reduce cable weight and size to a minimum and still maintain quality as well as enabling easy and fast installation.

The halogen free range of cables includes both flame-retardant (IEC 60332-3) and fire resistant (IEC 60331-series, EN 50200 and BS 8491) cables. Helkama marine cables are approved by all major classification societies; ABS, BV, CCS, CRS, DNV-GL, KR, LR, NK, RINA, RINAMIL and RMRS .

Helkama Cables Type Approval Certificates

Please check updated approval situation on www.helkamabica.com

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LKM-HF

Unarmoured power and control cable 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction - separator tape	
4. Rip cord	- rip cord for conductors from 16mm²	
5. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● Flame-retardant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25580	–	1x1,0	5,0	35	18	25
25636	28396	1x1,5	5,5	40	23	25
25638	27000	1x2,5	5,5	55	30	25
25640	27002	1x4	6,5	70	40	30
25642	27004	1x6	7,0	95	52	30
25644	27006	1x10	8,0	140	72	35
25647	27009	1x16 Flex	9,0	190	94	40
25649	27011	1x25 Flex	11,5	290	123	50
25651	27013	1x35 Flex	12,5	385	153	50
25653	27015	1x50 Flex	14,5	530	196	60
25655	27017	1x70 Flex	16,5	740	240	70
25657	27019	1x95 Flex	18,0	955	284	75
25659	27021	1x120 Flex	20,0	1200	331	85
25661	27023	1x150 Flex	23,0	1515	381	95
25663	27025	1x185 Flex	25,5	1840	429	155
25665	27027	1x240 Flex	28,5	2445	507	175
26047	27029	1x300 Flex	31,5	3015	582	190
25581	–	2x1,0	8,0	65	15	35
25670	–	2x1,5	8,5	80	20	35
25686	–	2x2,5	9,5	115	26	40
25702	–	2x4	10,5	155	34	45
25701	–	2x6	12,0	240	44	50
25717	–	2x10	14,0	360	61	60
26054	–	2x16 Flex	17,0	515	80	70
26055	–	2x25 Flex	21,0	790	105	85
26056	–	2x35 Flex	23,0	1045	130	95
26057	–	2x50 Flex	26,5	1445	167	165
26058	–	2x70 Flex	31,0	1985	204	190
26059	–	2x95 Flex	34,5	2630	241	210
25582	28397	3x1,0	8,0	85	13	35
25671	25672	3x1,5	9,0	100	16	40
25688	25689	3x2,5	10,0	145	21	45
25703	25704	3x4	11,5	200	28	50
25705	25706	3x6	13,0	310	36	55
25707	25708	3x10	15,0	465	50	65
26071	26072	3x16 Flex	18,0	650	66	75
26073	26074	3x25 Flex	22,5	1005	86	90
26075	26076	3x35 Flex	24,5	1320	107	100
26077	26078	3x50 Flex	29,0	1860	137	175
26079	26080	3x70 Flex	33,5	2605	168	205
26081	26082	3x95 Flex	37,0	3375	199	225
26083	26085	3x120 Flex	42,0	4290	232	255
26084	26086	3x150 Flex	48,0	5410	267	290
26087	26088	3x185 Flex	53,0	6635	300	320
26089	26090	3x240 Flex	60,0	8775	355	360
26099	26100	3x300 Flex	67,0	10960	407	405

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page >

LKM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25583	28398	4x1,0	9,0	100	13	40
25673	25674	4x1,5	10,0	135	16	45
25690	25691	4x2,5	11,0	180	21	45
25725	25726	4x4	12,5	260	28	55
25727	25728	4x6	14,0	385	36	60
25729	25730	4x10	16,5	585	50	70
26101	26102	4x16 Flex	20,0	820	66	80
26103	26104	4x25 Flex	25,0	1265	86	155
26105	26106	4x35 Flex	27,0	1690	107	165
26107	26108	4x50 Flex	32,0	2390	137	195
26109	26110	4x70 Flex	37,0	3315	168	225
26111	26112	4x95 Flex	41,5	4320	199	250
26113	26114	4x120 Flex	46,5	5450	232	280
26115	26116	4x150 Flex	53,5	6915	267	325
26117	26118	4x185 Flex	59,0	8470	300	355
25584	28399	5x1,0	10,0	135	10	45
25676	25677	5x1,5	11,0	165	13	45
25692	25693	5x2,5	12,0	220	17	50
25864	25865	5x4	13,5	320	23	55
25866	25867	5x6	15,5	480	30	65
25868	25869	5x10	18,5	725	42	75
26131	26132	5x16 Flex	22,0	1000	55	90
26133	26134	5x25 Flex	27,5	1575	71	170
26135	26136	5x35 Flex	30,0	2115	89	185
26137	26138	5x50 Flex	35,5	2960	114	215
26139	26140	5x70 Flex	41,5	4160	139	250
26145	26146	5x95 Flex	46,0	5440	165	280
25585	28400	7x1,0	11,0	160	9	45
25586	28401	10x1,0	14,0	235	8	60
25587	28402	12x1,0	14,5	260	8	60
25588	28403	14x1,0	15,0	295	7	65
25589	28404	16x1,0	16,0	335	7	65
25590	28405	19x1,0	17,0	380	7	70
25592	28407	24x1,0	20,0	485	6	80
25593	28408	27x1,0	20,5	530	6	85
25597	28409	30x1,0	21,0	575	5	85
25595	28411	37x1,0	23,0	705	5	95

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page >

LKM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25678	25679	7x1,5	12,0	205	12	50
25667	25668	10x1,5	15,0	295	11	65
25680	25681	12x1,5	15,5	340	10	65
25991	25992	14x1,5	16,5	385	10	70
25989	25990	16x1,5	17,5	435	9	70
25682	25683	19x1,5	18,5	500	9	75
25875	25876	24x1,5	22,0	640	8	90
25684	25685	27x1,5	22,5	700	8	90
–	–	30x1,5	23,0	765	7	95
25675	25687	37x1,5	25,0	925	7	155
25694	25695	7x2,5	13,5	285	16	55
25993	25994	10x2,5	17,0	410	14	70
25696	25874	12x2,5	17,5	465	13	75
25995	25996	14x2,5	18,5	540	13	75
25997	25998	16x2,5	19,5	610	12	80
25873	25872	19x2,5	20,5	690	11	85
25877	25878	24x2,5	24,5	900	10	100
26141	26142	27x2,5	25,5	990	10	155
–	–	30x2,5	26,0	1085	10	160
26143	26144	37x2,5	28,5	1310	9	175

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKMM-HF

Unarmoured power cable with extruded filler 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,5–10mm² - stranded copper conductor 16–150mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5
2. Insulation	- XLPE plastic	IEC 60092-360
3. Bedding	- extruded filler	
4. Rip cord	- rip cord for conductors from 16mm²	
5. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **- 40 °C** to **+ 80 °C** Minimum recommended installation temperature **- 15 °C**

For details see general information section

LKMM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
27532	–	2x1,5	9,0	125	20	35
27534	–	2x2,5	10,0	170	26	40
27536	–	2x4	11,0	225	34	45
27538	–	2x6	12,5	295	44	50
27540	–	2x10	14,5	440	61	60
27543	–	2x16 Flex	19,0	635	80	75
27545	–	2x25 Flex	23,5	955	105	95
27547	–	2x35 Flex	25,0	1290	130	150
27549	–	2x50 Flex	29,0	1755	167	175
27551	–	2x70 Flex	33,5	2400	204	200
27564	27566	3x1,5	9,5	140	16	35
27568	27570	3x2,5	10,5	190	21	45
27572	27574	3x4	12,0	260	28	45
27576	27578	3x6	13,5	360	36	55
27580	27582	3x10	15,5	530	50	60
27585	27587	3x16 Flex	20,0	765	66	80
27589	27591	3x25 Flex	24,5	1160	86	100
27593	27595	3x35 Flex	26,5	1555	107	160
27597	27599	3x50 Flex	30,5	2130	137	185
27601	27603	3x70 Flex	36,0	2985	168	215
27605	27607	3x95 Flex	39,5	3795	199	240
27609	27611	3x120 Flex	44,5	4775	232	265
27613	27615	3x150 Flex	51,0	6075	267	305
27617	27619	3x185 Flex	56,0	7405	300	335
27621	27623	3x240 Flex	63,0	9795	355	380
27628	27630	4x1,5	10,5	175	16	40
27632	27634	4x2,5	11,5	225	21	45
27636	27638	4x4	13,0	320	28	50
27640	27642	4x6	14,5	430	36	60
27644	27646	4x10	17,5	650	50	70
27649	27651	4x16 Flex	22,5	950	66	90
27653	27655	4x25 Flex	27,0	1425	86	165
27657	27659	4x35 Flex	29,5	1910	107	175
27661	27663	4x50 Flex	34,5	2655	137	205
27665	27667	4x70 Flex	40,0	3680	168	240
27692	27694	5x1,5	11,5	205	13	45
27696	27698	5x2,5	12,5	270	17	50
27700	27702	5x4	14,5	360	23	55
27704	27706	5x6	16,5	515	30	65
27708	27710	5x10	19,0	770	42	75
27713	27715	5x16 Flex	24,0	1160	55	95
27717	27719	5x25 Flex	30,0	1760	71	180

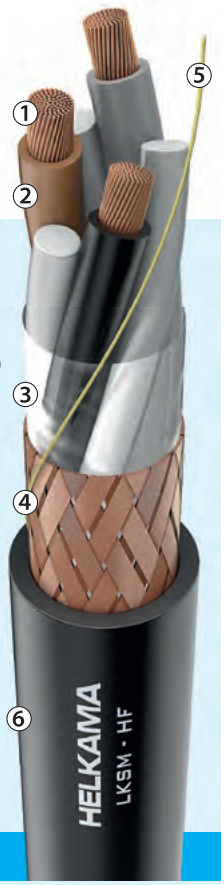
Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-HF

Armoured power and control cable 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● Flame-retardant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

For details see general information section

LKSM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25955	28425	1x1,0	3,0	6,0	70	18	40
25736	28426	1x1,5	3,0	6,5	75	23	40
25738	27050	1x2,5	2,5	7,0	85	30	45
25740	27052	1x4	3,1	7,5	110	40	45
25742	27054	1x6	3,1	8,0	130	52	50
25744	27056	1x10	3,6	9,5	190	72	60
26237	27059	1x16 Flex	4,1	10,5	240	94	65
26238	27061	1x25 Flex	4,9	13,0	360	123	80
26239	27063	1x35 Flex	5,5	14,0	455	153	85
26240	27065	1x50 Flex	8,7	16,0	640	196	100
26241	27067	1x70 Flex	10,0	18,5	865	240	115
26242	27069	1x95 Flex	11,5	20,0	1090	284	125
26243	27071	1x120 Flex	12,3	22,5	1360	331	135
26244	27073	1x150 Flex	13,7	25,0	1685	381	155
26245	27075	1x185 Flex	15,2	27,0	2020	429	165
26246	27077	1x240 Flex	18,2	30,5	2655	507	185
26247	27079	1x300 Flex	18,7	34,0	3250	582	205
25956	–	2x1,0	3,6	9,0	110	15	55
25770	–	2x1,5	3,8	9,5	130	20	60
25785	–	2x2,5	4,3	10,5	160	26	65
25801	–	2x4	5,2	12,0	215	34	75
25803	–	2x6	5,4	13,0	320	44	80
25805	–	2x10	8,7	15,5	480	61	95
26254	–	2x16 Flex	10,0	18,0	635	80	110
26255	–	2x25 Flex	12,3	23,0	965	105	140
26256	–	2x35 Flex	14,0	24,5	1230	130	150
26257	–	2x50 Flex	16,3	28,5	1655	167	175
26258	–	2x70 Flex	18,7	33,0	2245	204	200
26259	–	2x95 Flex	21,2	36,5	2890	241	220
25957	–	3x1,0	3,7	9,5	130	13	60
25772	25773	3x1,5	4,1	10,0	155	16	65
25786	25787	3x2,5	5,2	11,0	200	21	70
25802	25880	3x4	5,3	12,5	265	28	80
25804	25882	3x6	5,8	14,0	375	36	85
25806	25884	3x10	9,3	16,5	575	50	100
26271	26272	3x16 Flex	10,7	19,0	770	66	115
26273	26274	3x25 Flex	13,2	24,5	1185	86	150
26275	26276	3x35 Flex	15,0	26,0	1510	107	160
26277	26278	3x50 Flex	17,5	30,5	2095	137	185
26279	26280	3x70 Flex	20,2	35,5	2860	168	215
26281	26282	3x95 Flex	22,8	39,0	3660	199	235
26283	26284	3x120 Flex	35,1	44,0	4705	232	265
26285	26286	3x150 Flex	39,3	50,0	5885	267	305
26287	26288	3x185 Flex	43,4	55,0	7160	300	335
26295	26296	3x240 Flex	50,7	62,0	9385	355	375

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page >

LKSM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25958	–	4x1,0	4,1	10,0	150	13	65
25774	25775	4x1,5	4,5	11,0	185	16	70
25788	25789	4x2,5	5,3	12,5	240	21	75
25830	25831	4x4	5,7	13,5	320	28	85
25832	25833	4x6	8,8	15,5	480	36	95
25834	25835	4x10	10,3	18,0	700	50	110
26301	26302	4x16 Flex	11,9	21,5	945	66	130
26303	26304	4x25 Flex	14,8	27,0	1425	86	165
26305	26306	4x35 Flex	16,7	29,0	1850	107	175
26307	26308	4x50 Flex	19,5	34,0	2560	137	205
26309	26310	4x70 Flex	22,6	39,0	3495	168	235
26311	26312	4x95 Flex	35,0	44,0	4615	199	265
26313	26314	4x120 Flex	39,3	49,0	5765	232	295
26315	26316	4x150 Flex	44,0	55,5	7240	267	335
26317	26318	4x185 Flex	48,9	61,5	8810	300	370
25959	–	5x1,0	4,5	10,5	180	10	65
25776	25777	5x1,5	5,0	12,0	225	13	75
25790	25791	5x2,5	5,6	13,5	290	17	80
26011	26012	5x4	8,6	15,0	420	23	95
26013	26014	5x6	9,7	17,0	580	30	105
26015	26016	5x10	11,5	20,0	850	42	120
26331	26332	5x16 Flex	13,2	23,0	1135	55	140
26333	26334	5x25 Flex	16,3	29,5	1740	71	180
26335	26336	5x35 Flex	18,6	32,0	2295	89	195
26325	26326	5x50 Flex	22,4	37,0	3150	114	225
26327	26328	5x70 Flex	34,4	43,5	4445	139	265
26329	26330	5x95 Flex	39,3	48,5	5755	165	295
25960	–	7x1,0	4,9	11,5	215	9	75
25961	–	10x1,0	8,7	15,0	320	8	90
25962	–	12x1,0	9,0	15,0	350	8	95
25963	–	14x1,0	9,4	16,0	385	7	100
25964	–	16x1,0	10,0	17,0	440	7	105
25965	–	19x1,0	10,6	17,5	485	7	110
25977	–	24x1,0	12,5	20,5	610	6	125
25978	–	27x1,0	12,8	21,0	660	6	130
25979	–	30x1,0	13,3	21,5	710	5	135
25981	–	37x1,0	14,4	23,5	840	5	145

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page >

LKSM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25778	25779	7x1,5	5,4	13,0	265	12	80
26025	26026	10x1,5	9,6	16,5	400	11	100
25780	25846	12x1,5	10,0	17,0	445	10	105
26027	26028	14x1,5	10,5	18,0	495	10	110
26030	26029	16x1,5	11,1	19,0	550	9	115
25782	25781	19x1,5	11,7	19,5	615	9	120
25828	25829	24x1,5	13,9	23,5	790	8	140
25783	25847	27x1,5	14,1	24,0	855	8	145
26039	–	30x1,5	14,7	24,5	925	7	150
25784	25848	37x1,5	16,0	26,5	1095	7	160
25792	25793	7x2,5	8,5	15,0	380	16	90
26033	26034	10x2,5	10,8	18,5	530	14	115
25794	25795	12x2,5	11,5	19,0	590	13	115
26035	26036	14x2,5	11,8	20,5	675	13	125
26037	26038	16x2,5	12,5	21,5	755	12	130
25796	25797	19x2,5	13,2	22,5	845	11	135
25798	25799	24x2,5	15,7	26,0	1070	10	160
25768	25769	27x2,5	16,1	27,0	1165	10	165
26040	–	30x2,5	16,7	27,5	1265	10	170
25849	25850	37x2,5	18,1	30,0	1525	9	185

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table ➞ 4xxxxx

LKMSM-HF

Armoured power cable with extruded filler 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,5–10mm² - stranded copper conductor 16–150mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5
2. Insulation	- XLPE plastic	IEC 60092-360
3. Bedding	- extruded filler	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKMSM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
27232	–	2x1,5	4,9	11,5	190	20	70
27234	–	2x2,5	5,4	12,5	225	26	75
27236	–	2x4	6,0	14,0	285	34	85
27238	–	2x6	9,2	15,5	415	44	90
27240	–	2x10	10,7	17,5	565	61	105
27243	–	2x16 Flex	12,6	20,5	735	80	120
27245	–	2x25 Flex	15,6	24,5	1070	105	150
27247	–	2x35 Flex	16,8	26,5	1350	130	160
27249	–	2x50 Flex	19,6	30,0	1800	167	180
27264	27266	3x1,5	5,3	12,0	220	16	75
27268	27270	3x2,5	5,7	13,5	270	21	80
27272	27274	3x4	8,7	15,0	360	28	90
27276	27278	3x6	9,7	16,0	485	36	95
27280	27282	3x10	11,5	18,5	675	50	110
27285	27287	3x16 Flex	13,4	22,0	905	66	130
27289	27291	3x25 Flex	16,7	26,0	1310	86	155
27293	27295	3x35 Flex	18,4	28,0	1665	107	170
27297	27299	3x50 Flex	21,0	32,5	2250	137	195
27301	27303	3x70 Flex	24,7	37,5	3095	168	225
27305	27307	3x95 Flex	38,8	42,0	4020	199	250
27309	27311	3x120 Flex	41,9	46,5	4990	232	280
27313	27315	3x150 Flex	50,2	53,0	6275	267	320
27328	27330	4x1,5	5,6	13,0	255	16	80
27332	27334	4x2,5	6,3	14,5	315	21	85
27336	27338	4x4	9,5	16,0	425	28	95
27340	27342	4x6	10,6	17,5	580	36	105
27344	27346	4x10	12,6	20,0	815	50	120
27349	27351	4x16 Flex	14,8	23,5	1085	66	140
27353	27355	4x25 Flex	18,5	28,5	1595	86	170
27357	27359	4x35 Flex	19,9	31,0	2055	107	185
27361	27363	4x50 Flex	23,2	35,5	2775	137	215
27365	27367	4x70 Flex	37,8	42,0	3945	168	250
27369	27371	4x95 Flex	41,7	46,5	5010	199	280
27373	27375	4x120 Flex	46,9	51,5	6240	232	310
27392	27394	5x1,5	6,1	14,0	295	13	85
27396	27398	5x2,5	9,3	15,5	390	17	95
27400	27402	5x4	10,4	17,0	505	23	105
27404	27406	5x6	11,6	19,0	680	30	115
27408	27410	5x10	13,8	22,0	975	42	130
27413	27415	5x16 Flex	16,3	25,5	1320	55	155
27417	27419	5x25 Flex	20,3	31,0	1930	71	185

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKAM-HF

Screened power and control cable 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Screen	- drain wire of tinned copper 1,0mm^2 (in all sizes) - aluminium polyester tape, coverage 100%	IEC 60092-350
4. Rip cord	- rip cord for conductors from 16mm^2	
5. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight and screened cables are needed.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKAM-HF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
27102	–	2x1,5	9,0	100	20	55
27106	27107	3x1,5	9,5	125	16	55
27110	27111	4x1,5	10,0	145	16	60
27114	27115	5x1,5	11,0	175	13	65
27118	27119	7x1,5	12,0	220	12	70
27140	27141	10x1,5	15,5	310	11	90
27122	27123	12x1,5	16,0	350	10	95
27144	27145	14x1,5	16,5	395	10	100
27148	27149	16x1,5	17,5	450	9	105
27126	27127	19x1,5	18,5	510	9	110
27130	27131	24x1,5	22,0	650	8	130
27134	27135	27x1,5	22,5	715	8	135
27155	27156	32x1,5	23,5	825	7	140
27136	27137	37x1,5	25,0	935	7	150
27104	–	2x2,5	9,5	125	26	60
27108	27109	3x2,5	10,5	160	21	60
27112	27113	4x2,5	11,0	195	21	65
27116	27117	5x2,5	12,5	240	17	75
27120	27121	7x2,5	13,5	300	16	80
27142	27143	10x2,5	17,5	435	14	105
27124	27125	12x2,5	18,0	495	13	105
27146	27147	14x2,5	18,5	560	13	110
27150	27151	16x2,5	19,5	630	12	120
27128	27129	19x2,5	21,0	740	11	125
27132	27133	24x2,5	25,0	935	10	150
27138	27139	27x2,5	25,5	1025	10	150
27157	27158	32x2,5	26,5	1195	9	160
27152	27153	37x2,5	28,5	1355	9	170

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKEM-HF

Switchboard wire 0,6/1kV

DESIGN:		**STANDARDS:** IEC 60092-353, design
1. Conductor	- stranded flexible copper conductor	IEC 60228, class 5
2. Insulation	- HF90 plastic - standard colour black, other colours on request - oil resistant thermosetting polyolefine, SHF2, starting from 10mm^2	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed wiring in switchboards, control panels and other enclosures.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKEM-HF 0,6/1kV Part number Normal	Number of conductors & cross-section n x mm^2	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
25117*	1x0,5	2,3	10	11	10
25120	1x0,75	2,7	14	14	15
25121	1x1,0	2,8	17	17	15
25122	1x1,5	3,1	21	22	15
25124	1x2,5	3,6	32	30	15
25125	1x4	4,1	45	39	20
25126	1x6	4,7	63	50	20
25128	1x10	5,7	103	71	25
25130	1x16	6,7	153	94	30
25132	1x25	8,6	241	123	35
25134	1x35	9,4	329	153	40
25136	1x50	11,3	467	196	50
25138	1x70	13,2	661	240	55
25165	1x95	14,8	868	284	60
25166	1x120	16,8	1103	331	70
25279	1x150	19,4	1396	381	80
25281	1x185	21,3	1711	429	90
25283	1x240	24,4	2303	507	100
25285	1x300	27,4	2853	582	110

* Rated voltage 300/500V

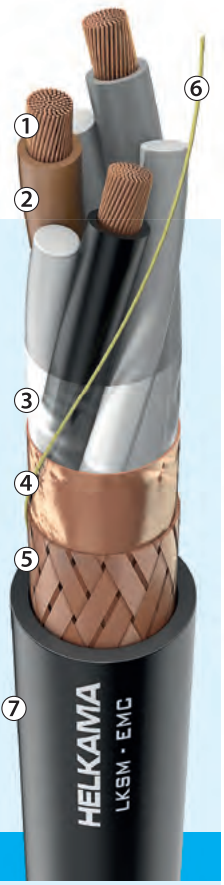
Other sizes on request.

Available in colours:
blue, dark blue, black, brown, red, yellow, green, yellow/green, grey, orange, violet and white
Other colours on request

Delivery lengths:
0,5 mm2, 0,75 mm2, 1 mm2, 1,5 mm2 and 2,5 mm2 available in 200 m boxes or 500 m drums
4 mm2 available in 100 m boxes or 500 m drums
6 mm2 available in 100 m coils or 500 m drums

LKSM-EMC

Armoured power and control cable with improved EMC screening 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	-stranded copper conductor 1,0–10mm² -stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Screen	- copper tape, coverage 100%	
5. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
6. Rip cord	- rip cord for conductors from 16mm²	
7. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. Specially designed cables, with screen which has improved screening properties to address **EMI/EMC** problems.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Transfer impedance	**IEC 61196-1** (typical value 26dB over 1mΩ/m at 100MHz [20mΩ/m])
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

For details see general information section

LKSM-EMC 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Diameter of screen mm	Nominal outer diameter mm	Approx-imate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
26904		1x1,0	3,0	4,0	6,0	80	18	35
27513		1x1,5	3,0	4,0	6,5	90	23	40
27514		1x2,5	3,0	4,5	7,0	100	30	40
27515		1x4	3,1	5,0	7,5	120	40	45
27516		1x6	3,1	6,0	8,0	145	52	50
27517		1x10	3,3	7,0	9,5	200	72	55
27518		1x16 Flex	4,2	8,5	11,0	285	94	65
27519		1x25 Flex	5,3	10,5	13,5	410	123	80
27520		1x35 Flex	5,6	11,5	14,0	510	153	85
27521		1x50 Flex	8,8	13,5	16,5	695	196	100
27522		1x70 Flex	10,1	15,5	18,5	930	240	110
27523		1x95 Flex	11,3	17,0	20,5	1160	284	120
27524		1x120 Flex	12,5	19,0	22,5	1440	331	135
27525		1x150 Flex	13,9	21,5	25,5	1775	381	150
27526		1x185 Flex	15,3	23,5	27,5	2120	429	165
27527		1x240 Flex	17,2	26,5	30,5	2735	507	185
27528		1x300 Flex	18,9	29,5	34,0	3385	582	205
26905		2x1,0	3,3	6,5	9,5	130	15	55
27480		2x1,5	3,6	7,0	10,0	145	20	60
27481		2x2,5	4,2	8,0	11,0	175	26	65
27482		2x4	4,6	9,0	12,0	225	34	70
27483		2x6	5,3	10,5	13,0	340	44	80
27484		2x10	8,5	12,5	16,0	535	61	95
27485		2x16 Flex	10,3	15,5	19,0	775	80	115
27486		2x25 Flex	12,6	19,5	23,5	1125	105	140
27487		2x35 Flex	14,3	21,0	25,0	1410	130	150
27529		2x50 Flex	16,6	25,0	29,0	1880	167	175
27530		2x70 Flex	19,0	29,0	33,5	2530	204	200
27531		2x95 Flex	21,5	32,0	37,0	3255	241	220
26906	26988	3x1,0	3,6	7,0	10,0	155	13	60
26861	26862	3x1,5	3,9	7,5	10,5	175	16	60
26863	26864	3x2,5	4,3	8,5	11,5	215	21	70
26865	26866	3x4	5,3	10,0	12,5	285	28	75
26867	26868	3x6	5,6	11,0	14,0	395	36	85
26869	26870	3x10	8,9	13,5	16,5	600	50	100
26872	26851	3x16 Flex	11,0	17,0	20,0	890	66	120
26874	26852	3x25 Flex	13,5	21,0	24,5	1320	86	150
26876	26853	3x35 Flex	15,3	23,0	26,5	1650	107	160
26878	26854	3x50 Flex	17,8	26,5	31,0	2270	137	185
26880	26855	3x70 Flex	20,4	31,0	35,5	3075	168	215
26882	26856	3x95 Flex	23,1	34,5	39,5	3910	199	235
26884	26857	3x120 Flex	35,5	39,0	44,5	5005	232	265
26886	26858	3x150 Flex	39,5	44,5	50,5	6275	267	305
26888	26859	3x185 Flex	43,9	49,0	55,5	7585	300	335
26907	26989	4x1,0	3,9	8,0	10,5	175	13	65
26942	26943	4x1,5	4,3	8,5	11,0	200	16	65
26944	26945	4x2,5	4,8	9,5	12,5	260	21	75
26946	26947	4x4	5,5	11,0	13,5	340	28	80
26948	26949	4x6	8,5	12,5	15,5	505	36	95
26950	26951	4x10	10,0	15,0	18,5	755	50	110
26952	26953	4x16 Flex	12,3	18,5	22,0	1045	66	135
26954	26955	4x25 Flex	15,0	23,5	27,0	1525	86	165
26956	26957	4x35 Flex	17,0	25,5	29,5	1960	107	175
26958	26959	4x50 Flex	19,8	29,5	34,5	2695	137	205
26960	26961	4x70 Flex	22,8	34,5	39,5	3655	168	235
26962	26963	4x95 Flex	35,5	38,5	44,0	4795	199	265
26964	26965	4x120 Flex	39,5	43,5	49,5	6000	232	295
26966	26967	4x150 Flex	44,1	49,5	56,0	7480	267	335

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKSM-EMC 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Diameter of screen mm	Nominal outer diameter mm	Approx-imate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
26908	26990	5x1,0	4,3	8,5	11,0	200	10	65
27488	27838	5x1,5	5,2	9,5	12,0	245	13	75
27489	27839	5x2,5	5,3	10,5	13,5	305	17	80
27490	27940	5x4	8,5	12,5	15,5	435	23	90
27491	27941	5x6	9,4	14,0	17,0	600	30	100
27492	27942	5x10	11,0	16,5	20,0	910	42	120
27493	27943	5x16 Flex	13,5	20,5	24,0	1260	55	145
27494	27944	5x25 Flex	16,6	26	30,0	1860	71	180
26909	26991	7x1,0	4,7	9,5	12,5	245	9	75
26910	26992	10x1,0	8,5	12,5	15,5	360	8	95
26911	26993	12x1,0	8,6	13,0	16,0	385	8	95
26912	26994	14x1,0	9,1	13,5	16,5	420	7	100
26913	26995	16x1,0	9,7	14,5	17,5	460	7	105
26914	26996	19x1,0	10,2	15,0	18,5	520	7	110
26915	26997	24x1,0	12,2	18,0	21,5	700	6	130
26916	26998	27x1,0	12,5	18,5	22,0	745	6	130
26917	26999	37x1,0	14,0	20,5	24,5	935	5	145
27495	27840	7x1,5	5,3	10,0	13,0	290	12	80
27497	27842	10x1,5	9,2	13,5	16,5	425	11	100
27499	27844	12x1,5	9,6	14,0	17,0	465	10	100
27501	27846	14x1,5	10,2	15,0	18,0	520	10	110
27503	27848	16x1,5	10,8	15,5	19,0	575	9	115
27505	27850	19x1,5	11,5	16,5	20,0	645	9	120
27507	27852	24x1,5	13,5	19,5	23,0	855	8	140
27509	27854	27x1,5	13,9	20,0	24,0	930	8	145
27511	27856	37x1,5	15,7	22,5	26,5	1175	7	160
27496	27841	7x2,5	5,9	11,5	14,5	370	16	85
27498	27843	10x2,5	10,5	15,5	18,5	550	14	110
27500	27845	12x2,5	10,9	16,0	19,0	615	13	115
27502	27847	14x2,5	11,5	17,0	20,0	690	12	120
27504	27849	16x2,5	12,2	18,0	21,5	785	12	130
27506	27851	19x2,5	12,9	19,0	22,5	910	11	135
27508	27853	24x2,5	15,4	22,5	26,0	1145	10	155
27510	27855	27x2,5	15,8	23,0	27,0	1250	10	160
27512	27857	37x2,5	17,8	25,5	30,0	1610	9	180

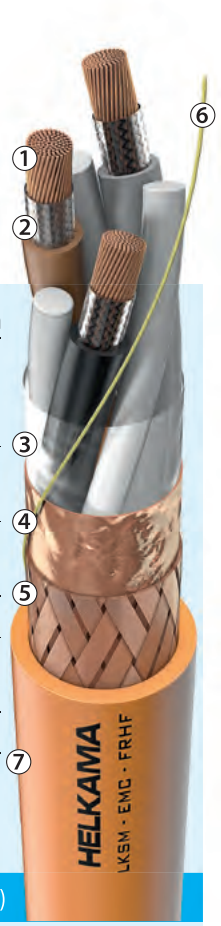
Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Mein Schiff 5
Faszination
Lebenslust
Mein Schiff
Sonnenschein
MEYER TURKU

LKSM-EMC-FRHF

Fire-resistant armoured power and control cable with improved EMC screening 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm^2 - stranded copper conductor 16–300mm^2 - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5
2. Insulation	- Mica tape - XLPE plastic	 IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Screen	- copper tape, coverage 100%	
5. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
6. Rip cord	- rip cord for conductors from 16mm^2	
7. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● **Flame-retardant** ● **Fire-resistant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended. Design to meet requirements for improved **EMC** screening properties.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 and IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Transfer impedance	**IEC 61196-1** (typical value 26dB over 1mΩ/m at 100MHz [20mΩ/m])

Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKSM-EMC-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Diameter of screen mm	Nominal outer diameter mm	Approx-imate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
–	–	1x1,0	3,0	4,5	6,5	90	18	40
–	–	1x1,5	3,0	4,5	7,0	100	23	40
–	–	1x2,5	3,1	5,0	7,5	110	30	45
–	–	1x4	3,1	5,5	8,0	130	40	45
–	–	1x6	3,1	6,0	8,5	155	52	50
–	–	1x10	3,5	7,0	10,0	215	72	60
–	–	1x16 Flex	4,1	8,5	11,0	285	94	65
–	–	1x25 Flex	4,8	10,5	13,0	410	123	80
–	–	1x35 Flex	5,5	11,5	14,0	515	153	85
–	–	1x50 Flex	8,6	13,5	17,0	705	196	100
–	–	1x70 Flex	10,0	15,5	18,5	935	240	110
–	–	1x95 Flex	11,5	18,0	21,5	1190	284	130
–	–	1x120 Flex	12,3	20,0	23,5	1465	331	140
–	–	1x150 Flex	14,7	22,5	26,5	1800	381	160
–	–	1x185 Flex	15,2	25,5	29,0	2165	429	175
–	–	1x240 Flex	16,9	28,5	32,5	2790	507	195
–	–	1x300 Flex	18,6	31,0	35,5	3420	582	210
–	–	2x1,0	3,7	7,5	10,0	140	15	60
27872	–	2x1,5	4,1	8,0	10,5	160	20	65
27873	–	2x2,5	4,5	9,0	11,5	190	26	70
27874	–	2x4	5,1	10,0	13,0	245	34	75
27875	–	2x6	5,6	11,0	14,0	365	44	85
27876	–	2x10	8,9	13,5	16,5	540	61	100
27877	–	2x16 Flex	11,4	15,5	19,0	730	80	115
27878	–	2x25 Flex	12,6	19,5	23,5	1070	105	140
27879	–	2x35 Flex	14,8	22,0	25,5	1350	130	155
27880	–	2x50 Flex	16,6	26,0	30,0	1815	167	180
27881	–	2x70 Flex	19,0	30,0	34,5	2420	204	205
–	–	2x95 Flex	21,5	35,0	39,5	3150	241	240
–	–	3x1,0	4,0	8,0	10,5	170	13	65
27882	28444	3x1,5	4,3	8,5	11,0	190	16	65
27883	28445	3x2,5	4,8	9,5	12,5	240	21	75
27884	28446	3x4	5,5	10,5	13,5	305	28	80
27885	28447	3x6	11,3	12,5	15,5	485	36	90
27886	28448	3x10	9,6	14,5	17,5	630	50	105
27887	28449	3x16 Flex	11,5	17,5	20,5	890	66	125
27888	28450	3x25 Flex	14,7	21,5	25,5	1315	86	155
27889	28451	3x35 Flex	15,8	24,0	28,0	1675	107	170
27890	28452	3x50 Flex	18,5	28,5	33,0	2280	137	200
27891	28453	3x70 Flex	22,2	32,5	37,5	3055	168	225
27892	28454	3x95 Flex	32,5	38,5	43,5	4055	199	260
27893	28455	3x120 Flex	36,1	42,5	48,0	4980	232	290
27894	28456	3x150 Flex	40,2	48,0	54,0	6200	267	325
–	–	4x1,0	4,4	9,0	11,5	195	13	70
27897	28459	4x1,5	4,8	9,5	12,5	230	16	75
27898	28460	4x2,5	5,4	10,5	13,5	280	21	80
27899	28461	4x4	11,3	12,0	15,0	420	28	90
27900	28462	4x6	9,2	13,5	16,5	540	36	100
27905	28463	4x10	10,7	16,0	19,5	760	50	115
27906	28464	4x16 Flex	12,8	19,0	23,0	1095	66	135
27907	28465	4x25 Flex	15,6	24,0	28,0	1595	86	165
27908	28466	4x35 Flex	18,3	26,5	31,0	2090	107	185
27909	28467	4x50 Flex	20,4	32,0	36,5	2825	137	220
27910	28468	4x70 Flex	23,3	36,5	41,5	3840	168	250
27912	28469	4x95 Flex	36,1	43,0	48,5	5055	199	290
27913	28470	4x120 Flex	40,2	47,5	53,5	6285	232	320
–	–	4x150 Flex	44,8	53,5	60,5	7820	267	360

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKSM-EMC-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Diameter of screen mm	Nominal outer diameter mm	Approx-imate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
–	–	5x1,0	4,9	9,5	12,5	235	10	75
27914	28471	5x1,5	5,3	10,5	13,0	270	13	80
27915	28472	5x2,5	6,0	11,5	14,5	335	17	85
27916	28473	5x4	11,3	13,5	16,5	490	23	100
27917	28474	5x6	11,4	15,0	18,0	660	30	110
27918	28475	5x10	11,9	18,0	21,5	940	42	130
27919	28476	5x16 Flex	14,1	21,0	25,0	1325	55	150
27920	28477	5x25 Flex	17,2	26,5	30,5	1940	71	185
–	–	7x1,0	5,4	10,5	13,5	270	9	80
–	–	10x1,0	9,6	14,0	17,0	400	8	105
–	–	12x1,0	10,0	14,5	18,0	445	8	105
–	–	14x1,0	10,5	15,5	18,5	495	7	110
–	–	16x1,0	11,1	16,5	19,5	540	7	115
–	–	19x1,0	11,8	17,0	20,5	630	7	125
–	–	24x1,0	13,9	20,5	24,0	815	6	145
–	–	27x1,0	14,4	21,0	24,5	870	6	150
–	–	30x1,0	14,9	21,5	25,5	935	6	155
–	–	37x1,0	16,2	23,5	27,5	1090	5	165
27921	28478	7x1,5	5,9	11,5	14,5	315	12	85
27923	28480	10x1,5	10,5	15,0	18,5	475	11	110
27925	28482	12x1,5	10,9	15,5	19,0	525	10	115
27927	28484	14x1,5	11,5	16,5	20,0	585	10	120
27929	28486	16x1,5	12,2	17,5	21,0	665	9	125
27931	28488	19x1,5	12,9	18,5	22,0	780	9	135
27933	28490	24x1,5	15,3	22,0	26,0	975	8	155
27935	28492	27x1,5	15,8	22,5	26,5	1055	8	160
–	–	30x1,5	16,4	23,5	27,5	1135	7	165
27937	28494	37x1,5	17,8	25,5	30,0	1345	7	180
27922	28479	7x2,5	9,9	13,0	16,0	445	16	95
27924	28481	10x2,5	11,7	17,0	20,0	605	14	120
27926	28483	12x2,5	12,1	17,5	21,0	700	13	125
27928	28485	14x2,5	12,8	18,5	22,0	780	12	135
27930	28487	16x2,5	13,6	19,5	23,5	860	12	140
27932	28489	19x2,5	14,4	21,0	24,5	1020	11	150
27934	28491	24x2,5	17,2	24,5	28,5	1280	10	170
27936	28493	27x2,5	17,6	25,5	29,5	1410	10	180
–	–	30x2,5	18,3	26,5	30,5	1525	10	185
27938	28495	37x2,5	20,0	28,5	33,0	1790	9	200

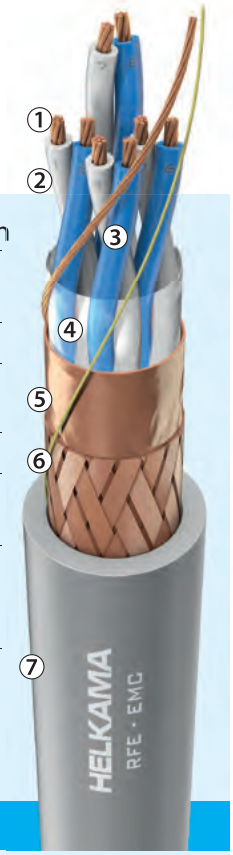
Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

MEYER TURKU

RFE-EMC

Armoured pair instrumentation and communication cable with improved collective EMC screening 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Bedding	- filler tape	
5. Screen	- drain wire copper (in all sizes) - copper tape 100%	
6. Armour	- copper wire braid, coverage >94% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
7. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended. Design to meet requirements for improved **EMC** screening properties.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable
	IEC 60332-3-22 -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Transfer impedance	**IEC 61196-1** (typical value 26dB over 1mΩ/m at 100MHz [20mΩ/m])

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	50	60	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

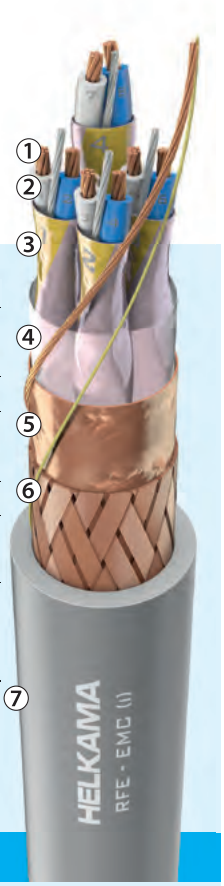
RFE-EMC 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
21968	1x2x0,5	8,5	95	50
21969	1x3x0,5	8,5	130	50
21970	2x2x0,5 Quad	9,0	140	55
21971	2x2x0,5	10,5	140	65
21972	3x2x0,5	11,0	155	65
21973	4x2x0,5	12,0	195	75
21974	7x2x0,5	14,0	250	85
21975	8x2x0,5	15,0	280	90
21976	10x2x0,5	16,0	325	95
21977	12x2x0,5	16,5	360	100
21978	14x2x0,5	18,0	405	105
21979	16x2x0,5	18,5	440	110
21980	19x2x0,5	20,0	495	120
21981	24x2x0,5	22,0	595	130
21982	27x2x0,5	23,5	670	140
21983	30x2x0,5	24,0	725	145
21984	32x2x0,5	25,0	755	150
21985	37x2x0,5	26,5	840	160
21987	1x2x0,75	9,0	110	55
21988	1x3x0,75	9,5	150	55
21989	2x2x0,75 Quad	10,0	160	60
21990	2x2x0,75	12,5	185	75
21991	3x2x0,75	13,0	210	75
21992	4x2x0,75	14,0	240	85
21993	7x2x0,75	16,0	330	95
21994	8x2x0,75	17,0	365	100
21995	10x2x0,75	19,0	435	115
21996	12x2x0,75	19,5	480	120
21997	14x2x0,75	21,0	545	125
21998	16x2x0,75	22,0	595	130
21999	19x2x0,75	23,5	675	140
22000	24x2x0,75	26,5	840	160
22001	27x2x0,75	27,5	915	165
22002	30x2x0,75	29,0	990	175
22003	32x2x0,75	29,5	1055	180
22004	37x2x0,75	31,5	1175	190
22375	1x2x1,5	11,0	160	65
22376	1x3x1,5	11,5	195	70
22377	2x2x1,5 Quad	12,5	240	75
22378	2x2x1,5	15,5	270	90
22379	3x2x1,5	16,5	325	100
22380	4x2x1,5	17,5	385	105
22381	7x2x1,5	21,0	560	125
22382	8x2x1,5	22,0	630	135
22383	10x2x1,5	25,5	775	150
22384	12x2x1,5	26,5	875	160
22385	14x2x1,5	28,5	995	170
22386	16x2x1,5	30,0	1100	180
22387	19x2x1,5	32,0	1275	195
22388	24x2x1,5	36,0	1565	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-EMC(i)

Armoured and individually screened pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Screen	- drain wire copper (in all sizes) - copper tape 100%	
6. Armour	- copper wire braid, coverage >94% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
7. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended. Design to meet requirements for improved **EMC** screening properties.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable
	IEC 60332-3-22 -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Transfer impedance	**IEC 61196-1** (typical value 26dB over 1mΩ/m at 100MHz [20mΩ/m])

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	70	90	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

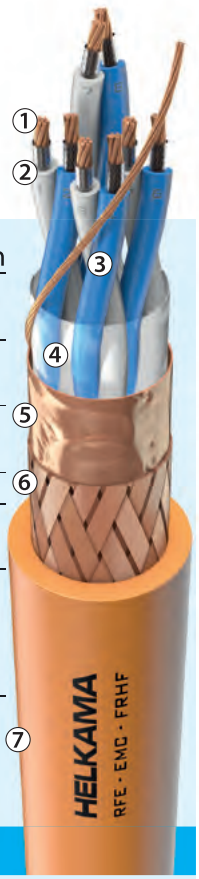
RFE-EMC(i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
21949	1x2x0,5	8,5	105	50
21950	1x3x0,5	8,5	120	50
21951	2x2x0,5 Quad	9,0	140	55
21952	2x2x0,5	11,0	170	65
21953	3x2x0,5	11,5	200	70
21954	4x2x0,5	12,5	235	75
21955	7x2x0,5	14,5	330	85
21956	8x2x0,5	15,0	360	90
21957	10x2x0,5	17,0	465	100
21958	12x2x0,5	17,5	520	105
21959	14x2x0,5	19,0	590	115
21960	16x2x0,5	19,5	650	120
21961	19x2x0,5	21,0	735	125
21962	24x2x0,5	23,5	910	140
21963	27x2x0,5	24,5	1000	145
21964	30x2x0,5	25,5	1085	150
21965	32x2x0,5	26,0	1140	155
21966	37x2x0,5	27,5	1290	165
21911	1x2x0,75	9,0	120	55
21912	1x3x0,75	9,5	140	55
21913	2x2x0,75 Quad	10,0	150	60
21914	2x2x0,75	12,5	195	75
21915	3x2x0,75	13,0	235	80
21916	4x2x0,75	14,0	270	85
21917	7x2x0,75	17,0	410	100
21918	8x2x0,75	17,5	450	105
21919	10x2x0,75	20,0	540	120
21920	12x2x0,75	20,5	600	125
21921	14x2x0,75	22,0	690	135
21922	16x2x0,75	23,0	755	140
21923	19x2x0,75	25,0	870	150
21924	24x2x0,75	27,5	1045	165
21925	27x2x0,75	28,5	1145	170
21926	30x2x0,75	30,5	1270	180
21927	32x2x0,75	31,0	1330	185
21928	37x2x0,75	33,0	1490	195
21930	1x2x1,5	11,5	180	70
21931	1x3x1,5	12,0	205	70
21932	2x2x1,5 Quad	12,5	240	75
21933	2x2x1,5	16,0	295	95
21934	3x2x1,5	17,0	390	100
21935	4x2x1,5	18,5	465	110
21936	7x2x1,5	21,5	670	130
21937	8x2x1,5	23,0	760	140
21938	10x2x1,5	25,5	910	155
21939	12x2x1,5	27,5	1040	165
21940	14x2x1,5	29,0	1185	175
21941	16x2x1,5	31,0	1310	185
21942	19x2x1,5	33,5	1530	200
21943	24x2x1,5	37,0	1875	220

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-EMC-FRHF

Fire-resistant armoured pair instrumentation and communication cable with improved collective EMC screening 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	 IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Bedding	- filler tape	
5. Screen	- drain wire copper (in all sizes) - copper tape 100%	
6. Armour	- the armour serves as a collective screen - drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request	 IEC 60092-350
7. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended. Design to meet requirements for improved **EMC** screening properties.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable
	IEC 60332-3-22 -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	45	55	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating: Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

RFE-EMC-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
22915	1x2x0,75	11,0	145	65
22917	2x2x0,75 Quad	12,5	195	75
22918	2x2x0,75	15,0	240	90
22919	3x2x0,75	15,5	270	90
22920	4x2x0,75	16,5	310	100
22921	7x2x0,75	19,5	460	115
22922	8x2x0,75	20,5	510	125
22923	10x2x0,75	23,0	615	140
22924	12x2x0,75	24,0	675	145
22925	14x2x0,75	25,0	745	150
22926	16x2x0,75	25,5	820	155
22927	19x2x0,75	27,5	920	165
22928	24x2x0,75	31,0	1130	185
22929	27x2x0,75	32,5	1230	195
22930	30x2x0,75	34,0	1345	205
22931	32x2x0,75	35,0	1410	210
22934	1x2x1,5	13,0	210	80
22936	2x2x1,5 Quad	14,0	275	85
22937	2x2x1,5	18,0	400	110
22938	3x2x1,5	19,0	450	115
22939	4x2x1,5	20,5	500	125
22940	7x2x1,5	24,0	730	145
22941	8x2x1,5	25,5	800	150
22942	10x2x1,5	28,0	965	170
22943	12x2x1,5	29,0	1080	175
22944	14x2x1,5	31,0	1210	185
22945	16x2x1,5	33,0	1370	200
22946	19x2x1,5	35,5	1560	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-EMC-FRHF(i)

Armoured and individually screened instrumentation and communication cable with improved EMC screening 250V

DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Screen	- drain wire copper (in all sizes) - copper tape 100%	
6. Armour	- drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request	IEC 60092-350
7. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended. Design to meet requirements for improved **EMC** screening properties.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable
	IEC 60332-3-22 -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	75	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

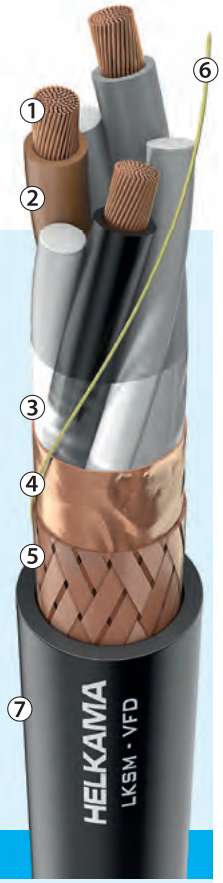
RFE-EMC-FRHF(i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
22858	1x2x0,75	10,5	145	65
22860	2x2x0,75 Quad	12,5	200	75
22861	2x2x0,75	15,5	250	90
22862	3x2x0,75	16,0	295	95
22863	4x2x0,75	18,0	385	105
22864	7x2x0,75	21,0	540	125
22865	8x2x0,75	22,0	590	135
22866	10x2x0,75	25,5	730	150
22867	12x2x0,75	26,5	825	160
22868	14x2x0,75	28,5	920	170
22869	16x2x0,75	30,0	1030	180
22870	19x2x0,75	32,0	1170	195
22871	24x2x0,75	36,0	1445	215
22877	1x2x1,5	12,0	190	70
22879	2x2x1,5 Quad	13,5	260	80
22880	2x2x1,5	17,5	385	105
22881	3x2x1,5	18,0	425	110
22882	4x2x1,5	20,0	515	120
22883	7x2x1,5	23,5	755	140
22884	8x2x1,5	25,5	850	150
22885	10x2x1,5	28,5	1030	170
22886	12x2x1,5	30,5	1190	180
22887	14x2x1,5	32,0	1340	195
22888	16x2x1,5	34,0	1500	205
22889	19x2x1,5	36,5	1715	220

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-VFD

Armoured power and control cable with improved EMC screening 1,8/3kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 5
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Screen	- copper tape, coverage 100%	
5. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
6. Rip cord	- rip cord for conductors from 16mm²	
7. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour black, other colours on request	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. Design to meet requirements for **V**ariable **F**requency **D**rivers (VFD). Suitable for voltage peaks up to 3kV.

Main characteristics

Rated voltage	**1,8/3kV (3,6kV)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Transfer impedance	**IEC 61196-1** (typical value 26dB over 1mΩ/m at 100MHz [20mΩ/m])
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

For details see general information section

LKSM-VFD 1,8/3kV Part number	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm	Note
26918	1x10	4,7	12,5	280	71	75	x
26920	1x16	5,6	14,5	355	94	85	x
26922	1x25	8,5	16,0	495	123	95	x
26924	1x35	9,4	17,0	620	153	100	x
26926	1x50	10,4	18,5	780	196	110	x
26928	1x70	11,4	20,5	985	240	120	x
26930	1x95	12,6	22,5	1245	284	135	x
26932	1x120	13,7	24,0	1505	331	145	x
26934	1x150	14,8	26,0	1790	381	155	x
26936	1x185	15,8	27,5	2110	429	165	x
26938	1x240	17,7	31,0	2730	507	185	x
26940	1x300	19,0	33,5	3310	582	200	x
26892	3x10	13,2	23,5	1030	50	140	1)
26871	3x16	16,6	27,0	1325	66	160	1)
26873	3x25	17,0	30,0	1735	86	180	1)
26875	3x35	18,8	32,0	2155	107	190	1)
26877	3x50	29,1	36,5	2880	137	220	1)
26879	3x70	35,3	40,0	3760	168	240	1)
26881	3x95	35,7	44,0	4630	199	265	x
26883	3x120	38,8	48,0	5615	232	285	x
26885	3x150	42,2	53,0	6920	267	315	x
26887	3x185	45,7	56,0	8110	300	335	x
26889	3x240	50,5	62,0	10425	355	375	x
26893	3x95+3x16	35,7	44,0	4495	199	265	2)
26895	3x120+3x25	38,8	48,0	5580	232	285	2)
26897	3x150+3x25	42,2	53,0	6635	267	315	2)

NOTE!

PE-rules PE rules, for cables over 16mm² the PE-conductor have to be half of main conductor and min.16mm².
This according to IEC 60092-352, Electrical installations in ships –Choice and installation of electrical cables)

x = Protective earth (PE) rules are NOT fulfilled.

1) = Single Armour can be used as Protective Earth. PE-rules are fulfilled.

2) = Three additional protective earth (PE) conductors. Protective earth (PE) rules are fulfilled.

3) = Double Armour can be used as Protective Earth. PE-rules are fulfilled.

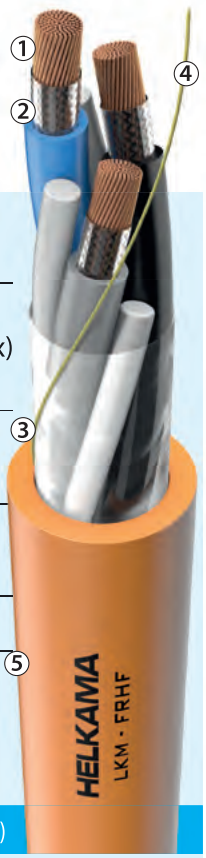
Information given are indicative and don't involve any warranty on results.
We keep the right to change this datasheet.

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKM-FRHF

Fire-resistant unarmoured power and control cable 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- Mica tape - XLPE plastic	 IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Rip cord	- rip cord for conductors from 16mm²	
5. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
28275	–	1x1,0	5,5	40	18	30
28100	–	1x1,5	5,5	45	23	35
28102	–	1x2,5	6,0	60	30	35
28104	–	1x4	6,5	80	40	40
28106	–	1x6	7,5	105	52	45
28108	–	1x10	8,5	150	72	50
29326	–	1x16 Flex	9,5	200	94	40
29327	–	1x25 Flex	11,5	305	123	50
29328	–	1x35 Flex	12,5	400	153	55
29329	–	1x50 Flex	14,5	555	196	60
29330	–	1x70 Flex	16,5	765	240	70
29331	–	1x95 Flex	18,5	985	284	75
29332	–	1x120 Flex	20,5	1235	331	85
29333	–	1x150 Flex	23,5	1555	381	95
29334	–	1x185 Flex	25,5	1880	429	155
29335	–	1x240 Flex	28,5	2495	507	175
29336	–	1x300 Flex	32,0	3075	582	195
28276	–	2x1,0	8,5	75	15	50
28132	–	2x1,5	9,0	90	20	55
28134	–	2x2,5	10,5	125	26	60
28136	–	2x4	11,5	170	34	70
28138	–	2x6	12,5	260	44	75
28140	–	2x10	15,0	385	61	90
29343	–	2x16 Flex	17,5	545	80	70
29344	–	2x25 Flex	21,5	825	105	90
29345	–	2x35 Flex	23,5	1090	130	95
29346	–	2x50 Flex	27,5	1495	167	165
29347	–	2x70 Flex	31,5	2050	204	190
29348	–	2x95 Flex	35,5	2705	241	215
28278	28279	3x1,0	8,5	90	13	50
28162	28163	3x1,5	9,5	115	16	60
28164	28165	3x2,5	11,0	160	21	65
28166	28167	3x4	12,0	220	28	75
28168	28169	3x6	13,5	330	36	80
28170	28171	3x10	16,0	490	50	95
29366	29367	3x16 Flex	18,5	690	66	75
29368	29369	3x25 Flex	23,0	1060	86	95
29370	29371	3x35 Flex	25,0	1380	107	155
29372	29373	3x50 Flex	29,5	1930	137	180
29374	29375	3x70 Flex	34,0	2695	168	205
29376	29377	3x95 Flex	38,0	3475	199	230
29378	29379	3x120 Flex	42,5	4405	232	255
29380	29381	3x150 Flex	48,5	5525	267	290
29382	29383	3x185 Flex	53,5	6775	300	325
29384	29385	3x240 Flex	60,5	8935	355	365

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
28280	28281	4x1,0	9,5	115	13	55
28182	28183	4x1,5	11,0	150	16	65
28184	28185	4x2,5	12,0	200	21	70
28186	28187	4x4	13,5	280	28	80
28188	28189	4x6	15,0	410	36	90
28190	28191	4x10	17,5	620	50	105
29400	29401	4x16 Flex	20,5	870	66	85
29402	29403	4x25 Flex	25,5	1345	86	155
29404	29405	4x35 Flex	28,0	1770	107	170
29406	29407	4x50 Flex	33,0	2485	137	200
29408	29409	4x70 Flex	38,0	3425	168	230
29410	29411	4x95 Flex	42,5	4455	199	255
28282	28283	5x1,0	11,0	150	10	65
28212	28213	5x1,5	12,0	190	13	70
28214	28215	5x2,5	13,0	250	17	80
28501	28502	5x4	15,0	350	23	90
28503	28504	5x6	16,5	520	30	100
28505	28506	5x10	19,5	765	42	115
29434	29435	5x16 Flex	22,5	1065	55	95
29436	29437	5x25 Flex	28,5	1670	71	175
29438	29439	5x35 Flex	31,0	2210	89	185
29440	29441	5x50 Flex	36,5	3080	114	220
29442	29443	5x70 Flex	42,5	4305	139	255
28284	28285	7x1,0	11,5	180	9	70
28286	28287	10x1,0	15,0	265	8	90
28288	28289	12x1,0	15,5	290	8	90
28290	28291	14x1,0	16,0	330	7	95
28292	28293	16x1,0	17,0	380	7	105
28294	28295	19x1,0	18,0	430	7	110
28296	28297	24x1,0	21,5	545	6	130
28298	28299	27x1,0	22,0	600	6	130
28300	28301	37x1,0	24,5	800	5	150
28216	28217	7x1,5	13,0	230	12	75
28240	28241	10x1,5	16,5	330	11	100
28220	28221	12x1,5	17,5	380	10	105
28244	28245	14x1,5	18,0	430	10	110
28248	28249	16x1,5	19,0	485	9	115
28224	28225	19x1,5	20,5	565	9	120
28228	28229	24x1,5	24,0	725	8	145
28232	28233	27x1,5	24,5	795	8	150
28234	28235	37x1,5	28,0	1050	7	165

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
28218	28219	7x2,5	14,5	315	16	85
28242	28243	10x2,5	18,5	450	14	110
28222	28223	12x2,5	19,0	515	13	115
28246	28247	14x2,5	20,5	595	13	120
28250	28251	16x2,5	21,5	670	12	130
28226	28227	19x2,5	22,5	770	11	135
28230	28231	24x2,5	27,0	1000	10	160
28236	28237	27x2,5	27,5	1100	10	165
28238	28239	37x2,5	31,0	1460	9	185

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

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LKMM-FRHF

Fire-resistant unarmoured power cable with extruded filler 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- Mica tape - XLPE plastic	 IEC 60092-360
3. Bedding	- extruded filler	
4. Rip cord	- rip cord for conductors from 16mm²	
5. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKMM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
29532	–	2x1,5	12 ,0	165	20	70
29533	–	2x2,5	13,0	195	26	75
29534	–	2x4	13,5	250	34	85
29535	–	2x6	15,5	315	44	90
29536	–	2x10	17,0	440	61	105
29537	–	2x16 Flex	20,0	570	80	120
29538	–	2x25 Flex	24,5	840	105	145
29539	–	2x35 Flex	26,0	1145	130	160
29540	–	2x50 Flex	30,5	1555	167	185
29541	–	2x70 Flex	35,5	2095	204	210
29550	29551	3x1,5	12,0	190	16	75
29552	29553	3x2,5	13,0	240	21	80
29554	29555	3x4	15,0	305	28	90
29556	29557	3x6	15,5	395	36	95
29558	29559	3x10	18,0	560	50	110
29560	29561	3x16 Flex	20,5	735	66	125
29562	29563	3x25 Flex	26,0	1095	86	155
29564	29565	3x35 Flex	28,5	1475	107	170
29566	29567	3x50 Flex	32,5	2015	137	195
29568	29569	3x70 Flex	38,5	2805	168	230
29570	29571	3x95 Flex	43,5	3630	199	265
29572	29573	3x120 Flex	48,0	4535	232	290
29574	29575	3x150 Flex	54,5	5720	267	330
29576	29577	3x185 Flex	61,0	7010	300	370
29578	29579	3x240 Flex	70,0	9220	355	420
29584	29585	4x1,5	13,0	230	16	80
29586	29587	4x2,5	14,0	285	21	85
29588	29589	4x4	15,5	370	28	95
29590	29591	4x6	17,0	490	36	105
29592	29593	4x10	20,5	700	50	120
29594	29595	4x16 Flex	23,5	940	66	140
29596	29597	4x25 Flex	28,5	1380	86	170
29598	29599	4x35 Flex	30,5	1860	107	185
29600	29601	4x50 Flex	37,0	2580	137	220
29602	29603	4x70 Flex	42,5	3545	168	250
29618	29619	5x1,5	14,0	270	13	85
29620	29621	5x2,5	16,0	335	17	95
29622	29623	5x4	17,5	450	23	105
29624	29625	5x6	18,5	585	30	115
29626	29627	5x10	21,5	850	42	130
29628	29629	5x16 Flex	25,5	1145	55	150
29630	29631	5x25 Flex	30,5	1710	71	185

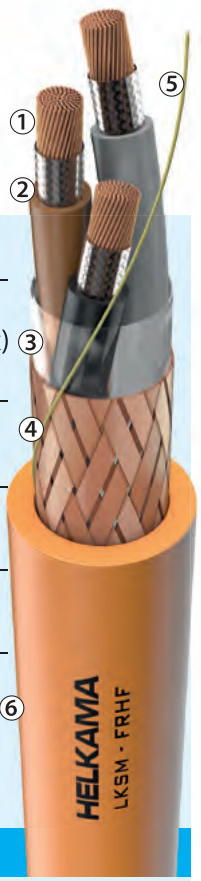
Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-FRHF

Fire-resistant armoured power and control cable 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- Mica tape - XLPE plastic	 EC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKSM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
28541	–	1x1,0	3,0	6,5	75	18	40
28568	–	1x1,5	3,0	6,5	80	23	40
28570	–	1x2,5	3,1	7,0	95	30	45
28572	–	1x4	3,1	7,5	115	40	45
28574	–	1x6	3,1	8,5	140	52	50
28576	–	1x10	3,5	9,5	200	72	60
29060	27058	1x16 Flex	4,1	11,0	255	94	65
29061	27060	1x25 Flex	5,2	13,5	380	123	85
29062	27062	1x35 Flex	5,5	14,5	475	153	90
29063	27064	1x50 Flex	8,7	16,5	660	196	100
29064	27066	1x70 Flex	11,4	19,0	905	240	115
29065	27068	1x95 Flex	11,5	20,5	1125	284	125
29066	27070	1x120 Flex	12,3	22,5	1395	331	140
29067	27072	1x150 Flex	14,7	25,5	1735	381	155
29068	27074	1x185 Flex	15,2	27,5	2065	429	170
29069	27076	1x240 Flex	18,2	30,5	2710	507	185
29070	27078	1x300 Flex	18,7	34,0	3315	582	210
28542	–	2x1,0	3,5	9,5	120	15	60
28602	–	2x1,5	3,8	10,5	140	20	65
28604	–	2x2,5	4,3	11,5	170	26	70
28606	–	2x4	4,9	12,5	225	34	75
28608	–	2x6	5,4	14,0	345	44	85
28610	–	2x10	8,7	16,5	510	61	100
29071	–	2x16 Flex	10,0	19,0	665	80	115
29072	–	2x25 Flex	14,5	23,5	1030	105	145
29073	–	2x35 Flex	14,7	25,5	1290	130	155
29074	–	2x50 Flex	18,1	29,5	1735	167	180
29075	–	2x70 Flex	18,7	33,5	2320	204	205
29076	–	2x95 Flex	22,2	37,0	2985	241	225
28543	28544	3x1,0	4,1	10,0	145	13	60
28622	28623	3x1,5	4,1	11,0	170	16	65
28624	28625	3x2,5	4,6	12,0	210	21	70
28626	28627	3x4	5,2	13,5	280	28	80
28628	28629	3x6	5,8	14,5	400	36	90
28630	28631	3x10	9,3	17,5	605	50	105
29082	29083	3x16 Flex	10,7	20,0	815	66	120
29084	29085	3x25 Flex	14,6	25,0	1255	86	155
29086	29087	3x35 Flex	15,0	27,0	1575	107	165
29088	29089	3x50 Flex	17,5	31,5	2175	137	190
29090	29091	3x70 Flex	22,0	36,0	2970	168	220
29092	29093	3x95 Flex	22,8	40,0	3770	199	240
29094	29095	3x120 Flex	37,8	45,0	4860	232	270
29096	29097	3x150 Flex	39,3	51,0	6030	267	310
29098	29099	3x185 Flex	47,9	56,0	7370	300	340
29100	29101	3x240 Flex	50,7	63,0	9575	355	380
28545	28546	4x1,0	4,1	11,0	170	13	65
28642	28643	4x1,5	4,5	12,0	200	16	70
28644	28645	4x2,5	5,0	13,5	260	21	80
28646	28647	4x4	5,8	14,5	345	28	85
28648	28649	4x6	8,8	16,5	515	36	100
28650	28651	4x10	10,3	19,0	735	50	115

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKSM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
29104	29105	4x16 Flex	11,9	22,5	1005	66	135
29106	29107	4x25 Flex	14,8	27,5	1495	86	170
29108	29109	4x35 Flex	16,7	30,0	1935	107	180
29110	29111	4x50 Flex	19,5	35,0	2665	137	210
29112	29113	4x70 Flex	22,6	40,0	3615	168	240
29114	29115	4x95 Flex	35,0	45,0	4755	199	270
29116	29117	4x120 Flex	39,3	49,5	5930	232	300
29118	29119	4x150 Flex	48,2	56,5	7470	267	340
28547	28548	5x1,0	4,5	12,0	200	10	70
28662	28663	5x1,5	5,0	13,0	245	13	80
28664	28665	5x2,5	5,6	14,5	310	17	85
28705	28706	5x4	8,6	16,5	450	23	100
28707	28708	5x6	9,7	18,0	610	30	105
28709	28710	5x10	11,5	21,0	890	42	125
29126	29127	5x16 Flex	13,2	24,5	1205	55	150
29128	29129	5x25 Flex	18,1	30,5	1845	71	185
29130	29131	5x35 Flex	18,6	33,0	2395	89	200
29132	29133	5x50 Flex	22,4	38,5	3275	114	230
28549	28550	7x1,0	4,9	13,0	240	9	80
28551	28552	10x1,0	8,7	16,5	355	8	100
28553	28554	12x1,0	9,0	17,0	390	8	100
28555	28556	14x1,0	11,4	17,5	450	7	105
28557	28558	16x1,0	11,4	18,5	505	7	110
28559	28560	19x1,0	11,4	19,5	555	7	120
28561	28562	24x1,0	12,5	23,0	695	6	140
28563	28564	27x1,0	12,8	23,5	750	6	140
28565	28566	37x1,0	14,4	26,0	960	5	155
28666	28667	7x1,5	5,4	14,0	295	12	85
28723	28724	10x1,5	9,6	18,0	430	11	110
28670	28671	12x1,5	9,9	19,0	490	10	115
28727	28728	14x1,5	11,4	19,5	555	10	120
28731	28732	16x1,5	11,5	20,5	615	9	125
28674	28675	19x1,5	11,7	21,5	680	9	130
28678	28679	24x1,5	13,9	25,5	875	8	155
28682	28683	27x1,5	14,1	26,0	950	8	155
28684	28685	37x1,5	16,0	29,5	1225	7	175
28668	28669	7x2,5	8,5	16,0	410	16	95
28725	28726	10x2,5	11,5	20,0	570	14	120
28672	28673	12x2,6	11,5	20,5	640	13	125
28729	28730	14x2,5	11,8	22,0	735	13	130
28733	28734	16x2,5	12,5	23,0	825	12	140
28676	28677	19x2,5	13,2	24,5	925	11	145
28680	28681	24x2,5	15,7	28,5	1170	10	170
28686	28687	27x2,5	16,1	29,0	1275	10	175
28688	28689	37x2,5	18,1	33,0	1670	9	195

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

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LKMSM-FRHF

Fire-resistant armoured power cable with extruded filler 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5
2. Insulation	- Mica tape - XLPE plastic	 EC 60092-360
3. Bedding	- extruded filler	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid and galvanized steel wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKMSM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
29720	–	2x1,5	5,3	13,0	215	20	75
29721	–	2x2,5	5,8	13,0	255	26	80
29722	–	2x4	6,6	15,0	315	34	90
29723	–	2x6	9,8	16,5	410	44	95
29719	–	2x10	11,4	18,0	550	61	110
29720	–	2x16 Flex	13,0	20,5	690	80	125
29721	–	2x25 Flex	16,1	25,5	980	105	150
29722	–	2x35 Flex	17,2	26,5	1270	130	160
29723	–	2x50 Flex	20,0	30,5	1675	167	185
29732	29733	3x1,5	5,7	13,5	245	16	80
29734	29735	3x2,5	6,3	14,0	300	21	85
29736	29737	3x4	9,4	16,0	395	28	95
29738	29739	3x6	10,4	16,5	490	36	100
29740	29741	3x10	12,1	19,0	675	50	115
29743	29744	3x16 Flex	13,9	21,5	860	66	130
29745	29746	3x25 Flex	17,1	27,0	1240	86	160
29747	29748	3x35 Flex	18,4	29,0	1605	107	170
29749	29750	3x50 Flex	21,4	33,0	2145	137	195
29751	29752	3x70 Flex	25,2	38,5	2960	168	230
29753	29754	3x95 Flex	38,3	42,5	3820	199	255
29755	29756	3x120 Flex	42,7	46,5	4740	232	280
29757	29758	3x150 Flex	48,9	53,0	5940	267	320
29767	29768	4x1,5	6,2	14,5	290	16	85
29769	29770	4x2,5	6,7	15,0	350	21	90
29771	29772	4x4	10,3	16,5	465	28	100
29773	29774	4x6	11,4	18,0	595	36	110
29775	29776	4x10	13,3	21,5	825	50	125
29777	29778	4x16 Flex	15,3	24,0	1075	66	145
29779	29780	4x25 Flex	18,9	29,5	1540	86	175
29781	29782	4x35 Flex	20,4	31,0	2000	107	190
29783	29784	4x50 Flex	23,7	36,0	2720	137	220
29785	29786	4x70 Flex	38,4	42,0	3815	168	255
29787	29788	4x95 Flex	42,5	46,5	4845	199	280
29789	29790	4x120 Flex	47,7	52,5	6045	232	315
29801	29802	5x1,5	6,7	15,5	335	13	90
29803	29804	5x2,5	10,1	17,0	435	17	100
29805	29806	5x4	11,2	18,0	555	23	110
29807	29808	5x6	12,5	19,5	700	30	120
29809	29810	5x10	14,6	22,5	985	42	135
29811	29812	5x16 Flex	16,8	26,0	1305	55	160
29813	29814	5x25 Flex	20,9	31,5	1900	71	190

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKAM-FRHF

Fire-resistant screened power and control cable 0,6/1kV

DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Screen	- drain wire of tinned copper 1,0mm^2 (in all sizes) - aluminium polyester tape, coverage 100%	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm^2	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight cables are needed. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15°C**

For details see general information section

LKAM-FRHF 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
28741	–	2x1,5	9,5	110	20	60
28743	28744	3x1,5	10,0	135	16	60
28747	28748	4x1,5	11,0	165	16	65
28751	28752	5x1,5	12,0	200	13	70
28755	28756	7x1,5	13,5	250	12	80
28759	28760	10x1,5	17,0	350	11	100
28763	28764	12x1,5	17,5	400	10	105
28767	28768	14x1,5	18,5	450	10	110
28771	28772	16x1,5	19,5	515	9	115
28775	28776	19x1,5	20,5	580	9	125
28779	28780	24x1,5	24,5	745	8	145
28783	28784	27x1,5	25,0	815	8	150
28787	28788	37x1,5	28,0	1070	7	170
28742	–	2x2,5	10,5	140	26	65
28745	28746	3x2,5	11,0	175	21	65
28749	28750	4x2,5	12,0	215	21	75
28753	28754	5x2,5	13,5	270	17	80
28757	28758	7x2,5	14,5	335	16	90
28761	28762	10x2,5	19,0	485	14	115
28765	28766	12x2,5	19,5	555	13	115
28769	28770	14x2,5	20,5	630	13	125
28773	28774	16x2,5	21,5	705	12	130
28777	28778	19x2,5	23,0	825	11	140
28781	28782	24x2,5	27,0	1045	10	165
28785	28786	27x2,5	28,0	1145	10	165
28789	28790	37x2,5	31,5	1515	9	190

Other sizes on request.

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKM-HF

Unarmoured control and instrumentation cable 250V

DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units.If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

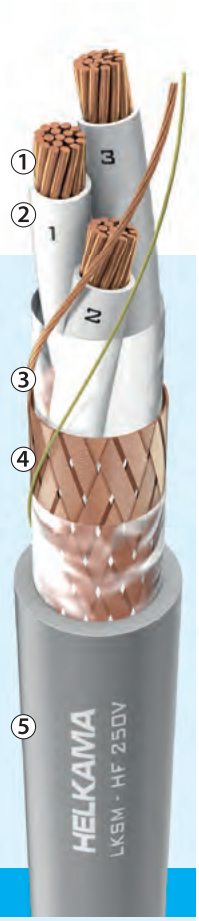
LKM-HF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
27821	2x0,5	5,5	35	8,7	25
27822	3x0,5	6,0	45	7,6	25
27823	4x0,5	6,5	55	6,9	25
27824	5x0,5	7,0	65	6,4	30
27825	7x0,5	7,5	75	5,8	30
27826	10x0,5	9,5	115	5,1	40
27827	12x0,5	10,0	125	4,8	40
27828	14x0,5	10,0	140	4,6	40
27829	16x0,5	11,0	160	4,4	45
27830	19x0,5	11,0	180	4,1	45
27831	20x0,5	12,0	190	4,1	45
27832	24x0,5	13,0	225	3,8	55
27833	27x0,5	13,5	245	3,7	55
27834	32x0,5	14,0	280	3,5	55
27835	37x0,5	15,0	315	3,3	60
26365	2x0,75	6,5	50	11,3	25
26366	3x0,75	7,0	60	9,8	25
26367	4x0,75	7,5	70	8,9	30
26368	5x0,75	8,0	85	8,3	30
26369	7x0,75	8,5	105	7,4	35
26370	10x0,75	11,0	155	6,6	45
26371	12x0,75	11,5	175	6,2	45
26372	14x0,75	12,5	200	5,9	50
26373	16x0,75	13,0	225	5,6	50
26374	19x0,75	13,5	255	5,3	55
26375	20x0,75	14,5	275	5,2	55
26376	24x0,75	16,0	320	4,9	65
26377	27x0,75	16,0	350	4,7	65
26378	32x0,75	16,5	400	4,5	65
26379	37x0,75	18,0	460	4,3	75

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-HF

Armoured control and instrumentation cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- drain wire copper (in all sizes) - copper wire braid, coverage > 90% - tinned copper wire braid on request -the armour serves as a collective screen	IEC 60092-350
5. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **- 40 °C** to **+ 80 °C** Minimum recommended installation temperature **- 15 °C**

For details see general information section

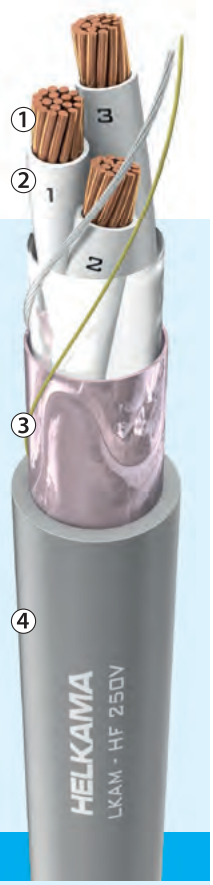
LKSM-HF 250V Part number	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
27779	2x0,5	3,0	6,5	75	8,7	40
27780	3x0,5	3,0	7,0	80	7,6	40
27781	4x0,5	2,6	7,5	85	6,9	45
27782	5x0,5	3,1	8,0	100	6,4	45
27783	7x0,5	3,2	8,5	115	5,8	50
27784	10x0,5	4,1	10,5	160	5,1	60
27785	12x0,5	4,3	10,5	175	4,8	65
27786	14x0,5	4,5	11,0	195	4,6	65
27787	16x0,5	5,3	11,5	215	4,4	70
27788	19x0,5	5,3	12,5	240	4,1	75
27789	20x0,5	5,5	13,0	260	4,1	80
27790	24x0,5	6,1	14,0	290	3,8	85
27791	27x0,5	6,3	14,5	315	3,7	85
27792	32x0,5	8,9	15,0	380	3,5	90
27793	37x0,5	9,7	16,0	425	3,3	95
26402	2x0,75	3,1	7,5	85	11,3	45
26403	3x0,75	3,1	7,5	95	9,8	45
26404	4x0,75	3,2	8,0	110	8,9	50
26405	5x0,75	3,6	9,5	135	8,3	55
26407	7x0,75	3,9	10,0	155	7,4	60
26410	10x0,75	5,3	12,0	215	6,6	75
26412	12x0,75	5,3	12,5	235	6,2	75
26414	14x0,75	5,6	13,0	260	5,9	80
26416	16x0,75	5,9	13,5	290	5,6	80
26419	19x0,75	6,3	14,5	320	5,3	85
26420	20x0,75	9,9	15,5	385	5,2	95
26424	24x0,75	10,2	17,0	425	4,9	100
26427	27x0,75	10,5	17,5	460	4,7	105
26432	32x0,75	10,9	18,0	520	4,5	110
26437	37x0,75	11,8	19,5	580	4,3	115

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKAM-HF

Screened control and instrumentation cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Screen	- drain wire of tinned copper - aluminium polyester tape, coverage 100%	IEC 60092-350
4. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight cables are needed. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

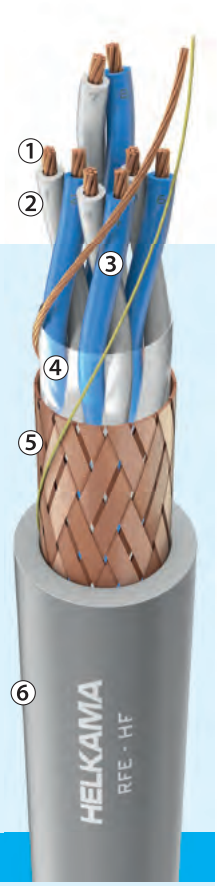
LKAM-HF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
26440	2x0,5	5,5	40	8,7	25
26441	3x0,5	6,0	50	7,6	25
26442	4x0,5	6,5	60	6,9	25
26443	5x0,5	7,0	70	6,4	30
26444	7x0,5	7,5	80	5,8	30
26445	10x0,5	9,5	120	5,1	40
26446	12x0,5	10,0	130	4,8	40
26447	14x0,5	10,5	145	4,6	40
26448	16x0,5	11,0	165	4,4	45
26449	19x0,5	11,5	185	4,1	45
26450	20x0,5	12,0	205	4,1	50
26451	24x0,5	13,0	230	3,8	55
26452	27x0,5	13,5	250	3,7	55
26453	32x0,5	14,0	290	3,5	55
26454	37x0,5	15,0	330	3,3	60
26382	2x0,75	6,5	55	11,3	25
26383	3x0,75	7,0	65	9,8	30
26384	4x0,75	7,5	75	8,9	30
26385	5x0,75	8,0	90	8,3	30
26386	7x0,75	9,0	120	7,4	35
26387	10x0,75	11,0	160	6,6	45
26388	12x0,75	12,0	185	6,2	45
26389	14x0,75	12,5	205	5,9	50
26390	16x0,75	13,0	230	5,6	50
26391	19x0,75	13,5	260	5,3	55
26392	20x0,75	14,5	285	5,2	60
26393	24x0,75	16,0	325	4,9	65
26394	27x0,75	16,0	355	4,7	65
26395	32x0,75	17,0	415	4,5	70
26396	37x0,75	18,0	465	4,3	75

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-HF

Armoured pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Bedding	- filler tape	
5. Armour	- drain wire copper (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	50	60	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

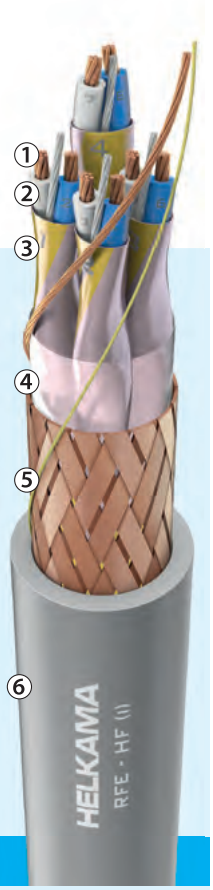
RFE-HF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20362	1x2x0,5	6,5	75	40
–	1x3x0,5	7,0	85	40
20364	2x2x0,5 Quad	7,5	90	45
20363	2x2x0,5	9,5	120	55
20366	4x2x0,5	10,5	155	65
20368	7x2x0,5	12,5	220	75
20369	8x2x0,5	13,5	240	80
20370	10x2x0,5	15,5	315	90
20371	12x2x0,5	16,0	350	95
20372	14x2x0,5	17,0	390	100
20373	16x2x0,5	18,0	435	110
20374	19x2x0,5	19,0	490	115
20376	24x2x0,5	21,5	600	130
20377	32x2x0,5	24,0	750	145
20378	37x2x0,5	25,5	835	155
20382	1x2x0,75	7,5	90	45
–	1x3x0,75	8,0	100	45
20384	2x2x0,75 Quad	8,5	115	50
20383	2x2x0,75	11,0	150	65
20386	4x2x0,75	12,5	205	75
20388	7x2x0,75	15,0	290	90
20389	8x2x0,75	16,0	350	95
20390	10x2x0,75	18,0	425	110
20391	12x2x0,75	19,0	475	115
20392	14x2x0,75	20,0	530	120
20393	16x2x0,75	21,5	600	130
20394	19x2x0,75	23,0	680	140
20396	24x2x0,75	25,5	820	155
20398	32x2x0,75	29,0	1035	175
20399	37x2x0,75	31,0	1185	185
20490	1x2x1,5	10,0	140	60
–	1x3x1,5	10,0	160	60
20491	2x2x1,5 Quad	11,0	195	65
20492	2x2x1,5	14,5	235	85
20493	4x2x1,5	17,0	380	100
20494	7x2x1,5	20,0	555	120
20495	8x2x1,5	21,5	635	130
20496	10x2x1,5	24,5	770	150
20497	12x2x1,5	26,0	865	155
20498	14x2x1,5	27,5	975	165
20503	16x2x1,5	29,0	1095	175
20499	19x2x1,5	31,5	1250	190
20500	24x2x1,5	35,0	1555	210

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-HF (i)

Armoured and individually screened instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Armour	- drain wire copper (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	70	90	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

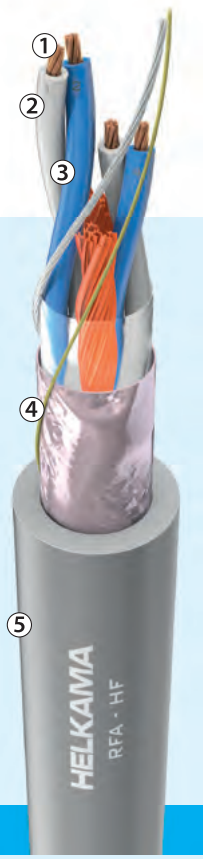
RFE-HF (i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
22338	1x2x0,5	7,0	80	40
22340	1x3x0,5	6,5	100	40
22342	2x2x0,5 Quad	7,0	120	40
22344	2x2x0,5	9,5	135	60
22346	3x2x0,5	10,0	155	60
22348	4x2x0,5	11,0	185	65
22350	7x2x0,5	13,0	265	75
22352	8x2x0,5	13,5	290	80
22354	10x2x0,5	15,5	380	95
22356	12x2x0,5	16,5	425	100
22358	14x2x0,5	17,5	480	105
22360	16x2x0,5	18,5	530	110
22362	19x2x0,5	19,5	605	120
22364	24x2x0,5	22,0	750	135
22366	27x2x0,5	23,0	825	140
22368	30x2x0,5	24,0	895	145
22370	32x2x0,5	24,5	940	150
22372	37x2x0,5	26,5	1065	160
22006	1x2x0,75	7,5	95	45
22005	1x3x0,75	7,5	115	45
22008	2x2x0,75 Quad	8,0	145	45
22010	2x2x0,75	11,0	165	65
22012	4x2x0,75	13,0	235	75
22014	7x2x0,75	15,5	365	95
22016	8x2x0,75	16,5	400	100
22018	10x2x0,75	18,5	485	110
22020	12x2x0,75	19,5	550	115
22022	14x2x0,75	21,0	635	125
22024	19x2x0,75	23,5	810	140
22026	24x2x0,75	26,0	980	155
22028	32x2x0,75	30,0	1255	180
22031	37x2x0,75	31,5	1410	190
22050	1x2x1,5	10,0	150	60
22049	1x3x1,5	9,5	180	55
22052	2x2x1,5 Quad	10,0	220	60
22054	2x2x1,5	14,5	255	85
22056	4x2x1,5	17,0	415	105
22058	7x2x1,5	20,5	615	120
22060	8x2x1,5	22,0	705	130
22062	10x2x1,5	25,0	860	150
22064	12x2x1,5	26,0	975	155
22066	14x2x1,5	28,0	1110	170
22068	19x2x1,5	32,0	1450	195
22070	24x2x1,5	36,0	1785	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-HF

Screened pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Collective screen	- drain wire tinned copper - aluminium polyester tape coverage 100%	IEC 60092-350
5. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight cables are needed. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	50	60	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating: Maximum conductor temperature + **90 °C**
Fixed installation **-40 °C** to **+80 °C**
Minimum recommended installation temperature **-15 °C**

For details see general information section

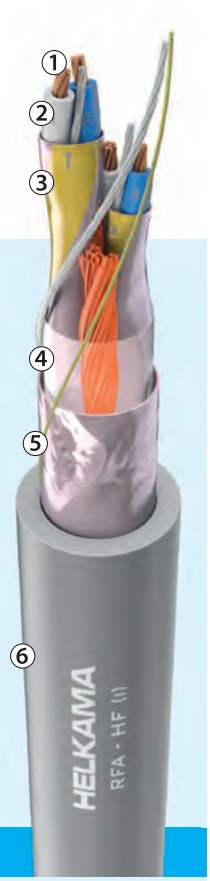
RFA-HF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20910	1x2x0,5	5,5	40	35
20904	1x3x0,5	6,0	50	35
20912	2x2x0,5 Quad	6,5	60	40
20914	2x2x0,5	8,0	70	50
20906	3x2x0,5	8,5	85	50
20916	4x2x0,5	9,5	110	60
20918	7x2x0,5	11,5	155	70
20920	8x2x0,5	12,5	180	75
20922	10x2x0,5	14,0	215	85
20924	12x2x0,5	14,5	245	85
20926	14x2x0,5	15,5	280	95
20928	16x2x0,5	16,5	310	100
20930	19x2x0,5	17,5	360	105
20932	24x2x0,5	19,5	440	120
20934	32x2x0,5	22,5	580	135
20936	37x2x0,5	24,0	655	145
20970	1x2x0,75	6,5	55	40
20966	1x3x0,75	7,0	70	40
20972	2x2x0,75 Quad	7,5	75	45
20974	2x2x0,75	10,0	95	60
20976	4x2x0,75	11,5	145	70
20978	7x2x0,75	14,0	220	85
20980	8x2x0,75	15,0	250	90
20982	10x2x0,75	16,5	300	100
20984	12x2x0,75	17,5	345	105
20986	14x2x0,75	19,0	400	115
20988	16x2x0,75	20,0	445	120
20990	19x2x0,75	22,0	530	130
20992	24x2x0,75	24,0	655	145
20994	32x2x0,75	27,5	845	165
20996	37x2x0,75	29,5	955	175
21356	1x2x1,5	8,5	85	50
21357	1x3x1,5	9,0	105	55
21358	2x2x1,5 Quad	10,0	140	60
21359	2x2x1,5	13,5	170	80
21360	3x2x1,5	14,0	215	85
21361	4x2x1,5	15,5	265	90
21362	7x2x1,5	18,5	415	110
21363	8x2x1,5	20,0	475	120
21364	10x2x1,5	23,0	600	140
21365	12x2x1,5	24,5	685	145
21366	14x2x1,5	26,0	795	155
21367	16x2x1,5	27,5	890	165
21368	19x2x1,5	30,0	1045	180
21369	24x2x1,5	33,5	1305	200
21370	27x2x1,5	35,5	1465	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-HF (i)

Collectively and individually screened instrumentation and communication cable 250 V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Collective screen	- drain wire tinned copper - aluminium polyester tape, coverage 100%	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1 - on request, thermosetting polyolefine, SHF2 - standard colour grey, other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight cables are needed. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	70	90	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

Temperature rating: Maximum conductor temperature + **90 °C**
Fixed installation **-40 °C** to **+80 °C**
Minimum recommended installation temperature **-15 °C**

For details see general information section

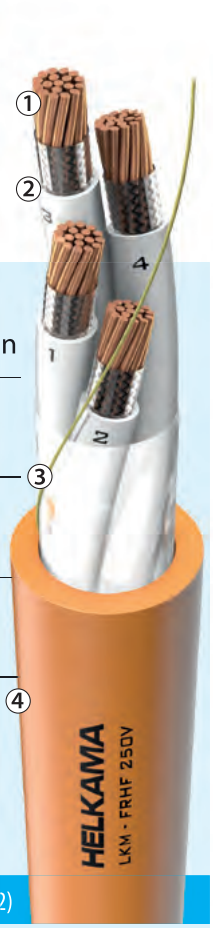
RFA-HF (i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
–	1x2x0,5	6,0	50	35
–	1x3x0,5	6,0	55	35
–	2x2x0,5 Quad	6,5	65	40
20940	2x2x0,5	8,5	80	50
20942	4x2x0,5	10,0	130	60
20944	7x2x0,5	12,0	200	70
20946	8x2x0,5	12,5	225	75
20948	10x2x0,5	14,5	280	85
20950	12x2x0,5	15,0	320	90
20952	14x2x0,5	16,0	360	95
20954	16x2x0,5	17,0	405	100
20956	19x2x0,5	18,5	475	110
20958	24x2x0,5	20,5	600	125
20960	32x2x0,5	23,5	775	140
20962	37x2x0,5	25,0	880	150
21058	1x2x0,75	6,5	60	40
21058	1x2x0,75	6,5	60	40
–	1x3x0,75	7,0	70	40
–	2x2x0,75 Quad	7,5	85	45
21059	2x2x0,75	10,0	110	60
21100	3x2x0,75	10,5	135	65
21061	4x2x0,75	11,5	170	70
21115	5x2x0,75	13,0	205	75
21063	7x2x0,75	14,0	260	85
21065	8x2x0,75	15,0	300	90
21067	10x2x0,75	17,0	370	105
21069	12x2x0,75	18,0	425	110
21071	14x2x0,75	19,0	480	115
21073	16x2x0,75	20,5	560	125
21075	19x2x0,75	22,0	645	135
21077	24x2x0,75	24,5	795	150
21375	1x2x1,5	8,5	95	50
21281	1x3x1,5	8,5	100	50
21377	2x2x1,5 Quad	10,0	155	60
21378	2x2x1,5	13,5	190	80
21379	3x2x1,5	14,0	240	85
21380	4x2x1,5	16,0	310	95
21381	7x2x1,5	19,0	485	115
21382	8x2x1,5	20,5	565	125
21383	10x2x1,5	23,5	695	140
21384	12x2x1,5	25,0	805	150
21385	14x2x1,5	26,5	915	160
21386	16x2x1,5	28,5	1045	170
21387	19x2x1,5	30,5	1210	185
21388	24x2x1,5	34,5	1535	205
21389	27x2x1,5	36,5	1715	220

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKM-FRHF

Fire-resistant unarmoured control and instrumentation cable 250V



DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

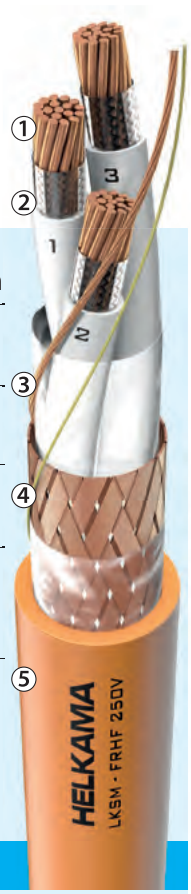
For details see general information section

LKM-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
22406	2x0,75	8,0	65	11,3	35
22407	3x0,75	8,5	80	9,8	35
22408	4x0,75	9,5	95	8,9	40
22409	5x0,75	10,5	125	8,3	45
22410	7x0,75	11,5	155	7,4	45
22411	10x0,75	14,5	220	6,6	60
22412	12x0,75	15,0	250	6,2	60
22413	14x0,75	16,0	280	5,9	65
22414	16x0,75	17,0	315	5,6	65
22415	19x0,75	18,0	365	5,3	70
22416	20x0,75	19,0	395	5,2	75
22417	24x0,75	21,0	460	4,9	85
22418	27x0,75	21,5	500	4,7	85
22419	32x0,75	22,5	575	4,5	90
22420	37x0,75	24,5	675	4,3	100

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-FRHF

Fire-resistant armoured control and instrumentation cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	EC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- drain wire copper (in all sizes) - copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

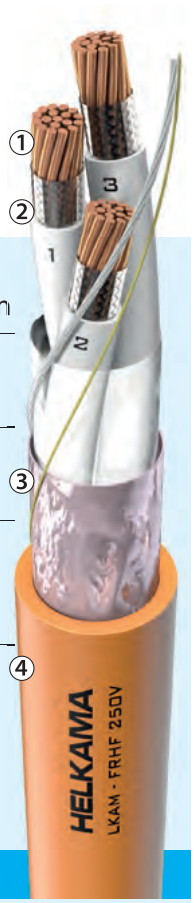
For details see general information section

LKSM-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
22436	2x0,75	3,1	9,0	100	11,3	55
22437	3x0,75	3,9	9,5	125	9,8	55
22438	4x0,75	4,3	10,5	155	8,9	65
22439	5x0,75	4,8	11,5	180	8,3	70
22440	7x0,75	5,3	12,5	210	7,4	75
22441	10x0,75	6,9	15,5	290	6,6	95
22442	12x0,75	7,2	16,0	325	6,2	95
22443	14x0,75	7,6	16,5	360	5,9	100
22444	16x0,75	11,1	18,0	435	5,6	110
22445	19x0,75	11,7	19,0	480	5,3	115
22446	20x0,75	12,6	20,0	530	5,2	120
22447	24x0,75	14,0	22,0	600	4,9	130
22448	27x0,75	14,3	22,5	645	4,7	135
22449	32x0,75	14,9	23,5	720	4,5	140
22450	37x0,75	16,2	25,5	830	4,3	155

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKAM-FRHF

Fire-resistant screened control and instrumentation cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Screen	- drain wire of tinned copper - aluminium polyester tape, coverage 100%	IEC 60092-350
4. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units, especially when lightweight cables are needed. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2
Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15°C**

For details see general information section

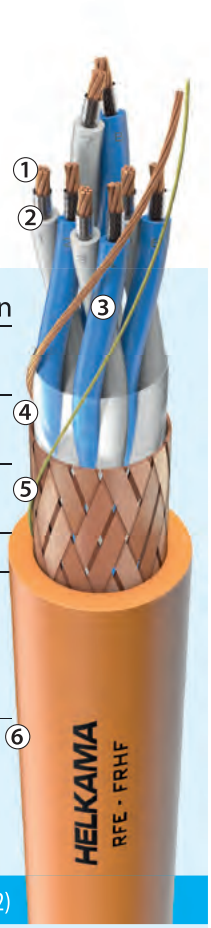
LKAM-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
22466	2x0,75	8,0	70	11,3	50
22467	3x0,75	8,5	85	9,8	50
22468	4x0,75	10,0	110	8,9	60
22469	5x0,75	10,5	135	8,3	65
22470	7x0,75	11,5	160	7,4	70
22471	10x0,75	14,5	225	6,6	90
22472	12x0,75	15,0	255	6,2	90
22473	14x0,75	16,0	295	5,9	95
22474	16x0,75	17,0	330	5,6	100
22475	19x0,75	18,0	370	5,3	105
22476	20x0,75	19,0	400	5,2	115
22477	24x0,75	21,0	465	4,9	125
22478	27x0,75	21,5	510	4,7	130
22479	32x0,75	22,5	600	4,5	135
22480	37x0,75	24,5	680	4,3	145

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-FRHF

Fire-resistant armoured pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Bedding	- filler tape	
5. Armour	- drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Fire-resistant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	45	55	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

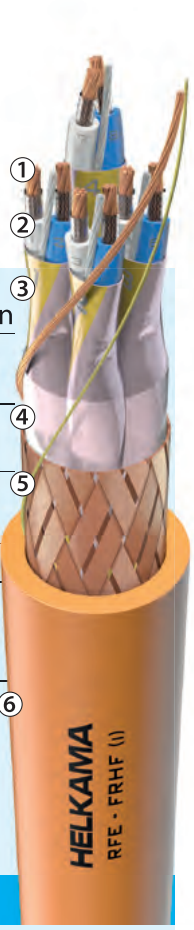
RFE-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20520	1x2x0,75	9,0	115	55
20522	2x2x0,75 Quad	11,0	170	65
20524	2x2x0,75	14,0	200	85
20526	4x2x0,75	16,0	285	95
20528	7x2x0,75	19,5	445	115
20530	8x2x0,75	21,0	495	125
20532	10x2x0,75	24,0	615	145
20534	12x2x0,75	25,0	685	150
20536	14x2x0,75	26,5	765	160
20538	19x2x0,75	30,5	970	180
20540	24x2x0,75	34,0	1205	205
20575	1x2x1,5	10,5	155	65
20577	2x2x1,5 Quad	12,0	215	70
20579	2x2x1,5	16,0	300	95
20574	3x2x1,5	17,0	355	100
20581	4x2x1,5	18,5	425	110
20583	7x2x1,5	22,5	650	135
20585	8x2x1,5	24,0	715	145
20587	10x2x1,5	27,0	875	160
20589	12x2x1,5	28,5	1000	170
20591	14x2x1,5	30,5	1125	180
20593	16x2x1,5	32,5	1280	195
20595	19x2x1,5	35,0	1460	210

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-FRHF (i)

Armoured and individually screened instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Armour	- drain wire copper - copper wire braid, coverage > 94% - tinned copper wire braid on request	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Fire-resistant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	75	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

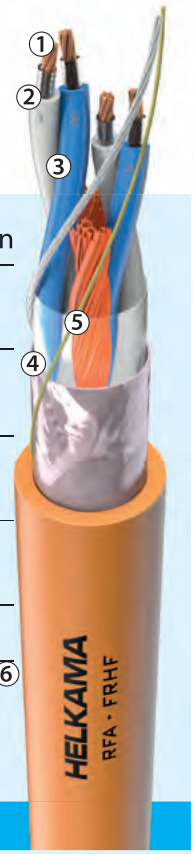
RFE-FRHF (i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20546	1x2x0,5	9,5	120	55
20548	2x2x0,75 Quad	11,0	170	65
20550	2x2x0,75	14,0	215	85
20552	4x2x0,75	16,5	345	100
20554	7x2x0,75	20,0	495	120
20556	8x2x0,75	21,0	545	125
20558	10x2x0,75	24,5	675	145
20560	12x2x0,75	25,5	770	155
20562	14x2x0,75	27,0	865	165
20563	16x2x0,75	29,0	970	175
20564	19x2x0,75	31,0	1105	185
20566	24x2x0,75	35,0	1370	210
20603	1x2x1,5	10,5	160	65
20604	2x2x1,5 Quad	12,0	225	70
20605	2x2x1,5	16,0	315	95
20607	4x2x1,5	19,0	470	115
20609	7x2x1,5	22,5	710	135
20611	8x2x1,5	24,0	795	145
20613	10x2x1,5	27,5	970	165
20615	12x2x1,5	29,0	1130	175
20617	14x2x1,5	31,0	1275	185
20619	16x2x1,5	33,0	1430	200
20621	19x2x1,5	35,5	1640	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-FRHF

Fire-resistant screened pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Collective screen	- drain wire tinned copper - aluminium polyester tape, coverage 100%	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request	IEC 60092-360

● Flame-retardant ● Fire-resistant ● Halogen-free ● Low smoke emission ● Oil resistant (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	45	55	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation **-40 °C** to **+80 °C**
Minimum recommended installation temperature **-15 °C**

For details see general information section

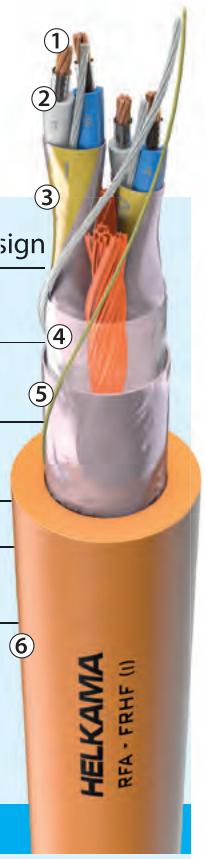
RFA-FRHF 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20635	1x2x0,75	8,0	70	50
20637	2x2x0,75 Quad	9,5	105	55
20639	2x2x0,75	13,0	135	75
20641	4x2x0,75	15,0	210	90
20643	7x2x0,75	18,0	315	110
20645	8x2x0,75	19,5	355	115
20647	10x2x0,75	22,5	435	135
20649	12x2x0,75	23,5	500	140
20651	14x2x0,75	25,5	590	150
20653	16x2x0,75	27,0	655	160
20655	19x2x0,75	29,0	770	175
20657	24x2x0,75	32,5	950	195
21521	1x2x1,5	9,0	95	55
21524	2x2x1,5 Quad	14,5	185	85
21525	2x2x1,5	14,5	190	85
21526	3x2x1,5	15,5	245	90
21527	4x2x1,5	17,0	310	105
21529	7x2x1,5	20,5	485	125
21531	8x2x1,5	22,5	560	135
21533	10x2x1,5	26,0	695	155
21535	12x2x1,5	27,0	800	160
21537	14x2x1,5	29,0	925	175
21539	16x2x1,5	31,0	1035	185
21541	19x2x1,5	33,5	1230	200

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-FRHF (i)

Collectively and individually screened instrumentation and communication cable 250 V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- Mica tape - XLPE plastic	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- separator tape	
5. Collective screen	- drain wire tinned copper - aluminium polyester tape coverage 100 %	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request thermosetting polyolefine, SHF2, standard colour black - other colours on request - rip cord under sheath	IEC 60092-360

● **Flame-retardant** ● **Fire-resistant** ● **Halogen-free** ● **Low smoke emission** ● **Oil resistant** (only SHF2)

Application: For fixed installation in most areas and on open deck in ships and offshore units. If the cable is exposed to direct sun light protective covering or cable with black outer sheath is recommended.

Main characteristics

Rated voltage	**150/250V (300V)**
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Fire-resistant	**IEC 60331-1 or IEC 60331-2**
Halogen-free	**IEC 60754** series
Smoke emission	**IEC 61034** series
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	75	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

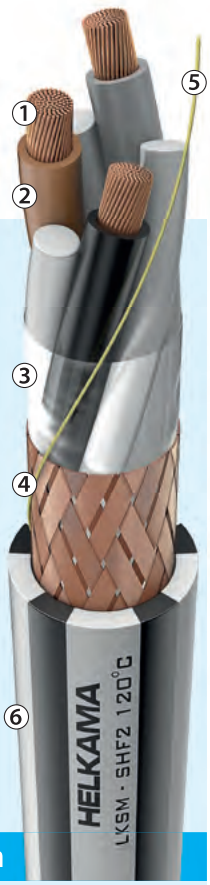
RFA-FRHF (i) 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
20664	1x2x0,75	8,5	80	50
20666	2x2x0,75 Quad	9,5	110	55
20667	2x2x0,75	13,0	145	80
20668	3x2x0,75	14,0	190	85
20669	4x2x0,75	15,5	235	90
20671	7x2x0,75	18,5	365	110
20673	8x2x0,75	20,0	415	120
20675	10x2x0,75	23,0	525	140
20677	12x2x0,75	24,0	600	145
20679	14x2x0,75	25,5	680	155
20681	16x2x0,75	27,5	775	165
20683	19x2x0,75	29,5	890	175
20685	24x2x0,75	33,5	1135	200
21550	1x2x1,5	9,0	105	55
21552	2x2x1,5 Quad	11,0	170	65
21553	2x2x1,5	14,5	210	90
21554	3x2x1,5	16,0	280	95
21555	4x2x1,5	17,5	345	105
21557	7x2x1,5	21,0	545	125
21559	8x2x1,5	23,0	635	135
21561	10x2x1,5	26,5	800	160
21563	12x2x1,5	27,5	920	165
21565	14x2x1,5	29,5	1050	175
21567	16x2x1,5	31,5	1205	190
21569	19x2x1,5	34,0	1415	205

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

LKSM-SHF2 120°C

Heat and oil resistant armoured power and control cable 0,6/1kV



DESIGN:		STANDARDS: IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10mm² - stranded copper conductor 16–300mm² - tinned stranded copper conductor on request	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- improved heat resistant XLPE (+120°C)	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- improved heat resistant SHF2 (+120°C) - standard colour black with grey stripes, other colours on request	IEC 60092-360

● +120°C heat resistant ● Oil resistant ● Flame-retardant ● Halogen-free ● Low smoke emission

Application: For fixed installation in most areas and on open deck in ships or on oil rigs and various industrial use. Excellent resistance against weathering, ozone, UV-rays, Oil / Diesel oil. Typical Marine, Oil, Gas and Petrochemical applications are for example Ship Engine rooms, power plants and/or other areas where ambient temperature may exceed +80°C, which is the limit for traditional IEC 60092-cables.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Oil resistance	**IEC 60811-404** conditions according to 60092-360
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** Test for single insulated wire and cable **IEC 60332-3-22** Test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Temperature rating:	Fixed installation: **-40 °C** to **+120 °C** Occasionally moved: **-20 °C** to **+120 °C** Max. conductor temperature: **+120 °C**

For details see general information section

LKSM-SHF2 120°C 0,6/1kV		Number of conductors & cross-section	Cross-section of armour	Nominal outer diameter	Approximate weight	Current Rating A	Min. bending radius fixed installation
Part number Normal	G-type	n x mm²	mm²	mm	kg/km	at +45°C	mm
4125955	4128425	1x1,0	3,0	6,0	70	18	40
4125736	4128426	1x1,5	3,0	6,5	75	23	40
4125738	4127050	1x2,5	2,5	7,0	85	30	45
4125740	4127052	1x4	3,1	7,5	110	40	45
4125742	4127054	1x6	3,1	8,0	130	52	50
4125744	4127056	1x10	3,6	9,5	190	72	60
4126237	4127059	1x16 Flex	4,1	10,5	240	94	65
4126238	4127061	1x25 Flex	4,9	13,0	360	123	80
4126239	4127063	1x35 Flex	5,5	14,0	455	153	85
4126240	4127065	1x50 Flex	8,7	16,0	640	196	100
4126241	4127067	1x70 Flex	10,0	18,5	865	240	115
4126242	4127069	1x95 Flex	11,5	20,0	1090	284	125
4126243	4127071	1x120 Flex	12,3	22,5	1360	331	135
4126244	4127073	1x150 Flex	13,7	25,0	1685	381	155
4126245	4127075	1x185 Flex	15,2	27,0	2020	429	165
4126246	4127077	1x240 Flex	18,2	30,5	2655	507	185
4126247	4127079	1x300 Flex	18,7	34,0	3250	582	205
4125956	–	2x1,0	3,6	9,0	110	15	55
4125770	–	2x1,5	3,8	9,5	130	20	60
4125785	–	2x2,5	4,3	10,5	160	26	65
4125801	–	2x4	5,2	12,0	215	34	75
4125803	–	2x6	5,4	13,0	320	44	80
4125805	–	2x10	8,7	15,5	480	61	95
4126254	–	2x16 Flex	10,0	18,0	615	80	110
4126255	–	2x25 Flex	12,3	23,0	940	105	140
4126256	–	2x35 Flex	14,0	24,5	1175	130	150
4126257	–	2x50 Flex	16,3	28,5	1590	167	175
4126258	–	2x70 Flex	18,7	33,0	2170	204	200
4126259	–	2x95 Flex	21,2	36,5	2750	241	220
4125957	–	3x1,0	3,7	9,5	130	13	60
4125772	4125773	3x1,5	4,1	10,0	155	16	65
4125786	4125787	3x2,5	5,2	11,0	200	21	70
4125802	4125880	3x4	5,3	12,5	265	28	80
4125804	4125882	3x6	5,8	14,0	375	36	85
4125806	4125884	3x10	9,3	16,5	575	50	100
4126271	4126272	3x16 Flex	10,7	19,0	770	66	115
4126273	4126274	3x25 Flex	13,2	24,5	1185	86	150
4126275	4126276	3x35 Flex	15,0	26,0	1510	107	160
4126277	4126278	3x50 Flex	17,5	30,5	2095	137	185
4126279	4126280	3x70 Flex	20,2	35,5	2860	168	215
4126281	4126282	3x95 Flex	22,8	39,0	3660	199	235
4126283	4126284	3x120 Flex	35,1	44,0	4705	232	265
4126285	4126286	3x150 Flex	39,3	50,0	5885	267	305
4126287	4126288	3x185 Flex	43,4	55,0	7160	300	335
4126289	4126290	3x240 Flex	50,7	62,0	9385	355	375

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Table continues on next page

LKSM-SHF2 120°C 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
4125958	–	4x1,0	4,1	10,0	150	13	65
4125774	4125775	4x1,5	4,5	11,0	185	16	70
4125788	4125789	4x2,5	5,3	12,5	240	21	75
4125830	4125831	4x4	5,7	13,5	320	28	85
4125832	4125833	4x6	8,8	15,5	480	36	95
4125834	4125835	4x10	10,3	18,0	700	50	110
4126301	4126302	4x16 Flex	11,9	21,5	940	66	130
4126303	4126304	4x25 Flex	14,8	27,0	1425	86	165
4126305	4126306	4x35 Flex	16,7	29,0	1850	107	175
4126307	4126308	4x50 Flex	19,5	34,0	2550	137	205
4126309	4126310	4x70 Flex	22,6	39,0	3495	168	235
4126311	4126312	4x95 Flex	35,0	44,0	4615	199	265
4126313	4126314	4x120 Flex	39,3	49,0	5765	232	295
4126315	4126316	4x150 Flex	44,0	55,5	7240	267	335
4125959	–	5x1,0	4,5	10,5	180	10	65
4125776	4125777	5x1,5	5,0	12,0	225	13	75
4125790	4125791	5x2,5	5,6	13,5	290	17	80
4126011	4126012	5x4	8,6	15,0	420	23	95
4126013	4126014	5x6	9,7	17,0	580	30	105
4126015	4126016	5x10	11,5	20,0	850	42	120
4126331	4126332	5x16 Flex	13,2	23,0	1135	55	140
4126333	4126334	5x25 Flex	16,3	29,5	1740	71	180
4125960	–	7x1,0	4,9	11,5	215	9	75
4125961	–	10x1,0	8,7	15,0	320	8	90
4125962	–	12x1,0	9,0	15,0	350	8	95
4125963	–	14x1,0	9,4	16,0	385	7	100
4125964	–	16x1,0	10,0	17,0	440	7	105
4125965	–	19x1,0	10,6	17,5	485	7	110
4125977	–	24x1,0	12,5	20,5	610	6	125
4125978	–	27x1,0	12,8	21,0	660	6	130
4125981	–	37x1,0	14,4	23,5	840	5	145
4125778	4125779	7x1,5	5,4	13,0	265	12	80
4126025	4126026	10x1,5	9,6	16,5	400	11	100
4125780	4125846	12x1,5	10,0	17,0	445	10	105
4126027	4126028	14x1,5	10,5	18,0	495	10	110
4126030	4126029	16x1,5	11,1	19,0	550	9	115
4125782	4125781	19x1,5	11,7	19,5	615	9	120
4125828	4125829	24x1,5	13,9	23,5	790	8	140
4125783	4125847	27x1,5	14,1	24,0	855	8	145
4125784	4125848	37x1,5	16,0	26,5	1095	7	160
4125792	4125793	7x2,5	8,5	15,0	380	16	90
4126033	4126034	10x2,5	10,8	18,5	530	14	115
4125794	4125795	12x2,5	11,5	19,0	590	13	115
4126035	4126036	14x2,5	11,8	20,5	675	13	125
4126037	4126038	16x2,5	12,5	21,5	755	12	130
4125796	4125797	19x2,5	13,2	22,5	845	11	135
4125798	4125799	24x2,5	15,7	26,0	1070	10	160
4125768	4125769	27x2,5	16,1	27,0	1165	10	165

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

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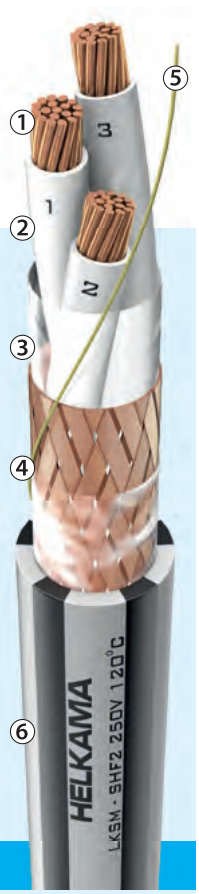
LKSM-SHF2 120°C

Heat and oil resistant armoured control and instrumentation cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- improved heat resistant XLPE (+120°C)	IEC 60092-360
3. Cabling / bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- improved heat resistant SHF2 (+120°C) - standard colour black with grey stripes, other colours on request - rip cord for conductors over 16mm²	IEC 60092-360

● +120°C heat resistant ● Oil resistant ● Flame-retardant ● Halogen-free ● Low smoke emission

Application: For fixed installation in most areas and on open deck in ships or on oil rigs and various industrial use. Excellent resistance against weathering, ozone, UV-rays, Oil / Diesel oil. Typical Marine, Oil, Gas and Petrochemical applications are for example Ship Engine rooms, power plants and/or other areas where ambient temperature may exceed +80°C, which is the limit for traditional IEC 60092-cables.

Main characteristics

Rated voltage	**150/250V (300V)**
Oil resistance	**IEC 60811-404** conditions according to 60092-360
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** Test for single insulated wire and cable **IEC 60332-3-22** Test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series

Temperature rating:

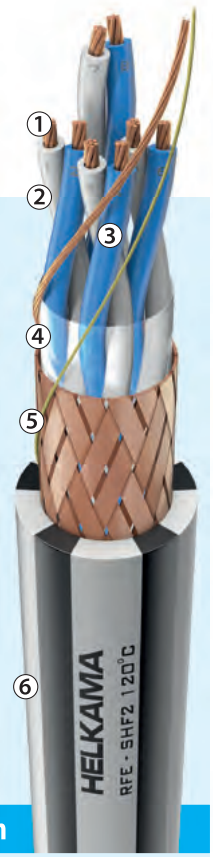
Fixed installation: **-40 °C** to **+120 °C**
Occasionally moved: **-20 °C** to **+120 °C**
Max. conductor temperature: **+120 °C**

For details see general information section

LKSM-SHF2 120°C 250V Part number	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
4127779	2x0,5	3,0	6,5	70	8,7	40
4127780	3x0,5	3,0	7,0	80	7,6	40
4127781	4x0,5	2,6	7,5	85	6,9	45
4127782	5x0,5	3,1	8,0	95	6,4	45
4127783	7x0,5	3,2	8,5	110	5,8	50
4127784	10x0,5	4,1	10,5	155	5,1	60
4127785	12x0,5	4,3	10,5	170	4,8	65
4127786	14x0,5	4,5	11,0	190	4,6	65
4127787	16x0,5	5,3	11,5	210	4,4	70
4127788	19x0,5	5,1	12,5	235	4,1	75
4127789	20x0,5	5,5	13,0	250	4,1	80
4127790	24x0,5	6,1	14,0	285	3,8	85
4127791	27x0,5	6,3	14,5	305	3,7	85
4127792	32x0,5	8,9	15,0	370	3,5	90
4127793	37x0,5	9,7	16,0	415	3,3	95
4126402	2x0,75	3,1	7,5	80	11,3	45
4126403	3x0,75	3,1	7,5	95	9,8	45
4126404	4x0,75	3,2	8,0	105	8,9	50
4126405	5x0,75	3,6	9,5	130	8,3	55
4126407	7x0,75	3,9	10,0	155	7,4	60
4126410	10x0,75	5,1	12,0	210	6,6	75
4126412	12x0,75	5,3	12,5	230	6,2	75
4126414	14x0,75	5,6	13,0	255	5,9	80
4126416	16x0,75	5,9	13,5	280	5,6	80
4126419	19x0,75	6,3	14,5	315	5,3	85
4126420	20x0,75	10,9	18,0	430	5,2	105
4126424	24x0,75	10,2	17,0	415	4,9	100
4126427	27x0,75	10,5	17,5	450	4,7	105
4126432	32x0,75	10,9	18,0	510	4,5	110
4126437	37x0,75	11,8	19,5	570	4,3	115

RFE-SHF2 120°C

Heat and oil resistant armoured pair instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- improved heat resistant XLPE (+120°C)	IEC 60092-360
3. Twisted pair	- two insulated cores twisted together to form a pair See next page for Quad	
4. Bedding	- filler tape	
5. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
6. Sheath	- improved heat resistant SHF2 (+120°C) - standard colour black with grey stripes, other colours on request - rip cord under sheath	IEC 60092-360

● +120°C heat resistant ● Oil resistant ● Flame-retardant ● Halogen-free ● Low smoke emission

Application: For fixed installation in most areas and on open deck in ships or on oil rigs and various industrial use. Excellent resistance against weathering, ozone, UV-rays, Oil / Diesel oil. Typical Marine, Oil, Gas and Petrochemical applications are for example Ship Engine rooms, power plants and/or other areas where ambient temperature may exceed +80°C, which is the limit for traditional IEC 60092-cables.

Main characteristics

Rated voltage	**150/250V (300V)**
Oil resistance	**IEC 60811-404** conditions according to 60092-360
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** Test for single insulated wire and cable **IEC 60332-3-22** Test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series

Temperature rating:
Fixed installation: **-40 °C** to **+120 °C**
Occasionally moved: **-20 °C** to **+120 °C**
Max. conductor temperature: **+120 °C**

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	50	60	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

For details see general information section

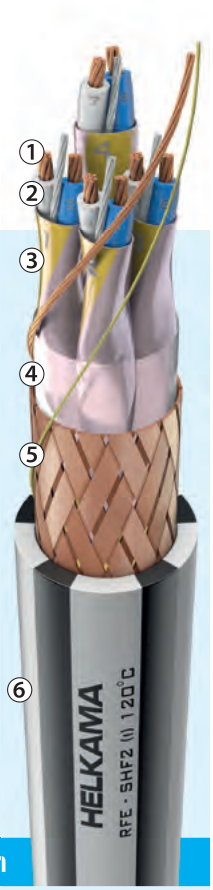
RFE-SHF2 120°C 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
4120362	1x2x0,5	6,5	80	40
4120364	2x2x0,5 Quad	7,5	95	45
4120363	2x2x0,5	9,5	115	55
4120366	4x2x0,5	10,5	150	65
4120368	7x2x0,5	12,5	215	75
4120369	8x2x0,5	13,5	235	80
4120370	10x2x0,5	15,5	310	90
4120371	12x2x0,5	16,0	340	95
4120372	14x2x0,5	17,0	395	100
4120373	16x2x0,5	18,0	425	110
4120374	19x2x0,5	19,0	480	115
4120376	24x2x0,5	21,5	585	130
4120382	1x2x0,75	7,5	90	45
4120384	2x2x0,75 Quad	8,5	120	50
4120383	2x2x0,75	11,0	145	65
4120386	4x2x0,75	12,5	200	75
4120388	7x2x0,75	15,0	315	90
4120389	8x2x0,75	16,0	345	95
4120390	10x2x0,75	18,0	415	110
4120391	12x2x0,75	19,0	465	115
4120392	14x2x0,75	20,0	535	120
4120393	16x2x0,75	21,5	585	130
4120394	19x2x0,75	23,0	675	140
4120396	24x2x0,75	25,5	815	155
4120398	32x2x0,75	29,0	1040	175
4120490	1x2x1,5	10,0	135	60
4120491	2x2x1,5 Quad	10,5	185	65
4120492	2x2x1,5	14,5	230	85
4120493	4x2x1,5	17,0	370	100
4120494	7x2x1,5	20,0	540	120
4120495	8x2x1,5	21,5	620	130
4120496	10x2x1,5	24,5	750	150
4120497	12x2x1,5	26,0	850	155
4120498	14x2x1,5	27,5	955	165
4120499	19x2x1,5	31,5	1230	190
4120500	24x2x1,5	35,0	1525	210

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-SHF2 (i) 120°C

Armoured and individually screened instrumentation and communication cable 250V



DESIGN:		STANDARDS: IEC 60092-376, design
1. Conductor	- stranded copper conductor - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- improved heat resistant XLPE (+120°C)	IEC 60092-360
3. Twisted pair & individual screen	- two insulated cores twisted together to form a pair - plastic coated aluminium tape and a tinned copper drain wire	
4. Bedding	- filler tape	
5. Armour	- copper wire braid, coverage > 90% - tinned copper wire braid on request	IEC 60092-350
6. Sheath	- improved heat resistant SHF2 (+120°C) - standard colour black with grey stripes, other colours on request - rip cord under sheath	IEC 60092-360

● +120°C heat resistant ● Oil resistant ● Flame-retardant ● Halogen-free ● Low smoke emission

Application: For fixed installation in most areas and on open deck in ships or on oil rigs and various industrial use. Excellent resistance against weathering, ozone, UV-rays, Oil / Diesel oil. Typical Marine, Oil, Gas and Petrochemical applications are for example Ship Engine rooms, power plants and/or other areas where ambient temperature may exceed +80°C, which is the limit for traditional IEC 60092-cables.

Main characteristics

Rated voltage	**150/250V (300V)**
Oil resistance	**IEC 60811-404** conditions according to 60092-360
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** Test for single insulated wire and cable **IEC 60332-3-22** Test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series

Temperature rating:
Fixed installation: **-40 °C** to **+120 °C**
Occasionally moved: **-20 °C** to **+120 °C**
Max. conductor temperature: **+120 °C**

Electrical data:	**0,5mm²**	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	80	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	70	90	nF/km
Loop inductance, nom.	0,6	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	≥1500	Mohm/km

For details see general information section

RFE-SHF2 (i) 120°C 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
4122338	1x2x0,5	7,0	85	40
4122342	2x2x0,5 Quad	7,5	110	45
4122344	2x2x0,5	9,5	135	60
4122346	3x2x0,5	10,0	165	60
4122348	4x2x0,5	11,0	195	65
4122350	7x2x0,5	13,0	285	75
4122352	8x2x0,5	13,5	345	80
4122354	10x2x0,5	15,5	420	95
4122356	12x2x0,5	16,5	485	100
4122358	14x2x0,5	17,5	535	105
4122360	16x2x0,5	18,5	590	110
4122362	19x2x0,5	19,5	690	120
4122364	24x2x0,5	22,0	840	135
4122366	27x2x0,5	23,0	925	140
4122368	30x2x0,5	24,0	1005	145
4122370	32x2x0,5	24,5	1070	150
4122372	37x2x0,5	26,5	1205	160
4122006	1x2x0,75	7,5	90	45
4122008	2x2x0,75 Quad	8,5	135	50
4122010	2x2x0,75	11,0	160	65
4122012	4x2x0,75	13,0	225	75
4122014	7x2x0,75	15,5	355	95
4122016	8x2x0,75	16,5	400	100
4122018	10x2x0,75	18,5	495	110
4122020	12x2x0,75	19,5	555	115
4122022	14x2x0,75	21,0	620	125
4122024	19x2x0,75	23,5	790	140
4122026	24x2x0,75	26,0	985	155
4122050	1x2x1,5	10,0	145	60
4122052	2x2x1,5 Quad	11,0	170	65
4122054	2x2x1,5	14,5	200	85
4122056	4x2x1,5	17,0	250	105
4122058	7x2x1,5	20,5	405	120
4122060	8x2x1,5	22,0	605	130
4122062	10x2x1,5	25,0	690	150
4122064	12x2x1,5	26,0	840	155
4122066	14x2x1,5	28,0	955	170
4122068	19x2x1,5	32,0	1090	195
4122070	24x2x1,5	36,0	1425	215

Other sizes on request.

LKM-FRHF+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant, unarmoured power and control cable 0,6/1kV

Cable types:	LKM-FRHF+WSR (diameter ≤ 20 mm) LKM-FRHF+WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10 mm² - stranded copper conductor 16–300 mm² - tinned stranded copper conductor on request ("CuSn")	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- special grade Mica tape(s) - XLPE plastic	 IEC 60092-360
3. Cabling / Bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction - separator tape	
4. Rip cord	- rip cord for conductors from 16mm²	
5. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request oil resistant thermosetting, black polyolefine, SHF2 - other colours on request	IEC 60092-360

● **Halogen-free** ● **Flame-retardant** ● **Low smoke emission** ● **Fire-resistant** ● **Water Spray and/or Water Jet Resistant**

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation **-40 °C** to **+80 °C** Minimum recommended installation temperature **-15 °C**

For details see general information section

Note! R=6x D (See IEC 60092-352)

LKM-FRHF+WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628275	–	1x1,0	5,5	40	18	35
628100	–	1x1,5	6,0	50	23	35
628102	–	1x2,5	6,5	60	30	40
628104	–	1x4	7,0	80	40	40
628106	–	1x6	7,5	105	52	45
628108	–	1x10	8,5	155	72	50
629326	–	1x16 Flex	9,5	210	94	60
629327	–	1x25 Flex	12,0	320	123	70
629328	–	1x35 Flex	13,0	415	153	75
629329	–	1x50 Flex	15,0	570	196	90
629330	–	1x70 Flex	17,0	790	240	100
629331	–	1x95 Flex	18,5	1010	284	110
629332	–	1x120 Flex	20,5	1270	331	125
629333	–	1x150 Flex	23,5	1600	381	140
629334	–	1x185 Flex	26,0	1930	429	155
629335	–	1x240 Flex	29,0	2530	507	175
629336	–	1x300 Flex	32,0	3145	582	195
628276	–	2x1,0	8,5	105	15	50
628132	–	2x1,5	9,5	125	20	55
628134	–	2x2,5	11,0	160	26	65
628136	–	2x4	12,0	220	34	70
628138	–	2x6	13,0	320	44	80
628140	–	2x10	15,5	470	61	95
629343	–	2x16 Flex	18,0	625	80	105
629344	–	2x25 Flex	22,0	970	105	130
629345	–	2x35 Flex	24,0	1240	130	145
629346	–	2x50 Flex	27,5	1690	167	165
629347	–	2x70 Flex	32,0	2345	204	190
629348	–	2x95 Flex	35,5	3010	241	215
628278	628279	3x1,0	9,5	100	13	55
628162	628163	3x1,5	10,0	125	16	60
628164	628165	3x2,5	11,5	170	21	70
628166	628167	3x4	12,5	230	28	75
628168	628169	3x6	14,0	350	36	85
628170	628171	3x10	16,5	510	50	100
629366	629367	3x16 Flex	19,0	770	66	115
629368	629369	3x25 Flex	23,5	1170	86	140
629370	629371	3x35 Flex	25,5	1520	107	155
629372	629373	3x50 Flex	30,0	2115	137	180
629374	629375	3x70 Flex	34,5	2925	168	205
629376	629377	3x95 Flex	38,0	3755	199	230
629378	629379	3x120 Flex	43,0	4740	232	255
629380	629381	3x150 Flex	48,5	5950	267	290
629382	629383	3x185 Flex	54,0	7265	300	325
629384	629385	3x240 Flex	60,5	9565	355	365

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

Note! R=6x D (See IEC 60092-352)

LKM-FRHF+WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628280	628281	4x1,0	10,0	125	13	60
628182	628183	4x1,5	11,5	165	16	70
628184	628185	4x2,5	12,5	210	21	75
628186	628187	4x4	14,0	295	28	85
628188	628189	4x6	15,5	430	36	95
628190	628191	4x10	18,5	640	50	110
629400	629401	4x16 Flex	21,0	940	66	125
629402	629403	4x25 Flex	26,0	1445	86	155
629404	629405	4x35 Flex	28,5	1880	107	170
629406	629407	4x50 Flex	33,5	2640	137	200
629408	629409	4x70 Flex	38,5	3645	168	230
629410	629411	4x95 Flex	43,0	4705	199	255
628282	628283	5x1,0	11,5	165	10	70
628212	628213	5x1,5	12,5	205	13	75
628214	628215	5x2,5	13,5	265	17	80
628501	628502	5x4	15,5	380	23	90
628503	628504	5x6	17,0	545	30	105
628505	628506	5x10	20,0	805	42	120
629434	629435	5x16 Flex	23,0	1120	55	140
629436	629437	5x25 Flex	29,0	1740	71	175
629438	629439	5x35 Flex	31,5	2270	89	190
629440	629441	5x50 Flex	37,0	3190	114	220
629442	629443	5x70 Flex	43,0	4455	139	255
628284	628285	7x1,0	12,5	200	9	75
628286	628287	10x1,0	16,0	285	8	95
628288	628289	12x1,0	16,5	325	8	100
628290	628291	14x1,0	17,0	365	7	105
628292	628293	16x1,0	18,5	425	7	110
628294	628295	19x1,0	19,5	480	7	115
628296	628297	24x1,0	22,5	605	6	135
628298	628299	27x1,0	23,5	665	6	140
628563	–	30x1,0	24,0	725	6	145
628300	628301	37x1,0	26,5	890	5	160
628216	628217	7x1,5	13,5	250	12	80
628240	628241	10x1,5	17,5	365	11	105
628220	628221	12x1,5	18,5	410	10	110
628244	628245	14x1,5	19,0	465	10	115
628248	628249	16x1,5	20,0	535	9	120
628224	628225	19x1,5	21,5	610	9	130
628228	628229	24x1,5	25,5	785	8	155
628232	628233	27x1,5	26,0	860	8	155
–	–	30x1,5	27,0	940	7	165
628234	628235	37x1,5	29,5	1140	7	175

Table continues on next page

Note! R=6x D (See IEC 60092-352)

LKM-FRHF+WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm^2	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628218	628219	7x2,5	15,0	335	16	90
628242	628243	10x2,5	19,5	490	14	115
628222	628223	12x2,5	20,0	550	13	120
628246	628247	14x2,5	21,5	635	13	130
628250	628251	16x2,5	22,5	725	12	135
628226	628227	19x2,5	24,0	820	11	145
628230	628231	24x2,5	28,5	1070	10	170
628236	628237	27x2,5	29,0	1175	10	175
–	–	30x2,5	30,0	1290	10	180
628238	628239	37x2,5	33,0	1565	9	195

G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

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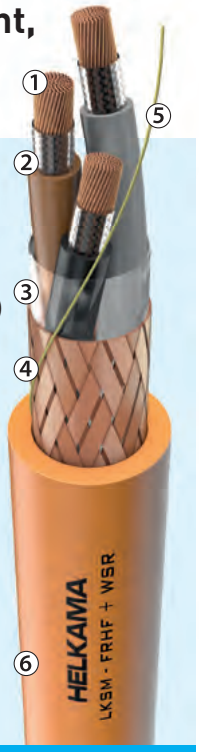
LKSM-FRHF+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant, armoured power and control cable 0,6/1kV



Cable types:	LKSM-FRHF+WSR (diameter ≤ 20 mm) LKSM-FRHF+WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-353, design
1. Conductor	- stranded copper conductor 1,0–10 mm² - stranded copper conductor 16–300 mm² - tinned stranded copper conductor on request ("CuSn")	IEC 60228, class 2 IEC 60228, class 5 (Flex)
2. Insulation	- special grade Mica tape(s) - XLPE plastic	 IEC 60092-360
3. Cabling / Bedding	- cabling with optional fillers or dummy cores to obtain symmetrical and round construction - separator tape	
4. Armour	- copper wire braid, coverage > 90% IEC 60092-350 - tinned copper wire braid on request	
5. Rip cord	- rip cord for conductors from 16mm²	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - on request oil resistant thermosetting, black polyolefine, SHF2 - other colours on request	IEC 60092-360

● Halogen-free ● Flame-retardant ● Low smoke emission ● Fire-resistant ● Water Spray and/or Water Jet Resistant

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**AC 0,6/1kV (1,2kV)** **DC 0,9/1,5kV** (if voltage to earth does not exceed 0,9kV)
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:	Maximum conductor temperature + **90 °C** Fixed installation - **40 °C** to + **80 °C** Minimum recommended installation temperature - **15 °C**

For details see general information section

LKSM-FRHF +WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628541	–	1x1,0	3,0	6,5	75	18	40
628568	–	1x1,5	3,0	7,0	85	23	40
628570	–	1x2,5	3,1	7,5	95	30	45
628572	–	1x4	3,1	8,0	115	40	50
628574	–	1x6	3,1	8,5	145	52	50
628576	–	1x10	3,5	10,0	205	72	60
629060	627058	1x16 Flex	4,0	11,0	265	94	65
629061	627060	1x25 Flex	4,9	13,0	380	123	80
629062	627062	1x35 Flex	5,5	14,0	480	153	85
629063	627064	1x50 Flex	8,7	16,5	670	196	100
629064	627066	1x70 Flex	10,0	18,5	905	240	110
629065	627068	1x95 Flex	11,5	20,0	1140	284	120
629066	627070	1x120 Flex	12,3	22,5	1415	331	135
629067	627072	1x150 Flex	14,7	25,0	1760	381	150
629068	627074	1x185 Flex	15,2	27,5	2095	429	165
629069	627076	1x240 Flex	18,2	30,5	2725	507	180
629070	627078	1x300 Flex	18,7	34,0	3365	582	205
628542	–	2x1,0	3,5	10,0	155	15	60
628602	–	2x1,5	3,8	11,0	175	20	65
628604	–	2x2,5	4,3	12,0	205	26	70
628606	–	2x4	4,9	13,0	280	34	80
628608	–	2x6	5,4	14,5	405	44	85
628610	–	2x10	8,7	17,0	600	61	100
629071	–	2x16 Flex	10,0	19,5	770	80	115
629072	–	2x25 Flex	14,5	24,0	1215	105	145
629073	–	2x35 Flex	14,7	26,0	1460	130	155
629074	–	2x50 Flex	18,1	30,0	1950	167	180
629075	–	2x70 Flex	18,7	34,0	2645	204	205
629076	–	2x95 Flex	22,2	37,5	3315	241	225
628543	628544	3x1,0	4,1	10,5	155	13	65
628622	628623	3x1,5	4,1	11,5	180	16	70
628624	628625	3x2,5	4,6	12,5	220	21	75
628626	628627	3x4	5,2	14,0	295	28	85
628628	628629	3x6	5,8	15,0	420	36	90
628630	628631	3x10	9,3	18,0	625	50	110
629082	629083	3x16 Flex	10,7	20,5	905	66	125
629084	629085	3x25 Flex	14,6	25,5	1385	86	155
629086	629087	3x35 Flex	15,0	27,5	1710	107	165
629088	629089	3x50 Flex	18,3	32,0	2355	137	195
629090	629091	3x70 Flex	22,0	36,5	3190	168	220
629092	629093	3x95 Flex	22,8	40,5	4025	199	240
629094	629095	3x120 Flex	37,8	45,5	5170	232	270
629096	629097	3x150 Flex	39,3	51,5	6415	267	310
629098	629099	3x185 Flex	43,4	56,5	7770	300	340
629100	629101	3x240 Flex	49,1	63,5	10135	355	380

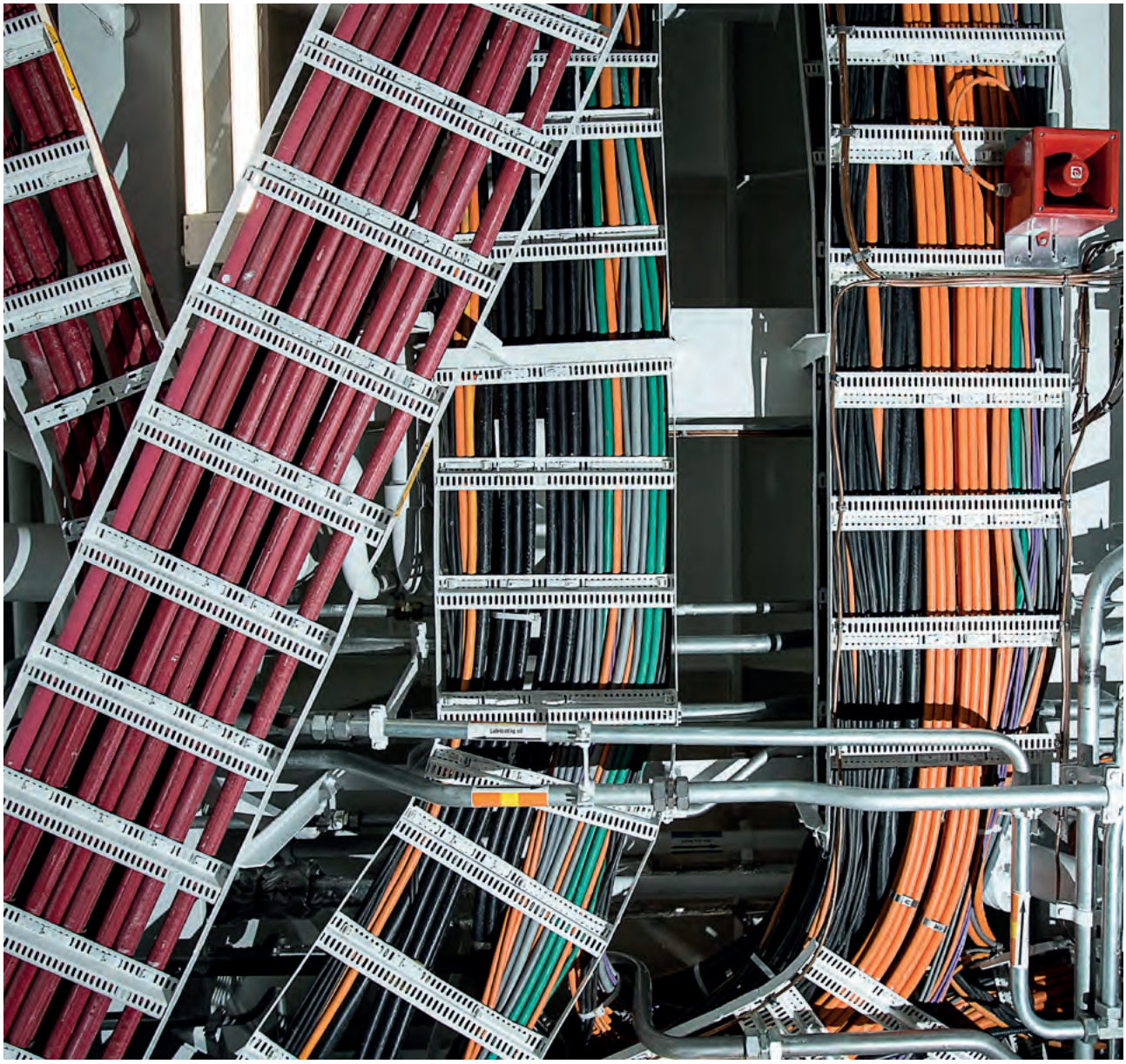
G-type is with yellow/green earth conductor and marking on sheath is, for example, 3G1,5

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

Table continues on next page

LKSM-FRHF +WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm²	Cross-section of armour mm²	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628545	628546	4x1,0	4,1	11,5	180	13	70
628642	628643	4x1,5	4,5	12,5	215	16	75
628644	628645	4x2,5	5,0	14,0	275	21	85
628646	628647	4x4	5,8	15,0	360	28	90
628648	628649	4x6	8,8	17,0	535	36	100
628650	628651	4x10	10,3	20,0	760	50	120
629104	629105	4x16 Flex	11,9	23,0	1040	66	135
629106	629107	4x25 Flex	14,8	28,5	1550	86	170
629108	629109	4x35 Flex	18,1	30,5	1995	107	185
629110	629111	4x50 Flex	19,5	35,5	2715	137	210
629112	629113	4x70 Flex	22,4	40,5	3690	168	245
629114	629115	4x95 Flex	37,8	45,5	4860	199	270
629116	629117	4x120 Flex	39,3	50,5	6020	232	300
628547	628548	5x1,0	4,5	12,5	210	10	75
628662	628663	5x1,5	5,0	14,0	255	13	85
628664	628665	5x2,5	5,6	15,0	320	17	90
628705	628706	5x4	8,6	17,0	455	23	100
628707	628708	5x6	9,7	18,5	620	30	110
628709	628710	5x10	11,5	21,5	895	42	130
629126	629127	5x16 Flex	13,2	25,0	1230	55	150
629128	629129	5x25 Flex	18,1	31,0	1870	71	185
629130	629131	5x35 Flex	18,6	33,5	2415	89	200
629132	629133	5x50 Flex	21,6	39,0	3325	114	235
628549	628550	7x1,0	4,9	13,5	260	9	80
628551	628552	10x1,0	8,7	17,5	380	8	105
628553	628554	12x1,0	9,0	18,0	425	8	105
628555	628556	14x1,0	11,4	18,5	490	7	110
628557	628558	16x1,0	11,4	20,0	545	7	120
628559	628560	19x1,0	11,4	21,0	605	7	125
628561	628562	24x1,0	12,5	24,5	755	6	145
628563	628564	27x1,0	12,8	25,0	815	6	150
628564	–	30x1,0	13,3	26,0	885	5	155
628565	628566	37x1,0	14,4	28,0	1050	5	170
628666	628667	7x1,5	5,4	15,0	310	12	90
628723	628724	10x1,5	9,6	19,0	460	11	115
628670	628671	12x1,5	9,9	20,0	525	10	120
628727	628728	14x1,5	11,4	21,0	595	10	125
628731	628732	16x1,5	11,5	22,0	650	9	130
628674	628675	19x1,5	11,7	23,0	730	9	135
628678	628679	24x1,5	13,9	27,0	940	8	165
628682	628683	27x1,5	14,1	27,5	1015	8	165
–	–	30x1,5	14,7	28,5	1105	7	170
628684	628685	37x1,5	16,0	31,0	1315	7	185

LKSM-FRHF +WSR/WJR 0,6/1kV Part number Normal	G-type	Number of conductors & cross-section n x mm^2	Cross-section of armour mm^2	Nominal outer diameter mm	Approximate weight kg/km	Current Rating A at +45°C	Min. bending radius fixed installation mm
628668	628669	7x2,5	8,5	16,5	430	16	100
628725	628726	10x2,5	11,5	21,0	600	14	125
628672	628673	12x2,6	11,5	21,5	675	13	130
628729	628730	14x2,5	11,8	23,0	780	13	140
628733	628734	16x2,5	12,5	24,5	865	12	145
628676	628677	19x2,5	13,2	25,5	980	11	155
628680	628681	24x2,5	15,7	30,0	1240	10	180
628686	628687	27x2,5	16,1	30,5	1350	10	185
–	–	30x2,5	16,7	32,0	1470	10	190
628688	628689	37x2,5	18,1	34,5	1775	9	205



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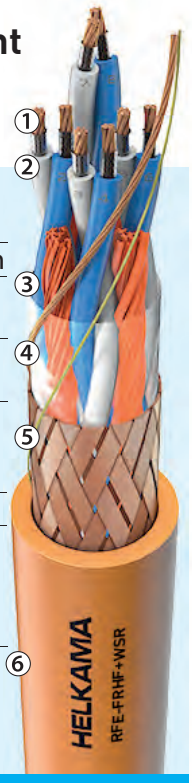
RFE-FRHF+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant armoured pair instrumentation and communication cable 250V



Cable types:	RFE-FRHF+WSR (diameter ≤ 20 mm) RFE-FRHF+WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor 0,75–2,5 mm² - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- special grade Mica tape(s) - XLPE plastic	 IEC 60092-360
3. Twisted unit and cabling	- insulated, numbered cores twisted together to form a pair, triple or quad - cabling with optional fillers or dummy cores to obtain symmetrical and round construction	
4. Bedding	- filler tape	
5. Armour	- drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request - the armour serves as a collective screen	 IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - oil resistant thermosetting black polyolefine, SHF2 on request - other colours on request - rip cord under sheath	IEC 60092-360

● Halogen-free ● Flame-retardant ● Low smoke emission ● Fire-resistant ● Water Spray and/or Water Jet Resistant

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**150/250V (300V)**
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	45	55	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

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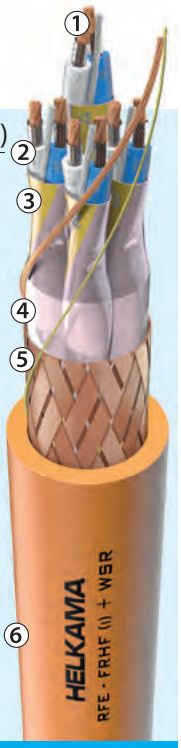
RFE-FRHF +WSR/WJR 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
620520	1x2x0,75	9,0	115	55
620522	2x2x0,75 Quad	11,0	170	65
620524	2x2x0,75	14,0	200	85
620526	4x2x0,75	16,0	285	95
620528	7x2x0,75	19,5	445	115
620530	8x2x0,75	21,0	495	125
620532	10x2x0,75	24,0	615	145
620534	12x2x0,75	25,0	685	150
620536	14x2x0,75	26,5	765	160
620538	16x2x0,75	28,5	855	170
620538	19x2x0,75	30,5	970	180
620540	24x2x0,75	34,0	1205	205
620575	1x2x1,5	10,5	155	65
620577	2x2x1,5 Quad	12,0	220	70
620579	2x2x1,5	16,0	300	95
620581	4x2x1,5	18,5	425	110
620583	7x2x1,5	22,5	650	135
620585	8x2x1,5	24,0	715	145
620587	10x2x1,5	27,0	875	160
620589	12x2x1,5	28,5	1000	170
620591	14x2x1,5	30,5	1125	180
620593	16x2x1,5	32,5	1280	195
620595	19x2x1,5	35,0	1460	210

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFE-FRHF(i)+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant armoured and individually screened instrumentation and communication cable 250V



Cable types:	RFE-FRHF(i)+WSR (diameter ≤ 20 mm), RFE-FRHF(i)+WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor 0,75–2,5 mm^2 - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- special grade Mica tape(s) - XLPE plastic	IEC 60092-360
3. Twisted unit with individual screen	- insulated, numbered cores twisted together to form a pair, triple or quad - plastic coated aluminium tape and a tinned copper drain wire	
4. Cabling and bedding	- fillers or dummy cores may be added to obtain symmetrical and round construction - filler tape	
5. Armour	- drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request - the armour serves as a collective screen	IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - oil resistant thermosetting black polyolefine, SHF2 on request - other colours on request- rip cord under sheath	IEC 60092-360

● Halogen-free ● Flame-retardant ● Low smoke emission ● Fire-resistant ● Water Spray and/or Water Jet Resistant

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**150/250V (300V)**
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm^2**	**1,5mm^2**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	75	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

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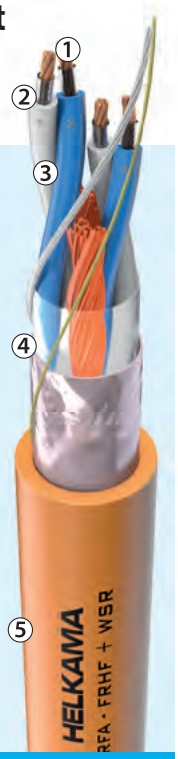
RFE-FRHF (i) +WSR/WJR 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
620546	1x2x0,75	9,5	120	55
620548	2x2x0,75 Quad	11,0	170	65
620550	2x2x0,75	14,0	225	85
620552	4x2x0,75	16,5	345	100
620554	7x2x0,75	20,0	495	120
620556	8x2x0,75	21,0	545	125
620558	10x2x0,75	24,5	675	145
620560	12x2x0,75	25,5	770	155
620562	14x2x0,75	27,0	865	165
620563	16x2x0,75	29,0	970	175
620564	19x2x0,75	31,0	1105	185
620566	24x2x0,75	35,0	1370	210
620603	1x2x1,5	10,5	160	65
620604	2x2x1,5 Quad	12,0	225	70
620605	2x2x1,5	16,0	335	95
620607	4x2x1,5	19,0	470	115
620609	7x2x1,5	22,5	710	135
620611	8x2x1,5	24,0	795	145
620513	10x2x1,5	27,5	970	165
620615	12x2x1,5	29,0	1130	175
620617	14x2x1,5	31,0	1275	185
620619	16x2x1,5	33,0	1430	200
620621	19x2x1,5	35,5	1640	215

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-FRHF+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant screened pair instrumentation and communication cable 250V



Cable types:	RFA-FRHF+WSR (diameter ≤ 20 mm) RFA-FRHF+WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor 0,75–2,5 mm² - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- special grade Mica tape(s) - XLPE plastic	 IEC 60092-360
3. Twisted unit and cabling	- insulated, numbered cores twisted together to form a pair, triple or quad - cabling with optional fillers or dummy cores to obtain symmetrical and round construction - separator tape over cabling	
4. Collective screen	- drain wire tinned copper - aluminium polyester tape, coverage 100%	 IEC 60092-350
5. Sheath	- polyolefine plastic, SHF1, standard colour orange - oil resistant thermosetting black polyolefine, SHF2 on request - other colours on request - rip cord under sheath	IEC 60092-360

● Halogen-free ● Flame-retardant ● Low smoke emission ● Fire-resistant ● Water Spray and/or Water Jet Resistant

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**150/250V (300V)**
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	45	55	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

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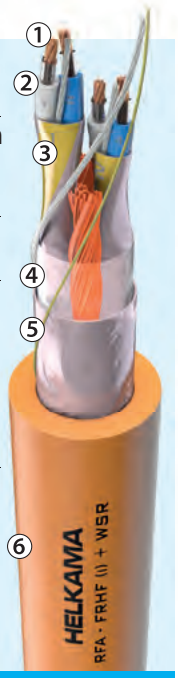
RFA-FRHF +WSR/WJR 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
620635	1x2x0,75	8,0	70	50
620637	2x2x0,75 Quad	9,5	105	55
620639	2x2x0,75	13,0	145	75
620641	4x2x0,75	15,0	210	90
620643	7x2x0,75	18,0	315	110
620645	8x2x0,75	19,5	355	115
620647	10x2x0,75	22,5	435	135
620649	12x2x0,75	23,5	500	140
620651	14x2x0,75	25,5	590	150
620653	16x2x0,75	27,0	655	160
620655	19x2x0,75	29,0	770	175
620657	24x2x0,75	32,5	950	195
620658	30x2x0,75	36,0	1175	215
621521	1x2x1,5	9,0	95	55
621524	2x2x1,5 Quad	11,0	160	65
621525	2x2x1,5	14,5	210	85
621527	4x2x1,5	17,0	310	105
621529	7x2x1,5	20,5	485	125
621531	8x2x1,5	22,5	560	135
621533	10x2x1,5	26,0	695	155
621535	12x2x1,5	27,0	800	160
621537	14x2x1,5	29,0	925	175
621539	16x2x1,5	31,0	1035	185
621541	19x2x1,5	33,5	1230	200

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

RFA-FRHF(i)+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant collectively and individually screened instrumentation and communication cable 250 V



Cable types:	RFA-FRHF(i)+WSR (diameter ≤ 20 mm) RFA-FRHF(i) +WJR (diameter > 20 mm)	
DESIGN:		**STANDARDS:** IEC 60092-376, design
1. Conductor	- stranded copper conductor 0,75–2,5 mm² - tinned stranded copper conductor on request	IEC 60228, class 2
2. Insulation	- special grade Mica tape(s) - XLPE plastic	 IEC 60092-360
3. Twisted unit with individual screen	- insulated, numbered cores twisted together to form a pair, triple or quad - plastic coated aluminium tape and a tinned copper drain wire	
4. Cabling and bedding	- fillers or dummy cores may be added to obtain symmetrical and round construction - separator tape	
5. Collective screen	- drain wire tinned copper - aluminium polyester tape coverage 100 %	 IEC 60092-350
6. Sheath	- polyolefine plastic, SHF1, standard colour orange - oil resistant thermosetting black polyolefine, SHF2 on request - other colours on request - rip cord under sheath	IEC 60092-360

● Halogen-free ● Flame-retardant ● Low smoke emission ● Fire-resistant ● Water Spray and/or Water Jet Resistant

Application: For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

Main characteristics

Rated voltage	**150/250V (300V)**
Halogen-free	**IEC 60754** series
Flame-retardant	**IEC 60332-1-2** -test for single insulated wire and cable **IEC 60332-3-22** -test for bunched wires and cables, category A
Smoke emission	**IEC 61034** series
Fire- and Water Spray Resistant	**IEC 60331-2** (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)
Fire- and Water Jet Resistant	**IEC 60331-1** (180 min test) + BS 8491:2008 (diameter > 20 mm)
Oil resistance (only SHF2)	**IEC 60811-404** conditions according to 60092-360/SHF2

For details see general information section

Electrical data:	**0,75mm²**	**1,5mm²**	**Unit**
Loop resistance of pair, max. / +20°C	52	24,4	ohm/km
Pair capacitance, nom. / 1 KHz	55	75	nF/km
Loop inductance, nom.	0,6	0,7	mH/km
Insulation resistance / +20°C	≥1500	≥1500	Mohm/km

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

Temperature rating:
Maximum conductor temperature + **90 °C**
Fixed installation - **40 °C** to + **80 °C**
Minimum recommended installation temperature - **15 °C**

For details see general information section

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RFA-FRHF (i) +WSR/WJR 250V Part number	Number of conductors & cross-section n x mm²	Nominal outer diameter mm	Approx-imate weight kg/km	Min. bending radius fixed installation mm
620664	1x2x0,75	8,5	80	50
620666	2x2x0,75 Quad	9,5	110	55
620667	2x2x0,75	13,0	155	80
620669	4x2x0,75	15,5	235	90
620671	7x2x0,75	18,5	365	110
620673	8x2x0,75	20,0	415	120
620675	10x2x0,75	23,0	525	140
620677	12x2x0,75	24,0	600	145
620679	14x2x0,75	25,5	680	155
620681	16x2x0,75	27,5	775	165
620683	19x2x0,75	29,5	895	175
620685	24x2x0,75	33,5	1135	200
620686	30x2x0,75	37,0	1390	220
621550	1x2x1,5	9,0	105	55
621552	2x2x1,5 Quad	11,0	170	65
621553	2x2x1,5	14,5	230	90
621555	4x2x1,5	17,5	345	105
621557	7x2x1,5	21,0	545	125
621559	8x2x1,5	23,0	635	135
621561	10x2x1,5	26,5	800	160
621563	12x2x1,5	27,5	920	165
621565	14x2x1,5	29,5	1050	175
621567	16x2x1,5	31,5	1205	190
621569	19x2x1,5	34,0	1415	205

Other sizes on request.

Part number for oil resistant SHF2 cable:
4 + code from above table → 4xxxxx

General information

Standard for materials: **IEC 60092-360**

Insulation material:

The following designations are used for insulation materials in this catalog.
All materials are halogen-free.

XLPE stands for cross-linked polyethylene compound. It has excellent mechanical and electrical characteristics.

Sheathing material:

The designation SHF1 stands for thermo-plastic compound. This material is halogen-free, highly flame-retardant and has low smoke emission.

The designation SHF2 stands for oil resistant thermosetting compound. This material is halogen-free, highly flame-retardant and has low smoke emission.

Definition of terms:

Oil resistance
Sheathing material is oil resistant according to method IEC 60811-404 and requirements from IEC 60092-360/SHF2. The oil resistance is demonstrated by immersion in IRM902 oil for 24h at 100°C.

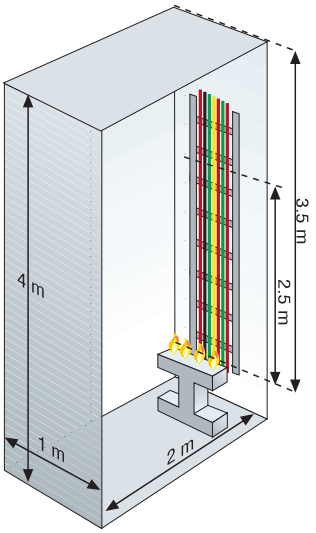
Flame-retardant
To be flame-retardant, the cables must withstand the test specified in IEC standard 60332-3 or IEC 60332-1. Flame-retardant cables do not propagate fire, and are self-extinguishing.

Fire-resistant
IEC 60331-1 Test method for fire with shock at a temperature of at least 830 °C for 90 minutes for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter exceeding 20 mm.

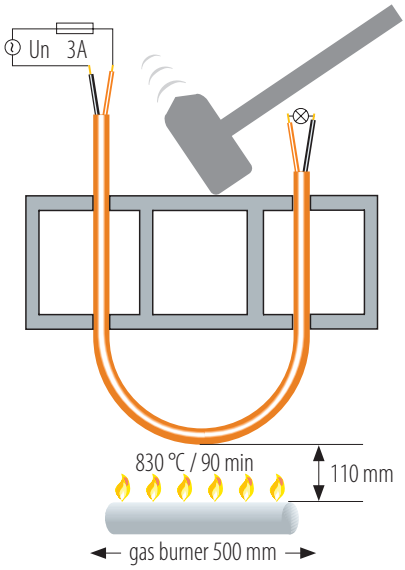
IEC 60331-2 Test method for fire with shock at a temperature of at least 830 °C for 90 minutes for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter **not** exceeding 20 mm.

IEC 60332-3-22 is the test for bunched cables. Burning time describes how long the burner is directed towards the bunch of cables. The requirement for passing the test is that after the burner has been removed the cables must extinguish themselves. Burning may not occur more than 2.5 m from the burner as shown in the figure.

All Helkama cables comply with the most severe requirements of category A. Amount of burning material is 7 litres/m and burning time 40 minutes.



Test on bunched cables IEC 60332-3
Burning is allowed up to max. 2.5 meters from the burner within specified time.



Halogen-free refers to the absence of halogens, such as chlorine and fluorine, and is determined on the basis of halogen content and the acidity of gases of a cable.

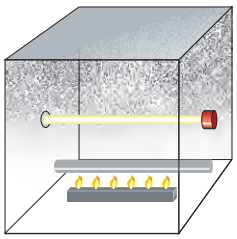
IEC 60754-1 determines the halogen content of the material. To meet the requirements as halogen-free the halogen content of the material may not exceed 0,5 % or 5 mg/g.

IEC 60754-2 determines the degree of acidity of gases evolved during combustion.
The limit values are 4,3 for pH and 10 mikroS for conductivity.

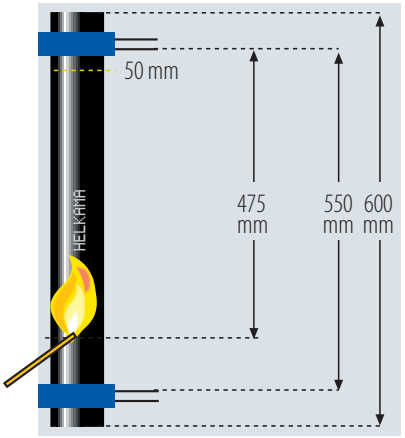
Smoke emission refers to visibility in a fire. The greater the light trans-mittance, the better the visibility. When tested in accordance with **IEC 61034-1** (test method) and **IEC 61034-2** (test requirements) the smoke emission of a cable during fire must not exceed the following values.

27m³ cube smoke chamber

Requirements:
60 % light transmittance

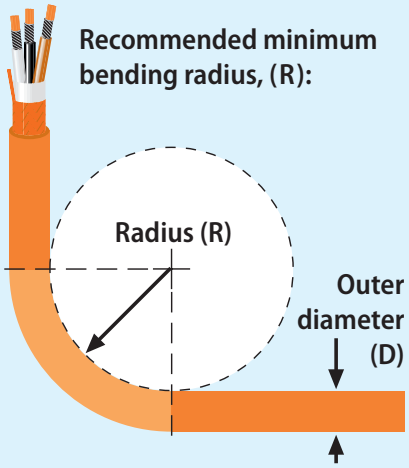


IEC 60332-1 is the test for single insulated wire and cable. Test procedure and requirements according to the picture below.



Min. 50 mm of the cable, measured from the upper support, must remain unburned after the specified time.

BENDING RADIUS



LKM-HF	During installation	R = 6x D	< 25mm
LKMM-HF	During installation	R = 9x D	> 25mm
LKEM-HF	Fixed installation	R = 4x D	< 25mm
	Fixed installation	R = 6x D	> 25mm

	During installation	R = 9x D
	Fixed installation	R = 6x D
LKSM-HF	RFE-HF	
LKSM-EMC	RFE-HF(i)	
RFE-EMC-FRHF	RFA-HF	
RFE-EMC-FRHF(i)	RFA-HF(i)	
LKSM-VFD	RFE-FRHF	
LKMSM-HF	RFE-FRHF(i)	
LKAM-HF	RFA-FRHF	
LKM-FRHF	RFA-FRHF(i)	
LKMM-FRHF	LKSM-SHF2 120°C	
LKSM-FRHF	LKSM-SHF2 120°C	
LKMSM-FRHF	RFE-SHF2 120°C	
LKAM-FRHF	RFE-SHF2 (i) 120°C	

DIAMETER TOLERANCE

Cable outer diameter, mm.	Tolerance	Cable outer diameter, mm.	Tolerance
1 – 10	±0,5mm	30,1 – 40	±2,0mm
10,1 – 20	±1,0mm	40,1 – 50	±2,5mm
20,1 – 30	±1,5mm	50,1 – 60	±3,0mm

CORE IDENTIFICATION

250V pair cables

Pair number	(a)	(b)
2	3	4
3	5	6
4	7	8
5	9	10
etc.		

Each pair white - blue.
Cores numbered 1, 2, 3, 4, 5....

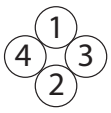
250V triple cables

Each triple white-blue-red
Cores numbered
1, 2, 3, 4, 5....

250V quad cables

(Quad)cable is built up as a star quad with the following identification

1 core white
2 core blue
3 core white
4 core blue



250V multicore cables

2-cores	1 2	Black numbers on white base
3-cores	1 2 3	Black numbers on white base
4-cores to 37-cores		Black numbers on white base

(according to HD 308 S2)

0,6/1kV	Normal type	G-type (with earth conductor)
1-core	BK	
2-cores	BN BU	
3-cores	BN BK GY	Y/G BU BN
4-cores	BU BN GY BK	Y/G BN GY BK
5-cores	1 2 3 4 5	Y/G BU BN GY BK
7-cores and above	1 2 3 4 5 6 7 Black numbers on white base	1 2 3 4 5 6 Y/G Black numbers on white base Last core yellow/green.

1,8/3kV	LKSM-VFD
1-core	BK
3-cores	BN BK GY
3-cores + 3-ground cores	Y/G BN BK Y/G GY Y/G

BU = Blue, **BN** = Brown,
BK = Black, **GY** = Grey,
Y/G = Yellow/Green

Sheath marking: Lot number, cable type, cable size, voltage, temperature, standards, manufacturer's name, production month and meter marking printed on the sheath

CURRENT RATING

"Current rating (A) at an ambient temperature of 45°C according to the standard IEC 60092-352 0,6/1 kV +90°C marine cables."

Current carrying capacities in continous service at maximum rated conductor temperature of +90°C.

For continuous service. Continuous service for a cable is to be considered as a current-carrying service (with constant load) having a duration longer than three times the thermal time constant of the cable, i.e. longer than the critical duration (see short time duty).

For class 2 conductor cables

Size	N	1	2	3	4	5	7	10	12	14	16	19	24	27	37
	Factor, n	1	0,85	0,7	0,7	0,58	0,52	0,46	0,44	0,41	0,40	0,37	0,35	0,33	0,30
1,0mm²		18	15	13	13	10	9	8	8	7	7	7	6	6	5
1,5mm²		23	20	16	16	13	12	11	10	9	9	9	8	7	7
2,5mm²		30	26	21	21	17	16	14	13	12	12	11	11	10	9
4mm²		40	34	28	28	23									
6mm²		52	44	36	36	30									
10mm²		72	61	50	50	42									
16mm²		96	82	67	67	56									
25mm²		127	108	89	89	74									
35mm²		157	133	110	110	91									
50mm²		196	167	137	137										
70mm²		242	206	169	169										
95mm²		293	249	205	205										
120mm²		339	288	237	237										
150mm²		389	331	272	272										
185mm²		444	377	311	311										
240mm²		522	444	365	365										
300mm²		601	511	421	421										

For class 5 conductor cables

Size		1	2	3	4	5	7	10	12	14	16	19	24	27	37
	Factor, n	1	0,85	0,7	0,7	0,58	0,52	0,46	0,44	0,41	0,40	0,37	0,35	0,33	0,30
1,0mm²		17	14	12	12	10	9	8	7	7	7	6	6	6	5
1,5mm²		22	19	15	15	13	11	10	10	9	9	8	8	7	7
2,5mm²		30	26	21	21	17	16	14	13	12	12	11	11	10	9
4mm²		39	33	27	27	23									
6mm²		50	43	35	35	29									
10mm²		71	60	50	50	41									
16mm²		94	80	66	66	55									
25mm²		123	105	86	86	71									
35mm²		153	130	107	107	89									
50mm²		196	167	137	137										
70mm²		240	204	168	168										
95mm²		284	241	199	199										
120mm²		331	281	232	232										
150mm²		381	324	267	267										
185mm²		429	365	300	300										
240mm²		507	431	355	355										
300mm²		582	495	407	407										

Ambient temperature	+35°C	+40°C	**+45°C**	+50°C	+55°C	+60°C	+65°C	+70°C	+75°C	+80°C
Correction factor	1,10	1,05	**1,00**	0,94	0,88	0,82	0,74	0,64	0,58	0,47

SHORT CIRCUIT CURRENT

Maximum permissible short circuit current.
0,6/1 kV +90°C marine cables.

Based on formula:

$$Ik = 226 \quad X \quad \frac{S}{\sqrt{t}} \quad X \quad \sqrt{\ln \frac{234 + Tk}{234 + Tb}}$$

Formula 1:

$$Ik = 146 \quad X \quad \frac{S}{\sqrt{t}}$$

Ik = Maximum permissible short circuit current.
S = Cross-section of the conductor in mm².
t = Duration of the short circuit in s.
Tk = Maximum rated conductor temperature,
Tb = Maximum rated conductor temperature, normal, °C

Formula 1: For 0,6/1kV cable with XLPE or HF90 with maximum operating temperature of +90°C (Tb) and short circuit temperature of +250°C (Tk).

Cross-section of the conductor in mm²	Duration of the short circuit in s.					
	0,2	0,5	1	2	3	10
1,0	0,3	0,2	0,1	0,1	0,1	0,0
1,5	0,5	0,3	0,2	0,2	0,1	0,1
2,5	0,8	0,5	0,4	0,3	0,2	0,1
4	1,3	0,8	0,6	0,4	0,3	0,2
6	2,0	1,2	0,9	0,6	0,5	0,3
10	3,3	2,1	1,5	1,0	0,8	0,5
16	5,2	3,3	2,3	1,7	1,3	0,7
25	8,2	5,2	3,7	2,6	2,1	1,2
35	11,4	7,2	5,1	3,6	3,0	1,6
50	16,3	10,3	7,3	5,2	4,2	2,3
70	22,9	14,5	10,2	7,2	5,9	3,2
95	31,0	19,6	13,9	9,8	8,0	4,4
120	39,2	24,8	17,5	12,4	10,1	5,5
150	49,0	31,0	21,9	15,5	12,6	6,9
185	60,4	38,2	27,0	19,1	15,6	8,5
240	78,4	49,6	35,0	24,8	20,2	11,1
300	97,9	61,9	43,8	31,0	25,3	13,9
	Short circuit current in kA					

SHORT CIRCUIT FACTOR

Short Circuit Factor can be calculated by following formula:

$$\text{SHORT CIRCUIT FACTOR} = \frac{\text{SHORT CIRCUIT CURRENT}}{\text{CURRENT RATING}}$$

RATED VOLTAGES

Designating the of the rated voltages of cables are U_o/U (U_m), where

U_o is the rated power-frequency voltage between phase conductor and earth or metallic screen, for which the cable is designed.

U is the rated power-frequency voltage between phase conductors for which the cable is designed.

U_m is the maximum value of the "highest system voltage" for which the cable may be used.

For DC voltages, maximum of 1,5 times the AC voltage. may be provided that the voltage to earth does not exceed U_{0DC}.

Cable voltage	AC			DC	
	U_0	U	U_m	U	U_{0DC}
250V	150V	250V	300V	375V	250V
0,6/1kV	0,6kV	1,0kV	1,2kV	1,5kV	0,9kV
1,8/3kV	1,8kV	3,0kV	3,6kV	–	–

SHORT TIME DUTY

Short time duty according to the standard IEC 60092-352 0,6/1 kV +90°C marine cables.

If a cable is intended to supply motor or equipment operating for periods of half an hour or one hour, its current rating given in table "current rating", may be increased using the relevant correction factors given by formula:

$$\text{correction factor} = \sqrt{\frac{1,12}{1-\exp(-t_s/T)}}$$

(t_s = service time, min. **T** = Time constant, min.)

$$T = 0,245 \times d^{1,35}$$

(**d** = Overall diameter of the cable, mm.)

Overall diameter of the cable, mm.	Service time, min.		Time constant, min.	Critical duration, min.
	30	60	T	3x T
1	1,058	1,058	0,245	0,735
2	1,058	1,058	0,625	1,87
3	1,058	1,058	1,08	3,24
4	1,058	1,058	1,59	4,78
5	1,058	1,058	2,15	6,46
6	1,058	1,058	2,75	8,26
7	1,058	1,058	3,39	10,2
8	1,059	1,058	4,06	12,2
9	1,059	1,058	4,76	14,3
10	1,061	1,058	5,48	16,5
20	1,126	1,066	14,0	41,9
30	1,255	1,105	24,2	72,5
40	1,403	1,173	35,6	107
50	1,554	1,254	48,2	145
60	1,705	1,341	61,6	185
	Correction factor.			

INTERMITTENT SERVICE

Correction factor for intermittent service according to the standard IEC 60092-352

The correction factor given hereby has been roughly calculated for periods of 10 min, of which 4 min are with a constant load and 6 min without load.

Intermittence period = 10min.
Intermittence ratio = 40%.

$$Fi = \sqrt{\frac{1-\exp(-10/T)}{1-\exp(-4/T)}}$$

Overall diameter of the cable, mm.	Correction factor.
1	1,000
2	1,001
3	1,012
4	1,042
5	1,083
6	1,127
7	1,170
8	1,208
9	1,242
10	1,273
20	1,433
30	1,490
40	1,518
50	1,534
60	1,544

VOLTAGE DROP

Cable types: LKM-HF, LKSM-HF, LKAM-HF, LKM-FRHF, LKSM-FRHF (Cables with class 2 conductor)

Size	Resistance at +20°C ohm/km	Resistance at +90°C ohm/km	Voltage reduction mV/Am *)	Resistance at +45°C ohm/km	Current rating A **)	Voltage reduction mV/m ***)
1.0mm²	18,1	23,1	46,2	19,9	18	0,72
1.5mm²	12,1	15,4	30,9	13,3	23	0,61
2.5mm²	7,41	9,45	18,9	8,14	30	0,49
4mm²	4,61	5,88	11,8	5,06	40	0,41
6mm²	3,08	3,93	7,85	3,38	52	0,35
10mm²	1,83	2,33	4,67	2,01	72	0,29
16mm²	1,15	1,47	2,93	1,26	96	0,24
25mm²	0,727	0,927	1,85	0,798	127	0,20
35mm²	0,524	0,668	1,34	0,575	157	0,18
50mm²	0,387	0,493	0,987	0,425	196	0,17
70mm²	0,268	0,342	0,683	0,294	242	0,14
95mm²	0,193	0,246	0,492	0,212	293	0,12
120mm²	0,153	0,195	0,390	0,168	339	0,11
150mm²	0,124	0,158	0,316	0,136	389	0,11
185mm²	0,0991	0,1264	0,253	0,1088	444	0,097
240mm²	0,0754	0,0961	0,192	0,0828	522	0,086
300mm²	0,0601	0,0766	0,153	0,0660	601	0,079

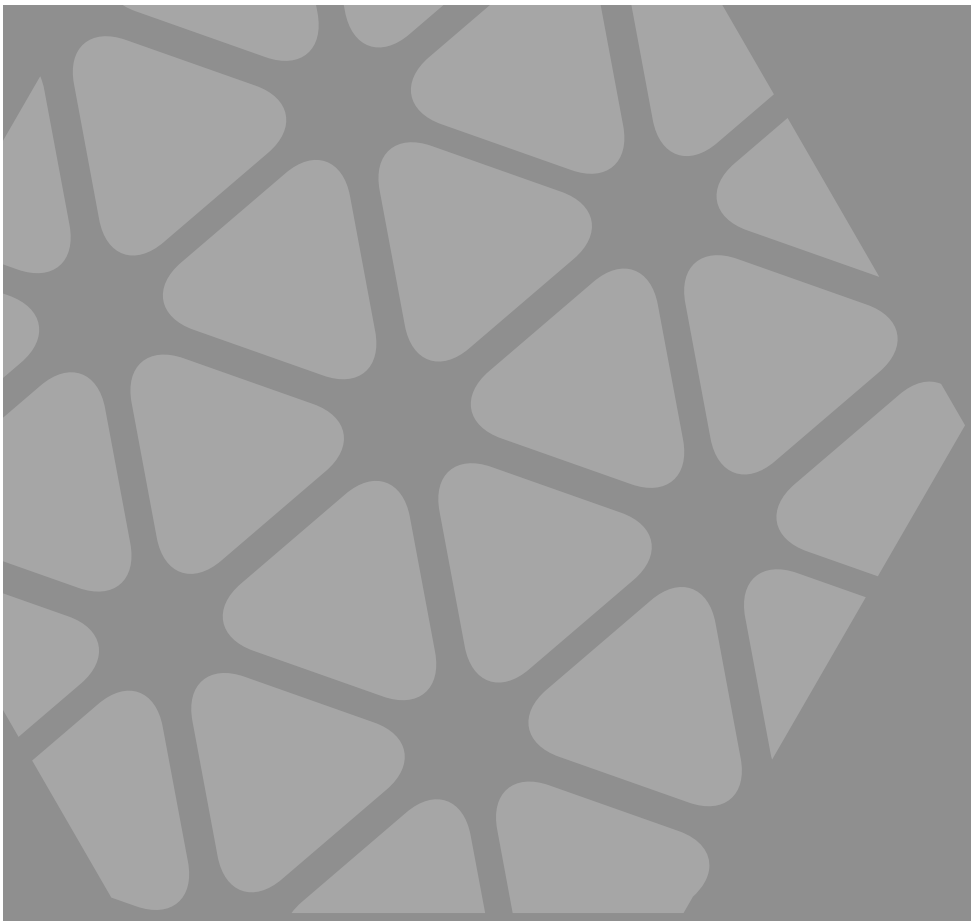
Cable types: LKM-HF FLEX, LKSM-HF FLEX, LKEM-HF (Cables with class 5 conductor)

Size	Resistance at +20°C ohm/km	Resistance at +90°C ohm/km	Voltage reduction mV/Am *)	Resistance at +45°C ohm/km	Current rating A **)	Voltage reduction mV/m ***)
0,75mm²	26,0	33,2	66,3	28,6	14	0,80
1.0mm²	19,5	24,9	49,7	21,4	17	0,73
1.5mm²	13,3	17,0	33,9	14,6	22	0,64
2.5mm²	7,98	10,18	20,4	8,76	30	0,53
4mm²	4,95	6,31	12,6	5,44	39	0,42
6mm²	3,30	4,21	8,42	3,62	50	0,36
10mm²	1,91	2,44	4,87	2,10	71	0,30
16mm²	1,21	1,54	3,09	1,33	94	0,25
25mm²	0,78	0,995	1,99	0,857	123	0,21
35mm²	0,554	0,706	1,41	0,608	153	0,19
50mm²	0,386	0,492	0,984	0,424	196	0,17
70mm²	0,272	0,347	0,694	0,299	240	0,14
95mm2	0,206	0,263	0,525	0,226	284	0,13
120mm²	0,161	0,205	0,411	0,177	331	0,12
150mm²	0,129	0,164	0,329	0,142	381	0,11
185mm²	0,106	0,135	0,270	0,116	429	0,10
240mm²	0,0801	0,102	0,204	0,088	507	0,09
300mm²	0,0641	0,082	0,163	0,070	582	0,08

Cable types: LKSM-HF 250V, RFE-HF, RFE-HF(i), RFA-HF, RFA-HF(i), RFE-FRHF, RFE-FRHF(i), RFA-FRHF, RFA-FRHF(i)

Size	Resistance at +20°C ohm/km	Maximum conductor temperature, °C	Resistance at +45°C ohm/km	Voltage reduction mV/Am at +45°C	Resistance at +90°C ohm/km	Voltage reduction mV/Am at +90°C
0,5 mm²	40,4	90	44,4	88,7	51,5	103,0
0,75 mm²	26,0	90	28,6	57,1	33,2	66,3
1,5 mm²	12,8	90	14,1	28,1	16,3	32,6

*) at +90°C **)For continuous service (single core, ambient temperature +45°C) ***)at maximum current rating for continuous service at +45°C



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