

**SPECIFICATION
S015896**

2.6.2015 VR
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**FIRE RESISTANT HALOGEN FREE POWER AND CONTROL CABLE
FOR MARINE APPLICATIONS**

LM-FRHF 0,6/1 kV AND TEMAR PHFX-UFR 0,6/1 kV



APPLICATION

Power and control cable for fixed installations. Designed to maintain operation during fire and to fulfill the requirements for cabling in ships. Used for safety, alarm and other critical systems.

STANDARDS

Construction	IEC 60092-353 and IEC 60092-350
Materials	IEC 60228 (conductor), IEC 60092-360 (insulation and sheath)
Fire resistance	IEC 60331-1 or IEC 60331-21
Flame retardance	IEC 60332-3-22 (cat A) and IEC 60332-1-2
Halogen free properties	IEC 60754-1 and -2
Low smoke emission	IEC 61034-1 and -2
Tests	IEC 60092-353
Choice and installation	IEC 60092-352

CHARACTERISTICS

Rated voltage	0,6/1 (1,2) kV
Conductor temperature	Maximum +90 °C
Ambient temperature	Minimum -15 °C (Installation)

DESIGN

Conductor	Round stranded plain copper conductor 1,5 to 16 mm ² Round compacted plain, annealed copper conductor 25 to 300 mm ² Sector shaped plain, annealed conductors in 3-4 core cables 50 to 300 mm ² - max dc-resistance at +20 °C: IEC 60228 class 2 (see tables 1-3)
Wrapping	Mica tape with overlap as fire resistant layer
Insulation	Extruded halogen free XLPE, i.a.w. IEC 60092-360 - nominal thickness i.a.w. IEC 60092-353 (see tables 1-3)

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Laying up	Insulated conductors are laid up together - wrapping with suitable tape
Sheath	Extruded orange halogen free polyolefine, SHF1 i.a.w. IEC 60092-360 - nominal thickness i.a.w. IEC 60092-353 (see tables 1-3)

IDENTIFICATION

Cable marking examples	PRYSMIAN (FI10) LM-FRHF 3x70 0,6/1 kV TEMAR PHFX-UFR 3x70 Sec PRYSMIAN (FI20) LM-FRHF 3G1,5 0,6/1 kV TEMAR PHFX-UFR 3G1,5 + IEC 60092-353 + IEC 60331-1 + meter marking + manufacturing time
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**Core colours
(cable without earth core)**

Type	N	Live			
1X			(Black)	Grey	
2X	Blue	Brown			
3X		Brown	Black	Grey	
4X	Blue	Brown	Black	Grey	
5...37X	1	2	3	4	5...
White or black insulation with numbers					

**Core colours
(cable with earth core)**

Type	PE		N	Live		
3G	G	Y	Blue	Brown		
4G	G	Y		Brown	Black	Grey
5G	G	Y	Blue	Brown	Black	Grey

TECHNICAL DATA

Table 1. Single core power cable dimensions LM-FRHF and TEMAR PHFX-UFR

Size (nxmm ²)	Conductor		Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Cable	
	resistance max. (Ω/km)	diameter approx. (mm)			diameter approx. (mm)	weight approx. (kg/km)
1x25	0,727	5,8	0,9	1,1	11,5	320
1x35	0,524	6,8	0,9	1,2	12,5	420
1x50	0,387	7,9	1,0	1,2	14,0	550
1x70	0,268	9,6	1,1	1,3	16,0	760
1x95	0,193	11,3	1,1	1,3	18,0	1030
1x120	0,153	12,7	1,2	1,4	20,0	1300
1x150	0,124	14,1	1,4	1,5	22,0	1600
1x185	0,0991	15,7	1,6	1,6	24,0	1950
1x240	0,0754	18,1	1,7	1,7	27,0	2500
1x300	0,0601	20,2	1,8	1,7	30,0	3100

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Table 2. Multicore power cable dimensions LM-FRHF and TEMAR PHFX-UFR

Size (nxmm ²)	resistance max. (Ω/km)	Conductor		Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Cable	
		diameter ¹⁾ approx. (mm)	width ²⁾ approx. (mm)			diameter approx. (mm)	weight approx. (kg/km)
2x1,5	12,1	1,6		0,7	1,1	10,0	110
2x2,5	7,41	2,0		0,7	1,1	10,5	145
3x1,5	12,1	1,6		0,7	1,1	10,5	135
3x2,5	7,41	2,0		0,7	1,1	11,5	170
3x4	4,61	2,6		0,7	1,2	13,5	250
3x6	3,08	3,1		0,7	1,2	14,5	320
3x10	1,83	4,0		0,7	1,3	16,5	490
3x16	1,15	5,0		0,7	1,3	19,5	710
3x25	0,727	5,8		0,9	1,5	22,5	1100
3x35	0,524	6,8		0,9	1,6	25,0	1450
3x50	0,387	6,5	10,7	1,0	1,7	24,5	1650
3x70	0,268	7,9	12,8	1,1	1,8	28,0	2300
3x95	0,193	9,3	15,1	1,1	2,0	32,0	3100
3x120	0,153	10,5	17,0	1,2	2,1	35,0	3850
3x150	0,124	11,6	18,9	1,4	2,3	39,0	4800
4x1,5	12,1	1,6		0,7	1,1	11,5	160
4x2,5	7,41	2,0		0,7	1,1	12,5	220
4x4	4,61	2,6		0,7	1,2	14,5	310
4x6	3,08	3,1		0,7	1,2	16,0	410
4x10	1,83	4,0		0,7	1,3	19,0	610
4x16	1,15	5,0		0,7	1,4	22,0	900
4x25	0,727	5,8		0,9	1,6	25,0	1400
4x35	0,524	6,8		0,9	1,7	27,5	1850
4x50	0,387	7,2	9,9	1,0	1,8	28,0	2200
4x70	0,268	8,6	12,0	1,1	2,0	32,0	3000
4x95	0,193	10,2	14,1	1,1	2,1	36,0	4050
4x120	0,153	11,5	15,8	1,2	2,3	40,0	5100

1) Height for sector shaped conductor

2) For sector shaped conductor

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Table 3. Control cable dimensions LM-FRHF and TEMAR PHFX-UFR

Size (nxmm ²)	Conductor		Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Cable	
	resistance max. (Ω/km)	diameter approx. (mm)			diameter approx. (mm)	weight approx. (kg/km)
5x1,5	12,1	1,6	0,7	1,1	12,5	200
7x1,5	12,1	1,6	0,7	1,2	14,0	250
12x1,5	12,1	1,6	0,7	1,3	18,0	400
19x1,5	12,1	1,6	0,7	1,4	21,0	580
27x1,5	12,1	1,6	0,7	1,6	26,0	800
5x2,5	7,41	2,0	0,7	1,2	14,0	260
7x2,5	7,41	2,0	0,7	1,2	16,0	340
12x2,5	7,41	2,0	0,7	1,4	20,0	550
19x2,5	7,41	2,0	0,7	1,5	24,0	830

Ordering information

Part number	Description	GTIN no.	EL nummer
20180825	TEMAR PHFX-UFR 1x25 1kV	6410006242498	10 950 50
20101161	TEMAR PHFX-UFR 1x35 1kV	6410006241231	10 950 51
20101162	TEMAR PHFX-UFR 1x50 1kV	6410006241248	10 950 52
20101163	TEMAR PHFX-UFR 1x70 1kV	6410006241255	10 950 53
10101164	TEMAR PHFX-UFR 1x95 1kV	6410006241262	10 950 54
	TEMAR PHFX-UFR 2x1,5 1kV		10 950 55
20155230	TEMAR PHFX-UFR 2x2,5 1kV	6410006056033	10 950 56
	TEMAR PHFX-UFR 3G1,5 1kV		10 950 57
20155232	TEMAR PHFX-UFR 3G2,5 1kV	6410006056071	10 950 58
20149366	TEMAR PHFX-UFR 3x1,5 1kV	6410006056040	10 950 59
20155231	TEMAR PHFX-UFR 3x2,5 1kV	6410006056064	10 950 60
20155233	TEMAR PHFX-UFR 3x4 1kV	6410006241279	10 950 61
20155234	TEMAR PHFX-UFR 3x6 1kV	6410006056088	10 950 62
20155235	TEMAR PHFX-UFR 3x10 1kV	6410006056095	10 950 63
20155236	TEMAR PHFX-UFR 3x16 1kV	6410006056101	10 950 64
20079398	TEMAR PHFX-UFR 3x25 1kV	6410006056118	10 950 65
20079399	TEMAR PHFX-UFR 3x35 1kV	6410006056125	10 950 66
20079394	TEMAR PHFX-UFR 3x50 Sec 1kV	6410006056132	10 950 67
20079395	TEMAR PHFX-UFR 3x70 Sec 1kV	6410006056248	10 950 68
20079396	TEMAR PHFX-UFR 3x95 Sec 1kV	6410006241286	10 950 69
20079164	TEMAR PHFX-UFR 3x120 Sec 1kV	6410006058662	10 950 70
20180845	TEMAR PHFX-UFR 3x150 Sec 1kV	6410006242108	10 950 71
20155237	TEMAR PHFX-UFR 4x1,5 1kV	6410006056156	10 950 72
20155238	TEMAR PHFX-UFR 4x2,5 1kV	6410006241316	10 950 73
20155239	TEMAR PHFX-UFR 4x4 1kV	6410006241330	10 950 74
20153664	TEMAR PHFX-UFR 4x6 1kV	6410006059065	10 950 75
20155240	TEMAR PHFX-UFR 4x10 1kV	6410006059102	10 950 76
20155241	TEMAR PHFX-UFR 4x16 1kV	6410006241309	10 950 77
20096723	TEMAR PHFX-UFR 4x25 1kV	6410006241323	10 950 78
20100673	TEMAR PHFX-UFR 4x50 Sec 1kV	6410006241347	10 950 79
20100674	TEMAR PHFX-UFR 4x120 Sec 1kV	6410006241293	10 950 80
20155242	TEMAR PHFX-UFR 7x1,5 1kV	6410006056194	10 950 81
20153683	TEMAR PHFX-UFR 12x1,5 1kV	6410006056200	10 950 82
20155243	TEMAR PHFX-UFR 19x1,5 1kV	6410006056217	10 950 83