

SIENOPYR FR FMHXCH FE120 250 V

Fire resistant instrumentation cables for ships and offshore units



Application

For fixed installation on ships and offshore units in all locations and on open decks. The cables are not suitable for continuous use in water.

Global data

Brand	SIENOPYR FR
Type designation	FMHXCH
Standard	IEC 60092-376

Design features

Conductor	7 bare copper wires acc. to IEC 60228 class 2 cross section: 0,75mm ² / AWG 20 = 0,518mm ² / AWG 18 = 0,821mm ²
Insulation	Halogen free, ceramized special-elastomere insulation compound S95
Core identification	White with black numbers
Core assembly	Pairs in layers
Core arrangement	Lapped polyester foil and textile tape over laid-up cores
Screen	Plain copper wire braid
Outer sheath	Polyolefine compound, type SHF-1, according to IEC 60092-360. Colour: orange

Electrical parameters

Max. permissible operating voltage AC	0,250 kV
Max. permissible operating voltage DC	0,250 kV
AC test voltage	1.5 kV
Mutual capacitance	max. 120 nF/km (at 800 Hz)
Coupling	max. 1000 pF over 500 m
Near-end crosstalk attenuation (NEXT)	Over 100 m: at 800Hz: -77 dB (standard value) at 10 kHz: -75 dB (standard value) at 100 kHz: -68 dB (standard value)
Wave attenuation	at 800 Hz: 0,75 dB/km (standard value) at 10 kHz: 1,70 dB/km (standard value) at 100 kHz: 3,20 dB/km (standard value)
Characteristic impedance	100 kHz to 2 MHz: 130 Ohm (standard value) >2 MHz: 110 Ohm (standard value)
Transfer impedance	10 mOhm/m (standard value) at 10 MHz
Current Carrying Capacity description	The definitions in IEC 60092-201 apply.

Chemical parameters

Smoke emission	according to IEC 61034
Acidity of fire gases	according IEC 60754-2
Resistance to fire	according IEC 60331-1 resp. IEC 60331-2 for 120 min
Flame propagation	according to IEC 60332-3-22
Flame propagation	according to IEC 60332-1-2

Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fix installation min.	-35 °C
Laying temperature min.	-15 °C

Mechanical parameters

Max. tensile load on the conductor	50 N/mm ²
Min. bending radius	6 x D

Number of cores x cross section	Part number	MLFB Number	Outer diameter max. mm	Bending radius fixed min. mm	Weight (ca.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity (1) A
1 x 2 x 0.75	20001981	5BG7 890	8.4	50.4	92	75	52	10
2 x 2 x 0.75	20001982	5BG7 891	9.6	57.6	127	150	52	7
4 x 2 x 0.75	20001983	5BG7 892	12.5	75	200	300	52	6
7 x 2 x 0.75	20001984	5BG7 893	14.9	89.4	305	525	52	4
10 x 2 x 0.75	20001985	5BG7 894	18.1	108.6	430	750	52	4
14 x 2 x 0.75	20001986	5BG7 895	20.6	123.6	560	1050	52	3
19 x 2 x 0.75	20001987	5BG7 896	22.8	136.8	700	1425	52	3
24 x 2 x 0.75	20001988	5BG7 897	25.8	154.8	870	1800	52	3

(1) The values are for continuous load at 45 °C ambient temperature and laying of max. 4 cables in horizontal arrangement, tightly packed, free air circulation around the cable bundle.

At ambient temperatures below -15 °C the cables should be subjected to no further mechanical movement than normal ship's vibrations