



### CONTACT

Market information  
 industryprojects.business@lynx  
 ogroup.com

## Cables for variable frequency drives

### STANDARDS

**Product** IEC 60228

**Installation** IEC 60092-350; IEC 60092-353; IEC 60092-360

**Test a;** IEC 60332-1; IEC 60332-3-22; IEC 60754-1; IEC 61034

### APPLICATION

Motor supply cable for frequency converters controlled low voltage AC drives on ships, called VFD applications. MPRXCX® FLEXISHIP® EMC cables are designed with a special coverage, copper-polyester tape and braid, which provide a 100% EMC protection. Insulation with low dielectric constant is used to reduce reflected wave voltage peak magnitude.

Symmetrical insulated ground wires, placed in corner, can reduce reflected wave and return common mode noisy currents back to the drive. Enhanced insulation is implemented for 1.8/3(3.6) kV cable to fulfil periodic peak voltage up to 3 kV due to harmonics. These cables are used on board of ships in all locations for fixed installations.

### Design

1. **Conductor**  
Flexible bare copper  
Class 5
2. **Insulation**  
XLPE (cross-linked polyethylene)
3. **Optional**  
Symmetrical return earth conductors
4. **Inner covering**  
Lapped or extruded
5. **Screen / Armouring**  
Copper / polyester tape  
Bare copper braid
6. **Outer sheath**  
Polyolefin SHF1  
Colour: red

Example of marking:

LYNXEO 279 MPRXCX FLEXISHIP EMC 1.8/3kV "n"x"s"mm<sup>2</sup> 90°C  
 IEC 60092-353 IEC 60332-3-22 Cat. A ww/yy + metric marking

Core Identification

3 cores: black-grey-brown

Earth: green/yellow split in 3 conductors



Conductor flexibility  
Flexible class 5



Halogen free  
IEC 60754-1



Rated Voltage U<sub>o</sub>/U  
(Um)  
1.8 / 3 (3.6) kV



Fire retardant  
EN IEC 60332-3-22  
(cat A)



Flame retardant  
IEC 60332-1



Smoke density  
IEC 61034



Gases corrosivity  
IEC 60754-2



Electro magnetic  
interference  
resistance  
Yes

**CHARACTERISTICS****Construction characteristics**

Conductor material	Bare copper
Conductor flexibility	Flexible class 5
Insulation	XLPE (Cross-linked Polyethylene)
Screen	Copper - Polyester tape
Inner sheath	Lapped or extruded inner covering
Armour type	Bare copper braid
Outer sheath	Polyolefin
With Green/Yellow core	No
Sheath colour	Red
Halogen free	IEC 60754-1
Construction type	1x185

**Dimensional characteristics**

Number of cores	1
Conductor cross-section	185 mm <sup>2</sup>
Nominal outer diameter	28.8 mm
Minimum outer diameter	27.5 mm
Maximum outer diameter	31.0 mm
Approximate weight	2190 kg/km
Earth conductor cross section	0 mm <sup>2</sup>
Number of auxiliary conductors	0

**Electrical characteristics**

Permissible current rating in open air	470 A
Rated Voltage U <sub>o</sub> /U (U <sub>m</sub> )	1.8 / 3 (3.6) kV

**Usage characteristics**

Fire retardant	EN IEC 60332-3-22 (cat A)
Flame retardant	IEC 60332-1
Smoke density	IEC 61034
Gases corrosivity	IEC 60754-2
Electro magnetic interference resistance	Yes
Operating temperature, range	-30 ... 80 °C
Max. conductor temperature in service	90 °C