TOPDRIVE® VFD (EMC) ROZ1-K (AS) 1,8/3 kV

100% Green Energy Cable Production

Flexible LSHF screened cable for Variable Frequency Drive cables (VFD cables).

ACCORDING TO: IEC 60502-1 / IEC 60092-353

C_{ca}

APPLICATION

TOPDRIVE® VFD (EMC) ROZ1-K (AS) cable has been specially designed for Variable Frequency Drive Motors and installations where it is necessary to limit the effects of electromagnetic interference (EMI). This is a flexible cable for fixed installations, for variable speed motors or pumps.

CONSTRUCTION

Conductor

Electrolytic annealed copper conductor, class 5 (flexible), according to EN 60228 and IEC 60228.

Protective Conductor

The ground conductor is divided into three conductors; the equivalent cross-section is approximately 50% of the section of the phase conductor.

Insulation

Cross-linked polyethylene type XLPE according to IEC 60502-1, type HF XLPE 90oC according to IEC 60092-351.

The standard identification of insulated conductors is the following:

3 x +3 G Grey + Brown + Black + Green/Yellow (3 G) (from 6 mm^2 onwards)

Assembly of cores

For 3x+3G cables, the three phase conductors are cabled helically with the three protective conductors distributed in the interstices.

Screen

Aluminium-polyester tape screen helically placed over the insulated conductors. Over the tape there is a tinned copper braid screen. The tape and the braid act as a double screen to cut out all of the electromagnetic interference, with a minimum total section of 10% of the phase conductor, ensuring a total shielding coverage.

Outer sheath

Polyolefin LSHF outer sheath, type ST8 according to IEC 60502-1 and type SHF1 according to IEC 60092-360. black colour. The ripcord allows you to tear the outer sheath without damaging the screen.

CHARACTERISTICS

Electrical performance

Low voltage: 1,8/3 kV

Thermal performance

Maximum service temperature: 90°C.

Maximum short-circuit temperature: 250°C (max. 5 s).

Minimum service temperature: -40°C (fixed and protected installations)

Fire performance

Flame non-propagation according to EN 60332-1 / IEC 60332-1.

Fire non-propagation according to EN 60332-3 / IEC 60332-3 and EN 50399.

Reaction to fire CPR: C_{ca}-s1a, d1, a1 according to EN 50575.

LSHF (Low Smoke Halogen Free) according to EN60754-1 / IEC 60754-1

Low smoke emission according to EN 61034 / IEC 61034:

Light transmittance > 80%.

Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.

Mechanical performance

Minimum bending radius: 10x cable diameter.

Impact resistance: AG2 Medium severity.

Environmental performance

Chemical & Oil resistance: acceptable.

UV Resistant according to EN 50618.

Water resistance: AD5 Jets.

Installation conditions

Open Air.

Buried.

In conduit.

STANDARDS / COMPLIANCE

According to

IEC 60502-1 / IEC 60092-353

Standards and approvals

BUREAU VERITAS / DNV-GL / ABS / LLOYD'S REGISTER / RoHS / CE

CPR (Construction Products Regulation)

C_{ca}-s1a, d1, a1

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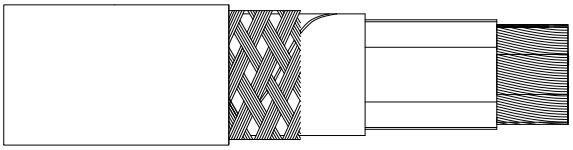
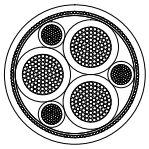
ROZ1-K (AS) 1,8/3 kV

DIMENSIONS & ADMISSIBLE INTENSITIES





Cross-section (mm^2)	Diameter under the braid (mm)	Outer diameter (mm)	Weight (Kg/km)	Open air (A) [1]	Buried (A) [2]	R20°C (Ω/km)	Voltage drop (V/A · km) [3]
3 x 50 + 3 G 10	27,0	32,4	2.240	225	183	0,386	0,984
3 x 70 + 3 G 10	30,1	35,5	2.840	289	225	0,272	0,693
3 x 95 + 3 G 16	34,0	40,2	3.795	352	270	0,206	0,525
3 x 120 + 3 G 16	36,7	43,1	4.560	410	306	0,161	0,410
3 x 150 + 3 G 25	41,6	48,2	5.670	473	343	0,129	0,328
3 x 185 + 3 G 35	45,3	52,2	6.895	542	387	0,106	0,270
3 x 240 + 3 G 50	50,7	58,0	8.955	641	448	0,0801	0,204
3 x 300 + 3 G 50	55,8	63,6	10.820	741	502	0,0641	0,163

[1] Reference method E for multicore cables according to IEC 60364-5-52 in open air at 30°C ambient temperature.

[2] Reference method D2 according to IEC 60364-5-52. Directly buried at 0,7 m depth with soil thermal resistivity of 2,5 K·m/W and 20°C of ground temperature.

[3] At maximum service temperature and $\cos\varphi=1$.

In all cases it is supposed a single-phase circuit.