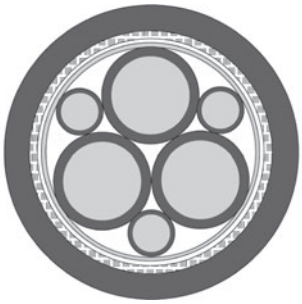
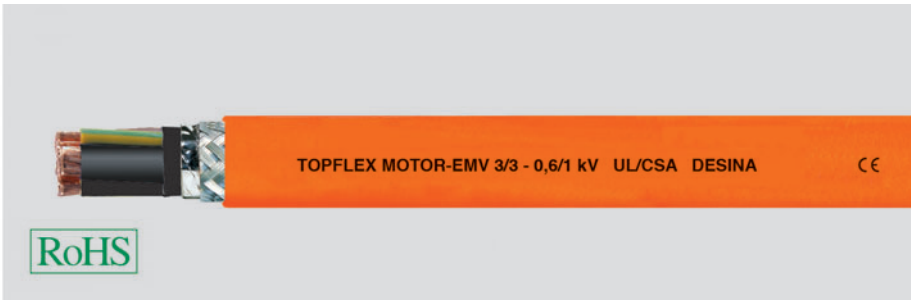
TOPFLEX®-MOTOR-EMV 3/3 triple-screened, low capacitance, 80°C, 600V, PUR flexible motor supply cable, meter marking





Technical data

- Special PUR motor power supply cable for frequency converter to UL AWM Style 20234 and CSA AWM based on DIN VDE 0250
- **Temperature range**
  flexing -30 °C to +80 °C
  fixed installation -40 °C to +80 °C
- **Nominal voltage**
  acc. to UL 1000 V
  acc. to VDE U_0/U 0,6/1 kV
- **A.c. test voltage**, 50 Hz
  3000 V
- **Mutual capacitance** at 4 kHz,
  depending on conductor cross-section
  core/core 70-250 nF/km
  core/screen 110-410 nF/km
- **Insulation resistance**
  min. 200 MOhm x km
- **Minimum bending radius**
  fixed installation,
  for outside ø to 12 mm = 5x cable ø
  >12 to 20 mm = 7,5x cable ø
  >20 mm = 10x cable ø
  free-movement,
  for outside ø to 12 mm = 10x cable ø
  >12 to 20 mm = 15x cable ø
  >20 mm = 20x cable ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire in acc. with DIN VDE 0295 cl. 5 and IEC 60228 cl. 5
- Special polyethylene (PE) core insulation
- Core colours black with imprint U1, V2, W3
- Green-yellow earth core
- Cores stranded in layers
- Screen of semi-conductive fleece, aluminium-coated polyester film and tinned copper braiding, coverage approx. 85%
- PVC outer sheath
- Sheath colour orange (RAL 2003) according to DESINA®
- with meter marking, change-over in 2011

Properties

- PUR outer sheath: low adhesion, flame retardant, extremely abrasion resistant, halogen-free, resistant to UV, oil, hydrolysis and microbial attack
- PUR sheath: self-extinguishing and flame retardant, test method B acc. to DIN VDE 0472 part 804 and IEC 60332-1
- This screened motor power supply cable, with low mutual capacitance because of the special PE core insulation, enables low-loss transmission of power compared to PVC-sheathed power supply cables
- The optimal triple screening enables interference-free operation of frequency converters
- Optimum compliance with requirements for electromagnetic compatibility (EMC) due to the triple screening
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Tests

- Low mutual capacitance: tested acc. to DIN VDE 0472 part 504, test method B

Special features:

Here the earth core cross-section is divided into thirds, which lie in the interstices between the power supply cores. Due to this symmetrical construction, the PE insulation and the triple screening, very low capacitance and inductance are achieved. EMC compatibility is considerably enhanced.

N

Note

- All cables are also available in JB with coloured cores according to VDE 0295.

Application

This TOPFLEX® MOTOR EMV 3/3 two-approvals, triple-screened motor power supply cable for frequency converters provides outstanding EMC in machines and systems.
Suitable as a supply and connecting cable for high mechanical stresses, in fixed installations and occasional free movements in dry, moist and wet environments, as well as outdoors.
Areas of application include machine tools, processing and manufacturing machinery, machining centres, industrial robots, transfer lines, handling equipment, etc.
By dividing the earth core into thirds and dividing it evenly in the interstices between the power supply cores, a symmetrical structure has been achieved. This results in improved EMC, capacitance and inductance compared to the 4-core version.
EMC = Electromagnetic compatibillity
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.
CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Continuation ▸

TOPFLEX®-MOTOR-EMV 3/3 triple-screened, low capacitance, 80°C, 600V, PUR flexible motor supply cable, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø approx. mm	Coupling resistance at 1 MHz Ohm/km	Coupling resistance at 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Amperes	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
78614	3 x 1,5 + 3 G 0,25	10,4			18	100,0	150,0	16
78615	3 x 2,5 + 3 G 0,5	12,1	18	210	26	160,0	240,0	14
78616	3 x 4 + 3 G 0,75	13,9	11	210	34	245,0	345,0	12
78617	3 x 6 + 3 G 1,0	15,5	6	150	44	335,0	460,0	10
78618	3 x 10 + 3 G 1,5	19,5	7	180	61	750,0	840,0	8
78619	3 x 16 + 3 G 2,5	22,5	9	190	82	820,0	930,0	6
78620	3 x 25 + 3 G 4,0	28,6	4	95	108	1180,0	1425,0	4
78621	3 x 35 + 3 G 6,0	29,6	3	85	135	1700,0	1900,0	2
78622	3 x 50 + 3 G 16,0	35,7	2	40	168	2400,0	2650,0	1
78623	3 x 70 + 3 G 10,0	43,0	2	45	207	3300,0	4400,0	2/0
78624	3 x 95 + 3 G 16,0	47,0	1	50	250	4500,0	5300,0	3/0
78625	3 x 120 + 3 G 16,0	52,0			292	5500,0	6300,0	4/0
78626	3 x 150 + 3 G 25,0	58,0			335	6260,0	7200,0	300 kcmil

Dimensions and specifications may be changed without prior notice.