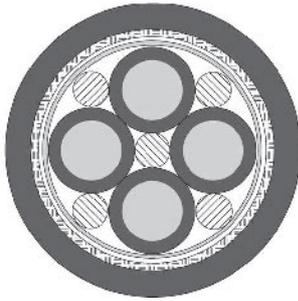


# MOTORFLEX EMV 1/1 triple-screened, low capacitance, 80°C 600V high flexible motor supply cable



## Technical data

- Special PUR motor power supply cable for frequency converter to UL AWM Style 20235 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<sub>0</sub>/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 MΩm 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 Ωm/km
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)

## Application

This MOTORFLEX 1/1 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.

**EMC** = Electromagnetic compatibility

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 73/23/EEC and 93/68/EEC.

## Cable construction

- 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, brown, blue
- Green-yellow earth core
- Cores stranded in layers
- Screen of semi-conductive fleece, aluminium-coated polyester film and tinned copper braiding, coverage approx. 85%
- PUR outer sheath
- Sheath colour orange (RAL 2003) according to DESINA®

## 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

## Tests

- Flame-test, tested in acc. with DIN VDE 0472 part 804 test method B and IEC 60332-1
- Low mutual capacitance: tested acc. to DIN VDE 0472 part 504, test method B

Part No.	No. cores x cross-sec. mm <sup>2</sup>	Outer Ø ca. mm	Mutual capacitance core/core ca. nF/km	Mutual capacitance core/shield ca. nF/km	Coupling resistance with 1 MHz Ohm/km	Coupling resistance with 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Ampère	Cop. weight kg / km	Weight ca. kg / km	AWG-No.
78377	(4 x 1,5)	11,5	70,0	110,0			18,0	95	230,0	16
78378	(4 x 2,5)	13,5	80,0	130,0	18,0	210,0	26,0	150	300,0	14
78379	(4 x 4,0)	15,8	90,0	150,0	11,0	210,0	34,0	235	485,0	12
78380	(4 x 6,0)	17,8	90,0	150,0	6,0	150,0	44,0	320	630,0	10
78381	(4 x 10,0)	21,6	120,0	200,0	7,0	180,0	61,0	535	860,0	8
78382	(4 x 16,0)	25,4	120,0	210,0	9,0	190,0	82,0	789	1290,0	6
701308	(4 x 25,0)	31,0	140,0	230,0	4,0	95,0	108,0	1180	1800,0	4
78383	(4 x 35,0)	33,0	150,0	260,0	3,0	85,0	135,0	1662	2610,0	2
78384	(4 x 50,0)	39,0	190,0	320,0	2,0	40,0	168,0	2345	2950,0	1
78385	(4 x 70,0)	45,0	190,0	320,0	2,0	45,0	207,0	3196	3950,0	2/0
78386	(4 x 95,0)	50,1	250,0	410,0	1,0	50,0	250,0	4316	5300,0	3/0
78387	(4 x 120,0)	54,2					292,0	5435	6600,0	4/0
78388	(4 x 150,0)	61,3					335,0	6394	7040,0	300 kcmil
78479	(4 x 185,0)	64,2					382,0	7639	8380,0	350 kcmil

Dimensions and specifications may be changed without prior notice.

\*\*) The current carrying capacity for permanent operation at ambient temperature of 30°C. For deviating ambient temperatures the conversion factors should be used and for further see the indication in DIN VDE 0298 part 4.