TOPFLEX®-MOTOR-EMV 3/3

double screened, EMC-preferred type

TECHNICAL DATA

Motor connection cable for frequency converters acc. to UL-Std. 758 (AWM) Style 20234, in alignment with DIN VDE 0250

Temperature range	flexible -30°C to +80°C fixed -40°C to +80°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	VDE AC U_0/U 600/1000 V UL (AWM) AC 1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage core/core	4000 V
Coupling resistance	see table
Minimum bending radius	flexible <12 mm: 10x Outer-ø 12-20 mm: 15x Outer-ø >20 mm: 20x Outer-ø fixed <12 mm: 5x Outer-ø 12-20 mm: 7,5x Outer-ø >20 mm: 10x Outer-ø

CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: XLPE
- Core identification: brown, black, grey, green-yellow (divided into thirds)
- Protective conductor: GN-YE divided into thirds (3+3-core structure)
- Cores stranded with optimal lay lengths
- 1. Screen: plastic-coated aluminium foil (St)
  2. Screen: braided screen of tinned copper wires, approx. coverage 85%
- Outer sheath: Special grade of full polyurethane
- Sheath colour: orange (RAL 2003)
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, oxygen, weathering effects, hydrolysis, microbes, coolants, hydraulic fluids, acids, alkalis, greases, seawater and wastewater
- highly abrasion-resistant, notch-resistant, tear-resistant, cut-resistant, wear-resistant, low adhesion
- for outdoor use
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- symmetrical 3-PLUS-composition (protective conductor divided into thirds and stranded uniformly in the interstices) with improved EMC properties in comparison to 4-core-composition
- optimal screening enables interference-free operation of frequency converters
- low coupling resistance ensures good electromagnetic compatibility

TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2, CSA FT1
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2
- electromagnetic compatibility acc. to DIN VDE 0875-11 / DIN EN 55011

APPLICATION

Highly abrasion-resistant, notch-resistant and coolant emulsion-resistant motor connection cable; fixed installation or only occasional free movement provided, for use in dry, damp and wet rooms as well as outdoors. Used in the automotive, food and packaging industry, on conveyor belts, machine tools, handling equipment, pumps, ventilation and air conditioning systems. EMC = Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Coupling resistance at 30 MHz in Ohm/km	Current carrying capacity*	Cu factor per km	Weight kg/km, approx.
78614	3 x 1.5 + 3 G 0.25	16	9.6	250	18	73.5	130.0
78615	3 x 2.5 + 3 G 0.5	14	10.6	210	26	114.8	174.0
78616	3 x 4 + 3 G 0.75	12	11.8	210	34	168.3	234.0
78617	3 x 6 + 3 G 1	10	13.5	150	44	245.6	320.0
78618	3 x 10 + 3 G 1.5	8	15.9	180	61	384.0	488.0

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Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Coupling resistance at 30 MHz in Ohm/km	Current carrying capacity*	Cu factor per km	Weight kg/km, approx.
78619	3 x 16 + 3 G 2.5	6	18.4	190	82	594.4	704.0
78620	3 x 25 + 3 G 4	4	23.1	95	108	940.7	1117.0
78621	3 x 35 + 3 G 6	2	25.7	85	135	1327.4	1508.0
708613	3 x 50 + 3 G 10	1	29.9	40	168	1899.0	2138.0
11027667	3 x 70 + 3 G 10	2/0	35.0	45	207	2499.4	2886.0
11027668	3 x 95 + 3 G 16	3/0	38.8	50	250	3441.1	3764.0
11027669	3 x 120 + 3 G 25	4/0	43.9	50	292	4757.1	5053.0

*) Current carrying capacity with 3 loaded cores in amperes for permanent operation up to 30°C ambient temperature. For deviating ambient temperatures, the conversion factors and specifications from DIN VDE 0298-4 apply.

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