

TOPFLEX®-EMV-UV-3-PLUS-2XSLCHK-J

EMC-preferred type, double screened, enhanced current carrying capacity



TECHNICAL DATA

Motor connection cable for frequency converters in alignment with DIN VDE 0250

Temperature range	flexible -15°C to +90°C fixed -40°C to +90°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	AC U ₀ /U 600/1000 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-Polyolefin
- Sheath colour: black (RAL 9005)
- Length marking: in metres

PROPERTIES

- resistant to: UV radiation, weathering effects
- for outdoor use
- halogen-free
- 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
- low mutual capacitance of the individual cores due to XLPE core insulation and low screen capacity, enable low-loss power transmission

TESTS

- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- 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

Used as a connecting cable for medium mechanical stress with fixed installation and occasional free movement in dry, damp or wet rooms, as well as outdoors. As a result of the permissible operating temperature of +90°C at the conductor, an enhanced current carrying capacity compared to PE insulated motor connection cables is permissible. Used in the automotive industry, food industry, environmental technology sector, packaging industry and in machine tools. Utilised as handling equipment for SIMOVERT drives in the industrial sector for pumps, fans, conveyor belts and air conditioning systems etc. 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. mm ²	AWG, approx.	Outer Ø mm, approx.	Coupling resistance at 30 MHz in Ohm/km	Current carrying capacity*	Cu-weight kg/km	Weight kg/km, approx.
24536	3 x 1.5 + 3 G 0.25	16	9.2		23	86.0	141.0
24537	3 x 2.5 + 3 G 0.5	14	10.8	210	32	144.0	213.0
24538	3 x 4 + 3 G 0.75	12	12.3	210	42	224.0	278.0

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24539	3 x 6 + 3 G 1	10	14.0	150	54	298.0	377.0
24540	3 x 10 + 3 G 1.5	8	17.6	180	75	491.0	637.0
24541	3 x 16 + 3 G 2.5	6	20.4	190	100	723.0	932.0
24542	3 x 25 + 3 G 4	4	23.2	95	127	1138.0	1330.0
24543	3 x 35 + 3 G 6	2	26.1	85	158	1535.0	1730.0
24544	3 x 50 + 3 G 10	1	30.8	40	192	2208.0	2503.0
24545	3 x 70 + 3 G 10	2/0	34.2	45	246	2871.0	3164.0
24546	3 x 95 + 3 G 16	3/0	37.8	50	298	3953.0	4097.0
24583	3 x 120 + 3 G 16	4/0	42.6		346	4836.0	5062.0
24584	3 x 150 + 3 G 25	300 kcmil	47.5		399	5412.0	6128.0
24585	3 x 185 + 3 G 35	350 kcmil	53.4		456	6969.0	7847.0
24586	3 x 240 + 3 G 42.5	500 kcmil	58.7		538	8540.0	10065.0

*) 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.