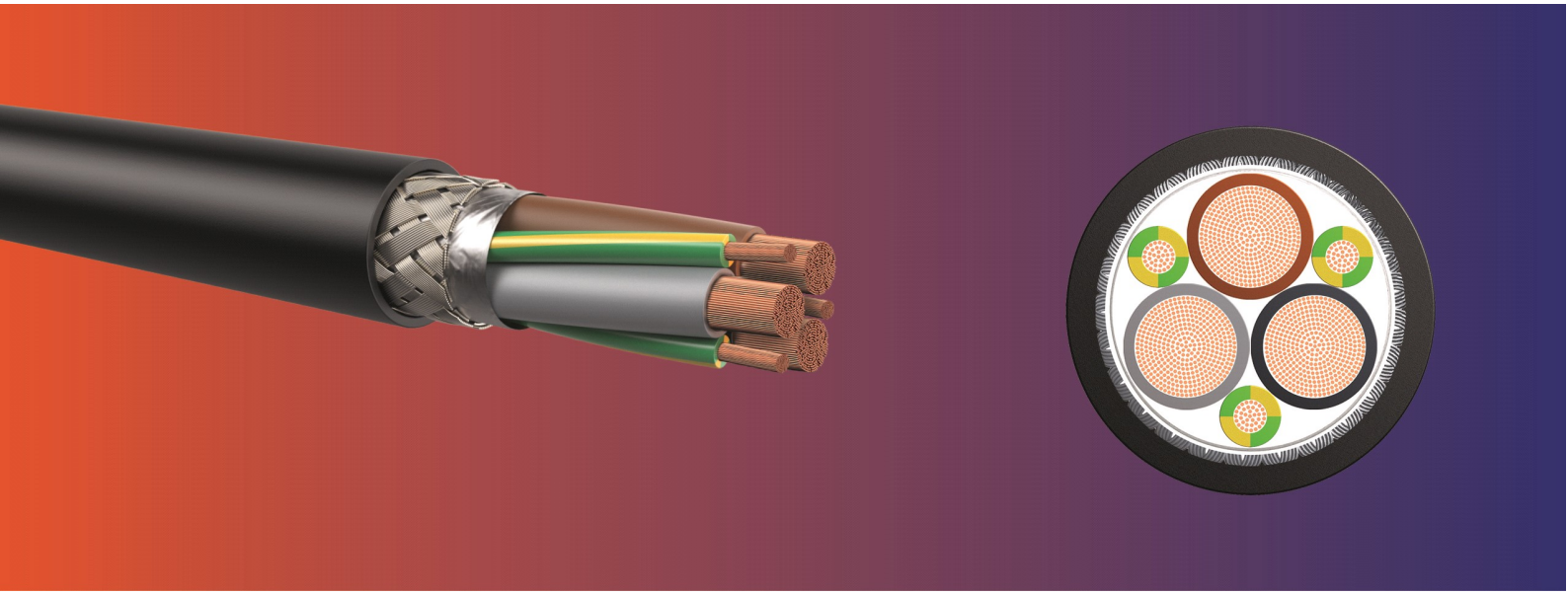
CONNECTION AND POWER CABLES

BETAdrive®
EMC optimised, screened



Application

This cable is specially designed and electrically optimised for frequency converter controlled electric motors. Suitable for fixed and flexible installation with medium mechanical solicitation in dry and temporarily damp rooms. Weather and UV resistant.

Construction

Conductor	Bare annealed copper strand, fine-wire, acc. to VDE 0295 / IEC 60228, class 5
Insulation	EPR
3 ground conductors	Bare annealed copper strand, fine-wire, acc. to VDE 0295 / IEC 60228, class 5
Insulation	EPR
Taping	Polyester tape
Shield	Aluminium-bonded polyester tape with tinned fine copper braid
Sheath	Polyolefin Copolymer
Sheath colour	Black

Advantages

- Designed following the recommendation of power drive suppliers
- Minimised bearing currents, resulting in increased durability of the drives
- Symmetrical impedance of the phase and earth conductors
- EMC-optimised double shield, braid coverage min. 85 %
- Minimised magnetic field
- Minimised electrical capacity
- Halogen free
- Low Toxicity of combustion gases
- Wheather and UV resistant
- Made in Switzerland

0000460 V02 © Studer Cables AG / Technical modifications reserved

Electrical properties

Rated voltage	U0/U	0.6 / 1 kV AC
Test voltage	Core/core	3.5 kV, 50 Hz / 5 Min.
Test voltage	Core/shield	2.5 kV, 50Hz / 5 Min.

Thermal properties

Max. conductor temperature	+90°C
Max. short circuit temperature	+250°C (max. 5s)

Mechanical properties

Bending radius	during laying	Ø < 30 mm: > 12 x Ø
Bending radius	fixed installation	Ø < 30 mm: > 8 x Ø
Bending radius	during laying	Ø ≥ 30 mm: > 15 x Ø
Bending radius	fixed installation	Ø ≥ 30 mm: > 10 x Ø

Material properties / Standards

Fire properties acc. to CPR	EN 50575, EN 13501-6
No flame propagation Eca	EN 60332-1-2
Toxicity of combustion gases	NF X 70-100
Halogen free	EN 60754-1
Oil resistance	EN 60811-404 (4 h / 70 °C)

0000460 V02© Studer Cables AG / Technical modifications reserved

Construction Cross-sec. [n x mm2]	Color code	Conductor-Ø [mm]	Shield-Ø [mm]	Cross-sec shield [mm2]	Outer-Ø [mm]	Weight [kg/km]	Fire load [kWh/m]	Part no.
3x2,5 mm2 3L +3x1 mm2 PE	3L+3PE	2.1	9.8	2.6	12.8	234	0.740	302800
3x4 mm2 3L +3x1,5 mm2 PE	3L+3PE	2.5	11.2	2.6	14.2	284	0.840	302801
3x6 mm2 3L +3x2,5 mm2 PE	3L+3PE	3.1	13.2	2.6	16.2	405	1.110	302802
3x10 mm2 3L +3x4 mm2 PE	3L+3PE	4.1	16.2	4.5	19.2	624	1.560	302270
3x16 mm2 3L +3x6 mm2 PE	3L+3PE	5.4	19.6	4.5	23.0	927	2.160	301017
3x25 mm2 3L +3x6 mm2 PE	3L+3PE	6.6	21.4	7.9	24.8	1184	2.430	301018
3x35 mm2 3L +3x6 mm2 PE	3L+3PE	7.6	23.7	7.9	27.3	1507	2.810	302271
3x50 mm2 3L +3x10 mm2 PE	3L+3PE	9.2	28.1	11.4	32.1	2166	3.800	301019
3x70 mm2 3L +3x16 mm2 PE	3L+3PE	11.0	33.4	14.1	37.6	3067	5.440	302272
3x95 mm2 3L +3x16 mm2 PE	3L+3PE	13.0	36.4	14.1	40.8	3686	5.680	302273
3x120 mm2 3L +3x25 mm2 PE	3L+3PE	14.8	41.2	14.1	46.0	4848	7.130	301020
3x150 mm2 3L +3x25 mm2 PE	3L+3PE	16.4	44.6	14.1	49.6	5644	7.850	301021
3x185 mm2 3L +3x35 mm2 PE	3L+3PE	18.2	48.9	14.1	54.3	7134	9.600	302274
3x240 mm2 3L +3x50 mm2 PE	3L+3PE	20.8	56.0	17.8	61.8	9447	11.980	302275

3L = brown, grey, black

PE = protective earth, green/yellow

0000460 V02© Studer Cables AG / Technical modifications reserved