HIGH-VOLTAGE SUPPLY CABLES

BETAtron® T150 High C-flex

Single-core, screened, highly flexible, FHLR4GC4G



Application

Shielded high-voltage cables for safe power transmission between high-voltage components in electric commercial vehicles. The shielding ensures high electromagnetic compatibility (EMC) and protects sensitive vehicle systems from interference.
Typical applications include connections between the battery, inverter, electric motor as well as charging and heating systems. With their resistance to abrasion, stone chipping, vibrations and extreme temperatures, the cables ensure reliable and trouble-free operation throughout the entire high-voltage network.

Construction

Conductor	Bare copper strand, fine wire stranding configuration according to ISO 19642-5
Insulation	EVA-based polymer mixture, electron beam cross-linked
Core colour	Orange (similar to RAL 2003)
Shield	Tinned copper braid
Sheath	EVA-based polymer mixture, electron beam cross-linked
Sheath colour	Orange (similar to RAL 2003)

Advantages

- Design according to ISO 19642-9 "thin wall"
- Electron beam cross-linked
- Abrasion and cut-resistant insulation
- Durable; excellent ageing behaviour
- Strong sheath adhesion
- EMC-optimised shielding braid
- High bending flexibility
- Outer diameter suitable for the most common plugs and cable glands
- Optimised for efficient cable processing and connector assembly
- Temperature resistance up to 150°C
- Manufactured in Switzerland

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Electrical properties

Rated voltage	U0	1500 V DC
Rated voltage	U0/U	1000 / 1000 V AC
Test voltage		10.0 kV AC / 5 min.

Thermal properties

Operating temperature	-40°C to +150°C
Max. short circuit temperature	+250°C (max. 5s)

Mechanical properties

Bending radius	fixed installation	3 x Ø
Bending radius	occasionally moved	5 x Ø

Material properties / standards

Media resistance	ISO 19642-9 (6.5)
Fire behaviour	ECE R118
Material selection	RoHS and REACH compliant

Further information

Braid coverage > 90%
Cable marking
STUDERCABLES.COM – BETATRON T150 HIGH C-FLEX FHLR4GC4G [a]/[b] ⚡ ATTENTION HIGH VOLTAGE MAX 1000V AC / 1500V DC ⚡ - [c] [d]
[a] cross section [b] wire diameter [c] part no. [d] production lot no.

Cross section	Conductor structure	Conductor Ø	R_{20}	Insulation thickness	Core Ø	Shield Ø	Outer Ø	Weight	Part no.
[mm2]	[n x mm]	[mm]	[Ω/km]	[mm]	[mm]	[mm]	[mm]	[kg/km]	
4	56 X 0.31	2.5	4.71	0.50	3.50	3.90	4.90 ± 0.20	59.9	318278
6	84 X 0.31	3.1	3.14	0.50	4.10	4.60	5.80 ± 0.20	86.3	318279
10	320 X 0.21	4.2	1.82	0.70	5.60	6.20	7.80 ± 0.20	151.7	318280
16	504 X 0.21	5.3	1.16	0.75	6.80	7.40	9.30 ± 0.30	224.0	318281
25	756 X 0.21	6.7	0.74	0.80	8.30	9.00	11.00 ± 0.30	362.6	318282
35	1020 X 0.21	7.9	0.53	1.00	9.90	10.70	12.90 ± 0.30	461.8	318283
50	1596 X 0.21	9.5	0.37	1.05	11.60	12.40	14.90 ± 0.30	622.4	318284
70	2244 X 0.21	11.3	0.26	1.20	13.70	14.50	17.00 ± 0.30	853.6	318285
95	2964 X 0.21	13.4	0.20	1.20	15.80	16.60	19.50 ± 0.30	1096.2	318286
120	3648 x 0.20	14.9	0.15	1.90	18.70	19.60	22.60 ± 0.40	1429.2	318287
150*	2736 X 0.26	17.0	0.13	2.05	21.10	22.00	25.00 ± 0.40	1697.2	318288
185*	3192 X 0.26	17.9	0.11	2.30	22.50	23.40	26.60 ± 0.40	2021.8	318289

* currently not defined in ISO 19642

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