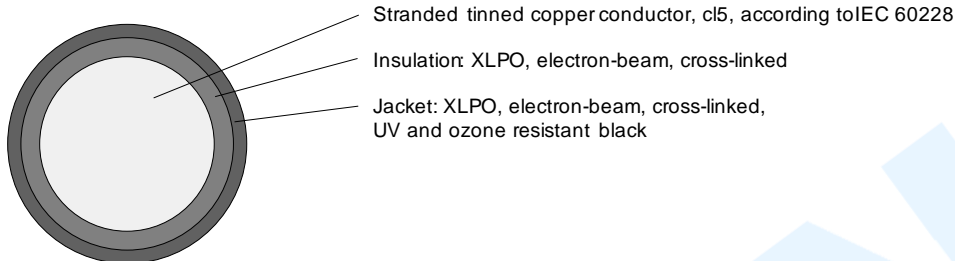


BETAflam® Solar 125 RV flex 1500V DC

2.50 mm²-50 mm²

Construction



Dimensions (approx.)

| Cross-section (mm ²) | Cu-Conductor Ø (mm) | Insulation Ø (mm) | Sheath Ø (mm) |
|----------------------------------|---------------------|-------------------|---------------|
| 2.5 | 2.05 | 3.45 | 5.00 |
| 4 | 2.45 | 3.90 | 5.50 |
| 6 | 3.00 | 4.50 | 6.10 |
| 10 | 4.10 | 5.60 | 7.20 |
| 16 | 5.00 | 6.50 | 8.50 |
| 25 | 6.20 | 8.20 | 10.40 |
| 35 | 7.70 | 9.70 | 11.90 |
| 50 | 9.70 | 11.90 | 14.30 |

Technical data

| Construction (mm ²) | 2.50 | 4 | 6 | 10 | 16 | 25 | 35 | 50 |
|--|-------|-------|------|------|------|-------|-------|-------|
| Max. Conductor resistance at 20°C (Ω/km) | 8.21 | 5.09 | 3.39 | 1.95 | 1.24 | 0.795 | 0.565 | 0.393 |
| Voltage drop 20°C loop (mV/Am) | 16.42 | 10.18 | 6.78 | 3.90 | 2.48 | 1.590 | 1.13 | 0.786 |
| Voltage drop 90°C loop (mV/Am) | 20.94 | 12.98 | 8.65 | 4.97 | 3.16 | 2.03 | 1.44 | 1.00 |
| max. Cable weight (kg/km) | 47 | 61 | 82 | 126 | 190 | 291 | 400 | 570 |

Voltage rating according to EN 50618

Max. permitted voltage

U_o 1800 V (DC)

Nominal voltage

U_o 1500 V (DC)

U_o/U 1000 V / 1000 V (AC, 50Hz)

Testing voltage

6.5 V, 50 Hz 5 min

Operating temperature

- 50 °C up to + 120 °C

Min. bending radius

Fixed installation > 6 x cable-Ø

Occasionally moved > 8 x cable-Ø

Maximal pull force

40 N / mm² (1 x conductor x 40 N/mm²)

Specifications can be subject to change without notice

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Max. Current rating (Ampere at 50 Hz) (according to IEC 60287) for AC&DC application

(Calculation is valid for thermal soil resistivity : 1.00 K.m/W and Load Factor : 1.00)

| | in air (60°C) no sun | in air (60°C) no sun in plastic Pipe | in air (60°C) with sun | in air (60°C) with sun in plastic Pipe | (max 20°depth 1m) in plastic Pipe |
|---------------------------------|-------------------------|--|---------------------------|--|--|
| Conductor (mm ²) | Temp. 120°C | Temp. 120°C | Temp. 120°C | Temp. 120°C | Temp. 120°C |
| 2.5 | 42 | 38 | 40 | 36 | 53 |
| 4 | 55 | 49 | 52 | 45 | 68 |
| 6 | 70 | 64 | 66 | 59 | 86 |
| 10 | 97 | 86 | 93 | 80 | 117 |
| 16 | 129 | 115 | 122 | 107 | 152 |
| 25 | 170 | 147 | 160 | 136 | 193 |
| 35 | 214 | 183 | 201 | 169 | 238 |
| 50 | 273 | 228 | 257 | 211 | 292 |

| | in air (60°C) no sun | in air (60°C) with sun | in Plastic-Pipe (max 20°depth 1m) |
|---------------------------------|-------------------------|---------------------------|--------------------------------------|
| Conductor (mm ²) | Temp. 120°C | Temp. 120°C | Temp. 120°C |
| 2.5 | 30 | 27 | 36 |
| 4 | 40 | 36 | 47 |
| 6 | 51 | 45 | 58 |
| 10 | 71 | 64 | 80 |
| 16 | 95 | 85 | 102 |
| 25 | 127 | 113 | 132 |
| 35 | 161 | 143 | 163 |
| 50 | 208 | 184 | 201 |

Conversion factors for different thermal soil resistivity

| ρ (Kxm/W) | 0.50 | 0.70 | 1.00 | 1.50 | 2.00 | 2.50 |
|-----------------------|------|------|------|------|------|------|
| Buried cables | 1.25 | 1.13 | 1 | 0.85 | 0.76 | 0.68 |
| Buried cables in pipe | 1.08 | 1.05 | 1 | 0.93 | 0.87 | 0.83 |

Specifications can be subject to change without notice

BETAflam® Solar 125 RV flex 1500V DC

2.50 mm²-50 mm²

Conversion factors for different ambient temperature and depth

| | | Depth (mm) | | | | |
|------------------|----|------------|------|------|------|------|
| | | 1000 | 800 | 600 | 400 | 200 |
| Temperature (°C) | 20 | 1.00 | 1.01 | 1.03 | 1.05 | 1.10 |
| | 30 | 0.93 | 0.94 | 0.95 | 0.97 | 1.02 |
| | 40 | 0.85 | 0.85 | 0.87 | 0.89 | 0.93 |
| | 50 | 0.76 | 0.76 | 0.78 | 0.74 | 0.83 |
| | 60 | 0.66 | 0.66 | 0.67 | 0.69 | 0.72 |
| | 70 | 0.54 | 0.54 | 0.55 | 0.56 | 0.59 |
| | 80 | 0.38 | 0.38 | 0.36 | 0.40 | 0.42 |

Conversion factors for different ambient temperature laying in air

| Ambient Temperature (°C) | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 85 |
|--------------------------|------|------|------|------|------|------|------|------|
| Factor | 1.35 | 1.26 | 1.18 | 1.09 | 1.00 | 0.89 | 0.78 | 0.72 |

Conversion factors for parallel Installations

(Only valid for soil resistivity 1.0 K.m / W and soil temperature 20 °C)

| | | Parallels cable systems (center distance 7 cm) | | | | | | | |
|-------------------------|--|--|------|------|------|------|------|------|------|
| | | 1 core | | | | | | | |
| Parallel laying in soil | | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 10 |
| Factor | | 1 | 0.87 | 0.77 | 0.73 | 0.70 | 0.68 | 0.65 | 0.63 |

| | | Parallels cable systems (center distance 15 cm) | | | | | | | |
|-------------------------|--|---|------|------|------|------|------|------|------|
| | | 3 core | | | | | | | |
| Parallel laying in soil | | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 10 |
| Factor | | 1 | 0.85 | 0.75 | 0.70 | 0.66 | 0.63 | 0.59 | 0.56 |

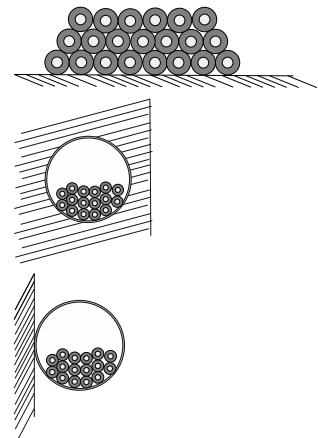
Conversion factors for inside a cable ladder (According to VDE 0298-4)

| | | Number of cables | | | | | |
|---|--|------------------|------|------|------|------|------|
| Parallel laying inside a trench touched | | 1 | 2 | 3 | 4 | 6 | 9 |
| Factor | | 1 | 0.88 | 0.82 | 0.79 | 0.76 | 0.73 |

BETAflam® Solar 125 RV flex 1500V DC

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Conversion factors for bunched laying direct on the wall or floor , in electrical installation duct, on the wall or in the wall (acc. DIN VDE 0298-4:2013-06)

| Bunched laying | Number of cables | | | | | | | | | | | | | | |
|--|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 18 | 20 |
|  | 1 | 0.80 | 0.70 | 0.65 | 0.60 | 0.57 | 0.54 | 0.52 | 0.50 | 0.48 | 0.45 | 0.43 | 0.41 | 0.39 | 0.38 |

Standard specifications / Material properties

| | |
|------------------|---------------------------|
| Approvals | EN 50618 |
| Halogen free | IEC 60754-1, EN 50267-2-1 |
| Fire performance | IEC 60332-1-2:2004 |
| Smoke emission | IEC 61034;EN 61034-2 |
| Low fire load | DIN 51900 |
| UV resistant | HD 605 |

Specifications can be subject to change without notice