



## 4GKW-AXplus-DW FE180 1.8/3KV Dual Wall Single Core

### Applications

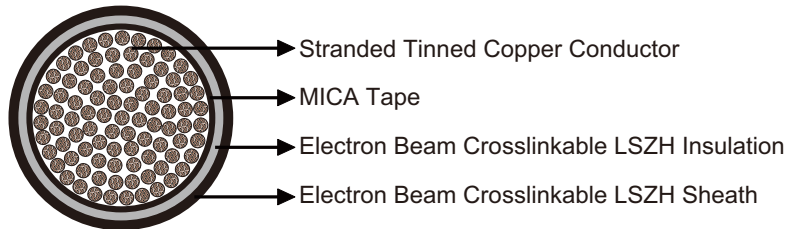
Single core power and control cable designed for protected, fixed installation inside and outside railway vehicles for connecting fixed and moving parts in direct current and alternating voltage technology, especially converter technology.



### Standard

- BS 6853 -Ia
- DIN 5510-2 1-4
- NFF 16-101 F0

### Construction



- **Conductors:** Circular Class 5

stranded tinned copper to IEC60228/VDE 0295.

- **Flame Barrier:** MICA tape.
- **Insulation:** Electron beam crosslinkable LSZH compound.
- **Sheath:** Electron beam crosslinkable LSZH compound.

### Electrical Characteristics at 20°C

|                                 |                 |         |      |      |      |      |      |       |       |       |
|---------------------------------|-----------------|---------|------|------|------|------|------|-------|-------|-------|
| Nominal Conductor Cross Section | mm <sup>2</sup> | 1.5     | 2.5  | 4.0  | 6.0  | 10   | 16   | 25    | 35    | 50    |
| Maximum Conductor Resistance    | Ω/km            | 13.7    | 8.21 | 5.09 | 3.39 | 1.95 | 1.24 | 0.795 | 0.565 | 0.393 |
| Voltage Rating                  | KV              | 1.8/3.0 |      |      |      |      |      |       |       |       |

|                                 |                 |         |      |       |       |       |        |
|---------------------------------|-----------------|---------|------|-------|-------|-------|--------|
| Nominal Conductor Cross Section | mm <sup>2</sup> | 70      | 95   | 120   | 150   | 185   | 240    |
| Maximum Conductor Resistance    | Ω/km            | 0.277   | 0.21 | 0.164 | 0.132 | 0.108 | 0.0817 |
| Voltage Rating                  | KV              | 1.8/3.0 |      |       |       |       |        |



### ➤ Mechanical and Thermal Properties




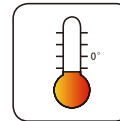
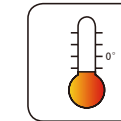







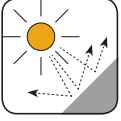
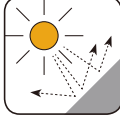



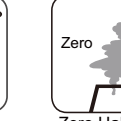

Minimum Bending Radius: 4xOD (Static); 6xOD (Flexing)

Temperature Range: -60°C ~+120°C (Static); -40°C ~+90°C (Flexing)

Short Circuit Temperature: +280°C

### ➤ Dimensions and Weight

| No. of cores & Nominal Conductor Cross Sectional Area No. x mm <sup>2</sup> | Number and Nominal Diameter of Strands No/mm |           | Nominal Insulation Thickness mm | Nominal Overall Diameter mm | Nominal Weight kg/km |
|---|--|-----------|---------------------------------|-----------------------------|----------------------|
| 1x1.5   | 30/0.25                                      |           | 1.05                            | 4.90                        | 38                   |
| 1x2.5   | 50/0.25                                      |           | 1.15                            | 5.35                        | 50                   |
| 1x4   | 56/0.30                                      |           | 1.25                            | 6.10                        | 88                   |
| 1x6   | 84/0.30                                      |           | 1.30                            | 7.00                        | 93                   |
| 1x10  | 80/0.40                                      |           | 1.30                            | 8.10                        | 142                  |
| 1x16  | 119/0.41                                     | 126/0.40  | 1.15                            | 9.30                        | 210                  |
| 1x25  | 182/0.41                                     | 196/0.40  | 1.50                            | 10.8                        | 290                  |
| 1x35  | 266/0.41                                     | 276/0.40  | 1.50                            | 12.1                        | 400                  |
| 1x50  | 378/0.41                                     | 396/0.40  | 1.60                            | 13.8                        | 561                  |
| 1x70  | 348/0.51                                     | 360/0.50  | 1.70                            | 16.2                        | 760                  |
| 1x95  | 444/0.51                                     | 475/0.50  | 1.90                            | 18.0                        | 980                  |
| 1x120   | 551/0.51                                     | 608/0.50  | 1.60                            | 20.2                        | 1212                 |
| 1x150   | 722/0.51                                     | 756/0.50  | 2.20                            | 22.7                        | 1520                 |
| 1x185   | 874/0.51                                     | 925/0.50  | 2.40                            | 24.6                        | 1830                 |
| 1x240   | 1147/0.51                                    | 1221/0.50 | 2.50                            | 27.6                        | 2411                 |

|   |  |   |   |  |   |   |
|---|--|---|---|--|---|---|
| <br>Impact Resistant           | <br>Highly Flexible               | <br>Cold Resistant     | <br>Soldering Heat Resistant   | <br>Low Temperature Resistant   | <br>Acid and Alkali Resistant  |   |
| <br>IRM 903 Fuel Oil Resistant | <br>IRM 902 Mineral Oil Resistant | <br>Corona Resistant   | <br>Fire Retardant<br>NF C32-070-2.2(C1)<br>IEC 60332-3/EN50266      | <br>Flame Retardant<br>NF C32-070-2.1(C2)<br>IEC 60332-1/EN 50265-2-1 | <br>Low Corrosivity<br>EN 50267-2-2/NF C32-074<br>IEC 60754-2/NF C20-453 |   |
| <br>UV Resistant               | <br>Ozone Resistant               | <br>Abrasion Resistant | <br>Low Smoke Emission<br>IEC 61034/NFC20-902<br>EN 50268/NF C32-073 | <br>Low Toxicity  | <br>Zero Halogen<br>IEC 60754-1/NF C20-454<br>EN 50267-2-1               | <br>Insulation Integrity FE180<br>EN 50200/IEC 60331<br>NF C32-070-2.3(CR1) |