

RT/F3 E1/E2/E3 Type Axle Counter Cable

Applications

The cables are designed for transmission of signals up to 90 kHz in axle counter train detection systems.

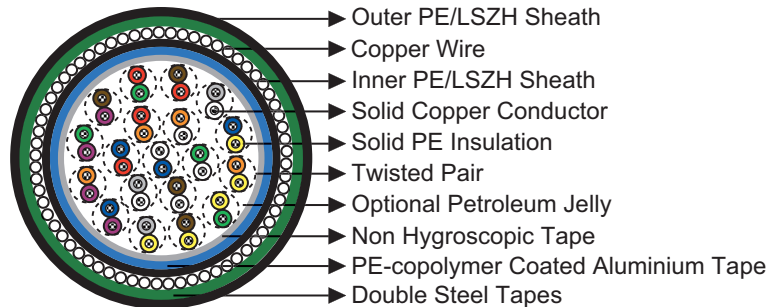


Standards

- RT/E/PS/00031

Construction

- Conductors: Tinned copper wire, 0.9 or 1.4 mm nominal diameter.
- Insulation: Solid polyethylene.
- Cabling Element: Two insulated conductors are twisted together to form a pair.
- Stranding: Pairs are helically stranded in concentric layers.



- Filling: Cable core interstices are filled with a low-permittivity compound. Unfilled cables option can be offered upon request.
- Core Wrapping: Plastic tape(s) with overlapping.
- Moisture Barrier: One laminated sheath made of aluminium tape coated with PE-Copolymer on at least one side is applied with longitudinally overlap.
- Inner Sheath: Polyethylene or LSZH fire retardant compound.
- Electrostatic Shield: One layer of helically applied copper wires.
- Electromagnetic Shield: Two helically applied steel tapes.
- Outer Sheath: Polyethylene or LSZH fire retardant compound. Ruggedised PE sheath compound can be offered upon request.

Type Codes

F1 class: Non LSZH cables

F5 class: Unfilled cables

D type: Unarmoured types

R type: Ruggedised PE sheath

S type: Steel tape armoured types

B type: Brass tape armoured types

E1, E2 & E3 types: 3 different induction protection levels available.

Electrical Characteristics at 20°C

| | | | |
|---------------------------------|-----------------|------|------|
| Nominal Conductor Diameter | mm | 0.9 | 1.4 |
| Nominal Conductor Cross Section | mm ² | 0.63 | 1.5 |
| Maximum Conductor Resistance | Ω/km | 30.0 | 12.5 |



| | | | |
|---|-------|------|------|
| Minimum Insulation Resistance @500 V DC (1min) | MΩ.km | 5000 | 5000 |
| Nominal Mutual Capacitance @800Hz/1000Hz (AC) | nF/km | 42+3 | 47+3 |
| Dielectric Strength, conductor to screen (DC voltage 2mins) | V | 3000 | 3000 |
| Maximum Average Attenuation | | | |
| @1.0KHz | dB/km | 0.73 | 0.45 |
| @2.4KHz | dB/km | 1.10 | 0.62 |
| @40KHz | dB/km | 2.88 | 1.77 |
| @90KHz | dB/km | 3.70 | 2.41 |
| @1.024MHz | dB/km | 11.2 | 7.45 |
| Minimum Average Near-end Crosstalk Attenuation | | | |
| @1.0KHz | dB/km | 60 | 60 |
| @2.4KHz | dB/km | 60 | 60 |
| @40KHz | dB/km | 50 | 50 |
| @90KHz | dB/km | 50 | 50 |
| @1.024MHz | dB/km | 35 | 35 |
| Maximum Reduction Factor @100V/km,50Hz | | | |
| EMI RF 1 (modest level) | | 0.65 | 0.65 |
| EMI RF 2 (medium level) | | 0.45 | 0.45 |
| EMI RF 3 (high level) | | 0.20 | 0.20 |

➤ Mechanical and Thermal Properties

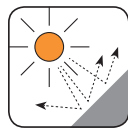
- Minimum Bending Radius: 7.5×OD (unarmoured); 10×OD (armoured)
- Temperature Range: -30°C to +60°C (during operation); -10°C to +60°C (during installation)

➤ Dimensions and Weight

| Cable Code | Number of Pairs | Nominal Sheath Thickness mm | | Nominal Overall Diameter mm | Nominal Weight kg/km |
|--|-----------------|-----------------------------|-------|-----------------------------|----------------------|
| | | Inner | Outer | | |
| 0.9mm Conductor , 1.8mm Insulated Wire | | | | | |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-2P0.9 | 2 | 2.2 | 2.4 | 23.4 | 1300 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-10P0.9 | 10 | 2.2 | 2.4 | 31.8 | 1650 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-12P0.9 | 12 | 2.2 | 2.4 | 35.0 | 1760 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-19P0.9 | 19 | 2.2 | 2.4 | 41.4 | 2275 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-24P0.9 | 24 | 2.2 | 2.4 | 44.0 | 2450 |
| 1.4mm Conductor, 2.7mm Insulated Wire | | | | | |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-2P1.4 | 2 | 2.2 | 2.4 | 33.6 | 1480 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-10P1.4 | 10 | 2.2 | 2.4 | 40.2 | 2200 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-12P1.4 | 12 | 2.2 | 2.4 | 42.2 | 2325 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-19P1.4 | 19 | 2.2 | 2.4 | 47.5 | 2975 |
| RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-24P1.4 | 24 | 2.2 | 2.4 | 52.5 | 3150 |



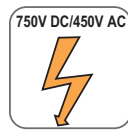
Anti Induction



UV Resistant



Water Resistant



Rated voltage



Impact Resistant

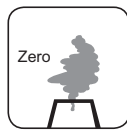


Buried in Ground



Laid In Ducts

PE Sheath



Zero Halogen
IEC 60754-1/NF C20-454
EN 50267-2-1

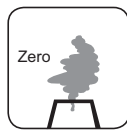
LSZH Sheath



Flame Retardant
NF C32-070-2.1(C2)
IEC 60332-1/EN 50265-2-1



Fire Retardant
NF C32-070-2.2(C1)
IEC 60332-3/EN50266



Zero Halogen
IEC 60754-1/NF C20-454
EN 50267-2-1



Low Smoke Emission
IEC 61034/NFC20-902
EN 50268/NF C32-073



Low Corrosivity
EN 50267-2-2/NF C32-074
IEC 60754-2/NF C20-453



Low Toxicity

