

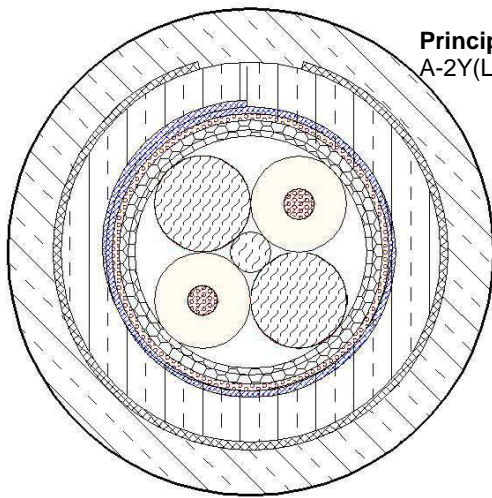


Cable for ETCS A-2Y(L)2YB2Y, ...BY or ...BH 1 x 4 x 1.8 mm² A-2Y(L)2YB2Y, ...BY or ...BH 1 x 2 x 1.8 mm²

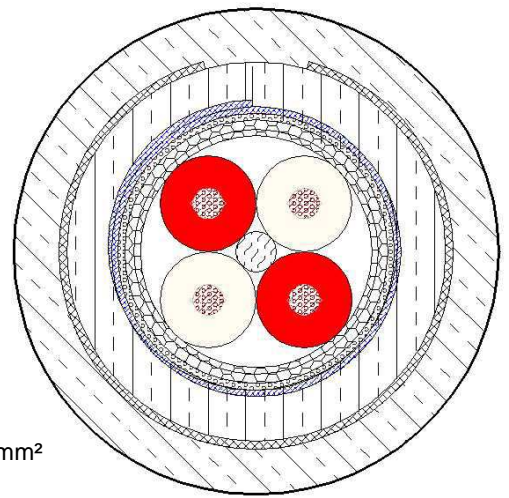
PE-insulated signalling cable, solid conductor, moisture barrier sheath, armoring, PE outer sheath (optional Y or H sheath)

Based on customer specification Romania

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to technical progress



Principle drawing
A-2Y(L)2YB2Y 1x2x1.8 mm²



Principle drawing
A-2Y(L)2YB2Y 1x4x1.8 mm²

Application

Used for train detection ETCS; for installation in train lines; laying in ground, ducts or tunnels.

Colour Coding, Marking

Cores: Marking of cores: nature, red, nature, red (four cores twisted to a star quad)

Construction

| A-2Y(L)2YB2Y | |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductor | solid copper conductor, cross-section 1.8 mm ² , soft annealed |
| Insulation | PE (2Y) |
| Twisting | four cores twisted around a PE-inlet (1.6 mm diameter) to one star quad (if only one pair required, cable core will be stabilized with three filling elements) |
| Cable core wrapping | one or more layers of plastic foil |
| Moisture barrier | laminated sheath formed by an aluminium tape (0.15 mm thick) coated on one side with copolymer, and bonded with |
| Sheath | PE (2Y), black |
| Armoring | plastic foil, one galvanized steel tape 0.3 mm (1B0.3), helically applied with gap |
| Outer sheath | HD-PE (2Y), black (As an option cable can be sheathed with a PVC (Y) or halogen free, flame retardant material (H) sheath instead of standard PE (2Y) sheath.) |



Cable for ETCS

A-2Y(L)2YB2Y, ...BY or ...BH 1 x 4 x 1.8 mm² A-2Y(L)2YB2Y, ...BY or ...BH 1 x 2 x 1.8 mm²

Mechanical and Thermal Properties

| | | |
|-------------------|---------------------|------------------|
| Temperature range | during operation | - 35°C to + 70°C |
| | during installation | - 5°C to + 70°C |

Electrical Properties

at 20°C ± 5°C

| | | |
|----------------------------------|----------------------|------------|
| Conductor cross-section | mm ² | 1.8 |
| Conductor loop resistance | Ω/km | ≤ 19.8 |
| Insulation resistance | GΩxkm | ≥ 10 |
| Mutual capacitance at 1000 Hz | nF/km | ≤ 42 |
| Capacitance unbalance at 1000 Hz | | |
| k_1 | pF/500 m | ≤ 24 |
| $e_{1/2}$ | pF/500 m | ≤ 515 |
| Impedance at 560 kHz | Ω | 120 ± 20 % |
| 1800 kHz | Ω | 120 ± 20 % |
| Attenuation at 560 kHz | dB/100 m | ≤ 0.5 |
| 1800 kHz | dB/100 m | ≤ 1.0 |
| propagation time at 560 kHz | 10 ⁻⁸ m/s | 2,123 |
| 1800 kHz | 10 ⁻⁸ m/s | 2,104 |
| Test voltage – AC – 2 min | | |
| core/core | V _{eff} | 2000 |
| core/screen | V _{eff} | 2000 |

Additional Properties

| Dimension | Outer diameter | Cable weight net | Standard supply length | Drum size flange-Ø | Transport weight gross | Copper content | Tensile strength max. | Fire load |
|------------------------------------------------|----------------|------------------|------------------------|--------------------|------------------------|----------------|-----------------------|-----------|
| | mm | kg/km | m | mm | kg/drum | kg/km | N | MJ/m |
| A-2Y(L)2YB2Y n x 4 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 385 | 1000 | 1400 | 630 | 77 | 430 | 9 |
| A-2Y(L)2YBY n x 4 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 465 | 1000 | 1400 | 710 | 77 | 430 | 10 |
| A-2Y(L)2YBH n x 4 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 463 | 1000 | 1400 | 708 | 77 | 430 | 10 |
| A-2Y(L)2YB2Y n x 2 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 353 | 1000 | 1400 | 598 | 39 | 260 | 10 |
| A-2Y(L)2YBY n x 2 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 433 | 1000 | 1400 | 678 | 39 | 260 | 11 |
| A-2Y(L)2YBH n x 2 x 1.8 mm² | | | | | | | | |
| 1 | 19.0 | 431 | 1000 | 1400 | 677 | 39 | 260 | 11 |