



Caledonian

Railway Cables

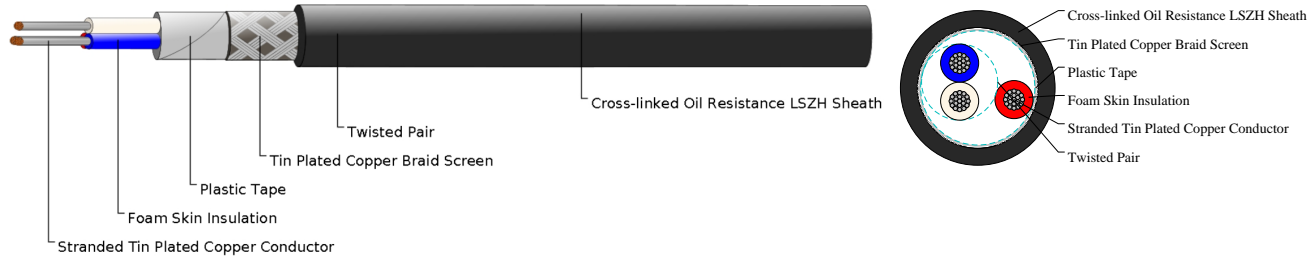
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Firerail Databus Cables For Railway Applications

MVB (Multifunction Vehicle Bus) Cables

FRA-MVB-02YS(ST+C)H-1P0.5S+1C0.5S



APPLICATIONS

The cables are designed for transmission of digital signals under baud rate of 10M inside of rolling stock to connect fixed parts. The communication system in a locomotive uses a wire backed bus system to the TCN standard for control and instrumentation and for diagnostics. This bus system consists of the rail bus WTB (Wired Train Bus) and the road bus MVB (Multifunction Vehicle Bus) which are connected via redundant gateways.

STANDARDS

DIN 5510-1

VOLTAGE RATING

300V

CABLE CONSTRUCTION

Conductors: Stranded tin plated copper conductor according to IEC 60228 class 5.

Insulation: Foam skin-composite PE made of inner cellular layer and outer solid skin.

Core Wrapping: Plastic tape(s).

EMC Screen: Tin plated copper braid.

Outer Sheath: Cross-linked oil resistant LSZH compound.

PHYSICAL AND THERMAL PROPERTIES

Minimum Bending Radius: 5xOD (single); 10XOD (multiple)

Temperature Range: -40°C to +90°C (during operation); -20°C +50°C (during installation)

Electrical Properties

Electrical Characteristics at 20°C:

Maximum Conductor Resistance: 41 Ω/km

Impedance@1.0-10MHz: 120+/-12 Ω

Maximum Attenuation @1MHz: 12.5 dB/km

Maximum Attenuation @1.5MHz: 15 dB/km

Maximum Attenuation @2MHz: 18 dB/km

Maximum Attenuation @3MHz: 21 dB/km



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Maximum Transfer Impedance: 20 mΩ/m

Nominal Voltage Rating: 300 V

DIMENSION AND PARAMETERS

No. of Cores × Cross-sectional Area	No./Nominal Diameter of Strands	Nominal Sheath Thickness	Nom. Overall Diameter	Approx. Weight
No. × mm ²	no./mm	mm	mm	kg/km
1 x 2 x 0.5 + 1 x 0.5	19/0.18	1.2	6.8	62



Fire Retardant
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4



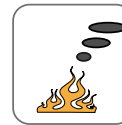
Flame Retardant
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Highly Flexible



Impact Resistant



Low Corrosivity
IEC60754-2/EN50267-2-2/3
NF C32-074/NF C20-453



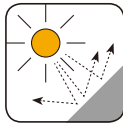
Low Smoke Emission
IEC 61034-2 / EN 50268-2
NF C32-073/NF C 20-902



Low Toxicity



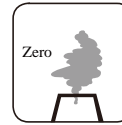
Oil Resistant



UV Resistant



Water Resistant



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