



**Caledonian**

Railway Cables

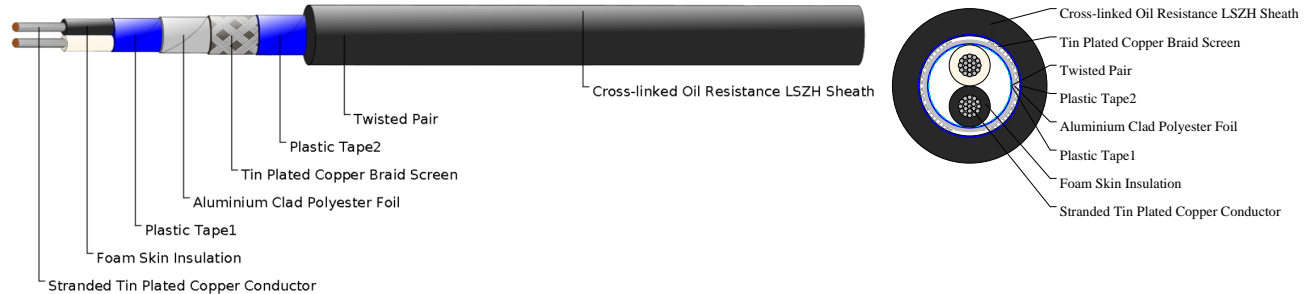
www.caledonian-cables.com

marketing@caledonian-cables.com

## Firerail Databus Cables For Railway Applications

WTB (Wired Train Bus)/MVB (Multifunction Vehicle Bus) Cables

FRA-WTB/MVB--02YS(ST+C)H-1P20A



## APPLICATIONS

The cables are used as connecting cables to transmit digital signals inside railway rolling stocks. 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.

Cable Element: Twisted pair.

Core Wrapping: Plastic tape(s).

EMC Screen1: Aluminium clad polyester foil.

EMC Screen2: Tin plated copper braid.

Core Wrapping: Plastic tape(s).

Outer Sheath: Cross-linked oil resistant LSZH compound.

## PHYSICAL AND THERMAL PROPERTIES

Minimum Bending Radius: 6xOD (single); 12xOD (multiple)

Temperature Range: -40°C to +100°C (during operation); -20°C +50°C (during installation)

## Electrical Properties

Electrical Characteristics at 20°C:

Nominal Cross Section/AWG:0.62/20 mm<sup>2</sup>

Maximum Conductor Resistance:33.1 Ω/km



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Impedance@1.0-10MHz:120+/-12 Ω

Maximum Attenuation @1MHz:10 dB/km

Maximum Attenuation @2MHz:15 dB/km

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 <sup>2</sup>	no./mm	mm	mm	kg/km
1 x 2 x 0.62	19/0.2	1.2	8.3	80



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



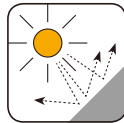
Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



Low Toxicity



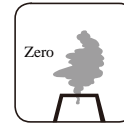
Oil Resistant



UV Resistant



Water Resistant



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