Caledonian Railway Cables
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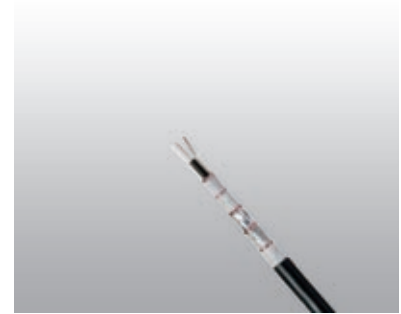**RAILDATA DATABUS CABLES
FOR RAILWAY APPLICATIONS**

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

⬊ 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 5510-2

⬊ Construction

- Conductors: Stranded tinned 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: Tinned copper braid.
  - Core Wrapping: Plastic tape(s).
  - Outer Sheath: Cross-linked oil resistant LSZH compound.

Cross-linked Oil Resistance LSZH Sheath
Plastic Tape
Stranded Tinned Copper Conductor
Aluminium Clad Polyester Foil
Plastic Tape
Foam Skin Insulation
Tinned Copper Braid Screen

⬊ Electrical Characteristics at 20℃

Nominal Cross Section/AWG	mm²	0.62/20
Maximum Conductor Resistance	Ω/km	33.1
Impedance @0.5-2MHz	Ω	120+/-12
Maximum Attenuation @1MHz	dB/km	10
Maximum Attenuation @2MHz	dB/km	15
Nominal Voltage Rating	V	300

⬊ Mechanical and Thermal Properties

- Minimum Bending Radius: 6×OD (single); 12×OD (multiple)
- Temperature Range: -40℃ to +100℃ (during operation); -20℃ +50℃ (during installation)
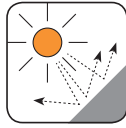
⬂ Dimensions and Weight

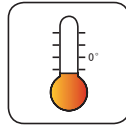| Cable Code	No. of cores& Nominal Conductor Cross Sectional Area No.×mm²	Nominal Diameter of Strands No/mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
RD-WTB/MVB--02Y(ST+C)H-1P20A	1×2×0.62	19/0.2	1.2	8.3	80

Impact Resistant

Highly Flexible
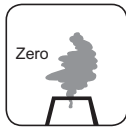
UV Resistant

Weather Resistant

Oil Resistant

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