



MVB (Multifunction Vehicle Bus) Cables

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.

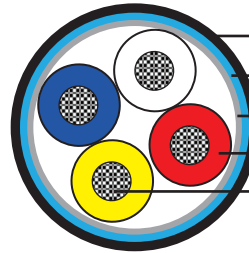


Standards

- DIN 5510-2

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



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

Electrical Characteristics at 20°C

Nominal Cross Section	mm ²	0.5
Maximum Conductor Resistance	Ω/km	41
Impedance @0.5-2MHz	Ω	120+/-12
Maximum Attenuation @1MHz	dB/km	12.5
Maximum Attenuation @1.5MHz	dB/km	15
Maximum Attenuation @2MHz	dB/km	18
Maximum Attenuation @3MHz	dB/km	21
Maximum Transfer Impedance	mΩ/m	20
Nominal Voltage Rating	V	300

Mechanical and Thermal Properties

- Minimum Bending Radius: 5×OD (single); 10×OD (multiple)
- Temperature Range: -40°C to +90°C (during operation); -20°C +50°C (during installation)



➤ **Dimensions and Weight**

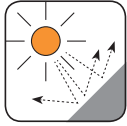
Cable Code	No. of cores & Nominal Conductor Cross Sectional Area No. × mm ²	Nominal Diameter of Strands No/mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
RD-MVB-02YCH-1P0.5S+1G0.5	1×2×0.5+1×0.5	19/0.18	1.2	6.8	62
RD-MVB-02YCH-2P0.5S	2×2×0.5	19/0.18	1.2	8.3	100



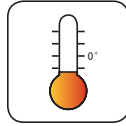
Impact Resistant



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

