



## MVB (Multifunction Vehicle Bus) Cables (Redundant Version)

### Applications

The cables are designed for permanent installation inside of rolling stock to connect fixed parts. A typical application is a communication system in a locomotive. The system 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.

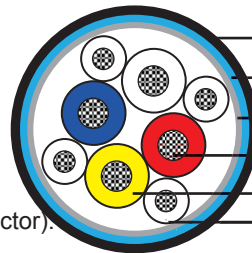


### Standards

- DIN 5510-2

### Construction

- Conductors: Stranded tinned copper conductor according to IEC 60228 class 5.
- Insulation: 0.6mm foam/foam skin PE (for 0.5sqmm conductor), 0.25mm PE (for 0.2sqmm conductor).
- Core Wrapping: Plastic tape(s).
- EMC Screen: Tinned copper braid.
- Outer Sheath: Cross-linked oil resistant LSZH compound.



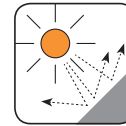
- Cross-linked Oil Resistance LSZH Sheath
- Tinned Copper Braid Screen
- Plastic Tape
- Stranded Tinned Copper Conductor
- Foam/Foam-skin Insulation
- PE Insulation



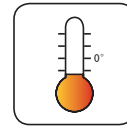
Impact Resistant



Highly Flexible



UV Resistant



Weather Resistant

### Electrical Characteristics at 20°C

Nominal Cross Section	mm <sup>2</sup>	0.5
Maximum Conductor Resistance	Ω/km	41
Impedance @0.75-3MHz	Ω	120+/-12
Maximum Attenuation @1.5MHz	dB/km	17
Maximum Attenuation @3MHz	dB/km	25
Maximum Transfer Impedance	mΩ/m	20
Nominal Voltage Rating	V	300

### Mechanical and Thermal Properties

- Minimum Bending Radius: 6×OD (single); 10×OD (multiple)
- Temperature Range: -40°C to +100°C (during operation); -20°C +50°C (during installation)

### Dimensions and Weight

Cable Code	No. of cores & Nominal Conductor Cross Sectional Area No. × mm <sup>2</sup>	Nominal Diameter of Strands No./mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
RD-MVB-02YCH-1Q0.5S+4G0.25	1×4×0.5+4×1×0.25	19/0.18	0.6	7.9	95



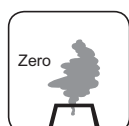
Oil Resistant



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