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), 0.2mm PE (for 0.25sqmm conductor).
- Core Wrapping: Plastic tape(s).
- EMC Screen: Tinned copper braid.
- Outer Sheath: Cross-linked oil resistant LSZH compound.

Electrical Characteristics at 20°C

<table>
<thead>
<tr>
<th>Nominal Cross Section</th>
<th>mm²</th>
<th>0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Conductor Resistance</td>
<td>Ω/km</td>
<td>41</td>
</tr>
<tr>
<td>Impedance @0.75-3MHz</td>
<td>Ω</td>
<td>120+/-12</td>
</tr>
<tr>
<td>Maximum Attenuation @1.5MHz</td>
<td>dB/km</td>
<td>17</td>
</tr>
<tr>
<td>Maximum Attenuation @3MHz</td>
<td>dB/km</td>
<td>25</td>
</tr>
<tr>
<td>Maximum Transfer Impedance</td>
<td>mΩ/m</td>
<td>20</td>
</tr>
<tr>
<td>Nominal Voltage Rating</td>
<td>V</td>
<td>300</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Cable Code</th>
<th>No. of cores</th>
<th>Nominal Conductor Cross Sectional Area No. × mm²</th>
<th>Nominal Diameter of Strands No/mm</th>
<th>Nominal Sheath Thickness mm</th>
<th>Nominal Overall Diameter mm</th>
<th>Nominal Weight kg/km</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD-MVB-02YCH-1Q0.5S+4G0.25</td>
<td>1×4×0.5+4×1×0.25</td>
<td>19/0.18</td>
<td>0.6</td>
<td>7.9</td>
<td>95</td>
<td></td>
</tr>
</tbody>
</table>

- Oil Resistant
- Flame Retardant
- Fire Retardant
- Zero Halogen
- Low Smoke Emission
- Low Corrosivity
- Low Toxicity

- Impact Resistant
- Highly Flexible
- UV Resistant
- Weather Resistant