



Caledonian

Rolling Stock Cables

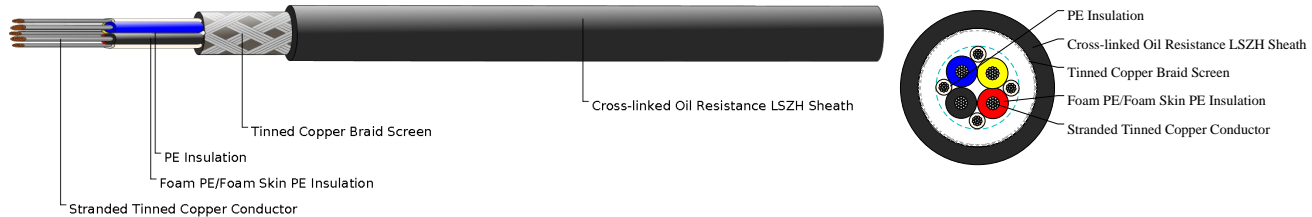
www.caledonian-cables.com

marketing@caledonian-cables.com

Databus Cables

MVB (Multifunction Vehicle Bus) Cables (Redundant Version)

FRL-MVB-02YCH-1Q0.5S+4G0.25



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.

VOLTAGE RATING

300 V

CABLE CONSTRUCTION

Conductor: Stranded tinned copper conductor according to IEC 60228 class 5

Insulation: 0.6mm foam PE/foam skin PE (for 0.5mm² conductor), 0.2mm PE (for 0.25mm² conductor)

Core Wrapping: Plastic tape(s)

EMC Screen: Tinned copper braid

Outer Sheath: Cross-linked oil resistant LSZH compound

MECHANICAL PROPERTIES

Max. Temperature: 90 °C

Min. Temperature: -40 °C

Bending Radius: 10 × Overall Diameter

CHEMICAL AND ENVIRONMENTAL PROPERTIES

EN 60684-2	No fluorine
EN 50305; EN 60811-2-1	Resistance to mineral oil & fuel oil, acid & alkali
EN 50305	Resistance to ozone

FIRE PERFORMANCE FOR ROLLING STOCK APPLICATION

EN 50306-2	Hazard levels HL1, HL2, HL3
DIN 5510-2	Protection level 1/2/3/4
BS 6853	Interior use 1a, 1b, II; Exterior use 1a, 1b, II



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NF F 16-101	F0
EN45545-2	R15 Interior/ R16 Exterior HL1, HL2, HL3

FIRE PERFORMANCE IN GENERAL

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)	Vertical flame propagation for a single insulated wire or cable
EN 50266-2-4 + EN 50305; IEC 60332-3-24;NF C 32-070 2.2 (C1); VDE 0472 Teil 804	Vertical flame spread of vertically mounted bunched wires or cables
EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816	Low Smoke Emission
EN 50267-2-1; IEC 60754-1; NF C 32-074;NF C 20-454; VDE 0472 Teil 815	Halogen Free
EN 50267-2-2/3; IEC 60754-2; NF C 32-074;NF C 20-453; VDE 0472 Teil 813	Low Corrosivity (Acidity & Conductivity)
EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853	Low Toxicity
NF F 63 808; BS6853; NF F 16 101	Smoke Index
EN45545-2	Requirement for fire behavior of materials & components R15/R16

DIMENSION AND PARAMETERS

Nominal Cross-sectional Area	No./ Nominal Diameter of Strands	Nominal Sheath Thickness	Approx. Overall Diameter	Nominal Copper Weight	Max. Conductor Resistance (Tinned Conductor) at 20 °C	Impedance @0.75-3MHz	Max. Transfer Impedance (Not more than 30Mhz)	Max. Attenuation (@1.5MHz)	Max. Attenuation (@3MHz)
mm ²	no./mm	mm	mm	kg/km	Ω/km	Ω	μΩ/m	dB/Km	dB/Km
0.5	19/0.18	1.2	7.9	95	41	120+/-12	20	17	25



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Abrasion Retardant



Acid & Alkaline Resistant



Cold Resistant



Corona Resistant



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



IRM 902
Mineral Oil Resistant



IRM 903
Fuel Oil 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
EN 50305; NF X70-100/NF
F63 808/TM1-04/BS 6853



Ozone Resistant



Resistance To Soldering Heat



UV Resistant



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