

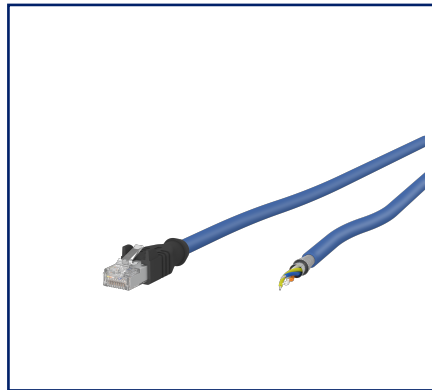
# Data sheet

## M12 Bus-/Railcat connection cable, D-coded, 10.0 m, RJ45 plug - free line end, 4-pole, RADOX®

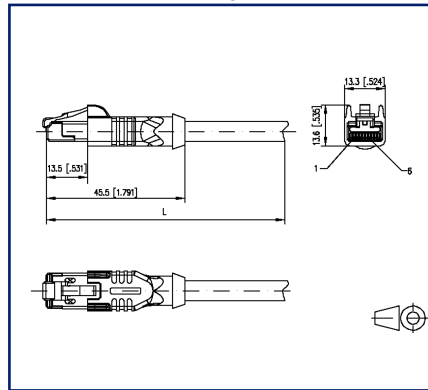
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P/N  
142MOD50100  
EAN 4251394663746  
2025/06/27  
Version: E

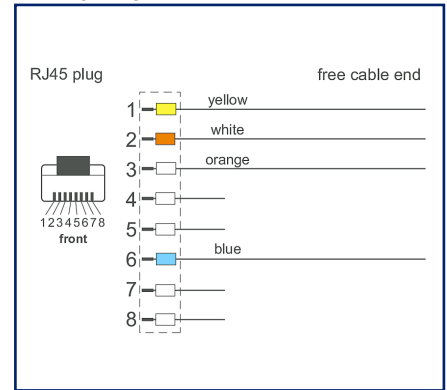
### Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

### Product specification

Halogen-free, electron beam crosslinked Cat.5 wire with improved fire resistance. Very good properties in terms of NEXT, attenuation and shield design. This wire is used in fixed and protected installation in railway vehicles and buses and meets the fire protection requirement according to EN 45545-2 (HL1 - HL3). It is optimally suited for Ethernet applications of class D (ECN and ETB) according to IEEE 802.3. For installation, the notes according to EN 50355 and EN 50343 must be observed. Because of the thin diameter, this wire is especially useful for connecting the overmolded RJ45 connectors. RADOX® is a registered trademark of HUBER+SUHNER AG, Switzerland. Special properties: flame retardant, RoHs compliant, halogen free, increased thermal load capacity, low smoke emission, oil and fuel resistant, UN ECE-R 118.01. Fire protection: DIN EN 45545-2 HL1-3, DIN 5510 fire protection levels 1-4, NF F16-101 category A1, A2, B, UNI CEI 11170, danger level LR1-LR4, UN ECE-R 118.01

- Standard variants: 1.0 m, 2.0 m, 5.0 m, 10.0 m.
- Other cable lengths on request.

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**Technical Data**

**General Data**

Fields of application	Railway vehicle Buses
Applications	Train Communication Network: ETB– Ethernet Train Backbone
Design	Ethernet-Connection cable
Cable length (m)	10 m
Cable length (ft)	32.81 ft
Cable	
Cable Type	S/FTP
Wiring	Profinet
Wire color	yellow, white, orange, blue
Color - cable jacket	blue
Transmission properties	Cat.5
Connection 1	
Shielding	shielded
Dimension (L x W)	45.5 mm x 13.8 mm
Dimension (L x W)	1.791 in. x 0.543 in.

**Connections/interfaces**

Cable	
Conductor cross section AWG	AWG 22
Conductor diameter (mm)	0.75 mm
Conductor diameter (inch)	0.03 in.
Cable construction	1x4
Stranded wire structure	7x0.25mm
Outer diameter cable jacket (mm)	6.6 mm
Outer diameter cable jacket (inch)	0.26 in.
Connection 1	
Connector type	RJ45 plug
Coding	Industrial
Type of plug contact, field side	Male (plug)
Cable feed arrangement, field side	straight
Number of poles	4
Pin Assignment	1YE, 2OG, 3 WH , 6 BU

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**Connections/interfaces**

Connection 1	
Latching lever protection	yes
Color of the cable boot	black

**Electrical characteristics**

Connection 1	
Current carrying capacity per pin (at 40 °C)	1 A

**Mechanical data**

Cable	
Bending radius (fixed)	6 x Ø cable
Connection 1	
Mechanical life	min. 750 mating cycles

**Materials and material properties**

Cable	
Material - Cable jacket	RADOX® EM 104 according to EN 50264-1
Material - Wire insulation	RADOX Foam
Flame retardancy	yes, according to IEC 60332-1-2
Halogen free	yes, according to EN 60754-1/2
Oil resistance	yes, according to EN IEC 60811-404
UV-resistance	yes
Connection 1	
Material - Contact	CuZnPb (brass)
Material - Contact surface	Au (gold)
Material - Contact carrier	Plastics, TPE, BK
Material - Shielded housing	Metal, CuZn, nickel-plated
RoHS	compliant

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**Environmental conditions**

Cable	
Temperature range (fixed)	-50 °C - max. 90 °C
Temperature range (fixed)	-58 °F - 194 °F
Connection 1	
	-40 °C
	-40 °F
Protection category (mounted)	IP20
Operating temperature classes	OT1 - OT4
Operating temperature range	-40 to 70

**Standards/Regulations**

General requirements	ISO/IEC 11801-1   DIN EN 50173-1
Cable	
Railway vehicle - Electronic equipment on railway vehicles	DIN EN 50155:2021
Railway vehicle - Fire protection in railway vehicles	DIN EN 45545-2:2020 Hazard Level 1-3
Railway vehicle - Preventive fire protection in railway vehicles	DIN 5510-2:2009-05 Fire protection levels 1-4
Railway vehicle - Fire behaviour Material selection	UNI CEI 11170-1/2/3 Hazard level LR1-LR4
Buses - Fire safety	UN ECE-R 118.01
Connection 1	
Free and fixed connectors	IEC 60603-7-5:2011
Shock and vibration	Class 1, category B (DIN EN 61373)

**Classifications**

ETIM 8.0	EC002599
ETIM 9.0	EC002599

**Packing details**

Type of packaging	1 pc(s) / plastic bag
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### Application note

This product is a standard product of METZ CONNECT. METZ CONNECT is not aware of the specific intended use of the goods by the Customer or any customers of the Customer. The Customer guarantees that it has fully and sufficiently tested the use of the goods and any product modifications, product changes or product enhancements with regard to the specific intended use in accordance with the state of the art or in any other way. At METZ CONNECT's request, the Customer shall submit and make available meaningful evidence (e.g. test and laboratory protocols, certifications, etc.).



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**Accessories**

P/N	Designation
MMF881A115	M12 jack, D-coded, IP67, Cat.5, Ø 6-9.7 mm, field assembly, straight
MMF881A115-0001	M12 jack, D-coded, IP67, Cat.5, Ø 6-9.7 mm, field assembly, with flange
MNF881A115	M12 plug, D-coded, IP67, Cat.5, Ø 6-9.7 mm, field assembly, straight
MWN811A115	M12 Panel feed through adapters, D-coded, to RJ45 - straight

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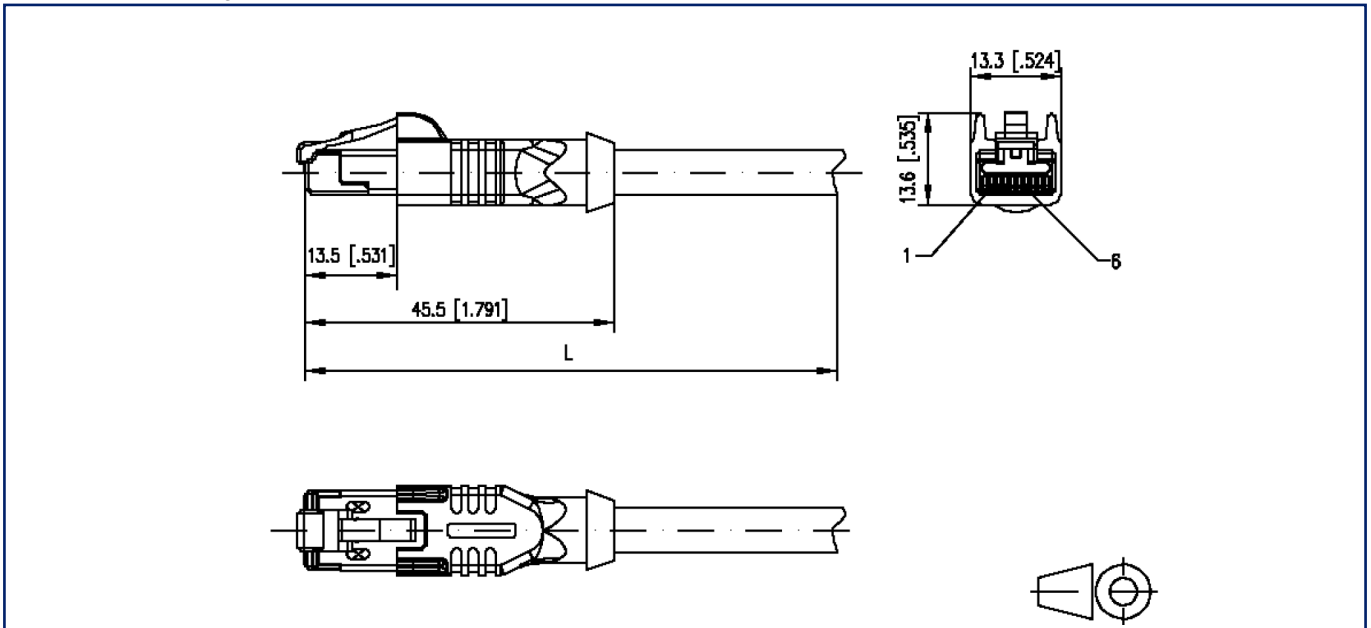
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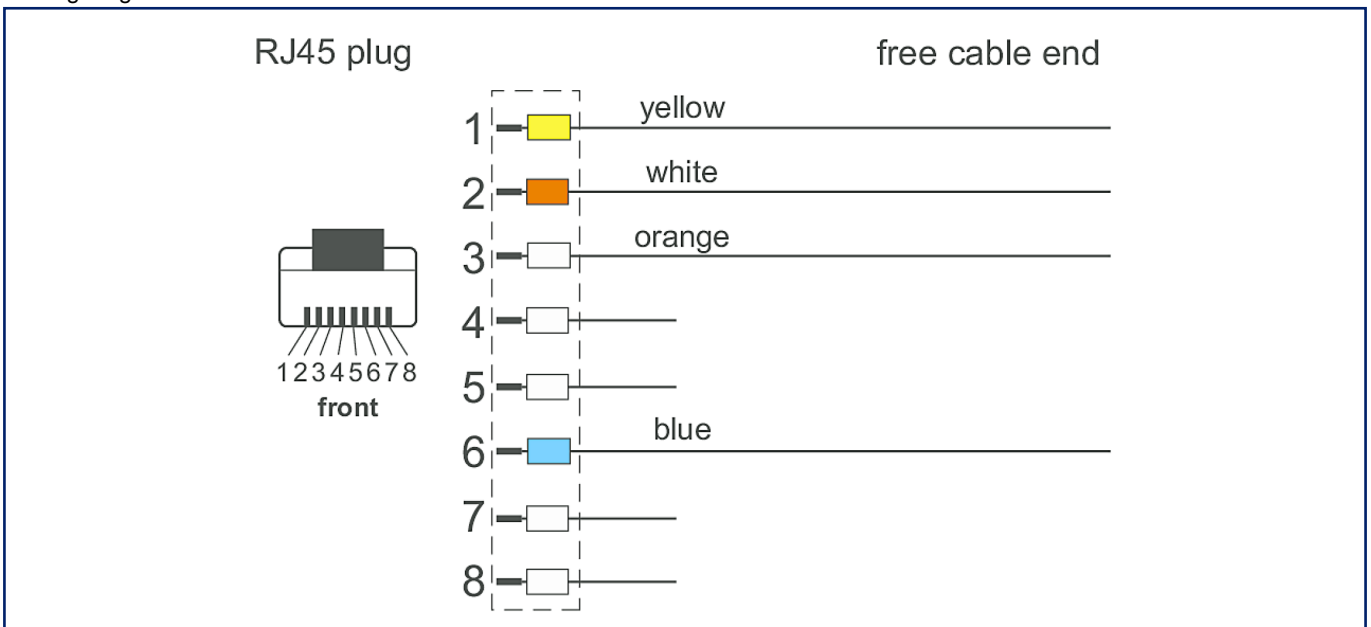
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## Illustrations

Dimensional drawing



Wiring diagram



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Principle diagram

