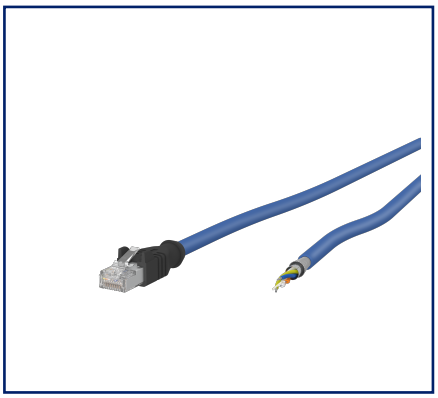
Data sheet

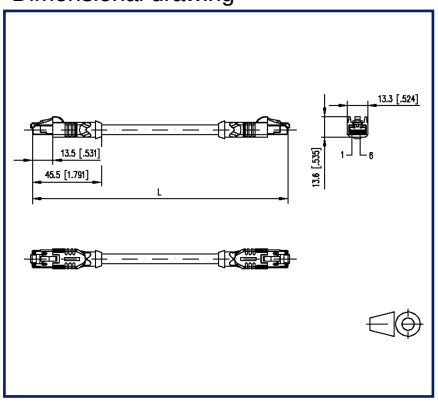
M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

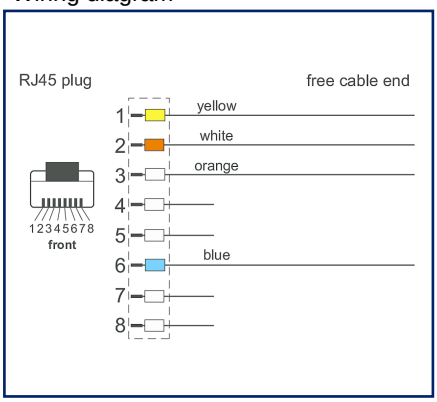
Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

Product specification

Halogen-free, electron beam crosslinked Cat.5 data wire with improved behavior under fire conditions and increased temperature resistance. 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 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 wall thickness, this wire is especially useful for connecting the overmolded RJ45 connectors. BETAtrans® is a registered trademark of LEONI Studer AG, Switzerland. Special properties: flame retardant, LABS free, 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.

© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

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)	2 m
Cable length (ft)	6.56 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 m
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

© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

Technical Data

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	BETAtrans® Polyolefin Copolymer
Material - Wire insulation	BETAtrans® Cell PE
Flame retardancy	yes, according to IEC 60332-1-2
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

Environmental conditions

Cable	
Temperature range (fixed)	-40 °C - max. 85 °C
Temperature range (fixed)	-40 °F - 185 °F
Connection 1	
	-40 °C
	-40 °F
Protection category (mounted)	IP20

© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

Technical Data

Environmental conditions	
Operating temperature classes	OT1 - OT4
Operating temperature range	-40 to 70
Standards/Regulations	
General requirements	ISO/IEC 11801-1 | DIN EN 50173-1
Cable	
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)
Contact holder	Thermoplastic
Sealings	Elastomer
Shock and vibration	EN 50155:2021, EN 61373:2010 Class 1 Category B
Salt spray	EN 50155:2021, (DIN EN 60068-2-11:2000-02/ 48-hour KA test)
Classifications	
ETIM 8.0	EC002599
ETIM 9.0	EC002599
ETIM 10.0	EC002599

Packing details	
Type of packaging	1 pc(s) / plastic bag

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.

© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

Accessories

P/N	Designation
MMF881A115	M12 jack, D-coded, IP67, Cat.5, Ø 6-9.7 mm, field assembly, straight
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

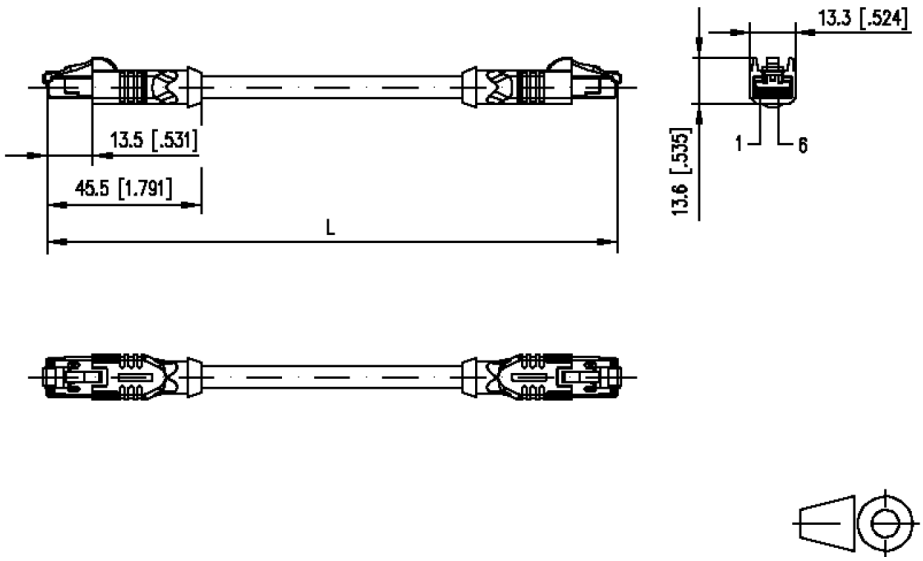
© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

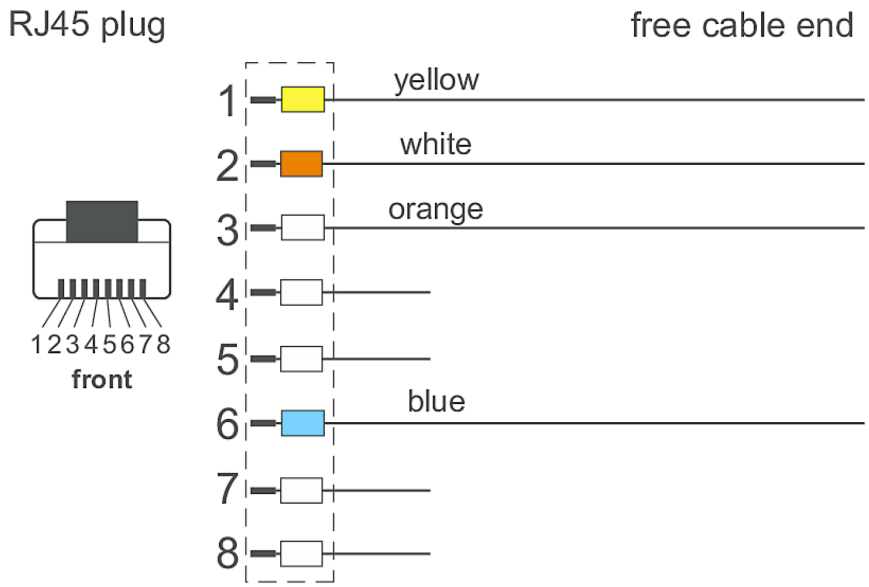
P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

Illustrations

Dimensional drawing



Wiring diagram



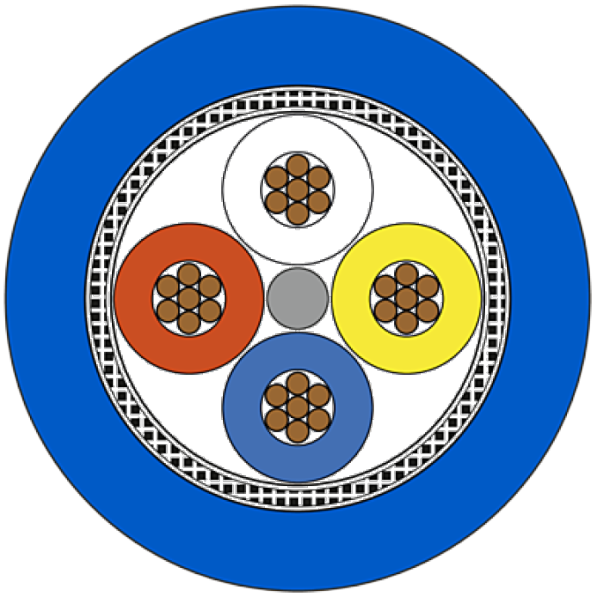
© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!

M12 Bus-/Railcat connection cable, D-coded, 2.0 m, RJ45 plug - free line end, 4-pole, BETAtrans®

P/N 142MPD50020
EAN 4251394664378
2026/10/06
Version: E

Illustrations

Principle diagram



© 2026 METZ CONNECT - Technische Änderungen vorbehalten! Subject to modifications! Sous réserve de modifications techniques!