

Data sheet

M12 plug, X-coded, IP67, Cat.6_A, Ø 6-9.7 mm, field assembly, straight

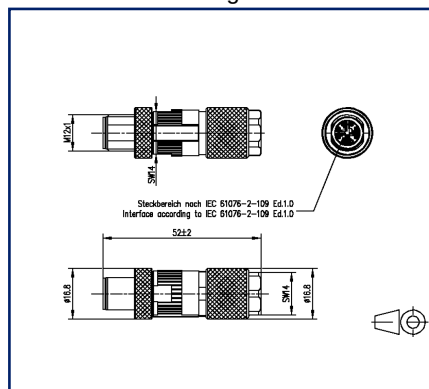
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P/N
MNF881A315-0001
EAN 4250184151166
 2026/08/21
 Version: V

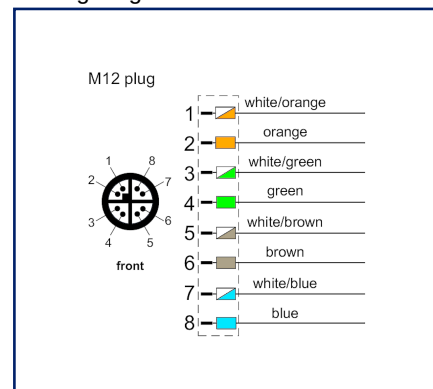
Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

Product specification

- M12 Cat.6_A X-coded plug based on IEC PAS 61076-2-109 and suitable for field assembly
- for a 8-wire M12 plug for AWG 22
- connection of AWG 26/1 - 22/1, AWG 26/7 - 22/7 possible
- solid copper wire diameter from 0.4 to 0.64 mm
- stranded copper wire diameter from 0.48 to 0.76 mm
- core diameter up to 1.6 mm
- cable jacket from 6.0 to 9.7 mm
- consists of only 2 parts
- easy assembly - connection without special tools
- zinc die-cast housing for industrial use
- suitable for applications in the railway industry according to data sheet



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Technical Data

General Data

Electromagnetic measurement according to MICE	E2
Design	plug
Shielding	shielded
Transmission technology	Copper
Dimensions	
Dimension (L x W x H)	52 mm x 16.8 mm x 16.8 mm
Dimension (L x W x H)	2.047 in. x 0.661 in. x 0.661 in.
Field assembly ability	yes
Labeling option	on housing

Transmission characteristics

Category (ISO)	6 _A
Category (TIA)	6A
Remote Powering	yes
PoE	IEEE 802.3af
PoE plus	IEEE 802.3at
UPoE	yes
4PPoE	IEEE 802.3bt
HDBaseT	yes
Transmission rate up to 10 GBit	IEEE 802.3an

Connections/interfaces

Connector technology interface 1	IDC-connection
Connector technology interface 2	M12-plug
Coding interface 2	X-coded
Number of ports interface 2	1
Number of ports interface 2 equipped	1
Number of positions/contacts interface 1	8
Number of positions/contacts interface 2	8



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Connections/interfaces

Termination data, solid wire (min. - max.)

Conductor cross section, solid wire	AWG 26/1 - AWG 22/1
Conductor cross section, solid wire	0.128 mm ² - 0.324 mm ²
Conductor diameter, solid wire (bare copper)	0.409 mm - 0.643 mm
Conductor diameter, solid wire (bare copper)	0.016 in. - 0.025 in.

Termination data, stranded wire (min. - max.)

Conductor cross section, stranded wire	AWG 26/7 - AWG 22/7
Conductor cross section, stranded wire	0.141 mm ² - 0.355 mm ²
Conductor diameter, stranded wire (bare copper)	0.483 mm - 0.762 mm
Conductor diameter, stranded wire (bare copper)	0.019 in. - 0.03 in.

Aderdurchmesser (min.-max.)

Core diameter (conductor with insulation)	0.85 mm - 1.6 mm
Core diameter (conductor with insulation)	0.033 in. - 0.063 in.

Cable sheath diameter (min. - max.)

Cable sheath diameter	6 mm - 9.70 mm
Cable sheath diameter	0.236 in. - 0.382 in.

Cable access/outlet straight M12

Electrical characteristics

Current carrying capacity	0.5 A
Rated voltage	50 V AC / 60 V DC
Through resistance	max. 5 mOhm
Insulation resistance	min. 100 MOhm
Dielectric strength conductor-conductor (primarily)	500 V DC

Mechanical data

Mounting method	screwable
Insertion and withdrawal force	max. 30 N
Life - Number of mating cycles	min. 100



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Materials and material properties

Material - Housing	GD-Zn
Material - Contact	CuZnPb (brass)
Material - Contact finish	Ni + Au (nickel-gold)
Material - Shield	CuSn
Material - Shield finish	Sn
Material - Stuffer cap	PA UL94-V0
Halogen free	yes
Material - Finish	Ni (nickel)
RoHS	compliant

Environmental conditions

Temperature (min. - max.)	
Temperature - Storage °C	-40 °C - 85 °C
Temperature - Storage °F	-40 °F - 185 °F
Temperature - Operating °C	-40 °C - 85 °C
Temperature - Operating °F	-40 °F - 185 °F
Protection category	IP65, IP67 when plugged in
Particulate ingress	IP6X when plugged in
Liquid ingress/immersion	IPX5, IPX7 when plugged in
Damp heat	25 °C / +40 °C / 93% RH // 5 cycles
Overvoltage category	III
Degree of pollution	2
Shock	490 m/s ²

Approvals

UL listed (file no.)



DUXR.E178484



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Standards/Regulations

Application-specific communications cabling systems

Profinet	yes
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Connectors for electronic equipment

circular connector	DIN EN 61076-2-109:2010-08
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Connectors for electronic equipment - Tests and measurements

Test standard for connectors (engaging and separating connectors under electrical load)	DIN-EN 60512-99-001, DIN-EN 60512-99-002
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Railway applications

Contact holder	Thermoplastic HL1-HL3; R22, R23 according to EN 45545-2:2020+A1:2023
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Flammable mass (g)	1.2 g
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Stuffer cap	Thermoplastic HL1-HL3; R22, R23 according to EN 45545-2:2020+A1:2023
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Flammable mass (g)	0.97 g
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Sealings	Elastomer
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Flammable mass (g)	1.63 g
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Shock and vibration	EN 50155:2021, EN 61373:2010 Class 1 Category B
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Salt spray	EN 50155:2021, (DIN EN 60068-2-11:2000-02/ 48-hour KA test)
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Classifications

ETIM 7.0	EC002635
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ETIM 8.0	EC002635
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ETIM 9.0	EC002635
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ETIM 10.0	EC002635
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Packing details

Type of packaging	10 pc(s) / box
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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.



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Accessories

P/N	Designation
130670-E	KAPRi plus cable and installation tester
130674-E	KAPRi plus extension set M12 X-coded
700669	M12 plug protection cap IP54



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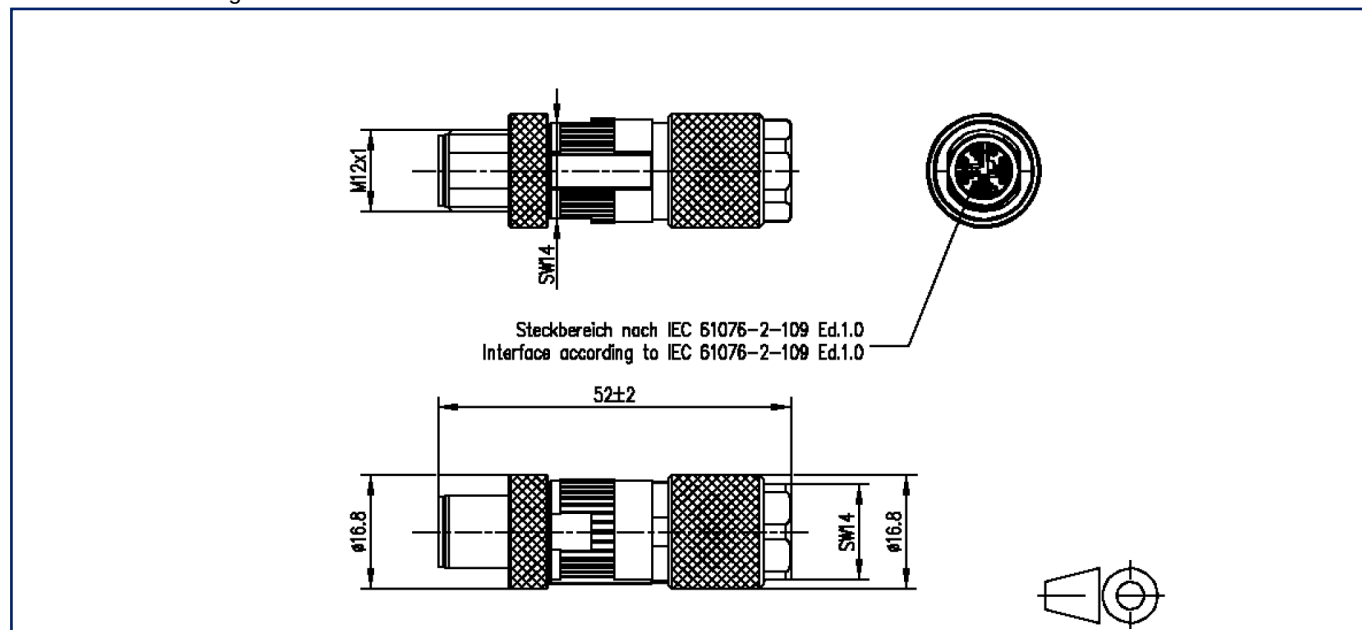
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