

## Data sheet

**M12 plug, X-coded, IP67, Cat. 6<sub>A</sub>, Ø 6-9.7 mm, field assembly, straight**

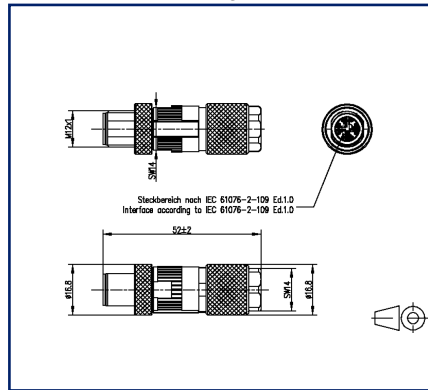
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P/N  
**MNF881A315-0001**  
**EAN 4250184151166**  
 2024/01/11  
 Version: P

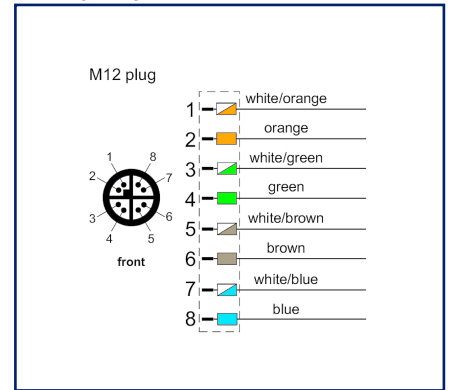
### Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

### Product specification

- M12 Cat.6<sub>A</sub> 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 <sub>A</sub>
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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## Technical Data

### 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 <sup>2</sup> - 0.324 mm <sup>2</sup>
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 <sup>2</sup> - 0.355 mm <sup>2</sup>
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
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### 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 (zinc die-cast)
Material - Contact	CuZnPb (brass)
Material - Contact finish	Ni + Au (nickel-gold)
Material - Shield	CuSn (tin bronze)
Material - Shield finish	Sn (tin)
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
Particulate ingress	IP6X when plugged in
Liquid ingress/immersion	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 <sup>2</sup>

### Approvals

UL listed (file no.)		DUXR.E178484
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### Standards/Regulations

Application-specific communications cabling systems	
Profinet	yes
Connectors for electronic equipment	
circular connector	DIN EN 61076-2-109:2010-08

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### Standards/Regulations

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

Electronic equipment used on rolling stock	following to DIN EN 50155
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Fire protection on railway vehicles	following to DIN EN 45545-2
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Contact holder	Thermoplastic HL3 according to R22 EN 45545-2
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Stuffer cap	Thermoplastic HL3 according to R22 EN 45545-2
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Sealings	Elastomer
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Shock and vibration	DIN EN 50155:2018-05, DIN EN 61373:2011-04 Class 1 Category B
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Salt spray	DIN EN 50155:2018-05, (DIN EN 60068-2-11:2000-02/ 48h test KA)
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### Classifications

ETIM 5.0	EC001121
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ETIM 6.0	EC001121
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ETIM 7.0	EC002635
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ETIM 8.0	EC002635
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ETIM 9.0	EC002635
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### Packing details

Type of packaging	10 pc(s) / box
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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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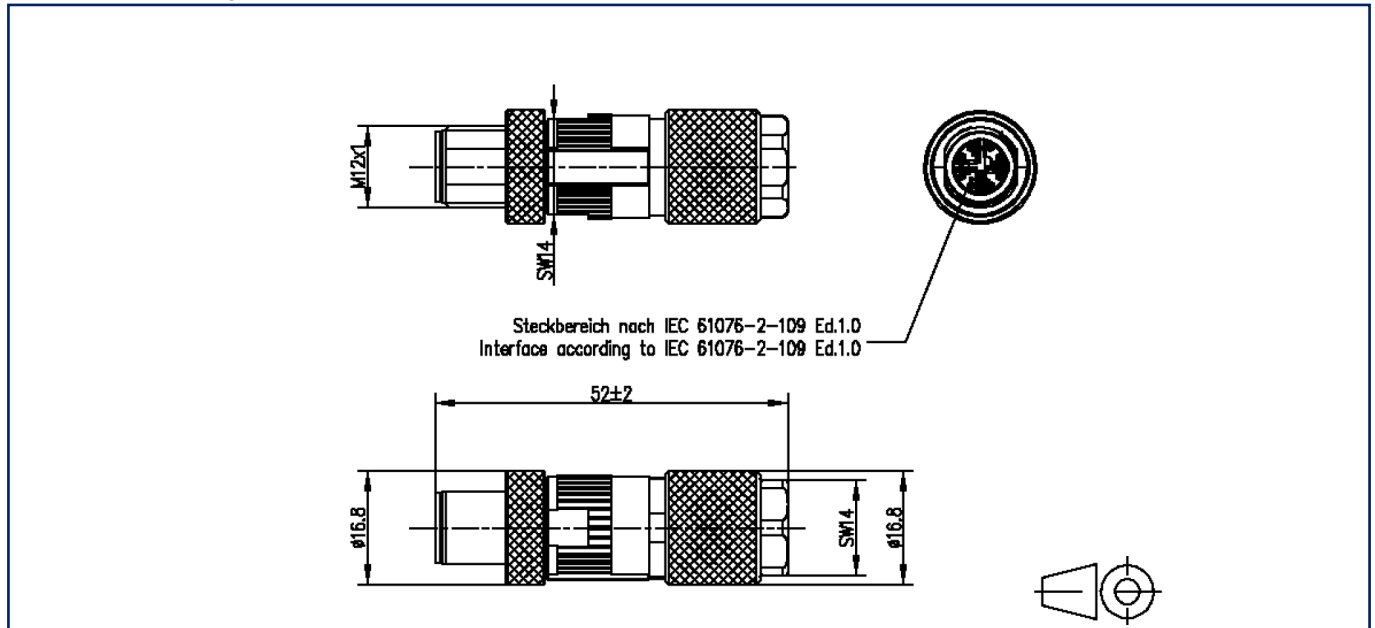
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