

P | Cabling

Data sheet

M12 plug, X-coded, IP67

Cat. 6_A, field assembly, straight

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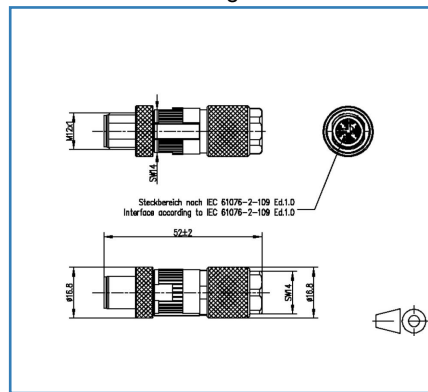
P/N
MNF881A315-0001

EAN 4250184151166
2020/06/17
Version: C

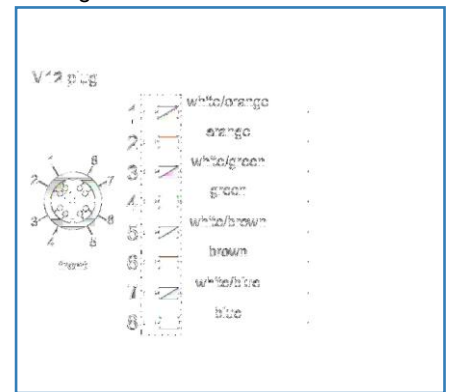
Illustrations



Dimensional drawing



Wiring



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
- suitable for 10 GBit Ethernet (IEEE 802.3an), Remote Powering (PoE, PoE plus and UPoE) and HDBaseT
- 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 5.0 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

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Technical Data

General Data

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)	6A
Category (TIA)	6A
Remote Powering	yes
PoE	IEEE 802.3af
PoE plus	IEEE 802.3at
UPoE	yes
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
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.

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Connections/interfaces

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

Conductor cross section, stranded wire AWG 26/7 - AWG 22/7

Conductor cross section, stranded wire 0.141 mm² - 0.355 mm²

Conductor diameter, stranded wire (bare copper) 0.483 mm - 0.762 mm

Conductor diameter, stranded wire (bare copper) 0.019 in. - 0.03 in.

Core diameter (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 5 mm - 9.70

Cable sheath diameter 0.197 in. - 0.382

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

Materials and material properties

Material - Housing GD-Zn (zinc die-cast)

Material - Contact CuZn (brass)

Material - Contact finish Ni + Au (nickel-gold)

Material - Shield CuSn (tin bronze)

Material - Shield finish Sn (tin)

Material - Stuffer cap PA UL94-V0

Material - Finish Ni (nickel)

RoHS compliant

REACH - substance (SVHC) Lead / 7439-92-1

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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
Pollution degree	2
Electromagnetic measurement	E2
Shock	490 m/s ²

Approvals

UL listed (file no.)	DUXR.E178484
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The product meets the following standards

Application-specific communications cabling systems	
PROFINET	yes
Connectors for electronic equipment	
circular connector	DIN EN 61076-2-109:2010-08
Railway applications	
Electronic equipment used on rolling stock	DIN EN 50155
Fire protection on railway vehicles	DIN EN 45545-2

Classifications

ETIM 5.0	EC001121
ETIM 6.0	EC001121
ETIM 7.0	EC001121

Packing details

Type of packaging	10 pc(s) / box
Packaging unit - Weight (gram)	298 g
Packaging unit - Weight (pound)	0.66 lb
Packaging dimension	180 mm x 49 mm x 140 mm
Packaging dimension	7.087 in. x 1.929 in. x 5.512 in.

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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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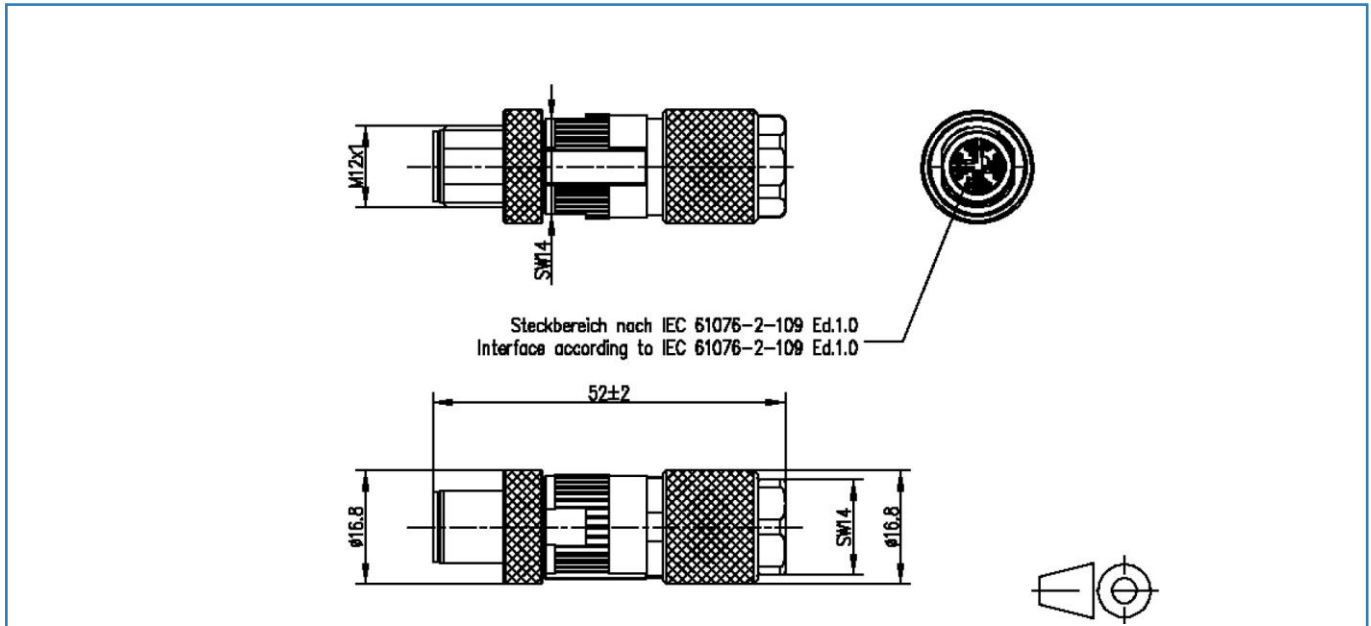
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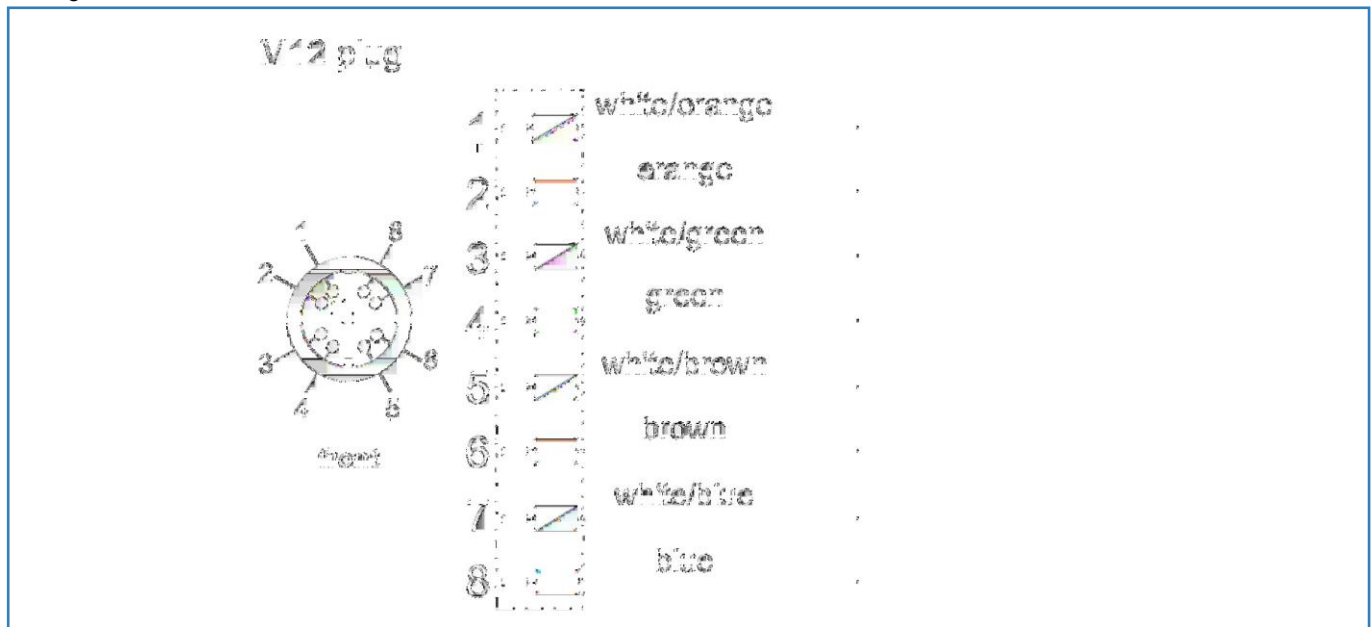
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Illustrations

Dimensional drawing



Wiring



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