

# P | Cabling

## Data sheet

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

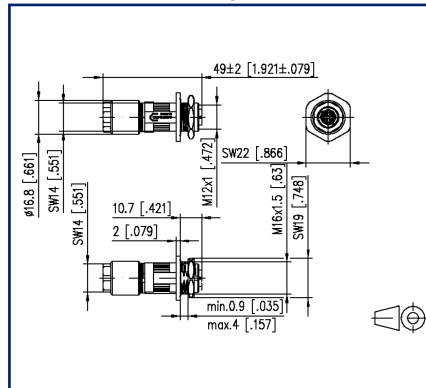
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P/N  
MMF881A315-0001  
EAN 4250184171096  
2024/01/11  
Version: BC

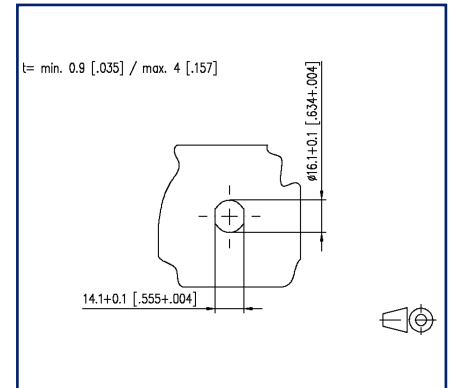
### Illustrations



Dimensional drawing



Drill pattern



See enlarged drawings at the end of document

### Product specification

- 8-pole M12 jack for field assembly Cat.6<sub>A</sub>
- per IEC 61076-2-109 with flange
- suitable for 10 GBit as per IEEE 802.3an
- AWG 26/1 - 22/1, AWG 26/7 - 22/7 can be connected
- solid copper wire diameter 0.4 to 0.64 mm
- stranded copper wire diameter 0.48 to 0.76 mm
- wire diameter with isolation up to 1.6 mm
- overall cable diameter from 6.0 to 9.7 mm
- jack consists of only two parts
- easy assembly without special tools
- industry-compatible zinc die-cast housing
- 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	Jack
Mounting style	back side
Shielding	shielded
Transmission technology	Copper
Dimensions	
Dimension (L x W x H)	49 mm x 16.8 mm x 16.8 mm
Dimension (L x W x H)	1.929 in. x 0.661 in. x 0.661 in.
Field assembly ability	yes

### 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
Transmission rate up to 10 GBit	IEEE 802.3an

### Connections/interfaces

Connector technology interface 1	IDC-connection
Connector technology interface 2	M12-jack
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
Cable sheath diameter	0.236 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

### 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 - Contact carriers	PA UL94 V0
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 interface 2	IP6X when plugged in
Liquid ingress/immersion interface 2	IPX5 when plugged in, IPX7 when plugged in
Overvoltage category	II
Degree of pollution	2
Shock	490 m/s <sup>2</sup>

### Approvals

UL listed (file no.)



DUXR.E178484

### 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



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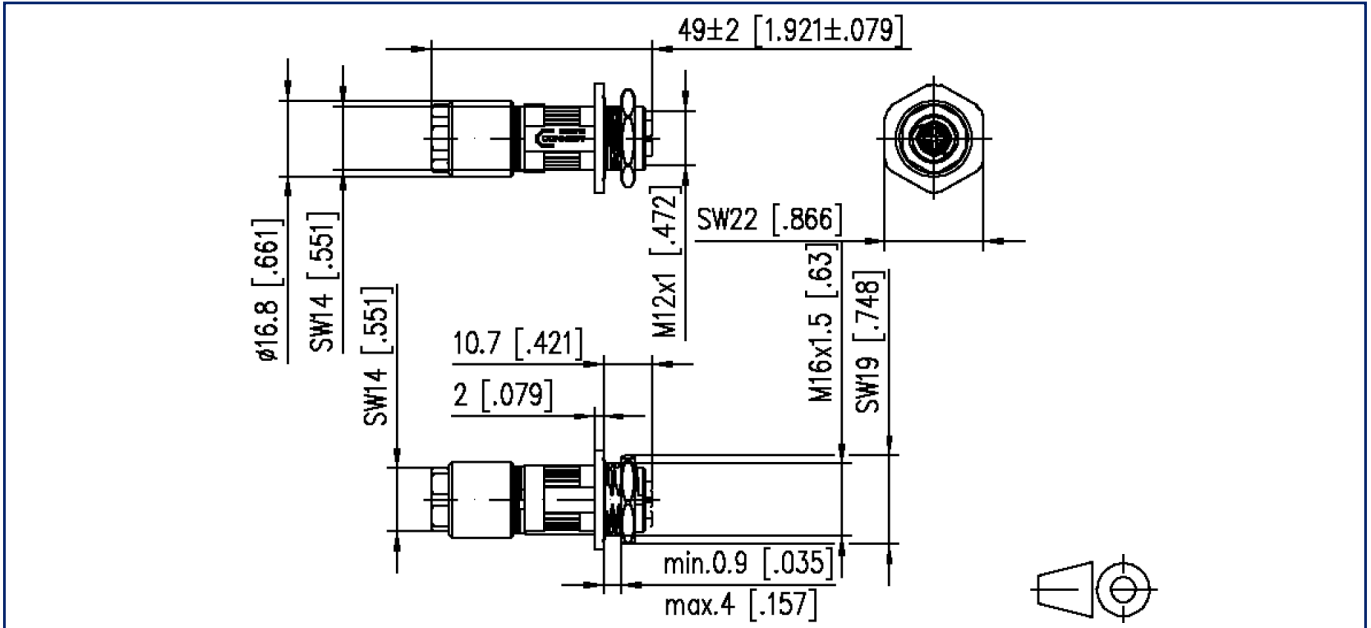
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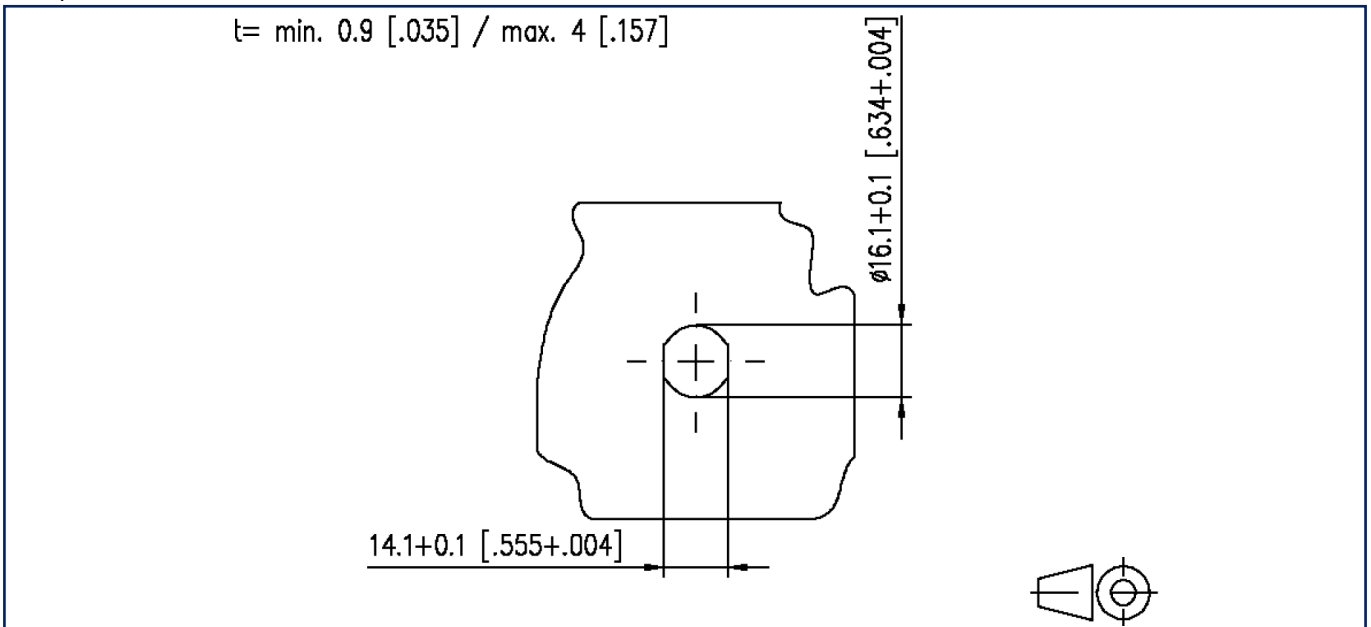
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## Illustrations

Dimensional drawing



Drill pattern



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## Illustrations

Wiring diagram

