

Data sheet

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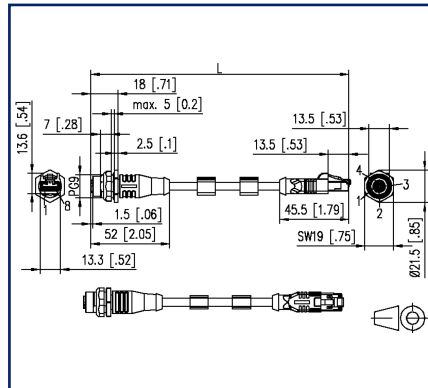
**M12 Industrial Ethernet cable, D-coded, 2.0 m,
M12 jack straight - RJ45 plug straight,
drag chain, torsion, PUR**

P/N
142MBD25020
EAN **4251394640679**
2025/06/06
Version: G

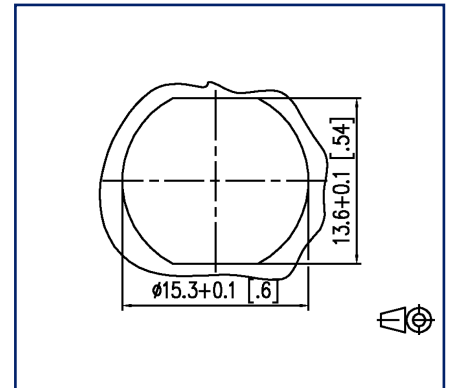
Illustrations



Dimensional drawing



Cut-out



See enlarged drawings at the end of document

Product specification

Shielded PUR cable for safe and industrial data transmission in automation and fieldbus technology. The cable is UL-verified and complies with Cat5e (electrical properties based on EN50288-2-1). Materials and design allow increased mechanical stress (abrasion, bending, vibrations, etc.) of the cable. This cable is especially suitable for robotic applications. Special properties: UN/ECE-R118:2019-06, ISI 6722-1:2011-10, flame retardant, seawater resistant, recyclable, LABS-free, RoHS compliant, acid and alkali resistant, ozone resistant, UV resistant, hydrolysis resistant, drag chain resistant, torsion resistant, halogen free, oil resistant, high flexibility, microbe resistant, PROFINET Type R.

- Standard variants: 1.0 m, 2.0 m, 5.0 m, 10.0 m.
- Other cable lengths on request.

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Technical Data

General Data

Fields of application	Industrial Ethernet
Design	Ethernet-Connection line
Shielding	shielded
Transmission technology	Copper
Number of twisting elements	4
Twisting element	single core
Wiring	Profinet
Color coding fiber/ wire(s)	yellow, white, orange, blue
Color	green
Dimensions	
Dimension - Interface 1 (L x W x H)	52 mm x 21.5 mm x 21.5 mm
Dimension - Interface 1 (L x W x H)	2.047 in. x 0.846 in. x 0.846 in.
Dimension - Interface 2 (L x W x H)	45.5 mm x 13.3 mm x 13.6 mm
Dimension - Interface 2 (L x W x H)	1.791 in. x 0.524 in. x 0.535 in.
Cable length (m)	2 m
Cable length (ft)	6.56 ft
Weight	61 kg/km
Labeling option	identification label carrier

Transmission characteristics

Category (ISO)	5e
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Connections/interfaces

Connector technology interface 1	M12-jack
Connector technology interface 2	RJ45 plug
Coding interface 1	D-coded
Coding interface 2	D-coded
Number of positions/contacts interface 1	4
Number of positions/contacts interface 2	8P/4C



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Connections/interfaces

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

Conductor cross section, stranded wire	AWG 22/19
Conductor diameter, stranded wire (bare copper)	0.74 mm
Conductor diameter, stranded wire (bare copper)	0.029 in.
Cable sheath diameter (min. - max.)	
Cable sheath diameter	6.5 mm
Cable sheath diameter	0.256 in.

Electrical characteristics

Current carrying capacity	1 A at 40 °C
Rated voltage	50 V
Insulation resistance	min. 100 MOhm

Mechanical data

Bending radius without load	30.5 mm
Number of alternating bending cycles (mechanical resistance) at:	5 million bending cycles
Alternating bending radius	75 mm
acceleration	20 m/s ²
Shielding braid coverage	90 %

Materials and material properties

Material - Conductor	Cu (copper)
Material - Conductor Insulation	Polyethylene
Material - Cable jacket	PUR
Material - Body interface 1	Plastics
Material - Body interface 2	Plastics
Material - Contact interface 1	CuSn
Material - Contact interface 2	CuSn
Material - Contact finish interface 1	Au (gold)
Material - Contact finish interface 2	Au (gold)
Material - Contact carriers interface 1	Plastics
Material - Contact carriers interface 2	Plastics
Material - Union nut interface 1	CuZnPb (brass)



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Material - Union nut finish interface 1	Ni (nickel)
Material - Pair shield	plastic film
Material - Pair shield finish	Al (Aluminium)
Material - Main shield	Cu (copper) braid
Material - Main shield finish	Sn
Flame retardancy	according to ISO 6722-1
Halogen free	yes
Oil resistance	yes
drag chain suitable	yes
torsional	yes
RoHS	compliant

Environmental conditions

Temperature (min. - max.)	
Temperature - Storage °C	-40 °C - 80 °C
Temperature - Storage °F	-40 °F - 176 °F
Temperature - Operating °C	-20 °C - 80 °C
Temperature - Operating °F	-4 °F - 176 °F
Temperature - Installation °C	-20 °C - 80 °C
Temperature - Installation °F	-4 °F - 176 °F
Particulate ingress interface 1	IP6X when plugged in
Liquid ingress/immersion interface 1	IPX5, IPX7, IPX8 when plugged in
Particulate ingress interface 2	IP2X when plugged in
Liquid ingress/immersion interface 2	IPX0 when plugged in
Pollution degree interface 1	3
Pollution degree interface 2	1



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Certifications

ECE regulations R118 fire resistance of materials used in buses

Approvals

UL listed (file no.)



DUXR.E178484

Standards/Regulations

Generic cabling systems

General requirements ISO/IEC 11801-1 | DIN EN 50173-1

Profinet yes

Connectors for electronic equipment

circular connector DIN EN 61076-2-101

Multi-element metallic cables used in analogue and digital communication and control DIN EN 50288-4-1

Test for vertical flame propagation for a single insulated wire or cable IEC 60332-1-2

Measurement of smoke density of cables burning DIN EN 61034

Classifications

ETIM 7.0 EC002599

ETIM 8.0 EC002599

ETIM 9.0 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. At METZ CONNECT's request, the Customer shall submit and make available meaningful evidence (e.g. test and laboratory protocols, certifications, etc.).



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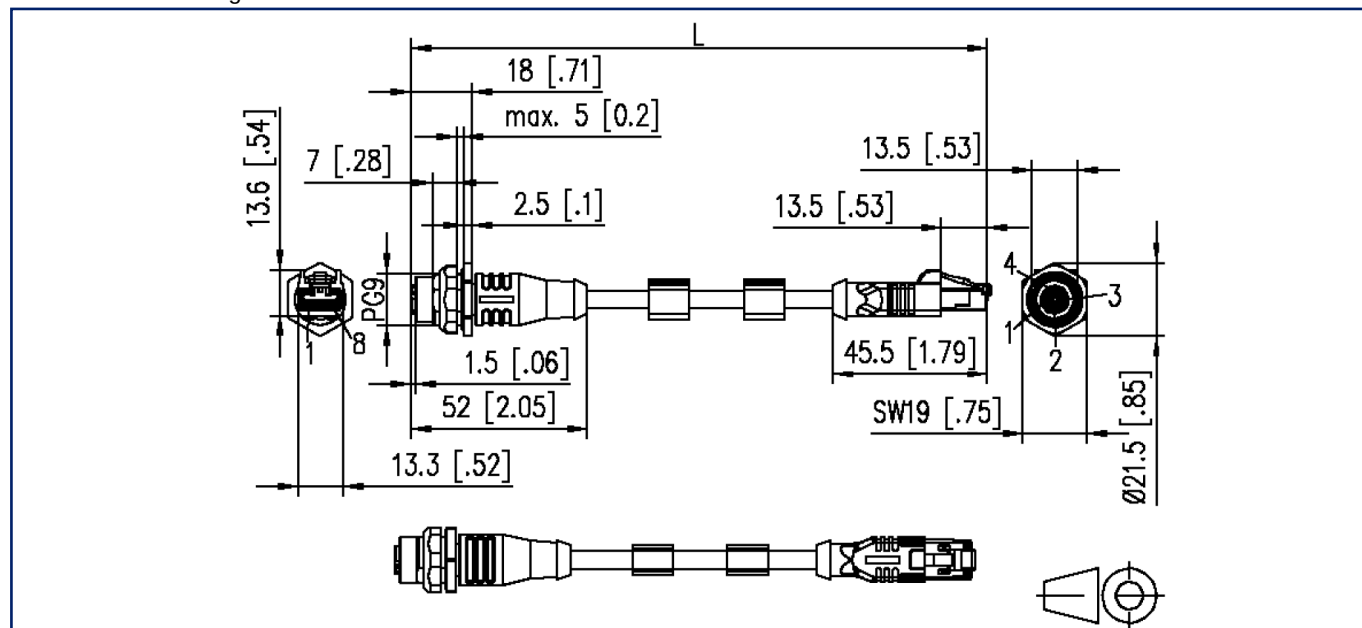
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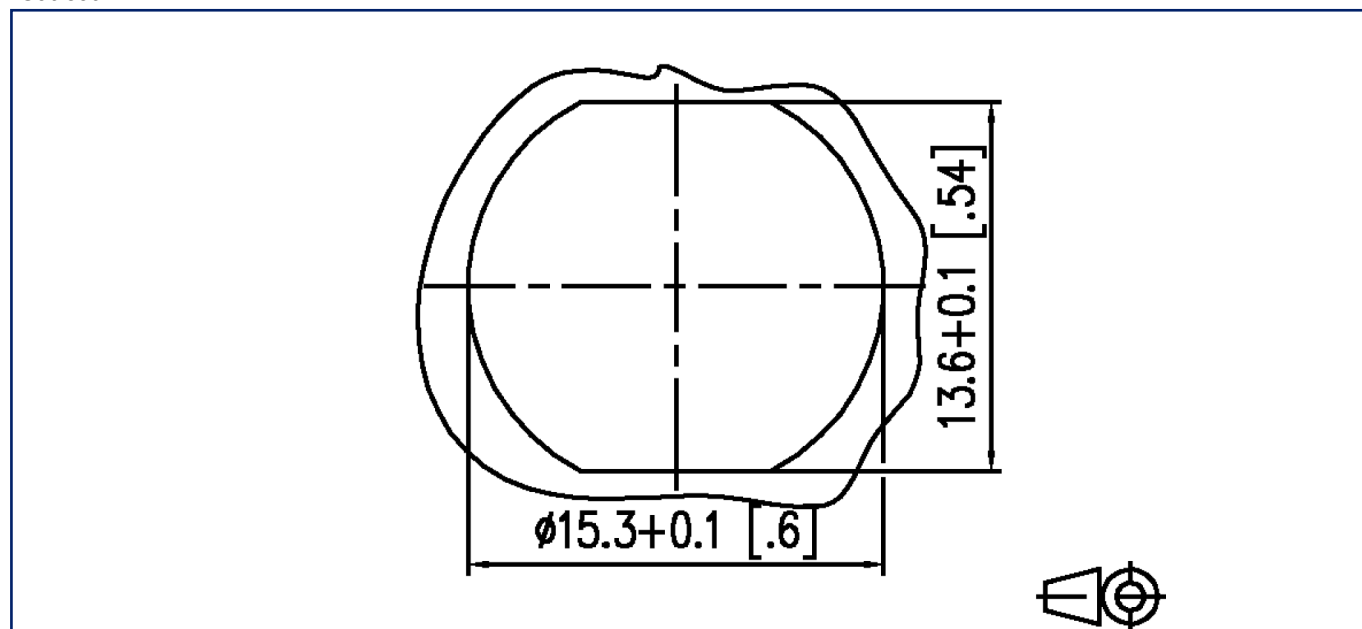
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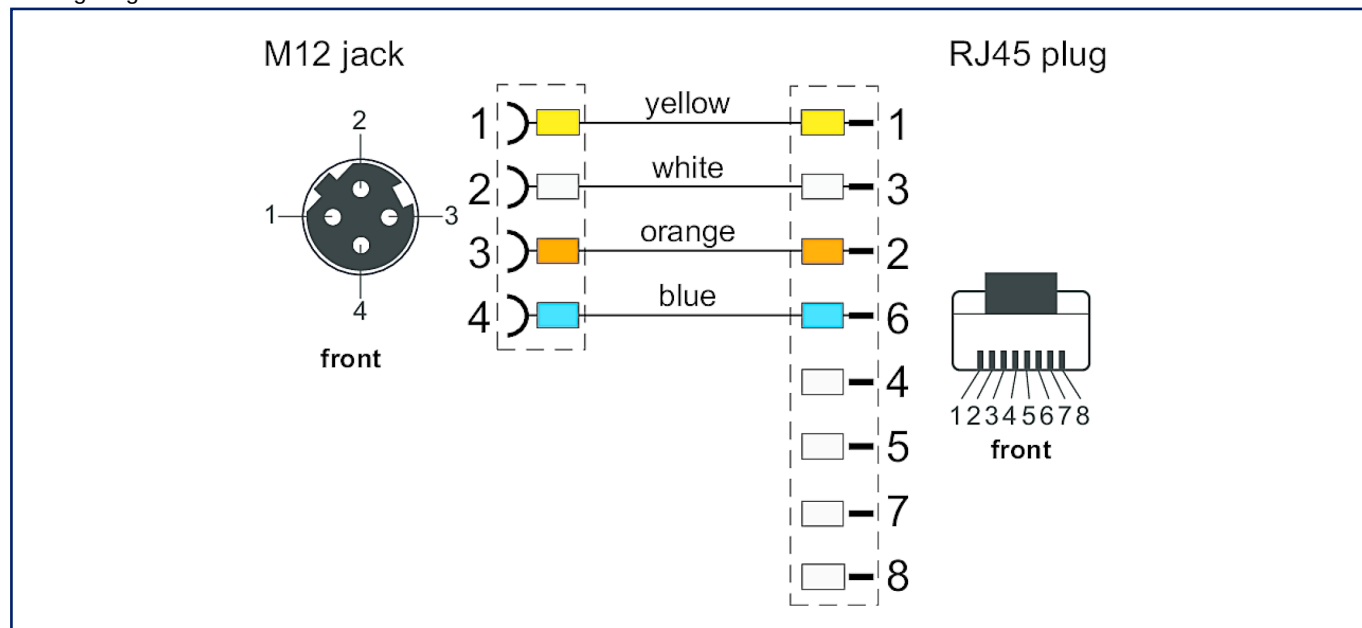
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Wiring diagram



Principle diagram

