

# SPE-T1-M12MS/ 1,0-99B/M12MS - Network cable



1478376

<https://www.phoenixcontact.com/us/products/1478376>

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Network cable, Single Pair Ethernet CAT B (1 Gbps), 2-position, PUR halogen-free, green, shielded (Advanced Shielding Technology), Plug straight M12-SPE / IP67, on Plug straight M12-SPE / IP67, cable length: 1 m

## Product description

Single Pair Ethernet M12 patch cable

## Your advantages

- Future-proof: standardized connectors in accordance with IEC 63171-5 (IP67)
- Easily integrated: Male and female versions for established inductive sensors and flying leads
- Straightforward servicing: M12 connectors are compatible with IP20 connectors for SPE
- Safely shielded: patch cables with Advanced Shielding Technology

## Commercial data

Item number	1478376
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF02
Product key	AF1BJI
GTIN	4063151893651
Weight per piece (including packing)	82.2 g
Weight per piece (excluding packing)	22.22 g
Customs tariff number	85444290
Country of origin	PL

## Technical data

### Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Single Pair Ethernet
Number of positions	2
No. of cable outlets	1
Shielded	yes

### Insulation characteristics

Overvoltage category	I
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### Interfaces

Bus system	Ethernet
Signal type/category	Single Pair Ethernet CAT B (ISO/IEC 63171), 1 Gbps

### Signaling

Status display	no
Status display present	no

### Electrical properties

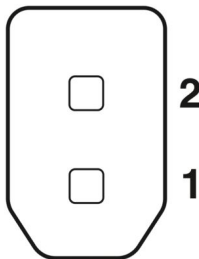
Nominal voltage $U_N$	72 V DC
Transmission medium	Copper
Transmission speed	up to 1 Gbps

### Material specifications

Flammability rating according to UL 94	V0
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### Connector

#### Connection 1

Dimensional drawing	 <p>Pin assignment, Single Pair Ethernet, 2 pos.</p>
Type	Plug, 2-position, shielded (Advanced Shielding Technology)
Number of positions	2
Shielded	yes

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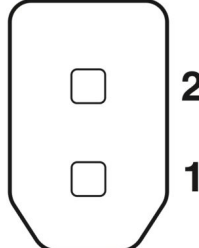


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Shielding	Advanced Shielding Technology
Signal type/category	Single Pair Ethernet CAT B (ISO/IEC 63171), 1 Gbps
Overvoltage category	II
Degree of pollution	3
Tightening torque	0.4 Nm
Material Contact	Cu
Material Contact surface	Ni/Au
Material Contact carrier	PP
Material Screw connection	Die-cast zinc, nickel-plated
Material Grip body	TPU, hardly inflammable, self-extinguishing
Material Seal	FKM
Flammability rating according to UL 94	V0
Ambient temperature (operation)	-25 °C ... 85 °C
Standard designation	M12 connector
Standards/regulations	IEC 63171-5

## Connection 2

Dimensional drawing	 <p>Pin assignment, Single Pair Ethernet, 2 pos.</p>
Type	Plug, 2-position, shielded (Advanced Shielding Technology)
Number of positions	2
Shielded	yes
Shielding	Advanced Shielding Technology
Signal type/category	Single Pair Ethernet CAT B (ISO/IEC 63171), 1 Gbps
Overvoltage category	II
Degree of pollution	3
Tightening torque	0.4 Nm
Material Contact	Cu
Material Contact surface	Ni/Au
Material Contact carrier	PP
Material Screw connection	Die-cast zinc, nickel-plated
Material Grip body	TPU, hardly inflammable, self-extinguishing
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Ambient temperature (operation)	-25 °C ... 85 °C
Standard designation	M12 connector
Standards/regulations	IEC 63171-5

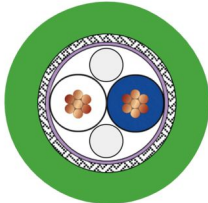
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## Cable/line

Cable length	1 m
Single Pair Ethernet PUR flexible, green [99B]	
Dimensional drawing	
UL AWM Style	20233 (80°C/300 V)
Number of positions	2
Shielded	yes
Cable type	Single Pair Ethernet PUR flexible, green [99B]
Conductor structure	1 x 2 x AWG 22/7, S/FTP
AWG signal line	22
Conductor cross section	2x 0.34 mm <sup>2</sup>
Wire diameter incl. insulation	1.6 mm
External cable diameter	5.50 mm ±0.1 mm
Outer sheath, material	PUR
External sheath, color	green
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white, blue
Twisted pairs	2 cores to the pair
Overall twist	1 pair with fillers twisted horizontally
Optical shield covering	90 %
Insulation resistance	≥ 5 GΩ*km
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	22 mm
Smallest bending radius, movable installation	44 mm
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2 UL 1581, Sec. 1061 (Cable Flame) according to CSA FT1

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Resistance to oil	in accordance with DIN EN 60811-404
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)
	-25 °C ... 80 °C (for installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67

## Standards and regulations

Standard designation	M12 connector
Standards/specifications	IEC 63171-5
Note	T1-SPE

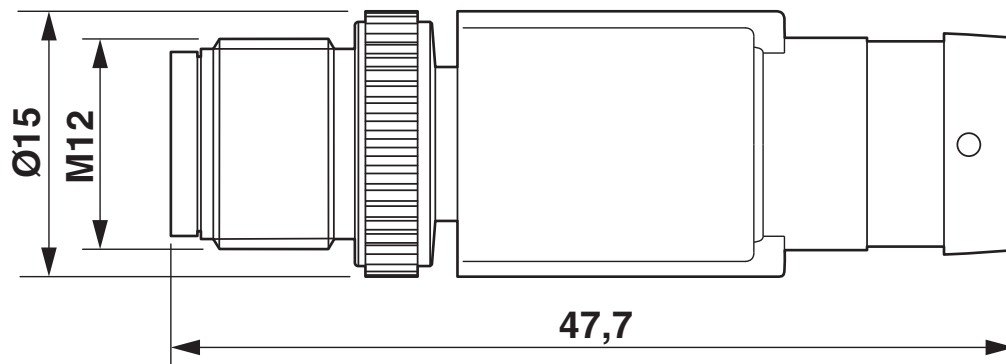
## Drawings

Dimensional drawing



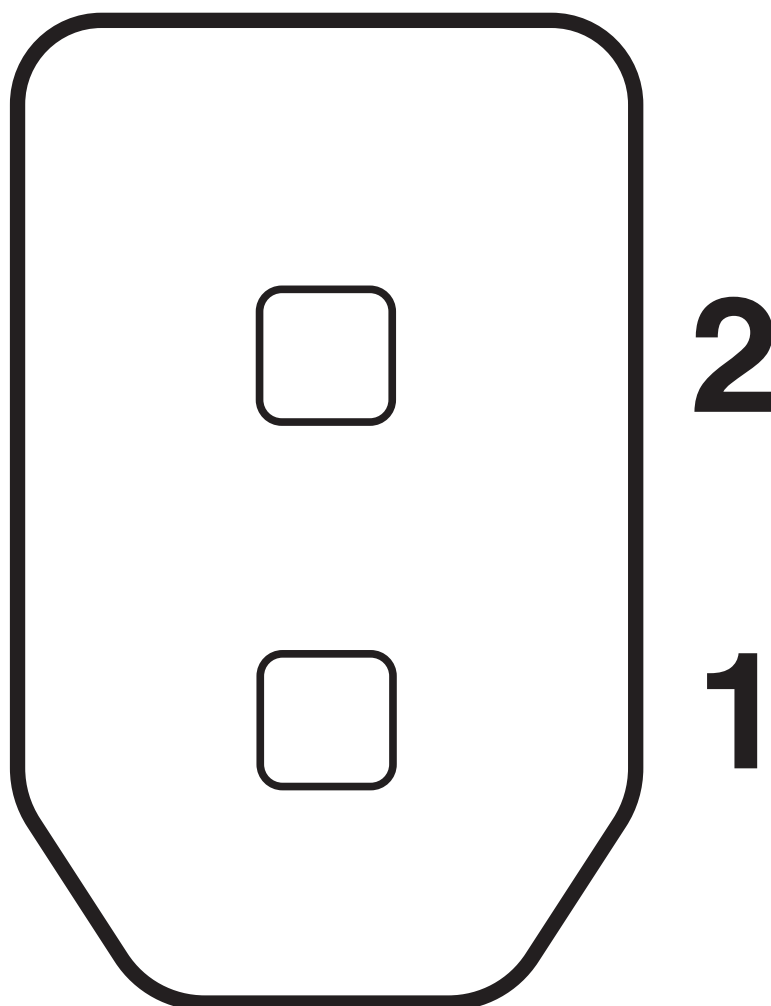
Plug, M12 x 1, straight, shielded

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



Pin assignment, Single Pair Ethernet, 2 pos.

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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

### ETIM

ETIM 9.0	EC001855
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## Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%
EF3.0 Climate Change	
CO2e kg	5.401 kg CO2e

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