

NBC-MSD/25,2-939/MSD SCO SI - Network cable



1425179

<https://www.phoenixcontact.com/us/products/1425179>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Network cable, PROFINET CAT5 (100 Mbps), 4-position, PE-X halogen-free, black, shielded, Plug straight M12 SPEEDCON / IP65, on Plug straight M12 SPEEDCON / IP65, cable length: 25.2 m, Product tested according to customer specification/rail application

Commercial data

Item number	1425179
Packing unit	1 pc
Minimum order quantity	50 pc
Product key	AF1CJN
GTIN	4055626386553
Weight per piece (including packing)	22.22 g
Weight per piece (excluding packing)	22.22 g
Country of origin	PL

Technical data

Notes

General	The cable is 100% electrically tested for continuity.
---------	---

Product properties

Product type	Data cable preassembled
Sensor type	PROFINET
Number of positions	4
No. of cable outlets	1
Shielded	yes
Coding	D

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	PROFINET
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps

Signaling

Status display	no
Status display present	no

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A
Transmission medium	Copper
Transmission speed	100 Mbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

Material specifications

Flammability rating according to UL 94	V0
--	----

Connector

Connection 1

Type	Plug straight M12 SPEEDCON / IP65
Number of positions	4
Locking type	SPEEDCON
Shielded	yes
Handle color	black
	CuSn (Contact)

NBC-MSD/25,2-939/MSD SCO SI - Network cable



1425179

<https://www.phoenixcontact.com/us/products/1425179>

Material	Ni/Au (Contact surface)
	PA (Contact carrier)
	TPU, hardly inflammable, self-extinguishing (Grip body)
	Zinc die-cast, nickel-plated (Screw connection)
Degree of protection	IP65

Connection 2

Type	Plug straight M12 SPEEDCON / IP65
Locking type	SPEEDCON
Degree of protection	IP65

Cable/line

Cable length	25.2 m
--------------	--------

PROFINET BETAtans® railway application CAT5 [939]

Dimensional drawing	
Cable weight	71 kg/km
Number of positions	4
Shielded	yes
Cable type	PROFINET BETAtans® railway application CAT5 [939]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal runtime	4.4 ns/m
Signal speed	0.75 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm²
Wire diameter incl. insulation	1.4 mm ±0.1 mm
External cable diameter	6.60 mm ±0.2 mm
Outer sheath, material	PE-X
External sheath, color	black
Conductor material	Tin-plated Cu litz wires
Material wire insulation	Cell PE
Single wire, color	white-blue, orange-yellow
Thickness, outer sheath	1.00 mm
Overall twist	Star quad
Max. conductor resistance	≤ 54.4 Ω/km
Insulation resistance	≥ 5 GΩ*km
Coupling resistance	< 13.00 mΩ/m (f = 1 MHz)

1425179

<https://www.phoenixcontact.com/us/products/1425179>

	< 8.00 mΩ/m (f = 10 MHz ... 100 MHz)
Wave impedance	100 Ω ±5 Ω (f = 100 MHz)
Cable capacity	44 nF/km (Line-line)
Cable impedance	100 Ω ±15 Ω (f = 0.5 MHz ... 3 MHz)
Nominal voltage, cable	125 V
Test voltage Core/Core	1000 V AC (50 Hz, 1 min.)
Test voltage Core/Shield	1000.00 V AC (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	6 x D
Smallest bending radius, fixed installation	33 mm
Smallest bending radius, movable installation	40 mm
Tensile strength	≤ 60 N (temporary)
	≤ 15 N (Permanent)
Near end crosstalk attenuation (NEXT)	76 dB (with 1 MHz)
	71 dB (at 4 MHz)
	64 dB (at 10 MHz)
	60 dB (at 16 MHz)
	56 dB (at 31.25 MHz)
	52 dB (at 62.5 MHz)
	48 dB (at 100 MHz)
	45 dB (at 155 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	42 dB (at 200 MHz)
	73 dB (with 1 MHz)
	68 dB (at 4 MHz)
	61 dB (at 10 MHz)
	57 dB (at 16 MHz)
	53 dB (at 31.25 MHz)
	49 dB (at 62.5 MHz)
	45 dB (at 100 MHz)
Return attenuation (RL)	42 dB (at 155 MHz)
	39 dB (at 200 MHz)
	25 dB (with 1 MHz)
	25 dB (at 4 MHz)
	28 dB (at 10 MHz)
	28 dB (at 16 MHz)
	27 dB (at 31.25 MHz)
	26 dB (at 62.5 MHz)
Shield attenuation	25 dB (at 100 MHz)
	25 dB (at 155 MHz)
	23 dB (at 200 MHz)
	1.5 dB (with 1 MHz)
	3.3 dB (at 4 MHz)
	5.3 dB (at 10 MHz)
	6.9 dB (at 16 MHz)

1425179

<https://www.phoenixcontact.com/us/products/1425179>

	9.9 dB (at 31.25 MHz)
	14.5 dB (at 62.5 MHz)
	18.8 dB (at 100 MHz)
	23.6 dB (at 155 MHz)
	27.3 dB (at 200 MHz)
	60.00 dB (up to 1000 MHz)
Halogen-free	in accordance with EN 50267-2-1
	in accordance with EN 60684-2
Flame resistance	in accordance with EN 60332-1-2
	in accordance with EN 50266-2-5
	in accordance with ISO 14572 5.21 (UN ECE-R 118.01)
Concentration of fumes	EN 61034-2
Resistance to oil	in accordance with EN 50306-4, 72 hours at 100°C, IRM 902
Fire protection in rail vehicles	BS 6853 (Internal cable Ia, Ib, II/external cable Ia, Ib, II)
	DIN 5510-2 (Fire protection level 1, 2, 3, 4)
	EN 45545-2 (Risk level HL1 - HL3)
	EN 50306-4
	NF F16-101 (Classification C/F1)
	NF F16-101 (Internal cable A1, A2, B/external cable A1, A2, B)
	NFPA 130
	PN-K-02511
Other resistance	UIC 564-2 (Class A)
	Resistant to fuel (in accordance with EN 50306-4, 168 hours at 70°C, IRM 903)
Ambient temperature (operation)	Resistant to ozone (in accordance with EN 50306-4, 72 hours at 40°C, method B, volumetric concentration of 200×10^{-6})
	-40 °C ... 85 °C (cable, fixed installation)
	-25 °C ... 70 °C (Cable, flexible installation)
	160 °C (Short circuit)

Standards and regulations

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

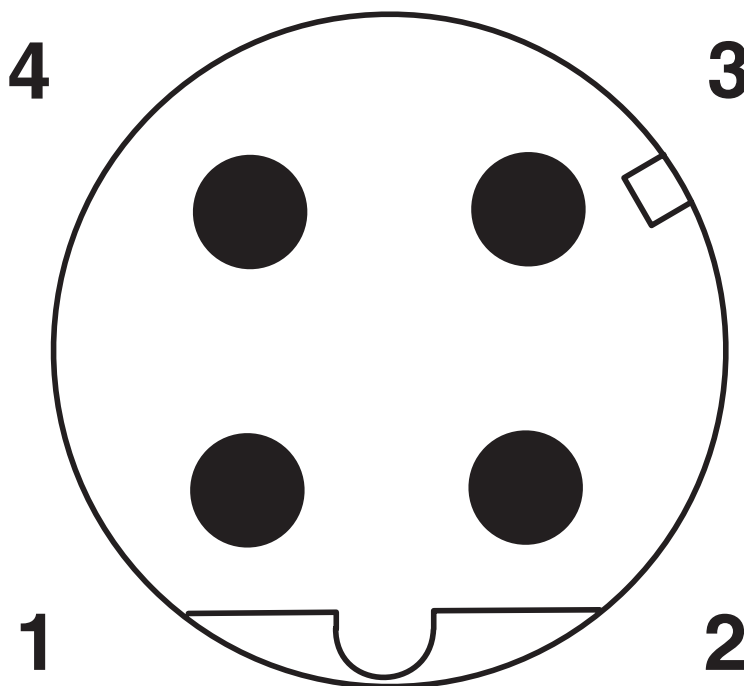
Drawings

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

Schematic diagram

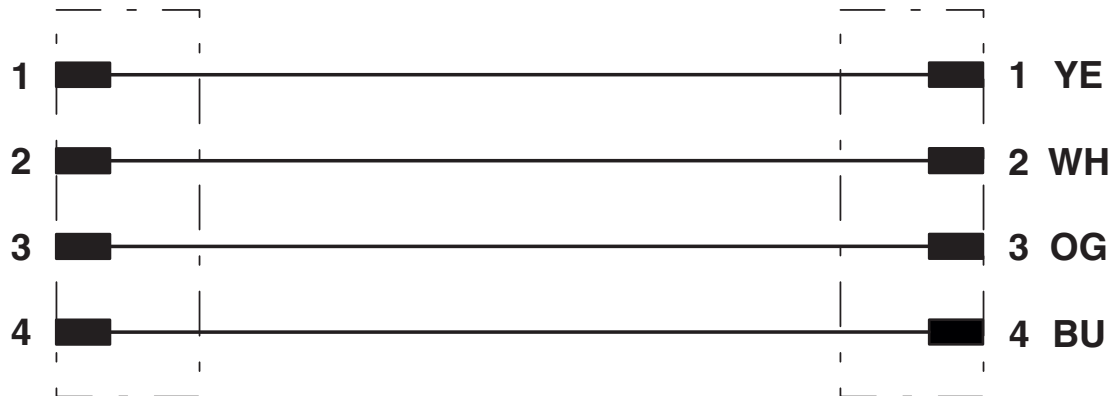


Pin assignment M12 male connector, 4-pos., D-coded, male side

1425179

<https://www.phoenixcontact.com/us/products/1425179>

Circuit diagram



Contact assignment of the M12 plugs



1425179

<https://www.phoenixcontact.com/us/products/1425179>

Classifications

ECLASS

ECLASS-13.0	27060307
-------------	----------

UNSPSC

UNSPSC 21.0	26121604
-------------	----------



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%