

NBC-MS/10,0-94B SCO - Network cable



1407407

<https://www.phoenixcontact.com/us/products/1407407>

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded (Aluminum-coated foil, tinned copper braided shield), Plug straight M12 SPEEDCON, coding: A / IP67, on free cable end, cable length: 10 m

Commercial data

Item number	1407407
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	BF1CMI
Catalog page	Page 401 (C-2-2019)
GTIN	4046356775359
Weight per piece (including packing)	483 g
Weight per piece (excluding packing)	465.9 g
Customs tariff number	85444210
Country of origin	PL

Technical data

Notes

General	Further products with variable cable type and variable cable length can be found in the accessories section
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Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Ethernet
Number of positions	8
No. of cable outlets	1
Shielded	yes
Coding	A

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT5 (based on IEC 11801), 1 Gbps

Signaling

Status display	No
Status display present	No

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	2 A
Transmission medium	Copper
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

Connector

Connection 1

Type	Plug straight M12 SPEEDCON / IP67
Number of positions	8
Locking type	SPEEDCON
Coding type	A (Standard)
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ

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Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

Type	free cable end
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Cable/line

Cable length	10 m
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Ethernet flexible CAT5, 4-pair [94B]

Dimensional drawing	
Cable weight	47 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet flexible CAT5, 4-pair [94B]
Conductor structure	4x2xAWG26/7, SF/UTP
Signal runtime	5.3 ns/m
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross section	4x 2x 0.14 mm ²
Wire diameter incl. insulation	0.96 mm
External cable diameter	6.40 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Thickness, outer sheath	1.05 mm
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	≥ 5 GΩ*km
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)

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Cable capacity	48 nF/km (at 1 kHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700.00 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	26 mm
Smallest bending radius, movable installation	52 mm
Tensile strength	≤ 100 N
Near end crosstalk attenuation (NEXT)	71.3 dB (with 1 MHz)
	62.3 dB (at 4 MHz)
	56.3 dB (at 10 MHz)
	53.2 dB (at 16 MHz)
	51.8 dB (at 20 MHz)
	48.9 dB (at 31.25 MHz)
	44.4 dB (at 62.5 MHz)
	41.3 dB (at 100 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Return attenuation (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Shield attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
Resistance to oil	in accordance with EN 60811-2-1

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Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 80 °C

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
	IP67
	IP65/IP67

Standards and regulations

M12

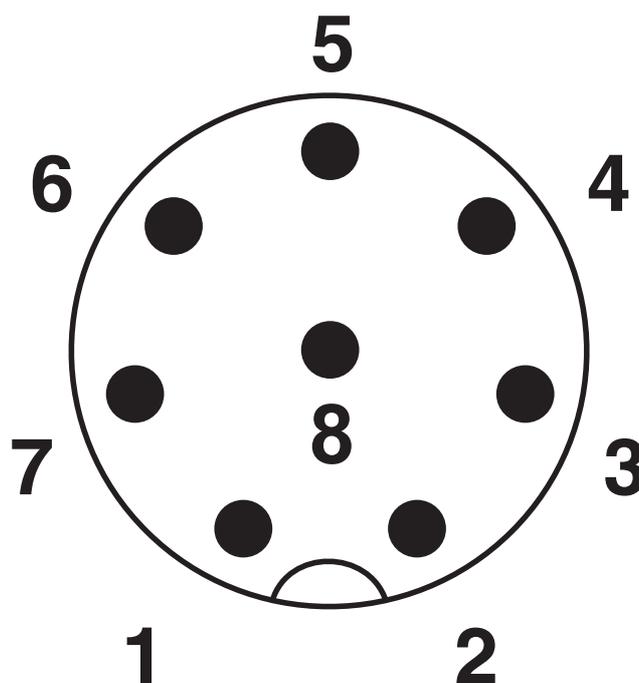
Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

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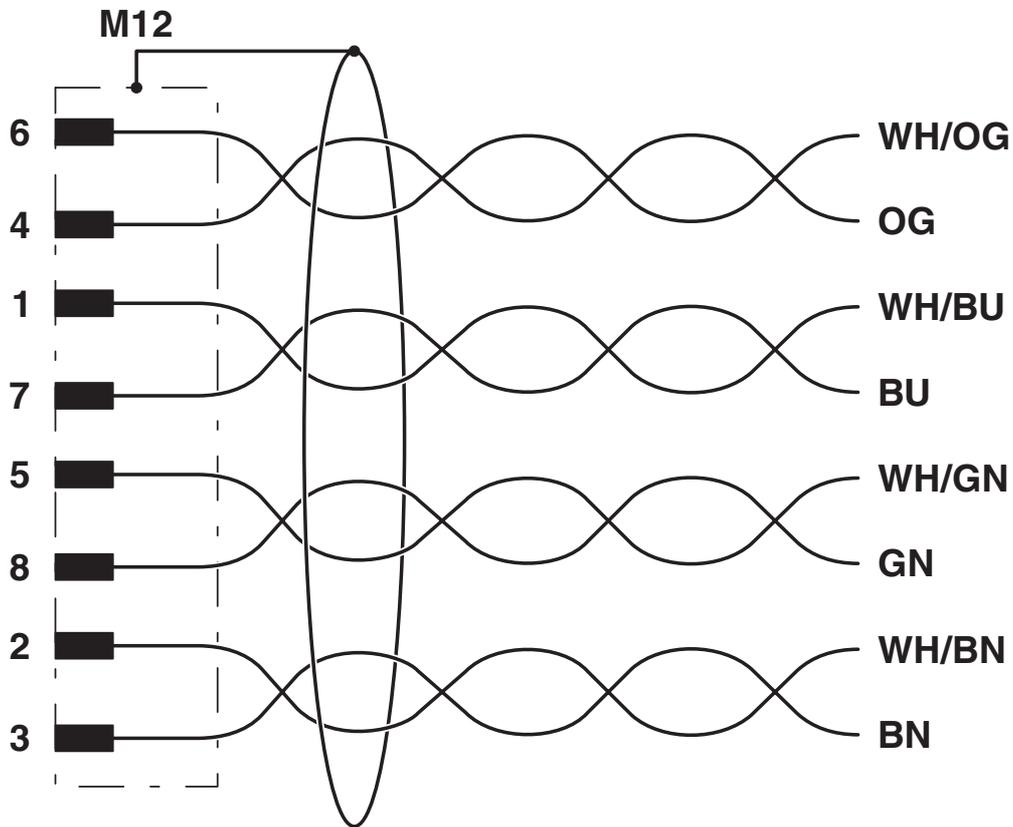
Drawings

Schematic diagram

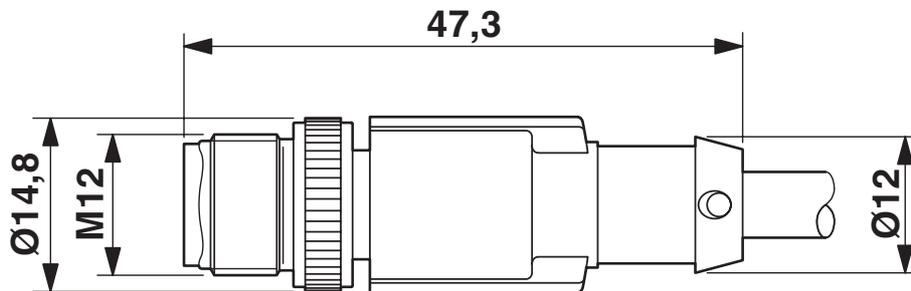


Pin assignment M12 plug, 8-pos., A-coded, view plug side

Circuit diagram



Dimensional drawing



Plug, M12 x 1, straight, shielded

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1407407>

 cUL Recognized Approval ID: FILE E 335024				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	1.5 A	-	-

 UL Recognized Approval ID: FILE E 335024				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	1.5 A	-	-

 EAC-RoHS Approval ID: RU D-DE.HB35.B.00387	
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cULus Recognized	
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Classifications

ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

ETIM

ETIM 9.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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Accessories

NBC-MS SCO-IE/.../... - Network cable

1408682

<https://www.phoenixcontact.com/us/products/1408682>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Plug straight M12 SPEEDCON, coding: A / IP67, on free cable end, cable length: Free input (0.2 ... 40.0 m)

NBC-MR SCO-IE/.../... - Network cable

1408675

<https://www.phoenixcontact.com/us/products/1408675>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Plug angled M12 SPEEDCON, coding: A / IP67, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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NBC-FS SCO-IE/.../... - Network cable

1408665

<https://www.phoenixcontact.com/us/products/1408665>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, free cable end, on Socket straight M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

NBC-FR SCO-IE/.../... - Network cable

1408657

<https://www.phoenixcontact.com/us/products/1408657>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, free cable end, on Socket angled M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

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PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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WP-CTA POM 13,0 BK - Protective hose adapter

1422884

<https://www.phoenixcontact.com/us/products/1422884>



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

WP-PA HF 13,0 BK - Protective hose

3240681

<https://www.phoenixcontact.com/us/products/3240681>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

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WP-PA HF-HB 13,0 BK - Protective hose

3240839

<https://www.phoenixcontact.com/us/products/3240839>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

SACC-M12MS-8QO SH ETH - Data connector

1421679

<https://www.phoenixcontact.com/us/products/1421679>



Data connector, Ethernet CAT5 (1 Gbps), 8-position, halogen-free, shielded, Plug straight M12, coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

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SACC-M12MR-8Q SH - Data connector

1553653

<https://www.phoenixcontact.com/us/products/1553653>



Data connector, Ethernet CAT5 (1 Gbps), 8-position, shielded, Plug angled M12, coding: A, Insulation displacement connection, knurl material: Brass, nickel-plated, external cable diameter 4 mm ... 8 mm

SACC-M12FS-8QO SH ETH - Data connector

1421680

<https://www.phoenixcontact.com/us/products/1421680>



Data connector, Ethernet CAT5 (1 Gbps), 8-position, halogen-free, shielded, Socket straight M12, coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

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SACC-M12FR-8Q SH - Data connector

1553666

<https://www.phoenixcontact.com/us/products/1553666>



Data connector, Ethernet CAT5 (1 Gbps), 8-position, shielded, Socket angled M12, coding: A, Insulation displacement connection, knurl material: Brass, nickel-plated, external cable diameter 4 mm ... 8 mm

VS-08-RJ45-5-Q/IP20 - RJ45 connector

1656725

<https://www.phoenixcontact.com/us/products/1656725>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042, Ethernet

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VS-08-RJ45-5-Q/IP20 BK - RJ45 connector

1658008

<https://www.phoenixcontact.com/us/products/1658008>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 23, cable outlet: straight, color: black, Ethernet

CUC-IND-C1ZNI-S/R4IE8 - RJ45 connector

1421607

<https://www.phoenixcontact.com/us/products/1421607>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: Insulation displacement connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet

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CUC-IND-C1ZNI-T/R4IE8 - RJ45 connector

1421877

<https://www.phoenixcontact.com/us/products/1421877>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: Insulation displacement connection, connection cross section: AWG 26- 24, cable outlet: angled, Ethernet

CUC-IND-C1ZNI-B/R4IE8 - RJ45 connector

1421876

<https://www.phoenixcontact.com/us/products/1421876>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: Insulation displacement connection, connection cross section: AWG 26- 24, cable outlet: angled, Ethernet

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CUC-V06-C1PGY-S/R4CE8:1 - RJ45 connector

1414383

<https://www.phoenixcontact.com/us/products/1414383>



RJ45 connector, design: RJ45, degree of protection: IP67, number of positions: 8, 1 Gbps, CAT6, material: Plastic, connection method: Crimp connection, connection cross section: AWG 27- 24, cable outlet: straight, color: gray, Ethernet/PROFINET

CUC-V06-C1PBK-S/R4CE8:1 - RJ45 connector

1414408

<https://www.phoenixcontact.com/us/products/1414408>



RJ45 connector, design: RJ45, degree of protection: IP67, number of positions: 8, 1 Gbps, CAT6, material: Plastic, connection method: Crimp connection, connection cross section: AWG 24- 27, cable outlet: straight, color: black, Ethernet/PROFINET

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CUC-V14-C1ZNI-S/R4E8 - RJ45 connector

1422661

<https://www.phoenixcontact.com/us/products/1422661>



RJ45 connector, degree of protection: IP65/IP67, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: straight, Ethernet

CUC-V14-C1ZNI-T/R4E8 - RJ45 connector

1422663

<https://www.phoenixcontact.com/us/products/1422663>



RJ45 connector, degree of protection: IP65/IP67, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: angled, Ethernet

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CUC-V14-C1ZNI-B/R4E8 - RJ45 connector

1422662

<https://www.phoenixcontact.com/us/products/1422662>



RJ45 connector, degree of protection: IP65/IP67, number of positions: 8, 1 Gbps, CAT5, material: Metal, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: angled, Ethernet

VS-PPC-C1-RJ45-POBK-PG9-8Q5 - RJ45 connector

1657834

<https://www.phoenixcontact.com/us/products/1657834>



RJ45 connector, degree of protection: IP65/IP67, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: IDC fast connection, connection cross section: AWG 26- 22, cable outlet: straight, color: black, Ethernet

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TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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CUTFOX 12 - Cable-cutting tool

1212128

<https://www.phoenixcontact.com/us/products/1212128>



Cable cutter, for copper and aluminum up to 12 mm diameter (up to 35 mm²)

CUTFOX-S VDE - Diagonal cutter

1212207

<https://www.phoenixcontact.com/us/products/1212207>



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

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VS-CABLE-STRIP-VARIO - Stripping tool

1657407

<https://www.phoenixcontact.com/us/products/1657407>

Stripping tool, for the multi-level stripping of shielded cables



MICROFOX-SP-1 - Diagonal cutter

1212487

<https://www.phoenixcontact.com/us/products/1212487>

Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version



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WIREFOX 4 - Stripping tool

1212156

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Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

WIREFOX-E 4 - Stripping tool

1212704

<https://www.phoenixcontact.com/us/products/1212704>



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

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WIREFOX 10 - Stripping tool

1212150

<https://www.phoenixcontact.com/us/products/1212150>



Stripping tool, for cables and conductors from 0.02 - 10 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

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