

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

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), EtherCAT® CAT5 (100 Mbps), 4-position, shielded (Advanced Shielding Technology), Plug straight M12, coding: D / IP67, on free cable end, cable length: 5 m

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1038737 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | BF04 |
| Product key | BF1CJN |
| GTIN | 4055626592374 |
| Weight per piece (including packing) | 332.1 g |
| Weight per piece (excluding packing) | 332.1 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

Technical data

Notes

| | |
|---------|--|
| General | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 10.1 Cord Sets for Balanced Cabling |
| General | Further products with variable cable type and variable cable length can be found in the accessories section |

Product properties

| | |
|---------------------|-------------------------|
| Product type | Data cable preassembled |
| Sensor type | PROFINET |
| Number of positions | 4 |
| Application | Standard |
| Shielded | yes |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution | 3 |

Interfaces

| | |
|----------------------|---|
| Bus system | PROFINET |
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps EtherCAT [®] 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 characteristics (category) | CAT5 (IEC 11801:2002) |

Material specifications

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

Connector

Connection 1

| | |
|---------------------|--------------------------|
| Type | Plug straight M12 / IP67 |
| Number of positions | 4 |
| Coding type | D (Data) |

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

| | |
|---------------------------------|--|
| Handle color | black |
| Material | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carriers) |
| | TPU, hardly inflammable, self-extinguishing (Grip) |
| | Zinc die-cast, nickel-plated (Screw connection) |
| | FKM (Seal) |
| Insertion/withdrawal cycles | ≥ 100 |
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Tightening torque | 0.4 Nm |
| Degree of protection | IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C |
| Number of positions | 4 |
| Insertion/withdrawal cycles | 100 |

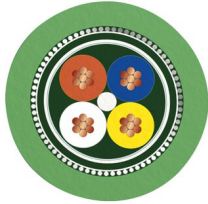
Connection 2

| | |
|------|----------------|
| Type | free cable end |
|------|----------------|

Cable/line

| | |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

PROFINET drag chain CAT5 [93C]

| | |
|---------------------------------|--|
| Dimensional drawing |  |
| Cable weight | 61 kg/km |
| Number of positions | 4 |
| Shielded | yes |
| Cable type | PROFINET drag chain CAT5 [93C] |
| Conductor structure | 1x4xAWG22/7, SF/TQ |
| Signal runtime | 5.3 ns/m |
| Signal speed | 0.66 c |
| Conductor structure signal line | 7x 0.25 mm |
| AWG signal line | 22 |
| Conductor cross section | 4x 0.34 mm ² |
| Wire diameter incl. insulation | 1.5 mm |
| External cable diameter | 6.5 mm ±0.2 mm |
| Outer sheath, material | PUR |
| External sheath, color | green RAL 6018 |

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

| | |
|---|---|
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PE |
| Single wire, color | white, yellow, blue, orange |
| Thickness, outer sheath | approx. 0.9 mm |
| Overall twist | Star quad |
| Optical shield covering | 85 % |
| Insulation resistance | ≥ 500 MΩ*km |
| Coupling resistance | ≤ 20.00 mΩ/m (at 10 MHz) |
| Loop resistance | ≤ 120.00 Ω/km |
| Wave impedance | 100 Ω ±15 Ω (at 1 ... 100 MHz) |
| Nominal voltage, cable | 600 V (UL rating) |
| Test voltage Core/Core | 2000 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 2000 V (50 Hz, 1 min.) |
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 7.5 x D |
| Max. bending cycles | 3000000 |
| Tensile strength | ≤ 150 N |
| Torsion force | ± 30 °/m |
| Near end crosstalk attenuation (NEXT) | 80 dB (with 1 MHz) |
| | 76 dB (at 4 MHz) |
| | 70 dB (at 10 MHz) |
| | 65 dB (at 16 MHz) |
| | 63 dB (at 20 MHz) |
| | 60 dB (at 31.25 MHz) |
| | 55 dB (at 62.5 MHz) |
| | 50 dB (at 100 MHz) |
| Shield attenuation | 2.1 dB (with 1 MHz) |
| | 4 dB (at 4 MHz) |
| | 6.3 dB (at 10 MHz) |
| | 8 dB (at 16 MHz) |
| | 9 dB (at 20 MHz) |
| | 11.4 dB (at 31.25 MHz) |
| | 16.5 dB (at 62.5 MHz) |
| | 21.3 dB (at 100 MHz) |
| Halogen-free | yes |
| Flame resistance | according to IEC 60332-1-2 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Other resistance | UV resistant |
| Special properties | Electrical properties in accordance with EN 50288-2-2 |
| Ambient temperature (operation) | -40 °C ... 70 °C (cable, fixed installation) |
| | -40 °C ... 70 °C (Cable, flexible installation) |
| Ambient temperature (installation) | -20 °C ... 60 °C |

Environmental and real-life conditions

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Ambient conditions

| | |
|----------------------|----------------------|
| Degree of protection | IP65 (M12 connector) |
| | IP67 (M12 connector) |

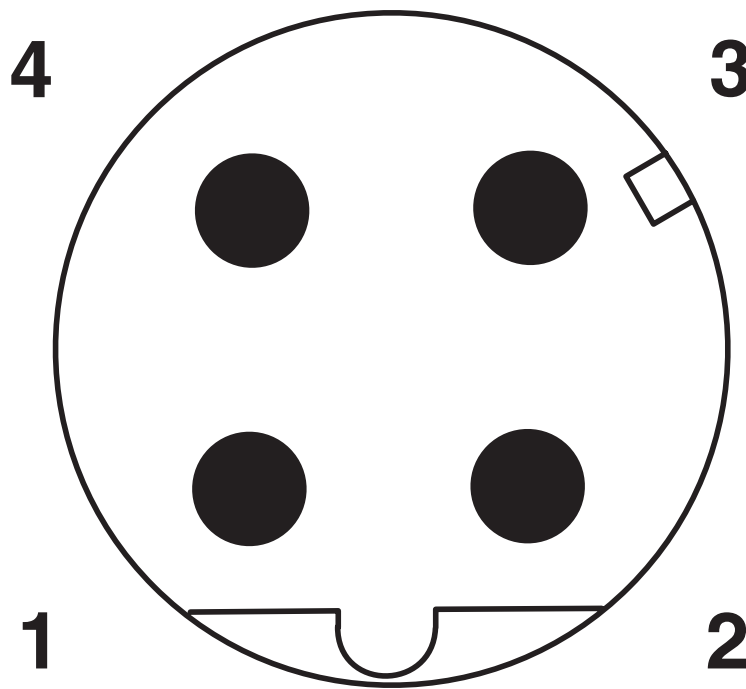
Standards and regulations

M12

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

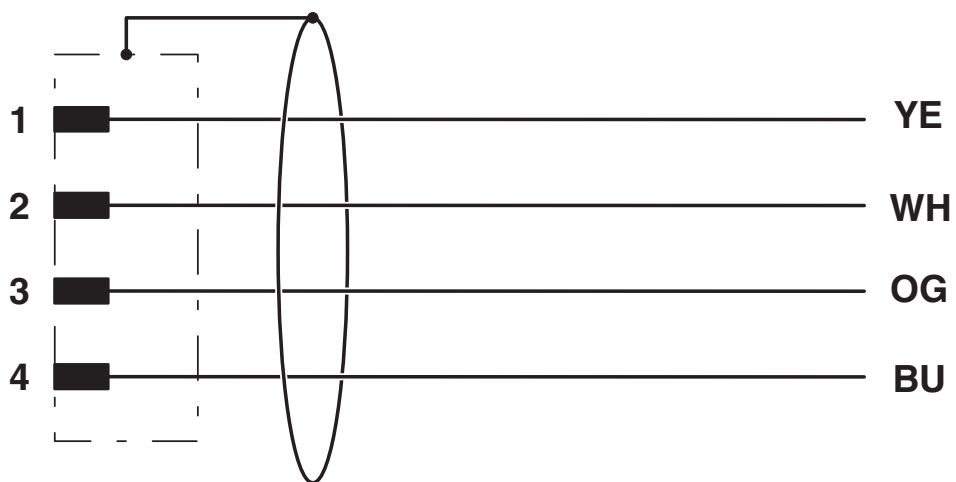
Drawings

Schematic diagram



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

Circuit diagram



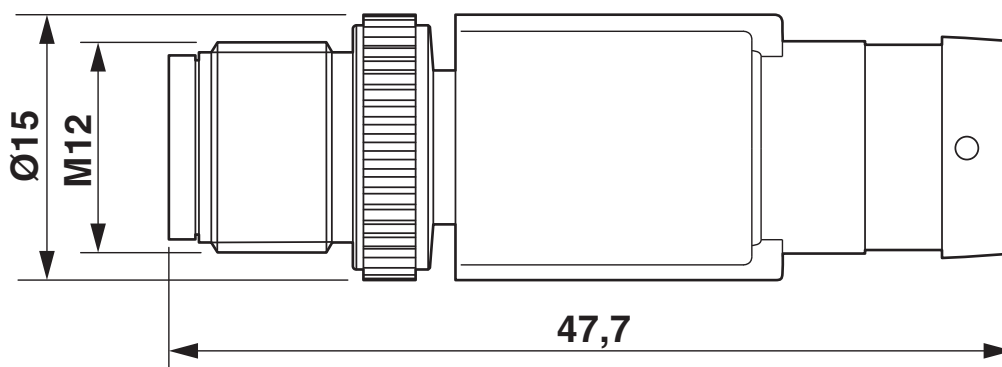
NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Dimensional drawing



Plug, M12 x 1, straight, shielded

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1038737>



EAC-RoHS

Approval ID: RU D-DE.HB35.B.00385

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

Accessories

NBC-MSD SCO-PN/.../... - Network cable

1408640

<https://www.phoenixcontact.com/us/products/1408640>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12, coding: D SPEEDCON / IP67, on free cable end, cable length: Free input (0.2 ... 40.0 m)

NBC-MRD SCO-PN/.../... - Network cable

1408633

<https://www.phoenixcontact.com/us/products/1408633>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug angled M12, coding: D SPEEDCON / IP67, on free cable end, cable length: Free input (0.2 ... 40.0 m)

NBC-M12MSD/ 5,0-93C - Network cable

1038737

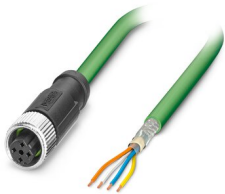
<https://www.phoenixcontact.com/us/products/1038737>



NBC-FSD SCO-PN/.../... - Network cable

1408623

<https://www.phoenixcontact.com/us/products/1408623>

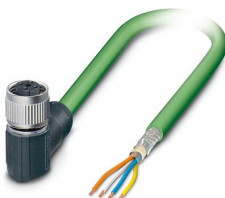


Network cable, PROFINET CAT5 (100 Mbps), EtherCAT[®] CAT5 (100 Mbps), 4-position, Variable cable type, shielded, free cable end, on Socket straight M12, coding: D SPEEDCON / IP67, cable length: Free input (0.2 ... 40.0 m)

NBC-FRD SCO-PN/.../... - Network cable

1408615

<https://www.phoenixcontact.com/us/products/1408615>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT[®] CAT5 (100 Mbps), 4-position, Variable cable type, shielded, free cable end, on Socket angled M12, coding: D SPEEDCON / IP67, cable length: Free input (0.2 ... 40.0 m)

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

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

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

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

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>



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



NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

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

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>



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



NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

WIREFOX 4 - Stripping tool

1212156

<https://www.phoenixcontact.com/us/products/1212156>



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

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>



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

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

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>



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

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

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-M12MSD-4QO SH PN - Data connector

1411068

<https://www.phoenixcontact.com/us/products/1411068>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Plug straight M12, D, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

SACC-M12MRD-4Q SH PN - Data connector

1554539

<https://www.phoenixcontact.com/us/products/1554539>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D, Insulation displacement connection, knurl material: Brass, nickel-plated, external cable diameter 4 mm ... 8 mm

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-M12FSD-4QO SH PN - Data connector

1411071

<https://www.phoenixcontact.com/us/products/1411071>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Socket straight M12, D, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

SACC-M12FRD-4Q SH PN - Data connector

1554542

<https://www.phoenixcontact.com/us/products/1554542>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D, Insulation displacement connection, knurl material: Brass, nickel-plated, external cable diameter 4 mm ... 8 mm

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-CC-4QO SH PN - Conductor connectors

1414416

<https://www.phoenixcontact.com/us/products/1414416>



Cable connector, PROFINET CAT5 (100 Mbps), 4-pos., halogen-free, shielded, insulation displacement connection, housing material: zinc die-cast, nickel-plated, outer cable diameter of 5 mm ... 9.7 mm

SACC-M12MSD-4PL SH PN - Connector

1424682

<https://www.phoenixcontact.com/us/products/1424682>



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>



SACC-M12MRD-4PL SH PN - Connector

1424684

<https://www.phoenixcontact.com/us/products/1424684>



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

SACC-M12FSD-4PL SH PN - Connector

1424683

<https://www.phoenixcontact.com/us/products/1424683>



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-M12FRD-4PL SH PN - Connector

1424685

<https://www.phoenixcontact.com/us/products/1424685>



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

SACC-M12MSD-4CT-CM SH PN - Data connector

1422846

<https://www.phoenixcontact.com/us/products/1422846>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D, Crimp connection, knurl material: Zinc die-cast, tin-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-M12MRD-4CT-CM SH PN - Data connector

1422847

<https://www.phoenixcontact.com/us/products/1422847>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D, Crimp connection, knurl material: Zinc die-cast, tin-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

SACC-M12FSD-4CT-CM SH PN - Data connector

1422848

<https://www.phoenixcontact.com/us/products/1422848>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D, Crimp connection, knurl material: Zinc die-cast, tin-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

SACC-M12FRD-4CT-CM SH PN - Data connector

1422849

<https://www.phoenixcontact.com/us/products/1422849>



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D, Crimp connection, knurl material: Zinc die-cast, tin-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

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

1658435

<https://www.phoenixcontact.com/us/products/1658435>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 4, 100 Mbps, CAT5, material: Plastic, connection method: Insulation displacement connection, cable outlet: straight, color: traffic grey A RAL 7042, PROFINET

NBC-M12MSD/ 5,0-93C - Network cable

1038737

<https://www.phoenixcontact.com/us/products/1038737>

CUC-IND-C1ZNI-S/R4IP8 - RJ45 connector

1421126

<https://www.phoenixcontact.com/us/products/1421126>



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 23- 22, cable outlet: straight, color: green, Ethernet/PROFINET

CUC-IND-C1ZNI-T/R4IP8 - RJ45 connector

1421128

<https://www.phoenixcontact.com/us/products/1421128>



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 23- 22, cable outlet: angled, Ethernet/PROFINET

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

CUC-IND-C1ZNI-B/R4IP8 - RJ45 connector

1421127

<https://www.phoenixcontact.com/us/products/1421127>



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 23- 22, cable outlet: angled, Ethernet/PROFINET

CUC-V14-C1ZNI-S/R4P8 - RJ45 connector

1422664

<https://www.phoenixcontact.com/us/products/1422664>



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 23- 22, cable outlet: straight, Ethernet

NBC-M12MSD/ 5,0-93C - Network cable



1038737

<https://www.phoenixcontact.com/us/products/1038737>

CUC-V14-C1ZNI-T/R4P8 - RJ45 connector

1422667

<https://www.phoenixcontact.com/us/products/1422667>



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 23- 22, cable outlet: angled, Ethernet

CUC-V14-C1ZNI-B/R4P8 - RJ45 connector

1422665

<https://www.phoenixcontact.com/us/products/1422665>



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 23- 22, cable outlet: angled, Ethernet

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com