

# Network cable - NBC-M 8MS/ 2,0-93B



1407345

<https://www.phoenixcontact.com/us/products/1407345>

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, Plug straight M8 / IP67, coding: A, on free cable end, cable length: 2 m

## Commercial Data

Item number	1407345
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	B06
Product Key	BF1BJI
Catalog Page	Page 394 (C-2-2019)
GTIN	4046356774635
Weight per Piece (including packing)	149.9 g
Weight per Piece (excluding packing)	143.2 g
Customs tariff number	85444290
Country of origin	PL

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## 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
Number of positions	4
Application	Standard
No. of cable outlets	1
Shielded	yes
Coding	A - standard

### Interfaces

Bus system	Ethernet
Signal type/category	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT <sup>®</sup> , 100 Mbps
	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT <sup>®</sup> , 100 Mbps
	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT <sup>®</sup> , 100 Mbps

### LED signaling

Status display	No
Status display present	No

### Electrical properties

Nominal voltage $U_N$	30 V AC
	30 V DC
Nominal current $I_N$	4 A
Transmission medium	Copper

### Material specifications

Color Handle area	black
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Cable gland material	Zinc die-cast, nickel-plated

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## Connector

### Connection 1

Type	Plug straight M8 / IP67
Number of positions	4
Coding type	A (Standard)
Handle color	black
Material	CuSn (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
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Tightening torque	0.2 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	2 m
Cable weight	67 kg/km
UL AWM Style	21694
Number of positions	4
Shielded	yes
Cable type	PROFINET PVC stranded CAT5 [93B]
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 <sup>2</sup>
Wire diameter incl. insulation	1.55 mm
External cable diameter	6.5 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	green RAL 6018
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 %

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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 100 MHz)
Nominal voltage, cable	600 V
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	3 x D
Minimum bending radius, flexible installation	7 x D
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)
Flame resistance	according to UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-40 °C ... 70 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 60 °C
Signal type/category	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT <sup>®</sup> , 100 Mbps

## Ambient conditions

Degree of protection	IP65
	IP67
Degree of protection	IP65/IP67
Ambient temperature (operation)	-25 °C ... 90 °C (M8 connectors)

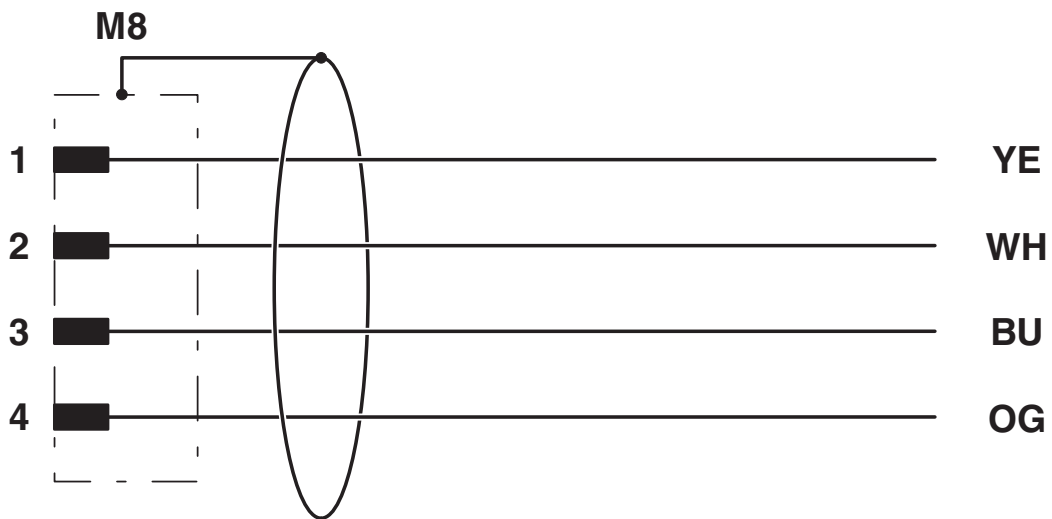
## Standards and regulations

M8

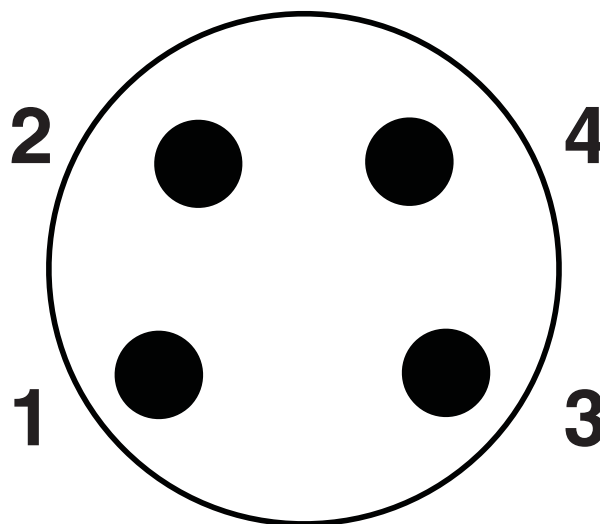
Standards/specifications	IEC 61076-2-104
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Drawings

Circuit diagram



Schematic diagram



Pin assignment M8 plug, 4-pos., view male side

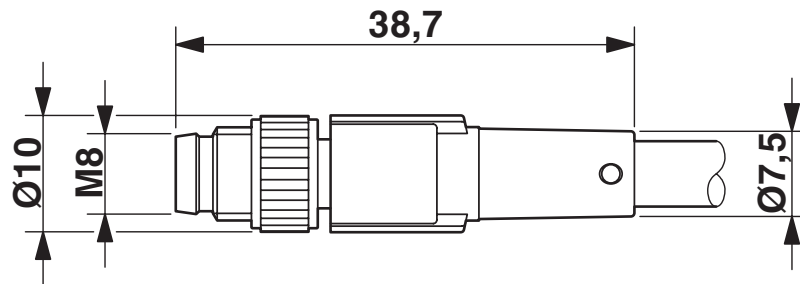
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Dimensional drawing



M8 x 1 male plug, straight version

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## Approvals



**EAC**

Approval ID: RU D-DE.HB35.B.00387

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## Classifications

### ECLASS

ECLASS-9.0	27060308
ECLASS-10.0.1	27060308
ECLASS-11.0	27060307

### ETIM

ETIM 8.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

# Network cable - NBC-M 8MS/ 2,0-93B



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## Accessories

### Network cable

Network cable - NBC-M 8MS/.../... - 1408719

<https://www.phoenixcontact.com/us/products/1408719>



Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M8 / IP67, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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### Network cable

Network cable - NBC-M 8FS/.../... - 1408716

<https://www.phoenixcontact.com/us/products/1408716>



Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, Variable cable type, shielded, free cable end, on Socket straight M8 / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

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## Torque screwdriver

Torque screwdriver - TSD 02 SAC - 1208487

<https://www.phoenixcontact.com/us/products/1208487>



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

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## Tool

Tool - SAC BIT M8-D10 - 1208461

<https://www.phoenixcontact.com/us/products/1208461>



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

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## Sealing cap

Sealing cap - PROT-M 8 FS-PA-CHAIN - 1430857

<https://www.phoenixcontact.com/us/products/1430857>

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



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## Cable-cutting tool

Cable-cutting tool - CUTFOX 12 - 1212128

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

**Cable cutter**, for copper and aluminum up to 12 mm diameter (up to 35 mm<sup>2</sup>)



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## Diagonal cutter

Diagonal cutter - CUTFOX-S VDE - 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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## Stripping tool

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407

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



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

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## Diagonal cutter

Diagonal cutter - MICROFOX-SP-1 - 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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## Stripping tool

Stripping tool - WIREFOX 4 - 1212156

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



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

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## Stripping tool

Stripping tool - WIREFOX-E 4 - 1212704

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



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

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## Stripping tool

Stripping tool - WIREFOX 10 - 1212150

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



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

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## Protective hose adapter

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

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## Protective hose

Protective hose - WP-PA HF 13,0 BK - 3240681

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



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

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<https://www.phoenixcontact.com/us/products/1407345>

## Protective hose

Protective hose - WP-PA HF-HB 13,0 BK - 3240839

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



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

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## Data connector

Data connector - SACC-M12MSD-4QO SH PN - 1411068

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



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

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<https://www.phoenixcontact.com/us/products/1407345>

## Data connector

Data connector - SACC-M12MRD-4Q SH PN - 1554539

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



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

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## Data connector

Data connector - SACC-M12FSD-4QO SH PN - 1411071

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



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

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## Data connector

Data connector - SACC-M12FRD-4Q SH PN - 1554542

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



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

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## Conductor connectors

Conductor connectors - SACC-CC-4QO SH PN - 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

# Network cable - NBC-M 8MS/ 2,0-93B

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<https://www.phoenixcontact.com/us/products/1407345>

## Data connector

Data connector - SACC-M12MSD-4PL SH PN - 1424682

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



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

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## Data connector

Data connector - SACC-M12MRD-4PL SH PN - 1424684

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



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

# Network cable - NBC-M 8MS/ 2,0-93B

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## Data connector

Data connector - SACC-M12FSD-4PL SH PN - 1424683

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



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

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## Data connector

Data connector - SACC-M12FRD-4PL SH PN - 1424685

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



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

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## Data connector

Data connector - SACC-M12MSD-4CT-CM SH PN - 1422846

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



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

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## Data connector

Data connector - SACC-M12MRD-4CT-CM SH PN - 1422847

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



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

# Network cable - NBC-M 8MS/ 2,0-93B

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## Data connector

Data connector - SACC-M12FSD-4CT-CM SH PN - 1422848

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



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

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## Data connector

Data connector - SACC-M12FRD-4CT-CM SH PN - 1422849

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



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

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## RJ45 connector

RJ45 connector - VS-PN-RJ45-5-Q/IP20 - 1658435

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



RJ45 connector, type: RJ45, degree of protection: IP20, number of positions: 4, 100 Mbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, cable outlet: straight, color: traffic grey A RAL 7042, PROFINET

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## RJ45 connector

RJ45 connector - CUC-IND-C1ZNI-S/R4IP8 - 1421126

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



RJ45 connector, type: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: straight, color: green, PROFINET

# Network cable - NBC-M 8MS/ 2,0-93B

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## RJ45 connector

RJ45 connector - CUC-IND-C1ZNI-T/R4IP8 - 1421128

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



RJ45 connector, type: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled, Ethernet/PROFINET

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## RJ45 connector

RJ45 connector - CUC-IND-C1ZNI-B/R4IP8 - 1421127

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



RJ45 connector, type: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled, Ethernet/PROFINET

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## RJ45 connector

RJ45 connector - CUC-V14-C1ZNI-S/R4P8 - 1422664

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



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

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## RJ45 connector

RJ45 connector - CUC-V14-C1ZNI-T/R4P8 - 1422667

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



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

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## RJ45 connector

RJ45 connector - CUC-V14-C1ZNI-B/R4P8 - 1422665

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



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

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