

# EXTENDER 2010 ETH TP-G - Ethernet extenders



1319322

<https://www.phoenixcontact.com/gb/products/1319322>

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Gigabit Ethernet extender, network extension via twisted pair cable up to 1 kilometer and bandwidth up to 1 Gbps, Power over Link (PoL) function for the power supply of additional devices via the twisted pair cable, Power over Ethernet (PoE) function

## Commercial data

Item number	1319322
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC361
Product key	DNC361
GTIN	4063151604905
Weight per piece (including packing)	195.5 g
Weight per piece (excluding packing)	147 g
Country of origin	DE

## Technical data

### Product properties

Product type	Ethernet extenders
MTTF	268 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	128 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	54 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

### Insulation characteristics

Pollution degree	2
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### System properties

#### Functionality

Basic functions	Gigabit Ethernet extender in accordance with ITU G.9960
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### Electrical properties

Electrical isolation	VCC (US+GND) // Ethernet (PoE) // G.hn (without PoL) // FE
Mains type	Permanent line
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)

### Supply

Supply voltage range	18 V DC ... 57 V DC
Nominal supply voltage	24 V DC (Without PoL, without PoE)
	48 V DC (With PoL or with PoE)
Power consumption	≤ 7.5 W (Without PoL, without PoE)
	≤ 37.5 W (Without PoL, with PoE)
	≤ 37.5 W (With PoL, without PoE)
	≤ 82.5 W (With PoL, with PoE)
Protective circuit	Overload protection, protection against polarity reversal; Internal device protection: 2x 5 AF, internal series diode
Connection method	Push-in spring connection

### Connection data

#### Supply

Connection method	Push-in spring connection
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible [AWG]	24 ... 16
Stripping length	10 mm

## Interfaces

Signal	Ethernet
Basic functions	Gigabit Ethernet extender in accordance with ITU G.9960

Data: Ethernet interface, 10/100/1000Base-T(X) in accordance with IEEE 802.3

Serial transmission speed	10/100/1000 Mbps
Connection method	RJ45 jack, shielded
No. of channels	1
Transmission length	< 100 m (shielded twisted pair)
Protocols supported	Protocol-transparent for TCP/IP, IPv4, and IPv6
Maximum output power	15 W (at $\leq 55^{\circ}\text{C}$ ) 30 W (at $\leq 50^{\circ}\text{C}$ )

Data: G.hn interface in accordance with ITU G.9960

Transmission speed	$\leq 1000$ Mbps (Depending on the quality of the data line)
Connection method	Push-in spring connection
Transmission length	$\leq 1000$ m (Depending on the quality of the data line)
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Max. AWG conductor cross section, flexible	16
Min. AWG conductor cross section, flexible	24
Stripping length	10 mm
Transmission method	QAM (quadrature amplitude modulation) carrier frequency method
Output power	$\leq 74$ W (With PoL)

## Dimensions

Width	23 mm
Height	101 mm
Depth	115 mm

## Material specifications

Material	PA 6.6-FR
Flammability rating according to UL 94	V0

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 60 °C (Free standing, without PoE) -40 °C ... 55 °C (Free standing, PoE up to 15 W) -40 °C ... 50 °C (Free standing, PoE up to 30 W)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 2000$ m

Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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### Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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## EMC data

Noise immunity	EN 55035
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conducted noise emission	Class B, domain of use: residential and small commercial
Noise emission	EN 61000-6-4, Class A, industrial area of application

### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV
Indirect discharge	± 6 kV
Comments	Criterion B

### Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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### Electromagnetic HF field

Frequency range	80 MHz ... 3 GHz (80% amplitude modulation with 1 kHz)
Field intensity	10 V/m
Frequency range	3 GHz ... 6 GHz (80% amplitude modulation with 1 kHz)
Field intensity	3 V/m
Comments	Criterion A

### Fast transients (burst)

Standards/regulations	EN 61000-4-4
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### Fast transients (burst)

Input	± 2.2 kV
Signal	± 2.2 kV (Ethernet, G.hn)

### Surge current load (surge)

Standards/regulations	EN 61000-4-5
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### Surge current load (surge)

Input	± 0.5 kV (Symmetrical, unshielded supply line)
	± 1 kV (Asymmetrical, unshielded supply line)

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Signal	± 1 kV (Ethernet signal / asymmetrical: shielded Ethernet cable)
	± 4 kV (Ethernet signal / asymmetrical: cable to ground, unshielded G.hn cable)
	± 2 kV (Ethernet signal / symmetrical: cable to cable, unshielded G.hn cable)
	± 4 kV (Telecommunication lines, symmetrical, unshielded, with primary protection)
	± 1 kV (Telecommunication lines, symmetrical, unshielded, without primary protection)
Comments	Criterion B

## Conducted interference

Standards/regulations	EN 61000-4-6
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## Conducted interference

Frequency range	0.15 MHz ... 80 MHz (80% amplitude modulation with 1 kHz)
Comments	Criterion A
Voltage	10 V

## Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

## Mounting

Mounting type	DIN rail mounting
Assembly instructions	To allow for air circulation, mount the device freestanding, with a clearance of at least one centimeter on all sides to other devices.
Mounting position	Vertical (horizontal DIN rail)

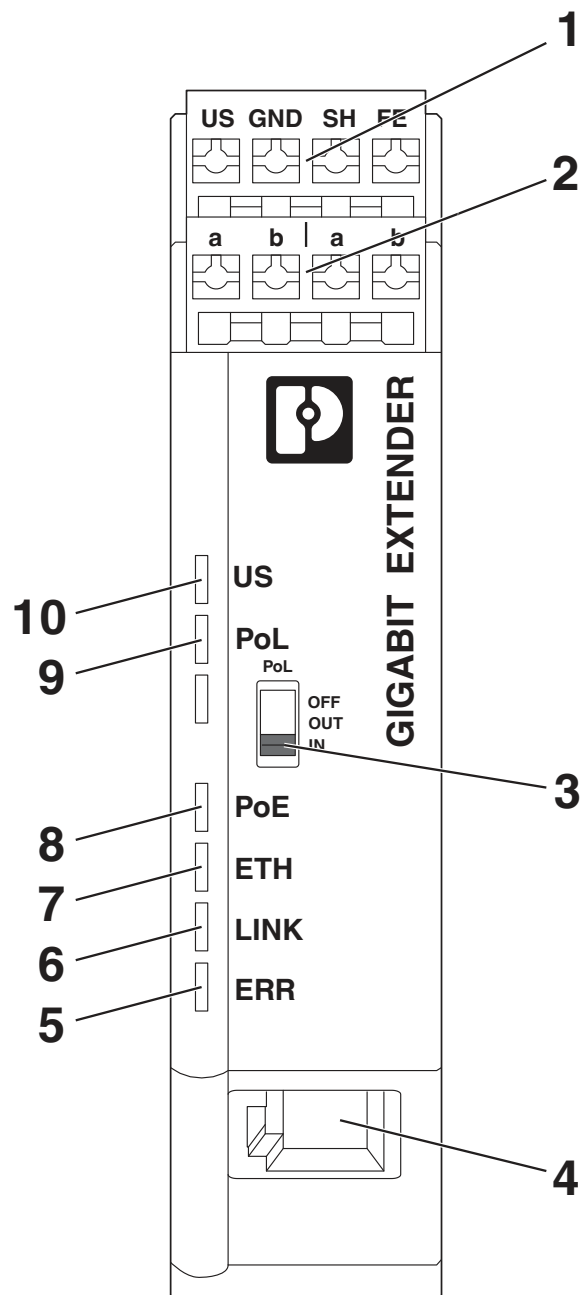
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## Drawings

Schematic diagram

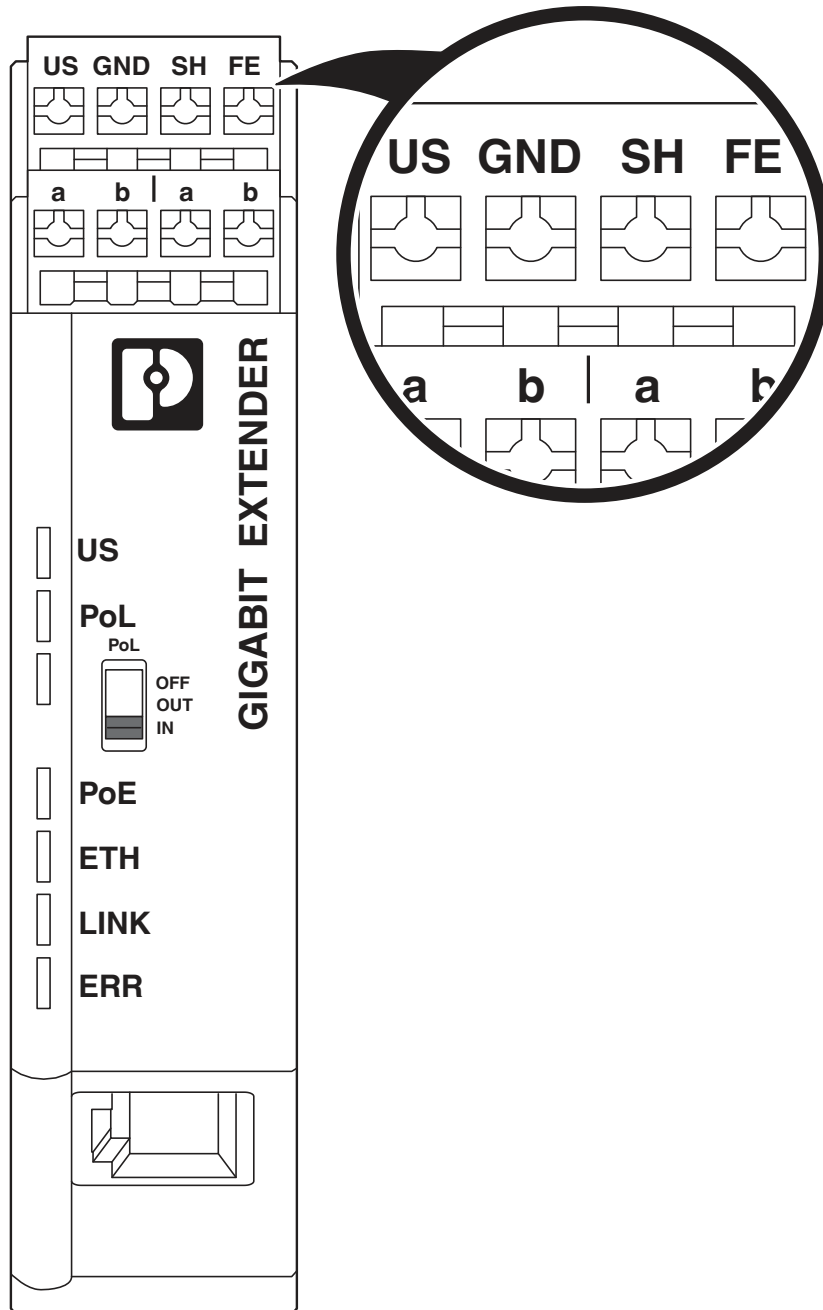


Front view

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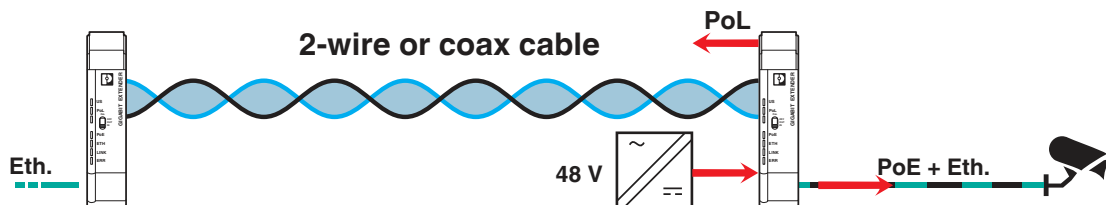
<https://www.phoenixcontact.com/gb/products/1319322>

Schematic diagram

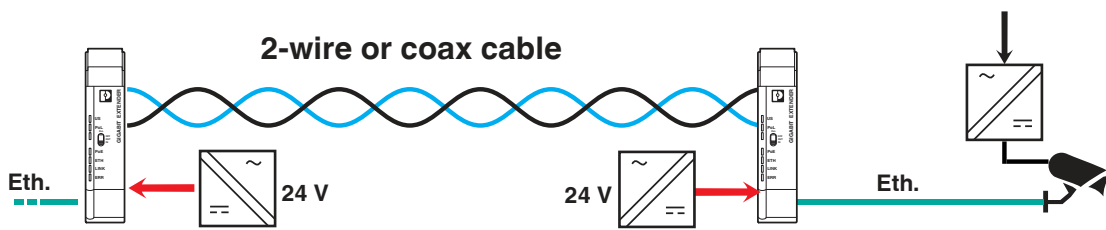


Connecting the supply voltage

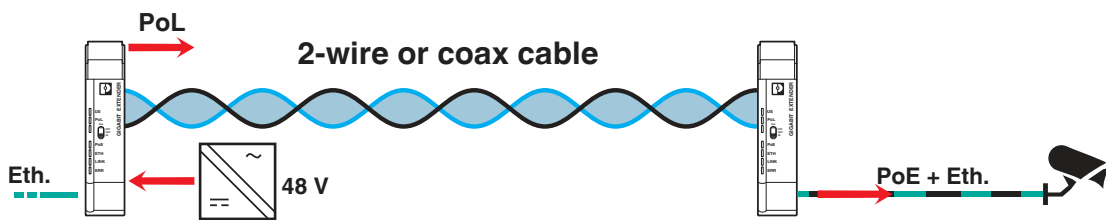
Application drawing



Application drawing



Application drawing



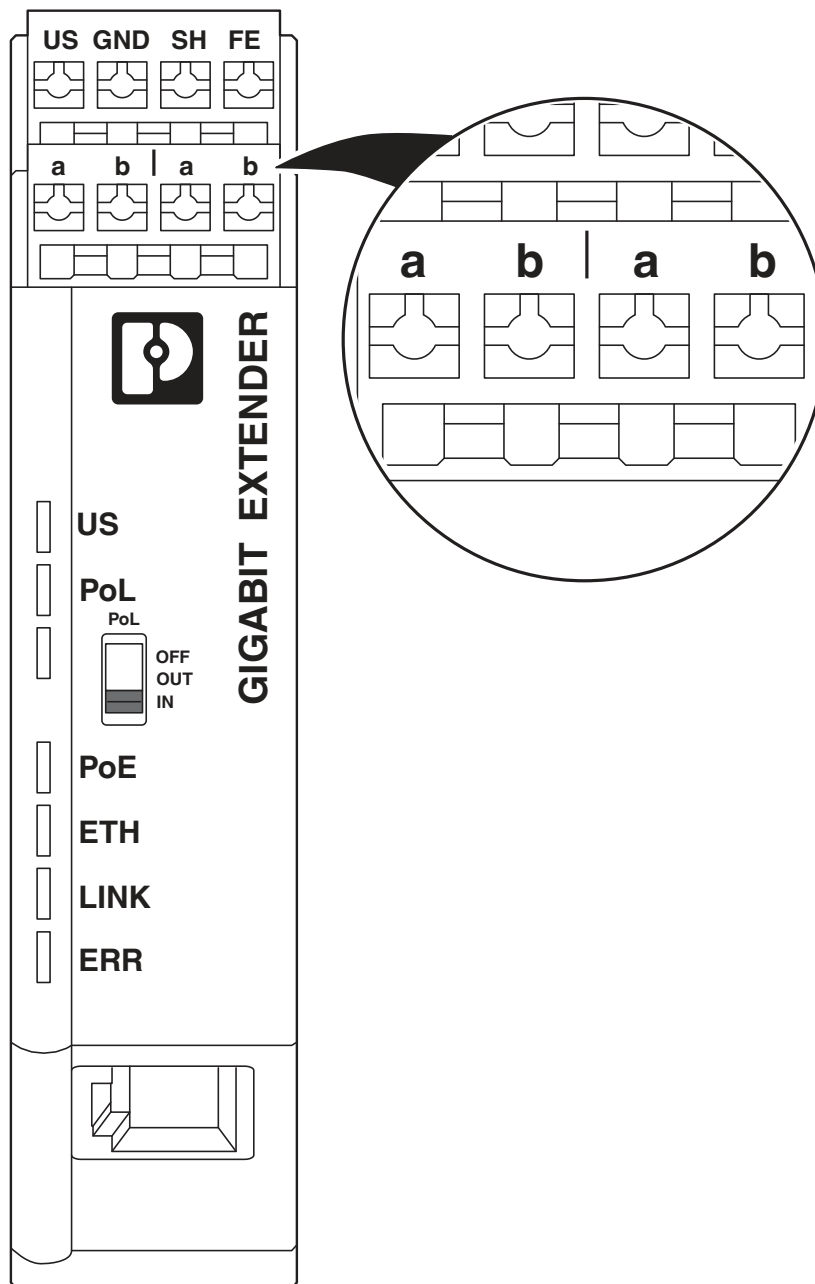


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Schematic diagram



Connection of the twisted pair cable

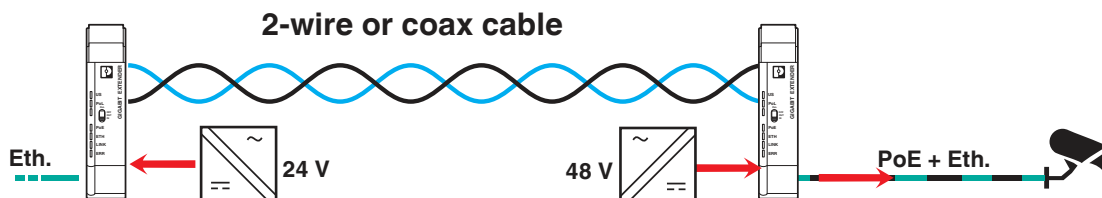
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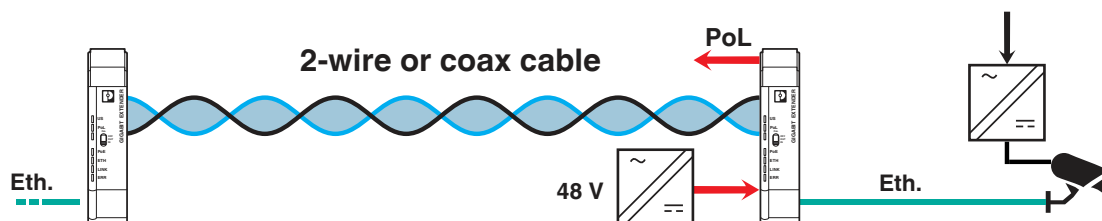
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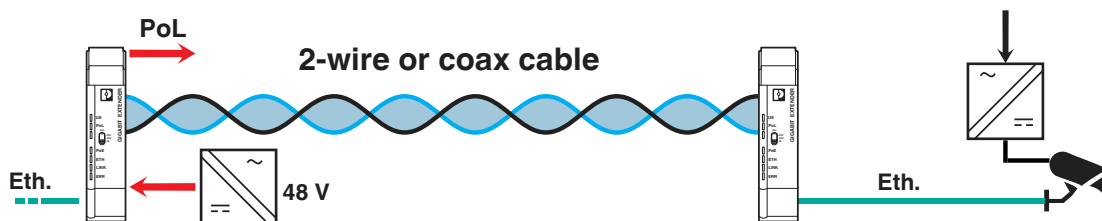
Application drawing



Application drawing



Application drawing



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## Classifications

### ECLASS

ECLASS-11.0	19170407
ECLASS-12.0	19170407
ECLASS-13.0	19170407

### ETIM

ETIM 8.0	EC000309
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### UNSPSC

UNSPSC 21.0	43223100
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## Accessories

### PT 4-F-ST - Surge protection plug

2858441

<https://www.phoenixcontact.com/gb/products/2858441>



Surge protection plug for the base element, coarse protection for four signal lines grounded on one side.

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### PT 4-BE - Surge protection base-element

2839402

<https://www.phoenixcontact.com/gb/products/2839402>



Base element for protective plug PT with protective circuit for a 4-wire floating signal circuit, bridge between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

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## FL CAT5 PATCH 0,5 - Patch cable

2832263

<https://www.phoenixcontact.com/gb/products/2832263>

Patch cable, CAT5, assembled, 0.5 m



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## FL CAT5 PATCH 1,0 - Patch cable

2832276

<https://www.phoenixcontact.com/gb/products/2832276>

Patch cable, CAT5, assembled, 1 m



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## FL CAT5 PATCH 2,0 - Patch cable

2832289

<https://www.phoenixcontact.com/gb/products/2832289>

Patch cable, CAT5, assembled, 2 m



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## FL CAT5 PATCH 3,0 - Patch cable

2832292

<https://www.phoenixcontact.com/gb/products/2832292>

Patch cable, CAT5, assembled, 3 m



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## FL CAT5 PATCH 5,0 - Patch cable

2832580

<https://www.phoenixcontact.com/gb/products/2832580>



Patch cable, CAT5, assembled, 5 m

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## NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

<https://www.phoenixcontact.com/gb/products/1411854>



Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6<sub>A</sub>, cable outlet: straight, Ethernet

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## NBC-R4AC/10G-R4AC/10G-94F/2,0 - Patch cable

1408360

<https://www.phoenixcontact.com/gb/products/1408360>



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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## NBC-R4AC/10G-R4AC/10G-94F/3,0 - Patch cable

1408365

<https://www.phoenixcontact.com/gb/products/1408365>



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m



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## FL CAT5 HEAVY CONF/ - Network cable

2744827

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CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter, preassembled on both sides with RJ45 plug, crossover or line

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

1656725

<https://www.phoenixcontact.com/gb/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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## FL CRIMPTOOL - Assembly tool

2744869

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Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site



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## FBS 2-5 GY - Plug-in bridge

3038969

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Plug-in bridge, pitch: 5.2 mm, number of positions: 2, color: gray



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## ME-SAS - Shield connection clamp

2853899

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Shield connection clamp for terminal points starting from 2.5 mm<sup>2</sup>



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## ME-SAS MINI - Shield connection clamp

2200456

<https://www.phoenixcontact.com/gb/products/2200456>

Shield connection clamp for terminal points starting from 1.5 mm<sup>2</sup>



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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)