

EXTENDER 2010 ETH TP-G - Ethernet extender



1319322

<https://www.phoenixcontact.com/us/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

Your advantages

- Use of existing twisted pair cables or coaxial cables
- Flexible network configuration
- Easy startup, plug and play
- Network transparent (no IP configuration required)
- Protocol-transparent transmission of all standard Ethernet protocols

Commercial data

Item number	1319322
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN24
Product key	DNC361
GTIN	4063151604905
Weight per piece (including packing)	202.5 g
Weight per piece (excluding packing)	147 g
Customs tariff number	85176200
Country of origin	DE

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Technical data

Notes

Note on application

Note on application	Only for industrial use
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Product properties

Product type	Ethernet extender
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%)
Basic functions	Gigabit Ethernet extender in accordance with ITU G.9960

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 data

Supply

Connection method	Push-in spring connection
Conductor cross-section flexible, with ferrule without plastic sleeve	0.2 mm² ... 2.5 mm²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 2.5 mm²

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2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
Single conductor/terminal point, rigid	0.2 mm ² ... 2.5 mm ² ≥ 0.5 mm ² (PoL cables in accordance with DIN VDE 0100, part 523)
Single-wire/terminal point, flexible	0.2 mm ² ... 2.5 mm ² ≥ 0.5 mm ² (PoL cables in accordance with DIN VDE 0100, part 523)
Conductor cross-section, flexible [AWG]	24 ... 16
Stripping length	10.00 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
Note on the connection method	CAT6 Autonegotiation PoE port status: Always active Mode: Auto
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 ≤ 55°C) 30 W (at ≤ 50 °C)

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

Transmission speed	≤ 1000 Mbps (Depending on the quality of the data line)
Connection method	Push-in spring connection
Note on the connection method	Short-circuit-proof
Transmission length	≤ 1000 m (Depending on the quality of the data line)
Single conductor/terminal point, rigid	0.2 mm ² ... 2.5 mm ²
Single-wire/terminal point, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
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	≤ 74 W (With PoL)

Dimensions

Width	23 mm
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Height	101 mm
Depth	115 mm

Material specifications

Color (Housing)	gray (RAL 7042)
Material (Housing)	PA 6.6-FR
Flammability rating according to UL 94	V0

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	: 1g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 15g, 11 ms

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	≤ 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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 55035

Noise emission

Standards/regulations	EN 61000-6-4, Class A, industrial area of application
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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

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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)
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
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Assembly note	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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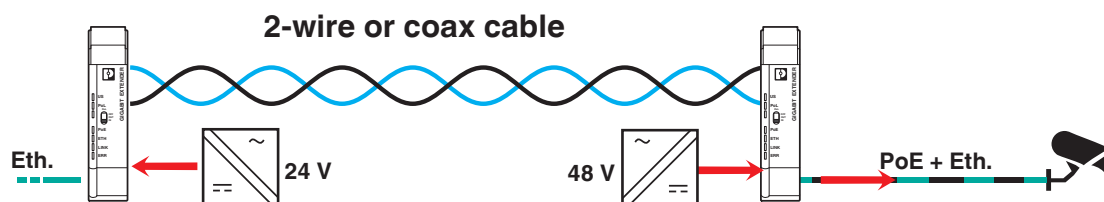


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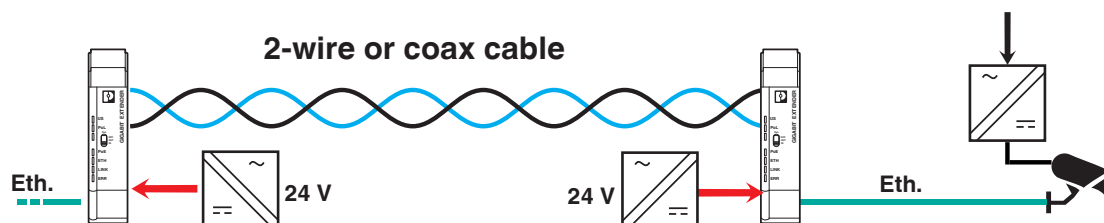
Drawings

Application drawing



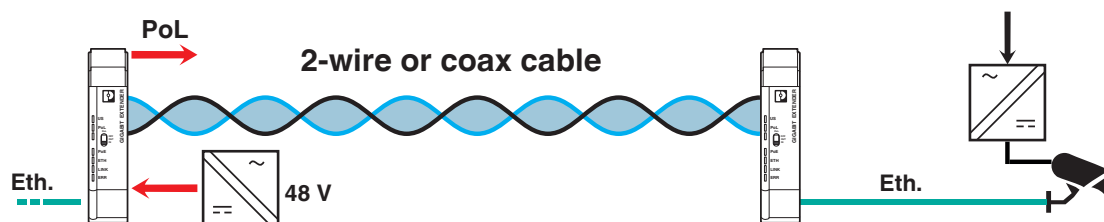
PoE supply of a PoE end device

Application drawing



Separate supply with one power supply unit each

Application drawing



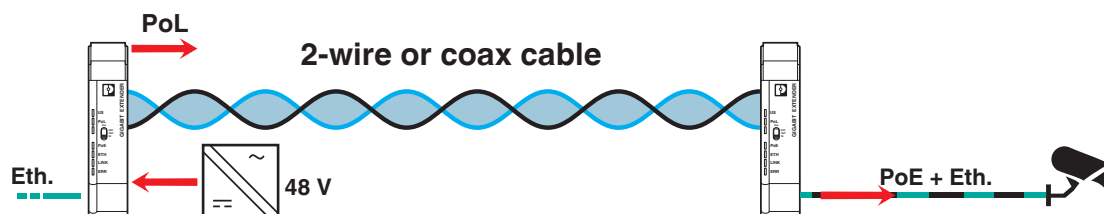
PoL supply of the remote extender

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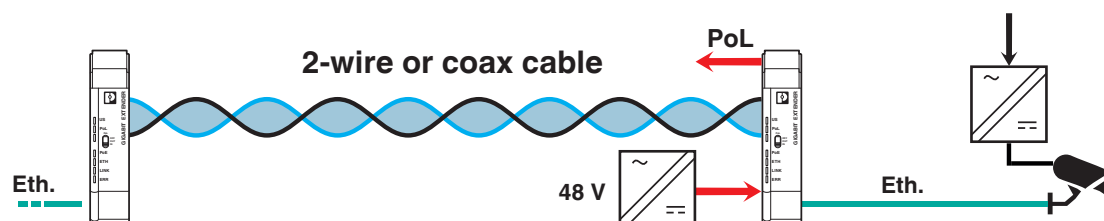
<https://www.phoenixcontact.com/us/products/1319322>

Application drawing



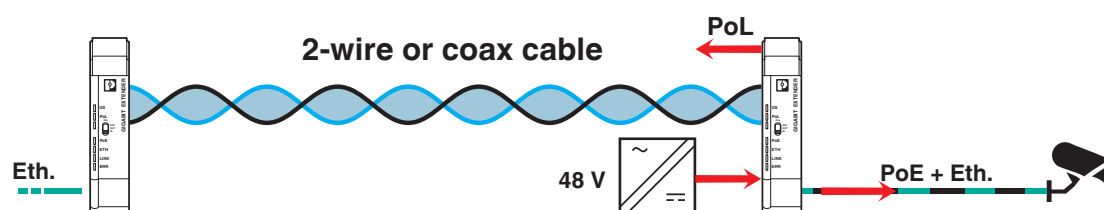
PoL supply of the remote extender and PoE supply of a PoE end device

Application drawing



PoL supply of the local extender

Application drawing



PoL supply of the local extender and PoE supply of a PoE end device

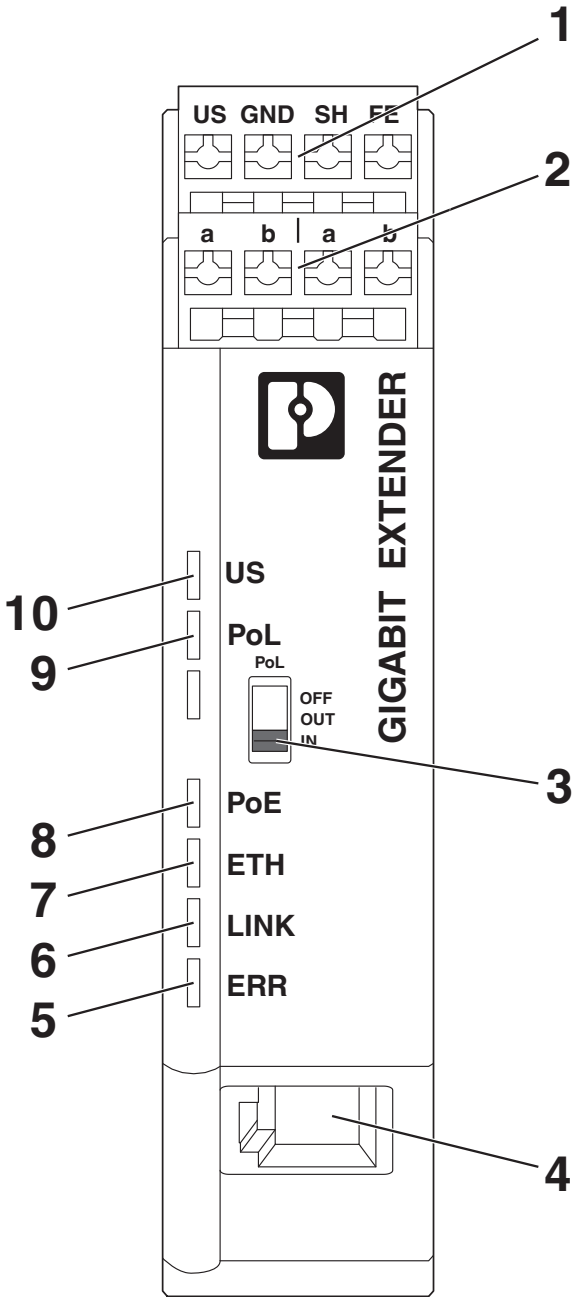
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Schematic diagram



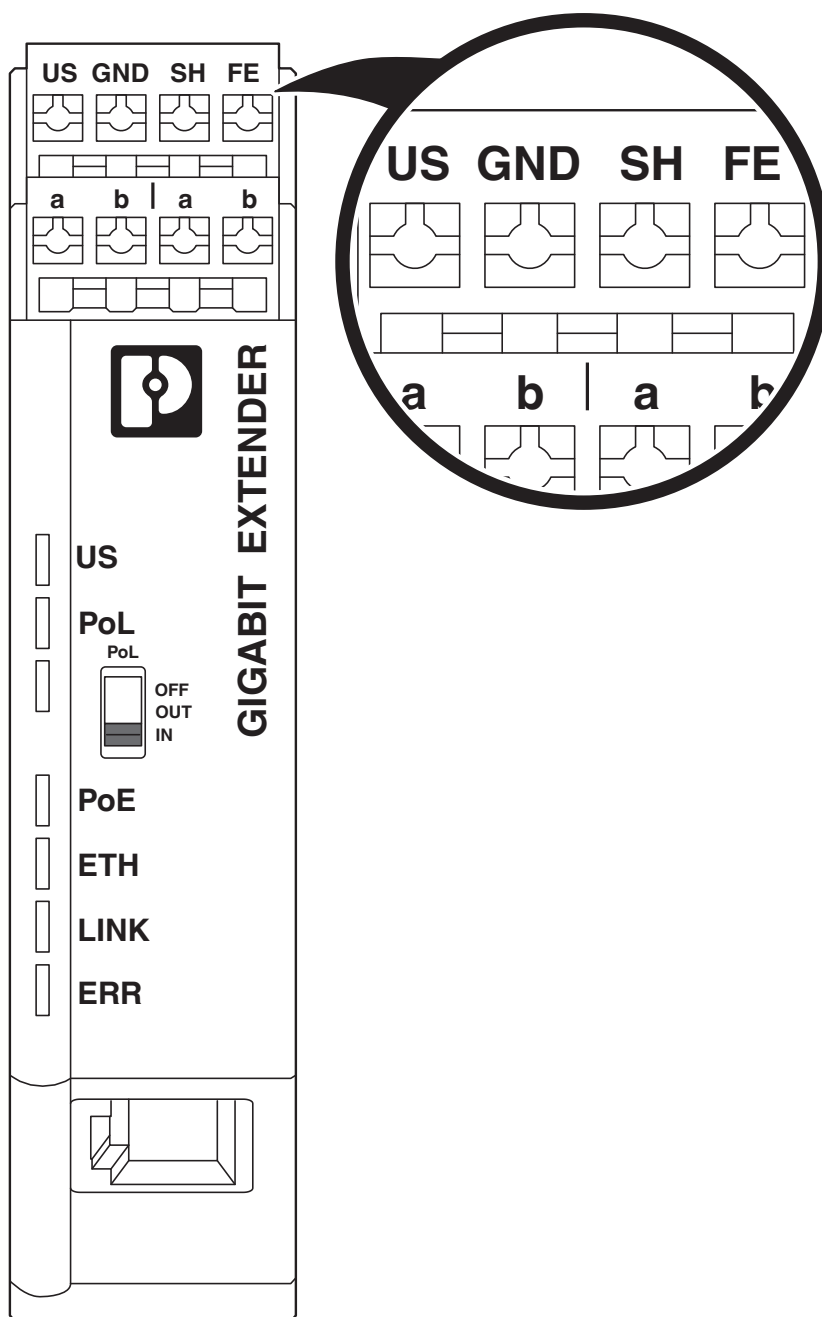
Front view

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Schematic diagram



Connecting the supply voltage

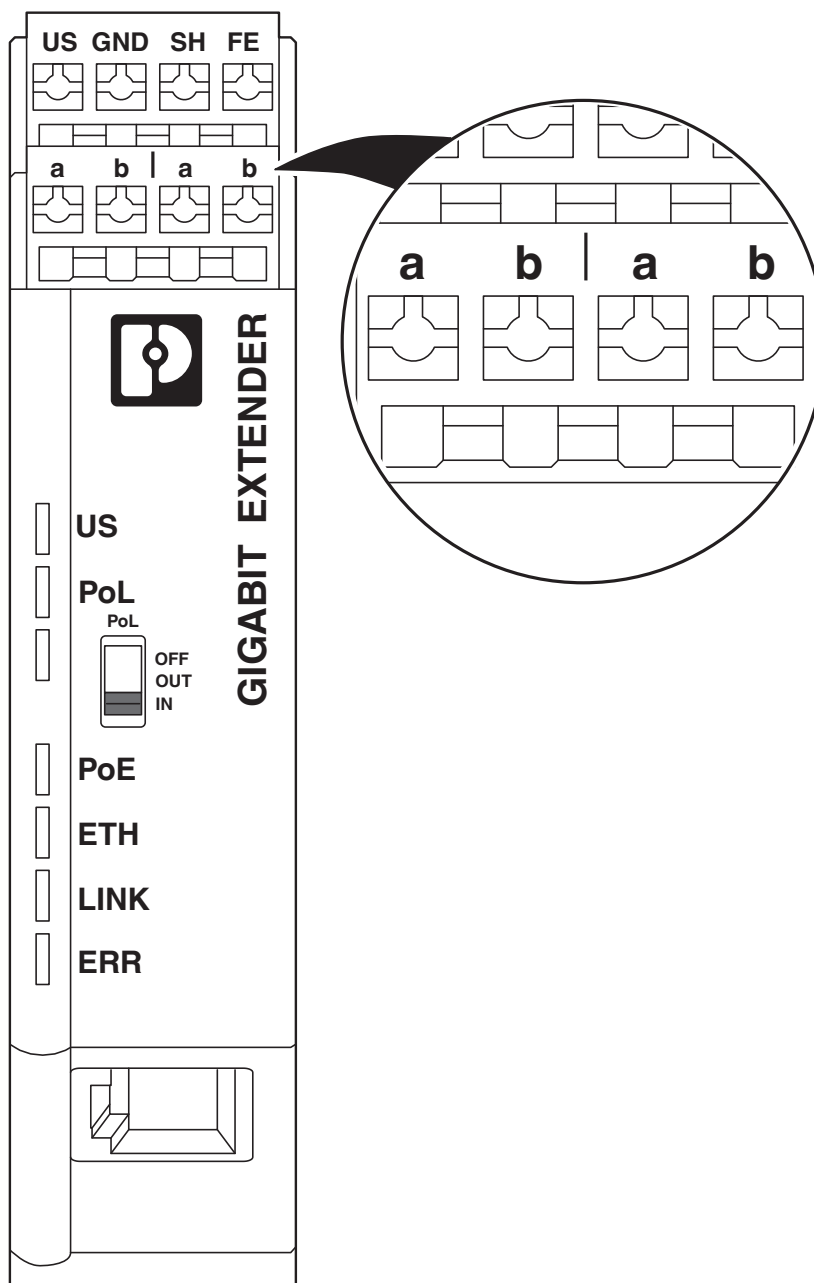
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Schematic diagram



Connection of the twisted pair cable

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Classifications

ECLASS

ECLASS-13.0	19170407
ECLASS-15.0	19170407

ETIM

ETIM 9.0	EC000309
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UNSPSC

UNSPSC 21.0	43223100
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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%

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Accessories

PT 4-F-ST - Surge protection plug

2858441

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

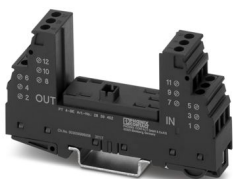


Surge protection plug for the base element, coarse protection for four signal lines grounded on one side.

PT 4-BE - Surge protection base-element

2839402

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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/us/products/2832263>

Patch cable, CAT5, assembled, 0.5 m



FL CAT5 PATCH 1,0 - Patch cable

2832276

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Patch cable, CAT5, assembled, 1 m



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FL CAT5 PATCH 2,0 - Patch cable

2832289

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Patch cable, CAT5, assembled, 2 m



FL CAT5 PATCH 3,0 - Patch cable

2832292

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Patch cable, CAT5, assembled, 3 m



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FL CAT5 PATCH 5,0 - Patch cable

2832580

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Patch cable, CAT5, assembled, 5 m

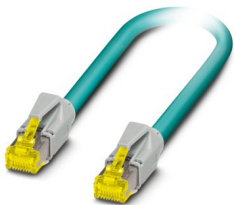


NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

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Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6_A, cable outlet: straight, Ethernet



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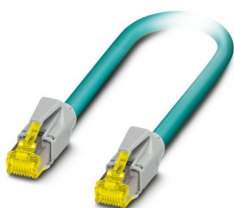
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NBC-R4AC/10G-R4AC/10G-94F/2,0 - Patch cable

1408360

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

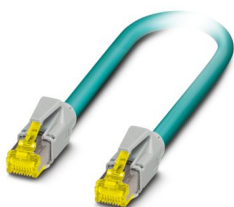


Patch cable, CAT6_A, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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

1408365

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



Patch cable, CAT6_A, 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 mm², 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

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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FL CRIMPTOOL - Assembly tool

2744869

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



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

<https://www.phoenixcontact.com/us/products/2853899>

Shield connection clamp for terminal points starting from 2.5 mm²



ME-SAS MINI - Shield connection clamp

2200456

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

Shield connection clamp for terminal points starting from 1.5 mm²



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FL DIN RA - DIN rail adapter

2891053

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The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.



ME-MAX-NEF/QUINT20A - EMC filter

2319919

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Filter for adherence to the EMC category EMC1 in shipbuilding for the QUINT-PS/1AC/24DC/20 power supply



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