

INJ 2112-T - Injector



2703014

<https://www.phoenixcontact.com/gb/products/2703014>

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PoE injector, 60 W, RJ45 jack on IDC terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, potential separation, shield contacting with strain relief, shield current monitoring, surge protection

Product description

The midspan injectors connect Ethernet devices without PoE (e.g., switches) to PoE-capable end devices (e.g., IP cameras). As power sourcing equipment (PSE), the injector supplies the required power to a powered device (PD) via the data cable. The injector and end device negotiate the electrical power requirements autonomously. The IDC fast connection terminal blocks enable tool-free connection without stripping the single-core wires. The terminal blocks with inserted wires are simply pressed shut by hand. Observe the permissible single-core wire diameter and the permissible insulation material.

Your advantages

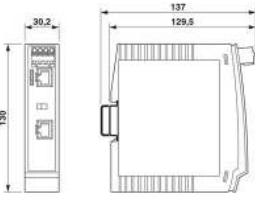
- Extended temperature range of -40 °C ... +75 °C
- Fast connection of the PoE cable
- Wiring space covered with front panel cover
- Integrated surge protection to ensure high system availability
- Electrical isolation of the internal power supply unit for protection against short circuits on the PoE side
- 10/100/1000 Mbps

Commercial data

Item number	2703014
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC351
Product key	DNC351
Catalog page	Page 347 (C-6-2019)
GTIN	4055626463223
Weight per piece (including packing)	465 g
Weight per piece (excluding packing)	324.72 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	30.2 mm
Height	130 mm
Depth	120 mm

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Utilization restriction

CCCEX note	Use in potentially explosive areas is not permitted in China.
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Material specifications

Material	Plastic
Flammability rating according to UL 94	V0

Mounting

Mounting type	DIN rail mounting
Mounting position	vertical

Interfaces

Basic functions	PSE/Midspan, compliant with IEEE 802.3af, at
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Data: Power over Ethernet

Serial transmission speed	10/100/1000 Mbps
Frequency range	125 MHz
Connection method	IDC connection
No. of channels	1
Pin assignment	1:1
Transmission length	100 m (including patch cables)
Single conductor/terminal point, rigid	0.14 mm ² ... 0.34 mm ²
Single-wire/terminal point, flexible	0.14 mm ² ... 0.34 mm ²
Max. AWG conductor cross section, flexible	22
Min. AWG conductor cross section, flexible	26
Single-wire/terminal point, rigid AWG max.	22

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Single-wire/terminal point, rigid AWG min.	26
Wire diameter incl. insulation	1.6 mm (Terminal block is tested with PVC insulation - other insulation materials available on request)
Frequency of connections between conductors of the same cross section	10
Output nominal voltage	54 V DC (PoE)
Output power	60 W
Maximum output power	75 W (UL)

Data: Ethernet

Connection method	RJ45 jack
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Product properties

IEC test classification	C2
Product type	Injector
MTTF	1797 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	733 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	283 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Electrical properties

Electrical isolation	VCC // SCM + FE // PoE
Maximum power dissipation for nominal condition	12 W (at 18 V DC)
	9 W (24 V DC ... 48 V DC)
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 (SELV/PELV, restrictions for ATEX applications)
	48 V DC
Max. current consumption	4.2 A
	2.73 A (24 V DC, Ex areas in accordance with UL-HazLoc)
	1.34 A (48 V DC, Ex areas in accordance with UL-HazLoc)
Power consumption	≤ 75 W
Protective circuit	Reverse polarity protection
Connection method	Push-in connection
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

Function

Designation	Shield current monitoring
Switch-on threshold	≥ 30 mA
Local diagnostics	Yellow LED
Precision	± 5 %
Response time	3 s

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Current	≤ 2 A
Power consumption	270 mW (Shield current monitoring)

Connection data

Supply

Connection method	Push-in connection
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 2.5 mm ²
Conductor cross section, flexible [AWG]	20 ... 12

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (Manufacturer's declaration)
Ambient temperature (operation)	-40 °C ... 75 °C (for derating, see technical documentation)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation) ≤ 2000 m (Restrictions for ATEX applications)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Air pressure (operation)	80 kPa ... 110 kPa (ATEX approval)

Standards and regulations

Standards/regulations	IEC 61643-21
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Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	⊕ II 3G Ex ec nC IIC T4 Gc
Certificate	PxCIF19ATEX2703014X
Note	Please follow the special installation instructions in the documentation!

UL, USA/Canada

Identification	Class I, Zone 2, AEx nA IIC T4, Ex nA IIC Gc X T4 Class I, Div. 2, Groups A, B, C, D
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UL, USA

Certificate	UL 60079-0 Ed. 6 / UL 60079-15 Ed. 4
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UL, Canada

Certificate	CSA 22.2 No. 60079-0 Ed. 3 / CSA 22.2 No. 60079-15:16
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Corrosive gas test

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Identification	ISA-S71.04-1985 G3 Harsh Group A
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Power over Ethernet

Identification	IEEE 802.3af
	IEEE 802.3at

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
	FCC Part 15B Class A
	CISPR 22

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	± 6 kV (Test Level 3)
Discharge in air	± 8 kV (Test Level 3)
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 (Test Level 3)
Field intensity	10 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 (1 minute)
Signal	± 2.2 kV (1 minute)
Comments	Criterion B

Surge current load (surge)

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

Input	± 0.5 kV
Signal	± 1 kV (Data line, asymmetrical)
	± 2 kV (I/O cable on field side only, asymmetric)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6
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Conducted interference

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Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V

Emitted interference

Standards/regulations	EN 61000-6-4
Comments	Class A, industrial applications

Emitted interference

Standards/regulations	EN 61000-6-3
Comments	Class B, domain of use: residential and small commercial

System properties

Functionality

Basic functions	PSE/Midspan, compliant with IEEE 802.3af, at
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Signaling

Optical representation	Yellow LED
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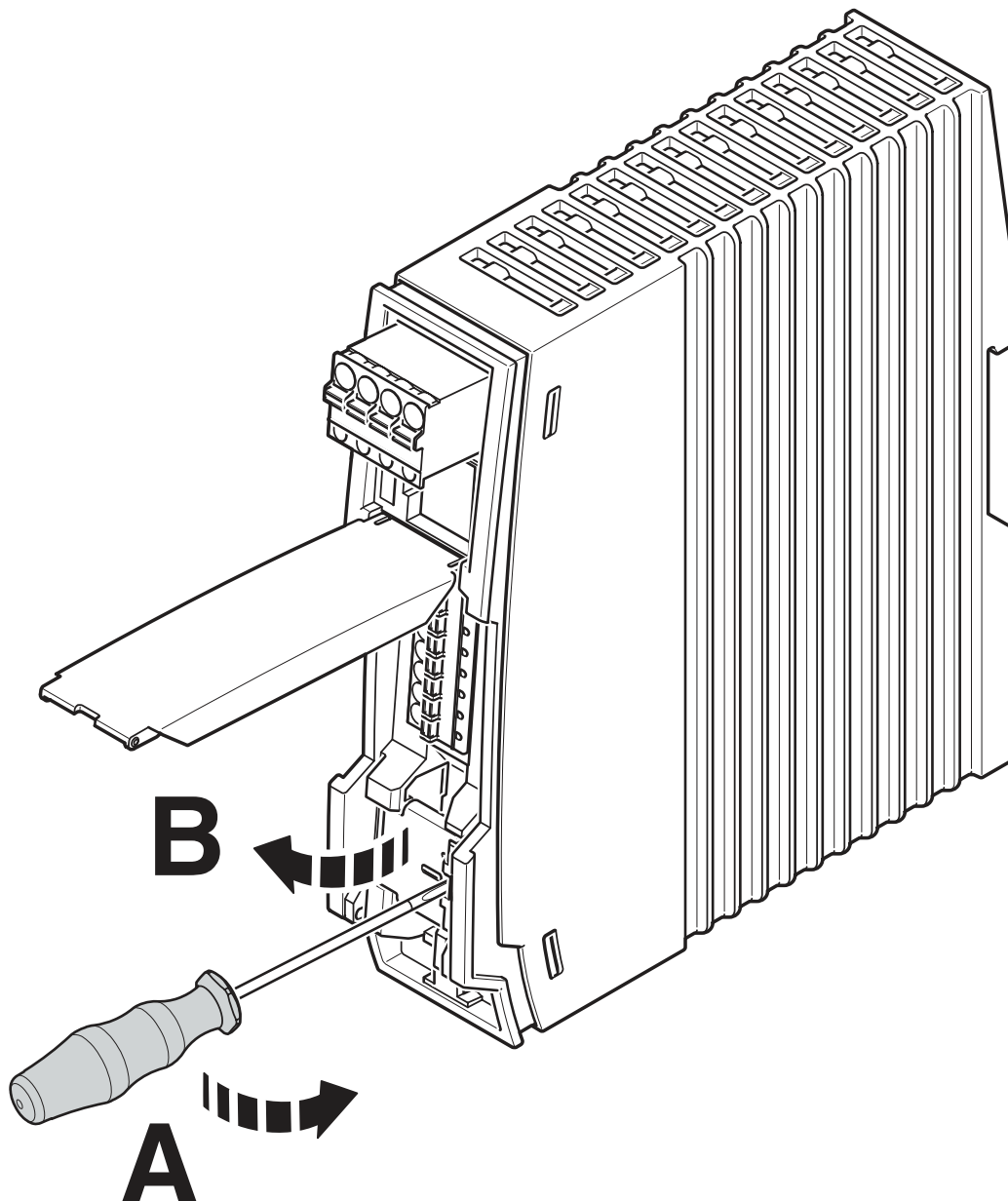
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Drawings

Schematic diagram



Open shield contact spring

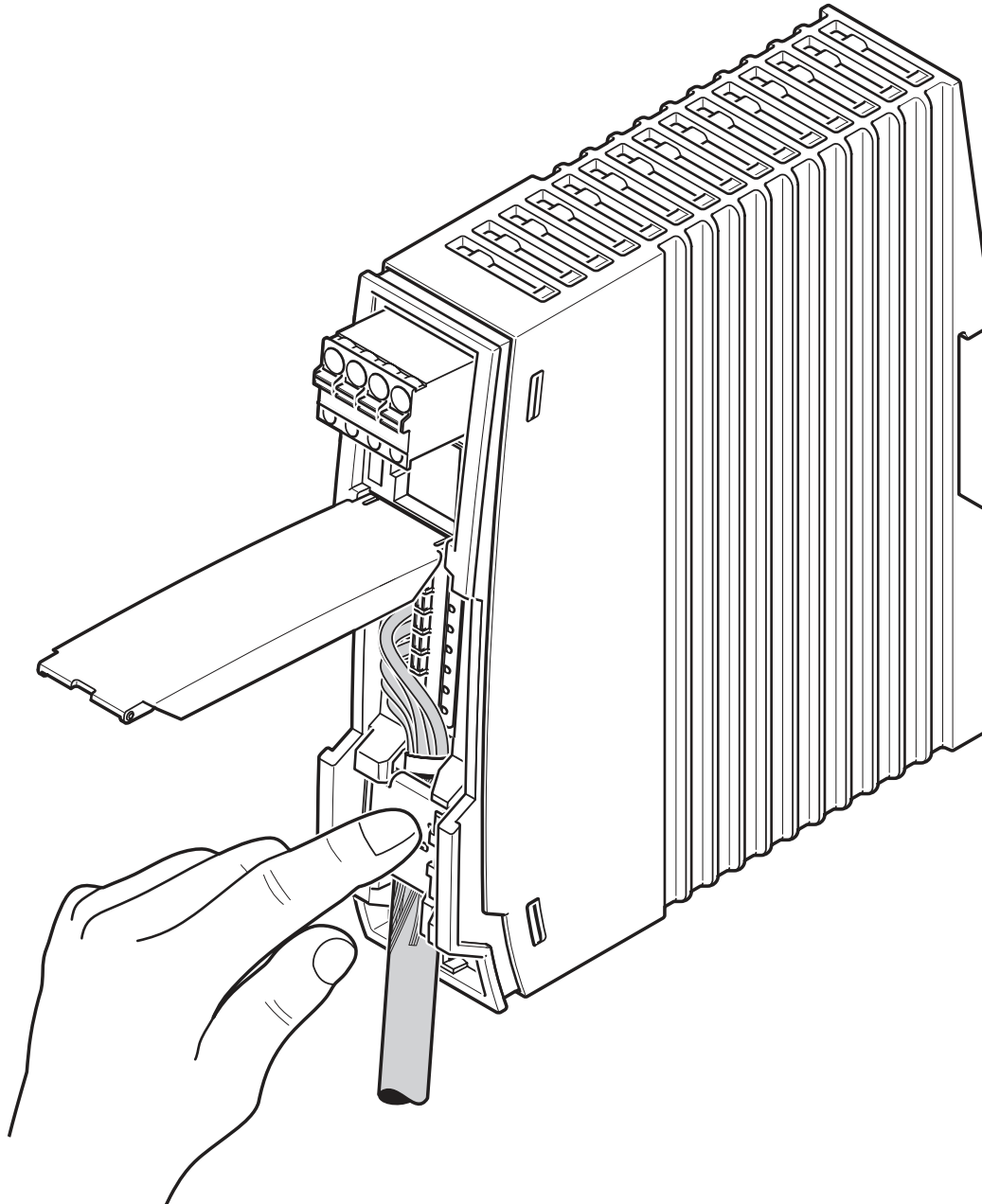
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Schematic diagram



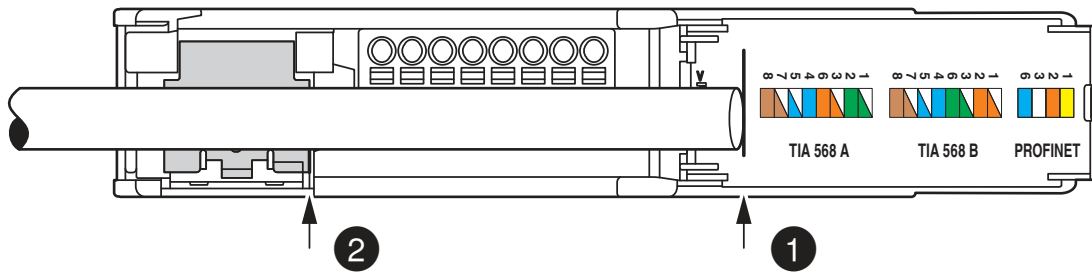
Close shield contact spring

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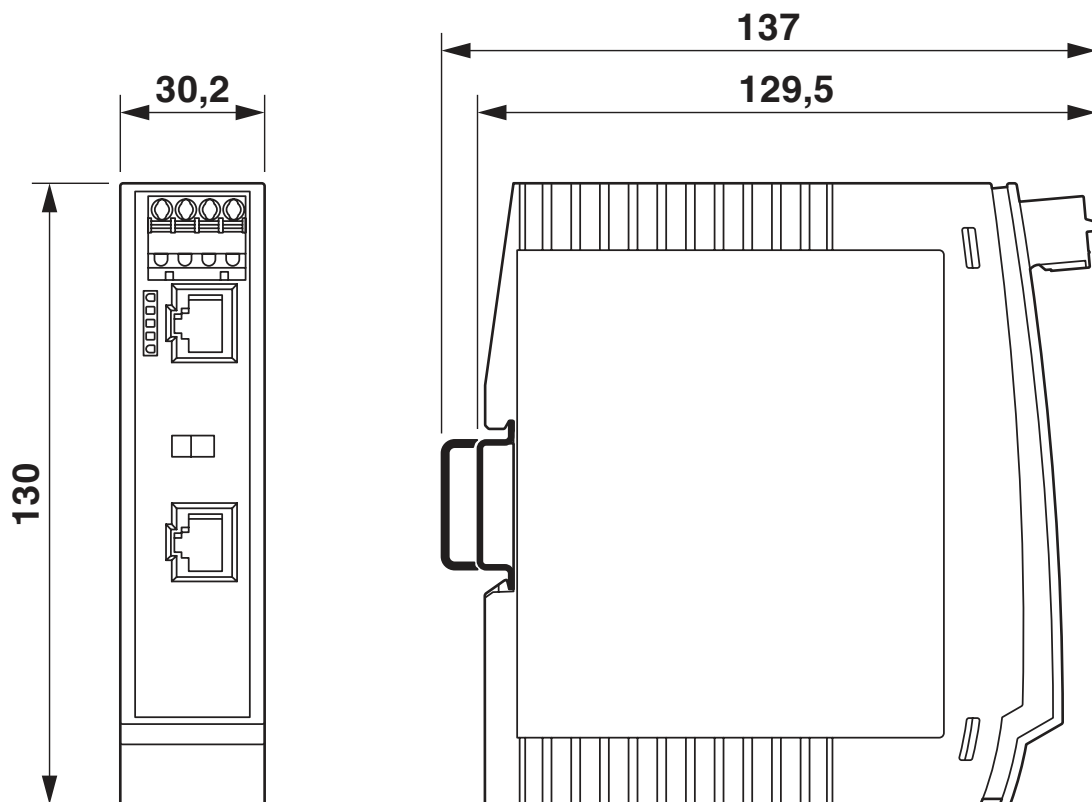
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Schematic diagram



Stripping length

Dimensional drawing



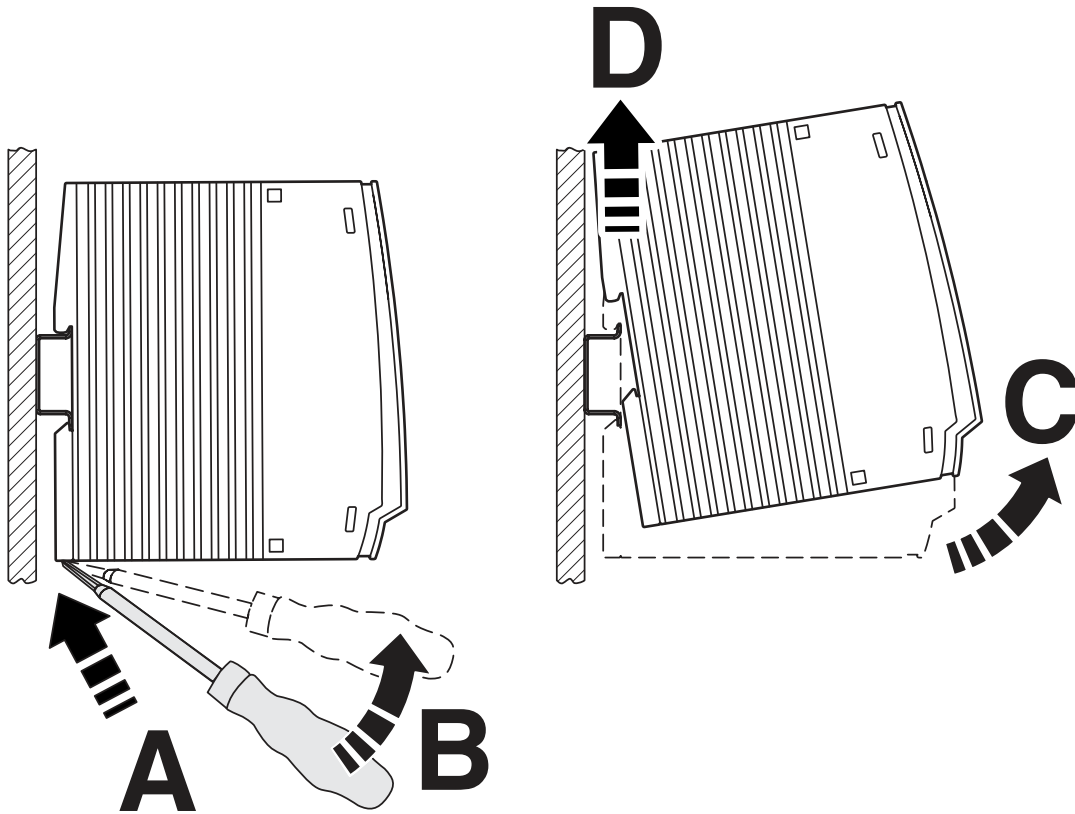
Housing dimensions

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Schematic diagram



Removal

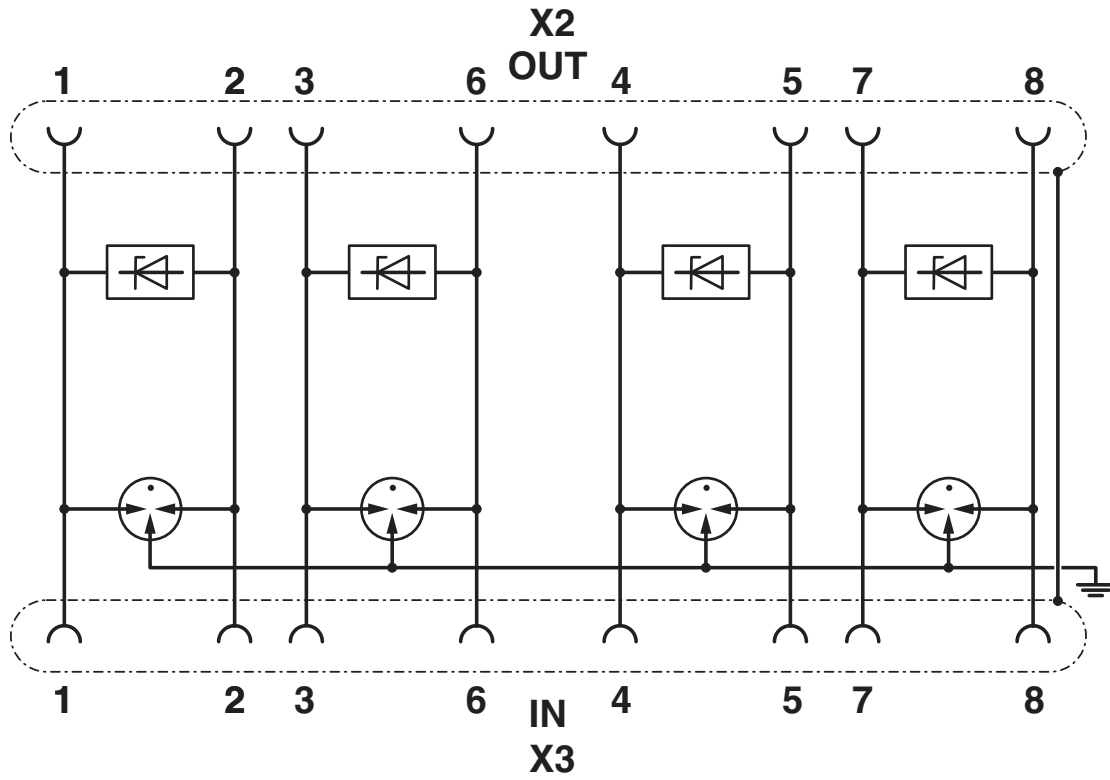
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Circuit diagram



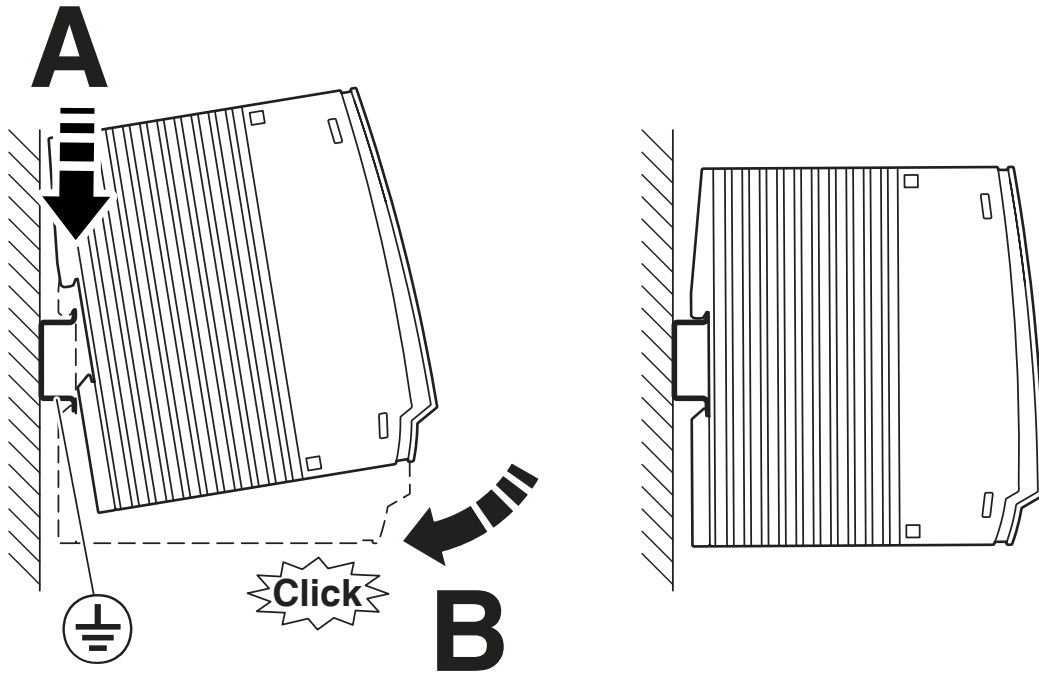
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Schematic diagram



Mounting

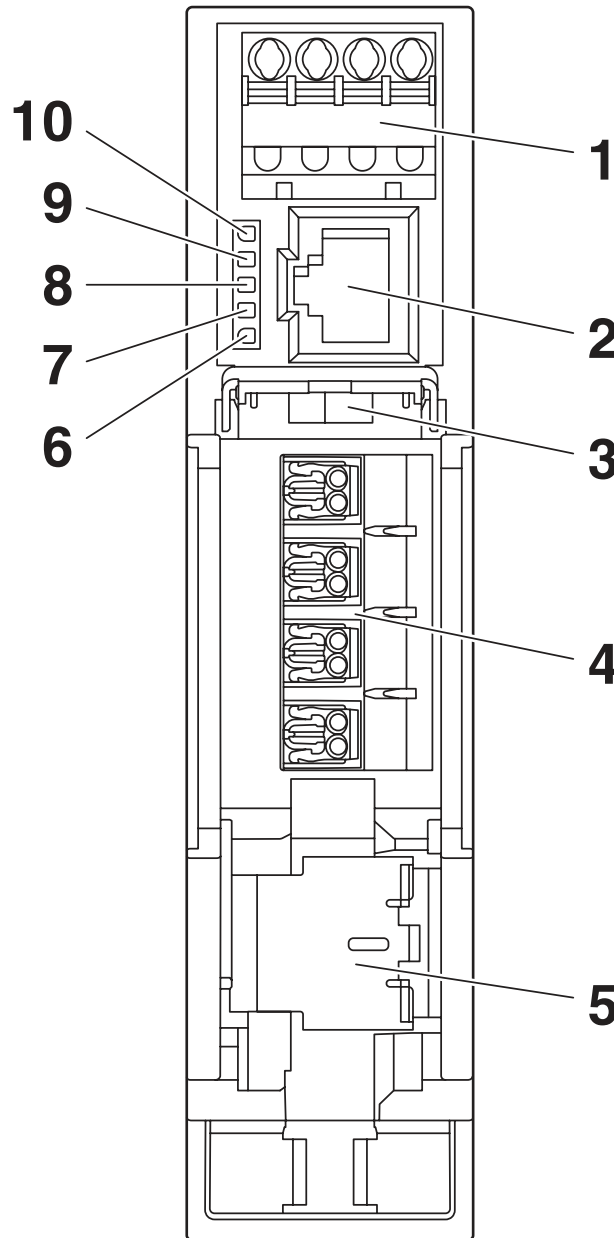
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Schematic diagram



Front view

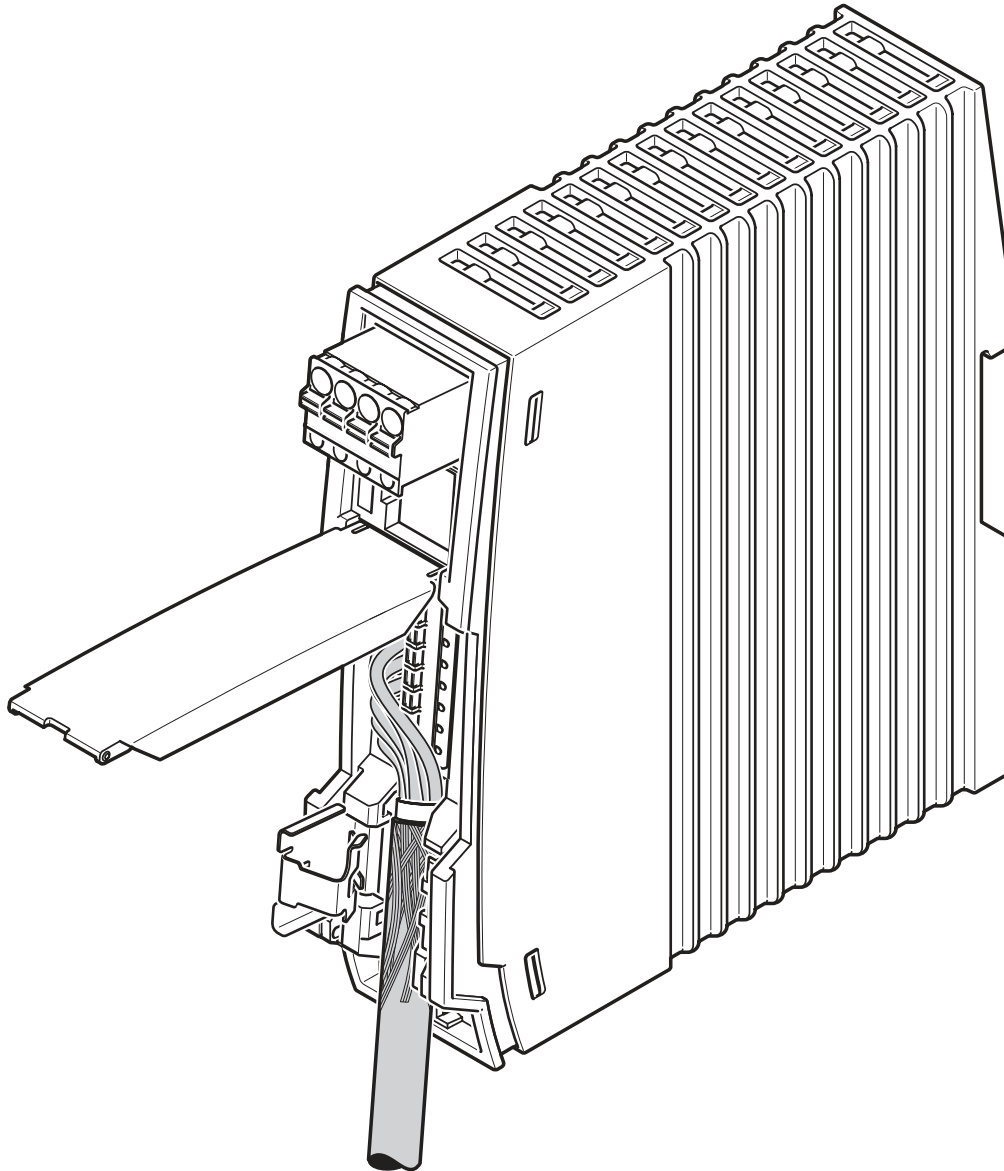
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Schematic diagram



Inserting the cable

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2703014>



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705



UL Listed

Approval ID: FILE E 238705



ATEX

Approval ID: PxCIF19ATEX2703014X



cUL Listed

Approval ID: FILE E 366272



UL Listed

Approval ID: FILE E 366272



UL Listed

Approval ID: FILE E 366272



cUL Listed

Approval ID: FILE E 366272



ATEX

Approval ID: PxCIF19ATEX2703014X

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Classifications

ECLASS

ECLASS-11.0	19170112
ECLASS-12.0	19170112
ECLASS-13.0	19170112

ETIM

ETIM 8.0	EC002697
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UNSPSC

UNSPSC 21.0	43223300
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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"

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Accessories

FL CRIMPTOOL - Assembly tool

2744869

<https://www.phoenixcontact.com/gb/products/2744869>

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



FL ISOLATOR 100-RJ/RJ - Network isolator

2313931

<https://www.phoenixcontact.com/gb/products/2313931>

Passive network isolator for electrical isolation in Ethernet networks. This protects Ethernet devices from potential differences of up to 4 kV. Can be used for transmission speeds of up to 100 Mbps. Possible to connect two RJ45 plugs.



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2703014

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FL ISOLATOR 1000-RJ/RJ - Network isolator

2313915

<https://www.phoenixcontact.com/gb/products/2313915>



Passive network isolator for electrical isolation in Ethernet networks. This protects Ethernet devices from potential differences of up to 4 kV. Can be used for transmission speeds of up to 1 Gbps. Possible to connect two RJ45 plugs.

FL ISOLATOR 100-M12 - Network isolator

2902985

<https://www.phoenixcontact.com/gb/products/2902985>



Passive network isolator for electrical isolation in Ethernet networks. For the protection of Ethernet devices against potential differences of up to 4 kV. Can be used for transmission speeds of up to 100 Mbps. Ethernet connection via two M12 sockets (D-coded).

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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_A, cable outlet: straight, Ethernet

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

1408360

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

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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_A, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m

NBC-R4AC/1,0-93B/R4AC - Patch cable

1408968

<https://www.phoenixcontact.com/gb/products/1408968>



Patch cable, degree of protection: IP20, cable length: 1 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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NBC-R4AC/2,0-93B/R4AC - Patch cable

1408969

<https://www.phoenixcontact.com/gb/products/1408969>



Patch cable, degree of protection: IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

FL CAT5 PATCH 0,3 - Patch cable

2832250

<https://www.phoenixcontact.com/gb/products/2832250>



Patch cable, CAT5, assembled, 0.3 m

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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



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 1,5 - Patch cable

2832221

<https://www.phoenixcontact.com/gb/products/2832221>

Patch cable, CAT5, assembled, 1.5 m



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

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Patch cable, CAT5, assembled, 3 m

VS-08-RJ45-10G/Q - RJ45 connector

1419001

<https://www.phoenixcontact.com/gb/products/1419001>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6_A, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 24, cable outlet: straight, color: black, Ethernet

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

1658435

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

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

1658008

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

VS-CABLE-STRIP-VARIO - Stripping tool

1657407

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

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



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SZF 0-0,4X2,5 - Screwdriver

1204504

<https://www.phoenixcontact.com/gb/products/1204504>



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

MICROFOX-SP - Diagonal cutter

1212488

<https://www.phoenixcontact.com/gb/products/1212488>



Electronic diagonal cutter, tapered head, angled (21°), without chamfer, with opening spring

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VS-OE-OE-94F/... - Data cable

1417359

<https://www.phoenixcontact.com/gb/products/1417359>



Data cable, Ethernet CAT6_A (10 Gbps), 8-position halogen-free, shielded, free cable end, on free cable end, cable length: Free entry (0.5 ... 400 m)

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