

Injector - INJ 2111-T - 2703013

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PoE injector, 60 W, RJ45 jack on screw 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.

Your advantages

- ✓ Extended temperature range of -40°C to +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



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	324.720 g
Custom tariff number	85176200
Country of origin	Germany
Note	Made to Order (non-returnable)

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	30.2 mm
Height	130 mm

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Technical data

Dimensions

Depth	120 mm
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Ambient conditions

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

General

Electrical isolation	VCC // SCM + FE // PoE
External cable diameter	5.5 mm ... 6.5 mm
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Mounting position	vertical
Net weight	324.72 g
Housing material	Plastic
Color	gray
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%)

Power supply

Nominal supply voltage	24 V DC (SELV/PELV, restrictions for ATEX applications)
	48 V DC
Supply voltage range	18 V DC ... 57 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	Screw 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 max.	2.50 mm ²
Conductor cross section flexible min.	0.20 mm ²
Conductor cross section solid max.	2.50 mm ²
Conductor cross section solid min.	0.20 mm ²
Conductor cross section AWG max.	12

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Power supply

Conductor cross section AWG min.	20
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Interfaces

Interface 1	Power over Ethernet
No. of ports	1
Connection method	Screw terminal block
Transmission length	100 m (including patch cables)
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Torque	0.22 Nm ... 0.25 Nm
Stripping length	5 mm
Pin assignment	1:1
Basic functions	PSE/Midspan, compliant with IEEE 802.3af, at
Serial transmission speed	10/100/1000 Mbps
Frequency range	125 MHz
Output nominal voltage	54 V DC (PoE)
Output power	60 W
Maximum output power	75 W (UL)
Interface 2	Ethernet
Connection method	RJ45 jack

Function

Designation	Shield current monitoring
Switch-on threshold	≥ 30 mA
Local diagnostics	Yellow LED
Precision	± 5 %
Response time	3 s
Continuous shield current	≤ 2 A
Power consumption	270 mW (Shield current monitoring)

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	ATEX
Identification	# II 3 G Ex ec nC IIC T4 Gc
Certificate	PxCIF19ATEX2703014X
Additional text	Please follow the special installation instructions in the documentation!
Designation	UL, USA/Canada

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Conformance/approvals

Identification	Class I, Zone 2, AEx nA IIC T4, Ex nA IIC Gc X T4
	Class I, Div. 2, Groups A, B, C, D
Designation	UL, USA
Certificate	UL 60079-0 Ed. 6 / UL 60079-15 Ed. 4
Designation	UL, Canada
Certificate	CSA 22.2 No. 60079-0 Ed. 3 / CSA 22.2 No. 60079-15:16
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A
Designation	Power over Ethernet
Identification	IEEE 802.3af
	IEEE 802.3at

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	10 Hz ... 57 Hz, amplitude ± 3.5 mm, 57 Hz ... 150 Hz, 5g
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	30g for 11 ms, three shocks in each spatial direction
Type of test	Continuous shock according to EN 60068-2-27/IEC 60068-2-27
Test result	10g for 16 ms, 1000 shocks in each spatial direction
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (Data line, asymmetrical)
	± 2 kV (I/O cable on field side only, asymmetric)
Standards/regulations	EN 61000-6-4
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Standards/regulations	IEC 61643-21
IEC test classification	C2

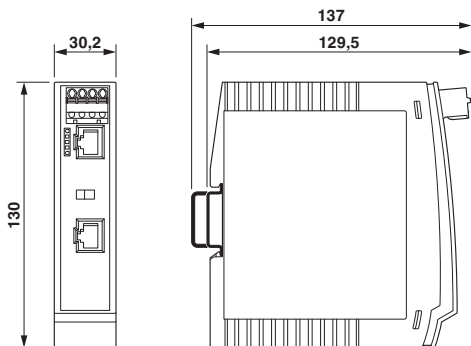
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

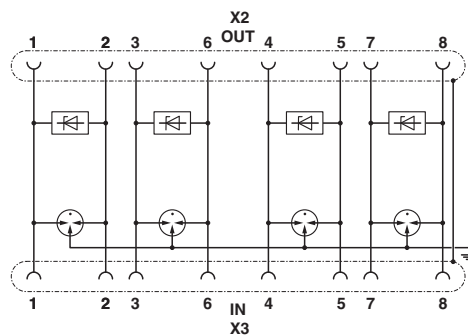
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Drawings

Dimensional drawing

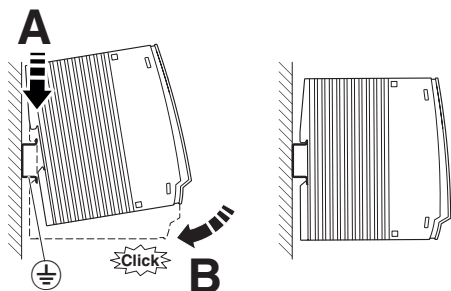


Circuit diagram



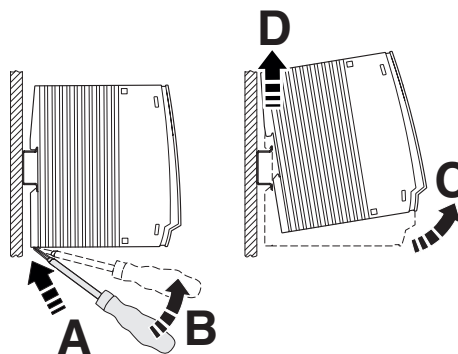
Circuit diagram (surge protection only)

Schematic diagram



Mounting

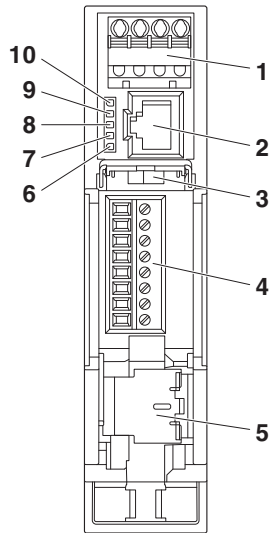
Schematic diagram



Removal

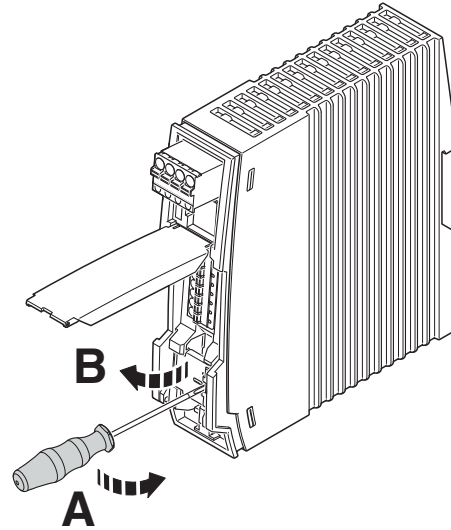
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Schematic diagram



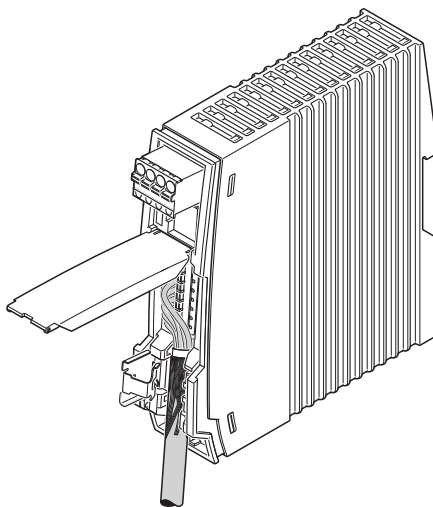
Front view

Schematic diagram



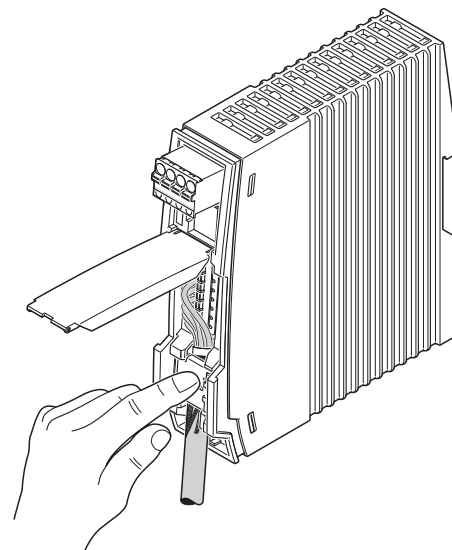
Open shield contact spring

Schematic diagram



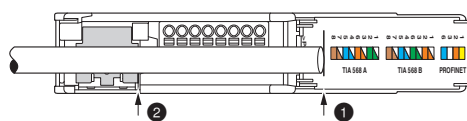
Inserting the cable

Schematic diagram



Close shield contact spring

Schematic diagram



Stripping length

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Classifications

eCl@ss

eCl@ss 10.0.1	19170112
eCl@ss 11.0	19170112
eCl@ss 6.0	19170100
eCl@ss 7.0	19170112
eCl@ss 8.0	19170112
eCl@ss 9.0	19170112

ETIM

ETIM 5.0	EC002599
ETIM 6.0	EC002599
ETIM 7.0	EC002599

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

Data cable by the meter

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Accessories

Network cable - VS-OE-OE-94F/... - 1417359



Network cable, Ethernet CAT6_A (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded, free cable end, on free cable end, cable length: Free entry (0.5 ... 400 m)

Data cable preassembled

Patch cable - NBC-R4AC-R4AC-IE8A/.../... - 1411854



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

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

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

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

Patch cable - NBC-R4AC/2,0-93B/R4AC - 1408969



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

Data plug

Assembly tool - FL CRIMPTOOL - 2744869



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

RJ45 connector - VS-08-RJ45-10G/Q - 1419001



RJ45 connector, IP20, CAT6_A, 8-pos., with QUICKON fast connection technology, for 26 ... 24 AWG 1-wire and 7-wire conductors, color: black

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



RJ45 connector, 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

RJ45 connector - VS-08-RJ45-5-Q/IP20 - 1656725



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042, Ethernet

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Accessories

RJ45 connector - VS-08-RJ45-5-Q/IP20 BK - 1658008



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, color: black, Ethernet

Electronics pliers

Diagonal cutter - MICROFOX-SP - 1212488



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

Network isolator

Network isolator - FL ISOLATOR 100-RJ/SC - 2313928



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. Connection using RJ45 and COMBICON plug-in screw terminal block.

Network isolator - FL ISOLATOR 100-RJ/RJ - 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.

Network isolator - FL ISOLATOR 1000-RJ/RJ - 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.

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Accessories

Network isolator - FL ISOLATOR 100-M12 - 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).

Patch cable

Patch cable - FL CAT5 PATCH 0,3 - 2832250



Patch cable, CAT5, assembled, 0.3 m

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

Patch cable - FL CAT5 PATCH 1,5 - 2832221



Patch cable, CAT5, assembled, 1.5 m

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Accessories

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

Patch cable - FL CAT5 PATCH 3,0 - 2832292



Patch cable, CAT5, assembled, 3 m

Screwdriver tools

Screwdriver - SZF 0-0,4X2,5 - 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

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



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