

# Injector - INJ 2102-T - 2703012

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PoE injector, 30 W, RJ45 socket on IDC terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, potential separation, shield contacting with strain relief, shield current monitoring, surge protection

## 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
GTIN	 4 055626 463209
GTIN	4055626463209
Weight per Piece (excluding packing)	324.720 g
Custom tariff number	85176200
Country of origin	Germany

## Technical data

### Note

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

Width	30.2 mm
Height	130 mm
Depth	120 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 75 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

# Injector - INJ 2102-T - 2703012

## Technical data

### Ambient conditions

Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20 (Manufacturer's declaration)

### General

Electrical isolation	VCC // SCM + FE // PoE
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)
Standards/regulations	IEC 61643-21
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Mounting position	vertical
Net weight	324.72 g
Housing material	Plastic
Color	gray
MTTF	1510 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	661 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	256 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
UL, USA	UL 60079-0 Ed. 6 / UL 60079-15 Ed. 4
UL, USA/Canada	Class I, Zone 2, AEx nA IIC T4, Ex nA IIC Gc X T4
	Class I, Division 2, Groups A, B, C, D
UL, Canada	CSA 22.2 No. 60079-0 Ed. 3 / CSA 22.2 No. 60079-15:16

### Power supply

Nominal supply voltage	24 V DC
	48 V DC
Supply voltage range	18 V DC ... 57 V DC
Max. current consumption	2.1 A
	1.4 A (24 V DC)
	0.7 A (48 V DC)
Power consumption	≤ 75 W
Protective circuit	Reverse polarity protection
Conductor cross section flexible max.	4.00 mm <sup>2</sup>
Conductor cross section flexible min.	0.75 mm <sup>2</sup>
Conductor cross section solid max.	4.00 mm <sup>2</sup>
Conductor cross section solid min.	0.75 mm <sup>2</sup>
Conductor cross section AWG max.	12
Conductor cross section AWG min.	20

### Serial interface

Interface 1	Ethernet
Connection method	IDC connection
Transmission length	100 m (including patch cables)

# Injector - INJ 2102-T - 2703012

## Technical data

### Serial interface

Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	0.34 mm <sup>2</sup>
Conductor cross section flexible min.	0.14 mm <sup>2</sup>
Conductor cross section flexible max.	0.34 mm <sup>2</sup>
Conductor cross section AWG min.	26
Conductor cross section AWG max.	22
Wire diameter incl. insulation	1.6 mm (Terminal block is tested with PVC insulation - other insulation materials available on request)
Pin assignment	1:1
Basic functions	PSE/Midspan, compliant with IEEE 802.3af, at
Serial transmission speed	10/100/1000 Mbps
Output nominal voltage	54 V DC (PoE)
Output power	30 W
Maximum output power	40 W
Interface 2	Ethernet
Connection method	RJ45 CAT5e

### 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)

### 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	25g for 11 ms, three shocks in each 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)

# Injector - INJ 2102-T - 2703012

## Technical data

### Standards and Regulations

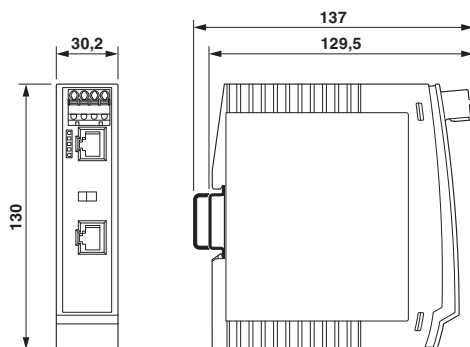
Standards/regulations	EN 61000-6-4
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Standards/regulations	IEC 61643-21
IEC test classification	C2
UL, USA	UL 60079-0 Ed. 6 / UL 60079-15 Ed. 4
UL, USA/Canada	Class I, Zone 2, AEx nA IIC T4, Ex nA IIC Gc X T4
	Class I, Division 2, Groups A, B, C, D
UL, Canada	CSA 22.2 No. 60079-0 Ed. 3 / CSA 22.2 No. 60079-15:16
Noxious gas test	ISA-S71.04-1985 G3 Harsh Group A

### Environmental Product Compliance

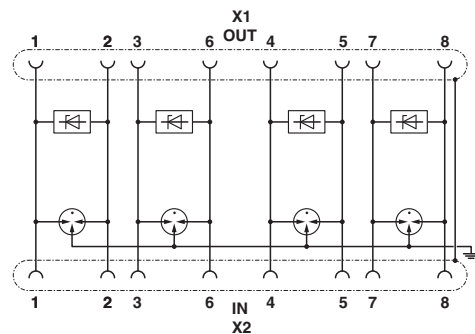
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Dimensional drawing



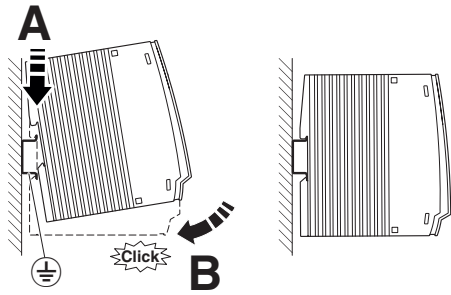
Circuit diagram



Circuit diagram (surge protection only)

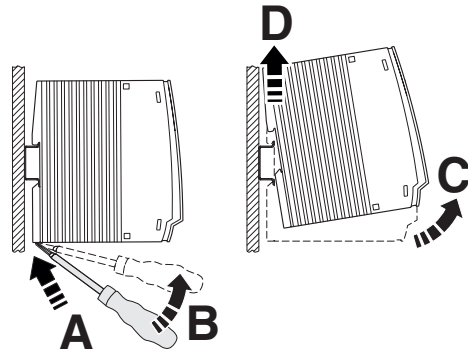
# Injector - INJ 2102-T - 2703012

Schematic diagram



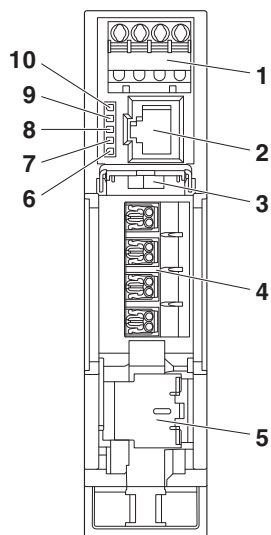
Mounting

Schematic diagram



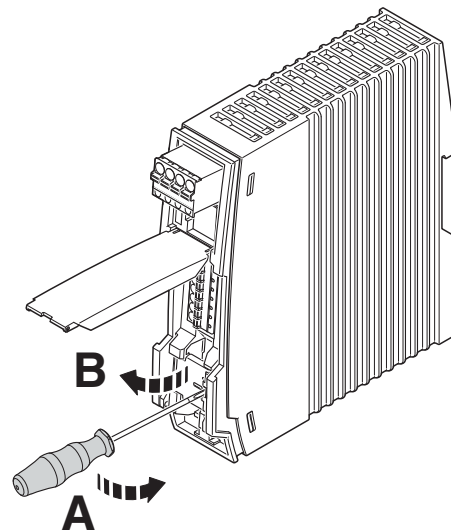
Removal

Schematic diagram



Front view

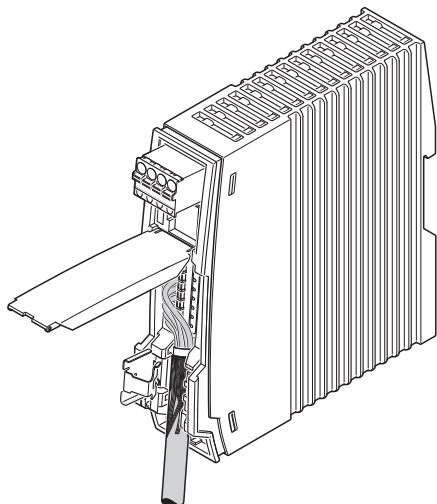
Schematic diagram



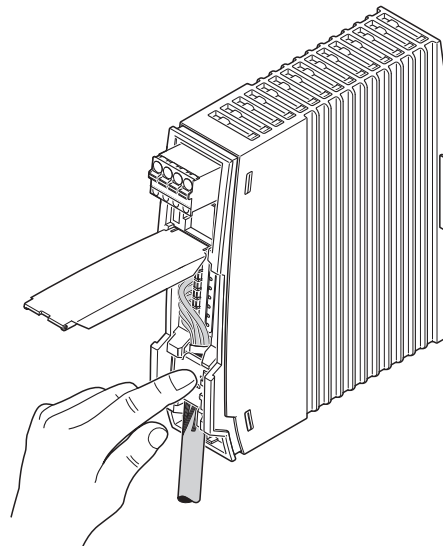
Open shield contact spring

# Injector - INJ 2102-T - 2703012

Schematic diagram



Schematic diagram



Inserting the cable

Close shield contact spring

## Classifications

eCl@ss

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

## Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

# Injector - INJ 2102-T - 2703012

## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cULus Listed			
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## Accessories

### Accessories

#### Data cable by the meter

Cable - FL CAT5 HEAVY - 2744814



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

Network cable - FL CAT5 FLEX - 2744830



CAT5-SF/UTP cable (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty, flexible installation cable 2 x 2 x 0.14 mm<sup>2</sup>, stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter

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



Network cable, Ethernet CAT6<sub>A</sub> (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

## Injector - INJ 2102-T - 2703012

### Accessories

#### Network cable - FL CAT5 HEAVY CONF/ - 2744827



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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#### Network cable - FL CAT5 FLEX CONF/ - 2744843



CAT5-SF/UTP cable (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty, flexible installation cable 2 x 2 x 0.14 mm<sup>2</sup>, stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter, preassembled on both sides with RJ45 plug, crossover or line assignment

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### Data plug

#### 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

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#### 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

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### Electronics pliers

#### Diagonal cutter - MICROFOX-SP - 1212488



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

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### Network isolator



## Injector - INJ 2102-T - 2703012

### Accessories

#### 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.

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#### 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.

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#### 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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#### 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).

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### Patch cable

#### Patch cable - FL CAT5 PATCH 0,3 - 2832250



Patch cable, CAT5, assembled, 0.3 m

## Injector - INJ 2102-T - 2703012

### Accessories

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

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Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

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Patch cable - FL CAT5 PATCH 1,5 - 2832221



Patch cable, CAT5, assembled, 1.5 m

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Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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Patch cable - FL CAT5 PATCH 3,0 - 2832292



Patch cable, CAT5, assembled, 3 m

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## Injector - INJ 2102-T - 2703012

### Accessories

Patch cable - FL CAT6 PATCH 0,3 - 2891181



Patch cable, CAT6, pre-assembled, 0.3 m

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Patch cable - FL CAT6 PATCH 0,5 - 2891288



Patch cable, CAT6, pre-assembled, 0.5 m

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Patch cable - FL CAT6 PATCH 1,0 - 2891385



Patch cable, CAT6, pre-assembled, 1.0 m

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Patch cable - FL CAT6 PATCH 1,5 - 2891482



Patch cable, CAT6, pre-assembled, 1.5 m

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Patch cable - FL CAT6 PATCH 2,0 - 2891589



Patch cable, CAT6, pre-assembled, 2.0 m

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## Injector - INJ 2102-T - 2703012

### Accessories

Patch cable - FL CAT6 PATCH 3,0 - 2891686



Patch cable, CAT6, pre-assembled, 3.0 m

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Patch cable - FL CAT6 PATCH 5,0 - 2891783



Patch cable, CAT6, pre-assembled, 5.0 m

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Patch cable - FL CAT6 PATCH 7,5 - 2891880



Patch cable, CAT6, pre-assembled, 7.5 m

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Patch cable - FL CAT6 PATCH 10 - 2891877



Patch cable, CAT6, pre-assembled, 10 m

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Patch cable - FL CAT6 PATCH 12,5 - 2891369



Patch cable, CAT6, pre-assembled, 12.5 m

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## Injector - INJ 2102-T - 2703012

### Accessories

Patch cable - FL CAT6 PATCH 15,0 - 2891372



Patch cable, CAT6, pre-assembled, 15.0 m

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Patch cable - FL CAT6 PATCH 20,0 - 2891576



Patch cable, CAT6, pre-assembled, 20.0 m

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### 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

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### Universal tools

Assembly tool - FL CRIMPTOOL - 2744869



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

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



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

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