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TSE-I



Galvanic isolator for current

User Manual

Translation of the original instruction

TSEI-GB-00-04-A

General information.....	2
Intended use.....	2
Intended recipients of the manual.....	2
Warranty.....	2
Description of the signal converter Galvanic isolator for current TSE-I.....	2
Areas of use.....	3
Applications.....	3
Technical dataGalvanic isolator for current TSE-I.....	3
Overall dimensions (mm).....	4
Installation.....	4
Connections.....	4
Use.....	6
Signaling LEDs.....	6
Ordering data.....	6

GENERAL INFORMATION

This instruction manual is an integral part of the Galvanic isolator for current TSE-I and users should always make reference to it.

- The Galvanic isolator for current TSE-I, also referred herein as "product" or "device", to which this document refers, is provided for use by persons trained in its use. The instruction must provide for the knowledge of the product and of the maneuvers to be performed during the use, to allow its use in safe conditions.
- All persons trained to work with the product should carefully read this manual in all its sections and understand its contents.
- It is especially important that staff are informed on security with regard to general practices for the protection of people, the product and the surrounding environment.
- Only the correct use of the product as recommended will ensure its lasting and effective use, in full safety for the operators and for the product itself.
- EL.CO. S.r.l. reserves the right to make any formal or functional changes at any time without prior notice.
- The electrical installation where the component is installed must meet the safety requirements in force.
- EL.CO. S.r.l. and its legal representatives do not assume any responsibility for any damage to people, things or animals deriving from violation, misuse, wrong use or otherwise not in accordance with the device features.
- All rights to this documentation are reserved. Translations, reprints and copies of this manual, even if partial and/or otherwise expressly require the consent of EL.CO. S.r.l.

INTENDED USE

The Galvanic isolator for current TSE-I may only be used in the following applications:

- Conversion and isolation of analog signals
- Galvanic isolation for PLC inputs with low insulation

Any other use of the product is not allowed and it is considered improper and therefore dangerous. EL.CO. S.r.l. shall not be liable in any way for damage to persons or property that could occur due to improper use.

Intended recipients of the manual

- This manual is intended for all authorized users and suitable to use the Galvanic isolator for current TSE-I.
- All users must read and understand the contents of this manual, which they have to follow while working with the product.
- This manual is an integral part of the product to which it relates and shall be kept throughout its life cycle.
- In case of transfer or sale of the product, the manual and all accompanying documentation, or connected one, shall be maintained and delivered with it.

WARRANTY

The warranty provided by the manufacturer on the product is valid for one year. The following conditions will void the product warranty provided by EL.CO. S.r.l.:

- Improper use of the product, which is different than the expected one, as described in section *Intended use*;
- Use by unauthorized or untrained personnel;
- Total or partial disregard of these instructions;
- Power supply defects;
- Pollution coming from the outside;
- Changes and unauthorized repairs.

DESCRIPTION OF THE SIGNAL CONVERTER GALVANIC ISOLATOR FOR CURRENT TSE-I

The Galvanic isolator for current TSE-I is a galvanic isolator for analogue current signals. The device is galvanically isolated on the three ways (input, output and power supply), thus ensuring effective protection against interference encountered in industrial environments. The device is fully compatible with the CE marking requirements and is housed in a solid 7.5 mm thick plastic housing suitable for DIN rail mounting.

- Current input
- Current output
- Power supply 8 ... 28 Vdc and 9 ... 24 Vac
- High precision and speed
- Reduced absorption
- Isolation on three ways
- High accuracy (0.1%)
- Conversion of the 14-bit measurement
- Voltage Signaling LED (Blue)

- Simplified installation with DIN rail mounting
- Extremely compact size (7.5 mm thick)
- EMC compatibility meeting EN 50022 and EN 50035

Areas of use

- Energy, Control Panels, Industry, Water Treatment, Naval industry, Remote Control

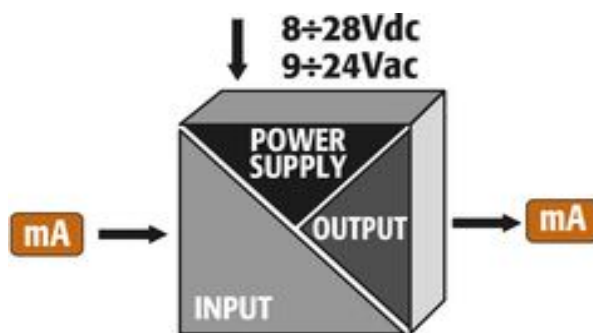
Applications

- Conversion and isolation of analog signals
- Galvanic isolation for PLC inputs with low insulation

TECHNICAL DATAGALVANIC ISOLATOR FOR CURRENT TSE-I

POWER SUPPLY	8...28 Vdc; 9...24 Vac Protection against reverse polarity 60Vdc max.
CURRENT CONSUMPTION	50 mA max
ABSORPTION	1 W (maximum)
SENSORS POWER	Active/passive inlet/outlet
RESPONSE TIME	10 ms
ACCURACY CLASS	0.1%
INSULATION	1500 Vrms 1 minute on the 3 ways
OPERATING TEMPERATURE	-20°C...+70°C
STORAGE TEMPERATURE	-40 °C...+85 °C
HUMIDITY	0 ... 90% non-condensing
CONTAINER	ITALTRONIC
MATERIAL	Self-extinguishing plastic
PROTECTION DEGREE	IP 20
WEIGHT	approx. 50 grams
CONNECTIONS	Screw terminals and cables applicable up to 2.5 mm ²
DIMENSIONS (W x H x D) in mm	90 x 112 x 7.5
ASSEMBLY	on T35 DIN rail according to EN 50022
EMC (for industrial environments)	EN 61000-6-2 (Immunity); EN 61000-6-4 (Emission)
LINEARITY	
Current	± 0.05% F.S.
INPUT LOOP FEATURES	
Minimum voltage	~ 6V
AUXILIARY VOLTAGE	>18 V @ 20 mA
THERMAL DRIFT:	
Full-scale	± 0.01%/°C
CALIBRATION (referred to the input span)	
Current	the greater of ± 0.1% and ± 6µA
OUTPUT CALIBRATION	
Current	
AUXILIARY VOLTAGE	>18V @ 20mA
LOAD RESISTANCE on OUTPUT - Rload	
Maximum for Current Output	< 500Ω
INPUT TYPES AND SCALE FIELDS	
CURRENT	0...20 mA
CURRENT (OUTPUT)	0...20 mA

NOTE: The values shown are the preset ones. Upon request, you can set the WIRE BREAK and output values with > 0 mA full scale input



Overall dimensions (mm)

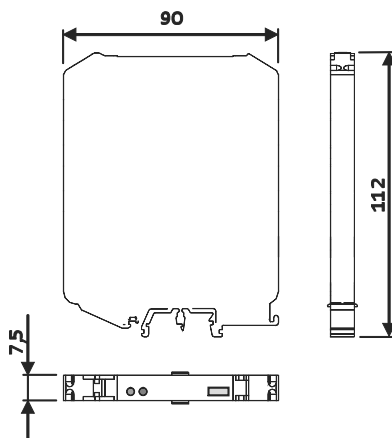


Figura 1- Overall dimensions

INSTALLATION

The device must be powered with a DC/AC voltage applied between the C and T terminals. The analog channel acquires the value from the sensor connected to the E-G-I terminals and transmits the output measure on the N, P e R terminals. For a reliable and durable operation, follow the instructions below:

Input and output connections must be made according to the "Connections" section.

The device can be powered with continuous voltage (8 to 28 Vdc) and with alternating voltage (9 to 24 Vac). It is suitable for DIN rail mounting in vertical position.

- Do not allow the ventilation slots are obstructed by cable ducts or other objects close to them
- Avoid the mounting of the devices above equipment generating heat
- Install the device in a place without vibrations;

Connections

Make the connection according to the following diagrams. Meet the following conditions:

- Use shielded cables and connect the shield to a ground terminal dedicated to the equipment.
- The cables must not be in the vicinity of cables for power installations as inverters, motors, induction furnaces and the like.

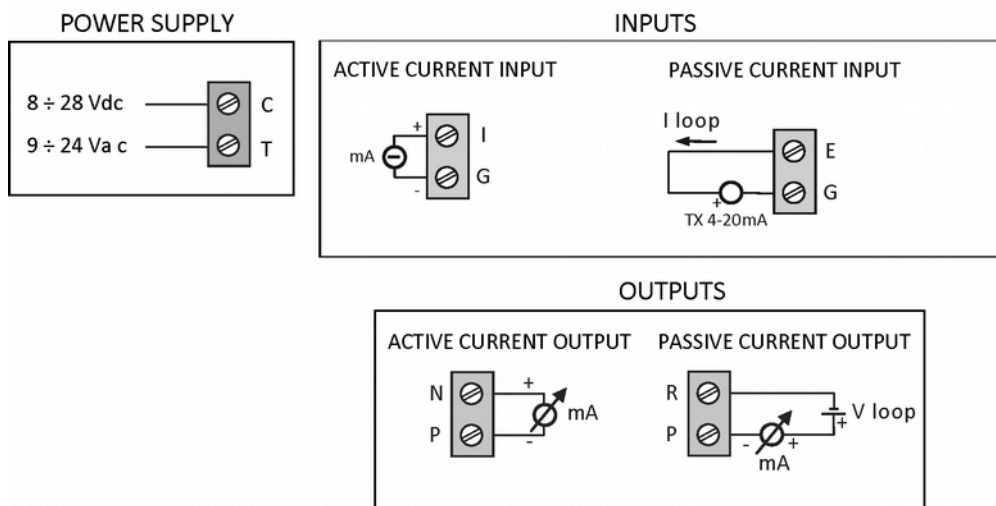


Figura 2- Connections

Signaling LEDs

PS (power supply) - BLUE LED	Turned on	Proper power supply
	Turned off	Device not powered

ORDERING DATA

The device does not require configuration; on the order it is sufficient to indicate the exact code of the device.

Example: TSE-I