EN

# Z109S-DI
## GALVANIC SEPARATION WITH CURRENT LOOP

## *GENERAL FEATURES*

- Input current 0 - 20 mA or 4 - 20 mA.
- Two-wire sensor supply:
  20V⎓, 20mA max protected against short circuit.
- Measure and retransmission or analog insulated output,
  current output 0 - 20 mA or 4 - 20 mA.
- Front power supply presence indicator.
- Safety insulation 300 V∿ CAT II

## *TECHNICAL FEATURES*

| | | | |
|---|---|---|---|
| Power: | 10 - 40 V ⎓ , 19 - 28 V∿ 50-60Hz, max 2.5 W. | | |
| Input: | Current 0 - 20 mA or 4 - 20 mA, 20 V⎓ ± 10%<br>loop supply, input impedance ~50Ω | | |
| Output: | Current 0 - 20 mA or 4 - 20 mA, loop impedance < 600Ω | | |
| Environemental conditions<br>- Temperature:<br>- Humidity:<br>- Storage temperature:<br>- Protection degree | From -20 to +60 °C.<br>min: 30%, max 90% non condensing<br>From -30 to +85 °C<br>IP20 (see the **How to install** section). | | |
| Box specification<br>- Dimensions and weight:<br>- Material: | 100 x 112 x 18mm, 130g<br>PA6, Black colour | | |
| Errors referred to<br>Input's measure range: | Calibration<br>0.2% o 10µA | Thermal coeff.<br>0.02%/°K | EMI<br><1% |
| Connections: | Removable 3-way screw terminals, 5 mm pitch.<br>cable section's 0.25-2.5 mm² | | |
| Response time: | <200us, cutoff frequency (-3dB) 6kHz | | |
| Input protection: | 30V continuous. | | |
| Protection<br>Output / Power supply: | Against surge pulses 400 W / ms | | |
| Insulation: | Safety insulation < 300 V∿ referred to ground CAT II<br>Test voltage 3500 V∿ 3-way | | |

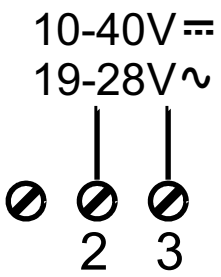


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| Standards: | The equipment complies with the following standards: |
|---|---|
| CE | **EN61000-6-4** (electromagnetic compability, industrial environment)<br>**EN61000-6-2** (electromagnetic immunity, Industrial environment)<br>**EN61010-1** (security) |

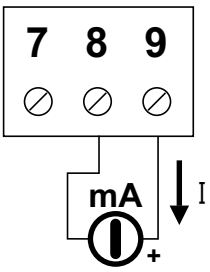
# ELECTRICAL CONNECTIONS

## *POWER*

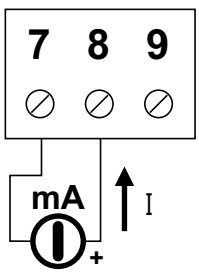



Power voltage must be between 10 and 40 V⎓ (indifferent polarity), 19 to 28 V∿ ; see also ***INSTALLATION NORMS.***
**Upper limits must not be exceeded, or the module could be seriously damaged.**
the power source must be protected from possible module failure by means of an appropriately sized fuse.

## *INPUT*




***ACTIVE INPUT***: use this for the two-wire connection of transducers. The transducer is directly powered by the Z109S-DI module 20V⎓, 20mA max., protected against short circuit.

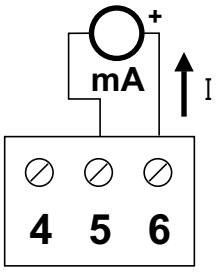



***PASSIVE INPUT*** : use this connection if the input current is external (external loop power supply).

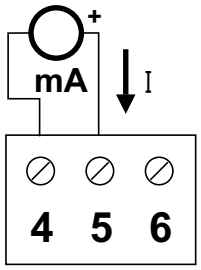


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## *OUTPUT*




***ACTIVE OUTPUT*** : use this connection when the output loop is to be powered directly from the Z109S-DI module.
The Z109S -DI module can supply a maximum load of 600 Ω, with loop power supply protected against short circuit.




***PASSIVE OUTPUT*** : use this connection in case of external current loop power supply

## *ELECTRICAL CONNECTIONS*

For signal connections please use shielded cables; the equipment cable shields must be connected to an instrumentation preferential ground.
It is also a good rule to avoid routing cables near power installation cables, such as for transformers, inverters, motors, induction ovens, etc.

## *HOW TO INSTALL*

Z109S-DI module is designed to be installed on a IEC EN 60715 bar, in a vertical position.
For correct operation and extended life, make sure that adequate ventilation is provided for the module. Do not place raceways or other objects in a way that might obstruct ventilation slots.
Do not install the module above equipment generating heat.
We recommend that the module is installed at the bottom of the cabinet.
We suggest you to install the module in the lower part of the cabinet.

## *HEAVY WORKING CONDITIONS:*

Heavy working conditions are:

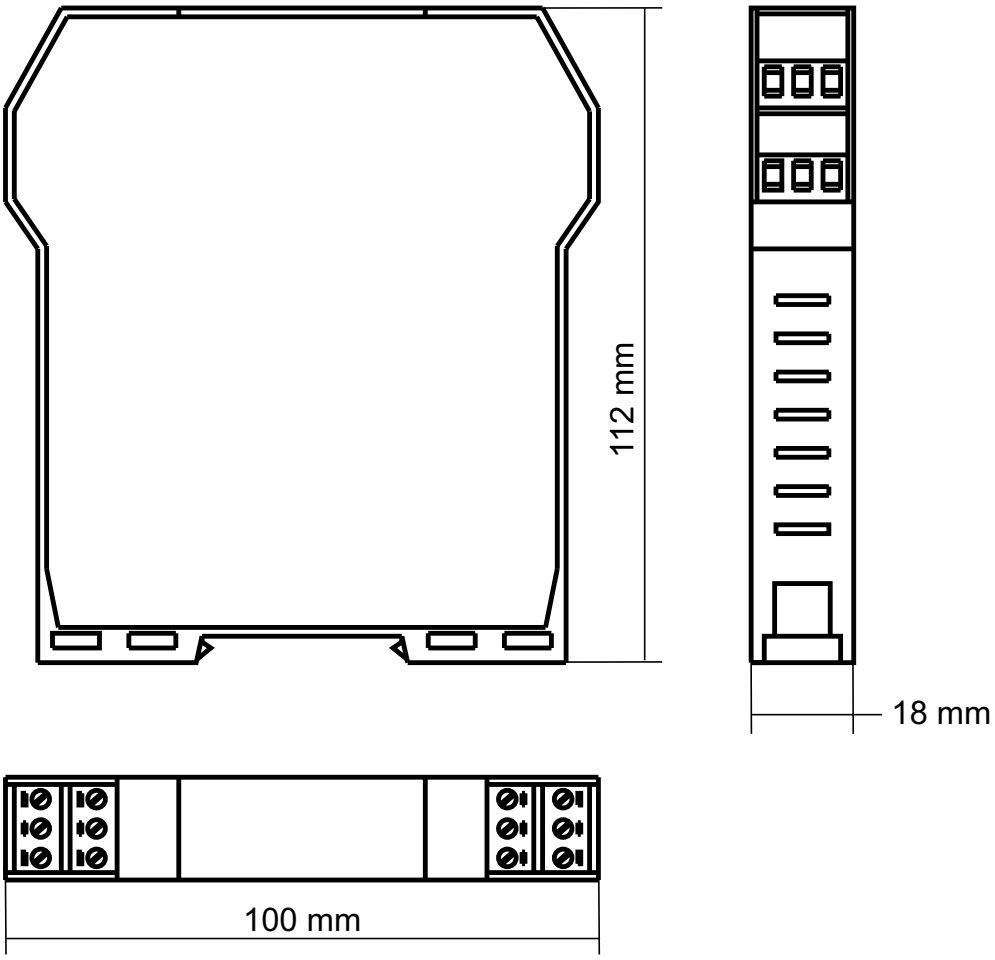
- *High power voltage ( > 30V⎓ / > 26 V∿ ).*
- *Input sensor supply.*
  *Use of output in impressed current.*

*For modules installed side by side, in the following cases* **a separation of at least 5 mm may be necessary**:

- Upper board temperature higher than 45°C and at least one of the heavy working conditions verified.
- Upper board temperature higher than 35°C and at least two of the heavy working temperature verified.



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This symbol found on your product or its packaging indicates that the product should not be disposed of as household waste, but handed over to an appropriate collection point for the disposal of electrical and electronic waste.

By ensuring correct disposal of this product you will help prevent possible negative consequences to the environment and human health.

For more detailed information about the recycling of this product, please contact your local city office, waste disposal service or the retail store where you purchased this product.

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**SENECA s.r.l.**
Via Austria, 26 - 35127 - PADOVA - ITALY
Tel. +39.049.8705355 - 8705359 - Fax +39.049.8706287
e-mail: info@seneca.it - www.seneca.it



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