INSTALLATION MANUAL

Z102

PRELIMINARY WARNINGS

The word **WARNING** preceded by the symbol ⚠ indicates conditions or actions that put the user's safety at risk.
The word **ATTENTION** preceded by the symbol ⚠ indicates conditions or actions that could damage the instrument or connected equipment.
The warranty shall become null and void in the event of improper use or tampering with the module or devices supplied by the manufacturer as necessary for its correct operation, and if the instructions contained in this manual are not followed.

	**WARNING**: The full content of this manual must be read before any operation. The module must only be used by qualified electricians. Specific documentation is available using the QR-CODE shown on page 1.
	The module must be repaired and damaged parts replaced by the Manufacturer. The product is sensitive to electro-static discharges. Take appropriate measures during any operation.
	Electrical and electronic waste disposal (applicable in the European Union and other countries with recycling). The symbol on the product or its packaging shows the product must be surrendered to a collection centre authorized to recycle electrical and electronic waste.

Z102
DOCUMENTATION

SENECA

QUALITY MANAGEMENT SYSTEM
ISO 9001:2015

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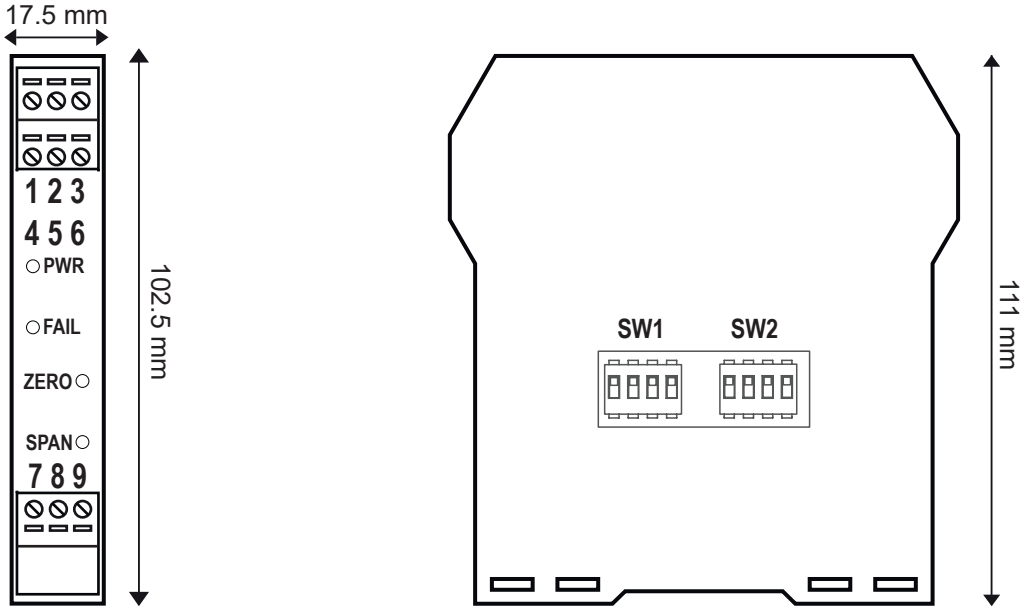
CONTACT INFORMATION

Technical support	supporto@seneca.it	Product information	commerciale@seneca.it

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MODULE LAYOUT



Dimensions LxHxD: 17.5 x 102.5 x 111 mm; **Weight**: 110 g; **Enclosure**: PA6, black

SIGNALS VIA LED ON FRONT PANEL

LED	STATUS	LED meaning
PWR	On	Device powered
	Off	Device not powered
FAIL	On	Input in error

TECHNICAL SPECIFICATIONS

CERTIFICATIONS	CE
POWER SUPPLY	Voltage: 10 ÷ 40Vdc; 19 ÷ 28Vac 50 ÷ 60Hz, Absorption: Max.: 2.0 W
INPUT	Resistor with rheostat connection (2 wires): fields 0 ÷ 300Ω (I = 6 mA), 0 ÷ 500Ω (I = 3.6 mA) and 0 ÷ 1KΩ (I = 1.8mA). Resistor with potentiometer connection (3 wires): 200Ω ÷ 1MΩ (Vref = 1.8 Vcc).
OUTPUT	Current 0..20 / 4..20 mA, max load resistance 600Ω. Voltage 0..5 V / 0..10 V / 1..5 V / 2..10 V, min load resistance 2000Ω.
ENVIRONMENTAL CONDITIONS	Operating temperature: from -25°C to +70°C Humidity: 10% ÷ 90% non condensing. Storage temperature: from -30°C to +85°C Protection rating: IP20
POWER SUPPLY/ OUTPUT PROTECTION	against impulse voltage overload 400W/ms.
PASS-BAND	15 Hz; Response time 10%-90%: 20ms
ERRORS RELATED TO THE INPUT MEASURING RANGE:	
FACTORY CALI-BRATION ERROR	For rheostat input: 0.3%; For potentiometer input: 1%.
THERMAL COEFFICIENT	0.02%/°C
LINEARITY ERROR	0.05%

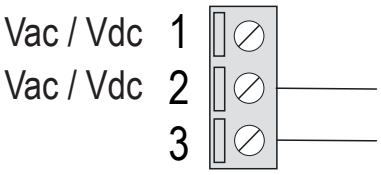
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ELECTRICAL CONNECTIONS

⚠ CAUTION

Switch the module off before connecting inputs and outputs.
To meet the electromagnetic immunity requirements:
- use shielded signal cables;
- connect the shield to a preferential instrumentation earth system;
- separate shielded cables from other cables used for power installations (transformers, inverters, motors, etc...).

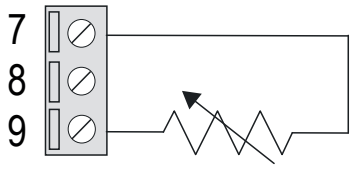
POWER SUPPLY



The upper power supply limits must not be exceeded, as this might cause serious damage to the module.
The power supply source must be protected from any failures in the module by means of a suitably sized fuse.

INPUTS

Rheostat connection (2 wires):



SW1

0 ÷ 300Ω			
1	2	3	4
■	■	■	■

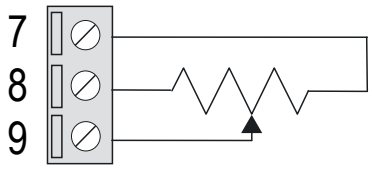
SW1

0 ÷ 500Ω			
1	2	3	4
□	■	■	■

SW1

0 ÷ 1KΩ			
1	2	3	4
□	□	■	■

Potentiometer connection (3 wires):
For potentiometer between 200Ω and 1MΩ



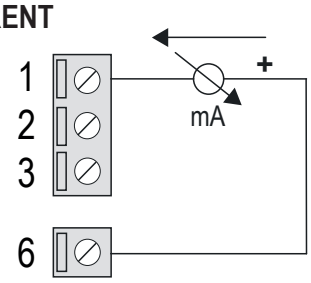
SW1

200Ω ÷ 1MΩ			
1	2	3	4
■	■	□	■

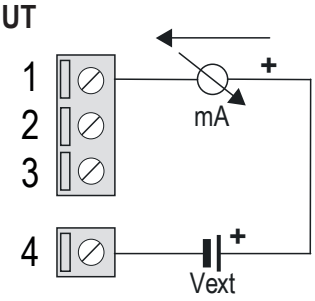
NOTE: DIP 4 of DIP-SWITCH SW1 is reserved for internal uses.

OUTPUTS

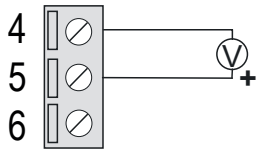
ACTIVE OUTPUT CURRENT



PASSIVE OUTPUT



VOLTAGE OUTPUT



For the current output, the **ACTIVE** connection must be used when the output loop must be powered directly by the module, while the **PASSIVE** connection must be used if the current loop supply comes from outside.
The module can drive a maximum load of 600Ω, on the loop, with loop power supply protected against short circuit.

SW2 DIP-SWITCH				
1	2	3	4	OUT
■	□	■	□	0 ÷ 5V
□	■	■	□	1 ÷ 5V
■	□	■	□	0 ÷ 10V
□	■	■	□	2 ÷ 10V
■	■	□	■	0 ÷ 20mA
□	□	□	□	4 ÷ 20mA

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INSTALLATION REGULATIONS

The module has been designed for vertical installation on a DIN 46277 rail. For optimal operation and long life, adequate ventilation must be provided. Avoid positioning ducting or other objects that obstruct the ventilation slots. Avoid mounting modules over heat-generating equipment. Installation in the bottom part of the electrical panel is recommended.

HARSH OPERATING CONDITIONS

The following constitute harsh operating conditions:

- High power supply voltage (> 30Vdc / > 26Vac).
- Sensor power supply at input.
- Using the impressed current output.

When the modules are mounted side by side it may be **necessary to separate them by at least 5 mm in the following cases**:

- Panel temperature above 45°C in at least one of the above harsh operating conditions.
- Panel temperature above 35°C in at least two of the above harsh operating conditions.

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