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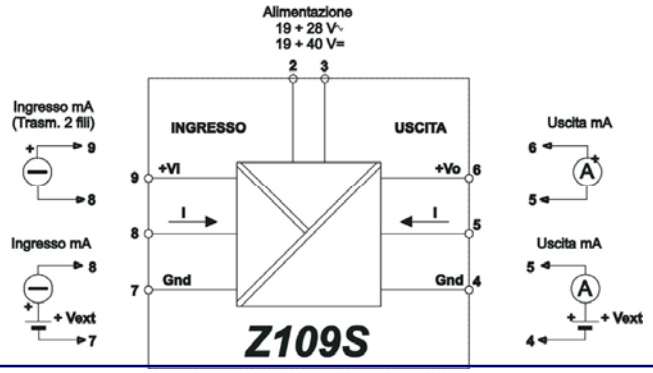
General Features

The Z109S module is designed to power any 0 or 4 to 20mA loop and to provide full three port isolation, ensuring the loop, the supply and the output signal are isolated from each other up to 1500Vdc.
Both the input and output loops can be connected as either “active” or “passive” giving the flexibility to match most field sensors to instruments while alleviating all the usual problems associated with unisolated signals. The module is fully CE compliant and the compact housing fits easily onto symmetrical DIN rail.

Schematic Diagram



Technical Specifications

Power Supply	9 - 40 Vdc / 19 - 28 Vac
Power Consumption	Max 2.5 W
Galvanic Isolation	Power // Input // Output : 1500 Vac
Linearity	Better than +/- 0,25%
Stability	Better than 200 ppM / °C
Response Time	30 ms
Input Impedance	20 ohm
Output loop impedance	0 - 600 ohm (current)
Operating Temperature	0 / + 50 °C
Storage Temperature	-20 / +70 °C
Humidity	30 / 90% @ +40 °C (non condensing)
Dimensions	17.5 x 100 x 112 mm (W x H x D)
Weight	200 g. approx
Connections	Plug in, screw terminals for 2.5mm² conductors (max)
Mounting	Symmetrical 35mm DIN rail (Top Hat section)
Case	Nylon 6, 30% fibreglass filled Self Extinguishing class V0

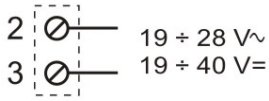
Installation

The Z109S module is designed to fit on standard symmetrical (top hat section) DIN Rail (DIN 46277), with the rail horizontal and the module vertical. For correct operation and instrument longevity the module must have adequate ventilation. Do not block the ventilation louvers on the case and take care when positioning cable ducting. It is recommended that the modules are not positioned above heat generating equipment and should be mounted in the lower areas of the control panel.

Electrical Connections

The use of screened cables is recommended for signals, with the screen connected to the instrument earth. It is good practice to segregate signal cables from power cables, particularly motors, inverter drives, thyristors, induction furnaces etc.

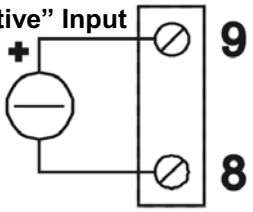
Power



Supply must be within the specified tolerance of 19 to 40 Vdc (not polarity conscious), or 19 to 28 Vac. **Failure to observe these precautions will result in serious damage to the instrument.**
The equipment must be protected by a suitably sized fuse.

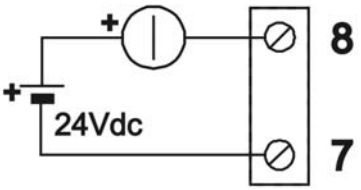
Connection for standard 2 wire transmitters, where the loop draws power from the Z109S. The power supply is 20Vdc stabilised with a maximum current of 20mA and is protected against accidental short circuit.

mA “Active” Input

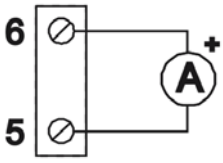


Connection for use when the current loop does NOT require power from the module (the loop power is externally supplied)

mA “Passive” Output



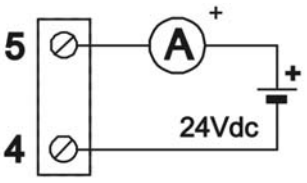
mA “Active” Output



Connection for use when the output current loop must be powered by the Z109S. Maximum load is 600Ω and the loop power supply is protected against accidental short circuit.

Connection for use when the output current loop does NOT require power from the module (the output loop power is externally supplied)

mA “Passive” Output



Example Application