

Z SERIES

Z109PT - Pt100 CONVERTER with galvanic separation

Instrument with galvanic separation used for converting a temperature signal from PT100 thermoprobe into a standard V-mA signal.

The instrument is provided with a three-point galvanic separation between input, output and power supply with 1500 Vac insulation and can therefore be positioned at a considerable distance if necessary (a few hundred metres) from the probe without running the risk of obtaining a measurement affected by the differences in potential or the disturbances present in the earthing circuit.

Input from PT100 thermoprobe with 2 or 3 wire connection, with three standard pre-set ranges: 0 - 100 °C, 0 - 200 °C and 0 - 400 °C which can be selected via two dip switches on the front panel. Possibility of calibration in customized ranges by means of internal ZERO and SPAN trimmers.

Output selectable via four dip switches for the following signals:
current 0 - 20 mA and 4 - 20 mA, with both active and passive connection and maximum load 600 ohm;
voltage 0 - 5 Vdc, 1 - 5 Vdc, 0 - 10 Vdc and 2 - 10 Vdc.

The "V0" self-extinguishing glass filled nylon case is the width of 1 DIN module and is designed to fit on 35 mm mounting rail (DIN 46277).



TECHNICAL DATA

- Power supply : 19 - 40 Vdc / 19 - 28 Vac
- Power consumption : max 2,5 W
- Galvanic separation supply // input // output : 1500 Vca
- Precision : greater than +/- 0,2%
- Linearity : greater than +/- 0,2%
- Stability : 200 ppM / °C
- Cable resistance interference : +/- 0,05% / ohm (3 wires - max. 10 ohm)
- Output impedance:
 - 0 - 600 ohm current loop impedance
 - load for voltage output > 2,5 Kohm
- Burn-out : positive, output > 20 mA
- Operating temp. : 0 / + 50 °C (see also [Installation information](#))
- Humidity : 30 / 90% a +40 °C (non-condensing)
- Dimensions (b x h x d) : 17,5 x 100 x 112 mm
- Weight : approx. 200 g.
- [Other general features](#)

ORDERING CODES

Code	Power supply
Z109PT	24 Vdc-ac

For more info please refer to the operating manual

Z-LINE Z109TC

Thermocouple Converter with galvanic isolation

Z-LINE

Temperature converters



- ▶ INPUT: Thermocouple type (J,K,R,S,T,B,E,N) with zero and span configurable by dip-switch
- ▶ OUTPUT:N.1 channel current 0..20, 4..20 mA voltage 0..5, 1..5, 0..10, 2..10 Vdc (scale inversion also)
- ▶ Galvanic isolation @ 3-way
- ▶ Screw-fit terminals removable
- ▶ Din rail mounting
- ▶ Power supply: 19..40 Vdc, 19..28 Vac

TECHNICAL DATA

Z109TC · Thermocouple converter



ELECTRICAL

Power Supply	19..40 Vdc, 19..28 Vac, 9..30 Vdc (opt.)
Power consumption	2.5 W, 1.6 W @ 24 Vdc
Isolation	Power supply // input // output 1.500 Vac
Protection	<ul style="list-style-type: none"> • 200 mA continuous current input • 60 V continuous other inputs • 400 W/ms output / supply (against pulse overvoltages)
Status indicators (LED)	<ul style="list-style-type: none"> • Power • Off scale or setting error
Installation category	II
Pollution degree	2
Protection degree	IP20
Connections	Plug-in screw clamp terminal blocks, up to 2.5 mm ²

THERMOMECHANICS

Operating temperature	0..+ 50°C
Humidity	0..90 % a +40°C (non condensing)
Dimensions	17.5 x 100 x 112 mm
Weight	140 g approx
Enclosure	V0 self-extinguish glass filled nylon case
Mounting	35 mm guide DIN 46277

ORDER CODES

Code	Description
Model Z109TC	Thermocouple converter, 19..40 Vdc / 19..28 Vac (option 9..30 Vdc)

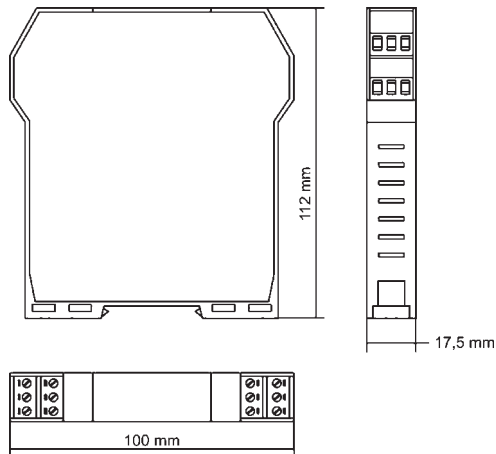
I/O SIGNALS AND MEASURE

Input	<ul style="list-style-type: none"> • Thermocouples: J: -200 / +1000°C, K: -200 / +1300 °C, R: 0/+1750°C, S: 0/+1750°C, T-200 / +400 °C, E-200 / +800 °C, B: 0 / +1800°C, N: -200 / +1300 °C • Resolution 5 µV • TC interrupt automatic detection
Output	<ul style="list-style-type: none"> • Current 0..20 / 4..20 mA, active or passive connection max load 600 Ω • Voltage 0..5 / 1..5 / 0..10 / 2..10 Vdc, load > 2,5 KΩ • Resolution 0,025% / 0.032%
Errors	<ul style="list-style-type: none"> • Precision: 0.2 %d.l. (0.1 %d.l. voltage output) • Linearity: 1°C, 3°C TCB oltre 600°C, 0.1 % voltage output • Thermal drift: 0.02 %/°C (+0.01 %/°C voltage output) • Cold junction compensation: 1.5°C (10-40 °C)
Samples	3 sample per second
Data memory	EEPROM for setup parameters, 10 years retention time

CONFIGURATION AND NORMS

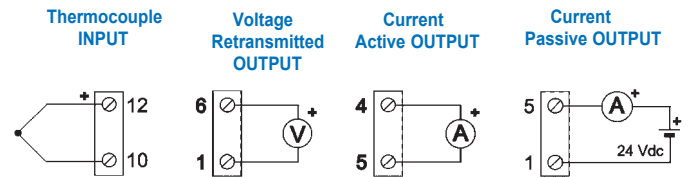
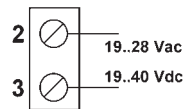
DIP switch	Span, output mode, TC type, input zero and span
CE norms	EN50081-2, EN50082-2, EN61010-1

DIMENSIONS

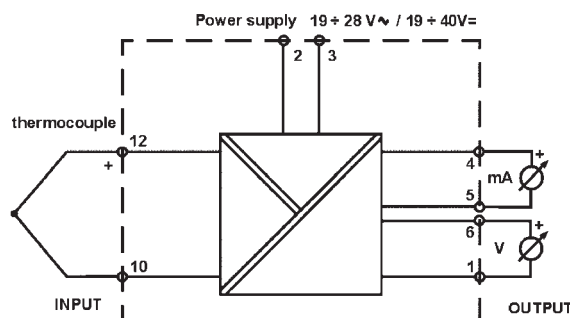


ELECTRICAL CONNECTIONS

Power Supply



CIRCUIT DIAGRAM



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