

D6072-109 SIL2 Sink-Out Temperature Converter for Term. Board

The Sink-Out Temperature Converter D6072-109 accepts a low level dc signal from millivolt, thermocouple or resistance/RTD or transmitting potentiometer sensor and converts, with isolation, the signal to drive a load, suitable for applications requiring SIL 2 level in safety related systems for high risk industries. Output signal can be direct or reverse. Modbus RTU RS-485 output is available on Bus connector. Cold junction compensation can be programmed as: Automatic: provided by an internal temperature sensor; Fixed: to a user-customizable temperature value; External: making use of an external RTD; Remote: (only D6072D-109) connecting compensation RTD to one of the two channels. For D6072D-109 module: duplicator function provides two independent outputs from one single input. Output function can be configured as: average, subtractor, low/high or redundancy selector. Modules are provided with alarm function. which is available via solid state contact output.

FEATURES

• SIL 2 / SC 3

- Installation in Zone 2
- Installation in Div. 2
- mV, TC, 2/3/4wire res./RTD or potentiometer input
- Duplication/inversion/scaling/custom output
- Selectable CJC: internal PT1000, external RTD or fixed
- Fastest integration time: 50 ms
- Burnout/internal/cjc/in sensor fault monitor
- Alarm output with user-settable trip points
- Modbus RTU RS-485 for monitor & configuration
- Fully programmable operating parameters
- High Accuracy, µP controlled A/D converter
- Three port isolation, Input/Output/Supply
- · High Density, two channels per unit

ORDERING INFORMATION

Ordering codes D6072S-109: 1 channel D6072D-109: 2 channels

Accessories

Programmable USB serial line Kit PPC5092 + SWC5090.

OVERALL DIMENSIONS



Functional Safety Management Certification: GM International is certified to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3. In addition, GM International products have been granted I.S certificates from the most credited Notified Bodies in the world.

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TECHNICAL DATA

Supply 24 Vdc nom (18 to 30 Vdc), reverse polarity protected. Current consumption: 50 mA (D6072D-109), 42 mA (D6072S-109), @ 24

Vdc with 20 mA output, typical. Power dissipation: 1.0 W (D6072D-109), 0.9 W (D6072S-109), @ 24 Vdc with 20 mA output, typical.

Input

Millivolt, thermocouple, 2-3-4 wire RTD or 3 wire transmitting potentiometer. Refer to Instruction Manual for more details. Integration time: from 50 ms to 500 ms. Input range: ±500 mV (TC/mV), 0-4 kΩ (RTD/res), up to 10 kΩ (pot). Thermocouple reference junction compensation: programmable:

internal Pt1000, fixed, external, or remote.

Output

Fully customizable 0/4 to 20 mA (sink mode), current limited @ 24 mA. External voltage generator range is V min. 3.5V @ 0Ω load and V max. 30V

Transfer characteristic: linear, direct or reverse on all input sensors. **Modbus interface**

Modbus RTU RS-485 up to 115.2 kbps for monitor/configuration/control.

Performance

Ref. Conditions: 24 V supply, 250 Ω load, 23 ± 1 °C ambient temperature, slow integration mode, 3/4-wires RTD. Input:

Calibration & linearity accuracy: refer to Instruction Manual. Temp. influence: refer to Instruction Manual.

Ref. junction compensation accuracy: $\leq \pm 1$ °C.

Out:

Calibration accuracy: ≤ ± 10 µA. Linearity accuracy: $\leq \pm 10 \ \mu A$.

Temp. influence: ≤ ±1 µA for a 1 °C change.

Isolation

In/Out 2.5 kV; In/Supply 2.5 kV; In/In 500 V; Out/Supply 500 V; Out/Out 500 V.

Environmental conditions

Operating temperature: temperature limits -40 to +70 °C. Storage temperature: temperature limits -45 to +80 °C.

Mounting

On custom Term. Board. Weight: about 135 g (D6072D-109), 130 g (D6072S-109). Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG) Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



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FSN

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