

D6273

SIL2 Temperature Converter & Trip Amplifier

The Temperature Converter & Trip Amplifier D6273 accepts a low level dc signal from millivolt, thermocouple or 2-3-4 wire RTD or transmitting potentiometer sensors, 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, using an internal temperature sensor or fixed to a user-customizable temperature value. D6273S offers two independent trip amplifiers via two SPDT output relays.

FEATURES

- SIL 2 / SC 3
- mV, TC, 2/3/4wire res./RTD or potentiometer input
- Two independent Trip Amplifiers (SPDT relay contacts)
- 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, μ P controlled A/D converter
- Three port isolation, Input/Output/Supply

ORDERING INFORMATION

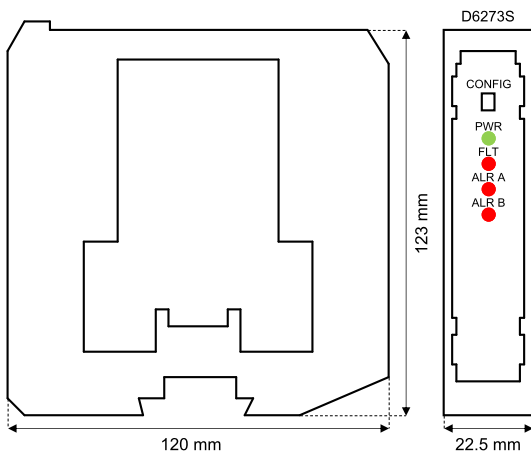
Ordering codes

D6273S: 1 channel

Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.
Programmable USB serial line Kit PPC5092 + SWC5090.

OVERALL DIMENSIONS



TECHNICAL DATA

Supply

24 Vdc nom (18 to 30 Vdc), reverse polarity protected.

Current consumption: 72 mA @ 24 Vdc with 20 mA out and relays energized, typical.

Power dissipation: 1.7 W @ 24 Vdc with 20 mA out and relays energized, 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 to +500 mV for TC/mV, 0-4 k Ω for resistance.

Output

0/4 to 20 mA, on max. 300 Ω load, current limited @ 24 mA.

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

Alarm

Trip point range: within rated limits of input sensor.

Output: two voltage free SPDT relay contacts.

Contact rating: 4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W (resistive load).

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 \pm 1 $^{\circ}$ C ambient temperature, slow integration speed, 4 wires configuration for RTD.

Input:

Calibration & linearity accuracy: refer to Instruction Manual.

Temp. influence: $\leq \pm 2 \mu$ V on mV/Tc, ± 20 m Ω on RTD

($\leq 300 \Omega$ @ 0 $^{\circ}$ C) or ± 200 m Ω on RTD (> 300 Ω @ 0 $^{\circ}$ C), ± 0.02 % on pot. for a 1 $^{\circ}$ C change.

Out:

Calibration accuracy: $\leq \pm 10 \mu$ A.

Linearity accuracy: $\leq \pm 10 \mu$ A.

Temp. influence: $\leq \pm 2 \mu$ A/ $^{\circ}$ C.

Isolation

In/Out 2.5 kV; In/Supply 2.5 kV; In/Alarms 2.5 kV; Out/Supply 500 V;
Out/Alarms 1.5 kV; Alarms/Supply 1.5 kV; Alarms/Alarms 1.5 kV.

Environmental conditions

Operating temperature: temperature limits -40 to +70 $^{\circ}$ C.

Storage temperature: temperature limits -45 to +80 $^{\circ}$ C.

Mounting

DIN-Rail 35 mm, with or without Power Bus.

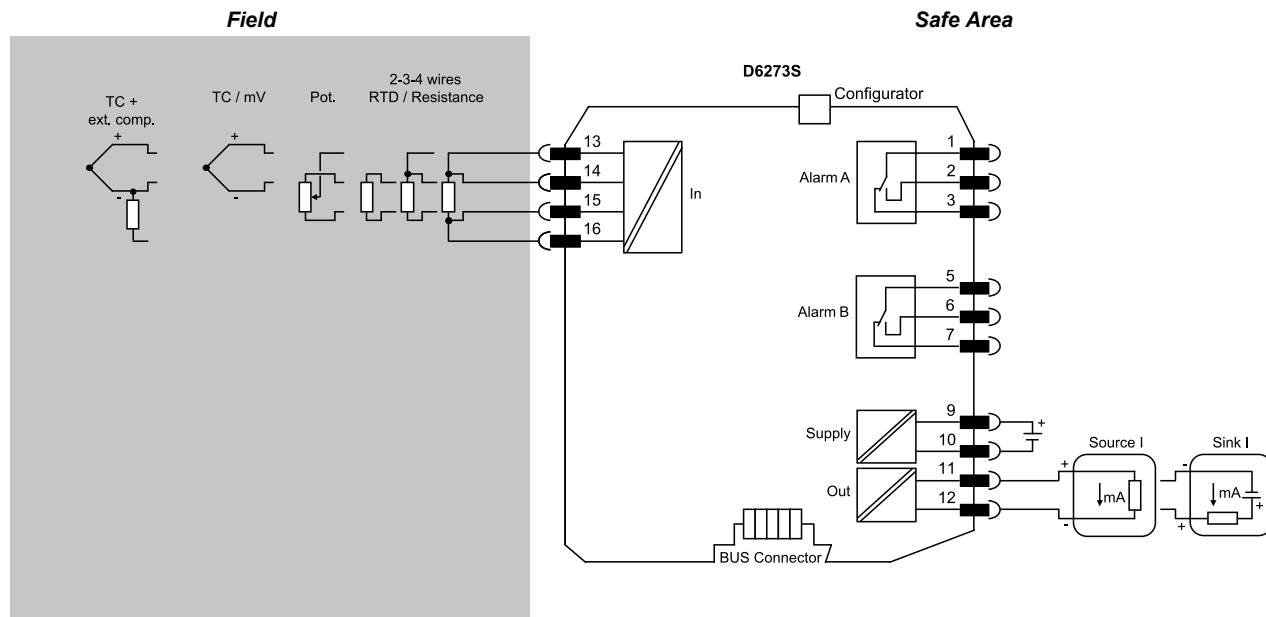
Weight: about 195 g.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).

Dimensions: Width 22.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



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.

Data specified in this document are merely descriptive of the products and should be integrated with relevant technical specifications. Our products are in constant development and the information presented herein refers to the time of document issue. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. Terms & Conditions can be found at our website. For more information refer to instruction manual.