

D6273

SIL2 Temperature Converter & Trip Amplifier

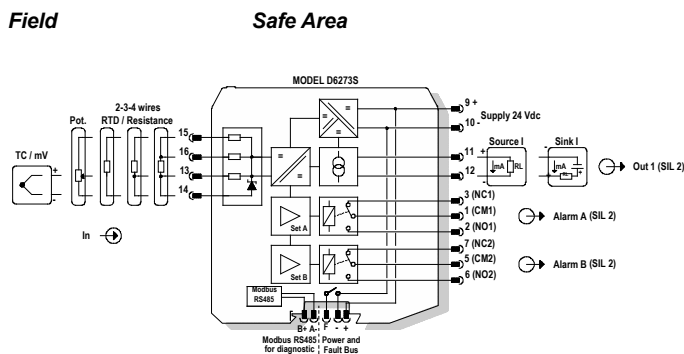
The Temperature Converter & Trip Amplifier D6273 accepts a low level dc signal from millivolt, thermocouple or 2-3-4 wire RTD or transmitting potentiometer sensors, and converts, with isolation, the signal to drive a load, suitable for applications requiring SIL 2 level in safety related systems for high risk industries. Output signal can be direct or reverse. Output function can be configured as: Adder, subtractor, low/high selector. 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
- mV, TC, 2/3/4 wire res./RTD or potentiometer input
- Two independent Trip Amplifiers (SPDT relay contacts)
- 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, μ P controlled A/D converter
- Three port isolation, Input/Output/Supply
- High Density, two channels per unit

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



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.

Input Temp. influence: $\leq \pm 2 \mu$ V on mV/Tc, $\pm 20 \text{ m}\Omega$ on RTD ($\leq 300 \Omega @ 0^{\circ}\text{C}$) or $\pm 200 \text{ m}\Omega$ on RTD ($> 300 \Omega @ 0^{\circ}\text{C}$), $\pm 0.02 \%$ on pot. for a 1 $^{\circ}$ C change.

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

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

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

Isolation

In/Outs 1.5 kV; In/Supply 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 120 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.

ORDERING INFORMATION

D6273S: 1 channel

Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.

Programmable USB serial line Kit PPC5092 + SWC5090.