Features

- SIL 2 / SC 3
- Input from Zone 0
- Installation in Zone 2
- 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, µP controlled A/D converter
- Three port isolation, Input/Output/Supply

1CH I.S. SIL2 Temperature Converter & Trip Amplifier

RS Stock No.: 329096

RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Product Description

This module accepts a low level dc signal from millivolt, thermocouple or 2-3-4 wire RTD or transmitting potentiometer sensors, located in Hazardous Area, and converts, with isolation, the signal to drive a Safe Area 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. 329096 offers two independent trip amplifiers via two SPDT output relays.

General Specifications

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 kΩ 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
Alarm 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
Input calibration & linearity accuracy	Refer to the Instruction Manual
Temperature influence	≤ ± 2 µV on mV/Tc, ± 20 mΩ on RTD (≤ 300 Ω @ 0°C) or ± 200 mΩ on RTD (> 300 Ω @ 0°C), ± 0.02 % on pot. for a 1 °C change
Output calibration accuracy	≤ ± 10 µA
Output linearity accuracy	≤ ± 10 µA
Temperature influence	≤ ± 2 µA/°C

Mechanical Specifications

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
Mounting	DIN-Rail 35 mm, with/without Power Bus

Electrical Specifications

Supply	24 Vdc nom (18 to 30 Vdc), reverse polarity protected
Current consumption	72 mA, @ 24 Vdc with 20 mA output and relays energized, typical
Power dissipation	1.7 W, @ 24 Vdc with 20 mA output and relays energized, typical
Isolation	I.S. In/Out 2.5 kV; I.S. In/Supply 2.5 kV; I.S. In/Alarms 2.5 kV; Out/Supply 500V; Out/Alarms 1.5 kV; Alarms/Supply 1.5 kV; Alarms/Alarms 1.5 kV

Operation Environment Specifications

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

Intrinsic Safety Data

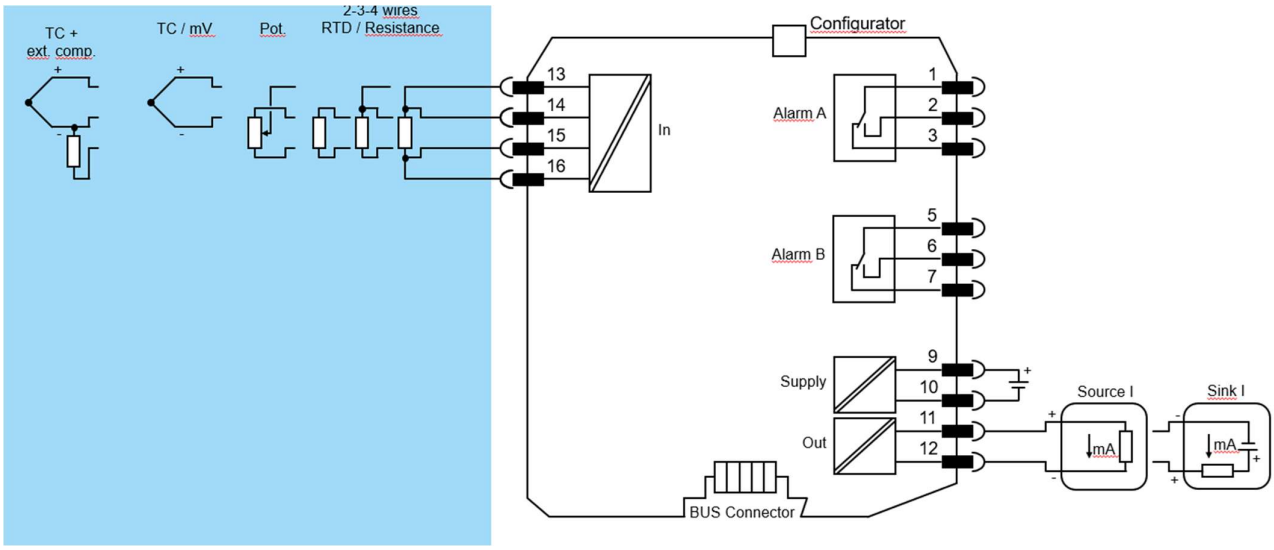
IS Description	Associated apparatus and non-sparking electrical equipment. Uo = 7.2 V, Io = 23 mA, Po = 40 mW (terminals 13-14-15-16) Um = 250 Vrms or Vdc, -40 °C ≤ Ta ≤ 70 °C

Approvals

Declarations	EU Declaration of Conformity
Hazardous Area Certification	ATEX / IECEx
Functional Safety	SIL Manufacturer Declaration

Accessories

325642	Bus Connector
329103	Bus Mounting Kit
329097	USB configurator


TC +
ext. comp.
TC / mV
Pot.
2-3-4 wires
RTD / Resistance
13
14
15
16
In
Configurator
Alarm A
1
2
3
Alarm B
5
6
7
Supply
9
10
Out
11
12
BUS Connector
Source I
Sink I
mA
mA