

D5263

I.S. SIL2 Load Cell/Strain Gauge Bridge Repeater

The Load Cell/Strain Gauge Bridge Repeater D5263 module is a unit suitable for applications requiring SIL 2 level in safety related systems for high risk industries. The unit acts as a transparent galvanic isolated interface installed between a weighing indicator in Safe Area and a load cell (or group of load cells) in Hazardous Area; it appears at the terminals of the indicator as a single load cell equivalent to the one in the field. It provides a fully floating power supply voltage with remote sensing capability to load cell located in Hazardous Area and repeats, while isolating, the mV signal output to drive a load in Safe Area depending on the host system reference voltage. Up to four 350 Ω load cells, or five 450 Ω load cells, or ten 1000 Ω load cells can be connected in parallel. The Voltage reference (Safe Area side) is set as an external supply.

FEATURES

- SIL 2 / SC 3
- Input from Zone 0/Div. 1
- Installation in Zone 2/Div. 2
- Strain Gauge Bridge Transparent Repeater
- Up to four 350 Ω load cells in parallel
- High Accuracy
- Three port isolation, Input/Output/Supply

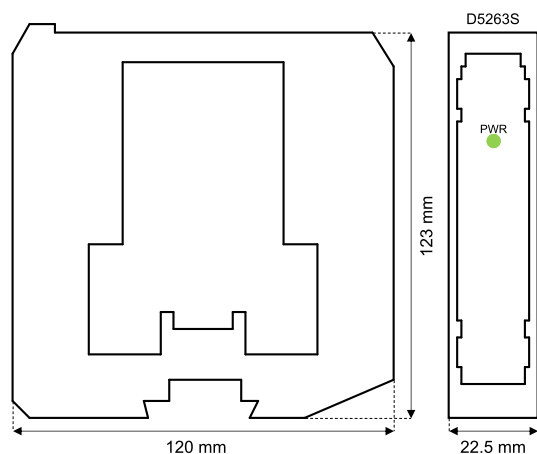
ORDERING INFORMATION

Ordering codes
D5263S: 1 channel

Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.

OVERALL DIMENSIONS



TECHNICAL DATA

Supply

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

Current consumption: 75 mA @ 24 Vdc with four 350 Ω load cells connected, typical.

Power dissipation: 1.8 W @ 24 Vdc with four 350 Ω load cells connected, typical.

Input

Up to four 350 Ω load cells in parallel or up to five 450 Ω load cells in parallel or up to ten 1000 Ω load cells in parallel.

Integration time: 12.5 ms.

Bridge supply voltage: 4.0 Vdc nominal.

Bridge output signal: 1 to 4 mV/V.

Output

Same as the input signal.

Output impedance: 500 Ω , typical.

Excitation voltage: externally applied between 4 V and 15 V.

Transfer characteristic: linear.

Response time: ≤ 20 ms (10 to 90 % step change).

Performance

Ref. Conditions: 24 V supply, 23 ± 1 °C ambient temperature.

Calibration accuracy: $\leq \pm 0.003$ % input FSR, after system calibration.

Linearity accuracy: $\leq \pm 0.002$ % input FSR.

Temp. influence: $\leq \pm 0.002$ % input FSR for a 1 °C change.

Isolation

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

Environmental conditions

Operating temperature: temperature limits -40 to $+70$ °C.

Storage temperature: temperature limits -45 to $+80$ °C.

Safety Description

Associated apparatus and non-sparking electrical equipment.

$U_o = 7.2$ V, $I_o = 177$ mA, $P_o = 471$ mW at terminals 13-14-15-16-17-18.

$U_m = 250$ Vrms or Vdc, -40 °C $\leq T_a \leq 70$ °C.

Mounting

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

Weight: about 165 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.

