

D5263

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

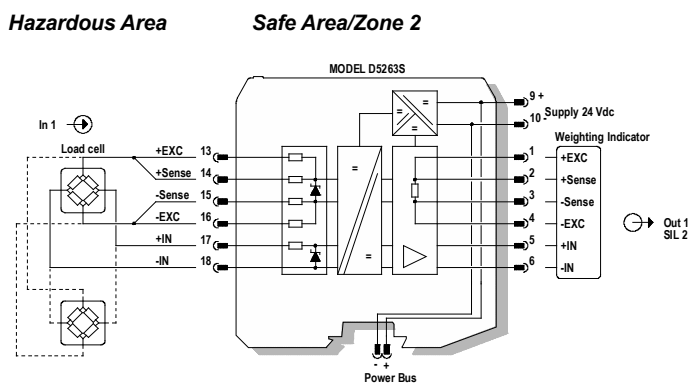
The Load Cell/Strain Gauge Bridge Repeater D5263 module is a unit suitable for applications requiring SIL 2 level in safety related systems for high risk industries. The unit acts as a transparent galvanic isolated interface installed between a weighing indicator in Safe Area and a load cell (or group 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 (pending)
- Input from Zone 0
- Installation in Zone 2
- Strain Gauge Bridge Transparent Repeater
- Up to four 350 Ω load cells in parallel
- High Accuracy
- Three port isolation, Input/Output/Supply

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: 85 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: ≤ 100 ms (10 to 90 % step change).

Performance

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

Calibration accuracy: ≤ ± 0.003 % FSR of input range, after system calibration.

Linearity accuracy: ≤ ± 0.002 % FSR of input range.

Temp. influence: ≤ ± 0.002 % FSR of input range for a 1 °C change.

Isolation

I.S. In / Out 1.5 kV; I.S. In / Supply 1.5 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 ≤ T_a ≤ 70 °C.

Mounting

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

Weight: about 130 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

D5263S: 1 channel

Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.