

# D5264

## I.S. SIL2 Load Cell/Strain Gauge Bridge Converter

The Load Cell/Strain Gauge Bridge Converter D5264 module is a unit suitable for applications requiring SIL 2 level in safety related systems for high risk industries. The unit acts as a galvanically isolated interface installed between a PLC/DCS in Safe Area and a load cell (or a group of load cells) in Hazardous Area. Up to four 350 Ω load cells, or five 450 Ω load cells, or ten 1000 Ω load cells can be connected in parallel. It provides a fully floating power supply voltage with remote sensing capabilities to load cells located in Hazardous Area and converts the mV signal from the load cell into a 0/4-20 mA, providing both current source and sink capabilities. The module is also provided with PhotoMOS alarm output. A modbus output is also provided to interface the PLC/DCS using digital communication.

### FEATURES

- SIL 2 / SC 3
- Input from Zone 0
- Installation in Zone 2
- Strain Gauge Bridge Isolated Converter
- Up to four 350 Ω load cells in parallel
- 0/4-20 mA sink/source output current
- Modbus RTU RS-485 for monitor & configuration
- Field Automatic Calibration
- Fully programmable operating parameters
- High Accuracy, μP controlled A/D converter
- Three port isolation, Input/Output/Supply

### ORDERING INFORMATION

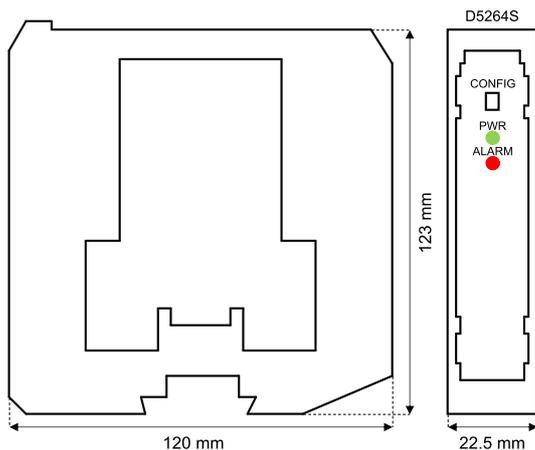
#### Ordering codes

D5264S: 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:** 90 mA @ 24 Vdc with four 350 Ω load cells connected and 20 mA output, typical.

**Power dissipation:** 2.1 W @ 24 Vdc with four 350 Ω load cells connected and 20 mA output, typical.

#### Input

Up to four 350 Ω load cells (parallel connection), up to five 450 Ω load cells (parallel connection), up to ten 1000 Ω load cells (parallel connection).

**Integration time:** 100 ms (slow) or 12.5 ms (fast).

**Bridge supply voltage:** 4.0 Vdc nominal.

**Bridge output signal:** 1 to 4 mV/V.

#### Output

0/4 to 20 mA, on max. 400 Ω load, current limited @ 24 mA.

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

#### Alarm

**Trip point range:** within rated limits of the input sensor.

**ON-OFF delay time:** 0 to 1000 s, 100 ms step.

**Hysteresis:** within rated limits of input sensor.

**Output:** voltage free SPST photoMOS: 100 mA, 60 Vdc (≤ 1 V drop).

#### 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 ± 1 °C ambient temperature.

#### Input:

**Calibration accuracy:** ≤ ± 0.05 % FSR.

**Linearity accuracy:** ≤ ± 0.02 % FSR.

**Temp. influence:** ≤ ± 0.002 % FSR for a 1 °C change.

#### Out:

**Calibration accuracy:** ≤ ± 0.05 % FS.

**Linearity accuracy:** ≤ ± 0.05 % FS.

**Temp. influence:** ≤ ± 0.01 % FS on zero/span for a 1 °C change.

#### Isolation

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

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

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

#### Mounting

DIN-Rail 35 mm, with or without Power Bus or on custom Term. Board.

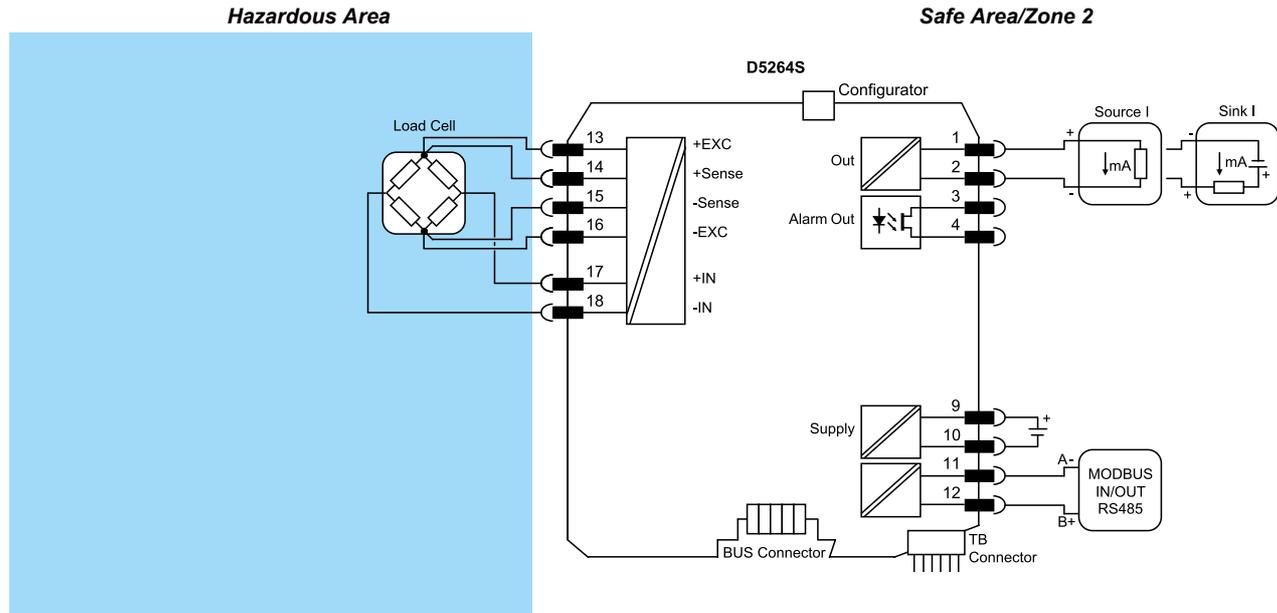
**Weight:** about 160 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (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.

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