

D5062

I.S. SIL2 Vibration Transducer Interface

The Vibration Transducer Interface D5062S is a high integrity analog input interface suitable for applications requiring SIL 2 level in safety related systems for high risk industries. It provides a fully floating dc supply for energizing vibration transducers, accelerometers or 2-3 wires sensors located in Hazardous Area, and repeats the sensor input voltage in a totally isolated circuit located in Safe Area to drive vibration monitors or analyzers for rotating machinery control and supervision purposes.

FEATURES

- SIL 2 / SC 3
- Input from Zone 0/Div. 1
- Installation in Zone 2/Div. 2
- 0 to -20 V Input/Output Signal
- Wide band signal transfer
- Input and Output short circuit proof
- In-field programmability by DIP Switch
- High Accuracy
- Three port isolation, Input/Output/Supply

ORDERING INFORMATION

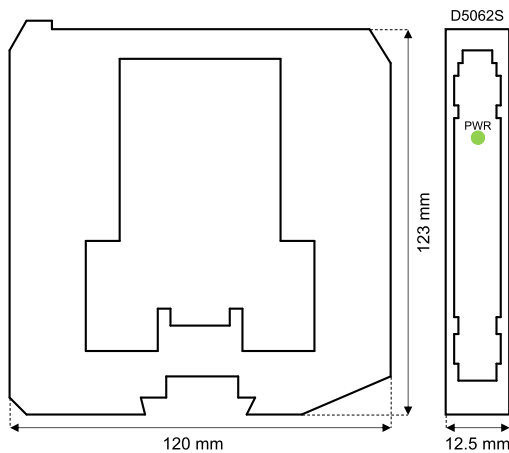
Ordering codes

D5062S: 1 channel

Accessories

Bus Connector JDFT049, Bus Mounting Kit OPT5096.

OVERALL DIMENSIONS



TECHNICAL DATA

Supply

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

Current consumption: 90 mA @ 24 Vdc with 20 mA transducer consumption and 2 mA output load, typical.

Power dissipation: 2.0 W @ 24 Vdc with 20 mA transducer consumption and 2 mA output load, typical.

Input

0 V to -20 V (10 kΩ impedance at terminals 7-8 or 8-9).

3 wires sensor supply voltage: more than -22 V @ 0 mA supply, more than -17 V @ 15 mA supply (current limited @ ≈ 23 mA).

2 wires sensor supply voltage: more than -17 V with constant current supply.

2 wires sensor supply current: selectable @ 4 mA, 6 mA or 10 mA via internal DIP-Switch.

Output

0 to -20 V on 10 kΩ load, with 10 Ω output resistance.

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

Frequency response: DC to 20 kHz within 1 dB maximum.

Performance

Ref. Conditions: 24 V supply, 10 kΩ load, 23 ± 1 °C ambient temperature.

Calibration accuracy: ≤ ± 0.1 % FSR.

Linearity accuracy: ≤ ± 0.05 % FSR.

Temp. influence: ≤ ± 0.005 % on zero/span 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.

$U_o = 27$ V, $I_o = 90$ mA, $P_o = 576$ mW at terminals 7-8-9-10.

$U_i = 30$ V, $C_i = 0$ nF, $L_i = 0$ nH at terminals 7-8-9.

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

Mounting

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

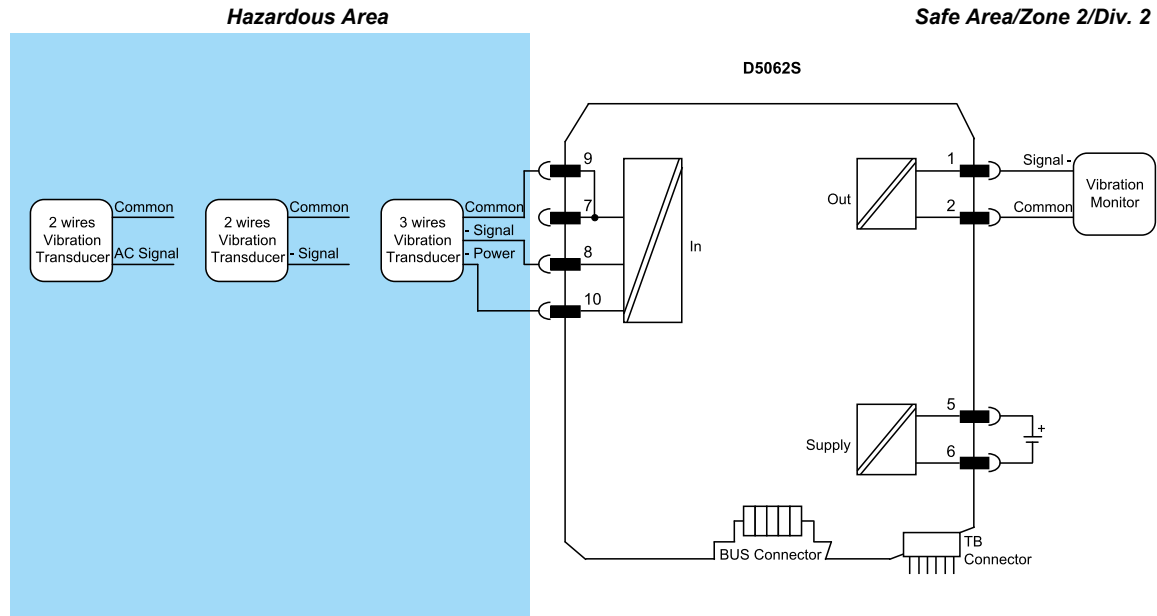
Weight: about 125 g.

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).

Dimensions: Width 12.5 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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