

# 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

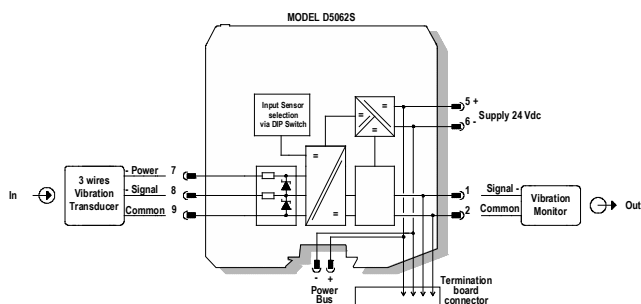
- SIL 2 / SC 3
- Input from Zone 0/Div. 1
- Installation in Zone 2/Div. 2
- 0 to -20 V Input/Output Signal
- Wide band signal transfer
- Input and Output short circuit proof
- In-field programmability by DIP Switch
- High Accuracy
- Three port isolation, Input/Output/Supply

### FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

**Hazardous Area**

**Safe Area/Zone 2/Div. 2**



### TECHNICAL DATA

#### Supply

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

**Current consumption:** 75 mA @ 24 Vdc with 20 mA transducer consumption and 2 mA output load, typical.

**Power dissipation:** 1.3 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 ms (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:** ≤ ± 0.05 % 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<sub>o</sub> = 25.9 V, I<sub>o</sub> = 90 mA, P<sub>o</sub> = 576 mW at terminals 7-8-9-10.

U<sub>i</sub> = 30 V, C<sub>i</sub> = 0 nF, L<sub>i</sub> = 0 nH at terminals 7-8-9.

U<sub>m</sub> = 250 Vrms or Vdc, -40 °C ≤ T<sub>a</sub> ≤ 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 mm<sup>2</sup> (13 AWG).

**Dimensions:** Width 12.5 mm, Depth 123 mm, Height 120 mm.

### ORDERING INFORMATION

D5062S: 1 channel

#### Accessories

Bus Connector JDFT049, Bus Mounting Kit OPT5096.