



4-160-1001

Accelerometer, Top Exit



Applications

- **Light Industrial**
- **Gear Boxes**
- **Motors**
- **Roll & Process Equipment**
- **Pumps**

Features

- **Two-wire, Current Driven**
- **Hermetically Sealed**
- **Electrically Isolated**
- **Single-Point Mounting**
- **Integral Cable Option**

Description

The 4-160-1001 basic top exit accelerometer is intended to satisfy the general requirements for a low cost vibration transducer for use in multipoint experimental or light industrial vibration monitoring applications.

The two-wire current loop operating principle permits very long interconnecting cables to be used where necessary and at minimum expense since standard screened pair (or multi-pair) cables may be used.

The piezoelectric sensor and amplifier are contained within an inner metal enclosure which is electrically and thermally insulated from the outer stainless steel body. This arrangement prevents ground loops and minimizes the effects

of thermal shocks and base strain. The inner enclosure is connected to the 0V of the two-wire system and is therefore an effective electrical screen. External connections are made via a top exit integral cable or electrical connector.

The transducer is mounted by means of a single threaded hole in the base of the cylindrical body, this being intended to accept a mounting stud of the standard (non-insulating) type.



4-160-1001 Accelerometer, Top Exit

Performance Specifications

Operation Voltage/Current:	18 to 28 VDC constant current source of 2-10 mA
Output Signal:	100 mV/g $\pm 10\%$
Dynamic Range:	± 50 g, peak
Frequency Range:	2.5 Hz to 4 kHz ($\pm 5\%$) 2 Hz to 10 kHz ($\pm 10\%$) 0.5 Hz to 15 kHz (± 3 dB)
Transverse Sensitivity:	Less than 5%
Amplitude Linearity:	$\pm 1\%$ or better
Temperature Sensitivity:	Less than 5% to $+250^\circ\text{F}$ ($+121^\circ\text{C}$)
Residual Electrical Noise:	Less than $20 \mu\text{g}/\sqrt{\text{Hz}}$ (2 Hz to 23 kHz)
Case Isolation:	$>10^8 \Omega$
Output Impedance, Max.:	$< 100 \Omega$

Environmental

Acceleration Limit

Vibration:	± 50 g, peak
Shock:	5,000 g, peak

Temperature

Operational:	-58°F to $+250^\circ\text{F}$ (-50°C to $+121^\circ\text{C}$)
Storage:	-67°F to $+302^\circ\text{F}$ (-55°C to $+150^\circ\text{C}$)

Environmental Sealing: Sealed to IP68

Mechanical

Resonant Frequency:	23 kHz
Mounting:	1/4-28 stud
Mounting Torque:	2 to 5 ft. lbs.
Weight:	3.2 oz. without cable
Case Material:	316L stainless steel

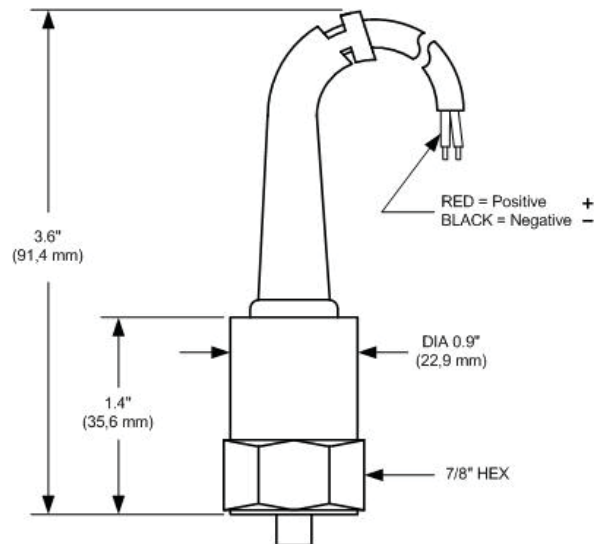
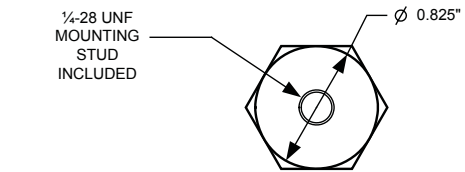
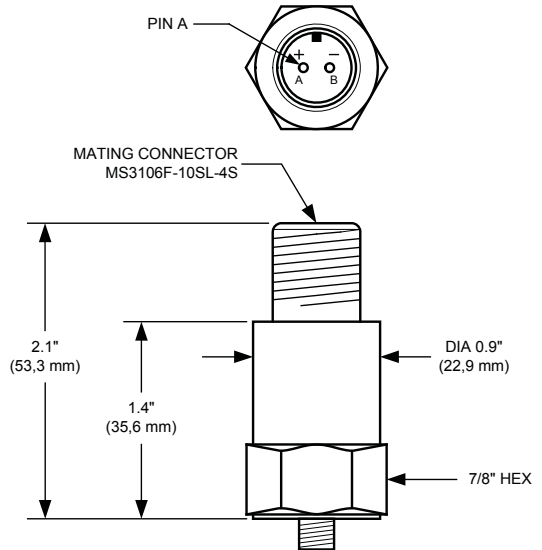
Optional Accessories

1. Mating Connector P/N 619571-1004
2. Cable assembly P/N 780400-91-XXXX (XXXX indicates length in inches e.g.: 10 ft cable = 120 inches is P/N 780400-91-0120). Assembly includes mating connector to prepared wire.

Ordering Information

Mating connectors and cable assemblies are not furnished and must be ordered separately. In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice. See table for type numbers and available configurations.

NOTE: For submersed applications down to 100 ft., use model 4-160-2001-0X.



Type	Connection
4-160-1001	Top Connector
4-160-2001-01	Integral 10 ft. cable
4-160-2001-02	Integral 30 ft. cable
4-160-2001-03	Integral 50 ft. cable
4-160-2001-04	Integral 100 ft. cable