

4-160 Series Accelerometer

Applications

- Light Industrial
- Multi Point Experimental
- Gear Boxes, Fans, Motors
- Generators
- Bearing Housing
- Compressors, Pumps



Features

- Two Wire Current Driven
- Internal Amplifier
- Hermetically Sealed
- Internal Shielded
- Electrical Isolation, Thermal Isolation
- Stainless Steel Body
- Single Point Mounting

Description

The 4-160 accelerometer is intended to satisfy the general specification 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-isolating) type.

4-160 Specifications

Operating Voltage/Current:	18 to 28 VDC constant current source of 2.2mA to 10mA
Output Signal:	100mV/g ± 5 superimposed on 12 VDC $\pm 10\%$
Dynamic Range:	Up to 70 g peak (at 24 VDC input)
Frequency Range:	3 Hz to 11 kHz (3dB points) 4 Hz to 9 kHz (better than ± 1 dB)
Transverse Sensitivity:	Less than 5%
Amplitude Linearity:	$\pm 1\%$ or better
Temperature Sensitivity:	Less than 5% up to $+120^{\circ}\text{C}$ ($+248^{\circ}\text{F}$) 1% per 25°C over range of -30°C to $+90^{\circ}\text{C}$ (-22°F to $+194^{\circ}\text{F}$)
Residual Electrical Noise:	Less than 0.2 mg (10 Hz to 9 kHz)
Signal Transmission:	2-wire system, electrical isolated from body up to 500 VAC

Environmental

Acceleration Limit:	
Vibration:	200 g Pk @ 120 Hz for 10 mins
Shock:	500 g half sine without connector
Temperature:	
Operational	-30°C to $+125^{\circ}\text{C}$ (-22°F to $+257^{\circ}\text{F}$)
Storage	-55°C to $+150^{\circ}\text{C}$ (-67°F to $+302^{\circ}\text{F}$)
Humidity:	Sealed to IP67

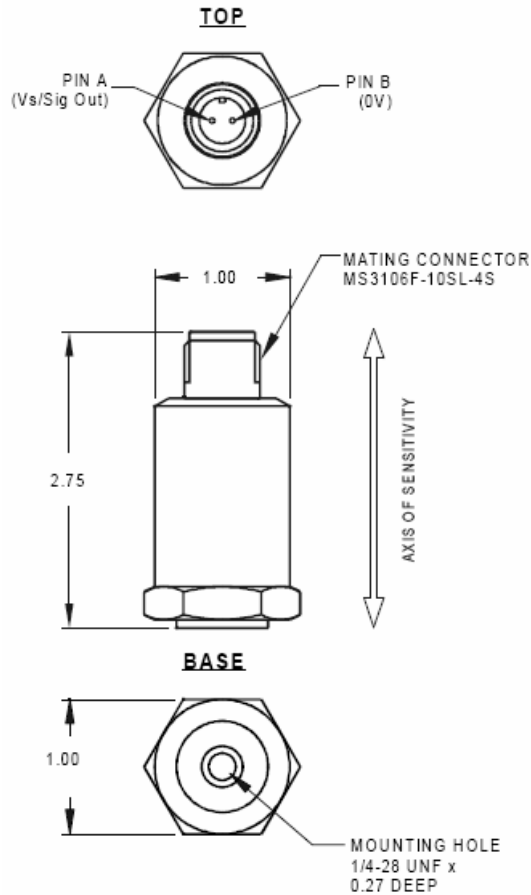


TABLE 1

TYPE	SENSITIVITY	CONFIGURATION
4-160-1001	100 mV/g	2-Pin Integral Connector
4-160-2001	100 mV/g	Integral 6 Foot Cable
4-160-1002	450 mV/g	2-Pin Integral Connector
4-160-1005	500 mV/g	2-Pin Integral Connector

Optional Accessories

1. Mating connector P/N 619571-1004.
2. Cable assembly P/N 780152-00-XXXX (XXXX indicates length in inches e.g.; 10 ft. cable = 120 inches is P/N 780152-00-0120). Assembly includes mating connector to prepared wire.

Ordering Information:

Mating connectors and cable assemblies are not furnished and must be ordered separately. Other configurations and sensitivities are available (See Table 1). In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.