



# 4-160-5002

Accelerometers

## Accelerometer, Hazardous Locations



### Applications

- **Light Industrial**
- **Gear Boxes**
- **Motors**
- **Bearing Housing**
- **Pumps**

### Features

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

### Description

The 4-160-5002 top exit accelerometer is designed for use in hazardous locations. Ideal for use in multi-point experimental or light industrial vibration monitoring applications where an hazardous atmosphere may be present.

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.



# 4-160-5002 Accelerometer, Top Exit For Hazardous Locations

## Performance Specifications

<b>Operation Voltage/Current:</b>	18 to 28 VDC constant current source of 2-4 mA
<b>Output Signal:</b>	100 mV/g $\pm 10\%$
<b>Dynamic Range:</b>	$\pm 50g$ peak
<b>Frequency Range:</b>	2 Hz to 4 kHz ( $\pm 5\%$ ) 1 Hz to 10 kHz ( $\pm 10\%$ ) 0.5 Hz to 15 kHz ( $\pm 3$ dB)
<b>Transverse Sensitivity:</b>	Less than 5%
<b>Amplitude Linearity:</b>	$\pm 1\%$ or better
<b>Temperature Sensitivity:</b>	Less than 5% up to +250°F (+121°C)
<b>Residual Electrical Noise:</b>	Less than 0.1 mg (2Hz to 22 kHz)
<b>Signal Transmission:</b>	2 wire system, electrically isolated from body up to 500 VAC
<b>Output Impedance, Max.:</b>	< 100 $\Omega$

## Environmental

<b>Acceleration Limit</b>	
<b>Vibration:</b>	$\pm 50$ g peak
<b>Shock:</b>	500 g half sine without connector
<b>Temperature</b>	
<b>Operational:</b>	-50°F to +250°F (-50°C to +121°C)
<b>Storage:</b>	-67°F to +302°F (-55°C to +150°C)
<b>Environmental Sealing:</b>	Sealed to IP67

## Mechanical

<b>Resonant Frequency:</b>	23kHz
<b>Mounting:</b>	1/4-28 captive bolt
<b>Mounting Torque:</b>	2 to 5 ft. lbs.
<b>Weight:</b>	3.0 oz. without cable

## 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 on the right for type numbers and available configurations.

## Approvals

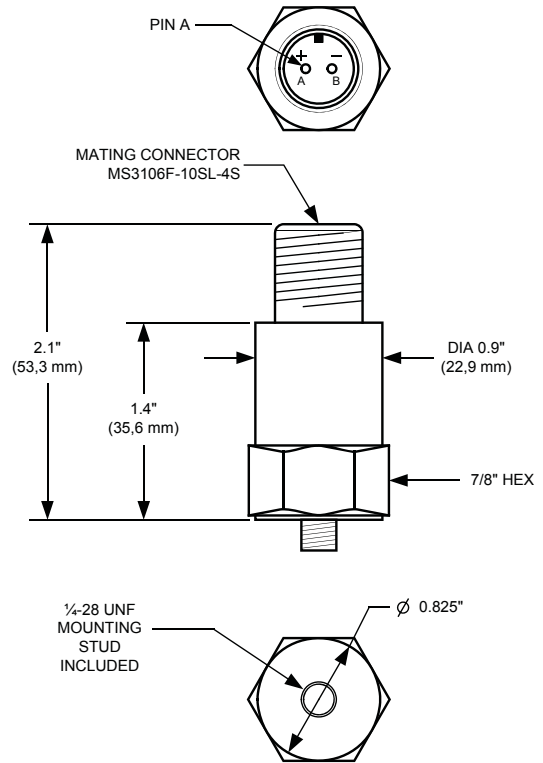


### North America

Class I Division 2, Groups A,B,C,D  
Class II Division 2, Groups F,G Class III  
Temp code: T3 @ Ta = -54°C to + 125°C

### European

AEx na IIC, Zone 2  
Ex nA IIC, Zone 2



<u>Type</u>	<u>Connection</u>
4-160-5002	Top Exit Connector