

# CM-P Precision Accelerometer

Precision Accelerometer, Industrial, Ceramic Shear IEPE Side Exit

### Features

Our line of precision accelerometers with AC voltage output is designed for use with all types of data collectors, online analysis systems and TSI.

### Protecting

Fans, Motors, Pumps, Compressors, Centrifuges, Conveyors, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, HVAC, Spindles, Machine Tooling, Process Equipment and many more.



Technical Performance		Mechanical Performance	
<b>Mounted Base Resonance:</b>	1500 Kcpm (25 KHz)	<b>Case Material:</b>	304 Stainless Steel
<b>Measurement Range</b>	See: "How To Order" Table ±15%	<b>Sensing Element/Construction:</b>	Ceramic Shear
<b>Frequency Range (±3 dB) :</b>	See: "How To Order" Table	<b>Mounting Torque:</b>	2 to 5 ft-lb (2.7 to 6.8 Nm)
<b>Transverse Sensitivity:</b>	≤5%	<b>Weight:</b>	1.8 oz (51 gm)
<b>Non-Linearity:</b>	± 1%	<b>Mounting Threads:</b>	See: "How To Order" Table
<b>Broadband Resolution (1 to 10000 Hz) :</b>	50 µg (491 µm/sec <sup>2</sup> )		
Electrical		Environmental	
<b>Excitation Voltage:</b>	18 to 28 VDC	<b>Overload Limit (Shock)</b>	5000 g pk (49050 m/s <sup>2</sup> pk)
<b>Constant Current Excitation</b>	2 to 20 mA	<b>Temperature Range</b>	-65 to +250 °F (-54 to +121 °C)
<b>Settling Time (within 1% of bias)</b>	≤8.0 sec	<b>Temperature Response</b>	See Graph %/°F
<b>Electrical Isolation (Case):</b>	>10 <sup>8</sup> Ohm	<b>Enclosure Rating</b>	IP68
<b>Electrical Isolation:</b>	Case		
<b>Spectral Noise (10 Hz) :</b>	2.5 µg/√Hz (24.5 (µm/sec <sup>2</sup> )/√Hz)		

Wiring	Acceleration Output	Ground	Temperature Output	Ground
2 Pin Mil-C-5015	Pin A	Pin B	Pin C	N/A
3 Pin Mil-C-5015	Pin A	Pin B	Pin C	N/A
Integral Cable (AA)	Red	Blue	N/A	N/A
Integral Cable (AT)	Red	Black	White	Green

Vibration sensor should be firmly fixed to a flat surface (spot face surface may be needed to be produced and cable anchored to sensor body.)



## How To Order

Product Prefix		Product Series		Code	Model	Code	Stud Mounting Threads	Code	Cable Length (10 ft Increments)
CM	Case Mounted	P	Precision	31	Side Exit	A	1/4-28UNF Male	010	10 ft. (3,05 mts.)
						B	M6 x 1 mm Male	020	20 ft. (6,10 mts.)
								030	30 ft. (9,14 mts.)
								XXX	Length Specified in ft. ≥40 ft. (12.2 mts )

Code	Output	Code	Sensitivity	Frequency Range (±3dB)	Range	Code	Cable/Connectors	Code	Options
AA [1]	Acceleration	010	10 mV/g 1.02 mV/(m/s <sup>2</sup> )	12 to 630 Kcpm (0.2 Hz to 10 .5KHz)	±500 g (±4,905 m/s <sup>2</sup> )	52	2 Pin MIL-C-5015	(Blank)=No Options	
AT [2]	Acceleration & Temp.	050	50 mV/g 5.1 mV/(m/s <sup>2</sup> )	12 to 630 Kcpm (0.2 Hz to 10 .5KHz)	±100 g (±981 m/s <sup>2</sup> )	53	3 Pin MIL-C-5015	/EX Intrinsically Safe	
<b>AT Option Version</b> Temp. Output Range: +36 to +250 °F (+2 to +121 °C) Temp. Scale Factor: 5.56 mV/°F + 32 (+10 mV/°C)		100	100 mV/g 10.2 mV/(m/s <sup>2</sup> )	12 to 630 Kcpm (0.2 Hz to 10 .5KHz)	±50 (±490 m/s <sup>2</sup> )	01	Polyurethane-Jacketed Cable	/HT High Temperature (325° F/ 163°C)	
		500	500 mV/g 51.0 mV/(m/s <sup>2</sup> )	12 to 360 Kcpm (0.2 Hz to 6 KHz)	±10 g (±98 m/s <sup>2</sup> )	02	Polyurethane-Jacketed w/ Armor Cable	/EH Intrinsically Safe & High Temp	

**Note:**

- [1] Connector 52 : 2 Pin MIL-C-5015.
- [2] Connector 53 : 3 Pin MIL-C-5015.



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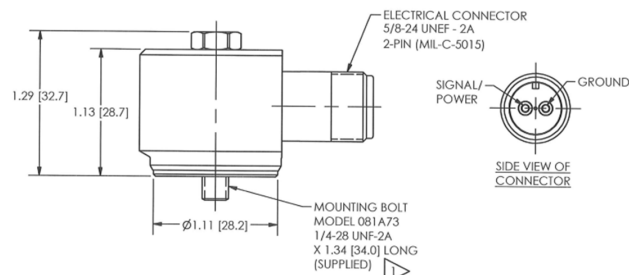
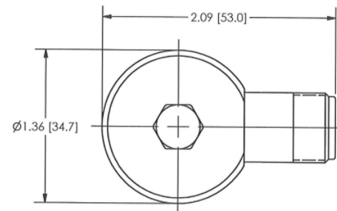
# CM-P Precision Accelerometer

Precision Accelerometer, Industrial, Ceramic Shear IEPE Side Exit With Connector

## OUTLINE DRAWING MODEL CM-P31 ACCELEROMETER



**TOP VIEW OF CONNECTOR  
2-PIN (MIL-C-5015)**



Option: EX , Hazardous Area Approval

Temperature Response Graph % / °F

CI I, Div 2, Groups A, B, C, D; ExnL IIC T4, AExnA IIC T4

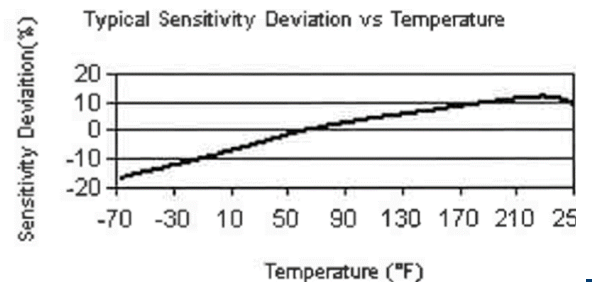
EEx ia IIC T4,  $-40^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ , II 1 G

CI I, Div I, Groups A, B, C, D; CI II, Div I, Groups E, F, G; CI III, Div I

Ex ia IIC T4, AExia IIC, T4

EEx nL IIC T4,  $-40^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ , II 3 G

All specifications are at room temperature unless otherwise specified.



Contact factory for specific approvals.

### Product Notes:

- [1] Conversion Factor  $1g = 9.81 \text{ m/s}^2$ .
- [2] Typical.
- [3] Zero-based, least-squares, straight line method.
- [4] The high frequency tolerance is accurate within  $\pm 10\%$  of the specified frequency.
- [5] 1/4-28 has no equivalent in S.I. units.



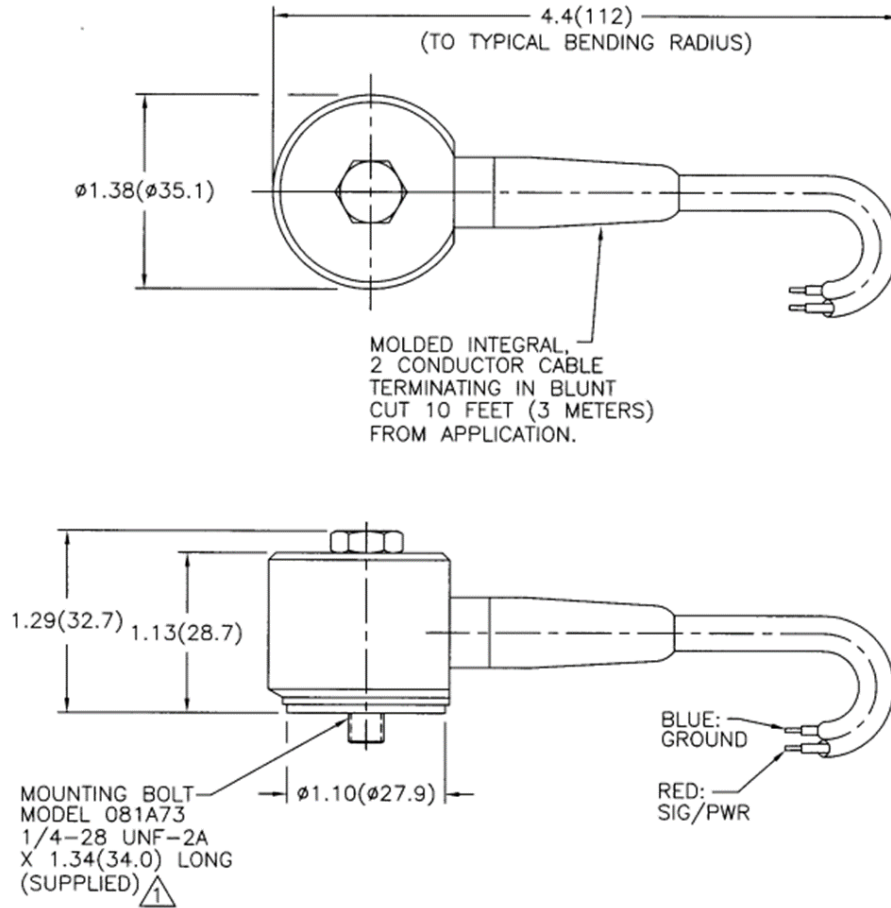
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# CM-P Precision Accelerometer

Precision Accelerometer, Industrial, Ceramic Shear IEPE Side Exit With Integral Polyurethane Cable

## OUTLINE DRAWING MODEL CM-P31 ACCELEROMETER



Option: EX , Hazardous Area Approval

Temperature Response Graph % / °F

CI I, Div 2, Groups A, B, C, D; ExnL IIC T4, AExnA IIC T4

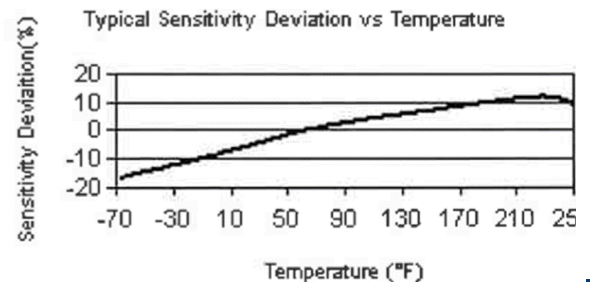
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CI I, Div I, Groups A, B, C, D; CI II, Div I, Groups E, F, G; CI III, Div I

Ex ia IIC T4, AExia IIC, T4

EEx nL IIC T4,  $-40^{\circ}\text{C} \leq \text{Ta} \leq 121^{\circ}\text{C}$ , II 3 G

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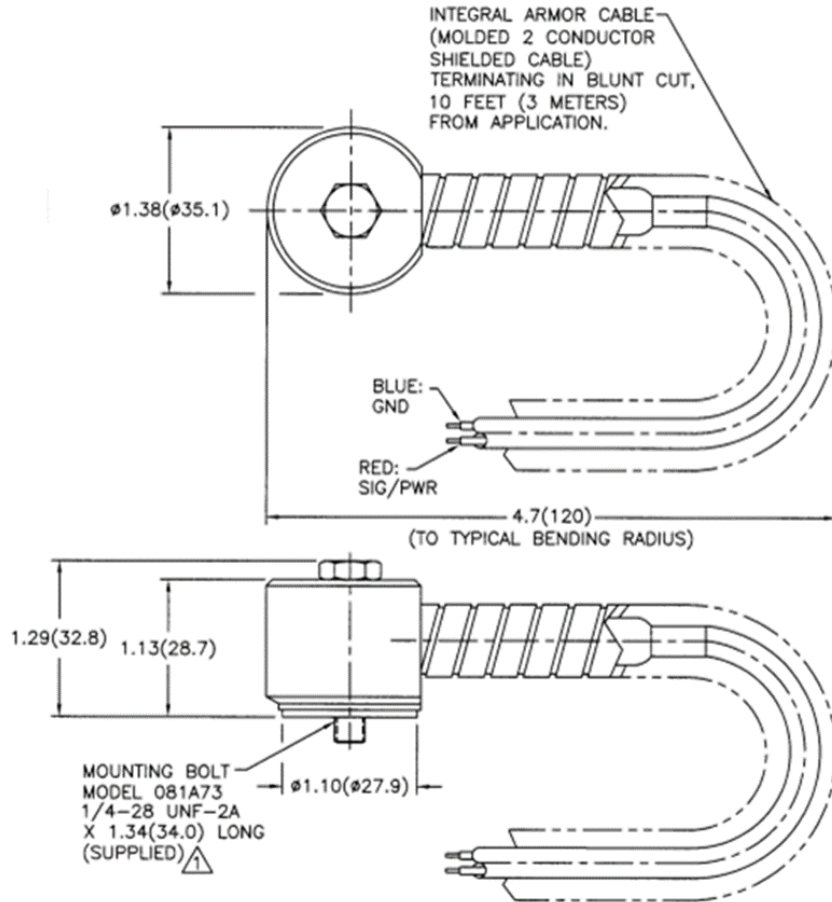
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# CM-P Precision Accelerometer

Precision Accelerometer, Industrial, Ceramic Shear IEPE Side Exit With Integral Armored Cable

## OUTLINE DRAWING MODEL CM-P31 ACCELEROMETER



Option: EX , Hazardous Area Approval

Temperature Response Graph % / °F

CI I, Div 2, Groups A, B, C, D; ExnL IIC T4, AExnA IIC T4

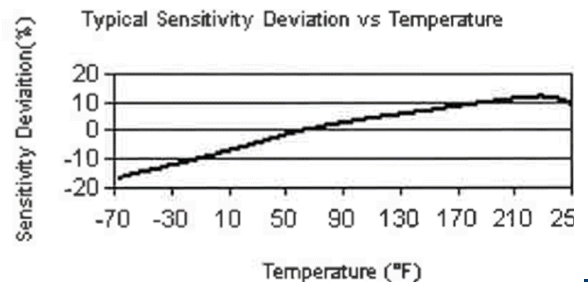
EEx ia IIC T4, -40°C ≤ Ta ≤ 121°C, II 1 G

CI I, Div I, Groups A, B, C, D; CI II, Div I, Groups E, F, G; CI III, Div I

Ex ia IIC T4, AExia IIC, T4

EEx nL IIC T4, -40°C ≤ Ta ≤ 121°C, II 3 G

All specifications are at room temperature unless otherwise specified.



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