



# 1-809

## Vibration Monitor & Transmitter



### Applications

- Turbochargers
- Generators
- Industrial Fans & Blowers
- Compressors

### Features

- Dual Programmable Alarms
- 4-20 mA Output
- Selectable Filtering
- Buffered Vibration Output
- Three-way Isolation

### Description

The 1-809 is a single channel Vibration Monitor designed to measure and protect critical machinery. The machinery vibration level is displayed on a 4-digit LED display. The reading can be displayed in inches per second (ips) velocity, g's acceleration, or mils displacement. A 4-20 mA output signal is provided proportional to a pre-determined vibration level. Two alarms are provided for early warning or machine shut-down due to excessive vibration.

The 1-809 is a panel-mount vibration monitor designed to accept a velocity or acceleration transducer input. The input signal is filtered via an order-specified bandpass filter with very sharp cut-off characteristics. This allows the 1-809 to track only those energies present within the filter's band-width. The resulting vibration level is then displayed on the 4-digit LED display located on the front panel of the 1-809. The display indicates the current vibration

level in user-specified units, velocity (ips, peak), acceleration (g's, peak), or displacement (mils, peak-to-peak).

Two programmable alarms are provided to indicate warning when trip levels have been exceeded. A start-up trip delay of thirty seconds is available to prevent false alarms during start-up situations. The 1-809 also includes a scaled 4-20 mA output for use in PLC and DCS applications.



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## Performance Specifications

### Output Mode (Unit of Measure)

<b>Velocity:</b>	inches per second (ips), Peak
<b>Acceleration:</b>	g's, Peak
<b>Displacement:</b>	mils, Peak-to-Peak
<b>Vibration Range:</b>	Full scale range is programmable
<b>Sensitivity:</b>	Sensor sensitivity is programmable
<b>Frequency Range:</b>	2 - 20,000 Hz
<b>Fixed Filter Options:</b>	High pass & low pass (see order matrix)
<b>Temperature Range</b>	
<b>Operating:</b>	0°F to +158°F (-18°C to +70°C)
<b>Storage:</b>	-67°F to +185°F (-55°C to +85°C)
<b>Humidity:</b>	0 to 95% relative humidity (non-condensing)
<b>Dual Alarm Limits:</b>	Programmable, 0 to full scale
<b>Alarm Outputs:</b>	SPST Normally Open & Normally Closed Latching and Non-latching (outputs are isolated from system electronics)
<b>Resistive Load:</b>	3 A at 240 VAC, 50/60 Hz, 3 A at 30 VDC (power factor = 1)
<b>Inductive Load:</b>	3 A at 240 VAC, 50/60 Hz, 3 A at 30 VDC (p.f. = 0.4) (L/R = 7ms)
<b>Analog Output:</b>	Active 4-20 mA current loop proportional to full scale
<b>Alarm Reset/Start Inputs:</b>	External inputs shorted to common to activate
<b>Display:</b>	4-digit LED display with decimal point delay and alarm limit LED's
<b>Power:</b>	24 VDC @ 150 mA Power is isolated from signal I/O and 4-20 mA output

## Hazardous Approvals

CSA c/us Class I, Division 2, Groups A, B, C and D  
Ex nA/AEx nA IIC T4

## Ordering Information

In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.

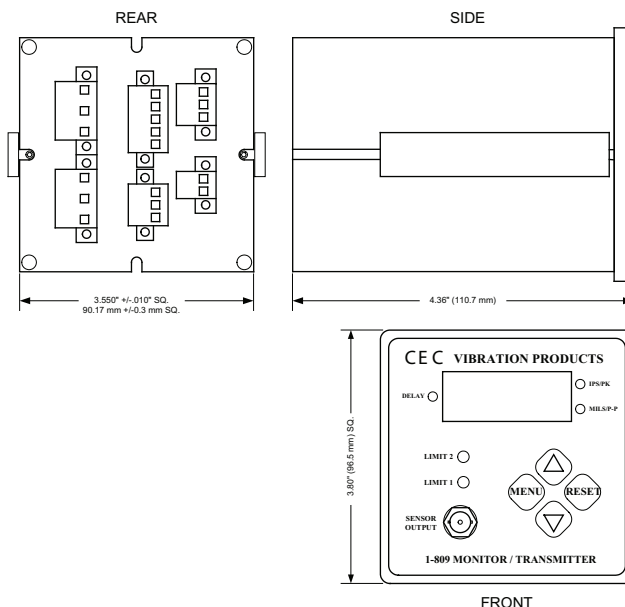
CEC P/N 1-809-0 **A B C**

	SENSOR INPUT TYPE		
<b>A</b>	0 = mV/ips self-generating (Velocity Coil)		
	1 = mV/ips constant current (Integrated Accelerometer)		
	2 = mV/g constant current (Integrated Accelerometer)		
	3 = mV millivolt input (Customer Defined)		
<b>B</b>	HIGH PASS FILTER (42 dB / octave)		
	0 = None	5 = 30 Hz	A = 200 Hz
	1 = 2 Hz	6 = 50 Hz	B = 350 Hz
	2 = 5 Hz	7 = 70 Hz	
	3 = 10 Hz	8 = 100 Hz	
	4 = 20 Hz	9 = 150 Hz	
<b>C</b>	LOW PASS FILTER (56 dB / octave)		
	0 = None	5 = 250 Hz	A = 1,000 Hz
	1 = 50 Hz	6 = 300 Hz	B = 2,000 Hz
	2 = 100 Hz	7 = 400 Hz	
	3 = 150 Hz	8 = 500 Hz	
	4 = 200 Hz	9 = 800 Hz	

NOTE: Special configurations can be accommodated. Please consult the factory for assistance.

Example: P/N 1-809-0 **0 3 A**

The example unit is receiving its input from a self-generating velocity transducer. The filtering includes a 10 Hz high pass and 1,000 Hz low pass.



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