

1-809 Vibration Monitor & Transmitter

Applications

- Motors
- Turbochargers
- Generators
- Industrial Fans & Blowers
- Gear Boxes
- Pumps
- Compressors

Features

- Measures in Velocity or Displacement Units
- Dual Programmable Alarms
- 4-20 mA Output
- Bright 4-digit LED
- Vibration Output
- Selectable Filtering
- BNC Buffered
- 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 or mils displacement and 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 band pass filter with very sharp cut off characteristics. The filtering is designed to eliminate frequencies outside of the machinery operational speeds of interest. This allows the 1-809 to track only those energies present within the filters 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 the order specified units, velocity (ips, peak) or displacement (mils, peak to peak).

Two programmable alarms are provided to indicate warning and shutdown 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.

Performance Specifications

Output Mode: (Unit of Measure)

Velocity: Inches Per Second (ips), Peak
Displacement: mils, Peak to Peak

Vibration Range:

Full scale range is programmable

Sensitivity:

Sensor sensitivity is programmable

Frequency Range:

2 – 20,000 Hz

Fixed Filter Options:

High Pass & Low Pass (See Order Matrix)

Temperature Range:

Operating: 0° to +158°F (-18° to +70°C)
Storage: -67° to +185°F (-55° to +85°C)

Humidity:

0 to 95% relative humidity (non-condensing)

Dual Alarm Limits:

Programmable, 0 to Full Scale



Alarm Outputs:

SPST Normally Open & Normally Closed
Latching and Non-latching
(Outputs are isolated from system electronics)
Resistive Load (power factor = 1)
8 A at 250 VAC 8 A at 30 VDC
Inductive Load (p.f. = 0.4) (L/R = 7ms)
3.5 A at 250 VAC 3.5 A at 30 VDC

Analog Output:

Active 4-20 mA current loop proportional to full scale.

Alarm Reset/Start Inputs:

External inputs shorted to common to activate.

Display:

4-digit LED display with decimal point
Delay and Alarm Limit LEDs

Power:

24 VDC @ 150 mA
Power is isolated from signal I/O and 4-20 mA output.

Bezel Mount Enclosure Ratings:

NEMA 4X and IP66

To order, select the desired parameters using the following nomenclature.

1-809- A B C D

A:

Input Power

0 = 24 VDC @150 mA

B:

Sensor Input Type

0 = mV/ips self-generated (Velocity Coil)

1 = mV/ips constant current (Integrated Accelerometer)

2 = mV/g constant current (Integrated Accelerometer)

3 = mV (Customer Defined)

C:

High Pass Filter (Hz) (42 dB/octave)

0 =None

1=2

2=5

3=10

4=20

5=30

6 =50

7=70

8=100

9=150

A=200

B=350

D:

Low Pass Filter (Hz) (56 dB/octave)

0 =None

1=50

2=100

3=150

4 = 200

5=250

6 =300

7=400

8=500

9=800

A= 1000

B=2000