

Velocity output vibration transmitter

Description

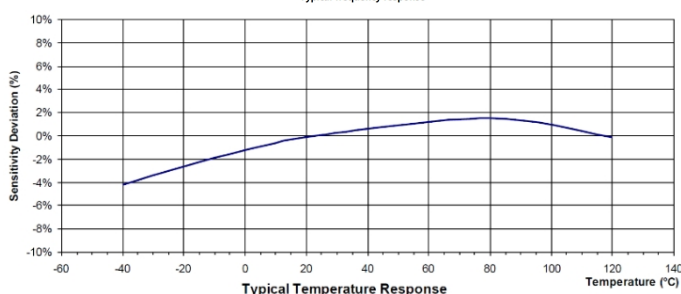
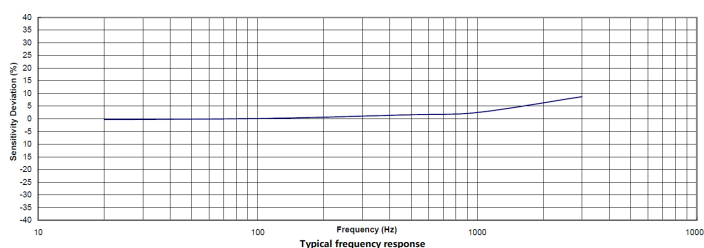
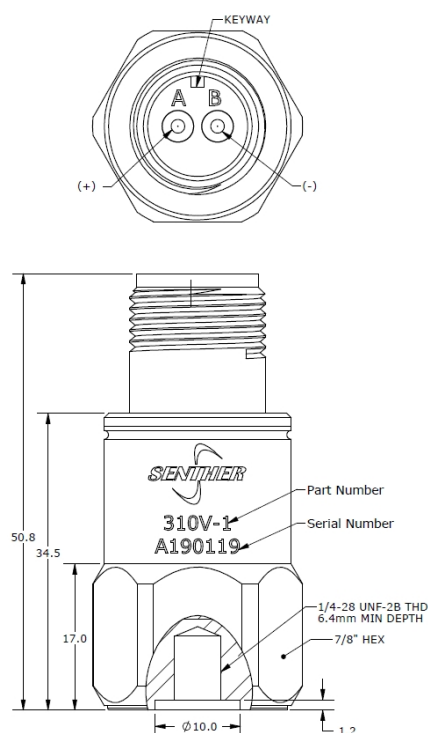
Model 310V is an industrial piezo-electrical accelerometer permitting vibration measurements. 310V features an annular shear ceramic crystal which exhibits excellent output stability over time. The accelerometer incorporates an internal circuit with in a two-wire system which transmits the 4~20mA current velocity output through the same cable that supplies the voltage excitation. Signal ground is internal shielded and isolated from the outer case of the unit. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The welded stainless-steel construction provides a hermetic housing. The standard MIL-C-5015 glass insulated connector provides long-term stability over the operating temperature range. In addition to adhesive mounting, 310V has 1/4-28 threaded holes for stud mounting on the test object. The 310V provides wide frequency response and shock resistance, which is ideal for industrial vibration monitoring under incidental shock environment. Senter's model 16-L is a MIL-C-5015 connector mating cable for the sensor.

Features

- Vibration velocity output
- 4-20mA current signal
- Hermetic seal
- Case isolated
- EMI / RFI shielded
- Shock resistance

Application

- Blowing machine
- Gear box monitoring
- Bearing detection
- Machine monitoring



Specification

Typical at +24°C (+75°F), 15Vdc and 100Hz, unless otherwise stated.

| Part Number | 310V-0.5 | 310V-0.8 | 310V-1 | 310V-2 | 310V-5 | 310V-10 | |
|--|---------------------|---------------------|---------------------|---------------------|----------------------|-----------------------|--------------------------|
| Measurement Range | 0.0-0.5 0.0-12.7 | 0.0-0.8 0.0-20.3 | 0.0-1.0 0.0-25.4 | 0.0-2.0 0.0-50.8 | 0.0-5.0 0.0-127.0 | 0.0-10.0 0.0-254.0 | in/sec rms mm/sec rms |
| FSO ±5% | 16 | 16 | 16 | 16 | 16 | 16 | mA |
| Frequency Range ±10% | 6-1000 | 4-1000 | 3-1000 | 3-1000 | 3-1000 | 3-1000 | Hz |
| Non-Linearity | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | % |
| Sinusoidal Vibration Limit | ±500 | ±500 | ±500 | ±500 | ±500 | ±500 | g |
| Shock Limit | ±2000 | ±2000 | ±2000 | ±2000 | ±2000 | ±2000 | g pk |
| Settling Time (Within 2% of value) | <15 | <15 | <15 | <15 | <15 | <15 | sec |
| Weight | 87 | 87 | 87 | 87 | 87 | 87 | gm |






| Specifications | Standard | Units |
|--|----------------------|-------|
| Excitation Voltage | 12 - 30 | VDC |
| Zero Current | 3.5 – 4.5 | mA |
| Insulation Resistance (@100Vdc) | >100 | MΩ |
| Temperature Range | -40 - 85 | °C |
| Humidity | IP68 | |
| Sensing Element | Piezo Ceramic(Shear) | |
| Case Material | Stainless Steel | |
| Connector | 2 Pin MIL-C-5015 | |

Accessories

Calibration certificate included.

| Part Number | Description | Availability |
|-----------------|--|-------------------|
| PM0011 | Mounting stud ¼-28 to ¼-28 thread | One stud Included |
| PM0008 | Mounting stud ¼-28 to M6 thread | |
| PM0007 | Mounting stud ¼-28 to M10 thread | |
| PM0445 | Adhesive mounting adapter | Optional |
| MB0001 | Flat bottom magnet mounting adapter | Optional |
| MB0011 | Saddle-shaped magnet mounting adapter | Optional |
| 16A-10 | 10 meter mating cable with MIL-C-5015 connector | Optional |
| 16A-10-B | 10 meter mating cable with MIL-C-5015 to BNC connector | Optional |
| IN-3062 | 8 channels data acquisition system | Optional |

Measurement configuration

| Sensor | Mating cable | DC power supply | Signal conditioner | Data acquisition | Computer |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

Ordering information

| | | | | | |
|--------------|---|---|--|---|---|
| 310 | V | - | 1 | - | A |
| Model | Output signal | - | Range | - | Mounting stud |
| 310 | V=Velocity RMS signal by loop current output | - | 0.5=0.5in/sec 0.8=0.8in/sec 1=1in/sec 2=2in/sec 5=5in/sec 10=10in/sec | - | A= 1/4-28 to 1/4-28 thread B= 1/4-28 to M6 metric thread C*=Special |

