

ST5491E VIBRATION TRANSMITTER

Datasheet

OVERVIEW

Model ST5491E is the ideal solution for sensing vibration on most plant equipment. This precision case mounted, indicating velocity vibration sensor and signal conditioner in a single package is built to provide years of reliable service. A simple two-wire loop signal proportional to velocity is generated for transfer to a programmable logic controller (PLC), distributed control system (DCS) or other 4-20 mA input devices. Simply mount the transmitter on the machine case, connect the 2-wire loop and read and/or record the vibration.

FEATURES

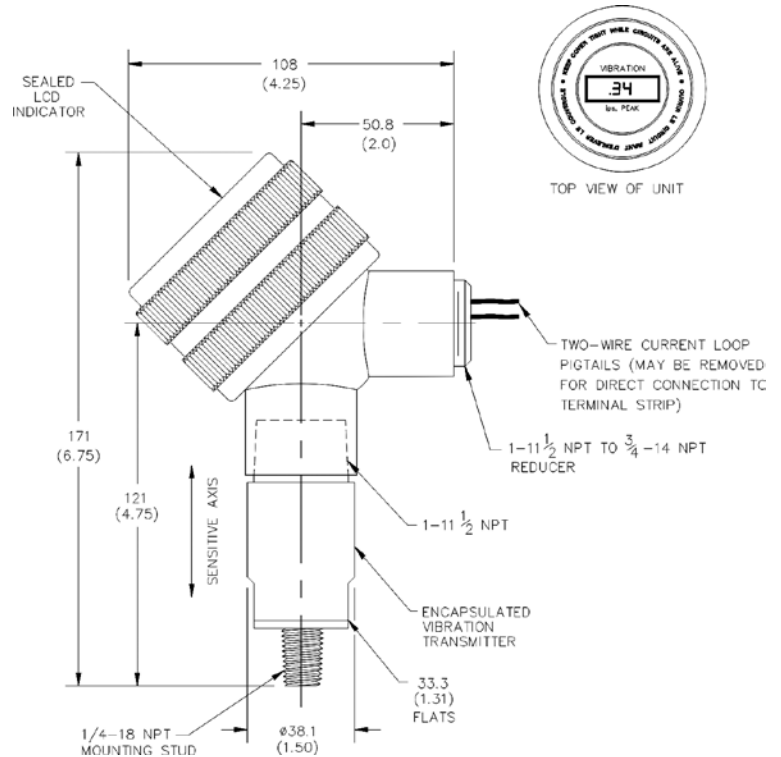
- LCD Indicator
- Loop-powered
- 4-20 mA output proportional to velocity
- Interfaces w/PLC, DCS, and 4-20 mA monitors
- Built-in temperature shock protection
- "Ski slope" problem protected
- Widest frequency range
- High- & low-pass filters
- Built-in base & housing strain

APPLICATIONS

- Blowers
- Centrifuges
- Compressors
- Engines
- Fans
- Generators
- Motors
- Pumps
- Turbines
- Turbochargers



WEIGHT & DIMENSIONS



Weight: 0.8 kg (1.8 lbs.)

Dimensions in mm [inches]

ORDERING INFORMATION

| ST5491E - A - B - C D - E F | | | |
|-----------------------------|---|---|--|
| □□□-□□-□□-□□ | | | |
| A | | | Full Scale Range |
| 0 | 2 | 1 | 1.0 in/s (25.4 mm/s), pk |
| 0 | 2 | 2 | 20 mm/s (0.787 in/s), pk |
| 0 | 2 | 3 | 100 mm/s (3.94 in/s), pk |
| 0 | 2 | 4 | 2.0 in/s (50.8 mm/s), pk |
| 0 | 5 | 1 | 1.0 in/s (25.4 mm/s), true RMS |
| 0 | 5 | 2 | 20 mm/s (0.787 in/s), true RMS |
| 0 | 5 | 3 | 100 mm/s (3.94 in/s), true RMS |
| 0 | 5 | 4 | 2.0 in/s (50.8 mm/s), true RMS |
| B | | | Mounting Stud/ Housing Material |
| 0 | 0 | | Integral 1/4" NPT stud mount, 303 SST |
| 0 | 1 | | Integral 1/2" NPT stud mount, 303 SST |
| 0 | 2 | | 3/8 - 24 UNF - 1/2" stud mount, 303 SST |
| 0 | 3 | | 1/2 X 20 UNF - 1/2" stud mount, 303 SST |
| 0 | 4 | | M8 X 1-12 stud mount, 303 SST |
| 0 | 5 | | M10 X 1.25-12 stud mount, 303 SST |
| 1 | 0 | | Integral 1/4" NPT stud mount, 316 SST |
| 1 | 1 | | Integral 1/2" NPT stud mount, 316 SST |
| 1 | 2 | | 3/8 - 24 UNF X 1/2" stud mount, 316 SST |
| 1 | 3 | | 1/2 X 20 UNF - 1/2" stud mount, 316 SST |
| 1 | 4 | | M8 X 1-12 stud mount, 316 SST |
| 1 | 5 | | M10 X 1.25-12 stud mount, 316 SST |
| C | | | Hazardous Area Certifications |
| 1 | | | CSA/NRTL/C Class I, Div 2, Grps C & D |
| 2 | | | CSA/NRTL/C Class I, Div 1, Grps C-D & Class II, Div 1, Grps E-G (available with flying leads ONLY) |
| D | | | Connection |
| 0 | | | 4-20 mA: Flying leads |
| E | | | High Pass Filter |
| 0 | | | No filter (2 Hz), Standard |
| 1 | | | 5 Hz |
| 2 | | | 10 Hz |
| 3 | | | 20 Hz |
| 4 | | | 50 Hz |
| 5 | | | 100 Hz |
| 6 | | | 200 Hz |
| F | | | Low Pass Filter |
| 0 | | | No filter (1500 Hz), Standard |
| 1 | | | 500 Hz |
| 2 | | | 1000 Hz |
| 3 | | | 2000 Hz |

SPECIFICATIONS

| | |
|--|---|
| Vibration Range | 4 - 20 mA output proportional to velocity. Refer to "Ordering Information AAA" for available ranges. Nonstandard ranges available. Contact Metrix for more information. |
| Accuracy | 2% |
| Indicator | 2½ digits, ips or mm/s |
| Frequency Response | Standard: 2 - 1500 Hz, available up to 2000 Hz; Refer to "Ordering Information E/F". 12 dB / oct high pass and low pass filters are used |
| Axis Orientation | Any |
| Supply Voltage (Vs) | 13 to 30 VDC |
| Isolation | 500 Vrms, circuit to case |
| Electrical Connection | Flying leads - 457 mm (24 in.) length, 18 AWG |
| Maximum Load Resistance (R_L) | 50 (Vsupply - 13) Ω |
| Service Temp. Rating | -10°C to +70°C (+14°F to +156°F) |
| Enclosure Materials | 303 SS / 316SS |
| Agency Approvals | Refer to "Ordering Information C" |

OPTIONAL STUD ADAPTERS

| | |
|----------|------------------------------|
| 8253-002 | 1/4" NPT to 1/2" NPT |
| 8841-084 | 3/8 - 24 UNF to 1/2 - 20 UNF |
| 8841-099 | M8 to M10 x 1.25 |