

MODEL 333D01

DIGIDUCER® USB DIGITAL ACCELEROMETER

- USB Plug-and-Play Capability
- Rugged Piezoelectric Sensing Technology
- Broad Frequency and Dynamic Range
- Phone, Tablet, and PC Ready
- Record and Send Data to Off-Site Specialists
- Embedded Calibration

TYPICAL APPLICATIONS

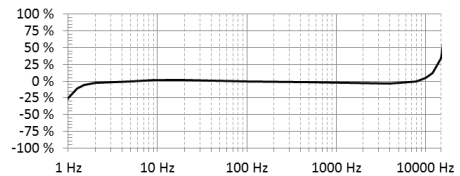
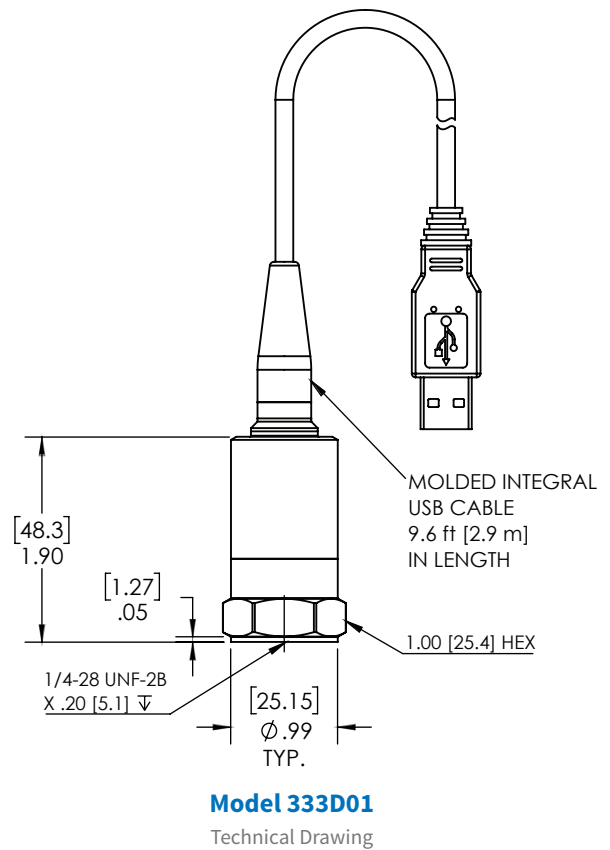
- Vibration Testing & Troubleshooting
- Machinery Health Monitoring
- Route Based Measurements
- Predictive Maintenance & Condition Monitoring
- Production Line Testing

VIBRATION TESTING SIMPLIFIED

Model 333D01 Digiducer puts high-quality, low-hassle vibration measurements in the palm of your hand. This USB Digital Accelerometer allows users to take professional-grade vibration measurements right from a PC, smartphone, or tablet, turning any device into a portable, hand-held vibration meter spectrum analyzer. The simplicity of Model 333D01 opens the door to those just starting out in vibration, while still providing the accuracy and range needed by the experts. This unit is compatible with a variety of software applications, allowing users to choose the app that best fits their testing needs. Model 333D01 also uses standard drivers, making it possible to write custom software if necessary and connect it to IoT systems.

Based on piezoelectric sensing technology, Model 333D01 has a wide frequency range. The $\pm 5\%$ range is from 2 Hz to 8 000 Hz (120 CPM to 480 000 CPM). The unit comes in a rugged, stainless steel, hermetically sealed package to survive harsh environments. With an optional magnetic mounting base and a cable length of almost 3m, taking measurements is quick and easy, even in the most difficult to reach places. Model 333D01 USB Digital Accelerometer delivers accurate, useful vibration testing in a package you can trust.

| SPECIFICATIONS | | |
|--|--|-----------------------------|
| Performance | | |
| Sensitivity ^[1] ^[2] ^[3] | | |
| Channel A | 4.00 % FSV/g | |
| Channel B | 7.96 % FSV/g | |
| Measurement Range ^[5] | | |
| Channel A | ± 20 g pk | ± 196 m/s ² |
| Channel B | ± 10 g pk | ± 98 m/s ² |
| ADC Bandwidth (-3 dB) | 9.3 cpm to 1 374 000 cpm | 0.155 Hz to 22 900 Hz |
| Frequency Range (±5 %) | 120 cpm to 480 000 cpm | 2 Hz to 8 000 Hz |
| Frequency Range (±10 %) ^[3] | 90 cpm to 660 000 cpm | 1.5 Hz to 11 000 Hz |
| Frequency Range (±3 dB) ^[3] | 54 cpm to 900 000 cpm | 0.9 Hz to 15 000 Hz |
| Resonant Frequency | ≥ 1 500 000 cpm | ≥ 25 000 Hz |
| Mounted Resonance ^[3] | 1 044 000 cpm | 17 400 Hz |
| Mounted Resonance Amplification ^[3] | 200 % | |
| Broadband Resolution ^[1] (1 Hz to 10,000 Hz) | 0.002 5 g pk | 0.024 5 m/s ² pk |
| Non-Linearity ^[4] | ≤ 2 % | |
| Transverse Sensitivity ^[3] | ≤ 5 % | |
| Communication Standard | USB 2.0 Full Speed | |
| Power Consumption ^[3] | ≤ 45 mA | |
| Internal ADC | 24-bit | |
| Supported Sample Rates | | |
| 24-bit | 48, 44.1, 32, 22.05, 16, 11.025, 8.0 kHz | |
| 16-bit | 48, 44.1, 32, 22.05, 16, 11.025, 8.0 kHz | |
| Physical | | |
| Overload Limit (Shock) | 7 000 g pk | 68 647 m/s ² pk |
| Temperature Range | 14 °F to 158 °F | -10 °C to +70 °C |
| Temperature Coefficient | 0.10 % / °F | 0.18 % / °C |
| Size – Hex | 1.0 in | 25.4 mm |
| Size – Height | 2.6 in | 66.0 mm |
| Weight | 4.62 oz | 131 grams |
| Mounting Thread | ¼-28 UNF | |
| Mounting Torque | 2 lbf-ft to 5 lbf-ft | 2.7 N-m to 6.8 N-m |
| Sensing Element | Piezoelectric Ceramic | |
| Sensing Geometry | Shear | |
| Housing Material | Stainless Steel | |
| Sealing | Welded Hermetic | |
| Electrical Connector | USB Type A Male | |
| Electrical Connection Position | Top | |
| Cable (Integral) Length | 9.6 ft | 2.9 m |



Typical Frequency Response Curve

| Optional Accessories | |
|----------------------|----------------------------|
| 080A121 | Flat surface magnet base |
| 080A131 | Curved surface magnet base |

- [1] Conversion Factor 1g = 9.80665 m/s²
- [2] FSV = Full Scale Value
- [3] Typical
- [4] Zero-based, least square straight line method
- [5] Minimum Range

Specifications at room temperature unless otherwise specified