







M O D E L **333001**

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

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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 0.155 Hz to 1 374 000 cpm 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/s² 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/s² 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	1⁄4-28 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	Тор		
Cable (Integral) Length	9.6 ft	2.9 m	



1 Hz	10 Hz	100 Hz	1000 Hz	10000 Hz
-100 %				
-75 %				
-50 %				
-25 %				
0%				
25 %				/
50 %				
				1 1 1 1 1 1
75 %				
100 %				

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



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