PCB PIEZOTRONICS
AN AMPHENOL COMPANY

MODEL **633A01**

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 offsite specialists
- Embedded calibration

APPLICATIONS

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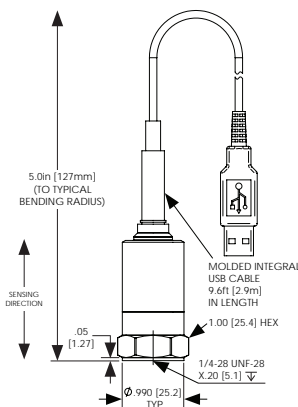- Predictive Maintenance & Condition Monitoring

CE

VIBRATION TESTING SIMPLIFIED

The USB Digital Accelerometer puts high-quality, low-hassle vibration measurements in the palm of your hand. Model 633A01 allows users to take professional-grade vibration measurements right from a PC, smartphone or tablet, turning any device into a portable, handheld vibration meter spectrum analyzer. The simplicity of Model 633A01 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 633A01 also uses standard drivers, making it possible to write custom software if necessary.

Based on piezoelectric sensing technology, Model 633A01 has a wide frequency range (0.9 to 15,000 Hz at ±3dB tolerance). The unit comes in a rugged, stainless steel, hermetically sealed package to survive harsh environments. With a cable length of 9.6 feet, taking measurements is quick and easy, even in the most difficult to reach places. The USB Digital Accelerometer delivers accurate, useful vibration testing in a package you can trust.

SPECIFICATIONS

Model Number	633A01	
Performance	**Imperial**	**Metric**
Sensitivity (Channel A)	334,566 counts/g	34,105 counts/(m/s²)
Sensitivity (Channel B)	664,689 counts/g	67,756 counts/(m/s²)
Measurement Range (Channel A)	± 20 g pk	± 196 m/s²
Measurement Range (Channel B)	± 10 g pk	± 98 m/s²
Analog-to-Digital Converter Bandwidth (-3 dB)	0.16 to 22,900 Hz	9.3 to 1,374,000 cpm
Frequency Range (±5 %)	2 to 8,000 Hz	120 to 480,000 cpm
Frequency Range (±10 %)	1.5 to 11,000 Hz	90 to 660,000 cpm
Frequency Range (±3 dB)	0.9 to 15,000 Hz	54 to 900,000 cpm
Resonant Frequency	≥ 25 kHz	≥ 1,500,000 cpm
Mounted Resonance	17.4 kHz	1,044,000 cpm
Mounted Resonance Amplification	200%	
Broadband Resolution (1 to 10,000 Hz)	0.0025 g pk	0.0245 m/s² pk
Non-Linearity	≤2%	
Transverse Sensitivity	≤5%	
Environmental		
Overload Limit (Shock)	7,000 g pk	68,647 m/s² pk
Temperature Range	+14 to +158 °F	-10 to +70 °C
Temperature Coefficient	0.10% / °F	0.18% / °C
Electrical		
Communication Standard	USB 2.0 Full Speed	
Power Consumption	≤45 mA	
Internal Analog-to-Digital Converter	24-bit	
Supported Resolution Rates	16-bit or 24-bit	
Supported Sample Rates	48, 44.1, 32, 22.05, 16, 11.025, 8.0 kHz	
Physical		
Sensing Element	Ceramic	
Sensing Geometry	Shear	
Housing Material	Stainless Steel	
Sealing	Welded Hermetic	
Mounting Thread	1/4-28 UNF	
Mounting Torque	2 to 5 lb·ft	2.7 to 6.8 N·m
Electrical Connector	Integral Cable Terminating in USB Type A Male	
Electrical Connection Position	Top	
Cable (Integral) Length	9.6 ft	2.9 m
Size (Hex x Height)	1.0 x 2.6 in	25.4 x 66.0 mm
Weight	4.6 oz	131 g

5.0in [127mm]
(TO TYPICAL BENDING RADIUS)

SENSING DIRECTION

MOLDED INTEGRAL USB CABLE 9.6ft [2.9m] IN LENGTH

.05 [1.27]

1.00 [25.4] HEX

1/4-28 UNF-28 X.20 [5.1] ▽

∅.990 [25.2] TYP

OPERATING SYSTEMS

OPTIMIZED SOFTWARE: Automatically accesses the sensor's internal calibration data via the USB interface and provides calibrated values in engineering units.

WINDOWS
(AVAILABLE FOR WEB DOWNLOAD)

- **SpectraPLUS-SC** by Pioneer Hill Software LLC
www.spectraplus.com
- **SpectraPLUS-RT** by Pioneer Hill Software LLC
www.spectraplus.com
- **ME'scope** by Vibrant
www.vibetech.com/mescope

iOS
(AVAILABLE IN THE APP STORE)

- **VibeCheck** by iTnnovate
- **SignalScope Pro 2018** by Faber Acoustical
- **SignalScope X** by Faber Acoustical
- **Vibration** by Diffraction Limited Design LLC
- **iVibraMeter** by Motionics, LLC (iPad only)
- **Vibra Test Pro** by Motionics LLC

ANDROID
(AVAILABLE IN THE PLAY STORE)

- **VibeCheck** by iTnnovate
- **vib.cloud** by iTnnovate

macOS
(AVAILABLE FOR WEB DOWNLOAD)

- **SignalScope** by Faber Acoustical
www.faberacoustical.com
- **SignalScope Pro** by Faber Acoustical
www.faberacoustical.com
- **Electroacoustics Toolbox**
by Faber Acoustical
www.faberacoustical.com

COMPATIBLE SOFTWARE: Software can gather data with the sensor, may or may not have some form of manual calibration, and can be either a recorder or spectrum plotter.

WINDOWS
(AVAILABLE FOR WEB DOWNLOAD)

- **SO Analyzer** by M+P International
www.mpihome.com
- **Sigview** by SignalLab
www.sigview.com
- **Soundcard Oscillation** by Christian Zeitnitz
www.zeinitz.eu
- **Visual Analyser** by Sillanum Soft
www.sillanumsoft.org
- **WavePad Sound Editor** by NCH Software
www.sigview.com
- **Audacity** by The Audacity Team
www.audacityteam.org

iOS
(AVAILABLE IN THE APP STORE)

- **WavePad Sound Editor** by NCH Software

ANDROID
(AVAILABLE IN THE PLAY STORE)

- **Spectrum Analyser** by Keuwlsoft
- **Spectrum Analyser** by Raspberrywood
- **WavePad Sound Editor** by NCH Software

DEVELOPMENT ENVIRONMENTS
(AVAILABLE FOR WEB DOWNLOAD)

- **MATLAB®** www.mathworks.com
- **NI LabVIEW™** www.ni.com
- **NI LabWindows™/ CVI** www.ni.com

macOS
(AVAILABLE FOR WEB DOWNLOAD)

- **WavePad Sound Editor** by NCH Software
www.nch.com.au

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