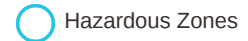


Modbus Output Single Axis Piezo-Electric 10kHz Vibration Sensor



Smart Agriculture, Smart Building, Smart City, Smart Energy, Smart Facility, Smart Factory, Smart Farm, Smart Retail, Smart Utilities

SKU: MBRTU-V1A



MBRTU-V1A is a cost-effective accelerometer single-axis vibration sensor designed for condition monitoring and preventive maintenance applications. The Piezo-Electric accelerometer is available in ranges $\pm 25g$ or $50g$ and features a flat frequency response up to $>10kHz$. Its accelerometer features a stable piezo-ceramic crystal in shear mode with low-power electronics, sealed in a fully hermetic package. The Piezo Electric technology incorporated in the MBRTU-V1A accelerometer has a proven track record for offering the reliable and long-term stable output required for condition monitoring applications. The accelerometer is designed and qualified for machine health monitoring and has superior Resolution, Dynamic Range, and Bandwidth to MEMS devices. Besides that, it can also measure the temperature at the mounting point. It can be powered by a wide range $9\sim 36VDC$ supply and give output RS485 with ModbusRTU protocol.

Applications

Condition Based Monitoring, Machine Health Monitoring, Safety Monitoring, Vibration Monitoring

Notes For Applications

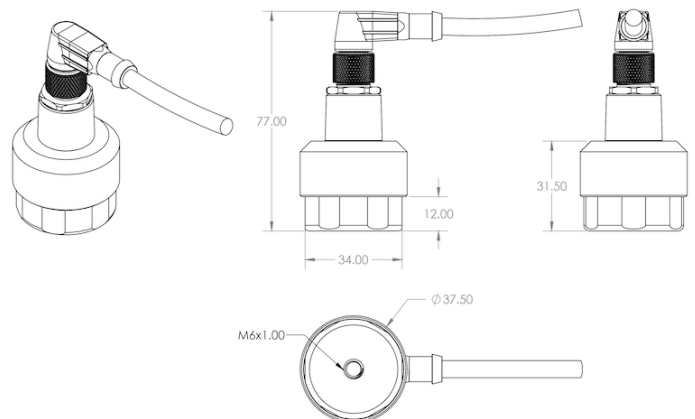
- Measure Single-axis vibration and/or surface temperature of Motor, Bearing, Pump, Fan, Gearbox, Rotary machine/equipment... with vibration from 2 to 10,000 Hz.
- Deliver the overall calculated parameters: RMS acceleration, RMS and peak velocity, RMS and peak-peak displacement, frequency, temperature and crest factor.
- DO NOT deliver raw values (acceleration G value in time domain) and parameters in frequency domain (FFT function).

Modbus communication
Connect to any PLC, Devices via RS485 Modbus RTU protocol

High resonant frequency
Compact cylindrical stainless steel housing gives resonant frequency $> 12 KHz$.

High Performance Piezo-electric sensor
Wide bandwidth up to 10000Hz. Hermetically Sealed, Piezo-Ceramic Crystal, Shear Mode accelerometer sensor is designed and qualified for machine health monitoring and has superior Resolution, Dynamic Range and Bandwidth to MEMS devices.

For Indoor and Outdoor
IP67 rating design for extreme condition environment.



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Created date: Jan-17-2023

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Specification

Sensor technology	Hermetically Sealed, Piezo-Ceramic Crystal, Shear Mode
8-Parameter Measurement	Acceleration RMS & Peak Velocity RMS & Peak Displacement RMS & Peak Frequency & Temperature
Acceleration range and resolution	±25G, 6.1mg
Velocity range and resolution	0~50 mm/s, 0.1mm/s
Displacement range and resolution	±5000µm, 1µm
Frequency range and resolution	2~10000 Hz, 1 Hz
Acceleration Range & Shock Limit (g)	±25 or 50, 10000
Frequency Response and Resonant (Hz)	2~10000, > 30000
Non-Linearity, Transverse Sensitivity	±2% FSO, < 5%
Temperature measuring and operating	-40~85°C, with accuracy: ±0.5 and resolution: 0.125
Sensor Material, rating and mounting	304SUS, IP67, M6 Screw
Output	RS485, Modbus RTU
Supply	9~36VDC @ max 200mA
Connector	M12-M 4-pin (Coding A)
Working temperature	-40~85°C
Dimensions & Net-weight	Diameter 40mm x Height 50mm, 190g
	(* Note: All above values are typical at +24°C, 80Hz)

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Ordering Information

ITEM CODE	DESCRIPTIONS
MBRTU-V1A-025	Modbus Output Single Axis PIEZO-ELECTRIC 10kHz VIBRATION SENSOR, $\pm 25G$, 9~36VDC, IP67, M12-M connector
2M-FM12CAB4x0.25	M12 4pin Female assembly connector with Soldering terminals and coding A and Control Cable Cu/PVC/OS/PVC 4x0.25mm ² , L=2m, RoHS, Shield 80%
5M-FM12CAB4x0.25	M12 4pin Female assembly connector with Soldering terminals and coding A and Control Cable Cu/PVC/OS/PVC 4x0.25mm ² , L=5m, RoHS, Shield 80%
10M-FM12CAB4x0.25	M12 4pin Female assembly connector with Soldering terminals and coding A and Control Cable Cu/PVC/OS/PVC 4x0.25mm ² , L=10m, RoHS, Shield 80%

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