Sensor-Works

BluVib-M3 Range

MEMs Tri-Axial
Low Power Wireless Vibration Sensor



- Measures 3 Axis of vibration
  - Amplitude Range: ±16g, programmable
  - Frequency Range: DC to 6 kHz Trending
    DC to 10kHz Spectral
  - Up to 12800 lines of resolution
- Measures Temperature (–25ºC to +75ºC)
- Up to 70 Seconds capture time
- Self-contained device- mounts directly onto a machine
- Rugged and corrosion resistant
- Field replaceable battery, up to 5 years life
- ATEX variant

An ultra-low power, battery operated, wireless sensor that measures vibration and temperature and can operate stand alone, or in a network of multiple sensor devices.

Operating modes are user programmable:

Wakeup: The sensor is programmed to power on (wake-up) at a user specified interval. It wakes-up and broadcasts its presence. The gateway connects to it. The gateway instructs the sensor to perform a measurement. During the time that the devices are connected, the gateway can change the operating mode and alter any of the other sensor programmable parameters. The gateway disconnects from the sensor. The sensor powers down and remains in an ultra-low power mode until it wakes-up after the specified time interval and the process repeats. This is the recommended mode of operation for best battery life.

Ready: The sensor is initially activated using the magnet, it will remain constantly powered and will respond to communication from the gateway or mobile device as it will continue to advertise indefinitely, but at a reduced power after one minute. This allows consecutive connections to be made to the sensor without the necessity to wake it each time using a magnet. To stop the sensor advertising in this mode, a client must submit a request to power it down. After the sensor has been powered down, a magnet must be used to reawaken it. This mode is particularly suited to applications that run on portable devices, such as tablets. This mode is useful for initial setting up and demonstration, but is not recommended for long term use, as battery life will be significantly reduced .

Event/Triggered: The sensor will wake-up at regular intervals, however, instead of sleeping between captures, the sensor will stay awake to monitor the input signal. If it crosses a programmed threshold, the sensor will continue to capture any post-trigger data required, then it will start to advertise. The client can connect and copy the captured data. Once the client disconnects, the sensor will return to monitoring the input, comparing it with the trigger value.

Logging: The sensor will operate in a nonconnected mode and will at a pre-set interval collect data and store Acceleration, Velocity, Temperature, Battery data until the sensor is woken up with a magnet, when it will download data to a ReST API, or a call to read data from a specific date/ time .

4 Variants available

- Stainless Steel Base
- Aluminum Base
- ATEX Stainless Steel Base
- ATEX Aluminum Base

HIGH PERFORMANCE

Outstanding measurement capability. User selectable operating modes.

SIMPLE INSTALLATION

Simply fix the sensor to your machine, set it running and it measures, unattended for up to 5 years when setup in wakeup mode—sampling 4 times per day.

CONNECTIVITY

Operates with Gateways, PC's, tablets and smart phones.

RUGGED

Suitable for harsh industrial conditions. Corrosion resistant.

WIRELESS OPERATION

Low power radio, with power management, ensuring long battery life.

FLEXIBLE

Available in OEM versions, programmed to suit your requirements.

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M3 Range Specifications

MEASUREMENTS	Number of Channels:	4 (3 x vibration [x, y, z] and 1 x temperature)
Accelerometer Input	Sensor Type:	MEMs accelerometer, ultra low power
	Range:	Programmable (±2g, ±4g, ±8g, ±16g)
	Frequency Range (+/-3dB) X, Y, Z axis:	DC to 6 kHz (typical) : Trending & Spectral DC to 10 kHz : Spectral analysis
Temperature Input	Temp Measurement Range:	-25^{0}C to +75^{0}C
	Accuracy:	±4^{0}C
DATA ACQUISITION	Sample Rate:	Programmable up to 25.6kHz
	Data Block Lengths:	64 to 32768 samples
	Spectral Line Equivalent:	100 to 12800 lines
COMMUNICATIONS	Network:	Bluetooth 5 (Backwards Compatible to 4.2)
	Certifications:	Europe: R&TTE USA, Canada, International: FCC/IC
MECHANICAL	Dimensions:	33mm diameter x 92mm high
	Mounting:	Internal ¼-28 UNF thread
ENVIRONMENTAL	Operating Temperature:	-25ºC to +75ºC
	Sealing:	IP66
	Compliance:	CE, RoHS
POWER	Battery Life:	Up to 5 years (dependent upon measurement intervals)
	Replacement:	Field Replaceable

Standard version

Order Code: BluVib-M-ST-3

Enclosure:	Base: Stainless Steel, Cover: Plastic
Weight:	170g
Battery Type:	Lithium Thionyl Chloride, 3.6V, Size AA, SAFT LS17500

Light Weight Version
Aluminum Base

Order Code: BluVib-M-ST-3-AB

Enclosure:	Base: Aluminium, Cover: Plastic
Weight:	100g
Battery Type:	Lithium Thionyl Chloride, 3.6V, Size AA, SAFT LS17500

Standard ATEX version
Intrinsically Safe

Order Code: BluVib-M-ST-3-ATEX

Enclosure:	Base: Stainless Steel, Cover: Plastic
Weight:	170g
Compliance:	ATEX, IECEx, UkEX, CE, RoHS
Hazardous Locations:	ATEX II 1G Ex ia IIC T4 Ga –25ºC to +75ºC
Battery Type:	Lithium Thionyl Chloride, 3.6V, Size AA, SAFT LS14500

Light Weight ATEX version
Intrinsically Safe
Aluminum Baase

Order Code: BluVib-M-ST-3-ATEX-AB

Enclosure:	Base: Aluminium, Cover: Plastic
Weight:	100g
Compliance:	ATEX, IECEx, UkEX, CE, RoHS
Hazardous Locations:	ATEX II 1G Ex ia IIC T4 Ga –25ºC to +75ºC
Battery Type:	Lithium Thionyl Chloride, 3.6V, Size AA, SAFT LS14500

Specification subject to change without notice.

For more information please visit us at:

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Wireless Sensors