LoRaWAN Triaxial MEMS Vibration Sensor

Smart Factory

SKU: WSLRW-V3A



Safe Zone

Hazardous Zones

WSLRW-V3A is an industrial LoRaWAN 3-axis MEMS vibration sensor designed for machine condition monitoring and predictive maintenance. It measures vibration simultaneously along three axes (X, Y, Z), with a wide frequency bandwidth up to 6kHz and acceleration ranges up to ±16g. The remote vibration probe connects to a LoRaWAN wireless node, enabling reliable vibration monitoring of industrial machinery.

Typical Applications: Machine Health Monitoring, Predictive Maintenance, Vibration Monitoring, Motor Monitoring, Pump Monitoring, Bearing Monitoring, Gearbox Monitoring.

Applications

Condition Based Monitoring, Machine Health Monitoring, Predictive Maintenance, Vibration Monitoring, Industrial Equipment Monitoring.

Notes For Applications

Measure 3-axis dynamic vibration and static acceleration components / 8 vibration values for each axis + surface temperature + FFT like Motor, Bearing, Pump, Fan, Gearbox, Rotary machine/ equipment... with vibration from 2 to 11,000 Hz. Deliver the overall calculated parameters: RMS acceleration, RMS and peak velocity, RMS and peak-peak displacement, frequency, temperature and crest factor.

LoRaWAN Communication

Standard LoRaWAN wireless communication allows integration with compatible LoRaWAN gateways and Industrial IoT platforms.

6kHz Vibration Bandwidth

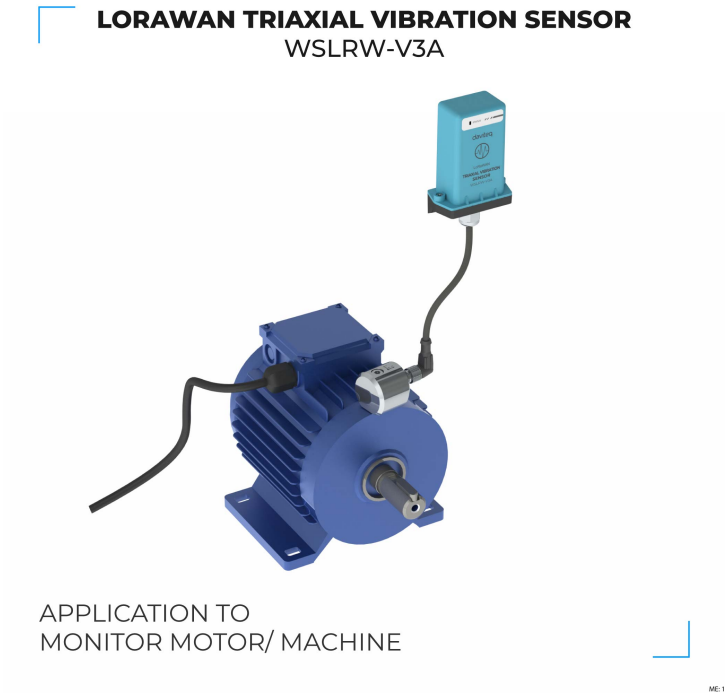
Wide vibration sensing bandwidth up to 6,000 Hz, suitable for monitoring industrial rotating machinery.

3-Axis Vibration Measurement

Simultaneous measurement along X, Y and Z axes, providing multidirectional vibration information from a single sensor.

Remote Vibration Probe

Industrial remote vibration probe with wired connection to the wireless node, allowing flexible installation on machines and equipment.



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Specification

Sensor technology	3-axis MEMS accelerometer
Measurement axes	X, Y, Z
Acceleration range	±16g
Maximum acceleration range	±156.9 m/s² per axis
Vibration sensing bandwidth	Up to 6,000 Hz (nominal −3dB point)
Measurement direction	Three perpendicular axes
Measurement parameters for each axis:	
	Band A (3 .. 1000Hz): Velocity_RMS_A
	Band B (2000 .. 6000Hz): Acc_RMS_B, Crest_Factor_B, Kurtosis_B
	Band C (5000 ..6000Hz): Acc_PEAK_C,Crest_Factor_C, Kurtosis_C
	Band D (3 .. 6000 Hz): Acc_RMS_D, Acc_PEAK_D
	Shock-Count
Other Measurement parameter	Temperature
Sensor material	Stainless steel 304
Protection rating	IP67
Sensor mounting	M6 threaded mounting
Sensor connection	M12 male, 5-pin, A-coded, 2m shielded cable
COMMUNICATION	
SF Factors	SF7～SF12
Antenna	Internal Antenna 2.0dbi
Power supply	7-48 VDC for external power supply version or 02 x AA size 1.5, battery not included for battery version
RF Frequency and Power	860～930MHz, 14～20dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN® Class A V1.0.3
Data sending modes	Interval time and when alarm occurred
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Working temperature	-40～60℃ (using Energizer® Lithium Ultimate AA battery)
Dimensions & Net-weight	H106xW73xD42, 190g
Housing	Polycarbonate, IP67
Mounting	Wall mount bracket

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LORAWAN TRIAXIAL VIBRATION SENSOR
WSLRW-V3A



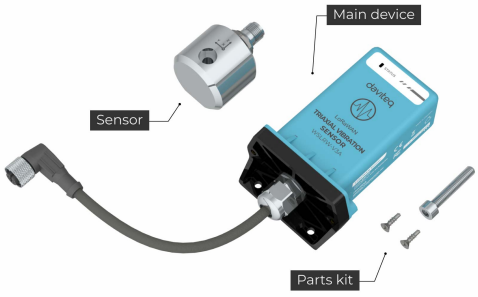
APPLICATION TO
MONITOR BEARING

LORAWAN TRIAXIAL VIBRATION SENSOR
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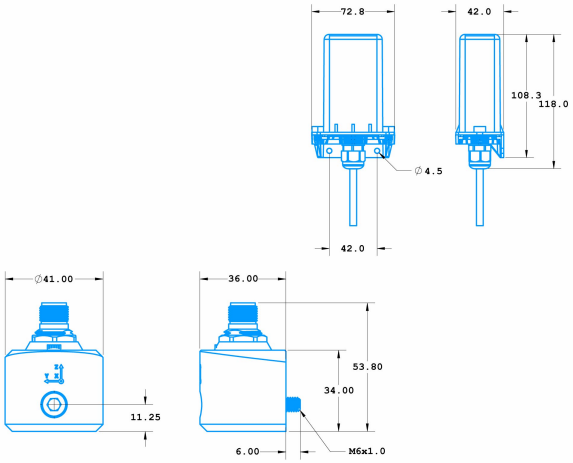
INSTALLATION AND WIRING

LORAWAN TRIAXIAL VIBRATION SENSOR
WSLRW-V3A



STANDARD PRODUCT PACKAGE

LORAWAN TRIAXIAL VIBRATION SENSOR
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SENSOR MODULE INSTALLATION

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Ordering Information

ITEM CODE	DESCRIPTION
WSLRW-V3A-6-16	LoRaWAN 3-axis MEMS vibration sensor, 6kHz bandwidth, ±16g, remote vibration probe, M6 mounting, 2m cable, internal antenna, 860–930MHz