

LoRaWAN Piezo-Electric 10kHz Vibration Sensor



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

SKU: WSLRW-V1A

LoRaWAN PIEZO-ELECTRIC 10KHZ VIBRATION SENSOR WSLRW-V1A



WSLRW-V1A-H1.JPG



WSLRW-V1A is a cost-effective, LoRaWAN 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 $>10kHz$. Besides that, it can also measure the temperature at the mounting point. It is the best choice to replace the traditional 4-20mA output Vibration Sensor. Typical Applications: Machine Health Monitoring, Predictive Maintenance Installations, Vibration Monitoring, Impact & Shock Monitoring, Bearing monitoring, ...

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).



LoRaWAN communication

LoRaWAN communication standard to allow sensor connect to any LoRaWAN Gateway on the market



10-Year battery

Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allow the sensor can last up to 10 years with 2 x AA batteries 1.5VDC



10kHz Bandwidth

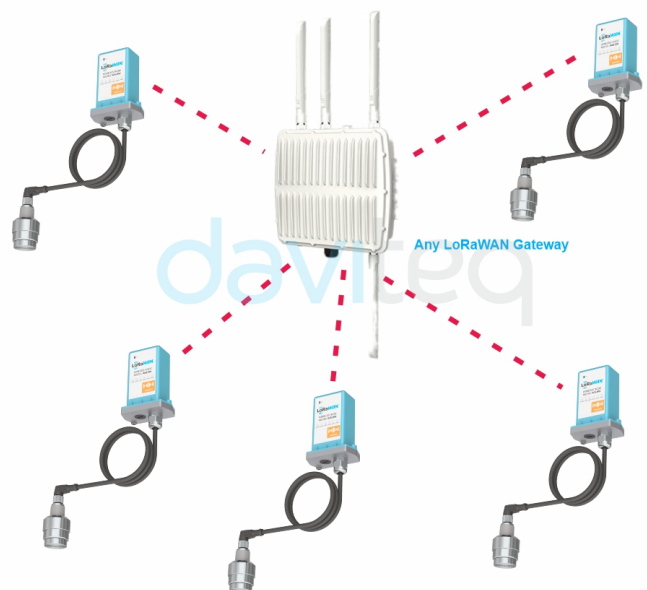
Wide bandwidth up to 10,000 Hz



High Performance Piezo-electric sensor

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

LoRaWAN NETWORK



WSLRW-V1A-H4.JPG

DAVITEQ TECHNOLOGIES INC

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www.iot.daviteq.com

Created date: Dec-21-2022

Updated date: Aug-28-2024

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Specification

(* Note: All below values are typical at +24°C, 80Hz)

Sensor technology	Hermetically Sealed, Piezo-Ceramic Crystal, Shear Mode
8-Parameter Measurement	Acceleration Peak, Velocity RMS & Peak, Displacement RMS & Peak, Frequency, Temperature, and Crest Factor
Acceleration Range & Shock Limit (g)	±25, 10000
Acceleration resolution	6.1mg
Velocity range and resolution	0~50mm/s, 0.1mm/s
Displacement range and resolution	±5000µm, 1µm
Frequency Response and Resonant (Hz)	2~10000, > 30000
Frequency resolution	2~10000Hz, 1Hz
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
Connector	M12-M 5-pin (Coding A) with 2m cable, wired to LoRaWAN node
COMMUNICATION	
SF Factors	SF7~SF12
Antenna	Internal Antenna 2.0dbi
Battery	02 x AA size 1.5, battery not included
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°C (using Energizer® Lithium Ultimate AA battery)
Dimensions & Net-weight	H106xW73xD42, 190g
Housing	Aluminum+Polycarbonate, IP67
Mounting	Wall mount bracket

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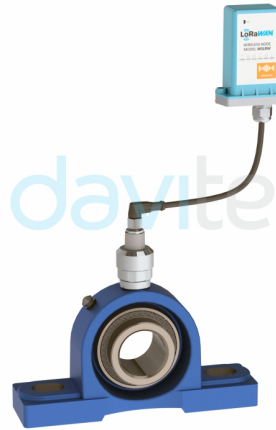
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WIRELESS LoRaWAN VIBRATION SENSOR
INSTALLED ON MOTOR/FAN



WSLRW-V1A-H2.JPG

WIRELESS LoRaWAN VIBRATION SENSOR
INSTALLED ON BEARING



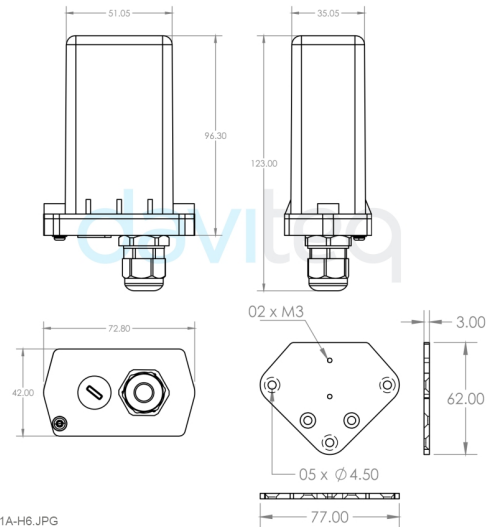
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VIBRATION SENSOR WITH M6 SCREW



WSLRW-V1A-H5.JPG

DIMENSION DRAWING OF WIRELESS NODE
(Unit: mm)



WSLRW-V1A-H6.JPG

RECOMMENDED BATTERIES

E91 AA Alkaline battery



-18 .. + 60 oC working temperature
10-year shelf life
3000 mAh Capacity
Price: 1X

L91 AA Lithium battery



-40 .. + 60 oC working temperature
20-year shelf life
3500 mAh Capacity
Price: 3.5X

WSLRW-V1A-H7.JPG

WHAT'S IN THE PACKAGE?



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20-year shelf life
3500 mAh Capacity
Price: 3.5X

WSLRW-ULA-H8.PNG

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Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRW-V1A-025	LoRaWAN PIEZO-ELECTRIC 10KHZ VIBRATION SENSOR, $\pm 25G$, INTERNAL ANTENNA, TYPE AA BATTERY 1.5VDC, IP67, 860-930MHZ

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