

Wireless Piezo-Electric 10kHz Vibration Sensor



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

SKU: WS433-V1A

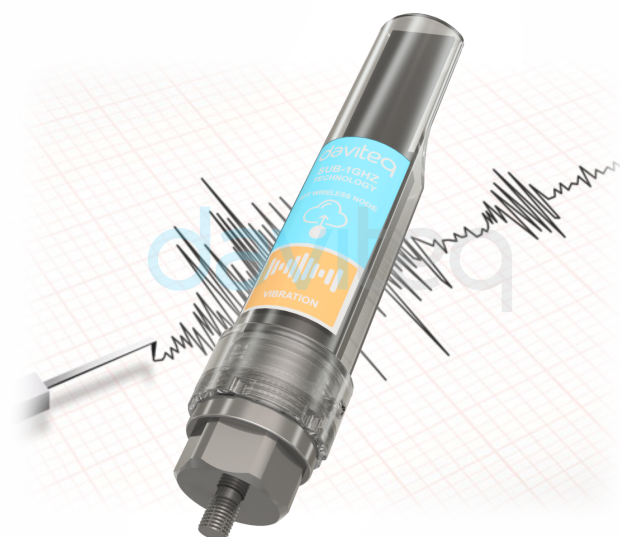


Safe Zone



Hazardous Zones

WIRELESS PIEZO-ELECTRIC 10KHZ VIBRATION SENSOR WS433-V1A



WS433-V1A-H1.PNG

WS433-V1A is a cost effective, wireless accelerometer single-axis vibration sensor designed for condition monitoring and preventive maintenance applications. The piezo-electric accelerometer is available in ranges $\pm 50g$ and features a flat frequency response up to $>10kHz$. Its accelerometer feature 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 WS433-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. Beside that it can also measure the temperature at mounting point. The sensor will connect wirelessly to the Wireless Coordinator WS433-CL then export the data to RS485/ModbusRTU and from there easily connect to any monitoring and control system. LOS distance from sensor to receiver is 1000m and can be extended by Extender. Typical applications include: 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



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



10kHz Bandwidth

Wide bandwidth up to 10,000 Hz



Pre-calibrated

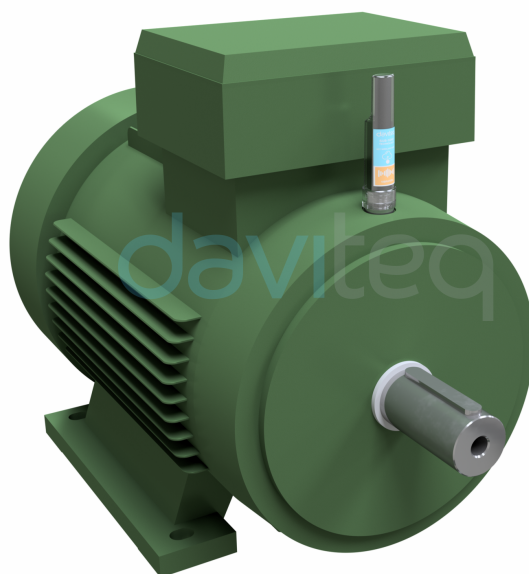
Sensors are pre-calibrated at factory to deliver high accuracy and quick installation



Reliable & Secured Wireless Connection

Sub-Ghz technology from Texas Instruments allows reliable wireless connection and secured data by AES-128

WIRELESS VIBRATION SENSOR INSTALLED ON ELECTRIC ENGINE/FAN



WS433-V1A-H2.PNG

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Created date: Dec-21-2022

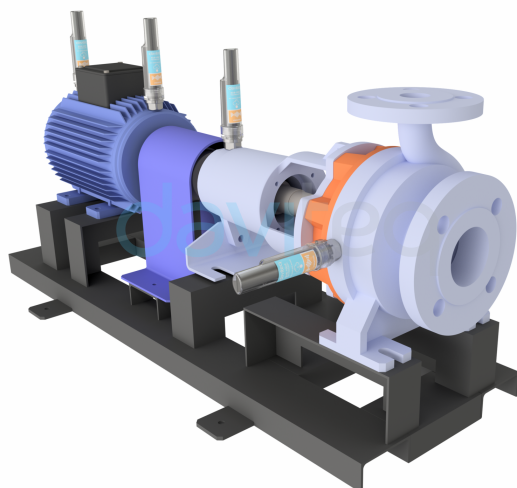
Updated date: Aug-28-2024

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Specification

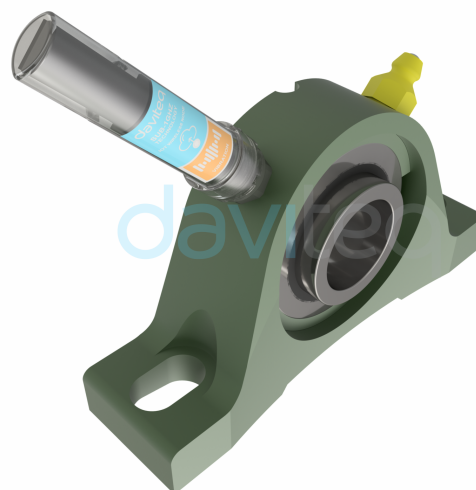
VIBRATION SENSOR SPECIFICATION:	undefined
Sensor type	Hermetically Sealed, Piezo-Ceramic Crystal, Shear Mode
Acceleration Range and Shock Limit (g)	±50, 10000
Frequency Response and Resonant Frequency (Hz)	2~10000, >30000
Non-Linearity, Transverse Sensitivity	±2% FSO, < 5%
Temperature measuring and operating range, accuracy & resolution (°C)	-40~85, ±0.5, 0.125
Sensor Material, housing protection and mounting	304SUS, IP67, M6 Screw
*Notes	All above values are typical at 24°C, 80Hz
WIRELESS SPECIFICATION:	undefined
Data speed	Up to 50kbps
Transmission distance, LOS	1000m, internal Antenna
Battery	01 x AA 1.5-3.6VDC, up to 10-year operation, depends on configuration
Frequency Band	ISM 433MHz, Sub-GHz technology from Texas Instrument, USA
International Compliance	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Vietnam Type Approval Certification	QCVN 73:2013/BTTTT, QCVN 96:2015/BTTTT (DAVITEQ B00122019)
Security Standard	AES-128
Operating temperature of PCB	-40~60°C (with AA L91 Energizer®)
Housing	Poly-carbonate, IP67
Installation method	Integrated with Sensor
Product dimensions & weight	150x30x30mm, < 260g (without battery), with sensor
Box dimension & gross weight	190x50x50mm, < 300g

WIRELESS VIBRATION SENSOR INSTALLED ON PUMP



WS433-V1A-H3.PNG

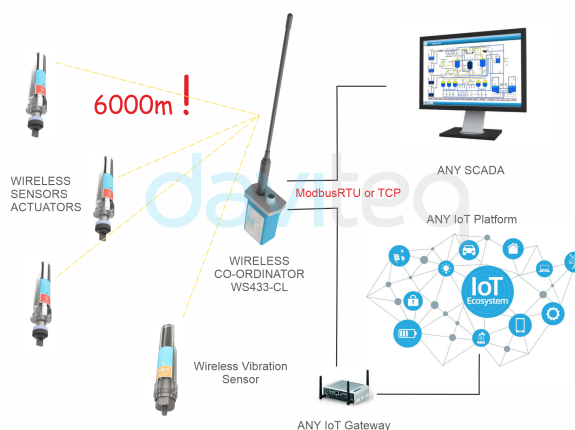
WIRELESS VIBRATION SENSOR INSTALLED ON BEARING



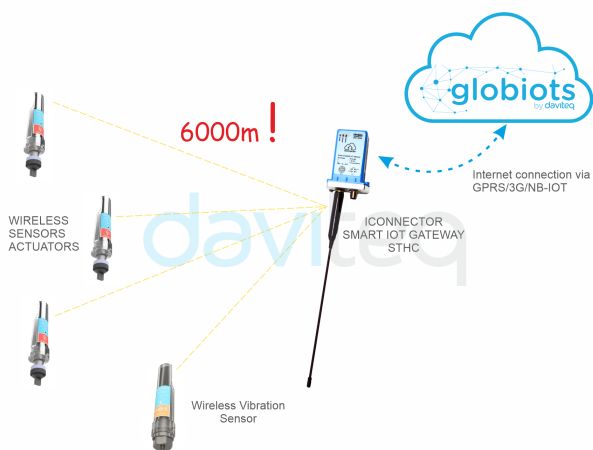
WS433-V1A-H4.PNG

CONNECT WIRELESS SENSORS TO
any PLC or HMI

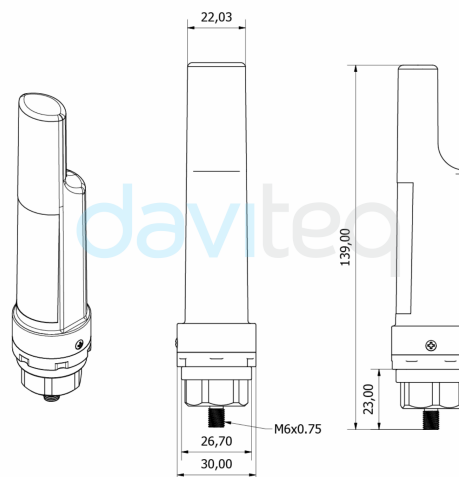
WS433-V1A-H5.PNG

CONNECT WIRELESS SENSORS TO
any SCADA or IoT Platform

WS433-V1A-H6.PNG

CONNECT WIRELESS SENSORS TO
GLOBIOTS Platform

WS433-V1A-H7.PNG

DIMENSIONS
(Unit: mm)

WS433-V1A-H8.PNG

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Ordering Information

ITEM CODE	DESCRIPTIONS
WS433-V1A-050	Wireless Piezo-electric 10kHz Vibration Sensor, 433MHz, ±50g, pre-calibrated, AA 1.5-3.6VDC battery, IP67