

LoRaWAN Tower Vibration Sensor



Smart Facility, Smart City, Smart Building

SKU: WSLRW-TVS

LoRaWAN TOWER VIBRATION SENSOR WSLRW-TVS



WSLRW-TVS-H1.JPG



Safe Zone



Hazardous Zones

WSLRW-TVS is a special vibration sensor to monitor the vibration of telecommunication towers, electrical towers, and lighting poles... With advanced vibration sensor and digital processing, it delivers accurate vibration parameters like displacement, frequency, and tilt angles... With a built-in Wind speed and wind direction sensor, it can deliver the vibration parameters associated with the wind speed and wind direction at the same time. It supports LoRaWAN connectivity, allow to connect to any LoRaWAN gateway and Network Server on the market. The device powered by an integrated Solar panel with rechargeable batteries to allow continuous operation up to 10 years.

Applications

Vibration Monitoring, Tilt Monitoring, Facility Monitoring, Safety Monitoring

Notes For Applications

- This TVS sensor measures the static tilt angle of the static object vs. the Gravity direction. Please do not use it for other angle measurements.
- It measures the static tilt angle, frequency and displacement of stationary objects or slow-moving objects such as Pole, Tower...
- It does not measure the tilt angle, frequency and displacement of a quick-moving object like construction equipment...

✓ High Accuracy & Stable Vibration Measurement

Advanced vibration sensor with high sensitivity

✓ Maintenance free

No-moving wind sensor allows long life operation without maintenance

✓ Integrated with Solar

Integrated Solar for Autonomous operation

✓ Long life design

10+ years life design without maintenance

LoRaWAN NETWORK



This wireless network can connect any kind wireless sensors:

- * RELAY OUTPUTS FOR VALVE/PUMP CONTROLS;
- * AIR HUMIDITY/TEMPERATURE SENSOR;
- * CO2 SENSOR;
- * AMBIENT LIGHT SENSOR;
- * ...ETC

WSLRW-TVS-H3.JPG

DAVITEQ TECHNOLOGIES INC

Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.iot.daviteq.com

Created date: Aug-30-2023

Updated date: Aug-28-2024

1/4

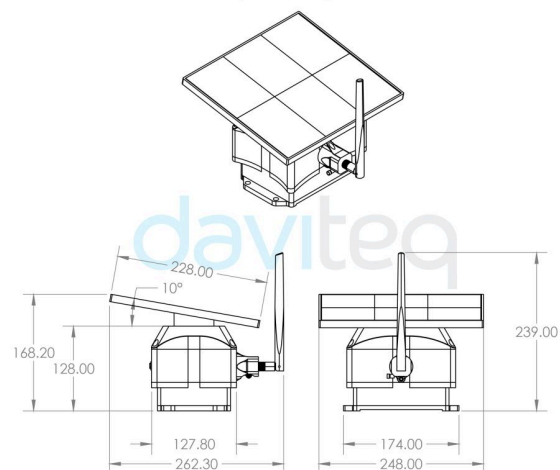
Specification

Sensor technology	High precision Dual-axis vibration sensor and Solid-state wind sensor
Measurement	Displacement, Frequency, static Tilt angles, Wind speed, and Wind direction
Displacement range, Resolution	±1200mm, 1mm
Displacement accuracy	±5% RD for Range 50~1200mm, ±0.5% RD for Range <50mm
Frequency range, Resolution	0.15~1.00 Hz, 0.01 Hz
Frequency accuracy	±0.1 Hz
Tilt angle range, Resolution	±30°, 0.001°
Tilt angle repeatability	±0.01°
Wind speed range, Resolution, Accuracy	0 - 50 m/s, 0.1, ±3% of Reading
Wind direction range, Resolution, Accuracy	0-360, 1, ±1
Working temperature	-40~85°C (complete devices except batteries)
Working humidity	0~100% RH, non-condensing
COMMUNICATION	
SF Factor	SF7~SF12
Antenna	External Antenna 2.0 dbi
Functions	Sending data in interval or when alarms occur
Power	Solar Panel with Rechargeable batteries 4 x AA Panasonic® Eneloop™ Standard (batteries are not included)
RF Frequency and Power	860~930MHz, 14~20 dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN, class A
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)
Operating temperature of device	-20~50°C (limited by Panasonic Eneloop Standard Batteries)
Housing/Protection	Aluminum & PC plastic
Mounting	Wall mount, c/w mounting bracket
Dimension, weight	H80 × W80 × D120, <350g

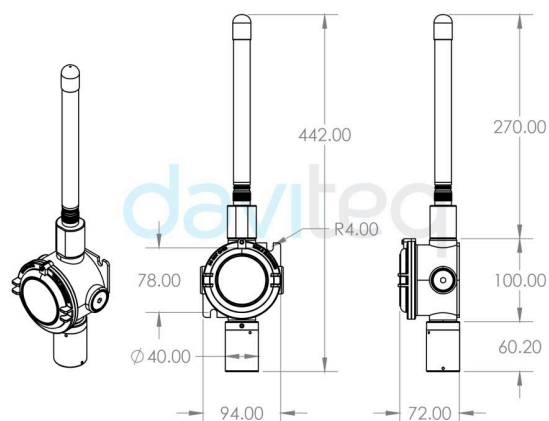
TELECOM TOWER VIBRATION MONITORING



WSLRW-TVS-H2.JPG

DIMENSION DRAWING OF DEVICE
(Unit: mm)

WSLRW-TVS-H4.JPG

DIMENSION DRAWING OF SENSOR NODE
(Unit: mm)

WSLRWEX-ATH-H5.JPG

RECOMMENDED BATTERIES FOR LoRaWAN SENSOR

LS 26500 Lithium battery



-60°C..+85°C working temperature

Low self-discharge rate

7.7 Ah Capacity

WSLRWEX-ATH-H6.JPG

DAVITEQ TECHNOLOGIES INC

Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.iot.daviteq.com

Created date: Aug-30-2023

Updated date: Aug-28-2024

3/4

Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRW-TVS-01	LoRaWAN Tower Vibration Sensor, 2W solar panel, XY Vibration, XY Tilt, Wind speed and direction
WSLRW-TVS-02	LoRaWAN Tower Vibration Sensor, 2W solar panel, XY Vibration, XY Tilt