

# Tower Vibration Sensor



Smart Facility, Smart City, Smart Building

SKU: WSNB-TVS

## TOWER VIBRATION SENSOR WSNB-TVS



WSNB-TVS-H1.JPG

Safe Zone

Hazardous Zones

WSNB-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 is equipped with cellular connectivity for sending data to Host system. Customer can select 3G Dual Band, 4G Cat 1, NB-IoT, or LTE Cat M1. It will connect 2-way wirelessly to any Host system . It can be configured with the operation parameters like data sending interval, and health check cycle... remotely from the Globiots platform.

### 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

## TELECOM TOWER VIBRATION MONITORING



WSNB-TVS-H2.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](http://www.iot.daviteq.com)

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## Specification

SENSOR SPECIFICATION	
Sensor technology	Ultra-precision Dual-axis vibration sensor and Solid-state wind sensor
Measurement	Displacement, Frequency, static Tilt angles, Wind speed, and Wind direction
Displacement range, Resolution	±2000mm, 1mm
Displacement accuracy	±5% of reading
Frequency range, Resolution	0~100Hz, 0.1Hz
Frequency accuracy	±0.1Hz
Tilt angle range, Resolution	0~90°, 0.01°
Tilt angle accuracy	±0.01°
Wind speed range, Resolution, Accuracy	0~50m/s, 0.1, ±3% of Reading
Wind direction range, Resolution, Accuracy	0~360°, 1°, ±1°
Working temperature	-40~85°C
Working humidity	0~100% RH, non-condensing
WIRELESS SPECIFICATION	
Host Communication	Cellular type LTE Cat 1, 3G-Dual band (2100/900) or LTE Cat M1/NB1 with Global band (B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66 ) and 2G-Quadband fall back, standard internal antenna, optional external antenna
Host communication	supports TCP/IP, UDP/IP, FTP, HTTPS, SNMP etc.
On-board memory	2MB Flash
SIM slot	01 x micro-SIM (cellular versions only)
Antenna	External Antenna
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)
Operating temperature of PCB	-40~85°C
Housing/ Protection	Aluminum & PC plastic
Mounting	Wall mount, c/w mounting bracket
Dimension, weight	H80xW80xD120, <250g

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CONNECT to GLOBIOTS Platform



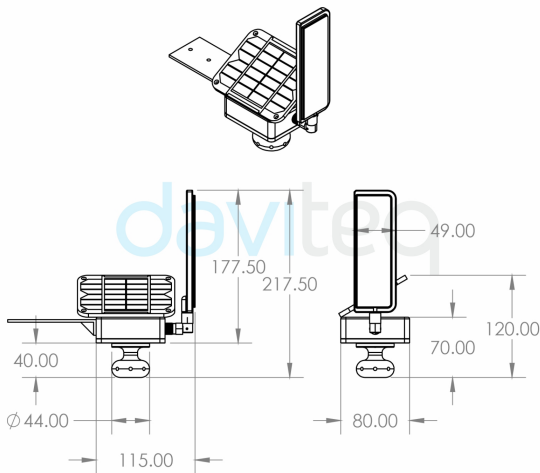
WSNB-TVS-H3.JPG

CONNECT to GLOBIOTS or any IoT Platform



WSNB-TVS-H4.JPG

DIMENSION DRAWING OF DEVICE  
(Unit: mm)



WSNB-TVS-H5.JPG

RECOMMENDED BATTERIES FOR LoRaWAN SENSOR

E91 AA Alkaline battery



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

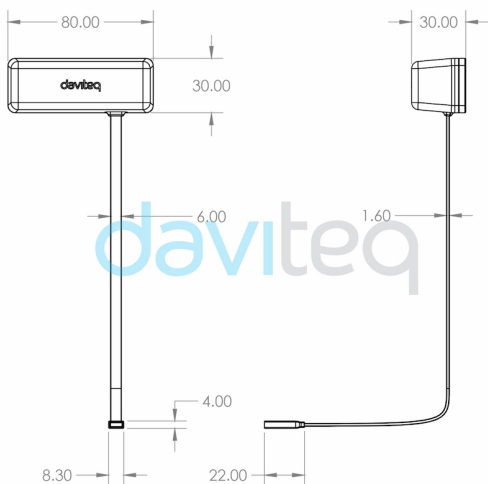
L91 AA Lithium battery



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

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DIMENSION DRAWING OF SENSOR NODE



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RECOMMENDED BATTERIES FOR LoRaWAN SENSOR

LS 14500 Lithium battery



- 60°C..+85°C working temperature
- Low self-discharge rate
- 2.6 Ah Capacity


WSLRW-S-ATE-H8.PNG


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## Ordering Information

ITEM CODE	DESCRIPTIONS
WSNB-TVS-3GDB	Tower Vibration Sensor, 3G Dual-Band, 2W solar panel, XY Vibration, XY Tilt, Wind speed and direction
WSNB-TVS-3GDB-NW	Tower Vibration Sensor, 3G Dual-Band, 2W solar panel, XY Vibration, XY Tilt, NO Wind sensors
WSNB-TVS-NB1	Tower Vibration Sensor, LTE CatM1/NB1/2G, 2W solar panel, XY Vibration, XY Tilt, Wind speed and direction
WSNB-TVS-NB1-NW	Tower Vibration Sensor, LTE CatM1/NB1/2G, 2W solar panel, XY Vibration, XY Tilt, NO Wind sensors

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