LoRaWAN Tilt Sensor

Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Farm, Smart Factory

SKU: WSLRW-AG

daviteq

✓ Safe Zone   ◯ Hazardous Zones

LoRaWAN TILT SENSOR
WSLRW-AG

10-Year

Ip68 WEATHERPROOF

WSLRW-AG-H1.JPG

WSLRW-AG is a LoRaWAN Tilt Sensor, inclinometer can be used to measure tilt angles X, and Y of any object such as a Tower, Building, Tree, Electricity Tower, Telecom Tower, Bridges... With Ultra-low Power design and smart firmware allow the sensor can last up to 10 years with 02 x AA-type battery (depends on configuration). The sensor will transmit data in kilo-meters distance to the LoRaWAN gateway, any brand on the market.
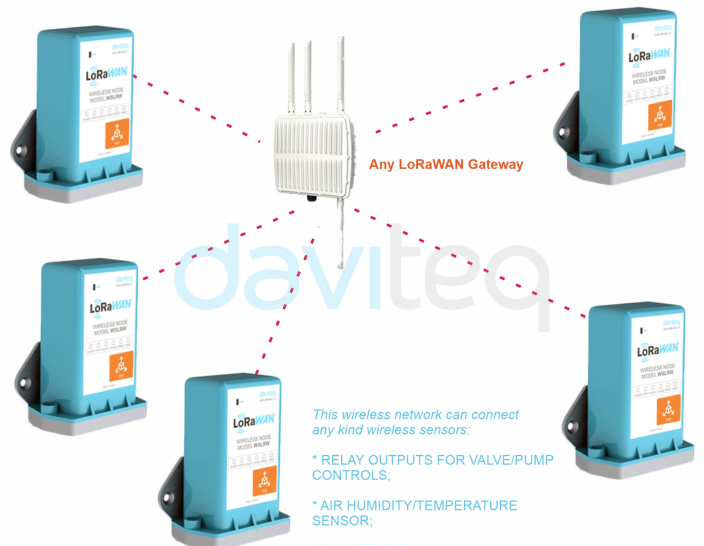
Applications
Facility Monitoring, Flood Monitoring, Infrastructure Monitoring, Level Monitoring, Machine Health Monitoring, Safety Monitoring, Tilt Monitoring

Notes For Applications

- This AG tilt 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 of stationary objects or slow-moving objects such as Tree, Bridge, Pole, Tower, Crane, and Building...
- It does not measure the tilt angle of a quick-moving object like construction equipment...

✓ **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 02 x Type AA batteries.

✓ **High Precision Tilt Measurment**
Advanced Accelerometer to deliver high accuracy and stable measurement of Tilt angles.

✓ **Solar Powered for Fast Sampling Rate**
Optional version with Solar Power and Rechargeable Batteries for Fast-sampling-rate application

LoRaWAN NETWORK

Any LoRaWAN Gateway

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-AG-H5.JPG

DAVITEQ TECHNOLOGIES INC
📍 Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH
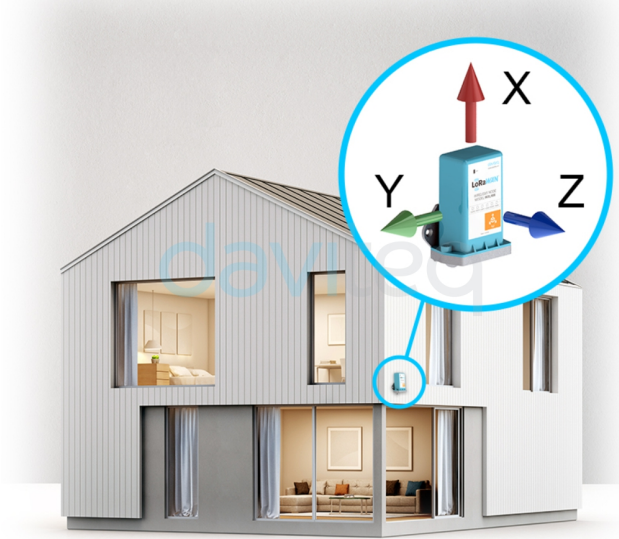📞 +84.28.6268.2523 / 6268.2524
✉ info@daviteq.com   **www.iot.daviteq.com**   Created date: Dec-21-2022   Updated date: Aug-28-2024   1/5

Specification

Tilt Sensor	Built-in advanced accelerometer to deliver tilt angle measurement of XYZ for AG-01 version, XY for AG-03 version
Tilt Measurement range	±90° for AG-01 version | ±30° for AG-03 version
Tilt Resolution	±0.01° for AG-01 version | ±0.001° for AG-03 version
Tilt Repeatability	±0.075° for AG-01 version | ±0.010° for AG-03 version
Tilt Temperature Drift	±0.2° per 10℃ for AG-01 version (when installation X∼0° and Y∼0°)
Sensor sampling rate	1Hz max (recommend for Solar powered version)
Shock Detection	Yes, max 2G threshold (only available in some FW version, please consult us)
COMMUNICATION	
SF Factors	SF7∼SF12
Antenna	Internal Antenna 2 dbi or external antenna
Power Supply	Primary batteries 02 x AA size 1.5VDC (battery not included) or Solar Panel with Rechargeable batteries 2 x AA Panasonic® Eneloop™ Standard (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 V1.0.3
Data sending modes	interval time, alarm (from FW5) and manually triggering by magnetic key
Alarm function	from FW5, for X-axis only
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Vietnam Type Approval	
Working temperature	-40∼60℃ (with AA L91 Energizer®)
Dimensions	H106xW73xD42
Net-weight	190g
Housing	Aluminum + Polycarbonate plastic, IP68 for Primary battery version and IP67 for Solar/External Power version.

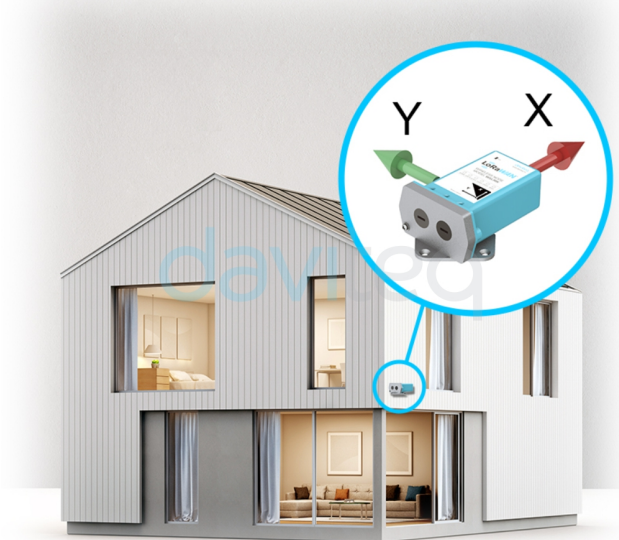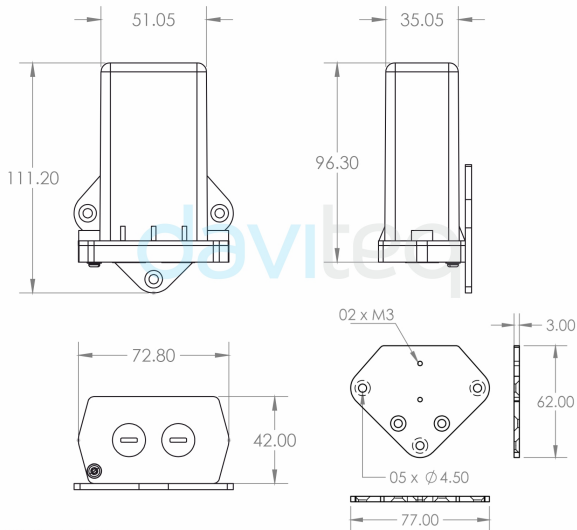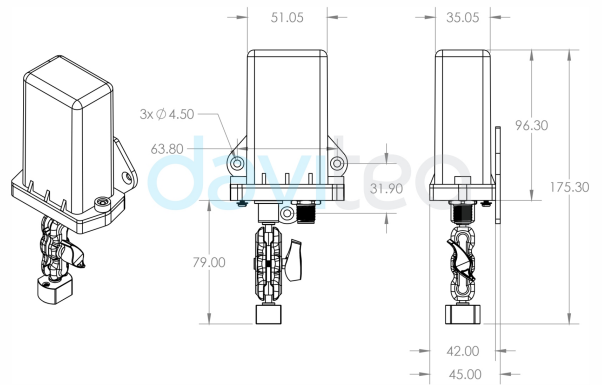## AG-01 TILT SENSOR INSTALLED ON THE WALL

WSLRW-AG-H2.JPG

AG-01 TILT SENSOR INSTALLED ON THE TREE

WSLRW-AG-H3.JPG

AG-03 TILT SENSOR INSTALLED ON THE WALL

WSLRW-AG-H4.JPG

AG-03 TILT SENSOR INSTALLED ON THE TREE

WSLRW-AG-H5.JPG

WHAT'S IN THE PACKAGE?

Parts kit

Main device

BTP1-PARTSKIT-ICT

MAGNET KEY

Magnet key

WSLRW-AG-H6.JPG

WHAT'S IN THE PACKAGE?

Main device

BTP1-PARTSKIT-ICT

Parts kit

WSLRW-AG-H9.JPG

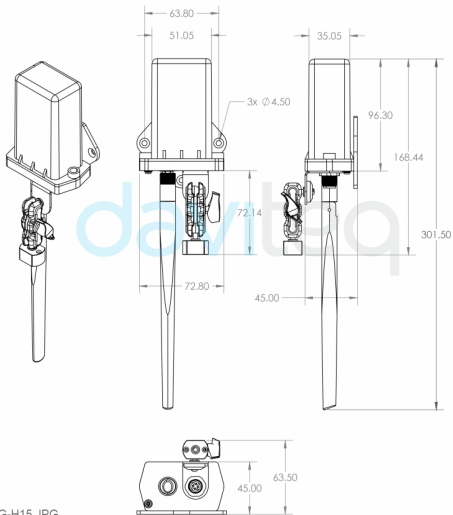## DIMENSION DRAWING OF WIRELESS SENSOR

WSLRW-AG-H7.JPG

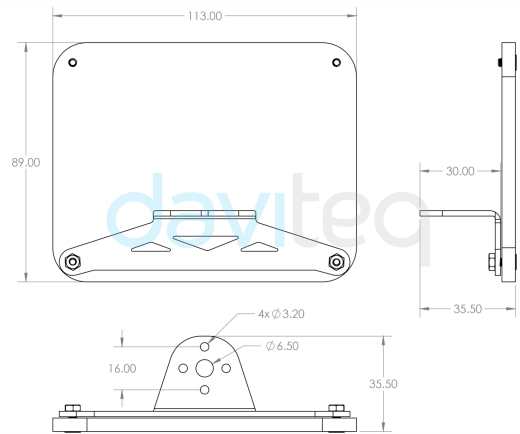## DIMENSION DRAWINGS FOR WIRELESS SENSOR WITH SOLAR BRACKET

WSLRW-AG-H10.JPG

DRAWING FOR TILT SENSOR WITH EXTERNAL ANTENNA AND SOLAR BRACKET

WSLRW-AG-H15.JPG

DIMENSION DRAWINGS FOR SOLAR PANEL

WSLRW-AG-H11.JPG

RECOMMENDED BATTERIES FOR LoRaWAN SENSOR POWERED BY PRIMARY BATTERY

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-AG-H10.JPG

RECOMMENDED BATTERIES FOR LoRaWAN SENSOR POWERED BY SOLAR PANEL

AA RH6 Rechargeable Battery

-20 .. +50°C working temperature

2000 mAH Capacity

AA NiMH Rechargeable Battery

-20 .. +50°C working temperature

2000 mAH Capacity

WSLRW-AG-H11.JPG

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Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRW-AG-01	LoRaWAN General Tilt sensor, Internal antenna, XYZ, 0.075° Repeatability, Type AA battery 1.5VDC, IP68, 860-930MHz
WSLRW-AG-03	LoRaWAN Precision Tilt sensor, Internal antenna, XY, 0.01° Repeatability, Type AA battery 1.5VDC, IP68, 860-930MHz
WSLRW-AG-03S	LoRaWAN Precision Tilt sensor, Internal antenna, XY, 0.01° Repeatability, with 1W6V Solar Panel or External Power 6VDC, IP67, 860-930MHz
WSLRW-AG-03S-XA	LoRaWAN Precision Tilt sensor, External antenna, XY, 0.01° Repeatability, with 1W6V Solar Panel or External Power 6VDC, IP67, 860-930MHz
ACCESSORIES	
SOLAR-PN-1W6V-PU-M12F-20-1/4BRK	SOLAR PANEL FOR SENSOR OR DEVICE, 1W 6V, PU COATED, M12-F CONNECTOR, 20CM CABLE, DOUBLE BALL BRACKET 1/4"