

LoRaWAN Ex d Tilt Sensor



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

SKU: WSLRWEX-AG

Safe Zone

Hazardous Zones

LORAWAN EX D TILT SENSOR WSLRWEX-AG



WSLRWEX-AG is a LoRaWAN Tilt Sensor with Ex d explosion-proof approval and comes with inclinometer which 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 01 battery (depends on configuration). The sensor will transmit data in kilo-meters distance to the LoRaWAN gateway, any brand on the market. For LoRaWAN connectivity, it supports global frequency bands EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915.

Applications

Facility Monitoring, Flood Monitoring, Infrastructure Monitoring, Level Monitoring, Machine Health Monitoring, Safety Monitoring, Tilt Monitoring

Notes For Applications

Tilt Range: Match the angle range to your needs (e.g., $\pm 45^\circ$, $\pm 90^\circ$). Accuracy & Resolution: Higher values for precise applications. Axes: Single or multi-axis depending on complexity. Sensor Type: Mechanical (simple) vs. MEMS (advanced). Environment: Check temperature, waterproofing, and shock resistance. Power: Ensure voltage/current match your system. Size & Mounting: Fit your design and installation needs.

LoRaWAN Communication

LoRaWAN Specification V1.0.3

10-Year battery

Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allows the sensor can last up to 10 years with a single battery C

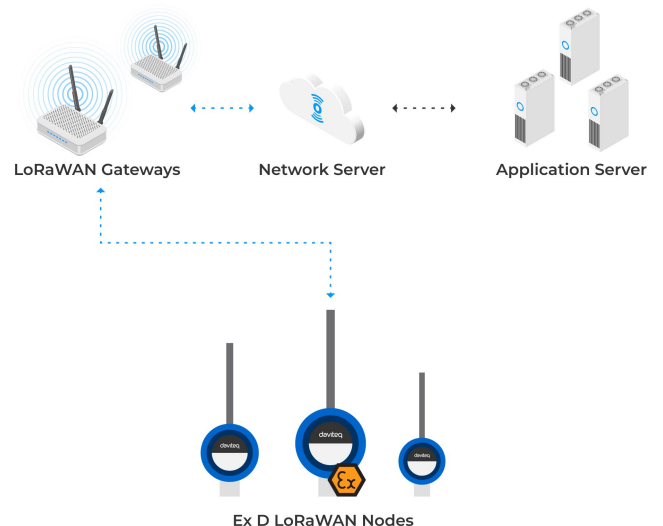
High Precision Tilt Measurement

Advanced Accelerometer to deliver high accuracy and stable measurement of Tilt angles.

Ex d Zones 1-2-21-22

Ex d approval for installation in Zone 1, Zone 2 or Safe Zone

SYSTEM ARCHITECTURE LoRaWAN



DAVITEQ TECHNOLOGIES INC

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Created date: Feb-17-2024

Updated date: Mar-31-2026

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°C for AG-01 version (when installation X~0° and Y~0°)
Sensor sampling rate	1Hz max (recommend for Solar powered version)
COMMUNICATION	
SF Factors	SF7~SF12
Antenna	External antenna
Power Supply	Primary batteries 01 x D size 3.6VDC (battery not included) or Solar Panel with Rechargeable batteries 1 x D size (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 and manually triggering by magnetic key
Alarm function	for X-axis and Y-axis only
Housing	Cast aluminum, IP66
Ex Certification	IMQ 14 ATEX 005 X, TÜV CY 18 ATEX 0206158 X
Hazardous Protection Marking	ATEX II 2G Ex db IIC T4 Gb and ATEX II 2D Ex tb IIIC T135°C Db
Standards	IEC EN 60079-0, IEC EN 60079-7 and IEC EN 60079-31
Applicable Zones	Zone 1 & 2 gas hazardous areas Zone 21 & 22 hazardous areas which contain conductive combustible dust
Ambient working temperature	-40~85°C (use with SAFT LS26500)
Size Net weight	H177xW126xD129 (not including antenna)/ ≈1500g
Mounting type	Wall mount

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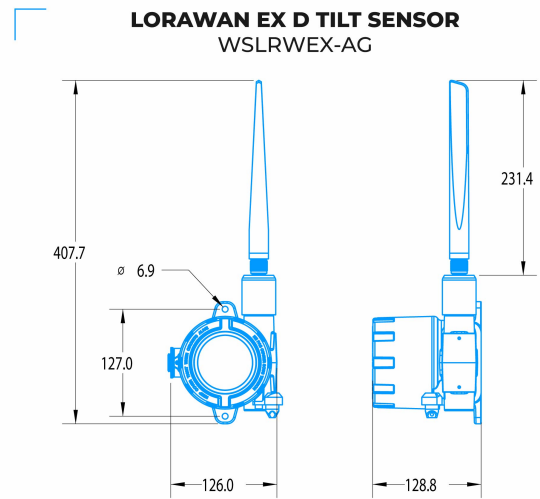
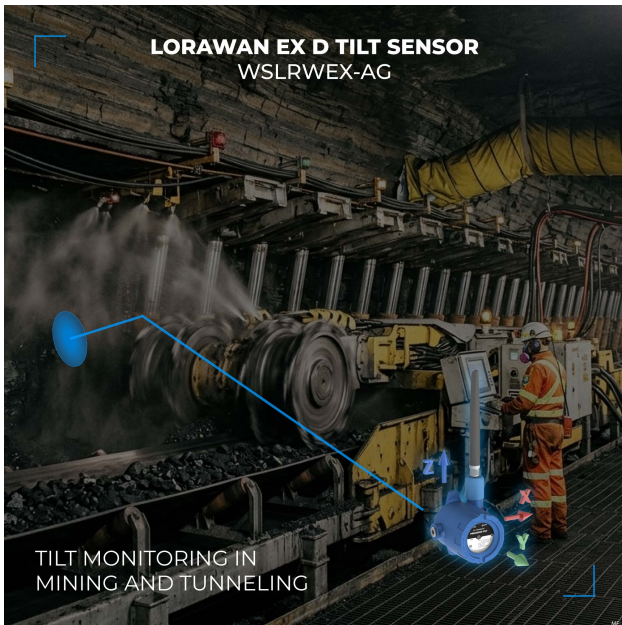
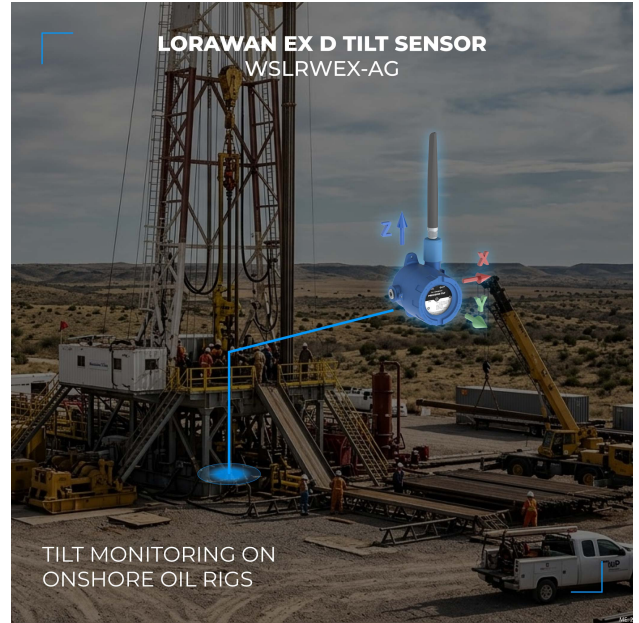
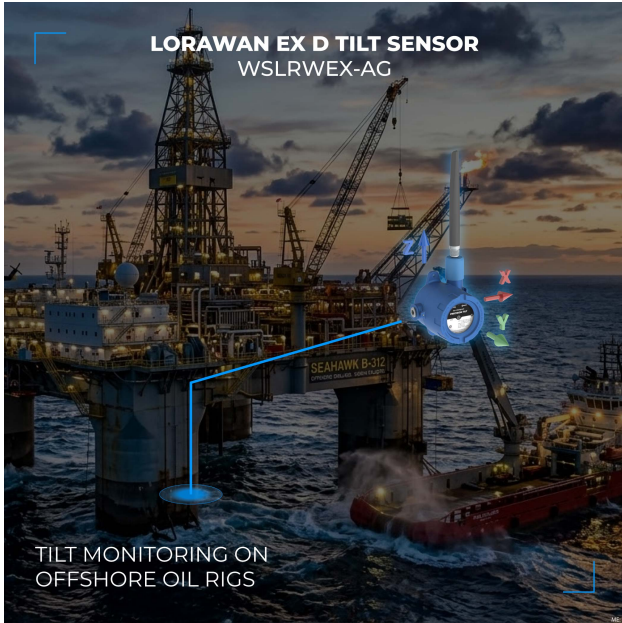
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DIMENSION DRAWING OF WIRELESS NODE (Unit: mm)

ME.2

RECOMMENDED BATTERIES



LS 33600
Lithium battery
-60~85°C working temperature
Low self-discharge rate
17000 mAh capacity

POWERED BY PRIMARY BATTERY

LORAWAN EX D TILT SENSOR
WSLRWEX-AG



STANDARD PRODUCT PACKAGE

ME.2

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Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRWEX-AG-03	LoraWAN Ex d approved Tilt Sensor, XY Tilt measurement, 0.01 Repeatability, Single 3.6V Battery, -30°~30°, IP66

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