Tilt Sensor

Featuring LoRaWAN®

EM320-TILT



EM320-TILT is an LoRaWAN® tilt sensor mainly for angle measurement and asset movement detection. With a compact size and 3-axis accelerometer, EM320-TILT can be installed to the objects easily to measure its X, Y, Z tilt angles. In addition, EM320-TILT supports customizing initial position to detect movement based on angle changes and send threshold alarms. Compliant with Milesight LoRaWAN® gateway and Milesight IoT Cloud solution, users can know the angles and tilt threshold alarms in real-time via browser or mobile app remotely.

EM320-TILT can be widely used in tree monitoring, pole lean detection, landslide monitoring, etc.

◆ Features

- Built-in MEMS accelerometer sensor to measure the 3-axis angles of any objects
- Flexible threshold condition settings, suitable for different kinds of applications
- Easy to install, suitable for various types of objects as trees, poles, grounds, etc.
- IP67 waterproof enclosure for outdoor applications
- Anti-theft design on back cover to secure firm and sturdy installation
- Ultra-wide-distance wireless transmission up to line of sight of 15 km
- Equipped with NFC for one touch configuration
- Function well with standard LoRaWAN® gateways and network servers
- Compliant with Milesight IoT Cloud

◆ Specifications

Wireless Transmission	
Technology	LoRaWAN®
Antenna	Internal Antenna
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16 dBm (868 MHz)/22 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class A
Measurement	
Axis	X, Y, Z
Range	- 90° ~ +90°
Accuracy	± 1°
Resolution	0.01°
Others	
LED	1 × LED Indicator (Internal)
Button	1 × Power/Reset Button (Internal)
Software	
Power On & Off	NFC Configuration via Mobile App, Power Button (Internal)
Configuration	NFC Configuration via Mobile App
Advanced Feature	Threshold Alarm
Physical Characteristics	
Power Supply	2 × 2700 mAh ER14505 Li-$SOCl_2$ Batteries
Battery Life* (10min interval, 25°C)	Around 4 Years (SF7, EU868 & US915) Around 3 Years (SF10, EU868 & US915)
Operating Temperature	-30°C to +60°C
Relative Humidity	≤95% (non-condensing)
Ingress Protection	IP67
Dimension	85 × 58 × 18 mm (3.34 × 2.28 × 0.70 in)
Housing & Color	PC + ABS, White
Installation	Wall Screw Mounting, Pole Mounting
Approvals	
Regulatory	CE, FCC, Telec
Environmental	RoHS

* Tested under laboratory conditions and for guideline purposes only.

◆ Dimensions (mm)

