

SQ Series Wireless Inclinometers

The SQ series wireless inclinometers are industrial-grade sensors designed for inclination monitoring applications. The sensors feature interference resistance, high precision, ultra-low power consumption, and robust durability, making them suitable for long-term use in harsh industrial environments.

The sensor adopts gravity acceleration-based inclinometer technology and can output tilt, pitch, and roll angles relative to the initial position, as well as provide waggle data.

The SQ series wireless inclinometers can monitor inclination in any direction for pole-style structures and also for planar structures. It supports both relative and absolute inclination monitoring, providing comprehensive inclination status data. It is widely used in monitoring the inclination status and foundation settlement of structures such as wind power towers, power transmission towers, traffic bridges, buildings, and equipment.

The sensor data is transmitted through a wireless sensor network to a remote monitoring platform. Users can remotely monitor the inclination of the equipment, receive timely alerts, continuously track changes in attitude, ensure the safe operation of the equipment, prevent unplanned downtime, and reduce maintenance time and costs.

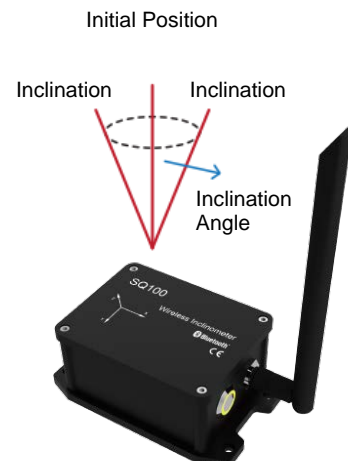


Features and Advantages

- Accurate ⇒ Repeatability precision: $\pm 0.05^\circ$, Resolution: 0.001° .
- Easy-to-install ⇒ Cable-less; can be installed in any orientation to monitor inclination in any orientation.
- Wireless ⇒ 2.4GHz wireless sensor network; capable of transmitting data reliably.
- Low-powered ⇒ Built-in battery with 5 years of life for normal usage.
- Ruggedized ⇒ Waterproof, dustproof, shockproof, and corrosion-resistant; suitable for harsh industrial environment.
- Flexible ⇒ The sampling and communication periods can be configured according to specific requirements.
- Accessible ⇒ Remotely accessible anytime, anywhere; automatic alarm; maintenance free.
- Convenient ⇒ Bluetooth compatible and connected via mobile APP.

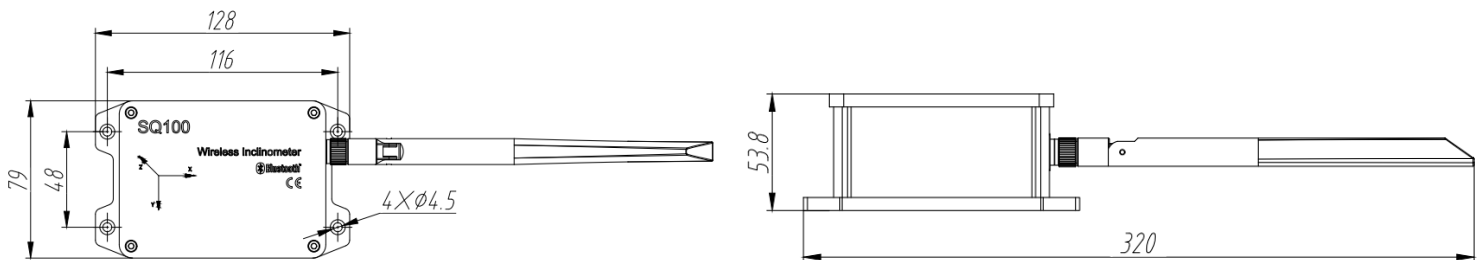
- Inclusion: Monitors inclination in any direction for pole-style structures, with the initial position being any orientation.
- Pitch and Roll Angles: In horizontal installation, it can measure the pitch angle (inclination in the y-z plane) and roll angle (inclination in the x-z plane). In vertical installation (antenna facing upwards), it can measure the pitch angle (inclination in the x-y plane) and roll angle (inclination in the x-z plane).

The SQ series wireless inclinometer sensor can measure the inclination of a plane by monitoring the pitch angle or roll angle, and can also determine the tilting direction of a pole-style structure using the pitch angle or roll angle. When the sensor is placed on a horizontal surface, it can also measure the absolute inclination.



Specifications

Product Model	SQ100
Feature Data	Inclination angle, pitch angle, roll angle, waggle
Measurement Range	Inclination Angle: 0-180° (for any orientation) Pitch and Roll Angles: ±45° (horizontal or vertical installation)
Precision	Static measurement with sampling rate 1sps: ±0.01° (within 5° range) Static measurement with sampling rate 50sps: ±0.02° (within 5° range) Dynamic measurement sampling rate 500sps: ±0.10° (within 5° range)
Resolution	0.001°
Repeatability	±0.005°
Bandwidth	10Hz (sampling rate: 1, 5, 10, 20, 50sps) 70Hz (sampling rate: 100, 200, 500sps)
Data Acquisition Period	1/2/5/10/15/20/30/60/120/240/360/480/720/1440 minutes
Communication	2.4GHz Wireless Sensor Network (Bluetooth 5.0), line-of-sight range 300m
Battery	4000mAh Li/SOCL2; replaceable
Dimensions	128mm x 79mm x 53.8mm (L x W x H)
Weight	520g
Operating Temperature	-40~85°C
Operating Humidity	10%~90% RH
Enclosure	Aluminum alloy
Ingress Protection	IP67
Mounting	Screws



Mounting

- Tilt Measurement: Can be installed in any orientation.
- Pitch and Roll Angles: Can be installed horizontally or vertically (antenna facing up).

