

PTSPS084 Solar Inclination Sensor

Product Overview

The PTSPS084 Solar Inclination Sensor is a high-resolution, high-precision industrial-grade device designed for long-term stable operation in harsh environments.

Developed to address operational hazards caused by installation angle deviation and equipment tilt due to ground subsidence or strong winds. Powered by solar energy, the sensor features an ultra-low power design, RF communication, CRC verification, and real-time data transmission. This allows uninterrupted and automatic monitoring of angle changes without manual intervention.

Unlike conventional angle sensors that rely on battery or mains power, wired transmission, or manual calibration, the PTSSPS084 offers wireless, self-powered operation with automatic angle measurements at regular intervals—making it highly suitable for unattended industrial use.

System Architecture



Applications

Transmission line tower



Crane



Characteristics

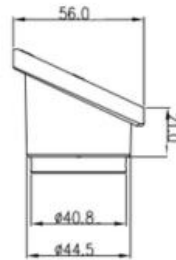
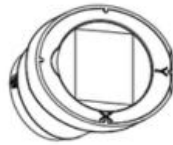
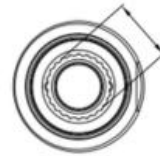
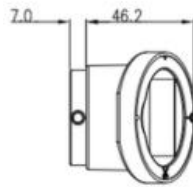
The PTSPS084 solar inclination sensor offers a compact, solar-powered, and maintenance-free solution for real-time tilt monitoring in industrial settings. With wireless RF communication, high precision ($\pm 0.3^\circ$), and IP 67 protection, it ensures reliable performance in harsh environments.

Built for durability, the PTSPS084 features automatic angle detection, magnetic mounting, and over 8 years of service life. Its low power consumption and interference-resistant design make it ideal for remote, unattended applications like tower tilt monitoring and civil engineering projects.



Dimensions

(Unit: mm)



Applicable to the following specifications:

- M12, M14, M16, M20 threads
- M12, M14, M16: Can be equipped with a waterproof cover
- M20: Can be equipped with a waterproof cover and a waterproof rubber ring

Specifications

Working Environment	-40~70°C, < 95% RH
Wireless Operating Bandwidth	433.92 MHz
Communication Rate	10 kbps
Transmission Distance	≤ 250 meters (Open Space)
Transmit Power	10 dBm
Fixing Method	Magnetic Adsorption and Bolt Fixing
Measurement Range	-70° to +70°
Resolution	0.01°
Measurement Error	$\pm 0.3^\circ$ (-60°~+60°), $\pm 0.5^\circ$ (others)
Power Supply Mode	Solar Power Generation
Measurement Interval	30 seconds

Data Transmission Interval	Every 10 Minutes, Or If Angle Change > 2°
Vibration Resistance	20 G (5...2000Hz)
Acceleration	± 2 G
Protection Level	IP 67
Compliance	EN 62479:2010 EN 61326-1: 2021; EN 220, 300, 301, 400, 489