

CHARACTERISTICS

1. Synchronously measure the tilt angle, the acceleration, the vibration frequency, and the amplitude of three-axis.
2. Ultra-low power consumption, which is able to reduce the load of power supply system.
3. Oversized measuring range, which makes it be used in the application of super-large deformation monitoring.
4. Communication interface is standard 485 interface, which makes it be able to directly connect to DTU, or serial server, or other data collection unit.
5. Built-in temperature measurement unit, support automatic temperature compensation, which can reduce the temperature excursion.
6. Powerful port protection, support the power reverse connection protection.
7. Excellent anti-thunder and anti-static function($\pm 60\text{kV}/600\text{W}$).
8. Sealed to IP67 standards.

TECHNOLOGY PARAMETERS

Model	TA-H	TA-L
Version	High precision version	Low precision version
Resolution	High: Angle: 0.001°, Freq: 0.25Hz; Acceleration: 0.01mg	
Accuracy	High: Angle: 0.005°, Freq: 0.25Hz; Acceleration: 0.1mg	Low: Angle: 0.01°, Freq: 0.25Hz; Acceleration: 0.1mg
Range	Angle: unlimited 360° Hertz: 0 ~ 128Hz Acceleration: $\pm 2g$	
Voltage	DC 5 ~ 30V	
Power	Less than 5mA@12V	
Hardware Port	RS485 Standard	
Communication Protocol	Modbus protocol (default)	
Internal Storage	Can store 8000 pieces of information	
Size	L70*W48*H26 mm	
Material	Aluminum alloy	
Weight	120g	
Work Temperature	-40°C ~ +85°C	
Protection	IP68	

APPLICATION



Land Slide



Tunnel Safety Monitoring



Bridge Safety Monitoring



Power Line Tower Tilt Monitoring



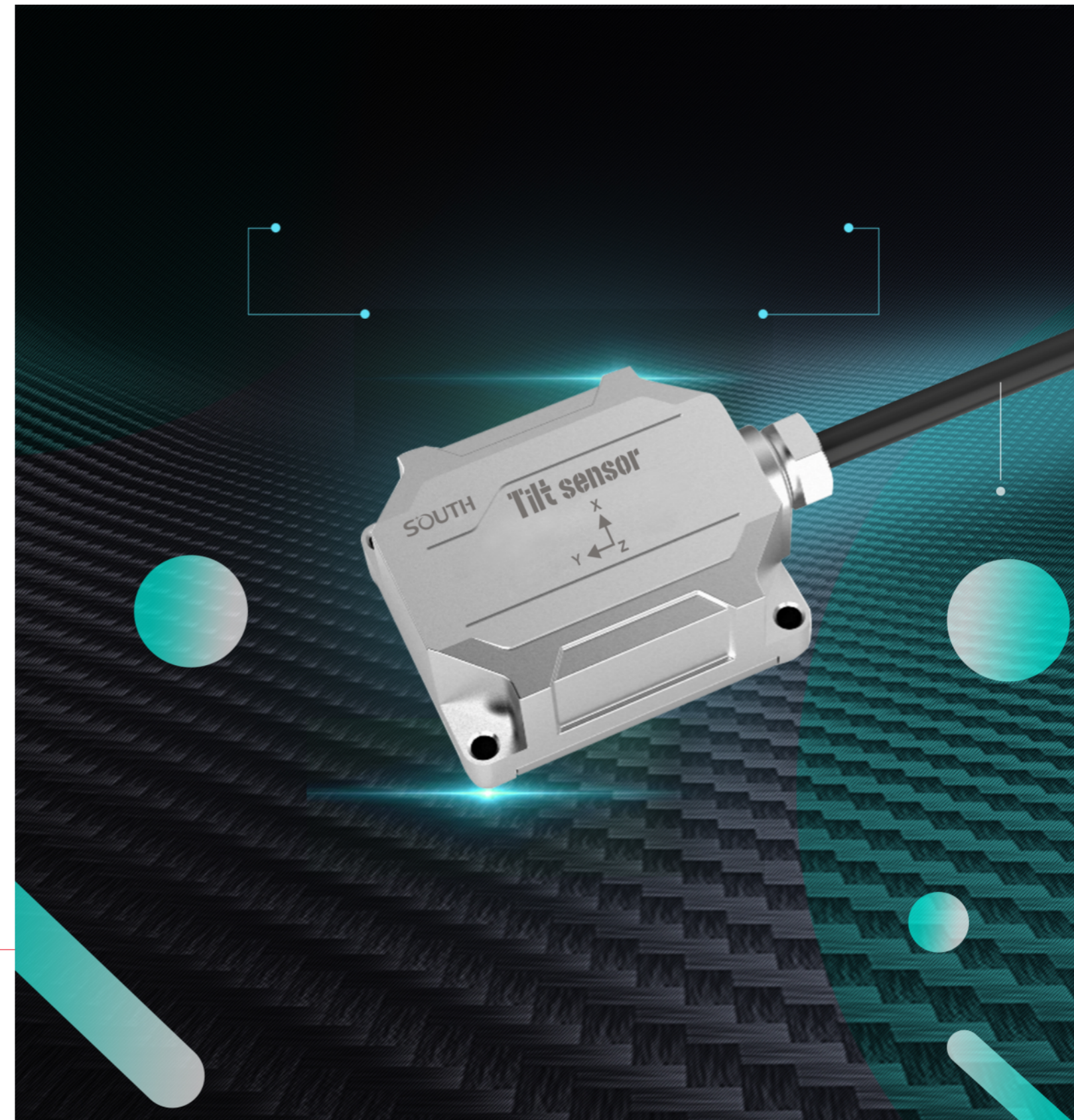
Shelf Tilt Monitoring



Any Other Scene That Needs To Monitor Tilt...

SOUTH
Target your success

Tilt Sensor



SOUTH
Target your success

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Accurately capture the subtle changes in real-time



PRODUCT INTRODUCTION



The model TA is a type of three-dimensional tilt & vibration sensor, it's a type of smart three-axis tilt and vibration sensor which is basic on the edge calculation, mainly apply to measure full direction angle of three dimensional space and vibration (frequency and amplitude).

TA sensor can synchronously measure the tilt angle and vibration, without interference each other, the vibration data can be used to check the tilt angle data is valid or not, it is suitable for monitoring static and dynamic mixed application scene.

TILT ANGLE MEASUREMENT

TA tilt sensor can measure the change of angle in 360°, without measuring range limited, accuracy can reach 0.01° in full temperature range, no limited by initial installing angle, very convenient to install.

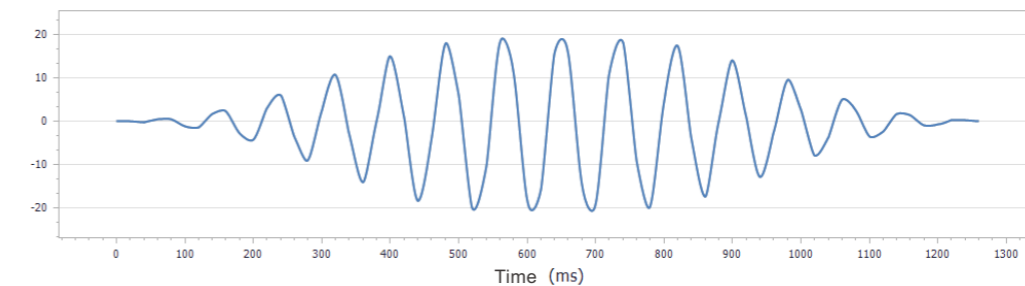
Note: In order to achieve the highest accuracy ($\pm 0.005^\circ$), it is recommended to install the sensor in horizontal as far as possible or adjust the mounting face in horizontal through adjusting mounting bracket when it is installed on mounting bracket.



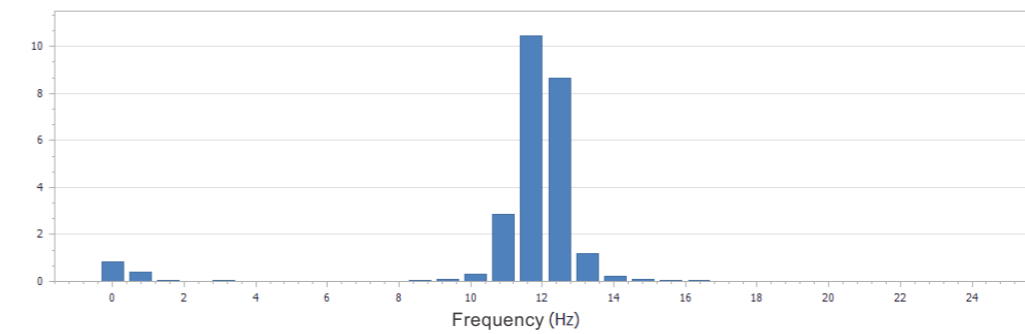
VIBRATION MEASUREMENT



Internal Sample rate is 2000Hz, real time fast Fourier transform, frequency spectrum analysis, and extract eigenvalues of frequency (predominant frequency and amplitude), real time output superior frequency-time data, it can be used for structural health analysis, accurately capture frequency changes.



Frequency Spectrum Plot



Vibration frequency (predominant frequency), amplitude output

Note: predominant frequency is the main component of frequency in vibration spectrum, which is the characteristic frequency, such as the frequency value corresponding to the maximum amplitude (predominant amplitude) in the spectrum diagram above (predominant frequency).