



V1.5

PRECISION INCLINOMETER

**RION PCA826T**

Technical Manual

## **PCA826T PRECISION INCLINOMETER**

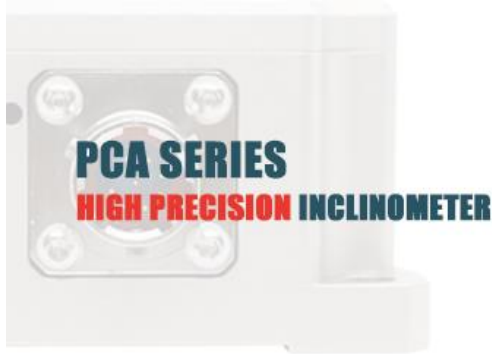


### **RION CERTIFICATION**

- Quality Management System Certification: GB/T19001-2016 idt ISO19001:2015 Standard (Certificate No.: 128101)
- High-tech Enterprise (Certificate No.: GR201844204379)
- China National Intellectual Property Appearance Patent (Patent No.: ZL 202130363422.6)
- Revision date: 2022-1-6

Note: Product functions, parameters, appearance, etc. will be adjusted as technology upgrades. Please contact our pre-sales before purchasing.

## PCA826T PRECISION INCLINOMETER



### ► INTRODUCTION

PCA826T is a high-performance product developed by Rion Technology specially for the high-precision inclination measurement. Before leaving the factory, all products would have full temperature range calibration and compensation, and a two-week long-term stability test ensures compatibility under different working conditions and maintains the best performance indicators during the long-term test cycle. The product integrates the FFT function, which can measure the vibration of 0.5~20Hz, and estimate the vibration frequency of the object to obtain the maximum speed and maximum displacement of the object vibration. Integrate two kinds of output protocols including the industrial standard MODBUS protocol, the supporting computer analysis software can display and record the measurement data in real time. Output interface RS485, RS422, RS232 optional. The non-contact installation makes PCA826T easy to install or integrate. Strong resistance to external electromagnetic interference, strong anti-shock and vibration ability, widely used in satellite communication system processing vehicles, special vehicles, radar antenna vehicles, etc.

### ► MAIN FEATURES

- ★ Biaxial tilt angle measurement
- ★ DC 9 ~ 36V wide voltage input
- ★ Resolution 0.0005°
- ★ Output mode RS485, RS422, RS232 optional
- ★ Range  $\pm 1 \sim \pm 60^\circ$  optional
- ★ Wide temperature operation  $-40 \sim +85^\circ\text{C}$
- ★ IP67 protection grade
- ★ Size: L82xW70xH42mm
- ★ Horizontal/vertical optional

### ► APPLICATION

- ★ Wind power monitoring
- ★ High-speed rail track monitoring
- ★ Railway gauge ruler and gauge leveling
- ★ Geological equipment tilt monitoring
- ★ Bridge and Dam monitoring
- ★ Ground satellite communication vehicles
- ★ Satellite communication vehicle
- ★ Engineering vehicle leveling
- ★ Ancient building monitoring

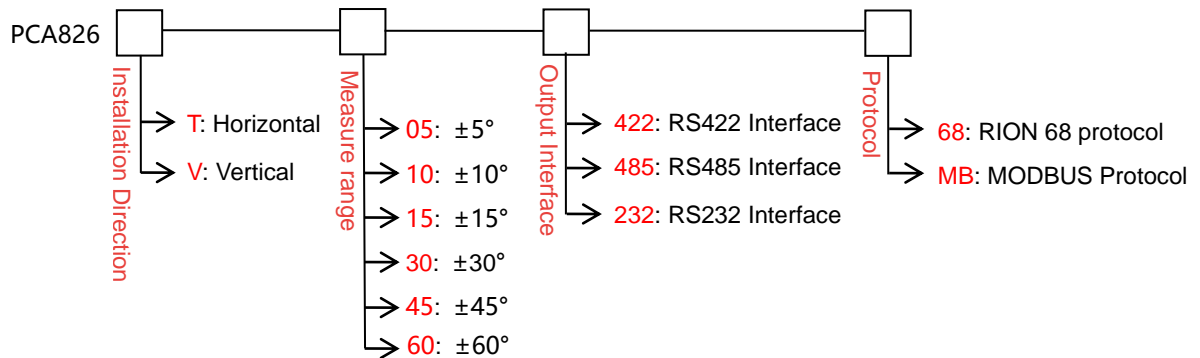


## PCA826T PRECISION INCLINOMETER

### ► SPECIFICATIONS

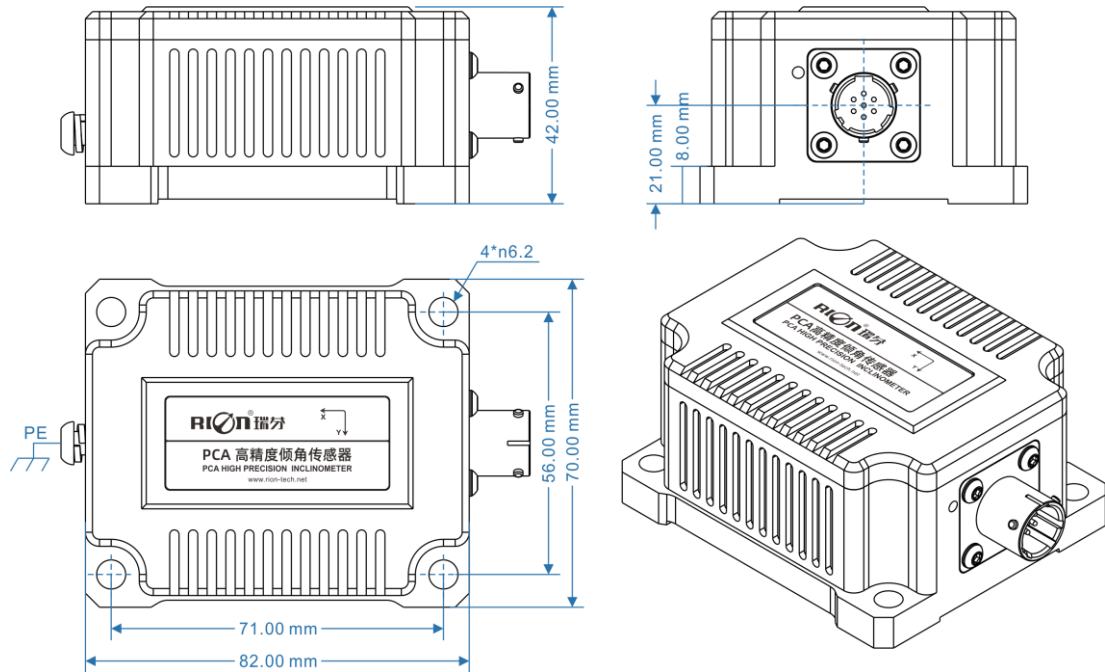
PCA826T	CONDITION	PARAMETERS				UNIT
Measure range		±5	±10	±30	±60	°
Measure axis		XY	XY	XY	XY	
Resolution		0.0005	0.0005	0.0005	0.0005	°
Measure accuracy	@25°C	0.001	0.002	0.003	0.005	°
Zero temp coefficient	-40 ~ 85°C	0.0002	0.0002	0.0002	0.0002	°/°C
Sensitivity temp. coefficient	-40 ~ 85°C	≤50	≤50	≤50	≤50	ppm/°C
Power on time		<0.4	<0.4	<0.4	<0.4	S
Response frequency		20	20	20	20	Hz
Output rate	5Hz、10Hz、25Hz、35Hz、50Hz、100Hz. Can be set					
Output signal	RS485/RS422/RS232 optional					
EMC	According to EN61000 and GBT17626					
MTBF	≥50000 hour/time					
Insulation Resistance	≥100 MΩ					
Shockproof	100g@11ms、3 Axial Direction (Half Sinusoid)					
Anti-vibration	10grms、10 ~ 1000Hz					
Protection grade	IP67					
Cables	Standard configuration 1 meter, wear-resistant, wide temperature, shielded cable, mm aviation connector					
Weight	≤400g (Excluding cable)					

### ► ORDER INSTRUCTION



## PCA826T PRECISION INCLINOMETER

### ► SIZE



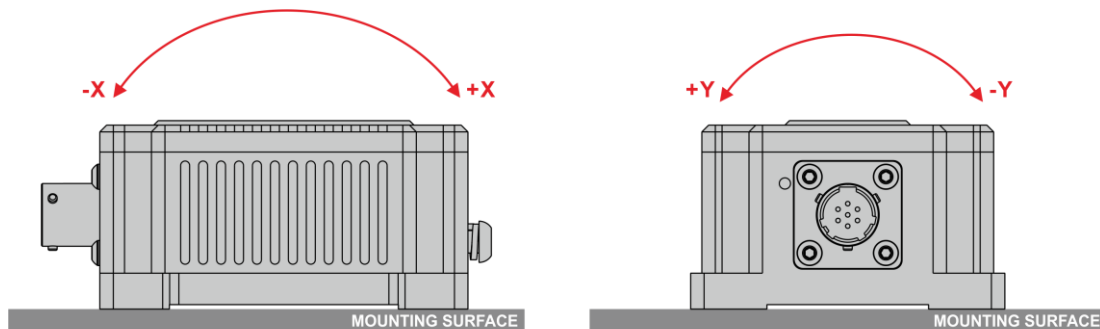
Shell size: L82\*W70\*H42mm

Installation size: L71\*W56\*H42mm

Mounting screws: 4\*M6 screws

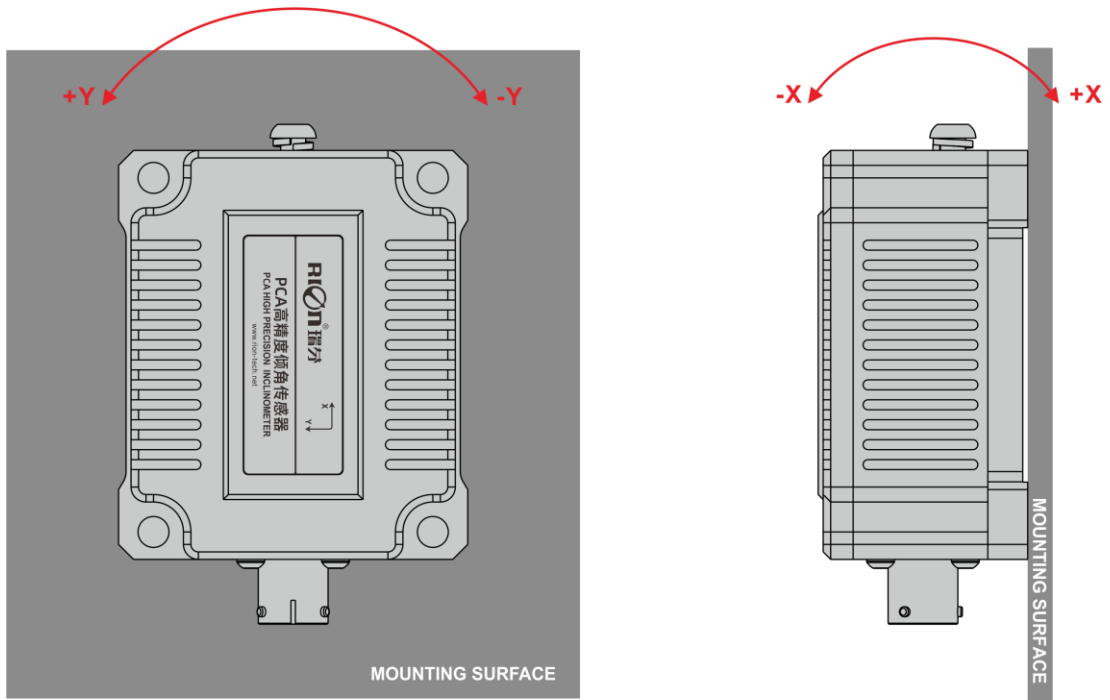
### ► INSTALLATION

During installation, keep the sensor mounting surface parallel to the measured target surface, and reduce the influence of dynamics and acceleration on the sensor. This product can be installed horizontally or vertically, please refer to the following diagram for the installation method:



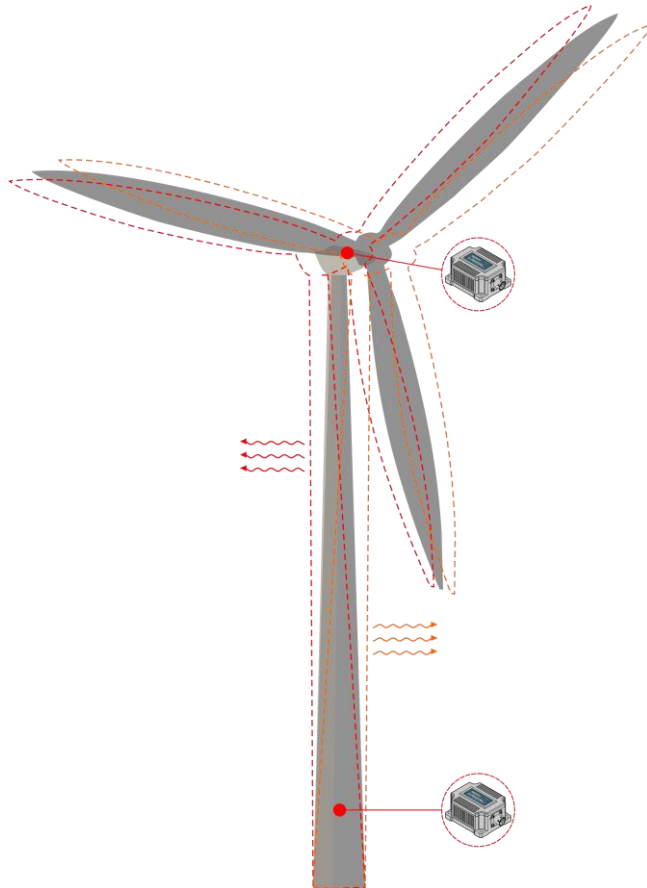
Horizontal installation

# PCA826T PRECISION INCLINOMETER



Vertical installation

## ► VIBRATION SWING MEASUREMENT LEGEND



○Inclinometer ○3D compass ○Digital inclinometer ○Accelerometer ○Gyro ○North finder ○INS&IMU  
SINCE2008 · Attitude measure solution provider



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