



V1.3

CURRENT TYPE SINGLE/DUAL AXIS INCLINOMETER  
**RION SCA118T/SCA128T**

**Technical Manual**

## SCA118T/SCA128T CURRENT TYPE INCLINOMETER



### RION QUALIFICATION CERTIFICATION

- Quality management system certification: GB/T19001-2016 idt ISO19001:2015 standard (Certificate No.: 128101)
- High-tech Enterprise (Certificate No.: GR201844204379)
- CE certification: AT011611741E FCC certification: AT011611742E
- Chinese National Intellectual Property Appearance Patent (Patent No.: ZL 201830752892.X)
- Revision date: 2022-3-22

Note: Product functions, parameters, appearance, etc. will be adjusted along with technological upgrades. Please contact our pre-sales business for confirmation when purchasing.

## SCA118T/SCA128T CURRENT TYPE INCLINOMETER



### SCA INCLINOMETER

#### ► INTRODUCTION

SCA118T/SCA128T is a standard industrial output type single/dual axis inclinometer with a standard current output of 4-20mA, which can transmit up to 2000 meters over long distances. The output signal has strong anti-interference and is professionally applied to construction machinery equipment working in harsh environments. The product is produced using the latest MEMS sensor production process, and the temperature error and nonlinear error are accurately compensated and corrected. The highest accuracy in a small range can reach 0.02 ° (for more accuracy indicators, please refer to the product performance table), high accuracy, Small size, high packaging technology, good ability to withstand shock and vibration. The product has built-in anti-RF and anti-electromagnetic interference circuits, which is especially suitable for underground trenchless machinery and other harsh industrial environments. In addition to having better technical parameters than ordinary products in the market, the product also uses various measures such as high-end application-level MCUs, three-proof PCB boards, imported cables, and wide-temperature shielded metal shells to improve the reliability and stability of the products. Industrial grade.

#### ► MAIN FEATURE

- ★ Single/dual Axis Inclinometer
- ★ Accuracy: 0.03°
- ★ Output current 4~20mA
- ★ IP67 protection class
- ★ Resolution: 0.01°
- ★ Measuring Range :±1~±180° optional
- ★ Wide voltage input: 9~36V
- ★ Wide temperature working: -40~+85°C
- ★ Highly anti-vibration performance >2000g
- ★ Size: L94×W40×H26mm

#### ► APPLICATION

- ★ Leveling of construction vehicles
- ★ Safety protection of high-altitude platforms
- ★ Underground drilling rig attitude navigation
- ★ Direction measurement based on inclination
- ★ Mining machinery and oil drilling equipment
- ★ Monitoring of bridges and Dadian
- ★ Medical equipment angle control
- ★ Shield pipe jacking application
- ★ Inclination monitoring of geological equipment
- ★ Equipment level control

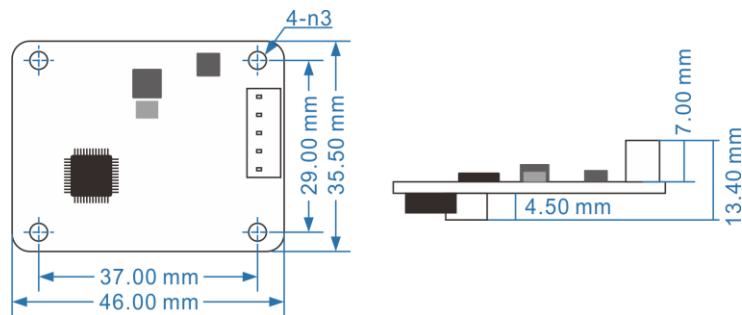




## SCA118T/SCA128T CURRENT TYPE INCLINOMETER

### ► SIZE

#### PCBA BOARD SIZE

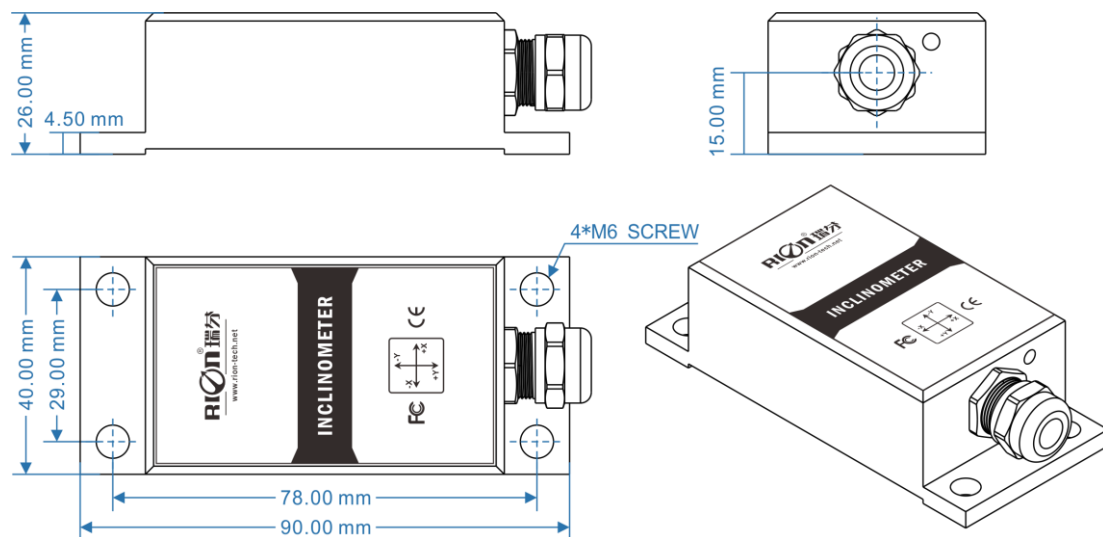


PCBA board size: L46xW35.5xH13.4mm

Installation size: L37xW29xH13.4mm

Mounting screws: 4 M3 screws

#### SHELL SIZE



Shell size: L90xW40xH26mm

Installation size: L78xW29xH26mm

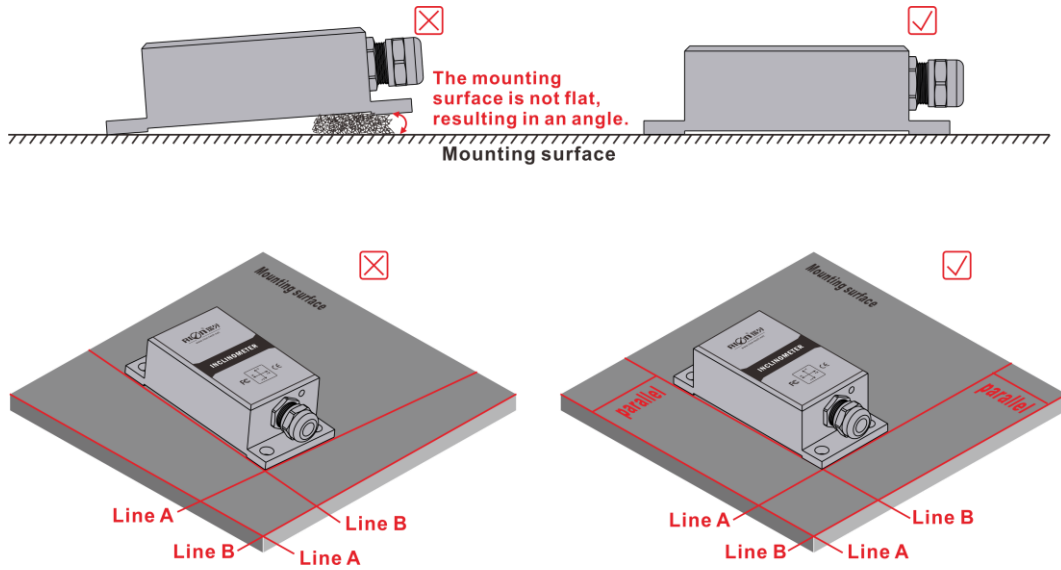
Mounting screws: 4 M6 screws

## SCA118T/SCA128T CURRENT TYPE INCLINOMETER

### ► INSTALLATION PRECAUTIONS

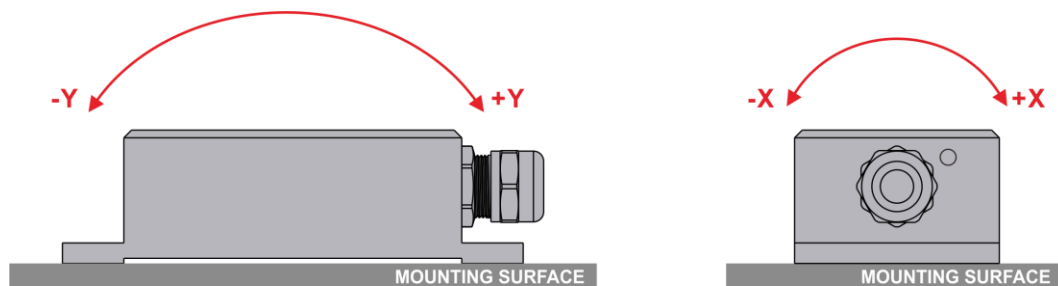
Please install the tilt sensor according to the correct method. Improper installation will cause measurement error. Pay attention to the first "surface" and the second "line":

- 1) The mounting surface of the sensor and the measured surface must be tight, flat and stable. The unevenness of the mounting surface is easy to cause the angle error of the sensor measurement.
- 2) The axis of the sensor and the axis to be measured must be parallel, and the angle between the two axes should be avoided as much as possible.



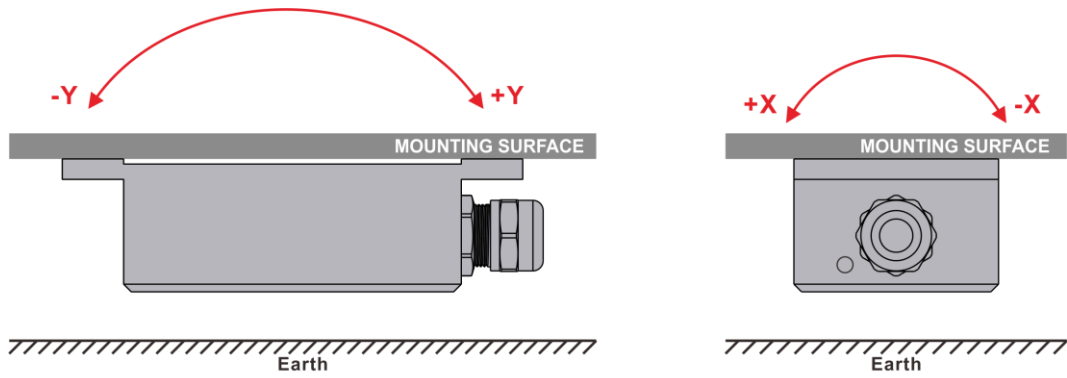
### ► INSTALLATION DIRECTION

During installation, keep the sensor mounting surface parallel to the target surface to be measured, and reduce the impact 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:

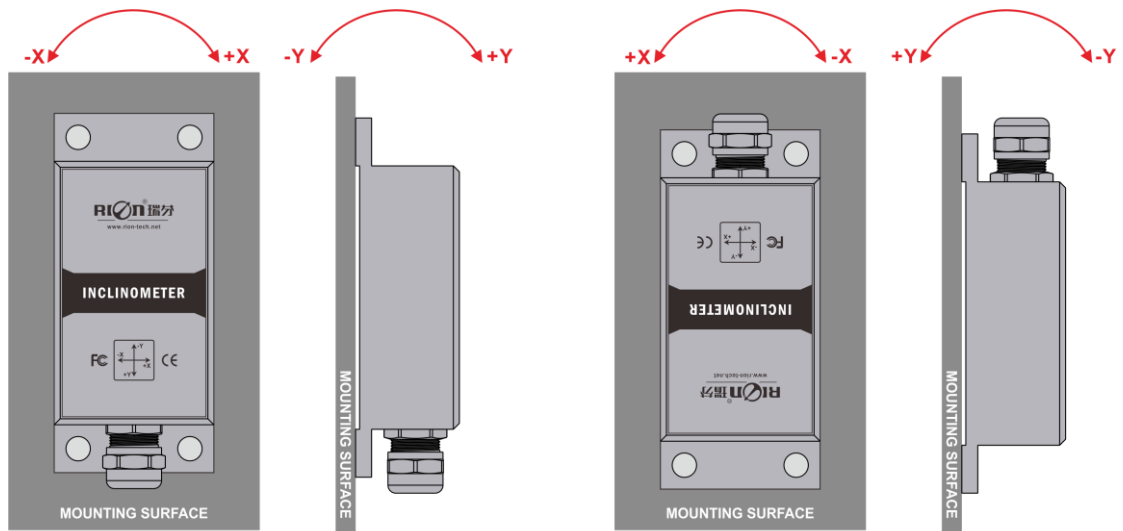


Horizontal installation

**SCA118T/SCA128T CURRENT TYPE INCLINOMETER**

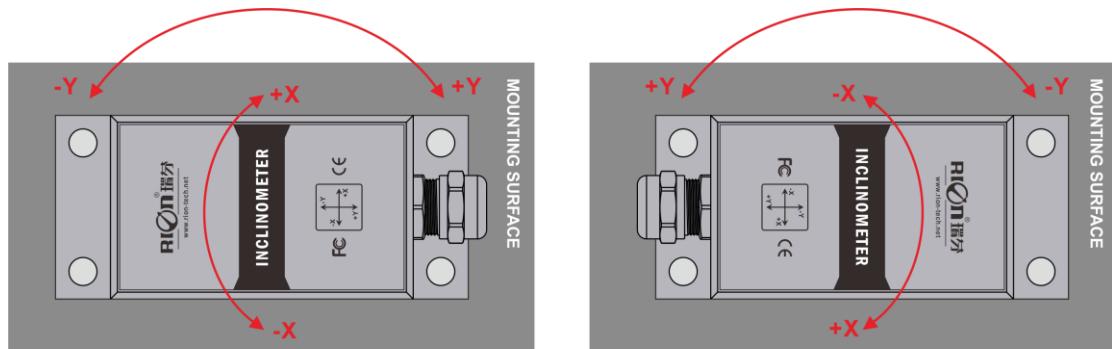


**Horizontal-down installation**



**Vertical installation**

**Vertical-down installation**



**Vertical-left installation**

**Vertical-right installation**



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