

# WTS series serial output inclinometer module

## Product introduction

WTS series serial output inclinometer module is a low power consumption and high-performance inclinometer module. It is made by high-accuracy accelerometer MEMS device and standard MCU, built-in automatic compensation and advanced filtering algorithms. The product has undergone strict production calibration, factory inspection, to ensure excellent product consistency and reliability.



WOOSENS WTS serial output inclinometer module has RS232 and RS485 two kinds of output interface. Customers can choose the appropriate output interface according to the actual situation of your own system. The module uses standard MODBUS-RTU protocol, it is convenient for customers who use bus communication and is compatible with other standard protocol modules.

### Features

- High accuracy, high stability
- 3D MEMS sensor
- Power supply: 9~35V
- IP67 protection
- Operating temperature -40~85°C
- RoHS

### Application

Horizontal adjustment    automotive    Medical devices    Surveying and mapping instrument

With many potential applications, the WTS series inclinometer modules provide flexible and convenient command settings, and many parameters are user-programmable.

## Product specification

### Electrical Specification

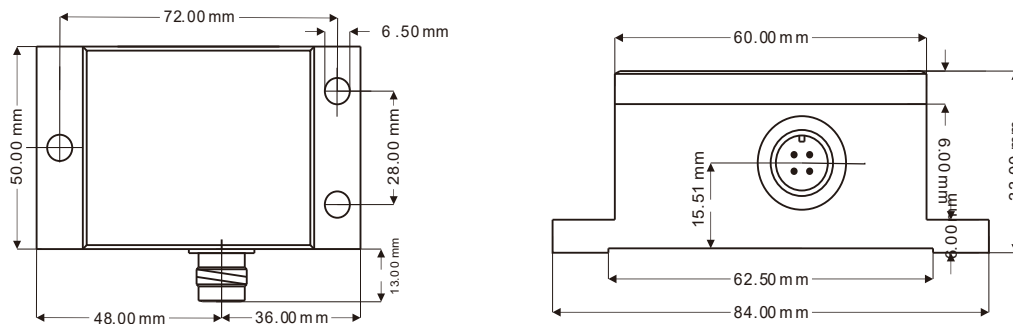
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
Operating current		20		30	mA
Operating temperature		-40		+80	°C
Store temperature		-40		+100	°C

**Performance Specification**

Parameter	Condition	Specification
Measuring axis		X-Y(360°Measuring range uniaxis only)
Measuring range		$\pm 15^\circ/\pm 30^\circ/\pm 90^\circ/0-360^\circ$
Output resolution		0.01°
Repeatability		0.05°
Frequency response		5Hz
Relative accuracy	$\pm 15^\circ$ Measuring range	0.02°
	$\pm 30^\circ$ Measuring range	0.04°
	$\pm 90^\circ$ Measuring range( $< \pm 15^\circ$ )	0.04°
	$\pm 90^\circ$ Measuring range( $< \pm 60^\circ$ )	0.08°
	0-360°Measuring range	0.10°
Temperature drift		0.008°/°C
Weight		200g

Note: The relative accuracy is measured at room temperature 25°C.

**Mechanical Characteristic**



**Interface Definition**

The pluggable connector is P type, which requires cable (115-67000-0000)

Interface	Brown	White	Blue	Black
RS232	VIN	RXD	TXD	GND
RS485	VIN	A/D+	B/D-	GND

**Communication Protocol**

For the communication protocol, please refer to <The serial output Inclinometer Module Communication Protocol Manual V2.0>

## Ordering information

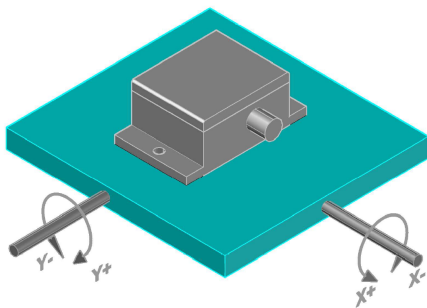
### RS232 interface

Measuring range	Measuring axis	Part number
±15°	Single-Axis/Dual-Axis	WTS113-L15A/WTS123-L15A
±30°	Single-Axis/Dual-Axis	WTS113-L30A/WTS123-L30A
±90°	Single-Axis/Dual-Axis	WTS113-L90A/WTS123-L90A
0-360°	Uniaxis	WTS113-L36A

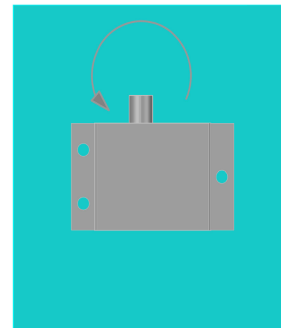
### RS485 interface

Measuring range	Measuring axis	Part number
±15°	Single-Axis/Dual-Axis	WTS115-L15A/WTS125-L15A
±30°	Single-Axis/Dual-Axis	WTS115-L30A/WTS125-L30A
±90°	Single-Axis/Dual-Axis	WTS115-L90A/WTS125-L90A
0-360°	Uniaxis	WTS115-L36A

## Installation direction



Uniaxis



Dual-Axis

Note: All Specifications are subjected to change without notice.