

WTS Series PCBA serial output inclination module

Product introduction

WTS series PCBA 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 series PCBA 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.

I Features

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

I Application

Inclination measurement Horizontal adjustment Surveying and mapping instrument Medical devices

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

Product specification

Electrical Specification

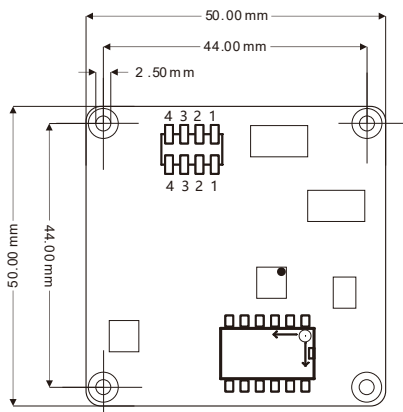
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
Operating current		20		30	mA
Operating temperature		-40		+85	°C
Store temperature		-40		+100	°C

Performance Specification

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

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

Mechanical Characteristic



The Interface Definition

Pluggable connector wiring definition Type P connector, which requires cable 115-83000-7598

Output interface	1	2	3	4
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

Output interface RS232

Measuring range	Measuring axis	Part number
±15°	Single-Axis/Dual-Axis	WTS113-L15C/WTS123-L15C
±30°	Single-Axis/Dual-Axis	WTS113-L30C/WTS123-L30C
±90°	Single-Axis/Dual-Axis	WTS113-L90C/WTS123-L90C
0-360°	Uniaxis	WTS113-L36C

Output interface RS485

Measuring range	Measuring axis	Part number
±15°	Single-Axis/Dual-Axis	WTS115-L15C/WTS125-L15C
±30°	Single-Axis/Dual-Axis	WTS115-L30C/WTS125-L30C
±90°	Single-Axis/Dual-Axis	WTS115-L90C/WTS125-L90C
0-360°	Uniaxis	WTS115-L36C

Note: All Specifications are subjected to change without notice.