

WTAL series serial output inclinometer module

Product introduction

WTAL series serial output inclinometer module is a high-performance and cost-effective 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 WTAL 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
- IP65 protection
- Operating temperature -40~85°C
- RoHS

Application

Horizontal adjustment automotive Medical devices Surveying and mapping instrument

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

Product specification

Electrical Specification

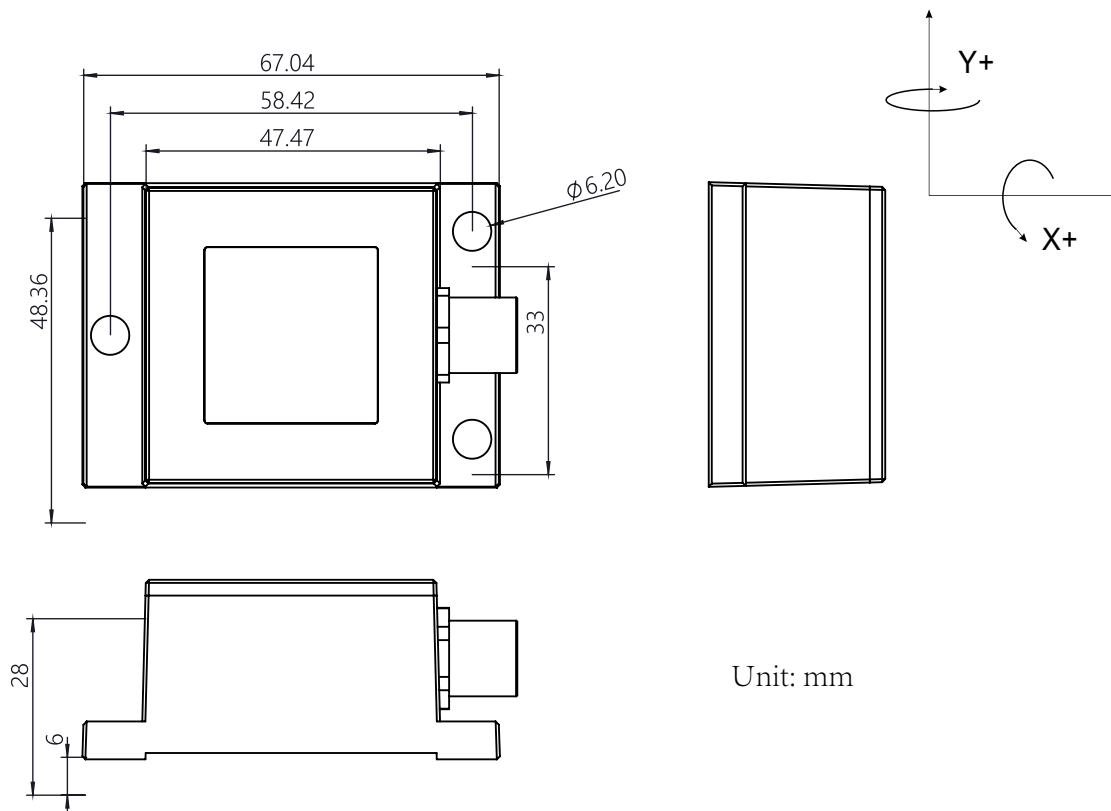
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
Operating current		20		30	mA
Operating temperature		-40		+80	°C
Store temperature		-40		+100	°C

Performance Specification

Performance Specification	Condition	Specification
Measuring axis		X-Y(360°Measuring range uniaxis only)
Measuring range		±90°/0-360°
Output resolution		0.02°
Repeatability		0.1°
Frequency response		10Hz
Relative accuracy	±90°Measuring range(<±15°)	0.1°
	±90°Measuring range(<±60°)	0.3°
	±90°Measuring range(>±60°)	0.5°
Temperature drift	0-360°Measuring range	0.3°
	-40-85°C	0.03°/°C

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

Mechanical Characteristic



Unit: mm

Interface Definition

Interface	Red	Yellow	Blue	Black
RS232	VIN	RX	TX	GND
RS485	VIN	A/D+	B/D-	GND

Ordering information

RS 232 Interface

Measuring range	Measuring axis	Part number
$\pm 90^\circ$	Single-Axis/Dual-Axis	WTAL113-N90LM/WTAL123-N90LM
0-360°	Single-Axis	WTAL113-N36LM

RS 485 Interface

Measuring range	Measuring axis	Part number
$\pm 90^\circ$	Single-Axis/Dual-Axis	WTAL115-N90LM/WTAL125-N90LM
0-360°	Single-Axis	WTAL115-N36LM

Communication Protocol

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

Note: All Specifications are subjected to change without notice.