WSS series PCBA serial output inclination module

Features

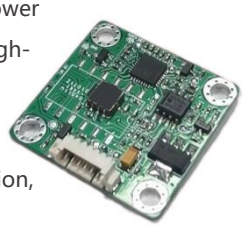
- High accuracy, high stability
- Power supply: 5V / 9~35V
- PCBA package
- Operating temperature-40~85℃
- RoHS
- Output: UART / TTL

Application

- Inclination measurement
- Horizontal adjustm
- Medical device
- Automotive
- Dam, bridge, building inspection
- Surveying and mapping instr
- Hoisting angle control

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

Product introduction



Woosens WSS series PCBA serial output inclinometer module is a low power consumption and high-performance inclinometer module. it 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 WSS series PCBA serial output inclinometer module has UART and TTL two kind of output interface. Customers can choose the appropriate output interface according to the actual situation of your own system. the module use standard MODBUS-RTU protocol, It is convenient for customers who use bus communication and is compatible with other standard protocol modules.

Product specification

Electrical Specification

Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
	Single voltage		5		V
Operating current		20		30	mA
Operating temperature		-40		+80	℃
Store temperature		-40		+100	℃

Performance Specification

Parameter	Condition	Specification
Measuring axis		X-Y(360°measuring range uniaxis only)
Measuring range		±15°/±30°/±90°/0-360°
Output resolutio		0.002°/0.004°/0.009°/0.006°
Repeatability		0.01°/0.02°/0.10°/0.04°
Zero-offset		0.1°
Cross axis error		4%
Frequency response		10Hz
Relative accuracy	±15°Measuring range	0.05°
	±30°Measuring range	0.10°
	±90°Measuring range(<±15°)	0.08°
	±90°Measuring range(<±60°)	0.20°
	±90°Measuring range(>±60°)	0.50°
	0-360°Measuring range	0.1°
Temperature drift	-40~80℃	0.008°/℃
communication Settings		9600,n,8,1

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

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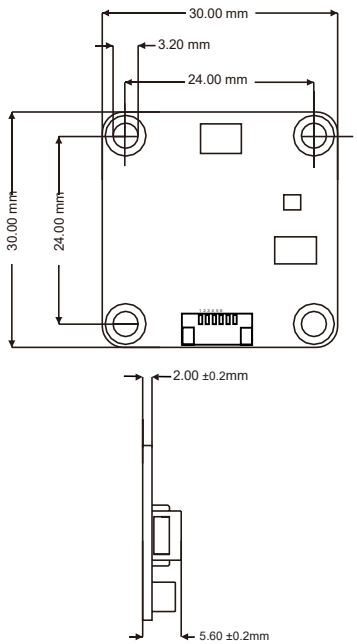
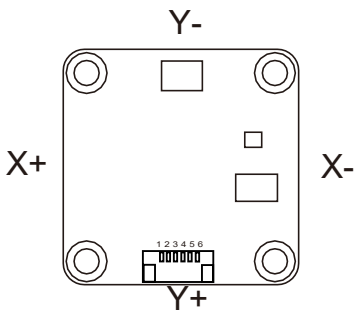
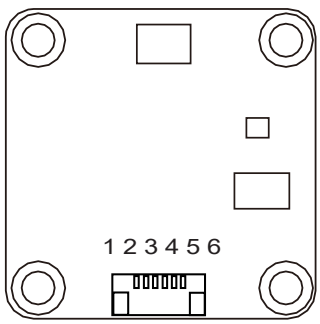
Mechanical Characteristic





Interface Definition



Interface Definition(The module requires cable 11202-061813-011)

pin1	pin2	pin3	pin4	pin5	pin6
NC	TXD	TTL	RXD	VIN	GND

Ordering information

Power supply: 9~35V

Range	Axis	Part number
±15°	single/dual	WSS110-L15C/WSS120-L15C
±30°	single/dual	WSS110-L30C/WSS120-L30C
±90°	single/dual	WSS110-L90C/WSS120-L90C
0-360°	Single	WSS110-L36C

Power supply: 5V

Range	Axis	Part number
±15°	single/dual	WSS210-L15C/WSS220-L15C
±30°	single/dual	WSS210-L30C/WSS220-L30C
±90°	single/dual	WSS210-L90C/WSS220-L90C
0-360°	Single	WSS210-L36C

Communication Protocol

For the communication protocol, please refer to

<The serial output Inclinometer Module Communication

Protocol Manual V2.0>

Note: All Specifications are subjected to change without notice.