

WTi-100A Six Axis Inertial Measurement Unit

Product introduction

WOOSENS WTi-100A Six axis inertial measurement unit is composed of 3-axis MEMS gyro, 3-axis accelerometer, secondary power supply circuit, ARM processor and interface circuit. Real-time output of the carrier angular rate, acceleration, attitude and attitude system internal temperature information.



WOOSENS WTi-100A six axis IMU is using RS422 output interface, the product has undergone strict production calibration, factory inspection, to ensure excellent product consistency and reliability, with cost-effective, can be widely used in the high performance requirements of gyro applications.

I Features

- MEMS device
- Anti-Vibration 2000g
- Power supply: 5VDC
- Aluminum alloy housing
- Operating temperature -40-85°C
- RoHS
- Good temperature characteristics
- RS422 Output interface

I Application

- Platform stability
- Driverless
- UAV
- AGV
- Ship attitude control
- Surveying instrument

Product specification

Performance Specification

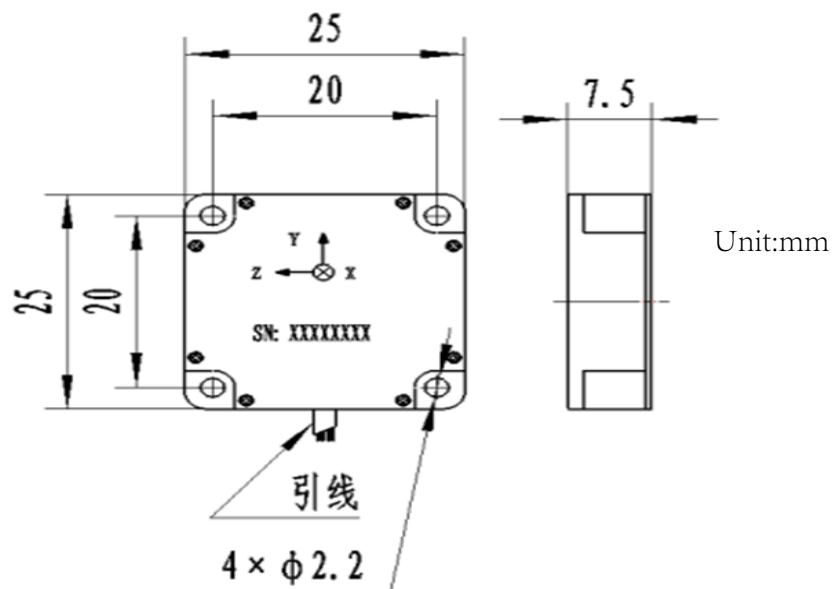
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Univoltage		5		V
Operating current				100	mA
Operating temperature		-40		+85	°C
Store temperature		-45		+90	°C
Size			25×25×7.5		mm
Weight			10		g
Anti-vibration			2000g		

Performance Specification

Parameter	Condition	Specification
Gyroscope range		$\pm 100^\circ/\text{s}$
Accelerometer range		$\pm 10\text{g}$
Run-up time		$< 2\text{s}$
Zero instability(1σ)		$< 100^\circ/\text{h}$
Dynamic attitude accuracy(1σ)		$< 0.5^\circ$
Static attitude accuracy		0.1°
Gyroscope threshold		$0.02^\circ/\text{s}$
Gyroscope nonlinear		$\leq 0.03\%FS$
Gyroscope resolution		$0.02^\circ/\text{s}$
IMU output frequency		200Hz

Note: The relative accuracy is measured at $100^\circ/\text{s}$ range and room temperature at 20°C .

Package size



The Interface Definition

The connection mode is pigtail cable, the wiring is defined as follows:

Orange	Black	Yellow	Brown
+5V	GND	RS422 TX+	RS422 TX-

Communication Protocol

Interface: RS422

Baud rate: 921600bps

Data format: 1 start bit+8 data bit+1 stop bit

Ordering information

Range	Measure axial	Part number
$\pm 100^\circ/s$	6	WTi-100A

Note: All Specifications are subjected to change without notice.