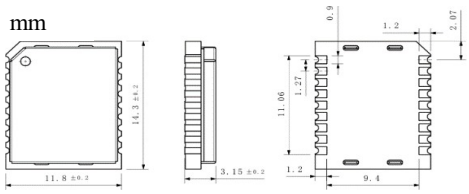
6-Axis MEMS Inertial Sensor XY608C

Unit: mm



Typical Feature

- ☐ Industrial-grade, high-reliability MEMS sensor chip
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- ☐ Full-temperature calibration and error compensation
- ☐ System configurable (IMU / tilt sensor)
- ☐ 144MHz ARM M4 processor, supports up to 1kHz output
- ☐ Rich interfaces, supports SPI, UART, PPS time synchronization
- ☐ Ultra-small package, compact design, small size

XY608C is a 6 degrees of freedom chip-type IMU inertial measurement unit developed by Xuyan. The product integrates industrial-grade high-reliability MEMS sensor chips and supports the output of 3-axis acceleration, 3-axis angular velocity, and high-precision tilt attitude information. The product is small and flexible in application. It can be directly attached to the main control system as a subsystem to provide carrier attitude information. The large-range output makes motion perception under large dynamics possible. All modules are fully calibrated (wide temperature range) before leaving the factory, and key indicators such as zero bias and scale factor are compensated, so that the product can perform excellently in various scenarios.

Suggested Applications

- Cleaning and sweeping robot platform
- Autonomous driving, unmanned driving
- Smart agriculture
- Stable platform detection
- Customized Applications

More details for XY608C, please contact us.

Specification

System indicators

Parameter	DATA
Roll angle (dynamic/static)	0.3 / 0.25deg
Pitch angle (dynamic/static)	0.3 / 0.25deg
Heading angle (dynamic/static)	0.3 / 0.5deg
Output frequency (ODR)	200Hz（Configurable）

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IMU Metrics

Parameter statistics: Ta = 25℃, VDC = 3.3V

Gyroscope	Minimum	Typical[2]	Maximum
Range (°/s)	-2000		2000
Zero-bias instability (°/hr)[1]		6	
Full temperature zero bias (°/s)		0.2	
Scale factor error (%)		0.2	
Nonlinearity (%FSR)		0.05	
Angular random walk (°/√hr)[1]		0.8	
Accelerometer	**Minimum**	**Typical[2]**	**Maximum**
Range (g)	-12		12
Zero-bias instability (μg)[1]		50	
Full temperature zero bias (mg)		2.5	
Scale factor error (%)		0.2	
Nonlinearity (%FSR)		0.5	
Angular random walk (m/s/√hr)[1]		0.1	

Note 1: Allan variance curve at fixed temperature.

Note 2: Unless otherwise specified, typical values refer to 1σ statistical values.

Physical parameters

Parameter	DATA
Size	14.3 * 11.9 * 3.3mm
Weight	1g
Package	PLCC18

Electrical Specifications

Parameter	DATA
Voltage	2.8 – 3.6V DC （Typical3.3V）
Power Consumption	< 85mW
Functional Interface	SPI, UART, PPS
Hardware Interface	18PIN Soldering P Usage Environmentins

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Operation Environment

Parameter	DATA
Operating Temperature	-40 ℃ to 85 ℃
Storage Temperature	-40 ℃ to 85 ℃

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