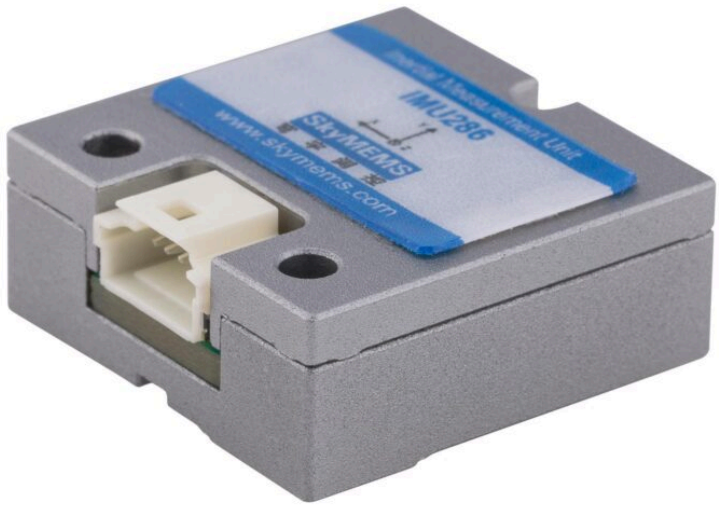
IMU286
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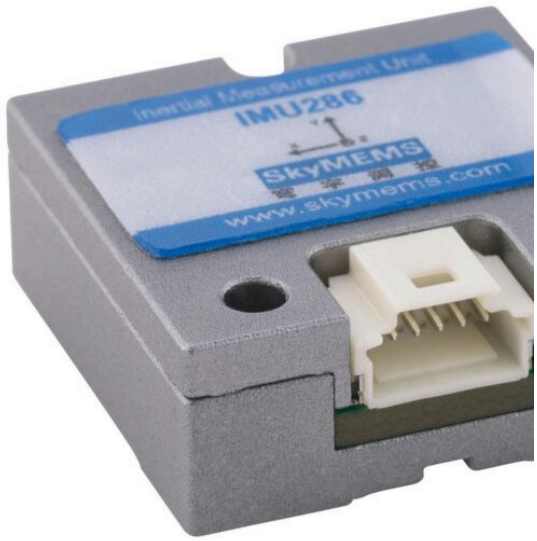
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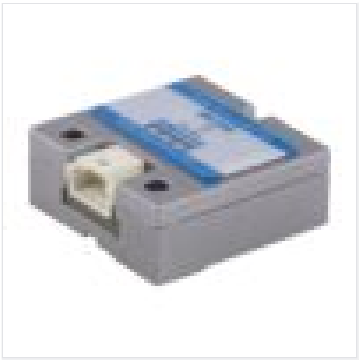

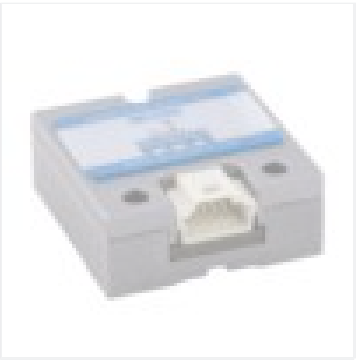

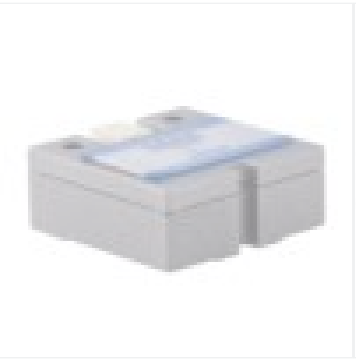

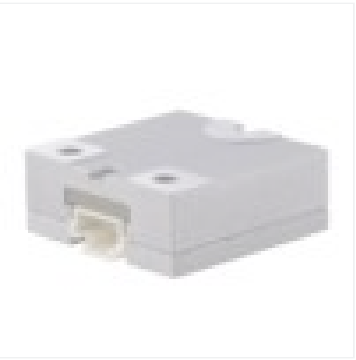

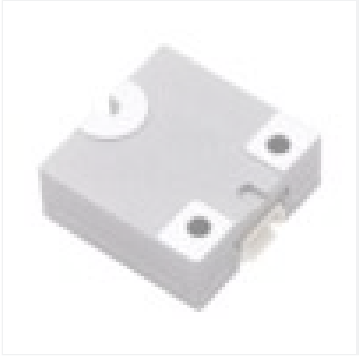

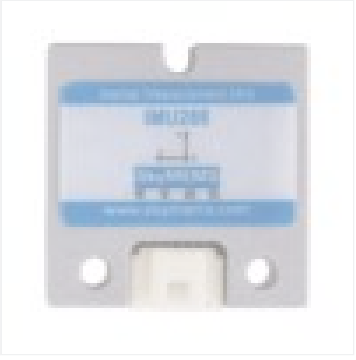

IMU286 Automotive Grade 6DoF MEMS IMU

- Automotive Grade 6DoF IMU Sensor, Easy to Integrate
- Strictly Factory Calibrated at Full Temperature
- Pass 2000km All-Terrain Vehicles Tests
- Range (Typical): Gyro ±450°/s, Acc ±16g
- Bias Instability (Allan): Gyro 1.2°/h, Acc 50μg
- High Bandwidth (Typical): 200Hz
- Compact & Light Weight 22.4 ×22.4×9mm, 20g
- Working Temperature: -40~+85°C

Contact

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(tel:+86-13372038516)

Skype
(skype:+8613372038516?chat)

Product Categories

Brief Introduction

IMU286 inertial measurement unit is a high-performance, automotive grade, small-size and shock-proof 6DoF IMU sensor. It's composed of 3-axis gyroscope and 3-axis accelerometer, and it is strictly factory calibrated at full temperature, which trims the parameter errors such as offset drift over temperature, orthogonality error, and sensitivity. This ensures the consistency of module performance, allowing it to provide continuous, stable and accurate sensor measurement values across a wide temperature range.

IMU286 enjoys high accuracy with gyro-bias instability of better than 1.2°/h, which can be used for accurate navigation, control, and dynamic measurement of motion carriers. It offers a simple and cost-effective solution for unmanned vehicle, unmanned aircraft, unmanned surface vessel and platform stability, etc., and it has been successfully widely used in these fields.

Technical Specifications

Parameter	Test Condition	Min.	Typical	Max.	Unit
Gyroscopes					
Range①			±450		°/s
Bias Instability	Allan variance		1.2		°/h
Bias Stability	10s average(-40~+85°C, fixed temp.)		5		°/h
Bias Repeatability			3		°/h
Full Temperature Bias (peak)			0.03		°/s
Random Walk			0.2		°/√h

Non-linearity			100		ppm
Axial Coupling Coefficient				1%	
Linear Acceleration Effect on Bias			0.002		°/s/g
Bandwidth			200		Hz
Accelerometers					
Range①			±16		g
Bias Instability	Allan variance	25	50	75	ug
Initial Bias Error		3	4	5	mg
Resolution			0.01		mg
Scale Factor Accuracy			0.1		%
Non-linearity			0.01		%FS
Random Walk		0.01	0.015	0.02	m/s/√h
Bandwidth			150		Hz
Interface② (UART)					
Baud Rate		115200	460800	921600	bps
Output Rate		200	1000	2000	Hz
Reliability					
MTBF	20000h				
Continuous Working Time	120h				

Electrical Features	
Supply Voltage	3.2 – 6 V
Power Consumption	< 0.5 W
Environment Conditions	
Operating Temperature	-40°C ~ 85°C
Storage Temperature	-55°C ~ 105°C
Vibration Resistance	20-2000Hz, 20grms
Shock Resistance	2000g, 0.5ms
Physical Parameter	
Size	22.4 × 22.4 × 9 mm
Weight	20 grams
Connector	molex connector, model: 5015680607
Note: ①: The range of Gyroscopes and Accelerometers can be configured in our factory. ②: The baud rate and output rate can be configured in our factory.	

Typical Application

– Unmanned Aircraft

– Autonomous Vehicle

– Unmanned Surface Vessel

– Platform Stabilization

Product Advantages

FAQ

Related Products

IMU80 6DoF Mini IMU (https://www.skymems.com/products/imu80-6dof-mini-imu/)

Read more (https://www.skymems.com/products/imu80-6dof-mini-imu/)

IMU90 High Precision 6DoF Mini IMU (https://www.skymems.com/products/imu90-high-precision-6dof-mini-imu/)

Read more (https://www.skymems.com/products/imu90-high-precision-6dof-mini-imu/)

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- Inertial Measurement Unit(/product-category/imu/)
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- Fiber Optic Gyro(/product-category/fiber-optic-gyro/)
- MEMS Accelerometer(/product-category/mems-accelerometer/)
- Tilt Sensor(/product-category/inclinometer/)
- Integrated Navigation System(/product-category/gnss-ins/)

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