MEMS IMU

IMU300

High-Precision 6-Axis MEMS IMU

±500 °/s · ±10 g · RS422 · bias instability < 0.3 °/h



The IMU300 is a 6-axis MEMS IMU integrating three high-precision gyroscopes and three high-stability accelerometers. It delivers accurate angular rate and acceleration measurement in a compact, low-power package with an RS422 differential serial interface.

Bias instability below 0.3 °/h, a 2000 samples/s output rate and configurable bandwidth make the unit suitable for stabilisation platforms, aircraft control and inertial navigation integration.

KEY FEATURES

- 6-axis MEMS sensing: 3 gyroscopes and 3 accelerometers
- Gyro bias instability < 0.3 °/h (Allan)
- RS422 differential serial output, up to 2000 samples/s
- Configurable bandwidth from 16 Hz to 262 Hz
- Internal self-diagnostics for sensors, references and supply
- Compact, low-power design for embedded integration

AT A GLANCE

Parameter	Value
Gyro full scale	±500 °/s
Accelerometer full scale	±10 g
Gyro bias instability	< 0.3 °/h (Allan)
Interface	RS422, up to 2000 samples/s
Bandwidth	16–262 Hz (configurable)

APPLICATIONS

- Dynamic stabilisation platforms
- Aircraft and UAV control
- Inertial integrated navigation
- Industrial motion measurement

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TECHNICAL SPECIFICATIONS

Parameter	Specification
Gyro full scale	±500 °/s
Gyro resolution	24 bit
Gyro scale factor	15,000 LSB/(°/s)
Gyro bias instability (Allan)	< 0.3 °/h
Gyro bias stability @ 10 s	< 3 °/h
Gyro bias temperature drift	< 20 °/h (full range)
Gyro broadband noise	< 0.4 °/s
Gyro bandwidth	16–262 Hz (configurable)
Output rate	up to 2000 samples/s
Accelerometer full scale	±10 g
Accelerometer resolution	24 bit
Accelerometer bias stability	0.15 mg
Accelerometer non-linearity	0.3–1.0 % FS
Digital interface	RS422 differential serial

• Multiple output formats are available for gyroscope and accelerometer data.
• Built-in self-test covers internal references, sensors, temperature, memory and supply voltage.

APPLICATIONS

- Dynamic stabilisation platforms
- Aircraft and UAV control
- Inertial integrated navigation
- Industrial motion measurement

QUALITY, COMPLIANCE & SUPPORT

- Designed and tested against the applicable IEC / ITU-R / NMEA standards for the product family
- Functional test and calibration before shipment
- CE / FCC / CCS certification in progress for selected models
- Standard warranty against manufacturing defects; period confirmed per product
- Technical documentation and configuration tools supplied for integration
- Engineering support for custom firmware, connectors and cabling

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COMMERCIAL INFORMATION

ORDERING & CUSTOMISATION

MOQ	10 units for standard models; confirmed for custom configurations
Lead time	2–4 weeks for standard models; confirmed for custom or volume orders
Payment	T/T; other terms by agreement
Samples	Evaluation samples available
Customisation	Firmware configuration, connector, cable assembly, labelling and packaging to your specification

PACKING & DELIVERY

Packing	Anti-static bag, foam and export carton; palletised on request
Shipping	Express (DHL / FedEx / UPS), air freight or sea freight — quoted per order
Origin	Xi'an, China
Documentation	Datasheet, user manual, pinout and test data on request

ABOUT HAISITEK

Founded in Xi'an in April 2015, Haisi Measurement and Control Technology Co., Ltd. develops and manufactures MEMS inertial sensors, inertial navigation systems and AIS communication products. In-house R&D covers sensor calibration, full-temperature compensation, RF design and embedded firmware.

- In-house R&D, calibration and production
- Full-temperature calibration and compensation
- Custom configuration, connectors and cabling
- Documentation and integration support

RELATED PRODUCTS

IMU313C
Compact 6-Axis MEMS Inertial Measurement Unit

IMU400
High-Precision 6-Axis MEMS IMU with RS422 Output

IMU6488 Series
Industrial-Grade MEMS Inertial Measurement Unit

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Inertial sensors, IMU / INS and AIS modules since 2015.

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