

HGUIDE i400 INERTIAL MEASUREMENT UNIT



*Inertial
Innovation
Inside*

KEY HONEYWELL ADVANTAGES

- Sub 1° Gyro performance tactical grade IMU in an extremely small package
- World-class inertial measurement unit development, full temperature range calibration and compensation from the world's premier high grade IMU manufacturer
- Units feature a range of configurable options for output data rates, baud rates and HGNSI message formats
- Provides Roll and Pitch information in addition to standard Inertial Sensor data
- Proven reliability, dependability and ruggedness, through unit life

The HGuide i400 is an advanced micro-electromechanical system (MEMS) based inertial measurement unit (IMU) engineered to fulfill the demands of applications requiring exceptional performance within a compact, lightweight, and rugged form factor. Equipped with industry-standard communication interfaces and boasting a wide-input voltage range, the HGuide i400 seamlessly integrates into diverse architectures. Its remarkably small size, low weight, and low power consumption make the HGuide i400 suitable for a wide range of applications from 3D Mapping to Autonomy to AUVs.

The IMU incorporates MEMS gyroscopes and accelerometers while utilizing a mechanical design to help mitigate unwanted inputs commonly encountered in real-world scenarios. Proprietary design elements enable the HGuide i400's ruggedness, meeting the requirements of even the most exacting users.

The HGuide i400 outputs Honeywell proprietary binary data (HGNSI) per other Honeywell HGuide IMUs.

Honeywell support also includes access to ROS drivers, SDK and HGuide Data Reader.

Manufactured and dispatched from a Honeywell facility, the HGuide i400 is generally accessible without export controls.

HGUIDE i400 IMU KEY CHARACTERISTICS

Size/Volume	28mm x 25mm x 13mm / <8cu cm
Weight	18 grams
Power Consumption	<0.5 Watts
Operating Temperature Range	-40°C to 85°C
Data Rate	Up to 600Hz Inertial Data, 1800Hz Control Data 100Hz Roll and Pitch Output
Gyro Operating Range	+/- 490 deg/s in all axes
Accelerometer Operating Range	16g in all axes
Supply Voltages	+4.5 to +15 VDC
Bandwidth	200 Hz at -3dB (Output Frequency dependant)
Vibration	Random : 20-2000Hz MIL-STD-810G 2.2 grams
Shock	40g, 11ms per MIL-STD-810G
Communication Protocols	RS-422 differential and 3.3V TTL UART
Asynchronous Baud Rate	1 Mbs default
Discrete Signals	Data ready output

HGUIDE i400 IMU PERFORMANCE – ROOM TEMPERATURE

Variant	Gyro Bias ¹ (°/hr 1σ)	Gyro Bias In-run (°/hr 1σ)	ARW (°/√hr)	Accel Bias ¹ (mg 1σ)	Accel Bias In-run Stability (mg 1σ)	VRW (m/s/√hr)	Pitch/Roll (°)
I400 CA	50	0.5	0.06	1.6	5	0.012	Static = 0.1, Dynamic = 0.2
I400 BA	75	0.75	0.075	2	7.5	0.015	Static = 0.15, Dynamic = 0.3
I400 AA	100	1.0	0.12	3	10	0.02	Static = 0.2, Dynamic = 0.4

¹Turn-on to turn-on bias measured over an operating period of one year under room temperature.

For more information

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