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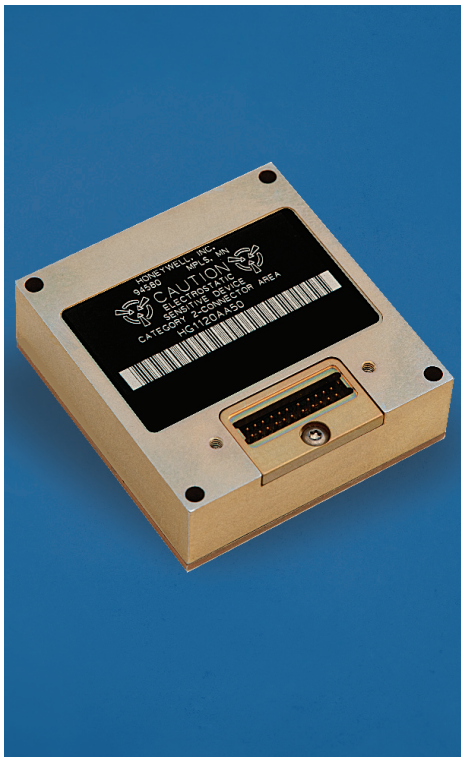
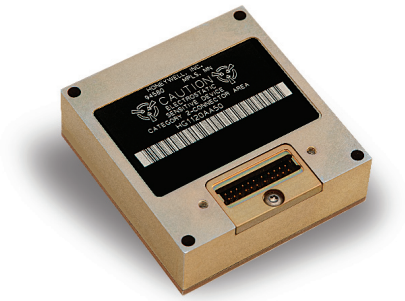


HG1120 MEMS Inertial Measurement Unit

Aerospace performance. Industrial prices.
Possibilities of Navigation. *Made Easy*.

HG1120 MEMS Inertial Measurement Unit



Proven - Dependable - Accurate

The HG1120 is a Micro-Electro-Mechanical System (MEMS) based Inertial Measurement Unit (IMU) designed to meet the needs of a range of applications across various markets including agriculture, AUVs, industrial equipment, robotics, survey/mapping, stabilized platforms, transportation, UAVs, and UGVs. With industry standard communication interfaces and a wide input voltage range the HG1120 is easily integrated into the variety of architectures that these applications present. The extremely small size, light weight, and low power make the HG1120 ideal for most applications.

The HG1120 includes MEMS gyroscopes, accelerometers, and magnetometers. In addition, the HG1120 employs an internal environmental isolation system to attenuate unwanted inputs commonly encountered in real world applications. The internal isolation and other proprietary design features ensure the HG1120 is rugged enough to meet the needs of the most demanding users.

Three different performance grades of the HG1120 are available as off-the-shelf items. The HG1120 offers configurable features, such as output data rate and feedback control signal filtering, to simplify system integration. Honeywell screens and calibrates all of the MEMS inertial sensors utilized in the HG1120 IMU.

The HG1120 is not ITAR controlled. Its Export Control Classification Number (ECCN) is 7A994.

Find out more

Visit us at: aerospace.honeywell.com/imu

Honeywell Aerospace
1944 East Sky Harbor Circle
Phoenix, AZ 85034
aerospace.honeywell.com

Key Honeywell Advantages:

- All inertial sensors utilized in our IMUs are screened and calibrated by Honeywell
- Proven performance in wide range of commercial applications
- Industry standard RS-422 UART, CAN and SPI serial interfaces
- Units feature a range of user configurable options, with selectable output data rates and feedback control signal filtering
- Solid-state electronics improve dependability and reliability throughout unit operational life

HG1120 IMU KEY CHARACTERISTICS	
Volume	1.7 in^3 (29 cm^3)
Weight	<0.15 lbs (0.07kg)
Power Consumption	<1.1 Watts
Operating Temperature Range	-40°C to 85°C
Data Rate	Up to 300 Hz (Guidance) and 1800 Hz (Control) – user configurable
Built-In-Test Coverage	Continuous and stored in a history log
Gyroscope Operating Range	Up to 500 deg/sec in all axes
Accelerometer Operating Range	Up to 16g in all axes
Magnetometer Operating Range	Up to 16 gauss in all axes
Supply Voltages	+3.0 - 5.5V

HG1120 IMU STANDARD MODELS TYPICAL PERFORMANCE - ROOM TEMPERATURE						
Device	Gyro Bias Repeatability[1] (°/hr)	Gyro Bias In-run Stability[2] (°/hr)	ARW[3] (°/√hr)	Accel Bias Repeatability[1] (mg)	AccelBias In-run Stability[2] (mg)	VRW[3] (fps/√hr)
HG1120CA50	260	10	0.3	5	0.03	0.20
HG1120BA50	520	24	0.4	10	0.05	0.25
HG1120AA50	780	48	0.5	15	0.08	0.30

HG1120 IMU STANDARD MODELS TYPICAL PERFORMANCE - FULL OPERATING TEMPERATURE RANGE						
Device	Gyro Bias Repeatability[1] (°/hr)	Gyro Bias In-run Stability[2] (°/hr)	ARW[3] (°/√hr)	Accel Bias Repeatability[1] (mg)	AccelBias In-run Stability[2] (mg)	VRW[3] (fps/√hr)
HG1120CA50	360	12	0.4	8	0.10	0.20
HG1120BA50	720	65	0.7	16	0.15	0.30
HG1120AA50	1080	120	1.3	24	0.20	0.50

1) Bias repeatability measurements calculated as the Root Mean Square (RMS) of combined bias thermal model + residuals from dynamic tumble test
2) Bias in-run stability measurements based on Allan Variance Bias Instability (BI) coefficient
3) Angular Random Walk (ARW) and Velocity Random Walk (VRW) measurements based on Allan Variance Random Walk (RW) coefficient

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