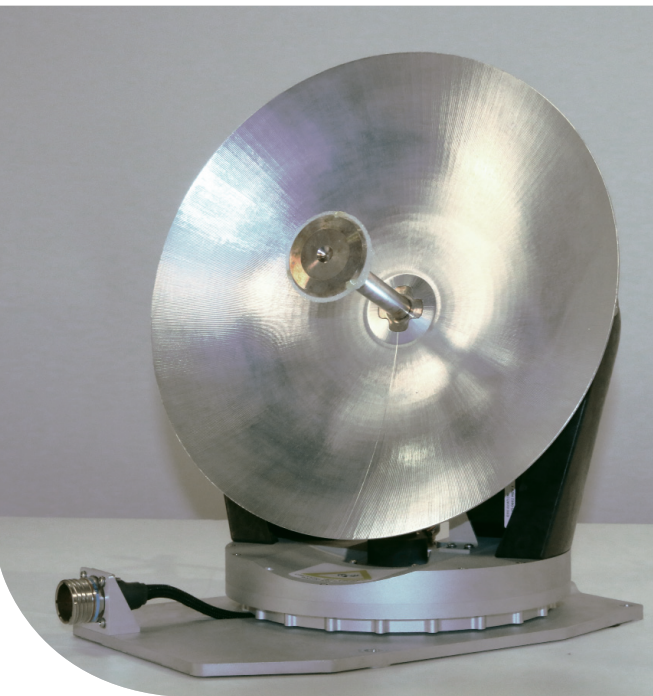


**Honeywell**



## **HG4930 MEMS Inertial Measurement Unit**

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

# HG4930 MEMS Inertial Measurement Unit



Proven - Dependable - Accurate

The HG4930 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 HG4930 is easily integrated into the variety of architectures that these applications present. The extremely small size, light weight, and low power make the HG4930 ideal for most applications.

The HG4930 includes MEMS gyroscopes and accelerometers. In addition, the HG4930 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 HG4930 is rugged enough to meet the needs of the most demanding users.

Three different performance grades of the HG4930 are available as off-the-shelf items. The HG4930 offers many 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 HG4930 IMU.

The HG4930 is not ITAR controlled. It's Export Control Classification Number (ECCN) is 7A994.

## Find out more

Visit us at: [aerospace.honeywell.com/imu](http://aerospace.honeywell.com/imu)

## Honeywell Aerospace

1944 East Sky Harbor Circle  
Phoenix, AZ 85034  
[aerospace.honeywell.com](http://aerospace.honeywell.com)

## Key Honeywell Advantages

- All inertial sensors utilized in our tactical IMUs are designed, developed, and manufactured by Honeywell
- Proven performance in a wide range of commercial applications
- Industry standard RS-422 serial interface
- Units feature a wide range of factory configurable interface protocols, including a Synchronous Data Link Control (SDLC) option, an asynchronous serial option, a gated clock option and a custom serial option
- Solid-state electronics improve dependability and reliability throughout unit operational life

HG4930 IMU KEY CHARACTERISTICS	
Volume	5 in <sup>3</sup> (82 cm <sup>3</sup> )
Weight	<0.35 lbs (0.16 kg)
Power Consumption	<3 Watts
Operating Temperature Range	-54°C to 85°C (Varies by configuration)
Data Rate	100 Hz (Guidance) and 600 Hz (Control) – other rates available
Built-In-Test Coverage	>89%
Gyroscope Operating Range	<200 deg/sec standard (Higher ranges also possible)
Accelerometer Operating Range	Varies by configuration. Up to 85g in the X axis and 35g in the Y and Z axes.
Supply Voltages	+5V

HG4930 IMU STANDARD MODELS AND PERFORMANCE - FULL OPERATING TEMPERATURE RANGE						
Device	Gyro Bias Repeatability <sup>1</sup> (o/hr 1σ)	Gyro Bias In-run Stability <sup>2</sup> (o/hr 1σ)	ARW <sup>3</sup> (o/√hr max)	Accel Bias Repeatability <sup>1</sup> (mg 1σ)	Accel Bias In-run Stability <sup>2</sup> (mg 1σ)	VRW <sup>3</sup> (fps/√hr max)
HG4930CA51	20	1.0	0.125 <sup>4</sup> 0.09 <sup>5</sup>	5	0.3	0.3
HG4930BA51	40	1.5	0.125 <sup>4</sup> 0.09 <sup>5</sup>	10	0.5	0.3
HG4930AA51	60	1.5	0.175	10	0.5	0.4

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

4) Applies to the Roll channel

5) Applies to the Pitch and Yaw channels