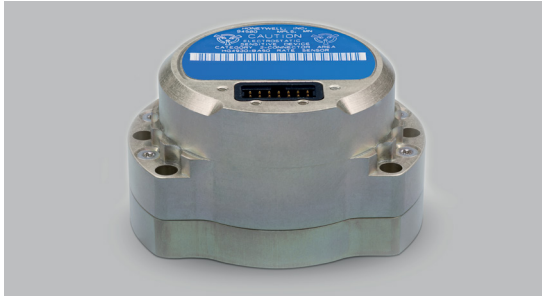


HG4930 MEMS Inertial Measurement Unit

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 an industry standard communication interface, 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. Honeywell screens and calibrates all of the MEMS inertial sensors utilized in the HG4930 IMU. The HG4930 is not ITAR controlled. Its Export Control Classification Number (ECCN) is 7A994.

Key Honeywell Advantages

- “A” class standard model provides the precision “rotation corrected” Delta Velocity/Angle outputs necessary for autonomous & GPS denied markets/ applications.
- World class inertial sensor development, calibration, and compensation.
- Proven reliability, dependability, and ruggedness, through unit life.
- RS-422 Asynchronous standard protocol.
- Highest performing MEMS IMU of its size and price.
- Smaller, lower power, and cost effective replacement for a FOG.

HG4930 IMU TYPICAL KEY CHARACTERISTICS	
Gyroscope Operating Range	-325 °/sec to +325°/sec
Accelerometer Operating Range	-20 g to + 20g
Supply Voltage	+5 VDC +/- 5%
Power Consumption	< 2 Watts
Operating Temperature Range	-54°C to +85°C
Volume/Size	82 cm ³ (5in ³), 65 x 51 x 35.5 mm
Weight	140 grams (0.3 lbs)
Dual Navigation/Control Serial Asynchronous RS422 Output	Fully Compensated Incremental/Delta Outputs are Ready for Integration into Position/Attitude

HG4930 IMU TYPICAL BANDWIDTH AND DATA RATE CHARACTERISTICS						
Distributor Ordering Part Number ¹	Device Class	Stabilization BW -90°/-3 dB (Hz)		Data Rates		Baud Rate
		Gyro	Accel	Control	Incremental	
HG4930CA51 HG4930BA51 HG4930AA51	Standard “A”	70/180	70/180	600 Hz	100 Hz	1 MBit

HG4930 IMU TYPICAL PERFORMANCE OVER FULL TEMPERATURE RANGE							
Distributor Ordering Part Number ¹	Performance Class	Gyro Bias Repeatability (°/hr 1σ)	Gyro Bias In-run Stability ² (°/hr 1σ)	Gyro ARW (°/√hr)	Accel Bias Repeatability (mg 1σ)	Accel Bias In-run Stability (mg 1σ)	Accel VRW (m/s/√hr)
HG4930CA51	“C”	7	0.25	0.04	1.7	0.025	0.03
HG4930BA51	“B”	10	0.35	0.05	2	0.05	0.04
HG4930AA51	“A”	20	0.45	0.06	3	0.075	0.06

¹ Honeywell internal part numbers are 68904930-CA51, 68904930-BA51, 68904930-AA51.

² Gyro bias stability is >0.5 °/hour when measured over a constant operating period of one month.

Find Out More

Visit us at: aerospace.honeywell.com/IMU4U

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