

**Honeywell**

THE POWER OF **CONNECTED**



## HG5700 Inertial Measurement Unit

High Performance Gyrocompassing Grade IMU  
Possibilities of Navigation. *Made Easy*

# HG5700 Inertial Measurement Unit

## Proven – Dependable – Accurate

The HG5700 is a high performance gyrocompassing Inertial Measurement Unit (IMU) designed to meet the needs of a broad range of guidance and control applications. The HG5700 IMU is an enhanced performance version of the HG1700 IMU in a similar form factor. It also serves as a drop-in replacement for its precursor, the HG1700, which has been successfully deployed on a wide range of weaponry, UAVs, stabilized platform, surface mapping, ground survey, and oceanographic survey, and have shown unsurpassed performance and reliability.

## Description

The HG5700 IMU contains three Ring Laser Gyroscopes (RLG) and three quartz Resonating Beam Accelerometers (RBA) with excellent stability characteristics environmentally sealed in a rugged aluminum housing. The HG5700 IMU offers gyrocompassing performance grade at a low price, size, and weight, while employing an external environmental ring isolator to filter unwanted sensor inputs commonly encountered in real world applications.

The HG5700 consumes less power than competing fiber optic gyro-based systems. External heat sinks and cooling are not required by the HG5700, facilitating greater flexibility in systems design and integration.

## Configurations

Three different performance grades of the HG5700 are available off-the-shelf. The HG5700 offers many configurable features, such as data rate output and flight control filtering to simplify system integration.

## HG5700 IMU Key Characteristics

Volume	45 in <sup>3</sup> (737 cm <sup>3</sup> )
Height	4 in (10.16 cm)
Weight	<3 lbs (1.36 kg)
Power Consumption	<10 watts
Operating Temperature Range	-54°C to +85°C
Data Rate	100 Hz (Guidance) and 600 Hz (Control) – Other data rates available
Built-In-Test Coverage	>90%
Gyro Operating Range	± 1074 deg/sec
Accelerometer Operating Range	± 37 g
Supply Voltages	+15V, +5V

## HG5700 IMU Typical Performance Over Full Operating Temperature Range

PART NUMBER <sup>1</sup>	GYRO BIAS REPEATABILITY (°/HR 1σ)	GYRO BIAS STABILITY <sup>2</sup> (°/HR 1σ)	GYRO ARW (°/√HR MAX)	ACCEL BIAS REPEATABILITY (μG 1σ)	ACCEL BIAS STABILITY <sup>2</sup> (μG 1σ)	ACCEL VRW (FPS/√HR MAX)
HG5700CA01 <sup>3</sup>	0.035	0.01	0.006	200	30	0.065
HG5700BA01	0.070	0.02	0.012	300	50	0.065
HG5700AA01	0.140	0.04	0.025	300	50	0.065

### Notes:

- When ordering direct from Honeywell, use part numbers 68905700-AA01, 68905700-BA01, 68905700-CA01
- For a period of 10 minutes
- Future offering

## BENEFITS

- All inertial sensors utilized in our tactical IMUs are designed, developed and manufactured by Honeywell
- RLG design is based on the highly successful navigation grade GG1320 technology
- Industry standard RS-422 serial interface
- Units feature a wide range of factory configurable interface protocols including Synchronous Data Link Control (SDLC), Asynchronous serial, UART, and Gated clock
- Ethernet interface option to be included in future offering
- Drop-in replacement for the HG1700 IMU for enhanced performance
- Export Control Classification Number (ECCN) is 7A003.d.1

## Find Out More

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