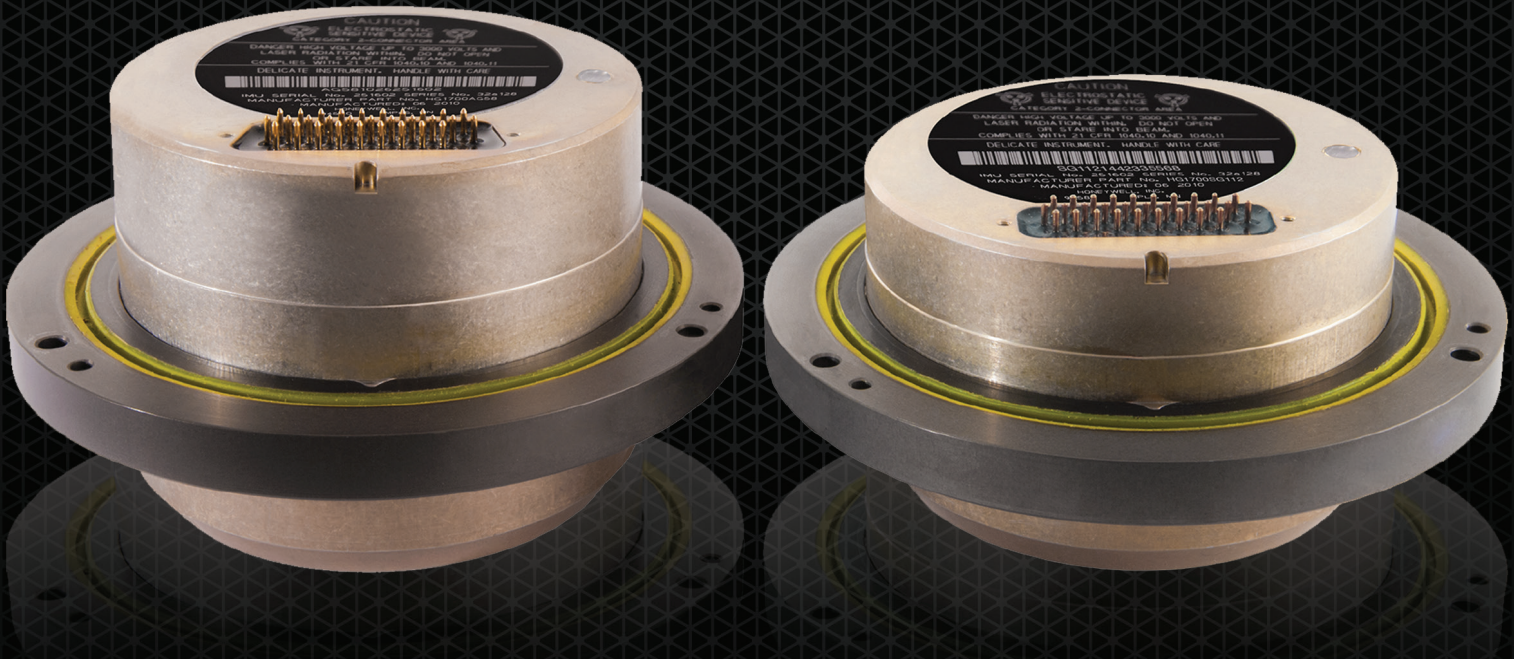
HG1700 INERTIAL MEASUREMENT UNIT

Proven technology for a wide range of guidance and control applications



Honeywell

HG1700 INERTIAL MEASUREMENT UNIT

Proven – Dependable – Accurate

The HG1700 is a high-performance tactical-grade Inertial Measurement Unit (IMU) designed to meet the needs of a broad range of guidance and control applications. The HG1700 has been successfully deployed on a wide range of weaponry, UAVs, stabilized platforms and commercial applications. Honeywell has manufactured and delivered over 670,000 HG1700 IMUs worldwide – more than ten times the number of its closest competitor and has unsurpassed tactical grade IMU performance and reliability.

Description

The HG1700's three Ring Laser Gyroscopes (RLG), three quartz Resonating Beam Accelerometers (RBA) and associated electronics are all environmentally sealed in rugged aluminum housing. The sensors in the HG1700 IMU have excellent stability characteristics – the bias stability term is negligible in thermally-stable environments – and as such bias performance is specified as the combination of both stability and repeatability. The HG1700 also employs an external environmental ring isolator to filter unwanted sensor inputs commonly encountered in real-world applications.

The HG1700 consumes less power than competing fiber optic gyro-based systems and simplifies system integration by offering many configurable features – such as data rate output and flight control filtering. External heat sinks and cooling are not required by the HG1700, facilitating greater flexibility in systems design and integration.

Configurations

The HG1700 is now offered in two variants, four performance grades, and thirty different off-the-shelf configurations, more than any other IMU in its class. The HG1700SG is the latest fully-qualified variant and has the same best-in-class capabilities as the HG1700AG but in a smaller package. The HG1700SG is shorter and lighter than the HG1700AG.

HG1700 IMU KEY CHARACTERISTICS

	HG1700 AG	HG1700 SG
Volume	33 in^3 (541 cm^3)	27 in^3 (443 cm^3)
Height	2.865 in (7.25 cm)	2.262 in (5.75 cm)
Weight	<2 lbs (0.9 kg)	<1.5 lbs (0.7 kg)
Power Consumption	<5watts	
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	Varies by configuration from +/- 358 deg/sec to +/- 1620 deg/sec	
Accelerometer Operating Range	Varies by configuration from +/- 12 g to +/- 70 g	
Supply Voltages	+15V (.25 amps) +5V (.15 amps)	

HG1700 IMU STANDARD MODELS & PERFORMANCE

DEVICE	GYRO BIAS[1] (°/HR 1σ)	GYRO ARW (°/RT.HR MAX)	ACCEL BIAS[1] (MG 1σ)	ACCEL VRW (FPS/RT HR MAX)	RS422 INTERFACE PROTOCOL	ISOLATOR
HG1700AG37 HG1700SG37 HG1700AG67 HG1700AG71 HG1700AG58 HG1700SG58 HG1700AG63	1	0.125	1	0.065	Asynchronous	Round
						Square
					Gated Clock	Square
					SDLC	Round
						Square
HG1700AG72 HG1700AG59 HG1700SG59 HG1700AG64	2	0.2	1	0.065	Gated Clock	Square
					SDLC	Round
						Square
HG1700AG60 HG1700SG60 HG1700AG65	3	0.3	2	0.065	SDLC	Round
						Square
HG1700AG68 HG1700SG68 HG1700AG74 HG1700AG61 HG1700SG61 HG1700AG66	5	0.5	3	0.065	Asynchronous	Round
					Gated Clock	Square
					SDLC	Round
						Square

BENEFITS:

- All inertial sensors utilized in our HG1700 IMU are designed, developed, and manufactured by Honeywell
- Industry standard RS-422 serial interface
- Over 20 years of proven performance in a wide range of military and commercial applications:
  - Weaponry
  - Ground survey
  - UAVs
  - Mobile mapping
  - Stabilized platforms
- Units feature a wide range of factory configurable interface protocols including Synchronous Data Link Control (SDLC), Asynchronous serial, and Gated clock

For more information

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THE FUTURE IS WHAT WE MAKE IT

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