

# HG3900 TACTICAL INERTIAL MEASUREMENT UNIT (IMU)



The HG3900 next-generation MEMS IMU delivers breakthrough tactical performance- with accuracy and reliability comparable to RLG and FOG technologies. Silicon MEMS technology makes all the difference.

Compact size and high performance make HG3900 ideal for the highest-end tactical applications where performance counts yet minimal size, weight and power (SWaP) requirements are critical.

The HG3900 has been tested and proven to perform extremely well even during the most extreme conditions such as vibration and dynamic temperature changes.

With fully microelectromechanical system (MEMS) gyroscopes and accelerometers, the HG3900 delivers a significant reduction in SWaP compared to other alternatives.

An excellent choice for replacement of Honeywell's highly successful HG1900 IMU (which is now at end-of-life), the HG3900 delivers superior performance within a nearly identical package.

## COMPARISON ACROSS IMU TYPES

IMU	HG3900 <sup>1</sup> Mid BA01	HG3900 <sup>1</sup> Low AA01	HG1700 High AG58	HG1900 High CA50
<b>Technologies</b>	MEMS		Ring Laser Gyro Quartz Accel	MEMS Gyro Quartz Accel
<b>Size</b>	3.1" H x 3.0" D*		2.9" H x 5.5" D (with ring)	3.1" H x 3" D*
<b>Power (Start/Run)</b>	< 6W / < 2.5W		≤ 11W / ≤ 5.5W	≤ 5.3W / ≤ 2.2W
<b>Gyro Operating Range (°/sec)</b>	1000		1074 - 1620	1000
<b>Accel Operating Range (g)</b>	37 60 (option) 80 (option)		70 - 30	30
<b>Bandwidth (@ -90° phase lag) (Hz)</b>	70		70	70
<b>Angle Random Walk (°/√hr)</b>	0.015	0.030	0.125	0.060
<b>Gyro Bias Repeatability (°/hr)</b>	0.50	1.0	1.0	10.0
<b>Gyro Bias In-Run (°/hr) (10 minute)</b>	0.08	0.10	0.25	1.0
<b>Gyro Scale-factor Repeatability (ppm)</b>	200	300	150	200
<b>Accelerometer Bias Repeatability (ug)</b>	500	1,000	1,000	1,000
<b>Accelerometer Bias In-Run (ug)</b>	50	100	30	30
<b>Accel Scale-factor Repeatability (ppm)</b>	100	100	500	200

<sup>1</sup>When ordering directly from Honeywell, use part number 68903900-AA01, 68903900-BA01.

Honeywell has been a top innovator in IMU technology for more than three decades and pioneered the use of MEMS technologies in navigation. To learn more about our IMU technologies, [visit us online](#) or contact your Honeywell representative.

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## HIGHEST TACTICAL-GRADE PERFORMANCE MEMS IMU IN A LOW SWAP PACKAGE

- Superior performance vs. similar size RLG and FOG-based IMUs
- Small size (3.1 x 3.0 inches), and low weight (less than 2 pounds)
- All silicon MEMS gyroscopes & accelerometer IMU with performance better than similar-sized RLG, FOG, & Quartz IMUs
- Highly robust, ruggedized to tolerate high vibration, shock and dynamic thermal environments
- Performance has been validated over full environments by U.S. Army / NTA labs
- Evaluation IMUs available now: accepting orders for pre-production run through June 2025
- Qualified, production deliveries beginning in 2027
- High volume production deliveries beginning 2028

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IS  
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WE  
MAKE IT

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