Honeywell

THE POWER OF **CONNECTED**


# HG9900 Inertial Measurement Unit

State-of-the-art navigation performance using proven inertial sensor technology in a small, lightweight package.

Possibilities of Navigation. *Made Easy*

# HG9900 Inertial Measurement Unit

## Proven – Dependable – Accurate

The HG9900 is a high performance navigation-grade Inertial Measurement Unit (IMU) designed to meet the needs of a broad range of navigation, guidance and control applications. The HG9900 has been successfully deployed on a wide range of weaponry, UAVs, stabilized platforms and commercial applications.

## Description

The HG9900's three Ring Laser Gyroscopes (RLGs), three Quartz Accelerometers (QAs) and associated electronics are all environmentally sealed in rugged aluminum housing. In addition, it employs an internal environmental isolator system to filter unwanted sensor inputs commonly encountered in real world applications.

Honeywell designs, develops and manufactures all of the inertial sensors utilized in the HG9900 IMU. All of this culminates in the HG9900 providing industry leading inertial sensor performance while maintaining minimal SWAP parameters.

| HG9900 IMU SYSTEM FEATURES | |
|---|---|
| Inertial Measurement Unit (IMU)" | Honeywell GG1320 Digital Ring Laser Gyros<br>Honeywell QA2000 Accelerometers<br>Honeywell Smart Inertial Electronics<br>Proven 0.8 nmi/hr performance |
| Standard Interface Protocol | SDLC RS-422<br>300 Hz filtered angular rate and linear acceleration (other frequencies available)<br>300 Hz compensated $\Delta$Vs and $\Delta\Theta$s (other frequencies available) |
| Interface Protocol Options | Non-SDLC with and without differential strobe output<br>SDLC clock output or input |

| HG9900 PERFORMANCE | |
|---|---|
| Gyro Error Coefficients (1$\sigma$) | Bias: < 0.0035 °/HR<br>Random Walk: < 0.002 °/$\sqrt{}$HR<br>Scale Factor: < 5.0 PPM" |
| Accelerometer Error Coefficients (1$\sigma$) | Bias: < 25$\mu$g<br>Scale Factor: < 100 PPM |

| HG9900 IMU SYSTEM CHARACTERISTICS | |
|---|---|
| Size | < 103 in3 (5.5 x 6.4 x 5.34" including connector & mounting holes) |
| Weight | < 6 lbs |
| Power | < 10 watts |
| Thermal Operating Range | -40°C to +71°C |
| Gyro Operating Range | ± 550 °/sec |
| Accelerometer Operating Range | Standard: ± 20 g<br>Additional Options: ± 1.4 g, ± 30 g, ± 50 g, and ± 70 g |
| Input Voltage | 5, ±15 Vdc input |

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