



Powerful Sensing Solutions for a Better Life

IMU350

INERTIAL MEASUREMENT UNIT

The MEMSIC IMU350 is a robust entry-level Inertial Measurement Unit that utilizes MEMS-based high-stability inertial sensors and precision factory calibration to provide unmatched value in terms of both price and performance. The IMU350 is a next generation replacement for the widely accepted IMU320 used in dynamic control and land navigation systems with over 1500 systems currently in service.



Unmanned Surface Vehicle



Precision Farming

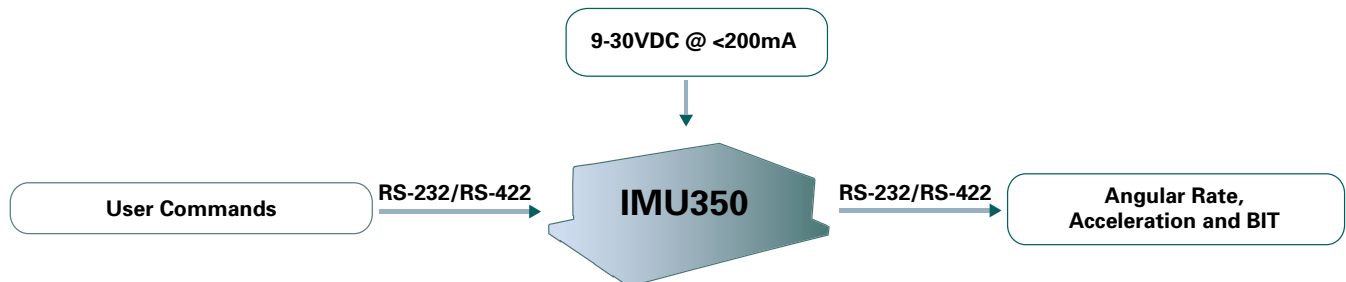
This rugged low-cost inertial system meets the demanding environmental requirements for operation in a wide variety of land vehicle and marine platform systems, and it is ideally suited for cost-sensitive high-volume OEM applications.

Features

- Angular Rate and Accel Data at 100Hz
- High Reliability MEMS Sensors
- Low Drift, Low Noise
- Wide Temp Range (-40°C to +70°C)
- Wide Input Power Range (9-30V)
- Low Profile <1.5"
- Lightweight <0.5lbs

Applications

- Unmanned Vehicle Control
- Precision Farming
- Robotics



Performance

IMU350

| Angular Rate | |
|---|--------|
| Range: Roll, Pitch, Yaw (°/sec) | ± 300 |
| Bias Stability In-Run ¹ (°/hr) | < 12 |
| Bias Stability Over Temp ² (°/sec) | < 0.5 |
| Scale Factor Accuracy (%) | < 1 |
| Non Linearity (%FS) | < 1 |
| Resolution (°/sec) | < 0.02 |
| Angle Random Walk (°/sq-rt hr) | < 3 |
| Bandwidth (Hz) | 50 |

| Acceleration | |
|---|-----------|
| Input Range: X/Y/Z (g) | ± 3 |
| Bias Stability In-Run ² (mg) | < 1 |
| Bias Stability Over Temp (g) | < ± 0.015 |
| Scale Factor Accuracy (%) | < 1 |
| Non Linearity (%FS) | < 1 |
| Resolution (mg) | < 0.5 |
| Velocity Random Walk (m/s/sq-rt hr) | < 1 |
| Bandwidth (Hz) | 50 |

Specifications

| Environment | |
|--------------------------------|------------|
| Operating Temperature (°C) | -40 to +70 |
| Non-Operating Temperature (°C) | -55 to +70 |

| Electrical | |
|-----------------------|------------------------------------|
| Input Voltage (VDC) | 9 to 30 |
| Power Consumption (W) | < 3 |
| Digital Interface | RS-232 or RS-422 (user selectable) |

| Physical | | |
|-----------|-------|------------------------------------|
| Size | (in) | 2.50 x 2.50 x 1.50 (excl. flanges) |
| | (cm) | 6.35 x 6.35 x 3.81 (excl. flanges) |
| Weight | (lbs) | < 0.5 |
| | (kg) | < 0.23 |
| Connector | | DSub-9, Male |

| Reliability | |
|--------------|---------|
| MTBF (hours) | >35,000 |

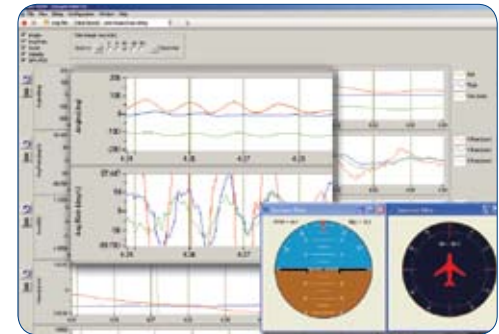
Ordering Information

| Model | Description |
|--------------|---------------------------|
| IMU350CA-300 | Inertial Measurement Unit |

This product has been developed exclusively for commercial applications. It has not been tested for, and MEMSIC make no representation or warranty as to conformance with, any military specifications or its suitability for any military application or end-use. Additionally, any use of this product for nuclear, chemical or biological weapons, or weapons research, or for any use in missiles, rockets, and/or UAV's of 300km or greater range, or any other activity prohibited by the Export Administration Regulations, is expressly prohibited without the written consent and without obtaining appropriate US export license(s) when required by US law. Diversion contrary to U.S. law is prohibited. Specifications are subject to change without notice. Notes: ¹ 1-sigma, constant temperature, Allan Variance curve. ² 1-sigma.

NAV-VIEW 3.X

Configuration & Display Software



NAV-VIEW 3.X provides an easy to use graphical interface to display, record and analyze all of the IMU350 measurement parameters.

Other Components

Each IMU350 is shipped with an interface cable, MEMSIC's User's Manual and NAV-VIEW 3.X configuration and display software.

Support

For more detailed technical information please refer to the 350-Series User's Manual available online at:

www.memsic.com/Support