



Powerful Solutions for a Better Life

IMU800

LOW DRIFT MEMS IMU

MEMSIC's IMU800CA establishes a new level of performance for standalone "unaided" inertial systems. The IMU800CA combines advanced MEMS rate gyro and accelerometer technologies to provide a superior solution for six-degree-of-freedom measurement in dynamic environments.



NEXT GENERATION

Features

- Advanced MEMS Sensors
- Low Drift < 3°/hr
- High Reliability, MTBF > 20,000 hrs
- Fully Compensated Angular Rate and Linear Acceleration Outputs
- Digital (RS-232/RS-422) & Analog Outputs
- VG700-Compatible Interface Option



Aerial Surveillance

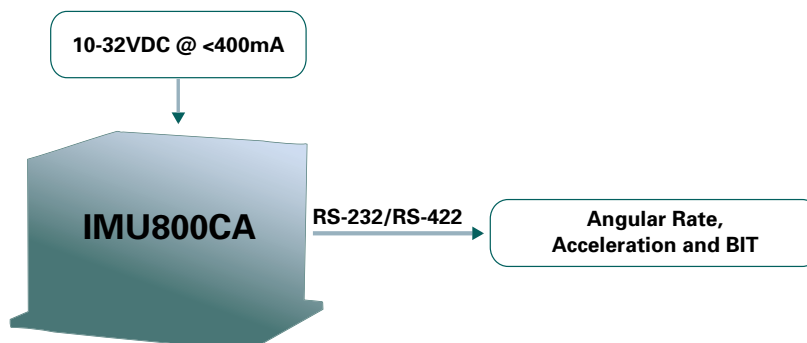


Land Vehicle Navigation

The IMU800CA is configured as a high performance IMU for integrated navigation systems. Output data is available in both analog and digital formats, and a VG700-compatible mode is available for customers converting from the FOG-based VG700 to the MEMS-based VG800.

Applications

- Aerial Surveillance
- Land Vehicle Navigation
- Mobile Mapping



Performance

IMU800CA

Angular Rate

Range: Roll, Pitch, Yaw (°/sec)	± 200
Bias In-Run ³ (°/hr)	< 3
Scale Factor Accuracy (%)	< 1
Non-Linearity (% FS)	< 0.1
Resolution (°/sec)	< 0.025
Bandwidth (Hz)	50
Random Walk (°/hr ^{1/2})	< 0.1

Acceleration

Range: X/Y/Z (g)	± 2 (±10 option available)
Bias In-Run (mg)	< 1.0
Scale Factor Accuracy (%)	< 1
Non-Linearity (% FS)	< 0.1
Resolution (mg)	< 0.5
Bandwidth (Hz)	50
Random Walk (m/s/hr ^{1/2})	< 0.5

Specifications

Environment

Operating Temperature (°C)	-40 to +70
Non-Operating Temperature (°C)	-55 to +85
Non-Operating Vibration (g rms)	6
Non-Operating Shock (g)	100

Electrical

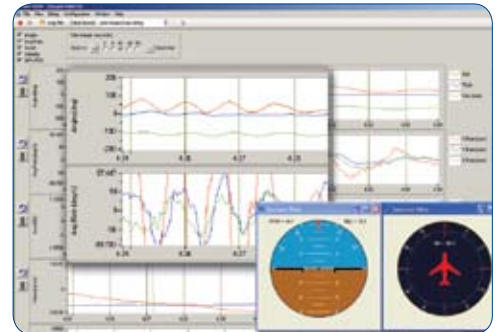
Input Voltage (VDC)	10 to 32
Input Current (A)	< 0.4
Power Consumption (W)	< 5
Digital Output Format	RS-232/RS-422
Analog ⁴ Range (VDC)	+/-5V, +/-10V, 0-5V (selectable)

Physical

Size (in)	4.0 x 4.0 x 2.91
(cm)	10.16 x 10.16 x 7.40
Weight (lbs)	< 3.5
(kg)	< 1.6
Connector	MIL-DTL 38999 Series 3

GYRO-VIEW 2.5

Configuration & Display Software



GYRO-VIEW 2.5 provides an easy to use graphical interface to display, record and analyze all of the IMU800 measurement parameters.

Other Components

Each IMU800CA is shipped with an 800-Series Installation Manual, and MEMSIC's GYRO-VIEW 2.5 configuration and display software.

Support

For more detailed technical information please refer to the 800-Series User's Manual available online at: www.memsic.com/Support

Ordering Information

Model	Description
IMU800CA-200	Ultra High Performance MEMS Inertial Measurement Unit (2g accel)
IMU800CA-210	Ultra High Performance MEMS Inertial Measurement Unit (10g accel)

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