

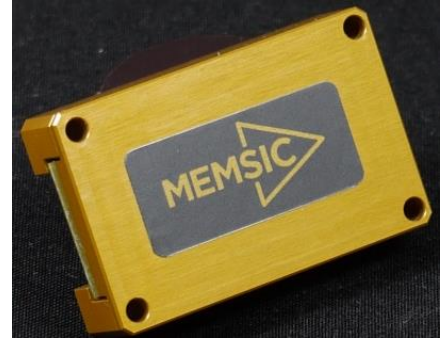


Power Sensing Solutions for a Better Life

IMU280ZA

INERTIAL MEASUREMENT SYSTEM

The IMU280ZA is a cost effective, high accuracy, 6 DOF Inertial Measurement Unit that combines a 3 axis accelerometer, 3 axis gyroscope along with a temperature sensor to provide consistent performance over a wide range of extreme operating conditions. IMU280ZA provides an easy to use SPI/UART interface enabling for a fast integration into complex system designs. IMU280ZA has been fully calibrated, tested and qualified to operate in industrial environment, thus simplifying the design cycles for end equipment.



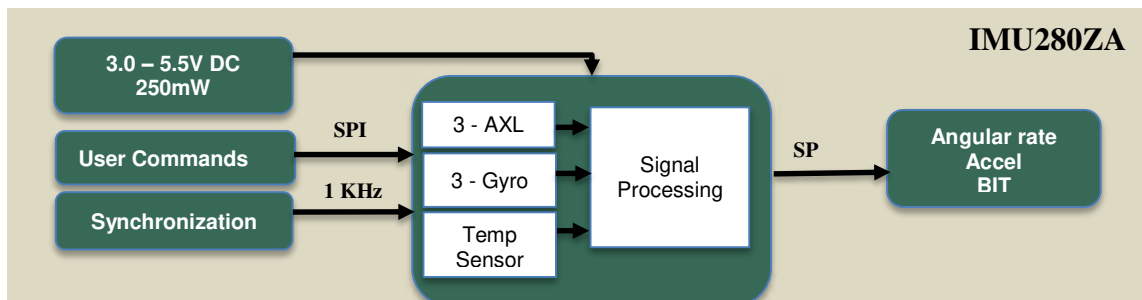
Features

- 6DOF IMU
- Lo and Hi gyro and accel range
- 20°/hr, <0.05mg Bias Instability
- <0.5°/sec, <10mg bias stability over temp
- <0.2 SF accuracy
- <1.5 ARW , 0.1 VRW
- 3 to 5V operation, <250mW Power Consumption
- 5 to 50hz User configurable Bandwidth
- SPI Interface
- -20 to +85°C
- Available in 24mm x 37mm x 9.5mm Anodized Aluminum Package
- ITAR - Free Product



Applications

- Precision Farming Implements
- Wind Turbine Control Systems
- Surveying Equipment
- Unmanned Vehicle Guidance
- Robotic Control Systems



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Preliminary Information Document P/N: XXXX-XXXX-01

Performance

	IMU280ZA-200	IMU280ZA-400
Angular Rate		
Range: Roll, Pitch, Yaw (°/sec)	± 200	± 400
Bias Instability (°/hr) ^{1,2}	< 20	<20
Bias Stability Over Temp (°/sec)	< 0.5	<0.5
Resolution (°/sec)	< 0.02	<0.02
Scale Factor Accuracy (%)	< 0.1	<0.1
Non-Linearity (%FS)	< 0.1	<0.1
Angle Random Walk (°/√hr) ²	< 1	<1
User Configurable Bandwidth (Hz)	5-50	5 - 50
Acceleration		
Range: X, Y Z (g)	± 4	± 8
Bias Instability (mg) ^{1,2}	< 0.05	<0.05
Bias Stability Over Temp (mg)	< 5	<5
Resolution (mg)	< 0.5	<0.5
Scale Factor Accuracy (%)	< 0.1	<0.1
Non-Linearity (%FS)	< 0.1	<0.1
Velocity Random Walk (m/s/√hr) ²	< 0.075	<0.075
User Configurable Bandwidth (Hz)	5-50	5-50

Specifications

Environment	
Operating Temperature (°C)	-20 to +85
Non-Operating Temperature (°C)	-55 to +105
Enclosure	Aluminum (Gold Anodized)
Electrical	
Input Voltage (VDC)	3.0 to 5.5
Power Consumption (mW)	< 250
Digital Interface	SPI
Output Data Rate	Upto 100Hz (SPI)
Input Clock Sync	1kHz Sync Pulse
Physical	
Size (mm)	24.15 x 37.7 x 9.5
Weight (gm)	< 17
Interface Connector	20-Pin (10 x 2) 1.0 mm pitch header

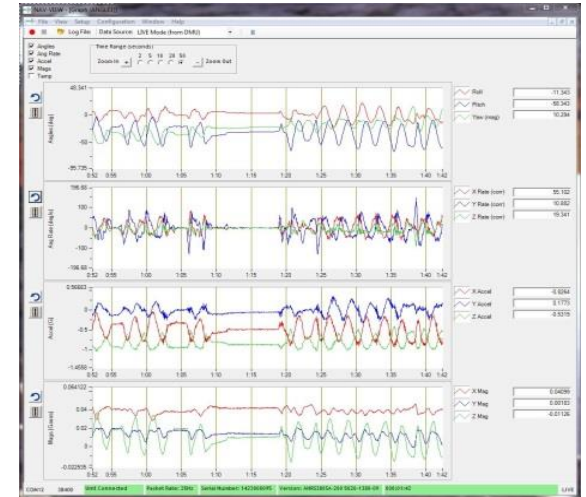
Ordering Information

Model	Description
IMU280ZA-200	6DOF OEM IMU, Lo Range
IMU280ZA-400	6DOF OEM IMU, Hi Range
IMU280ZA-209 (Available on Demand)	9DOF OEM IMU, Lo Range
IMU280ZA-409 (Available on Demand)	9DOF OEM IMU, Hi Range

¹ T_A = -20 to +70°C, VCC=5.0V

² 3 sigma Max. Value

NAV-VIEW Software



NAV-VIEW provides an easy to use graphical interface to display, record, playback, and analyze all of the IMU280ZA Inertial Measurement System parameters.

NAV-VIEW can also be used to set a wide range of user-configurable fields in the IMU280ZA to optimize the system performance for highly dynamic applications.

NAV-VIEW software is available for download from MEMSIC's website at: www.memsic.com/support