

GENESYS



SPATIAL SENSOR MODULE

SPATIAL SENSOR MODULE with
GPS, 9-AXIS ACCELEROMETER,
TEMPERATURE and HUMIDITY

Product Code: GBI-MS-202

GENESYS
ELECTRONICS DESIGN

CALL US ON +61 2 9496 8900

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SPATIAL SENSOR MODULE

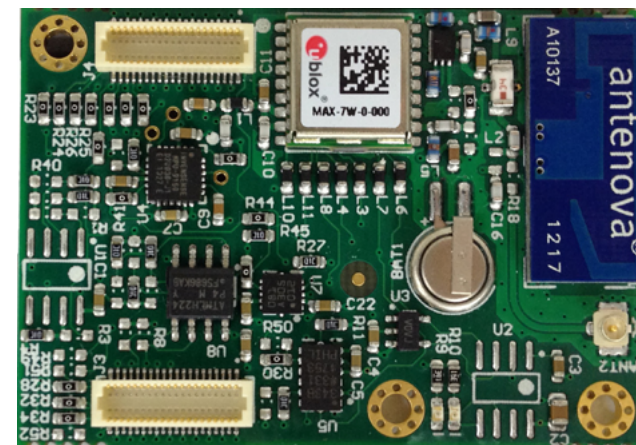
The Genesys Sensor Module is an all-in-one unit to provide environmental and spatial sensing capabilities to Genesys Modular Stack compatible equipment.

PINPOINT LOCATION ACCURACY

The Sensor Module contains a German engineered u.Blox multi-GNSS module in addition to an on-board backup battery, antenna and LNA. Compatible with GPS, GLONASS, Galileo, QZSS and SBAS, the Sensor Module provides industrial-grade sensitivity in a compact, energy efficient unit. The Sensor Module also houses a 9-axis accelerometer providing additional accuracy to its positioning functionality.

MISSION-CRITICAL ENVIRONMENTAL SENSING

The Sensor Module features temperature and humidity sensing allowing for greater control of climate-sensitive applications. An M2M system enhanced by the Sensor Module lets you monitor machine thermal load, regulate HVAC systems or adjust greenhouse climate controls - all in real-time. In combination with other Genesys Stack Modules, the Sensor Module's capability can be enhanced with analogue and digital I/O, providing a full range of user and environmental I/O with control actuation points.



CHARACTERISTICS SUMMARY

SENSORS

u.Blox MAX-7W GNSS module
9-axis Accelerometer, Gyrometer & Magnetometer
0.4% RH Accuracy Temperature Sensor
1°C Accuracy Humidity Sensor

ON-BOARD

GPS Antenna & Backup Battery
Dual serial EEPROMs, with unique ID

DIMENSIONS

48mm x 34mm



CONNECTIVITY

Genesys Modular Stack dual 40-pin connector
Optional UFL GPS antenna connection



Genesys Modular Stack allows for easy interconnection of expansion modules. Genesys Modular Stack compliant modules feature a characteristic pair of board-to-board feedthrough connectors ensuring that they are infinitely stackable with each module adding new functionality. The Keyfob Base Board is fully compatible with Genesys Modular Stack.



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SPATIAL SENSOR MODULE

SPATIAL SENSOR MODULE with
GPS, 9-AXIS ACCELEROMETER,
TEMPERATURE and HUMIDITY

Product Code: GBI-MS-200

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CHARACTERISTICS

GNSS SPECIFICATIONS

- u.Blox MAX-7W GNSS module
- Backup battery 3V 3.4mAH
- LNA front-end amplifier & SAW filter
- On-board chip antenna with UFL connector options

ACCELEROMETER SPECIFICATIONS

- 9-axis Accelerometer, Gyrometer & Magnetometer
- 3-axis Accelerometer options available

CLIMATE SENSORS SPECIFICATIONS

- Temperature:
 - $\pm 1^{\circ}\text{C}$ Accuracy Temperature Sensor
- Humidity:
 - 0.4% RH Accuracy Humidity Sensor

I/O

- Genesys Modular Stack dual 40-pin connector:
 - 3V3 Power
 - 1 UART
 - I2C
 - GPIO

USER INTERFACE

- 2 temperate/humidity alert/status LEDs

USB

- USB 2.0 Type-B Device Port

MEMORY

- 1Mb Serial EEPROM
- 2kb Serial EEPROM with Factory-Programmed EUI-48™ Address and Embedded Unique 128-bit Serial Number

PHYSICAL

- Dimensions: 48mm x 34mm

ENVIRONMENTAL

- Temperature (operating): -15°C to $+55^{\circ}\text{C}$
- Temperature (survival): -55°C to $+85^{\circ}\text{C}$
- Humidity (operating): 95% RH at 50°C

POWER CONSUMPTION

- Incremental load on 3V3 Power:
 - 22mA (GPS Acquisition)
 - 5mA (GPS Tracking)
 - $<1\text{mA}$ (Idle)
 - $\sim 70\mu\text{A}$ (Dozing)
 - $4.9\mu\text{A}$ (Hibernating)

MOUNTING DIMENSION DRAWING

