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.
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:
  - ±1° 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°C
• Temperature (survival): -55°C to +85°C
• Humidity (operating): 95% RH at 50°C

POWER CONSUMPTION
• Incremental load on 3V3 Power:
  - 22mA (GPS Acquisition)
  - 5mA (GPS Tracking)
  - <1mA (Idle)
  - ~70μA (Dozing)
  - 4.9μA (Hibernating)

MOUNTING DIMENSION DRAWING