

# GENESYS



## SENSOR BASE BOARD PRO

BATTERY POWERED SENSOR and I/O BASEBOARD with CONTACTLESS CHARGING, SPATIAL and ENVIRONMENTAL SENSING

Product Code: GBI-BS-200P

**GENESYS**  
ELECTRONICS DESIGN

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## SENSOR BASE BOARD PRO

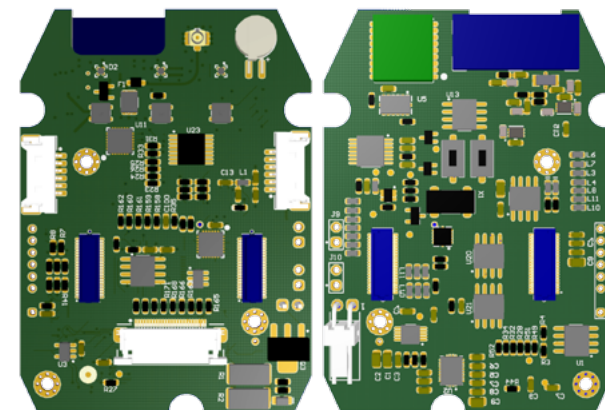
The Genesys battery-powered Sensor Base Board Pro is an all-in-one unit to provide battery-powered, mobile environmental and spatial sensing capabilities to Genesys Modular Stack compatible equipment.

### GOING MOBILE

The battery-powered Sensor Base Board Pro includes support for contactless charging and battery management. It includes GNSS (GPS, GLONASS, Galileo and others) location fixing, and a 9-axis accelerometer. It also features temperature and humidity sensing capability, providing the means to build a detailed picture of the surrounds of mobile or isolated equipment. With a real-time clock on-board, it is the ideal foundation for an ultra-low power, conveniently placed, remote device monitoring system.

### SMARTEN UP “DUMB” DEVICES

Auxiliary I/O terminals are provided to the designer for connecting “dumb” devices to the system in order to facilitate greater ease in GMS integration as well as providing a quick and easy solution to enable IoT technology. The Sensor Base Board is a powerful platform that is perfectly suited to industrial applications and installations.



### CHARACTERISTICS SUMMARY

#### SENSORS

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

#### ON-BOARD

- Contact-less Battery Charging
- GPS Antenna & Backup Battery
- RTC, Dual serial EEPROMs, with unique ID

#### DIMENSIONS

68mm x 52mm

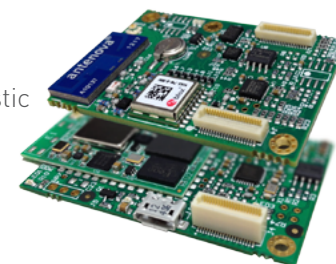


#### CONNECTIVITY

Genesys Modular Stack dual 40-pin connector



Genesys Modular Stack is a technology allowing for the easy interconnection of expansion modules. Genesys Modular Stack compliant modules feature a characteristic pair of board-to-board feedthrough connectors, so that they are infinitely stackable with each module adding new functionality. The Sensor Base Board Pro is fully compatible with Genesys Modular Stack.





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- 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

- 9-axis Accelerometer, Gyrometer & Magnetometer
- 3-axis Accelerometer options available
- Battery-backed realtime clock
- Dual on-board data backup EEPROMs
- EU-48 48-bit Extended Unique Identifier

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

- Internal IO breakout header options:
  - 4 GPIO
  - 2 open-drain outputs
  - 4 un-buffered ADC inputs with protection

- 1 Reset button
- 1 System pushbutton with RGB LED
- 3 optional pushbuttons with RGB LEDs
- Buzzer and vibration motor

- Type & chemistry: LiPo 3.7V single cell
- Current consumption:
  - 52mA (GPS acquisition)
  - 5mA (Typical)
  - <20 $\mu$ A (Static)
- Discharge time dependent on sensor configuration and duty cycling; typically ranges from 48 to 1500 hours
- 1 to 3 hour charge time (charger dependent)
- “Qi” contactless charging technology; utilises any standard Qi charger device (eg LG Electronics WCP-300)
- Optional auxiliary 5V to 12V external powering

- Temperature (operating): -15°C to +55°C
- Temperature (survival): -55°C to +85°C
- Humidity (operating): 95% RH at 50°C

Technical drawing of a rectangular plate with the following dimensions and features:

- Overall width: 97.30
- Overall height: 51.50
- Top-left corner: Fillet with radius 4.50
- Top-right corner: Fillet with radius 12
- Bottom-left corner: Fillet with radius 2.8
- Bottom-right corner: Fillet with radius 9.46
- Internal dimensions:
  - Horizontal distance from left edge to first hole center: 40.95
  - Horizontal distance from second hole center to right edge: 9.46
  - Vertical distance from top edge to first hole center: 4.50
  - Vertical distance from second hole center to bottom edge: 9.45
- Four holes are located at the intersections of the internal dimensions.