

GENESYS



SENSOR BASE BOARD ULTRA

ADVANCED BATTERY POWERED
SENSOR and I/O BASEBOARD with
TOUCH SCREEN, CONTACTLESS
CHARGING, and VERSATILE SENSING

Product Code: GBI-BS-200U

GENESYS
ELECTRONICS DESIGN

CALL US ON +61 2 9496 8900

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SENSOR BASE BOARD ULTRA

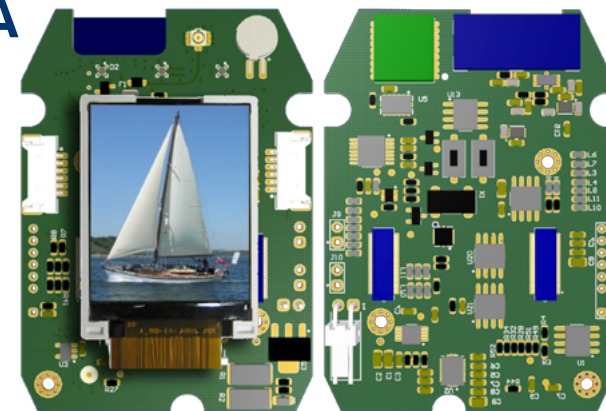
The Genesys battery-powered Sensor Base Board Ultra is the ultimate in battery powered I/O and user configurability. This base board is capable of fulfilling the requirements of any application that requires battery power, portability, advanced user interface capabilities, generic I/O devices integration and spatial environmental monitoring.

EXTRA-SENSORY MULTI-MEDIA

This base board provides a rich user experience in the application of sensing and control. It features a full-colour TFT LCD display in conjunction with audio codec circuitry capable of driving externally connected speakers, digitising analog stereo microphone inputs and connecting to digital microphones. This is complemented by a number of pushbuttons that are able to be used as short-cut keys for commonly used functions or user interface control.

BATTERY POWERING

The generous capacity LiPo is charged without physical connection of wires that allowing the base board to be sealed for mobile applications that “get down and dirty”. With a generic Qi charger (e.g. LG Electronics WCP-300) the battery system recharges within hours.



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

- 1.8" Touch-screen TFT LCD
- Audio codec, Real-time clock
- Contact-less Battery Charging

DIMENSIONS

68mm x 52mm

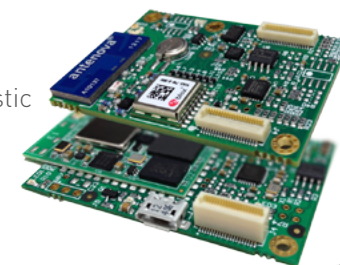


CONNECTIVITY

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 Ultra is fully compatible with Genesys Modular Stack.



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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

PERIPHERAL SPECIFICATIONS

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

CLIMATE SENSORS SPECIFICATIONS

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

I/O

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

USER INTERFACE

- 1.8" 128 x 160 pixel touch-screen TFT LCD
- Audio codec with speaker and microphone I/O
- 1 Reset button
- 1 System pushbutton with RGB LED
- 3 optional pushbuttons with RGB LEDs
- Buzzer and vibration motor

BATTERY POWERING

- Type & chemistry: LiPo 3.7V single cell
- Current consumption:
 - 52mA (GPS acquisition)
 - 15mA (Typical)
 - $<20\mu\text{A}$ (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

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

MOUNTING DIMENSION DRAWING

