

# GENESYS



## MULTI-CHEMISTRY WIDE INPUT CHARGER MODULE

INTELLIGENT BATTERY CHARGER  
WITH ULTIMATE FLEXIBILITY AND  
PROTECTION

Product Code: GBW-MH-201

GENESYS  
ELECTRONICS DESIGN

CALL US ON +61 2 9496 8900

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## MULTI-CHEMISTRY WIDE INPUT CHARGER MODULE

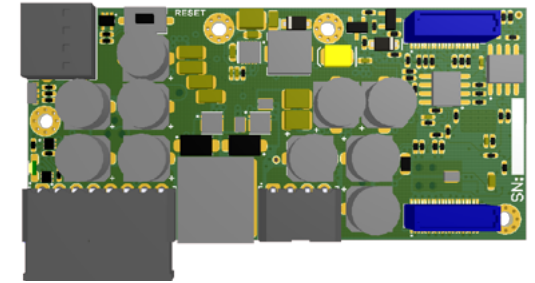
The Genesys Multi-Chemistry Wide Input Charger Module is a compact flexible intelligent battery charger with power path control that can be configured to charge Li-ion or Lead-acid battery chemistries.

### INTELLIGENT MONITORING CAPABILITIES

The board has input protection integrated which prevents damage due to reverse polarisation of either the main power input or the battery. This is complimented with input and output monitoring provides protection against under-voltage, over-voltage, over-current, and over-temperature. Finally, a two-wire (I2C) buffered interface enables connection to a remote battery allowing smart charging and monitoring of individual cell voltages and other battery condition parameters.

### EXPANDABLE

The Multi-Chemistry Wide Input Charger Module is compatible with Genesys Modular Stack (GMS) enabling the unit to be adapted to any application by adding another GMS module. For example, when combined with the Genesys 3G Module (GBI-MC-201) remote monitoring of a battery pack is enabled. An inbuilt low-power MSP430 microprocessor allows for on-board processing of battery data as well as configurability of monitoring functionality.



### CHARACTERISTICS OVERVIEW

#### DIMENSIONS

73mm x 34mm



#### I/O INTERFACES

Genesys Modular Stack Connectivity  
I2C Battery Communication Interface  
Thermistor Connection  
Compact 2.5mm Terminal Block Interconnect for Battery and Power Connections.

#### POWER INPUT/OUTPUT SPECIFICATIONS

5 - 55V Input Voltage Range  
<55V Output Voltage Range  
4A Maximum Battery Charge and Discharge Current\*



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 Multi-Chemistry Wide Input Charger Module is fully compatible with Genesys Modular Stack.



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## CHARACTERISTICS

### I/O INTERFACES

- Genesys Modular Stack Dual 40-pin connector including: 3V3 Power, SPI, I2C, UART, System Pushbutton, General User Pushbutton and RGB LED.
- Buffered Two-Wire (I2C) Interface for Battery Communication.
- Thermistor Wire-to-Board Connection
- Compact 2.5mm Pitch Terminal Block Interconnect Solution for Battery and Power Connections.

### AUXILIARY PROCESSOR

- On-Board Ultra-Low Power 25MHz MSP430 with 64KB ROM and 6KB RAM
- Programming Interface

### MEMORY

- 2kb Serial EEPROM with Factory-Programmed EUI-48™ 48-bit Address and Embedded Unique 128-bit Serial Number
- 128kB Local Data Storage for Status, Fault Logs and other data

### USER INTERFACE

- Status Indicator RGB LEDs
- Off-Board System Pushbuttons
- Reset Pushbutton
- Local Monitoring and Control when Combined with Appropriate GMS Display Modules.
- Remote Monitoring and Control via Mobile App in Conjunction with Communication GMS Module.

### POWER

- Genesys Modular Stack 3V3 Power Load
  - Capable of supplying 3.3V, 500mA for GMS stack.
  - <4mA (Input Static Current)
  - <25mA (Input Active Current)
- Battery Charge/Discharge
  - 4A (Maximum Battery Charge and Discharge Current)\*
  - 10A (Maximum Output Current of Module when 6A is drawn from the input of the module and 4A is drawn from the battery)\*.
  - <48V (Battery Input and Output Voltage)
  - 5 - 55V (Voltage Input Range)

### ENVIRONMENTAL

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

### PHYSICAL

- Dimensions: 73mm x 34mm x 14.6mm

\* Charge and discharge currents are dependent input and output voltage configuration of the module.

### MOUNTING DIMENSION DRAWING

