

## General Description

The 15S Battery Cell Monitor & Balancer is a precision device that ensures multi-cell batteries are maintained in an optimal state, improving system reliability and prolonging battery life.

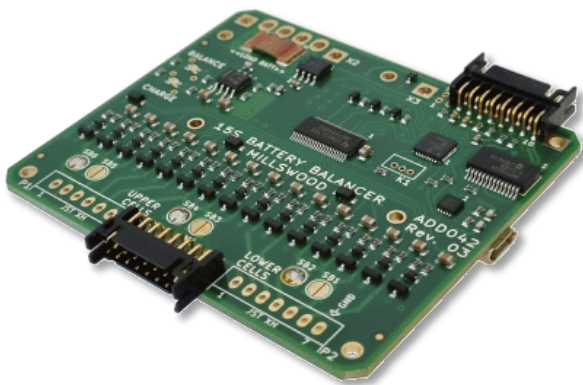


Figure 1 – 15S Battery Cell Monitor & Balancer

The 15S Battery Cell Monitor & Balancer does exactly as its name suggests: it monitors cells within a battery, and it balances those cells if and when they require it. Comprehensive data detailing the battery's internal state is sent via the CAN interface.

## Usage

The Battery Balancer is intended to be connected to a battery, installed into a UAV and interfaced to the vehicle's CAN bus. A pair of indicator lights on the front panel give a "go / no go" indication of the battery's state of balance and state of charge. More detailed battery information is available via the CAN bus.

Use of the battery balancer confers a number of operational advantages:

- Batteries do not need to be removed periodically to check for balance.
- Battery status is available instantly, either directly from the front-panel LEDs, or remotely from the telemetry data sent on the CAN bus.
- Batteries are maintained in a state of balance, improving flight-readiness.

## Features

- Transforms a "dumb" battery into a smart (self-balancing) battery.
- Supports multiple battery chemistries – LiPo, LiS and LiFe.
- Supports 9 to 15S batteries.
- Bidirectional 80 Amp current sensor.
- CAN interface provides control and monitoring of voltages, currents, temperatures.
- Battery temperature monitoring with up to 3 external sensors.
- Heating and cooling outputs to control battery temperature.
- JST connector option for direct connection of 6S batteries.
- User-friendly configuration software.
- Rich variety of balancing control options.
- Weight: 23g.
- PCB dimensions: 62 x 72mm.

## Specifications in brief

### Electrical:

<b>Battery chemistries</b>	LiPo, LiS, LiFe
<b>Battery voltage</b>	65 VDC (max.)
<b>Battery cell count</b>	9S, 10S, 11S, 12S, 13S, 14S or 15S
<b>Battery temperature sensor</b>	3 x 10k NTC (external)
<b>Balancing current</b>	3 x 0.5 Amps (max.)
<b>Cell measurement accuracy</b>	±10 mV (typ.)
<b>Internal current sense range</b>	±80 Amps
<b>Visual indicators</b>	Balance (red/green), charge (red/green)
<b>Communications interface</b>	CAN (up to 1Mb/S)

### Miscellaneous:

<b>Operating temperature range</b>	-40 to +85°C
<b>PCB dimensions</b>	62 x 72mm
<b>Weight</b>	23g
<b>Connectors</b>	Hirose DF11 (balance, interface) micro-USB (configuration) Options: Harwin M80 (balance, interface, current sense), JST XH (balance)