

15S Battery Cell Monitor & Balancer

PRODUCT BRIEF

General Description

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

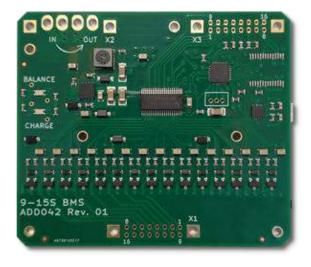


Figure 1 – 15S Battery Cell Monitor & Balancer

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.

Features

- Transforms a "dumb" battery into a smart (self-balancing) battery.
- Supports multiple battery chemistries – LiPo, LiS and LiFe.
- Supports 9 to 15S batteries.
- Galvanically isolated 80 Amp current sensor.
- CAN interface provides control and monitoring of voltages, currents, temperatures.
- Battery temperature monitoring with up to 3 external sensors.
- User-friendly configuration software.
- Rich variety of balancing control options.
- Seamless integration with 1700W GCU.
- Weight: TBA
- PCB dimensions: 62 x 72mm

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.



Specifications in brief

Electrical:

Battery chemistries	LiPo, LiS, LiFe
Battery voltage	65 VDC (max.)
Battery cell count	9S, 10S, 11S, 12S, 13S, 14S or 15S
Battery temperature sensor	3 x 10k NTC (external)
Balancing current	3 x 0.45 Amps (max.)
Voltage measurement accuracy	±10 mV (typ.)
Power dissipation	6 Watts (max.)
Visual indicators	Balance (red/green), charge (red/green)
Miscellaneous:	
Environmental protection class	IP50
Operating temperature range	-40 to +85°C
Altitude rating	10,000m
Cooling	Passive conduction & convection
Enclosure	Lightweight custom-machined aluminium
Dimensions	77 x 75 x 12.7mm
Weight	ТВА
Connectors	Harwin M80 (balance, current sense, interface), micro-USB (configuration)
Communications protocols	CAN (up to 1Mb/S)