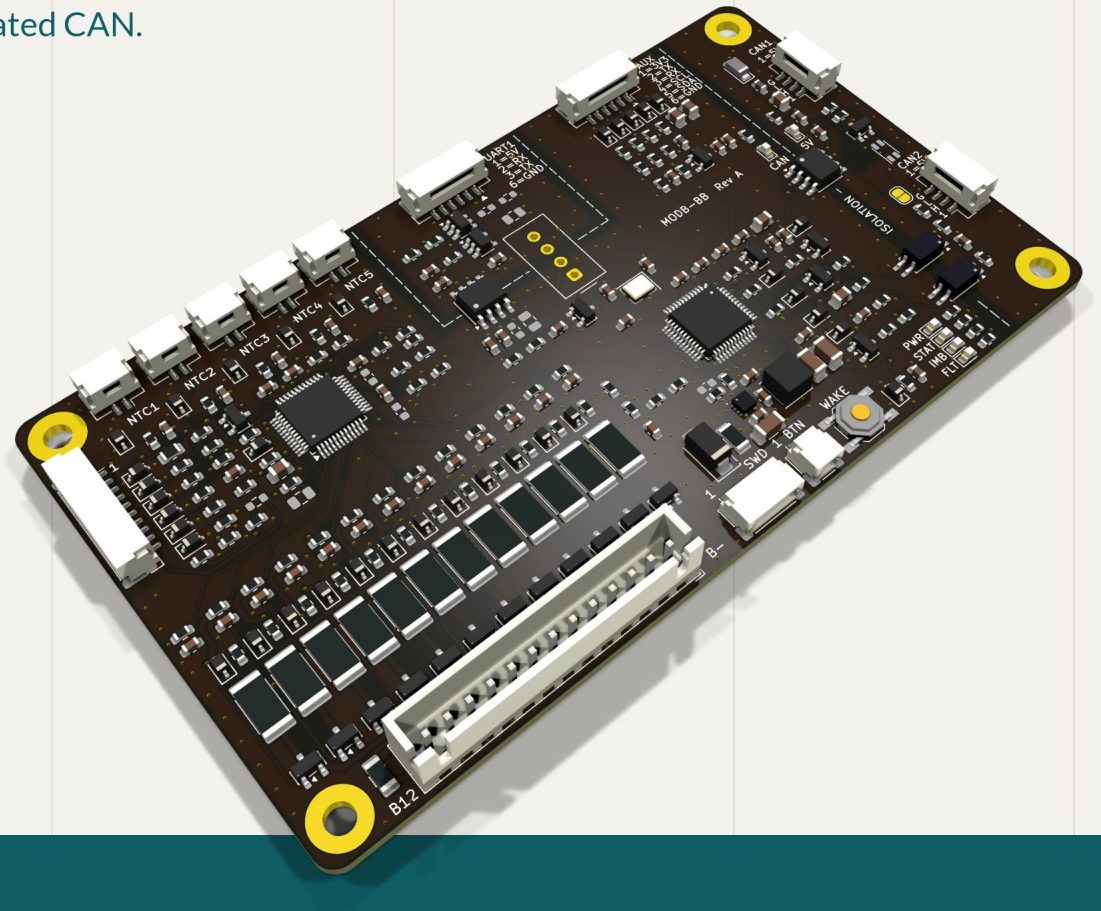
> MODULAR DRONE BMS · 6S–12S

Every cell on the bus.

MODB-BB watches every cell of a 6S–12S drone pack, balances it on its own and reports all of it to the flight controller over isolated CAN.



6–12S
LIPO, LIHV AND LI-ION PACKS

100 mA
SELF-BALANCING PER CELL

±5 mV
CELL ACCURACY, MONITOR IC AT 25 °C

2–5 µA
SHIP MODE, DESIGN ESTIMATE

Isolated CAN · DroneCAN · Pixhawk connectors · ArduPilot · PX4

> 02 — FEATURES

Reports. Balances. Stays out of the way.

Every cell, reported

Every cell voltage, five temperatures, pack voltage, charge and health go to the flight controller as standard DroneCAN battery messages.

Balances on its own

About 100 mA per cell during charge, at rest and even in sleep. No balance charger or host command needed.

Knows its own health

State of charge, state of health, cycle count and a fault log are kept on the board, so the history travels with the pack.

Isolated, Pixhawk-native CAN

A galvanic barrier keeps pack and flight-controller grounds apart. Standard JST-GH cables; ArduPilot and PX4 use stock settings.

Protection in silicon

Over- and under-voltage, temperature and open-wire faults are caught by dedicated monitor hardware and reported on the bus.

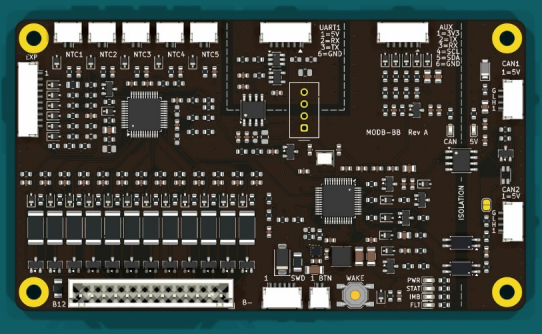
Micro-amp ship mode

A few micro-amps in storage (design estimate), so the BMS never drains a pack on the shelf. It wakes on a button press or when the bus powers up.

> STACKABLE BY DESIGN

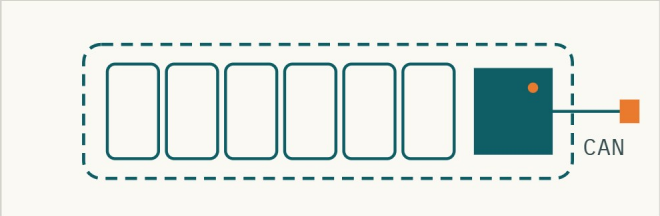
Start with the base board. Add what the aircraft needs.

PLANNED	**Current sensor:** coulomb-counted charge and over-current detection
PLANNED	**Pack switch:** a hardware disconnect path
PLANNED	**Bluetooth link:** set-up and telemetry from a phone
BUILT IN	**More packs:** one board per pack, all on one CAN bus



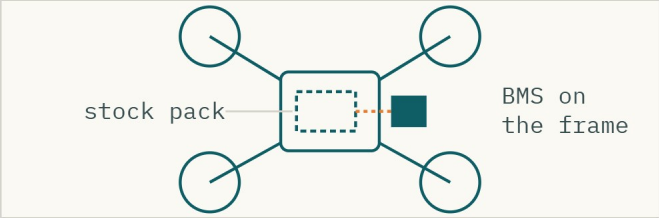
03 — APPLICATIONS

Where it fits



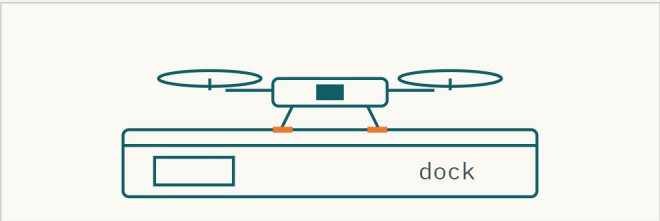
Smart battery packs

Build the board into the pack. Each pack then reports its own cells, charge, health and cycle count to any aircraft it is plugged into.



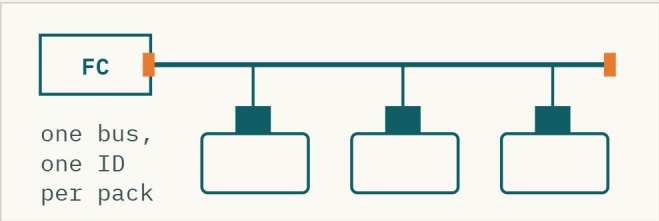
Retrofit on the airframe

Keep stock packs. Mount the board on the frame, plug in the balance lead, and the flight controller sees every cell.



Drone docks

The dock powers the CAN bus and the pack wakes by itself. Cell data and balancing run through the whole charge, with no one pressing a button.



Multi-pack and heavy-lift

One board per pack, all on one CAN bus. Each pack reports under its own ID, so the flight controller tracks every battery separately.

- **Fleet maintenance.** Cycle count, health and a fault log per pack help decide which battery to retire, from data.
- **Storage and shipping.** Ship mode keeps the board's own draw to a few micro-amps while packs sit on the shelf.

WORKS WITH ArduPilot · PX4 · DroneCAN · Pixhawk JST-GH · LiPo · LiHV · Li-ion

Building a drone or a dock? Write to us.

hello@whatsnext.systems

Preliminary: MODB-BB Rev A Alpha build, firmware in development. Full specifications are in the MODB-BB datasheet.

