



Frequently Asked Questions

What are the differences between an internal BMS (battery manage system) and an external BMS?

Internal (CS200 Type vs External BMS Attribute)	CS200 Internal	BMS V9 External	Notes on Advantages or Rating
BMS Type	MOSFET	Contactar	Contactar is larger and more robust. CS200 fits inside a case.
Continuous Rating, Nominal/Recommended	160A	350A	Advantage: BMS V9
Surge Current	600A	2000A	Advantage: BMS V9
Parallel Connectivity	Yes	Yes	Advantage: BMS V9, as a single ext. BMS controls up to 6 modules, and provides single-point metering. Parallel connected SC200 internal BMS units will have 1 APP instance per battery.
UL Listed	Yes	Yes	
Overall System Space Requirements	Advantage		Internal BMS consumes less space
Voltage Range	12V only	12-100V	External BMS can be configured to any voltage. High voltage MOSFET BMS's have high failure rates under load and lower power ratings.
Series Connection to Make Higher Voltages	No	Yes	Asian imports permit series connecting of 12 volt BMS units to make 24, 36 and 48 volts, however, over time they are highly prone to failure of the MOSFETS when run at higher voltage than 12V
Series Connection to Make Higher Voltages	No	Yes	External BMS modules available in 12, 24 and 48 volts, therefore, when parallel connecting modules at the same voltages, true redundancy, and, natural balancing occurs. Series connection of internal BMS batteries eventually leads to inter-battery imbalance in states of charge and WILL require balance charging frequently at the 12 volt level, thus you are adding an imporant maintenance requirement.
IonBus (CANbus data backbone) compatible?	Yes	Yes	Lithionics IonBus creates a total system with EDGE CONNECTORS for adding 3rd party devices such as Wakespeed and Victron Inverter telemetry.
Field Servicable? Mean-Time-Between-Failures?	No	Yes	Replace a BMS in the field vs shipping an entire internal BMS back. 99% of any issues are in the BMS, not the cells. Ext. BMS far more robust
BMS Cost Advantage	Advantage		Internal BMS is lower in power delivery but lower in cost
Single Vs Multipoint Metering		Advantage	Ext. BMS is a single data stream regardless of system size. Internal BMS in parallel creates multiple data streams to manage
Plug and Play, No Tools, No Cables		Advantage	Extremely easy for customer to plug another module in with External BMS