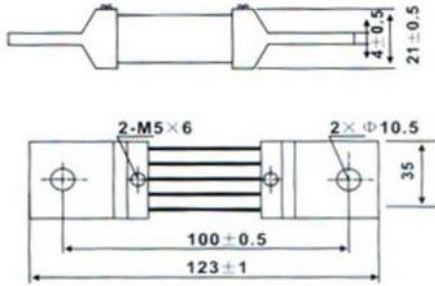


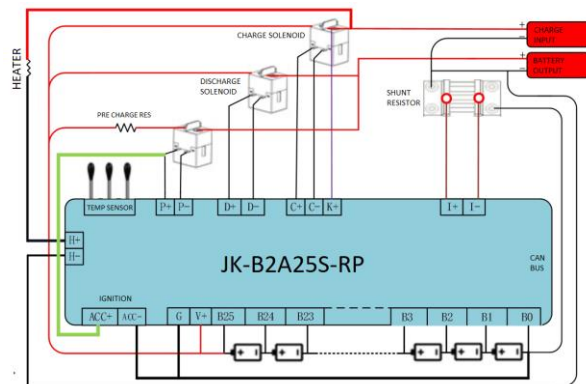
JK-B2A25S-RP

Battery Management System with 2A balancer for up to 25 Lithium (LFP) cells



P6 P5 P4 P3 P2 P1

- P1 & P2:** Connects via supplied 2x cables to the interconnects between the cells
- P3:** Optional display interface or ON/OFF button
- P4:** Optional GPS interface (support is optional)
- P5:** Connection to 3x temperature sensors (supplied)
- P6:** Multifunction connection to current sensor, CAN, 3x solenoids, vehicle ignition, battery heater (for cold countries) etc



Can Bus Operation

The JK-B2A25S-RP has a built in STM32F103 class microcontroller. It supports CAN bus communications as per CAN2.0A standard at 250kbps. The BMS transmits status information only (it does not receive or respond to any messages). The message cycles and ID's are as follows:

The	The name of the	describe	FUNC	ID	The sender	Message cycle
1	BATT ST	Battery status	0x02	0x02F4	BMS	20ms
2	CELL VOLT	Batteries voltage	0x04	0x04F4	BMS	100ms
3	CELL TEMP	The cell temperature	0x05	0x05F4	BMS	100ms
4	ALMINFO	The alarm information	0x07	0x07F4	BMS	100ms

If more than one JK-B2A25S-RP will be used on the same bus then each BMS needs to be given a unique base ID (0x02F5 for example)

The **JK-B2A25S-RP** battery management system (BMS) is intended for large-capacity (high current and many cells in series) lithium battery packs. It can be configured to operate with other battery types such as ternary lithium, lithium Titanate (LTO) etc.

The system supports 3 to 25 cells connected in series.

The JK-B2A25S-RP performs the standard BMS functions i.e. protection against : over/under cell temperature, over charge or discharge currents, over/under cell voltages

In addition the JK-B2A25S-RP also performs an active cell balancing function. Active balancing takes energy from the highest charged cell (cell with highest voltage) and transfers this via a super capacitor to the cell with the lowest voltage.

Being active no energy loss is experienced in the process (passive balancing uses resistors to balance but this creates a lot of energy loss).

Balancing happens as long as the BMS is connected to and powered by the cells.

Balancing avoids situations where adjacent cells can be over and under charged (i.e. 3V and 3.6V iso both being 3.3V)

Balancing (after enough time to perform the function) maintains the cell voltages withing 5mV to 10mV (adjustable) from each other.

Balancing improves the available capacity and the overall lifespan of the battery.

Unlike smaller capacity BMS units, the JK-B2A25S-RP does not include internal semiconductor switching elements to disconnect the battery if a fault condition occurs.

Disconnecting is achieved via externally installed high current solenoids (relays).

Depending on the requirement up to 3 of these solenoids might be needed (pre-charge, over charge, over discharge)

The solenoids are not supplied with the BMS and these needs to be externally sourced.

The JK-B2A25S-RP has built in Bluetooth support allowing you to set parameters and monitor the status of the cells.

A matching Android/Apple App needs to be installed for this function to work. Play store search for JIKONG BMS APP to install

Specifications

Maximum number of supported cells:	25 cells
Minimum number of supported cells:	Around 4 if powered by connected cells (12V)
Max Switching Current:	This is a function of solenoid. Typically 500A (1000A peak)
Balancing Current:	2A
Battery technologies:	LFP, NMC, LTO etc
CAN Support:	CAN 2.0A. Transmit status messages at 250kbps
Bluetooth Support:	Yes JIKONG BMS App

*All product specifications and product images are subject to change without notice.

Packing Information

JK-B2A25S-RP | Cables to connect to the cells (open ended on cell side) | Cable with temperature sensors (3) | Cable to connect to the solenoids, current sensor, CAN etc (open ended on far end) | Current sensor shunt resistor

Note: Not included are the solenoids (relays)