



Smart BMS with Active-Balancer

JK-BD6AxxS-6P/ JK-BD6AxxS-8P

JK-BD6AxxS-10P / JK-BD6AxxS-15P

JK-BD6AxxS-20P/ JK-B1AxxS-15P

JK-B2AxxS-15P/ JK-B2AxxS-20P

Specification and operation manual

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The BMS has a companion mobile APP that supports Android V. 7 and above and IOS operating systems. The APP can connect to the BMS via Bluetooth on your mobile phone to check the battery working status and to modify the working parameters of the BMS, control the charging, discharging switches, and so on. The BMS is small in size, simple to operate and full of functions, that can be widely used in battery PACK of small sightseeing cars, walkers, shared cars, high-power storage, base station backup power, solar power stations and other products.。

2.Main technical parameters

2.1. Main technical indexes

The main technical indexes of 6p/8p/10p/15p series BMS' are shown in Table 1 and table 2.

Table 1 Main technical indexes of 6p/8p series BMS

Technical indicators	Product model					
	BD6A17S6P	BD6A20S6P	BD6A24S6P	BD6A17S8P	BD6A20S8P	BD6A24S8P
Li-ion Strings	7~17	7~20	7~24	7~17	7~20	7~24
Lifepo4 Strings	8~17	8~20	8~24	8~17	8~20	8~24
LTO Strings	14~17	14~20	14~24	14~17	14~20	14~24
Balance mode	Active Balance					
Balance Current	0.6A					
Internal resistance	1.53 mΩ			1.2 mΩ		
Continuous discharge Current	60A	60A	60A	80A	80A	80A
Continuous Charge Current	60A	60A	60A	80A	80A	80A
Maximum discharge current	100A	100A	100A	150A	150A	150A

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voltage	1.2 ~ 4.35 V adjustable
Overcurrent release time	2 ~ 120s adjustable
Overdischarge protection voltage	1.2 ~ 4.35 V adjustable
Overdischarge recovery voltage	1.2 ~ 4.35 V adjustable
Temperature detection quantity	Three
Temperature protection	YES
Short circuit protection	YES
Coulombmeter	YES
Bluetooth function	Support Android and IOS
GPS (optional)	Support (RS485 And GPS One out of two)

Table 2 Main technical indexes of 10P/15P series BMS

Technical indicators	Product model					
	BD6A20S10P	BD6A24S10P	B1A20S15P	B1A24S15P	B2A24S15P	B2A24S20P
Li-ion Strings	7~20	7~24	7~20	7~24	7~24	7~24
Lifepo4 Strings	8~20	8~24	8~20	8~24	8~24	8~24
LTO Strings	14	14~20	14~20	14~24	14~24	14~24
Balance mode	主动均衡					
Balance Current	0.6A		1A		2A	
Internal resistance	1 mΩ		0.65 mΩ		0.47 mΩ	
Continuous discharge Current	100A		150A			200A
Continuous Charge Current	100A		150A			200A
Maximum discharge current	200A		300A			350A
Over-current protection(ADJ)	10~100A		10~150A			10~200A
RS485 communication interface	Yes, optional (CAN/RS485 can only be selected)					

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Temperature detection quantity	Three
Temperature protection	YES
Short circuit protection	YES
Coulombmeter	YES
Bluetooth function	Support Android and IOS
GPS (optional)	Support (RS485 And GPS One out of two)

2.2. Environment conditions

- Operating temperature range:-30°C ~ 70°C;
- Power supply requirements: 20~100V.
- Power consumption: 8mA@100V in equilibrium state and 7mA@100V in non-equilibrium state.

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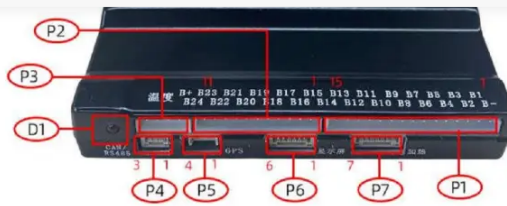


Fig. 1 BD6AxxS-10P/B1 AxxS-15P/B2AxxS-15P/B2AxxS20P connector schematic diagram

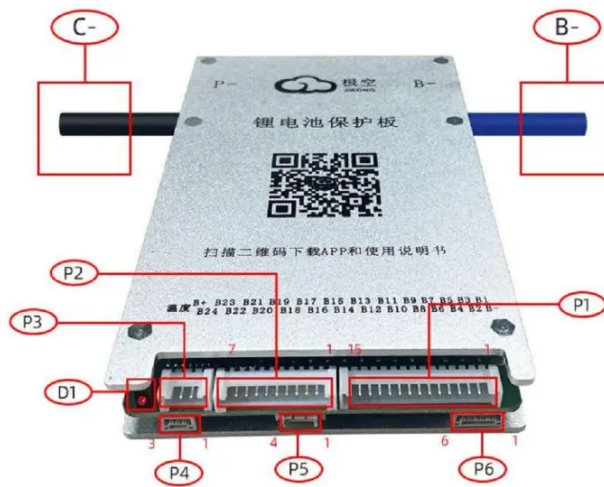


Fig. 2 BD6AxxS-6P connector schematic diagram

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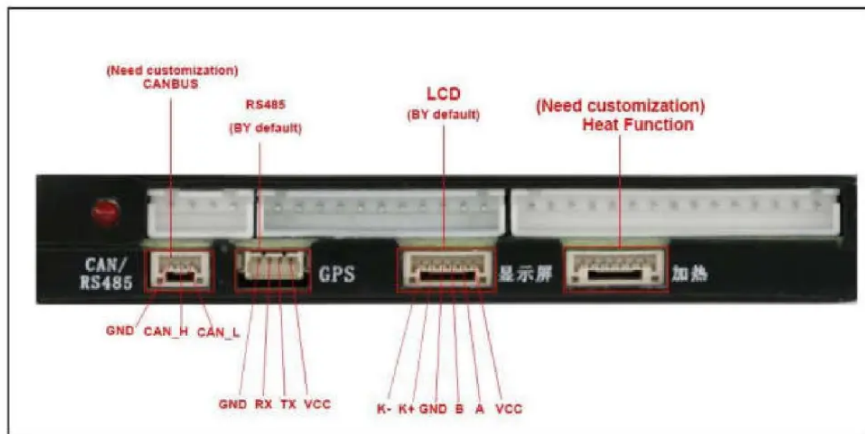
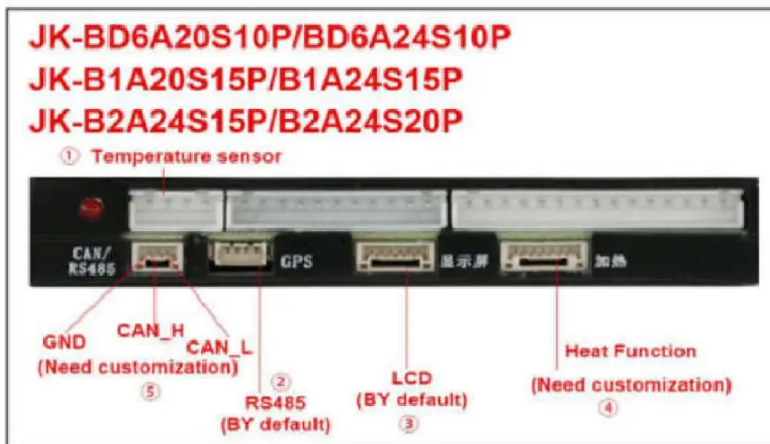
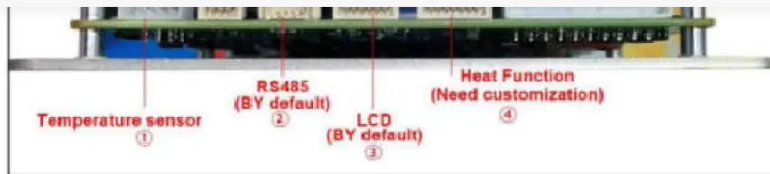
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Cryogenic charge protection is a parameter that can be set within APP

The heating power depends on the battery voltage and the resistance value of the heating film.

Battery voltage U.

Heating resistance R.

Power equals

U^2/R

Heating

current

$I=U/R$;

The maximum I (current) of the board design is 3A

MAX heating Power 200W (100W of B2A8S20P) This condition must be met.

⑤:CANBUS interface (Needs customization)

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P1	Balance and collection interface	4	B3	Series 1 Battery Positive		
		5	B4	Series 1 Battery Positive		
		6	B5	Series 1 Battery Positive		
		7	B6	Series 1 Battery Positive		
		8	B7	Series 1 Battery Positive		
		9	B8	Series 1 Battery Positive		
		10	B9	Series 1 Battery Positive		
		11	B10	Series 1 Battery Positive		
		12	B11	Series 1 Battery Positive		
		13	B12	Series 1 Battery Positive		
		14	B13	Series 1 Battery Positive		
		15	B14	Series 1 Battery Positive		
		P2		1	B15	Series 1 Battery Positive
				2	B16	Series 1 Battery Positive
3	B17			Series 1 Battery Positive		
4	B18			Series 1 Battery Positive		
5	B19			Series 1 Battery Positive		
6	B20			Series 1 Battery Positive		
7	B21			Series 1 Battery Positive		
8	B22			Series 1 Battery Positive		
9	B23			Series 1 Battery Positive		
10	B24			24th Series Battery Positive (Battery Total Positive)		
11	B+			BMS power supply, connect battery		
P3	Temperature interface	1	T1A	1st temperature sensor A pin		
		2	T1B	1st temperature sensor B pin		
		3	T2A	2nd temperature sensor A pin		
		4	T2B	2nd temperature sensor B pin		
P4	Communication interface	1	D_N	CAN_L/RS485-N signal negative (optional function, CAN or RS485 optional)		
		2	D_P	CAN_H/RS485-P signal positive pole (optional function, CAN or RS485 optional)		
		3	GND	ground		

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P6	Display interface	2	A	Display RS485 signal positive
		3	B	Display RS485 signal negative
		4	GND	Negative of power supply
		5	K+	Activate signal positive
		6	K-	Activate signal negative
P7	Heating interface (optional function)	1	HT-	Heating negative electrode-(BD 6AxxS-6P/BD6AxxS-8P does not have this function)
		2	HT-	Heating negative electrode-(BD 6AxxS-6P/BD6AxxS-8P does not have this function)
		3	HT-	Heating negative electrode-(BD 6AxxS-6P/BD6AxxS-8P does not have this function)
		4	HT-	Heating negative electrode-(BD 6AxxS-6P/BD6AxxS-8P does not have this function)
		5	HT-	Heating negative electrode-(BD 6AxxS-6P/BD6AxxS-8P does not have this function)
		6	CD+	Charging input positive-(BD 6AxxS-6P/BD 6AxxS-8P does not have this function)
		7	CD-	Charging input negative -(BD 6AxxS-6P/BD 6AxxS-8P does not have this function)
D1	The Bluetooth connection indicator is always on when the Bluetooth is connected to the protection board, and flashes when the connection is disconnected.			
C-	Connect external load or negative pole of charger.			
B-	Connect the negative electrode of the battery			

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