



Product Specifications

Power Base Mate LV Series Home Energy Storage System

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V1.0				2020-06-12
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1. Introduction

The Power Base Mate LV series product is a 51.2V lithium iron phosphate battery storage system independently developed in-house by Zhongrui Green Energy Technology (Shenzhen) Co., Ltd, The rated voltage of the system is 48V, and the maximum which meets the requirements of 12kW power supply. Parallel of multi systems is supported.

One set of Power Base Mate LV series contains between 2 to 8 battery modules stacked in parallel and can reach 10.24 to 40.96 kWh usable capacity:

- ZR-PBML-10S (10.24kWh)
- ZR-PBML-15S (15.36kWh)
- ZR-PBML-20S (20.48kWh)
- ZR-PBML-25S (25.6 kWh)
- ZR-PBML-30S (30.72kWh)
- ZR-PBML-35S (35.84kWh)
- ZR-PBML-40S (40.96kWh)

2. Features

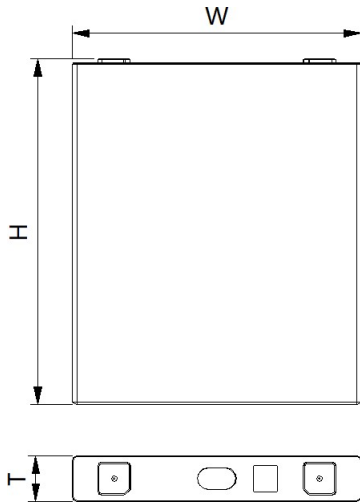
- Adopt high safety, long life, excellent performance LiFePO4 prismatic cells;
- Over 8000 times of cycle life;
- Intelligent BMS to ensure a safe reliable operation;
- Parallel on cabinet level available;
- Multiple communications including RS485, CAN,RS232;
- Modular rack design for easier installation and smaller landscape.





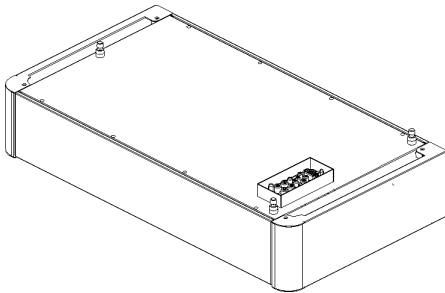
3. Specifications

3.1. Cell Parameters



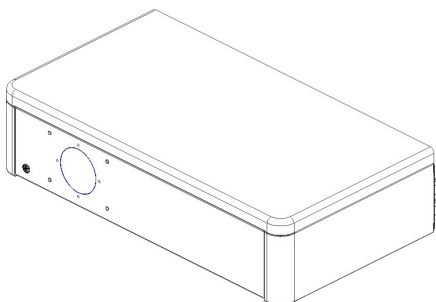
No.	Items	Parameters	
1	Cell Type	LiFePO4	
2	Nominal Voltage	3.2V	
3	Nominal Capacity	100Ah	
4	Maximum Charge Current	Continuous	100A
5		Peak for 10s	200A
6	Maximum Discharge Current	Continuous	100A
		Peak for 30s	300A
7	Dimensions (T*W*H)	27*174*207mm	
8	Weight	2.18±0.05kg	
9	Temperature Range	Charging	0°C ~ 55°C
		Discharging	-20°C-55°C

3.2. Battery Module Parameters



No.	Items	Parameters
1	Model	ZR-FS48100-16OSJ1
2	Cell Configuration	16S1P
3	Nominal Capacity	100Ah
4	Nominal Energy	5120Wh
5	Weight (Approx.)	51.0 kg
6	Dimensions (W*D*H)	735*400*163±2mm

3.3. Main Control Module Parameters



No.	Items	Parameters
1	Model	ZR-MC100-200M2
2	Operation Voltage Range	33.6V~62.4V
3	Maximum Operation Current	≤300A
4	Communication	CAN、RS485、RS232
5	Weight(Approx.)	18kg
6	Dimensions (W*D*H)	735*400*180±2mm



3.4. System Parameters

3.4.1. General Specifications

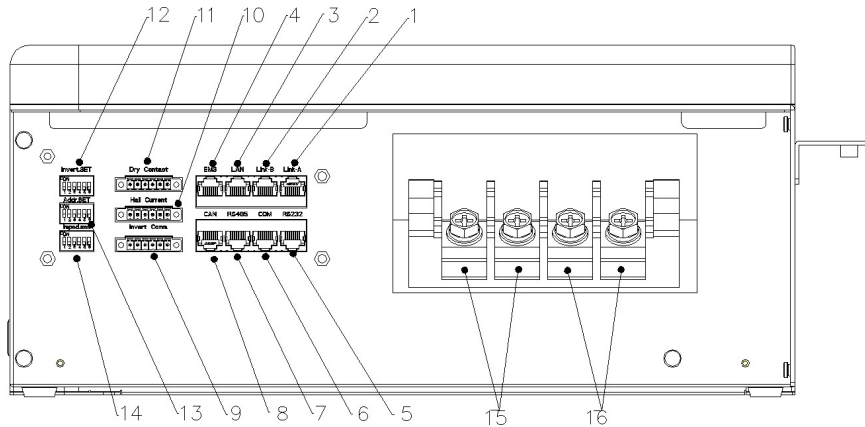
No.	Items	Parameters							
1	Series Name	Power Base Mate LV Series							
2	Main Control Module	ZR-MC100-200M2							
3	Battery Module Type	ZR-FS48100-16OSJ1							
4	Battery Module Chemistry	LiFePO4							
5	Battery Module QTY	2	3	4	5	6	7	8	
6	Nominal Capacity(Ah)	200	300	400	500	600	700	800	
7	Nominal Energy(kWh)	10.24	15.36	20.48	25.6	30.72	35.84	40.96	
8	Model Name	ZR-PBML-10S	ZR-PBML-15S	ZR-PBML-20S	ZR-PBML-25S	ZR-PBML-30S	ZR-PBML-35S	ZR-PBML-40S	
9	Usable Capacity(Ah)	≥197	≥291	≥388	≥485	≥582	≥679	≥776	
10	Depth Of Discharge (%)	97							
11	Voltage	Nominal(V)	51.2						
		Recommend Charging(V)	56.88						
		Max. Charging(V)	58.4						
		Recommend Discharge Cut-off(V)	46.88						
12	Current	Max. Charging(A)	180	270	300	300	300	300	300
		Max. Discharging(A)	180	270	300	300	300	300	300
		Peak for 10s(A)	300	300	500	500	500	500	500
13	Short Circuit Current	3100A/12ms							
14	Max. Charge/Discharge Power(kW) *	9.0	13	15	15	15	15	15	
15	Weight (kg) (Approx.)	138	189	240	291	342	393	444	
16	Dimensions (L*W*H)	735*	735*	735*	735*	735*	735*	735*	
		400*	400*	400*	400*	400*	400*	400*	
		650	783	916	1048	1180	1312	1446	
17	Inbuilt Communication	RS485, CAN,RS232							
16	IP Code	IP55							
17	Cycle Life	8000 times@25°C							
18	Warranty	10 years Conditions apply. Refer to Warranty Letter							
19	Safety Function	Over-charge, Over-discharge, Over-current, Low/High-temperature, Low-voltage, Short-circuit Protections							
20	Parallel Capability	Maximum 15 units (Recommended 6 units)							



3.4.2. Environment Specifications

No.	Items	Parameters
1	Charging Temperature Range	0°C~55°C
2	Discharging Temperature Range	-20°C~55°C
3	Best Operating Temperature Range	15°C~35°C
4	Storage Temperature Range	-20°C~60°C
6	Humidity	10%RH~90%RH
7	Altitude	0~2000m

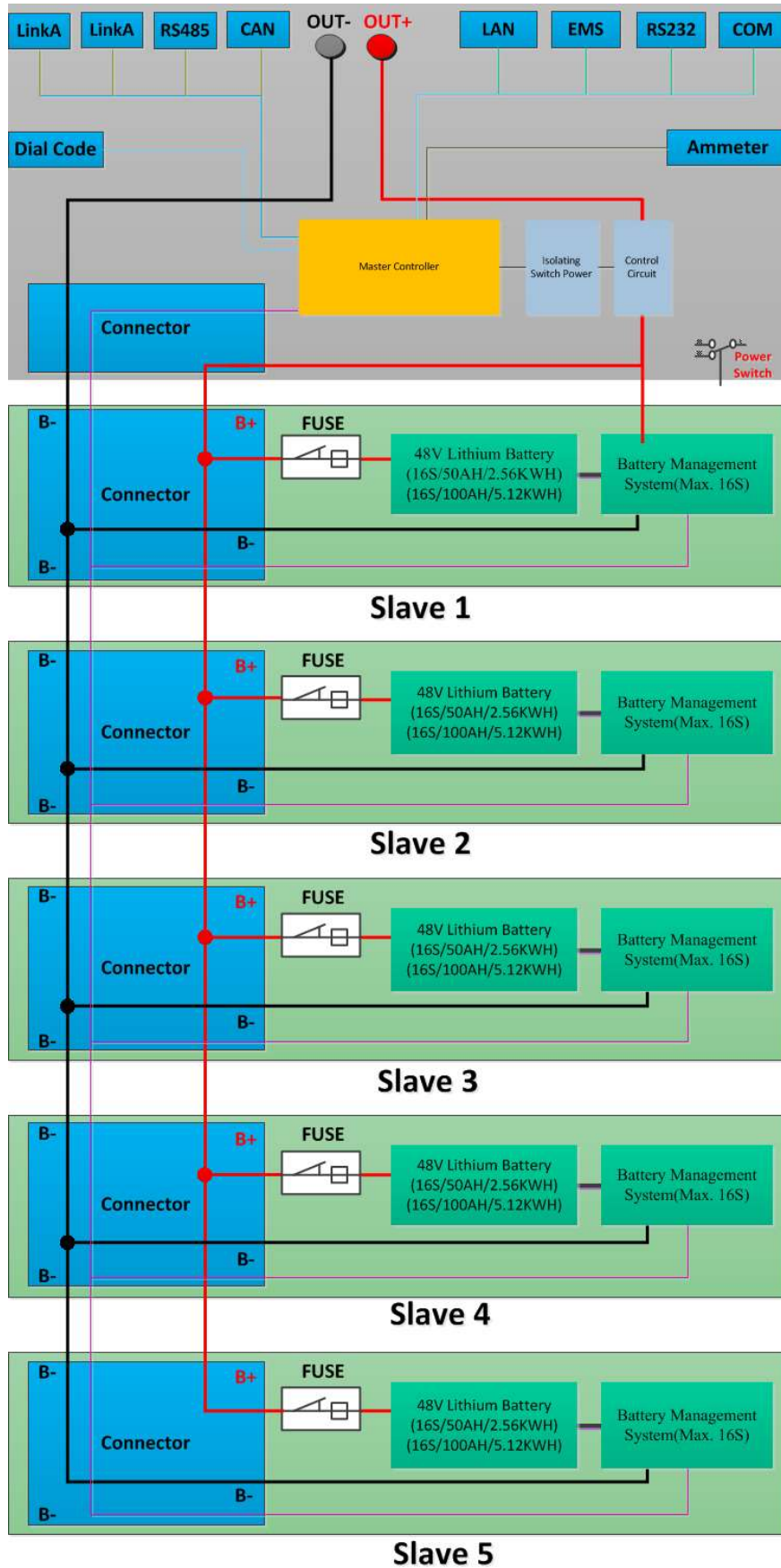
3.4.3. Interface View



No.	Items	Instructions
1	Link-A	Multi-device parallel port
2	Link-B	Multi-device parallel port
3	LAN	Reserved
4	EMS	Reserved
5	RS232	RS232 communication port
6	COM	Upper computer communication port
7	RS485	Inverter RS485 communication port
8	CAN	Inverter CAN communication port
9	Invert Comm.	Inverter CAN /RS485 communication port
10	Hall Current	Reserved
11	Dry Contact	Reserved
12	Invert SET	Inverter protocol dialing switch
13	Addr. SET	Address Dial Switch
14	Imped. set	Reserved
	-	Power cathode*2
	+	Power anode*2



4. Electrical Schematic





5. Product Application

