Product Specifications

Power Base Max1506-DA

Energy Storage System

Version V1.0

Date: 2020-10-31

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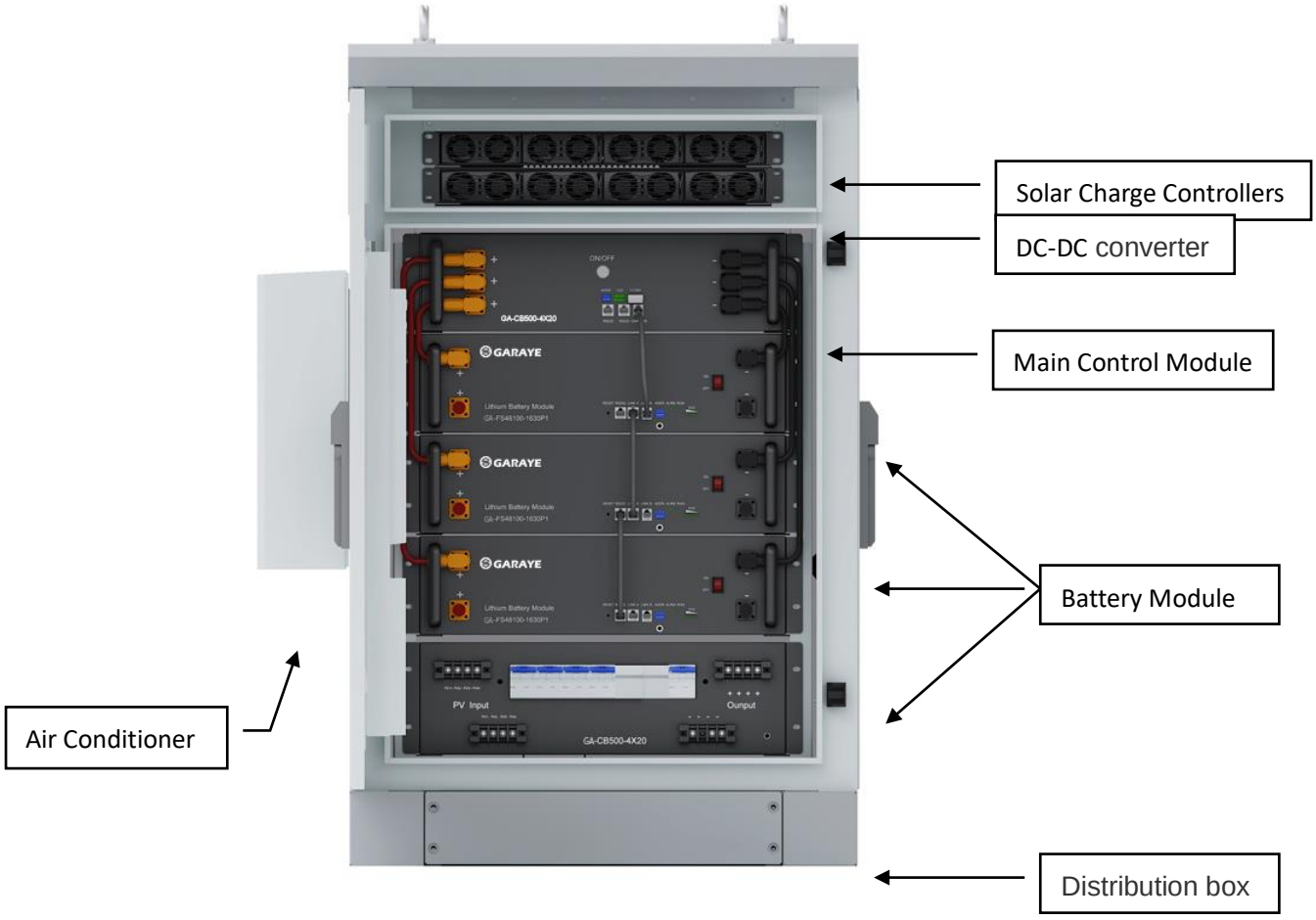
1. Introduction

This product is a DC Energy Storage System developed and designed by GARAYE Energy Technology (Shenzhen) Co., Ltd. The system mainly cooperates with low-voltage solar power plants to increase sales or self-use. It is mainly composed of photovoltaic controller, DC/DC converter, battery modules, master control module and power distribution module. The battery module adopts lithium iron phosphate with high safety performance and long life. It has the characteristics of high integration, substitution, intelligence, and convenient installation. It also supports parallel operation of multiple systems, to fulfill larger storage capacity and load capacity. The system output voltage can be set arbitrarily from 250Vdc-400Vdc to meet the requirements of the operating voltage range of various photovoltaic inverters on the market.

2. Basic Features



2.1. Solar Charge Controllers

No.	Items		Parameters
1	Module Name		GR-MS4812000HG
2	PV Input	PV Input Range	120Vdc to 425Vdc
		MPPT Range@ Operating Voltage	120Vdc to 340Vdc
3		Max. PV Array Open Circuit Voltage	450Vdc
4		Max. PV Charge Current	17A*4（Max 68A）
5	DC Output	Voltage	56.8Vdc
6		Current	220A(Peak 250A)
7		Power-off Protection time	10ms
8	Max. Efficiency		≥96%
9	Stand-by Power Consumption		≤18W
10	Max. Capacitive Load		160000uF
11	Weight		13kg±0.5kg
12	Protect Function	Input Anti-protection, SCP, Over-load Protection, Over-Voltage Protection, Over Temp Protection, Under-voltage Protection,	

2.2. DC-DC Converter

No.	Items		Parameters
1	Module Name		GR-TCD486000
2	Input	Voltage Range	45Vdc to 60Vdc
3		Max. Voltage	62Vdc
4		Max. Current	40A*4（Max 160A）
5	Output	Adjustable range of output voltage	250Vdc-400Vdc
6		Current	3.95A*4(Peak 110%)
7		Nominal Power	6000W
8	Max. Efficiency		≥93% (Input53V;Output380V)
9	Temperature derating		-40~55℃:6000W, 55～75℃: Linear derating 75℃:700W
10	Max. Capacitive Load		500uF/A*4
11	Weight		11.5kg±0.5kg
12	Protect Function	SCP, Over-load Protection, Over-Voltage Protection, Over Temp Protection, Under-voltage Protection,	

2.3. Battery Module Parameters

No.	Items	Parameters
1	Module Name	GR-FS48100-1630P2
2	Cell Type	LFP (LiFePO4)
3	Cell Configuration	16S2P
4	Nominal Voltage	51.2V
5	Nominal Capacity	100Ah
6	Nominal Energy	5120Wh
7	Weight (Approx.)	48.5kg±0.5kg

2.4. Main Control Module Parameters

No.	Items		Parameters
1	Model		GR-MC100-200E
2	Operation Voltage Range		18Vdc~72Vdc
3	Max. Operation Current		Charge:≤300A Discharge: ≤150A
4	Communication	RS232	Battery Module Parallel
		LCD	RS485 , Monitoring Devices
		CAN/RS485	communication interface with PC
		GPS/GPRS	Remote Monitoring
5	Weight		12kg±0.5kg

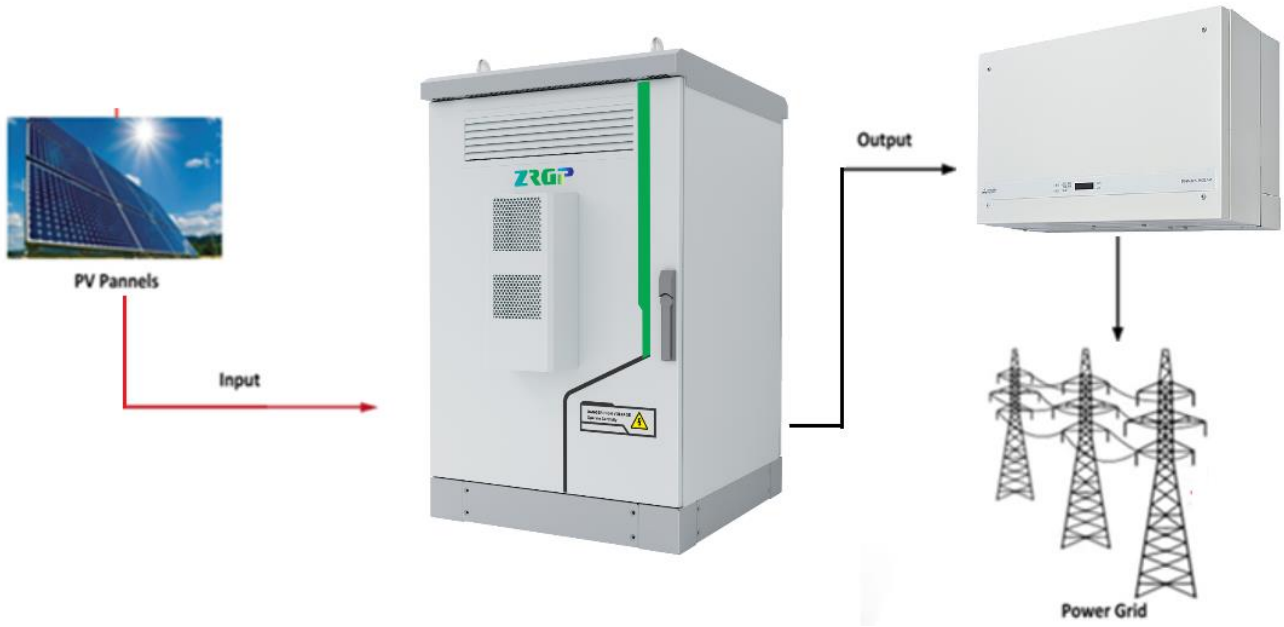
2.5. System Features

Item	Value
Rated Energy	15.36kWh
Battery Type	LFP (LiFePO4)
IP Grade	IP54
Dimension(W*H*D)	680mm*1100mm*873mm
Net weight （Approximate ）	230kg
Operating temperature	-20℃ ~ 40℃
Humidity	0 ~ 95% (Non-condensation)
Altitude	0~2000m
Heat-dissipating method	Air conditioning + air cooling
Heating Method	Air conditioning
Remote Monitoring	GPS/GPRS(Opention)
Safety standards	GB4943-2001,IEC60950-1,EN60950-1,UL60950-1
EMC	EN55022, CLASS A, IEC61000-4-2, IEC61000-4-5
Input	
PV input voltage range	120Vdc-425Vdc(Power Up Voltage>160Vdc)
Max. PV charge current	17A*4（Max 68A）
Rated Power	12000W
PV Fuse	20A
Output	
Adjustable range of output voltage	250Vdc-400Vdc
Current	3.95A*4(Peak 110%)
Nominal Power	6000W

3. System Structure

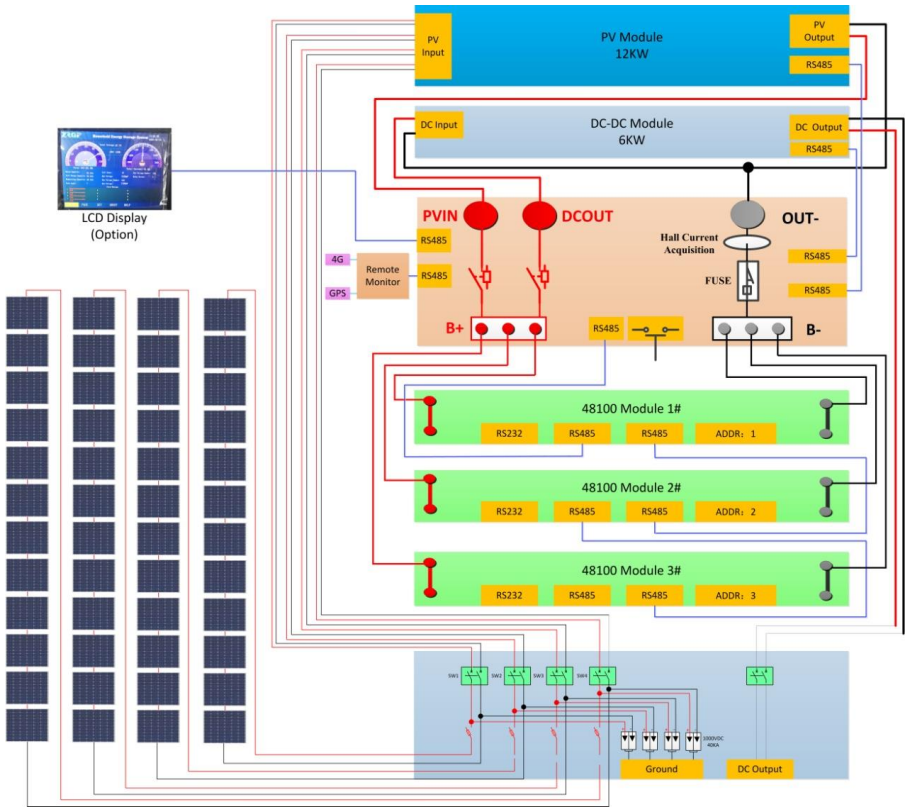
3.1. System Features

The application architecture of the system is shown as follows:



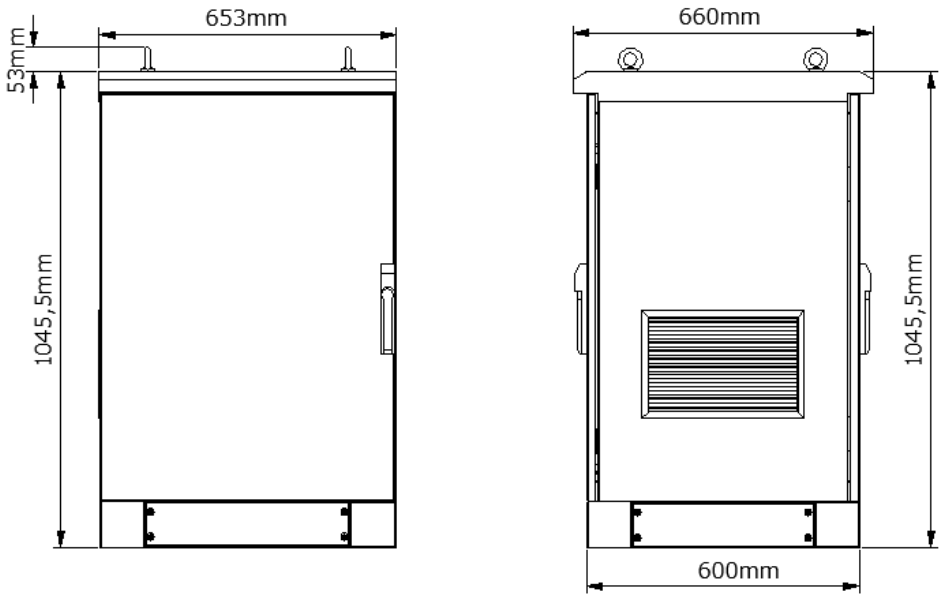
3.2. System Wiring Schematic

The system wiring schematic of the system is shown as follows:

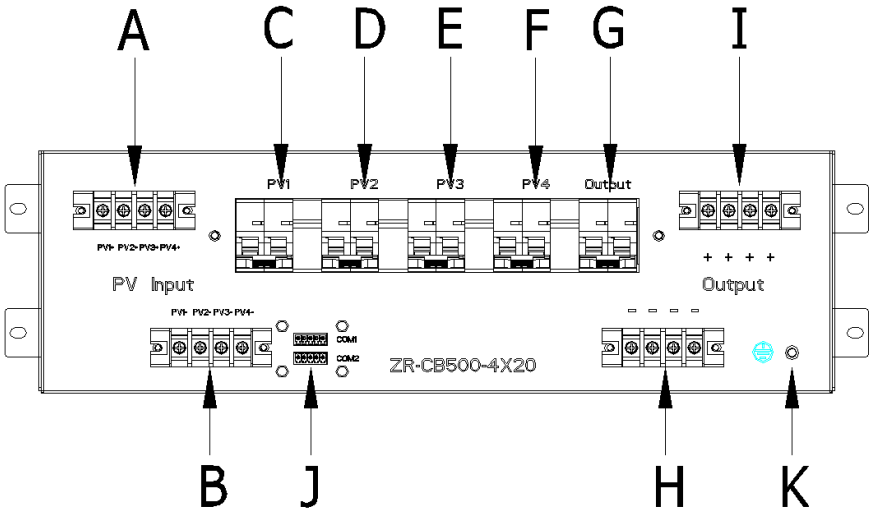


4. Appearance

4.1. Dimensional drawing



4.2. Interface View



No.	Instructions	NO.	Instructions
A	PV1-PV4 Input anode	G	DC Output Switch
B	PV1-PV4 Input cathode	H	DC Output cathode
C	PV1 Input Switch	I	DC Output anode
D	PV2 Input Switch	J	Communication port(RS485\CAN)
E	PV3 Input Switch	K	GND
F	PV4 Input Switch		