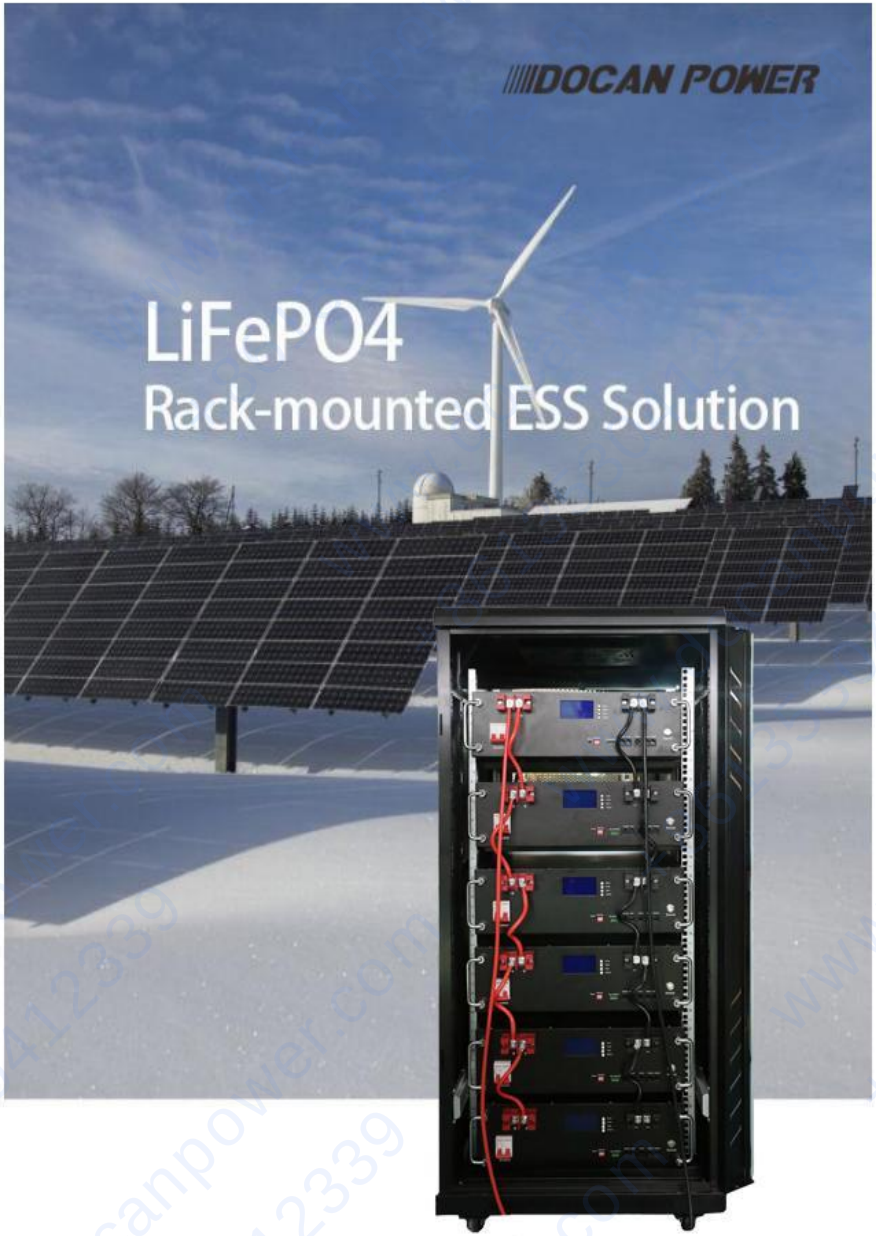


Dear Customers：

Thank you very much for purchasing our products! Before use this product, please read the user manual carefully. Please feel free to contact our customer service department if you have any questions. You are also suggested to keep this user manual well in case you need some more detail information in future. Specifications are subject to upgrade without prior notice.

1.Manual basic information

1.1Scope

This manual only applies to the reference 48V/100Ah series Rack mount solution ESS household energy storage system which manufactured by DOCAN TECHNOLOGY (SHENZHEN) CO., LIMITED

1.2Target groups

This manual is intended for professionals and end users. Operations can also be handled by the end user without any specific qualification. Professionals must have the following skills:

Understand the operation of battery products;

To be trained to deal with risks arising in the installation and use of electrical equipment and installations;

After training, know how to install and debug battery products;

Understand and comply with this manual and all safety knowledge.

1.3safety regulations

To ensure safety, it is the responsibility of the installer to familiarize himself with the contents of this manual and all warnings prior to installation.

Warning!

Environmental requirement：

- Do not expose the battery to temperatures higher than 60 ° C;
- Do not place the battery near any heat source;
- Do not expose the battery to moisture or liquids;
- Do not expose the battery to corrosive gases or liquids;
- Do not expose the battery to direct sunlight for a long time;
- Keep the battery in a safe place away from children and animals
- If the battery is heavy, arrange at least two persons to move and install the battery to avoid battery fall and injury;
- Do not place anything on the battery.

Operation cautions：

- This product is low voltage product, do not use this product in series;
- Do not disassemble the battery privately;
- Do not use the conductor to touch the battery positive and negative terminals at the same time;
- Do not touch the battery pack with wet hands;
- Do not crush, drop, or pierce the battery;
- Handle products according to local safety regulations;
- Store the battery as described in this user manual;
- Ensure reliable grounding of products;
- Do not short circuit the battery. Before installation and handling, take down all jewelry that may cause short circuit;
- Do not use damaged or deformed batteries;
- Disconnect the battery from the power/load before installation and maintenance;
- Do not stack the batteries when storing or handling them;
- If the battery is not used for a long time, the battery should be recharged regularly for 3 months;
- The maximum charge and discharge power cannot exceed 5KW/100A; otherwise, the product may be damaged.

2Product introduction

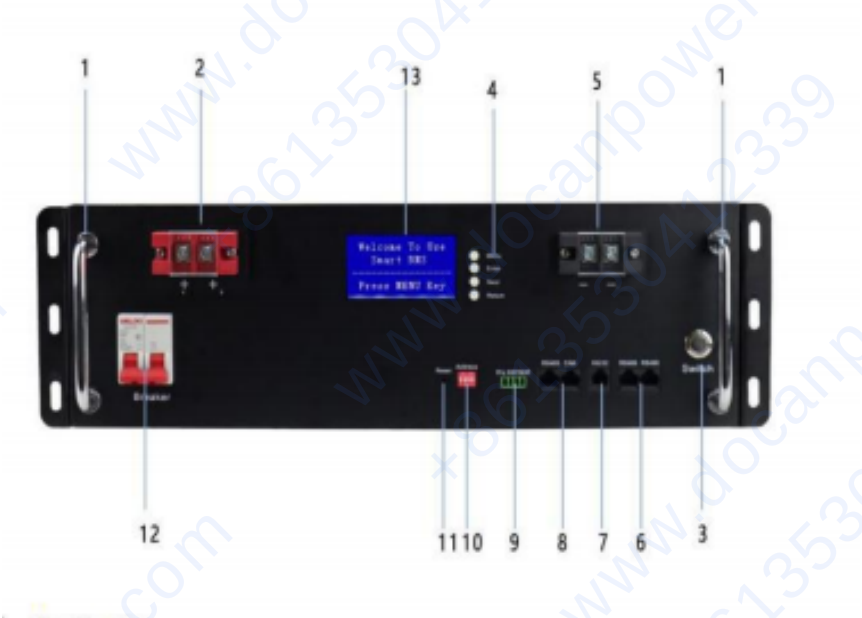
This product is a 48V DC battery system, which is applied in the field of household energy storage. It can cooperate with inverter and other equipment to form a complete system to meet the daily demand of household electricity. This product supports up to 8 parallel machines to expand capacity and prolong the power consumption time.

2.1Function characteristics

- Use lithium iron phosphate battery with high safety performance;
- The equipment has perfect protection function;
- Support multi-machine parallel use, easy to expand capacity;

- High precision voltage and current sampling and SOC estimation capability;
- Equipped with a highly visual display, you can directly view the battery status;

2.2Product overview



① Hand holder
② Positive connector*2
③ Power switch
④ Screen button
⑤ Negative connector*2
⑥ RS485 Parallel communication RS485
⑦ RS232
⑧ Communicate with invertor CAN/RS485
⑨ DRY contact
⑩ ADD switch
⑪ Reset
⑫ Breaker switch
⑬ LED display

3Installation and storage guide

3.1 Unpacking inspection

3.1.1Open the package of the equipment, please check the accessories: one host, one user manual, one set of communication line, one set of power line.

3.1.2Check whether the equipment is damaged during transportation. If the equipment is damaged or parts are missing, do not turn on the machine and inform the carrier and distributor.

3.2 Precautions for installation and storage

3.2.1 Installation of equipment shall be performed by professionals orassisted by local distributors;

3.2.2 The battery should be installed on a solid Cabinet or Flat groundplatform;

3.2.3 Appropriate protective measures should be taken when transporting equipment; Water droplets may occur when the equipment is moved from a low temperature environment to a high temperature environment. The equipment should be completely dry before use to ensure safety.

3.2.4 Do not expose the device to a harsh environment, such as humidity, inflammable, explosive, or dust. Do not cover or block the vent, and reserve more than 10CM air circulation gap around the equipment in order to have good heat dissipation;

3.2.5 When the equipment is not used for a long time, all switches on the panel must be placed in the OFF state;

3.3Connection to the inverter

Note: For operational safety and compliance with regulations, a separate DC overload protector or disconnection device is required between the battery and the inverter.

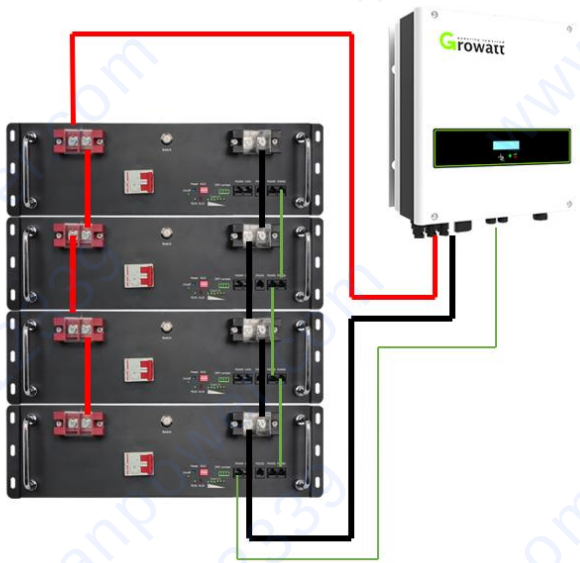
Warning! All wiring must be performed by a professional. The use of appropriate cables to connect batteries is important for safe and efficient operation of the system. To reduce the risk, please use the cable provided by e-infinite or the cable specifications recommended by e-infinite.

Max discharge current	Recommend wire
100A	25mm2/1*4AWG（No less than）

3.3.1Power line connection

⚠	Caution! Do not place anything on the output terminals of the positive and negative batteries. Otherwise, short circuit or heat may be caused. Caution! Make sure that the positive and negative connectors are in place, otherwise the battery may overheat; Caution! Before connecting, ensure that the circuit breaker or isolator between the inverter and the battery is disconnected. Ensure that the battery positive terminal (+) is connected to the inverter positive terminal (+), and the battery negative terminal (-) is connected to the inverter negative inverter terminal (-).

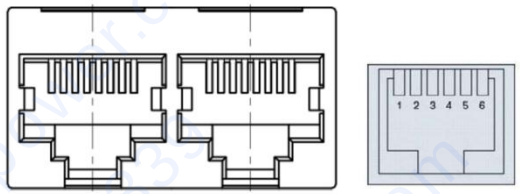
Connect the battery P+ and P- to the inverter's battery input by using the cable shipped with the machine or the recommended cable.



3.3.2Communication connection

The product has RS485 and CAN communication functions for external communication, and the communication interface adopts 8P8C vertical RJ45 socket. Ensure that the connection is correct during the communication connection.

Pin-out	RS485	CAN
1	RS485B	/
2	RS485A	/
3	/	/
4	/	CANL
5	/	CANH
6	/	/
7	/	/
8	/	/



3.3.3Dial switch set up

Set the dial switch address to “1” when the product communicates with the inverter.

Address	DIP switch position			
	#1	#2	#3	#4
1	ON	OFF	OFF	OFF

3.3.4Starting up

Note: please check the power, communication wire again and make sure, that they are connected correctly before starting up!

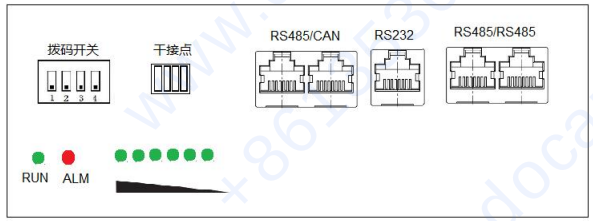
After the product is properly connected to the inverter, please turn on the AC circuit breaker, the breaker between battery and inverter, and then press the " ⏻ " switch on the battery panel. Otherwise, an alarm may be generated indicating that the battery is improperly connected.

4.Production parameter

No.	Item	Parameter
1	Model	OSM3U5000
2	Normal Voltage	51.2V
3	Normal capacity	100Ah
4	Voltage range	44~58.4VDC
5	Max charge Current	Continuous 100A
6	Max discharge Current	100A
7	Delivery voltage	50.4~53.5V
8	Working temperature	-20℃~60℃
9	Storage temperature	0℃~45℃
10	Monitoring and communication	RS232/RS485/CAN
11	（L*W*H）Size	144.5MM*528MM*450MM
12	Weight	46KG
13	IP class	IP20
14	Installation	Rack mount

5.Product operation

5.1 LEDIndicator Status Description



LED indicator working status

State	Normal/Warning/protection	ON/OFF	RUN	ALM	capacity indication LED						Description
		●	●	●	●	●	●	●	●	●	
Close	Sleep	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	ALL OFF
Standby	Normal	ON	Flash1	OFF	According to the capacity indication						Standby
	Warning	ON	Flash1	Flash3							Low voltage
Charge	Normal	ON	ON	OFF	According to the capacity indication						capacity LED flash 2, over charge
	Warning	ON	ON	Flash3							
	Over charge protection	ON	ON	OFF	ON	ON	ON	ON	ON	ON	If no city power, shows
	Temperature, over current, invalidation protection	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	Stop charging
Discharge	Normal	ON	Flash3	OFF	According to the capacity indication						
	Warning	ON	Flash3	Flash3							
	Low voltage protection	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Stop discharge
	Temperature, over current, short circuit, reversion, invalidation protection	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	Stop discharge
Invalidation		OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	Stop charge, discharge

Capacity indicator instructions

State				Charge						Discharge					
Capacity indicator		L6	L5	L4	L3	L2	L1	L6	L5	L4	L3	L2	L1
Capacity (%)	0~16.6%	OFF	OFF	OFF	OFF	OFF	Flash 2	OFF	OFF	OFF	OFF	OFF	ON
	16.6~33.2 %	OFF	OFF	OFF	OFF	Flash 2	ON	OFF	OFF	OFF	OFF	ON	ON
	33.2~49.8 %	OFF	OFF	OFF	Flash 2	ON	ON	OFF	OFF	OFF	ON	ON	ON
	49.8~66.4 %	OFF	OFF	Flash 2	ON	ON	ON	OFF	OFF	ON	ON	ON	ON
	66.4~83.0 %	OFF	Flash 2	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON
	83.0~100 %	Flash 2	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Working indicator		ON						Flash 3					

LED Flashing instructions

Flash mode	ON	OFF
Flash1	0.25S	3.75S
Flash2	0.5S	0.5S
Flash3	0.5S	1.5S

6.Battery capacity expansion

6.1Notice for battery used in parallel

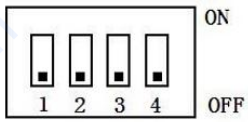
Warning!

Please pay attention to the following items when use the battery in parallel, otherwise the product may not work properly!!

- Do not parallel batteries which voltage is over than 2V directly. When multiple batteries are used in parallel, please follow the sequence of from low voltage to high voltage;
- Do not use our products together with other brands;
- Do not use the products with large capacity difference directly in parallel;
- Do not directly use the products with obvious differences between the old and the new;

6.2Parallel dial switch setting

If the batteries need to be used in parallel, set the battery address based on the following rules:



Address	Dial switch position			
	#1	#2	#3	#4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

7.Simple fault diagnosis and troubleshooting

WARNING: There is high voltage inside the machine! Do not open or try to repair or maintenance to avoid shock or death!

Failure phenomenon	Possible reason	Solution
The unit load time is reduced	The battery is not fully charged	Make sure that the battery is fully charged
	Overloaded connection	Remove noncritical loads
	The battery is aging and cannot be fully charged	Contact your customer service representative to obtain a battery replacement kit
Boot alarm	The battery energy is low	Make sure that the battery is fully charged
	Overload	Remove noncritical loads

When you contact the service staff, please provide the following information: Type of machine / date of issue / complete description of the problem (including the relevant indicator display status, battery configuration, connection and other information).

8.Clearance and maintenance

8.1Clearance

Warning

Before cleaning the product, please turn off all switches of the product to make the product in the off state.

Regular cleaning of products is recommended. If the housing is dirty, use a soft, dry brush or dust remover to remove the dust. The case should not be cleaned with abrasives or corrosive liquids.

8.2Normal maintenance

The products should be stored in -10 ° C to +45 ° C environment. For long-term storage products, should charge them according to the following table to keep the SOC in the corresponding state. The recommended charge current is 50A(0.5C).

Storage T	RH	Storage time	SOC
-10℃(less)	/	Forbidden	/
-10~25℃	5%~70%	≤ 6 month	30%≤SOC≤60%
25~35℃	5%~70%	≤ 3 month	30%≤SOC≤60%
35~45℃	5%~70%	≤ 1 month	30%≤SOC≤60%
45℃(Over)	/	Forbidden	/

Maintain the over discharge battery

Please charge the over discharged battery within the time range specified below, otherwise the product may be permanently damaged.

Storage temperature	Charge time
-10~25℃	≤15 days
25~45℃	≤7 days