

USER MANUAL

512314 LFP Battery



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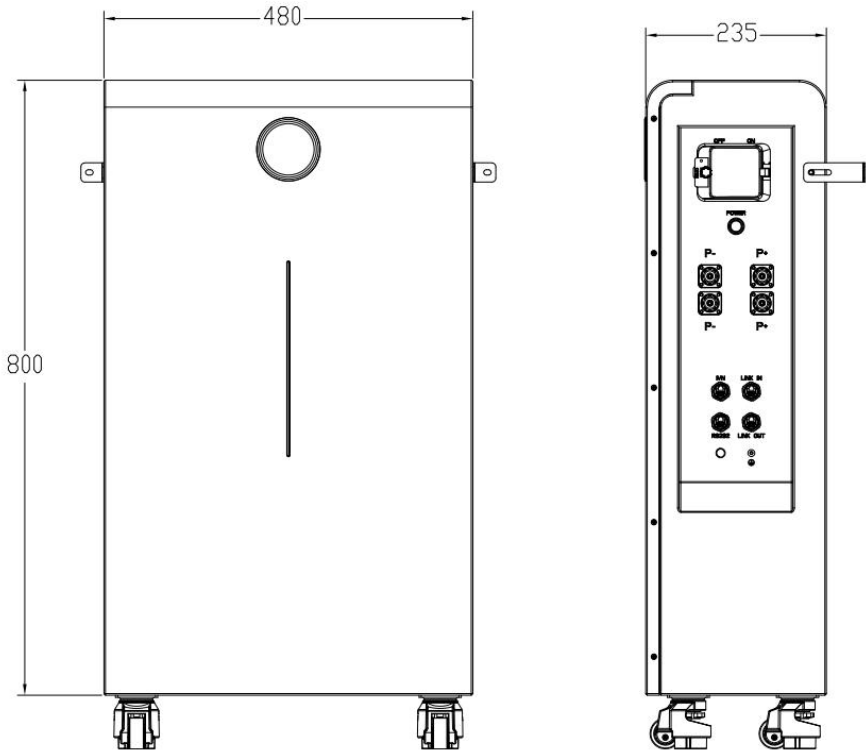
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1 Product Overview

512314 is a 51.2V 314Ah Lithium battery that can be wall mounted or floor mounted.

Note: 512314 is NOT suitable for life-sustaining medical devices.

1.1 Appearance



1.2 Switch, LCD, LED & Communication Port

1.2.1 Switch ON/OFF

1、 Switch ON

Single 512314: Flip breaker cover → Toggle to ON → Press power button to switch on

2、 Switch OFF

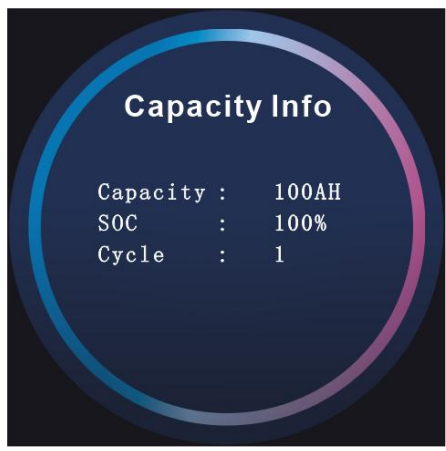
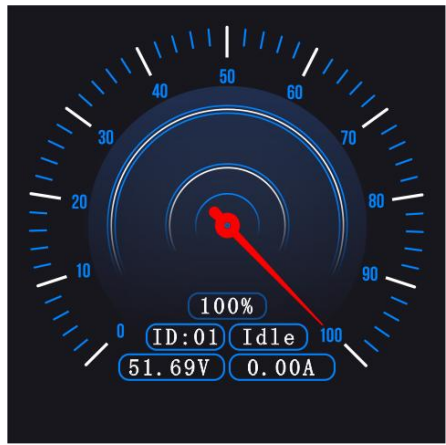
Toggle breaker to OFF → Press power button to shut down.

1.2.2 Color touchscreen

1) Swipe the screen to see “SN Info”, “Capacity Info”, “Temp Info”, “Cell Voltage”, “Current Event”, “History Event”, “Set Protocol” & “Display Time”.

2) If current protocol is incorrect, tap “CAN” checkbox and select correct protocol.

3) If current time is incorrect, tap “Set Time” button and change time then tap “Save” button.



Temp Info

T1: 26.0°C T3: 25.8°C
 T2: 25.7°C T4: 26.0°C
 T_MOS: 27.8°C
 T_ENV: 33.8°C

Cell Voltage

01:3230mV 09:3232mV
 02:3233mV 10:3231mV
 03:3227mV 11:3229mV
 04:3235mV 12:3233mV
 05:3226mV 13:3231mV
 06:3229mV 14:3232mV
 07:3231mV 15:3234mV
 08:3222mV 16:3228mV

51.68V 0.00A

Current Event

Alarm :None
 Protect :None
 Fault :None



History Event

001 07.16 09:34 FUL ▲
 pLSW p0VP
 002 07.16 09:34 pLSW
 003 07.16 09:34 sUVP
 004 07.12 17:35 eOTP
 005 07.11 17:03 eOTP
 006 07.11 14:38 eOTP ▼
 eOTP

Set Protocol

CAN : PYLON

RS485: VOLTRONIC

Set Protocol

01:PYLON

02:GROWATT

03:VICTRON

04:SMA

05:MUST

06:SO FAR

07:HOYMILES

Set Protocol

01:VOLTRONIC

02:SUNRAY

03:PYLON

04:SRNE

Display Time

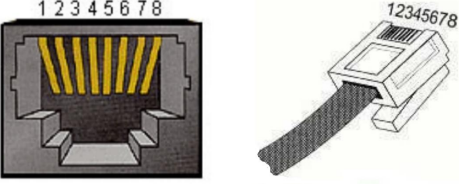
2025-05-15 16:48

Set Time

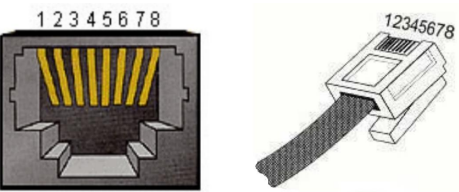


1.2.3 Communication Port Definition

1.2.3.1 CAN/RS485 to PCS

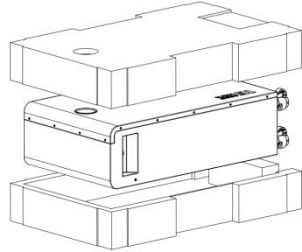
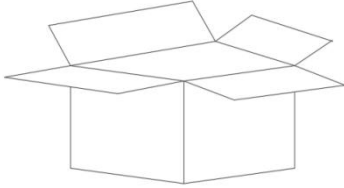
Port definitions	RJ45 Pin	Function
	1	RS485-B
	2	RS485-A
	3	GND
	4	CAN-H
	5	CAN-L
	6	NC
	7	RS485-A
	8	RS485-B


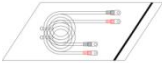
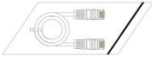




1.2.3.2 RS232 to PC



Port definitions	RJ45 Pin	Function
	1	RS232-TX
	2	GND
	3	RS232-RX
	4	NC
	5	NC
	6	NC
	7	NC
	8	NC

2 Installation Guide

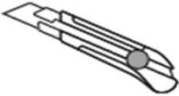

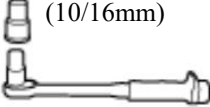



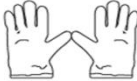


2.1 Checking Deliverables



NO.	Pictures	Quantity	Description
1		1 pcs	Battery
2		2 pair	Power cable
3		1 pcs	Comm cable
4		1 pcs	Manual
5		2 pcs	Expansion Bolt
6		2 pcs	Wall Connector
7		2 pcs	Battery hanging bolt

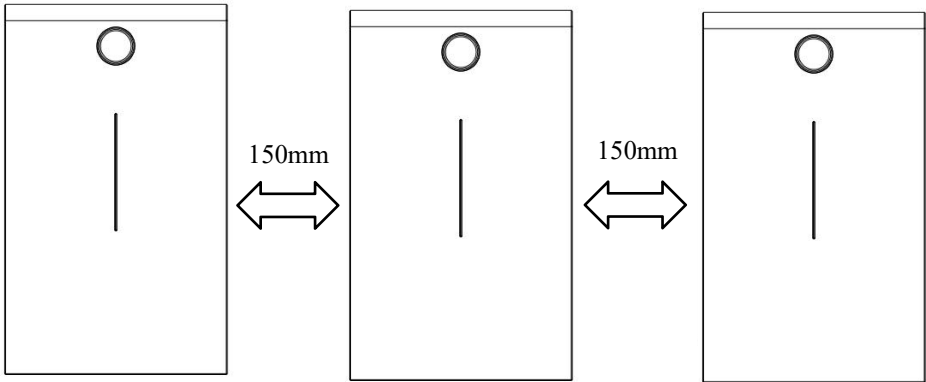
8		1 pcs	Drying agent
9		1 pcs	Certificate

2.2 Tools

Tools			
Installation	Knife 	Measuring tape 	Socket wrench (10/16mm) 
	Hammer 	Cross Screwdriver 	Hammer drill 
Protection	ESD gloves 	Safety goggles 	Safety Shoes 

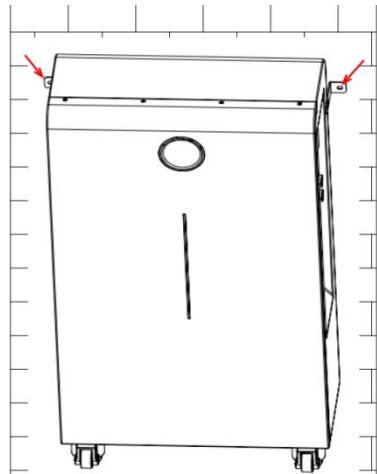
2.3 Installation Instructions

Minimum mounting distance requirement: (Wall Mounted)

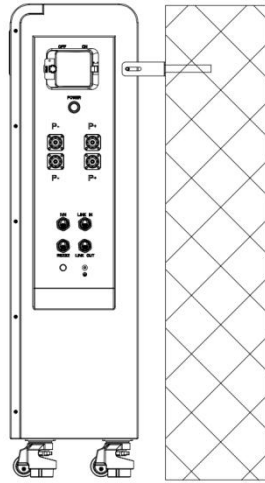


1.2.4 Installation Step

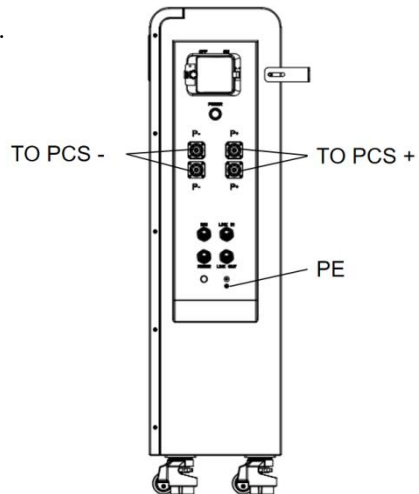
Step 1 place 512314 on the floor,
close to wall.
Determine hole position using marker.



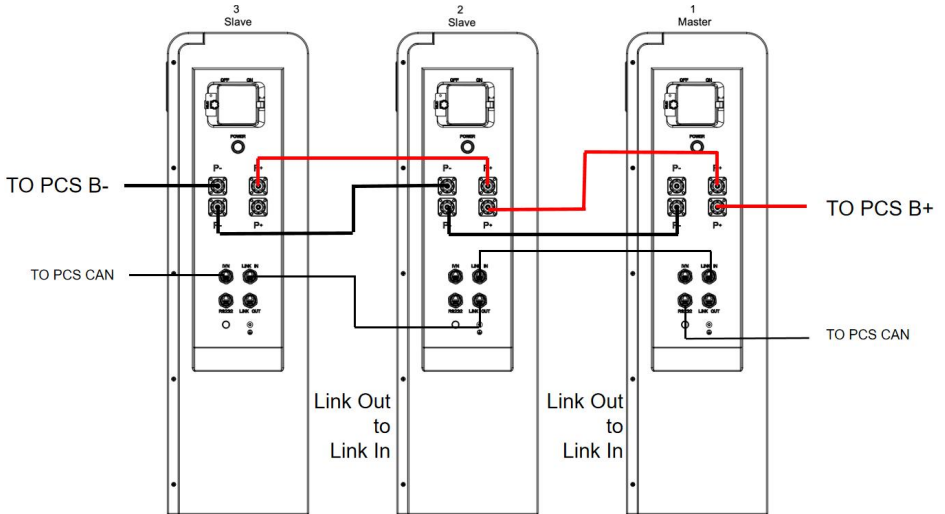
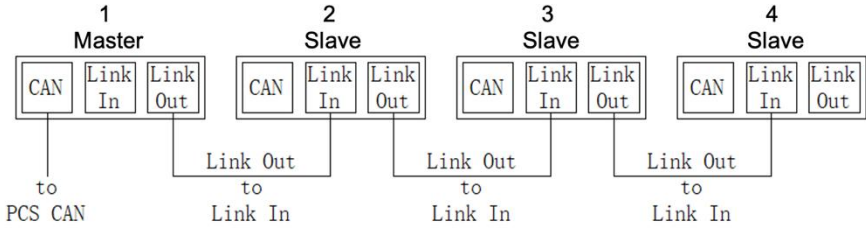
Step 2 drill hole on the wall,
fix wall connector using expansion bolt



Step 3 Connect PE cable & power cable.



Step 4 Connect communication cable.



3 Technical Specifications

Basic Project		Parameter
Nominal Voltage		51.2V
Nominal Capacity		314Ah
Nominal Energy		16076.8Wh
Charge Voltage		56.16V
Charge Current		150A
Discharge Voltage Range		45.6V~56.16V
Discharge Current		200A
Communication Mode		CAN/RS485
Working Temperature	Charge	0°C~45°C
	Discharge	-20°C~60°C
Storage Temperature	Short Term (within 1 month)	-10°C~45°C
	Long Term (within 1 year)	0°C~35°C
Storage Humidity		<95% RH
Cell Type		LiFePO ₄ , Lithium Iron Phosphate
Size		H800*W480*D235(mm)
Weight		117.5KG (Wall Bracket Included)
IP Level		IP65

4 Maintenance

4.1 Recharge Requirements During Storage

Batteries should be stored in temperature between $-10^{\circ}\text{C} \sim +45^{\circ}\text{C}$, and recharged regularly according to the following table with 0.2C (60A) current to 50% SOC after long time storage.

Recharge requirement during storage

Storage Temperature	Storage Relative Humidity	Storage Time	SOC
Below -10°C	/	Not Allowed	/
$-10\sim 0^{\circ}\text{C}$	5%~70%	≤ 1 months	$30\% \leq \text{SOC} \leq 60\%$
$0\sim 25^{\circ}\text{C}$	5%~70%	≤ 12 months	$30\% \leq \text{SOC} \leq 60\%$
$25\sim 35^{\circ}\text{C}$	5%~70%	≤ 6 months	$30\% \leq \text{SOC} \leq 60\%$
$35\sim 45^{\circ}\text{C}$	5%~70%	≤ 1 months	$30\% \leq \text{SOC} \leq 60\%$
Above 45°C	/	Not Allowed	/

4.2 Recharge Requirements When Over Discharged

Please recharge over discharged (90% DOD) batteries according to the following table, otherwise over discharged battery will be damaged.

Recharge requirement when battery is over discharged

Storage Temperature	Storage Time	Note
$-10\sim 25^{\circ}\text{C}$	≤ 15 days	Battery disconnected from PCS
$25\sim 45^{\circ}\text{C}$	≤ 7 days	
$-10\sim 45^{\circ}\text{C}$	< 12 hours	Battery connected to PCS

Attention: Disposal of batteries should follow local regulations.

