DL5.0F

USER MANUAL

Battery Module
51.2V/100Ah

File version-20251120-V0-EN information might be subject to change without notice during product improving.

Contents

Statement of Law

Revision History

Revision NO.	Revision Date	Revision Reason
V0	2025.11.20	First Published

Safety Precautions

WARNING

Please do not put the battery into water or fire, in case of explosion or any other situation that might endanger your life.

Please connect wires properly while installation, do not reverse connect.

To avoid short circuit, please do not connect positive and negative poles with conductor on the same device.

Please avoid any form of damage to battery, especially stab, hit, trample or strike.

Please shut off the power completely when removing the device or reconnecting wires during the daily use or it could cause the danger of electric shock.

Please use dry powder extinguisher to put out the flame when encountering a fire hazard, liquid extinguisher could result in the risk of explosion.

For your safety, please do not arbitrarily dismantle any component in any circumstances. The maintenance must be implemented by authorized technical personnel or our company's technical support. Device breakdown due to unauthorized operation will not be covered under warranty.

CAUTION

Our product have been strictly inspected before shipment. Please contact us if you find any abnormal phenomena such as device outer case bulging.

The product shall be grounded properly before use In order to ensure your safety.

To assure the proper use please make sure parameters among the relevant device are compatible and matched.

Please do not mixed-use batteries from different manufacturers, different types and models, as well as old and new together.

Ambient and storage method could impact the product life span, please comply with the operation environment instruction to ensure device works in proper condition.

For long-term storage, the battery should be recharged once every 6 months, and the amount of electric charge shall exceed 80% of the rated capacity.

Please charge the battery in 18 hours after it fully discharged or over-discharging protection mode is activated.

Formula of theoretical standby time: T=C/I (T is standby time, C is battery capacity, I is total current of all loads).

The surface of the product cabinet is affixed with a torn invalid label. Therefore, before opening the cover to change the DIP switch mode, you need to contact DYNESS and inform the product ID. DYNESS will record this battery ID and authorize the opening operation to be performed. Except for changing the DIP switch mode, no other operations are allowed. In the next stage, you can log in to apply for operations directly on the DYNESS website. Contact the authorized dealer or distributor of DYNESS for a new torn invalid sticker after tearing the original invalid label. When the operation is completed, paste the new one at a different position.

Preface

Manual Declaration

DL5.0F Lithium Iron Phosphate Battery is external battery module which can store the electricity for home use. When you apply the grid or photovoltaic system as your powers supply, the product can collect electricity to charges the battery. When grid or photovoltaic system is power off , the product can supply electricity itself for your home loads.

DL5.0F User manual systematically elaborates device structure, parameters, basic procedure and method of installation, operation, maintenance.

Safety Statement

Only qualified trained professionals are allowed to install, operate, maintain the device.

Please comply with local safety regulations and operational rules during installation, operation and maintenance, or it could cause unexpected injury or device damage.

The safety declaration mentioned in the manual are only supplement context for your local safety regulations.

The seller does not undertake any responsibility for device operations or usage of violating general safety requirements and safety standards.

Sign Explanation

User should clear the meaning of the caution sign below when configuring or operating DL5.0F series products.

CAUTION

Neglecting the warnings might cause equipment failure.

1 Introduction

Brief Introduction

DL5.0F series is equipped with lithium iron phosphate battery for family use . We base on customer needs and market requirement to develop cutting-edge battery storage technology and offer this high quality product to supply stable electricity for all kind of user's devices. The product have long life span and can be applied in high temperature environment and take less space for installation.

DL5.0F series carries self-developed battery management system. When you apply the grid or photovoltaic system as your powers supply, the product can collect electricity to charges the battery. When grid or photovoltaic system is power off , the product can supply electricity itself for your home loads. Products also can be paralleled to build a multi-module system with more capacity to satisfy the longtime energy storage demand.

Product Properties

DL5.0F series energy storage product's anode materials are lithium iron phosphate, battery cells are managed effectively by BMS with better performance, the systems features as below:

- Comply with European ROHS, Certified SGS, employ non-toxic, non-pollution environment-friendly battery.
- Anode materials are lithium iron phosphate ($LiFePO_4$), high safety performance with longer life span.
- Equipped with BMS (battery management system) mode with better performance, possesses protection function like over-discharge, over-charge, over-current, abnormal temperature.
- Self-management on charging and discharging, Single core balancing function.
- Intelligent design configures integrated inspection module.
- Flexible configurations allow parallel of multi battery for longer standby time.
- Less battery self-discharge, then recharging period can be up to 10 months during the storage.
- No memory effect so that battery can be charged and discharged shallowly.

- With wide range of temperature for working environment, -20°C ~ +55°C, circulation span and discharging performance are well under high temperature.

Product Identity Definition

Figure 1-1 Battery Energy Storage System nameplate

Figure 1-2 Labels with heating function

(Only systems with heating function will be labeled with thislabel)

Figure 1-3 Built-in Aerosol Fire Extinguisher

(Only systems with fire extinguishing capabilities will be labeled with this tag)

Table 1-1 Symbol Definition

	Battery voltage is higher than safe voltage, direct contact with electric shock hazard.
	Be careful with your actions and be aware of the dangers.
	Read the user manual before using.
	The scrapped battery cannot be put into the garbage can and must be professionally recycled.
	After the battery life is terminated, the battery can continue to be used after it recycled by the professional recycling organization and do not discard it at will.
	This battery product meets European directive requirements.
	Do not place near open flame or incinerate.
	If catch fire, do not put out with water.
	If catch fire, do not put out with dry powder fire extinguisher.
	Do not cut or spear with sharp objects.

2 Product Specification

Size and Weight

Table 2-1 DL5.0F Series Device Model

Product Series	Nominal Voltage	Nominal Capacity	Dimension (mm)	Weight (kg)	IP Level
DL5.0F	51.2V	100Ah	345×548×146	41	IP20

Performance Parameter

Table 2-2 DL5.0F performance parameter

Item	DL5.0F
Nominal Voltage(V)	51.2
Work Voltage Range(V)	44.8~57.6
Nominal Capacity(Ah)	100Ah
Nominal Energy(kWh)	5.12
Recommended Charge/Discharge Current(A)	50
Max Continuous Charging Current(A)	75
Max Continuous Discharging Current(A)	100
Peak Discharging Current(A)	110A(15s)

Interface Definition

This section elaborates on interface functions of the front panel of the device.

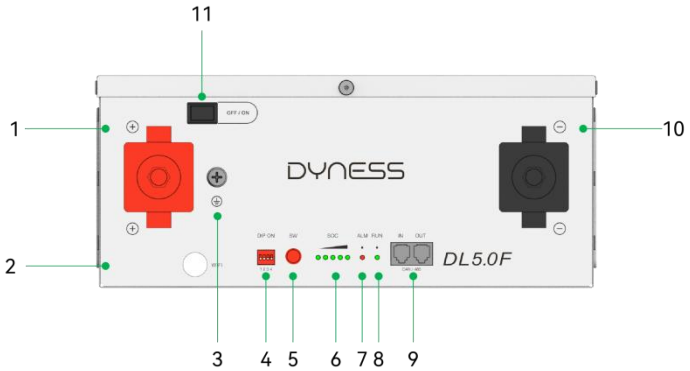


Figure 2-1 DL5.0F the Sketch of Front Interface

Table 2-3 Interface Definition

Item	Name	Definition
1	Positive socket	Battery output positive or parallell positive line
2	Wifi	Monitoring and optimizing battery systems
3	Grounding	Shell ground connection
4	ADD	DIP switch
5	SW (battery wake/sleep switch)	When the "OFF/ON" switch button is in the ON state, press and hold this button for 3 seconds to put the battery into the power-on or off state.
6	SOC	The number of green lights shows the remaining power. Table 2-4 for details.
7	ALM	Red light flashing when an alarm occurs, red light always on during protection status. After the condition of trigger protection is relieved, it can be automatically closed.
8	RUN	Green light flashing during standby and charging mode. Green light always on when discharging.
9	CAN/485	Communication cascade port, support CAN/ RS485 communication (factory default CAN communication)
10	Negative socket	Battery output negative or parallel negative line
11	Power switch	OFF/ON, must be in the "ON" state when in use

Table 2-4 Interface Definition

Battery Status	SOC	LED1	LED2	LED3	LED4	LED5	ALM	RUN
Shutdown	/	off	off	off	off	off	off	off
Standby	80%≤SOC≤100%	●	●	●	●	●	off	Flashing
	60%≤SOC＜80%	●	●	●	●	off	off	Flashing
	40%≤SOC＜60%	●	●	●	off	off	off	Flashing
	20%≤SOC＜40%	●	●	off	off	off	off	Flashing
	0%＜SOC＜20%	●	off	off	off	off	off	Flashing
	SOC=0%	off	off	off	off	off	off	Flashing
Charging	80%≤SOC≤100%	●	●	●	●	Flashing	off	Flashing
	60%≤SOC＜80%	●	●	●	Flashing	off	off	Flashing
	40%≤SOC＜60%	●	●	Flashing	off	off	off	Flashing
	20%≤SOC＜40%	●	Flashing	off	off	off	off	Flashing
	0%≤SOC＜20%	Flashing	off	off	off	off	off	Flashing
Discharging	80%≤SOC≤100%	●	●	●	●	●	off	●
	60%≤SOC＜80%	●	●	●	●	off	off	●
	40%≤SOC＜60%	●	●	●	off	off	off	●
	20%≤SOC＜40%	●	●	off	off	off	off	●
	0%＜SOC＜20%	●	off	off	off	off	off	●
	SOC=0%	off	off	off	off	off	off	●

A special ALM light flashing state: when the communication between batteries is lost or abnormal, all the lights from SOC to RUN of the master battery will flash together.

● means green light always on

Flashing: means green light flashing

Battery Management System(BMS)

Voltage Protection

Low Voltage Protection in Discharging:

When any battery cell voltage or total voltage is lower than the rated protection value during discharging, the over-discharging protection is activated, and the battery buzzer makes an alarm sound. Then battery system stops supplying power to the outside. When the voltage of each cell back to rated return range, the protection is over.

Over Voltage Protection in Charging:

During charging stage, the system will stop charging when the total voltage of the battery pack is higher than rated value or the voltage of any single cell reaches the protection value. When total voltage or all cell back to rated range, the protection is over.

Current Protection

Over Current Protection in Charging:

When the charge current of any module＞90A, current limit protection mode is activated, current will be limited to≤3A, protection is removed after rated time delaying 10s. Circulate like this until the current is lower than 90A.

Over Current Protection in Discharging:

When the discharge current is higher than 110A, the battery buzzer alarms and the system stops discharging after 15s. After protection, the discharging will restore in 60s delay or immediately when there is charging current.

CAUTION

The buzzer sound alarm setting can be manually turned off on the background software, and the factory default is on.

Temperature Protection

Low/Over temperature protection in charging:

When battery's temperature is beyond range of 0°C~+65°C during charging, temperature protection be activated, device stops charging.

The protection is released when it back to rated range of working temperature.

CAUTION

If you choose a product with heating function the charging temperature range is -20°C~65°C.

Low/Over temperature protection in discharging:

When battery's temperature is beyond range of -20°C ~+65°C during discharging, temperature protection is activated, device stops supplying power to the outside.

The protection is over when temperature back to rated working range.

Other Protection

Short Circuit Protection:

When the battery is activated from the shutdown state, if a short circuit occurs, the system starts short-circuit protection for 60 seconds.

Self Shutdown:

When device connects no external loads and power supply and no external communication for over 72 hours, device will dormant standby automatically.

CAUTION

The maximum operating current required for the electrical load shall be less than the maximum discharge current capacity of the battery.

3 Installation and Configuration

Preparations for Installation

Safety Requirement

This system can only be installed by personnel who have been trained in the power-supply system and have sufficient knowledge of the power system.
The safety regulations and local safety regulations listed below should always be followed during the installation.

- All circuits connected to this power system with an external voltage of less than 48V must meet the SELV requirements defined in the IEC60950 standard.
- If operating within the power system cabinet, make sure the power system is not charged. Battery devices should also be switched off
- Distribution cable wiring should be reasonable and has the protective measures to avoid touching these cables while operating power equipment.
- The following protective items must be worn when installing the battery system:

Insulated Gloves Safety Goggles Safety Shoes

Figure 3-1 Safety Gear

Environmental requirements

Working temperature: -20°C~+55°C.
Charging temperature range is 0°C~+55°C.
Note: When selecting a heating film, the charging temperature range is -20°C~+55°C.
Discharging temperature range is -20°C~+55°C.
Storage temperature: -10°C~+35°C.
Relative humidity: 5% ~ 85%RH.
Elevation: no more than 4000m .
Operating environment: Indoor or outdoor installation, sites avoid the sunlight and no wind, no conductive dust and corrosive gas.

And the following conditions are met:

- Installation location should be away from the sea to avoid brine and high humidity environment.
- The ground for product arrangement shall be flat and level.
- There is no flammable explosive materials near to the installation site.
- The optimal ambient temperature is 15°C~30°C.
- Keep away from dust and messy zones.

Tools and data

Tools and meters that may be used are shown in Figure 3-2 Installation Tools.

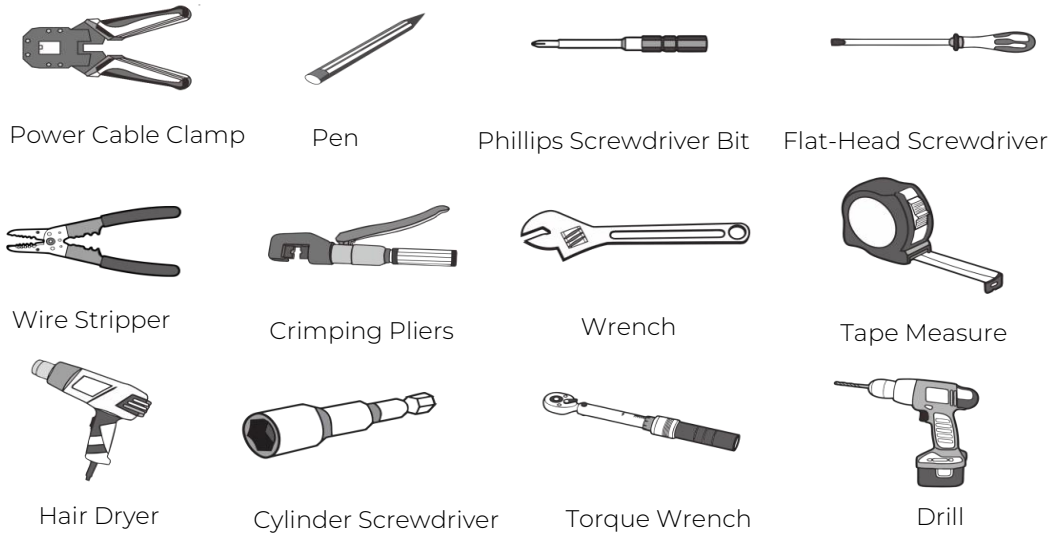


Figure 3-2 Installation Tools

Technical Preparation

Electrical interface check

Devices that can be connected directly to the battery can be user equipment, power supplies, or other power supplies.

- Confirm whether the user equipment, the PV equipment or other power supply equipment has the DC output interface, and measure whether the output voltage of the standby interface meets the requirements of the voltage range of table 2-2.
- Verify that the maximum discharge current capacity of the user equipment, the PV equipment or other power supplies, the DC standby interface, and the maximum discharge current shall be greater than the maximum charging current of the products used in table 2-2.
- If the user equipment DC prepared interface maximum discharge capacity is less than the maximum charging current products using table 2-2, the user

interface should have the power equipment of DC current limiting function, give priority to ensuring the normal work of user equipment.

The security check

- Firefighting equipment should be arranged near the equipment, such as portable dry powder fire extinguisher.
- Automatic fire fighting system shall be provided for the case where necessary.
- Flammable, explosive and other dangerous materials placed beside the battery are prohibited.

Unpacking Inspection

- When the equipment arrives at the installation site, loading and unloading should be carried out according to the rules and regulations, so as to prevent from being exposed to sun and rain.
- Before unpacking, the total number of packages shall be indicated according to the shipping list attached to each package, and the case shall be checked for good condition.
- In the process of unpacking, handle with care and protect the surface coating of the object.
- Open the package, the professional installation personnel should read the technical documents, verify the list, according to the configuration table and packing list, ensure objects are complete and intact. If the internal packaging is damaged, it must be inspected and recorded in detail.

Table 3-1 Packing list

Item	Specification	Quantity	Figure
Battery	DL5.0F 51.2V/100Ah	1	
Power cable-positive	Red /4AWG/L1500mm	1	
Power cable-negative	Black /4AWG/L1500mm	1	
Communication parallel cable	Black /L2000mm /Double RJ45 plug	1	

Communication cable to inverter	Black /L2000mm /Double RJ45 plug	1	
User Manual	User manual	1	
Slotted Pan Head Screws With Shoulder	M8	2	
Hexagon Head Tapping Screw	M6	4	
OT terminal	OT 4-6	2	
Wall bracket	Wall bracket	1	
Letter to customer	/	1	
Warranty card	/	1	
Packing list	/	1	

Engineering Coordination

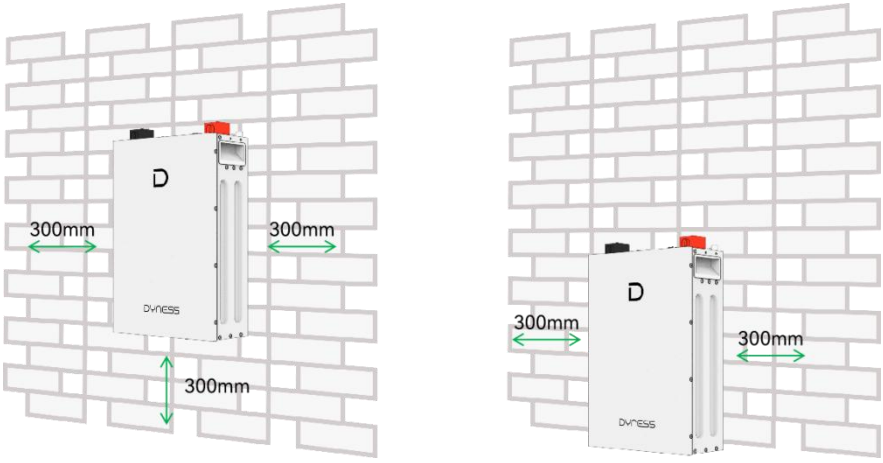
Attention should be paid to the following items before construction:

- Power cable specification.
- The power cable specification shall meet the requirements of maximum discharge current for each product.
- Mounting space and bearing capacity.
- Make sure that the battery has enough space to install, and that the battery rack and bracket have enough load capacity.
- Wiring.

- Make sure the power cable and ground wire are reasonable. Not easy to short-circuit, water and corrosion.

Equipment Installation

The wall for battery installation shall be solid brick or cement wall with strong bearing capacity and wall thickness no less than 100mm.



Wall installation Floor installation

Figure 3-3 Mounting Space Requirements

Table 3-2 Installation Steps

Step 1 System preparation
Confirm that the ON/OFF switch on the front panel of DL5.0F unit is in the "OFF" state to ensure no live operation. 
Step 2 Mechanical installation
1. Battery placement position determination 2. Battery module installation

Step 3 Electrical installation

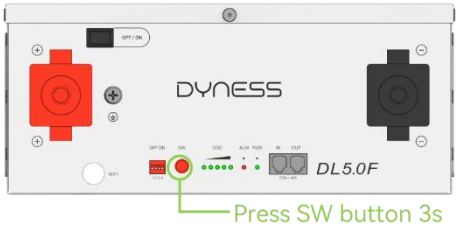
1. Connect the ground cable

2. Battery module parallel cable installation
3. Parallel communication cable connection

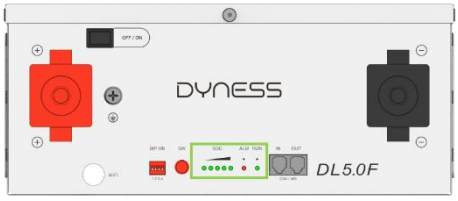
Step 4 Battery system self-test

1. Tun the ON/OFF switch to the “ON” state

2. Press SW button 3S to wake up battery



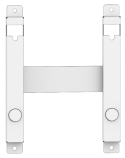
3. Check the system output voltage and led status



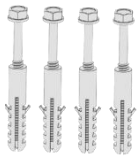
4. Shut down the system

Wall hanging Installation method:

The following accessories need to be added when install the DL5.0F on the wall.

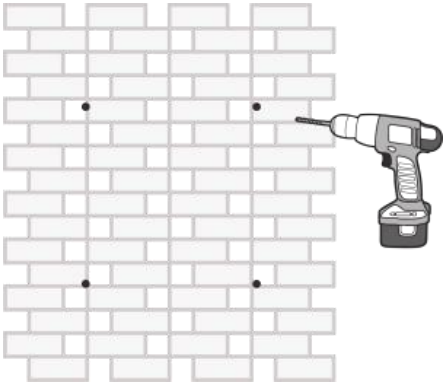


Wall bracket ×1

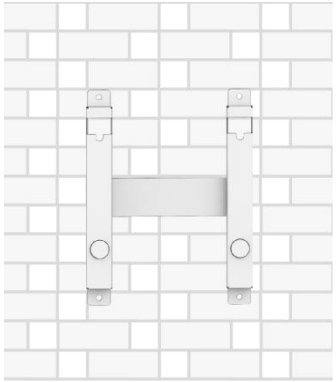


Hexagon Head Tapping Screw ×4

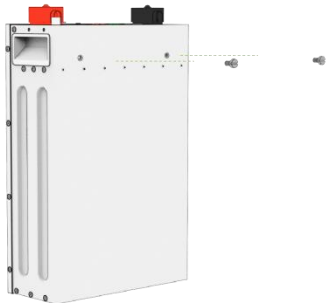
1. Use the wall bracket (provided in accessory package) and mark the screw hole positions on the wall.
2. The bracket must be perpendicular to the ground while drawing the holes.
3. The bottom of the bracket is about 300mm from the ground.
4. According to the position of the mark, 4 holes in diameter 10mm and depth of more than 80mm are hit on the wall with an electric drill, which are used for fitting Hexagon Head Tapping Screw M6.



5. Fix the wall bracket on the wall with M6 Hexagon Head Tapping Screw,twisting force keeps 9.8N·m.



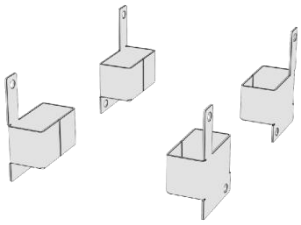
6. As shown in the figure below, lock two M8 step screws to the battery module.Twisting force keeps 11.8N·m.



7. When DL5.0F battery wall hanging installing, pay attention to insert the two screw heads on the back of the chassis into the slot on the wall hanging.

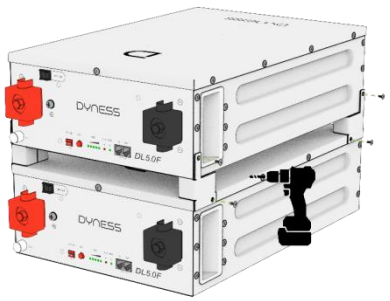
Flexible Brackets Installation(Accessory kits need to be purchased separately):

When stacking DL5.0F, the following accessories need to be added.

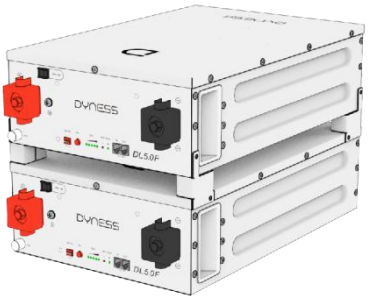


Stacking Bracket ×1

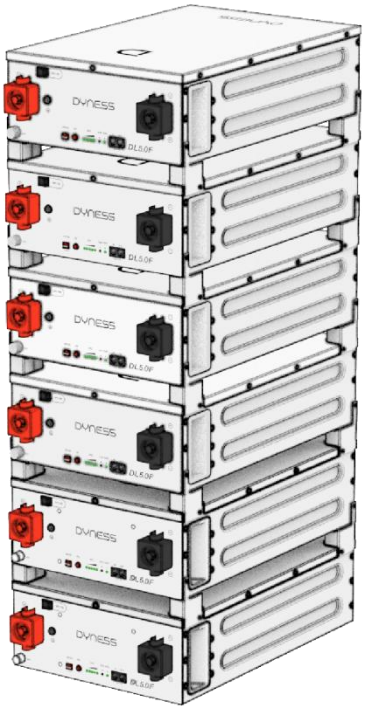
1. Secure the simple stacking bracket using the screws provided on the battery box.



2. 8 screws tightened, stacking completed.

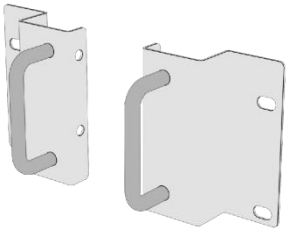


3. For safety reasons, it is recommended to stack up to 6 layers.



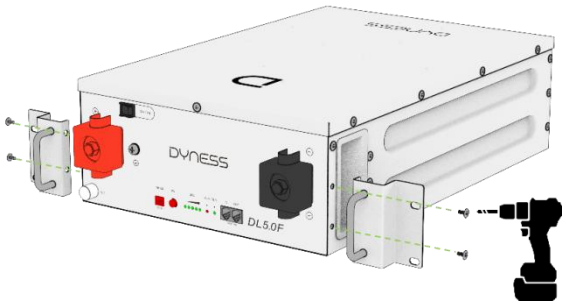
Standard cabinet installation(Accessory kits need to be purchased separately):

When installing DL5.0F in a standard cabinet, the following accessories need to be added.

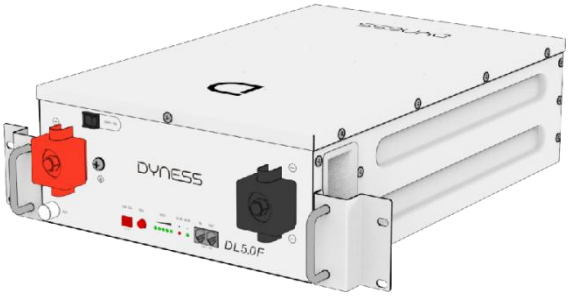


Fixing bracket ×1

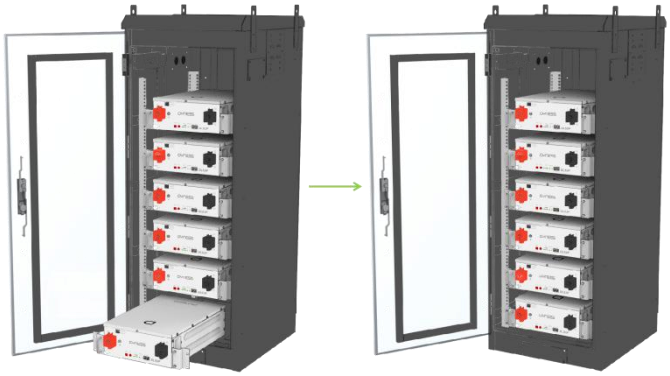
1. Install the fixing bracket using the screws provided on the battery box.



2. 4 screws tightened, installation completed.



3. Push the battery into the standard cabinet, tighten the screws, and the installation is complete.



Electrical installation

Before connecting the power cables, using multimeter to measure cable continuity, short circuit, confirm positive and negative, and accurately mark the cable labels.

Measuring method:

Power cable check: Select the buzzer mode of multimeter and detect the both ends of the same color cable. If the buzzer calls, it means the cable is in good condition.

Short circuit judgment: Choose multimeter resistor file, probe the same end of positive and negative pole, if the resistor shows infinity, means that the cable is available.

After visual testing of power line is connection, the positive and negative poles of the battery shall be connected respectively to the positive and negative poles of the opposite terminal.

It is better to add a circuit breaker between the inverter and the battery system. The selection of the circuit breaker requires:

Voltage: U>60V

Current: I =Inverter power/45V

The circuit breaker is installed between the battery module and the inverter, as shown in Figure 3-4:

CAUTION

If there is any question during installation, please contact your dealer to avoid damage to the equipment.

Table 3-3 Pin Definition(CAN IN)

Foot position	Color	Definition
PIN1	Orange/white	485B
PIN2	Orange	485A
PIN3	Green/white	Reserve
PIN4	Blue	EXT CANH
PIN5	Blue/white	EXT CANL
PIN6	Green	Reserve
PIN7	Brown/white	INT CANH
PIN8	Brown	INT CANL

(CAN OUT)

Foot position	Color	Definition
PIN1	Orange/white	Reserve
PIN2	Orange	Reserve
PIN3	Green/white	Reserve
PIN4	Blue	Reserve
PIN5	Blue/white	Reserve
PIN6	Green	Reserve
PIN7	Brown/white	INT CANH
PIN8	Brown	INT CANL

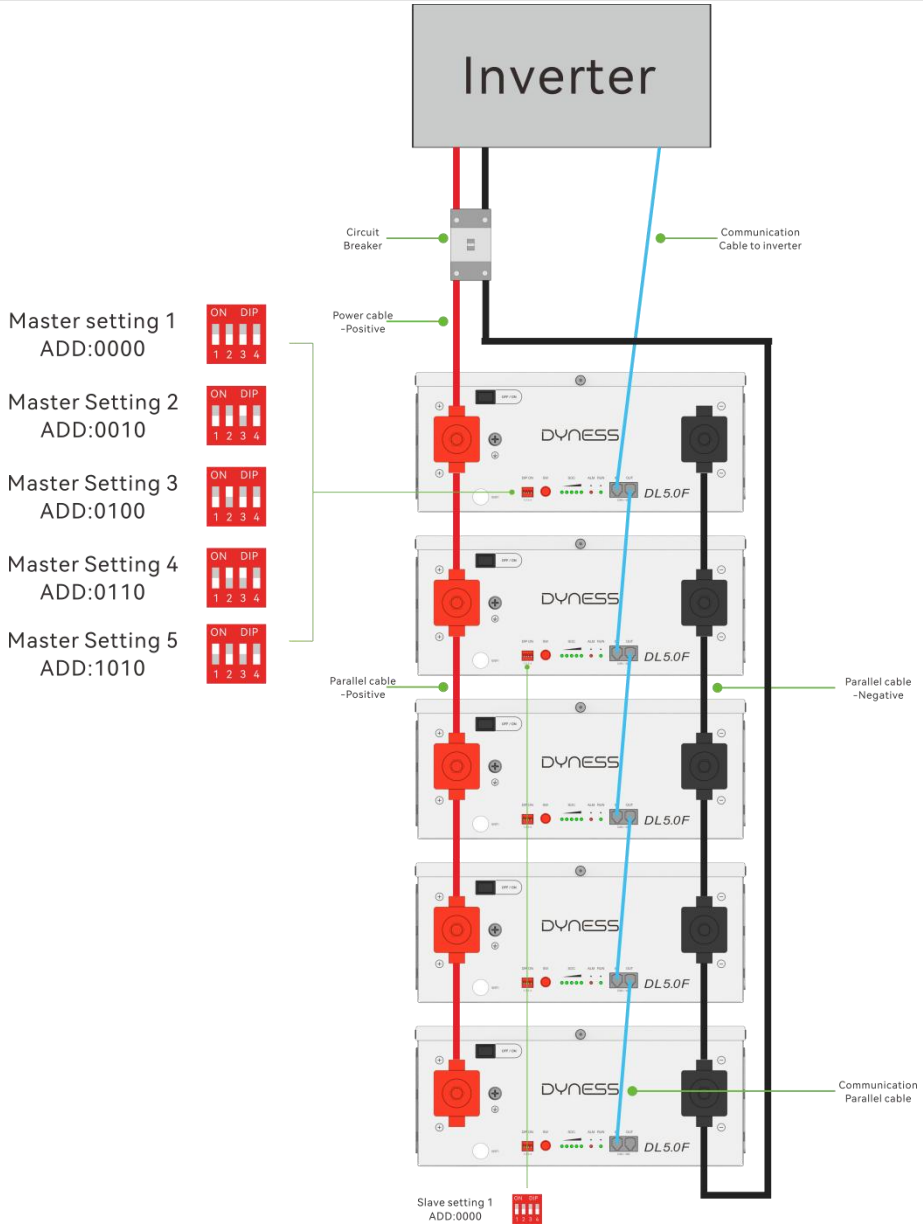


Figure 3-4 Battery Parallel Connection

When the batteries are connected in parallel, the host communicates with the slaves through the CAN interface. The host summarizes the information of the entire battery system and communicates with the inverter through CAN or 485. If the master is the latest battery with DIP switch,For different inverter model, you need to set different DIP mode.

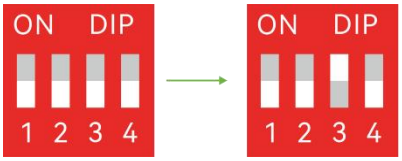
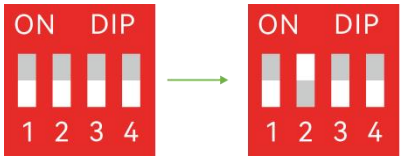
Please refer to Table 3-4 DIP Switch Description.

Battery Module DIP Switch Definition and Description

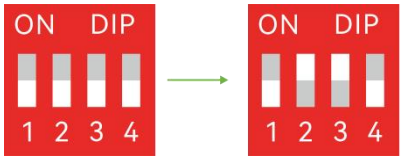
Table 3-4 DIP switch Definition

DIP switch position (master communication protocol and baud rate selection)			
#1	#2	#3	#4
Define different protocols; Distinguish between master and slave			Baud rate selection OFF：CAN: 500K,485: 9600 ON：CAN: 250K,485: 115200

Table 3-5 DIP Switch Description

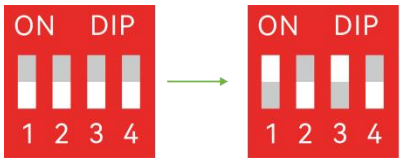
DIP Switch Description
1. When the battery works with Solis、GOODWE、TBB、SAJ、SOLAX, before starting the battery, you no need to change the DIP. Maintain factory mode 0000.  Default setting
2. If the battery communicates with SMA、Victron、Ingeteam、Solplanet、SOFAR、Deye、Hoymiles、APsystems、LUXPOWER、MUST、SOSEN、Afore turn the master DIP switch "#3" to "ON" position.  Master setting 1
3. If the battery communicates with the Axpert-king/VMIII/MAX, Infinisolar, Growatt SPH/SPA(CAN comm), turn the master DIP switch "#2" to "ON" position.  Master setting 2

4. If the battery communicates with the Growatt SPF HVM-P/ES/WPV by RS485 communication, turn the master DIP switch "#2" and "#3" to "ON".



Master setting 3

5. If the battery communicates with the Schneider Conext Series, turn the master DIP switch "#1" and "#3" to "ON".



Master setting 4

6. When you setup the master DIP as setting 1~4, all the slaves keep the DIP 0000, no need to change.

7. If the energy storage system has only one DL5.0F, it is the master itself, and still follow the above steps.

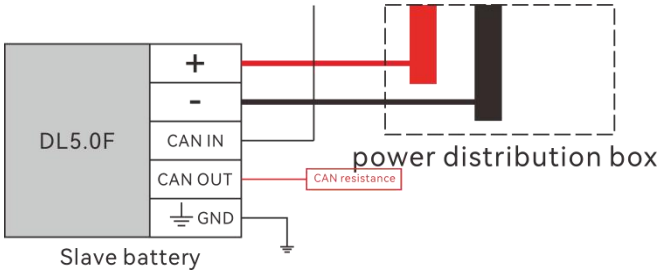
Note: For more information of matching inverter brands, please subject to the latest document<The list of compatibility between Dyness ESS and Inverters >.

CAUTION

- When the battery works with Goodwe, Solis, VICTRON,TBB, SAJ(CAN Comm), SOLAX before starting the battery, You can choose not to replace the DIP switch.Maintain factory mode 0000.

CAUTION

- When the number of parallel machines exceeds 12, CAN resistance needs to be added to the CAN OUT interface of the last battery.Refer to the following diagram.



CAUTION

- Before connection, the positive and negative pole of the inverter input interface and the battery output interface should be confirmed.
- The red power line is connected to the positive pole and the black power line is connected to the negative pole.
- Before connection, it is necessary to confirm the charge and discharge parameters of the inverter interface.
- Voltage and current should meet the requirements of Table 2-2 battery performance parameters.
- Note: For more information of matching inverter brands, please subject to the latest document <The list of compatibility between Dyness ESS and Inverters >.
- The following operations can only be performed after being authorized by DYNESS:
- How to judge that the communication between the product is normal:

  1. If there is communication between the inverter and battery system, it can be judged by the maximum charge and discharge current value on the inverter sent by the battery.

  (The maximum charge and discharge current value displey on the inverter)/(The maximum charge and discharge current value of one battery module)=number of modules

  2.If the equation holds after calculation, it means communication between the DL5.0F is normal.

  3.If the master battery LED flashes yellow, it means the communication between DL5.0F is fault.

Table 3-6 Battery usage recommendations

Equipment Use	Charging	1.The battery's long-term continuous charging current should be ≤0.5C. 2.If the battery remaining capacity is empty, please charge it within 48 hours after the battery is empty.

Discharging	3.The long-term continuous discharge current of the battery should be ≤1C. 4.The recommend maximum depth of discharge (DOD) of Battery PACK is no more than 95%.

Table 3-7 Battery & Inverter Power Matching Table

Power of Hybrid Inverter/Off-grid Inverter	DL5.0F	
	Type	System Energy(kWh)
5KW	1*DL5.0F	5.12
10KW	1~2*DL5.0F	5.12~10.24
15KW	2~3*DL5.0F	10.24~15.36

Battery Parameter Settings on the Inverter

Max Charging(Bulk) Voltage: 57.6V
Absorption Voltage: 56.5V
Float Voltage: 56V
Shut Down(cut off) Voltage: 48V
Shut Down(cut off) SOC: 5%
Restart Voltage: 52V
Max Continuous Charging Current:75A
Max Continuous Discharging Current: 100A

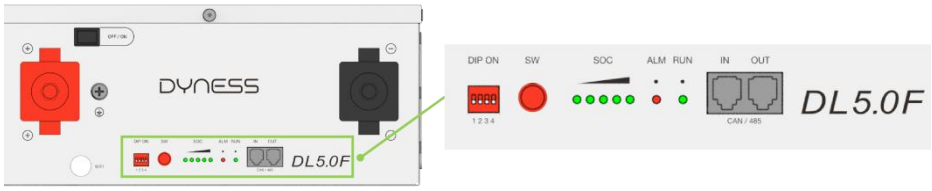
4 Use, Maintenance and Troubleshooting

Battery System Usage and Operation Instructions

After completing the electrical installation, follow the instruction below to start the battery system.

Refer to P25 DIP Switch Description to prepare the battery module before starting up, then press the ON/OFF button to the ON position, press and hold the SW button for 3 seconds.

After the indicator self-test, the RUN indicator will light and the SOC indicator will be on.



CAUTION

- After pressing the wake/sleep button, If the battery status indicator is steady red or blinking yellow, please refer to the "Alarm description and processing". If the failure cannot be eliminated, please contact the retailer timely.

1. Use a voltmeter to measure whether the voltage across the BAT + / BAT- terminals of the inverter is higher than 44.8V, and check whether the voltage polarity is consistent with the input polarity of the inverter. If the voltage across the terminals BAT + / BAT- of the inverter is higher than 44.8V, which means the battery has begun to work normally.
2. After confirm the battery output voltage and polarity are correct, turn on the inverter, close the circuit breaker.
3. Check whether the indicator light for the inverter and the battery connection (the communication indicator and the battery access status indicator) is in normal condition. If normal, the connection between the battery and the inverter is completed. If the indicator light show abnormal, please check the inverter manual or contact the local dealer.

Alarm Description and Processing

When protection mode is activated or system failure occurred, the alarm signal will be given through the working status indicator on the front panel of the DL5.0F. The network management can query the specific alarm categories.

Alarm and countermeasure for affecting system output

If there are any abnormalities affecting the output, such as battery cell in the battery module occurs over-current protection during charge/discharge, under-voltage protection, and temperature protection, in the system, please deal with them according to Table 4-1.

Table 4-1 Main Protection

Statue	Alarm category	Alarm indication	Processing
Charge state	Over-current	RED Buzzer start	Stop charging and find out the cause of the trouble
	High temp	RED	Stop charging
Discharge state	Over-current	RED Buzzer start	Stop discharging and find out the cause of the trouble
	High temp	RED	Stop discharging and find out the cause of the trouble
	Total voltage undervoltage	RED Buzzer start	Start charging
	Cell voltage undervoltage	RED Buzzer start	Start charging

Analysis and Treatment of Common Faults

Table 4-2 Analysis and Treatment of Common Faults

Item	Fault phenomenon	Reason analysis	Solution
1	The indicator does not respond after the power on	Total voltage lower than 35V	Check the total voltage
2	No DC output	Battery data status is abnormal. Battery gets into over-discharged protection	Read the battery information on the monitor.
3	The DC power supply time is too short	Battery capacity become smaller	Storage battery replacement or add more modules
4	The battery can't be fully charged to 100%	Charging voltage is too low	Adjust charging voltage at 56.5V or 57V
5	The power cable sparks once power on and ALM light RED	Power connection short-circuit	Turn off the battery, check the cause of the short circuit
6	Communication fault	The DIP setting of the host is wrong/ the battery type of the inverter is wrong/ Communication cable used incorrectly/The communication cable is incorrectly connected at the batterycommunication port or the inverter communication port/The battery firmware version is too low to support the inverter	Check these possible causes one by one

If you need any technical help or have any question, please contact the dealer in time.

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