



12V LiFePO4 Battery Series User Manual

LFP Magi-C 50



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About this Document

This document describes the installation, electrical connection, operation and commission of 12.8V 50Ah Lifepo4 Battery System (hereafter simply put LFP Magi-C 50). Before installing and operating LFP Magi-C 50, ensure that you are familiar with product features, functions, and safety precautions provided in this document.

1 Product Information

1.1 Battery Overview

The battery is a lifepo4 battery pack uses A-grade lithium iron phosphate (LFP) cells and combines with high-quality accessories. It can be used in camping, RV, ship, small lighting and other scenes and equipment.

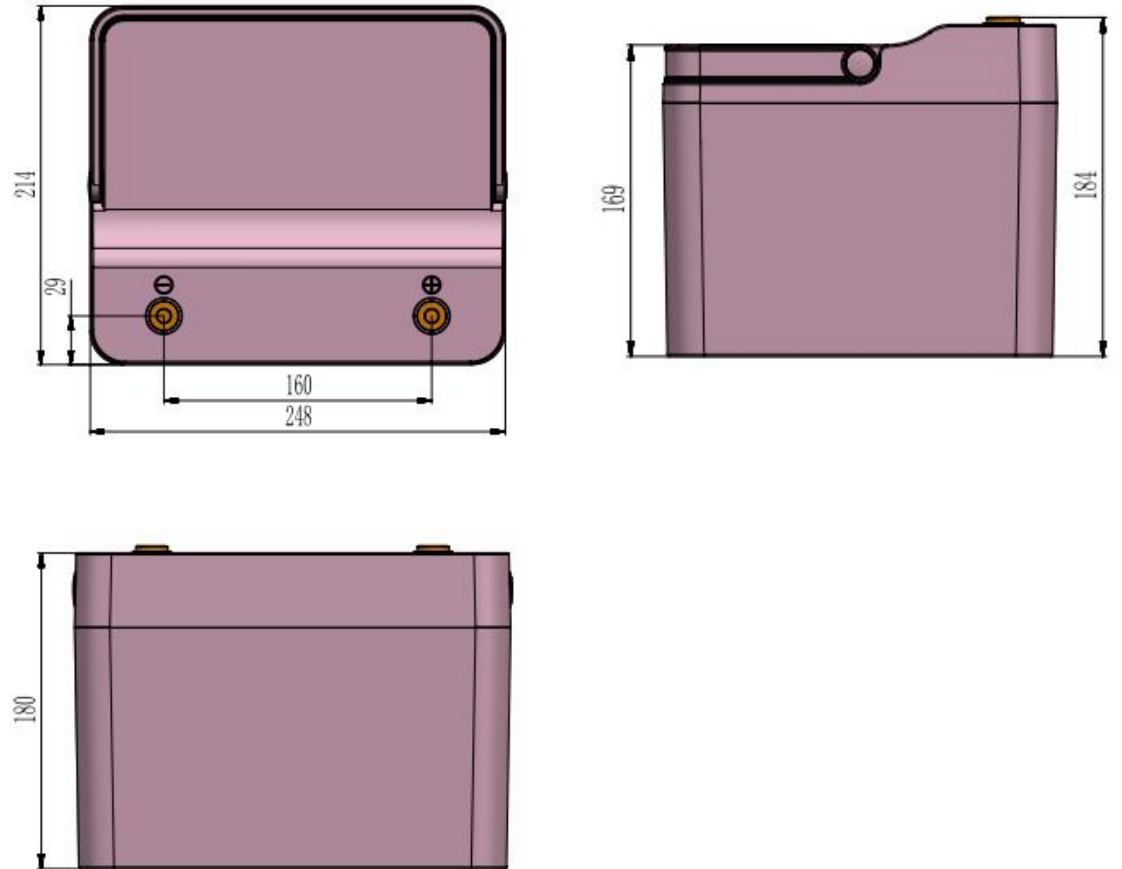
Features

- LiFePO4 cylindrical cell
- > 4000 cycles @0.5C conditions
- Maximum 1C charge and discharge capability
- IP 67 grade
- Support up to 4 series and 4 parallel
- Made of ABC+PC material
- Fully recyclable at the end of life
- Compact

1.2 Appearance



1.3 Dimensions



1.4 Capacity Options

The battery can be connected in parallel and in series to extend power (kW) and energy (kWh).



- The maximum 4 battery packs can be parallel communicated.
- The maximum 4 battery packs can be series communicated.

For example, ONE PACK is 640Wh,

640Wh



1280Wh



2560Wh



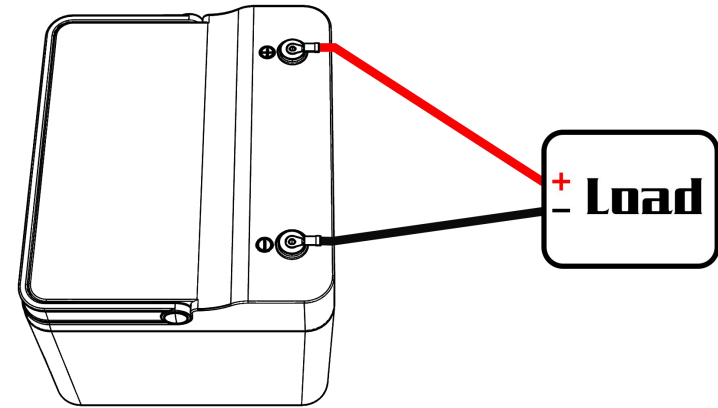
AND MORE Scalable up to 10.24kWh.

1.5 Installation Use

Standalone use

Connect the charging and discharging wires to the battery as shown in the figure. The wire harness end is pressed against the O-terminal of M8, and then fixed with the triple set screws for the M8. The screws must be fully tightened to hold the terminals completely in place. At this point, the positive and negative terminals can be connected to the load and start using the battery.

Users need to choose different wire diameter harness according to different load power. If the load power is higher, using a thinner wire harness will cause the harness to heat up or even fire.



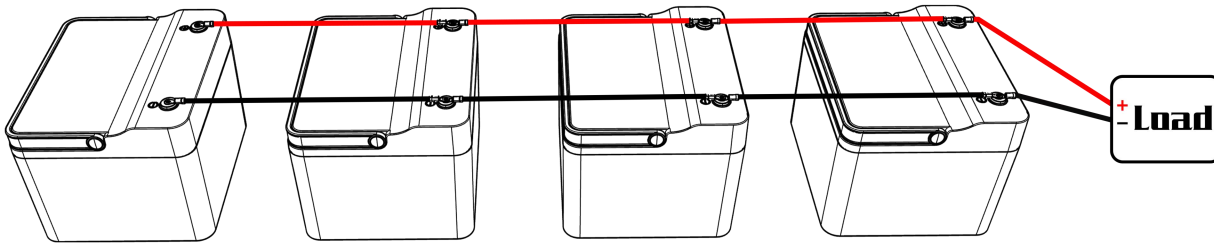
1.5 Installation Use

Parallel use

Before using multiple battery packs in parallel, all batteries must be fully charged individually, and then connected in parallel as shown in the figure below. (Please note: This product supports up to four batteries in parallel)

The wire harness end is pressed against the O-terminal of M8, and then fixed with the triple set screws for the M8. The screws must be fully tightened to hold the terminals completely in place.

Users need to choose different wire diameter harness according to different load power. If the load power is higher, using a thinner wire harness will cause the harness to heat up or even fire.

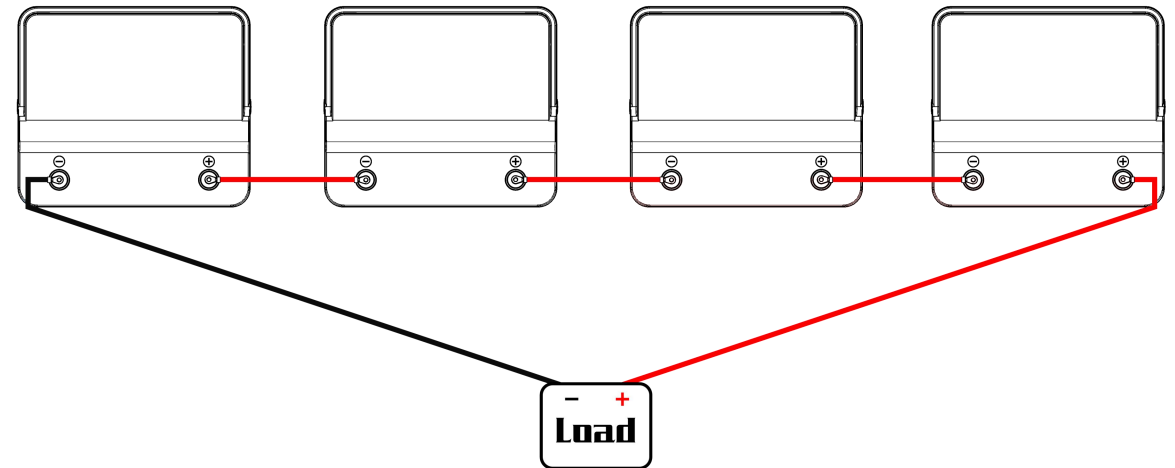


Series use

Before using multiple battery packs in series, all batteries must be fully charged individually and then connected in series as shown in the diagram below. Please strictly follow the wiring diagram and pay attention to the positive and negative pole positions. (Please note: This product supports up to four batteries in series)

The wire harness end is pressed against the O-terminal of M8, and then fixed with the triple set screws for the M8. The screws must be fully tightened to hold the terminals completely in place.

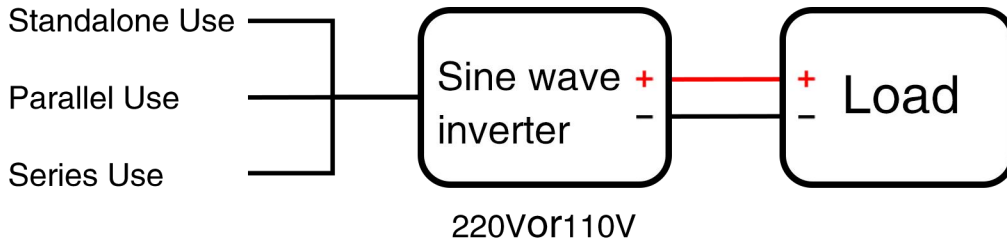
Users need to choose different wire diameter harness according to different load power. If the load power is higher, using a thinner wire harness will cause the harness to heat up or even fire.



1.5 Installation Use

AC output use

When the battery needs to provide AC power to household appliances and other equipment, it is necessary to confirm whether the rated power of the device matches the rated power of the battery pack (the overall power of the battery pack can be adjusted by means of series and parallel connection), and then connect the sine wave inverter that meets the rated power. Finally, connect the device to the inverter to obtain AC power.



Bluetooth function (Bluetooth version battery)

- Mobile phone APP to download.



Android Setup version download



Apple APP Customer Edition Download




2 Safety Information

2.1 General Safety

Please carefully read the manual safety precautions, and observe all the safety instructions on the equipment and in this document.

The "DANGER" , "WARNING", and "NOTICE" statements in this document do not cover all the safety instructions. They are only supplements to the safety instructions.

For user safety and utilization efficiency of this manual, a list of symbols are designed to alert people from danger. You must understand and comply with the emphasized information to avoid personal injury and property damage. Relative safety symbols have been listed below.

 Danger	DANGER indicates a hazardous situation which, if not avoided will result in serious injury and fire.
 Warning	WARNING indicates a hazardous situation which, if not avoided will result in property loss or void warranty.
 Notice	NOTICE indicates normal situation which, if not avoided will result in that battery doesn't work.

Follow local laws and regulations when installing, operating, or maintaining the equipment. The safety instructions in this document are only supplements to local laws and regulations.

2.2 Personal Safety

Personal Requirements

People who plan to install or maintain battery equipment must be trained, understood all necessary safety precautions, and are able to perform all operations correctly.

Only qualified professionals or trained people are allowed to install, operate, and maintain the equipment.

Personal Safety



- Do not place battery at a children or pet touchable area.
- Do not touch the energized battery, as the enclosure is hot.
- Do not touch the energized battery terminals.
- Do not stand on, lean on, or sit on the battery.

2.3 Electrical Safety

Symbols on Battery

There are some electrical symbols on battery relate to electrical safety. Please make sure you have fully understand them before installation.

	Electrical danger	Voltage exits when the battery is powered on. Only qualified engineers are allowed to operate.
	Earth connector	Earth connection.
	DC positive and negative connectors	Identify positive and negative connectors of DC power source.
	CE mark	The product meets CE certification.
	WEEE tag	Can't leave battery as garbage disposal.
	Recycle	Battery can be recycled.

2.3 Electrical Safety

Electrical Safety



- Before installation, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.
- Do not connect or disconnect power cables when battery is power-on. Which may cause electric arcs and sparks more overfire or personal injury. Before connecting a power cable, check the positive or negative connectors are correct.
- Different batteries should not be connected in parallel.
- Do not connect battery with AC directly.
- Do not connect battery with PV wiring directly.
- Do not connect battery to faulty or unqualified inverter or charger.
- Do not create short circuits with the external connection.
- Make sure the grid is cut off and the battery is powered off before maintenance.
- Make sure the earth cable is connected correctly.



- Recharge battery in every three months.
- Recharge battery within 10 days after battery is fully discharged.
- Please engage greater than or equal to two batteries when maximum charge current is more than 50A.
- Make sure battery cable placement is installed correctly.
- When the battery is being installed or repaired, make sure the battery is powered off and using a multimeter to make sure there is no voltage in the positive and negative terminals.

2.3 Electrical Safety



- Please use dedicated insulated tools for install and maintenance.
- Please make sure all batteries are power-off when multiple parallel connection.
- Please check lights on sequence when battery power-on.
- Please make sure communication connection connect correctly with battery and inverter.
- Please make sure ADDS dip switch settings are correctly for single or multiple batteries.
- Please check inverter alarm or SOC reading when there is BMS communicated with inverter.

Environment Safety



- Ensure that the equipment is installed in a dry and well-ventilated environment.
- The installation position must be away from direct sunlight and rain.
- The installation position must be far away from fire sources.
- The installation position must be far away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
- The bracket must be installed solidly and horizontally.
- Do not expose the equipment to flammable or explosive gas or smoke.
- Do not perform any operation on the equipment in such environments.
- The operation and service life of the battery depends on the operating temperature. Operate the battery at a temperature equal to or better than the ambient temperature. The recommended operating temperature range is from 0°C to 30°C.

2.4 Transportation Safety



- The products passed certification UN38.3.
- The products have MSDS.
- The products belong to class 9 dangerous goods.
- Please protect the packing case from the below situations.
- Being dampened by rains, snows, or falling into water.
- Falling or mechanical impact.
- Being upside-down or tilted.

3 Attentions

- Please read these safety instructions carefully before use
- Please keep these installation instructions for future reference
- Avoid short-circuiting the battery. A short circuit can produce a very high current and cause injury to equipment and personnel.
- Dropping, bumping, bending, etc. may reduce the performance of the battery.
- The battery is fixed in the mobile equipment, should prevent the wire due to long-term friction, resulting in the risk of short circuit of broken insulation.
- The installation of the battery should have enough space, prohibit extrusion, collision battery.
- The environment where the battery is used should be as dry, clean and ventilated as possible.
- When the battery is not in use, it should be charged to more than 50% of the power. The positive and negative poles of the battery should be well insulated. Store at room temperature. If stored for a long time, the battery should be fully charged once every three months to prevent battery failure caused by self-discharge.

4 Specifications

Model	LFP Magi-C 50
Usable Capacity	640Wh
Nominal Voltage	12.8V
Nominal Capacity	50Ah
Discharge Voltage Range	10-14.6V
Max. Charging Current	50A
Recommended charging Current	25A
Max. Discharging Current	50A
Recommended discharge Current	25A
Max. Output Power	640W
Shell Material	ABS+PC
Modules Connection	Max. 4*4
Communication	Bluetooth
Cycle Life	> 4000 (0.5C 25°C)
Working Temp. Range	-10°C~60°C
Storage Temperature	-10°C~35°C
Certifications	UL/CE/UN38.3/IEC62619
Net Weight	5.6kg
Product Dimension	250*214*180mm
Protection	IP67