Pytes

Quick Installation and Operation Guide

LFP Battery
(Low Voltage)

V5°α Plus

Information Version: 1.8
Release Date: 07, July 2025

Support Contact Information

In case of any technical issues with Pytes products,

please contact us at:

ess_support@pytesgroup.com

Version: 1.8, july 2025

Subject to change without notice.

For the Pytes V5°α Plus – Complete User Manual,

scan the QR code:

Note: This quick guide briefly describes required installation steps. Please refer to the User Manual for more detailed information.

Before Using

Warning

1. This equipment may only be installed, operated and maintained by qualified skilled person(electrician).
2. The local safety regulations and relevant operating procedures must be observed during the installation,operation and maintenance of the equipment, otherwise the equipment may get damaged. The safety precautions mentioned in the manual are only the supplement to local safety regulations.

Danger

1. Keep the Li-ion battery away from water, dust and contamination, otherwise it may cause explosion or other harmful conditions that may even lead to personal injury.
2. Do not short-circuit the Li-ion battery.
3. Observe the positive (+) and negative (-) marks on the Li-ion battery and equipment and ensure correct use. Do not reverse the Li-ion battery.
4. Do not dismantle, crush, puncture, open or shred the Li-ion battery.
5. Before removing or reconnecting with the running system, the power must be off and the system should be shut down, otherwise there will be risk of electric shock.
6. Do not expose Li-ion battery to heat or fire. In case of fire, please use dry powder fire extinguisher.
7. Do not dismantle any part of the system without contacting PYTES or PYTES authorized technical engineers. System failure caused by such will not be covered by the warranty.
8. Before operating inverter, make sure that all batteries have been started up.

Caution

1. Do not dispose of batteries in fire. The batteries may explode.
2. Do not open or mutilate batteries. Released electrolyte can prove harmful to the skin and eyes. It may be toxic.
3. A battery can present a risk of electric shock and burns by high short-circuit current.
4. A malfunctioned battery can reach temperatures that exceed the threshold of contact surface.

The following precautions should be observed when working on batteries:

a) Disconnect the power and loads before connecting or disconnecting battery terminals;
b) Do not wear any metal objects including watches and rings;
c) Use tools with insulated handles;
d) Do not lay tools or metal parts on top of batteries;
e) Wear personal protective equipment.
f) Make sure the battery is well grounded.

Contact with any part of a poorly grounded or ungrounded battery can cause electric shock and burns by high short-circuit current.

The risk of such hazards can be reduced if conductive surroundings are removed by a skilled person during installation and maintenance.

The battery should be charged within 12 hours when it's fully discharged or over-discharging protection mode is activated. Fail to follow this instruction will damage the battery and is not covered by warranty.

This symbol on the product means: Do not dispose of this product with general household waste. Consult your local regulations for proper disposal instructions.

Safety and Handling Instructions

Read this entire document before installing or operating the Pytes V5°α plus Battery (referred to as the “Battery”). Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or may damage the Battery and other property.

Optimize Battery Performance

1. Battery life is the amount of time your battery runs before it needs to be recharged.
2. Battery lifespan is the amount of time your battery lasts until it needs to be replaced.
3. Maximize both and you’ll get the most out of your battery.

Avoid Extreme Ambient Temperatures

1. V5°α plus is designed to perform well in a wide range of temperatures, with Charge: 0°C~45°C (32°F~113°F)
2. Discharge: -10°C~50°C(14°F~122°F) as the ideal comfort operation zone.
3. It’s important to avoid exposing your battery to ambient temperatures higher than 50°C(122°F).

Avoid Over-Discharging

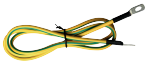
1. Over discharge will permanently damage battery capacity and is not covered by warranty.
2. Under certain circumstance, battery will be over-discharged.
3. When it's an open loop, it is essential to set 49V as the value of low battery cut out voltage.
4. When it's a closed loop, it is essential to set low battery SOC and shutdown SOC on inverter, of which 20% and 10% are the recommended values.
5. Inverter will alarm when battery is below the low battery SOC value and will shut down when battery is below shutdown SOC value.
6. Scan the QR code for inverter setting guidance to avoid over-discharging your batteries.

What's in the Package

V5°α Plus

Power Cable×1set

Spare RJ45 Connector



Earthing

Communicate Cable×1

Note: The difference between the V5° and V5°α lies in the power terminal: the V5° uses a Phoenix terminal, while the V5°α features an Amphenol terminal along with dedicated power cables for battery parallel connections.

Required Personnel and Tools

Qualified Installer

Pliers

Drill

Wrench

Insulating Tape

Screw Driver

Multimeter

Ammeter

Wire Stripper

Temperature Gun

Only trained professionals in the power system with a good knowledge of the power system is allowed to install the device.

Installation Prerequisites

1. Keep the product away from heat sources, flammable materials, and explosive substances.
2. Avoid direct sunlight to prevent overheating or damage.
3. Install in a restricted area where children and pets cannot access it.
4. Place the product on a flat, level surface to ensure stability.
5. Do not install in areas with standing water or excessive moisture.
6. Minimize dust and dirt in the installation area for optimal performance.
7. Maintain a minimum distance of 0.5 meters from power conversion system (PCS).
8. Ensure fire extinguishers or other fire-fighting equipment are available nearby.
9. Always power off the battery before performing any maintenance or adjustments.

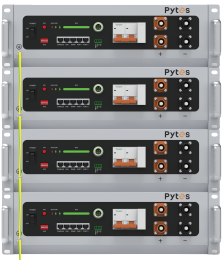
Before installing or removing the battery, make sure that the system is disconnected from any power source and that the battery device is turned off.

1. Connect Ground Cable

Single Battery

To Home Ground Connection Point

Multiple Batteries



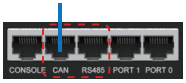
To Home Ground Connection Point

⚠ **The grounding resistance should be less than 0.1Ω.**

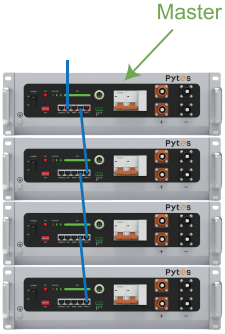
2. Connect Communication Cable

Single Battery

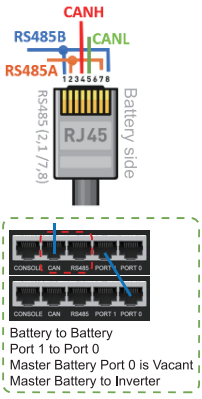
Custom comm cable* from V5°α Plus CAN/RS485 port to Inverter



Note:
1. The master Link Port 0 must be kept free;
2. The end slave Link Port 1 must be kept free;
3. Make sure pin configuration of communication cable (battery & inverter) is correct (refer to manual);
4. The Communication between batteries require basic RJ45 cable.



Multiple Batteries



Single battery: Choose port to be inserted according to the communication protocol (RS485/-CAN) between the battery and ESS inverter, then insert the communication cables to the port;
Multiple batteries: The master and the slave communicate in cascade mode: one is the host and the rest are the slaves. Please refer to the following picture for the cascade connection.

Note: From Battery CAN or RS485 Port depends on inverter communication type to Inverter BMS port.

⚠ **The system may not be able to communicate if not followed the instruction.**

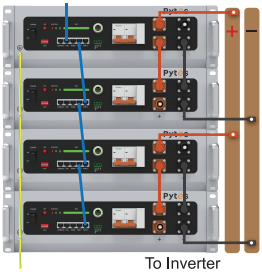
3. Connect Power Cable

Single Battery

To inverter Battery port +

To inverter Battery port -

Multiple Batteries



To Inverter Battery Port +ve

To Inverter Battery Port -ve

Note: Use Power cable provided with accessories to connect batteries.
Note: For battery safety add an external Breaker (determined by inverter current) between battery and inverter.

Single battery: Connect the positive and negative poles of the battery to the positive and negative terminal of the DC port of the energy storage inverter (or the junction box).

Multiple batteries: The connection of several batteries is only permitted in parallel. Firstly, connect the positive poles with the red cables, and connect the negative poles with the black cables. Next connect the positive and negative poles of the battery to the positive and negative poles of the DC port of the hybrid inverter (a storage device or the junction box).

Note: If you connect more than three batteries in parallel, make sure you use a bus bar with the correct rating to handle the total current.

Batteries connected in series are forbidden, high voltage would lead to hazard shock.

The battery must be placed in a locked cabinet or room, and a 5cm cooling gap.

4. Set DIP Address

Single Battery: Set the DIP switch, based on the inverter installed.

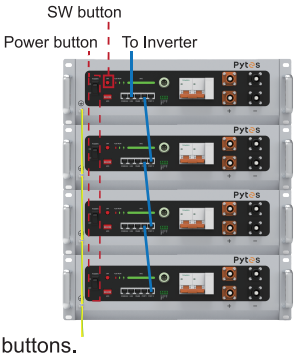
Single Battery: Set the DIP switch on Master Battery only, based on the inverter installed.

DIP Addresses

Solark		Victron		Solis		Deye	
Luxpower		Goodwe		Growatt		SMA	
Megarevo		Afore		Phocos		Voltronic	
SRNE		MUST		Studer		Hoymiles APsystem	

Note: If you change battery DIP switch while battery is running you need to restart otherwise it won't communicate.
Note: White mark denotes the switch position, select relevant DIP switch address according to your inverter.

5. Power on the Battery System



Starting Procedure

1. Turn on DC breaker of all batteries.
2. Turn on all power button.
3. Only press SW button of master battery for 1 second.
4. Wait 3 seconds for running light of every battery flash one by one.
5. Battery system is working properly now.

Shut down Procedure

1. Only press SW button of master battery for 3 seconds.
2. Turn off all power button.

Please wait for all battery lights to go out before turning off the power buttons.

3. Turn off DC breaker of all batteries.

Note (For single battery): you need to do same steps for single battery system.
Note: Make sure that all batteries have been started, then power on the inverter. To avoid battery shock by the in-rush current of the large capacitors of the inverter.
Note:If you connect more than three batteries in parallel, make sure you use a bus bar with the correct rating to handle the total current.

Do not discard this document! After installation, keep it adjacent to the Battery for future reference!

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