

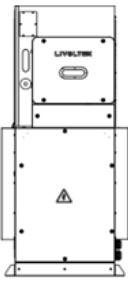






# Quick Installation Guide

## Energy Storage System

BHF-X60



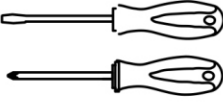
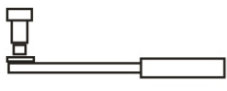




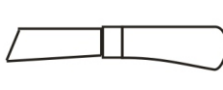
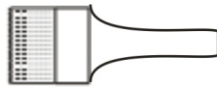


I

Packing List

 ESS Device*1	 PV Pin Connector*6 pairs	 OT Terminal*10	 Expansion Bolt*4
 Grid & Backup Loads Cable * 1 pair	 Wi-Fi Dongle*1	 Documents	
<p><b>⚠ Notice:</b> Please check to ensure that the packaging is intact and that all parts are present and undamaged upon receiving the goods.</p>			

II

Preparation Tools

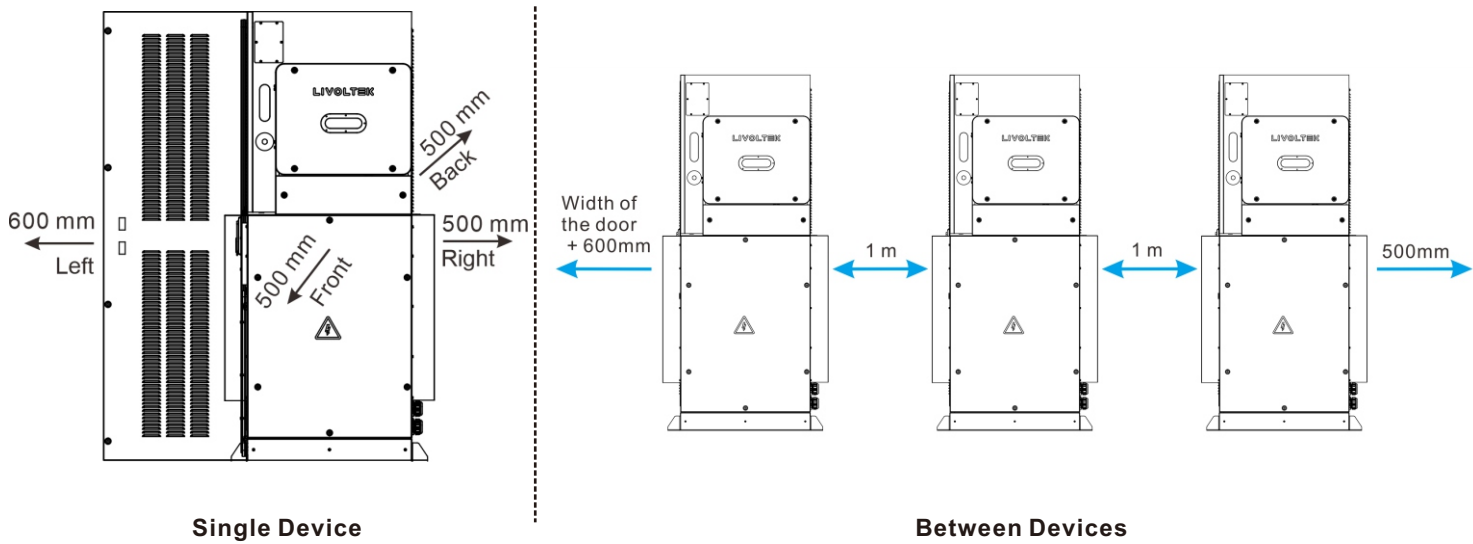
 Clamp current meter	 Multimeter	 Cross screwdriver Straight screwdriver	 Socket spanner	 Adjustable spanner
 Wire crimper	 Diagonal pliers	 Wire stripper pliers	 Knife	 Brush
 Hydraulic press	 Zip ties			

**Notice:** The pictures above are for reference only. Please select the proper tools based on specific needs.

III

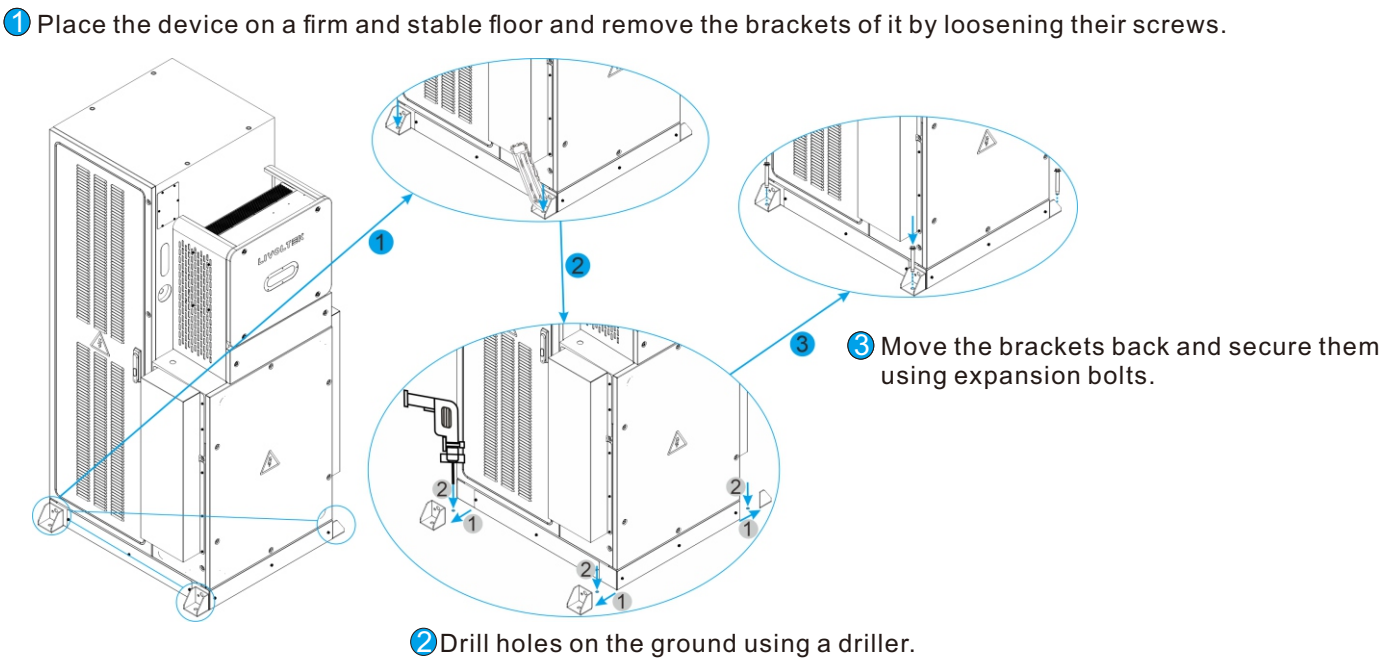
Installation

Clearance Requirements



III

Installation

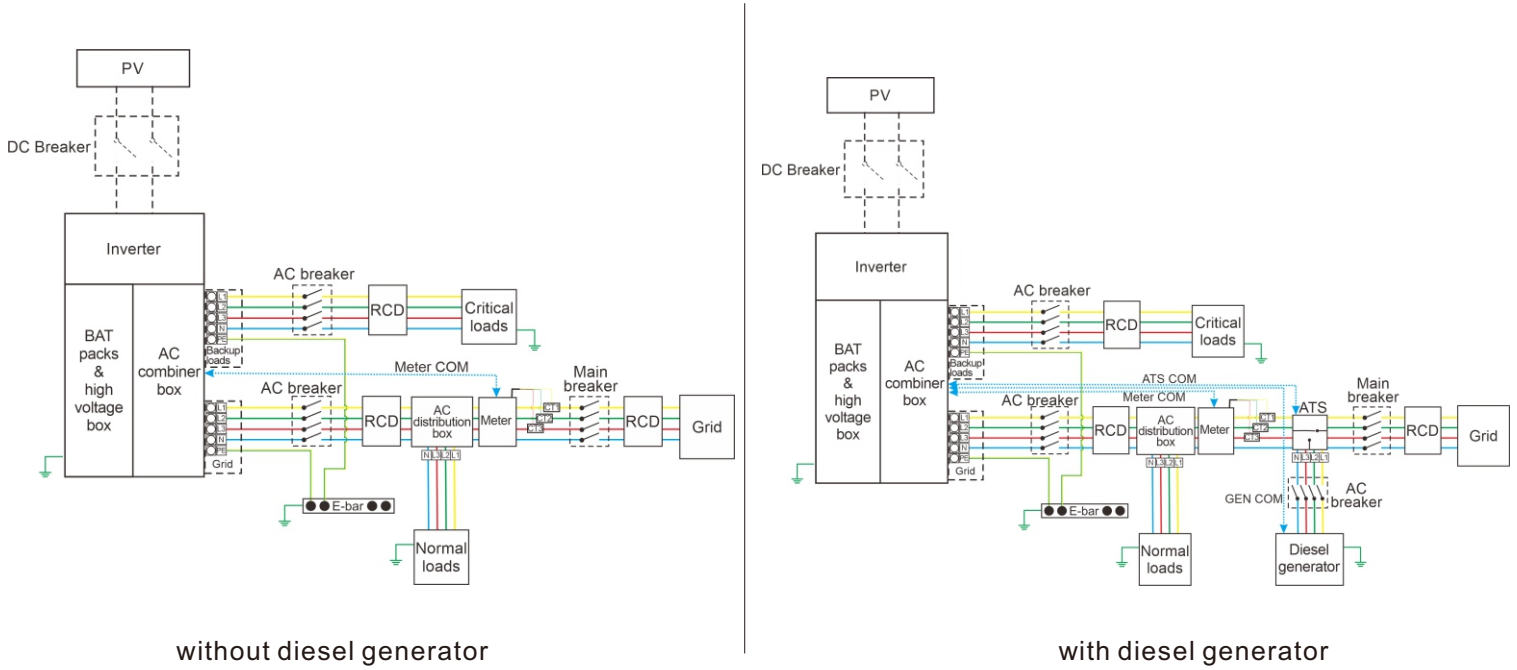


Tips: Use a marker to determine where to drill holes

IV

Wiring Diagram

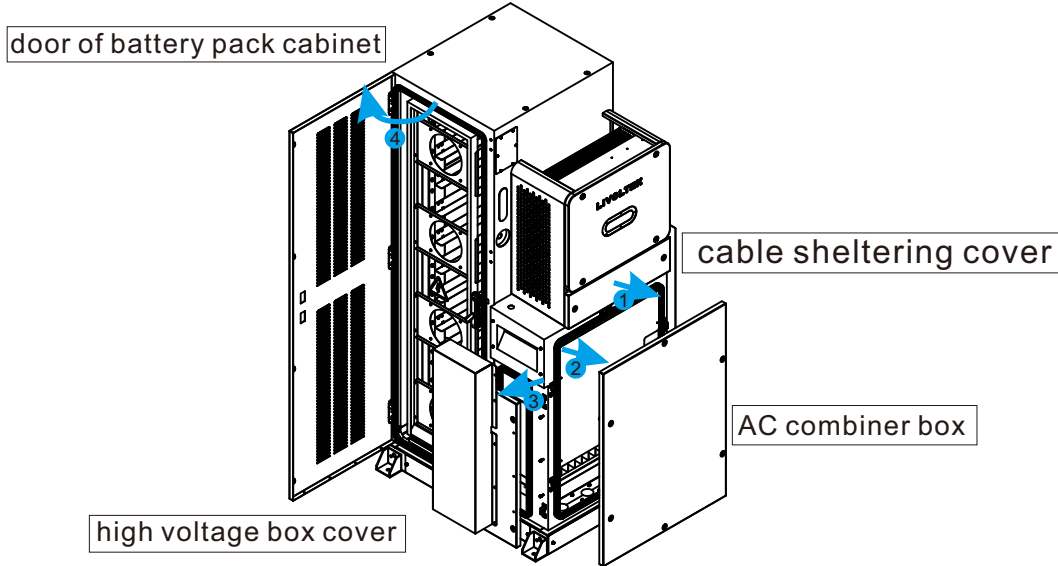
Wiring Diagram



V

Wiring Preparation

**Step1.** Open the following covers as shown in the picture below.



**Step2.** Prepare the following materials:

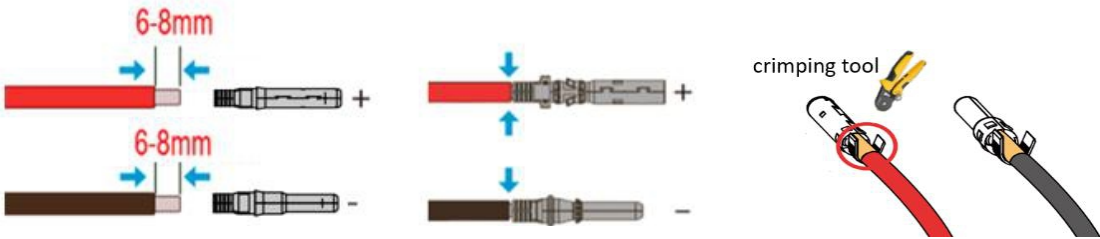
PV cable	Breaker	Corrugated Pipe	Backup loads cable	Grid cable
4-6 mm <sup>2</sup> /10-12 AWG	1100V/25A (Single string MPPT)	diameter < 50 mm	L1/L2/L3*50 mm <sup>2</sup> , N*25 mm <sup>2</sup> , PE*16 mm <sup>2</sup>	

VI

PV Wiring

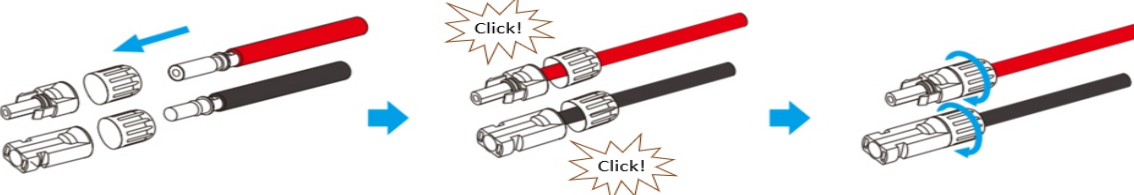
Steps

**Step1.** Strip the insulation of PV cables by 6-8 mm.



**Step2.** Insert the cables to the connector and crimp it tightly.

**Step3.** Insert the connector through the gland and into the pin terminal.



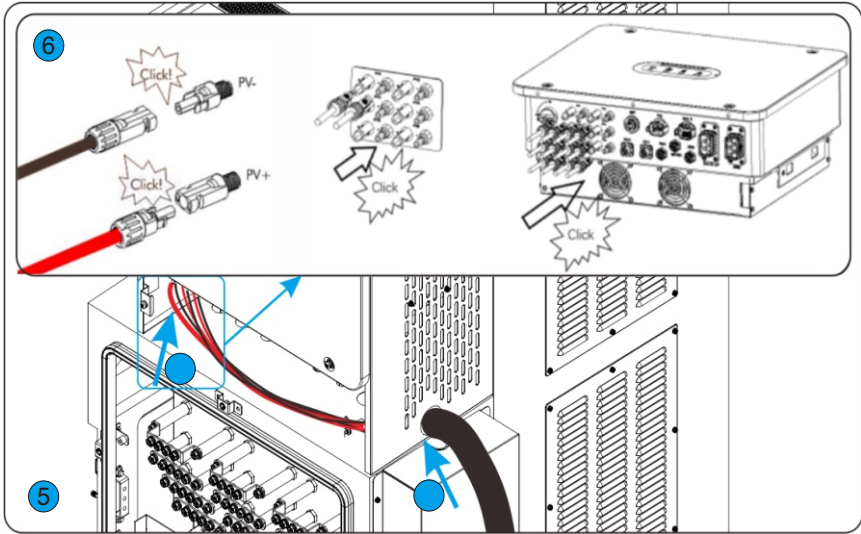
**Step4.** Tighten the pin terminal by twisting the gland.



## VI

## PV Wiring

**Step5.** Thread the PV cables through the wiring inlet on the device.



**Step6.** Connect the connectors to the PV pin terminals.

**Step7.** Seal the unused PV terminals with the terminal caps.

### Notice

- Do not connect the AC circuit breaker before finishing electrical connection.
- The HP3-30KT2 inverter is designed with 3 MPPT trackers, if the inputs of the PV panels are paralleled, please consult with your local distributor for technical support.



## VII

## Grid and Backup loads cable Wiring

### Steps

**Step1.** Clear the cable inlets by removing the swivel nuts and the waterproof plugs inside the nuts.

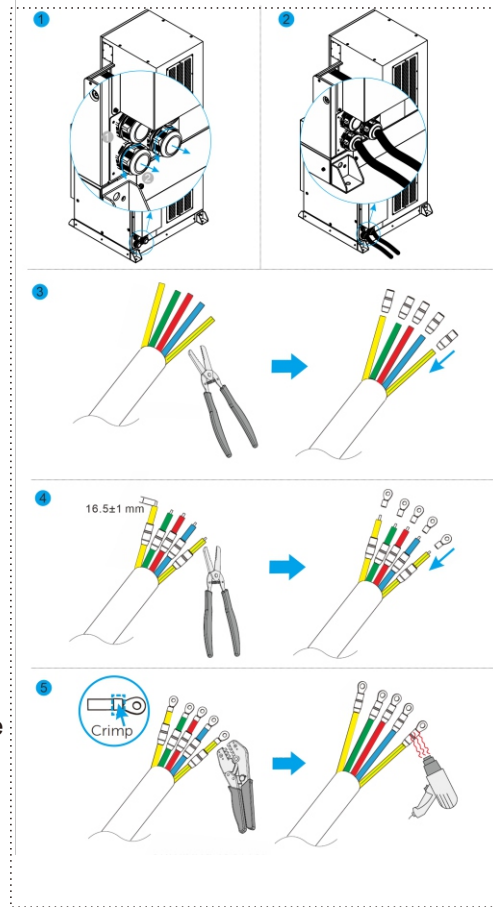
**Step2.** Thread the grid and backup loads cables into the device through the inlets.

**Step3.** Strip the two cables to a proper length to expose the L1/ L2/ L3/ N/ PE cables inside, then slide heat-shrink tubes over them.

**Step4.** Strip the L1/ L2/ L3/ N/ PE cables to a length of  $16.5 \pm 1$  mm, then secure them to the OT terminals using a crimp plier.

**Step5.** Slide the heat-shrink tubes close to the OT terminals and secure them by blowing with a heat gun.

**Step5.** Connect the L1/ L2/ L3/ N/ PE cables to terminals inside the AC combiner box accordingly.



## VIII

## Diesel Generator Communication Wiring (optional)

### Steps

**Notice:** An ATS is necessary for adding the diesel generator.

**Step1.** Connect the grid cable from the AC combiner box to the PCS Grid terminal on ATS.

**Step2.** Connect the power cable of the diesel generator to terminals on ATS.

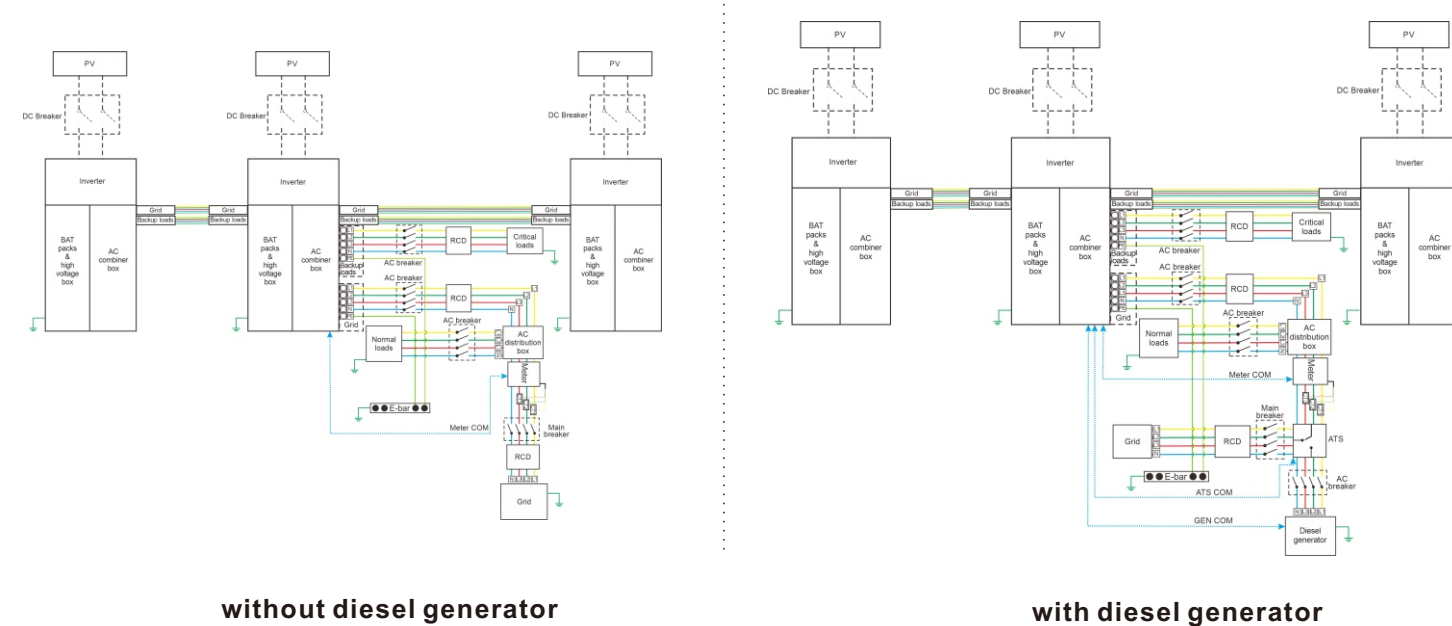
**Step3.** Connect the communication cable from the GEN feedback terminal inside the AC combiner box to the diesel generator communication terminal.

**Step4.** Connect the communication cable from the ATS feedback terminal on the AC combiner box to the ATS communication terminal.

## IX

## Parallel Communication Wiring

### Wiring Diagram



### Notice

- Parallel communication can only be achieved with exactly 3 devices.
- Prepare a Livoitek PSD1000 WiFi dongle and connect it to the battery cabinet in advance.
- Pay attention to device distances as Grid and Backup loads cables are only about 5 meters long.

## X

## Meter Communication Wiring

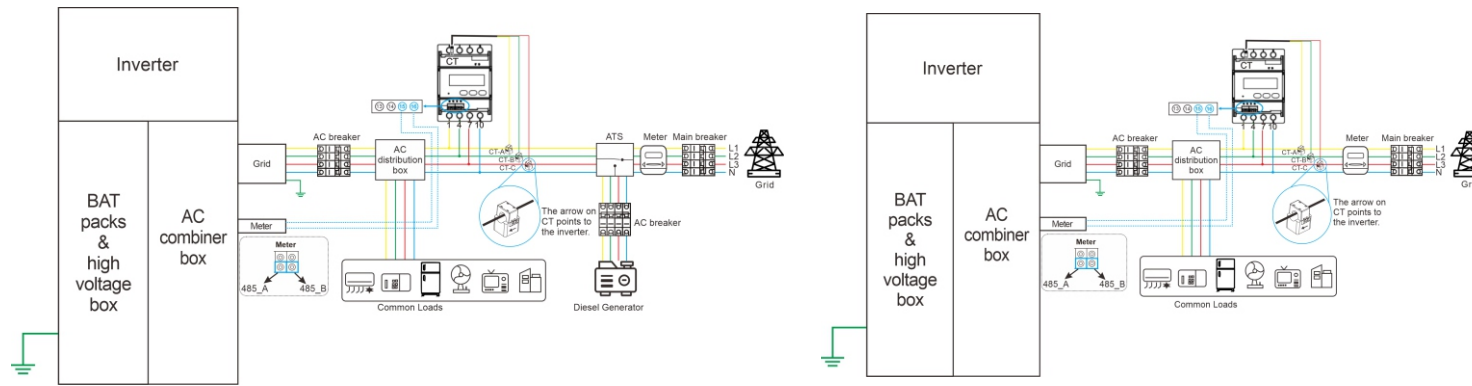
**Notice** Install the meter between the AC distribution box and the ATS when the diesel generator is connected. Otherwise install it between the AC distribution box and the grid.

### Steps

**Step1.** Thread the communication cable through the inlet at the right side or at the bottom of the AC combiner box

**Step2.** Strip both ends of the cable at both ends

**Step3.** Connect one end of the cable into the 485\_A & 485\_B pin of the Meter terminal block inside the AC combiner box and the other end to the pin 15 and 16 on the meter.



## XII

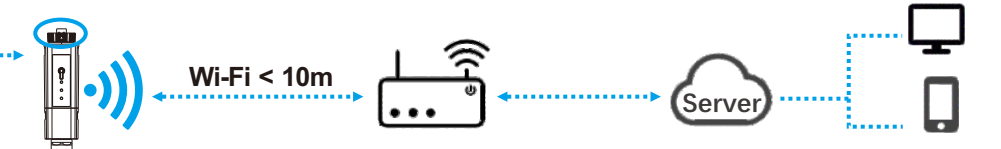
## Wi-Fi Configuration

### Materials Preparation

- LIVOLTEK PSD300 Wi-Fi Logger

### Caution

For safety reasons, please power off the device before connecting the Wi-Fi logger to it.

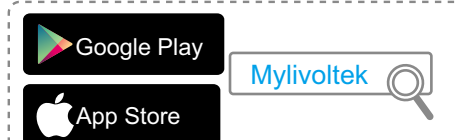


'My Livoitek' is a platform to communicate with your device via Wi-Fi, you can login on our web (link as below) on your computer, also you can scan the QR code to download the APP on your phone.

APP: Search for 'My Livoitek' on Apple App Store, Google Play.

Web Link1: <https://www.livoltek-portal.com/>  
For Asia, Latin American, Australia and others.

Web Link2: <https://evs.livoltek-portal.com/>  
For Europe, Middle East Regions, Africa.



My Livoitek

Download

## XI

## System Operation

### Poweing On System

- Step 1:** Powe on the Grid;  
**Step 2:** Power on the Battery;  
**Step 3:** Power on the PV;  
**Step 4:** Switch on the loads;  
**Step 5:** Configure the Wi-Fi stick;  
**Step 6:** Self-test in accordance with CEI 0-21 (Italy Only).

### Poweing On System

- Step 1:** Turn off the loads.  
**Step 2:** Turn off the PV.  
**Step 3:** Turn off battery.  
**Step 4:** Turn off the main grid switch.  
**Step 5:** Wait for at least 10 minutes after the LED and graphical display black out for the internal circuits to discharge energy.  
**Step 6:** Disconnect all the power cables.  
**Step 7:** Disconnect all the communication cables and remove the Wi-Fi stick.

### Indicator Description

	Indicator	Status	Description
Inverter	SYS	Steady On	System Normal
		Steady Off	System Off
		Fast Blinking	System Upgrading
		Slow Blinking	System Standby/Starting
		Steady On	Meter & Dongle Online
	COM	Steady Off	Meter & Dongle Offline
		Fast Blinking	Meter Offline/Inverter Upgrading
		Slow Blinking	Dongle Offline
		Steady On	Battery Connected
		Steady Off	Battery Disconnected
ESS	BAT	Fast Blinking	Battery Low/Upgrading
		Slow Blinking	BMS Communication Exception
		Bars Increasing	Charging
	FAULT	Bars Decreasing	Discharging
		On	System Failure
	PV	Off	System Normal
		Blinking	EPS Port Overloaded
	PV	ON	PV Connected
	GNE	ON	ATS Connected to Diesel Generator
	GRID	ON	ATS Connected to Grid
	BAT	ON	Battery Connected