



SwitchBox

User Manual



EN Version: V1.1

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1

About the Manual

This manual describes the important knowledge and skills required to use the SwitchBox, and it is recommended that the user read the entire manual. The manual describes in detail the installation process and how to use the system. Please contact the manufacturer for technical support if the manual is not clear, or if you encounter problems in actual operation and maintenance that are not adequately covered in the manual.

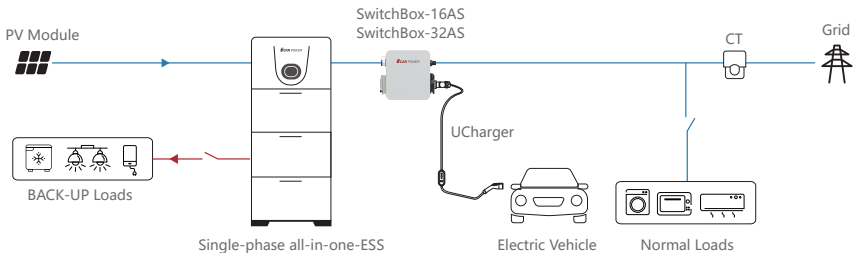
2 Product Introduction

The SwitchBox provides a fast transfer solution for fast and secure connection of grid-connected and EV charging cables respectively, with enhanced protection against breakage at the EV charging end for faster charging. The box can also be plugged and unplugged from the charging gun via a customised aerial connector to increase current carrying capacity for fast and safe charging.

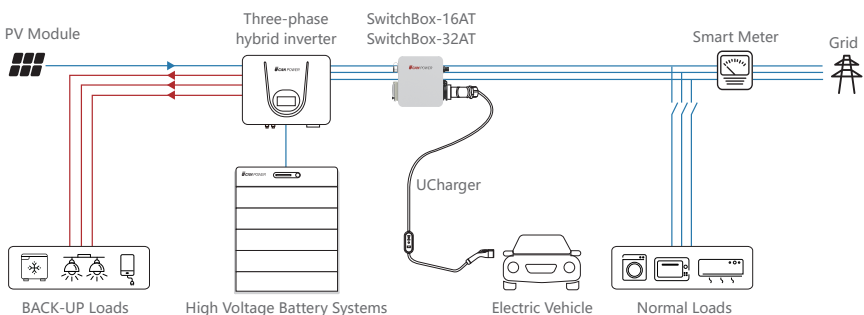
2.1 Models

The SwitchBox series includes 4 models which are listed below:
SwitchBox-16AS, SwitchBox-32AS, SwitchBox-16AT, SwitchBox-32AT

2.2 System

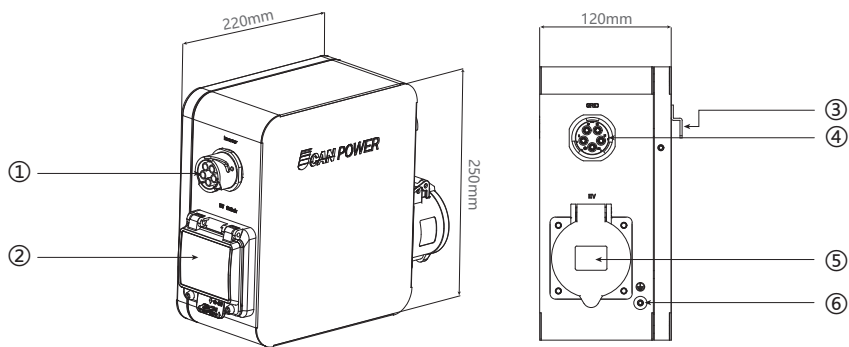


Single-phase solar storage and EV charging integrated system



Three-phase solar storage and EV charging integrated system

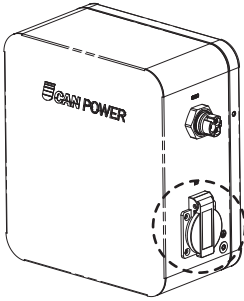
2.3 Appearance



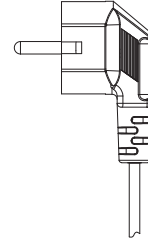
Number	Port	Explain
①	Inverter Port	Connection to inverter via aviation plug
②	EV Switch	EV Charging Gun Power Switch
③	Bracket	Wall mounting bracket interface
④	Grid Port	Connection to Grid via aviation plug
⑤	EV Port	Connection to EV via on-board charging gun
⑥	PE Port	Connected to earth via external terminals



The EV port are different for different models of SwitchBox. The EV port for specific models of SwitchBox are listed below

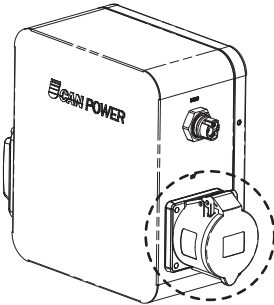


EV Port



Plug of EV Charger

SwitchBox-16AS

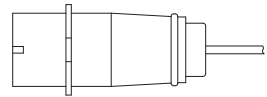


EV Port

Front View

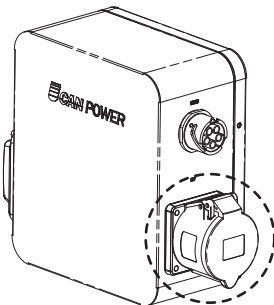


Side View



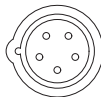
Plug of EV Charger

SwitchBox-32AS

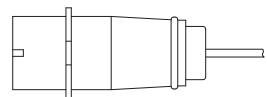


EV Port

Front View



Side View

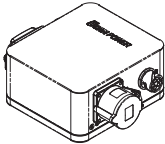


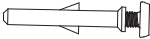



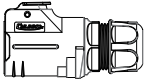






Plug of EV Charger

SwitchBox-16AT / SwitchBox-32AT

2.4 Packing List

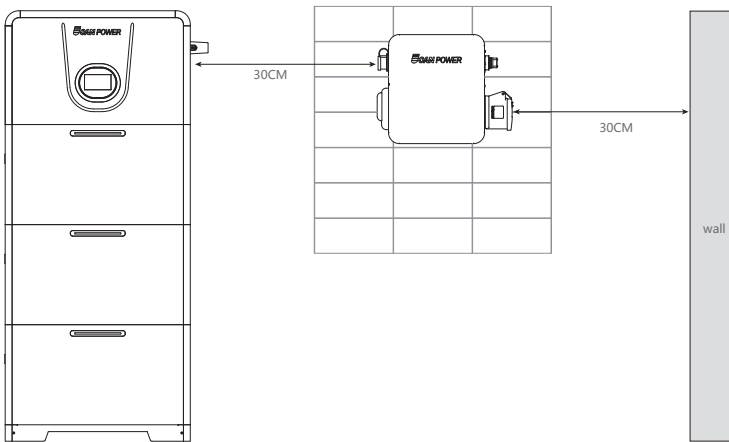
The package of the SwitchBox includes the following accessories. Please check whether the accessories in the packing box are complete when receiving the goods.

			
SwitchBox	Wall Hanging Bracket × 1 pcs	Screw M4-10 × 1 pcs	Expansion Bolt M6-50 × 2 pcs
			
Waterproof Aviation Male Pin Plug (GRID -Red) Apply to SwitchBox-16\32AT × 1 pcs	Waterproof Aviation Male Pin Plug (Inverter-Black) Apply to SwitchBox-16\32AT × 1 pcs	Waterproof Aviation Male pin Plug Apply to SwitchBox-16\32AS × 1 pcs	Waterproof Aviation Male Pin Plug Apply to SwitchBox-16\32AS × 1 pcs
			
PE Terminal × 1 pcs	Qualified Certificate × 1 pcs	Packing List × 1 pcs	User Manual × 1 pcs

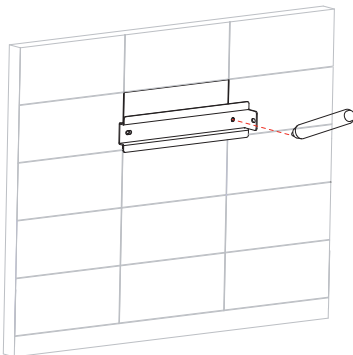
3 Installation Instructions

3.1 Installation Spacing

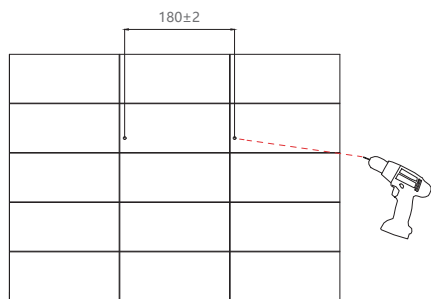
Before the installation of SwitchBox begins, please check the direction of the utility pipes of the wall you need to punch to avoid damaging the utility pipes after punching and causing accidental loss. As the SwitchBox needs to be connected to the waterproof aviation plug and the car charging gun, it is recommended to keep a distance of 30cm away from the SwitchBox to the inverter or the wall.



3.2 Mounting the SwitchBox

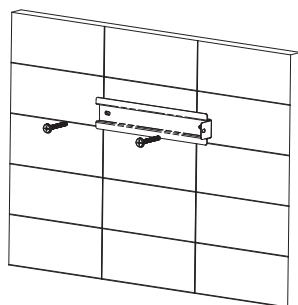
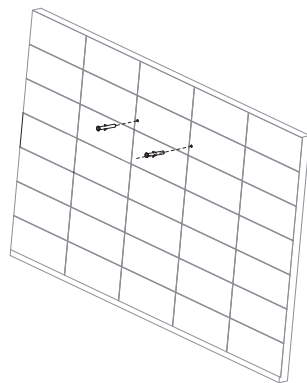


- ① Use the wall bracket as the template to mark the position of 2 holes on the wall.



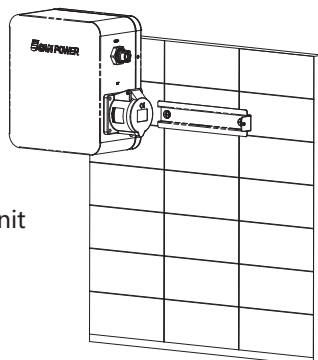
- ② Use an electrical drill with 8mm diameter bit to drill 2 holes in the wall with 50mm depth.

- ③ After blowing out the accumulated dust in the hole, and take out the screws on the expansion bolts first for spare, and then put the expansion bolts into the hole.

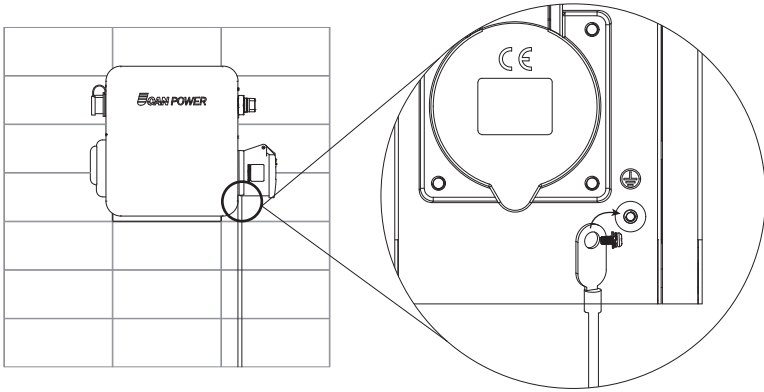
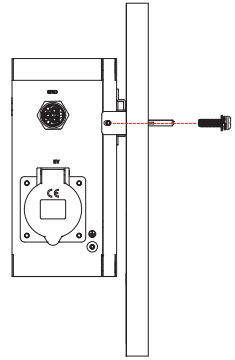


- ④ After the wall mounting bracket reserved mounting holes aligned with the expansion bolt holes, the spare screws screwed into the expansion of the plastic parts, and then use a Phillips screwdriver to lock it, the process should be noted that the wall mounting bracket and the body of the connection holes need to be always facing up.

- ⑤ Insert the wall bracket connector of the unit into the connection hole of the wall bracket



⑥ Check whether the right side of the housing shell screw holes and wall bracket screw holes match, if not match, then the interface in step ④ is not inserted in the hole, if match, then the screws M4-10 lock into the hole, gently shaking the body, check whether the body is firmly installed.



⑦ Connect the Ground wire to the enclosure grounding port, installation is complete

4 Electrical Connections



High voltages in the inverter and conductive parts of the grid may cause electric shock. When installing the SwitchBox, make sure that the inverter and the grid AC are completely disconnected!



Do not connect the N-wire as a protective ground wire to the Switch-Box casing. Otherwise, it may cause electric shock.

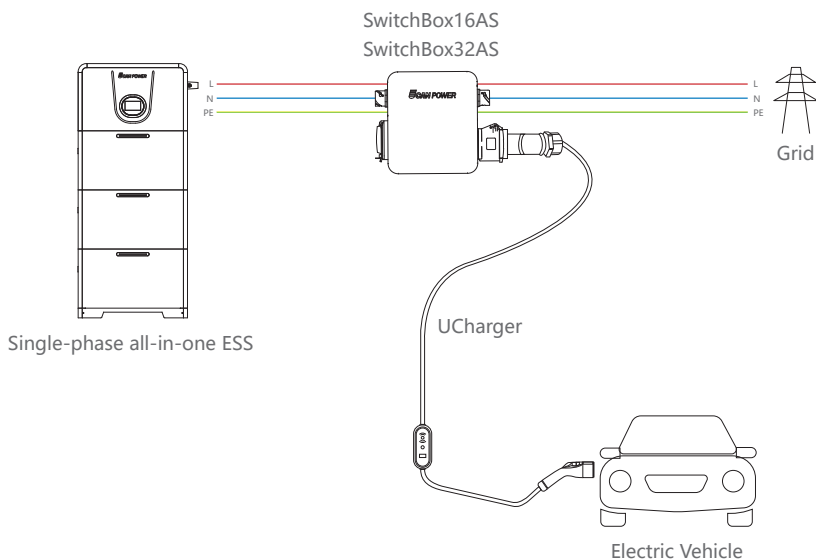


Do not use other brands or other types of terminals other than the terminals in the accessory package. Ucanpower Electric has the right to refuse all damages caused by the mixed-use of terminals.

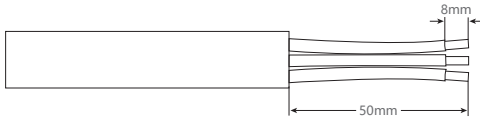


Moisture and dust can damage the SwitchBox, ensure the cable gland is securely tightened during installation. The warranty claim will be invalidated if the SwitchBox is damaged as a result of a poorly connected cable connector.

4.1 SwitchBox-16AS\SwitchBox-32AS



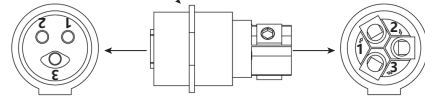
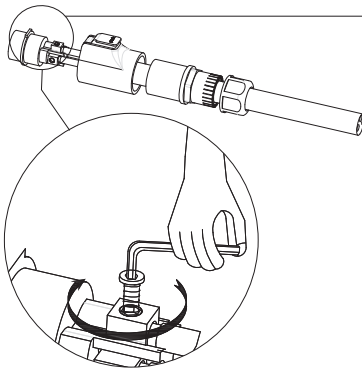
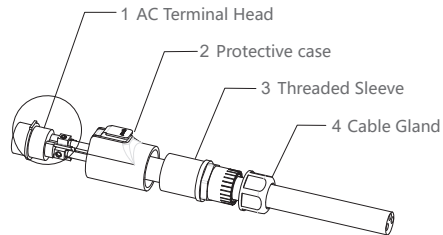
● AC connection to inverter



Cable type	Conductor Outside diameter (mm)	Conductor cross-sectional area(mm ²)
Inverter	14.5-17	3*6

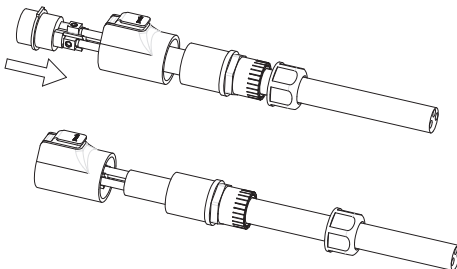
① Select a suitable cable, strip the insulation AC cable sleeve off 50mm and strip the insulation from the end of the L/PE/N conductor by 8mm.

② Unscrew the 3-jacket as shown in the illustration and press the "snap" button on the 2-shell to eject the 1-terminal block. Remove the plug fitting.

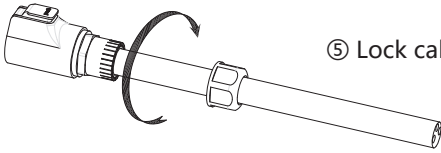


Cable	Number
L	1
N	2
PE	3

③ Pass the cable through the threaded Sleeve, protective casing, and cable connector in turn, loosen the screws on the AC terminal head, insert the cable into the corresponding terminal block, and then lock the screws.

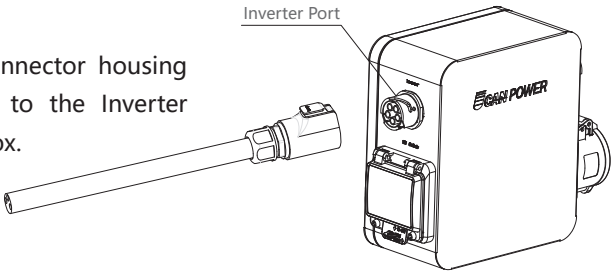


④ Press and hold the "push" button on the housing, push the connected cable holder into the housing and when you hear a "click", the installation is complete.



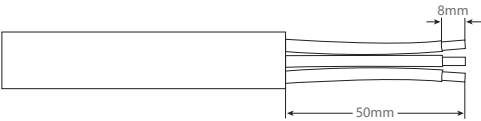
⑤ Lock cable gland in threaded sleeve.

⑥ Press the AC connector housing button to connect to the Inverter port of the SwitchBox.

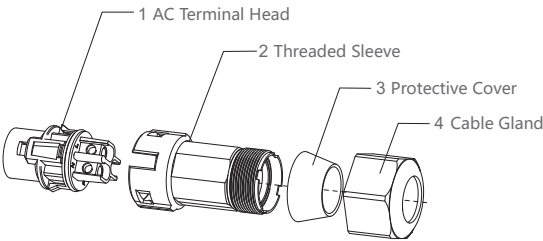


● AC connection to Grid

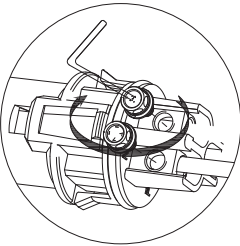
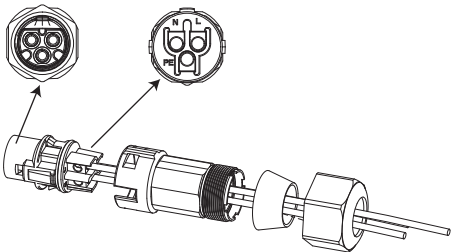
① Select a suitable cable, strip the insulation AC cable sleeve off 50mm and strip the insulation from the end of the L/PE/N conductor by 8mm.



Cable type	Conductor Outside diameter (mm)	Conductor cross-sectional area(mm ²)
GRID	10-18	3*16

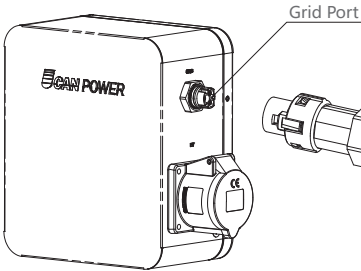
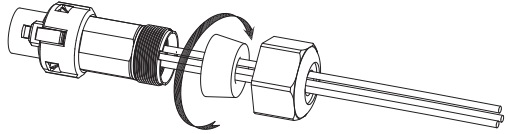


② Remove the plug fittings and remove the plug following the picture.

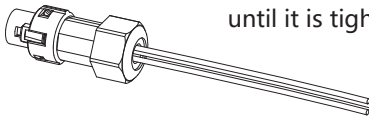


③ Insert the stripped end of the three wires into the appropriate hole of the terminal head. Please try to pull out the cable to make sure it is well connected.

④ Push the waterproof nut in the direction of the arrow to connect it to the AC end, then turn clockwise to lock the waterproof nut.

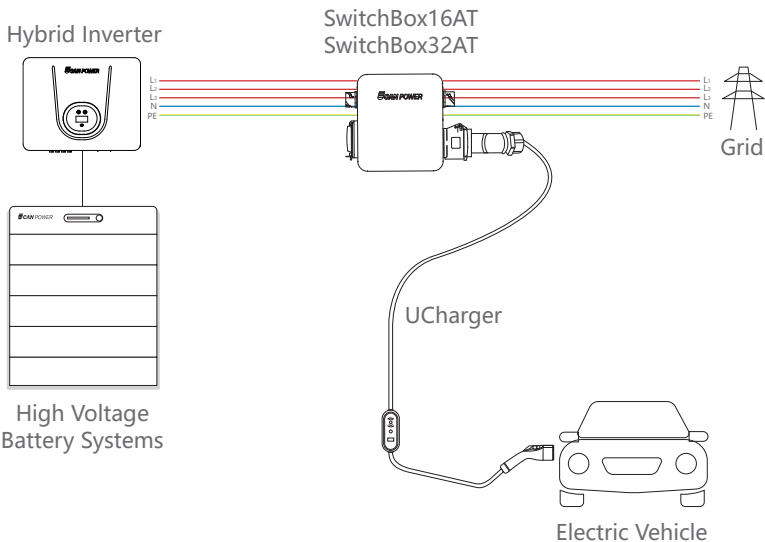


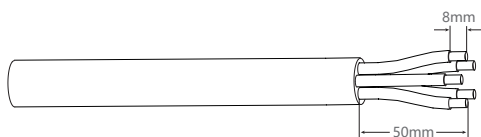
⑤ Connect the AC connector to the SwitchBox Grid port and turn the AC connector snap clockwise until it is tight enough.



4.2 SwitchBox-16AT/SwitchBox-32AT

(Inverter & grid terminals are the same)

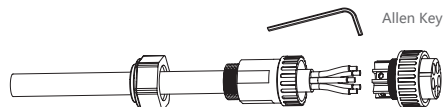
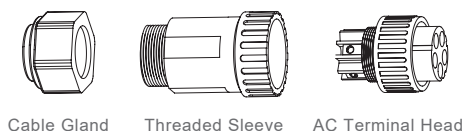




Cable type	Conductor Outside diameter (mm)	Conductor cross-sectional area(mm ²)
GRID	13.5-24	5*16
Inverter		5*10

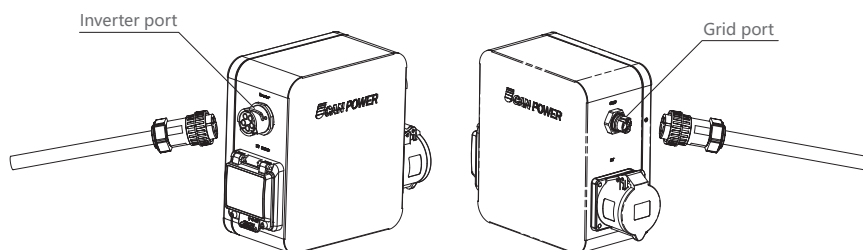
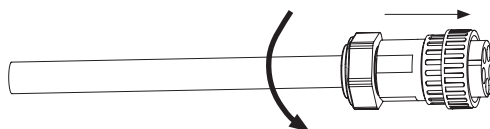
① Select a suitable cable, strip the insulation AC cable sleeve off 50mm and strip the insulation from the end of the 3L/PE/N conductor by 8mm.

② Remove Cable Glands, Threaded Sleeves, AC Terminal Blocks.



③ Insert the stripped end of the five wires into the appropriate hole of the terminal head. Please try to pull out the cable to make sure it is well connected.

④ Push the waterproof nut in the direction of the arrow to connect it to the AC end, then turn clockwise to lock the waterproof nut.



⑤ Connect the AC connector to the SwitchBox inverter or Grid port and rotate the AC connector buckle clockwise until it is tight enough.

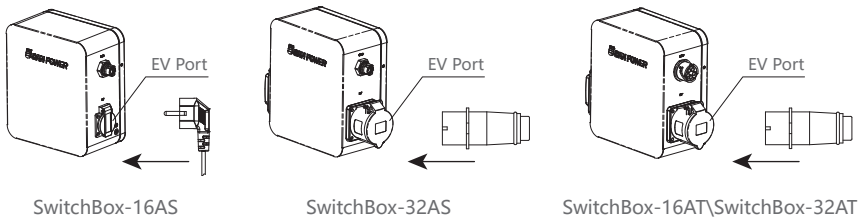
5 Startup and Shutdown

Check the following items before use:

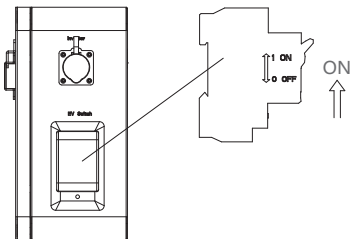
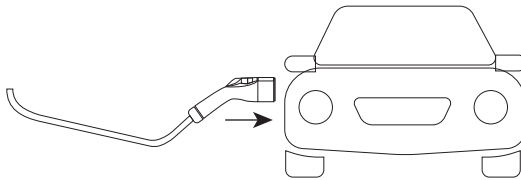
- All equipment has been installed reliably.
- The grounding cable is reliably connected.
- 1L, 2L, 3L, N, PE of AC cable phase sequence are connected correctly and reliably.

Startup

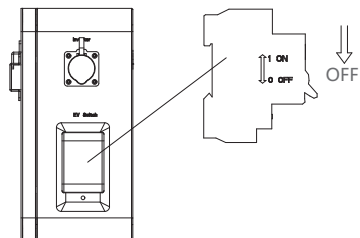
① Plug the charging gun into the EV port of the SwitchBox.



② Insert the charging head of the Ucharger gun into the charging hole of the electric vehicle.



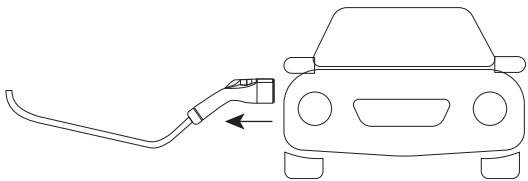
③ Turn the EV Switch of SwitchBox in ON position.



Shutdown

① Turn the EV Switch of the SwitchBox in the OFF position.

- ② Pull the Ucharger gun out of the charging hole of the electric vehicle



6 Technical Parameters

Model	SwitchBox-16AS	SwitchBox-32AS
Phase	230Vac(L+N+PE)	
AC Input (Grid)		
Input Voltage	230V	
Input Current	64A	
AC Output (Inverter)		
Output Voltage	230V	
Output Current	32A	
AC Output (EV)		
Output Voltage	230V	
Output Current	16A	32A
Dimension [W x H x D]	220*250*120mm	

Model	SwitchBox-16AT	SwitchBox-32AT
Phase	380Vac(3L+N+PE)	
AC Input (Grid)		
Input Voltage	380V	
Input Current	64A	
AC Output (Inverter)		
Output Voltage	380V	
Output Current	32A	
AC Output (EV)		
Output Voltage	380V	
Output Current	16A	32A
Dimension [W x H x D]	220*250*120mm	



UPOWER ELECTRIC CO.,LTD

Add : 4F-A Block, No.62, Yinhe Road, Longgang District,
Shenzhen, Guangdong, China

Email : info@ucanpower.com

Web : www.ucanpower.com