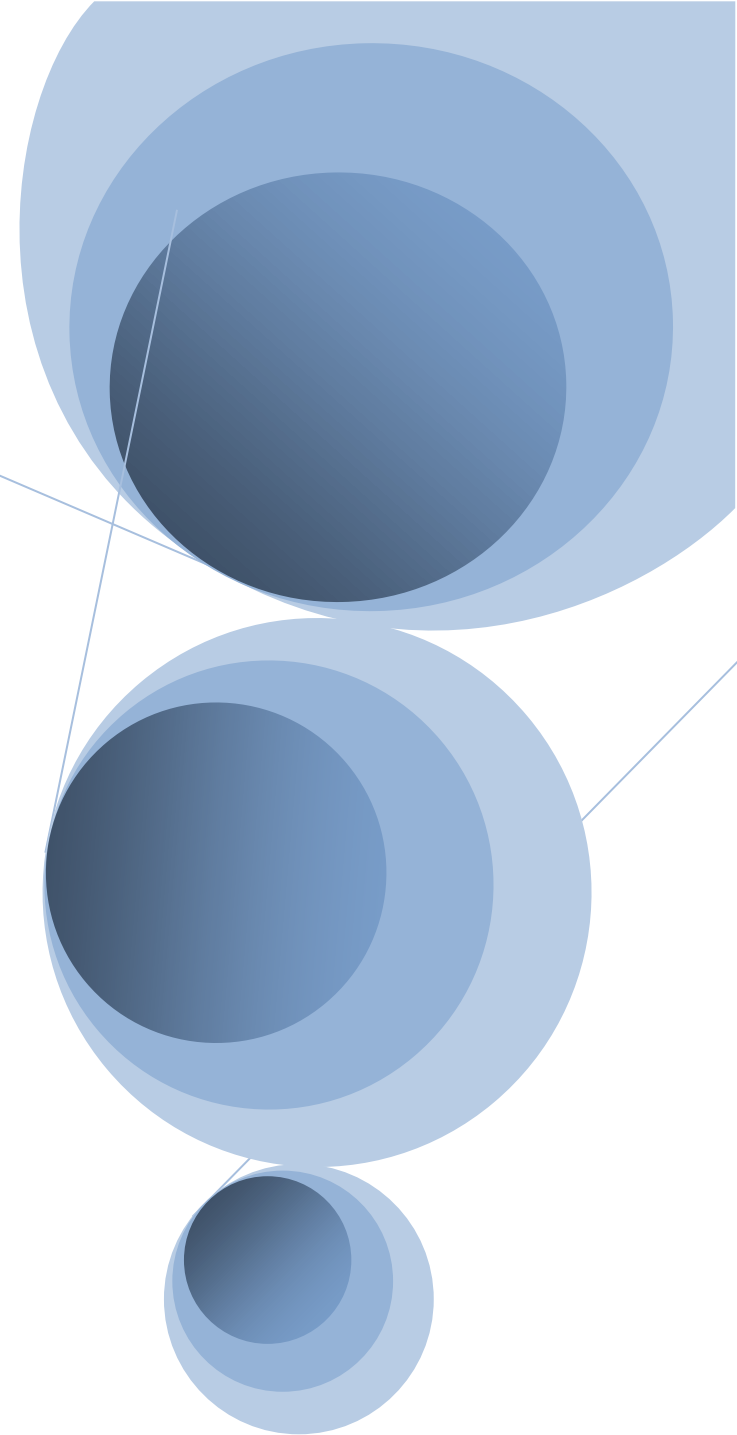


BYD



Charging Box User Manual



BYD Auto superior & Sincere Services Commitment

Dear Customer:

Hello! Because of your concern, some of our services are above industry standards; because of your suggestions, we are constantly pursuing better services. In order to provide you with an excellent service, we are committed to :

I、A smile is our face and enthusiasm is our body at all times.

II、We will provide you with a safe and aesthetic charging box.

III、We will provide original parts at the time of repair and will not use fake or old as new.

IV、We will respond positively to any queries or needs you may have.

V、Your comments on the quality of our services are very welcome and we will record each of your complaints or grievances and actively solve them.

Version 2022

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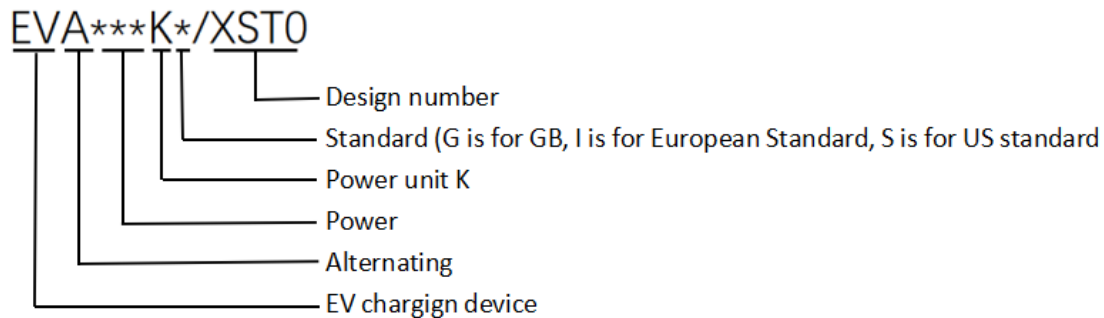
Preface

Thank you for choosing a BYD wall-mounted charging box (hereinafter referred to as the charging box). To help you use and maintain the charging box properly, please read this manual carefully and keep it in a safe place.

The charging box is a charging device for BYD electric vehicles, which can be installed in garages, car parks, etc. The high-voltage wiring, low-voltage wiring and electronic components inside the charging box have a complex structure, so please do not disassemble or modify the wiring or electronic components of the charging box by yourself, otherwise the resulting failure will not fall under the scope of the "THREE GUARANTEES" of our company, and the company will not be responsible for any personal injury caused by this.

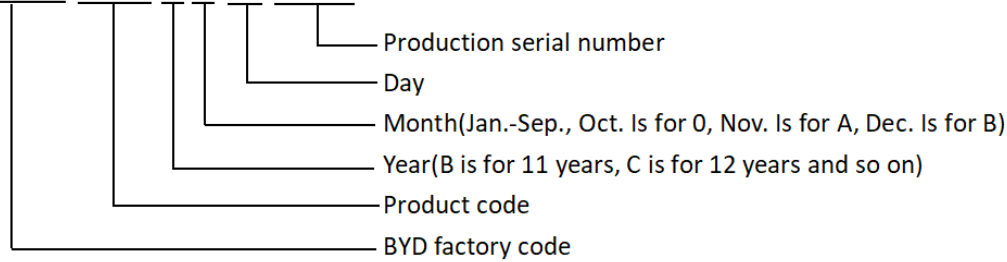
This manual is intended to assist you in the proper use of the product and does not represent any description of the configuration of this product. For information on the configuration of the product, please refer to the contract relating to the product (if any) or consult the seller to whom you have sold the product. The images in this manual are for reference only and if any of the images do not correspond to the actual product, please refer to the actual product.

Description of models:



Description of serial no.:

05044****HB120001



BYD Auto Industry Co., Ltd. reserves the right to modify the technical characteristics and contents of this manual.

In order to serve you better, please make sure to provide correct contact information. If there are any changes, please contact BYD authorized service shops to update on the system, and please pay attention to the relevant national laws and regulations in time. Thank you again for using BYD wall-mounted charging boxes, and we welcome your valuable comments and suggestions.

1 Introduction

1.1 Appearance

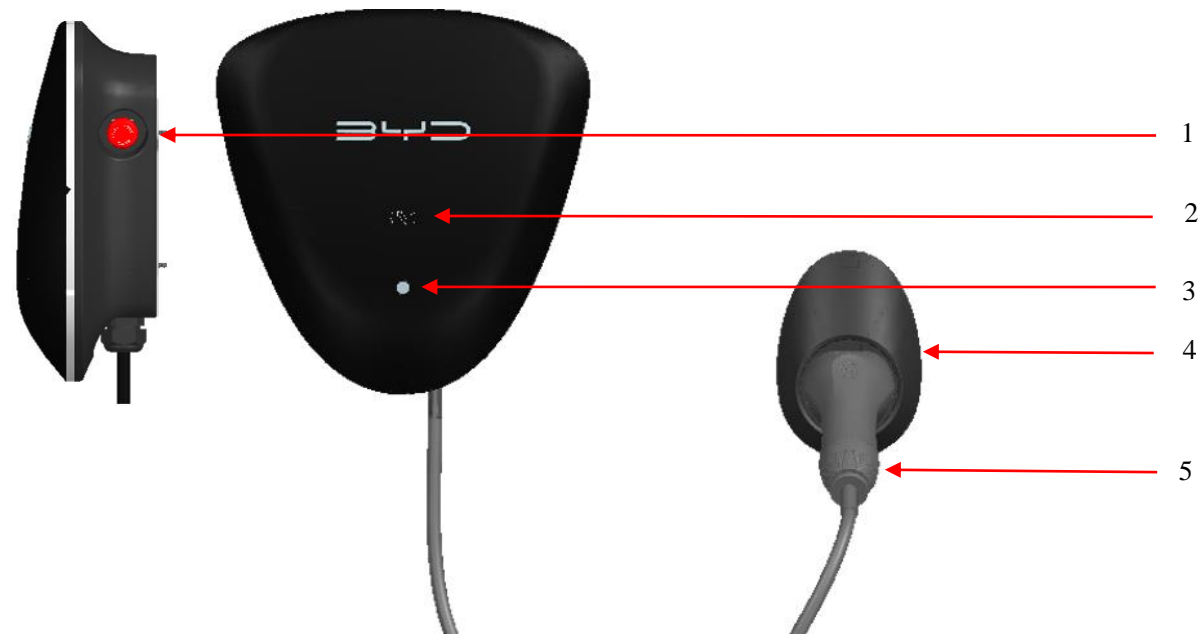


Image 1.1 EVA03K5I/XST0、EVA007KI/XST0、EVA0011KI/XST0 Charging Box appearance View

- 1、Emergency stop button: In case of emergency, press the emergency stop button to disconnect the output power of the charging box and stop the charging box from working; if it need to resume, turn the button clockwise until it pops out.
- 2、Card swipe area: users swipe their cards in this area to start or stop the charging operation.

- 3、LED indicator: this indicator lights up when the user side cable is charged (see indicator status description for details).
- 4、Charging gun holder: when not charging, plug the gun head into this socket and wrap the charging cable around the gun holder.
- 5、Charging gun: device for connecting the charging box to the charging of the electric vehicle.



Image 1.2 indicator panel view

Form 1.1 Indication status form

No.	Working status	Lighted state/Frequency
1	Standby	Green light on
2	Charging/Initializing	Yellow light flashes, 1 time every second
3	Reservation in process/Pause	Yellow light is on
4	Charging	Green light flashes, 3 times every second
5	Charging completed	Green light flashes slowly, 1 time every 2 seconds

1.2 Technical Specification

Form 1.2 technical specification

Item/Model		3.3KW wall mounted charging box (EU)	7KW wall mounted charging box (EU)	11KW wall mounted charging box (EU)
Electrical	Rated vol.	AC 230V \pm 20%	AC 230V \pm 20%	AC 400V \pm 20%
	Rated current	16A	32A	16A
	Frequency	45~65Hz	45~65Hz	45~65Hz
	Output connector	IEC 62196-2 EU AC vehicle plug	IEC 62196-2 EU AC vehicle plug	IEC 62196-2 EU AC vehicle plug
	charging method	AC conductive charging		
Physical	Size	301*290*117 (H*W*D)		
	N. W.	3kg		
	cable length	7.5m		
Safety	Protection	over temperature/Over current/leakage protection/over voltage,		
	IP level	IP55		
other	cooling	air cooling		
	Operating temp.	-30°C~+55°C		
	storage transportation temp.	-40°C~+85°C		
	humidity	5~95% Non-condensing		

	display description	Power, initializing, charging, fault
	start mode	card swiping charging

1.3 Description of symbols



Danger!

Danger: This symbol indicates cautions or instructions that may endanger the safety of the user or may cause critical hardware damage if not done properly



Warning!

Warning: This symbol indicates cautions or instructions that may endanger the safety of the user or may cause severe hardware damage if not done properly



Cautious!

Cautious: This symbol indicates cautions or instructions that may endanger the safety of the user or may cause certain hardware damage if not done properly



Notice!

Notice: This symbol indicates cautions or instructions that may endanger the safety of the user or may cause mild hardware damage if not done properly

1.4 Transportation

- The transport equipment used must be able to withstand the weight of the charging box;
- During transport, please ensure that the boxes are stacked in accordance with the box layout requirements



Danger!

Improper placement during transport may result in damage to the equipment


Please consider the gravity of the charging box and transport it correctly to avoid tipping over, damage and possible injury to pedestrians during transport

2 Installation instruction

2.1 Installation instruction


- In this section, it provides the general installation specifications that must be followed throughout the installation process. ;
- This section applies to installers of this product and it covers the installation process and installation considerations for this product;
- The installation of the charging box must be carried out by a qualified or trained person who has a thorough knowledge of the product;

- Before installation, please read this section carefully and observe the precautions in this section when installing. BYD Auto Industry Co., Ltd. will not be held responsible for any damage caused by irregularities or non-compliance with the required installation. ;
- Please read all safety instructions carefully and all work carried out on the charging box must be carried out in strict accordance with the contents of these installation instructions.

 **Danger!**

Danger of electric shock may occur if normal procedures are not followed

Failure to follow normal procedures may result in a risk of electric shock. Failure to follow these guidelines, operating instructions and safety precautions may result in electric shock and cause serious injury.

 **Notice!**
 Warning signs must be clearly visible

- ▲ Warning signs must always be clearly visible and replaced immediately if damaged;
- ▲ Keep this document in the near area of the charging box, where it must be readily accessible to service and maintenance personnel, and securely stored

2.2 Installation environmental conditions

Form 2.1 Installation environmental conditions

Installation Environment	Indoor/ Outdoor
IP level	IP55

atmospheric pressure	80kPa~110kPa
Air circulation	7, 000m ³ /h
Cooling	air cooling
Max. altitude	≤2,000m
Wall flatness	≤0.25%
Wall inclination	≤5°
Vertical tilt of the charging box	≤5°
Height of the bottom of the charging box from the floor	≥110cm
Minimum installation distance on both sides of the charging box	≥50cm
Concrete requirements for walls and foundations	Concrete strength grade of C30# or above
wall load-bearing	Wall loading should be ≥10kg

For the safe operation of the charging box, the following conditions must be met at the installation site.:

- The installation location must be readily accessible;
- The charging box should not be installed in areas subject to severe vibration or flammable and explosive atmospheres such as flammable gases, vapours or dust;
- Charging boxes should not be installed in low lying areas and where water may accumulate;
- Requires good ventilation;
- Installation should be in a position to ensure easy observation of the indicator and operation;
- Clean installation environment required.

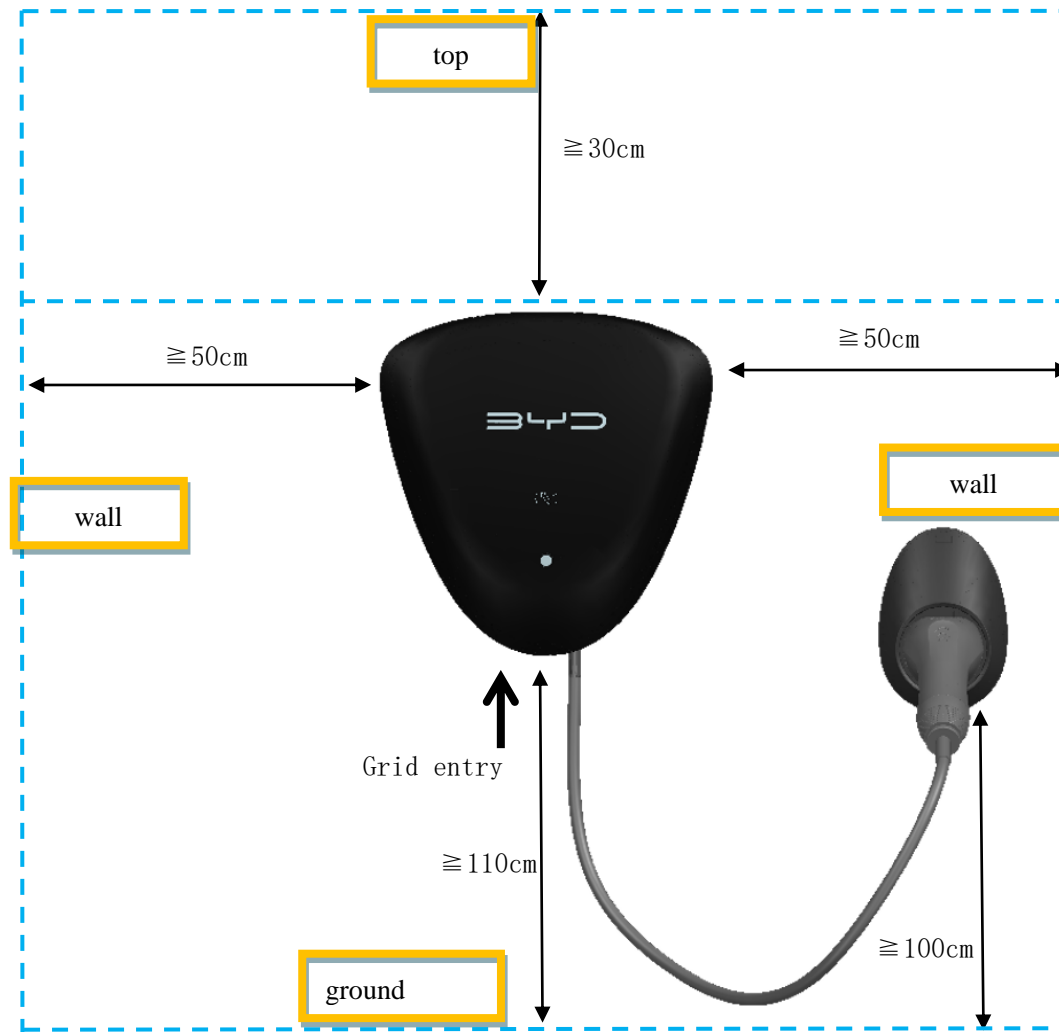


Image 2.1 Installation distance view

2.3 Package Disassembly

- Before disassembling the box, make sure that the box is placed in the direction indicated by the box orientation markings;
- Handle gently when unpacking.;
- Please confirm the packing material inside the box (see appendix 1).



Warning!

Please check on the spot whether the packing material is complete, if it is missing, please contact the dealer promptly, please do not install the charging box without the material

2.4 Installation Method

Please prepare the following tools before installation:

Image 2.2 Installation tools list

No.	Tool	No.	Tool
1	cross screwdriver	3	wire stripper
2	wire crimper	4	impact drill



Danger!

Installation by untrained personnel can be dangerous

Only trained and certified electricians are allowed to install charging boxes

2.4.1 Installation Procedure

Step 1: Drill holes ($\Phi 6$) in the wall using an impact drill, the mounting bracket drilling dimensions for the gun base are as shown in Figure 2.2; the mounting bracket drilling dimensions for the charging box are as shown in Figure 2.3 (7KW single phase is used as a diagrammatic illustration in the figure, three-phase power installation is the same as here.)

Step 2: Insert the expansion stopper into each hole and fix the charging box mounting bracket and the gun mount mounting bracket to the wall using cross recessed countersunk head self-tapping screws_ST4.2 x 25

Step 3: To install the charging case, first hang the two mounting holes on the back of the charging case above the mounting bracket, then press the charging case, align the mounting screw holes below the charging case with the screw holes below the mounting bracket and fix the charging case and mounting bracket together with M4 x 10_carbon-steel_galvanised_4.8 screws.

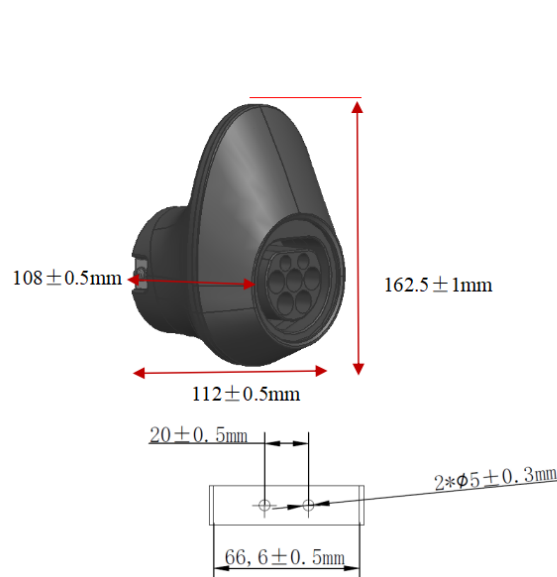


Image 2.2 Installation View Confirm this size

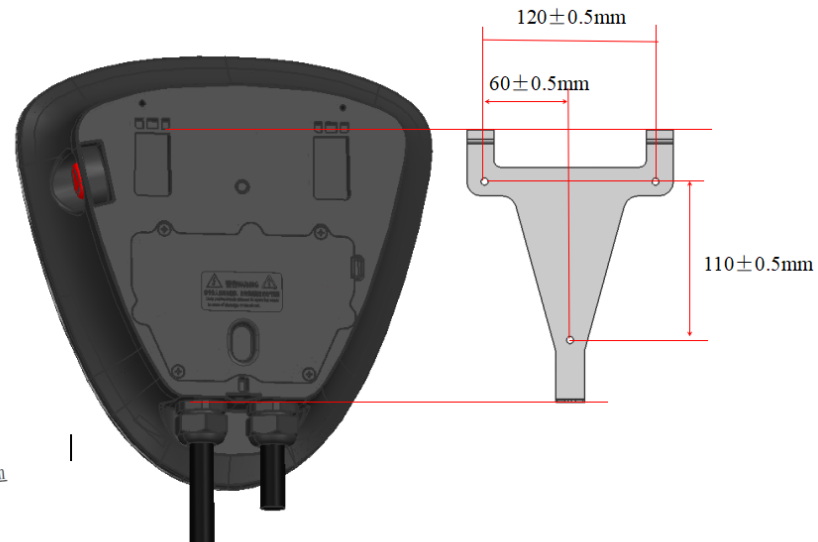


Image2.3 Installation View

Step 4: To install the gun mount, align the mounting holes on the left and right sides of the gun mount with the mounting holes on the mounting bracket and secure the gun mount and mounting bracket together with M4 x 10_carbon-steel_galvanised_4.8 screws.

2.4.2 Cable Installation

Installation Requirements:

- 1) Input power connects L, N, and PE (three phases: L1, L2, L3, N, and PE), with cable colors conforming to the requirements of local standards ;
- 2) An separate power distribution circuit shall be provided for the charging box, which shall not be shared with other electrical products, and the front of the charging box shall be equipped with a circuit breaker, the selection of which shall be made with reference to the current requirements in View 1.2 ;
- 3) The input cable of the charging box shall be of copper stranded conductor construction and the input cable shall be crimped to the terminals as required ;
- 4) The input cable from the user to the charge box needs to meet the following requirements:
 - front cable diameter of 3.5kW charge box leakage circuit breaker required $\geq 2.5\text{mm}^2$ 。
 - front cable diameter of 7kW charging box leakage circuit breaker required $\geq 6\text{mm}^2$ 。
 - front cable diameter of 11kW charging box leakage circuit breaker required $\geq 2.5\text{mm}^2$ 。



Warning!

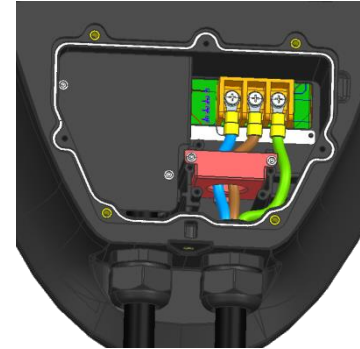
▲ To prevent electric shock, ensure that the input ground wire is securely earthed.

Wiring Method:

Connect the grid input cables L, N and PE (three phases: L1, L2, L3, N and PE) to the terminals inside the charging box as shown in View 2.4: the L and N wires must pass through the transformer, the PE wire does not have to pass through the transformer. 11kW charging box, when three phase inputs, the L1, L2, L3 and N wires must pass through the transformer, the PE wire does not have to pass through the transformer.

3.5kW and 7kW terminal sequence, from left to right: N, L, GND

11kW terminal sequences, from left to right: L3, L2, L1, N, GND.



Wiring view



Warning!

▲ The power input wire must be connected correctly, the phase sequence is based on the upper line mark of the charging box input wire, wrong phase may lead to the charging box not working properly

▲ Cables and harnesses must be connected firmly and reliably, screws must be tightened to avoid heating and burning caused by poor contact

Installation check

To check the installation connections, all electrical connections on site must be checked to ensure that they are correct and secure.

- 1) The cable diameter meets the requirements.
- 2) Ensure that the terminals are crimped and secure.
- 3) Ensure that the torque at the connection meets the requirements ($3N \pm 0.3N$ for entry and exit of the circuit breaker).
- 4) If the front end is an leakage circuit breaker, the correct direction of the entry wire needs to be checked.
- 5) The externally forced cable fixing heads of the input and output of the charging box shall be locked and free from leakage.
- 6) The insulation resistance of the input cable to ground (L1 to PE, L2 to PE, L3 to PE, N to PE) should be tested after installation is complete at $\geq 30M\Omega$ (DC 500V, test time 1min).
- 7) The phase sequence is connected correctly.

Description: Leakage circuit breaker selection reference

Power Level	Leakage circuit breaker	Remark
3.5kW	20A/2P (L、N)	Model A Leakage circuit breaker
7kW	40A/2P (L、N)	Model A Leakage circuit breaker
11kW	20A/4P (L1、L2、L3、N)	Model A Leakage circuit breaker



Warning!

Upon completion of the installation, the installer must issue an installation report with at least the above test items before the installation can be powered up

3 Instruction For Use



Danger!

Failure to follow the regulations may result in danger!

- ▲ Please try to operate the charging box in accordance with the normal technological operation and in a safe operating condition
- ▲ No children allowed to touch the charging case
- ▲ Please install the charging box away from fire, dust and corrosive areas
- ▲ When the output of the charging box is high voltage, it is important to pay attention to personal safety when using it
- ▲ A faulty charging box poses a risk of electric shock and may even be fatal. In exceptional cases, please press the emergency stop button immediately and then ask a qualified personnel.
- ▲ Do not disconnect the circuit breaker or press the emergency stop button when the charging box is in normal operation
- ▲ Do not disassemble the charging case during use

3.1 Charging Operation Method

- Step 1: Park your electric car in the designated spot
- Step 2: Open the protective cover of the charging port on the vehicle and check the charging port to ensure that it is free of dust, water and foreign objects, as shown in View 3.1



Image 3.1 Charging port on the EV

- Step 3: Take the charging gun out of the socket
- Step 4: Connect the charging gun to the EV charging port, as shown in View 3.2



图 Image 3.2 充电连接示意图 EV Charging view

- Step 5: Insert the charging gun and the EV and charging box enter the matching state, at the moment the yellow light should flash.
- Step 6: Swipe to activate charging.

- Step 7: After completing the above selection, the charging box starts charging the EV. The charging indicator flashes during the charging process.
- Step 8: When charging is complete, the charging box automatically stops charging, or if you wish to stop charging midway, by swiping a card.
- Step 9: When charging is complete, press the charging gun switch button and pull the gun out of the charging port.
- Step 10: Close the protective cover of the EV charging port to complete the charging operation.

Note: Place the charging card in the swipe area for 30 seconds to cancel the swipe authorization identification function. After canceling the authorization identification function, the charging box can start charging automatically after inserting the charging gun into the vehicle charging port without swiping the card.

3.2 Description of Indicators Status

- The operating status of the charging box can be indicated by its LED status, as shown in Form 3.1.
- If there is an abnormality in the whole machine, the charge box will go into protection and the indicator light will flash/stay on. Form 3.1 lists the common faults.

Form 3.1 Indicator status list

Charging box status	Indicator Status	Description of Status
Standby	light keeps on	The charging box is powered up, the charging gun is not plugged into the electric vehicle
Preparing to charge	Yellow light flashes, once every second	The charging gun is inserted into the electric vehicle and is being prepared for charging
Reservation in progress/ Pause	Yellow light keeps on	the charge box has been reserved for charging, or charging has been suspended.

Charging status	Green light flashes, Three times every second	Charging EV now
Full-Charge/ Stop	Green light flashes, once every 2 seconds	EV is fully charged.
Fault	Red light flashes once every second	Over temperature protection
	Red light flashes once every 3 seconds	Over current protection
	Red light flashes three time every second	Leakage protection
	Red light keeps on	CP signal abnormality
	Red and yellow lights flash alternately once every 3 seconds	Ground wire disconnection
	Red and yellow lights flash alternately once every second	Emergency stop button is pressed
	Red and yellow lights flash alternately once every 2 seconds	Relay sintering
	Red and yellow lights flash alternately once every 4 seconds	Over voltage protection

4 Maintenance Instruction

- To ensure the normal service life of the charge box and to reduce the risks during operation, it must be serviced at the specified intervals.
- The servicing of the equipment is to be carried out by qualified personnel and with qualified and safe servicing tools.

4.1 Servicing

Danger!
Failure to follow regulations may be dangerous

- ▲ Regularly check the charging case for visible damage, operating a damaged case may present a risk of electric shock and cause serious injury
- ▲ Ensure that all external security measures are available at all times and are regularly tested to ensure correct operation
- ▲ In the event of an earth fault, the grounded cable must be assumed to carry voltage and the charging box must be serviced after confirming that there is no high voltage in the system

- The following table shows the recommended servicing items, servicing content and frequency, please follow the steps in Appendix 2 for step-by-step servicing

Danger!
Failure to follow regulations may be dangerous

Touching charged conductors will cause serious safety accidents such as burns or electric shocks, and you can only proceed to the next step when the equipment is completely disconnected.

Form 3.2 Servicing Flow Form

Procedures	Items	Cycle (recommended)
1) Emergency stop button test	Power up the charge box, press the emergency stop button and test whether the emergency stop button disconnects the input power.	Six months

2) External feature	Check whether the status of the charge box indicator is normal.	Six months
3) Cable and grounding	Check whether the cable insulation is scorched and aged due to overheating and whether the grounding cable is securely connected.	Six months
4) External inspection and dust removal	Remove dust from the surface of the charging case and cable, and from the inside of the charging gun connector.	Six months
5) Check all safety signs	Check all safety signs and replace any that are detached or unclear immediately.	Six months
6) leakage circuit breaker (user supplied)	Check that the circuit breaker can be effectively disconnected from the electrical connection.	Six months
	Check that the leakage circuit breaker is effective for leakage protection	One month



Cautious!
Please wear the necessary protective equipment when carrying out maintenance

Mechanical burrs will cause cuts to the skin, please take safety precautions



Notice!

▲ Keep a record of each service, and keep data relating to the service life of the equipment, which can be used as a reference for equipment replacement

▲ The interval between inspections depends on the environment in which the equipment is used

4.2 Fault Analysis & Troubleshooting

If the charging box malfunctions during the charging process, re-power up the box and re-plug the charging gun to see if the problem is solved.



Warning!

Do not carry out repairs other than those described above

If the above solution does not fix the problem, please stop the operation immediately and contact the supplier

4.3 Warranty

Within one year from the date of delivery of the charging box, the company will provide a free repair service if it cannot be used or is damaged due to product quality problems. Damage to the equipment caused by man-made causes, irresistible natural causes or failure to operate and install and use in accordance with the instructions is not covered by the free warranty. Do not repair this equipment for non-professionals. If you have any problems during use, do not operate it without permission, please contact your dealer in time.

Appendix 1 Packing List

No.	Packing Content	Quantity	Remark
1	Charging box	1	
2	Charging card	1	
3	Certificate of conformity	1	
4	User manual	1	
5	Expansion stopper_Φ6	5	
6	cross recessed countersunk head self-tapping screws M4 x 20_carbon-steel_galvanised_4.8.	5	
7	Ziplock bag _180×260×0.05mm_ short side opening	1	

Appendix 2 Servicing Flow Form

Item	Procedures
1) Emergency stop button test	Power up the charge box, press the emergency stop button and test whether the emergency stop button disconnects the input power.
2) External feature	In the case of power-up, the power indicator on the charging box panel keeps on and the yellow indicator flashes when the charging connector is effectively connected to the electric vehicle.
3) Cable and grounding	No overheating of the cable insulation layer causing scorching and ageing, no dust on the cable surface and a secure connection to the charging box input ground cable.
4) External inspection and dust removal	Remove dust from the surface of the charging case and cable, and from the inside of the charging gun connector.
5) Check all safety signs	Check all safety signs and replace any that are detached or unclear immediately
6) leakage circuit breaker	Periodic testing of the reliability of the protective switch action is to ensure system safety and to guarantee that the circuit breaker can effectively disconnect the electrical connection, the input and output terminal torque should be $3N \pm 0.3N$
	The leakage circuit breaker can be disconnected normally by pressing the test button on the leakage circuit breaker when there is power on the grid.

Disclaimer

The above wall-mounted charging box sets shall not be used by the user without formal acceptance by Party A (the user) and formal delivery by Party B (the supplier), otherwise Party B shall not be liable for any liability arising therefrom.



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