WB10 Series AC Charging Stations for Electric Vehicles

Instruction Manual

Contents

1 Introduction 03

2 Environmental Condition 03

3 Product Image and Interface Description 03

3.1 Appearance of the Charging Station 03

3.2 Dimension of the Charging Station 03

4 Installation Method 04

4.1 Installing the Wall-mounted Type 04

4.2 Input Power Interface 05

5 Structural Composition and Electrical Schematic Diagram 05

6 Technical Parameters 07

7 Charging State Indicator 09

7.1 Display Status of the LED indicator light 09

8 Instruction for Use 10

8.1 Button Startup 10

8.2 App Startup 11

9 Precautions For Use 11

10 Maintenance Information 11

11 Safety Warning 11

12 Warranty Service 12

12.1 Warranty Condition 12

12.2 Warranty Period 12

12.3 Warranty Method 12

1 Introduction

WB10 series CE-standard AC charging station comes into use together with the EV on-board charger. It allows for floor and wall mounted installation. The charging function can be started by button or app operation. With its designed vehicle communication and safety protection functions, WB10 charging station makes it possible for the owners of electric vehicles to enjoy convenient and safe home charging.

2 Environmental Condition

Operating temperature: -25℃～+55℃; Storage temperature: -40℃～+70℃

Applicable altitude: ＜2000 m

Operating humidity: 5%～95%, no condensation

3 Product Image and Interface Description

3.1 Appearance of the Charging Station



Fig. 1 Appearance picture

3.2 Dimension of the Charging Station

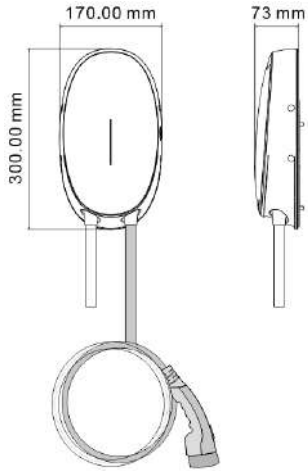


Fig. 2 Dimension specifications

4 Installation Method

4.1 Installing the Wall-mounted Type

1. Drill holes on the wall where the charging station is going to be installed, and put the plastic bolts into the holes to prepare for the installation of the expansion screws;
2. Align the mounting plate with the holes and fix it on the wall using the M5*30 expansion screws;
3. Referring to the first and second steps, fix the plug holder at about 0.2m below the charging station;
4. Align the main body of the charging station with the buckle and install it on the mounting plate using the M5*10 machine screws, then added the waterproof plug;
5. Connect the cables to the power grid by sequence according to the line bank, then the installation is completed.

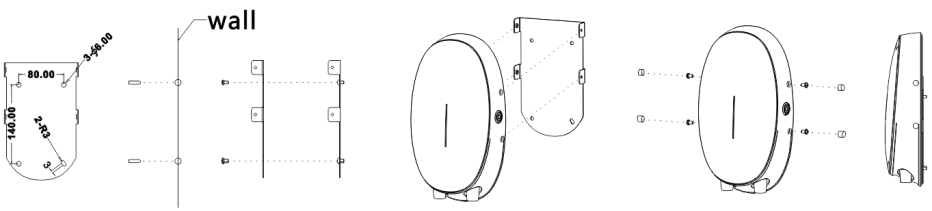


Fig. 3 Installation of the wall-mounted charging station

4.2 Input Power Interface

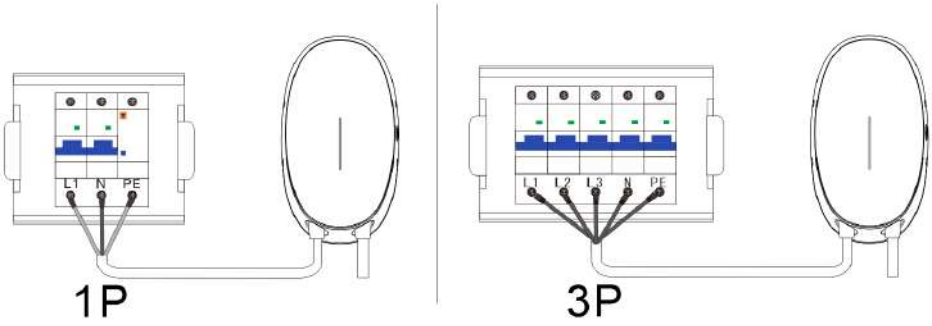


Fig. 4 Input power interface picture

Connect the inlet line cable (provided together with the charging station) to the corresponding port according to the instruction: single-phase 230V to L1, N and PE; three-phase 400V to L1, L2, L3, N and PE.

Note: select the input cable specification according to the maximum current specification of the charging station: 2.5mm² cable is required for 16A charging station; 6mm² cable is required for 32A charging station.; 8mm² cable is required for 40A charging station.

5 Structural Composition and Electrical Schematic Diagram

The main circuit of the charging station includes input cable, charging main control board and charging interface connector; the secondary circuit includes the operation status indicator, and communication module can be added optionally.

The charging main control board offers protection against overload, short circuit and leakage, and it can control the charging output on/off; the connector provides the charging interface connected with the electric vehicle, with locking device and anti misoperation function. The signal light will show status of "standby", "in charging" and "fully-charged".

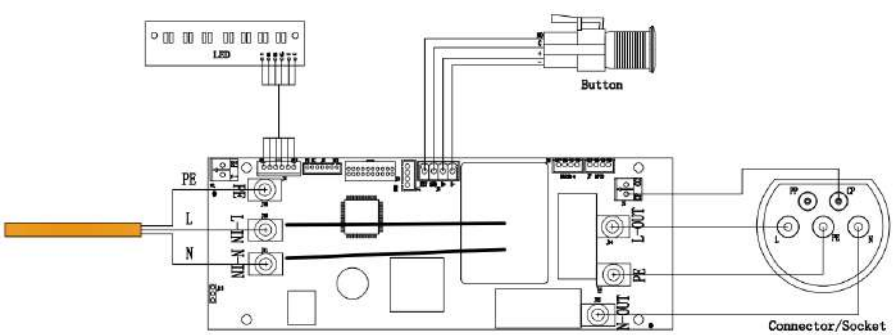


Fig. 5 System schematic of single-phase AC charging station - the button version

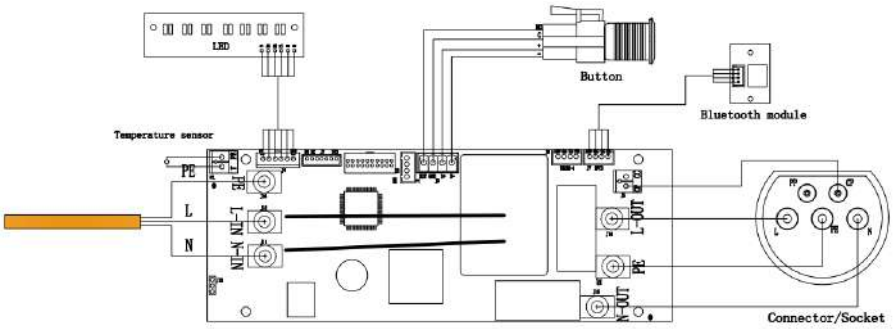


Fig. 6 System schematic of single-phase AC charging station - the APP version

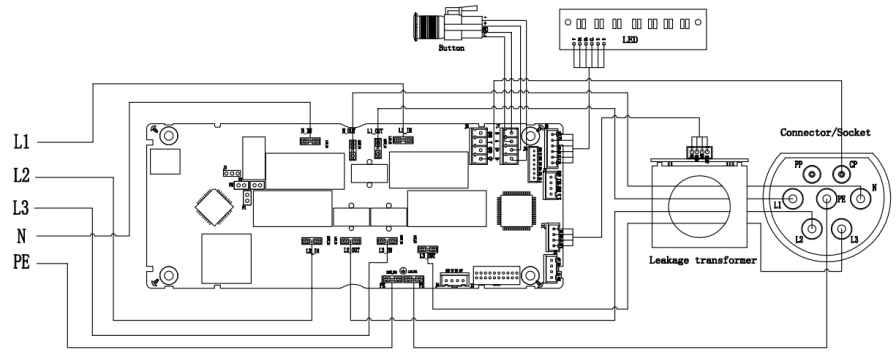


Fig. 7 System schematic of three-phase AC charging station - the button version

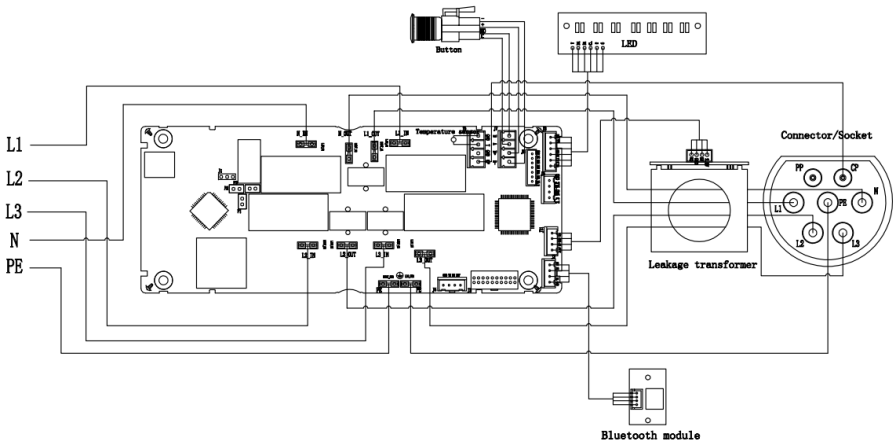


Fig. 8 System schematic of three-phase AC charging station - the APP version

6 Technical Parameters

Specifications	Model	WB10
Technical Specifications	Certificate	CE\FCC\ROHS
Appearance material	Product name	WB10 EV AC Charging Station
	Shell material	ABS+PC plastic shell
	Routing mode	Lower incoming line, lower outgoing line
	Charging interface	Charging connector
	External Dimension	300*170*73mm
	Weight	5.5kg
	Input voltage	Single-phase 230V; three-phase 400V AC Three-phase five wire system (L1 phase, L2 phase, L3 phase, Neutral, Ground)
	Input current	Single-phase 16A; single-phase 32A; single-phase 40A; three-phase 16A
	Input frequency	50Hz /60Hz
	Maximum power	Single-phase 3.6kW; single-phase 7kW; single-phase 8.8kW; three-phase 11kW
	Metering function	Yes

Electrical indicators	Measuring accuracy	Ⅱ
	Output voltage	Single-phase 230V; three-phase 400V AC
	Output current	Single-phase 16A; single-phase 32A; single-phase 40A; three-phase 16A
	Standby Power Loss	⩽10W
	Standard	EN IEC 61851-1:2019
	MTBF	100,000 hours
Environmental indicators	Applicable scene	Outdoor / Indoor
	Operating temperature	-25℃～+55℃
	Operating humidity	5%～95%
	Applicable altitude	＜2000m
	IP Class	IP66
Safety protection	Overload protection	Yes
	Short circuit protection	Yes
	Leakage protection	Yes

	Grounding protection	Yes
	Over temperature protection	Yes
	Anti-thunder protection	Yes
Human-computer	LED light	Yes
	Button	Yes
	APP	Only available on APP model

Table 1 Technical parameters

7 Charging State Indicator

Charging state	Disconnected Mode	Connected Mode	Charging Mode	Finish Mode	Fault Mode
Indicator Light	 Upper green on	 All green on	 Rolling	 All green on	 Flashing red on

Table 2 Color changing of the indicator light in different charging states

7.1 Display Status of the LED indicator light

Fault code	Cause of failure	Display mode
1	CP fault	Fault code 1
2	Low voltage	Fault code 2

3	Over voltage	Fault code 3
4	Ungrounded	Fault code 4
5	Over current	Fault code 5
6	Short circuit	Fault code 6
7	Leakage	Fault code 7
8	Board over temperature	Fault code 8

Table 3 List of the indicator light failure

About the fault code: when there's a red light flashing, it means fault in the system, and the fault code number is the same as the times the red light flashes. The red light stays off for a while after flashing.

For example, for fault code 5: the red light flashes five times quickly, then stays off for three seconds, and then flashes 5 times again, then stays off for three seconds, and goes on like this.

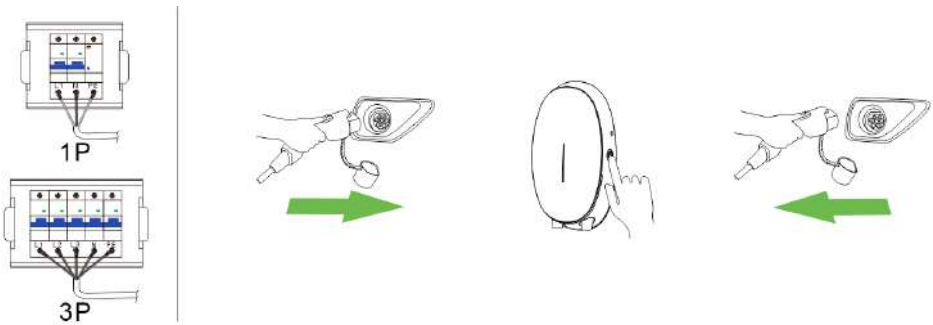
When there are multiple faults, it'll only display one fault code.

When there's a short circuit protection fault or a leakage fault, the charging will not continue, which can be recovered only after the charging plug is unplugged and plugged in again; for other faults, it doesn't need such operation, and the charging will be resumed automatically after the fault is recovered.

8 Instruction for Use

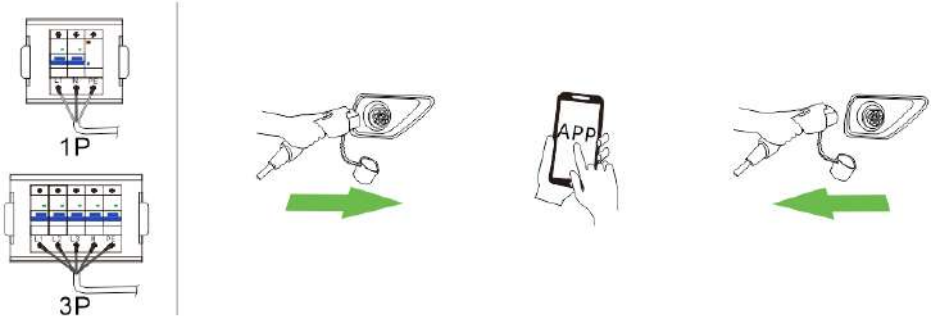
Please start the charging station you use according to the specifications:

8.1 Button Startup



1. Make sure the charging station is connected to the power supply;
2. Connect your EV to the charging station with the EV charging connector;
3. After that, press the button on the side of the charging station to start charging;
4. When you finish the charging, you just need to press the button and pull out the connector.

8.2 App Startup



1. Make sure the charging station is connected to the power supply;
2. Connect your EV to the charging station with the EV charging connector;
3. After that, open the APP you've downloaded and installed to your phone, continue the operation according to the instruction to start charging;
4. When you finish the charging, you just need to operate on the APP to end charging, then pull out the connector.

9 Precautions For Use

- Failure to follow the instructions may result in danger;
- Please use the charging station when the operational condition is technologically normal and safe;
- Prevent children from touching the charging station;
- Install a charging station away from pyrotechnics , dust and corrosive occasions;
- The output of the charging station is high voltage, so you must keep yourself safe in the process;
- If a fault has occurred, there might be a risk of getting electric shock or even death. Please cut off the power supply under emergency situations;
- Do not disassemble the charging station during charging.

10 Maintenance Information

The product is packed in the factory. Strong impact and collision should be avoided during transportation to avoid damage to the outer packaging of the product. The product should be placed at an ambient temperature of -40℃～+ 70℃ and a relative humidity of no more than 95%. The ambient air should not contain acids, alkalis or other corrosive gases and explosive gases, and it should be protected from rain, snow, wind and sand.

11 Safety Warning

- Failure to follow the instructions may result in danger!

- Please regularly check whether the charging station has visible damage. There may be a risk of getting electric shock if operating a damaged charging station.
- Make sure that all safety facilities are available at all times and test regularly to ensure proper operation.
- If a ground fault occurs, it must be assumed that the base's cable carries the voltage, and after confirming that no high-voltage power is available in the system, check the charging station.
- Installers and users must observe the principles and regulations to guarantee their safety and equipment safety.
- Before powering up the equipment, please make sure that the equipment is properly grounded to avoid unnecessary accidents.
- All the tools that do not require exposed metal parts should be insulated to prevent exposed metal parts from touching the metal frame and causing a short circuit.
- Do not modify, refit, or change any part by yourself under any circumstance.
- Ensure the service life and stable operation of the charging station. The operating environment should be kept as clean, homo-thermal and constantly humid as possible. The charging station must not be used in the presence of volatile gas or flammable atmosphere.
- Make sure that the input voltage, frequency, circuit breakers and other conditions have already met the specifications before powering up the equipment.
- This product needs to be installed by authorized personnel.
- You need to check if it meets the local regulatory requirements before using the product.
- The height requirement of hanging the connector is 0.4-1.5m above ground level.

12 Warranty Service

12.1 Warranty Condition

When the product leaves the factory, the user completely abides by the storage, installation and use rules specified in this instruction manual yet still finds quality issues.

After the product leaves the factory, the user opens the package and finds that the product or supporting parts are damaged due to transportation problems.

12.2 Warranty Period

Product warranty lasts for 12 months after the user receives the product.

12.3 Warranty Method

During the warranty period, the manufacturer is responsible for free replacement or repair.

Beyond the warranty period, the user shall negotiate with the manufacturer to replace or repair the product in a paid way.

This manual is subject to any change without notice.

If there’s any inconsistency between the real product and the content described in this manual, the real product shall prevail.