

AC Charging Stations for Electric Vehicles

—— LX30

Instruction Manual

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1 Summary

LX30 series AC charging station is used together with electric vehicle. It can support plug and play charging, card swiping or app start-up charging. The product has a wide range of applications, widely used in subdivisions, shopping malls, office buildings and parking lots. It can also be installed in various large, medium and small electric vehicle charging points to provide convenient and safe charging services for electric vehicle owners.

2 Environment Condition

Operating temperature: $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$; Storage temperature: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$

Applicable altitude: $<2000\text{ m}$

Operating humidity: $5\% \sim 95\%$, no condensation

3 Product Picture and Interface Description

3.1 Exterior drawing of charging station



Fig 1 outline drawing

3.2 External dimension of EV charging station

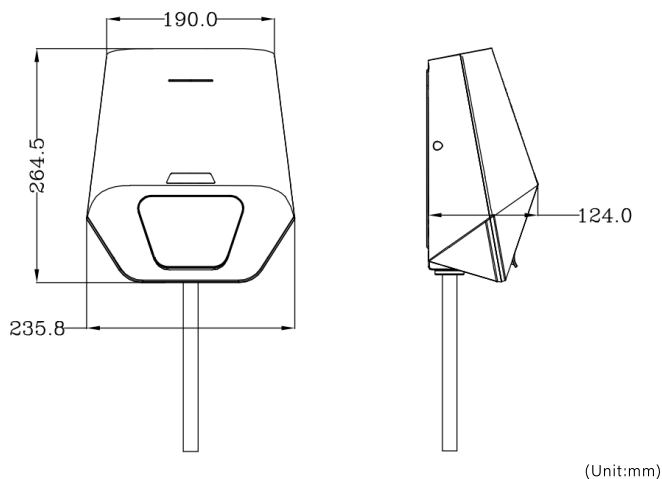


Fig 2 Dimension drawing of charging station

4 Installation Methods

Before installing the charging station, please refer to step 9 to set the rated current of this unit.

4.1 Installation method

1. Remove the mounting back plate behind the charging station and punch holes in the wall corresponding to the holes in the back plate;
2. Put the plastic plugs into the holes to install the expansion screws;
3. Align the mounting back plate with the holes and fix it on the wall using M5*30 expansion screws;
4. Align the main body of the charging station with the buckle and install it on the mounting back plate. Tighten the M5*10 machine screws and plug the waterproof covers;
5. Connect wires to the power grid according to the sequence of terminal block. The installation is complete.

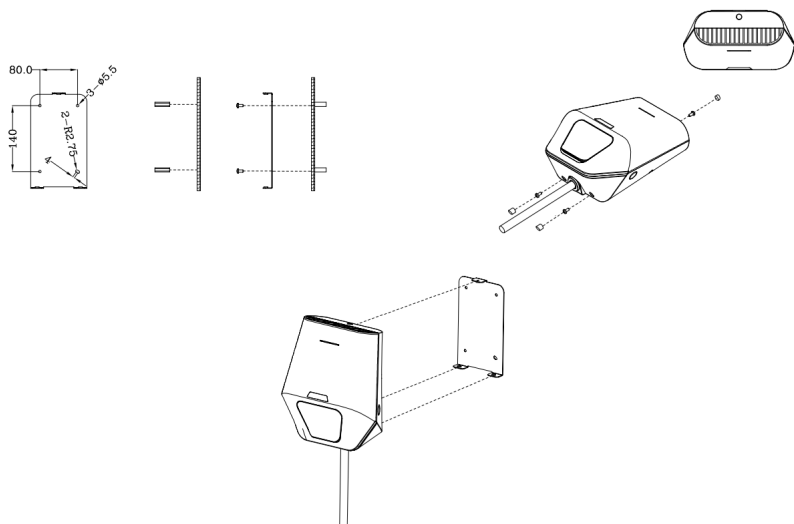


Fig 3 Wall mounted installation drawing of charging station

4.2 Charging station input power interface

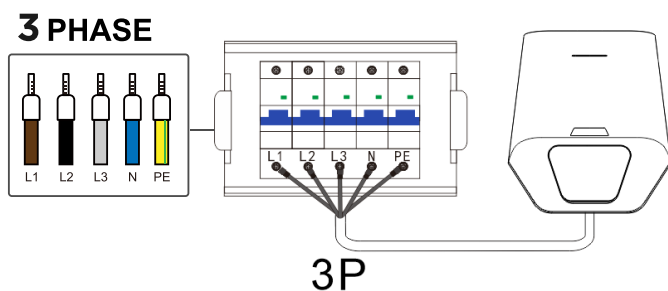


Fig 4 Charging station input power interface

Connect the incoming cable configured for the charging station to the corresponding interface according to the identification: Three phase 400V is connected to L1, L2, L3, N and PE.

Tip: Select the input cable specification according to the maximum current specification of the charging station used: 2.5mm² cable is required for 16A charging station; 6mm² cable is required for 32A charging station.

5 Composition and electrical schematic diagram of EV charging station

The main circuit of charging station includes input cable, charging main control board and charging interface connector; The secondary circuit includes operation status indicator, which can be optionally equipped with card reader or communication module.

The charging power board has the functions of overload, short circuit, metering and leakage protection, and controls the charging output on-off; the charging main board has the functions of starting charging mode selection, man-machine interface, signal lamp providing "standby", "charging" and "full" state indication; the connector provides the charging interface connected with the electric vehicle, with locking device and anti misoperation function.

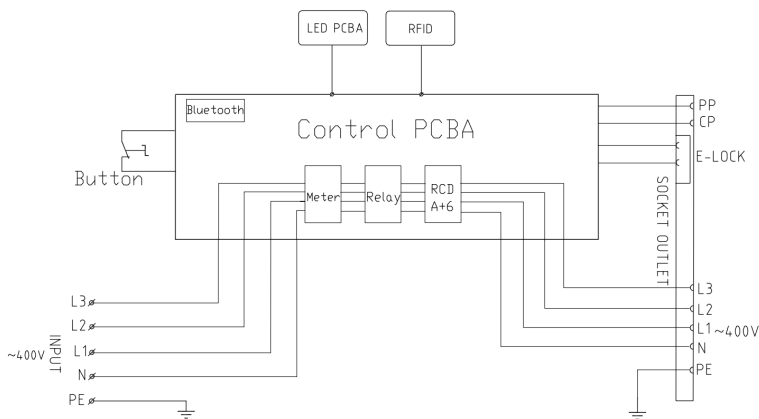


Fig 5 Schematic diagram of three-phase AC system

6 Technical Parameters

Specifications	Model	LX30
Appearance material	Product name	LX30 EV AC CHARING STATION
	Shell material	PC+ABS Plastic shell
	Routing mode	Lower incoming line, lower outgoing line
	Charging interface	Charging connector
	External Dimension	264.5*235.8*124mm
	Weight	5.5kg
	Input voltage	230V/400V AC Three-phase five wire system (L1 phase, L2 phase,L3 phase, Neutral, PE)
	Input current	32A MAX
	Input frequency	50Hz /60Hz

Electrical indicators	Maximum power	3-Phase 22KW
	Output voltage	230V/400V AC
	Output current	32A MAX
	Standby power	≤10W
	Standard	EN IEC 61851-1:2019
	MTBF	100,000 hours
Environmental indicators	Applicable scene	Outdoor / Indoor
	Operating temperature	-25℃ ~ +40℃
	Operating Humidity	5% ~ 95%
	Altitude	<2000m
Safety protection	IP rating	IP66
	Low voltage	Yes
	Overload protection	Yes
	Short circuit protection	Yes
	Leakage protection	Yes
	Over temperature protection	Yes

	Lightning protection	Yes
Human-computer interaction	LED light	Yes
	RFID	Only available on RFID model
	Charging connector lock	Yes
	APP	Only available on APP model

Table 1 Technical parameters

7 Charging status indicator

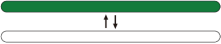
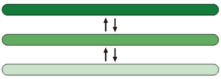
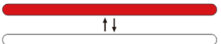
Charging Status	Indicator Status	Icon
Charging Status	Green light on	
Booked for charging	Green light flashing	
Connected	Green light breathing	
Charging	Green light scrolling	
Charging completed	Green light scrolling paused	
Fault	Red light flashing	

Fig6 Color status diagram of charging status indicator

The flashing red light corresponds to the following fault types:

Number of red light flashes	1	Abnormal
	2	Undervoltage
	5	Overcurrent
	6	Short circuit protection
	7	Leakage protection/ Leakage self-check abnormality
	8	1Overtemperature 1
	9	2Overtemperature 2
	10	CC Abnormal
	11	Emergency stop

Table 2 Fault list

The overcurrent protection fault, short circuit protection fault and leakage fault will not continue to charge even the fault is recovered, and can be recovered only after the charging plug is plugged in and unplugged again; other faults do not need to plug in and unplug the charging plug, and the charging will be resumed automatically after the fault is recovered.

8 Instruction for Use

Choose different starting methods according to the specifications of charging station used :

Connect the charging cable to the charging station and the car, when the indicator light of the charging station is green and in the breathing state, it indicates that the charging station has entered the ready charging state.



Fig 8 Button version

1. Make sure the charging station is connected to power.
2. Connect the EV and the charging station with the EV charging cable.
3. The charging station is ready when the indicator turns into light green breathing status.
4. Start charging on the mobile APP.
5. Simply end the charging session on the mobile app, this will unlock the charging connector, allowing it to be safely unplugged.
6. To end the charging session, you must stop charging either on the car or via the car's App first. This action unlocks the charging station, allowing you to smoothly disconnect the charging plug from your vehicle, and preventing interruption of the charging session by others inadvertently pressing the wallbox's side button while the car owner is away.

9 Caution of Using

- 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.
- If the charging connector is dead locked by the charging station due to accident, please turn off the power and refer to the following figure 12, use a small screwdriver to flick the locking tongue upward with forceto, then it can be manually unlock.

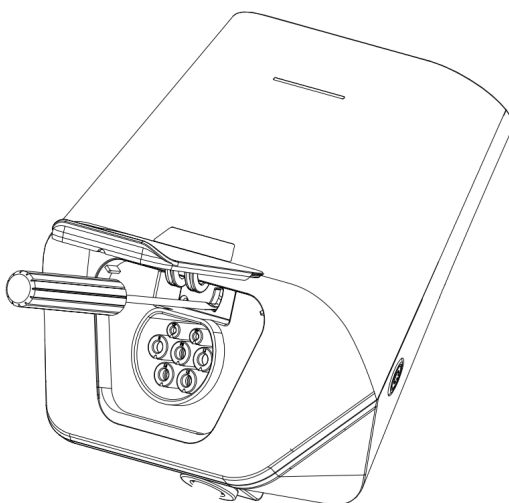


Fig 9 Unlock charging connector manually

10 About Maintenance

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 $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$ 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 Security Warnings

- ◆ 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 the hanging connector is 0.4-1.5m above ground level.

12 Warranty Service

12.1 Warranty Conditions

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 Guarantee Time

Product warranty lasts for 24 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 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.