# BREV-HS32AT2- 3PH AC Charging Station

# User Manual


Reminder: Product pictures of this manual are for informational purposes only, subject to physical information

# Declaration



# Foreword

Thank you for your support of this product. The company focuses on the field of new energy electric vehicle charging, and is committed to providing customers with excellent charging equipment and complete charging operation solutions.

The electric vehicle charging station developed by our company has advanced functions, stable performance, wide application range, strong practicability, mature power station construction and operation solutions, and a good reputation in the industry.

This manual describes and explains the application, technical indicators, operation, troubleshooting, installation, power distribution, and precautions for AC charging station. Please read and understand this manual carefully before opening the box. Keep it for later review. The company reserves the right to modify this manual without prior notice.

# Safety Precautions

1. Before powering on the equipment, please make sure that the equipment is well grounded; keep the charging plug clean and dry. If it is dirty, please wipe it with a clean dry cloth. Do not touch the charging plug with your hands when charging.

2. Before powering on the equipment, please make sure that the input voltage, frequency, circuit breaker or fuse of the device and other conditions have meet the specifications

3. All tools should be insulated as necessary to prevent bare metal parts from touching the metal frame, causing a short circuit;

4. Do not attempt to disassemble, repair or modify the AC charging station. If there is any need for maintenance or modification, please contact the staff. Improper operation may result in equipment damage, water leakage, leakage, etc.

5. Ensure that the equipment is running stably, the equipment should be operated in a clean, constant temperature, and constant humidity environment as much as possible and the operating environment must not contain volatile gases or flammable gases.

6. In case of rain and thunder, please charge carefully;

7. Strictly follow the instructions during operation. During charging, do not allow children to get close to and use the AC charging station to avoid injury.

8. After charging is completed, be sure to hang the charging plug properly back into the charging plug base.

9. Pay special attention to the fact that the charging plug head cannot be placed at random, suspended or dropped on the ground to avoid a safety accident.

# Chapter I Product Introduction

### 1.1 Follow the standards

Type 2: Meet European standards, IEC 61851 / IEC 62196 / CE, IEC 62955(optional).

### Application range

AC charging posts are suitable for providing AC power to electric vehicles with on-board chargers. AC charging stations can be easily and quickly installed in various public, internal and internal parking spaces of the community, and can also be installed in various large, medium and small electric vehicle charging stations.

### 1.2 Main Technical Parameters

| Basic Info | Item | Technology Index | Remarks |
|---|---|---|---|
| | Model | SK-T6ACE032A3P | BREV-HS32AT2- 3PH |
| Electrical Parameters | Rated Input Voltage | AC380V | 3 Phases |
| | Max. Power | 22KW | |
| | Rated Working Current | 32A | 6 mm2 wire |
| | Input Frequency | 50HZ | |
| | Rated Output Voltage | AC380V | 3 phases |
| | Rated Output Current | 32A (8A/16A/24A/32A Current Switching) | |
| | Standby Power | <6W | |
| Environment index | Application Scenes | Indoor/Outdoor | |
| | Working Temperature | -30℃~+55℃ | |
| | Working Humidity | 5%~95% without Condensation | |
| | Working Elevation | <2000m | |
| | Protection Grade | IP55 | |
| | Cooling Method | Natural Cooling | |
| | MTBF | 50,000 Hours | |
| Shell structure | Material | ABS+PC | |
| | Dimension | 345*211*122mm(L*W*D) | |
| | Installations | Wall-mounted / standing pole | |
| | Activate Method | ON/OFF by swiping card (3pcs) | |
| | Net. Weight | 6.0kgs | Type 2 with 5M cable |
| Security design | Over voltage protection, Under voltage protection, Overload protection, Short-circuit protection, Grounding protection, Lightning protection, Current leakage Type A protection (TypeA+DC6mA Optional) | | |

### The AC charging station has the following features:

1) Safe and stable: The wall-mounted/column AC charging station provides reliable electrical safety protection function. It can be anti-theft, dust-proof, waterproof and stable in operation, ensuring long-term reliable operation. Meets the outdoor IP54 protection;

2) System integration: The charging function, man-machine operation, safety protection and other functions of the whole charging station are highly integrated. The system has simple structure, is conducive to production, and is stable and reliable;

3) Simple operation: Friendly man-machine interface and simple operation;

4) Small floor area and convenient installation: small floor area and high space utilization rate, which is convenient for installation and use in places with tight land.

5) Abnormal connection protection: The charging station can judge whether the connection between the station and the vehicle is correct. If the connection is correct, the charging can be started. When the connection between the charging station and the vehicle is abnormal, the charging station shall stop charging immediately to ensure personal safety and charging safety;

6) Multiple protection: The charging station has over-voltage / under-voltage and over-current protection function, when the charging voltage / current is higher than the over-voltage / over-current protection setting or lower than the under-voltage protection setting, the charging station stops charging to protect the charging device. The charging station also has short circuit protection function.

7) DC 6mA leakage protection (optional): Customer can select built-in DC 6mA leakage protection;

8) Multiple protection: moisture-proof, mildew proof, salt proof and rust proof. It can work normally in a humid and salty environment;

9) Beautiful appearance: the overall design is simple and generous, and the theme mask can be customized. The style is colorful;

10) According to special requirements, it can be compatible with new and old standard electric vehicle charging.

### 1.3 Product parts introduction

AC charging station with gun **(Type 2)**


# Chapter II Operating Instructions

## 2.1 Product installation

### 2.1.1 Unpacking inspection

Open the package and check the following items:
1) Visually check the appearance and check if the AC charging station has collision damage during transportation. If there is any damage, please inform the carrier immediately.

2) Check whether the model of the random accessory is complete and correct according to the shipping packing list. If the attachment is missing or the model does not match, the site record should be made in time, and the company's after-sales service should be contacted immediately.

## 2.2 Fixed installation of station

**1) Installation tools:** AC charging station installation accessories, a screwdriver,a drilling machine.

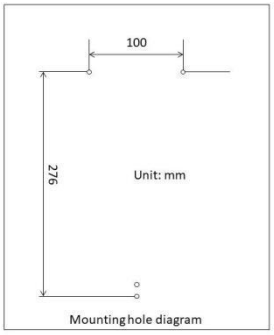
**2) Materials to be prepared:** Charging station power supply and communication (network mode) recommended cable specifications are as follows:

| Cable name | Cable Spec. | Length | Remarks |
|---|---|---|---|
| Power supply wire | 5*6 $mm^2$ | Refer to actual requirement | |

**3) Installation precautions:**
*Before installation, please check the surface of the work piece for scratches.

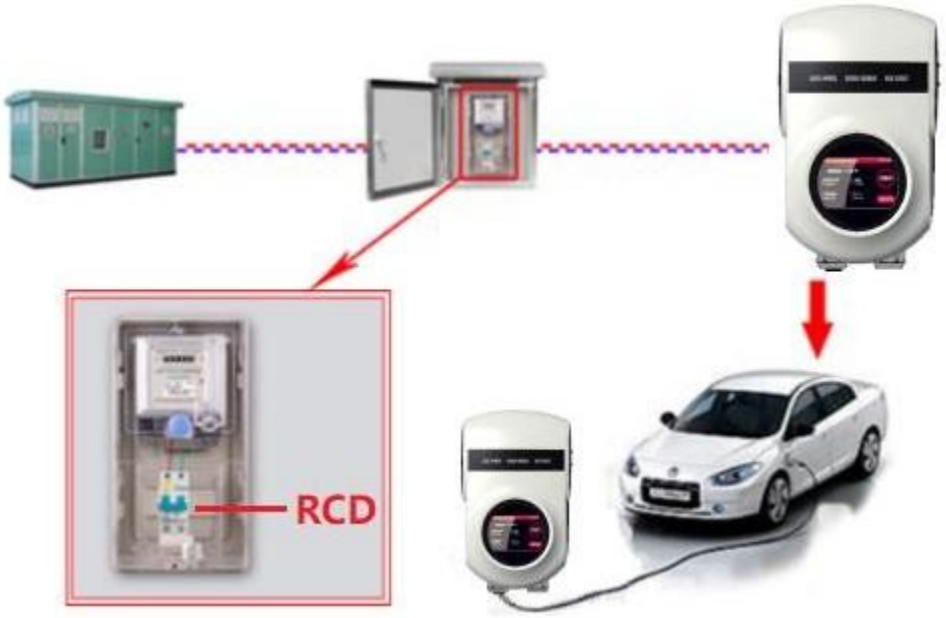
*Do not let the sharp object scratch the product and parts during installation, avoid the appearance of scratches caused by the mutual scratching between the parts, and pay attention to the use of tools, pay attention to personal safety.

**4) Installation steps:**
1) Drill 3 holes on the wall with a percussion drill according to the installation hole diagram;
2) Insert the expansion tube into the 3 holes, lock the two screws above and adjust them;
3) Align the wall hanging holes of the charging station with the two screws above, and hang the charging station on the two screws above;
4) Fix the third screw to the wall through the fixing hole of the charging station.



Mounting hole diagram

**5) Electrical installation**
An RCD leakage protector shall be installed in front of the AC charging station (if your station does not have IEC 62955 feature, this RCD Leakage protector need to be prepared by yourself):




**6) Charging station input incoming line connection:**


Connect the input line from the bottom

When connect LI+N+PE, then the charger input is 1-phse 32A

When connect LI+L2+L3+N+PE, then the charger input is 3-phse 32A

Step1: The device must be grounded. The fire wire (L1, L2, L3) and neutral wire (N) must be tested with the multi-meter.
Step2: Pass the input cable into the AC charging station from the lower cable hole or the back cable hole.
Step3: The electric pen test is lit by the fire wire (L1, L2, L3), and then the L wire and the N wire are respectively connected to the corresponding terminals.
Step4: Use a line card to fix the input line to the card line position
Step5: Close the input cable sides cover plate and tighten the 4 screws

**Safety Warning: In order to ensure safe charging, the user must strictly follow the phase sequence of the incoming terminal when wiring the input. At the same time, the AC charging station with rated current of 32A, the input incoming line is not less than 6 mm² copper core wire.**

## 2.3 The following safety regulations are observed when charging and wiring the charging station:

| No. | Item | Safety rules | instruction |
|---|---|---|---|
| 1 | AC charging station preamplifier | The circuit breaker must be installed in the front stage of the AC charging station input power supply: Rated current 32A, circuit breaker selection 40A. | The AC charging station is effectively isolated from the power grid when there is a safety problem during use. |
| 2 | AC charging station incoming line phase sequence | Wire in strict accordance with the phase sequence of “AC charging station input incoming line connection” | Ensure charging safety. |
| 3 | AC charging station entry line diameter | Rated current 32A, wire diameter not less than 6 $mm^2$. | When charging normally, the cable does not generate heat due to large current. |
| 4 | Input power parameter | Make sure the input power parameters match the charging stub. | Ensure charging safety. |
| 5 | AC charging station line process | Exposed wiring must be protected by effective measures such as conduits to avoid crushing or scratching the wires. | Protect the line from damage. |
| 6 | Measuring with a test pencil | When installing the access line, you must use the test pencil to test the live (L) neutral (N) to the corresponding terminal. | The device comes with a phase sequence detection function to prevent reverse connection and ensure safe use of electricity. |

**Note:** If you have any questions about the above requirements or use, please contact the equipment manufacturer for confirmation to ensure safe use.

**Special reminder:** Considering the line loss during power distribution, the distribution distance of the AC charging station should be shortened as much as possible. It is recommended that within 50 meters. If the distribution distance is long, the wiring diameter of 1~2 level should be increased to reduce the line loss.

## 2.4 Device power-on inspection and debugging

### 2.4.1. Pre-run check

Before running, please double check and ensure the following items:

1) AC charging station installation location for easy operation and maintenance
2) AC charging station and accessories are properly connected and installed firmly
3) Reasonable selection of AC inlet leakage protection switch
4) No external objects or parts left on the top of the AC charging station

### 2.4.2. Power on the device

1) Make sure that the above pre-operation check items meet the requirements.
2) Close the power supply line leakage protection circuit breaker
3) Powering up the AC charging station:

*Normal standby: the blue light is always on
*Equipment failure: red light flashes
*Charging: green light flashes

### 2.5 Charging operation

**2.5.1 Adjust current** (Adjust Current Version only)

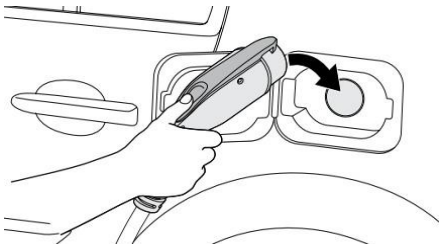
In the standby state, the blue light is always on, press the adjust current switch to switch between 8A/16A/24A/32A. The current gear is indicated by the on and off of the current indicator.

**8A** **16A** **24A** **32A**

**2.5.2 Charging connection**

Step 1: park your electric car;

Step 2: Take the charging gun from the station and insert it into the inlet of the electric car. Please check it carefully to ensure it is inserted correctly.



**2.5.3 Start /Stop Charging**

1) Once the electric car and the AC charging station is correctly connected, swipe the IC card of AC charging station on the marked swiping area, the AC charging station will start charge, the LED indicator flashes green light.

2) When the electric car battery is fully charged, the AC charging station will automatically end charging, the electromagnetic lock is turned off, the LED indicator turns blue, and the charging plug can be unplugged.

3) If you need to end charging before fully charging, swipe the same card on the marked swiping area of the AC charging station, the electromagnetic lock is turned off. The LED indicator turns blue; you can unplug the charging plug.

4) In emergency situation, press the emergency stop button, the AC charging station will stop charging. The indicator flashes red. After release the emergency, rotate and open the button, the indicator turns blue.

## Chapter III Packaging, Transportation and Storage

### 3.1 Packaging

Use a fully enclosed package that is protected from moisture, dust, and mechanical damage.

Technical documents:

1) One set of charging station instruction manual

2) One accessory kit with 3 screws and one certificate of conformity

### 3.2 Transportation

During transportation, the product should not be subjected to severe vibration, impact and inversion.

### 3.3 Storage

If the product is not used immediately after purchase, it should be stored in a dry, well-ventilated indoor place or stored in a dry, well-ventilated indoor place when stored for short-term or long-term storage, or stored in rain, moisture and high temperature, the place of the sun. The equipment

operates under normal working conditions and generally does not require special maintenance during its lifetime. Please contact the manufacturer if you have any problems.

# Chapter IV Malfunction elimination and dealing methods

| No. | LED indicator | Malfunction description | Dealing Methods |
|---|---|---|---|
| 1 | Light all Off | Power down | Check L I / L2 / L3 / N / PE wiring |
| 2 | Blue light on | Power on standby | Normal |
| 3 | Flashing green | Car connected | Normal |
| 4 | Green light on | Charging | Normal |
| 5 | Flash 1 time | Fault, RCD leakage protection or PE has current | Pull out the plug and wait for the fault to be eliminated. |
| 6 | Flash 2 times | Fault, Over-current Fault | Pull out the plug and wait for the fault to be eliminated |
| 7 | Flash 3 times | Fault, Ground(PE) Disconnect Fault | Check if PE is connected |
| 8 | Flash 4 times | Fault, Over-voltage | Check whether the incoming lines L and N are connected incorrectly |
| 9 | Flash 5 times— | Fault, Contactor Welded Faults | Whether the contactor control line is loose, or the contactor is damaged, replace the contactor. |
| 10 | Flash 6 times— | Fault, CP voltage errors | Check if the CP is plugged in tightly, check if the CP is short-circuited. |
| 11 | Flash 8 times | Fault, Under voltage | Check if the incoming line is loose. |
| 12 | Flash 9 times | Fault, Over temperatures | Stop charging and wait for normal temperature. |