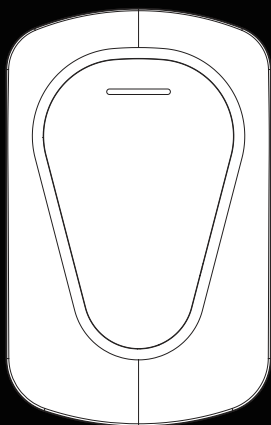


Welcome

Lightcloud[®]



EVC48/LCB

Charging Station

INSTALLATION INSTRUCTIONS

RAB[®]

1. Safety Instructions

Please read all Important Safety Instructions as well as charging instructions in your vehicle owner's manual before attempting to charge your electric vehicle. Failure to do so can result in death or severe injury. Save this user manual for future reference. There are many safety features built into the charger. Read all the safety information and warnings in this manual to avoid any risks or hazards and risks associated with using this charger.



INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK
IMPORTANT SAFETY INSTRUCTIONS, SAVE THESE INSTRUCTIONS

- a) Read all the instructions before using this product.
- b) This product should be supervised when used around children.
- c) Do not put fingers into the electric vehicle connector.
- d) Do not use this product if the flexible power cord or EV cable is frayed, had broken insulation, or any other signs of damage.
- e) Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- f) This product cannot be dismantled, repaired or modified by the customer.
- g) To reduce the risk of fire, connect only to a circuit provided branch circuit over-current protection in accordance with ANSI/ NFPA 70 National Electrical Code (USA).
- h) WARNING!

GROUNDING INSTRUCTIONS

This product must be connected to a grounded, metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.

- i) When any fault occurs, the product is prohibited to use, the user is prohibited to repair, must be sent to the after-sales maintenance or call the after-sales service for help.
- J) Risk of electric shock.

2. Federal Communication Commission Interference Statement

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This equipment may not cause harmful interference, and (2) this equipment must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital equipment, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 7 7/8 inch (20cm) between the radiator & your body.

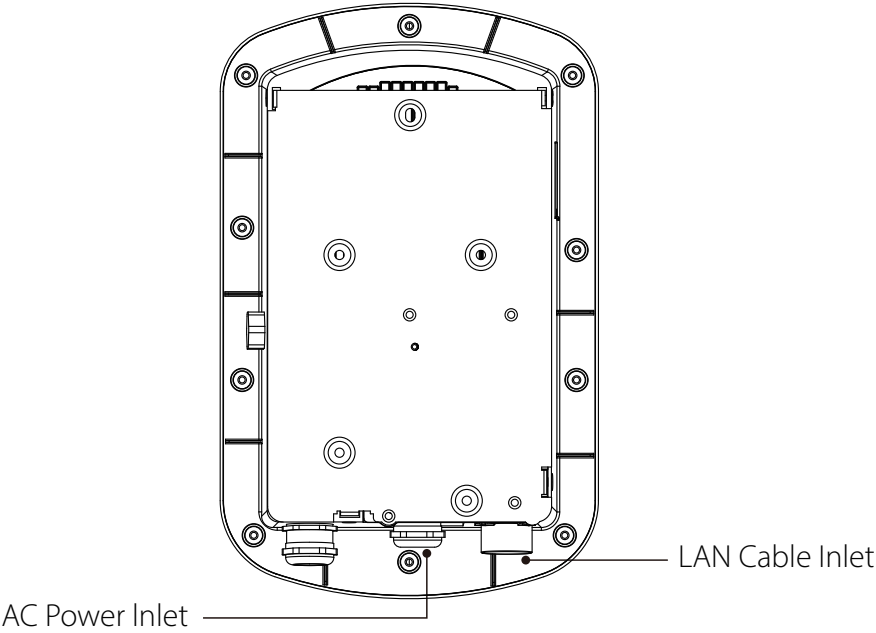
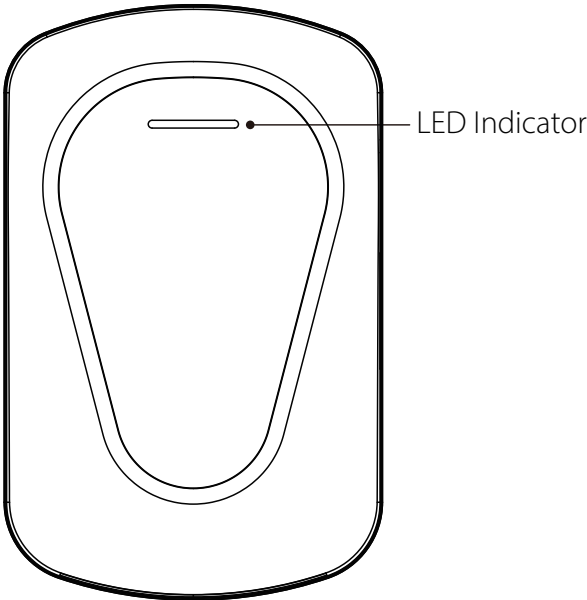
CAUTION

- Risk of electric shock. Do not remove cover or attempt to open the enclosure. No user serviceable parts inside. Refer servicing to qualified service personnel.
- Do not use this product if there is any damage to the unit. To reduce the risk of electric shock, connect only to properly grounded outlets.

WARNING

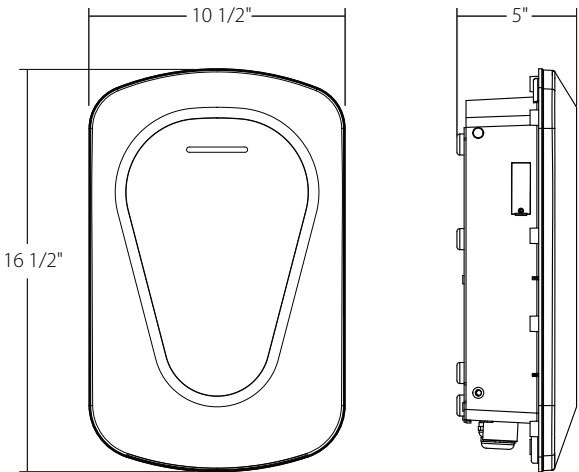
- Only for use with vehicles that do not require ventilation.
- To avoid a risk of fire or electric shock, do not use this device with an extension cord.
- Risk of explosion. This equipment has arcing or sparking parts that should not be exposed to flammable vapors. This equipment should be located at least 460 mm (*18 inches*) above the floor.

3. Interface

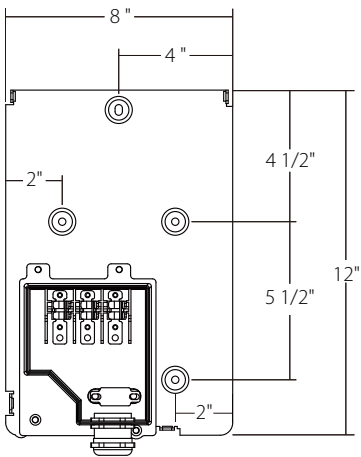


4. Dimensions

Charger



Wall-Mount Bracket

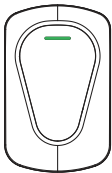


5. Equipment Specifications

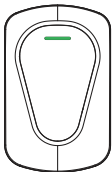
EVC48/LCB specifications

| | |
|-----------------------|--|
| Maximum Power | 11.5KW |
| Input Voltage | 200-240VAC / L-L/L-N Single phase |
| Output Voltage | 200-240VAC / L-L/L-N Single phase |
| Input Current | 48A |
| Output Current | 48A |
| Input Frequency | 60Hz |
| Charge Mode | Plug & Play or App Control |
| Operating Temperature | -30°C to +50°C (-22°F to 122°F) |
| Relative Humidity | ≤90% |
| Protection Level | Type 4 |
| Impact Resistance | IK08 |
| Output Protection | Leakage protection, Over-voltage protection, Over current protection, Under-voltage protection, Automatic full charge protection, Control pilot fault protection, Over temperature protection. |
| Input Protection | Leakage protection, Over-voltage protection, Over current protection, Under-voltage protection, Over temperature protection. |
| Installation mode | Wall-mounted |
| Cable length | 18 ft |
| Dimension | 16 1/2 x 10 1/2 x 5 inch |
| Operating Environment | Indoor & Outdoor |
| Application | Residential charging |
| Output Interface | SAE J1772 AC |
| Altitude | ≤6561.68 ft |
| Net Weight | 16.5 lbs(Contains a gun and 18ft output cable) |

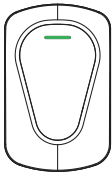
6. LED Indicator Description



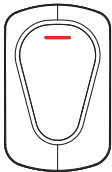
Unprovisioned/Factory new
Green Light and Red Light alternate on 1 second



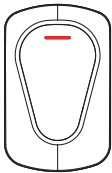
Paired and Available
Green light always on



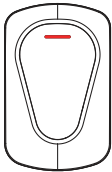
Charging
Green light breathing



Electric leakage
Red light flashes, 2 seconds on, 2 seconds off



Ground fault
Red light flashes, 4 seconds on, 4 seconds off



Power meter malfunction
Red light flashes, 6 seconds on, 6 seconds off

Note: Contact RAB technical Support for guidance and a licensed electrician to service the electric vehicle charger.

7. Installation Instructions

7a. Contractor Safety Guide

- A safe work environment for everyone - participants, installation and demolition crews, contractors and subcontractors.
- Ultimately, it is the responsibility of contractors to ensure the safety and safe work practices of their employees and subcontractors who may be working at the site on their behalf.
- This guide provides a simple reference guide with basic rules for implementation. This guide does not outline every single safety standard: it is designed to be a supplement to participants, contractors and subcontractors.
- Contractors, subcontractors and employees should cooperate with their employers and other persons in complying with safety regulations and instructions.
- In particular, employees should:
 - Obtain the qualified authorization of the responsible unit in the construction area.
 - Work safely.
 - Not do anything to endanger themselves or other persons.
 - Use personal protective equipment as required and take reasonable care of when it is not in use.
 - Report unsafe activities immediately to supervisors or the responsible person in control of the workplace, and Report all accidents and dangerous occurrences to the supervisor immediately after they happen.

1- Reference standards



Adhere to the following codes:

- NFPA-70E -2021 Sec 110.3 (*Electrical Safety in the Workplace*)
- NFPA-70E -2021 Sec 130.4 (*Shock Risk Assessment*)
- NFPA-70E -2021 Sec 130.5 (*Arc Flash Risk Assessment NFPA-70E-2021 Sec 110.3 (Electrical Safety in the Workplace)*)
- NFPA-70E -2021 Sec 130.4 (*Shock Risk Assessment*)
- NFPA-70E -2021 Sec 130.5 (*Arc Flash Risk Assessment*)

2- Requirements for workplace conditions



- Set up suitable fencing to isolate the construction area from outside
- Close and secure all entrances when the site is unattended
- Hang warning notices nearby which show the following information: warning icon and phone number of people in charge
- Install sufficient lighting fixtures

3- Cleaning up



- Keep work areas (*including accessways*) free from debris and obstructions
- Keep ground surfaces tidy and flat, to avoid people tripping or being hurt by tools or other objects
- Stack and store equipment and materials in a tidy and stable manner
- Regularly clean up and dispose of waste
- Remove all surplus materials and equipment after completion of work

4- Fire hazards



- Beware of flammable materials and goods. Keep them away from work areas

5- Protection against high temperatures on the worksite



- Erect a sunshade or shed to shelter workers from the heat and sun
- Set up cooling equipment, such as exhaust fans
- Make water dispensers available
- Provide suitable protective clothing such as hat, sunglasses and long sleeves to protect workers from heat stroke and UV rays

6- Inclement weather



- Secure all scaffoldings, temporary structures, equipment, and loose materials
- Check and implement SOP to ensure disconnection of gas supplies, electrical circuits and equipment
- Inspect worksites to ensure protection against ingress of water or dust
- Inspect the drainage system for blockages and remove if found
- Stop all outdoor works except for emergency works

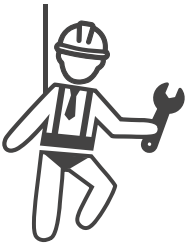
7- Ladders



- Only use ladders that meet local safety regulations
- When working at height, it is recommended to use platforms instead of ladders
- If using a platform is not practicable, a supervisor should assess the potential risk and provide safety
- protection equipment for workers
- use non-conductive ladders made of glass-fiber or reinforced plastic when carrying out electrical work
- Assign assistants to provide support when working on ladders
- Check all ladders for broken rungs or other defects before use and periodically
- Fully open stepladders when in use
- Do not overreach when working on a ladder
- Beware of overload restrictions

| Country | Standards |
|---------|---------------------------------------|
| USA | ANSI A 14.1, ANSI A 14.2, ANSI A 14.5 |

8- Working at height



- Avoid working at height by using alternative tools and methods as far as practicable
- It is strongly recommended to build suitable scaffolding or work platforms
- Provide fall arrest systems for workers if it is impracticable to use working platforms
- Secure all materials and tools to prevent them falling from height

9- Lifting operations



- Have lifting gear and apparatus regularly inspected and tested by qualified persons
- Isolate and cordon off lifting areas to keep out non-construction personnel
- Ensure that lifting routes do not cross buildings or people, and avoid collision with objects
- Do not exceed safe working load limits

10- For on-site workers

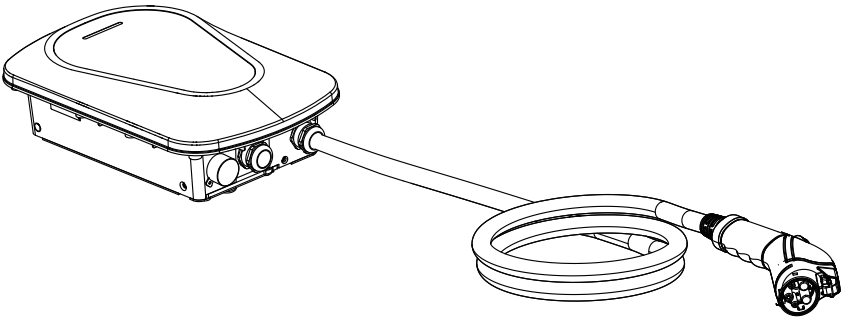


- Plan all work
- Turn off power (*work with live parts de-energized whenever possible*)
- LOTO (*Lock Out, Tag Out*)
- Live electrical work permit (*input terminals with HV after door open*)
- Use personal protective equipment (*PPE*)
- Safe workplace conditions and space
- Adhere to other occupational health, safety and security codes, such as those published by OSHA

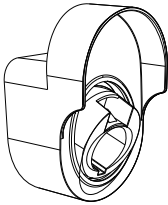
7b. Safety Requirements

- Read this user manual thoroughly and make sure to review all local building and electrical codes before installing the AC charger. A qualified technician should install the AC charger according to the user manual and local safety regulations.
- Use appropriate protection when connecting to the main power distribution cable.
- Type C breaker with a rating current of 60Amp should be installed in the upstream AC distribution box.
- Disconnect switch for each ungrounded conductor of AC input shall be provided by others in accordance with the National Electric Code, ANSI NFPA 70.
- Verify that the Wall Connector is properly grounded. The ground connection must be bonded in the upstream power supply for proper operation. Check all physical connections, including the wire box terminals, electrical panel(s), and wire box. In residential power supplies, check the bond between ground and neutral at the main panel. If connected to a step- down transformer, contact the transformer's manufacturer for direction on how to bond the ground connection.

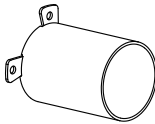
7c. Contents



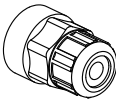
AC charger
with charging cable



Nozzle holder × 1



Protective cover × 1



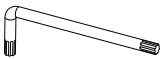
Connector × 1



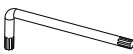
Expansion
screw × 8



M5 self-tapping
screw × 8



Torx/T25
L-wrench × 1



Torx/T20
L-wrench × 1

Note: The cordset metal tube and Ethernet cord with the anti-theft tube do not with the EV charger shipped, only as an accessory.

*Recommended: The cordset metal tube size for AC inlet lines is 1 inch.
Ethernet cord with the anti-theft tube size is 1/4 inch.*

7d. Tools and Materials Required

Tools required before installing the charger onto the Wall-Mount Bracket are:

- Wire stripper.
- Phillips screwdriver for M4—M6 1-3/8 inch or 6 mm drill diameter.
- Voltmeter or digital multimeter (*for measuring AC voltage at the installation site*).
- The inserting cable should meet the best waterproof performance requirements.
It is recommended to use a 3 core 6 AWG to pull the cable from the distribution box.
The maximum outer diameter of the cable should be 5/8-7/8 inch.
- Bubble level
- Pencil or marker
- Drill
- Slotted head screwdriver for M5.

7e. Wall-Mount Installation Requirements

Before installing the wall-mount bracket, you should Confirm the load capacity of the wall exceeds 88.18 lbs. When installing on a concrete wall, you can use the included expansion screws to install the bracket and use a hammer drill to drill holes on the concrete wall (*Dia 1/4 inch*) following the hole spacing.

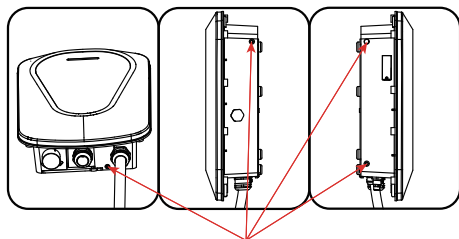
When installing on a wooden wall, use the included M5 self-tapping screws to install the wall-mount bracket .

- To select the best location and position to install the wall-mount unit, you should first determine the parking position of the vehicle to ensure the charging connector can be easily inserted into the vehicle charging inlet.
- The wall-mount unit should be located:
 - In a well-ventilated area. Avoid installing in closed spaces or near to exothermic chargers.
 - 1.2 meters or 4 feet above the floor.
 - 10 inches from any obstacles to allow cables to loop around the wires and to allow related maintenance.
 - If in an enclosed garage, Install the EV Charger on the side of vehicle charging inlet.

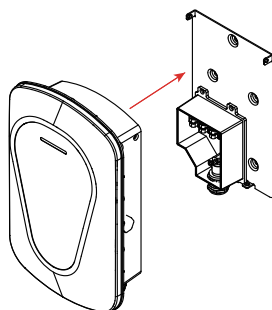
7f. Installation Steps

EV Charger

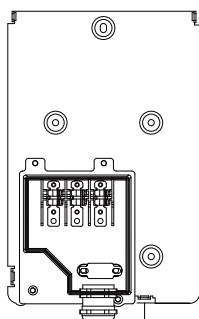
Removing the 4 screws on the left side, right side and bottom



Remove the bracket



Use as a template to mark on the wall with a pencil

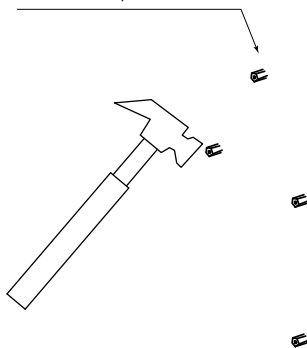


24 - 47 1/2"

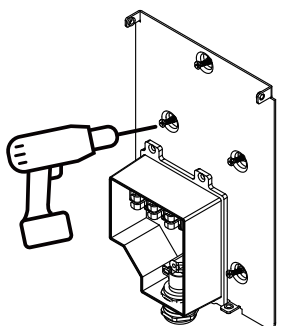


Height from ground 24 - 47 1/2"

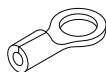
Drill 4 holes on the wall (Dia 1/4")
Secure the expansive screws



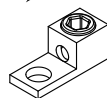
Secure the wall mount bracket to the wall



Three power cables are connected to ring terminals (or quick-connect terminals). Recommended terminal size: 16 mm², power cables 6AWG.



or



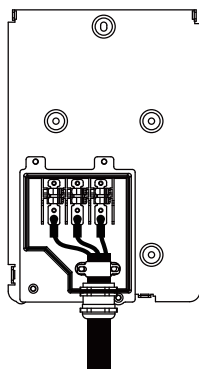
or



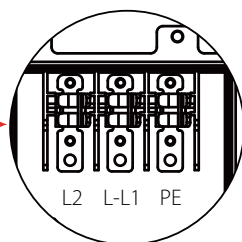
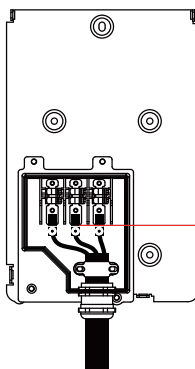
Remove the waterproof connector and fixing strip. Route the power cord through the waterproof connector to the wire box.

Terminal screws secure the cable box. Refer to the label on the wire box for the correct position, from left to right, L2, L-L1, PE.

Tighten the waterproof connector and lock the power cord with the retaining strip.

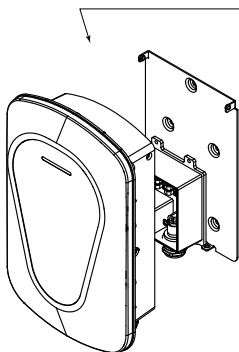


or

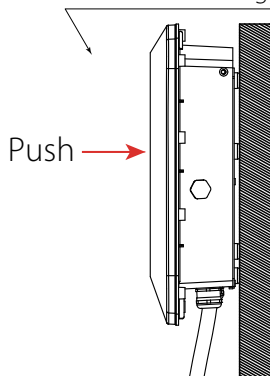


Note: The terminals must be locked, otherwise there is a risk of ignition and burning of the device.

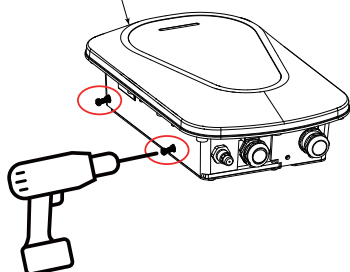
Hang the charger on the
wall-mount bracket



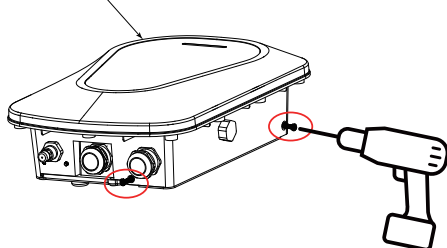
Push the charger so that the
screw holes are aligned



Lock the left two screws

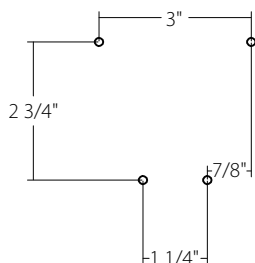


Lock the bottom and right screws

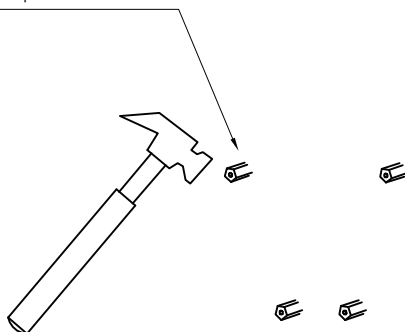


Note: This device shall be mounted at a sufficient height from ground such that the height of the storage means for the coupling device is located between 18" and 48" from ground for indoor use, between 24" and 48" from ground for outdoor use.

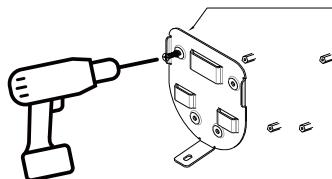
Charging Connector Holder



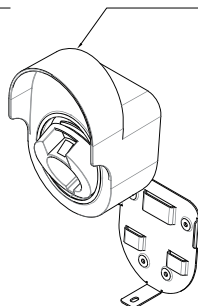
Secure the
expansive screws



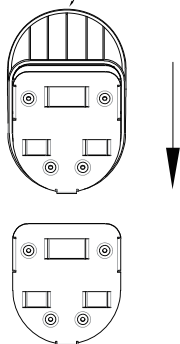
Secure the nozzle holder
bracket to the wall



Align the nozzle holder to
the mounting plate



The nozzle holder slides down
to fit in the mounting plate



Lock the anti-theft screw



7g. Input Device Requirements

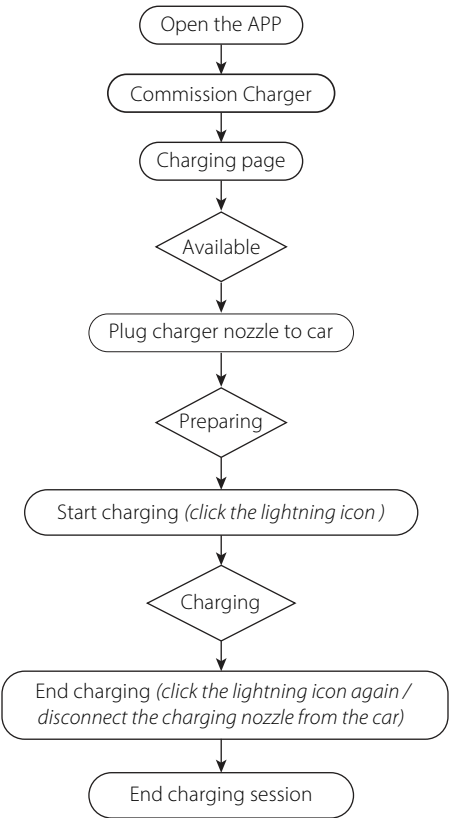
EVC48/LCB (48A rated EV Charger):

Cable for Hardwire: 3X6AWG

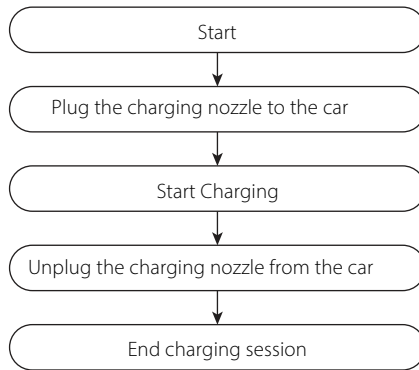
Breaker: Minimum requirements 50A/2P

8. Charging Operation Flowchart

8a. APP Control



8b. Plug & Play



9. Commission EV Charger

- ① Confirm your device is powered on.
- ② Download the Lightcloud Blue APP from the Apple Store.
- ③ Register for an account and password, and then login to the app.
- ④ Select EV Tab, finish the login process, then click the "+" to add charger.
- ⑤ Open the bluetooth, select the device, Input "000000" in the pop-page and click "Confirm".
- ⑥ Then enter the WIFI page, select the required WIFI, or click the "Manual ssid" to add the required WIFI.
- ⑦ After WIFI configure successfully, It will jump to the "Devices" page.
- ⑧ Click the device to enter the charging page. it will display "Available" below the lightning icon.
- ⑨ Connect the charging connector to the car, it will display "Preparing" below the lightning icon, then click the lightning icon to start charging.
- ⑩ During charging, it will display "Charging" below the lightning icon.
- ⑪ Click the lightning icon again or disconnect the charging nozzle from the car to end charging, it will display "Finished" below the lightning icon.

10. Setting Device to Pairing Mode

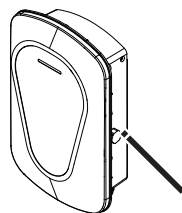
If your Lightcloud Blue Charger Station is already paired, you can reset it by using the below methods.

Method 1: Delete from App

Open the app and access the device settings for the paired device. Be sure that the charger station is online and select "Delete".

Method 2: Rapid Reset Tool

The rapid reset process must be done by professional electricians qualified by RAB. Reach out to your RAB sales manager to request a Rapid Reset Tool. The tool simply needs to be placed directly on the location on charger station (*see right picture*) for 2 seconds. The charger station will flash 3 times, reset to unprocessed mode.



(Touch this area with Reset tool three times in five seconds)

11. Maintenance

Please keep the charger clean and install it in a clean area with low humidity. Do not install it in an environment near the ocean, with high levels of oil, humidity or dust.

- Avoid water into the charger. If water gets into the charger, immediately power off the charger to avoid danger. Proceed to contact the professional technician before next use.
- Use the charger correctly. Do not hit or press hard on the case. If the case is damaged, please contact a professional technician.
- Avoid placing the charger near to hot objects and in high-temperature locations, and keep it away from dangerous substances such as flammable gases and corrosive materials.
- Do not place external objects or heavy objects on the charger, in order to avoid danger.

12. Warranty

Electric Vehicle Charger products will be free from defects in materials and workmanship for a period of (3) years from the date of original sale to RAB's distributor. The product shall be considered defective only if it cannot be brought back to service by assistance from RAB technical product support representative. If you have a technical issue or question regarding warranty, call our technical support team at RAB Help line.

Exceptions apply as stated on product specification sheets incorporated herein by reference. Defects in material or workmanship do not include improper installation or operation, alterations, power surges or overheating due to external conditions.

Defects caused by acts of vandalism and incidents beyond control of manufacturer resulting in inoperability of the electric vehicle charger are not covered by the material or workmanship warranty.

13. Functionality

Configuration

All configuration of Lightcloud Blue products may be performed using the Lightcloud Blue web application, or by calling RAB.

Emergency default

If communication is lost, the Lightcloud charger station will revert back to the last known 'On' status. This setting can be adjusted using the Lightcloud Blue mobile app.

(Warning: Any wires not in use must be capped off or otherwise insulated.)

FCC Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause Note: This device has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 Subpart B, of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To comply with the FCC's RF exposure limits for general population / uncontrolled exposure, this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

CAUTION: Changes or modifications to this equipment not expressly approved by RAB Lighting may void the user's authority to operate this equipment.

WE'RE HERE TO HELP:

1 (844) LIGHTCLOUD

1 (844) 544-4825

support@lightcloud.com

Technical Support:

(888) 728-4094



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