INSTALLATION & USER MANUAL

EasyCharge Residential Charger Kit

PowerCharge®
500 Canal View Blvd, Suite 100 | Rochester, NY 14623
www.PowerChargeEV.com | 585-533-4051

Important Safety Instructions
Related To Risk of Fire or Electric Shock

WARNING: When working with electrical products, basic precautions should always be followed. This manual contains important instructions for models PC-EC48-01 and PC-EC48-02 that must be followed during installation, operation, and maintenance.

1. Please read all instructions before using this product.
2. Use of this device around children should be done under supervision.
3. Do not stick your fingers into the EV connector.
4. Do not use this product if the flexible power cord or charging cable is frayed, has torn insulation, or has any other damage.
5. Do not use this product if the housing or EV connector is broken, cracked, open, or otherwise damaged.
6. Operating temperature range: -30°C to 50°C.
7. To reduce the risk of fire, connect only to a circuit with appropriate branch circuit overcurrent protection in accordance with the National Electrical Code (ANSI/NFPA 70) and Canadian Electrical Code Part I (C22.1).
8. Disconnecting Means. For equipment rated more than 60 amperes or more than 150 volts to ground, the disconnecting means shall be provided and installed in a readily accessible location. The disconnecting means shall be lockable open in accordance with 110.25.

SAVE THESE INSTRUCTIONS

Contents

Abbreviations

S/N	Abbreviations	Description
1	EV/PHEV	Electric vehicles, either BEV (battery electric vehicles) or PHEV (plug-in hybrid electric vehicles)
2	EVSE	Electric vehicle supply equipment
3	kW	Kilowatt
4	A	Ampere (unit of current)
5	V	Volts (unit of voltage)
6	Hz	Hertz (unit of frequency)
7	RFID	Radio frequency identification

Safety Instructions

In this manual, the following warning labels and precautions are used on AC EV Chargers:

WARNING

For use with Electric Vehicles.
Ventilation Not Required.
To avoid a risk of fire or electric shock, do not use this device with an extension cord.
This device is intended only for charging vehicles not requiring ventilation during charging.

CAUTION

To reduce the risk of electric shock, connect only to properly grounded outlets.
Do not use this product if there is any damage to the unit.
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.

Standard

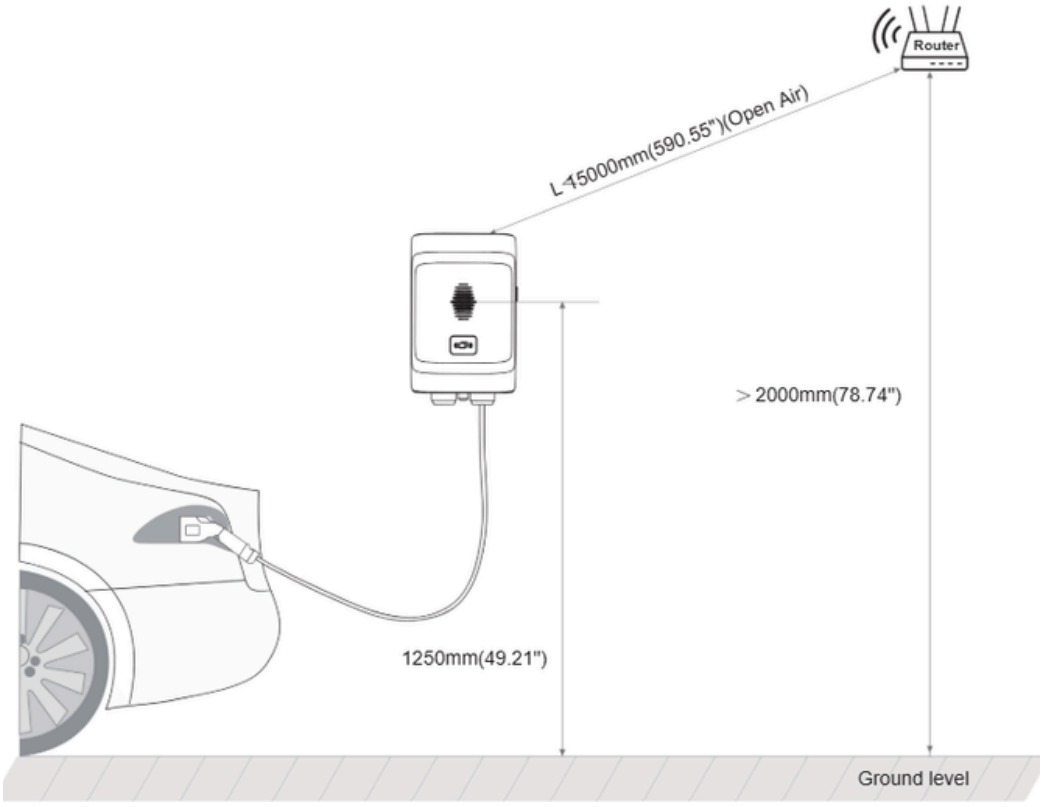
Safety Standard
Complies with UL 2594 UL 2231 UL 1998 UL991

Radio Frequency Standard 47CFR
Part 15 (2020)
ANSI C63.4 (2014)
ICES-003 Issue 7: October 2020+

Energy Star Standard.
ENERGY STAR® Program Requirements for Electric Vehicle Supply Equipment (EVSE)
Version 1.0, 1.1 and 1.2

Wi-Fi Signal Requirements:
Before installation, always check your specific EV charger's manual for exact distance requirements and ensure the location has strong Wi-Fi signal strength for optimal smart features as follows:

- Ensure the distance between the router and the charger itself is less than 15 m.
- Ensure there are no physical barriers or sources of signal interference between the charger and the wireless router.



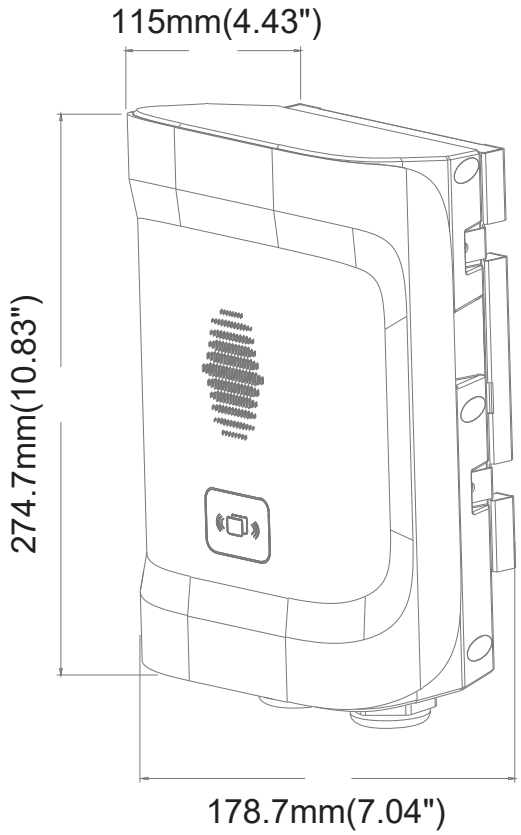
1 Product Information

1.1 Type

Welcome to our PowerCharge® AC EV Charger.

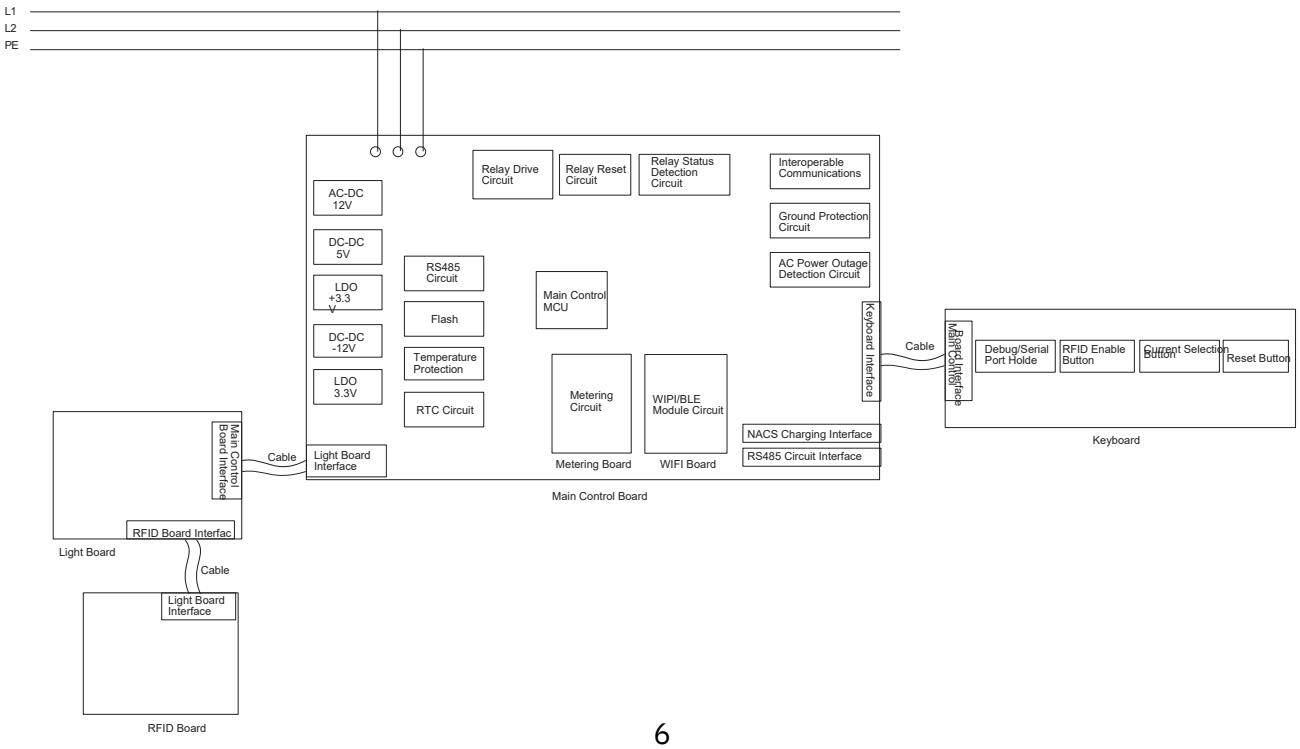
1.1.1 Shape and Size

The shape and size of the AC EVSE is shown in the figure:



1.1.2 Block Diagram

The EVSE block diagram is shown below:



1.2 Specifications

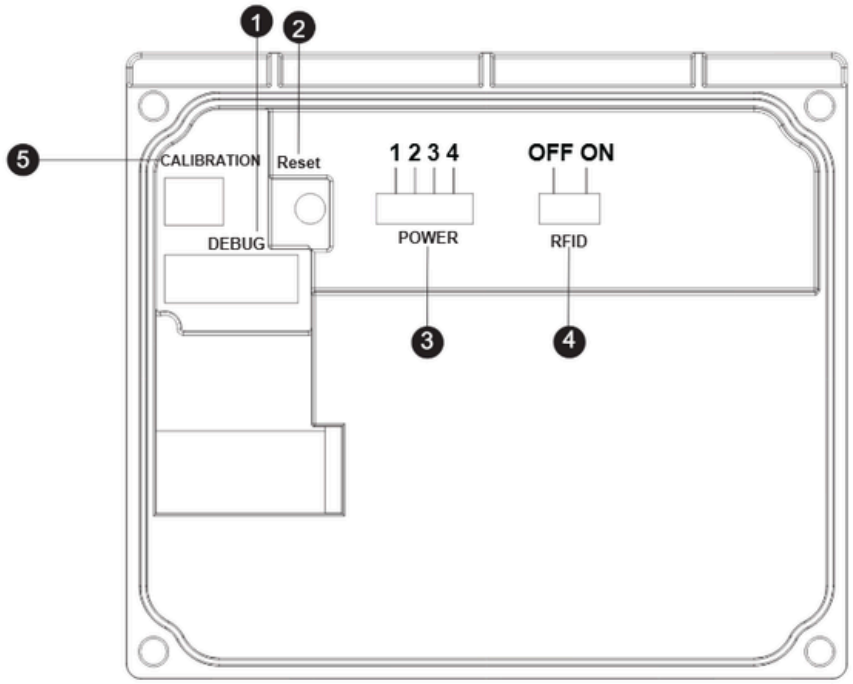
American Standard AC EV Charging Specifications						
Category	Specifications & Parameters					
	Model	Rated input/ output voltage	Rated input current	Rated output current	Max power	Charge coupler
Power Specification	PC-EC48-01	208/ 240VAC 60Hz	48A	48A	11.52kW	SAE J1772 48A
	PC-EC48-02	208/ 240VAC 60Hz	48A	48A	11.52kW	SAE NACS 48A
Power Wiring	Hardwired via pigtail :L1/L2/PE | L/N/PE					
Communication	RS485					
User Interface & Control	RGB LED light					
User Interface & Control	Power option switch					
	Reset switch					
	RFID enable switch					
Firmware Upgrade	Local update possible					
User Authentication	RFID [supports ISO14443-compliant type A, MIFARE One (MF1) cards]					
Memory	Flash ROM(16M-byte)					
Real Time Clock	Supercapacitor					
Protection Function	CCID20					
	Over voltage protection					
	Under voltage protection					
	Over-current protection					
	Overload protection					
	Ground protection					
	Over-temp protection					
	Surge protection 6 kV @ 3,000A					
	Fault self-test					

1.2 Specifications *(continued)*

Environmental	Enclosure protection: type 4,IK08	
	Operating temperature: -30 ~ 50°C(-22~122°F)	
	Storage temperature: -40 ~ 75°C(-40 to 167°F)	
	Humidity: up to 95%, non-condensing	
	Altitude: ≤2000m	
	Cooling method: natural cooling	
Mechanical Parameter	Net weight: 5.7 KG(Hardwired via pigtail) 6.3KG (NEMA 14-50P) [Weight based on 25ft cable length]	
	Product outline size: H*W*D (274.66 mm *178.73 mm *115 mm)	
	Cable length: 25 ft or customization	
Regulation	Safety regulations: ETL(UL2231 UL2594 UL1998 UL991)	
	Energy efficiency: Energy Star (Requirements for Electric Vehicle Supply Equipment (EVSE) Version 1.0, 1.1 and 1.2)	
	Wireless certificate: FCC / IC	
Warranty	2 Years	

2 Operation

2.1 About the Interface



S/N	Name Label	Function	Parameters/Specifications
1	DEBUG	Debug Port	
2	Reset	Reset button	Press the button for 5 seconds for clear Wi-fi SSID & Password
3	POWER	Power Configuration Switch	1 (16A) 2 (32A) 3 (40A) 4 (48A)
4	RFID	RFID Enable Switch	OFF/ON
5	Calibration	Meter Calibration Port	

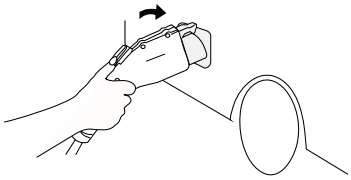
2.2 Switch

For 48A charging operation, a permanent hardwired connection is required. Use 6 AWG wiring as recommended.

3 Function Introduction

3.1 Operation Guide

Option 1: Plug and charge



Option 2: Swipe the card to start charging

If you need to stop charging midway, you can swipe your card to stop charging.

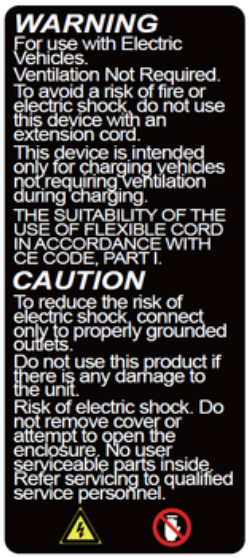
3.2 Troubleshooting

When an abnormal state occurs during charging, you can check the relevant fault information through the mobile app, and when the light bar makes corresponding prompts, please remove the charge coupler from the vehicle socket.

Fault Code	Handling Method
Leakage Fault	Disconnect charging vehicle, check power supply, power off and restart. Observe whether the fault recurs. If the fault recurs, repair is required. If it doesn't recur, change another car to conduct a comparison test. If it does not recur after changing the car, it means the car is leaking electricity.
Grounding Abnormality	Check the grounding condition of the charging pile and eliminate the problem of poor installation and wiring, If the fault still occurs after confirming that the grounding is good, repair is required.
Relay Abnormality	It is recommended to restart after a power outage, It is recommended to restart after a power outage.
Overcurrent	Check the power configuration and disconnect the charging vehicle. If the fault is restored, it is a power compatibility issue. If it cannot be restored, repair is required.
Overload	Check the power configuration and disconnect the charging vehicle. If the fault is restored, it is a power compatibility issue. If it cannot be restored, repair is required.
Over-temperature	1. Check whether the charging pile is covered or installed in a high-temperature environment that exceeds the specifications. 2. After cooling down, recheck whether it will occur. If the fault recurs, repair is required.
Overvoltage	1. Check whether the grid voltage is abnormal. 2. Check whether the input cable is connected correctly.
Undervoltage	1. Check whether the grid voltage is abnormal. 2. Check whether the input cable is connected correctly.
CP Communication Abnormality	Cut off the power and restart, replace the vehicle and charge it. If the fault recurs, it needs to be returned to the factory.
Meter Abnormality	Power off and restart. If the fault recurs, repair is required.
Card Reader Abnormality	Power off and restart. If the fault recurs, repair is required.

4 Product Installation

4.1 Labels



4.2 Packing List

Material Name	Quantities (PCS)	Illustration
AC Charger	1	
Socket	1	
M6 Expansion Screws	3	
M4 Anti-theft Screws	2	
J-Hook	1	
Nema Plug	1	
Light Indicator Sticker	1	

4.3 Check and Confirm

When unpacking, please carefully confirm the following points:

- According to the packaging list, whether the accessories are missing.
- Whether there is any damage during transportation.
- Whether the model and specification on the nameplate of the machine are consistent with the order requirements.
- If any damaged or missing parts are found, do not start the machine and contact the supplier as soon as possible.
- Please retain the box and packaging materials for at least one month in case return shipping is required. Paper packaging is recyclable.

4.4 Preparation

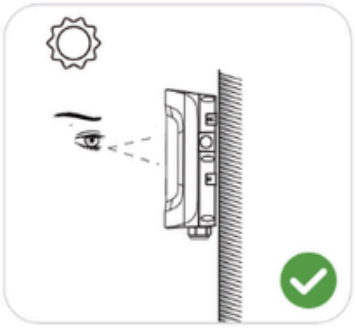
In order to ensure long-term stable operation of the product, it is recommended to avoid the following installation problems:

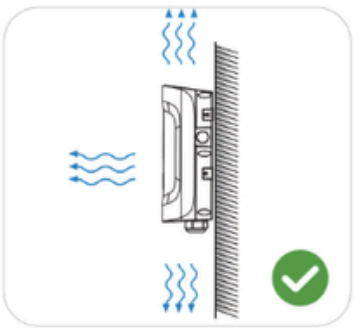
- This product is an electrical device. Handle with care and avoid severe vibration and shock.
- EVSE cannot be transported by dragging the charging connector and charging cable.
- EVSE cannot be used in extreme weather, especially when the ambient temperature is too low or too high, which will affect the use of EVSE.

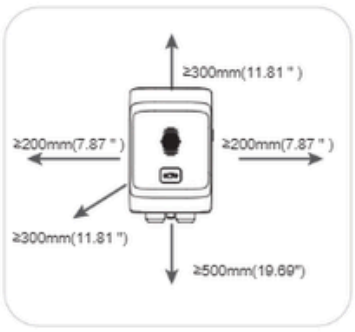
It is recommended to install EVSE in a ventilated and cool place away from direct sunlight and rain. To ensure good ventilation, you should install the EVSE vertically with enough space. Before installing the AC EVSE, prepare the following tools:

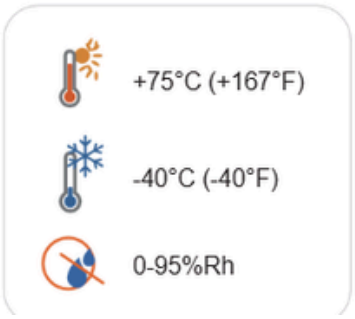
4.5 Installation Steps

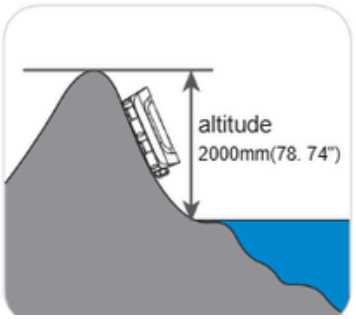
Location Requirements

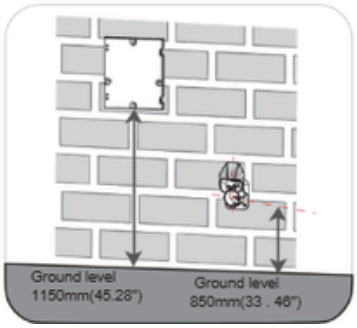




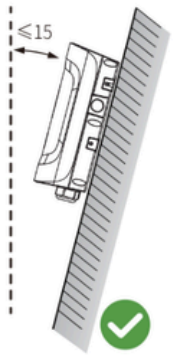


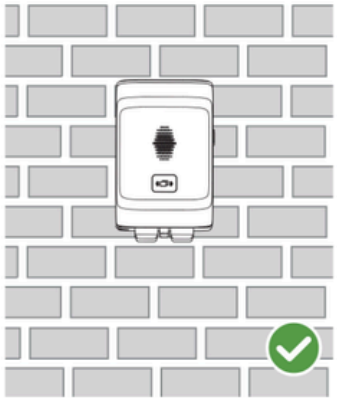


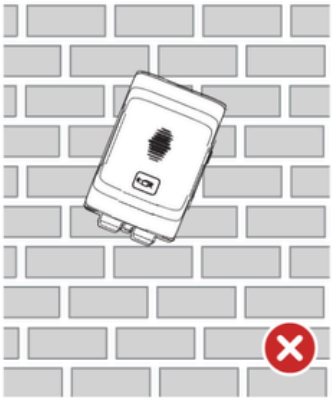




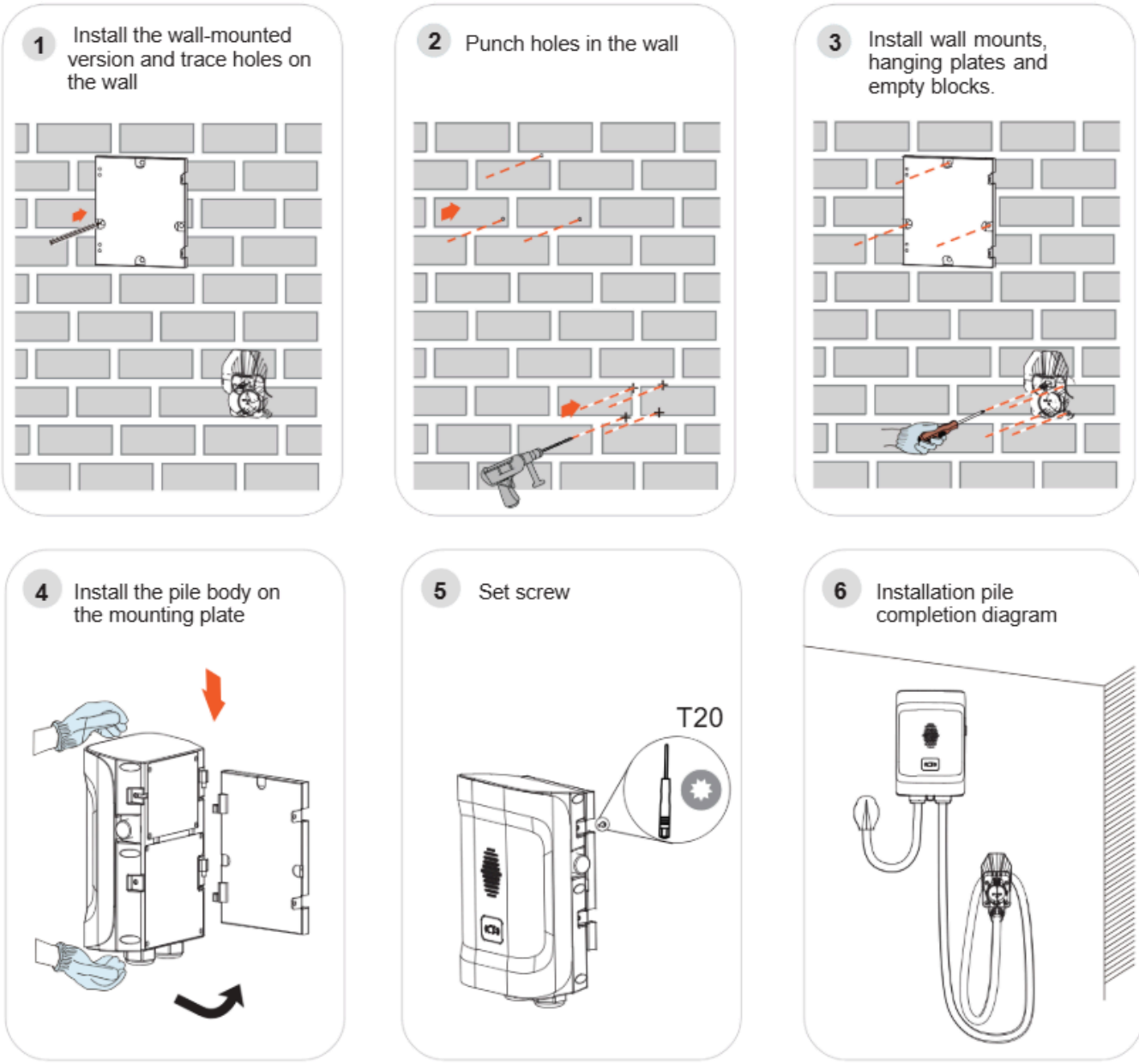
Angle Requirements



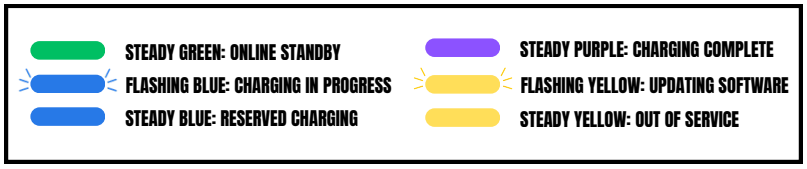


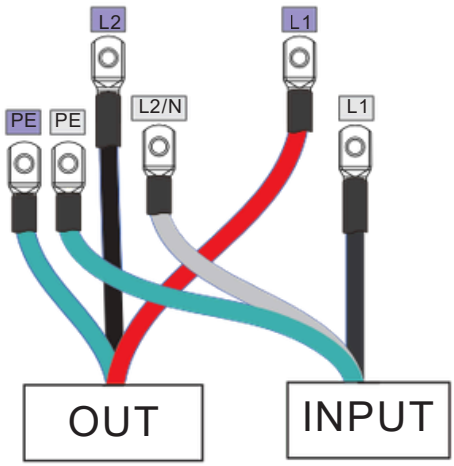


Wall-mounted Installation Steps



Once install is finished, place Light Indicator Sticker on face the charger for quick reference.



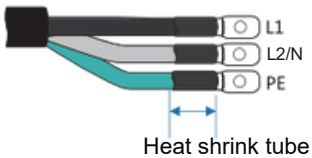


Input terminal wire size:
6 AWG stranded

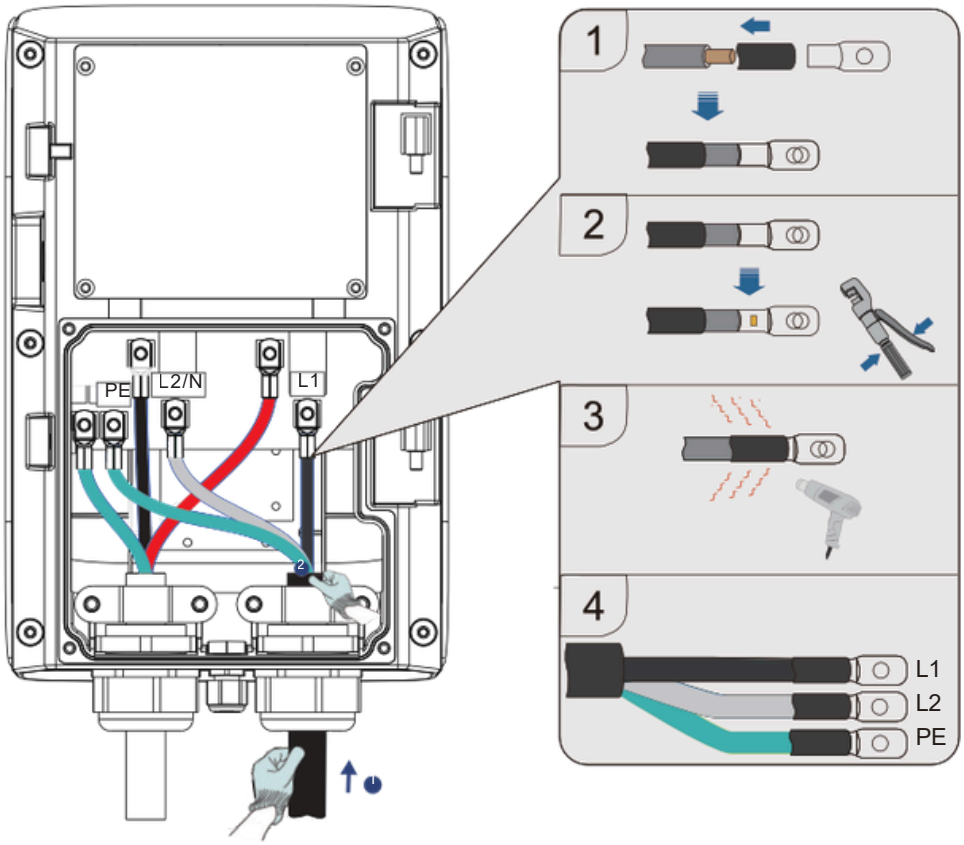
SC6-5

Strip wire
13 mm(1/2 in)

Live Wire L1:Brown
L1=60mm
Neutral Wire L2:Blue
L2=100mm
Earth Wire PE:Yellow and Green
PE=120mm



Heat shrink tube
25.4 mm(1 in)



4.6 Grounding Instructions

a) For a grounded, cord connected product:

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING – Improper connection of the equipment-grounding conductor is able to result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

b) For a permanently connected product:

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.

4.7 Maintenance

To ensure the long-term stable operation of the equipment, please perform regular (usually monthly) maintenance on the device according to the operating environment.

a) Equipment is maintained by professionals.
b) Check whether the equipment is well grounded and safe.
c) Check whether there are safety hazards around the charging pile, such as whether there are high temperatures, corrosion or flammable and explosive items near the charger.
d) Check whether the connection points of the input terminals are in good contact and whether there is any abnormality. Check other wiring points for looseness.

5 Initial Configuration Set-Up

This guide is meant to walk you through initial set-up, Wi-fi connection, and server connection for the charger on your backend.

1. Flip RFID switch on back of charger to off.
2. Open Wi-Fi button in your phone then turn on the power supply of charger.
3. Find the Wi-Fi name of “ECA-NC4803S-XXXX”or”ECA-NC8002S-XXXX”in your wifi search bar and connect to it.

4. Open the browser in your phone then input 192.168.4.1 ip address.
5. Input the default password: **123456**
6. Input any value into Wi-Fi SSID and Wi-Fi password (arbitrary field)
7. Enable “Plug and play” or “Plug and Charge” field.
8. Press Save and reboot the charging station.

6 Light Indication Guide

RD10 48A Level 2 AC Home AC Charger-Indicator Light		
Indicator Description	Indicator Name	Status / Solution
Red-Green-Blue-Yellow lights flashed once	Power On	
White – constant light	Standby without network	
Green – constant light	Online Standby	
Green – constant light	Plugged in Connector/Swipe RFID card	
Blue-fast flashing light	Shake handing	
Blue-pulsating light	Charging in Progress	
Blue – constant light	Reserved Charging	
Purple – constant light	Charging Finished	
Yellow-fast flashing light	Synchronize local data (Bluetooth card recording, supplementary transaction, and log acquisition)	Please swipe RFID card or APP start charging again after the yellow light was flashed.
Yellow-fast flashing light,with long sounds short sounds – OTA failed will reboot.	Updating software	If OTA failed, please try to soft/hard reset and updating firmware again.
Yellow-fast flashing light for 2 times	Authentication failure	Check whether the RFID card has been properly programmed into the charger.
Yellow – constant light	Disabled	Contact your local company representative or after-sales service.
Yellow – constant light	General fault	1. Try unplugging and reconnecting the charging connector. 2. If necessary, please contact your local representative of the manufacturer or after-sales service.

7 Warranty Agreement

Limited Warranty for the PowerCharge® Easy-Charge™ Electric Vehicle Charging Station *Parts Only

- **Your new PowerCharge® Easy-Charge™ Electric Vehicle Charging Station** is warranted against defects in materials and workmanship for two (2) years from date of purchase.
- **Cables and Connectors** are warranted against defects in materials and workmanship for ninety (90) days from purchase.

Subject to the exclusions from the Warranty coverage set forth below, PowerCharge warrants that, when used under normal operating conditions, your Charging Station will be free from any defects in materials or workmanship for a period (the “Warranty Period”) of two (2) years from the date of original purchase. If, during the Warranty Period, your Charging Station becomes defective in breach of the Warranty, PowerCharge will, upon written notice of the defect received during the Warranty Period, either repair or replace, at PowerCharge’s election, the Charging Station. The Warranty covers the parts only necessary to repair your Charging Station but does not include any labor costs related to repairing, un-installing or reinstalling the repaired or replacement Charging Station. Any repair or replacement Charging Station furnished will be warranted for the remainder of the original Warranty Period.

Steps to Obtain Warranty Service

1) If at any time during the term of your Warranty you believe you have a defective charging Station, create a service request ticket at: PowerChargeEV.com and complete and submit the online form.

2) If PowerCharge determines that the defect appears to be covered by your Warranty and your Warranty is still in effect you will be provided with a Returned Material Authorization Number (RMA number) to reference when returning the defective Charging Station for repair or replacement.

3) Ship at your expense, the defective Charging Station to PowerCharge and reference the RMA number in the shipping documentation. The Charging Station must be returned in its original shipping container or in another shipping container designed to prevent damage to the Charging Station.

4) If your Charging Station is covered by Warranty, PowerCharge will either repair or replace the defective Charging Station with no charge for any replaced parts. A labor charge may apply. The repaired or replaced Charging Station will be returned to you at PowerCharge’s expense.

IMPORTANT:
5) You are responsible for the proper installation and maintenance of the Charging Station including the un-installation of any defective Charging Station and the installation of the repaired or replacement Charging Station returned to you.

6) Any service or repairs beyond the scope of the Warranty above will be performed upon customer approval at PowerCharge’s prevailing labor rates and other applicable charges.

For Both FCC & IC application:

This device complies with Part 15of the FCC Rules / Industry Canada licence-exempt RSS standard(s). 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 undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le functionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, 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 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.

MPE Requirements

To satisfy FCC / ICRF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de facon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de facon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l’ antenne. La FCC des états-unis stipule que cet appareil doit être en tout temps éloigné d’au moins 20 cm des personnes pendant son functionnement.