



19.2kW Electric Vehicle Smart Charger

Model: CCS-ACL2

NOTICE: This manual contains the latest information at the time of printing. The manufacturer reserves the right to make changes to the product without further notice to the purchaser. Changes or modifications to this product by any person or entity other than an authorized service facility will void the product warranty. If you have questions about the use of this product, contact your customer service representative.

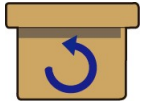
FCC FCC Declaration of Conformity – Class B

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 undesired operation.

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 when the equipment is operated in a commercial 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.

Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

Connections between the Harmonic equipment and other equipment must be made in a manner that is consistent with maintaining compliance with FCC radio frequency emission limits. Modifications to this equipment not expressly approved by Harmonic may void the authority granted to the user by the FCC to operate this equipment and you may be required to correct any interference to radio or television communications at your own expense.



RETURN FOR SERVICE

If you encounter operational or other problems with the charger, contact your local dealer. If the problem requires return for service, please follow the dealer's instructions for return of the product.



SAVE THESE INSTRUCTIONS

The purpose of this manual is to provide you with information necessary to safely operate this equipment. Keep this manual for future reference.

Device Information Label



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Installation Guide

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INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK

IMPORTANT SAFETY INSTRUCTIONS

- Read this manual thoroughly and make sure you understand the procedures before you attempt to install or operate this equipment.
- This product is intended for charging electric vehicles only.
- This product shall be installed, adjusted, and serviced by qualified electrical personnel.
- Isolate the product from any electrical source before wiring or servicing it. Failure to follow this may lead to severe bodily injury or death.
- This product shall be installed by a qualified electrician, and installation must be in accordance with all applicable local and national electrical codes and standards. Failure to observe this warning could result in death or severe injury.



ELECTRIC SHOCK PREVENTION MEASURES

- Do not expose the live part of this product and its cables.
- This product must be grounded through a permanent wiring system or an equipment grounding conductor.
- Install circuit breakers to reduce the severity of electric shock accidents.
- Limit the authorized personnel responsible for handling switches on electrical appliances.
- Do not touch this product with hands.
- Do not use faulty or malfunctioning cables or breakers on this product.



ELECTRIC FIRE PREVENTION MEASURES

- The cables and wires used to install this product must satisfy local laws and regulations.
- This device must be run on a dedicated branch circuit in accordance with all regulations
- Keep combustible material away from the installation area of this product.
- Keep sufficient distance from any heat source.
- Take care not to damage or overheat the wire coating of this product and its connections.

MOVING AND STORAGE INSTRUCTIONS

- Storage/Moving/Transportation Temperature: -40°C to + 60°C
- The tools for transportation shall satisfy all requirements to ensure the normal and safe operation of the charger and to avoid personal injury.
- Do not hold the unit by the front cover during transportation or it may be separated accidentally.
- If any damage is found before installation, stop the installation, and call your local dealer for assistance.
- Store the charger disconnected and unplugged from the power source in a flat position. The internal parts may carry electricity until it is unplugged from outlet.
- Store it in a cool and dry place.
- Do not store the charger along with or around metal objects.



WARNING

- The instructions and warnings contained in this manual must be followed when installing, using, and maintaining this product.
- This device should be supervised when used around children.
- Do not put fingers into the electric vehicle connector.
- Do not use this product if the flexible power cord or EV cable are frayed, have broken insulation, or any other signs of damage.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- Do not install or use the product in any environment full of flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- Isolate the product from any power source before installing or servicing it.
- Do not use the product if it is found defective, cracked, frayed, broken or otherwise damaged, or fails to operate.
- Do not attempt to disassemble, repair, tamper with, or modify the product. The product is not user serviceable.



WARNING

- Do not use the product when either you, the vehicle, or the product is exposed to severe rain, snow, electrical storm or other severe weather conditions.
- When transporting the product, handle with care. Do not drag it or step on it or subject it to any strong force.
- Do not touch the product's terminals with sharp metallic objects.
- Do not forcefully pull the charge cable.
- Do not insert foreign objects into any part of the product.



CAUTION

- Incorrect installation of and testing on this product could potentially damage either the vehicle's battery and/or this product. Any resulting damage hereof invalidates the warranty for the product.
- Operate the product in the temperature range specified in the specification.
- Ensure that the charge cable is positioned so it will not be stepped on, tripped over, or subjected to damage or stress.
- This product shall be connected to a dedicated circuit with a proper circuit breaker that satisfies all applicable electrical requirements.
- Do not use this product if the EV Cable shows any sign of damaged insulation.
- Do not use this product if the enclosure or the EV connector shows any indication of damage.

Specification

Electrical	
Max Output Current (A)	80A
Phase	Single
AC Power Input Rating - Standard	208/240VAC 60Hz single phase
ISO/IEC 15118 Enabled	YES
Breaker	See table below
Wiring – Standard	3-wire (L1, L2, G)
Output Power (kW)	19.2kW (240VAC @ 80A)
Input Power Connection	Hardwire
Charging Plug	SAE J1772 (80A)
Charging Cable Length	15' (4.5meters)
Mechanical	
Dimensions	22" X 15" X 5.9" (550mm X 380mm X 150mm)

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Weight (kg/lbs)	34lbs/15.5kg
Enclosure	NEMA 3R
Mount	Wall mount
Communication Option	
Wireless Network	2.4GHz Wi-Fi (802.11 b/g/n) (Optional)
Wide Area Network	4G LTE (Optional)
LAN	10/100 Ethernet
RFID Reader	ISO 15693, 14443A/B
User Interface & Control	
LED Indicators	Available (white), Charging in progress (pulsing in green), Charging complete (green), Charging paused (blue), Unplug and try again (orange), Fault (red)
Safety	
Codes and Standards	SAE J1772
Safety Compliance	UL listed for US/CA ; complies with UL 2594, UL 2231, UL1998, UL991
EMC Compliance	FCC Part 15 Class B
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunderstorms, supplemental surge protection at the service panel is recommended.

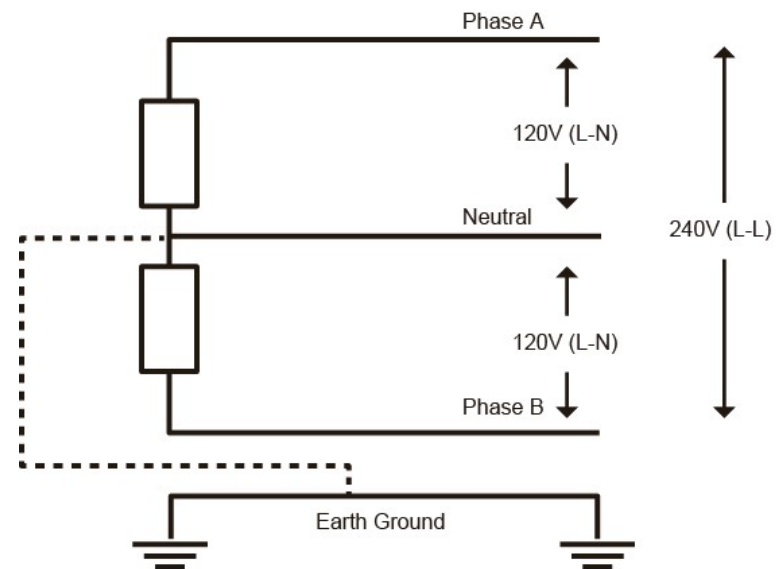
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Ground Fault Detection (GM/I)	YES
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Fault Recovery Interval	Non-critical faults are automatically reset after 20 seconds and full internal self-test
Environmental	
NEMA/IP Rating (Dust / Moisture)	NEMA 3R
IK Rating (Mechanical Impact)	IK 10
Altitude	3,500 m (Operating)
Solar Radiation	1120 W/m ² (Class 2K4)
Wind Rating	12 Beaufort
Operating Temperature	-30°C to +50°C
Storage Temperature	-40°C to +60°C
Operating Humidity	Up to 85% non-condensing

Supported Electrical Connections

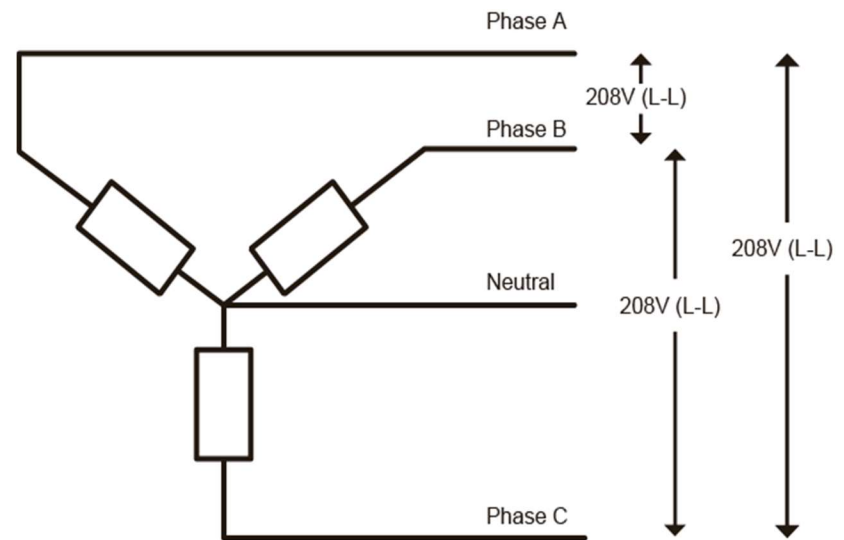
(1) Single phase 120V/240V - 240V (L-L)

Single phase 120/240 is the most common source of AC power for residential use. It may also be called Split Phase 240. This configuration consists of 2 voltage legs that are 180 degrees apart. The voltage between the two legs (called phase to phase or line to line) is 240V and the phase to neutral voltage is 120V. Some list the phase to phase voltage first so it may also be called 240/120 single phase.



(2) 3 Phase 208V/120V WYE Configurations: Utilizing any of L-L

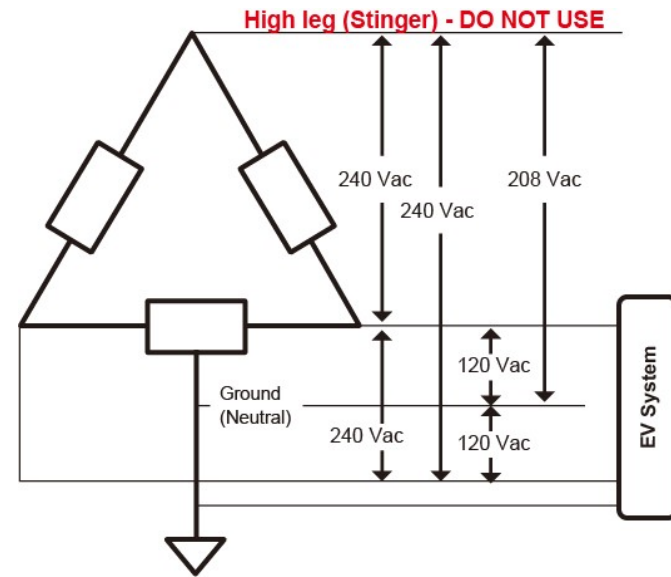
208/120 WYE is most common in light commercial environments. In this configuration, the line to line (L-L) voltage is 208VAC and the line to neutral (L-N) voltage is 120VAC. It is also sometimes designated 120/208VAC, 120/208 WYE, 208/120 WYE, 4 wire WYE or 120/208Y.



(3) 3 Phase 240V High Leg Delta Configuration


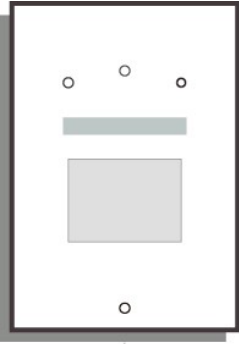

3 Phase delta configuration is supported **ONLY** with a grounded center-tapped leg, and **ONLY** using the legs on each side of the center tap. See the diagram to the right.

Important: Do NOT use High leg and ensure that 120V is measured from L1/L2 to GND



Unpacking

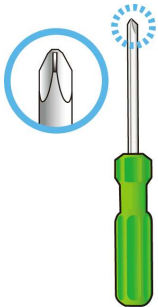
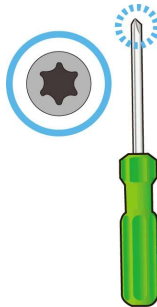


1. Verify the components according to the following list.

EV-Charger (with the charging cable attached)	Mounting screw x 4 (without washer) (M8 x 1.25 x 40mm x D14 x H5.2)	Mounting template x1	This manual
	<div data-bbox="913 732 1213 878" data-label="Image"> </div> <div data-bbox="835 894 1297 971" data-label="Text"> <p>Rubber screw cover x 3</p> </div> <div data-bbox="934 1008 1192 1089" data-label="Image"> </div>		

2. Keep the packaging material for possible future transportation or storage.

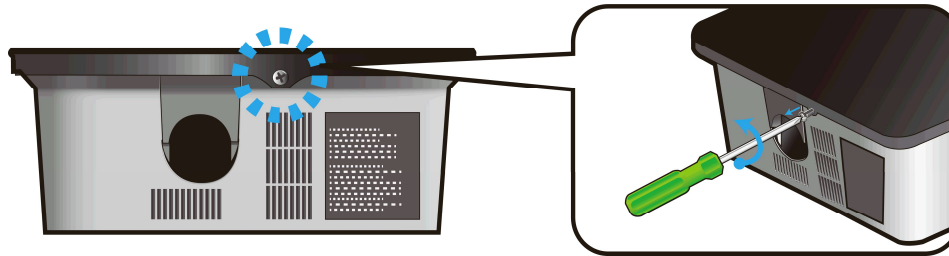
Preparation

- Tools and parts required for installation

Item	Phillips screwdriver (PH#4)	Torx screwdriver x2 (T20 & T45)	Hole saw cutter (2")	Allen wrench (4 mm)
				

- Open the front cover

1. Locate the fixing Torx screw on the bottom side of the cover. Use a T20 Torx screwdriver to unscrew the fixing screw of the cover. No need to remove the screw, just make sure it is loose.



2. Hold and lift the cover from the bottom end.

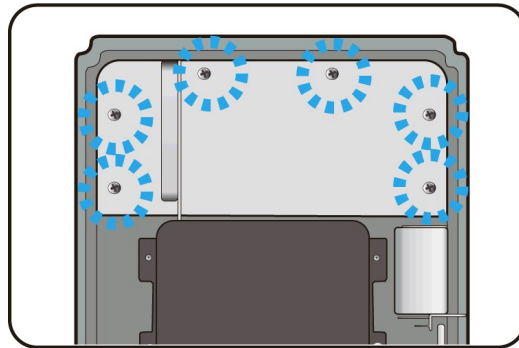
3. Keep the cover in a safe place.



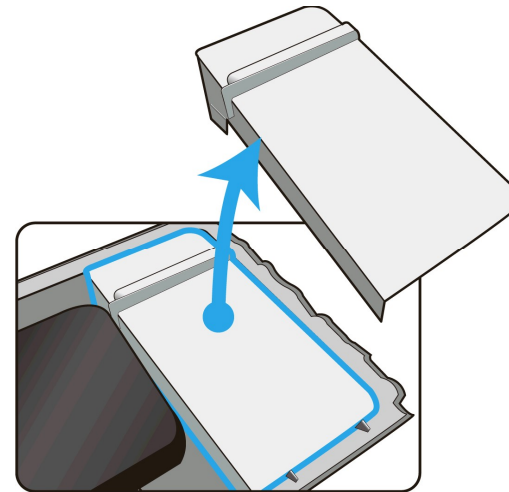
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- Access the cable terminal cabinet

1. Locate the six fixing screws of the cover as shown below. Use a M4 Phillips screwdriver to unscrew them.



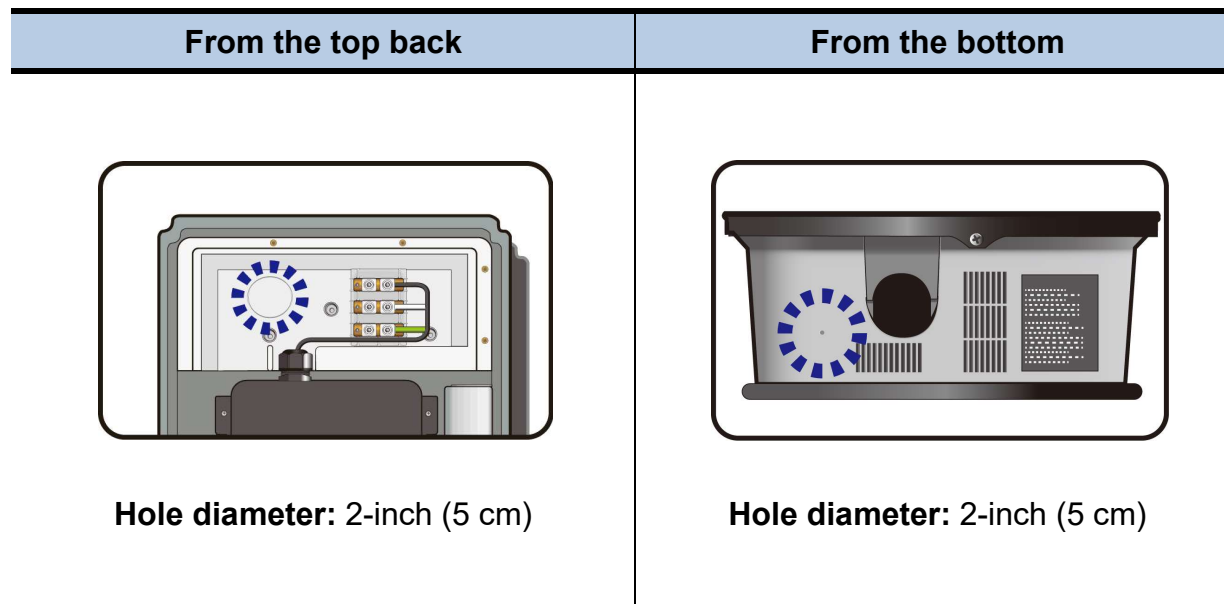
2. Take the cabinet cover off.



3. Keep the six screws and the cover together in a safe place.

- Drill the input cable hole

There are two ways to insert the input cables: from the back and from the bottom. Choose either method and drill the corresponding hole as shown below.



- Drill the mounting holes

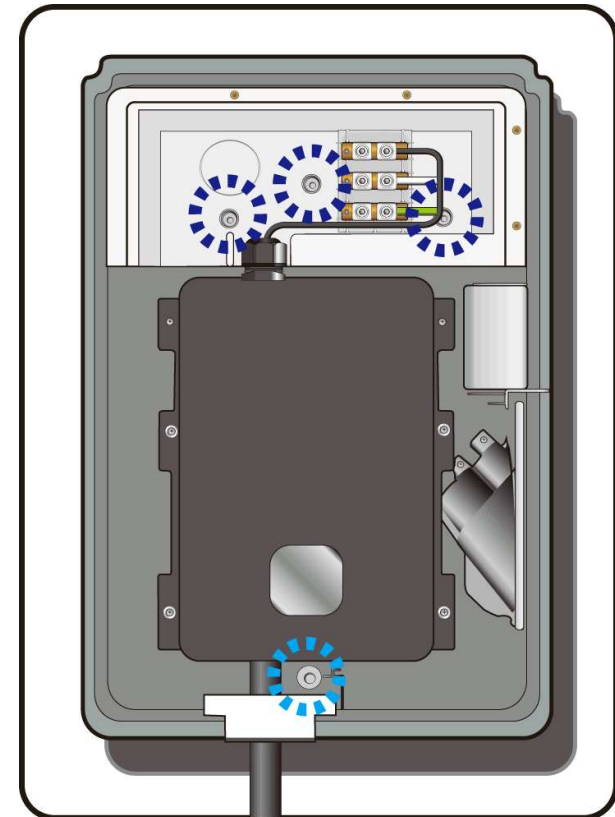
(**NOTE:** For how to access to the back panel area, please see page 20.)

1. There are 4 holes which need to be drilled to mount your EV Charger to the wall.

The 4 holes can be found as shown on the right.

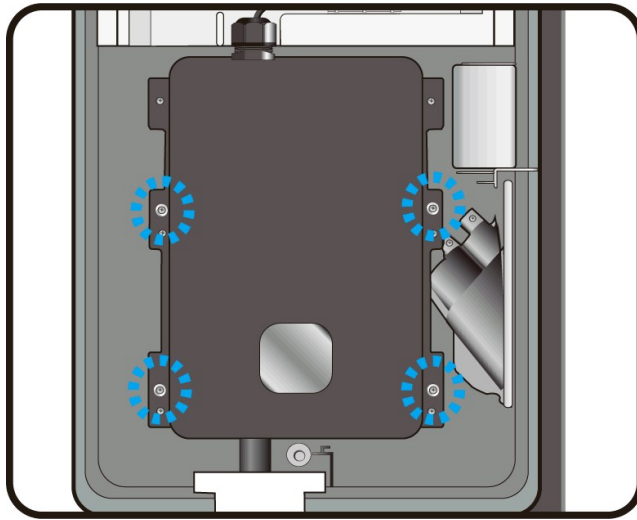
2. Drill the holes to fit M8 mounting screws.
3. Drill the holes at corresponding locations on the wall or backplane.

If mounting in an inside location that is not exposed to water, any portion of the back box can be used to drill and install customer provided mounting hardware; such as the case when installing onto drywall where fastener position must be adjusted to find in-wall studs.

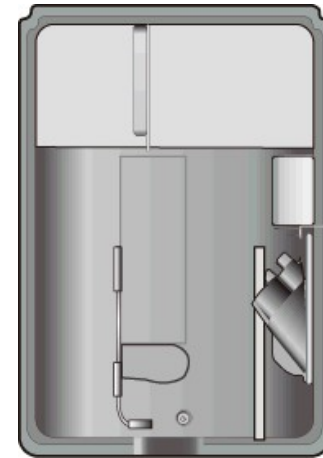


- How to access to the back panel from inside

1. Using a M4 Phillips screwdriver, unscrew the four Phillips screws as shown below to release the electrical box.



2. Either remove the box or flip it aside to access the back panel.

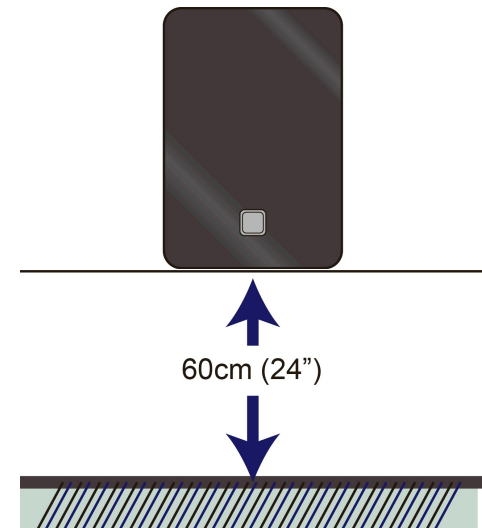


Installation

The method described below may vary from the actual installation and is subjected to proper adjustment depending on the circumstances, local building codes, or state regulations.

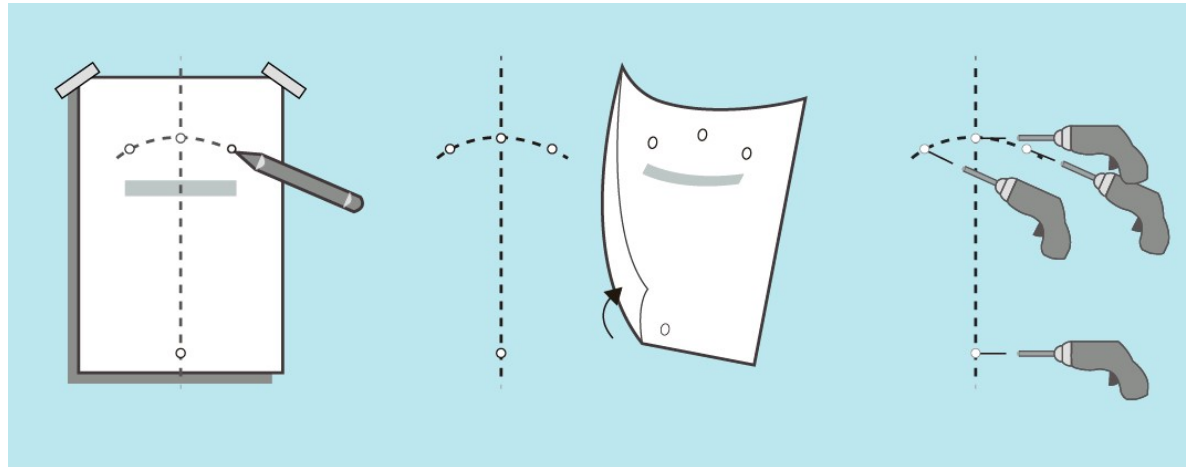
Wall mount using mounting template:

1. Make sure you have:
 - (1) Drilled the input cable hole and the mounting holes on your charger. (For details, see Page 18 and 19.)
 - (2) The installation height at least 60cm (or as required by local regulations considering areas that are subject to snowfall) as shown on the right.
2. Use the mounting layout template provided to drill the holes.
 - (1) Tape the layout template on the wall to the position where you plan to install the charger.
 - (2) Mark the mounting holes (which are marked as circles on the template) onto the wall.
 - (3) Remove the template.

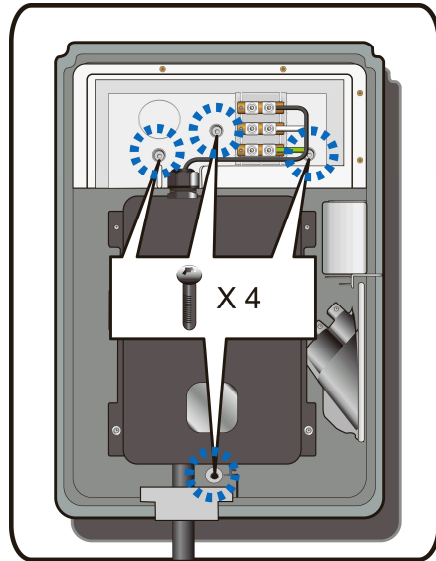


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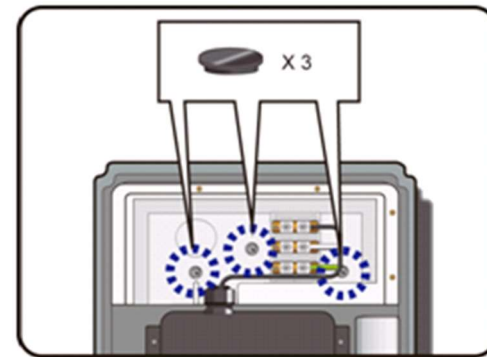
(4) Drill the 4 mounting holes of size M8.



3. Using a T45 Torx screwdriver, mount and screw the unit to the wall, as shown below.



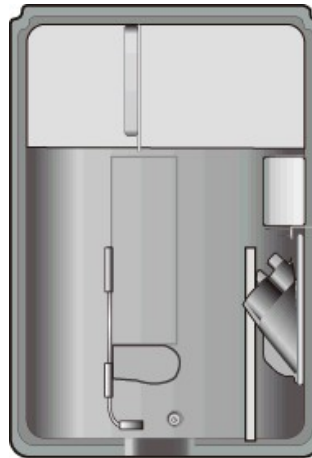
4. Seal the screws in the terminal cabinet by covering them with the rubber screw covers, as shown below.



NOTE: The cable terminal cabinet needs to be watertight and the rubber screw covers are designed to serve this purpose.

Wall mount using customer supplied hardware:

The entire back box can be used for custom mounting hardware. If custom mounting hardware is used in places other than those covered by the provided rubber screw covers, NEMA 3R cannot be guaranteed. Although this mounting method is supported, it can only be used for indoor or sheltered locations.



Operating Current Selection

This EV charger contains a programmable maximum output current setting that allows the charger to operate as a 10A – 80A charger. The installer must determine the intended output power setting in the installation planning.

Note: The current selection must be performed by adjusting the rotary switch as detailed in “Rotary switch Setting” on page 41.

Note: This device is considered as a “continuous load” device and as such the branch circuit must be rated for 125% of the operating current

See the table below showing the available options and required (125%) breaker sizes.

Current selection switch setting	Maximum Output Current	Required Branch circuit and Breaker Rating
0	10A	15A
1	12A	15A
2	16A	20A
3	20A	25A
4	24A	30A
5	32A	40A
6	40A	50A
7	48A	60A
8	63A	80A
9	80A	100A

Table 1 - Current Selection and Branch Circuit Rating

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Cable connection and wiring

Input wiring shall be sized according to all applicable local and national requirements considering all factors including cable length, ambient temperature, etc.

Input wiring must be sized according to the required branch circuit rating as determined from the above table.

Recommend minimum conductor sizes for connection from main panel based on 30° C Ambient from NEC Table 310.16 are as follows:

Branch circuit and Breaker Rating	75°C Copper Types RHW, THHW, THW, THWN, XHHW, USE, ZW	90°C Copper Types TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2
15A	14 AWG	14 AWG
20A	12 AWG	12 AWG
25A	12 AWG	12 AWG
30A	10 AWG	10 AWG

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Branch circuit and Breaker Rating	75°C Copper Types RHW, THHW, THW, THWN, XHHW, USE, ZW	90°C Copper Types TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2
40A	8 AWG	8 AWG
50A	8 AWG	8 AWG
60A	6 AWG	6 AWG
80A	4 AWG	4 AWG
100A	2 AWG	2 AWG

Table 2 - Minimum Required Conductor Size

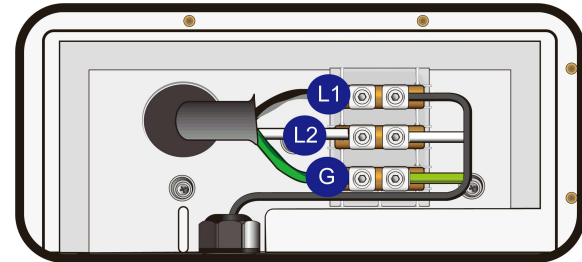
Note: The table above provides a REFERENCE for the MINIMUM conductor size for the circuit from the panel. The required conductor size must also consider installation factors such as temperature correction and length of cable.

Note: For connection to terminal block, a minimum wire size of 8AWG, and a maximum wire size of 1/0 are supported. This must be considered by installer when selecting conductor size as the table above contains sizes below 8AWG.

Note: Do NOT use GFCI breakers with this product. This product contains integrated Ground Fault protection.

When connecting to the input terminal block, torque lugs (L1, L2, G) to 65 lb-in.

- If the cable comes in from the back
The cable will enter straight into the cable terminal cabinet. Secure the 3 wires to the corresponding terminals as shown on the right.

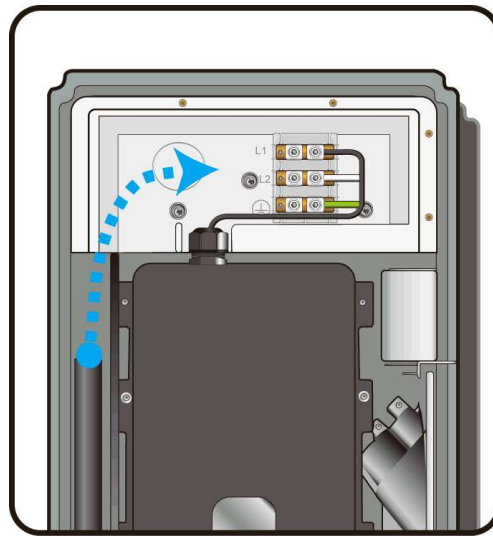


NOTE: The cable hole needs to be sealed properly to keep the terminal cabinet watertight.

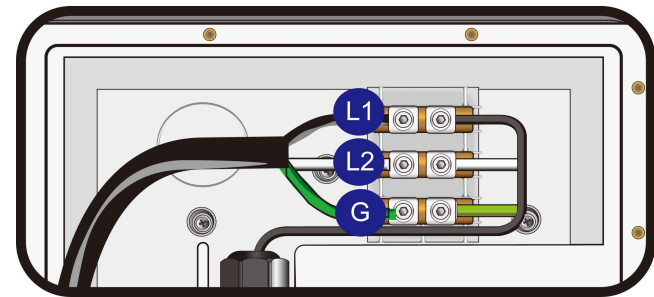
CAUTION: To reduce the risk of fire, connect only to a circuit with appropriately sized conductors as recommended in “Table 2 - Minimum Required Conductor Size”, and using branch circuit rating as defined in Table 1 - Current Selection and Branch Circuit Rating.

- If the cable comes in from the bottom

1. Insert the power cable from the hole you have drilled for it and pull it into the terminal cabinet.



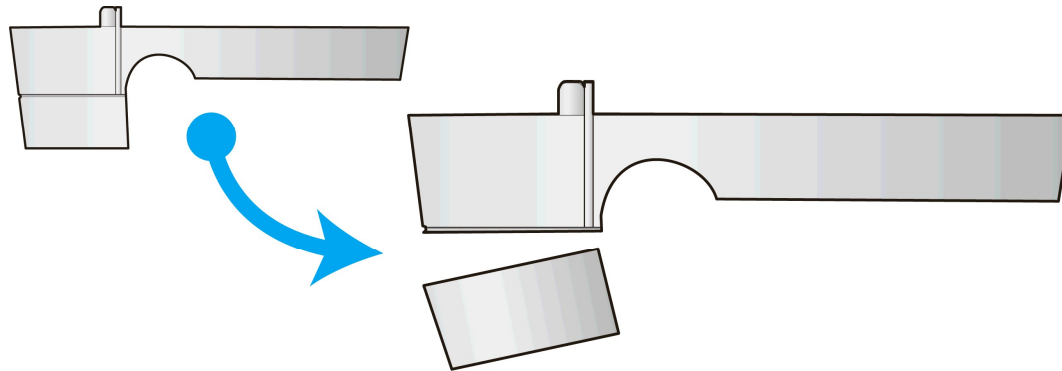
2. Secure the 3 wires in the order as shown below.



NOTE: If necessary, apply proper cable ties or clamps to secure the cables and to relieve cable strain added on the terminals.

- Re-install the cabinet cover

- ◆ If the cable comes in from the back, just put the cover back on and screw it closed.
- ◆ If the cable comes in from the bottom, cut the plate off the cover as shown below before you replace the cover.





CAUTION

The following section contains instructions for opening the Inner Box. Only open the Inner Box if you need to perform one of the two actions:

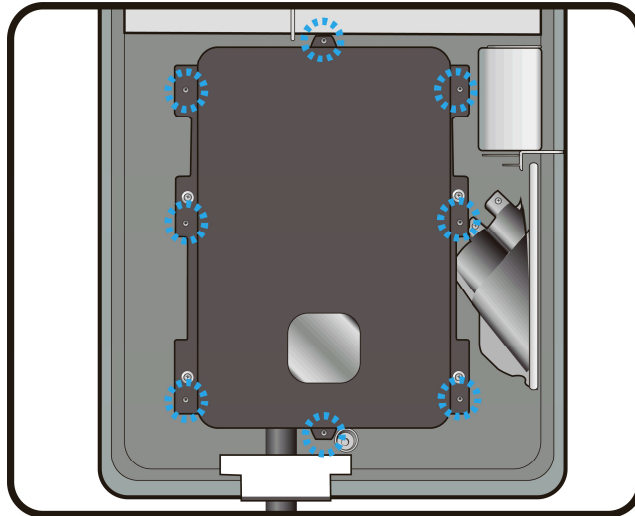
1. RJ45 Cable Installation
2. Change factory current default of 80A to a lower level.

Proceed with caution. The top cover is connected to the bottom case with two sets of wires. Opening carelessly can damage the unit.

RJ45 cable Installation (Optional)

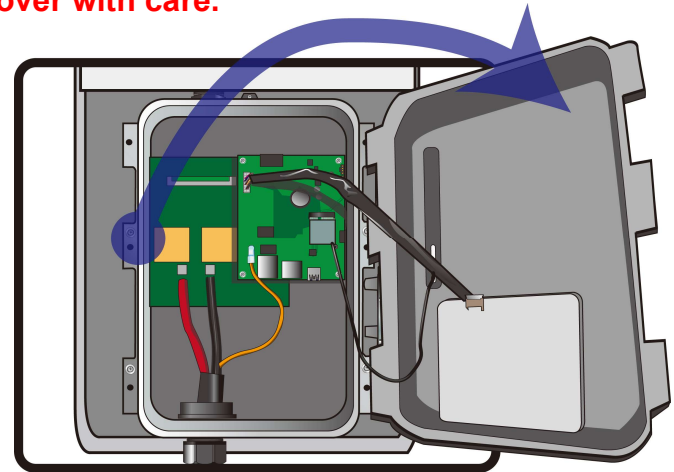
A. Open the electrical box.

1. Using a T20 Torx screwdriver, unscrew the eight Phillips screws as shown below.

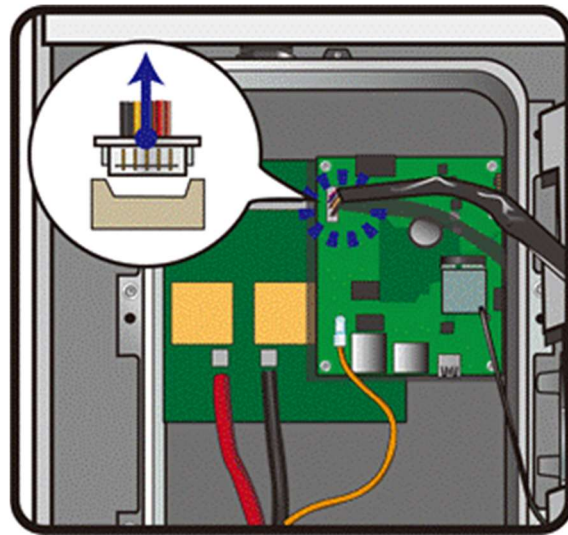


2. Open the box cover in the way as shown below.

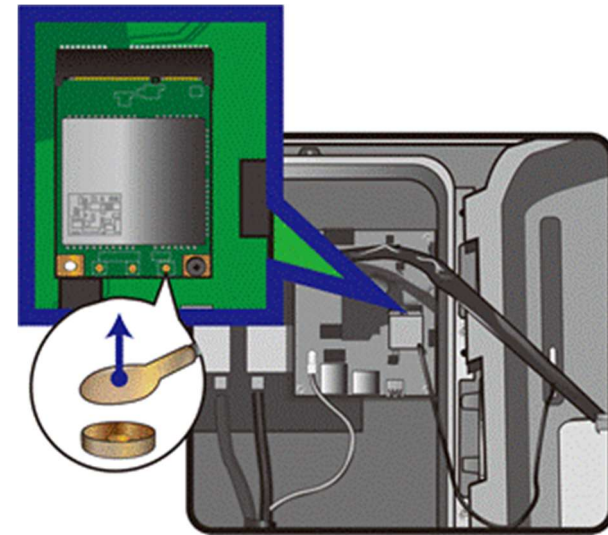
There are cables connected to cover. Open cover with care.



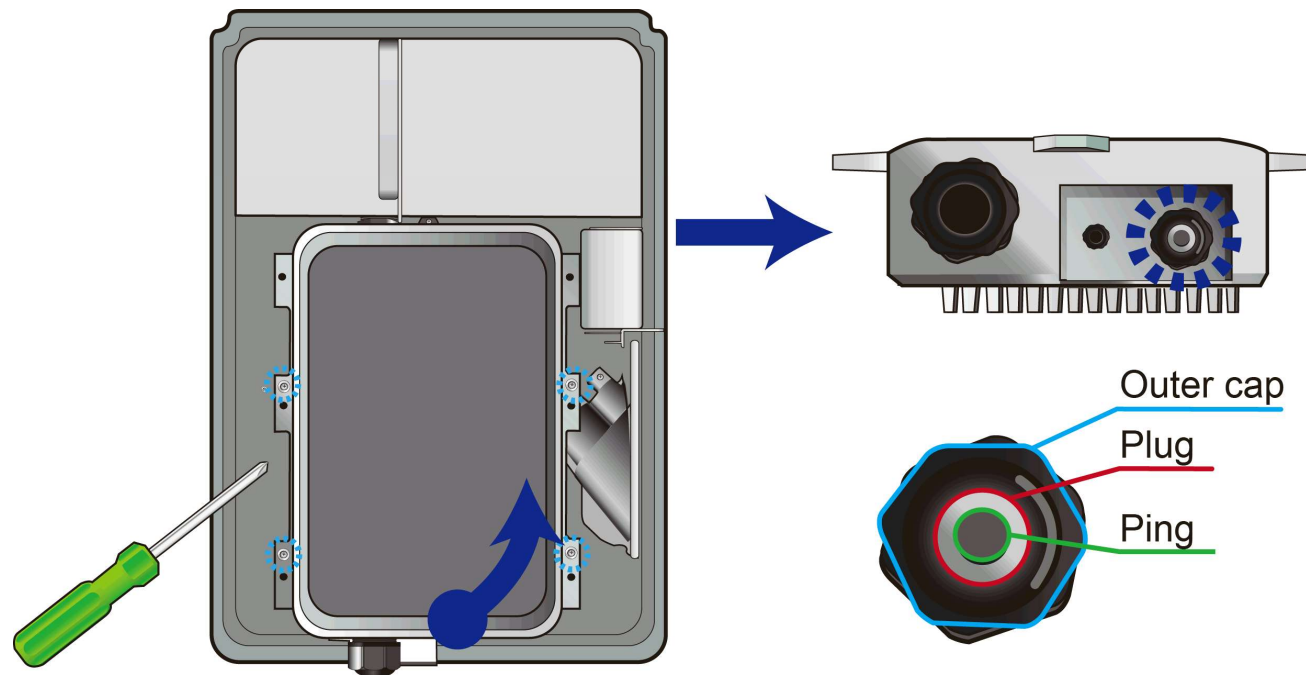
3. Unplug the front panel connector



4. Carefully unplug the antenna connector from the LTE module

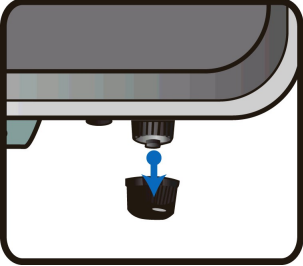
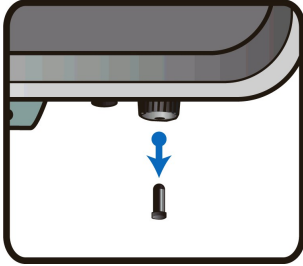
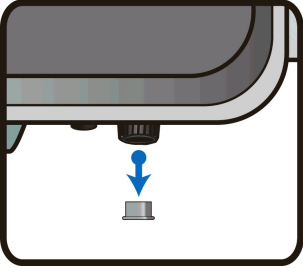
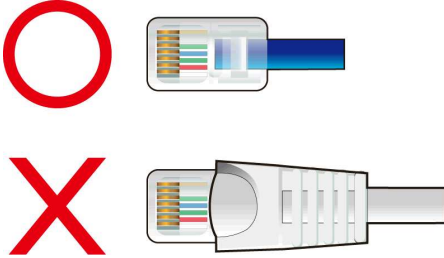


B. Using a M4 Phillips screwdriver, unscrew the four Phillips screws as shown below to release the electrical box. Raise the bottom side for the box and you can find the cable gland.

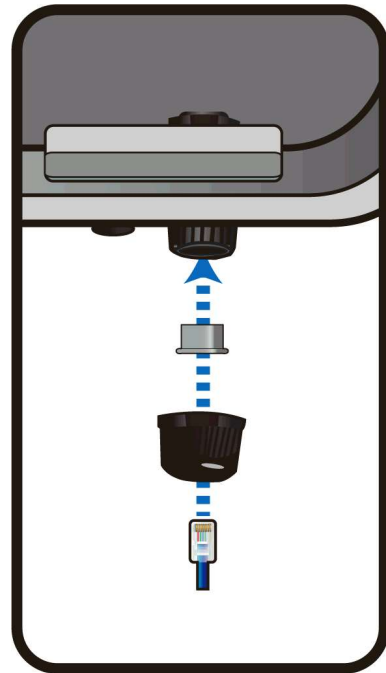


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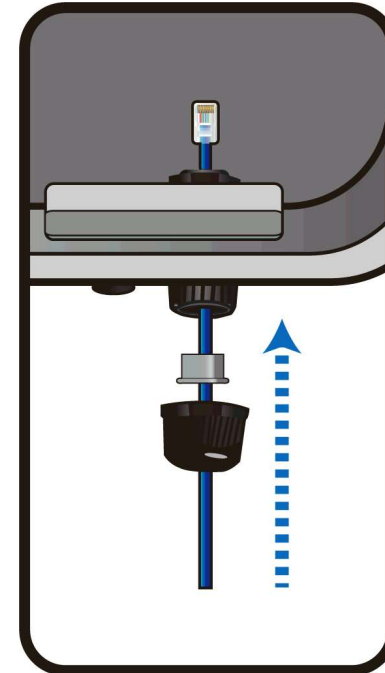
C. Insert a RJ45 cable

1. Unscrew the outer cap.	2. Pull out the pin.
	
3. Pull out the plug.	4. Prepare your RJ45 cable at least one end of which is the RJ45 plug with no cable boot.
	

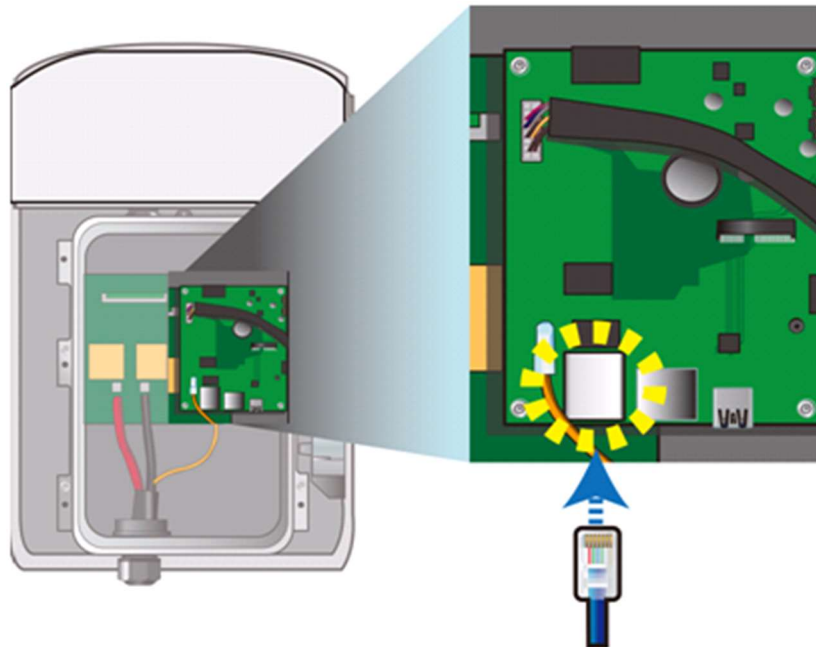
5. Thread the RJ45 head through the outer cap, plug and gland.



6. Make sure the plug has been inserted firmly into the cable gland.

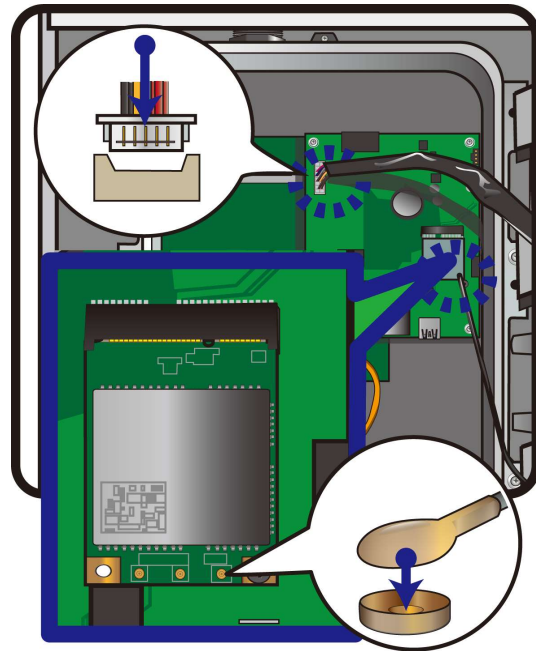


D. Locate the RJ45 port on the mainboard and plug the RJ45 header, as shown below.

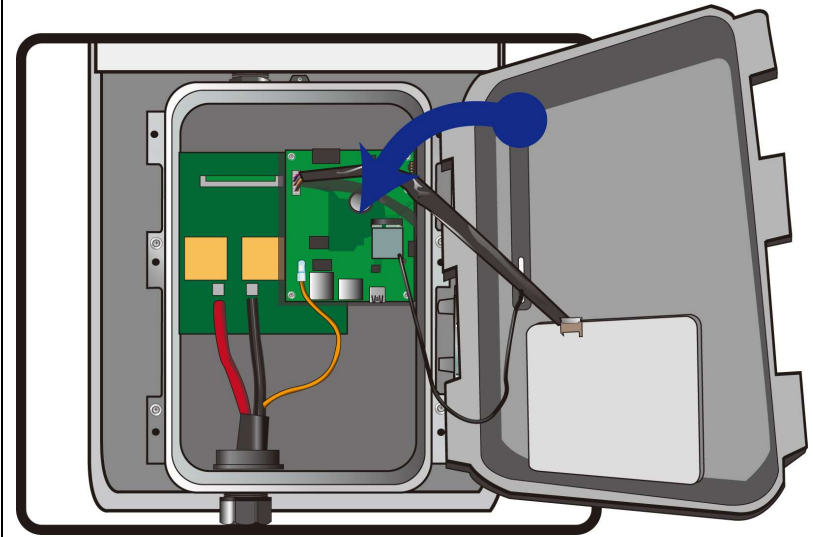


E. Install the electrical box and its cover back into their places.

F. Plug the front panel header back and carefully plug the antenna connector to the LTE module

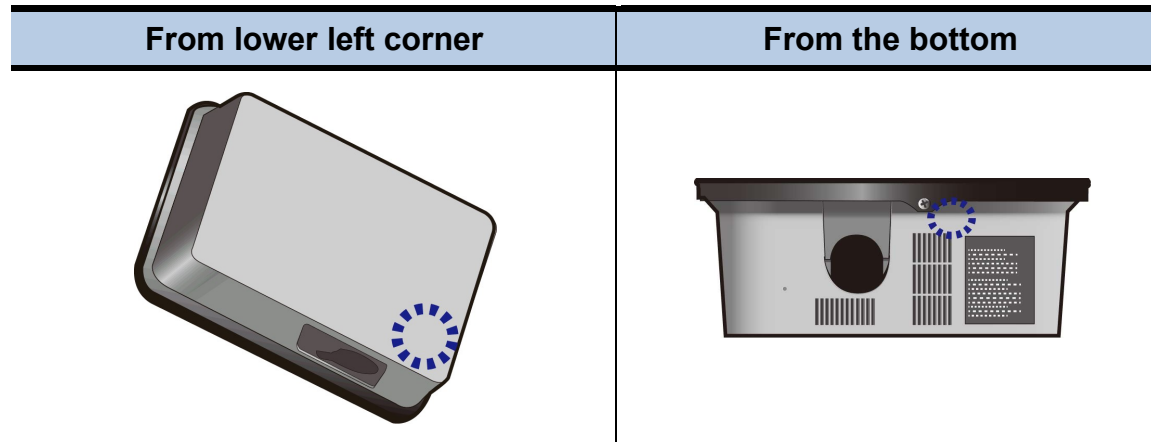


G. Close the box cover



NOTE: You will need to drill a hole to let the RJ45 cable go into the unit and provide proper cable glands.

For example:

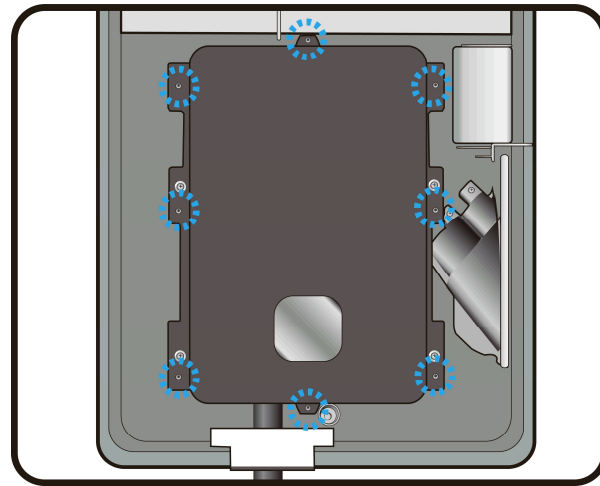


Rotary switch Setting

This is for setting the rotary switch to limit the charging current.

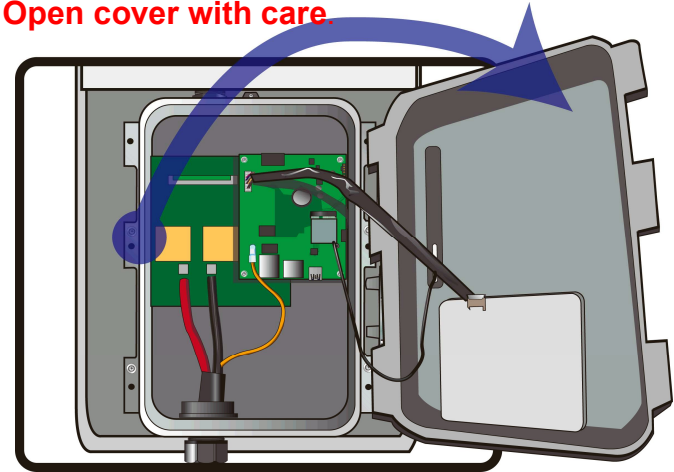
A. Open the electrical box

1. Using a T20 Torx screwdriver, unscrew the eight Phillips screws as shown below.

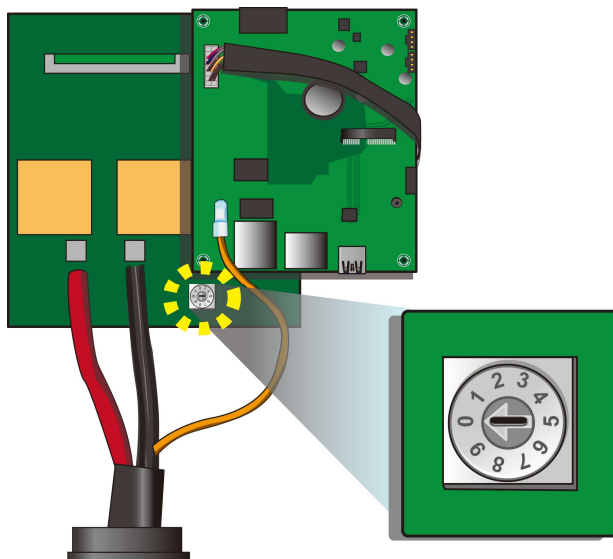


2. Open the box cover in the way as shown below.

**There are cables connected to cover.
Open cover with care.**



B. Select the current from rotary switch by referring to the current selection table shown below.



Position	Maximum Output Current	Required Circuit and Breaker Rating
0	10A	15A
1	12A	15A
2	16A	20A
3	20A	25A
4	24A	30A
5	32A	40A
6	40A	50A
7	48A	60A
8	63A	80A
9	80A	100A

C. Install the electrical box cover back into its place. Note: If the front cover of the inner box needs to be removed, see the section “RJ45 cable Installation (Optional)” on page 33 (A) and (F) for instructions on removing and replacing cover.

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User Guide

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INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK

IMPORTANT SAFETY INSTRUCTIONS

- Read this manual thoroughly and make sure you understand the procedures before you attempt to install or operate this equipment.
- This product is intended for charging vehicles only.
- Use this charging station to charge electric vehicles equipped with an *SAE-J1772 charge port only*. Consult the vehicle owner's manual to determine if the vehicle is equipped with the correct charge port.
- Make certain the charging station *SAE-J1772* charge cable is positioned so it will not be stepped on or damaged.
- This product contains no parts that are serviceable by the user. Do not attempt to repair or service the charging station yourself.

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ELECTRIC SHOCK & FIRE PREVENTION MEASURES

- Do not open or disassemble this product.
- Do not expose the electrically energized components of this product or its cables.
- Do not touch this product with wet hands.
- Do not use this product when water is present.



WARNING

- The instructions and warnings contained in this manual must be followed when installing, using, and maintaining this product.
- This device should be supervised at all times when children are present. Do not allow children to operate this device.
- Do not put fingers into the electric vehicle connector.

- Do not use this product if the flexible power cord or EV cable are frayed, have broken insulation, or show any other signs of damage.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- Do not install or use the product in any environment that contains or is exposed to flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- Do not use the product if it is found defective, cracked, frayed, broken or otherwise damaged, or fails to operate.
- Do not attempt to open, disassemble, repair, tamper with, or modify the product. The product is not user serviceable.
- Do not use the product when either you, the vehicle, or the product is exposed to severe rain, water, snow, electrical storm or other severe weather conditions.
- Do not touch the product's terminals with sharp metallic objects.
- Do not forcefully pull the charge cable.
- Do not insert foreign objects into any part of the product.



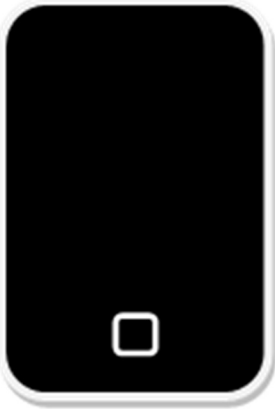
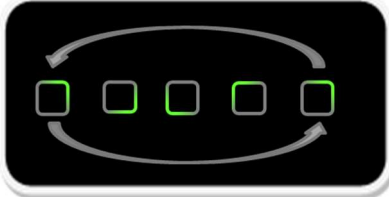
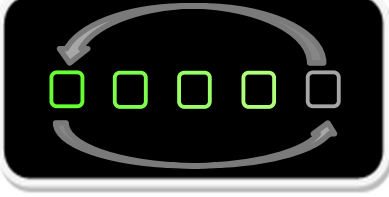
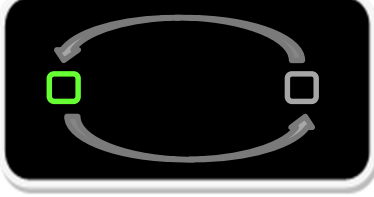
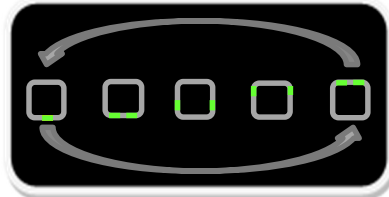
CAUTION

- Operate the product in the temperature range specified in the specification.
- Do not use this product if the EV Cable shows any sign of damaged insulation.
- Do not use this product if the enclosure or the EV connector shows any indication of damage.
- **VENTILATION:** This device is intended only for charging vehicles not requiring ventilation during charging.






The EV Charger

LED indicator

The EV Charger has a single, multi-color LED indicator used to show charging status and error conditions. The LED can display several patterns:

Steady	Rotating	Pulsing
		
	Blinking	Bouncing
		

Meaning of LED colors and patterns

Color	Pattern	State	
White		Steady	Available to charge.
		Rotating	User authentication in progress.
		Blinking	EV connected, preparing to authenticate user.
		Pulsing	If vehicle connected: establishing vehicle connection. If vehicle not connected: user authentication complete. Plug in vehicle.
		Bouncing	Cannot establish remote server connection. Charging is possible.
Green		Steady	Charging complete.
		Pulsing	Charging in progress.
Blue		Pulsing	Charging paused.
Orange		Steady	Retry authentication. If vehicle connected, unplug and re-plug vehicle.
		Rotating	Charger booting up
		Bouncing	Cannot establish remote server connection. Charging is not possible.
Red		Steady	Charger out of service.

Charging the vehicle

If authentication is required, there are two ways to initiate charging of the vehicle:

1. Authenticate before inserting the cable into the vehicle.
2. Insert the cable into the vehicle and then authenticate.

Authentication prior to connecting the charging cable

1. To authenticate the use of the charger, hold or touch the RFID card over the LED until the LED shows **rotating white**.
 - a. If the authentication fails, the LED shows **steady orange**. Retry authentication.
 - b. When the authentication is successful, the LED shows **pulsing white**.
2. Connect the cable to the vehicle following the instructions provided by the vehicle manufacturer.
 - a. While the charger prepares to charge, the LED may show **blinking white**.
 - b. Once charging begins, the LED shows **pulsing green**. When charging is complete, the LED changes to **steady green**.

- c. A **pulsing blue** LED shows that charging is temporarily paused. Wait for charging to restart and complete. Charging is complete when the LED shows **steady green**.
3. Charging is complete. Remove the cable from the vehicle, wrap it around the outside of the charger, and place the charge coupler in the holder on the side of the charger.

Authentication after connecting the charging cable

1. Connect the cable to the vehicle following the instructions provided by the vehicle manufacturer.
 - a. While the charger is establishing the power connecting, the LED shows **pulsing white**.
 - b. When the LED shows **blinking white**, the charger is ready for user authentication.
2. To authenticate the use of the charger, hold or touch the RFID card over the LED until the LED shows **rotating white**.
 - a. If the authentication fails, the LED shows **steady orange**. Unplug the vehicle and re-plug.
 - b. When the authentication is successful, the LED shows **pulsing white**.
 - c. Charging begins. The LED shows **pulsing green**. When charging is complete, the LED changes to **steady green**.

- d. A **pulsing blue** LED shows that charging is temporarily paused. Wait for charging to restart and complete. Charging is complete when the LED shows **steady green**.
3. Charging is complete. Remove the cable from the vehicle, wrap it around the outside of the charger, and place the charge coupler in the holder on the side of the charger.

Troubleshooting

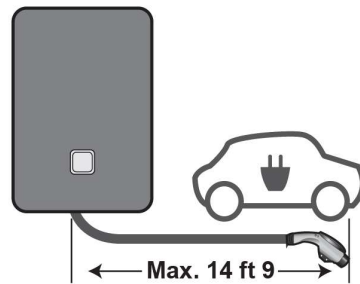
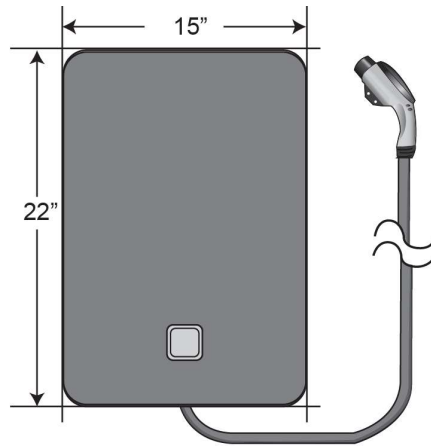
Color	Pattern	State
Blue	Pulsing	Charging has paused. Wait for charging to resume (green LED).
Orange	Steady	Authentication failed. Retry authentication. If vehicle connected, unplug and re-plug.
	Bouncing	Cannot establish remote server connection. Charging is not possible.
Red	Steady	Charger out of service.

Fact Sheet

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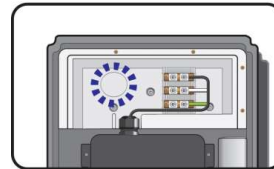
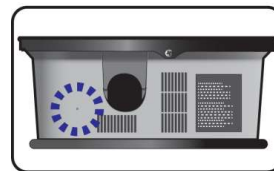
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EV Charger Fact Sheet



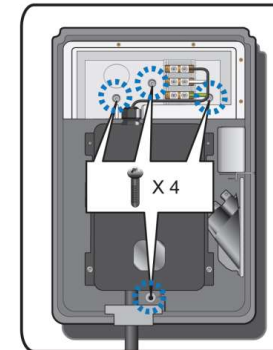
Electrical	
Max Output Current (Amperage)	Up to 80A
Phase	Single
AC Power Input Rating - Standard	208/240VAC 60Hz single phase
With IEC15118/ISO15118	YES
Certifications	UL2594, UL50E, UL2231, UL991, FCC Part 15 Class B
Wiring – Standard	3-wire (L1, L2, G)
Output Power (kW @ max A)	19.2kW (240VAC @ 80A)
Input Cord Requirement	Hardwire
Charging plug	SAE J1772 (80A)

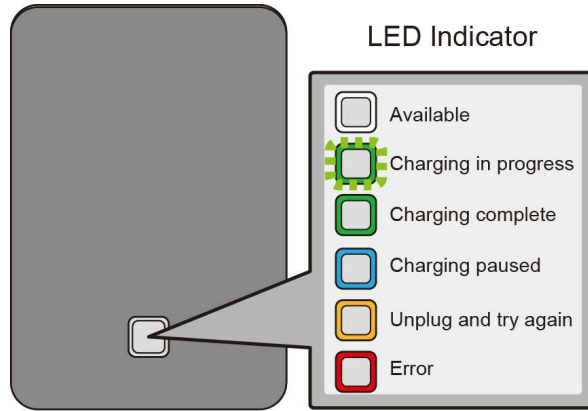
Input cable hole



Mounting holes

(Drill 9mm holes to fit provided M8 mounting screws.)





Environmental	
NEMA/IP Rating (Dust / Moisture)	NEMA 3R
IK Rating (Mechanical Impact)	IK 10
Altitude	3,500 m (Operating)
Solar radiation	1120 W/m ² (Class 2K4)
Wind rating	12 Beaufort
Operating temperature	-30°C to +50°C
Storage temperature	-40°C to +60°C
Operating humidity	Up to 85% non-condensing

FEATURES

- **Commercial or Residential Installation** - This product is suitable for commercial or residential application as it requires one dedicated 208/240VAC 60Hz single phase 3-wire power source.
- **High compatibility** - This product supports EV charging standards including J1772 and ISO/IEC 15118.
- **LED Display** - Simple, easy to understand LED indicators show charger status.

IMPORTANT SAFETY INSTRUCTIONS

- Read the manual thoroughly before you attempt to install or operate this equipment.
- This product is intended for charging vehicles only.
- This product shall be installed, adjusted, and serviced by qualified electrical personnel.
- Isolate the product from any electrical source before wiring or servicing it. Failure to follow this may lead to severe bodily injury or death.



Rotary Switch for limiting charging current

Position	Maximum Output Current	Required Circuit and Breaker Rating
0	10A	15A
1	12A	15A
2	16A	20A
3	20A	25A
4	24A	30A
5	32A	40A
6	40A	50A
7	48A	60A
8	63A	80A
9	80A (Factory Setting)	100A



40-015P215001