



YOTTA
ENERGY

Installation / User manual
EVC-1 & EVC-1-WF
(Commercial EV-charger)



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WARNING

1. Important Safety Instructions

WARNING! This manual contains important instructions. Read first and verify installation.

This is a YOTTA ENERGY EVC-1 (COMMERCIAL EV CHARGER 48A):

- 1) Read all the instructions before using this product.
- 2) This device should be supervised when used around children.
- 3) Do not put fingers into the electric vehicle connector.
- 4) Do not use this product if the flexible power cord or EV cable is frayed, insulation is broken, or if there is any other signs of damage.
- 5) Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- 6) To reduce the risk of fire, connect only to a circuit provided branch circuit over-current protection in accordance with the CSA C22.1-15 Canadian Electrical Code, Part 1 (Canada) or NOM-001-SEDE Electrical installations (utility) (Mexico) or ANSI / NFPA 70 National Electrical Code (USA).

| Circuit Breaker Options table | | | | |
|-------------------------------|-----|-----|-----|-----|
| Output Amperage (A) | 16A | 32A | 40A | 48A |
| Circuit Breaker Options (A) | 20A | 40A | 50A | 60A |

- 7) To avoid a risk of fire or electric shock, do not use this device with an extension cord.
- 8) THE SUITABILITY OF THE USE OF FLEXIBLE CORD IN ACCORDANCE WITH CE CODE, PART I, RULE 4-012, IS TO BE DETERMINED BY THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.
- 9) 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.



WARNING

AVERTISSEMENT! Ce manuel contient des instructions importantes pour les modèles : Série EVC-1 qui doit être suivie pendant l'installation, le fonctionnement et la maintenance de l'unité.

- 1) Lisez toutes les instructions avant d'utiliser ce produit.
- 2) Cet appareil doit être surveillé lorsqu'il est utilisé à proximité d'enfants.
- 3) Ne pas mettre les doigts dans le connecteur du véhicule électrique.
- 4) N'utilisez pas ce produit si le cordon d'alimentation flexible ou le câble EV est effiloché, a une isolation cassée, ou tout autre signe de dommage.
- 5) N'utilisez pas ce produit si le boîtier ou le connecteur EV est cassé, fissuré, ouvert ou montre toute autre indication de dommage.
- 6) Pour réduire les risques d'incendie, ne connecter qu'à un circuit protection contre les surintensités des circuits de dérivation conformément à la norme canadienne CSA C22.1-15 Code électrique, partie 1 (Canada) ou NOM-001-SEDE Installations électriques (service public) (Mexique) ou ANSI / NFPA 70 National Electrical Code (États-Unis).

| Circuit Breaker Options table | | | | |
|-------------------------------|-----|-----|-----|-----|
| Output Amperage (A) | 16A | 32A | 40A | 48A |
| Circuit Breaker Options (A) | 20A | 40A | 50A | 60A |

- 7) Pour éviter tout risque d'incendie ou de choc électrique, n'utilisez pas cet appareil avec une rallonge.
- 8) L'ADÉQUATION DE L'UTILISATION DU CORDON FLEXIBLE SELON LE CODE CE, LA PARTIE I, RÈGLE 4-012, DOIT ÊTRE DÉTERMINÉE PAR L'AUTORITÉ LOCALE D'INSPECTION AYANT JURISDICTION.
- 9) Risque de choc électrique. Ne retirez pas le couvercle et n'essayez pas d'ouvrir le boîtier. Aucun utilisateur pièces réparables à l'intérieur. Confiez l'entretien à un personnel d'entretien qualifié.



WARNING

This product complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

This device may not cause harmful interference, and this device might accept any interference received, including interference that may cause undesired operation.

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

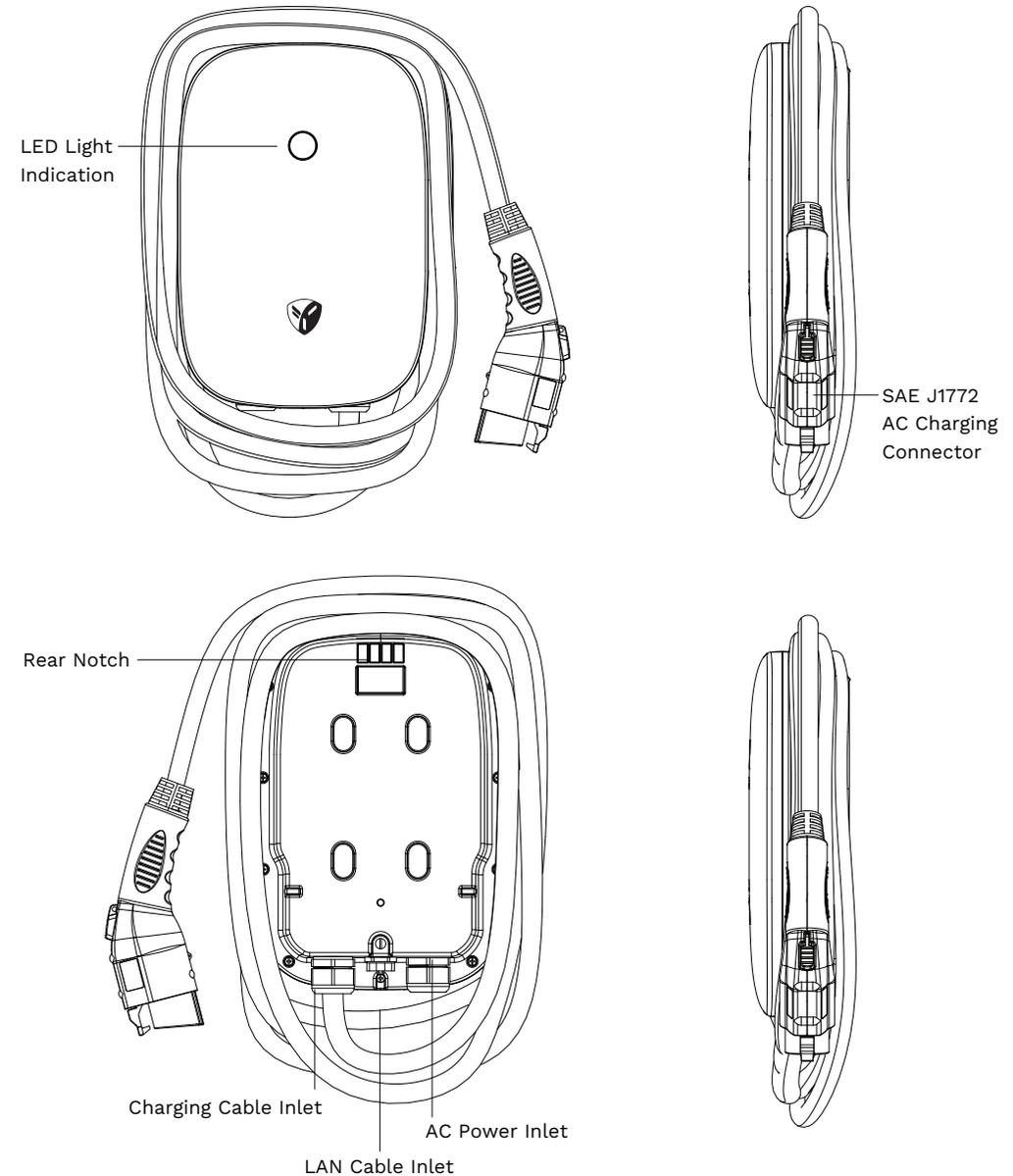
NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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 the user will be required to correct the interference at his own expense.

WiFi module : Contains FCC ID:2AC7Z-ESPWROOM32D

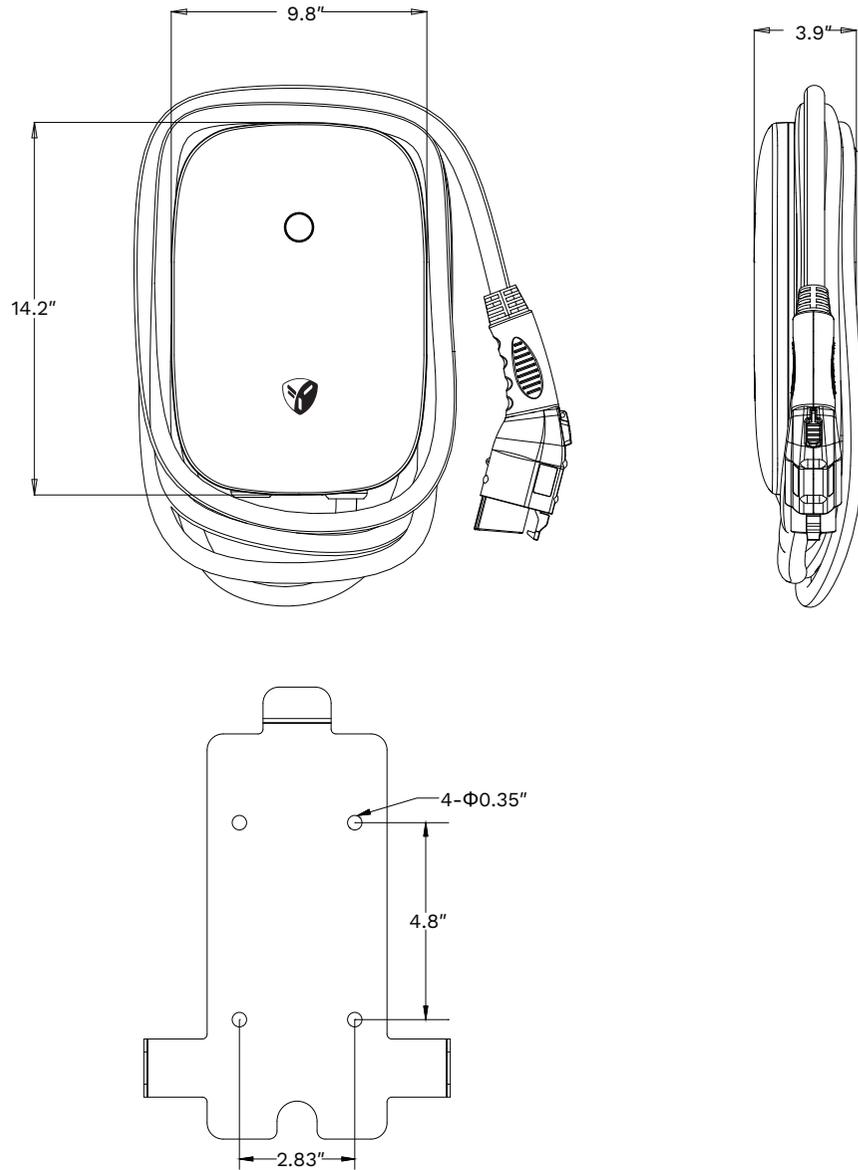
LTE module : Contains FCC ID:XMR202008EC25AFXD

To satisfy FCC RF exposure requirements, a separation distance of 20cm 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.

2. Basic Interface



3. Product Dimensions



4. Design and Manufacturing Standards

UL 2594: Electric Vehicle Supply Equipment

UL 2231-1: Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: General Requirements

UL 2231-2: Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems

UL 2251: Plugs, Receptacles and Couplers for Electric Vehicles

UL 62: Flexible Cords and Cables

UL 991: Tests for Safety-Related Controls Employing Solid-State Devices

UL 1998: Software in Programmable Components

NFPA 70 Article 625: National Electrical Code, Electric Vehicle Charging System

UL 840 (Clearance and Creepage)

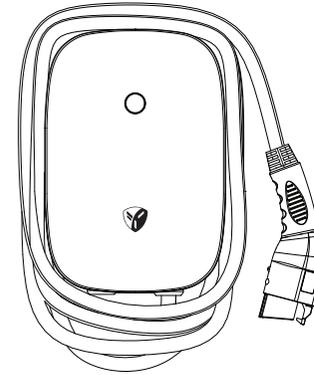
5. Specification

| | |
|-----------------------------|--|
| Model Name | EVC-1 & EVC-1-WF |
| Rated Input Voltage | 200-240V (AC) Single Phase |
| Rated Output Current | 48A MAX (Adjustable 16/32/40A) / 16A Default |
| AC Power Frequency | 60 Hz |
| Input Protection | UVP, OVP, RCD, SPD, Ground Fault Protection |
| Output Protection | OCP, OTP, Control Pilot Fault Protection |
| Output Interface | SAE J1772 AC Charging Connector |
| Storage Temperature | -40°F to 158°F |
| Operation Temperature | -22°F to 122°F |
| Relative Operation Humidity | 95% RH Maximum |
| Relative Storage Humidity | 95% RH Maximum |
| RFID Authentication | LAN Version / Wi-Fi Version |
| RJ45 Cable Inlet*1 | 10M / 100M Base-T |
| Wi-Fi Function*2 | 802.11 b/g/n |
| Cable Length | 18ft |
| Protection Level | Type 3 / IP65 |
| Installation Type | Wall-Mounted |
| Altitude | ≤ 6561ft |
| Status Indication | Red, Green, Blue LED |

*1 LAN Version or Wi-Fi Version

*2 Wi-Fi Version

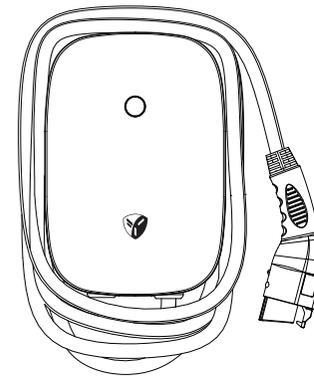
6. Status Description of the Charger Indication Light



● READY

Standby - Blue Light

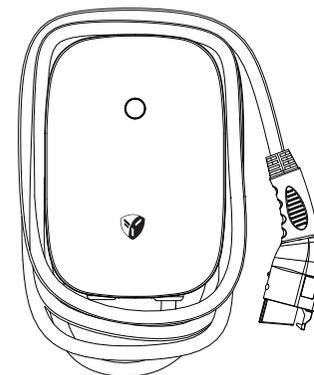
The READY light stays steady in standby mode.



● CHARGE

Waiting for Charging - Green Light

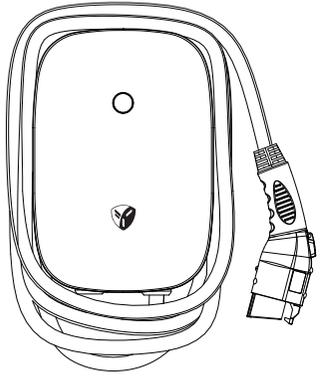
After the vehicle connector is connected to the vehicle inlet, the CHARGE light will constantly lit.



● CHARGE

Charging - Green Light Flashing

The CHARGE light flashes while charging.



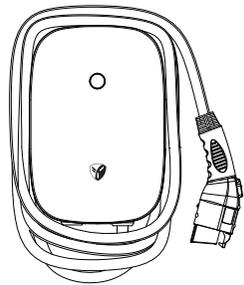
● FAULT

Fault - Red Light

The red light is lit while fault. Please refer to "9.3 Error and Warning Messages" for detailed information.

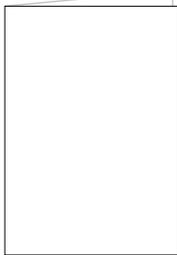
| No. | Product Name | Quantity | Note |
|-----|----------------------------------|----------|------|
| 1 | AC Charger (With Charging Cable) | 1 | |
| 2 | User Manual | 1 | |
| 3 | Wall-Mounted Bracket | 1 | |
| 4 | M5 screws | 2 | |
| 5 | M6 Hexagonal Expansion Screws | 4 | |
| 6 | RFID Card (RFID Version Only) | 2 | |

7. Packing List

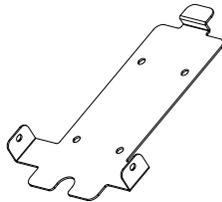


1

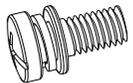
User Manual



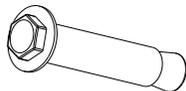
2



3



4



5



6

8. Installation Instructions

8.1 Safety Requirements

- Be sure to read the user manual and ensure local building and electrical codes are reviewed before installing the AC charger.
- The EVC-1 charger should be installed by a qualified technician according to the user manual and local safety regulations.
- Use appropriate protection when connecting to the main power distribution cable.
- Type B, C or D breaker should be installed in the upstream AC distribution box.
- Disconnect switch for each ungrounded conductor of AC input in accordance with the National Electric Code, ANSI/NFPA 70.

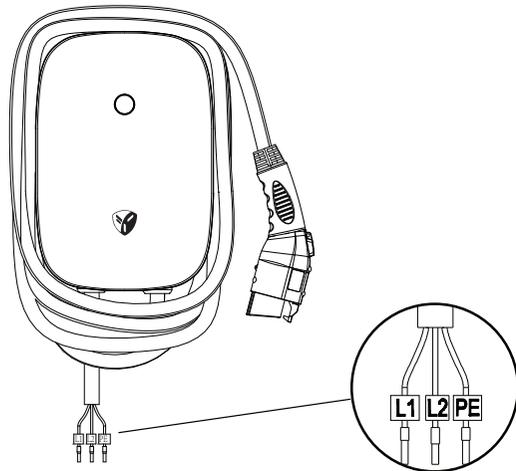
8.2 Wiring

GROUNDING INSTRUCTIONS

This product must be grounded. In case of malfunction or break down, proper grounding will provide 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 could 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 or not. Do not modify the plug provided with the product. If outlet does not fit, have a proper outlet installed by a qualified electrician.

AVERTISSEMENT! Une mauvaise connexion du conducteur de mise à la terre de l'équipe ment peut entraîner un risque de choc électrique. Vérifiez auprès d'un électricien ou d'un technicien qualifié si vous n'êtes pas sûr que le produit soit correctement mis à la terre. Ne modifiez pas la fiche fournie avec le produit - si elle ne rentre pas dans la prise, faites installer une prise appropriée par un électricien qualifié.



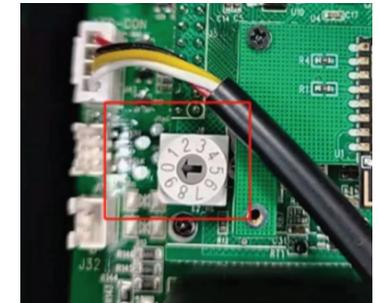
For safety regulations, please add circuit breaker protection in the input part of charging pile. Connect the L1 lead to the grid L1, connect the L2 lead to the grid L2, connect the PE lead to the grid PE.

| Output Amperage (A) | 16A | 32A | 40A | 48A |
|-----------------------------|-----|-----|-----|-----|
| Circuit Breaker Options (A) | 20A | 40A | 50A | 60A |

SETTING THE RIGHT AMPERAGE

Open the front cover of the charger by unscrewing the 13 fixed screws on the rear of the charger. Adjust the amperage dial switch for the proper desired setting based on the power feed available according to the table below. **The factory default setting of this switch is the slowest charge speed of 16A.**

| Number on knob | Current | Output |
|----------------|---------|--------|
| 0 | 16A | 3.8kW |
| 1 | 32A | 7.6kW |
| 2 | 40A | 9.6kW |
| 3 | 48A | 11.5kW |



Note: For further information about how to set up the MAX OUTPUT AMPERAGE, please contact YOTTA.

8.3 Tools and Materials Required

Tools required before installing the Wall-Mounted charger:

- Wire stripper
- Crimpers
- Phillips screwdriver (M5)
- Slotted screwdriver (4~5.5MM)
- Adjustable Wrench (M6)
- Head gasket screw (10-10.5mm)
- Voltmeter or digital multi-meter (for measuring AC voltage at the installation site)
- It is highly recommended to use 3 core / 7AWG cable (XLPE or equivalent cable) to pull the cable from the distribution box.
- Level
- Pencil or marker
- Drill

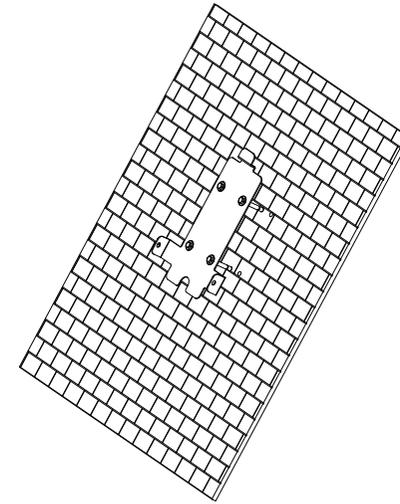
Installation Instructions

*This device should be mounted at least 4ft (1.2m) from the ground.

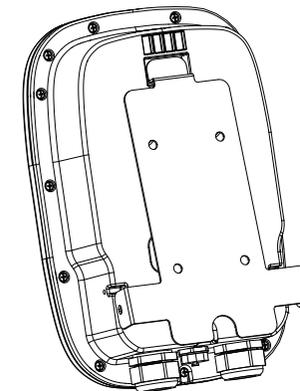
8.4 Wall-Mounted Bracket Installation

Step 1:

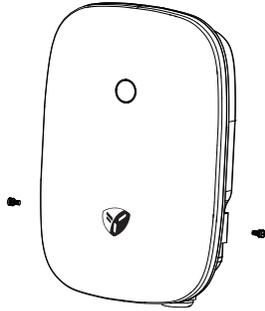
- Set the position of the screw holes (4) and drill them with a 5/16" (8mm) drill bit and a 2" (52mm) depth.
- Use M6 hex expansion screws (4) to fix the wall-mounted bracket to the wall.



Step 2: Align the rear notch of charger into the wall-mounted bracket and fit the screw holes of the right and left side.

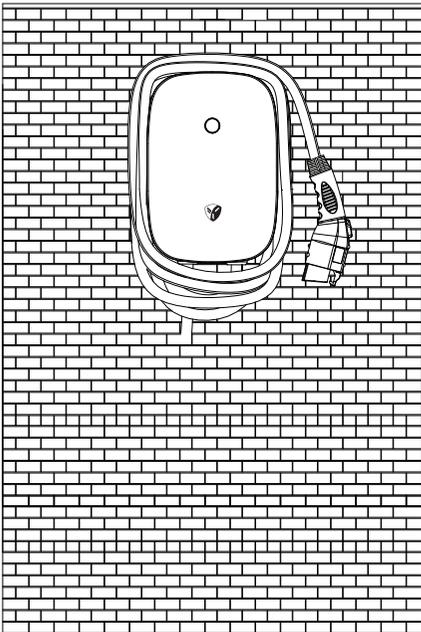


Step 3: Fix the M5 screws (2) from the side of the charger to the mounting bracket.

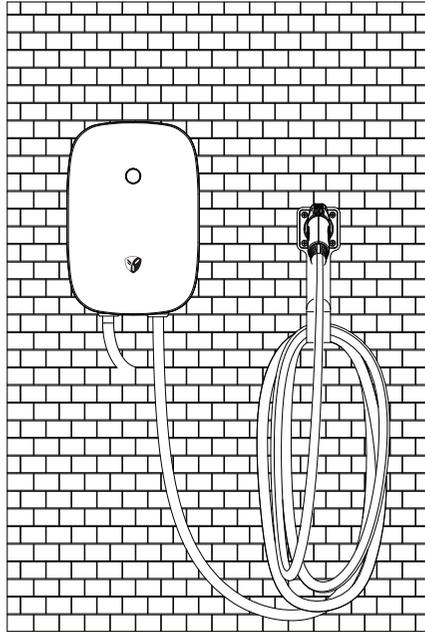


Once installed, the EVC-1 should look like the images below:

Wall-mounted cable winding



Optional cable hanging (optional accessory)



9. Operation Instructions

9.1 Operating Procedures

- User Authorization (Gateway)
- Connect to Vehicle Charging Inlet
- Charging Messages
- Charging Completed

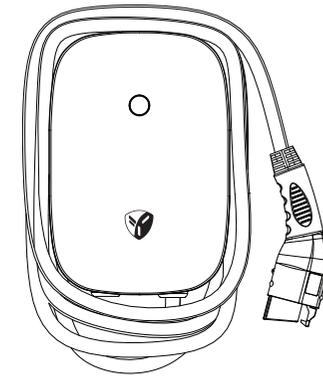
9.2 Operating Steps

9.2.1 Operating Steps with Plug and Charge

Step 1 / Standby Mode

After power-on, blue light (READY), green light (CHARGE) and red light (FAULT) should all lit.

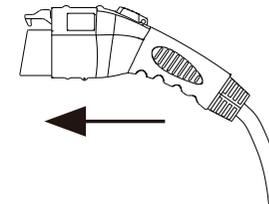
Standby mode should be ready when the blue light (READY) is steady on.



● READY

Step 2 / Plug the Charging Connector

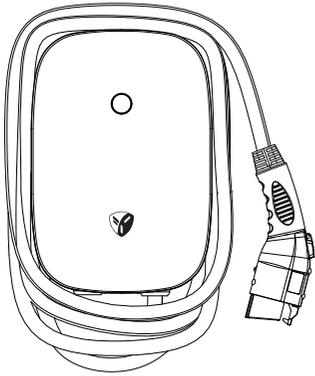
Please plug the charging connector into the vehicle charging inlet.



Step 3 / Charging

The green light (CHARGE) turns to flashing mode automatically. Charging is in process.

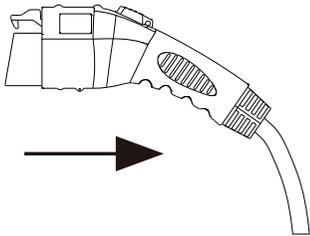
- If the red light (FAULT) is lit, plug the vehicle connector again correctly.
- If red light is still lit, please refer to "Error and Warning Messages".



CHARGE

Step 4 / Charging Finished

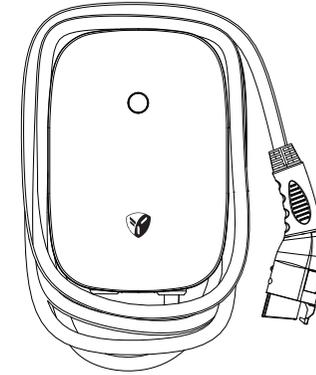
When the charging is finished, the green light (CHARGE) will constantly lit, please press the button on connector and remove it from the plug.



9.2.2 Operating Steps with RFID card

Step 1 / Standby Mode

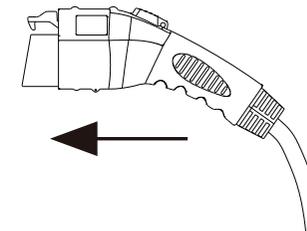
After power-on, blue light (READY), green light (CHARGE) and red light (FAULT) should all lit. Standby mode should be ready when the blue light (READY) is steady on.



READY

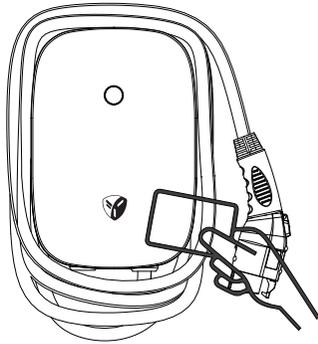
Step 2 / Tap the RFID Card

Please plug the charging connector into the vehicle charging inlet. When you tap the RFID card first, it needs to complete the insertion of the charging connector within 120 seconds, otherwise you need to tap the RFID card again.



Step 3 / Tap the RFID Card

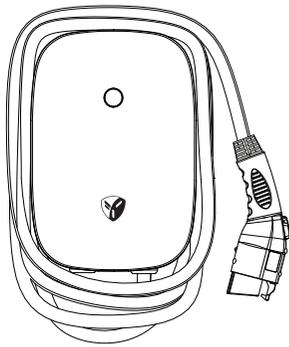
Tap the RFID card to start the charging.



Step 4 / Charging

The green light (CHARGE) turns to flashing mode automatically. Charging is in process.

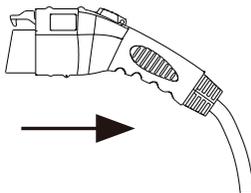
- If the red light (FAULT) is lit, plug the vehicle connector again correctly.
- If red light is still lit, please refer to "Error and Warning Messages".



 **CHARGE**

Step 5 / Charging Finished

When the charging is finished, the green light (CHARGE) will constantly lit, please press the button on connector and remove it from the plug.



9.3 Error and Warning Message

| Status | Red | Remark |
|----------------------------|-----------------------------------|--------------------------|
| Input OVP | 1 flashes followed by 3 sec pause | Auto Recover |
| Input UVP | 2 flashes followed by 3 sec pause | Auto Recover |
| Output OCP | 3 flashes followed by 3 sec pause | Auto Recover |
| OTP | 4 flashes followed by 3 sec pause | Auto Recover |
| RCD Abnormal | 5 flashes followed by 3 sec pause | Auto Recover |
| Ground Fault | 6 flashes followed by 3 sec pause | Auto Recover |
| Control Pilot Fault | Flicker | Auto Recover |
| MCU Self-Test Fail | Constantly Bright | Contact Customer Service |
| RCD Self-Test Fail | Constantly Bright | Contact Customer Service |
| Relay Self-Test Fail | Constantly Bright | Contact Customer Service |
| RCD Abnormal Stop Charging | Constantly Bright | Contact Customer Service |
| Output OCP Stop Charging | Constantly Bright | Contact Customer Service |
| OTP Stop Charging | Constantly Bright | Contact Customer Service |

10. Maintenance and Repair

10.1 Daily Maintenance

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

- Avoid moisture or water in the charger. If there is water or moisture inside the charger, immediately turn off to avoid damage and possible hazard, and notify professional personnel to give maintenance before next use.
- If there is any damage or dirt on the vehicle connector, charging cable, or vehicle connector holder, please contact professional personnel immediately.
- Please use the charger properly. Do not hit or press hard on the case. If the case is damaged, please contact a technician.
- Avoid placing the charger near hot objects, at high temperature locations and away from dangerous substances such as flammable gases and corrosive materials.
- Do not place external objects or heavy objects on the charger to avoid danger.

10.2 Maintenance Spare Parts

- This charger is equipped with maintenance spare parts for use during the warranty period.
- All warranty services and repairs shall be performed by certified service technicians authorized by YOTTA ENERGY INC.

10.3 Warranty and Maintenance

- This product has a Five (5) year warranty. Contact YOTTA ENERGY INC. if needed.

support@yottaenergy.com
+1 (512) 856 7788

• During the warranty period, any malfunction caused within normal using conditions according to the User Manual, the product shall be replaced or repaired (free of charge), except on the following conditions:

1. The warranty certificate (this manual) is not provided.
2. If the charger is not properly being used according to the User Manual.
2. If there is NO valid proof of purchase.
3. If it exceeds the manufacturer's specified warranty period.
4. If the product is damaged, frayed or burnt.
5. If the product was not installed properly according to the User Manual.
5. If there is damage or malfunction caused by external objects and/or any introduced objects.
6. Unauthorized repair, disassembly or modification.
7. Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood, etc.).
8. Malfunction and damage caused by other unavoidable external factors. Malfunction and damage caused by improper use of equipment, such as water or other solutions entering into the equipment.
9. Malfunction and damage caused by the grid power supply and voltage which is not specified for use with the charger equipment.

*YOTTA ENERGY INC. will not be responsible for any special, incidental or consequential damages due to negligence during installation and/or usage.