

# ICAPIA AC Charging Pile User manual

## OPAL OMNI smart charger



# **ICAPIA AC Charging Pile**

## **User manual**

Welcome to ICAPIA - Empowering Your Electric Journey!

Congratulations on your new ICAPIA Home EV Charger! We're thrilled to welcome you and to help you fuel your electric adventures.

Thank You!

Thanks for selecting ICAPIA as your charging solution.

We are dedicated to ensuring you enjoy a seamless and dependable charging experience for your electric vehicle.

Explore and Connect

To enhance your charging experience, scan the QR code on this page to visit our website for our tools, apps, and updates to help you make the most of your EV journey.



Need Assistance or Have Feedback?

For any questions or feedback, reach out to us at **[support@icapia.com](mailto:support@icapia.com)**.

# 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 OPAL Omni 32, 40, 48 models, needs to be observed during installing, operating and maintaining.

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 scooter 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. Indicate the ambient temperature grade: -30°C to 50°C (-22°F to 122°F).
7. Note the following or something similar: "To reduce the risk of fire, connect to a circuit providing the following function". @ampere's maximum branch circuit overcurrent protection shall be in accordance with the National Electrical Code ANSI/NFPA 70, and Canadian Electrical Code Part 1 C22.1.

# Instructions de sécurité importantes relatives au risque d'incendie ou de choc électrique

**AVERTISSEMENT:** Lors de l'utilisation de produits électriques, des précautions de base doivent toujours être prises. Ce manuel contient des instructions importantes pour les modèles OPAL Omni 32, 40, 48, qui doivent être respectées lors de l'installation, de l'utilisation et de l'entretien.

1. Veuillez lire toutes les instructions avant d'utiliser ce produit.
2. L'utilisation de cet appareil en présence d'enfants doit se faire sous surveillance.
3. Ne mettez pas vos doigts dans le connecteur EV.
4. N'utilisez pas ce produit si le cordon d'alimentation flexible ou le câble du scooter est effiloché, si l'isolation est déchirée ou s'il est endommagé de quelque manière que ce soit.
5. N'utilisez pas ce produit si le boîtier ou le connecteur EV est cassé, fissuré, ouvert ou autrement endommagé.
6. Indiquer la température ambiante: -30°C à 50°C (-22°F to 122°F).
7. Notez la mention suivante ou une mention similaire : "Pour réduire le risque d'incendie, branchez l'appareil sur un circuit assurant la fonction suivante". La protection maximale contre les surintensités du circuit de dérivation de @ampere doit être conforme au Code national de l'électricité ANSI/NFPA 70 et au Code canadien de l'électricité, partie 1 C22.1.NFPA 70, and Canadian Electrical Code Part 1 C22.1.

**SAVE THESE INSTRUCTIONS**

**CONSERVER CES INSTRUCTIONS**

# CONTENTS

|                            |    |
|----------------------------|----|
| Abbreviations              | 4  |
| Safety Instructions        | 5  |
| Standard                   | 6  |
| Safety Standard            | 6  |
| Radio Frequency Standard   | 6  |
| Energy Star Standard       | 6  |
| Charging Connections       | 6  |
| 1 Product Information      | 7  |
| 1.1 Type                   | 7  |
| 1.1.1 Shape and Size       | 7  |
| 1.1.2 Block Diagram        | 8  |
| 1.2 Specifications         | 9  |
| 2 Operating                | 12 |
| 2.1 About the Interface    | 12 |
| 2.2 Switch                 | 13 |
| 3 Function Introduction    | 13 |
| 3.1 Network Configuration  | 13 |
| 3.2 Operation Guide        | 14 |
| 3.3 Troubleshooting        | 16 |
| 4 Product Installation     | 18 |
| 4.1 Labels                 | 18 |
| 4.2 Packing List           | 19 |
| 4.3 Check and Confirm      | 20 |
| 4.4 Preparation            | 20 |
| 4.5 Installation Steps     | 21 |
| 4.6 Grounding Instructions | 23 |
| 4.7 Maintenance            | 24 |
| Warranty Agreement         | 24 |

## 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.

THE SUITABILITY OF THE USE OF FLEXIBLE CORD IN ACCORDANCE WITH CE CODE, PART I

## 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.



## AVERTISSEMENT

Pour les véhicules électriques  
véhicules électriques.

Ventilation non requise.

Pour éviter tout risque d'incendie ou de choc électrique, n'utilisez pas cet appareil avec une rallonge.

Cet appareil est destiné uniquement à la charge de véhicules ne nécessitant pas de ventilation pendant la charge.

LA PERTINENCE DE L'UTILISATION DE CORDONS FLEXIBLES CONFORMÉMENT AU CODE CE, PARTIE

## ATTENTION

Pour réduire le risque de choc électrique, ne branchez l'appareil que sur des prises correctement mises à la terre.

N'utilisez pas ce produit si l'appareil est endommagé.

Risque d'électrocution, ne pas retirer le couvercle ou tenter d'ouvrir le boîtier.

Aucune pièce réparable par l'utilisateur ne se trouve à l'intérieur. Confier l'entretien à un personnel qualifié.



# Standard

## ► Safety Standard

Complies with UL 2594 UL 2231 UL 1998 UL991

## ► Radio Frequency Standard

47CFR Part 15 (2020)

ANSI C63.4 (2014)

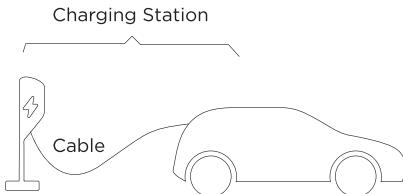
ICES-003 Issue 7: October 2020+

## ► Energy Star Standard.

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

## ► Charging Connection

The connections for charging are shown below



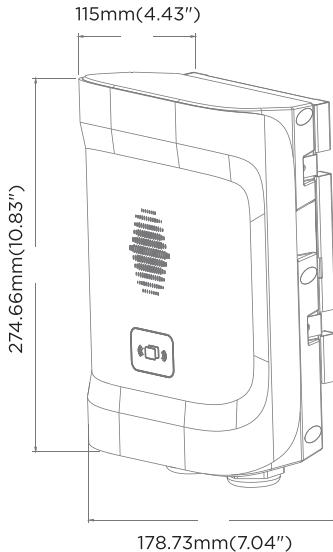
# 1 Product Information

## 1.1 Type

ICAPIA AC Charging Pile

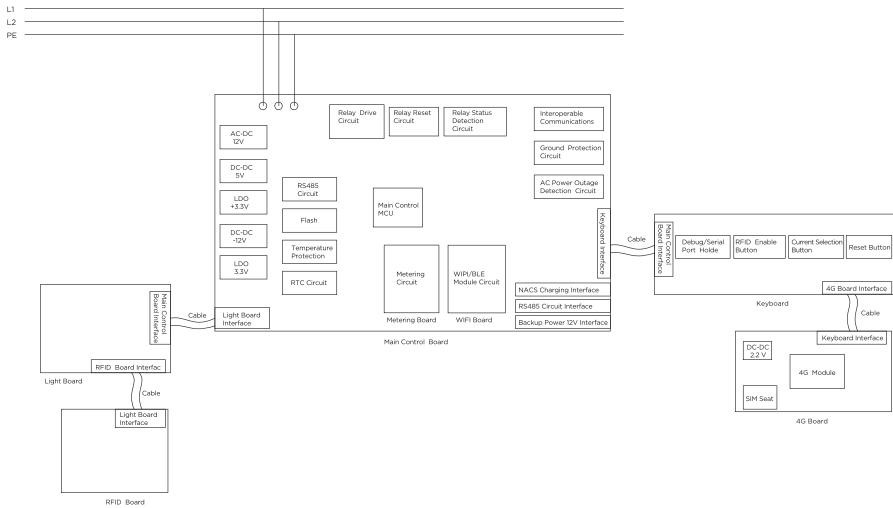
### 1.1.1 Shape and Size

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



## 1.1.2 Block Diagram

The block diagram of EVSE is as follows:



## 1.2 Specifications

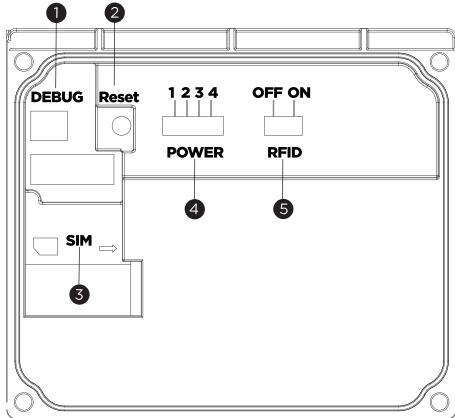
| RD10 American Standard AC EV Charging Specifications |  |                            |                     |                      |           |                         |          |
|--|--|----------------------------|---------------------|----------------------|-----------|-------------------------|----------|
| Category   | Specifications & Parameters                                |                            |                     |                      |           |                         | Option   |
|  | Model  | Rated input/output voltage | Rated input current | Rated output current | Max power | Charge Coupler          |          |
| Power Specification                                  | ICACOP32   | 208/240VAC 60Hz            | 32A                 | 32A                  | 7.68kW    | NACS or SAE J1772 TYPE1 | Optional |
|  | ICACOP40   | 208/240VAC 60Hz            | 40A                 | 40A                  | 9.6kW     | NACS or SAE J1772 TYPE1 | Optional |
|  | ICACOP48   | 208/240VAC 60Hz            | 48A                 | 48A                  | 11.52kW   | NACS or SAE J1772 TYPE1 | Optional |
| Power Wiring   | Hardwired via pigtail: L1/L2/PE   L/N/PE                   |                            |                     |                      |           |                         | Optional |
|  | NEMA 14-50P (selection of rated current not exceeding 40A) |                            |                     |                      |           |                         | Optional |
|  | NEMA 6-50P (selection of rated current not exceeding 40A)  |                            |                     |                      |           |                         | Optional |
| Communication  | 4G CAT.4   |                            |                     |                      |           |                         | Optional |
|  | Dual mode: wifi 2.4GHz/BLE 5.0                             |                            |                     |                      |           |                         | Optional |
|  | RS485  |                            |                     |                      |           |                         |          |
| OCPP Version   | OCPP 1.6J  |                            |                     |                      |           |                         | Optional |
| User Interface & Control                             | RGB LED light  |                            |                     |                      |           |                         |          |

|                          |  |          |
|--------------------------|--|----------|
| User Interface & Control | Power option switch  |          |
|                          | Reset switch   |          |
|                          | RFID enable switch   |          |
|                          | Emergency button   | Optional |
| Firmware Upgrade         | Over the air(OTA) <b>【Network communication module selected】</b>         |          |
|                          | Local update possible  |          |
| User Authentication      | RFID <b>【supports ISO14443-compliant type A, mifare one (MF1) cards】</b> | Optional |
|                          | APP  | Optional |
| Power Meter              | Measurement error accuracy less than 1%                                  | Optional |
| Memory                   | Flash rom (128M bit)   |          |
| Real Time Clock          | Supercapacitor   |          |
| Protection Function      | CCID20   |          |
|                          | Over voltage protection  |          |
|                          | Under voltage protection   |          |
|                          | Over-current protection  |          |
|                          | Over load protection   |          |
|                          | Short circuit protection   |          |

|                     |  |  |
|---------------------|--|--|
| Protection Function | Ground protection  |  |
|                     | Over-temp protection   |  |
|                     | Surge protection 6 kV @ 3,000A   |  |
|                     | Fault self-test  |  |
| Environmental       | Enclosure protection: type 4,IK08  |  |
|                     | Operating emperature: -30 ~ 50 C (-22 to 122 F)  |  |
|                     | Storage temperature: -40 ~ 75 C (-40 to 167 F)   |  |
|                     | Humidity: up to 95%, non-condensing  |  |
|                     | Altitude: ≤2000m (6500ft)  |  |
|                     | Cooling method: natural cooling  |  |
| Mechanica Parameter | Net weight:<br>5.7kg/12.5lbs (Hardwired via pigtail)<br>6.3kg/14lbs ( NEMA 14-50P )<br>[Weight based on 25ft cable length] |  |
|                     | Product outline size: H*W*D 11" *7" *4,5" (274.66 mm *178.73 mm *115 mm)   |  |
|                     | Cable length: 25ft   |  |
|                     |  |  |
| 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            | 3 Years  |  |

## 2 Operating

### 2.1 About Interface



| S/N | Name  | Label | Function                   | Parameters/Specifications                           |
|-----|-------|-------|----------------------------|---|
| 1   | DEBUG |       | Debug Port                 |   |
| 2   | Reset |       | Reset button               | Press the button for 5 seconds for factory recovery |
| 3   | SIM   |       | 4G Card Slot               |   |
| 4   | POWER |       | Power Configuration Switch | 1, 2, 3, 4  |
| 5   | RFID  |       | RFID Enable Switch         | OFF/ON  |

## 2.2 Switch

In the end use process, the 48A charging setting requires to use a permanent wired connection method (6AWG recommended).

## 3 Function Introduction

### 3.1 Network Configuration

#### Configure Wifi network

##### Step 1:

Turn on the power to the charging pile, open the mobile App, find the hotspot shared by the device, then input the default password (123456) to login the configuration setup. (If you do not find the hotspot, please restart the power supply of the charger). Network distribution can be carried out in the following way.

##### Step 2:

In the settings, enter the corresponding WiFi SSID and password.

#### Configure 4G network

If the product uses 4G for networking, you need to use a SIM card with an appropriate tariff plan. Insert the SIM card into the SIM card slot on the back of the device, then use the App to connect to the 4G network during the initial setup of the charging device. Carrier charges may apply.

## 3.2 Operation Guide

### 1 Charging Preparation

#### Option 1: APP start and stop

You can download the ICAPIA Home App, register your ICAPIA account or create a new one account, and connect to your WIFI (2.4GHz) network using the app.



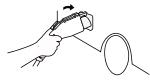
#### Option 2: Tap RFID tag to start

Use the RFID tag provided in the packaging box, and Pull the RFID switch of the charging pile to ENABLE to use the RFID card for charging; if the pull-out switch is at the DISABLE position, you cannot use RFID for charging.



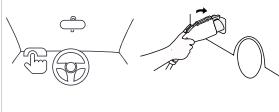
#### Option 3: Plug and charge

1. When the charging pile is normally connected with the App, set the device to "Plug and Charge" mode through in "Settings".
2. The next time you use the charging post, you will not need to use the App or swipe the RFID card to start charging, just plug the Charge coupler into your EV.



### 2 Connecting Charging Connector

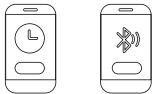
Open the cover of the car charging socket, and connect the charging cable to the car socket stably. Make sure the connection is successful.



### 3 Start Charging

#### Option 1: APP start and stop

When using it for the first time, turn on the App and configure the charging mode to scheduled charging or use instant Start to initiate and Stop to finish charging your EV.



#### Option 2: Tap RFID card to start

Put the RFID card close to the card-tapping area to start charging, and tap the card again during the charging process to stop charging.



#### Option 3: Plug and charge

The charging mode is configured as plug and charge, when step 2 is completed, the car is ready to start charging.



### 4 Charging

During the charging process, you can check the current vehicle charging voltage, charging current, charging time, charging power, and charging capacity through the mobile App.



### 5 End Charging

End charging via center console, app, tap RFID card and direct pull of charge coupler.



### 3.3 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         | 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 Error | 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 Error     | 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.  |
| Overtemperature | 1. Check whether the charging pile is covered or installed in a high-temperature environment that exceeds the specifications.<br>2. After cooling down, recheck whether it will occur. If the fault recurs, repair is required.  |
| Ovvoltgage      | 1. Check whether the grid voltage is abnormal.<br>2. Check whether the input cable is connected correctly.   |
| Undervoltage    | 1. Check whether the grid voltage is abnormal.<br>2. Check whether the input cable is connected correctly.   |

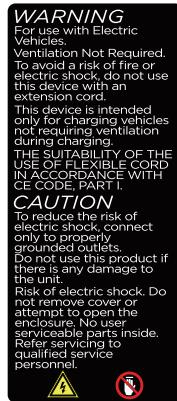
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|                                 |   |
|---------------------------------|---|
| CP Communication Abnormality    | Cut off the power and restart, replace the vehicle and charge it. If the fault recurs, it needs to be returned to the factory.  |
| 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.   |
| WIFI Cannot be Networked        | <ol style="list-style-type: none"><li>1. Use other devices to confirm whether the WIFI hotspot can access the Internet normally.</li><li>2. Power off and restart. If the fault recurs, repair is required.</li></ol>                       |
| BLE Cannot Connect              | <ol style="list-style-type: none"><li>1. Confirm whether the Bluetooth settings of the mobile phone are correct and whether the pairing is successful.</li><li>2. Power off and restart. If the fault recurs, repair is required.</li></ol> |
| 4G Module Communication Failure | It is recommended to restart after a power outage. If the fault recurs, repair is required.   |
| 4G Cannot be Connected          | <ol style="list-style-type: none"><li>1. Confirm whether the SIM traffic card is normal and whether the card is in good contact.</li><li>2. Power off and restart. If the fault recurs, repair is required.</li></ol>                       |

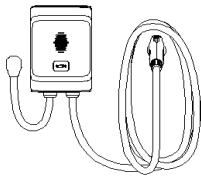
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# 4 Product Installation

## 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                |  |

## 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 keep the box and packaging materials for 1 month for future disposal. 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. Installation tools before installing AC EVSE, you should prepare at least the following tools:



Multimeter



Electric Impact Drill(D8mm+D6 mm)



Wrench (10mm)



AWG23-7  
Tube Terminal  
Crimping Pliers



Phillips Screwdriver  
(D5mm)



Electric Batch  
(With plum  
blossom  
hole  
T20.T25 bit)



Utility Knife



Anti-static bracelet



Heat Coupler



Wire Strippers



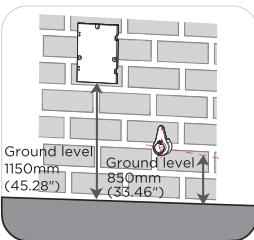
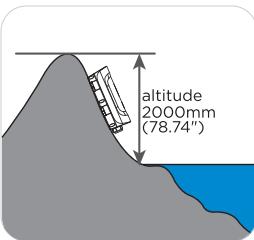
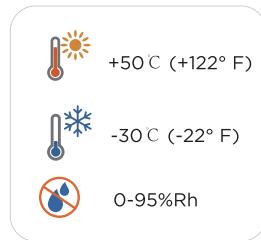
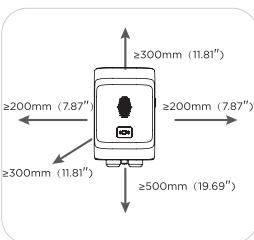
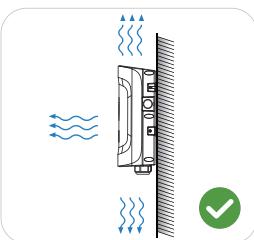
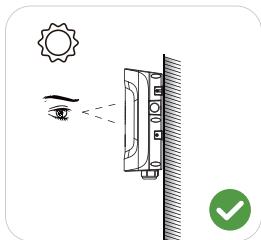
Marker Pen



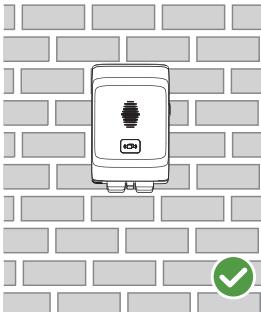
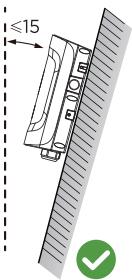
Rubber Hammer

## 4.5 Installation Steps

### Location Requirements

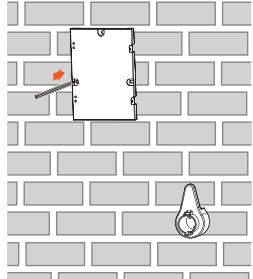


## Angle Requirements

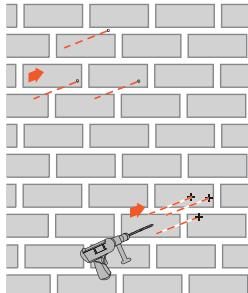


## Wall-mounted Installation Steps

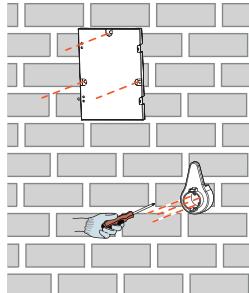
- 1 Install the wall-mount ed version and trace holes on the wall



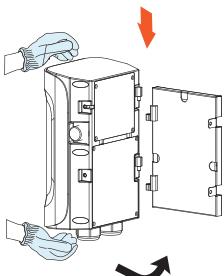
- 2 Punch holes in the wall



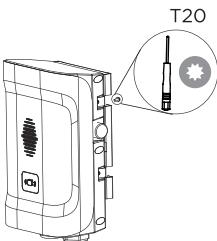
- 3 Install wall mounts, hanging plates and empty blocks.



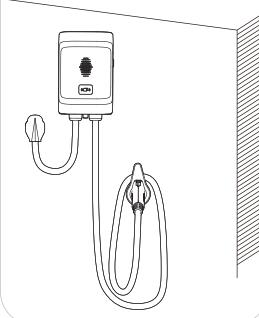
**4** Install the pile body on the mounting plate



**5** Set screw



**6** Installation pile completion diagram



## 4.6 Grounding Instructions

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 does 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.

## Warranty Agreement

1. The scope of the warranty refers to the product itself.
2. The warranty period is 36 months.
3. Even within the warranty period, if the following conditions occur, a certain maintenance fee will be charged.
  - Equipment failure caused by failure to operate according to the user manual.
  - Equipment damage caused by fire, flood, abnormal voltage, etc.
  - Equipment damage caused by the entry of foreign objects.
  - Equipment damage caused by other human-made external factors.
4. If you have any questions, please contact the agent or our after-sales service center directly or at support@icapia.com



## For Both FCC & IC application:

This device complies with Part 15 of 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 fonctionnement.

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 A 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 / IC RF 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 façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon 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 fonctionnement.





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