ICAPIA AC Charging Pile
User manual

LS Series
smart charger

icapia

ICAPIA AC Charging Pile
User manual

Welcome to ICAPIA - Empowering Your Electric Journey!

Congratulations on your new ICAPIA LS Series EV Charger!

Thank You!

Thanks for selecting ICAPIA as your charging solution.
We are dedicated to providing your business or property with
a seamless and dependable EV charging experience.

Explore and Connect

To enhance your charging experience with the ICAPIA Cloud Management colutions,
scan the QR code on this page to visit our website for our tools, apps,
and updates.

Need Assistance or Have Feedback?

For any questions or feedback, reach out to us at **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 ICACLS80, ICACLS4040, ICACLS4080, 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 (-22F 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.
8. Disconnecting Means. For equipment rated more than 60 amperes or more than 150 volts to ground, the disconnecting means shall be provided and installed in a readily accessible location. The disconnecting means shall be lockable open in accordance with 110.25.
SAVE THESE INSTRUCTIONS

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 ICACLS80, ICACLS4040, ICACLS4080, 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 (-22F 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.
8. moyens de déconnexion. Pour les appareils de plus de 60 ampères ou de plus de 150 volts à la terre, le dispositif de déconnexion doit être fourni et installé dans un endroit facilement accessible. Le dispositif de déconnexion
-Le dispositif de déconnexion doit être verrouillable et ouvert conformément à l'article 110.25.
CONSERVER CES INSTRUCTIONS

Instrucciones de seguridad importantes relacionadas con el riesgo de incendio o descarga eléctrica

ADVERTENCIA: Al trabajar con productos eléctricos, deben seguirse siempre las precauciones básicas. Este manual contiene instrucciones importantes para los modelos ICACLS80, ICACLS4040, ICACLS4080, que deben observarse durante la instalación, el funcionamiento y el mantenimiento.
1. Lea todas las instrucciones antes de utilizar este producto.
2. El uso de este aparato cerca de niños debe hacerse bajo supervisión.
3.No introduzca los dedos en el conector EV.
4. No utilice este producto si el cable de alimentación flexible o el cable del scooter están deshilachados, tienen el aislamiento roto o presentan cualquier otro daño.
5. No utilice este producto si la carcasa o el conector EV están rotos, agrietados, abiertos o presentan cualquier otro daño.
6. Indique el grado de temperatura ambiente: -30°C a 50°C (-22F to 122°F).
7. Anote lo siguiente o algo similar: "Para reducir el riesgo de incendio, conecte a un circuito que cumpla la siguiente función". La protección máxima contra sobreintensidades del circuito derivado de @ampere deberá ser conforme al Código Eléctrico Nacional ANSI/NFPA 70, y al Código Eléctrico Canadiense Parte 1 C22.1.
8. Medios de desconexión. Para equipos de más de 60 amperios o más de 150 voltios a tierra, los medios de desconexión se proporcionarán e instalarán en un lugar de fácil acceso. Los medios de desconexión
-Los medios de desconexión deberán poder abrirse con llave de acuerdo con 110.25.
GUARDE ESTAS INSTRUCCIONES

CONTENTS

Abbreviations

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

Safety Instructions

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

WARNING

For use with Electric Vehicles.
Ventilation Not Required.
To avoid a risk of fire or electric shock, do not use this device with an extension cord.
This device is intended only for charging vehicles not requiring ventilation during charging.
THE SUITABILITY OF THE USE OF FLEXIBLE CORD IN ACCORDANCE WITH CE CODE, PARTI

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 utilisation avec des véhicules électriques
Aucune ventilation requise
Pour réduire le risque de choc électrique ou d'incendie, ne pas utiliser de rallonge avec cet appareil
Ce dispositif est destiné au chargement des véhicules ne nécessitant pas de ventilation au cours du chargement
LA PERTINENCE DE
L'UTILISATION DE CORDONS FLEXIBLES
SELON LE CODE CE, PREMIERE PARTIE.

ATTENTION

Pour réduire le risque de choc électrique, brancher sur une prise correctement mise à la terre
Ne pas utiliser ce produit si l'appareil est endommagé
Risque de choc électrique. Ne pas retirer le couvercle ni essayer d'ouvrir le boîtier. Aucune pièce interne réparable par l'utilisateur. Confier tout travail d'entretien ou de réparation à un technicien qualifié.


ADVERTENCIA

Para uso con vehículos eléctricos
No requiere ventilación
Para evitar un riesgo de incendio o choque eléctrico, no utilice este aparato con una extensión
Este dispositivo se destina únicamente para cargar vehículos que no requieren ventilación durante la carga

PRECAUCIÓN

Para reducir el riesgo de choque eléctrico, conectar únicamente a salidas puestas a tierra correctamente
No utilizar este producto si existe algún daño en la unidad
Riesgo de choque eléctrico. No quitar la cubierta ni intentar abrir el envolvente. En el interior existen partes que no pueden repararse por el usuario. Referirse a personal de mantenimiento calificado


Standard

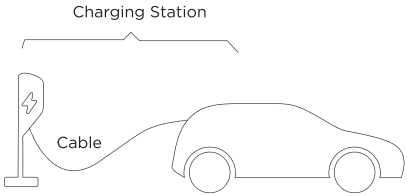
▶ **Safety Standard**
Complies with UL 2594 UL 2231 UL 1998 UL991

▶ **Radio Frequency Standard**

47CFR Part 15(2023)
ANSI C63.10(2020)
RSS-210 Issue 11

▶ **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



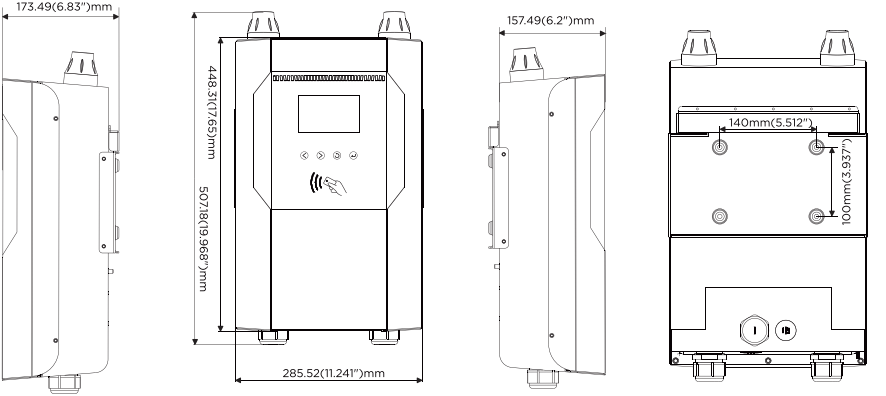
1 Product Information

1.1 Type

Welcome to our AC EVSE

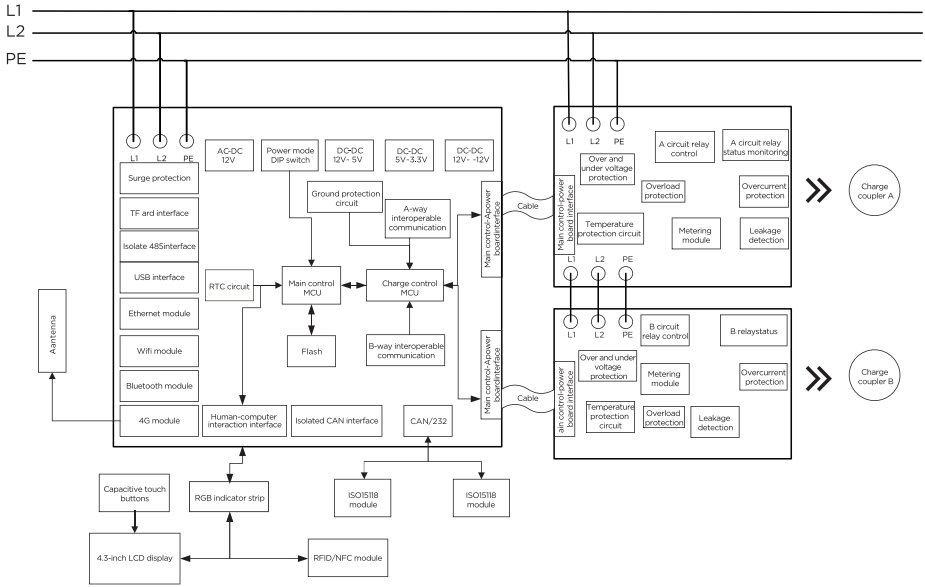
1.1.1 Shape and Size

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



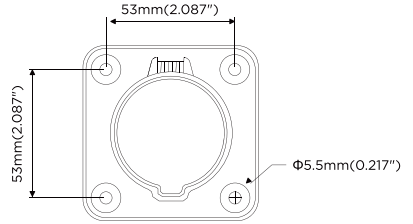
1.1.2 Block Diagram

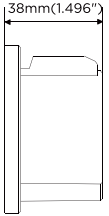
The block diagram of EVSE is as follows:

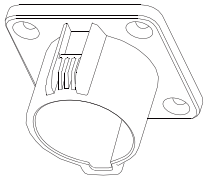


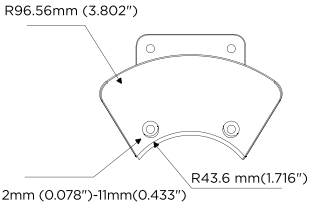
1.2 Cable Holder and Hook

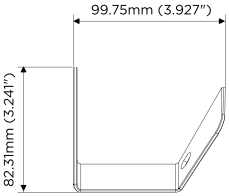
AC EVSE is equipped with an American standard car-side charging connector.
When the EVSE is in standby mode, insert the car end charging connector into an empty seat to protect the car end charging connector.
Use the mounting screws to fix this empty socket in place next to the EVSE.

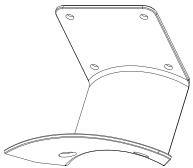












1.3 Specifications

ICAPIA LS Series AC EV Charger							
Category	Specifications & Parameters						Option
	Model	Rated input/ output voltage	Rated input current	Rated output current	Max power	Charge Coupler	
Power Specification	ICACLS-80	Level 2, 208/240VAC 50/60Hz	80A	80A	19.2kW	SAE J1772 TYPE1/NACS	Optional
	ICACLS-4040	Level 2, 208/240VAC 50/60Hz	80A	2*40A	2*9.6kW	SAE J1772 TYPE1/NACS	Optional
	ICACLS-4080	Level 2, 208/240VAC 50/60Hz	80A	1*80A/2*40A Load Balancing	19.2kW	SAE J1772 TYPE1/NACS	Optional
Power Wiring	Hardwired via pigtail： L1/L2/GND						
Communication	LAN (RJ-45)						
	USB (type A)						
	4G cat. 4						
	WiFi 2.4G						
OCPP Version	OCPP 1.6J						
User Interface & Control	LCD Screen Size:4.3-inch;/pixels resolution:800*480/262K colors/Brightness:900nit /No touch function						
	RGB LED light bar						
	Capacitive touch buttons						
	Power option switch						
User Authentication	RFID						
	QR Code /APP						

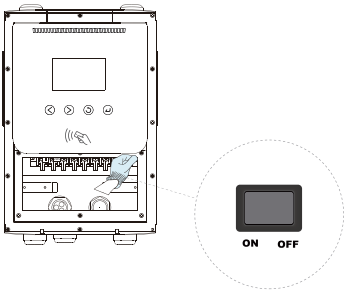
Meter	On-board power meter Measurement error accuracy less than 1%	
Power Management	Load balancing:single device	
Memory	Flash rom (16M)	
	TF card memory expansion	
Real Time Clock	Supercapacitor	
Protection Function	CCID20	
	Over voltage protection	
	Under voltage protection	
	Over-current protection	
	Over load protection	
	Ground protection	
	Over-temp protection	
	Surge protection 6 kV @ 3,000A	
	Fault self-test	
Environmental	Enclosure Protection: Type 4, IK08	
	Operating Temperature: -30 - 50 ℃	
	Storage Temperature: -40 - 75℃	
	Humidity: Up to 95%, non-condensing	

Environmental	Altitude: <2000m	
	Cooling Method: Natural Cooling	
Mechanical	Net Weight: ICACLS-80 (14.7kg/32.4lbs) ICACLS-4040 (16kg/35.2lbs) ICACLS-4080 (21kg/46.3lbs)	
	Product Outline Size: 11.25"x20"x6.2"	
	Cable Length: 18ft or Customization	
Regulation	Safety Regulations:ETL（UL2231 UL2594 UL1998 UL991）	
	Metering & Billing	
	Energy Efficiency:Energy Star	
	Wireless Certificate:FCC/IC	

2 Operating

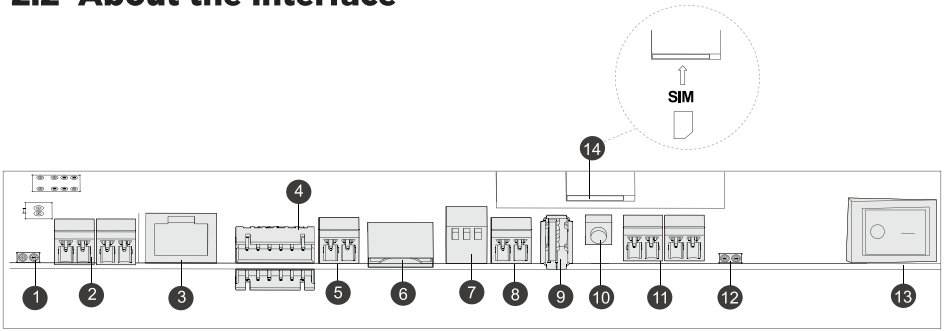
2.1 Power Switch

1. Check and make sure the mainboard power switch is off and that the fuse is there and installed. As shown below.



2. Turn off the power of this product, turn on the power switch of the mainboard; observe whether the boot interface of the product is normal.

2.2 About the Interface



NO.	Name	Function	Specification
1	Charge coupler A meter PF pulse output port.	Power pulse signal output interface	
2	Charge coupler A line Interface	CP signal, temperature signal, CC signal and power supply	
3	Ethernet Interface	10/100M ethernet network	
4	Download Interface	Debug port	Firmware burn-in port
5	485 Interface	M-bus protocol	
6	TF Interface	TF card interface	Micro SD
7	Power mode selection	Refer power mode setup instructions	
8	CAN Interface	NC	
9	USB Interface	USB 2.0	
10	WIFI reset button		
11	Charge coupler B line Interface	CP signal, temperature signal, CC signal and power supply	
12	Charge coupler A meter PF pulse output port	Power pulse signal output interface	
13	Power switch	Charging pile control power switch	
14	SIM card interface	Internet connection	4G Nano SIM

Charging with single pot version ECA-NC8002S-DG80/ECA-NC8002S-DG80 updates the rated current according to the DIP switch status, no reboot required

ICACLS-4080	16A+16A	24A+24A	32A+32A	40A+40A	1*80A/2*40A			
ICACLS-4040					40A+40A			

Charging with dual pot version ECA-NC8002S-SG80 updates the rated current according to the DIP switch status, no reboot required

ICACLS-80	16A	24A	32A	40A	48A	60A	80A	80A

Upstream Wiring Charging stations are considered continuous load devices (EVs draw maximum load for long durations); therefore, electrical branch circuits must be sized at 125% of the load for North American installations, in accordance with National Electric Code (NEC) requirements. (For other regions, refer to local code.)

Circuit breaker (amps)	Max output (amps)	Power output at 240 volts (kW)
100	80	19.2
75	60	14.4
60	48	11.5
50	40	9.6
40	32	7.6
30	24	5.7
20	16	3.8

2.3 Troubleshooting

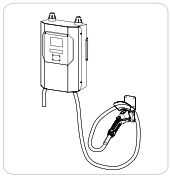
When a fault occurs, the charger will automatically protect. The fault information and processing methods are as follows.

Fault Code	Handling Method
20 Flash Fault	The memory chip is damaged, you need to contact the after-sales service.
21 EEPROM Fault	The memory chip is damaged, you need to contact the after-sales service.
22 Emergency Stop Failure	Check that the emergency stop button is not pressed. Resolve the fault after restoring the emergency stop button.
23 Power Failure	Check whether there is any problem with the input power supply. Resolve the fault after restoring the power supply.
24 Ground Fault	The charging pile is not grounded, so the circuit needs to be tested.
25 Motherboard Over Temperature Alarm	The equipment temperature is too high. Resolve the fault after the temperature drops.
30/40 A/B Cable Meter Communication Fault	Internal communication line failure, need to contact the after-sales service.
31/41 A/B A/B Cable Input Undervoltage Alarm	Check whether the input cable is connected correctly; whether the grid voltage is abnormal.
32/42 A/B Cable Input Overcurrent Alarm	Check that the charging adapter is properly connected to the car and that the car charger is working properly.
33/43 A/B Cable Input Overvoltage Alarm	Check whether the input cable is connected correctly; whether the grid voltage is abnormal.
34/44 A/B Cable L1 On RLY Closure Fault	Damaged relay, need to contact after-sales service.
35/45 A/B Cable L2 On RLY Closure Fault	Damaged relay, need to contact after-sales service.
36/46 A/B Cable L1 On RLY Normal Opening Fault	Damaged relay, need to contact after-sales service.
37/47 A/B Cable L2 On RLY Normal Opening Fault	Damaged relay, need to contact after-sales service.
38/48 A/B Cable Relay NTC Alarm	The temperature measuring element is damaged, need to contact the after-sales service.
39/49 A/B Cable L1L2 NTC Alarm	Temperature measuring element is damaged, need to contact the after-sales service.

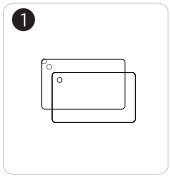
3A/4AA/B Cable Relay Over-Temperature Alarm	The relay temperature is too high. The fault will be resolved after the temperature drops.
3B/4B A/B Cable L1L2 Over-Temperature Alarm	L1L2 line temperature is too high. The fault will be resolved after the temperature drops.
3C/4C A/B Cable Leakage Current Fault	Check the charging adapter and its cable for damaged or wet. Recovery after fault. removal.
3D/4D A/B Cable Leakage Current Device Self-test Fault	Leakage detection equipment is damaged, need to contact the after-sales service.
3E/4EA/B Cable Input Overload Alarm	Check whether the charging adapter is correctly connected to the car and check whether the car charger is normal.

3 Product Installation

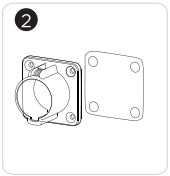
3.1 Packing List



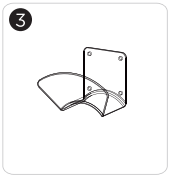
AC charger



Single RFID card (1pcs)
Dual RFID card (2pcs)



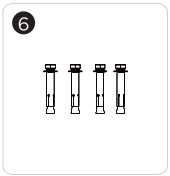
Single coupler holder (1pcs)
Dual coupler holder (2pcs)



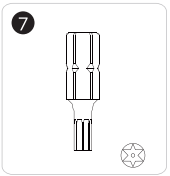
Single cord holder (1pcs)
Dual cord holder (2pcs)

Single torx self-tapping screws (8pcs)
Dual torx self-tapping screws (16pcs)

Single rubber Plug Expansion screws (8pcs)
Dual rubber Plug Expansion screws (16pcs)



Expansion screw (4pcs)



Electric drill bit (1pcs)

3-hole waterproof connector BN-M32-25 (1pcs)

3-hole waterproof connector BN-M25-18 (1pcs)

3.2 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 name plate 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.

3.3 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+D6mm)


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

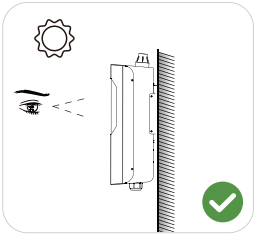

Marker Pen

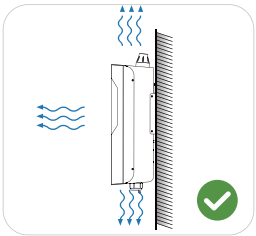

Rubber Hammer

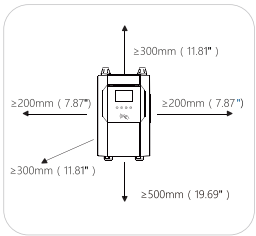
3.4 Installation Steps

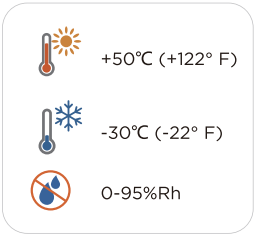
Wall Mount Installation

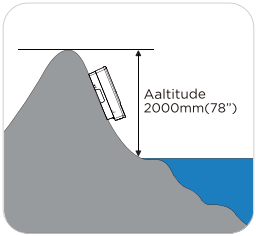
Location Requirements

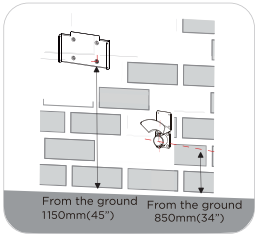




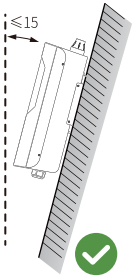


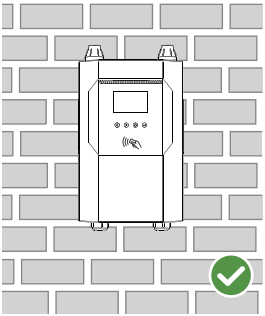


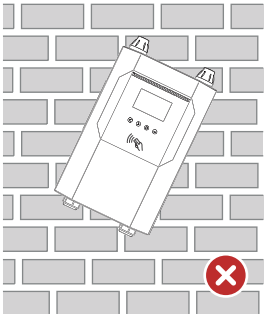




Angle Requirements

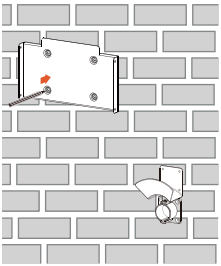




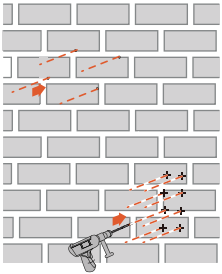


Angle Requirements

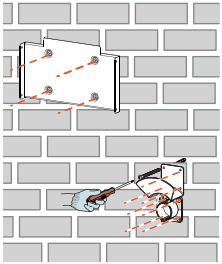
1 Install the wall-mounted version and trace holes on the wall



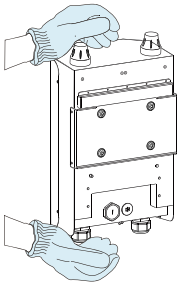
2 Punch holes in the wall



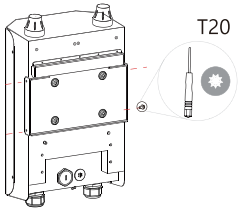
3 Install wall mounts, hanging plates and empty blocks



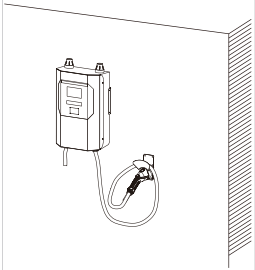
4 Install the pile body on the mounting plate



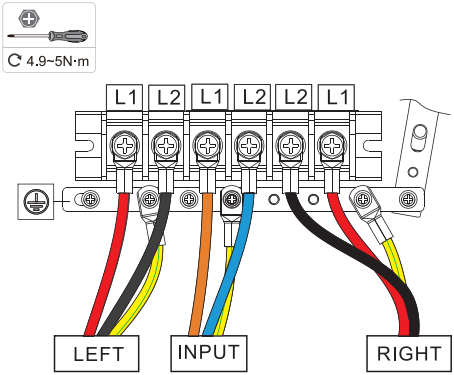
5 Set screw



6 Installation pile completion diagram

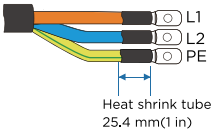


Copper cable cross-section: 3*4 AWG
Step 1 push up the back cover plate with hand.

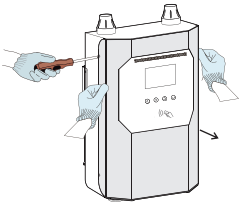


Input terminal wire size:
4 AWG straned

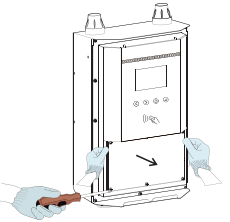
Live Wire L1: Brown
L1=105mm(4.2 in)
Neutral Wire
L2: Blue L2-105mm(4.2 in)
Earth Wire PE: Yellow and Green
PE=105mm(4.2 in)



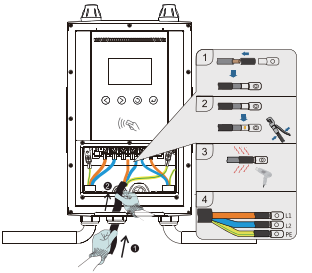
1 Remove decorative cover



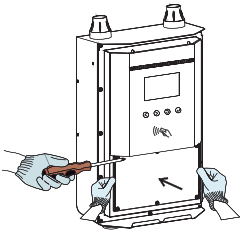
2 Remove wiring cover



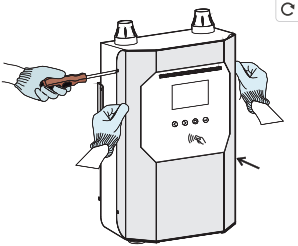
3 Input wire

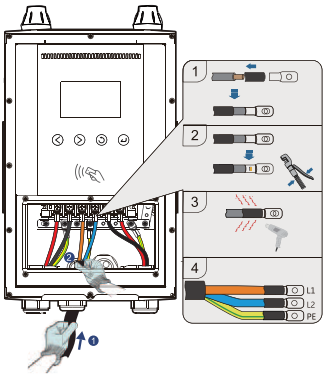


4 Installing decorative cover

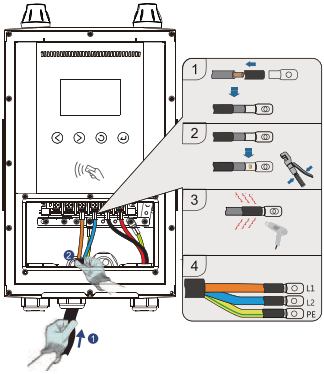


5 Installing wiring cover





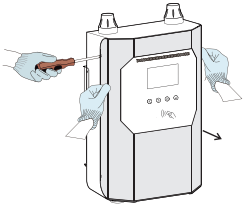
Dual Charge Coupler Input Wiring



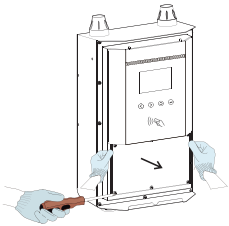
Single Charge Coupler Input Wiring

Back Wiring

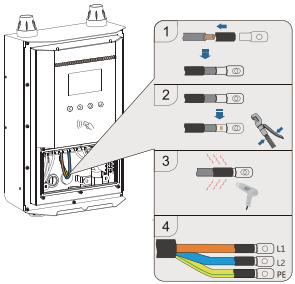
1 Remove decorative cover



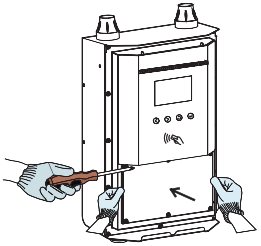
2 Remove wiring cover



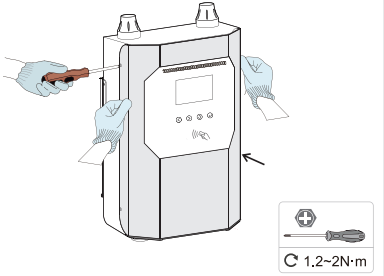
3 Input wire



4 Installing decorative cover



5 Installing wiring cover



Color	Terminal
Brown	L1
Blue	L2
Yellow-green	PE

DANGER

If L1,L2, PE are connected incorrectly, it will not only damage the machine, but also create a potential shock hazard.

DANGER

In the TT, TN-C and TN-S system, make sure that the ground cable is connected reliably. Otherwise, it may cause electric shock.

3.5 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:

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

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