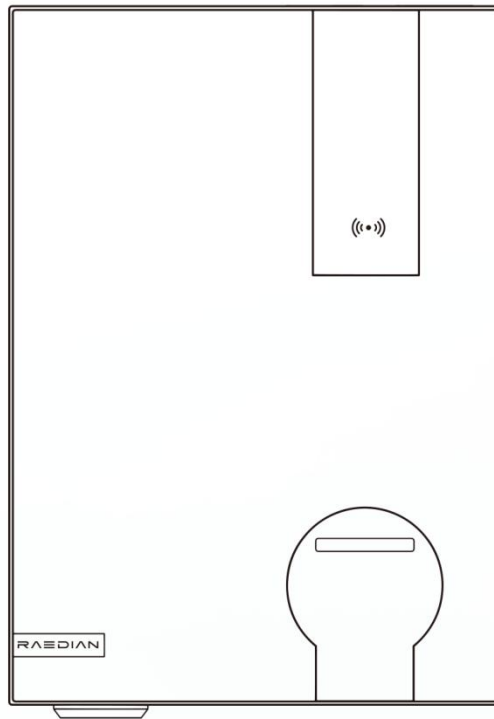


RAEDIAN



INSTALLATION MANUAL

NEO smart charge

Safety Notice!

It's crucial to familiarize with this manual and abide by all safety precautions outlined, including those indicated by safety markings on the equipment.

General Safety First While this manual provides helpful guidance, it's not exhaustive. Always prioritize general safety requirements, design, production, and established safety standards when operating the charger.

Local Regulations Matter Follow the specific regulations and guidelines related to EV charging installation and usage in your region along with the instructions in this manual.

Check Before You install Never install or use a charger that appears defective, cracked, damaged, or malfunctioning. It's better to be safe than sorry.

Power Down Before install Switch off the power before installation. Before you touch the charger for any reason, turn off the upstream residual current operated circuit-breakers with integral over current protection (RCBO).

Ensure proper installation Only install the charger in environments specifically mentioned in this manual. Think of it like building a house on the right foundation to avoid future problems.

Keep Water Away Direct water exposure can damage the charger. Opt for a sheltered location for optimal performance and longevity.

Avoid hazardous locations Never install the charger near or in areas with flammable materials like gasoline, explosives, chemicals, or steam. Treat it like keeping lighters away from fireworks for safety!

Avoid Electromagnetic Interference Strong magnetic fields and wireless transmitters can disrupt the charging process. Choose a location free from such interference.

Seek Shade Direct sunlight can impact the charger's performance. It is opt for a shaded area for efficient charging.

Extreme Weather Warning: Extreme weather conditions, like heavy rain, snow, or scorching heat, can compromise the charger's functionality. Avoid using it in such circumstances.

EV Manual Matters Before charging your specific electric vehicle with this product, always consult its manual for any additional safety instructions or compatibility detail.

Protecting the Product

- Keeping safety marks, warning signs, nameplates, and cabling marks intact ensures you have readily available safety information.
- Never insert fingers or sharp objects into any product component. Curiosity can lead to injury.
- Don't submerge the charging connector in water.

- Resist the urge to disassemble, repair, or modify the product yourself.
- Avoid dropping, squeezing, or piercing the product.
- Don't fold, crush, or damage any component with sharp objects.

Stick to Your Vehicle Only connect the charger to a vehicle, not other devices. Mixing and matching can lead to trouble or damages.

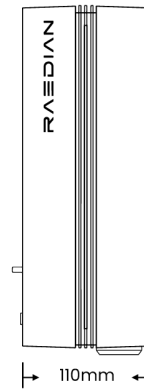
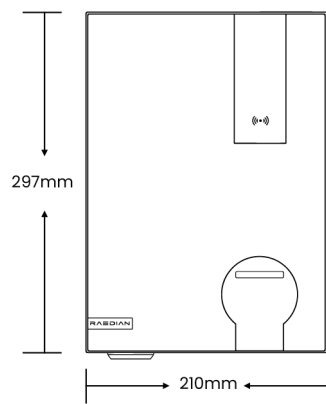
WARNING

This product shall only be installed, repaired or serviced by an certified electrician. All applicable local, regional and national regulations for electrical installations must be followed strictly.

Notice

The PIN code is required for the charger register and located on the front of quick guide, back plate and product label.

Product overview



Accessories

		
RFID card	Security label	CT clamp and adapter
		
Wall mounting screw X4 Plastic anchor X4	Security screw X2	Rubber plug

Specification

Feature and Function	Socket	Cable
Charging mode	AC Mode 3	
Charging connector	Type 2 socket	Type 2 with cable
AC power output	7/22KW	7/11/22KW
Mounting options	Wall mounted or pedestal with wiring backplate	
HMI	OLED screen , LED strips	
Load management	Via App, CT Clamp, RS-485	
Communication		
Interface	Wi-Fi, BLE, 4G (optional), CT Clamp, RS-485	
User authentication	RFID, App, Plug and Charge	
Back end protocol	OCPP 1.6 JSON	
Software upgrade	OTA via App, OCPP	
Electrical Design		
Power supply	Single phase: 230VAC \pm 20%, 50/60Hz; Three phase: 230/400VAC \pm 20%, 50/60Hz;	
Earthing System	TN/TT/IT	
Protection	UVP, OVP, OCP, Relay Stuck, over temperature	
RCD	Type A +6mA D.C. per IEC 62955	
Energy metering	\pm 1% Accuracy	
General Design		
Operating temperature	-30 to 45°C without direct sunlight, -30 to 55°C with derating mechanism	
Operating altitude	3000m	
Environmental rating	Indoor and outdoor, IP55, IK10	
Enclosure Dimension	297x210x110 (mm)	
Net Weight	3.0kg	5KG

Installation planning

Household grid system evaluation

The installer needs to evaluate the available electrical capacity at the installation site to ensure that it can handle the installation of an EV charger. Protection limit is based on max. 80% of the fuse rating , which can be set in the RAEDIAN App.

Power	Earthing System	Voltage	MAX. charging current
7KW	TT, TN, IT	230VAC ± 20%, 50/60Hz	32 Amp
11KW	TT, TN, IT	230/400VAC ±20%, 50/60Hz	16 Amp
22KW	TT, TN, IT	230/400VAC ±20%, 50/60Hz	32 Amp

RCD requirement

- A Residual current monitor device is integrated inside the charger, the charger will stop charging in case a residual current exceeding 6mA DC is detected, according to IEC 62955.
- The RCD is automatically tested between each charging session.
- The integrated RCD has no influence on the function of external protective devices.




An external RCBO is required shown as below conditions identified:








Input	Specification	Remark
Single phase	2P,40A RCBO, at least Type A, Characteristic B/C	50Amp is recommended if the ambient temperature is higher than 40°C
Three phase	4P,40A RCBO, at least Type A, Characteristic B/C	

Recommend cable size

NEO Power	Max. charging current	Cross sectional area
7KW	32A	6mm ² to 10mm ²
11KW	16A	2.5mm ² to 10mm ²
22KW	32A	6mm ² to 10mm ²

Installation tools

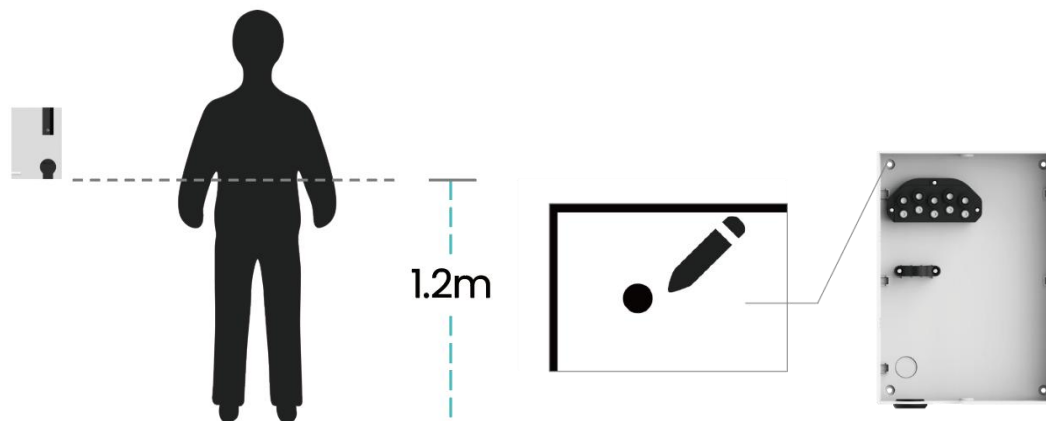
power drill 	drill 	cable stripper 
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<p>hammer</p> 	<p>Multimeter</p> 	<p>tape measure</p> 
<p>marker pen</p> 	<p>screwdriver</p> 	 Phillips Screwdriver  Security Torx Screwdriver T25

Installation instruction

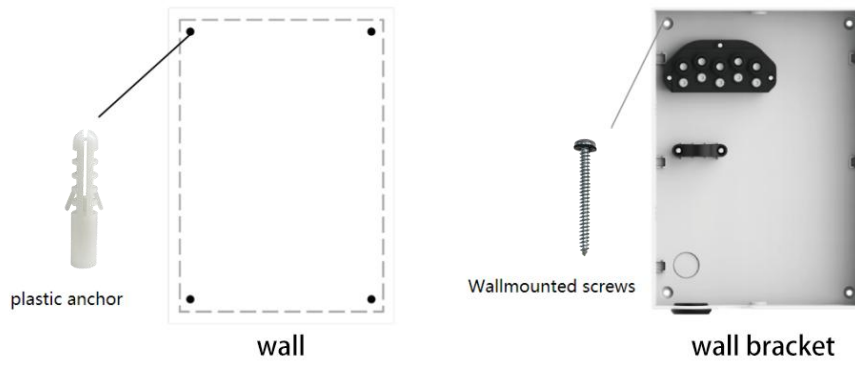
1.Positioning

- Ensure that the installation surface is solid enough to hold the charger. It is recommended that the wall have a bearing capacity of at least 100 kg.
- Place the backplate on the wall, keep it horizontal, and use a marker/pencil to mark the hole drilling positions on the wall.



2.Mounting

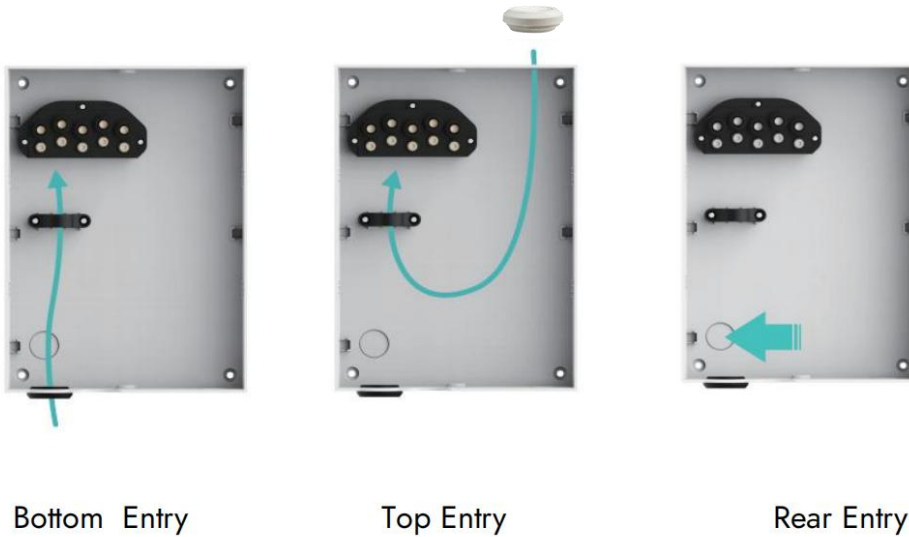
- Use an electric drill to open four holes in the wall at the marked positions, the recommended depth and diameter, Insertion depth: 50 mm; \varnothing 10mm.
- Insert four plastic anchors into four openings. Mount the backplate and fit the four openings
- Use four wall-mounting screws to fasten the backplate



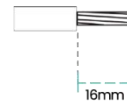
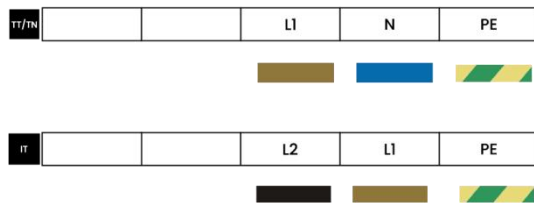
3.Wiring

Notice : Switch off the upstream RCBO. Safety first!

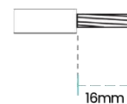
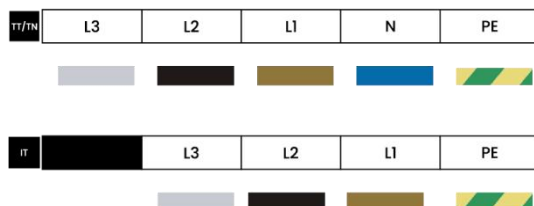
There are three entries available for input wiring ,bottom(recommended),top and rear wiring entry, please select the appropriate entry to fit your need.



Single phase wiring

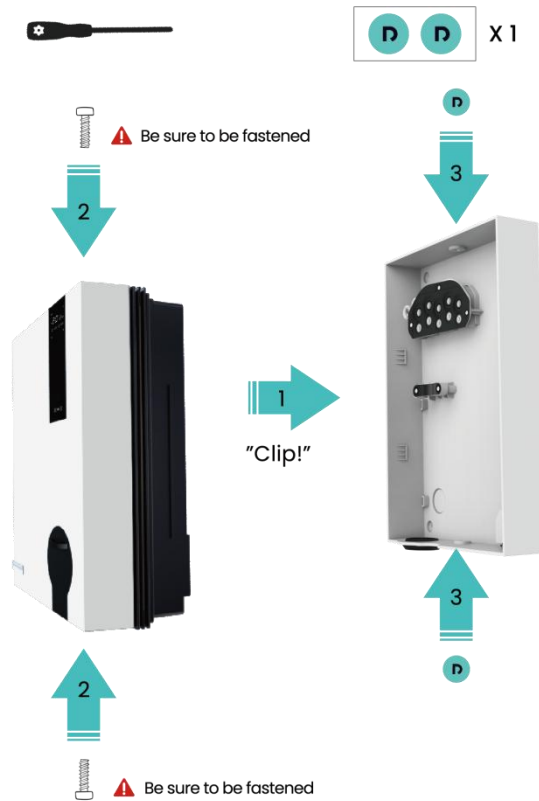


Three phase wiring



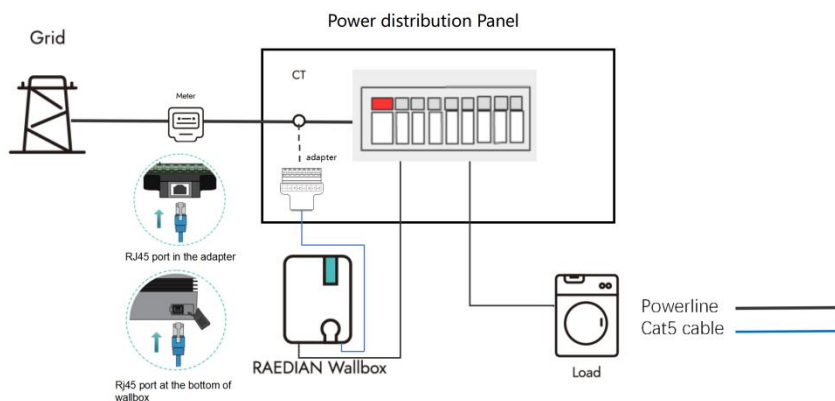
4. Push-in and fasten

- Push the device in and you will hear a sound of “clip”.
- Use two security screws to tighten the device.
- Use two security labels to stick on the two screws at the top and bottom.



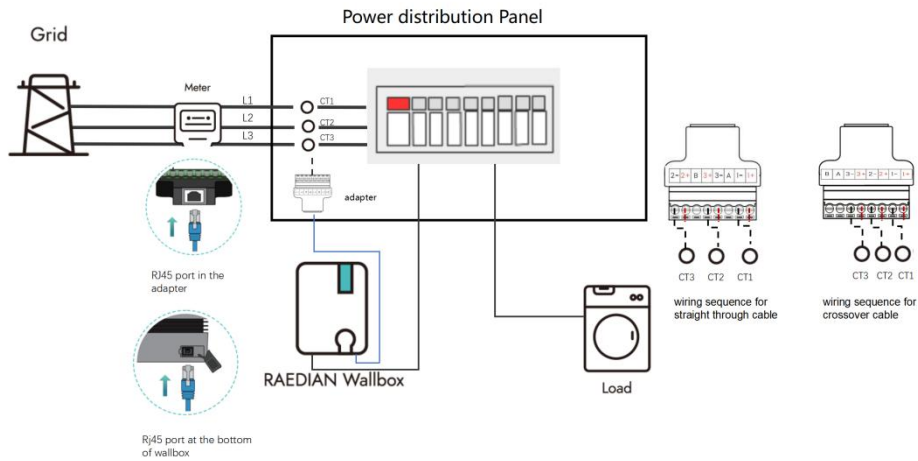
5. CT connection (optional for Home Balance and Solar Only)

5.1 Single phase with 1 CT wiring for Home Balance



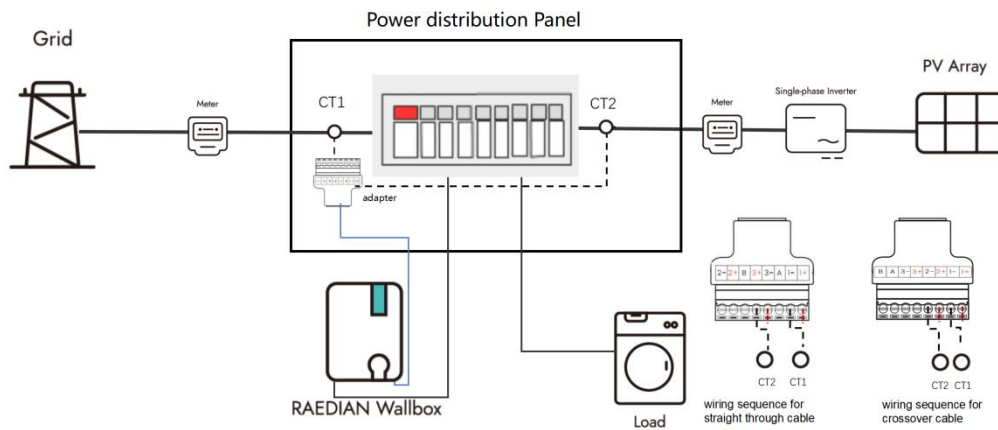
* To use home balance function, the charger should connect to your mobile phone and set Home balance via RAEDIAN app.

5.2 Three phase with 3 CT wiring for Home Balance

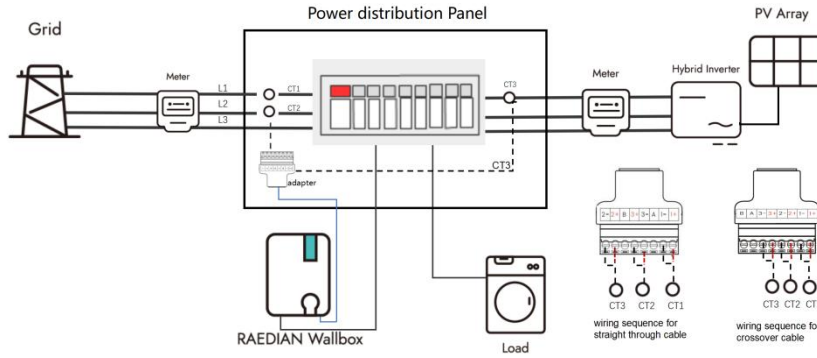


* Notes: CTs on L2 and L3 are sold separately.

5.3 Single phase with 2 CT wiring for Home Balance and solar only



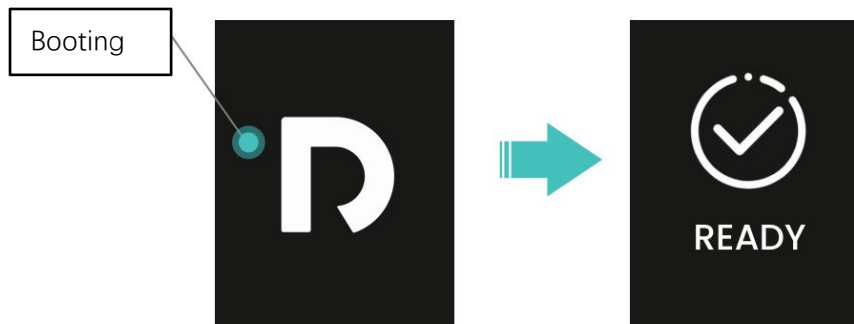
5.4 Three phase with 3 CT wiring for Home Balance and solar only



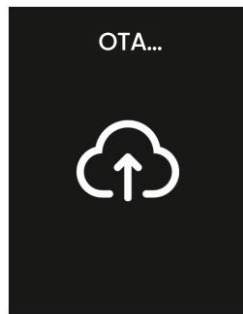
6. Installation acceptance Inspection

Step 1, Power on

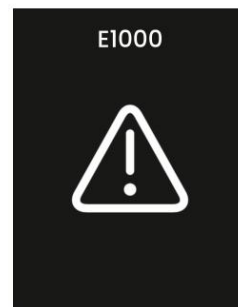
Power on RAEDIAN charger. OLED display and light strip automatically on.



1	Connectivity	6	Voltage
	● Wi-Fi	7	Real-time Charging Current/Current Available
	● BLE	8	Charging
2	● 4G (optional)	9	Load Management Scenes
	Energy Delivered		● H Home Balance
3	Phase	● S Solar Only	
	● 1 Phase	● S+ Solar smart	
4	● 3 Phase	● E EMS	
4	EV Connected		
5	Schedule		



OTA



Faulted

LED strip indicators

LED Status	Definition
White, running effect	The charger is available
Green, running effect	Cable plugged in, charging is pending for authorization or waiting for EV
Cyan running effect	Charging in progress
Red, steady on	Fault state

Step 2, EV Charging Test

Plug in the cable into EV socket inlet or EV simulator, the charging will start immediately.

Step 3, Connect with your phone

Scan the following QR code and download RAEDIAN app. Open your mobile phone Bluetooth close to the charger and get connected.

User APP download



For further APP use, please scan QR code and follow RAEDIAN video channel.

