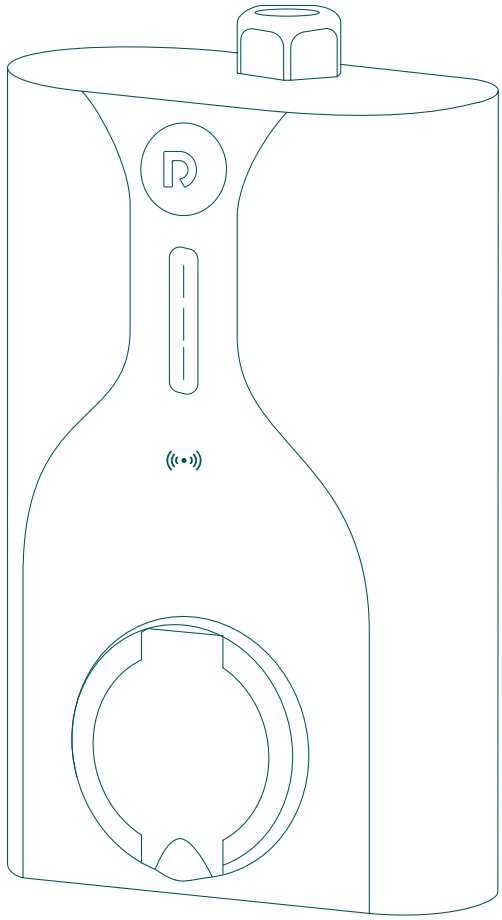
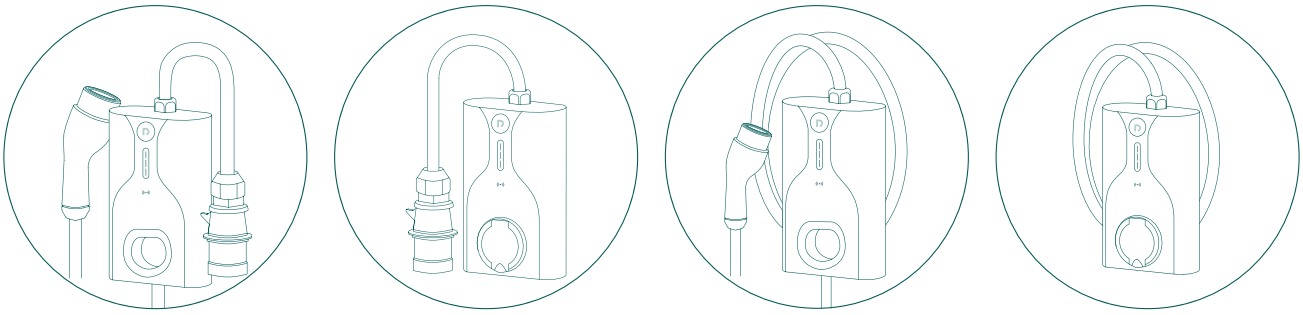
Rev 2.0
2025

NORA

Installation Manual





SMART HOME CHARGING

www.raedian.com

RAEDIAN

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1. Disclaimer and safety warning

1.1 Disclaimer

The information in this document is for informational purposes only, is provided "as is," and may be subject to change without notice. Although RAEDIAN has made its best efforts to keep this document as accurate and up-to-date as possible, RAEDIAN, including its subsidiaries, does not assume any liability for its correctness or completeness. RAEDIAN shall not be liable for any defects or damages resulting from the use of the information contained herein.

NOTE
This document is subject to updates and changes. Errors and omissions are exceptional.

Any deviation from RAEDIAN's assembled products, including but not limited to specific modifications to the product, such as the placement of stickers or the application of different colors (collectively referred to as "Customization"), may affect the product's functionality, user experience, appearance, quality, and/or lifespan (hereinafter referred to as the "Customized Product"). RAEDIAN shall not be liable for any damage to, or caused by, the Customized Product if such damage results from the applied Customization.

RAEDIAN waives all liability and claims for compensation, including but not limited to any type of damage, product and accessories warranty, in the following cases:

- Failure to comply with the general instructions or specific operating conditions in this manual.
- Improper use of the product.
- External damage.
- Failures caused by the power grid or the 4G service provider.
- Installation, commissioning, activation, or faulty repair or maintenance performed by an unqualified person.
- Modification or configuration of the product or accessories without RAEDIAN's knowledge.
- Use of the charging station outside the operational conditions specified in this manual.
- Use of spare parts not approved or manufactured by RAEDIAN.
- Events beyond RAEDIAN's control (force majeure).
- Malfunction of an open charge point back-office system.
- Damage to the electric vehicle.

1.2 Improper use

The charging station is safe when used as intended. Any other use or modifications to the charging station are considered improper use and, therefore, are not permitted.
Operators, owners, or qualified technicians are responsible for any personal injury or property damage caused by improper use.

1.3 Copyright

1.4 Trademarks

RAEDIAN® is trademark registered by RAEDIAN. Any unauthorized use of this trademark is, therefore, illegal.

1.5 Languages

The English version of this document is the original source. Documents in other languages are translations of this source. In case of any ambiguity or discrepancy between the different language versions, the English version shall prevail.

1.6 Purpose and intended audience

This manual applies to the NORA model produced by RAEDIAN. NORA is intended exclusively for charging electric vehicles and, when installed correctly, may be used by untrained individuals. Follow this manual to correctly install and commission the charging station.
Installation, commissioning, and maintenance of this charging station must only be carried out by a qualified electrician. It is essential that the qualified technician has:

- Expertise in all relevant general and specific safety rules and incident prevention measures.
- Comprehensive knowledge of applicable electrical regulations.
- Ability to identify risks and avoid potential hazards.
- Acknowledgment of having received and read these installation and operation instructions.

1.7 Explanation of text instructions used

The safety warnings and precautions in this document are as follows:

	DANGER Signal word used to indicate an imminent or serious injury.
	WARNING Signal word used to indicate a potentially hazardous situation which, if not avoided, could cause death or serious injury.
	CAUTION Signal word used to indicate a potentially hazardous situation which, if not avoided, could cause minor or moderate injury.

NOTE
Signal word used to provide additional information or information on possible product damage.

1.8 Safety symbols

The following warning pictograms are attached to (parts of) the charging station:

	**Dangerous voltage**
	**Protective earth**

1.9 General safety

When installing or using the charging station, please follow below safety regulations:

DANGER
Do not install or use the charging station near explosive or highly flammable materials.

DANGER
Do not use the charging station if it is partially submerged in water.

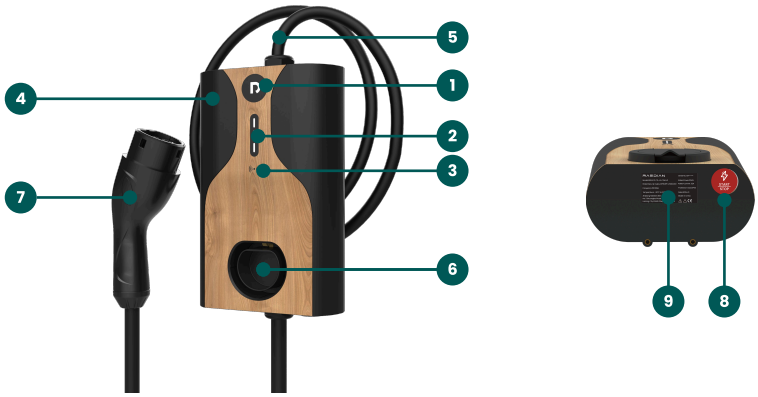
DANGER
Do not install or use the charging station if it is damaged, or if the plugs and cables are defective. Contact the charge point operator to repair any defects immediately.

DANGER
Keep children and individuals who are unable to assess the risks associated with using this product away.

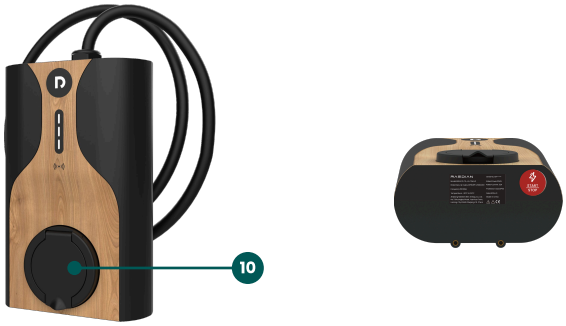
More extensive safety information can be found in the relevant sections of this document.

2. Product overview

2.1 Product overview - Hardwire input



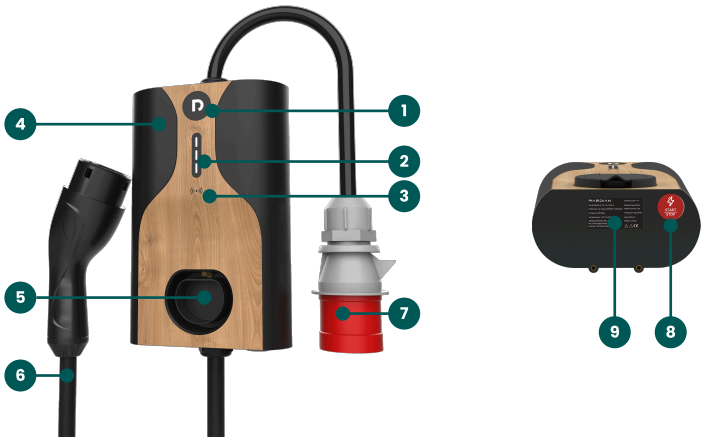
Exterior view - Cable Variant



Exterior view - Socket Variant

No.	Item	Cable Variant	Socket Variant
1	Logo LED	✓	✓
2	Status LED	✓	✓
3	RFID card reader	✓	✓
4	Charger Unit	✓	✓
5	Input hardwire	✓	✓
6	Type 2 connector holder	✓	-
7	Type 2 charging cable	✓	-
8	Push start button	✓	✓
9	Nameplate	✓	✓
10	Type 2 socket	-	✓

2.2 Product overview - CEE Plug input



Exterior view - Cable Variant

Exterior view - Socket Variant

No.	Item	Cable Variant	Socket Variant
1	Logo LED	✓	✓
2	Status LED	✓	✓
3	RFID card reader	✓	✓
4	Charger Unit	✓	✓
5	Type 2 connector holder	✓	-
6	Type 2 charging cable	✓	-
7	CEE plug	✓	✓
8	Push start button	✓	✓
9	Nameplate	✓	✓
10	Type 2 socket	-	✓

3. Installation Instructions

3.1 Safety announcements

DANGER
The installation, decommissioning, and maintenance of the charging station must be performed only by a qualified electrician.

DANGER
Risk of Fatal Injury: Improper installation of the charging station may result in serious or fatal injuries. Failure to comply with electrical safety regulations can lead to life-threatening situations.

DANGER
The electrical system must be completely disconnected from all power sources before performing any installation or maintenance work.

DANGER
Electrical components inside the charging station may still retain a charge even after disconnection. Always use appropriate testing equipment to ensure no residual current is present before starting work.

WARNING
Do not perform installation work during flooding, rain, or when air humidity exceeds 95%.

WARNING
Charging connector adapters or conversion adapters are not allowed to be used.

CAUTION
Extreme environmental conditions can affect the charger's performance. Select a suitable installation location to protect it from extreme temperatures, moisture, and other harsh elements. If necessary, consider additional protective measures.

CAUTION
The installer is responsible for selecting the correct cable diameter and ensuring compliance with relevant standards and legislation.

3.2 Assembly and installation requirements

3.2.1 Placement requirement

When selecting a location to install the charging station, the following criteria must be taken into account:

- Always comply fully with local safety laws and regulations.
- The vehicle's charging port must be easily accessible with the charging cable.
- Install the charging station in a location where the charging cable (approximately 5 to 7.5 meters) can be used without putting tension on the cable.
- Cable routing must follow local professional standards and regulations.
- The following instructions cover only wall-mounted installation. The charger can also be mounted on a pedestal, which is available as an optional accessory. Installation instructions for the pedestal are included in its package.
- Install the charger upright on a solid wall with a minimum load-bearing capacity of 100 kg. Other installation methods may damage the charger.
- Recommended installation height: 800-1200 mm.
- For CEE plug input devices, a CEE wall socket of the appropriate type shall be installed on the wall, within 30 cm of the charging station installation area. And a dedicated external at least type A RCD must be installed upstream.
- For Hardwire Input devices, and a dedicated external at least type A RCD must be installed upstream at a safe and natural connection distance from the charger hardwire input.

3.2.2 RCD requirement

- An integrated Residual Current Device, compliant with IEC 62955, continuously monitors for DC residual currents. If a residual current exceeding 6 mA DC is detected, the charging session will automatically be stopped.
- The integrated RCD automatically conducts a self-test between charging sessions.
- The integrated RCD operates independently and does not interfere with external protective devices.

An external RCBO is required as below:

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

3.2.3 Grounding

EV chargers must be grounded per local electrical standards, with specific methods for TN, TT, and IT systems, ensuring safety and compliance.
TN system: separate PE cable
TT system: separately installed grounding electrode < 100 Ohm spreading resistance
IT system: connected to a shared reference (common earth) with other metal parts

3.2.4 Power supply cable

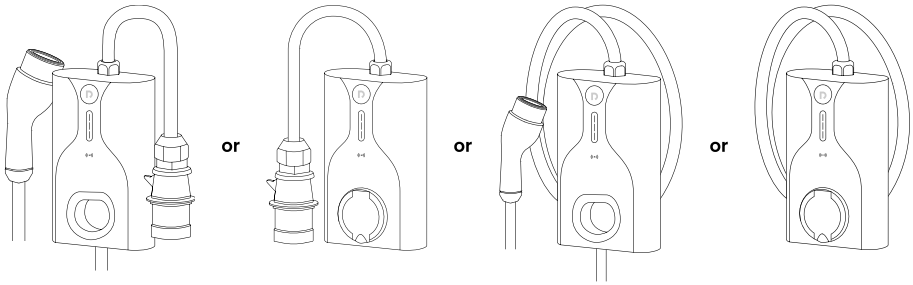
Minimum recommended cable cross-section (based on an assumed maximum cable length of 50 meters):
3-phase 11 kW charging, 16 A per phase: 5 x 4 mm²
1-phase 7.4 kW charging, 32 A per phase: 3 x 6 mm²
3-phase 22 kW charging, 32 A per phase: 5 x 6 mm²

3.2.5 Air DLM Kit

The Air DLM Kit is an optional accessory that enables the Home Balance (dynamic load balancing) and Solar Only functions. Installation instructions are included in its package.

3. Installation instructions

3.3 Scope of delivery



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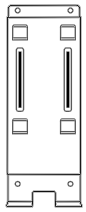

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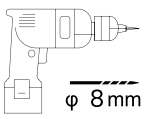
No.	Item	Quantity
1	NORA charging station	1
2	Quick Guide	1
3	Wall Bracket	1
4	Plastic anchor	4

No.	Item	Quantity
5	Wall-mounting screw	4
6	Security screw	2
7	RFID card	2

3.4 Tools suggestion



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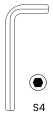

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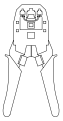

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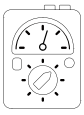

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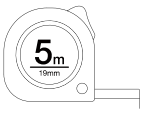

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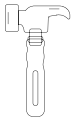

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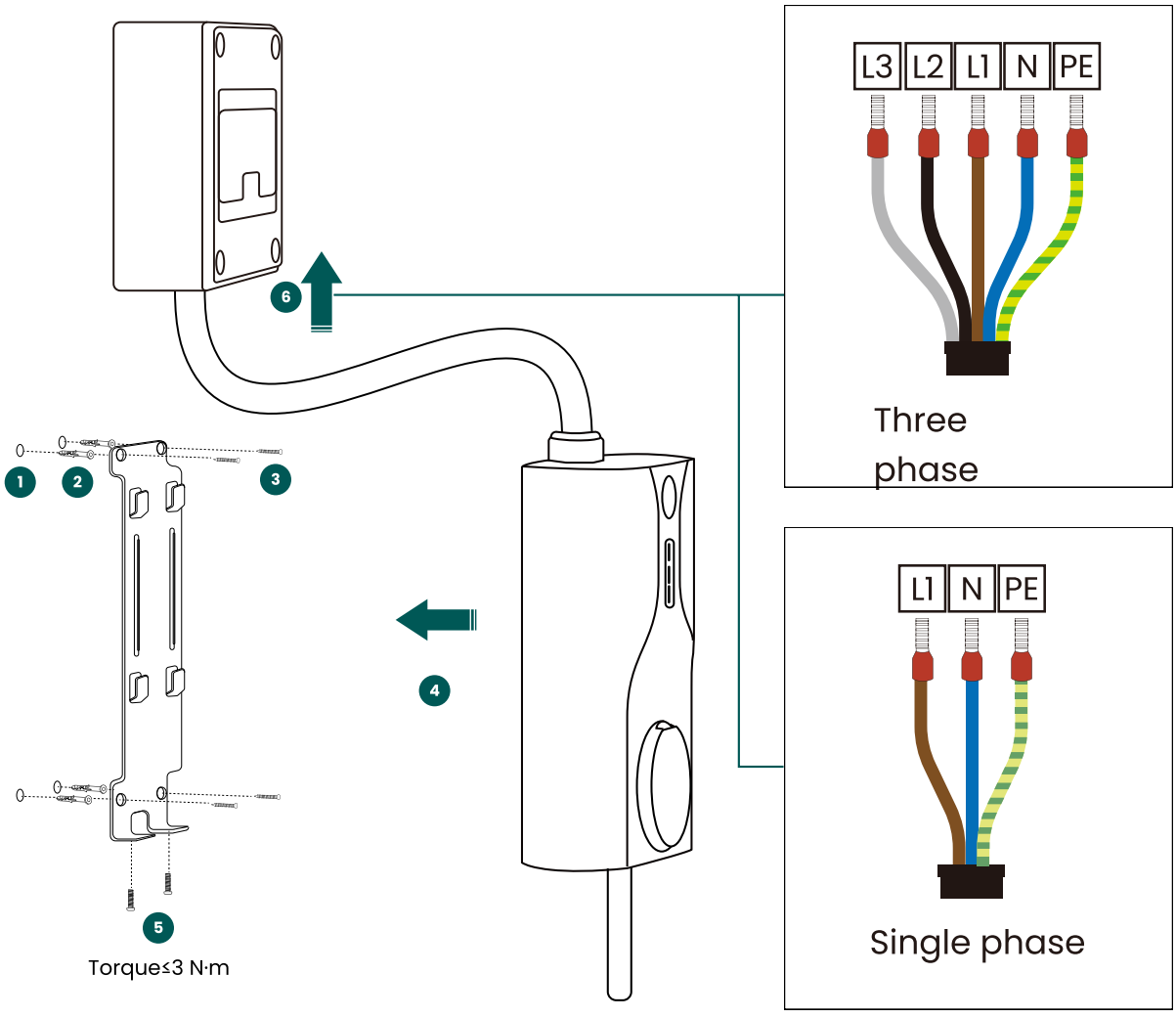
No.	Item
1	Dril
2	Phillips screwdriver
3	Hex wrench: M4(3/32)
4	Wire stripper
5	Crimping tool

No.	Item
6	Multimeter
7	Spirit level
8	Tape measure
9	Hammer
10	Pencil or marker

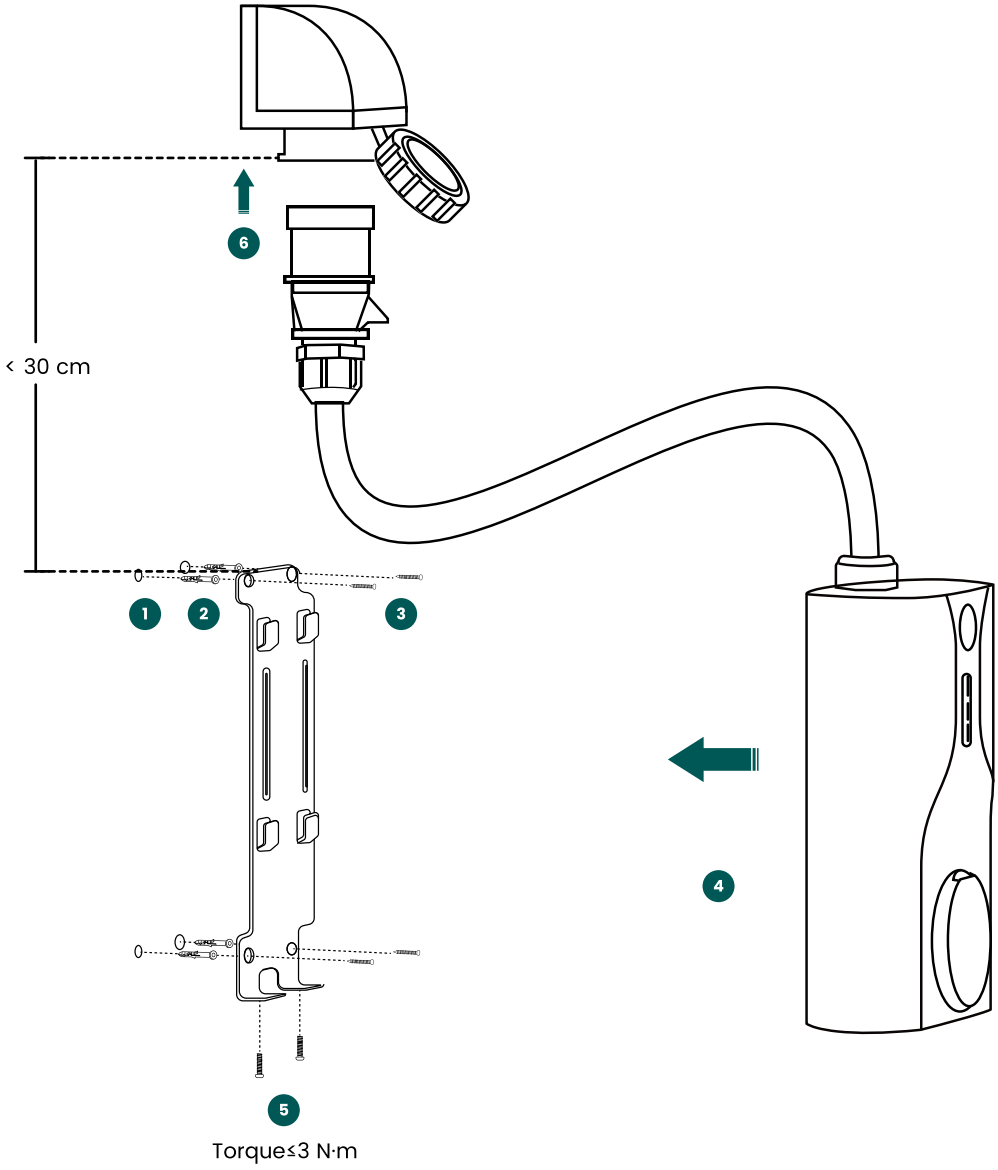
3.5 Installation Instructions - Hardwire input

1. Ensure the surface is level using a spirit level. Use a pencil to mark the locations for the four drilling holes. Drill four holes at the marked positions. Recommended depth and diameter: 50 mm; ϕ8 mm.
2. Insert four plastic anchors into the drilled holes.
3. Mount the backplate and fasten it using four wall-mounting screws.
4. Mount the charger onto the wall bracket.
5. Secure the charger by tightening the two safety screws at the bottom. The torque must not exceed 3 N·m.
6. Connect the power wires to the RCBO based on the device type (single-phase or three-phase) shown in the diagram, ensuring the wires are routed securely, without strain, and in a safe manner.



3.6 Installation Instructions - CEE Plug input

1. Ensure the surface is level using a spirit level. Use a pencil to mark the locations for the four drilling holes. Drill four holes at the marked positions. Recommended depth and diameter: 50 mm; ϕ8 mm.
2. Insert four plastic anchors into the drilled holes.
3. Mount the backplate and fasten it using four wall-mounting screws.
4. Mount the charger onto the wall bracket.
5. Secure the charger by tightening the two safety screws at the bottom. The torque must not exceed 3 N·m.
6. Securely insert the CEE plug into the socket, ensuring it is fully inserted.



4. Acceptance test

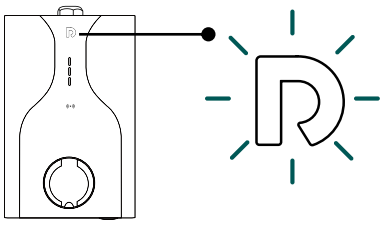
4.1 Pre-Testing checks

Before testing your charging station, please follow these safety instructions:

- Ensure the charging station is properly connected to the power supply as described in this manual.
- Verify that the power supply distribution is individually protected by a suitable circuit breaker (or fuse).
- Confirm that the charging station is installed according to the instructions in this manual.
- Make sure the enclosure is securely closed.
- Measure the insulation resistance to ensure the charging cable is not tangled and that the cable, plug, and casing are free from damage.

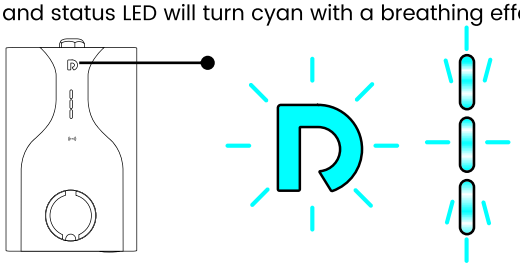
4.2 Power on

- Turn on the local power supply.
- The charger will boot up and perform self-diagnostics within a few seconds.
- The charger's logo LED will remain solid white and the charger is now ready for testing.



4.3 Perform charging test in plug and charge mode

- Cable Variant: Insert the connector securely into the vehicle's AC charging port or charging simulator, ensuring it is fully plugged in.
- Socket Variant: Insert the vehicle-end connector securely into the vehicle's AC charging port or the charging simulator, ensuring it is fully plugged in. Then, insert the charging cable's charger-end connector into the charger's socket securely, ensuring it is fully plugged in.
- The charging session will start automatically and the logo LED and status LED will turn cyan with a breathing effect.



NOTE

The charging session will begin with a safe initial current of 10 amps each time the device is powered on. The charging current can be adjusted according to the installation's electrical conditions and usage requirements through the RAEDIAN INSTALL APP.

5. HMI description

Status	Logo LED	Status LED
Standby, Available for charging	White, Steady	Off
Cable plugged in, waiting for authorization	Blue, Steady	Blue, Steady
Cable plugged in, already authorized and waiting for EV	Blue, Steady	Blue, Running
Charging in progress	Cyan, Breathing	Cyan, Breathing
Charging accomplished	Cyan, Steady	Cyan, Steady
Error	White, Steady	Red, Steady

6. Configuration

NOTE
Before starting the configuration process, ensure the charger is properly installed and powered on.

NOTE
Keep Bluetooth enabled on your phone and ensure it remains close to the charger throughout the configuration process.

6.1 Install RAEDIAN INSTALL APP

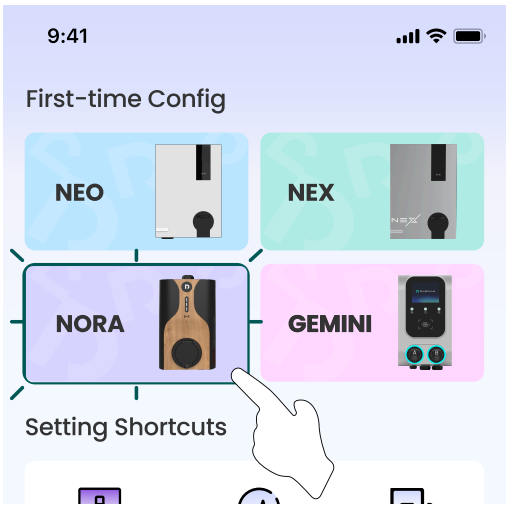
Download the RAEDIAN INSTALL APP from the App Store or Google Play, then install the app and register an account.

Download on the App Store

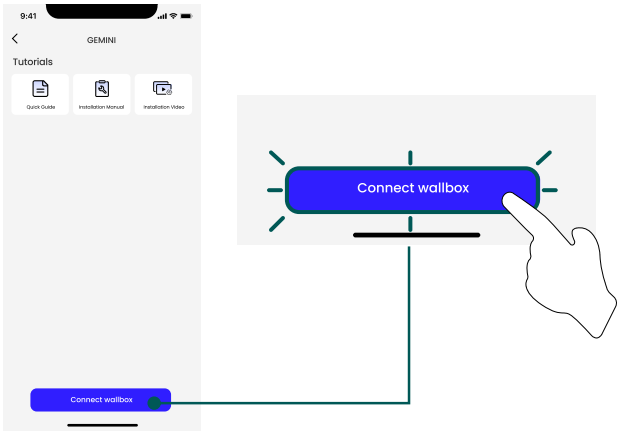
GET IT ON Google Play

6.2 Connect with the charger

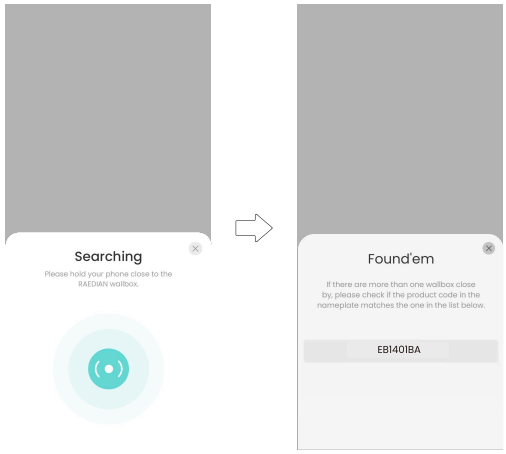
1. Choose NORA



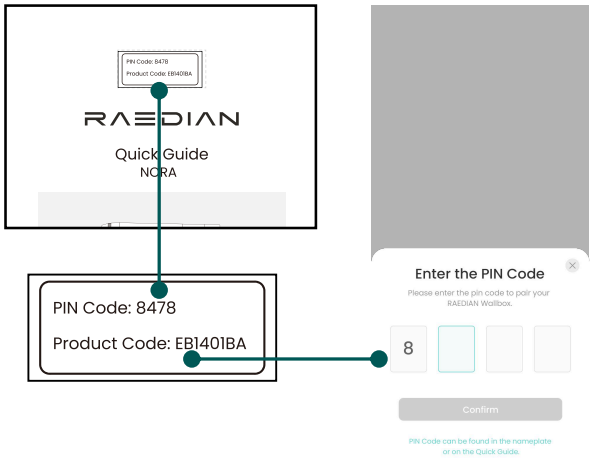
2. Click “Connect wallbox”



3. Find the correct Product Code.



4. Enter the PIN Code and confirm. You can find it on the rear of the charger or on the Quick Guide.



6.3 Configuration

CAUTION
All configurations must be performed by a qualified electrician in accordance with the specific installation environment and local laws and regulations.

NOTE
To ensure all functions work properly, it is recommended to update the firmware to the latest version before configuration.

NOTE
It is required to install Air DLM Kit before configuring “Load Management”.

Follow the steps in the app to complete the configuration.

For detailed instructions, visit www.raedian.com/support.

7. Technical Specifications

7.1 General

Charging connector
IEC 62196 Type 2 cable 5m, Type 2 socket

Authentication methods
Plug & Charge, RFID, Push Start button, RAEDIAN APP via BLE, OCPP Backend

HMI & indication
RGB Logo LEDs, RGB Status LEDs

Nominal output voltage
Single phase: 230VAC ± 20%, Three phase: 230/400VAC ± 20%

Maximum output power
Single phase up to 7.4kW
Three phase up to 22kW with downgrade compatibility

Earthing system
TN/TT/IT

Protection
UVP, OVP, OCP, Relay Stuck, Over Temperature

Residual current protection
At least Type A RCD upstream +
Integrated 6mA DC per IEC 62955

Nominal frequency
50/60Hz

Metering accuracy
Calibrated ± 2% Accuracy

7.2 Connectivity

Vehicle communication
Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)

RFID authentication
ISO/IEC 14443A/B, 13.56 MHz

Connectivity to backend
Wi-Fi: 2.4GHz, 802.11 b/g/n;
4G: LTE CAT I, LTE-FDD: B1/3/5/7/8/20/28

Backend protocol
OCPP 1.6(JSON) 2nd edition

Connectivity to EMS/Meter
LoRa Wireless 868MHz

Connectivity to smart phone
Bluetooth

SIM card
eSIM: Integrated

7.3 Load management options

- Connect to Air DLM Kit for Dynamic Load Balancing and Solar Charging,
- OCPP backend load management,
- Static load management setting in RAEDIAN APP, RAEDIAN Install APP.

7.4 Operating conditions

Operating temperature
-30 ~ 55°C with derating mechanism

IK protection (mechanical impact)
IK10

Relative humidity
5% ~ 95%

Operating altitude
2000m

Electrical safety class
Class I

Standby power
4.5W

Degree of protection (housing)
IP55

Environmental conditions
Indoor / outdoor use

EMC Environmental conditions
Class B residential according to IEC 61851-21-2

7.5 Compliance

Safety
EN 61851-1, EN 62955, EN 62196, EN 61439

EMC
EN 61851-21-2:2021, EN 301489-1 V2.2.3:2019, EN 301489-3 V2.3.2:2023,
EN 301489-17 V3.2.5:2022, EN 301489-52 V1.2.1:2021

RED
EN 300328 V2.2.2:2019, EN 300330 V2.1.1:2017, EN 301908-1 V15.1.1:2021,
EN 301908-13 V13.2.1:2022, EN 300220-1 V3.1.1:2017, EN 300220-2 V3.1.1:2017

Health
EN 62311:2008, EN 50663:2017,
EN 61000-6-2:2016, EN 61000-6-3:2006

RoHS
Directive 2011/65/EU &(EU)2015/863 Annex II

7.6 Mechanical

Mounting options
Wall mounted, Pedestal

Material
Polycarbonate, UV resistant and flame retardant, UL94 V0

Casing (exterior) dimensions
260 x 168 x 86 mm(H x W x D)

Packaging dimensions (H x W x D)
430 x 205 x 320 mm(H x W x D)

Weight
3.9-6.2 Kg

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Haining City, Zhejiang, 314416
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