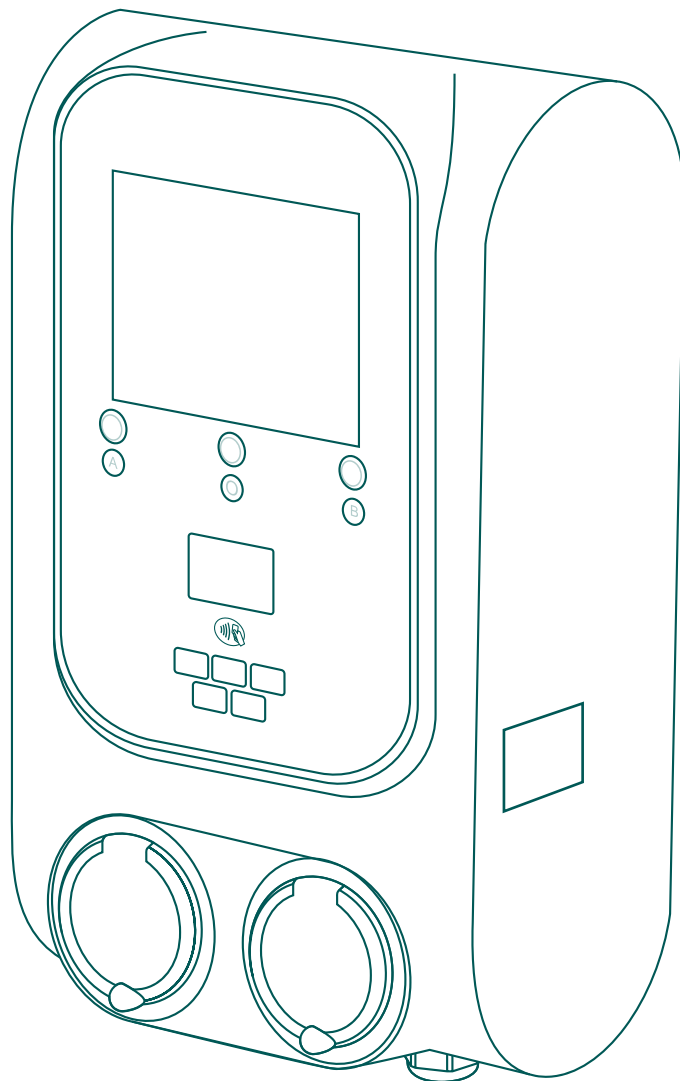


Rev 2.0  
2025

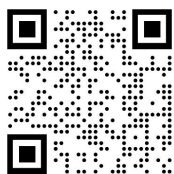
# GEMINI

## Installation Manual



**Gemini**  
**Gemini Lite**  
**Gemini PRO**

PUBLIC OPERATIONAL  
CHARGING STATION



[www.raedian.com](http://www.raedian.com)

**RAEDIAN**

## Table of contents

<b>1.</b>	<b>Disclaimer and safety warning</b>	<b>2</b>	<b>8.</b>	<b>Technical specifications</b>	<b>13</b>
1.1	Disclaimer	2	8.1	General	13
1.2	Improper use	2	8.2	Connectivity	13
1.3	Copyright	2	8.3	Load management options	13
1.4	Trademarks	2	8.4	Operating conditions	13
1.5	Languages	2	8.5	Compliance	13
1.6	Purpose and intended audience	2	8.6	Mechanical	14
1.7	Explanation of text instructions used	2			
1.8	Safety symbols	3	<b>9.</b>	<b>Maintenance and recycling</b>	<b>14</b>
1.9	General safety	3	9.1	Preparation before operation	14
			9.2	Cleaning	14
<b>2.</b>	<b>Product overview</b>	<b>4</b>	9.3	Waste Electrical and Electronic Equipment(WEEE)	14
2.1	Exterior view	4			
2.2	Internal view	5			
<b>3.</b>	<b>Installation and connection</b>	<b>6</b>			
3.1	Safety announcements	6			
3.2	Assembly and installation requirements	6			
3.3	Scope of delivery	7			
3.4	Internal View	7			
3.5	Installation and connection	8			
<b>4.</b>	<b>Asscptance test</b>	<b>10</b>			
4.1	Safety instructions before use	10			
4.2	Power on	10			
4.3	Charge start and stop	10			
<b>5.</b>	<b>HMI description</b>	<b>10</b>			
5.1	Status indication	10			
5.2	Screen language switching	10			
<b>6.</b>	<b>Configuration</b>	<b>11</b>			
6.1	Install RAEDIAN INSTALL APP	11			
6.2	Connect with the charger	11			
<b>7.</b>	<b>Other related manuals note</b>	<b>12</b>			

# 1.Disclaimer and safety warning

## 1.1 Disclaimer

The information in this document is for information purpose only, is provided as is, and may be subject to change without notice. Although RAEDIAN has made its best efforts to keep the document as precise and up-to-date as possible, RAEDIAN including its subsidiaries doesn't assume any liability for the correctness or completeness of the document and is not liable or responsible for the defects and 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 to RAEDIAN's assembled products, including but not limited to, specific modifications to the product, such as stickers and its place, or application of different colors (collectively referred to as "Customization"), may affect the product, its experience, appearance, quality, and/or lifespan (Customized Product). RAEDIAN is not liable for any damage to, or caused by, the Customized Product if this damage is due to applied Customization.

RAEDIAN waives all liability and claims for compensation such as any type of damage, warranty of the product and the accessories in the following cases:

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

Operators, owners, or qualified technicians are responsible for any personal injury or material damage caused by improper use.

## 1.3 Copyright

The reproduction, distribution, and application of this document, as well as the communication of its contents to other parties without explicit authorization from RAEDIAN or

any of its affiliates, are strictly prohibited. Any permitted use shall always be done in accordance with good practice and ensure that no harm may be caused to Raedian or by misleading the consumer.

## 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. Documentation in other languages are translations of this source. If any ambiguity or deviation among different languages, it shall be subject to English version.

## 1.6 Purpose and intended audience

This manual is applicable to GEMINI produced by Raedian. GEMINI is intended exclusively for charging electric vehicles and, when installed correctly, may be used by untrained individuals. Follow this manual to install and commission the charging station correctly.

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 on all relevant general and specific rules regarding safety and incident prevention.

Comprehensive knowledge of applicable electrical regulations.

The ability to identify risks and avoid potential hazards.

Received and read these installation and operation instructions.

## 1.7 Explanation of text instructions used

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.

# 1. Disclaimer and Safety Warning



## 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 charger:



**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

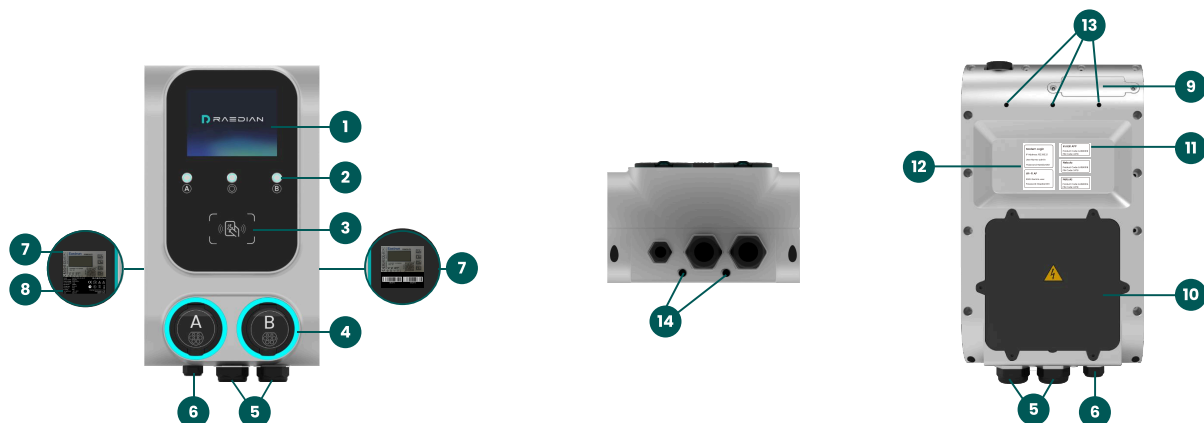
Keep children and individuals who are unable to assess the risks associated with using this product away.

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

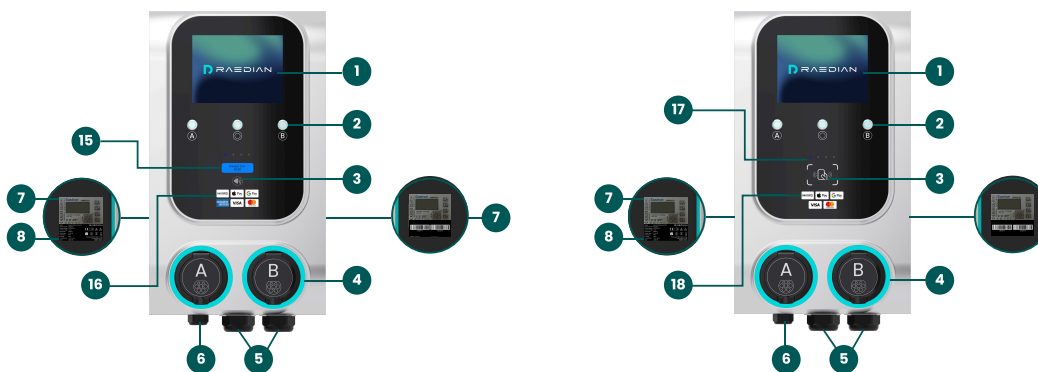


## 2. Product overview

### 2.1 Exterior view



GEMINI With RFID



GEMINI With Payter & RFID

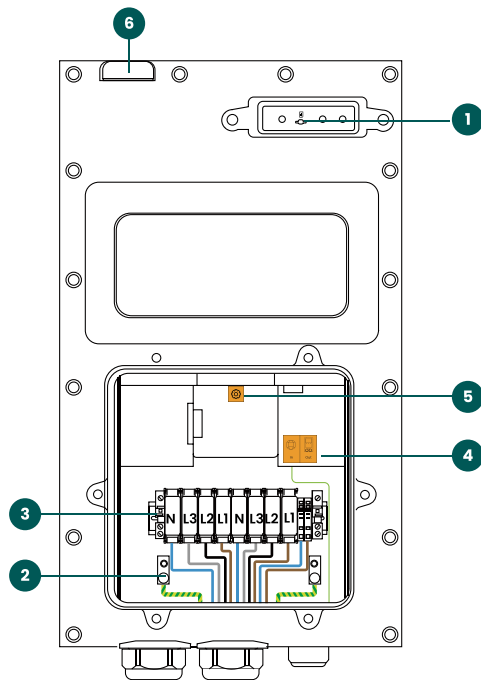
GEMINI With NAYAX & RFID

No.	Item	RFID	Payter	Nayax
1	Display	✓	✓	✓
2	Push button	✓	✓	✓
3	RFID area	✓	✓	✓
4	Socket-outlet	✓	✓	✓
5	M40 cable gland for power cable(s)	✓	✓	✓
6	M25 dual-port cable gland for communication cable	✓	✓	✓
7	MID compliant energy meter	✓	✓	✓
8	Nameplate	✓	✓	✓
9	SIM Slot Cover	✓	✓	✓

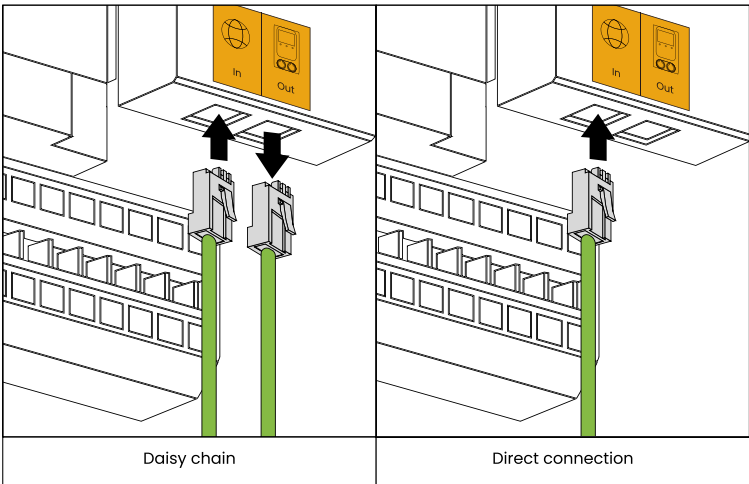
No.	Item	RFID	Payter	Nayax
10	Maintenance Cover	✓	✓	✓
11	PIN code label	✓	✓	✓
12	Modem login info label	✓	✓	✓
13	Holes for wall mounting the charging station	✓	✓	✓
14	Holes for securing the charging station	✓	✓	✓
15	Payter P66 payment	-	✓	-
16	Payment Information Payter P66	-	✓	-
17	Nayax Payment	-	-	✓
18	Payment Information NAYAX	-	-	✓

## 2. Product overview

### 2.2 Internal view



Interior view



No.	Item	Gemini
1	SIM card holder *-including prepaid SIM card with 500M Data	✓
2	PE ground terminal	✓
3	Terminal block	✓
4	RJ45 port x 2(Internet)	✓
5	RJ45 Port (HDLN Kit)	✓
6	Antenna	✓

## 3. Installation and connection

### 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

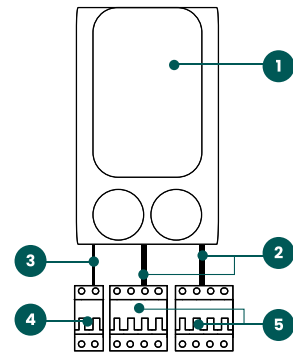
The installer is responsible for selecting the correct cable diameter and ensuring compliance with relevant standards and legislation.

- Install the charger upright on a solid wall. Ensure the wall has a minimum load-bearing capacity of 100 kg. Any other installation methods may damage the charger. Recommended height: 800-1200 mm.

### 3.2.2 RCD requirement

- Integrated Residual Current Devices, compliant with IEC 62955, continuously monitor 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.

External RCBOs are required as below:



1. GEMINI
2. Main power supply
3. Auxiliary power supply
4. Type A RCBO, 2P, 6kA, 30mA, C10
5. Type A RCBO, 4P, 6kA, 30mA, Curve C

#### Auxiliary power supply

Maximum input current	Cable cross section area
1A	1.5mm <sup>2</sup> ~ 2.5mm <sup>2</sup>

#### Main power supply

Maximum input current	Cable cross section area
16A	4mm <sup>2</sup>
32A	6mm <sup>2</sup>
40A	10mm <sup>2</sup>
64A	16mm <sup>2</sup>

### 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 fully comply with local safety laws and regulations.
- The charging port on the vehicle must be easily accessible with the charging cable.
- The charging station must be installed in a location where the charging cable (approx. 5 to 7.5 meters) can be used without putting any tension on the cable.
- The cable routing must be installed in accordance with local professional standards.
- The following text describes only the wall-mounting installation procedure. The charger can also be mounted on a pole. When needed, please review Gemini Pole instruction.

### 3.2.3 Grounding

EV chargers must be grounded per local electrical standards, with specific methods for TN and TT systems, ensuring safety and compliance.

TN system: separate PE cable

TT system: separately installed grounding electrode < 100 Ohm spreading resistance

### 3. Installation and connection

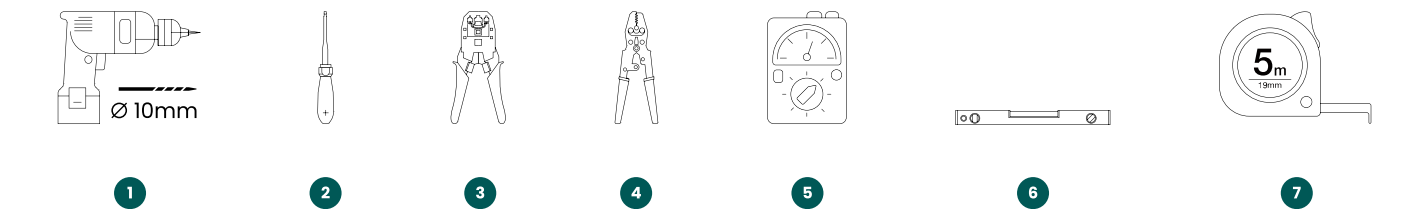
#### 3.3 Scope of delivery



No.	Item	Quantity
1	GEMINI charging station	1
2	Wall bracket	1
3	Quick guide	1
4	RFID card	2
5	Pre-paid SIM card (500M data, already installed)	1
6	M8-10*80 stainless steel expansion bolt	4

No.	Item	Quantity
7	M8*18 stainless steel screw	2
8	M8*25 machine screw	3
9	Plug for M40 cable gland (Already installed)	2
10	T-Rubber for M25 dual-port cable gland (Already installed)	2
11	Allen key (S3)	1
12	Allen key (S5)	1

#### 3.4 Internal View



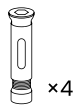
No.	Item
1	Drill
2	Phillips screwdriver
3	Wire stripper
4	Crimping tool

No.	Item
5	Multi-meter
6	Spirit level
7	Tape measure

## 3. Installation and connection

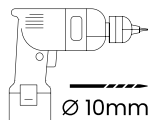
### 3.5 Installation and connection

#### 3.5.1 Mount the wall bracket



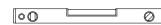
×4

M8-10\*80 stainless  
steel expansion bolt

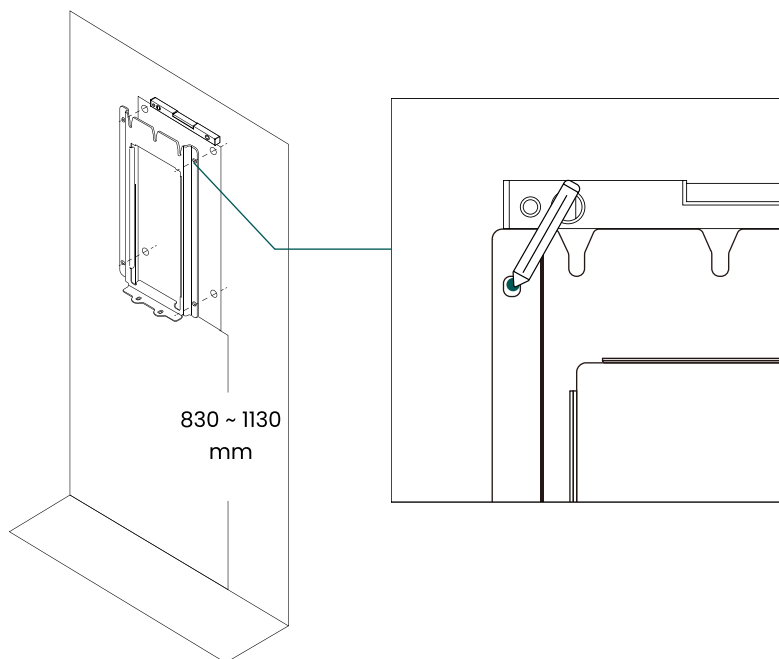


Ø 10mm

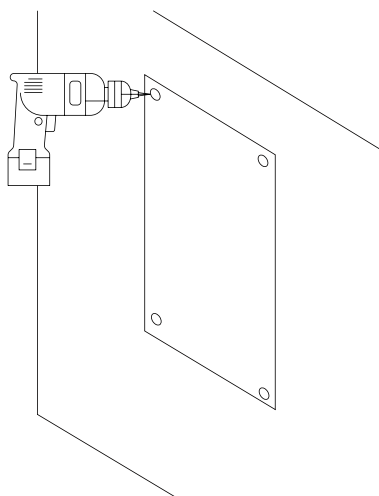
Drill



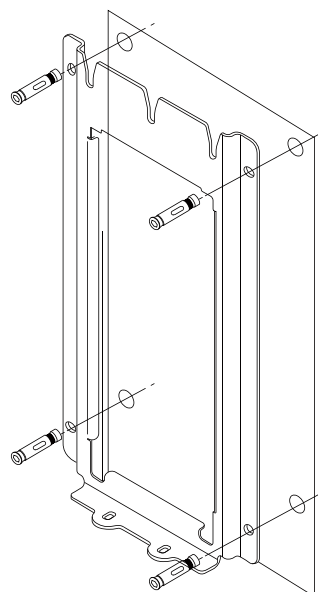
Spirit level



1



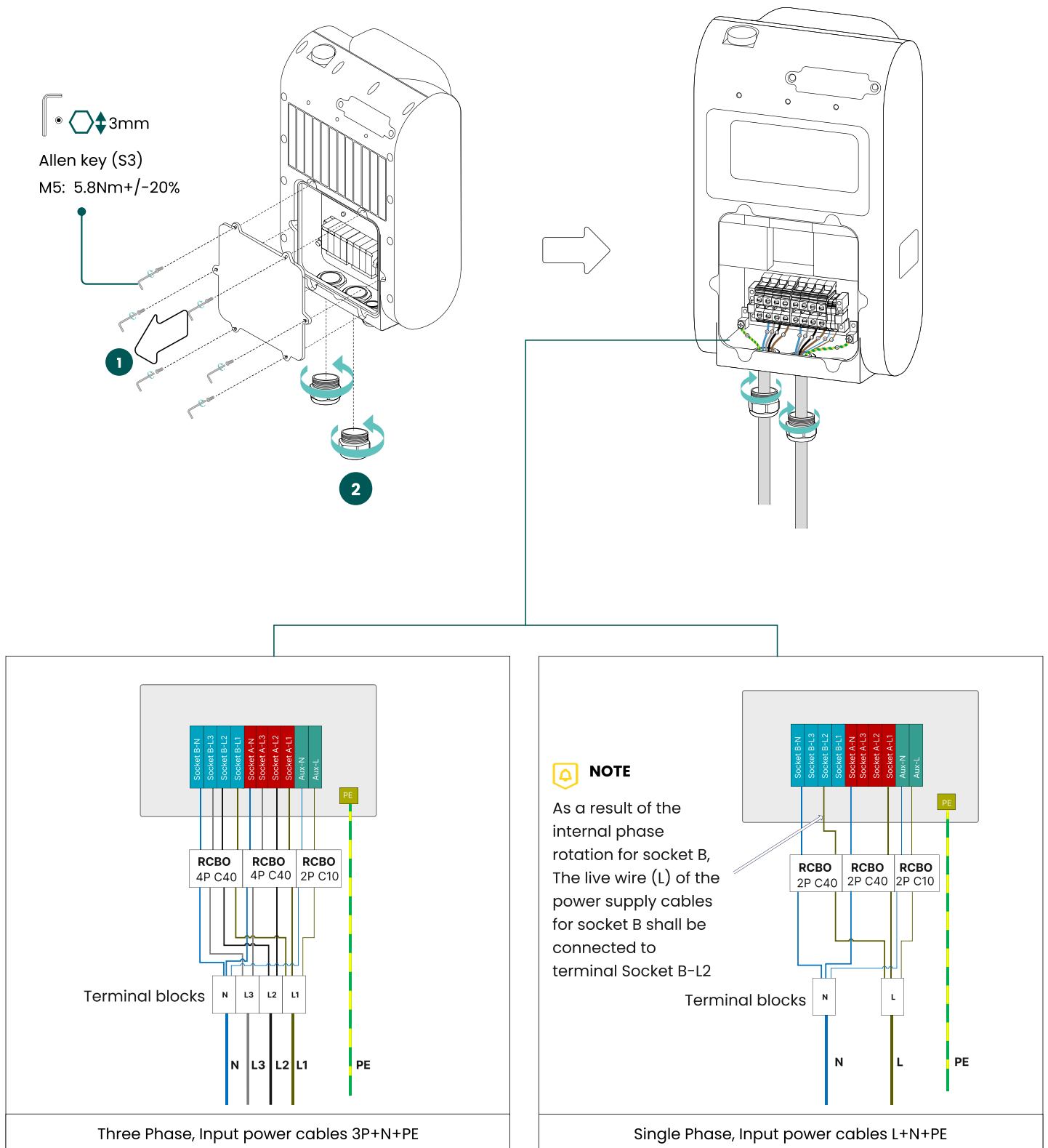
2



3

### 3. Installation and connection

#### 3.5.2 Electrical installation

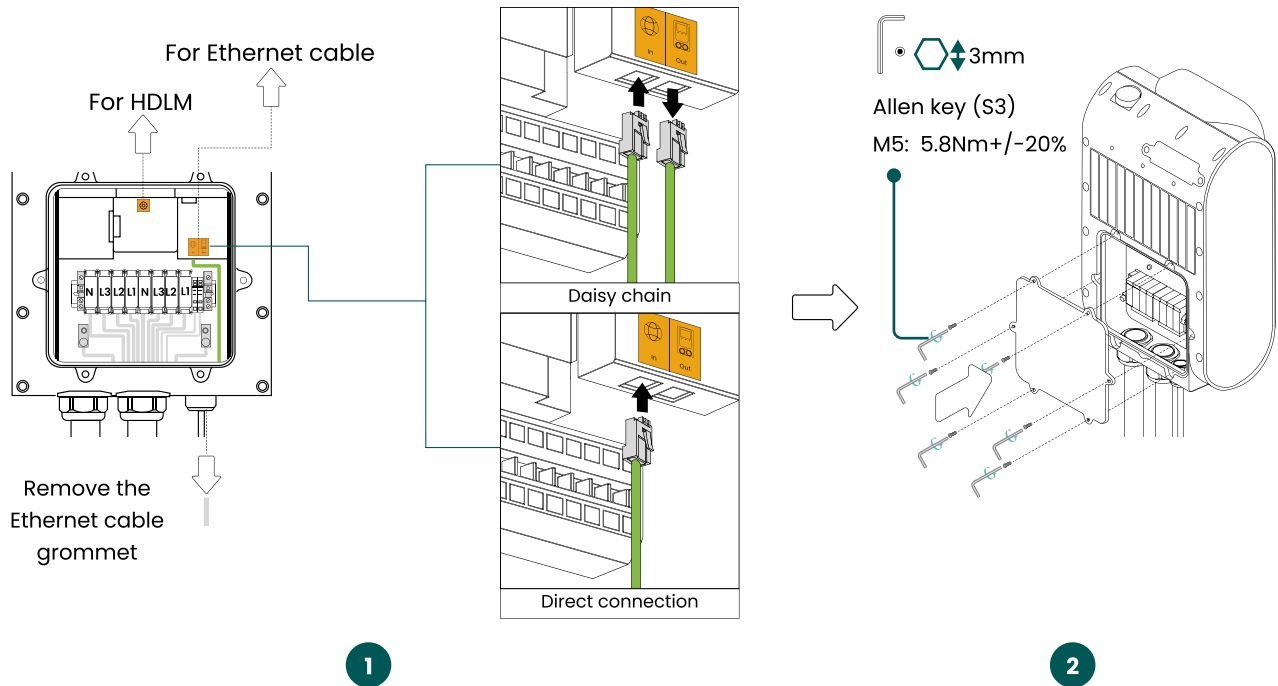


#### NOTE

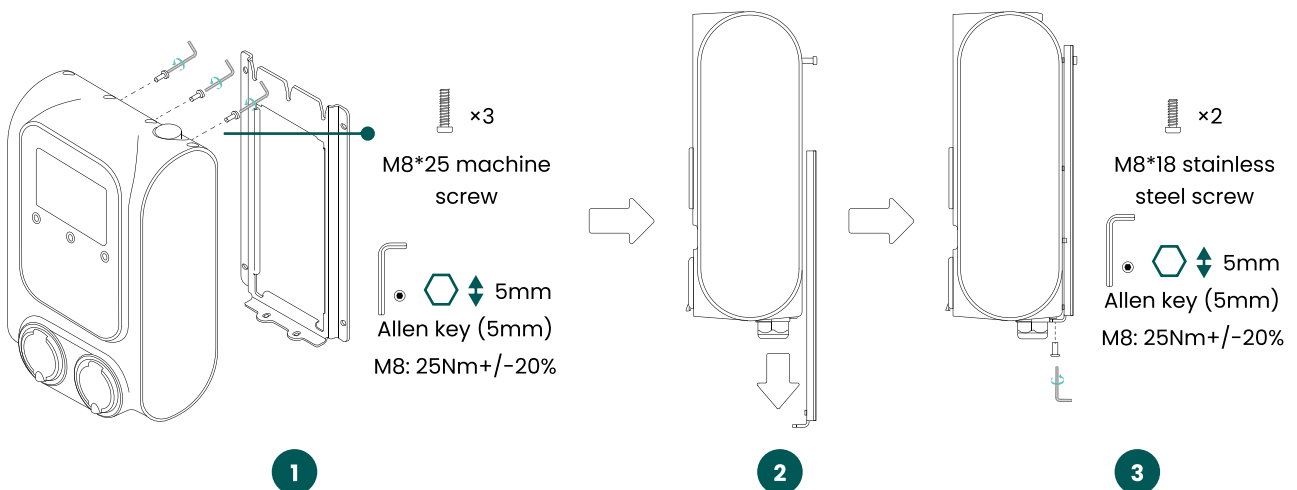
Be careful of the wiring when you have a single phase input for the Gemini. Please review the above phase diagram of rotation .

### 3. Installation and connection

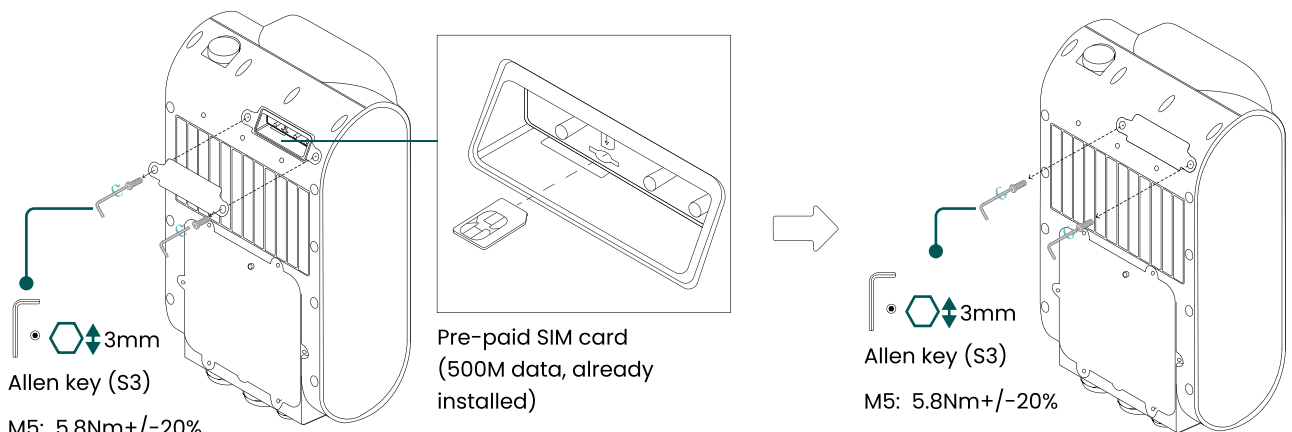
#### 3.5.3 Ethernet cable installation



#### 3.5.4 Mount and secure the charging station



#### 3.5.5 Install SIM card



## 4. Acceptance test

### 4.1 Safety instructions before use

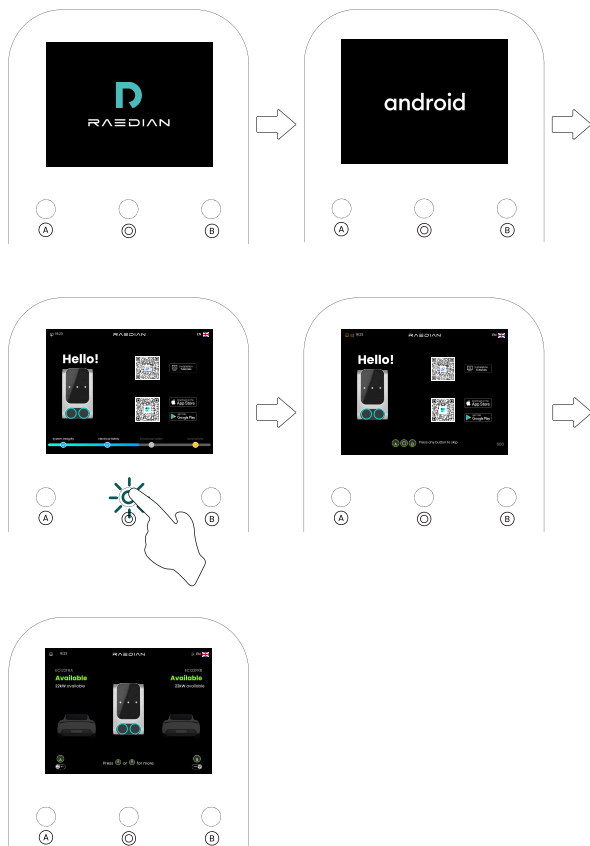
Before commissioning your charging station, please follow these safety instructions:

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

### 4.2 Power on

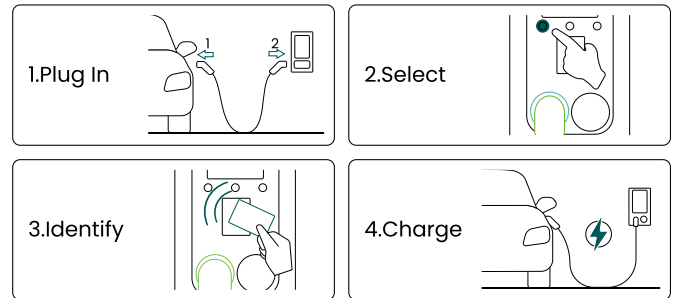
- Turn on the local power supply. Wait until you see the hello page. Make sure to successfully connect to the network. If the SIM card fails to connect Internet within 5 minutes, please try connecting via an Ethernet cable. Once the internet works fine, you could see the white connection icon on the top left corner of the screen.
- Scan the QR code to download the Install APP.
- Press any button ('A', 'B' or 'O') to skip the hello page and you will see the standby page (Without pressing, it will automatically go to the standby page after 600s countdown).

The initialization phase requires 3 to 5 minutes to complete.

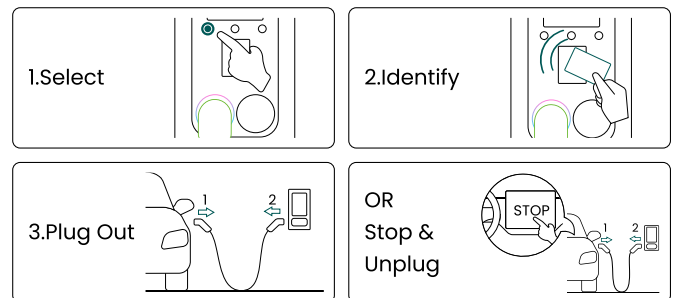


### 4.3 Charge start and stop

START



STOP



## 5.HMI description

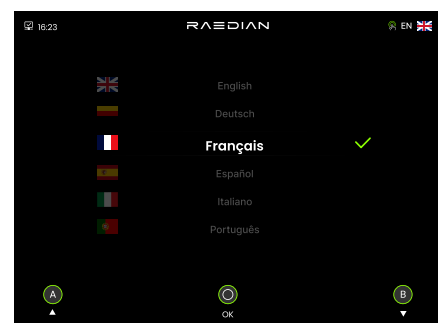
### 5.1 Status indication

On both sockets of Gemini, lights could indicate different charging status.

	Mobius strip cycle	Boot initialization
	Cyan breathing	Standby-connected
	Green steady	Plugged in-unauthorized
	Green breathing	Plugged in-authorized
	Gradient breathing	Charging
	Gradient steady	Charging completed
	Red steady (4 LEDs)	Error

### 5.2 Screen language switching

Click the middle button, when you want to switch the language.

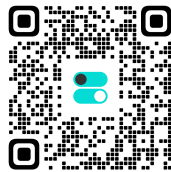




## 6. Configuration

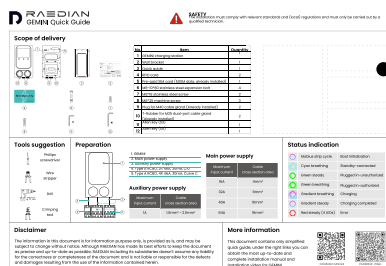
### 6.1 Install RAEDIAN INSTALL APP

Scan the QR code and download the Raedian Install APP onto your smartphone.



### 6.2 Connect with the charger

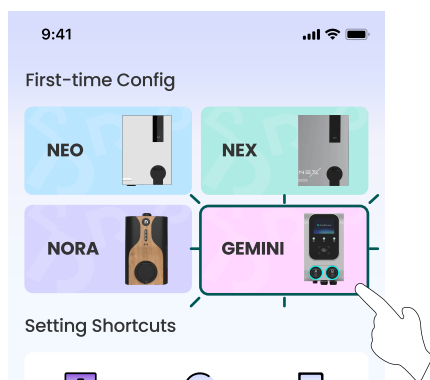
Check the product code and PIN code for Install APP on the quick guide.



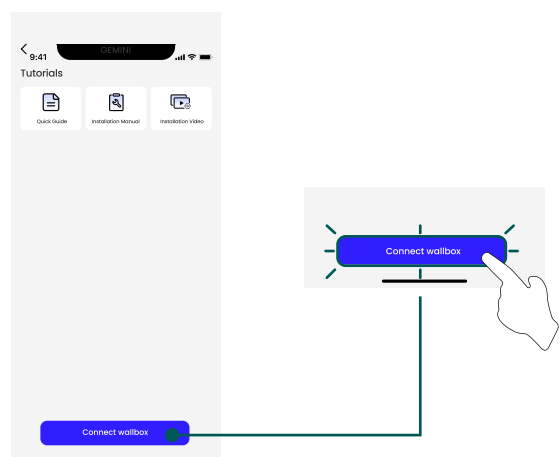
**Nebula**  
Product Code: EA0B001A  
PIN Code: 2478

**Install APP**  
Product Code: EA0B001R  
PIN Code: 2478

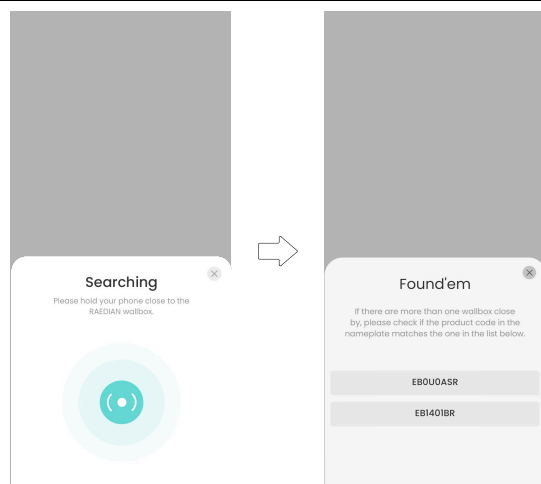
**Nebula**  
Product Code: EA0B001B  
PIN Code: 2478



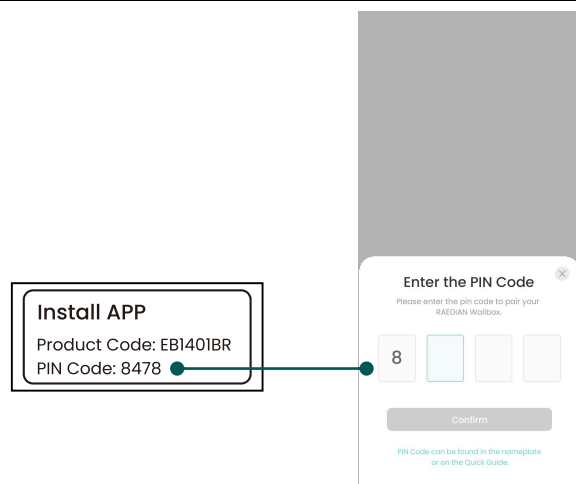
1. Choose Gemini



2. click "Connect wallbox"



3. Find the correct Product Code on the searching list



4. Enter the PIN Code and confirm

For more configuration settings please follow the Install APP instructions accordingly

## 7. Other related manuals note



### NOTE

To achieve HDLM (hybrid dynamic load management) between different Gemini chargers, refer to the dedicated HDLM documentation and configure the HDLM Kit correctly via the Install APP. If you encounter any issues, contact the customer support.



### NOTE

For account setup and fee rate configuration of the Payter payment terminal, contact the customer support.



### NOTE

For account setup and fee rate configuration of the Nayax payment terminal, contact the customer support.



### NOTE

Some operator's SIM cards need to set APN parameters before the 4G module can connect to the network, follow the steps in the "APN Parameter Setting Manual" to set the APN parameters.



### NOTE

This manual only provides instructions for wall-mounted installation. For Gemini pole installation, refer to other relevant manuals.

## 8. Technical specifications

### 8.1 General

#### Charging connector

Type 2 socket with shutter

#### Authentication methods

RFID, OCPP Backend, Contactless Payment

#### HMI & indication

RGB LED ring per connector, 3 Physical push buttons

#### Display

8-inch LED display, max. 700 nit, 1024x768

#### Nominal output voltage

Three phase: 230/400VAC  $\pm$  20%

#### Maximum output power

Three phase up to 22x2kW

#### Earthing system

TN/TT

#### Protection

UVP, OVP, OCP, Relay Stuck, Over Temperature

#### Residual current protection

Integrated 6mA DC per IEC 62955

#### Nominal frequency

50/60Hz

#### Metering accuracy

MID Certified Class B,  $\pm$ 1% Accuracy

### 8.2 Connectivity

#### Vehicle communication

Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)  
ISO 15118 ed.2/20 READY

#### RFID authentication

ISO/IEC 14443A/B, 13.56 MHz, Maximum length: 7 bytes

#### Connectivity to backend

Ethernet: RJ45\*2 Daisy Chain, 4G LTE-FDD: B1/3/5/7/8/20/28

#### Backend protocol

OCPP 1.6(JSON) 2nd edition

#### Connectivity to EMS/Meter

RS-485, LoRa 868MHz

#### Contactless Payment

EMVCo. L1 v3.0 Certified, Desfire protocol EV2/3  
ISO18092: Support NFC Protocol

#### SIM card

User SIM: 1FF(full size) SIM, Settable APN user name and password

### 8.3 Load management options

- Dynamic Load Sharing Between 2 Sockets
- OCPP Backend Load Management
- Hybrid Dynamic Load Management

### 8.4 Operating conditions

#### Operating temperature

-30°C ~ 50°C with derating mechanism(22kW\*1, 11kW\*2)  
-30°C ~ 45°C with derating mechanism(22kW\*2)

#### IK protection (mechanical impact)

IK10(Housing), IK08(Display)

#### Relative humidity

5% ~ 95%

#### Operating altitude

2000m

#### Electrical safety class

Class I

#### Standby power

17.5W

#### Degree of protection (housing)

IP55

#### Environmental conditions

Indoor / outdoor use

#### EMC environmental conditions

Class B residential according to IEC 61851-21-2

### 8.5 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

#### MID

EN 50470-3, EN 62053-23

#### 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

## 8. Technical specifications

### 8.6 Mechanical

#### Mounting options

Wall mounted, Freestanding Pole

#### Material

Die-casting Aluminum Alloy

#### Casing (exterior) dimensions

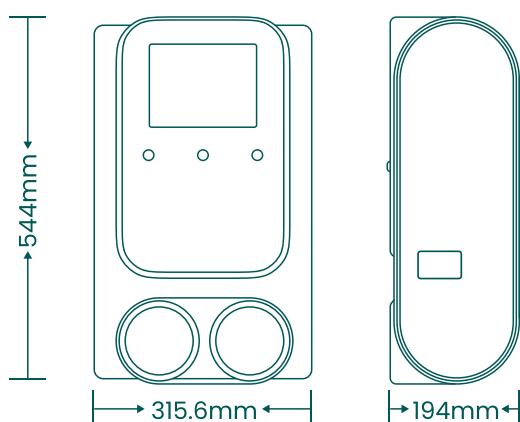
544 x 315.6 x 194 mm (H x W x D)

#### Packaging dimensions

720 x 435 x 340 mm (H x W x D)

#### Weight

18.5 kg



## 9. Maintenance and recycling

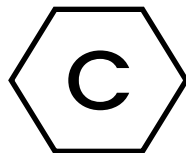
### 9.1 Preparation before operation

Proper labels should be prepared before operation.



#### NOTE

As CPO or the owner of the charging station, you need to stick the socket label (comply with EN 17186:2019, shown as left pic) near the sockets of the charging station and provide information including but not limited to, product code, maximum current of each socket, contact information and how to start and stop a charging session for the user, etc.



### 9.2 Cleaning

Maintaining the casing of the charging station:

Clean it annually using water and mild soap. Polish the charging station with wax that is also suitable for cars.



#### NOTE

The casing of the charging station can be damaged. Avoid using any aggressive cleaning agents, high-pressure cleaners, scouring pads, or similar items.

### 9.3 Waste Electrical and Electronic Equipment (WEEE)



Electrical and electronic equipment contains materials, components, and substances that may be hazardous and pose a risk to human health and the environment if not handled properly.

Equipment marked with the illustrated crossed-out wheeled bin is considered electrical and electronic equipment. The crossed-out wheeled bin indicates that this waste must be collected separately and should not be discarded with household waste.

Consult your local authority for collection schemes, allowing residents to dispose of waste electrical and electronic equipment at recycling centers or other collection points.



Zhejiang RAEDIAN New Energy Technology Co., Ltd  
No.3, Shuangbai Road, Yuanhua Town, Haining City  
Zhejiang, 314416  
China