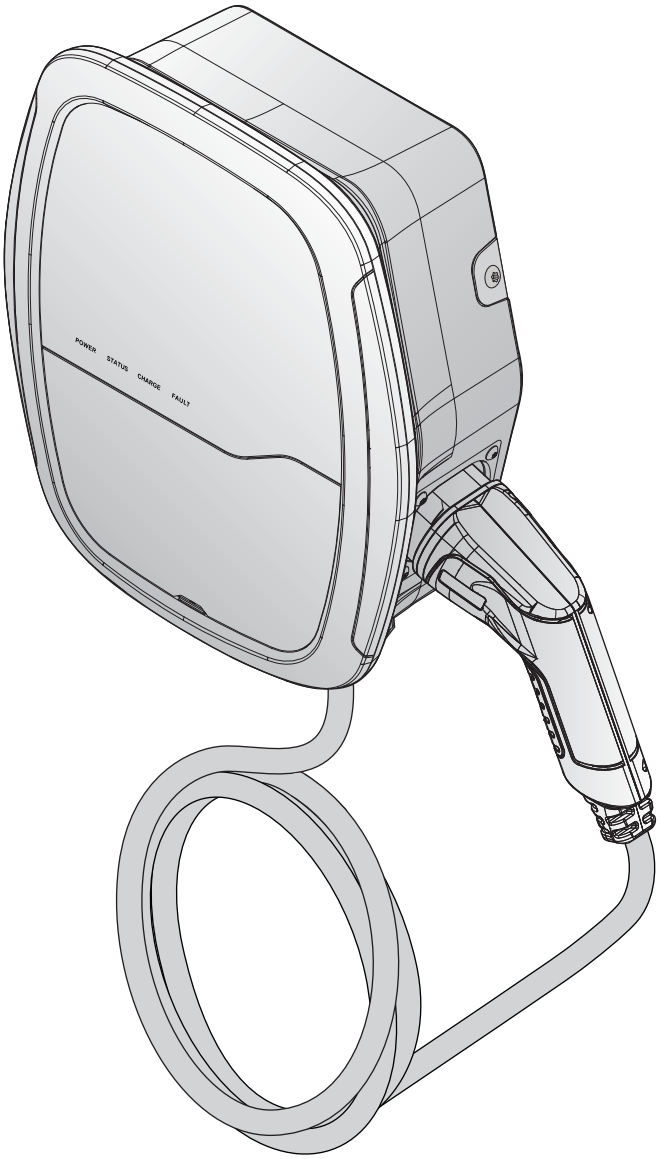
Part numbers: 9835662580 / 9835662880

WALL BOX 3.7 / 4.6 kW
WALL BOX 7.4 kW

Installation and Operation Manual

Basic version



Version: 1.0.0

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Conventions

General Conventions

The following conventions are used in this manual:

Note:

Indicates additional information that is relevant to the current process or procedure.

WARNING!

Warning information appears before the text it references to emphasize that the content may prevent damage to the device or equipment.

CAUTION!

CAUTIONS APPEAR BEFORE THE TEXT IT REFERENCES. CAUTIONS APPEAR IN CAPITAL LETTERS TO EMPHASIZE THAT THE MESSAGE CONTAINS VITAL HEALTH AND SAFETY INFORMATION.

Typographical Conventions

The following typographical conventions are used in this document:

Italics

Indicates book titles, directory names, file names, path names, and program/process names.

`Constant width`

Indicates computer output shown on a computer screen, including menus, prompts, responses to input, and error messages.

Constant width bold

Indicates commands or information literally entered by a user on the computer. Variables contained within user input are shown in angle brackets (< >).

Bold italics.

Indicates keyboard keys that are pressed by the user.

About the Product

Nomenclature Model Series

The Wall box names are relatively easy to understand and remember. The nomenclature follows a logical structure which makes it easier for distribution between the different models.

The following describes the segmentation used to describe the basic features of each available model.

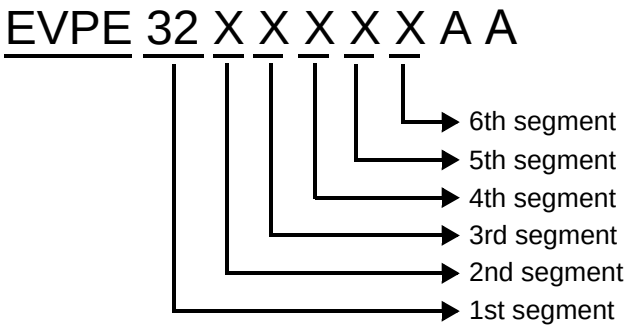


Figure 1. Nomenclature Naming Segments

Table 1: Nomenclature Naming Segments

Segment	Item	Description
1	32A 20A	Indicates the rated current
2	2: Type 2	Indicates connector / socket type
3	5: 5M charging plug	Indicates cable length
4	H: Hardwired	Indicates input configuration
5	N: Non-wireless	Indicates network option
6	K: Key switch	Indicates key switch option

Note:
The part no. of EVPE2025HNKA/EVPE2025HNKAA is 9835662580
The part no. of EVPE3225HNKA/EVPE3225HNKAA is 9835662880

Overview

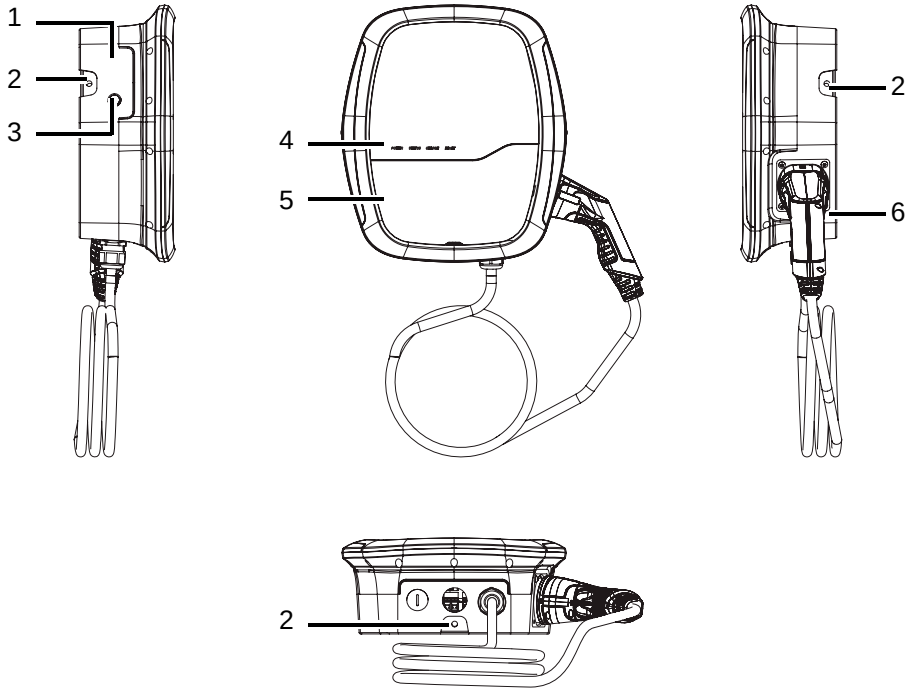


Figure 2. Overview

Note:
Availability of features is subject to the model.

Table 2: Overview

No.	Item	No.	Item
1	Key switch	4	LED light indication
2	Mounting holes	5	Faceplate
3	Reset button	6	Charging plug

Before You Start

Installation Site Selection

Wall box can be installed in both indoor and outdoor environments. It is necessary to consider the installation conditions and protection at the site:

- Follow local electrical regulation and installation standards
- Consider the emergency routes at the installation site
- Do not install the device at potentially explosive atmosphere areas (Ex areas).

Instructions Pertaining to the Risk of Electric Shock

- Read all the instructions before using this product.
- Supervision is required when operating this device in the presence of children.
- Do not use adapters, conversion adapters or cord extension sets with the product.
- Do not insert your fingers into the electric vehicle connector.
- Do not replace any of the components.
- Do not use this product if the flexible power cord or EV cable is frayed, the insulation is broken, or the device shows signs of damage.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any signs of damage.
- A device employing pressure terminal connectors for field wiring connections shall be provided along with instructions specifying a range of values or a nominal value of tightening torque to be applied to the clamping screws of the terminal connectors.

CAUTION!

TO REDUCE THE RISK OF FIRE, ONLY CONNECT TO A CIRCUIT WITH THE FOLLOWING AMPERE MAXIMUM BRANCH CIRCUIT OVERCURRENT PROTECTION, SEE THE FOLLOWING TABLE FOR FURTHER INFORMATION.

Table 3: Maximum Overcurrent Protection

Model	Circuit Breaker Specification
EVPE32	32A min., 240V min., 2 Poles, B-type (Curve B)
EVPE20	20A min., 240V min., 2 Poles, B-type (Curve B)

- Circuit breaker requires comply with following standards: IEC 60898-1

Important Safety Instructions

CAUTION!

DISCONNECT ALL ELECTRICAL POWER PRIOR TO INSTALLING THE PRODUCT. FAILURE TO DO SO MAY RESULT IN SHOCK, PHYSICAL INJURY OR DAMAGE TO THE ELECTRICAL SYSTEM AND CHARGING UNIT.

Save these Instructions

The product can only be installed by a licensed contractor, and/or a licensed electrician in accordance with all applicable state, local and national electrical codes and standards in an location with non-restricted access.

Before installing the product, review this manual carefully and consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.

Use appropriate protection when connecting to the main power distribution cable.

WARNING!

Danger of electrical shock or injury. Turn OFF all power at the panelboard or load center before working inside the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned OFF.

Grounding Instructions

The product must be connected to a grounded, metal, permanent wiring system; or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.

Recommended Tools and Accessories

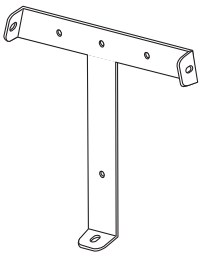
The following tools are recommended for the installation of the product:

- Recommended tools:
  - Electro drill (only for masonry walls)
  - Torx T30 screw driver
  - Torx T10 screw driver
  - Phillips #2 screw driver
  - Flathead slotted #2 screw driver
  - Flathead slotted #5 screw driver
  - Flathead slotted #8 screw driver
  - Terminal crimper
  - Screw driver for dry contactor
- Installer-supplied components:
  - Conduit of appropriate trade size for power wires-M32
  - Conduit of appropriate trade size for signal wires, RS-485 (0.75mm^2)-M25
  - Cable gland (IP55) for input wire to ensure water resistance

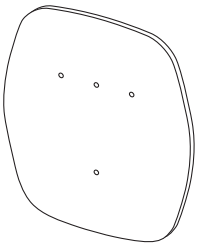
Check latest Manuals http://www.ifz-berlin.de/#/instructions

Component Listing

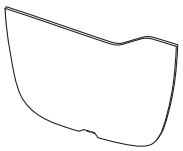
Vendor-supplied Accessories and Components



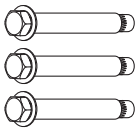
Mounting bracket x 1



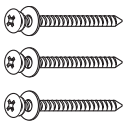
Mounting template x 1



Faceplate x 1



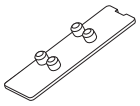
1/4 inch expansion bolts x 3



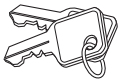
No. 8 wood screws x 3

Torx T30 mounting bolts x 3

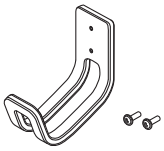
Terminal crimps x 3



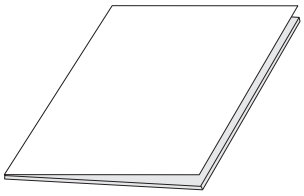
Terminal cover x 1



Key for key switch x 2



Cable hanger bracket x 1
(For plug)



User manual x 1

Installing the Product

The product is a stationary equipment mounted on the wall. It includes a wall mounting template to mark the screw locations for the mounting bracket and cable hanger (optional).

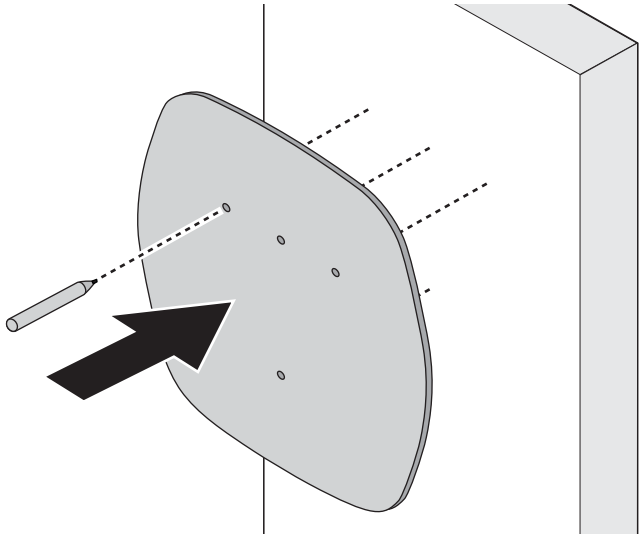


Figure 3. Template for Marking the Screw Locations

Note:
Follow applicable accessibility requirements for the mounting position. The unit must be mounted at a sufficient height from grade such that the storage height is located between 600mm (24 inches) and 1.2m (4 feet).

1. Secure the mounting bracket to the wall. The cable hanger bracket is optional and depicted in the following figure for demonstration purposes. The following are recommended bolt types:
   - Masonry walls: 1/4” expansion bolts.

     Torque: 8.8 N·m (78 lb·in)
   - Finished walls supported by wood studs: #8 wood screws of 2" or above screw length.

     Torque: 3 N·m (26 lb·in)

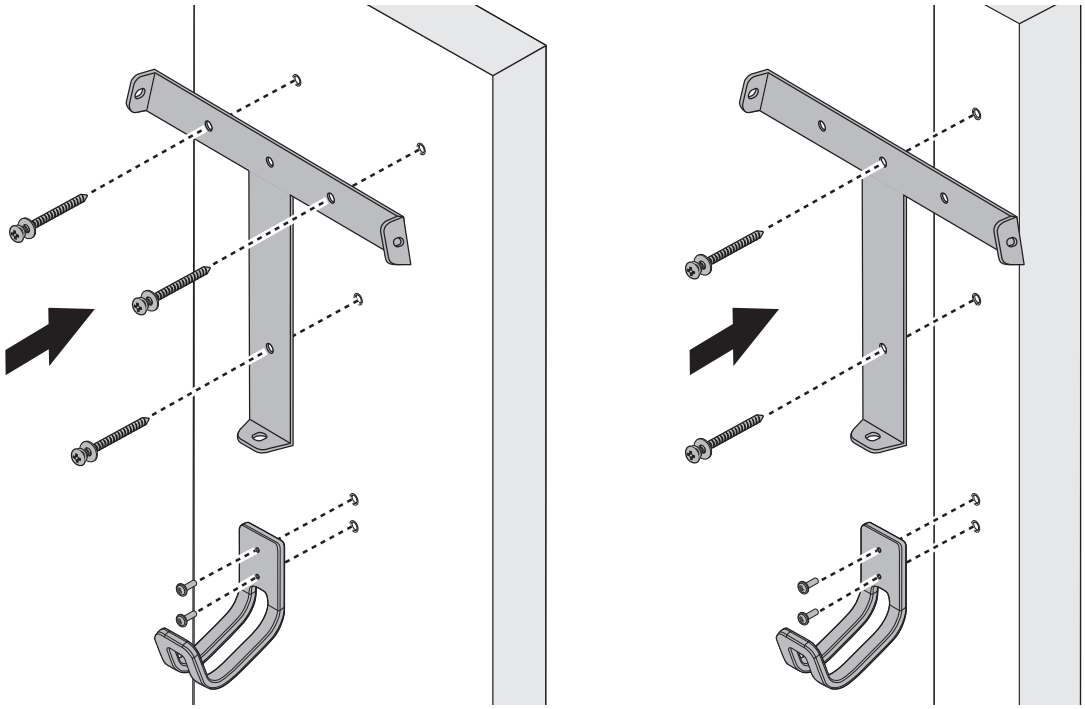


Figure 4. Installing a Mounting Bracket

Note:
The screw mounting direction of the mounting bracket can be horizontal or vertical.

2. Align the screw holes on the mounting bracket and the product.
3. Install and secure the product on the mounting bracket with the supplied Torx T30 (x 3) screws.
   Torque: 1.5 N·m (13 lb·in)

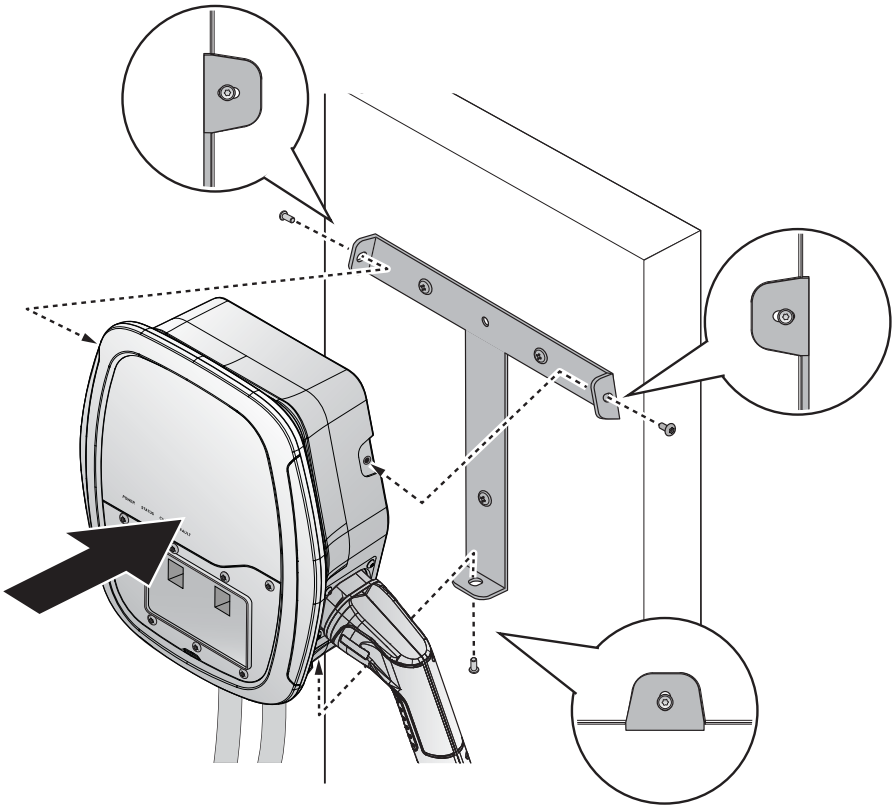


Figure 5. Installing a Product

4. Use a T10 screw driver to remove the screws securing the compartment cover.
5. Remove the compartment cover.

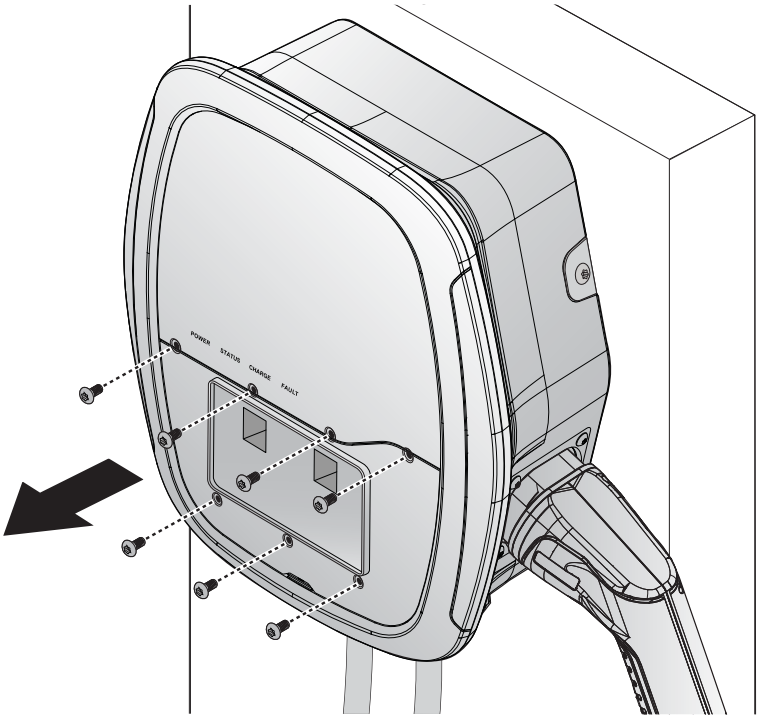
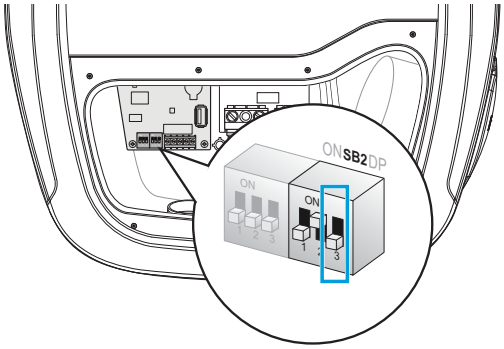


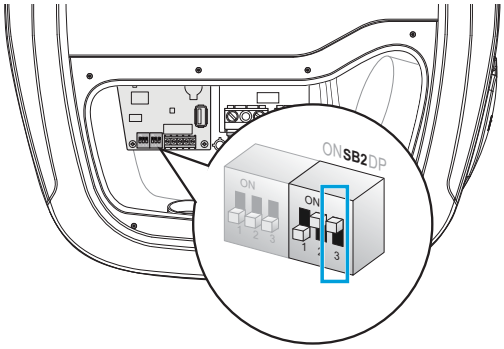
Figure 6. Removing a Compartment Cover

6. Configure the following dip switches:
   - Grounding system (TT, TN or IT system)
   - Power system (L, N or L1, L2) and current limits.

Grounding system

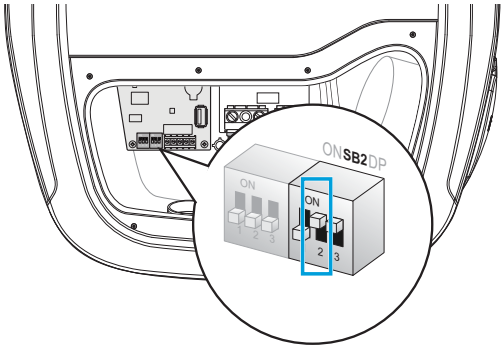


Default: TT/TN system

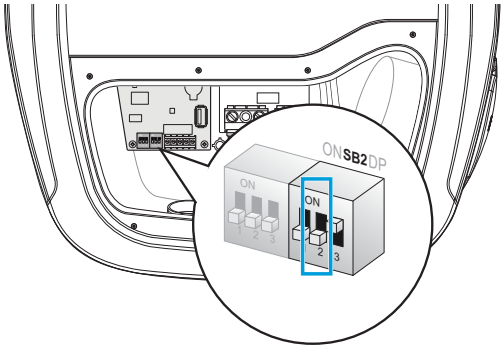


IT system

Power system



Default: L, N



L1, L2

- Current limits: Output current adjustment depends on the upstream breaker.

Note:
A 20A rated model has a maximum current rating of 20A. An alert is initiated and further activity is disabled if the adjusted output current is higher than 20A.

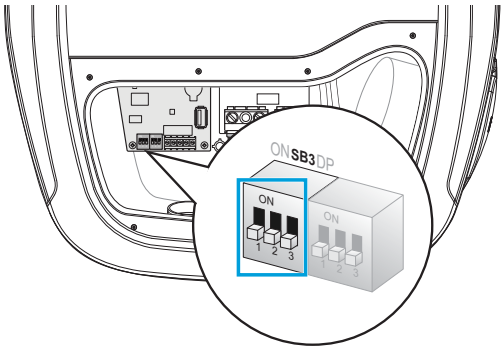


Figure 7. Default: 6A

Note:
0: The latch is in the downward position.
1: The latch is in the upward (ON) position.

Table 4: Max Current Ratings

Configuration	Max. Current Ratings	Configuration	Max. Current Ratings
000 	6A (Default)	100 	16A
001 	8A	101 	20A (For EVPE20, EVPE32 model)
010 	10A	110 	25A (For EVPE32 model)
011 	13A	111 	32A (For EVPE32 model)

Use an appropriate copper wire with listed pressure terminal connectors, such as a ring and fork type, on the end of the conductor before attaching to the terminal blocks. Keep enough wire length to facilitate installation.

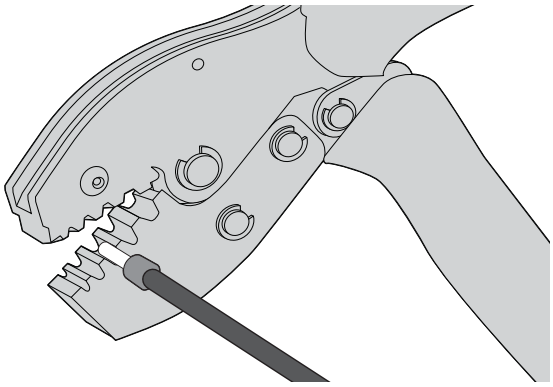


Figure 8. Crimping a Terminal End

Table 5: Copper Wire Type

Model	Description
EVPE32	10mm^2, 70ºC
EVPE20	4mm^2, 70ºC

7. Connect each terminal to the correct connector in the terminal input block within the compartment.

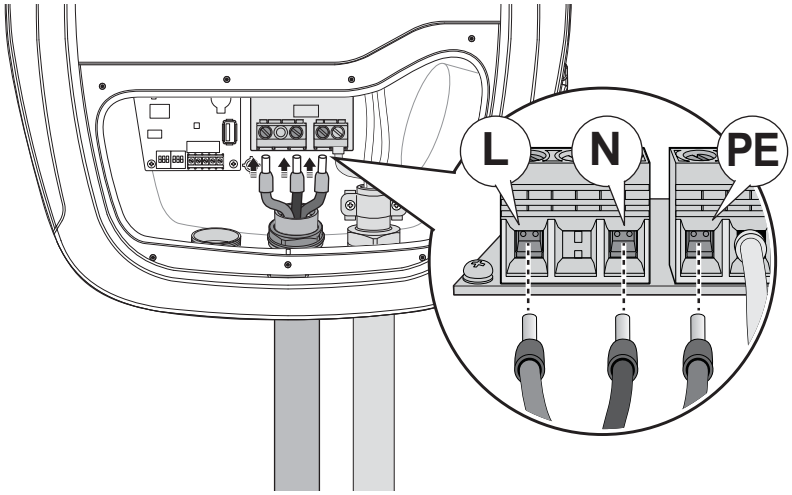


Figure 9. Connecting the Terminal Connector

8. Turn right (clockwise) to fix the terminal for input cable.

   Torque: 1.2 N·m (11 lb·in)

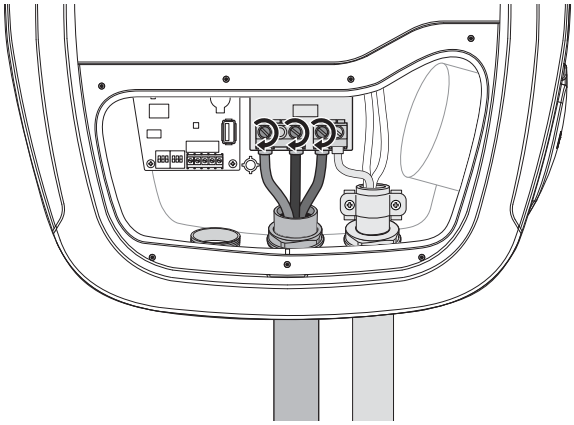


Figure 10. Securing the Input Cable

Note:
Choose appropriate conduit in accordance with all applicable local, state and national electrical codes and standards.

Make sure the breaker is turned off before installation.

9. Use appropriate wires (0.75mm^2) and connect each of them to the correct terminal connector (No.1 and 2) within the compartment.

   The following illustrations depict the wiring schemes for dry contact connections.

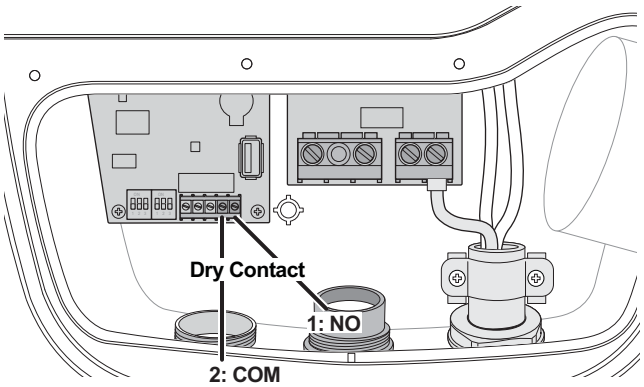


Figure 11. Dry Contact Wiring Connection

Note:
The product provides a closing signal when unable to close the output. There are breaker types that trip to stop output when a closing signal is accepted. Suggested specifications are VL 160 (breaker) and 3VL9112-5GA30 (RCD). It is mandatory requirement for Netherland and Italy.

10. Connect the other side of the wire to the breaker accordingly in order to provide isolation function.
11. Install the terminal cover.

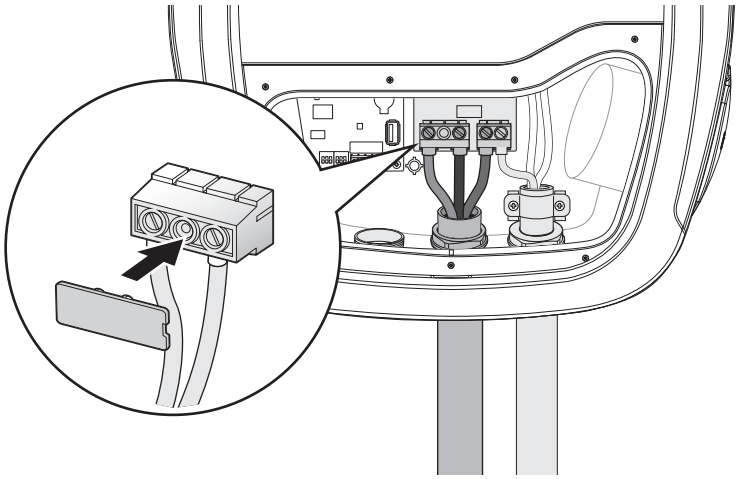


Figure 12. Installing a Terminal Cover

12. Install the compartment cover.

    Torque: 1.0 N·m (8.7 lb·in)

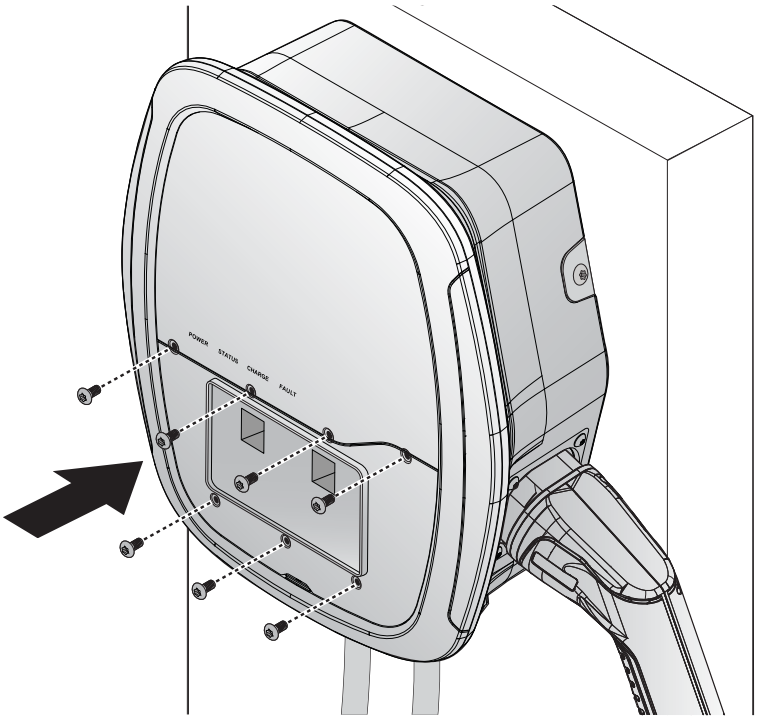


Figure 13. Installing a Compartment Cover

13. Install and lock the faceplate.

Note:
An audible click sounds denoting a closed faceplate.

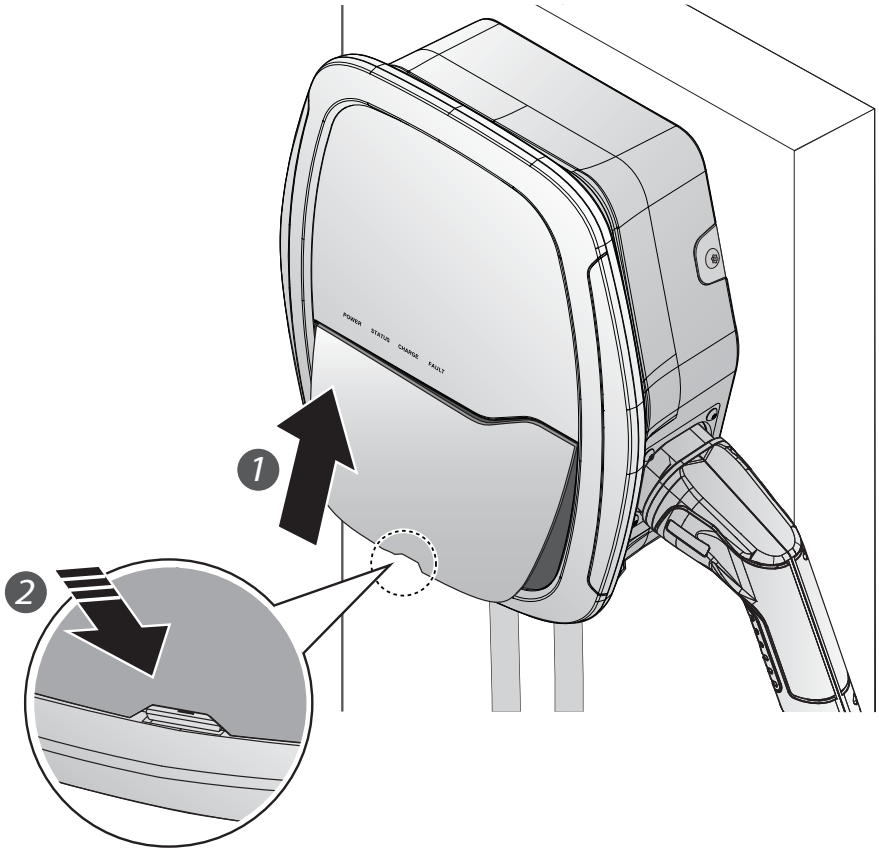


Figure 14. Installing a Faceplate

Operation Instructions

Key Switch

The key switch is located on the side of the product. Charging is authorized when the key switch is in the UNLOCK position.

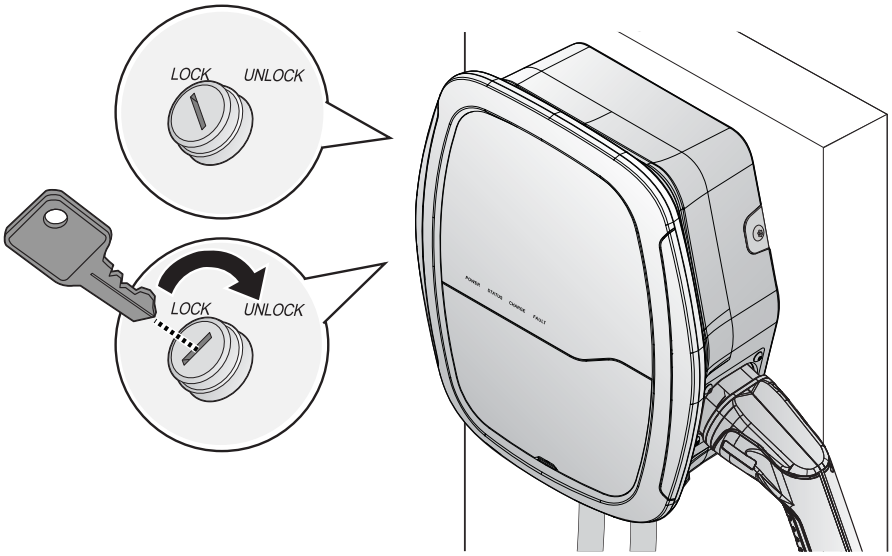


Figure 15. Enabling the Charging Function

Reset Button

In the event of an alarm trigger, press the Reset button for three seconds to initiate a reboot of the product. The rebooting of the product may reset the alarm trigger returning the product to a normal state.

Note:
The reset function is only available when the product is not connected to the EV.

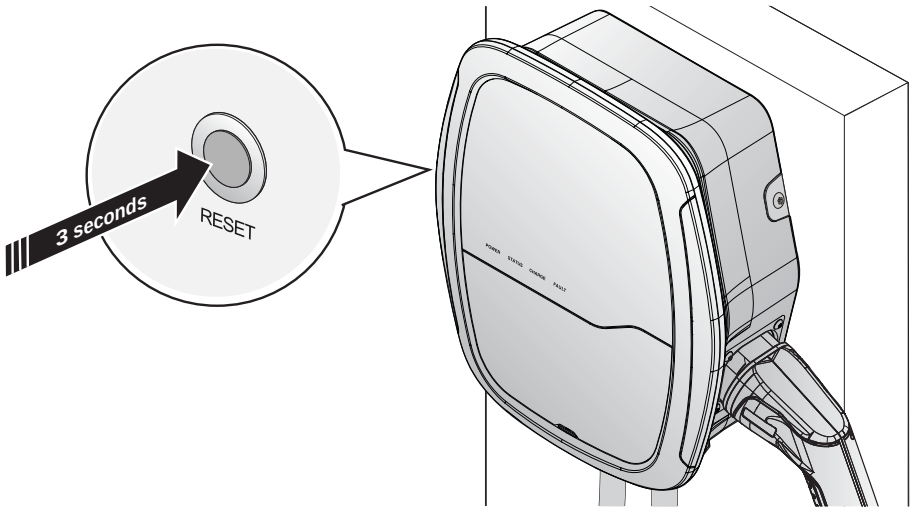


Figure 16. Resetting the Product

Charge an Electric Vehicle

1. Turn on the upstream breaker. All status indicators display Unlock during a system self-test. When the self-test is complete, the Power indicator lights green signifying that the product is ready for charging.
2. Locate key switch and verify its position.

   Unlock: Charging is enabled.

   Lock: Charging is not enabled.
3. Connect the product to EV using the Type 2 cable. The Power and Status indicators light (green) signifying that the product is powering up.

Note:
The product returns to standby state if the charging connector is not connected to the EV within 60 seconds after unlock.

The Type 2 cables should comply with the product maximum rating.

4. The Charge indicator blinks (green) slowly to indicate the charging function is initiated. Only the EV can stop the charging process before completion.

Note:
Refer to troubleshooting if the Charge indicator does not flash green.

5. When charging is complete, the Charge indicator turns off. Disconnect the charging plug from the EV.

Status Indicator

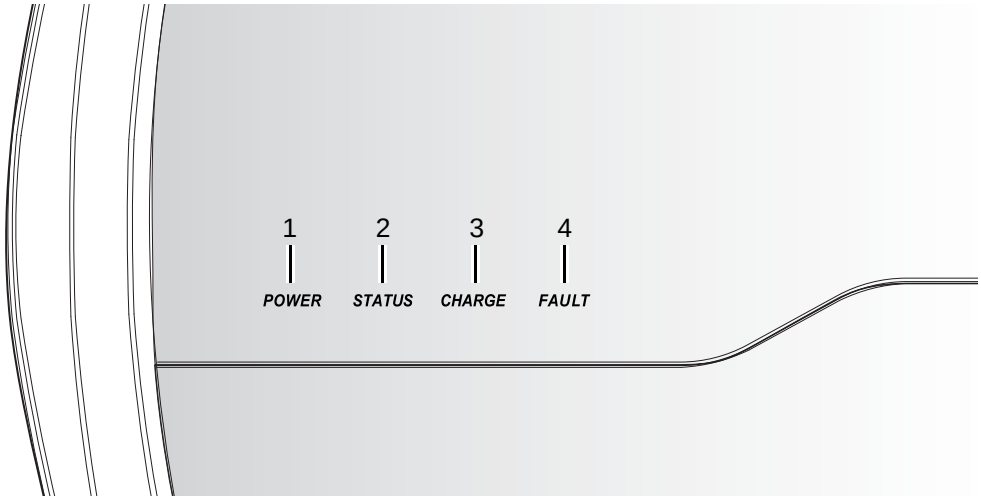


Figure 17. Identifying the LED Panel

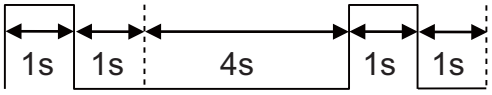
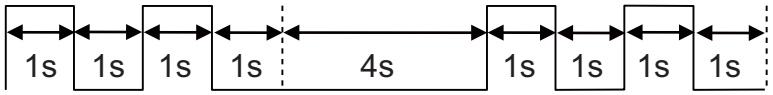
Table 6: Status Indicator

Power (Green)	Status (Green)	Charge (Green)	Fault (Red)	Status
■	■	■	■	Power supply to the product is disabled. Turn on the branch circuit breaker to enable power supply.
■	■	■	■	During initial configuration and self-testing, the product displays all indicator lights ON.
■	■	■	■	When the self-test is completed, the product enters standby mode and the Power indicator lights a solid green. The product is not yet connected to an EV.
■	■	■	■	Charging plug is correctly inserted but charging is not in progress.
■	■	▨	■	EV charging in progress.
■	■	■	■	Hardware failure: RCD self-test failure, Relay fault, MCU fault, MPU fault, Thermal sensor fault.
■	■	■	▨ 1 Flash	RCD trip: Recovery after charging plug is unplugged.
■	■	■	▨ 2 Flashes	Ground fault: Rocovery after ground is well-connected.
■	■	■	▨ 3 Flashes	Input incorrect wiring; Recovery after fault is resolved and the product is rebooted.
■	■	■	▨ 4 Flashes	OVP/UVP: Recovery after fault is resolved.
■	■	■	▨ 5 Flashes	OCP: Auto recovery to charging after 10 seconds. It will be latched until fault is tripped three times.
■	■	■	▨ 6 Flashes	OTP (over temperature protection)

Table 6: Status Indicator (Continued)

Power (Green)	Status (Green)	Charge (Green)	Fault (Red)	Status
			7 Flashes	Recovery after the charging plug is re-plugged and well-connected.
			1 Flash	Max. Current Ratings Fault
			2 Flashes	Control Pilot Fault: Recovery after fault is resolved.

Table 7: Symbol Description

Symbol	Status
	OFF
	ON
	Slow blink (period = 2000 ms, duty cycle = 50%)
	Fast blink (period = 800 ms, duty cycle = 50%)
1 Flash	
2 Flashes	
3 Flashes	Refer to previous figures for 4, 5, 6 symbol description.

Troubleshooting

WARNING!

Contact Customer Support if the product appears to be functioning abnormally or if the LED indicators display a fault status. DO NOT open the product, touch or remove the circuit protective devices or any other component.

Table 8: Troubleshooting

Situation	Action
Power indicator does not light	1. Make sure the AC power input is connected correctly and the AC power is within operating range of the unit. 2. Power cycle the product. 3. If the problem persists, contact Customer Support.
Charging indicator does not light	1. Make sure the charging plug is inserted firmly in the EV charging inlet. 2. If the Charging indicator does not light after 10 seconds, power cycle the product and plug in the charging plug. 3. If the situation persists, contact Customer Support.
Fault indicator starts to blink red while charging	1. There is a temporary error. 2. Wait until the temporary error is resolved and the product returns to normal condition, typically less than 10 seconds. 3. Unplug the charging connector. 4. Power cycle the product. 5. If the situation persists, contact Customer Support.
Fault indicator is solid red	1. There is a critical error (hardware fault). 2. Unplug the charging connector. 3. Power cycle the product. 4. If the situation persists, contact Customer support.

Specifications

Table 9: Specifications

	Basic
Charging interface	IEC 62196-2 Type 2 connector
Input rating	200-240 Vac, single phase, 50/60 Hz, 20A 200-240 Vac, single phase, 50/60 Hz, 32A
Input wiring	Hardwire L, N, PE or L1, L2, PE
Output rating	200-240 Vac, single phase, 50/60 Hz, 20A 200-240 Vac, single phase, 50/60 Hz, 32A
Standby power	2W
Internal FUSE	280 Vac, 100A
Altitude	2000m
Internal residual current detection	DC 6mA, AC 30mA
Protection against electric shock	Class II
Electrical protection	Over current, short circuit, over voltage, under voltage, ground fault, over temperature protection and surge protection
Cold load pick-up	Randomized delay between 5 and 100 seconds before charge resume after power outages.
Status indicators	Four LED indicators (Power, Status, Charge, Fault)
Buttons/Switches	Key switch (optional), reset button
Card reader	None
Audio	None
Charging mode	Mode 3
Charging interface	Plug type: meet IEC 62196-2 Type 2 Plug and Cable
Operating temp.	-30ºC to +50ºC (-22ºF to +122ºF)
Humidity	95% related humidity, non-condensing
Cable length	Standard: 5m (16.4 ft)
Ingress protection	IP55 for indoor and outdoor use IK08
Cooling	Natural cooling
Dimension (W x H x D)	363 x 318 x 136 mm (14.3 x 12.6 x 5.4 inch), excluding charging cable, mounting plate and cable holder
Net weight	4.4 kg (9.7 lb) (with plug)
Certificate	CE Marking