



# Morek EV AC Chargers Installation and User Manual

- AC Smart Charger
- AC Plug & Charge Charger

# Morek EV AC Smart Charger Installation and User Manual

Smart charge – WiFi, LAN, and/or optional 4G

- Use it at a private house, apartment building, or work. Charge and share chargings. Perfect for public charging.
- Different modes of authentication support several use cases based on project requirements. The LCD display on the charger is easy to read and can be used in all locations – no translation to the local language is needed.
- With both RCD and DC leakage built into the charging station, there is no need for additional rail space in the electrical cabinet, and the comprehensive detection capability for various residual fault currents is provided.
- The installation process is simplified for maximum efficiency. The charger comes with a preset configuration and easy access with the Morek EV Tool APP to reduce setup time.



With 6,5m cable



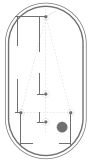
With type2 socket

# AC Smart Charger Guide

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- Required tools for installation
- Installation steps
- Electrical wiring, wiring diagram
- DLM installation and wiring
- User interface
- Charging operations
- LED indicator
- Troubleshooting
- Maintenance
- Safety notes

## Whats included in the box



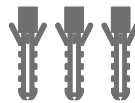
Installation template



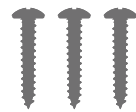
Insulated cord end terminals



Waterproof gaskets



8 x 40 mm wall plugs



5 x 40 mm screws

## Required tools for installation



Measuring tape



Electric drill



Hammer



Slotted screwdriver



Phillips screwdriver



Wire stripper



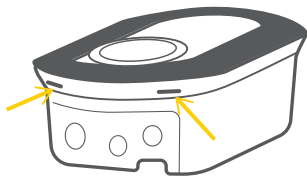
Utility knife



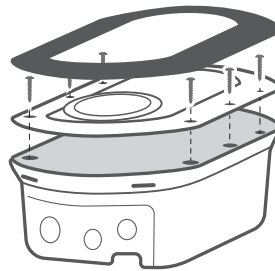
8mm drill bit

# Installation steps

Cut the drilling template from the carton, place the drilling template on the wall, drill holes where the three fixing points, insert the Wall plugs into the fixing holes.

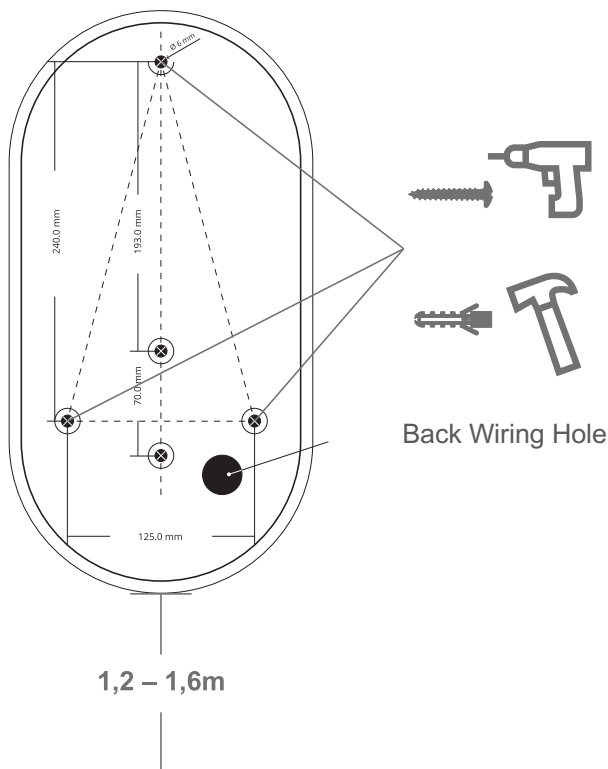


Press the two barbs under the machine and take out the decorative cover.



Loosen the six screws of the cover and take out the cover.

Please drill the holes in the wall according to the hole layout on the cardboard that comes with the box.



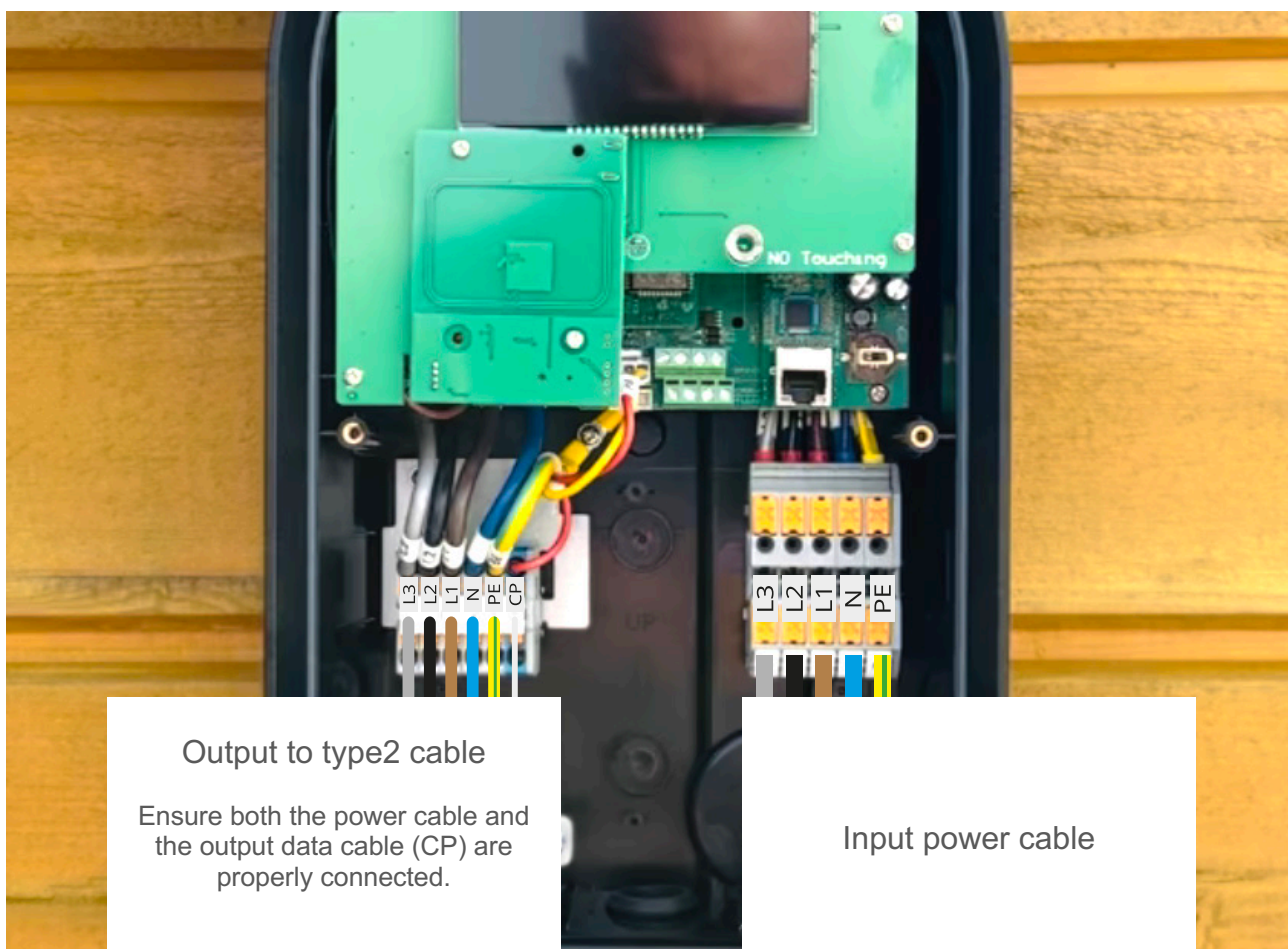
Fix the device on the wall by inserting the screws and waterproof gaskets.

# Electrical wiring, wiring diagram

## Input power cable sizes

AC 1P 7,4kW	copper	3x4mm <sup>2</sup>
AC 3P 11kW	copper	5x2,5mm <sup>2</sup>
AC 3P 22kW	copper	5x6mm <sup>2</sup>

This chart is to be used as a guide only. Please consult your cable suppliers or electrical specialist for specifications for true values.



# DLM installation and wiring

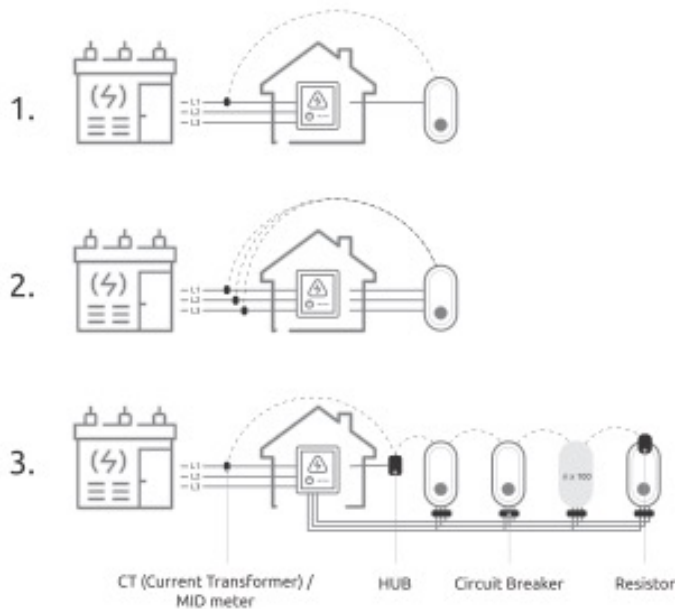
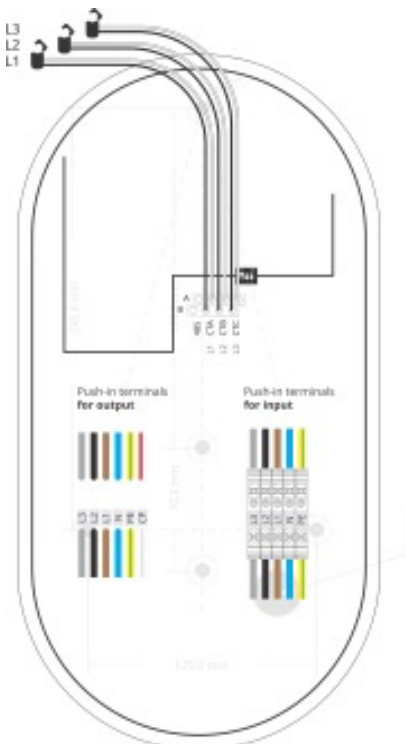
External CT or electric meter can be connected for household load management as the charger only reads (collects) external CT or Meter data.

Additional configuration of CT or Meter also is needed through the Morek EV Tool APP to activate the DLM functionality and set the correct parameters.

## Use CT wiring

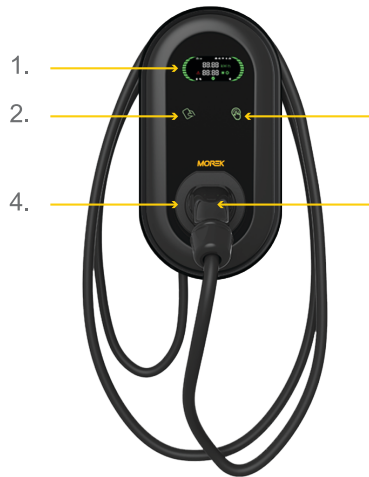
Current direction, input towards home:

1. 7kW one-phase electricity, need to use 1 CT, ring CT covers L .
2. 22kW three-phase electricity, need to use 3 CTs, ring CT covers L1, L2, L3
3. Installing several chargers, use a HUB and a resistor at the last charger



- CT (Current Transformer) / MID meter for one charger
- HUB for multiple chargers

# Operation - User Interface



1. LCD display
2. RFID reader
3. Button
4. Connector holder
5. Type 2 plug



1. LCD display 5
2. RFID reader
3. Button
4. Type 2 socket

## EV charging operation modes

### Charging the EV

- To start charging: Connect EV
- When the charger status is available or prepare,
- start charging from the APP
- Stop charging from APP
- Disconnect EV

### RFID only Mode

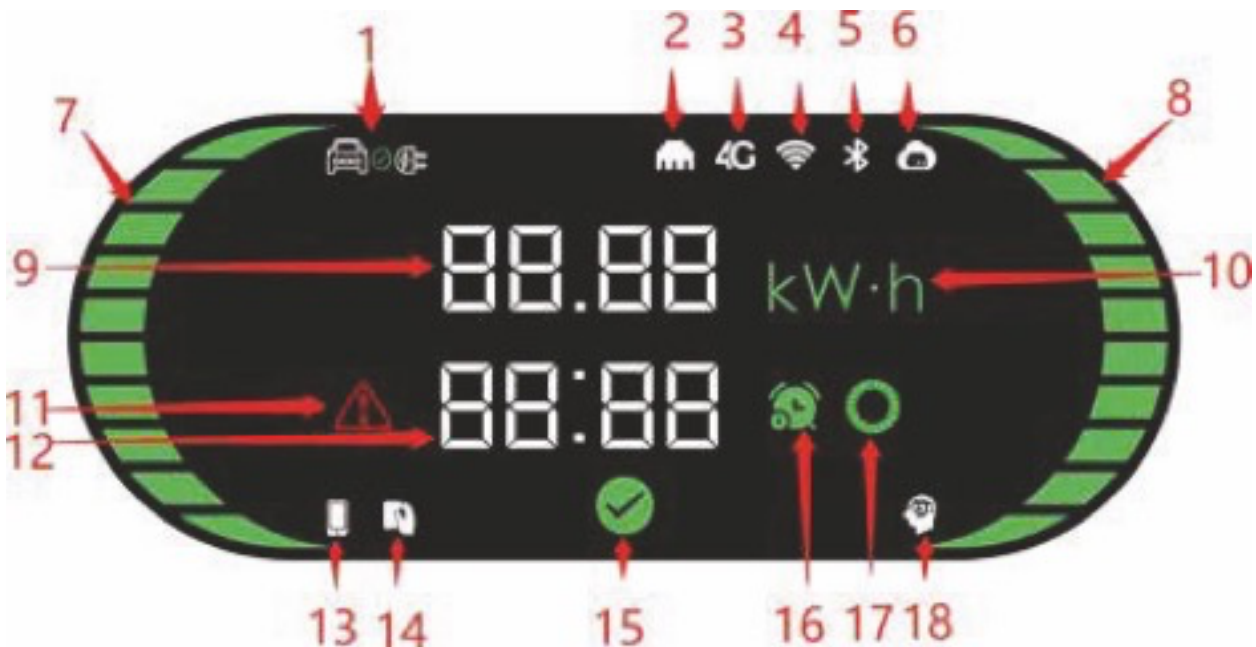
- To start charging: Connect EV
- Tap the RFID card in the RFID reader area.
- To stop charging
- Tap the RFID card in the RFID reader area.
- Disconnect EV

### Plug and Charge Mode

- To start charging: Connect EV
- To stop charging: Press the touch button and disconnect EV



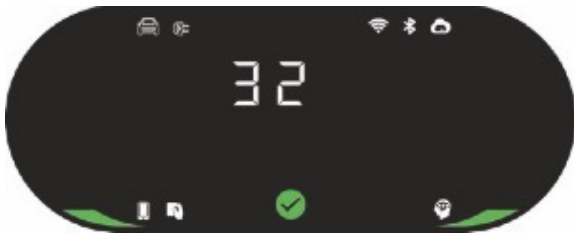
# LED display description



- |                                    |                                 |
|------------------------------------|---------------------------------|
| 1. EV connection                   | 11. Fault indicator             |
| 2. LAN                             | 12. Time or fault code          |
| 3. 4G                              | 13. Mobile APP control          |
| 4. WiFi                            | 14. RFID control                |
| 5. Bluetooth                       | 15. Available indicator         |
| 6. CMS                             | 16. Reservation time indication |
| 7. Left status bar                 | 17. Waiting indicator           |
| 8. Right status bar                | 18. Smart Charger indicator     |
| 9. Energy, power, or rated current |                                 |
| 10. Energy/Power unit              |                                 |

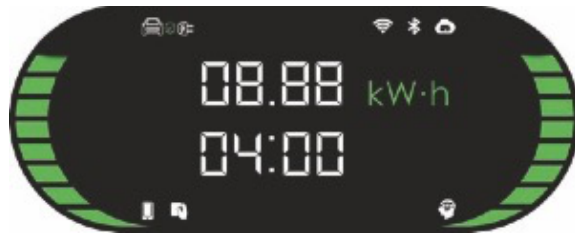
# LED display description

Availability - charger status Available



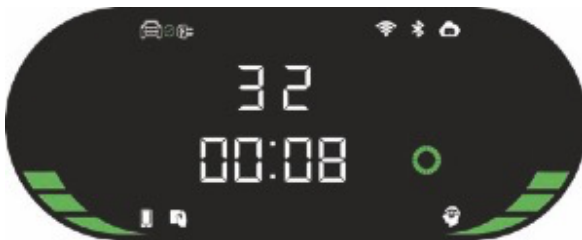
- Not connected to EV
- Display rated current (A)
- One left and right status bar indicates a single-phase charger
- Three left and right status bars indicate a three-phase charger

Charging- charger status Charging



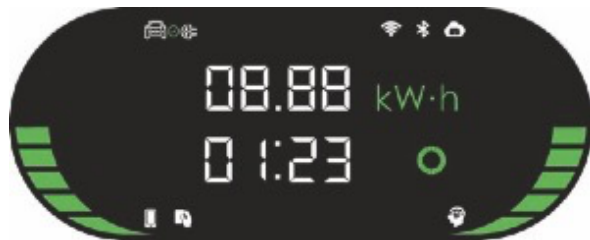
- Display charging power (kW), charging energy (kWh) in turn
- Display charging time (hours:minutes)
- The left and right status bars indicate charging

Preparing- charger status Preparing



- Start charging
- Display rated current (A)
- Display time (hours:minutes)

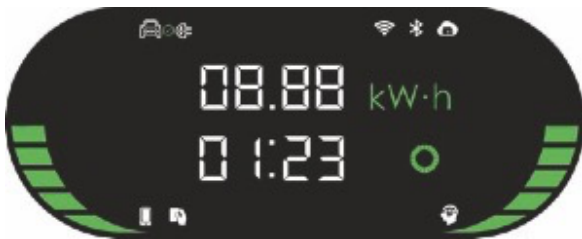
Charger status – Suspended EV



- 
- Charging suspend
- Display charging energy (kWh)
- Display charging time (hours:minutes)
- Display Waiting indicator

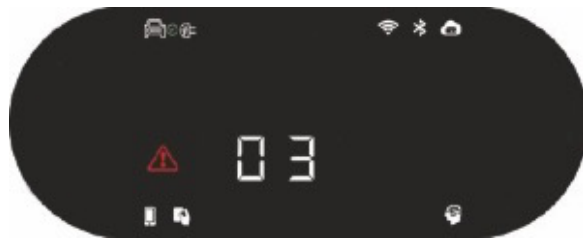
# LED display description

Finished - charger status Finished



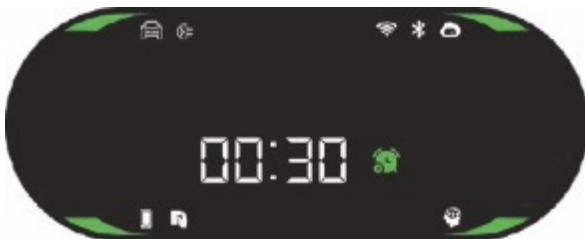
- Charging has ended
- Display charging energy (kWh)
- Display charging time (hours:minutes)

Finished - charger status Finished



- Fault
- Display fault code, for the meaning of the fault
- See Troubleshooting
- 

Reservation - charger status Reserved



- Reserved charging
- Display Reservation time (hours:minutes)

→

# Troubleshooting

fault code	Fault description	Troubleshooting Suggestions
1	Leakage	<ul style="list-style-type: none"> <li>• Check whether the charging connector and its cable are damaged or wet.</li> <li>• Recover after pulling out the adapter.</li> </ul>
2	Over Current	<ul style="list-style-type: none"> <li>• Check whether the charging connector is correctly connected.</li> <li>• Check whether the OBC is normal.</li> </ul>
3	Ground disconnected	Charging station is not grounded; input power cable needs to be checked.
4	Overvoltage or undervoltage	<ul style="list-style-type: none"> <li>• Check whether the input cable connection is reliable.</li> <li>• Check whether the input voltage is abnormal.</li> </ul>
5	Contactor welding or breaking	Check whether the contactor connection is reliable.
6	CP abnormal	<ul style="list-style-type: none"> <li>• Check the charging connector and charging socket of EV.</li> <li>• Disconnect and reconnect the charging connector.</li> </ul>
7	Electronic lock fault	Check that the electronic lock connection is reliable.

8	Over temperature	The ambient temperature is too high. Please keep it at 50 degrees Celsius
9	Emergency Stop	Check that the emergency stop switch is pressed(Optional)
10	Tamper Detected	Check that the charger cover is closed(Optional)
11	Energy meter	<ul style="list-style-type: none"><li>• Check whether the communication cable of the charger meter is properly connected or loose</li><li>• Check that the baud rate of the meter is 9600(Optional)</li></ul>
13	Communication error	Turn off DLB Mode if HUB is not used

# Maintenance

To ensure the long-term stable operation of the equipment, please maintain the equipment regularly (usually every month) according to the operating environment.

- The equipment is maintained by professionals.
- Check whether the equipment is well grounded and safe.
- Check whether there are potential safety hazards around the charging pile, such as whether there are high temperature, corrosion or inflammable and explosive articles close to the charging station.
- Check whether the join point of the input terminal is in good contact and whether there is any abnormality.

Check whether other terminal points are loose.

Please read carefully to understand the correct use of the device before installation, maintenance, and operation!

Please follow the safety notes; otherwise, it may lead to a danger of death, injury and damage to the device, supplier cannot accept any liability for claims resulting from this.

- This manual describes the installation, use and maintenance of AC Charger. This manual is intended for installation and maintenance personnel.
- The text and illustrations in this user manual are general explanations of these type of equipment, and the actual product may be inconsistent with this manual in detail.

# Safety note

- Leave no inflammable or explosive substances near the EV Charger; otherwise, hazardous blast may result.
- Installation and wiring should be done by personnel with professional qualifications, otherwise, a hazardous electric shock may result.
- Make sure input power supply is entirely disconnected before wiring; otherwise, hazardous electric shock may result.
- Earth terminal of the EV Charger must be grounded securely; otherwise, hazardous electric shock may result.
- The lead nose of the charger must be securely attached or there is a risk of damaging the equipment.
- Leave no metals such as bolts, gaskets into the inside of the EV Charger; otherwise, hazardous blast and fire may result.
- Strictly forbidden for minors or persons of restricted capacity to approach the charger to avoid injury.
- Forced charging is strictly forbidden when the electric vehicle or charger fails.
- It is strictly prohibited to use the charger when the charging adapter or charging cables are defective, cracked, worn, broken or the charging cables is exposed. If you find any, please contact the supplier in time.
- EV can only be charged with the engine off and stationary.
- Accessory replacement must be done by qualified personnel, thrums or metals are prohibited to be left in the controller; otherwise, hazardous blast and fire may result.
- It is recommended that routine safety inspection visits to charger be conducted at least once a week.
- Keep the charging connector clean and dry and wipe with a clean, dry cloth if soiled.

## Please sort your waste according to local recycling guidelines



Please do not dispose of this appliance in your standard household waste. This appliance falls under European Directive 2012/19/EU. Have it disposed of by an authorized waste disposal and recycling firm, in accordance with local waste management regulations. If you are unsure of the proper disposal procedure, please consult your local waste management authority.



**Recyclable Goods:** Please separate the packaging and electrical device by material type for proper disposal. Place all paperboard and corrugated fiberboard in your paper recycling bin. Dispose of foils and films at a waste materials collection center, and take electronic components to a specialist electrical retailer or a local recycling center for proper disposal.



This device, as well as the manufacturing plants where it is produced, have been inspected and approved by TÜV Rheinland. The certificate confirms full compliance with the standards upon which the product is based. This charging adapter meets the requirements of EU Directives that restrict the use of certain hazardous substances in electrical and electronic equipment.



# Morek EV AC Plug & Charge Charger Installation and User Manual

For private use. No internet connection and smart features.

- Use it at a private house, apartment building, or work.
- Reduce charging power and use the RFID card activation.
- The installation process is simplified for maximum efficiency. The charger comes with a preset configuration to reduce setup time.

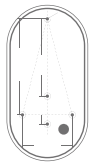


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- LED indicator
- Troubleshooting
- Maintenance
- Safety notes

## Whats included in the box



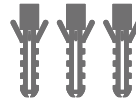
Installation  
template



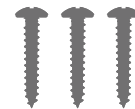
Insulated cord end  
terminals



Waterproof  
gaskets

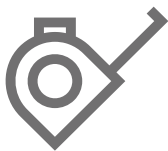


8 x 40 mm  
wall plugs

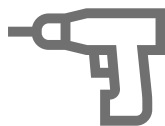


5 x 40 mm s  
crews

## Required tools for installation



Measuring tape



Electric drill



Hammer



Slotted screwdriver



Phillips screwdriver



Wire stripper



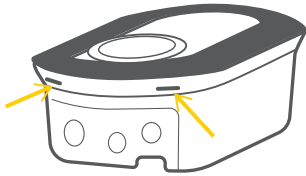
Utility knife



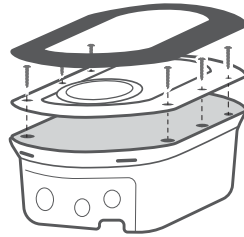
8mm drill bit

# Installation steps

Cut the drilling template from the carton, place the drilling template on the wall, drill holes where the three fixing points, insert the Wall plugs into the fixing holes.

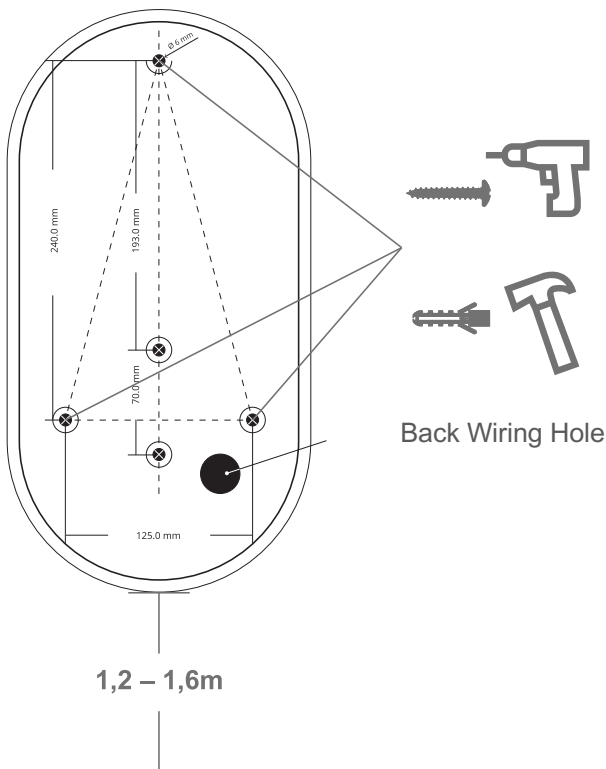


Press the two barbs under the machine and take out the decorative cover.



Loosen the six screws of the cover and take out the cover.

Please drill the holes in the wall according to the hole layout on the cardboard that comes with the box.



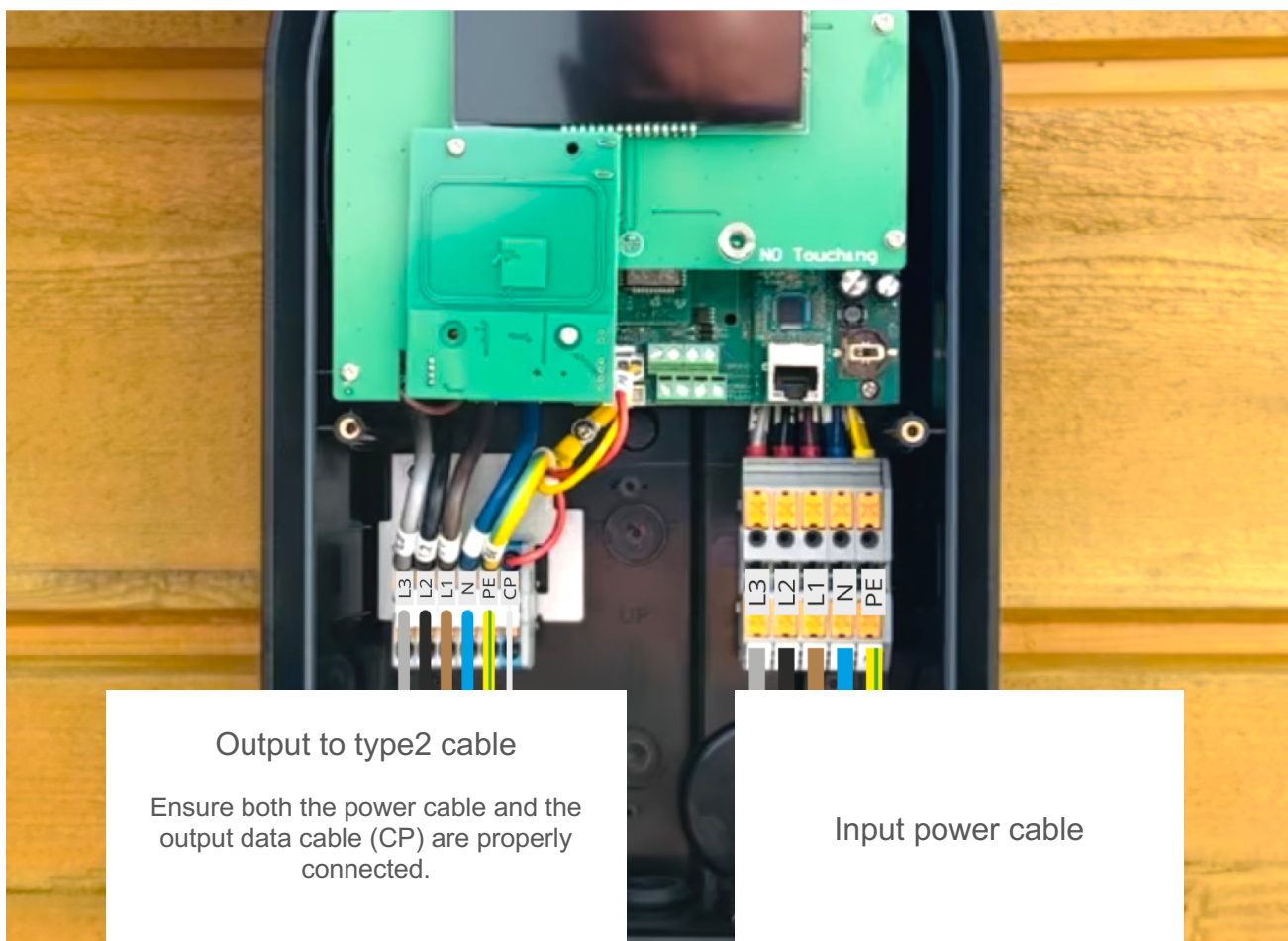
Fix the device on the wall by inserting the screws and waterproof gaskets.

# Electrical wiring, wiring diagram

## Input power cable sizes

AC 1P 7,4kW	copper	3x4mm <sup>2</sup>
AC 3P 11kW	copper	5x2,5mm <sup>2</sup>
AC 3P 22kW	copper	5x6mm <sup>2</sup>

This chart is to be used as a guide only. Please consult your cable suppliers or electrical specialist for specifications for true values.



# Plug&Charge model power downgrade

As the Plug&Charge models have no communication possibilities the downgrade of these models is possible either through a DIP switch or just wiring the 3 phase charger to 1 phase.

## Locate and change the output power



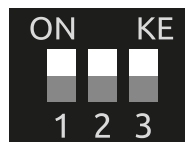
The DIP switch is located under the LED panel, just above the LAN network port, inside the charger.

To get to the switch please remove the front cover from the charger and locate the switch as shown in the picture.

- When DIP1 is OFF, the socket version is activated, when ON, the cable version is active.
- When DIP2 is OFF, the maximum current is 16A, when ON, the maximum current is 32A.
- When DIP3 is OFF, it is plug-and-charge mode, and when ON, it is RFID mode.

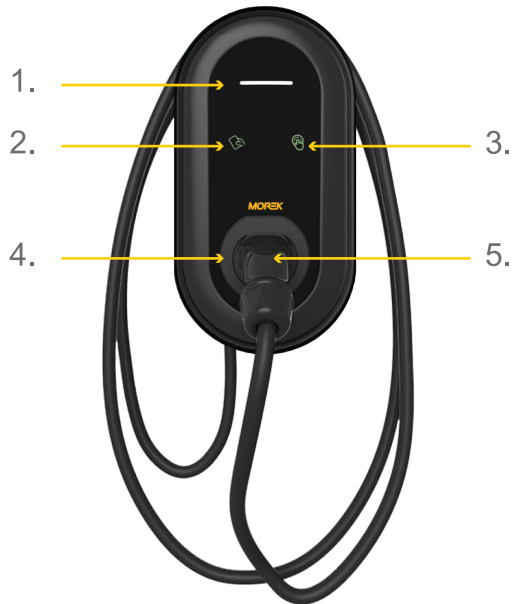


11kW, turn 2 down



With MID meter

# Operation - User Interface



- 6. LED indicator
- 7. RFID reader
- 8. Button
- 9. Connector holder
- 10. Type 2 plug

11.

5.

# EV charging operation modes

## Plug and Charge Mode

- To start charging: Connect EV
- To stop charging: Press the touch button
- Disconnect EV

## RFID only Mode

- To start charging: Connect EV →
- Tap the RFID card in the RFID reader area.
- To stop charging
- Tap the RFID card in the RFID reader area.
- Disconnect EV

# LED indicator description

LED indicator status	Description
Solid Yellow	APP Mode: not connected to EV and not connected to the backend
Solid Green	APP Mode: not connected to EV but connected to the backend RFID or Plug&Charge Mode: not connected to EV
Blue Twinkle	Connected to EV
Green Twinkle slowly	Reservation in progress
Blue streaming	Charging
Blue Twinkle	Charging finished
Solid Red	Unavailable
Red Twinkle fast	Firmware update
RED flashes 1 time	Fault: fault code 1
RED flashes 2 time	Fault: fault code 2



RED flashes 3 time	Fault: fault code 3
RED flashes 4 time	Fault: fault code 4
RED flashes 5 time	Fault: fault code 5
RED flashes 6 time	Fault: fault code 6
RED flashes 7 time	Fault: fault code 7

# Troubleshooting

Fault code	Fault description	Troubleshooting Suggestions
1	Leakage	<ul style="list-style-type: none"><li>• Check whether the charging connector and its cable are damaged or wet.</li><li>• Recover after pulling out the adapter.</li></ul>
2	Over Current	<ul style="list-style-type: none"><li>• Check whether the charging connector is correctly connected.</li><li>• Check whether the OBC is normal.</li></ul>
3	Ground disconnected	Charging station is not grounded; input power cable needs to be checked.
4	Overvoltage or undervoltage	<ul style="list-style-type: none"><li>• Check whether the input cable connection is reliable.</li><li>• Check whether the input voltage is abnormal.</li></ul>
5	Contactors welding or breaking	Check whether the contactor connection is reliable.
6	CP abnormal	<ul style="list-style-type: none"><li>• Check the charging connector and charging socket of EV.</li><li>• Disconnect and reconnect the charging connector.</li></ul>
7	Electronic lock fault	Check that the electronic lock connection is reliable.

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- It is recommended that routine safety inspection visits to charger be conducted at least once a week.
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