MOREK

Creating a better future for You

Morek EV AC Charger Configuration Manual

ev.morek.eu

Start your EV charging journey in the best possible way

Not just for private use – find a suitable model and service for an apartment building, parking lot, commercial building, etc.

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 with Powered by Vonktech charge point & payment platform.

Plug & charge
For private use. No internet connection and smart features. Just plug & charge.

Network charger
3.8 ” LCD display
LAN, WiFi, RFID
5m cable
Type 2 connector

Network charger
3.8 ” LCD display
LAN, WiFi, RFID
Type 2 socket

Plug & Charge
LED indicator
5m cable
Type 2 connector

MOREK
Creating a better future for You

Contents

Morek EV Tool APP installation ——— 3

Connecting to the charger ——— 4

Parameter configuration ——— 5

DLM activation ——— 11

Network connectivity ——— 12

The Morek EV Tool is used to change and set charger parameters. Install Morek EV Tool from Google Play or Apple Store.

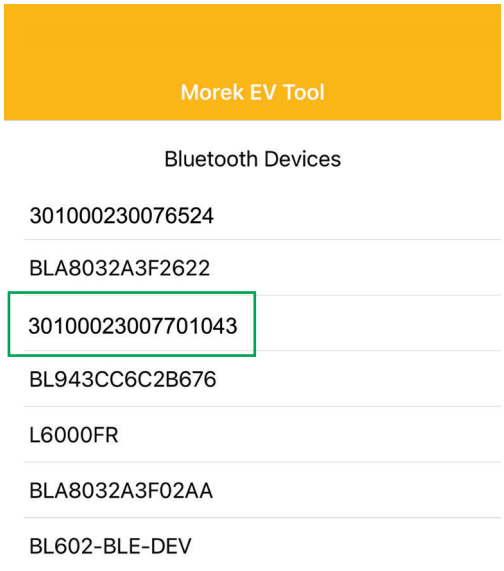
Morek EV Tool APP installation

The Morek EV Tool is used to change the Morek AC charger parameters and configuration. All charger's main characteristics are manageable and the charger owner can change them as needed. That said, be aware that OCPP modifications are made through the OCPP server, not with Morek EV Tool. OCPP server change is still highly recommended to be made through Bluetooth connection to avoid unnecessary complications.

Install Morek EV Tool from Google Play or Apple Store

The Morek EV Tool is available on Android and iOS platforms and can be installed on your smart device through the Google Play application for Android devices and Apple Store for iOS devices.

Install the Morek EV Tool APP on your smart device!



The application connection is established through Bluetooth and therefore you will see all BT devices near you. Please find the charger from the device list by the charger's serial number.

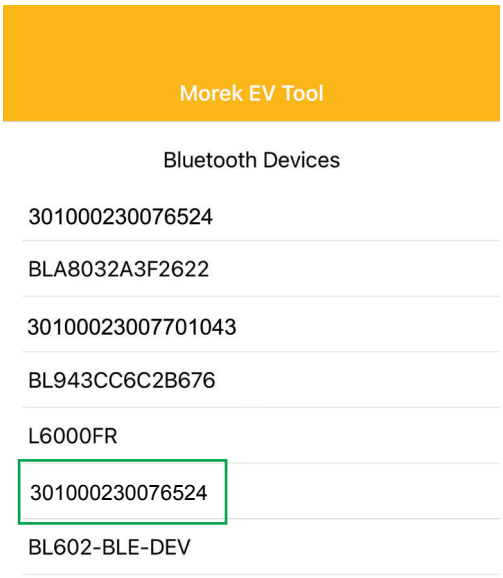
Open Morek EV Tool APP, find the Bluetooth device corresponding to the charger serial number, and click on it.

Push the charger serial number to establish the connection.

Connecting to the charger

Before connecting the APP to your charger be sure that the charger is turned on and is available - no error messages and it's not charging the vehicle.

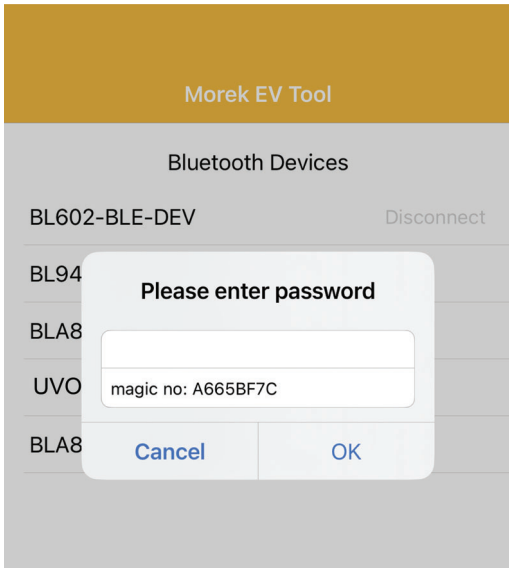
Please also turn on your location on the smart device or allow the Morek EV Tool APP to use your location.



The application connection is established through Bluetooth and therefore you will see all BT devices near you. Please find the charger from the device list by the charger's serial number.

Open Morek EV Tool APP, find the Bluetooth device corresponding to the charger serial number, and click on it.

Push the charger serial number to establish the connection.

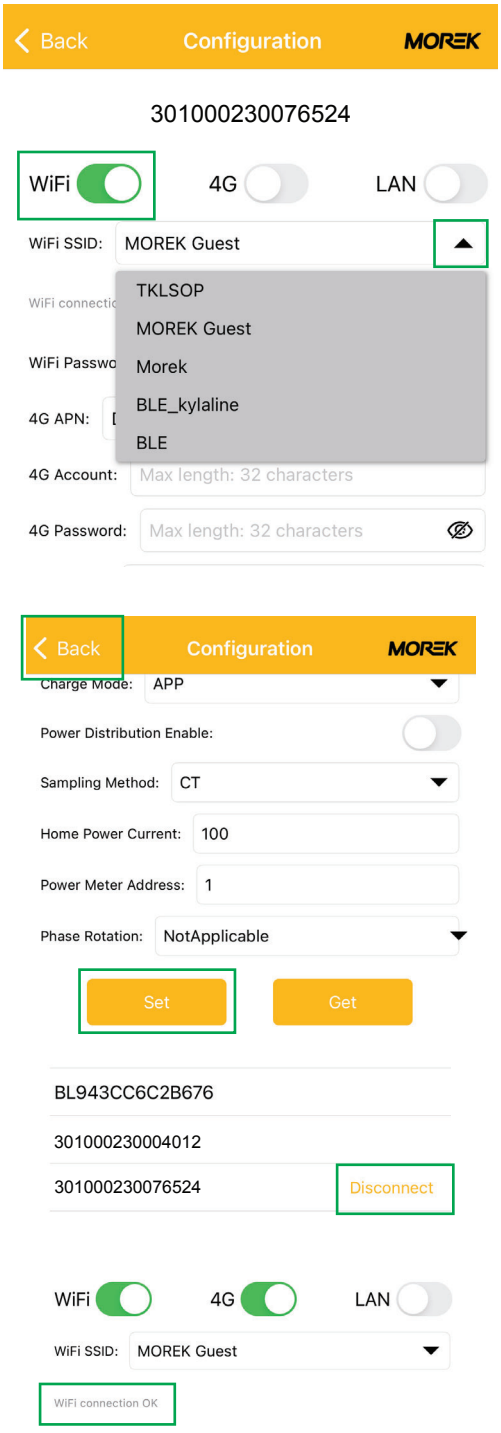


If the Bluetooth connection is successful, enter the password (default password: 12345678) in the password input box and click OK. If you wish to terminate the connection, click Cancel.

Parameter configuration - Connecting to network

Wireless network connection

If your charger needs network connectivity, please choose the correct option by purchasing the correct option. You can choose between WiFi, 4G, and Ethernet LAN, but be sure that the charger model has the correct option also available on the hardware itself.



By default, the network chargers have WiFi and LAN connectivity available. The 4G is optional and should be purchased with the correct model accordingly.

Open the WiFi SSID list by clicking on the arrow at the end of the field. You will see the available networks. Choose your network from the list and enter the network password in the WiFi password field.

Be sure to connect to a 2.4GHz network only. The charger does not support the 5GHz WiFi network.

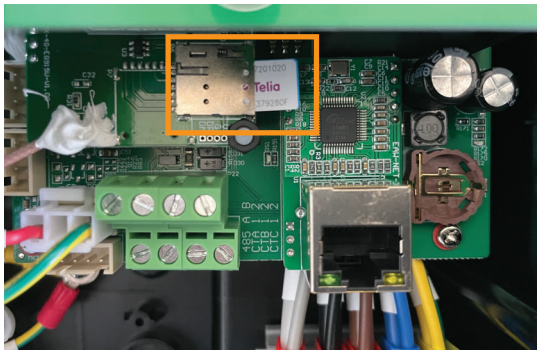
To save the settings please scroll down in the application and click Set.

After confirming that settings are saved, move back to the login screen and disconnect the Bluetooth connection by clicking the Disconnect text. The disconnection will make the charger restart and a long single beep will confirm that the settings were changed and the charger has restarted.

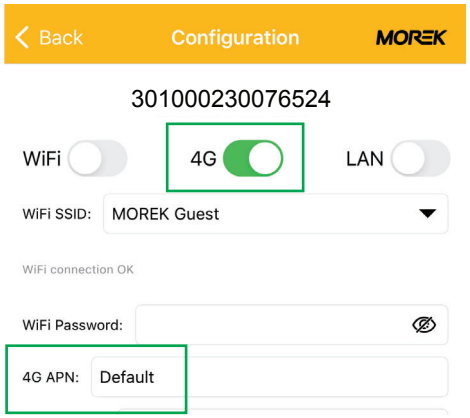
If you wait up to 3 minutes and connect to the charger again, you will see the WiFi connection status. OK means the connection has been established.

Parameter configuration - Connecting to network

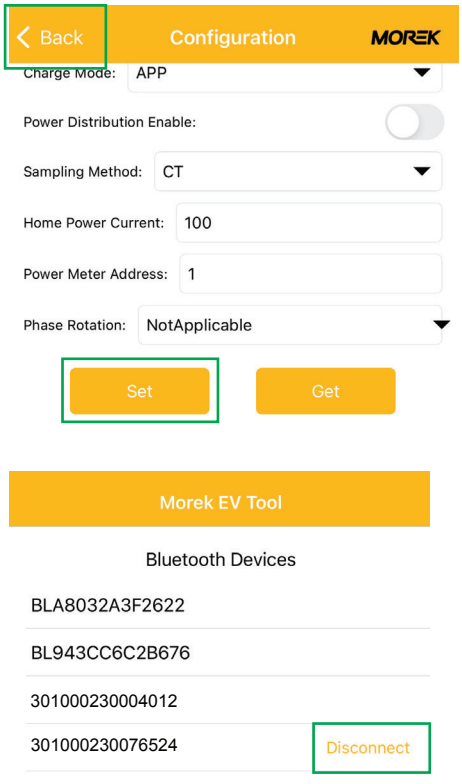
4G network connection



To establish the 4G connection please add a SIM card to the SIM card slot inside the charger. Please remove the front cover to reach the SIM card slot inside the charger. Before installing the SIM card, remove the PIN from the card.
Be sure the charger is unplugged from the power source before installing the SIM card!



Activate the 4G connection and add the 4G APN value. Most of the telco providers' SIM cards work by the Default APN value.

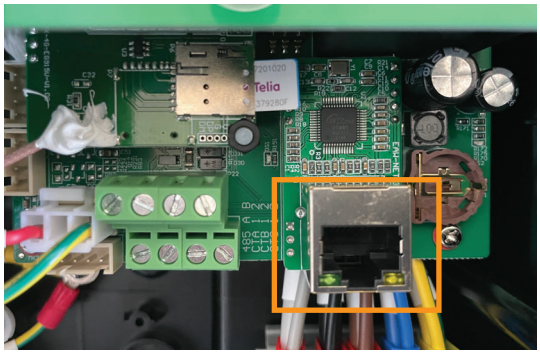


To save the settings please scroll down in the application and click Set.

After confirming that settings are saved, move back to the login screen and disconnect the Bluetooth connection by clicking the Disconnect text. The disconnection will make the charger restart and a long single beep will confirm that the settings were changed and the charger has restarted.

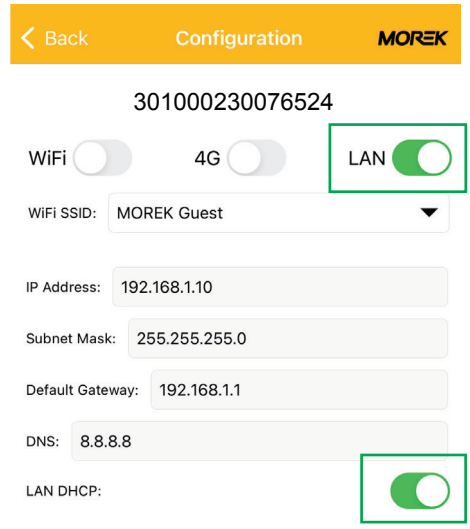
Parameter configuration - Connecting to network

LAN network connection

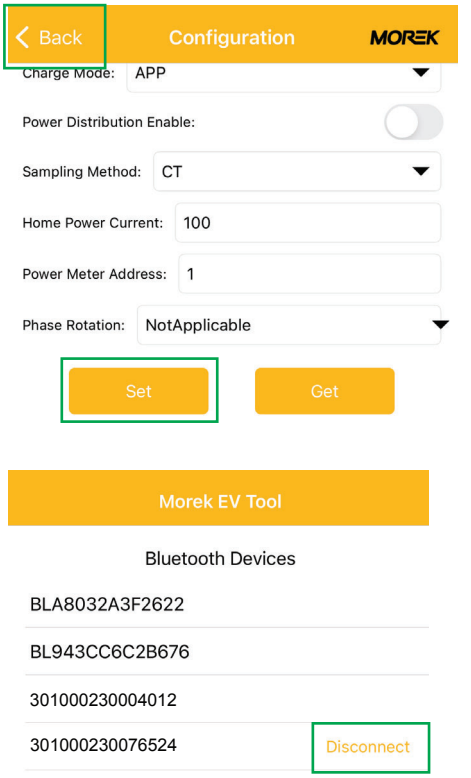


To establish the Ethernet LAN connection please insert one side of a network cable into the charger's RJ45 port and the other end to switch with outside network connectivity.

Be sure the charger is unplugged from the power source before connecting the network cable!



Activate the LAN connection and LAN DHCP. Without DHCP activation you need to enter the correct IP address, subnet mask, and gateway of the charger and network for the LAN connection to connect properly.



To save the settings please scroll down in the application and click Set.

After confirming that settings are saved, move back to the login screen and disconnect the Bluetooth connection by clicking the Disconnect text. The disconnection will make the charger restart and a long single beep will confirm that the settings were changed and the charger has restarted.

Parameter configuration - OCPP connection activation

Vontech OCPP connection

All Morek chargers come by default with the Vonktech OCPP server configuration installed to the charger. But, the connection itself has to be also activated from the backend side. To activate the connection please go to URL vonktech.com/morek and fill in the form on that page and send it. The connection is usually activated on the same workday and may take a little longer if any cooperation contracts need to be signed.

This is the information that will be asked to fill on behalf of Vonktech connectivity.

Client information
Organization or private person name:
Organization or private person address:
Organization code:
Organization VAT:
Country of the customer:

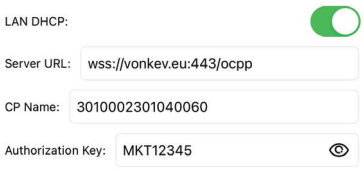
Contact person:
Contact phone:
Contact email:

Charger info
Chargers status (public or private):
Chargers location (address):
Chargers GPS Coordinates (latitude, longitude):
How is the charger connected to the network (LAN, WiFi, or 4G):
Chargers serial number:
RFID card(s) no:

Parameter configuration - changing the default OCPP connection

Third party OCPP connection

All Morek EV chargers come with default OCPP configuration. The owner of the charging station has the possibility to remove the default server data and add the preferred other server. By changing the OCPP server the charger owner will be responsible for the compliance of the third-party OCPP server and its OCPP standard.



To change the OCPP server just delete the default server URL and add the new data accordingly. All configuration fields are mandatory to fill.

OCPP server configuration data:

- *OCPP Server Domain: vonkev.eu*
- *OCPP Server Port: 443*
- *OCPP Server URL: /ocpp*
- *Authorization key: MKT12345*

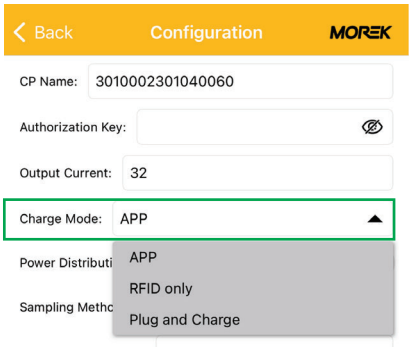
wss://vonkev.eu:443/ocpp
ws://vonkev.eu:8173/ocpp

CP name: *by default charging sation serial number, written on sticker on the side of the the wallbox charging station.*
Authorization Key: *OCPP server autorization key is mandatory on behalf of the charging station.*

Parameter configuration - charge mode

Charge Mode: APP

If you select APP mode you can by default use the Vonktech web application to manage and oversee your charger and charging sessions. In APP mode the basic functions of the Vonktech platform are available for free and for usage you need to activate the connection. Please see page 7 of this manual.



To activate APP mode just select the APP from the charge mode list and save the setting by clicking the Set button and disconnecting the Bluetooth connection to a charger.

RFID cards that came with the charger will work on the charger also in APP mode.

For other RFID cards to work, you need the functionality of a backend system and by default add the wish to the Vonktech connection submission form. It activates the OCPP backend server. The charger needs a network connectivity when working in an APP mode!

Charge Mode: RFID only

If you select RFID only mode you can by default use only the RFID cards that came with the charger. Those RFID cards are all with the same "idtag" and with them, you cannot separate different authorizations of different users. To get the user charging session data, you have to use the OCPP backend connection and the charger must be in APP mode. The charger does not need any network connectivity in RFID only mode.

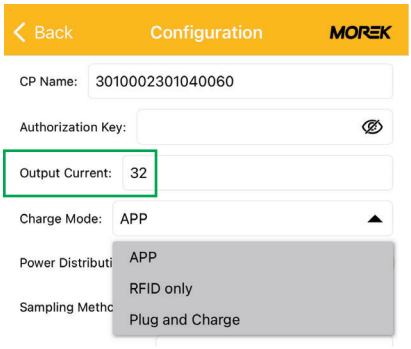
Charge Mode: Plug and Charge

The Plug and Charge mode will allow using the charger without any authorization and the charging session will start by connecting the charging cable to the electric vehicle. If the charger is in Plug and Charge mode and connected to the OCPP backend system, the data is still possible to see and manage from the backend system. However, the stop functionality will only work in manual disconnection or by pushing the button on the charger. The charger does not need any network connectivity on Plug and Charge mode.

Parameter configuration

Limit the output current

All Morek AC chargers are down-gradable which means that the owner of the charging station can change the output current of the charger. To change the current, just write the needed amperage to the Morek EV Tool APP Output Current field after you have connected the APP to the charger.

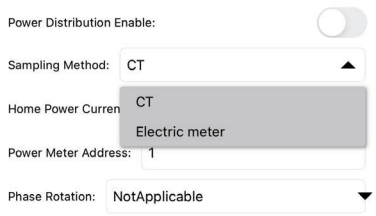


Regardless of whether the charger works with a 1 or 3-phase current, the maximum possible power of the charger is 32 A and the minimum is 6 A.

Most electric cars cannot charge the battery pack with a power of less than 2.3 kW.

The charger needs network connectivity when working in an APP mode!

Configuration of Dynamic Load Management



If an external CT is installed to sample current from the home grid, the DLM function can be used to control the output current. To activate the DLM function, turn on: Power Distribution Enable. The Sampling Method item value needs to be CT and Home Power Current is set to a value smaller than the maximum distribution of the current in your home.

After the parameters (at least one change) are modified, click SET, return to the previous page, and click Disconnect. The disconnection will restart the charger and the modified information is saved to the charger.

For installing the DLM meter or transformers, please see the DLM installation manual.

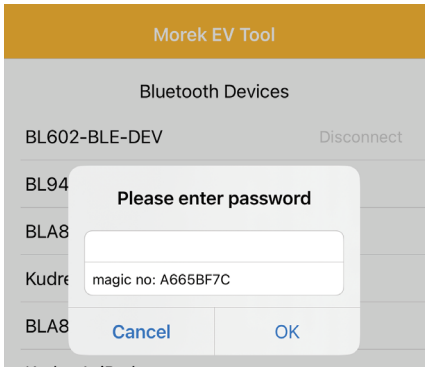
LED indicator

Light 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 back end 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 & description		Troubleshooting suggestion
1	Leakage	- Check whether the charging connector and its cable are damaged or wet. - Recover after pulling out the adapter.
2	Over Current	- Check whether the charging connector is correctly connected. - Check whether the OBC is normal.
3	Ground disconnected	- Charging station is not grounded; input power cable needs to be checked.
4	Overvoltage or undervoltage	- Check whether the input cable connection is reliable. - Check whether the input voltage is abnormal.
5	Contactor welding orbreaking	- Check whether the contactor connection is reliable.
6	CP abnormal	- Check the charging connector and charging socket of EV. Disconnect and reconnect the charging connector.
7	Electronic lock fault	- Check that the electronic lock connection is reliable.

Reset the charger BT connection password



If you have forgotten the password of your charger configuration, open the connection to the charger in Morek EV Tool APP. Copy the magic number and send your charger serial number, magic nuber from the APP login and the charger owner data to email: ev@morek.eu.

Maintenance

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

a. *The equipment is maintained by professionals.*

b. *Check whether the equipment is well grounded and safe.*

c. *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.*

d. *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 notes

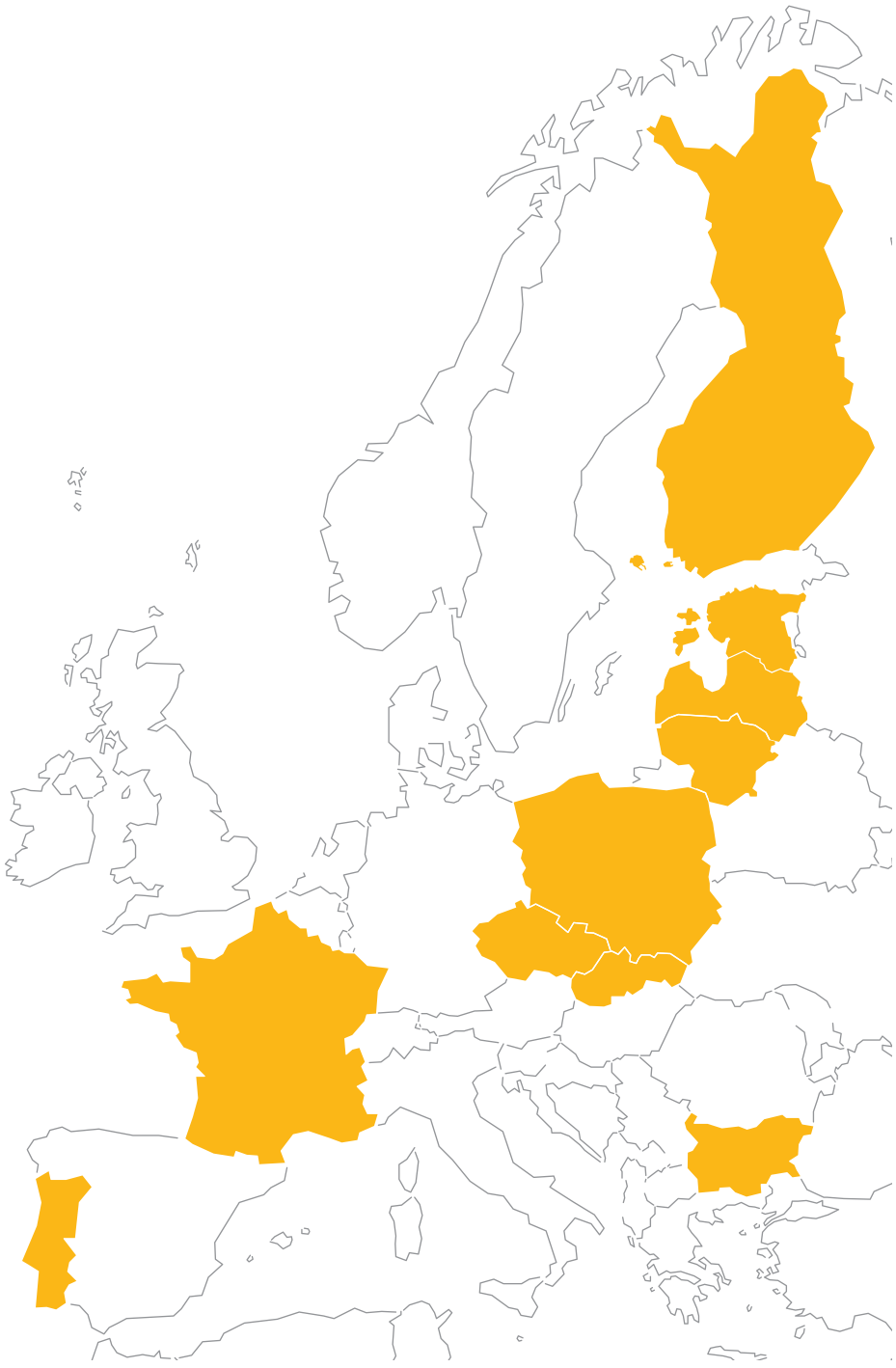
- *Leave no inflammable or explosive substances near the EV Charger; otherwise, a hazardous blast may result.*
- *Installation and wiring should be done by personnel with professional qualifications, otherwise, a hazardous electric shock may result.*
- *Make sure the input power supply is entirely disconnected before wiring; otherwise, a hazardous electric shock may result.*
- *The earth terminal of the EV Charger must be grounded securely; otherwise, a 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, or gaskets into the inside of the EV Charger; otherwise, hazardous blasts 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, or broken or the charging cables are exposed. If you find any, please contact the supplier in time.*
- *EVs 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 blasts and fire may result.*
- *It is recommended that routine safety inspection visits to chargers be conducted at least once a week.*
- *Keep the charging connector clean and dry and wipe with a clean, dry cloth if soiled.*

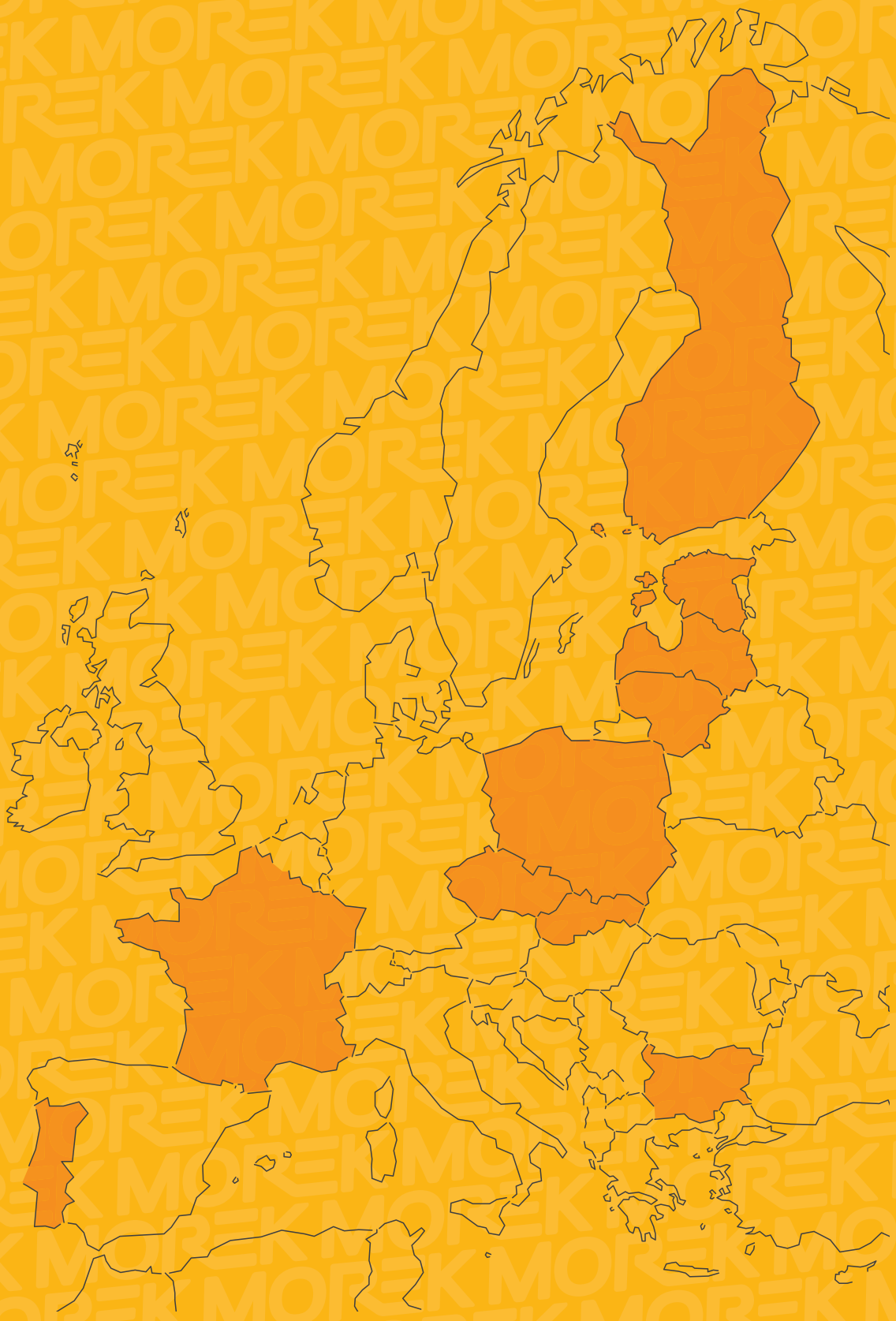
Manage chargings the easy, effective, and versatile way

Manage electric car charging locally or in various locations across Europe from one system.

Morek AC chargers can be installed either on a wall or pole which enables infrastructure planning for indoor or outdoor parking spaces more flexible.

- Morek **Finland**
- Morek **Estonia**
- Morek **Latvia**
- Morek **Lithuania**
- Morek **Poland**
- Morek **Czech Republic**
- Morek **Slovakia**
- Morek **France**
- Morek **Bulgaria**
- Morek **Portugal**



Questions? *Make us work harder!*

More information about Morek EV chargers and discussions about EV user cases can be found from *ev.morek.eu*