



Cabur EASY EV Smart Chargers

Installation and operating manual



Contents

| | | |
|-------|---|----|
| 1 | Revision history..... | 3 |
| 2 | Introduction | 4 |
| 2.1 | General information..... | 4 |
| 2.1.1 | About this manual..... | 4 |
| 2.1.2 | About safety..... | 4 |
| 2.1.3 | About maintenance..... | 5 |
| 3 | Warranty and liability..... | 6 |
| 4 | Limits of use | 6 |
| 5 | Technical data | 8 |
| 6 | Installation | 9 |
| 6.1 | Installation conditions / Environmental requirements..... | 9 |
| 6.2 | Installation accessories..... | 10 |
| 6.3 | Installation of the protection against short circuit | 10 |
| 6.4 | Installation of the protection against residual current | 10 |
| 6.5 | Overvoltage protection | 11 |
| 6.6 | Installation cables..... | 11 |
| 6.7 | Supported power supply systems | 11 |
| 6.8 | Installation steps | 12 |
| 6.9 | Installation on stand..... | 14 |
| 7 | Operation | 18 |
| 7.1 | Operating elements..... | 18 |
| 8.1.1 | Display Areas..... | 18 |
| 8 | System connectivity | 19 |
| 8.1 | WiFi interface | 19 |
| 9.1.1 | WiFi AP mode..... | 19 |
| 9.1.2 | Configurations through WiFi AP mode | 21 |
| 9 | Charging process..... | 28 |
| 10 | System upgrade..... | 29 |
| 11 | Language configuration | 32 |

Markings



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1 Revision history

| Version | Release date | Authors | Notes |
|---------|--------------|------------------------|--|
| 0.1 | 07/07/2021 | Cabur Technical Office | Fistr draft derived from the EV PLUS manual |
| 1.0 | 13/07/2021 | Cabur Technical Office | New name: Cabur_EV_EASY_Installation_Instruction_Manual |
| 1.1 | 19/07/2021 | Cabur Technical Office | Updated cover Chapters 2,3,4 revised |
| 1.2 | 20/11/2021 | Cabur Technical Office | SSID connection details updated |
| 1.3 | 28/01/2022 | Cabur Technical Office | The procedure to stop the charging process by the web APP has been removed |

2 Introduction

This manual introduces the Cabur EV EASY Charging Line products for EV battery charging and provides all the necessary information about their installation process and their usage.



Important: Please read carefully this manual before installing and using the charger.



Important: All the installation operations must be performed by qualified personnel.

2.1 General information

2.1.1 About this manual

- The present manual must be available to all the persons who take care of the charger installation and usage
- The installation and commissioning of the charger must be performed by authorized and qualified personnel only in compliance to all the safety related regulations and laws
- The charger producer is not responsible for any damage due to an incorrect or missing application of the rules contained in the present manual
- Due to the continuous improvement process, the charger producer has the right to apply changes to the product whenever needed
- The reproduction of this manual is not allowed without the written authorization by Cabur s.r.l.

2.1.2 About safety

The product conforms with the state of the art and the applicable safety and health regulations.

Nevertheless, the following risks can be caused by incorrect operations or misuse:

- Hazards to life and limb of the user or third parties
- Perils to the product and other material assets of the operator
- Risks for the efficient use of the product

It is mandatory to apply the following rules:

- The input voltage must be disconnected before any maintenance operation on the charger.
- Please be sure the input voltage is not present by means of dedicated measures with appropriate tools
- Before switching on the charger, the earth cable connection must be checked
- The input cable, the plugs and all the necessary accessories for the installation must be carefully selected in compliancy with the current regulations and laws (see paragraph 6.5)
- An MGT protection device must be installed to protect the charger input (see paragraph 6.3)
- No cable adapter or patch or cord set extension is allowed for the charger cord set

- The EV must be blocked before connecting for charging
- It is prohibited to remove, modify, bridge or bypass any protective, safety or monitoring equipment and, in general, it is prohibited to apply modifications to the charger
- It is prohibited to reconfigure or modify the product
- The product may only be operated in perfect conditions

2.1.3 About maintenance

- Do not open the charger
- Do not touch the electronic parts/boards
- Do not install or use the charger if it is damaged
- The charger must be repaired by authorized personnel only
- Use a soft cloth with neutral detergent liquid, suitable for plastic surfaces, to clean the charger

3 Warranty and liability

The warranty period of the charging station is specified by the official Cabur's selling conditions.

This operating manual serves to ensure fault-free and safe use of the product; compliance with its content is a prerequisite for the fulfilment of any warranty claims.

Excluded from the warranty are such defects that result from any arrangement and assembly not effected by the producer, insufficient equipment, failure to observe the installation requirements and conditions of use, excessive load on the components beyond the capacities specified by the seller, negligent or incorrect handling and use of unsuitable operating materials.

This also applies to defects that are attributable to material provided by the user.

In particular, claims for damages expire in the event of:

- Inappropriate use
- Modifications or additions
- Repairs carried out improperly
- Disasters, foreign body impact and force majeure

The producer is also not liable for damage caused by the actions of third parties, atmospheric discharges, overvoltage and events related to chemical influences.

The warranty does not apply to the replacement of parts that are subject to natural wear and tear.

4 Limits of use

This charger is an electrical equipment designed for charging battery electric vehicles (BEV).

The plug and the socket compliant to EN 62196 (alternating current charging, MODE 3) are used for charging BEVs.

The charger is suitable for indoor and outdoor usage. The product is built according to the state of the art and the generally accepted safety regulations. Nevertheless, during its use hazards to life and limb of the operator or third parties may occur or the product and other material assets may be negatively affected. Intended use includes observing the operating manual and compliance with the maintenance requirements.

Only use the product if it is in technically perfect condition. Use the product as intended and in a safe way.

In case of malfunctions or damages that could impact safety please contact a qualified technician and inform the producer.



The charging station must be mounted on a wall or on its own stand and installed in a stable way. It is not allowed to operate the charging station in a loose state (not steadily mounted) because this would not comply with the ratings.



Unmounting, tampering with or deactivating the safety devices is forbidden.



No technical changes may be made to the product without consulting the manufacturer. Furthermore, liability and warranty claims are excluded in case of non-compliance with the intended use.



The product may only be operated under the operating conditions specified in the documentation.



This documentation is mandatorily to be read by qualified personnel for installation and initial operation, as well as by the user for the Installation and Instruction Manual of the product.





For what concerns users, unattended operation of the product is only allowed if they

- have read and understood this Installation and Instruction Manual
- have read and understood all the safety instructions



For what concerns the qualified personnel (electrical engineering/technician specialist), only qualified personnel are allowed to perform installation, initial operation, inspection and configuration work. The qualified personnel must have read and understood this manual.

5 Technical data

| Product Information | | |
|---------------------------|---|---|
| |  |  |
| Model | EVEASY22C | EVEASY22S |
| Power | 3.5-22kW | 3.5-22kW |
| Charging Mode | MODE 3 CASE C (with cable) | MODE 3 CASE B (with socket) |
| Connector standard | Type 2 | -- |
| Socket | -- | Type 2 |
| Dimensions (W x H x D) | 355x650x150 mm | 355x650x150 mm |
| Weight | 12.48kg | 9.48kg |
| Enclosure Material | PC+ASA (UL94-V0) | PC+ASA (UL94-V0) |
| Cooling system | Integrated fan | Integrated fan |
| Mounting | Wall / Stand | Wall / Stand |
| Electrical Data | | |
| Mains Voltage | 400V±15% (three phase) 230 V±15% (single phase) | 400V±15% (three phase) 230 V±15% (single phase) |
| Mains Frequency | 50/60Hz self-adjustable | 50/60Hz self-adjustable |
| Network Configuration | TN/TT/IT(3P+N+PE or 3P+PE) (3-phase) TN/TT/IT(1P+N+PE or 2P+PE) (1-phase) | TN/TT/IT(3P+N+PE or 3P+PE) (3-phase) TN/TT/IT(1P+N+PE or 2P+PE)(1-phase) |
| Efficiency | > 99% | > 99% |
| Earth Leakage Protection | DC Leak (6ma) | DC Leak (6ma) |

| | | |
|-----------------------------|--|--|
| Start Charging | Automatic Plug & Charge | Automatic Plug & Charge |
| Indicators | LED Light belt (red, blue, green) | LED Light belt (red, blue, green) |
| Connectivity | Wifi (AP) Hotspot | Wifi (AP) Hotspot |
| Background Functions | WIFI system upgrade | WIFI system upgrade |
| Reports | Charge reports Fault reports | Charge reports Fault reports |
| Protection Function | Overcurrent protection Overvoltage protection Undervoltage protection Relay over temperature protection; Socket or plug over temperature protection; CP fault protection; Relay adhesion protection; | Overcurrent protection Overvoltage protection Undervoltage protection Relay over temperature protection; Socket or plug over temperature protection; CP fault protection; Relay adhesion protection; |
| IP Degree | IP54 | IP54 |
| Ambient Temperature | -25°C to +50°C | -25°C to +50°C |
| Operating Humidity | ≤95%RH | ≤95%RH |
| Certificates | | |
| Standards | IEC 61851-1: 2017 (RED WiFi 2.4GHz----RF: EN 300 328 RF-EMC: EN 301 489-1&-17 Health (MPE): EN 62311) (RED RFID 13.56MHz----RF: EN 300 330 RF-EMC: EN 301 489-1&-3 Health (MPE): EN 62311) | |
| Certificates | CB from DEKRA/CE from DEKRA | |



The integrated protections are not automatically or remotely reclosed as prescribed by the IEC 61851-1.

6 Installation

The following paragraphs describe the charger installation process.



The installation must be performed by qualified personnel only.

6.1 Installation conditions / Environmental requirements

The charger can be used outdoors. Pay attention to the operating environment to meet the equipment operation, otherwise it will affect the service life of the equipment. The following

conditions are mandatory for a correct installation of the device (see also paragraph 4 “Technical data”):

- Operation temperature must be within the range -25 °C up to 50 °C
- Operation humidity must be $\leq 95\%$
- Avoid installation places affected by strong vibrations and mechanical shocks
- Keep away the charger from explosives or dangerous materials, conductive media and harmful gases, all of them can damage the electrical insulation
- The use environment should be kept clean, no mold is allowed, and it should be kept away from moisture, dust, flammable gas, flammable liquid, etc., away from heat sources and corrosive environments
- The altitude of the installation site must be ≤ 2000 m.

6.2 Installation accessories

The following accessories are needed for the charger installation process:

- This manual
- The certificate of conformity
- The expansion screws (4 pieces, provided with the charger), to fix the charger to the wall
- The mounting template (provided with the charger), to identify the correct position of the mounting holes on the wall
- The anti-theft stainless screw (provided with the charger)

6.3 Installation of the protection against short circuit

The charger itself has an overcurrent protection integrated function. Nevertheless, a short-circuit protection device shall be installed at the upper level, for example in the control panel, for short-circuit protection purpose.

If the short-circuit protection device is not installed the charger cannot be used.

The rated current of the supply circuit short-circuit protection device must be in line with the current used by the charger.

If the charger is used at full load, the rated current should be 40A, otherwise the charger will not work properly.



It is mandatory to install a circuit breaker with C or B curve, 40A, before the charger input. If there are uncertainties about how to choose the appropriate short-circuit protection device, please contact the manufacturer.

6.4 Installation of the protection against residual current

In compliancy with the IEC 61851-1 standard, the charger contains an appropriate circuit that ensures the disconnection of the supply in case of DC fault current above 6mA (DC Leak protection circuit).

No external installation of any type B RCD is prescribed.



An external type A RCD, with supply disconnection in case of DC fault current above 30mA shall be installed in the upstream side.



The protection device selection and installation must be performed by qualified personnel only.

6.5 Overvoltage protection

The charger is compliant to the Overvoltage Category III

6.6 Installation cables

The cable for connecting the mains supply to the charger must have a section in the following range 6-10 mm².



The cable selection must be done by the qualified personnel involved in the installation process, taking into account the national regulations for the safety and the state of the art of the electrical installations.

6.7 Supported power supply systems

Both single-phase and three-phase chargers support the following power supply systems.

- TN-S
- TN-C
- TN-C-S
- TT
- IT (only single-phase products are supported)

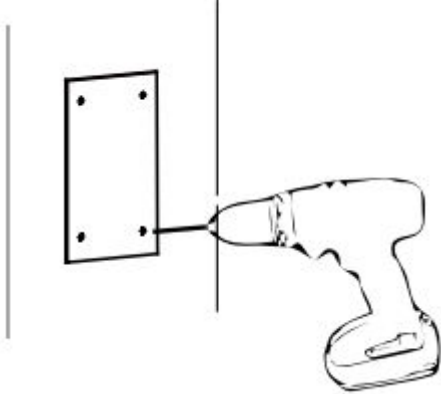
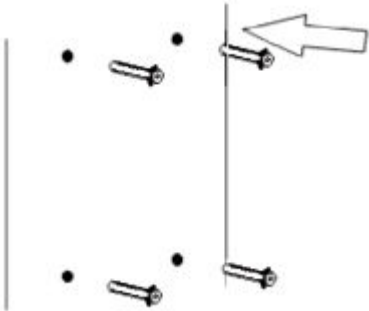
For single-phase charger, in a power supply system with a neutral line, the voltage between the phase line and the neutral line cannot be higher than the rated voltage requirement (240VAC).

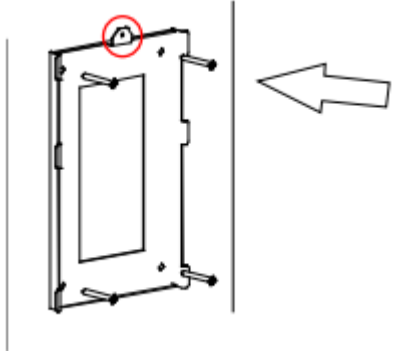
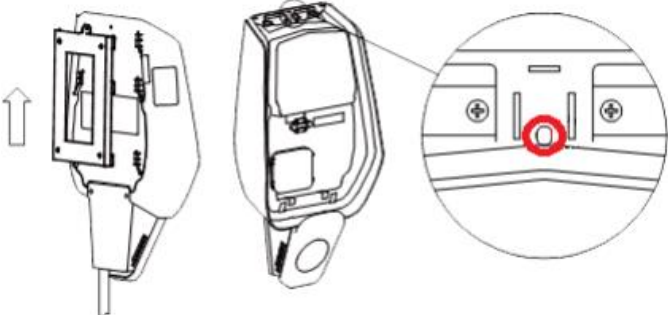
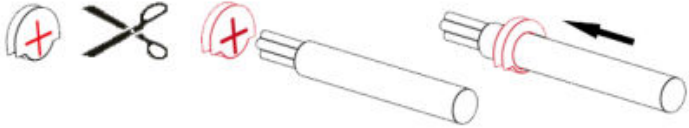
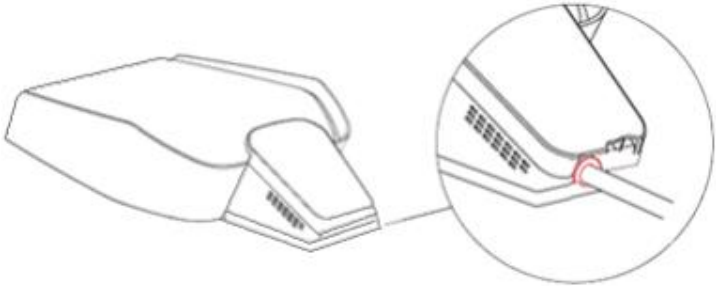
In a power supply system without a neutral line, the voltage between the phase line and the phase line cannot be higher than the constant voltage requirement (240VAC).

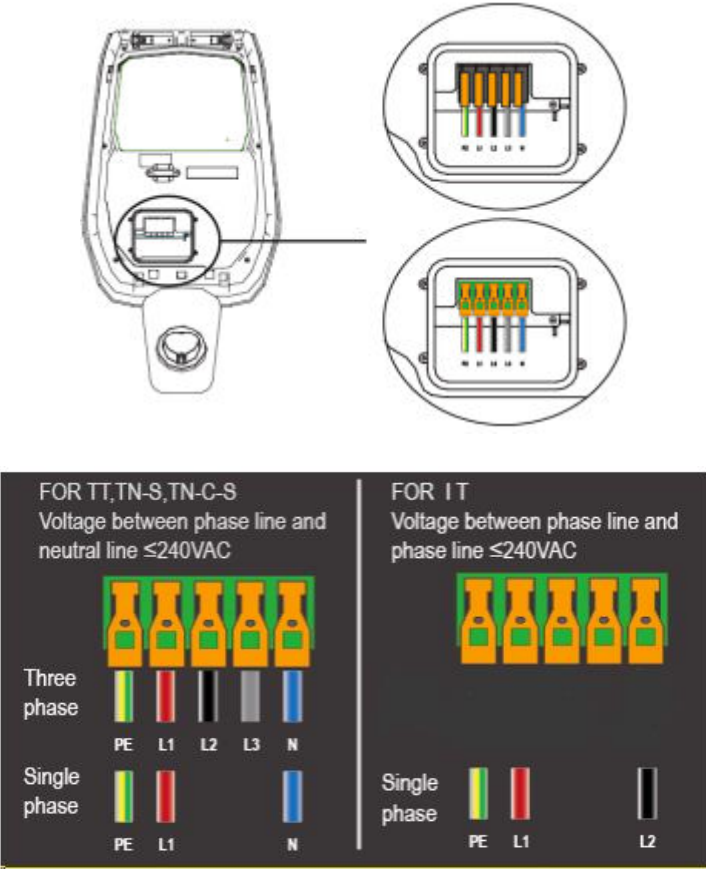
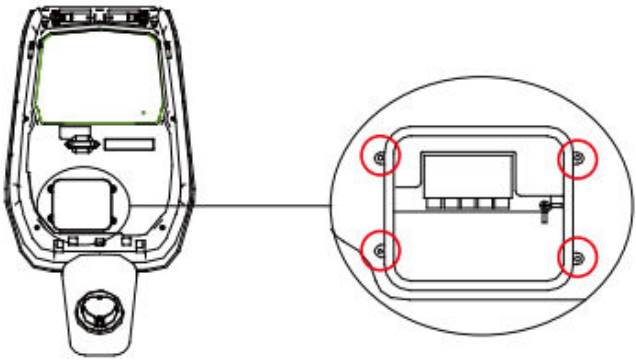
For three-phase charger, in a power supply system with a neutral line, the voltage between the phase line and the neutral line cannot be higher than the rated voltage requirement (240VAC).

6.8 Installation steps

In the following all the steps to perform for a correct installation of the wallbox:

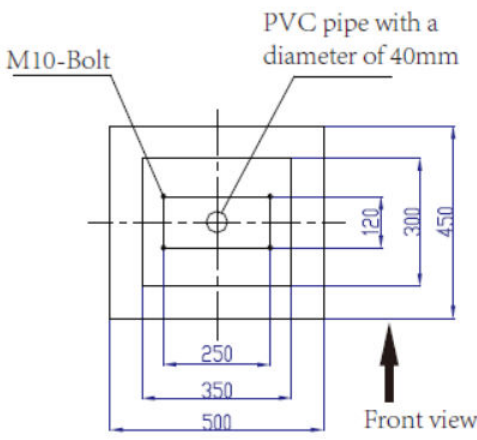
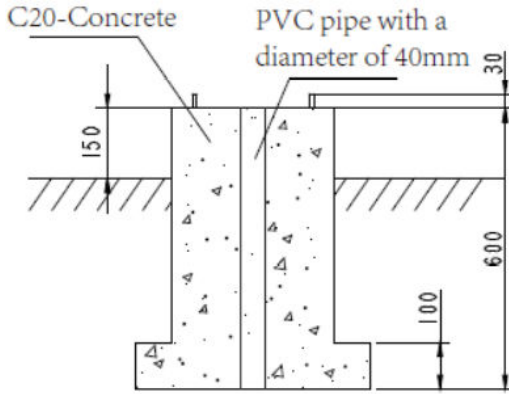
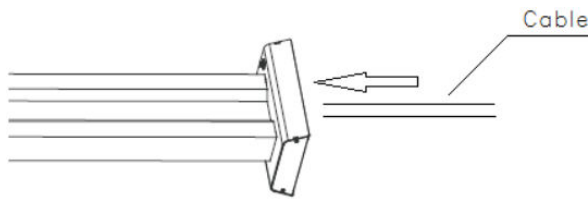
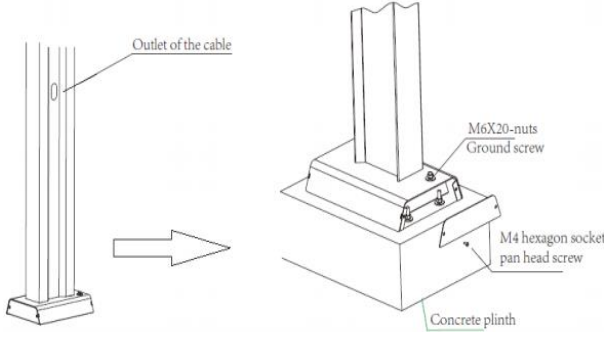
| Step No. | Description | Picture |
|----------|---|--|
| 1 | <p>Open the package which contains the charger and its accessories.</p> <p>Package content:</p> <ul style="list-style-type: none"> ▪ the charger ▪ four expansion screws ▪ a mounting template ▪ a mounting metal bracket (already attached to the charger rear side) ▪ one rubber gland for the input cable | |
| 2 | <p>Lean the mounting template against the wall. The height from the centre of the template to the ground should be determined according to your ideal height (1500mm is recommended).</p> <p>Check the template is fully horizontally aligned.</p> <p>Mark the expansion screw holes positions on the wall.</p> <p>Create the screw holes with a tool.</p> |  |
| 3 | <p>Insert the four expansion bolts into the four holes and just push them manually or, in case of resistance, by means of an hammer</p> |  |

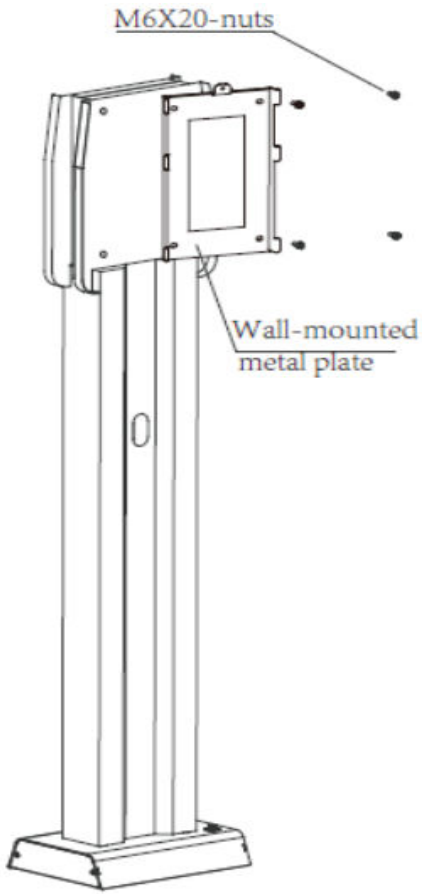
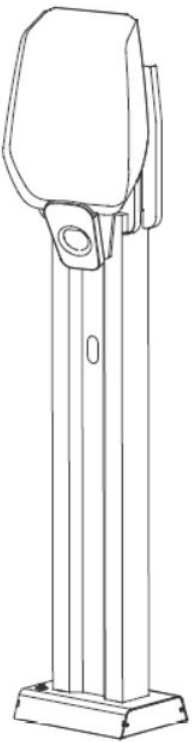
| Step No. | Description | Picture |
|----------|--|--|
| 4 | <p>Open the black front cover of the charger (this can be done simply moving at the same time the two black cursors which lock the cover in the back side of the charger)</p> <p>Remove the anti-theft screw located on the top of the mounted bracket (marked with the red circle in the picture)</p> <p>Fix the wall mount bracket on the wall with the expansion screws</p> |  |
| 5 | <p>Hang the charger on the wall mounted bracket. This is done just sliding, from top to bottom, the charger into the bracket binaries</p> <p>Then screw up the anti-theft screw</p> |  |
| 6 | <p>Use scissors to cut the cross line of the rubber stopper and pass the cable through the rubber stopper</p> |  |
| 7 | <p>Place the cable through the hole in the bottom of the charger into the wiring position inside the charger and then put the rubber stopper in the hole position at the bottom</p> |  |


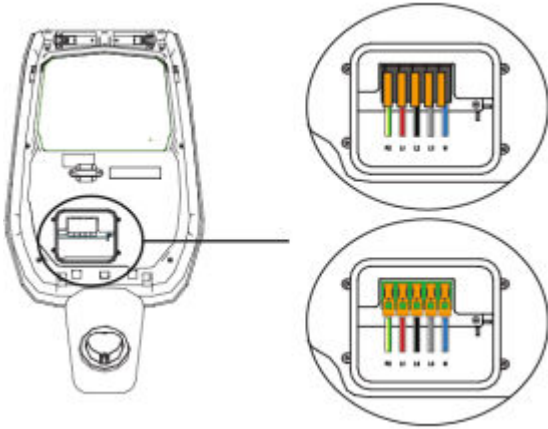






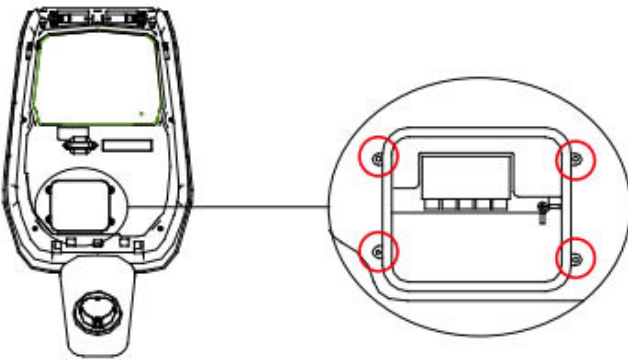

| Step No. | Description | Picture |
|----------|--|--|
| 8 | <p>⚠️ ⚡ Make sure the input cable is not powered.</p> <p>Open the wire cover (circled in the picture), insert the power supply cables into the bottom hole, and connect the cables according to the signs as specified on the wire cover scheme.</p> <p>It should be noted that there is no device for fixing the input cable, so you must leave enough space for the cable to avoid the cable from being pulled by external forces, or you can add a cable fixing device which stabilize the input cable.</p> |  <p>FOR TT, TN-S, TN-C-S Voltage between phase line and neutral line $\leq 240\text{VAC}$</p> <p>Three phase: PE (green/yellow), L1 (red), L2 (black), L3 (grey), N (blue)</p> <p>Single phase: PE (green/yellow), L1 (red), N (blue)</p> <p>FOR IT Voltage between phase line and phase line $\leq 240\text{VAC}$</p> <p>Single phase: PE (green/yellow), L1 (red), L2 (black)</p> |
| 9 | Close the wire cover and screw up the wire cover with 4 screws |  |
| 10 | Close the front cover and the installation is finished | |

6.9 Installation on stand

If the user decides not to install on the wall but on the dedicated stand, provided as accessory, the following steps shall be performed. Please note that, in this case, the screws and fixing accessories must be provided by the installer depending on the different conditions of the installation site.

| Step No. | Description | Picture |
|----------|---|--|
| 1 | <p>Select a stable and solid concrete platform to fix the stand. In case such a platform is not available, pour a dedicated platform.</p> <p>The platform must be equipped with M10 bolts and a 40 mm diameter PVC conduit embedded below the base.</p> <p>The top part of the platform must be flat to have a safe and stable installation, avoiding dangerous breaks of the stand.</p> <p>In case of newly poured concrete platform, wait until it is solidified before proceeding.</p> |  <p>The diagram shows a front view of a rectangular concrete platform. It features a central hole for an M10-bolt and a PVC pipe with a diameter of 40mm. The dimensions are: total width 500mm, total height 450mm, hole diameter 120mm, hole offset from center 300mm, hole offset from bottom 250mm, hole offset from left edge 350mm, and hole offset from right edge 120mm. An arrow points to the diagram with the label 'Front view'.</p> |
| 2 | <p>The depth of the M10 bolts buried in the poured platform shall be not less than 150mm, while the exposed length is recommended to be in the range from 15 to 30mm.</p> <p>The power cables, arriving through the PVC conduit shall be pulled out not less than 1.3m from the ground, to allow an easy installation of the cable.</p> |  <p>The diagram shows a cross-section of the concrete platform. It is labeled 'C20-Concrete'. A PVC pipe with a diameter of 40mm is embedded in the concrete. The bolt is buried 150mm into the concrete. The exposed length of the bolt is 30mm. The platform is 600mm high and 100mm wide. The ground used for parking is shown below the platform.</p> |
| 3 | <p>Incline the stand in order to insert the cable through the bottom side. Make the cable pass through, until it reaches the outlet in the middle of the stand. Pull the cable out of this outlet</p> |  <p>The diagram shows a side view of the stand with a cable being inserted through the bottom side. An arrow points to the cable with the label 'Cable'.</p> |
| 4 | <p>Put the stand in the vertical position and use the M10 nuts together with flat washers to secure the stand base to the concrete platform.</p> <p>An M6x20 bolt needs to be added to the stainless steel nut at the bottom of the stand to provide ground protection.</p> |  <p>The diagram shows the stand base secured to the concrete plinth. It features an 'Outlet of the cable', 'M6X20-nuts', 'Ground screw', and 'M4 hexagon socket pan head screw'.</p> |

| Step No. | Description | Picture |
|----------|--|--|
| 5 | <p>Remove the wall mounted metal plate that comes with the charger. Then remove the four M6x20 bolts on the stand hanging plate. Finally align the holes of the two metal plates and fix them using the M6x20 bolts.</p> |  <p>The diagram shows a tall, narrow stand with a base. At the top, there is a rectangular hanging plate. Below it is a larger, square wall-mounted metal plate. Four M6x20 nuts are shown being inserted into the holes of the hanging plate to secure it to the wall-mounted plate. Labels with leader lines point to one of the nuts and the wall-mounted plate.</p> |
| 6 | <p>Hang the charger on the stand just sliding it bottom side on the dedicated binaries and check it is stable.</p> <p>Each stand can be mounted with two chargers.</p> |  <p>The diagram shows the same stand as in the previous step, but now a charger is hanging from the top. The charger is a rectangular device with a rounded top and a small circular opening on its side. It is shown hanging from the top of the stand, with its bottom side resting on the top of the stand's frame.</p> |

| Step No. | Description | Picture | | |
|--|--|--|--|---|
| 7 | <p>Now the supply cable must be connected. Open the frontal cover.</p> <p> Make sure the input cable is not powered.</p> <p>Open the wire cover (circled in the picture), insert the power supply cables into the bottom hole, and connect the cables according to the signs as specified on the wire cover scheme.</p> <p>It should be noted that there is no device for fixing the input cable, so you must leave enough space for the cable to avoid the cable from being pulled by external forces, or you can add a cable fixing device which stabilize the input cable.</p> |  <div data-bbox="710 772 1420 1164" style="background-color: #333; color: white; padding: 10px;"> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>FOR TT, TN-S, TN-C-S Voltage between phase line and neutral line $\leq 240\text{VAC}$</p>  <p>Three phase PE L1 L2 L3 N</p> <p>Single phase PE L1 N</p> </td> <td style="width: 50%; vertical-align: top;"> <p>FOR IT Voltage between phase line and phase line $\leq 240\text{VAC}$</p>  <p>Single phase PE L1 L2</p> </td> </tr> </table> </div> | <p>FOR TT, TN-S, TN-C-S Voltage between phase line and neutral line $\leq 240\text{VAC}$</p>  <p>Three phase PE L1 L2 L3 N</p> <p>Single phase PE L1 N</p> | <p>FOR IT Voltage between phase line and phase line $\leq 240\text{VAC}$</p>  <p>Single phase PE L1 L2</p> |
| <p>FOR TT, TN-S, TN-C-S Voltage between phase line and neutral line $\leq 240\text{VAC}$</p>  <p>Three phase PE L1 L2 L3 N</p> <p>Single phase PE L1 N</p> | <p>FOR IT Voltage between phase line and phase line $\leq 240\text{VAC}$</p>  <p>Single phase PE L1 L2</p> | | | |
| 8 | <p>Close the wire cover and screw up the wire cover with 4 screws</p> |  | | |
| 9 | <p>Close the front cover and the installation is finished.</p> <p> Important note: the front cover must be correctly installed and closed before using the charger. Do not use the device if the cover cannot be closed for any reason.</p> | | | |

7 Operation

After the charger is installed, it is ready for charging the EVs. The following describes the operating elements and the display/indicators elements of the charger.

7.1 Operating elements

8.1.1 Display Areas

The charger has three display areas AREA1, AREA2, AREA3 on its front side



Each AREA has its own function as in the following table:

| Display Area | Type | Function description |
|-------------------------------|----------------------------|--|
| AREA1 | Not used in the EASY model | None |
| AREA2 | Not used in the EASY model | None |
| AREA3 | Not used in the EASY model | None |
| All around the charger | LED indicator | A LED belt is placed all around the charger and assumes different colours to indicate the current status (see table below) |

| LED Belt | | |
|----------|-----------------|---|
| Colour | Blinking mode | Status |
| White | No blinking | Power on self test: the charger is switching on and performing the power on tests |
| Green | Blinking slowly | Stand-By mode: the charger is on, available for charging |
| Blue | Fast blinking | Pause during the charging process |
| Blue | No blinking | Charging mode setup: the charger is preparing to start the charging process |
| Blue | Blinking slowly | Charging mode: the charging process is ongoing |
| Red | | Error mode: errors are detected by the internal protections |

8 System connectivity

The charger is equipped with one type of connection interfaces:

- the WiFi Access Point interface: used for configuration and monitoring purpose

8.1 WiFi interface

The WiFi AP (Access Point) mode is available to let the person in charge of the installation or the user connecting to the charger.

The WiFi AP mode is the only one provided.

9.1.1 WiFi AP mode

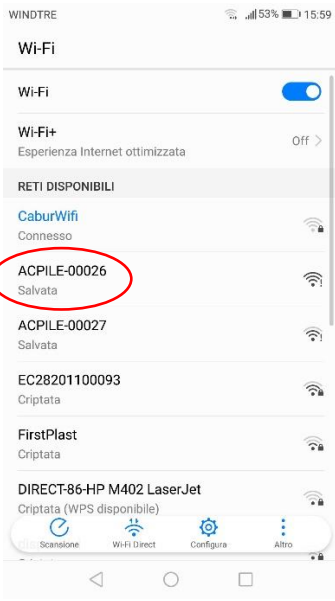
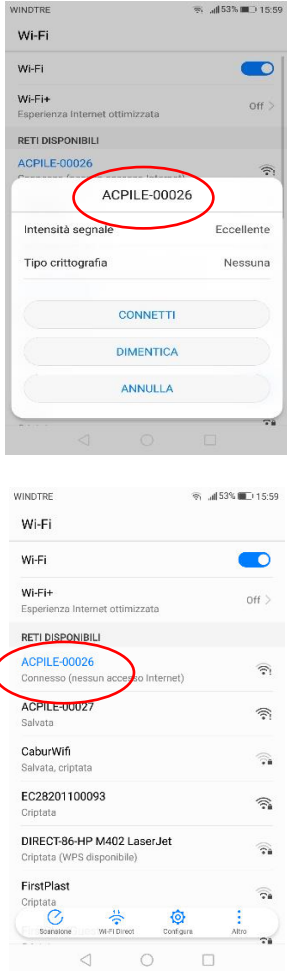
The WiFi AP (Access Point) mode (also referred as “Hot Spot”) is mainly used for configuration and monitoring purposes.



In this mode, the charger creates a WiFi network with a specified SSID and the user can connect to that network, based on a point-to-point approach, to apply all the necessary configurations or to monitor the charger parameters.



The connection to the charger can be established by a PC, tablet or smartphone.

The following steps are necessary to setup the connection between the user device (PC, tablet, smartphone) and the charger:


| Step No. | Description | Picture |
|----------|--|---|
| 1 | Scan for available WiFi networks with the connecting device utility |  |
| 2 | Connect the device (PC, Tablet, Smartphone) to the WiFi network generated by the charger (it should have an SSID name similar to ACPILE_xx or similar to a numeric string) |  |


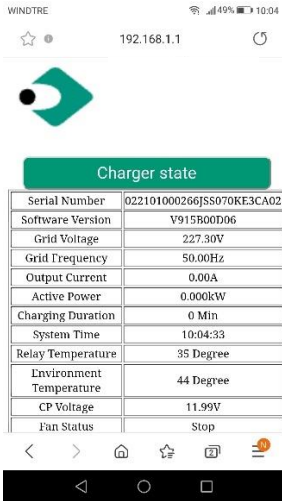
| Step No. | Description | Picture |
|----------|---|--|
| 3 |  Note: only one device can be connected, to the AP, at a time |  |

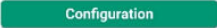



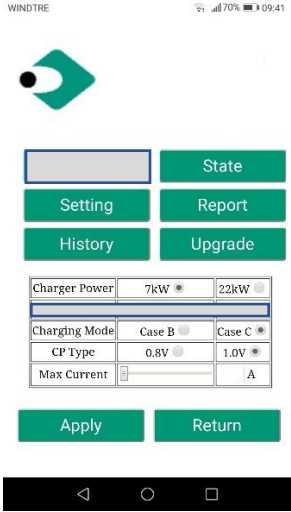
9.1.2 Configurations through WiFi AP mode



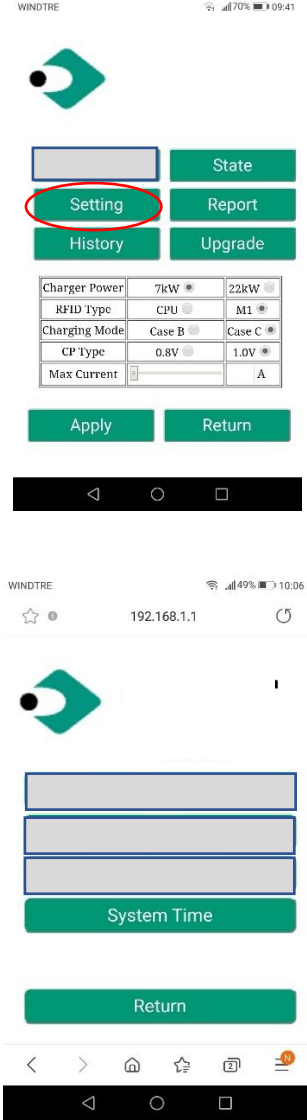
When connected through the AP, the user can configure the charger parameters. The configuration is performed by means of a web app which connects to the charger internal web server.


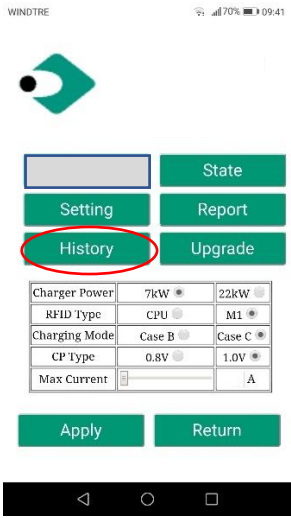

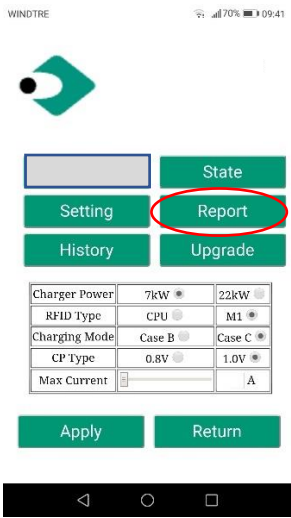
Please consider the following instructions to properly use the app for configuration.



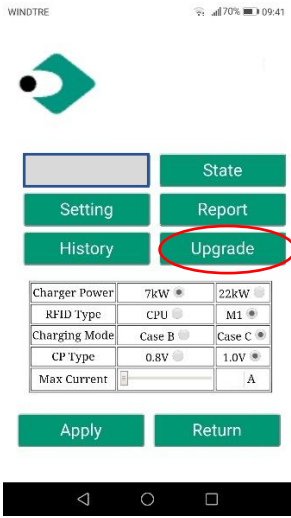
| Step No. | Description | Picture |
|----------|--|---|
| 1 | <p>The connecting device (PC, tablet, smartphone) is connected to the charger WiFi AP.</p> <p>Open the internet browser.</p> <p>Connect to the following URL: http://192.168.1.1</p> <p>The home page of the web app is shown.</p> |  |

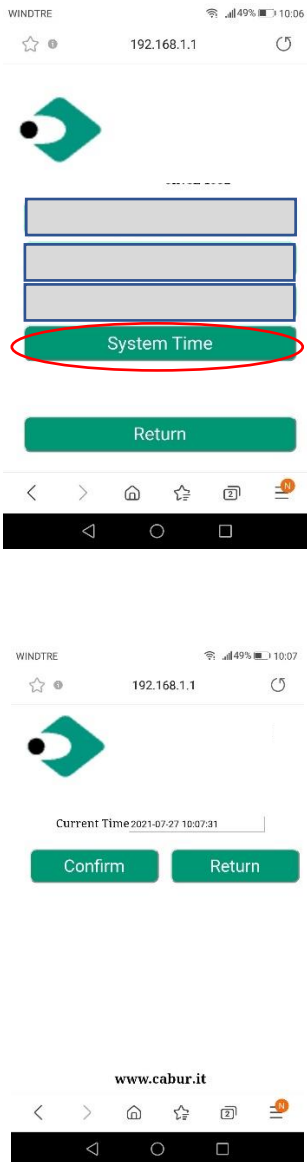
| Step No. | Description | Picture | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|---------------|--|---------------|---------------------------|------------------|------------|--------------|---------|----------------|---------|----------------|-------|--------------|---------|-------------------|-------|-------------|----------|-------------------|-----------|-------------------------|-----------|------------|--------|------------|------|
| 2 | <p>Standby button Standby</p> <p>This button indicates the status of the charging process with its label:</p> <ul style="list-style-type: none"> • <i>Standby</i> means the charger is not charging |  | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <p>Charger state button Charge State</p> <p>Pressing this button, the user can access the charger state page to monitor all the parameters of the charger and their status.</p> <p>The user can return back to the home page just clicking on the “return button” at the end of the page</p> |  <table border="1" data-bbox="979 1115 1262 1361"> <thead> <tr> <th colspan="2">Charger state</th> </tr> </thead> <tbody> <tr> <td>Serial Number</td> <td>022101000266JSS070RE3CA02</td> </tr> <tr> <td>Software Version</td> <td>V915R00D06</td> </tr> <tr> <td>Grid Voltage</td> <td>227.30V</td> </tr> <tr> <td>Grid Frequency</td> <td>50.00Hz</td> </tr> <tr> <td>Output Current</td> <td>0.00A</td> </tr> <tr> <td>Active Power</td> <td>0.000kW</td> </tr> <tr> <td>Charging Duration</td> <td>0 Min</td> </tr> <tr> <td>System Time</td> <td>10:04:33</td> </tr> <tr> <td>Relay Temperature</td> <td>35 Degree</td> </tr> <tr> <td>Environment Temperature</td> <td>44 Degree</td> </tr> <tr> <td>CP Voltage</td> <td>11.99V</td> </tr> <tr> <td>Fan Status</td> <td>Stop</td> </tr> </tbody> </table> | Charger state | | Serial Number | 022101000266JSS070RE3CA02 | Software Version | V915R00D06 | Grid Voltage | 227.30V | Grid Frequency | 50.00Hz | Output Current | 0.00A | Active Power | 0.000kW | Charging Duration | 0 Min | System Time | 10:04:33 | Relay Temperature | 35 Degree | Environment Temperature | 44 Degree | CP Voltage | 11.99V | Fan Status | Stop |
| Charger state | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Serial Number | 022101000266JSS070RE3CA02 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Version | V915R00D06 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grid Voltage | 227.30V | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grid Frequency | 50.00Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output Current | 0.00A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Active Power | 0.000kW | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Charging Duration | 0 Min | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Time | 10:04:33 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relay Temperature | 35 Degree | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Environment Temperature | 44 Degree | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Voltage | 11.99V | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fan Status | Stop | | | | | | | | | | | | | | | | | | | | | | | | | | | |






| Step No. | Description | Picture |
|----------|--|--|
| 4 | <p>Configuration button </p> <p>Pressing this button, the user can access the charger configuration pages to set all the parameters of the charger.</p> <p>After clicking on the configuration button, a login window will appear.</p> <p> Important note: to enter into the configuration pages the user must insert a password. The default password is "123456". It must be entered into the "Verification" field.</p> <p>The user is now allowed to see the configuration main pages.</p> <p>From this page the user can access other pages by clicking the 6 buttons at the top of the page. These buttons will be explained later in the document.</p> <p><u>System parameter settings</u></p> <p>In this page the main system parameters can be set:</p> <ul style="list-style-type: none"> • <i>Charge power:</i> set the output power value of the charger • <i>Charging mode:</i> set the mode with (case C) or without the cable (case B) • <i>CP type:</i> set the voltage value of the CP signal • <i>Max Current:</i> set the maximum charge current value (<u>accepted range 6 – 32 A</u>) <p> Important note: these parameters shall be configured by qualified personnel only</p> |   |

| Step No. | Description | Picture | | | | | | | | | | | | | | | |
|---------------|--|---|---------------|-----|------|-----------|-----|----|---------------|--------|--------|---------|------|------|-------------|--|---|
| 5 | <p>Clicking on the <u>“Setting”</u> button  a new setting page is presented, with the following menus:</p> <ul style="list-style-type: none"> • System time <p> Important note: these parameters shall be configured by qualified personnel only</p> |  <p>The screenshot shows two screens from the WINDTRE mobile application. The top screen is the main menu, featuring a logo at the top left and a grid of buttons: State, Report, History, and Upgrade. The 'Setting' button is circled in red. Below the buttons is a configuration table with the following data:</p> <table border="1" data-bbox="1002 533 1246 645"> <tr> <td>Charger Power</td> <td>7KW</td> <td>22KW</td> </tr> <tr> <td>RFID Type</td> <td>CPU</td> <td>M1</td> </tr> <tr> <td>Charging Mode</td> <td>Case B</td> <td>Case C</td> </tr> <tr> <td>CP Type</td> <td>0.8V</td> <td>1.0V</td> </tr> <tr> <td>Max Current</td> <td></td> <td>A</td> </tr> </table> <p>Buttons for 'Apply' and 'Return' are located below the table. The bottom screen shows the settings page, with the same logo at the top left. It features three input fields and a 'System Time' button. A 'Return' button is at the bottom of the settings page.</p> | Charger Power | 7KW | 22KW | RFID Type | CPU | M1 | Charging Mode | Case B | Case C | CP Type | 0.8V | 1.0V | Max Current | | A |
| Charger Power | 7KW | 22KW | | | | | | | | | | | | | | | |
| RFID Type | CPU | M1 | | | | | | | | | | | | | | | |
| Charging Mode | Case B | Case C | | | | | | | | | | | | | | | |
| CP Type | 0.8V | 1.0V | | | | | | | | | | | | | | | |
| Max Current | | A | | | | | | | | | | | | | | | |

| Step No. | Description | Picture | | | | | | | | | | | | | | | |
|---------------|--|--|---------------|-----|------|-----------|-----|----|---------------|--------|--------|---------|------|------|-------------|--|---|
| 6 | Clicking on the “History”  button the user can access the historical logs of the device |  <p>WINDTRE 70% 09:41</p> <p>State Setting Report History Upgrade Apply Return</p> <table border="1"> <tr><td>Charger Power</td><td>7kW</td><td>22kW</td></tr> <tr><td>RFID Type</td><td>CPU</td><td>M1</td></tr> <tr><td>Charging Mode</td><td>Case B</td><td>Case C</td></tr> <tr><td>CP Type</td><td>0.8V</td><td>1.0V</td></tr> <tr><td>Max Current</td><td></td><td>A</td></tr> </table> | Charger Power | 7kW | 22kW | RFID Type | CPU | M1 | Charging Mode | Case B | Case C | CP Type | 0.8V | 1.0V | Max Current | | A |
| Charger Power | 7kW | 22kW | | | | | | | | | | | | | | | |
| RFID Type | CPU | M1 | | | | | | | | | | | | | | | |
| Charging Mode | Case B | Case C | | | | | | | | | | | | | | | |
| CP Type | 0.8V | 1.0V | | | | | | | | | | | | | | | |
| Max Current | | A | | | | | | | | | | | | | | | |
| 7 | Clicking on the “Report”  button the user can access the reports of the device |  <p>WINDTRE 70% 09:41</p> <p>State Setting Report Upgrade History Apply Return</p> <table border="1"> <tr><td>Charger Power</td><td>7kW</td><td>22kW</td></tr> <tr><td>RFID Type</td><td>CPU</td><td>M1</td></tr> <tr><td>Charging Mode</td><td>Case B</td><td>Case C</td></tr> <tr><td>CP Type</td><td>0.8V</td><td>1.0V</td></tr> <tr><td>Max Current</td><td></td><td>A</td></tr> </table> | Charger Power | 7kW | 22kW | RFID Type | CPU | M1 | Charging Mode | Case B | Case C | CP Type | 0.8V | 1.0V | Max Current | | A |
| Charger Power | 7kW | 22kW | | | | | | | | | | | | | | | |
| RFID Type | CPU | M1 | | | | | | | | | | | | | | | |
| Charging Mode | Case B | Case C | | | | | | | | | | | | | | | |
| CP Type | 0.8V | 1.0V | | | | | | | | | | | | | | | |
| Max Current | | A | | | | | | | | | | | | | | | |

| Step No. | Description | Picture |
|----------|---|--|
| 8 | <p>Clicking on the “Upgrade” button  the user can upgrade the system (see chapter 10 for details)</p> <p> Important note: these parameters shall be configured by qualified personnel only</p> |  |

| Step No. | Description | Picture |
|----------|---|--|
| 9 | <p>Setting/System time</p> <p>In this page the system time can be set. The correct time is automatically read from the connecting device and is shown in the “Current time” field. Clicking the “Confirm” button the time setting is saved as the charger time.</p> <p>! Important note: these parameters shall be configured by qualified personnel only</p> |  <p>The image contains two screenshots of a mobile application interface. The top screenshot shows a screen with a green logo at the top, followed by three grey input fields. Below these fields is a green button labeled 'System Time', which is circled in red. Below the button is another green button labeled 'Return'. The bottom screenshot shows the same screen but with the 'Current Time' field populated with '2021-07-27 10:07:31'. Below this field are two green buttons: 'Confirm' and 'Return'. The browser address bar at the bottom of the second screenshot shows 'www.cabur.it'.</p> |

| Step No. | Description | Picture |
|----------|--|--|
| 10 | <p><u>IT Power system</u> </p> <p>this button enables the charger to be supplied by IT power network systems</p> <p><u>Other Power systems</u> </p> <p>this button enables the charger to be supplied by TT or TN power network systems</p> <p> The selected power system is indicated by the different colour of the button after the selection</p> <p> Important note: these parameters shall be configured by qualified personnel only</p> |  |

9 Charging process

Before starting the charging process the user must be sure the plug is correctly connected to the EV.

In the **CASE B** mode (without integrated cable) connect the cable to the charger and then to the EV on the other side.

In the **CASE C** mode (integrated cable) connect the cable to the EV.

The charging process starts automatically after connecting to the EV inlet.

When the charging process starts, the LED belt light changes from steady blue to blinking blue.

The plug cannot be disconnected when the charging process is running.



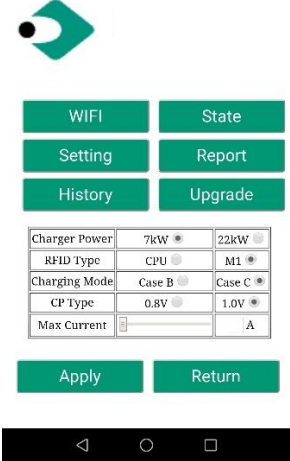
The charging process can be stopped by the web app button (see paragraph 9.1.2, point 1.a) or directly by the car controls. The connector can be unplugged only after the charging process stops.




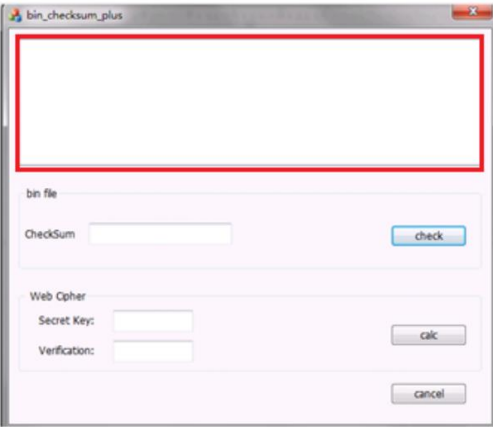




Important note: for the CASE B mode (without the integrated cable), there is an electronic lock inside the charger to keep the electrical connection stable during the charging process. When charging is completed or a fault occurs, the electronic lock will automatically unlock, please do not pull it forcibly otherwise.

10 System upgrade

The following steps illustrate how to proceed to upgrade the system firmware

| Step No. | Description | Picture | | | | | | | | | | | | | | | |
|---------------|--|---|---------------|-----|------|-----------|-----|----|---------------|--------|--------|---------|------|------|-------------|--|---|
| 1 | <p>The connecting device (PC, tablet, smartphone) is connected to the charger WiFi AP.</p> <p>Open the internet browser.</p> <p>Connect to the following URL: http://192.168.1.1</p> <p>The home page of the web app is shown.</p> |  | | | | | | | | | | | | | | | |
| 2 | <p>Clicking on the “Configuration” button a new setting page is presented, as in the attached picture</p> <p> Important note: these parameters shall be configured by qualified personnel only</p> |  <table border="1" data-bbox="954 1339 1200 1451"> <tbody> <tr> <td>Charger Power</td> <td>7kW</td> <td>22kW</td> </tr> <tr> <td>RFID Type</td> <td>CPU</td> <td>M1</td> </tr> <tr> <td>Charging Mode</td> <td>Case B</td> <td>Case C</td> </tr> <tr> <td>CP Type</td> <td>0.8V</td> <td>1.0V</td> </tr> <tr> <td>Max Current</td> <td></td> <td>A</td> </tr> </tbody> </table> | Charger Power | 7kW | 22kW | RFID Type | CPU | M1 | Charging Mode | Case B | Case C | CP Type | 0.8V | 1.0V | Max Current | | A |
| Charger Power | 7kW | 22kW | | | | | | | | | | | | | | | |
| RFID Type | CPU | M1 | | | | | | | | | | | | | | | |
| Charging Mode | Case B | Case C | | | | | | | | | | | | | | | |
| CP Type | 0.8V | 1.0V | | | | | | | | | | | | | | | |
| Max Current | | A | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|--|--------|---|---------------|-----|------|-----------|-----|----|---------------|--------|--------|---------|------|------|-------------|--|---|
| <p>3</p> <p>The upgrade process is initiated by clicking on the “Upgrade” button</p> <p>After entering the system upgrade page, the user must follow all the indications provided by the page itself, to avoid failures in the process and make it complete in a successful way.</p> <p> Important note: these parameters shall be configured by qualified personnel only.</p> <p> Important note: Make sure not to disconnect during the upgrade process</p> | |  <p>The screenshot shows a mobile application interface with a status bar at the top displaying 'WINDTRE' and '70%' battery. Below the status bar is a logo and a grid of buttons: 'WIFI', 'State', 'Setting', 'Report', 'History', and 'Upgrade'. The 'Upgrade' button is circled in red. Below the buttons is a table of system parameters:</p> <table border="1"> <tr> <td>Charger Power</td> <td>7kW</td> <td>22kW</td> </tr> <tr> <td>RFID Type</td> <td>CPU</td> <td>M1</td> </tr> <tr> <td>Charging Mode</td> <td>Case B</td> <td>Case C</td> </tr> <tr> <td>CP Type</td> <td>0.8V</td> <td>1.0V</td> </tr> <tr> <td>Max Current</td> <td></td> <td>A</td> </tr> </table> <p>At the bottom of the settings section are 'Apply' and 'Return' buttons.</p> | Charger Power | 7kW | 22kW | RFID Type | CPU | M1 | Charging Mode | Case B | Case C | CP Type | 0.8V | 1.0V | Max Current | | A |
| Charger Power | 7kW | 22kW | | | | | | | | | | | | | | | |
| RFID Type | CPU | M1 | | | | | | | | | | | | | | | |
| Charging Mode | Case B | Case C | | | | | | | | | | | | | | | |
| CP Type | 0.8V | 1.0V | | | | | | | | | | | | | | | |
| Max Current | | A | | | | | | | | | | | | | | | |
| <p>4</p> <p>Identify and select the upgrade file provided by the manufacturer (it is typically a file named as <i><name_of_the_upgrade_file>.bin</i>).</p> <p>This file can be eventually downloaded directly from the manufacturer website or requested directly to the manufacturer customer care office.</p> | | | | | | | | | | | | | | | | | |
| <p>5</p> <p>Open the check_sum_tool provided by the manufacturer.</p> <p>This tool is a software application, which runs on PCs, used to generate the verification code for login and to automatically generate the MD5 checksum to validate the upgrade file integrity.</p> <p>Drag and drop the upgrade file <i><name_of_the_upgrade_file>.bin</i> into the red check box in the check_sum_tool interface.</p> <p>Then click the “check” button.</p> | |  <p>The screenshot shows a Windows application window titled 'bin_checksum_plus'. It features a large empty rectangular area at the top, outlined in red, intended for file selection. Below this area are several input fields and buttons:</p> <ul style="list-style-type: none"> 'bin file' label 'Checksum' input field with a 'check' button to its right. 'Web Cpher' label 'Secret Key:' input field with a 'calc' button to its right. 'Verification:' input field with a 'cancel' button to its right. | | | | | | | | | | | | | | | |

| <p>6</p> | <p>A check sum MD5 value will automatically appear in the “Checksum” box.</p> <p> the verification code generation is not necessary if the user already has the MD5 code, provide by the manufacturer (in this case the point 5 can be skipped)</p> <p>The user shall now copy the value in the “Checksum” box.</p> | | | | | | | | | | | | | | | | | | | |
|-------------|--|---|-------------|---------|---------|--------|-----------------|--|--------|----------------|-----------------------|--------|----------------|--------------------|--------|-----------------|-----------------------------------|--------|-------------------|--|
| <p>7</p> | <p>Now the user must be back to the system upgrade page in the web app.</p> <p>The checksum value generated by the check_sum_tool shall be copied in the “Upgrade file checksum” field.</p> <p>The “Continue” button shall be clicked after that.</p> | <p>Upgrade file checksum <input type="text" value="0x0000000000000000"/></p> <p><input type="button" value="Continue"/></p> <p><input type="button" value="Return"/></p> | | | | | | | | | | | | | | | | | | |
| <p>8</p> | <p>The upgrade process starts and will last more or less 15 sec.</p> <p>At the end of the process a message could be presented on the charger display, indicating the result of the upgrade process.</p> <p>In case of no message the charger is completely restarted if the welcome message appears.</p> <p> Important note: The system is able to restart only if the status message is “100 UP”, which means successful upgrade.</p> <p>Do not restart the system otherwise and contact the manufacturer.</p> | <table border="1"> <thead> <tr> <th>LED display</th> <th>Meaning</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>100 UP</td> <td>Upgrade success</td> <td>Wait for the device to restart automatically</td> </tr> <tr> <td>E01 UP</td> <td>Upgrade failed</td> <td>Failed to write flash</td> </tr> <tr> <td>E02 UP</td> <td>Checksum error</td> <td>Checksum not match</td> </tr> <tr> <td>E03 UP</td> <td>Upgrade timeout</td> <td>No valid data received within 15s</td> </tr> <tr> <td>E04 UP</td> <td>Bin File Mismatch</td> <td>Upgrade file does not match the AC Charger</td> </tr> </tbody> </table> | LED display | Meaning | Remarks | 100 UP | Upgrade success | Wait for the device to restart automatically | E01 UP | Upgrade failed | Failed to write flash | E02 UP | Checksum error | Checksum not match | E03 UP | Upgrade timeout | No valid data received within 15s | E04 UP | Bin File Mismatch | Upgrade file does not match the AC Charger |
| LED display | Meaning | Remarks | | | | | | | | | | | | | | | | | | |
| 100 UP | Upgrade success | Wait for the device to restart automatically | | | | | | | | | | | | | | | | | | |
| E01 UP | Upgrade failed | Failed to write flash | | | | | | | | | | | | | | | | | | |
| E02 UP | Checksum error | Checksum not match | | | | | | | | | | | | | | | | | | |
| E03 UP | Upgrade timeout | No valid data received within 15s | | | | | | | | | | | | | | | | | | |
| E04 UP | Bin File Mismatch | Upgrade file does not match the AC Charger | | | | | | | | | | | | | | | | | | |

11 Language configuration

The charger is configured with its factory default language. Other languages can be configured for the web-app interface, by a system upgrade operation with the same process illustrated in chapter 10.

This system upgrade operation will not affect the system functionalities but will only change the language.

The user can upload the system upgrade file which contains his own language, for example it is possible to have:

```
<name_of_the_upgrade_file>_IT.bin (IT = italian language)
<name_of_the_upgrade_file>_EN.bin (EN = english language)
<name_of_the_upgrade_file>_DE.bin (DE = german language)
<name_of_the_upgrade_file>_ES.bin (ES = spanish language)
<name_of_the_upgrade_file>_FR.bin (FR = french language)
<name_of_the_upgrade_file>_FR.bin (DK = danish language)
```

.....

Repeating the system upgrade procedure, as described in chapter 12, will upload the charger firmware file with the selected language. This makes the app interface pages displayed in the language preferred by the user.



Important notes: these parameters shall be configured only by qualified personnel