Electric charging station WBSH2-7
User Manual and data sheet

Thank you for choosing the SmartDHOME electric vehicle charging station. Below are all the technical specifications and procedures for correct installation.

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SmartDHOME

Abbreviations and Safety Notes

	Abbreviation	Description
1	IEC	International Electrotechnical Commission
2	EV	Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV)
3	EVSE	Electric Vehicle Supply Equipment (IEC61851-1)
4	Kw	Kilo Watt (unit of power)
5	A	Ampere (unit of current)
6	V	Volt (unit di voltage)
7	Hz	Hertz (unit of frequency)
8	LCD	Liquid crystal display
9	LED	Light-emitting diode
10	RFID	Radio frequency identification
11	CMS	Central management system (Manages EVSE and has the information for authorizing users for using its EVSE)
12	OCPP	Open charge point protocol (A standard open protocol for communication between EVSE and a central system and is designed to accommodate any type of charging technique)
13	IP	Ingress protection
14	PE	Protective earthing (protection)
15	HMI	Human-Machine Interface
16	RCCB	Residual current circuit breaker
17	MCB	Miniature circuit breaker
18	OBC	On-board charger (of an EV)
19	RoHS	Restriction of hazardous substances
20	REACH	Registration, evaluation and authorization of chemicals

The following warning signs, mandatory signs and information signs are used in the WBSH2-7 charging station.

Warning signs

CAUTION: Warning of electrical hazards.

This sign is intended to alert the user that severe personal injury or substantial property damage can result if the device is not operated as requested.

ATTENTION: Warning of a danger spot or dangerous situation.

This sign is intended to alert the user that minor personal injury or material damage can result, if the device is not operated as requested.

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	Indicates the possible consequences of touching electrostatically sensitive components.
	CAUTION: Warning of combustion.
	No access for unauthorized persons.
	No access for persons wearing pacemakers.
	Use protective footwear.
	Must wear a safety helmet.
	Indicates important texts, notes or tips.
	Indicates recycling information.
	Indicates assemblies or parts that must be disposed of properly. Do not dispose of them in the household waste.

Environment

- The WBSH2-7 charging station must be installed in areas far from flames and flammable materials, in order to avoid serious damage to things and/or people.
- The WBSH2-7 charging station must not be installed in areas containing explosive materials; otherwise dangerous explosions could occur.
- Do not leave flammable or explosive substances near the charging station, in order to avoid serious damage to things and/or people.

- The WBSH2-7 charging station must be installed in a place free of dust, gases or vapors harmful to insulation.
- The charging station for electric vehicles must be installed in a place free from vibrations and violent

shocks. For good ventilation, mount the charging station vertically.

- The station must not be installed at ground level. In addition, a drainage channel must be positioned around the charging station because, otherwise, the equipment could be damaged.

Installation

All protective equipment must be worn when installing the charging station.

- Installation and wiring must be performed by qualified personnel to avoid shocks and electrocution.
- Before installation, make sure you do not have any live parts, in order to avoid shocks and electrocutions.
- Be sure to ensure a good grounding of the charging station to avoid shocks and electrocution.
- Be sure to stow the charging socket in the side holder of the charging station to avoid shocks and electrocution.
- Do not leave metals such as bolts, gaskets inside the charging station; otherwise, dangerous explosions and fires could occur.

- Make sure to ensure a good grounding of the charging station to avoid shocks and electrocution.
- Make sure that the charging station is correctly connected to the mains in order to avoid shocks and electrocutions.
- Any uncovered parts must be protected by using insulating material.

Operation

- It is strictly forbidden to bring minors or people with reduced capacity close to the charging station to avoid injury.
- It is advisable not to persist in attempting to recharge if there is an error or fault message on the display.

- At any time, in the event of an emergency (such as fire, smoke, anomalous sounds, water leakage, etc.) it is possible to press the emergency button in order to interrupt the recharge cycle and send the "Stop" alarm to the station. charging. Subsequently, if the fault persists, we recommend that you contact our customer support by visiting the site: http://helpdesk.smartdhome.com/users/register.aspx
- Do not start charging if even part of the device is damaged.
- The electric vehicle can only be charged with the engine off and stationary.

Do not recharge your electric vehicle in rain or thunderstorms.

Maintenance

During maintenance operations, all protective devices must be used.

The replacement of accessories must be carried out by qualified personnel; otherwise, explosions and dangerous fires could occur.

NOTE: For more information on this, we recommend that you contact our customer support immediately by visiting the website: http://helpdesk.smartdhome.com/VDSmartdhome/users/Login.aspx

- It is advisable to carry out a safety inspection at least once a week.
- Keep the charging connector clean and dry; if necessary, clean with a clean, dry cloth.

Certifications

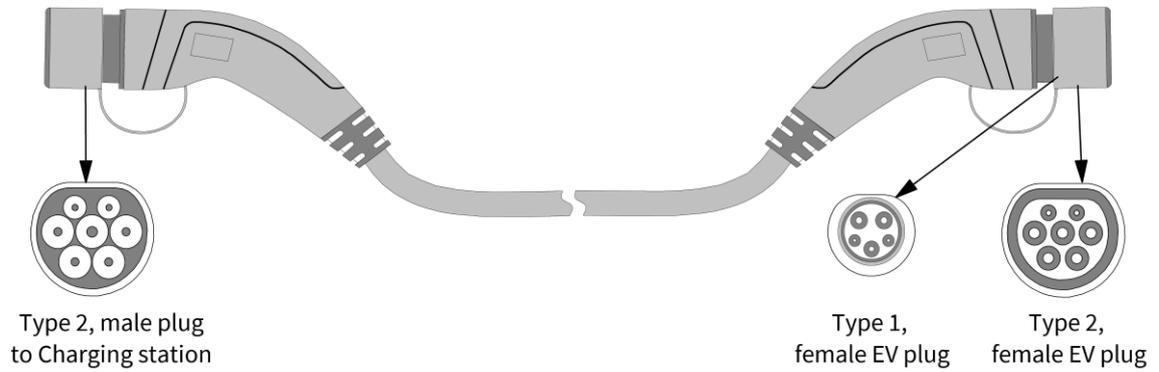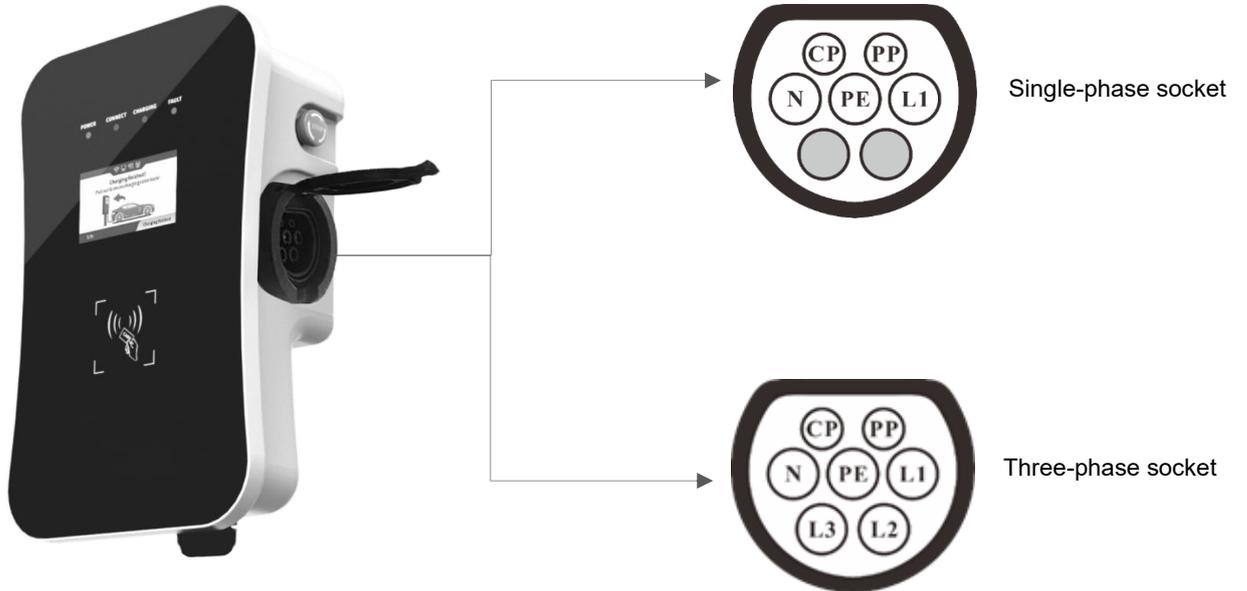- IEC 61851-1:2019

Charging connection

- IEC 61851-1:2019
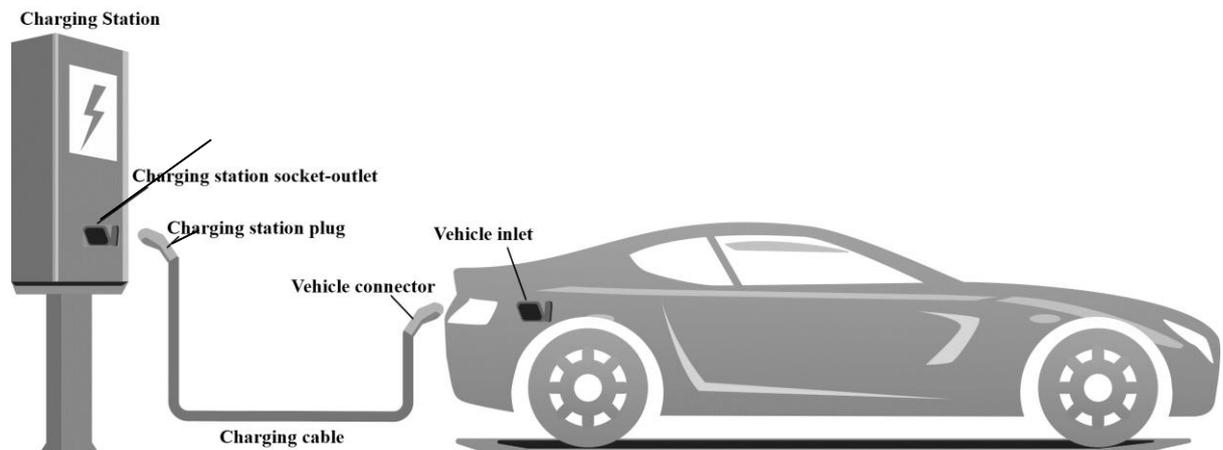
Charging interface

- IEC 62196-2

Single-phase socket

Three-phase socket

Type 2, male plug
to Charging station

Type 1,
female EV plug

Type 2,
female EV plug

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Single-phase socket

Three-phase socket
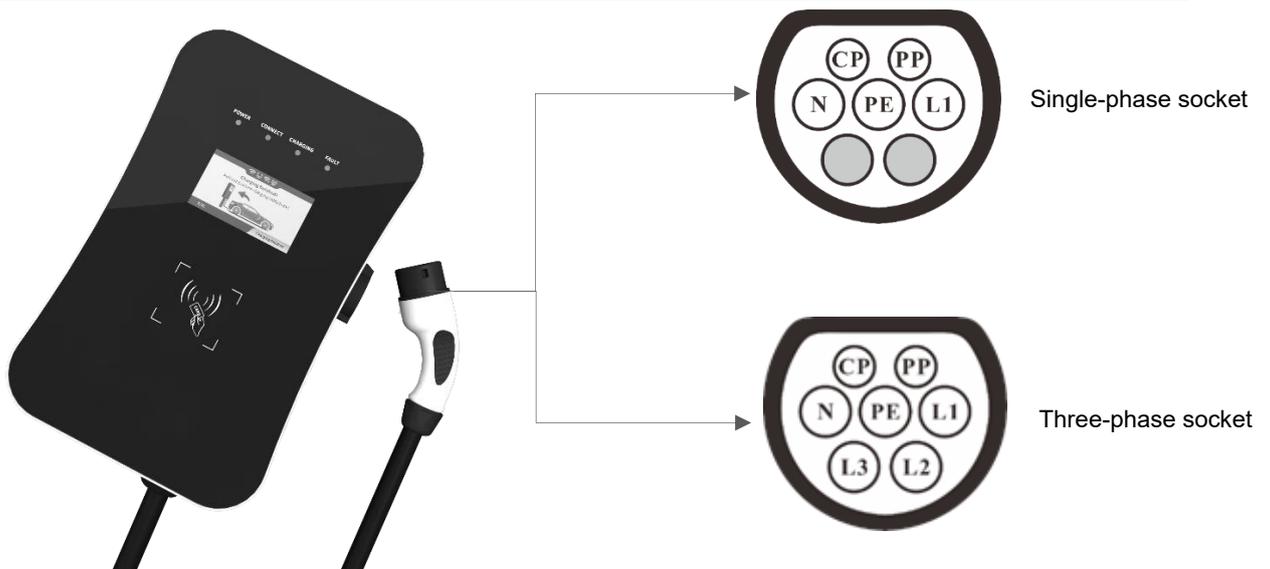
Description & Technical Notes

The WBSH2-7 charging station is ideal for charging electric vehicles and can be installed in residential environments, hotel parking, garages, and car parks. It has a 4.3 " display that allows you to view the charging status and interface with all the functions of the device. For a correct installation please carefully follow the following manual.
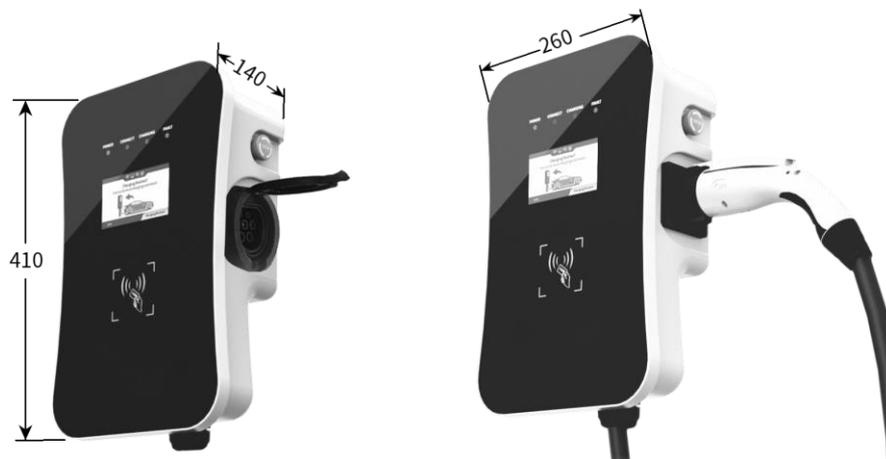
Technical notes

Rated voltage	230 V
Frequency	50/60 Hz
Current	32 A
Power	7 kW
Recommended cable type	Copper cable - 3 x 6 mm^2
Connection terminals	L1 – N - PE
Charging interface	IEC 62196-2, Type 2, single-phase with charging socket and 5m cable

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Functions

Charging way	Mode 3
Charging method	**Local:** "Plug and Play" or smart card **Remote**: Control from app
Display	4.3" LCD (**Allows you to view:** charging current, voltage, power, charging time, status and error information, etc.)
Light indicators	4 LED (They indicate four states: power, charge, fault and network)
Communication interface	• Ethernet (interface RJ-45) • Wi-Fi (2.4 GHz) • ModBus (interface RS-485)
Communication protocol	OCPP 1.6J
Safety protections	Emergency button, overload, over-temperature, min/max power supply, over current, earth protection.
RCD protection	Present, type B (AC 30mA + DC 6mA)

Environmental conditions

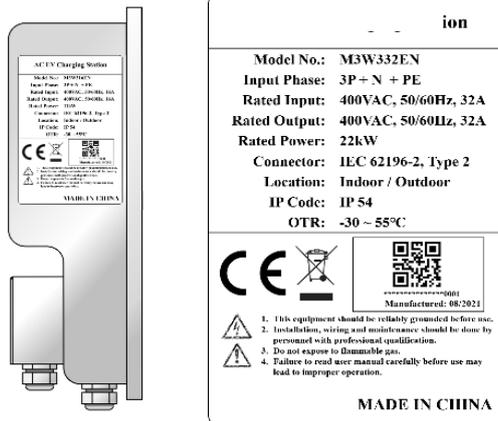|	
Altitude	≤ 2000m
Storage temperature	- 40 ~ 75°C
Operating temperature	- 30 ~ 55°C
Relative humidity	≤ 95% RH, No condensation
Vibrations	< 0.5G
Installation sites	You can install the device indoors and outdoors with good ventilation. **ATTENTION!** Make sure that there are no flammable substances present on the installation site.

Mechanical parameters

Net weight	≤ 9Kg
Dimensions	H × W × D = 410 mm × 260 mm × 140 mm
Assembly	Wall or pole mounting
Color and material	**Front panel:** Black, Tempered glass **Back shell:** White, Metal
IP grade	IP54

NOTE! On the right side of the charging station there is a plate specifying the model and all the basic technical

specifications.

Model No.:	**M3W332EN**
Input Phase:	3P + N + PE
Rated Input:	400VAC, 50/60Hz, 32A
Rated Output:	400VAC, 50/60Hz, 32A
Rated Power:	22kW
Connector:	IEC 62196-2, Type 2
Location:	Indoor / Outdoor
IP Code:	IP 54
OTR:	-30 ~ 55°C

Manufactured: 08/2021

1. This equipment should be reliably grounded before use.
2. Installation, wiring and maintenance should be done by personnel with professional qualification.
3. Do not expose to flammable gas.
4. Failure to read user manual carefully before use may lead to improper operation.

MADE IN CHINA

Package Contents

- WBSH2-7 charging station
- 2 cards RFID
- Wall mounting accessories
- Quality certificate
- User Manual

Pre-Installation

Note: Before continuing with the installation phase, it is necessary to read all the points listed below.

- Check that all accessories are included in the package and that there are no transport damage.
- Verify that the product and features comply with the order.

ATTENTION!

- If there are differences in the order and/or missing parts, please do **not proceed with the installation** and immediately contact our customer service by visiting the site: http://helpdesk.smartdhome.com/users/register.aspx
- Please keep the packaging for the duration of the warranty

The paper and packaging used are all recyclable materials.

Note: During the transport and pre-installation phase it is necessary to pay attention to the following points:

- This product is an electrical appliance, therefore it is recommended to handle it with care avoiding shocks and violent vibrations.
- The front panel of the product is a tempered glass panel, so we recommend that you handle it with care.
- In order to ensure a long life of the WBSH2.7 charging station it is recommended not to install the charging station in environments subject to high temperatures which could limit the life and cause
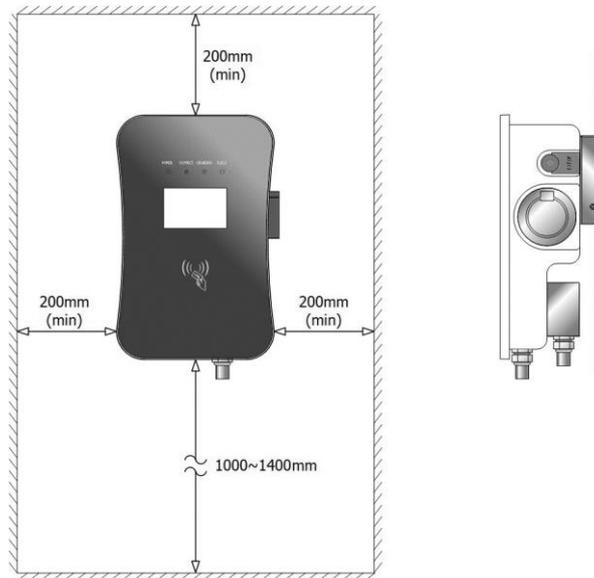
structural changes to the product.

- If you want to install the charging station on the wall, the following spaces must be respected.

Note: It is recommended to install the WBSH2-7 charging station in a well-ventilated area, not exposed to sunlight and protected from wind and rain. In order to ensure good ventilation, it is recommended to mount the charging station in an upright position.

ATTENTION! If you encounter any difficulties during the installation, please contact our customer support immediately by visiting the website: http://helpdesk.smartdhome.com/users/register.aspx

4G version charging station

If you have a charging station equipped with a 4G module, you need to insert the 4G NANO SIM into the specific slot before carrying out the wiring. For correct insertion of the SIM, follow the steps:

1. Make sure the charging station is not powered.

2. Remove all the perimeter screws and detach the back cover completely.
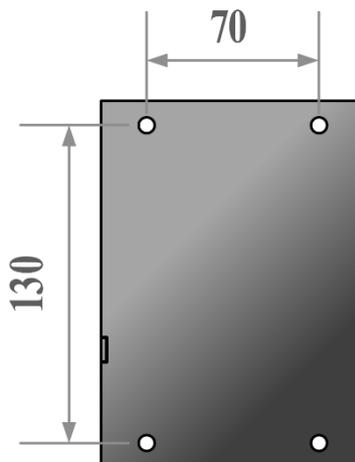
Nano SIM Slot

3. Insert the 4G NANO SIM into the slot highlighted in the image, reposition the back cover taking care to tighten all the screws again.
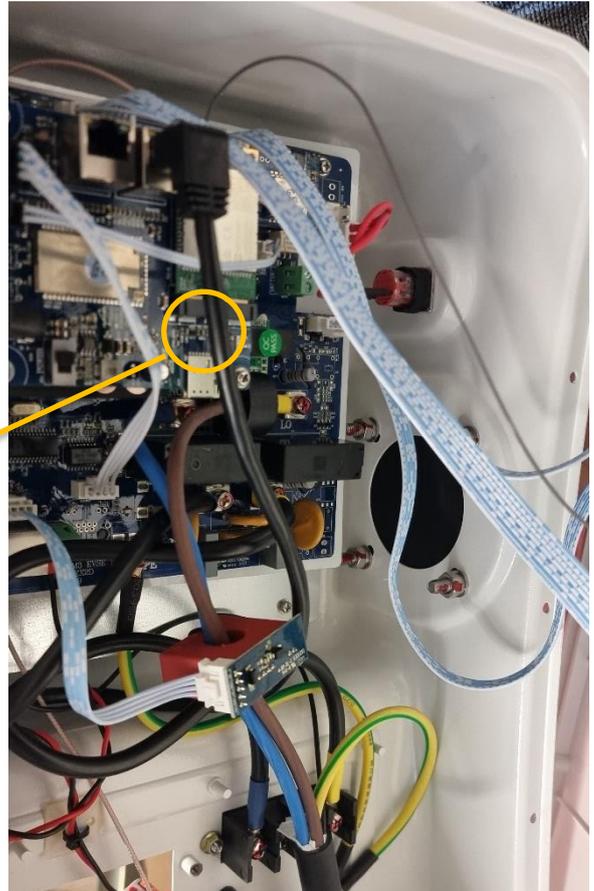
Installation

For a correct installation follow the following steps:

- Drill four holes of 10 mm in diameter and 55 mm in depth, with appropriate height and with center distance of 130mm x 70mm.

- Firmly fix the plate to the wall, using the supplied anchors.

  Note: Use other anchors, depending on the material of which the installation wall is made.

- Fix the accessories for the wall suspension on the WBSH2-7 charging station, using four screws (M5 x 8).

Terminal cover

Wall-hanging accessories

Input cable interface

Charging cable interface
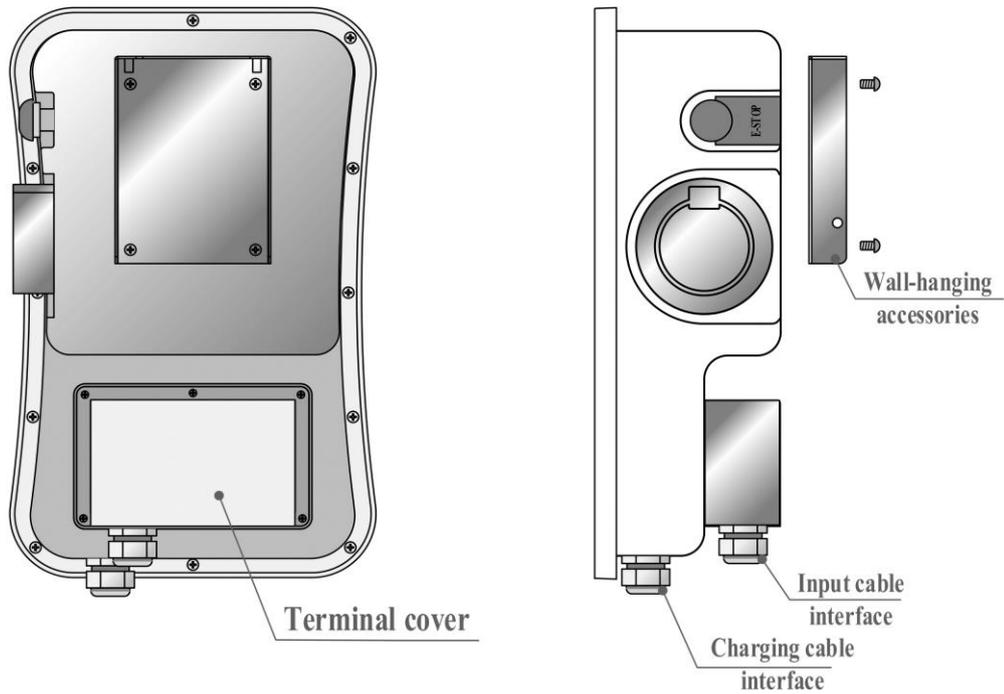
- Insert the three cable terminals on the wires of the power cable, crimping them using suitable pliers.

$L1$

$L1 - L2 \geq 3mm$

$L2$

$L3 < 2mm$

$L4 < 1.5mm$
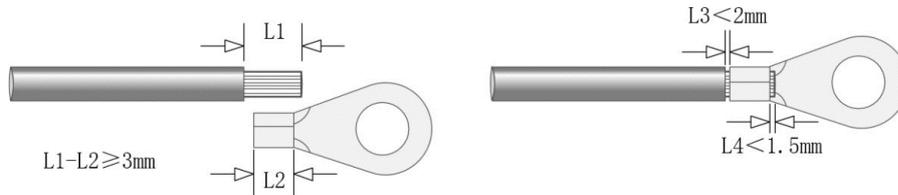
NOTE: Here are some suggestions for selecting the size of the cables to be installed. The table below shows all the types of recharging station provided by SMARTDHOME therefore it is recommended to use:

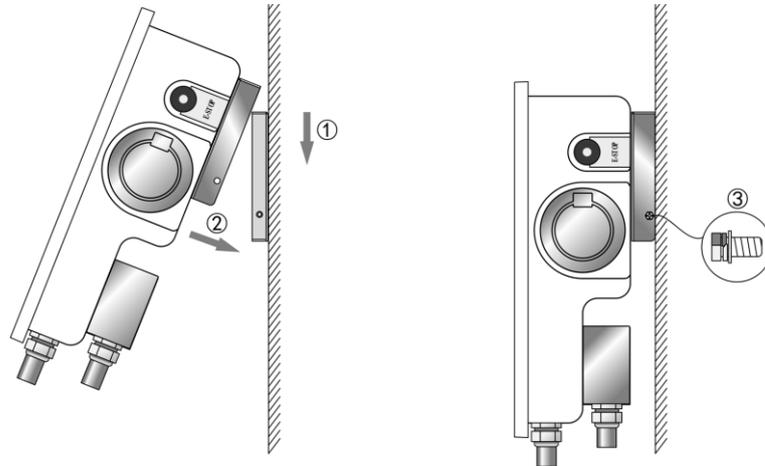|	Product	Maximum current	Input terminals	Minimum section
1	01040-1500-00	32 A	L1 – L2 – L3 - N - PE	$3 \times 6 \ mm^2$

- Open the rear cover and pass all cables through the grommet and make all connections to the terminal block.

Network interface RJ-45
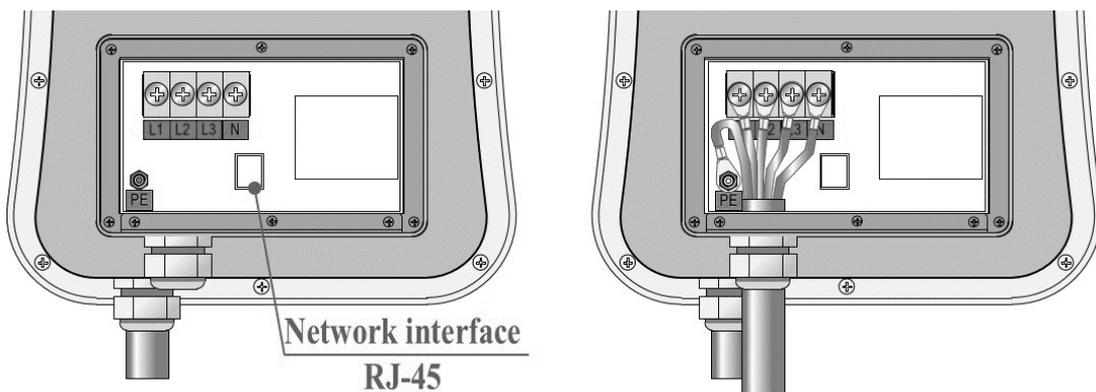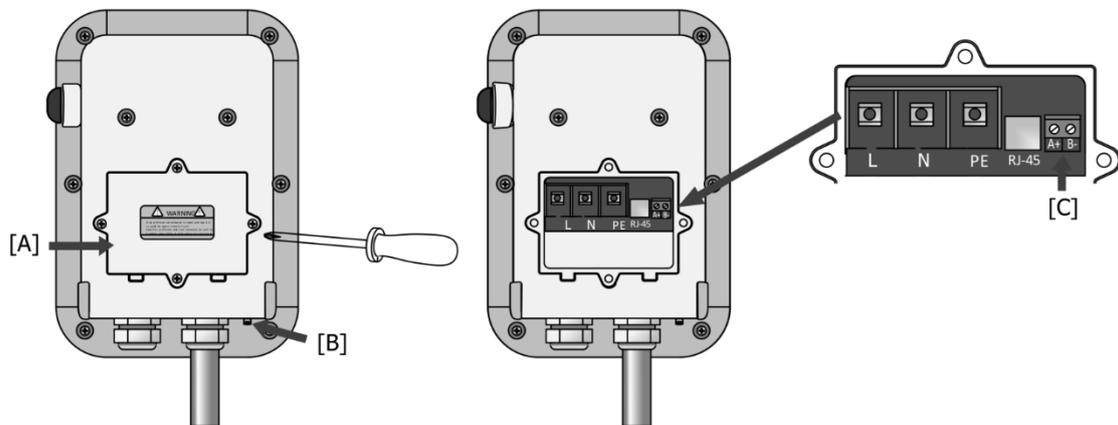
- Finish installing the charging station on the wall bracket. Then fasten the 2 side screws to lock the charging station.

RS-485 (ModBus)

The WBSH2-7 recharging station has the ModBus communication protocol, of the RS-485 type; all the steps for a correct configuration are shown below.

[A]	Terminal covers
[B]	Cable gland for network cable or ModBus communication cable (RS-485)
[C]	ModBus communication terminals (RS-485) - A + & B +

- Remove the terminal covers [A] from the rear of the charging station.
- Loosen the cable gland [B] and insert the cables for ModBus communication.
- Connect the ModBus communication cables to the respective terminals A + and B +. Finally fix all the cables and cover the terminal board of the charging station.

Note:

- If the communication distance is less than 100m, a twisted cable can be used.

- In caso di rete composta de più stazioni di ricarica, per evitare l'anti-interferenza della rete RS-485 si consiglia di installare una resistenza da 120Ω in posizione terminale.

Operations

After completing the connection and installation of the WBSH2-7 charging station, it can be started. The "POWER" LED will turn on and it will mean that the station has gone into Stand-by status. As shown in the figure, the WBSH2-7 charging station has a panel with which it is possible to interact. The main functions are listed below.
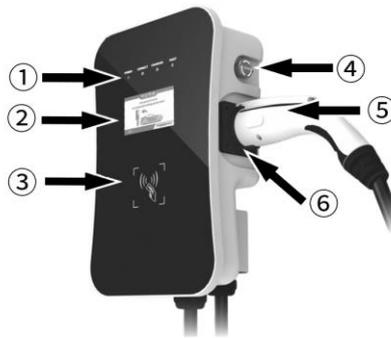
1	LED indicators	4	Emergency button
2	Display LCD	5	Charging socket
3	RFID reader	6	Socket plug

Status LED

The LEDs on the panel are used to indicate the status of the WBSH2-7 charging station. All the signaling combinations are listed below.

|	Power	Connection	Charging	Error	
	Green	Green	Red	Yellow	
1	ON	OFF	OFF	OFF	StandBy
2	OFF	ON	OFF	OFF	
3	OFF	Blink	OFF	OFF	Power
4	OFF	OFF	Blink	OFF	Charging
5	OFF	OFF	OFF	Blink	

Note: In all cases, when the "Power" LED flashes, it indicates the correct exchange of information between the charging station and the system.

Display LCD

The WBSH2-7 charging station is equipped with a large LCD display that allows the user to have a graphic feedback from the charging station. The images below indicate all the features provided.
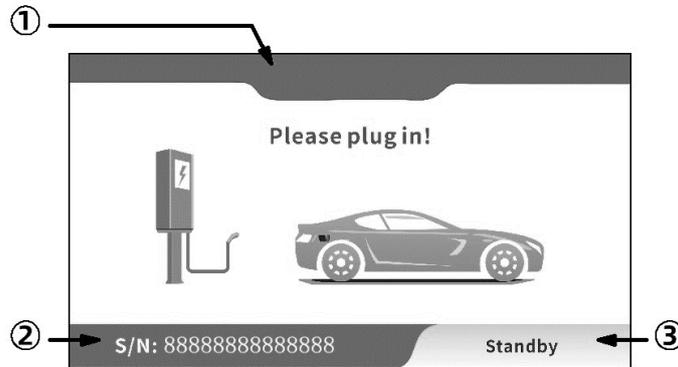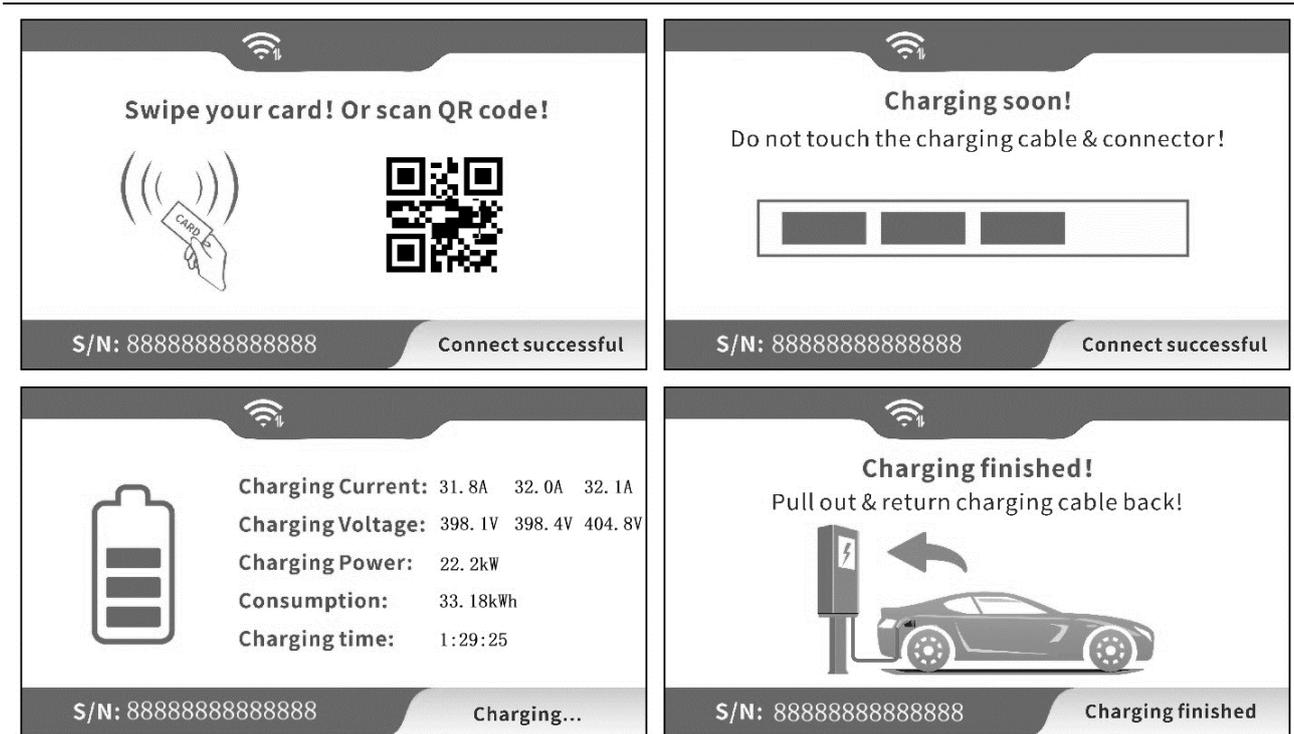

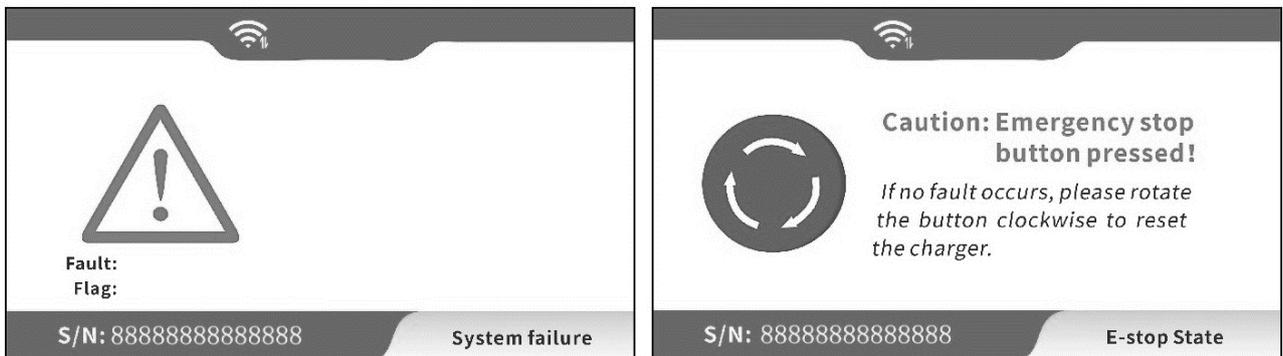| Area 1		
1	No Icon	Off-line or no network
2		Connect the charging station to the router via Wi-Fi
3		Exchange data with CMS via Wi-Fi network
4		Connect the charging station to the router via an ethernet cable
5		Data exchange with CMS via ethernet
Area 2		
6	S/N: 88888888888888	Serial number of the charging station
Area 3		
7	StandBy	Current status of the charging station
8	Conessione Riuscita	The charging connector is properly connected to the vehicle
9	Ricarica...	Charging status
10	Ricarica terminata	Charging finished, follow the instructions on the display
11	Stato di arresto di emergenza	The emergency stop button is pressed
12	Mancato avvio	Does not start, follow the instructions on the display
13	Fallimento del sistema	Error status, follow the instructions on the display

During the normal charging process, the LCD display may show one of the four screens shown below.
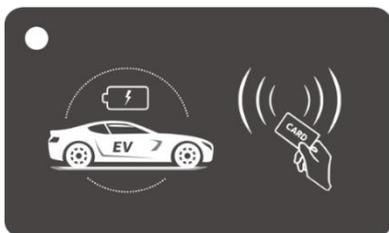
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Swipe your card! Or scan QR code!

S/N: 88888888888888 — Connect successful

Charging soon!
Do not touch the charging cable & connector!

S/N: 88888888888888 — Connect successful

Charging Current: 31.8A   32.0A   32.1A
Charging Voltage: 398.1V 398.4V 404.8V
Charging Power: 22.2kW
Consumption: 33.18kWh
Charging time: 1:29:25

S/N: 88888888888888 — Charging...

Charging finished!
Pull out & return charging cable back!

S/N: 88888888888888 — Charging finished

While using the device, if the charging process is not successful or the charging station is faulty, one of the two screens shown below will be shown on the LCD display.

Fault:
Flag:

S/N: 88888888888888 — System failure

Caution: Emergency stop button pressed!
If no fault occurs, please rotate the button clockwise to reset the charger.

S/N: 88888888888888 — E-stop State

RFID card reader

The WBSH2-7 charging station is equipped with a RIFID card reader that allows you to start and stop the charging process by using the card.

Emergency button

The charging station is equipped with an emergency button which has the purpose of interrupting the charging in case of anomalies. At any time, in the event of any emergency, you can press the button and immediately leave the charging station.

Note: In case of anomalies with the device, make sure you have pressed the emergency button and immediately contact our customer support by visiting the site: http://helpdesk.smartdhome.com/users/register.aspx

Charging socket and side support

The device is equipped with a type 2 charging socket. When the charging station is in standby it is recommended to place the charging socket in the appropriate side support in order to protect it from falls and any accidental damage.

Configuration

Note: The WBSH2-7 charging station can be configured using a laptop or smartphone connected to the Internet. For a correct configuration follow all the steps below.

- Put the laptop/smartphone in Wi-Fi search mode. Subsequently, the charging station will set itself up in Wi-Fi access point mode, allowing access to the configuration of the parameters.

- Connect your laptop/smartphone to the Wi-Fi signal transmitted by the charging station
  Note: The association to the Wi-Fi network does not require a password to connect to the charging station. If the network transmitted by the charging station is not transmitted, it is recommended to restart the device.
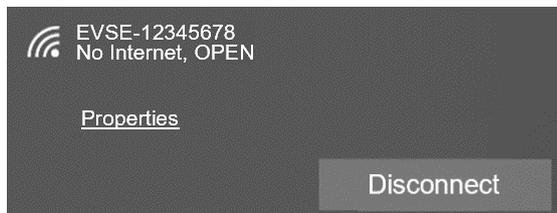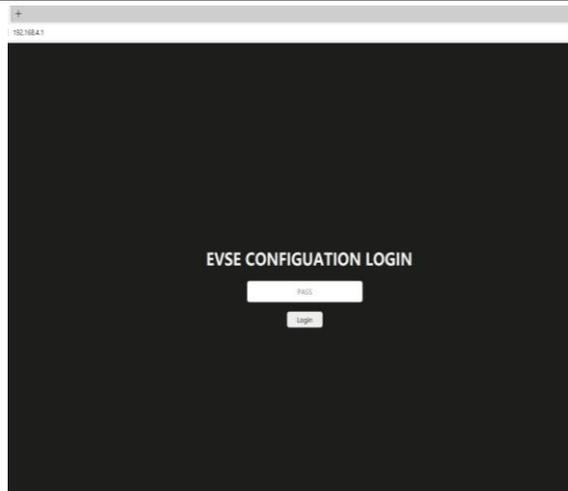

- Start the browser and enter the address 192.168.4.1 in the address bar, then you will have access to the configuration.
  Note: Do not Google the address, otherwise the procedure will fail.

- Enter the password 12345678 to access the configuration menu. It is advisable to change the password once logged in.

- After changing the parameters, click "SAVE" to save all the data correctly. Then click "RESTART" to restart the charging station and make all the changes made active.

  Note: By entering the data of your access point (ex. Home/work) the charging station will automatically connect to the access point indicated to communicate with the application.

Start charging

To correctly start charging your vehicle, it is advisable to follow all the steps indicated below:

- Park your electric car, switch it off and put it in parking mode.

- Unhook the charging socket from the side support of the station.

- Insert the charging socket into the socket of your electric car. If the connection is successful, the "Connection" LED will light up.

- In the "Plug and play" charging mode, the charging process will start automatically as soon as the plug is inserted into the appropriate socket of the car.

- In "swipe card" or "QR code scan" mode, follow the instructions on the display after correctly inserting the charging socket inside the socket of your vehicle. The recharging process will be started only after passing the card on the appropriate reader located in the front of the recharging station, or after scanning the QR code.

Download APP

After completing the installation and configuration procedure, if you need to reload the status of your installation station, you can install the application, following the steps below.

If you have an **ANDROID device**, you can download the "WE E-Charge" application using the QR code shown below.

If you have an **iOS device**, you can download the "WE E-Charge" application by searching for it in the Apple Store.

Stop charging

To stop charging your vehicle correctly, it is advisable to follow all the steps indicated below:

Note: The charging station will automatically stop the charging process when the car is fully charged.

- In the "plug and recharge" mode, you can automatically stop charging by activating the unlocking directly on the electric car (remote control or cockpit). In case the charging does not stop, it is recommended to try to disconnect the socket manually. When the "Charging" LED goes out, the charging process will be finished.
- When the recharging station is in "QR code scanning" mode, click on the "Stop" button to stop recharging.
- Once you have finished charging your electric vehicle, please manually remove the station socket from the electric car and place it in the side socket of the charging station.

Breakdown management and support

The WBSH2-7 charging station is equipped with automatic fault protection. The error handling table is shown below.

Information on the indicator	Category	Error	Solution
"Power" LED and display off	-	-	• Check the power line • Check the disconnector and the relative connections on the back of the charging station. **NOTE!** If the fault persists, we recommend that you contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
"Power" LED on and display off	-	-	• It may not be a failure; the display will go into "standby" mode when there is no charging in progress and will light up when a new charging process is started. • Cable inside the display damaged or faulty display. **NOTE!** If the fault persists, we recommend that you contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes once slowly and once quickly.	Abnormal voltage	11	Check the connection between the charging socket, the charging station and the electric car socket. If the fault persists, disconnect and reconnect the charging socket.
Flashes once slowly and then twice quickly.	Emergency Stop	12	The emergency button has been pressed. After resolving the fault, turn the emergency button to release and reset the charging station.
Flashes once slowly	Under tension	13	• Check that the incoming cables are connected

and then three times quickly.			correctly. • Check the input voltage.
Flashes once slowly and then four times quickly.	Overvoltage	14	• Check that the incoming cables are connected correctly. • Check the input voltage.
Flashes once slowly and then five times quickly.	Over-temperature protection	15	Check that the charging station is not installed in high temperature environments.
Flashes once slowly and then six times quickly.	Measurement failure	16	Switch off and restart the charging station.
Flashes once slowly and then seven times quickly.	Anti-discharges	17	Check that the charging socket and its cable are not damaged or wet. **NOTE!** If they are damaged, it is advisable to disconnect the charging station and contact our customer support immediately through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes once slowly and then eight times quickly.	Short circuit in OUT	18	Check that the charging socket and its cable are not damaged or wet. **NOTE!** If they are damaged, it is advisable to disconnect the charging station and contact our customer support immediately through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes once slowly and then nine times quickly	Overcurrent OUT	19	• Check that the charging socket is connected correctly. • Verify that the on-board charger (OBC) is functional. **NOTE!** If the fault persists, contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes twice slowly and once quickly.	Electric car response time-out	21	• The electric car battery is fully charged. • The charging socket is not properly connected to the car socket, therefore it is advisable to disconnect and reconnect it. **NOTE!** If the fault persists, contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes twice slowly and then twice quickly.	Electric car not supported	22	The electric vehicle connected to the charging station does not comply with international standards (IEC) and therefore cannot be powered.

Flashes twice slowly and then three times quickly.	Attack/release Internal relay	23	The charging station is damaged and requires the assistance of one of our specialized technicians, therefore we recommend that you contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes twice slowly and then four times quickly.	Failed RCD	24	The RCD protection is damaged and requires the assistance of one of our specialized technicians, therefore we recommend that you contact our customer support through the following link: http://helpdesk.smartdhome.com/users/register.aspx
Flashes twice slowly and then five times quickly.	Ground fault	25	The charging station is not properly grounded; therefore, it is recommended to check the input cable (PE) of the power line. Should this type of fault occur, it is advisable to contact a specialized technician to carry out all maintenance operations on the electrical network. **NOTE!** For any faults on the charging station, we recommend that you contact our customer support immediately through the following link**:** http://helpdesk.smartdhome.com/users/register.aspx

Disposal

Do not dispose of electrical appliances in mixed urban waste, use separate collection services. Contact the local council for information about available collection systems. If electrical appliances are disposed of in landfills or in inappropriate places, hazardous substances can escape into groundwater and enter the food chain, damaging health and well-being. When replacing old appliances with new ones, the retailer is legally obliged to accept the old appliance for free disposal.

Warranty and customer support

Visit our website: **http://www.ecodhome.com/acquista/garanzia-eriparazioni.html**

If you encounter technical problems or malfunctions, visit the site:
http://helpdesk.smartdhome.com/users/register.aspx

After a short registration you can open a **ticket online**, also attaching images. One of our technicians will answer you as soon as possible.

SmartDHOME Srl

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Product Number: 01040-1500-00