SERIES BE-W[2.0]
Use and installation manual

$C\epsilon$

READ CAREFULLY BEFORE USING THE DEVICE

KEEP FOR FUTURE REFERENCE

SCAME

SERIES BE-W[2.0]

CONTENTS

1. INTRODUCTION

1.1 PURPOSE OF THE MANUAL

The subject of this use and installation manual is the electric vehicle charging station (hereinafter referred to as 'device') of the **BE-W [2.0]** series in all its versions (see par.. 3.5).

The purpose of this manual is to provide:

- The **user** with all information necessary for the safe use of the device and its maintenance in optimal operating conditions.
- The **installer** with all information necessary to operate the device safely during installation and commissioning.

1.2 MANUFACTURER'S IDENTIFICATION

The manufacturer of the device covered by this manual is:

> *SCAME PARRE SPA*
> *Via Costa Erta 15*
> *24020 Parre BG - Italy*
> *www.emobility-scame.com*

1.3 STRUCTURE OF THE MANUAL

This manual is divided into chapters referring to different topics concerning the various stages of the device life cycle that are of interest to the end user. Each chapter is subdivided into paragraphs, each of which deals with specific points of the overall topic to which the chapter refers.

References to titles or paragraphs are indicated by the abbreviation chap. or par. followed by the relevant number. Example: "chap. 2" or "par. 2.1".

1.4   RESPONSIBILITY AND WARRANTY

- The device is covered by the manufacturer's warranty provided for in the Consumer Code (Articles 128 et seq.), which covers the reimbursement, repair or replacement necessary to remedy any manufacturing defects which may occur during normal use for a period of 24 months from the date of delivery of the device.
- Any modification of the device or installation and commissioning not in accordance with the instructions in this manual will invalidate the warranty and product certifications.
- Reproduction of this manual in whole or in part without the manufacturer's permission is strictly prohibited.
- The Manufacturer reserves the right to make changes or improvements to the device and documentation without prior notice.

1.5   ASSISTANCE

For further information on the device and its applications, please consult the documentation made available in the Manufacturer's web area by scanning the QR code or visiting the website: e-mobility.scame.com/download.

To receive assistance from the Manufacturer, please use the contact details below:

InfoTECH

ITALY	WORLDWIDE
Numero Verde	**ScameOnLine**
800·018009	www.scame.com
	www.emobility-scame.com

2. SAFETY

WARNING

⚠️ **The Manufacturer cannot be held liable for any damage to persons or property if the conditions described in this manual are not complied with.**

2.1 GENERAL INFORMATION

This manual contains instructions which are of paramount importance as they relate to the safety of the user and the device. These instructions must be strictly observed so as to ensure the safety of persons and property in dangerous situations which could occur during the operations described.

To ensure that these instructions can be identified easily in the manual, they have been included within text boxes accompanied by the pictogram indicating the general danger, following the definitions below:

DANGER

⚠️ **Instruction referring to an imminently hazardous situation which, if not avoided, will result in instant death or serious or permanent harm to health.**

WARNING

⚠️ **Instruction referring to a potentially hazardous situation which, if not avoided, may result in death or serious harm to health.**

ATTENTION

⚠️ **Instruction referring to a potential hazardous situation which, if not avoided, could result in damage relating to the safety of the device.**

N.B.

Additional information not related to risk situations that could lead to personal injury or damage to property.

2.2 GENERAL SAFETY INSTRUCTIONS

Non-compliance with these safety instructions may result in serious injury with even fatal consequences (risk of electrocution, explosion or electric arc) or damage to device.

USING THE DEVICE

- Before using the device, read all instructions carefully.
- The device is intended for charge mode 3 (according to IEC/EN 61851-1), which consists of connecting the electric or hybrid vehicle to the AC mains power supply using specific connectors (according to IEC/EN 62196-1 and 2).
- The device is intended for use in environments such as: car parks; private parking spaces; communal parking spaces; charging stations or dedicated charging points in commercial facilities (e.g. hotels, restaurants, service areas, shopping centres, shops, etc.).
- Do not use the device for purposes other than those for which it is intended.
- The device is not intended for use by persons (including children) with reduced physical, mental or sensory capabilities or insufficient experience and/or skills, unless they are under the supervision of a person responsible for their safety or are instructed by that person in the use of the device.
- Children must not play with the device or its packaging.
- Before connecting the vehicle to the device, make sure that the vehicle is properly braked and.
- Cables, sockets and plugs used to connect the vehicle must comply with the safety requirements of the legislation in force in the country where the device is installed.
- The use of extension cables to connect the vehicle is considered by the manufacturer to be improper use of the device and is therefore prohibited.
- When charging is complete, disconnect the charging cable from the device and the vehicle and store it in a suitable place for future use.

DEVICE INSTALLATION

- Before installation or carrying out any kind of operation on the device, read all instructions carefully.
- Installation and commissioning of the device must only be carried out by qualified and authorised personnel and in compliance with the safety regulations, rules and legislation in force in the country where the device is installed.
- After removing the packaging, check that the device is intact and has not been damaged in any way.
- If the device is damaged, it must not be installed or used. Contact the Manufacturer to agree on the appropriate procedures to be implemented.
- Packaging components must be delivered to the appropriate disposal centres and under no circumstances left unattended or within the reach of children, animals or unauthorised persons.
- Do not install the device in a potentially explosive environment or where flammable substances are present.
- Install the device in areas not directly exposed to the sun.
- Before proceeding with installation, check that the mains voltage corresponds to the characteristics indicated on the identification label on the base of the device.

SCAME

- Before making the electrical connection, check that no voltage is present in the system.
- Before putting the device into operation, check that the metal structure is earthed via the yellow-green conductor and ensure the presence of an automatic and differential power line protection coordinated with the earthing system.
- Once the device has been connected to the electrical system and before carrying out any work on the device, switch off the power and use a suitable tool to ensure that there is no voltage on any part.

DEVICE CLEANING AND MAINTENANCE

- For cleaning, use a damp cloth or neutral detergent compatible with plastic materials.
- Maintenance work on the device must only be carried out by qualified and authorised personnel.
- Before carrying out any work on the device, switch off the power supply and use a suitable instrument to check that there is no voltage on any part.
- Carry out checks and inspections on the device in the manner and at the intervals specified in the use and installation manual.
- Do not touch printed circuit boards and use suitable tools to access electro-statically sensitive components/ parts.

IN CASE OF FAILURE OR MALFUNCTION

In the event of a fault or malfunction, contact the installer. For further support, please contact the Manufacturer directly.

3. DESCRIPTION OF THE DEVICE

3.1 DEVICE COMPONENTS
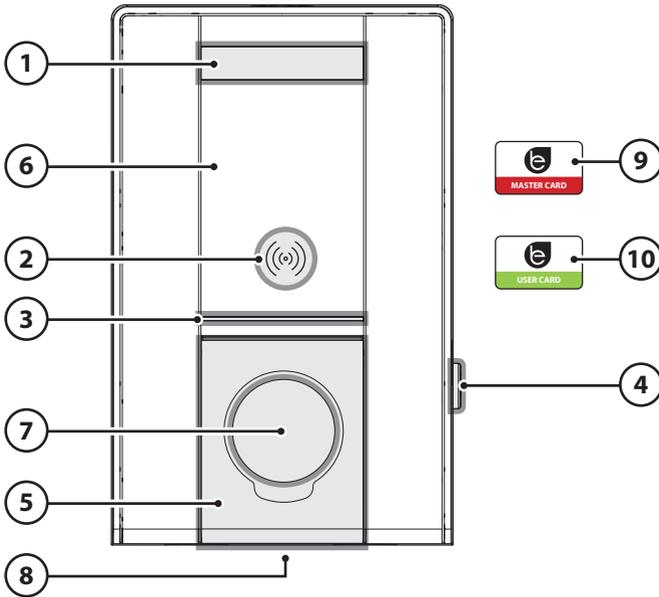
Depending on the version, the device may be equipped with:

1. Multilingual display (only versions without APP)
2. RFID reader (Mifare Classic or Mifare Plus, only versions without APP)
3. LED - RGB strip
4. Button (only versions without APP):
   • Change language
   • Consumption display
   • Charging interrupted
5. Charging flap (not present in tethered versions)
6. Protections
7. Charging sockets:
   • Picoblade connector with cable (type 2)
   • With plug block (eg. type 2, type 3A)
8. Identification label
9. Master Card
10. User Card

3.2 DISPLAY

1. NET mode: Address
   PERSONAL mode: PM
2. Device status
3. Set current value
4. Full scale value
5. Charging mode:
   - T: Typical
   - S: Simplified

6. Charge duration
7. Cyclic display:
   - Pist: Instantaneous power
   - Pest: External power
   - Etot: Power output
   - L1: Absorbed current
   - L2:
   - ...

3.3   IDENTIFICATION LABEL

ATTENTION

⚠️ **Do not remove the identification label. If the label is deteriorated and/or no longer legible, contact the Manufacturer to request a new one and proceed with replacement.**
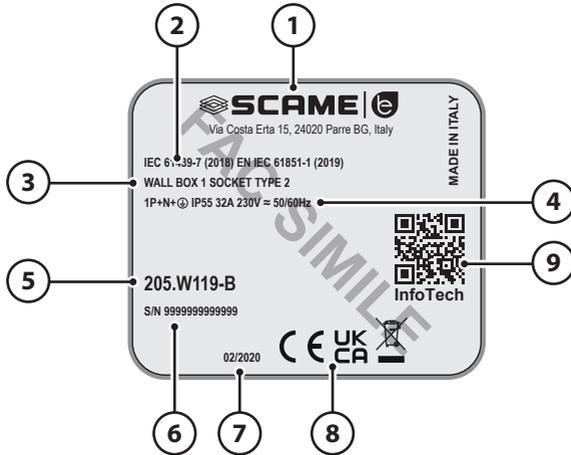
1. Manufacturer's Data
2. Reference standard
3. Device description
4. Technical specifications
5. Device code
6. Serial number
7. Month/year of production
8. CE/UKCA mark
9. QR Code

3.4 TECHNICAL SPECIFICATIONS
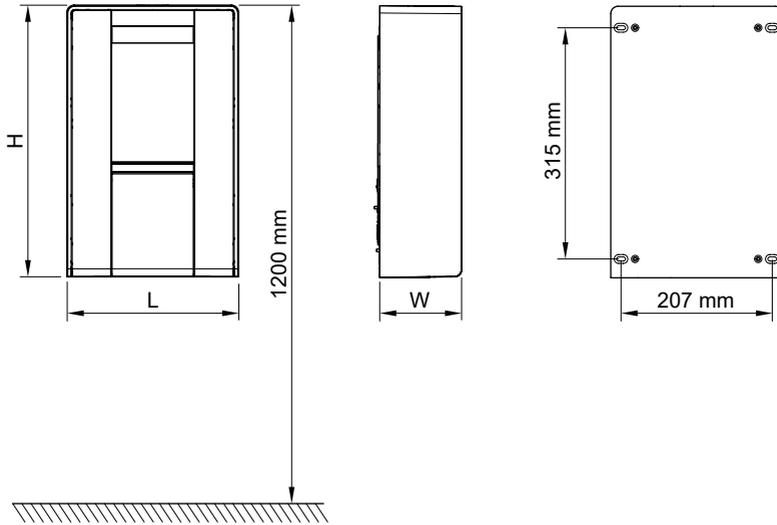
Dimensions (HxLxW)	370x235x112mm
Rated current	32A
Rated voltage	230Vac-400Vac
Nominal frequency	50-60Hz
Insulation voltage	250V-500V
IP Degree of Protection	IP55
Ambient temperature	Operating temperature from -30℃ +55℃ with derating
Material	Engineering plastics
Self-extinguishing temperature (GWT)	650℃
Impact resistance (IK grade)	IK10
Installation	Wall-mounted
Saline solution	Resistant
UV rays	Resistant

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CLASSIFICATIONS IEC/EN 61851-1

The device meets the following standard classifications IEC/EN 61851-1:

Power input characteristics	Electric Vehicle power supply device connected to the AC mains power supply
Electrical connection method	Permanently connected
Power output characteristics	Electric Vehicle AC power supply device
Normal environmental conditions	Outdoor and indoor use
Special environmental conditions	Operating temperature from -30°C +55°C with derating
Access condition	Device for places with unrestricted access
Assembly procedure	Fixed device Wall-mounting assembly Surface mounting
Protection against electric shock	Class I device
Charging modes	Modeà 3

3.5   DEVICE VERSIONS

LITE	Device that operates independently and cannot be incorporated into a management network. **Operating mode**: FREE and PERSONAL.
BUSINESS	Device that can be incorporated into a management network as a *satellite*. **Operating mode**: FREE, PERSONAL and NET.
PRO	Device that can be incorporated into a management network as a *master*. **Operating mode**: FREE, PERSONAL and NET.

3.6   INTERNAL COMPONENTS

To access the internal components, follow the instructions in par. 4.1.2. If necessary, remove the LED bar from the base.

1. **SCU**: Controller board
2. **J26**:
   • Internal power meter
   • Current transformer
3. **J6**: Socket block
4. **J5**:
   • Pilot circuit
   • Stop button
   • RGB LED strip
5. **CN8**: Current selector
6. **J21**: Ventilation present
7. **J11**: LCD Display

8. **J2**: Other SCU
9. **SW1**: Reboot button
10. **J3**:
    • Power pack
    • DC leakage detector
    • Meter
    • Switch
    • Battery
11. **J4**:
    • Mirror contact
    • Shunt release coil
12. **J17**: RFID reader
13. **BBN/+24V**: Shunt release coil

14. **AB/REM**: Remote enabling
15. **CP**: CP tethered version
16. **A-/A+/GND**: NET (RS485)
17. **SBC-LAN**: local server with OCPP protocol (optional)
18. **CN3**: External power meter
19. **RJ45**: Router

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3.6.1   SW1: REBOOT BUTTON

The reboot button allows the following:

- To restart the device with a short press.
- A long press, longer than 20 s, causes the board to reset to the default configuration.

ATTENTION
⚠️ **The default configuration is only to be used in an emergency and may still not work properly on some versions. The original configuration must be restored as soon as possible. To do so, it will be necessary to contact support.**

3.6.2   CN8: CURRENT SELECTOR

For further information, see par. 4.1.3 for the potentiometer setting.

3.6.3   AB-REM: REMOTE ENABLE CONTACT

The remote enable contact (open by default) allows the following:

- If closed, to suspend the current charge or inhibit a new charge. (Vehicle charging begins, but is suspended after a few seconds).
- If open, to resume the current charge or allow a new charge.

3.6.4   SBC-LAN: LOCAL SERVER WITH OCPP PROTOCOL

The local server with OCPP protocol is a device which serves to manage the device remotely.

3.6.5   J21: VENTILATION PRESENCE

The connector inhibits the charging of vehicles that require ventilation:

- If the environment is equipped with ventilation, the jumper can be moved to the free pin.

4. DEVICE INSTALLATION

WARNING

⚠ **Installation of the device must only be carried out by qualified and authorised personnel.**

4.1 PRELIMINARY OPERATIONS

4.1.1 PACKAGING

ATTENTION

⚠ **Pay careful attention when transporting and handling the device in its packaging: avoid any form of collision.**

1. Remove the device from its packaging and place it on a horizontal surface of adequate size and characteristics to support its weight (e.g. a sturdy table).
2. After unpacking, check the integrity of the device and its components.

WARNING

⚠ **Packaging components must be delivered to the appropriate disposal centres and under no circumstances left unattended or within the reach of children, animals or unauthorised persons.**

4.1.2 OPENING THE COVER

1. Open the charging flap.
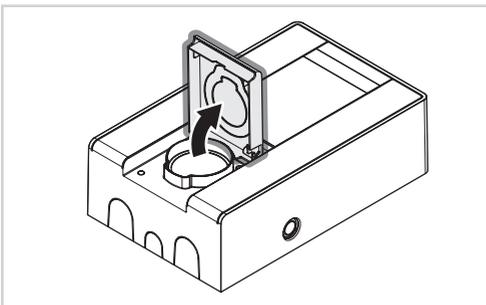
2. Remove the cover fixing screws.
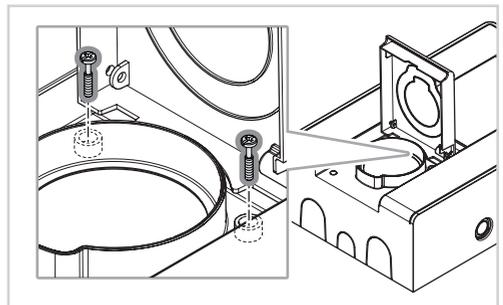
3. Lift and remove the cover from the base.
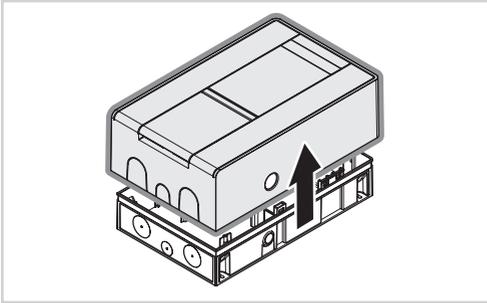
4.1.3   POTENTIOMETER SETTING

1. Remove the LED bar from the base.
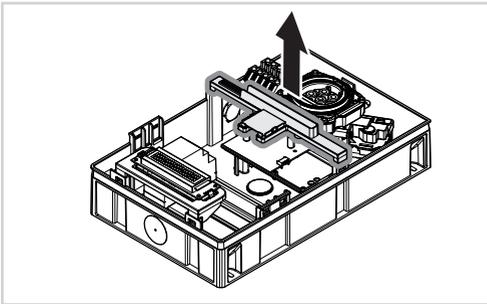
2. Set the potentiometer using a flat-blade screwdriver. The setting values are shown in the table below.

3. Reposition the LED bar on the base.
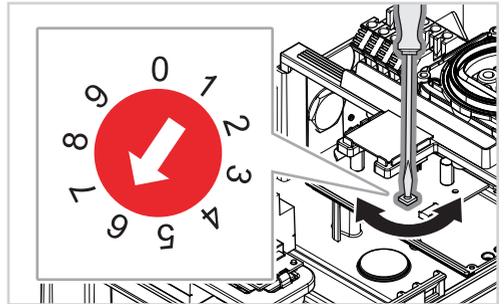
POSITION	CURRENT (A)	
	3.7 kW / 11 kW	7.4 kW / 22 kW
0	6	6
1	10	10
2	13	13
3	16	16
4	16	20
5	16	25
6	16	32
7	16	32
8	16	32
9	16	32
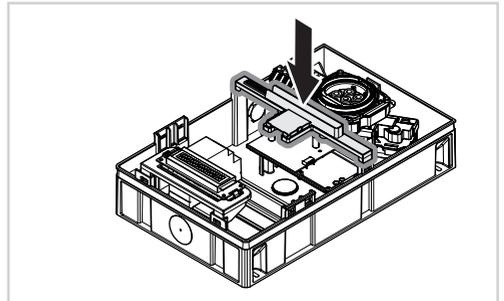
4.1.4 PERFORATING FOR CABLE ENTRY

ATTENTION

Drilling for the cable entry must serve to allow the power cable to pass through correctly.

1. Remove one of the pre-cut elements from the cover at the feed-through point of the power cable.

2. Make the hole for the power cable at one of the points indicated on the base.
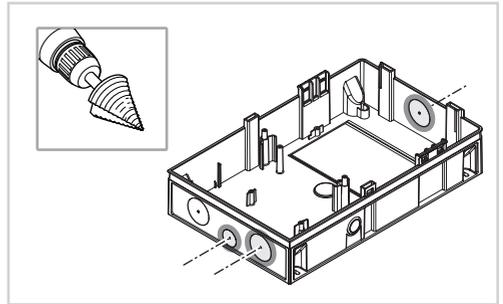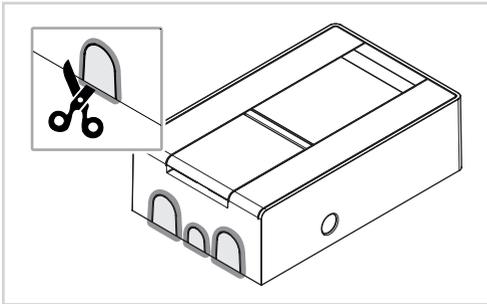
4.2 WALL-MOUNTING

ATTENTION

Before assembly on the wall, check that the fixing surface is suitable for the device's characteristics.

1. Position the base on the wall, leaving 50 to 150 cm from the floor to the bottom edge of the socket.

2. Check the position of the unit using a spirit level and mark the fixing points on the wall.

50÷150 cm
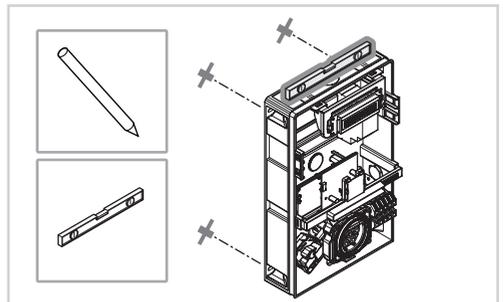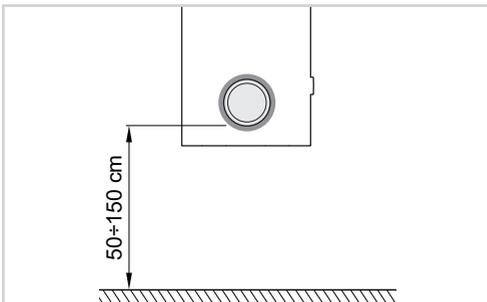
3. Drill holes in the wall at the previously marked points.
4. Insert wall plugs into the holes.

5. Mount the device base to the wall using the appropriate fasteners.
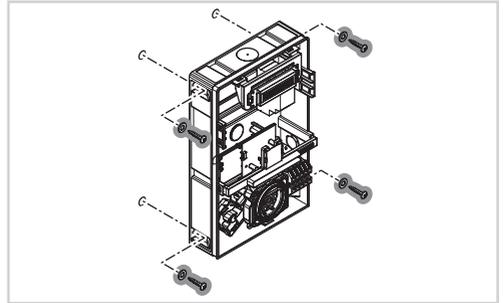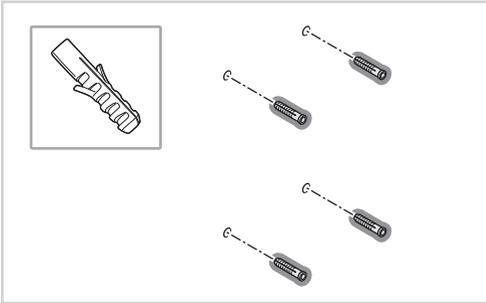
4.3 ELECTRICAL CONNECTION

WARNING

 Before making the electrical connection to the device, check that no voltage is present in the system.

1. Cut the power supply to the electrical system.
2. Fit an appropriately sized cable gland in the hole for the power cable to pass through.

REFERENCE	CABLE GLAND DIMENSION
A	MAX PG 21
B	MAX PG 11

3. Insert the power cable into the cable gland and make the electrical connection to the system using the terminal block provided on the base:
   - (**A**) single-phase connection
   - (**B**) three-phase connection

N.B.

For power cable specifications, see par. 4.3.2. For further information, please refer to the wiring diagram   .
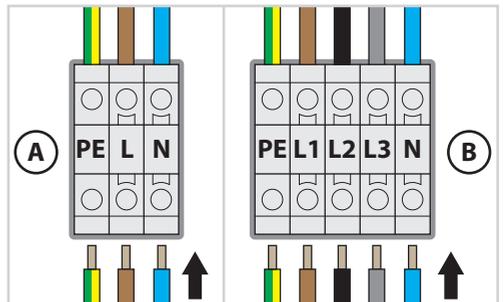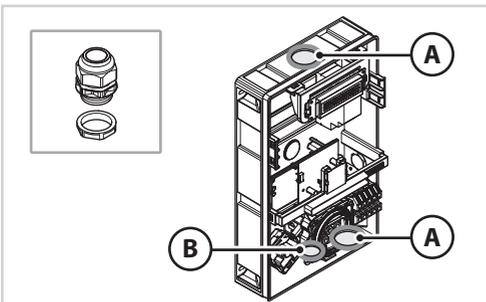
4. Power the device by energizing the system.
5. Check electrical values using suitable instruments (e.g. multimeter).

N.B.

To verify the electrical values, please refer to the system requirements (par. 4.3.1).

N.B.

In the case of tethered stations without RCBOs installed in IT/NL, it is recommended that the installer connect the current-triggered release coupled to the external protections of the micro-controller as shown on the circuit diagram provided in the product.

ATTENTION

⚠️ **Values other than those indicated in the system requirements (par. 4.3.1) could compromise the charge.**

4.3.1 ELECTRICAL SYSTEM REQUIREMENTS

Earthing system	TT, TN(S), TN(C)
Voltage between phases (L-L)	380 - 400Vac
Voltage between phase and neutral (L-N)	220 - 230Vac
Voltage between neutral and ground (N-PE)	< 5Vac
Frequency (f)	50-60Hz
Earthing resistance (Rt)	< 50Ω
Total harmonic distortion (THD)	< 8%

4.3.2 POWER LINE SPECIFICATIONS

ATTENTION

⚠️ **The power line must be constructed with cables of a cross section suitable for the charge. The electrical system designer is solely responsible for the dimensioning of the power line.**

POWER CABLE SPECIFICATIONS				
Power (kW)	**Voltage (V)**	**Current (A)**	**Wire gauge (mm^2)**	**Max. length (m)**
7,4	230	32	3G6	40
11	400	16	5G4	100
22	400	32	5G6	80

* Values determined considering FG7OR 0.6/1kV cables and voltage drop <4%.

4.4   CONNECTION TO THE MANAGEMENT NETWORK

WARNING

⚠️ **Before carrying out any work on the device, switch off the power supply and use a suitable instrument to check that there is no voltage on any part.**

Depending on the version and the type of application required, the device can be included in a management network as *master* or satellite device. To connect the device to the network, proceed as follows:

1.   Connect the *master* device to the computer or to a local network via the Ethernet port or WiFi (if present).

N.B.

For Ethernet connection specifications, see par. 4.4.1.

2.   Connect the RS485 serial line from the satellite devices to the *master* device (up to 16 devices can be connected), see par. 4.4.2.

4.4.1   ETHERNET CONNECTION REQUIREMENTS

The following instructions must be observed when connecting the Ethernet cable to the device:

1.   Insert a non-crimped end of the Ethernet cable (Cat 6 S/FTP) through the cable gland on the device.
2.   Using a suitable crimping tool, crimp the end of the cable inserted inside the device.
3.   Connect the cable to the Ethernet LAN port of the router on the device.
4.   Cut to the correct length and crimp the cable end on the outside of the device.
5.   Connect the cable to the local network infrastructure.

The connection must meet the following requirements:

Ethernet	RJ45
Cable type	8P+PE, shielded
Shielding	• For a cable length of 30 metres or less, the integrated PE connection is sufficient. • For cable lengths of more than 30 metres, the PE shielding must also be connected to the other end of the cable.

4.4.2 CONNECTION DIAGRAM

CONNECTION WITH SCU ELECTRONICS ONLY

RS485 CONNECTION CHARACTERISTICS	
Network cable	F/UTP CAT6 in separate pipe
Mutual capacitance	< 10pF/m
Difference of capacitance	< 60pF/m
Blue/white pair:	**Blue**: A+
	White: A-
Brown/white pair:	**Brown**: GND
	White: GND
Max. length	400 m between the first and last device

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MAX0/SCU ELECTRONIC MIXED CONNECTION
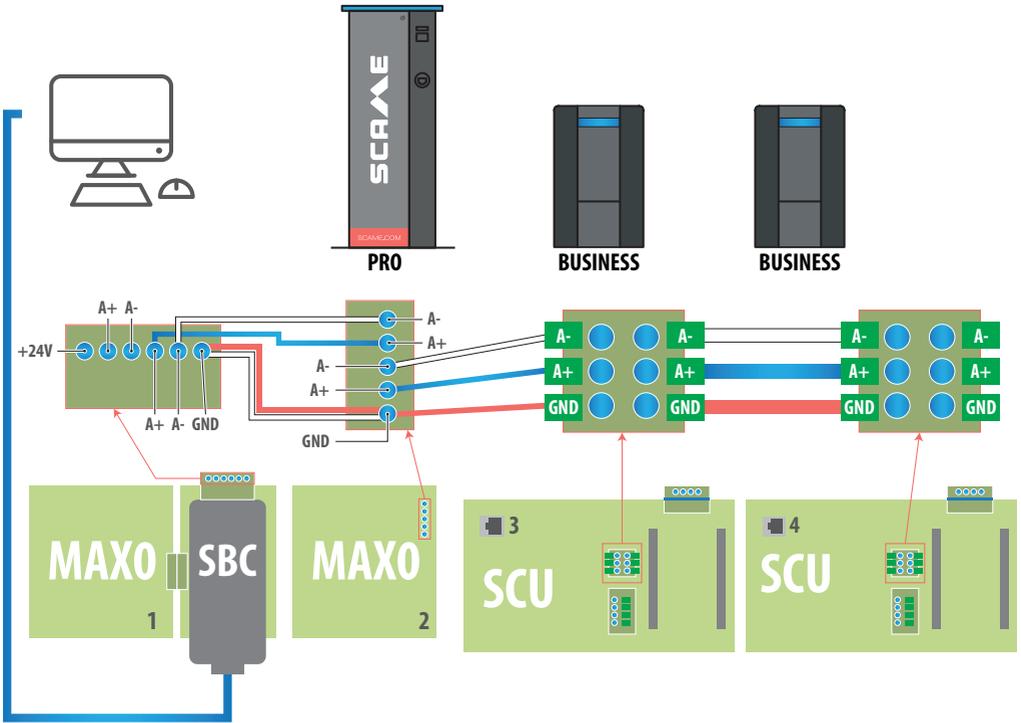
RS485 CONNECTION CHARACTERISTICS	
Network cable	F/UTP CAT6 in separate pipe
Mutual capacitance	< 10pF/m
Difference of capacitance	< 60pF/m
Blue/white pair:	**Blue**: A+
	White: A-
Brown/white pair:	**Brown**: GND
	White: GND
Max. length	400 m between the first and last device

4.5 COMMISSIONING

WARNING

⚠️ **Before carrying out any work on the device, switch off the power supply and use a suitable instrument to check that there is no voltage on any part.**

1. Place the cover on the base of the device.
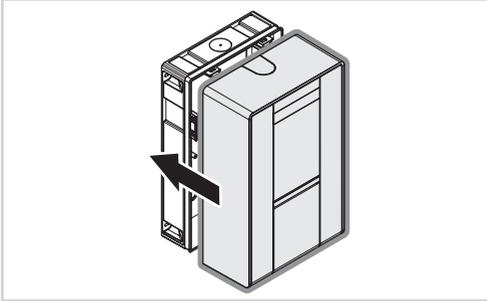
2. Open the charging flap.
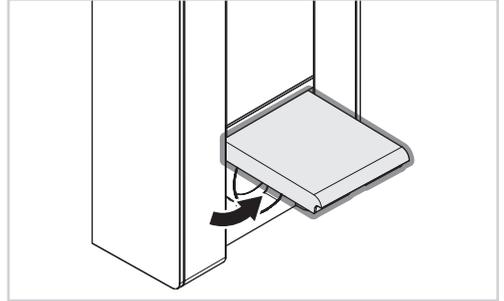
3. Insert the cover fixing screws.
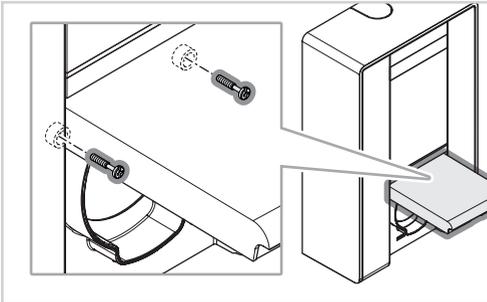
4. Close the charging flap.
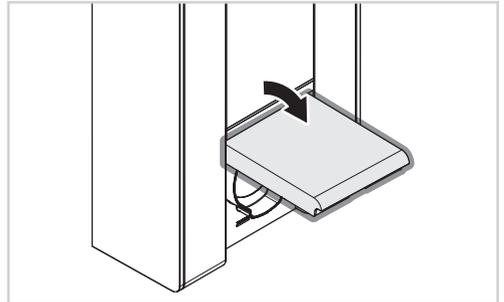
5. Power the device on by energizing the electrical system.
6. Wait for the flashing blue LED to turn green.
7. The device is ready to be used.
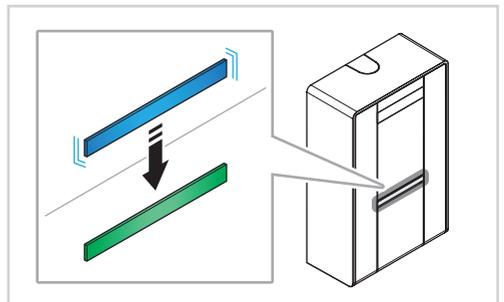
5. USING THE DEVICE

The device has different operating modes based on the version:

- **FREE (par. 5.1)**: user identification not required.
- **PERSONAL (par. 5.2)**: user identification required.
- **NET (par. 5.3)**: user identification required and remote management

5.1   FREE MODE OPERATION

Device accessible to anyone
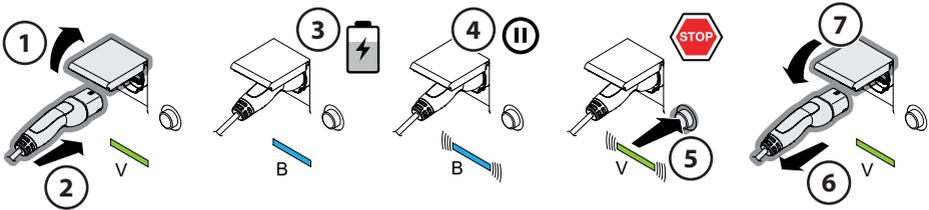
V: Green   **B**: Blue

VEHICLE CHARGING PROCEDURE

1.   Connect the charging cable to the vehicle and open the charging flap.
2.   Connect the charging cable to the socket on the device.
3.   Wait for the green LED to turn blue. The blue LED indicates that charging has started.
4.   Wait for the blue LED to flash. The flashing blue LED indicates that charging has been completed.
5.   Press the button to interrupt the charging operation.
6.   Wait for the LED to turn green and disconnect the charging cable.
7.   Disconnect the charging cable from the vehicle and close the device flap again.

ATTENTION

When charging is complete, it is mandatory to disconnect the charging cable from the device.

CHANGING MODE

1. Stop the charging operation in progress.
2. Press and hold the button and simultaneously present the Master Card on the RFID reader to change modes.
3. Repeat the operation to return to the previous mode.

5.1.1 FREE MODE STATUS MESSAGES

STATUS	RGB LED	ON-SCREEN DISPLAY
Device not powered on	×	×
Power on the device	(((●)))	SCAME PARRE (firmware release)
Device powered on	●	SOCKET AVAILABLE
Insert plug into the socket	(((●)))	PLUG IN
Connect the vehicle	(((●)))	EV WAITING
If the vehicle needs charging	●	CHARGING (calibration) (current)(energy)(time)
If the vehicle does not need charging	(((●)))	SUSPENDING (current)(energy)(time)
If the station suspends the charging operation	(((●)))	RM STANDBY MODE (time)
Press button	(((●)))	PLUG OUT
Remove plug	●	SOCKET AVAILABLE

×	off
● - ●	steady light
(((●))) - (((●)))	flashing light

5.2   PERSONAL MODE OPERATION

Device with restricted access via User Card
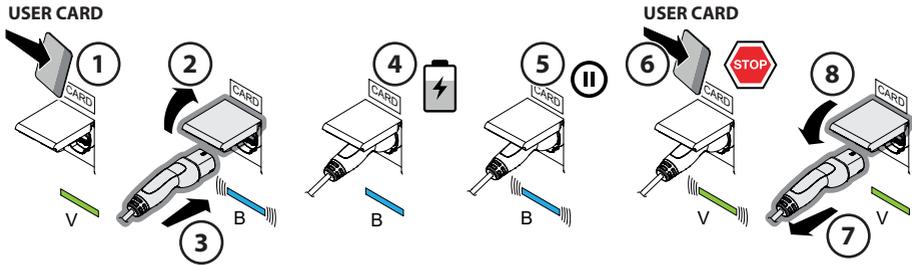
V: Green   **B**: Blue

VEHICLE CHARGING PROCEDURE

1. Present the User Card to the RFID reader.
2. Connect the charging cable to the vehicle and open the charging flap.
3. Connect the charging cable to the socket on the device.
4. Wait for the green LED to turn blue. The blue LED indicates that charging has started.
5. Wait for the blue LED to flash. The flashing blue LED indicates that charging has been completed.
6. Present the User Card to the RFID reader to stop charging.
7. Wait for the LED to turn green and disconnect the charging cable.
8. Disconnect the charging cable from the vehicle and close the device flap again.

ATTENTION
⚠️ **When charging is complete, it is mandatory to disconnect the charging cable from the device.**

CHANGING MODE

1. Stop the charging operation in progress.
2. Press and hold the button and simultaneously present the Master Card on the RFID reader to change modes.
3. Repeat the operation to return to the previous mode.

5.2.1 PERSONAL MODE STATUS MESSAGES

STATUS	RGB LED	ON-SCREEN DISPLAY
Device not powered on	×	×
Power on the device	(((●)))	SCAME PARRE (firmware release)
Device powered on	●	SHOW CARD
Present card	(((●)))	PLUG IN
Insert plug into the socket	(((●)))	CONNECTOR INSERTED
Connect the vehicle	(((●)))	EV WAITING
If the vehicle needs charging	●	CHARGING (calibration) (current)(energy)(time)
If the vehicle does not need charging	(((●)))	SUSPENDING (current)(energy)(time)
If the station suspends the charging operation	(((●)))	RM WAITING (time)
Present card	(((●)))	PLUG OUT
Remove plug	●	SHOW CARD

×	off
● - ●	steady light
(((●))) – (((●)))	flashing light

5.3 NET MODE OPERATION

Device managed remotely

The device can be managed remotely via the SCAME management system (NET) or via the OCCP communication protocol:

- **NET**: list of authorised users held in the local server memory.
- **OCPP**: list of authorised users held in the central station memory.

5.3.1 NET MODE ACCESS

To connect to the remote management system, simply access the server's IP address from your web browser using the credentials below:

Default address	192.168.30.126
Username	admin
Password	gsroot

> **N.B.**
>
> **In the case of non-secure networks, it is possible to enable an encrypted connection (HTTPS protocol).**
>
> **DHCP not supported**

5.3.2 ADDING A SATELLITE DEVICE TO THE MASTER DEVICE

> **N.B.**
>
> **Each master device can support a maximum of 15 satellite outputs.**

To add a satellite device to the master device, proceed as follows:

1. Connect to the IP address of the master device (by default: 192.168.30.126) from a web browser (we recommend using Google Chrome).
2. Use the credentials below to log in:
   (**1**) Username = service   (**2**) Password = gsserv

3. Once logged in, click on the '+' button **(3)** and enter the serial number of the additional satellite device (by default the configured value is 16).
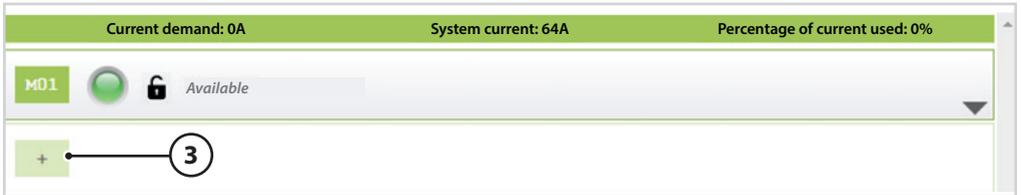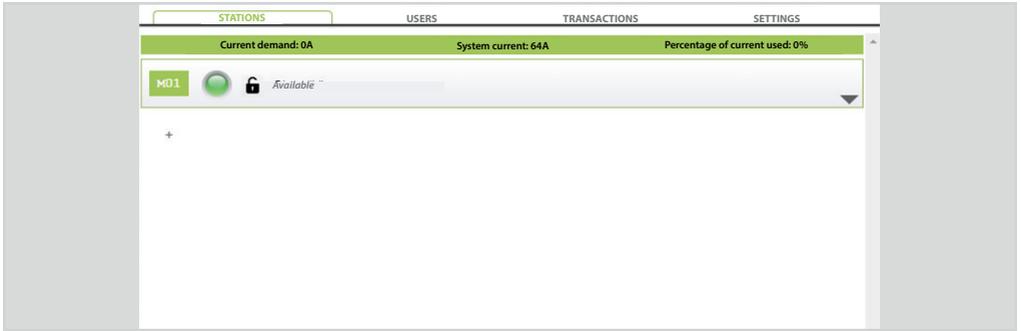
4. If the serial connection between the devices has been performed correctly, after a few seconds the grey status icon (**4**) turns green (**5**).

5. Once the new device is connected, its address can be changed: click on the grey triangle on the right (**6**) to access device parameters.

6. Change the address (**7**) to the desired one and click on "Set address" (**8**) to confirm.
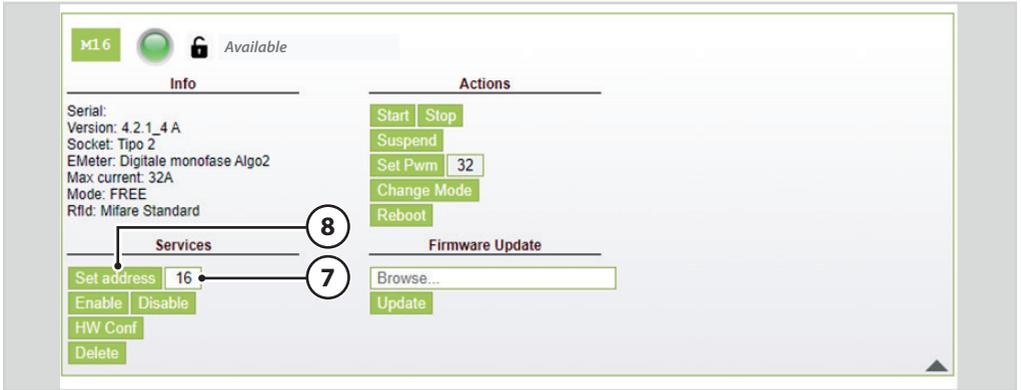
7. Once the change is confirmed, the device is displayed with the new address set (**9**). In the example shown, the serial number has been changed from 16 to 2.
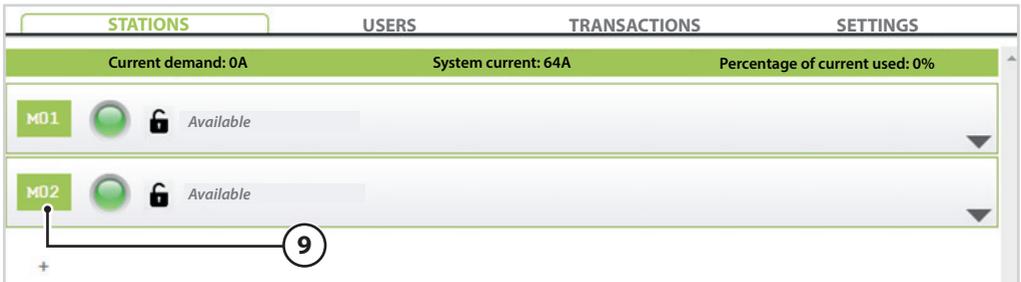
Perform the procedure described for each satellite device to be added, remembering that:

- No two devices with the same serial address can exist on the fieldbus.
- During the numbering phase, it is recommended to switch on one piece of device at a time.
- Once the numbering phase is over, the device can remain switched on.


```
01      CHARGING  16/32T
InstP  0.0kW          01:24s
```

N.B.

It is possible to check the serial number of a device directly from the display (10).

5.3.3 STATIONS WINDOW

Once logged in to the management system, the STATIONS window is displayed. The window shows the real-time status (**1**) of the sockets:

- If the socket is not in use, 'Available' is displayed.
- If the socket is in use, 'Charging' is displayed, the user currently charging, the duration of the charge, the energy drawn and the instantaneous current.
- If communication between the station and server is missing, 'Disconnected' is displayed.
- If an error is present, a description of the error is given (e.g. 'RCBO tripped').

By clicking on the arrow in the bottom right-hand corner (**2**), you can view more detailed information on sockets and send commands.

On the detail screen, the following information is displayed:
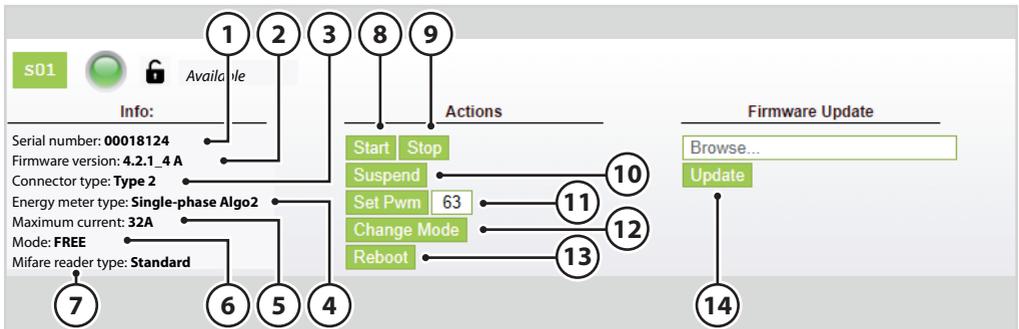
1. **Serial**: controller board serial number.
2. **Version**: firmware version controlling the device.
3. **Socket**: technical name of the socket.
4. **EMeter**: type of current measuring system.
5. **Max Current**: maximum current output value delivered by the socket (A).
6. **Mode**: Device operating mode:

- **FREE**: free access.
- **NET**: access following authorisation (RFID card).

7. **RFID**: type of RFID reader installed.

The socket can be controlled via the following commands:

8. **Start**: authorises a charge (only useful if taken in NET mode).
9. **Stop**: starts the charge interruption process.
10. **Suspend/Resume**: interrupts/resumes current supply without interrupting charging (the connector remains locked in the socket).
11. **Set Pwm**: limits the maximum value of current delivered to the vehicle (whole number values between 6 A and 63 A. The maximum value of the current delivered will in any case not exceed the flow limit of the socket and/or charging cable).
12. **Change Mode**: changes the operating mode of the device (FREE or NET).
13. **Reboot**: restarts the electronics controlling the device.
14. **Update Firmware**: updates the firmware of the electronics controlling the device.

5.3.4   USERS WINDOW

The USERS window displays user data and access configurations for the upload service, and allows the operator to:

- Change the access configurations for the user upload service by clicking on the relevant user name in the 'User' column (**1**).
- Add a new user by clicking on the 'Add User' button (**2**).

From the user management screen, the operator can:

- Enter or modify user data (**3**).
- Enable or disable (**4**) the user card or condition it according to a maximum number of charges (**5**) and/or an expiry date (**6**).
- Delete the user from the management system (**7**).
- Display data of all charges made by the user (**8**).

5.3.5   TRANSACTIONS WINDOW

From the TRANSACTIONS window the operator can:

- Monitor the duration of the charge (**1**) and the power output (**2**) by each socket in the various transactions that have taken place.
- Display all transactions (**3**) recorded in the management system by connected device.
- Filter data by user (**4**) by clicking on the relevant user name.
- Export displayed data (**5**) in CSV format.

5.3.6 CONFIGURATIONS WINDOW

System configurations can be configured in the CONFIGURATIONS window:

1. **Network configuration**:in this section it is possible to specify the parameters of the SBC's network configuration by setting at which IP address the management system's web page will remain listening.
2. **OCPP configurations**: in these sections, parameters can be set and configured to define the connection via OCPP 1.5 SOAP and 1.6 JSON to a central station.

N.B.

Refer to the owner of the central station and the official OCPP document to populate the fields.

---

3. **Load balancing**: see par. 5.3.6.1.
4. **Other configurations**: see par. 5.3.6.2.

5.3.6.1   LOAD BALANCING

In this section it is possible to:

- Specify which load balancing algorithm will be applied to the device connected to the management system, or to disable load balancing (**1**):

  - **None**: disable load balancing.
  - **Static Democratic**: evenly distributes the available current in the system to all connected sockets. If the maximum current of the system is not sufficient to allow simultaneous charging on all sockets, new charging sessions will be suspended (connector locked but no power supply). The system is able to detect if a vehicle has finished charging and then redistribute its share of current to the other sockets or take over any suspended charges.

N.B.

For load balancing to work properly, all sockets must be connected to a single dedicated power line.

- Set the value (whole number) of current (A) below which the vehicle charge is suspended (**2**).

N.B.

Every vehicle has a minimum current value below which it is unable to charge.

- Set the value (whole number) of current (A) dedicated to charging systems (**3**).

ATTENTION

⚠️ **Entering a value higher than the actually available current could cause the line protection systems to trip.**

5.3.6.2   OTHER CONFIGURATIONS

In this section it is possible to:

- Set the date and time of the management system (**1**).
- Set the language of the management system (**2**).
- Install software updates (**3**).
- Restart the software (**4**).
- Restart the SBC operating system (**5**).

6. FUNCTIONS

6.1 CHANGE DISPLAY LANGUAGE

- Change language: short press on the button.
- Set default language: long press on the button.

N.B.

If there is a delay of more than one minute following a short press of the button, the language will return to the default configurations.

6.2 USER MANAGEMENT

In the PERSONAL operating mode it is possible to enable or disable User Cards to use the device.

6.2.1 INSERTING NEW USER CARDS

1. Set the device to PERSONAL mode
   (display: PM SHOW CARD).
2. Present the Master Card to the RFID reader to switch to database management
   (display: DATABASE MANAGEMENT - SHOW CARD)
3. Present the User Card to the RFID reader to be inserted into the memory
   (display: ID REGISTER – 001 USERS).
4. Present any additional User Cards you wish to enter in the memory.
5. Close the database management by presenting the Master Card or letting the countdown expire.

6.2.2 DELETING USER CARD

1. Set the device to PERSONAL mode
   (display: PM SHOW CARD).
2. Present the Master Card to the RFID reader to switch to database management
   (display: DATABASE MANAGEMENT - SHOW CARD)
3. Present the User Card to the RFID reader to be deleted from the memory
   (display: DELETE USER?).
4. Present the User Card to the RFID reader to confirm the deletion
   (display: ID DELETED–000 USERS).
5. Present any additional User Cards you wish to delete from the memory.
6. Close the database management by presenting the Master Card or letting the countdown expire.

6.3　SCAME E-MOBILITY

Through the SCAME E-MOBILITY app it is possible to manage the device directly from a smartphone or multimedia device. In particular it is possible to:

• Authorise, monitor and stop vehicle charging.
• Change operating mode (FREE or PERSONAL).
• Enable and set the Power Management function.

N.B.

The SCAME E-MOBILITY app can be downloaded from Google Play for Android and/or Apple Store for IOS.

6.3.1　DEVICE ACTIVATION

1. Download the SCAME E-MOBILITY app to your media device.
2. Stand in front of the device powered on.
3. Launch the SCAME E-MOBILITY app.
4. Accept the privacy policy and terms of service by pressing the ACCEPT AND CONTINUE button.
5. Proceed with the tutorial screens by pressing NEXT.

Other stations

To add a new station, open the list of Wi-Fi networks and select the one with the name ChargePointScame followed by the serial code produced by the station (e.g. ChargePointScame 100123456). The password of the Wi-Fi network is indicated in the manual.

Cancel　WI-FI NETWORKS
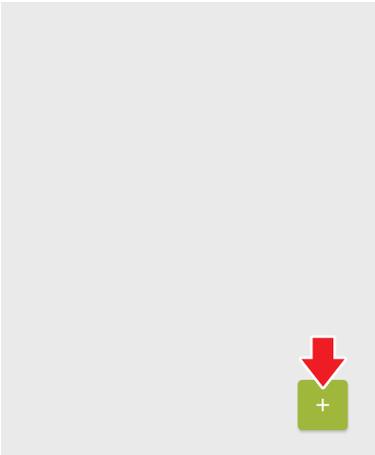
6. From the Station List screen, search for the wifi network by pressing the + button.
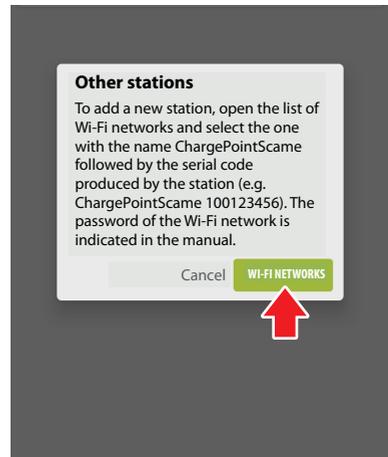
7. Press the WI-FI NETWORK button and connect to the device network (SSID: ChargePointScame 100xxxxxxx, PW: SCUwifi1963!).

Enter the Activation code found on the label or in the manual
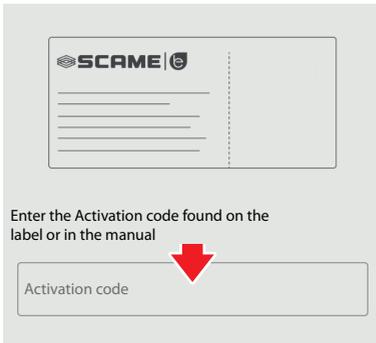
Activation code

8. Enter the activation code on the Safety Instructions sheet or on the device. Then press the CONFIRM button.

Station activation

Enter a station name and a PIN code (needed to access the station, **so it must be kept safely**).

Station name
BE-W 2.0

PIN code
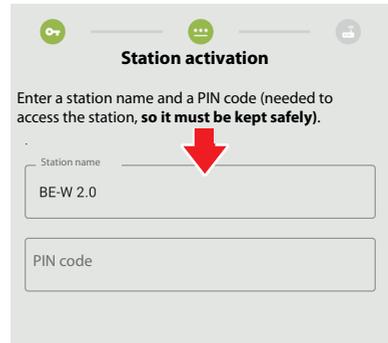
9. Set the device name and press the CONFIRM button.

N.B.

It is recommended not to leave the default device name.

Station activation

Enter a station name and a PIN code (needed to access the station, **so it must be kept safely**).

Station name
BE-W 2.0

PIN code
98765
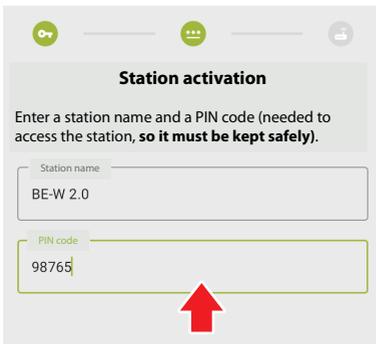
10. Set the 5-digit PIN and press the CONFIRM button.

N.B.

If you are logging in from a device other than the one on which activation was performed, you will need to log in using the PIN set. We recommend that you make a note of it before pressing the CONFIRM button.

Connect the station to the Wi-Fi network

Enter the network name (SSDI) and your password to connect the station.

Network SSDI
LAB-EM

Network password
....

11. Lastly, if you want to connect the device to an external wifi network, enter the network name (SSID) and its password to connect the device. Press the CONFIRM button or skip the procedure to complete the activation of the device.

6.3.2   ACTIVATION CODES

N.B.
The labels shown below on the device are also present on the Safety instructions.

1. PIN/PASSWORD WI-FI: Required for SCAME E-MOBILITY
   app activation (par. 6.3.1)
2. QR CODE CHAIN 2: Required for Chain 2 activation
   (par. 6.3.3)
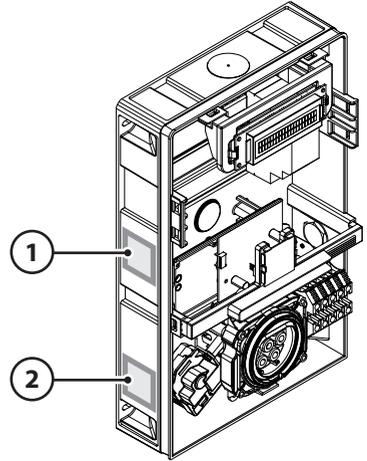
6.3.3   CHAIN2 ACTIVATION (ITALIAN MARKET ONLY)

ATTENTION
Before activating the Chain2 system, check with your energy supplier that: • **the meter is second generation;** • **the infrastructure of the power distribution box in the area is compatible with the Chain2 protocol.**

Before performing the Chain2 activation procedure, make sure that you have activated the device (par. 6.3.1).
Then proceed as follows:

1. Download the free CHAIN2 ACTIVATOR app from Google Play/Apple Store.
2. Stand in front of the device powered on.
3. Launch the CHAIN2 ACTIVATOR app.
4. Register by filling in the required fields with the data of the POD owner.
5. Confirm registration after having received the verification e-mail.
6. Log-in.
7. Create a system by filling in the required POD data.

8. Wait for service activation (3 to 5 working days) when the POD status changes from orange to green.
9. Add the Chain2 card.

N.B.

GPS and Bluetooth must be activated on the device in order to add the Chain2 card.

10. Scan the QR code on the Safety Instructions leaflet or inside the device and proceed (one Chain2 card must be switched on, LED 1 must be steady green and LED 2 flashing yellow).
11. If activation is completed successfully, the Chain2 card will be paired with the POD (LED 1 steady green, LED 2 flashing green when the signal is received).
12. If activation is not successfully completed, repeat the procedure from step 9.
13. Save and close the app.

N.B.

Saving requires that the device to be connected to the Internet. If the connection is not available do not close the app but save again when the connection is available.

CHAIN2 ACTIVATION TUTORIAL VIDEO

To activate the Chain2 system you can also use the video tutorial by scanning the QR Code on the side:

6.3.4   TIC-LINKY ACTIVATION (FRENCH MARKET ONLY)

The following steps are required to activate the device with a connection to the LINKY energy meter:

1. Check that the LINKY energy meter is connected to the main switch of the electrical system downstream.
2. Connect the power supply to the device, making sure you also connect the PE.
3. Use a CAT5 or CAT6 cable to connect the I1 and I2 terminals of the LINKY energy meter to the TIC connector to the two inputs located on the TIC-LINKY electronic board inserted on the left side of the device.

N.B.

We recommend using a Belden 9842 cable.

SERIES BE-W[2.0]

4. Power the device on by energizing the electrical system.
5. Activate the device (see par. 6.3.1).

N.B.
- **The maximum PMAX power must be lower than the power indicated in the contract with the supplier.**
- **There is no ECO Plus power management mode.**

LINKY CONNECTION DIAGRAM
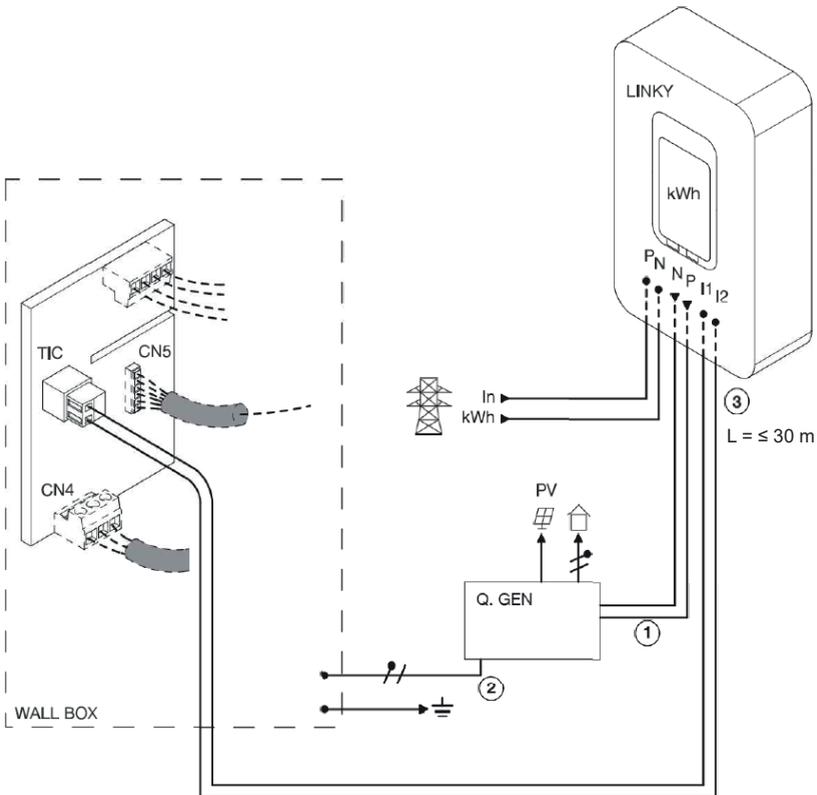
7. ACCESSORIES

7.1 CARD PROGRAMMER (208.PROG2)

7.1.1 FIRST USE

1. Download the Card Programmer software onto your computer *208Prog2_V20.zip* from the Manufacturer's download area: https://e-mobility.scame.com/download.
2. Run the file *208Prog2Installer_V20.exe* to install the Card Programmer software.

3. Connect the Card Programmer to a USB port on your computer.
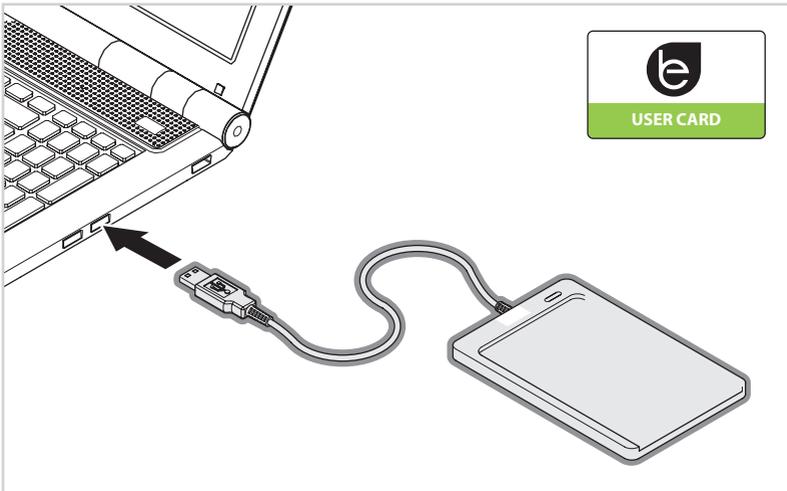
4. Run the file *208Prog2_V2.exe* to start the Card Programmer software.

5. Enter the unauthorised write-protection PIN (optional, 5 digits, default 00000).
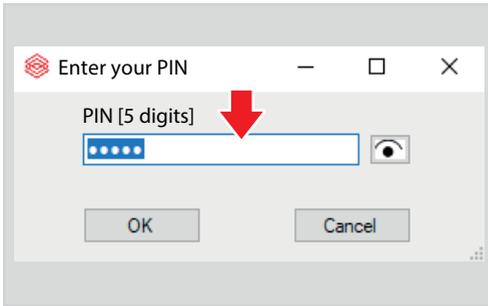
6. Check the correct connection of the Card Programmer (green box in the bottom left).

7. Select the desired language from the OPTIONS menu.
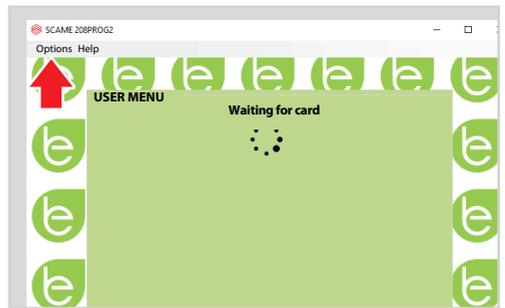
7.1.2   PROGRAMMING THE USER CARD

1. Place the User Card on the Card Programmer. The software will display the programming screen.
2. To change the User Card code (optional): Change the UID field by entering 8 hexadecimal digits (e.g. AAAA0001).
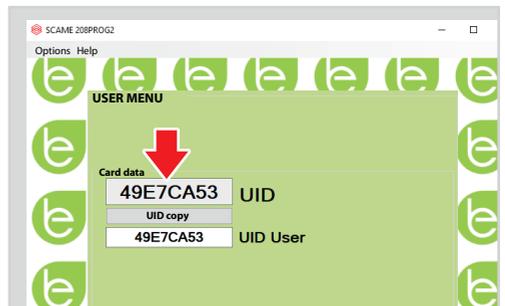
3. To create an unrestricted card, leave the access type selected at FREE.
4. Click on the CREATE CARD button, a short beep will confirm the creation of the card.

5. To enable restrictions, select the access type LIMITED:

   • To activate one or more restrictions, mark the relevant field.
   • To change the parameter, click on the arrows.
   • Leave the field blank if you do not wish to activate the relevant restriction.

N.B.

The Energy Limits [kWh] and Charging Time Limits [min] parameters can only be set for firmware versions 1.4.020 or later.

6. Click on the CREATE CARD button, a short beep will confirm the creation of the card.

7.1.3   PROGRAMMING THE MASTER CARD

1. Place the Master Card on the Card Programmer. The software will display the programming screen.

    - To set the date and time of the device, select DATE TIME (**A**).
    - To delete User Cards stored in the device, select DELETE LIST (**B**).
    - Click on the CREATE CARD button (**C**), a short beep will confirm the creation of the card.

2. Swipe the Master Card on the device's RFID reader to implement the configuration.
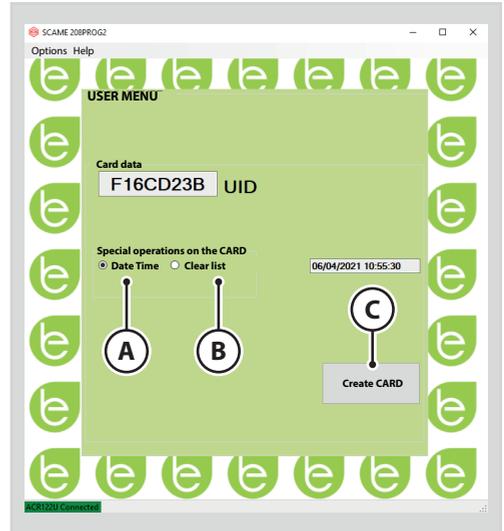
7.2   POWER MANAGEMENT (OPTIONAL): 208.PM01/ 208.PM02

ATTENTION

⚠️   **Power Management must be active with external energy meters.**

N.B.

Power Management is not available on Chain2 and Tic-Linky.

The Power Management function makes it possible to automatically modulate the charging current of the electric vehicle according to the user's contractual power and the power used by the household (e.g. washing machine, TV, oven, etc.) in order to prevent the meter from disconnecting.

N.B.

- **If the available power is less than the minimum value accepted by the vehicle, the station will suspend any ongoing charge and resume it when possible.**
- **Please note that there are electric vehicles on the market which are not compatible with this function, therefore the 'wake-up' procedure implemented in the station (according to IEC/EN 61851-1) has no effect. These vehicles may remain in a 'sleep' state and not resume charging unless disconnected from the station or other unlocking actions are taken (please refer to your car manual).**

7.2.1 POWER MANAGEMENT INSTALLATION

The Power Management installation kit consists of an additional energy meter already configured to be installed as shown below:

SINGLE-PHASE STATION 208.PM01
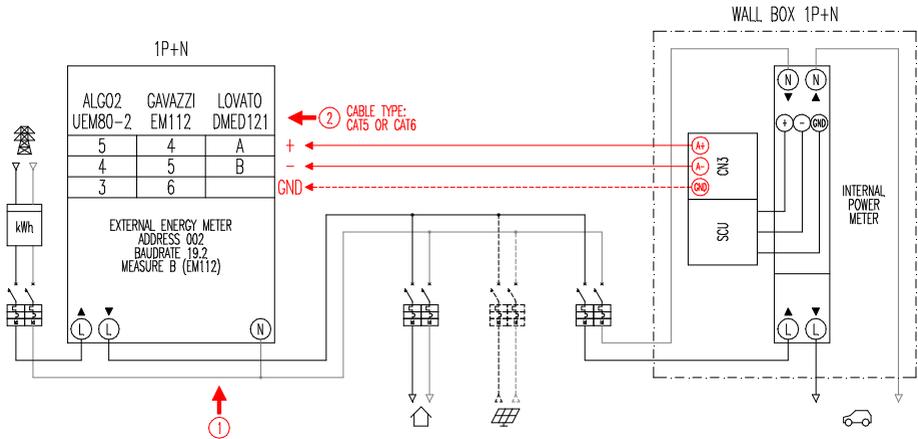
THREE-PHASE STATION 208.PM02
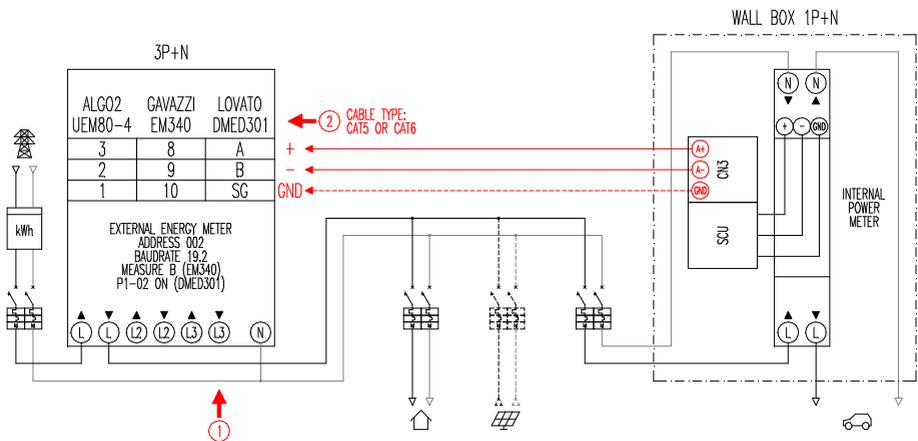
> **ATTENTION**
>
> ⚠️ · **Install the additional energy meter downstream of the energy meter and/or main switch and upstream of any photovoltaic system.**
> · **Connect the additional energy meter to terminal CN3 on the SCU electronics with a shielded cable (e.g. CAT5-CAT6), see par. 3.6.**
> · **The maximum power supported by the additional energy meter depends on the model supplied*: Single-phase 80A = 18.4kW; Three-phase 80A = 55.3kW;**

> **N.B.**
>
> **If there is a communication failure with the additional energy meter, the station inhibits charging and the display shows 'EMEX FAULT'.**

7.2.2 ENABLING POWER MANAGEMENT

To enable the Power Management:

- In versions without APP, set the Power Management parameter to ON (see par. 7.2.3.2).
- In versions with APP, enable Power Management from the configurations menu and activate EMEX ON.

When Power Management is enabled, the display shows the charging time (hours/minutes/seconds) while charging is in progress. It also displays the following (in a loop):

- Power output in kiloWatt hours (**Etot**)
- Current absorbed by the vehicle in amperes (only **L1** for single-phases, **L2+L3** for three-phase)
- Vehicle power consumption in kiloWatts (**Pist**)
- Total power consumption from the mains network in kiloWatts (**Pest**)

7.2.3 PROGRAMMING POWER MANAGEMENT

> **N.B.**
>
> **This paragraph only refers to versions without device APP.**

To access the programming menu, proceed as follows:

1. When the display shows SOCKET AVAILABLE (in FREE mode) or PRESENT CARD (in PERSONAL mode), press and hold the button until the display shows POWER OUTPUT.
2. Release the button and press it again; press and hold the button until the display shows PASSWORD.
3. Enter the password (default password 000):
    - Short press the button to increase the value.
    - Long press the button to confirm the value.
4. After correctly entering the password, the display cycles through the programming parameters (par. 7.2.3.2).

7.2.3.1 PROGRAMMING MENU NAVIGATION

The next programming parameter can be displayed with a short press of the button.

The displayed programming parameter can be changed with a long press of the button, after which:

- Short press the button to increase the value.
- Long press the button to confirm the value.

> **N.B.**
>
> **If the button is not pressed again, after the long press, the device returns to its initial state after 10s.**

7.2.3.2 PROGRAMMING PARAMETERS

The following programming parameters can be changed:

- **POWER MANAGEMENT** (default OFF): enables or disables the Power Management function.
- **PM MODE** (default FULL): manages the absorption of current from the electricity distribution network and from a possible renewable source:

  - **FULL**: Uses the power available from the main power network and the power generated by the local renewable energy plant, if any.
  - **ECO Smart**: Uses the power generated by the renewable source plus a contribution from the grid to make up for any power shortfalls by guaranteeing a minimum level of charge. This mode can only be selected when there is a local renewable production plant present (e.g. photovoltaic, wind power…).
  - **ECO Plus**: Uses the power generated by the local renewable production plant alone (e.g. photovoltaic, wind power…).

> **N.B.**
>
> - **In this mode, charging is completely dependent on the generation status of the renewable source and may be subject to interruptions to the point that the vehicle may not charge in the desired timeframe.**
> - **ECO Plus mode is not included in Tic-Linky versions.**

- **Pmax** (default 3kW single-phase, 6kW three-phase): this is the maximum power value that can be absorbed from the grid (we recommend entering the contractual power value of your energy meter).
- **Imin** (default 6.0A): this is the minimum current value at which your vehicle can charge (please consult your vehicle manual to determine the value).
- **Hpower** (default 1%): this is the hysteresis value of the power threshold at which the station suspends and resumes charging (for systems characterised by power fluctuations, it is advisable to increase the value to avoid frequent charging interruptions and restarts).

- **Dset** (default 0.5kW): this is the power variation value that does not affect the control system (for systems characterised by power fluctuations, it is advisable to increase the value to avoid frequent modulations of the vehicle charging current).
- **DMAX** (default 40%): this is the power surplus (compared to the contracted power) above which the current charge is immediately suspended (it is advisable to reduce the value if the meter suddenly trips).
- **UNBALANCE** (default OFF): only for three-phase, this allows the load to be unbalanced on phase L1 when charging single-phase electric vehicles.

EXAMPLE: THREE-PHASE WALL BOX WITH PMAX SET AT 6 kW		
UNBALANCE	**MAXIMUM POWER TAKE-OFF**	
	FROM A THREE-PHASE VEHICLE	**FROM A SINGLE-PHASE VEHICLE**
OFF	6 kW	2 kW
ON	6 kW	6 kW

- **EMEX FAULT** (default ON): enables or disables the communication control with the external energy meter (it is recommended to disable the control only in the event of an emergency as, without communication, the station does not modulate power and constantly charges at the set PMAX).
- **TIME RANGE** (default OFF): with PMAX set between 3 and 4.5kW, it enables the extension of contracted power to a maximum of 6kW (including 10% surplus) in consumption time band 3 (exclusive function for Italy, only for stations with local server).
- **PASSWORD** (default 000): to change the default password.

POWER MANAGEMENT FLOWCHART

PRESA DISPONIBILE
- PRESA DISPONIBILE/PRESENTARE CARD
- SOCKET AVAILABLE/SHOW CARD
- PRISE DISPONIBLE/PRESENTER CARTE
- TOMA DISPONIBLE/MOSTRAR TARJETA

ENERGIA FORNITA ???KWH
- ENERGIA FORNITA
- SUPPLIED ENERGY
- ENERGIE FOURNIE
- ENERGIA SUMINIST.

PASSWORD 0 0

Display — Pulsante / Push-button / Bouton / Boton

Symbol	Meaning
x1	PRESSIONE BREVE / SHORT PRESS / PRESSE COURTE / PRESION CORTA — CAMBIA / CHANGE / CHANGEMENT / CAMBIO
5s	PRESSIONE LUNGA / LONG PRESS / LONGUE PRESSION / PRESION LARGA — CONFERMA / CONFIRMATION / CONFIRMATION / CONFIRMACION
⚠	OBBLIGATORIO / MANDATORY / OBLIGATOIRE / OBLIGATORIO — OPZIONALE / OPTIONAL / OPTIONNEL / OPCIONAL (OK)

POWER MANAGEMENT OFF — PM MODE FULL — PMAX 3.0KW

PASSWORD 0 0 0

TIME RANGE OFF (OPTIONAL)

IMIN 6.0A

??????

HPOWER 1%

EMEX FAULT ON — **UNBALANCE OFF** (OPTIONAL) — **DMAX 40%** — **DSET 0.5**

8. CLEANING AND MAINTENANCE

8.1 CLEANING

Use a damp cloth or neutral detergent compatible with plastic materials to clean the device.

After charging the vehicle, make sure that the charging flap of the device is closed. This is to prevent external agents from settling on the charging socket.

8.2 MAINTENANCE

> **WARNING**
>
> ⚠️ **Maintenance work on the device must only be carried out by qualified and authorised personnel.**

The following checks on the condition and operation of the device must be carried out at regular intervals:

- **Every six months**: Inspect the structure, external components and check operation of the protective circuit breakers.
- **Every twelve months**: check internal components and check terminal tightness.

9. DISPOSAL

"Implementation of Directive 2012/19/EU on Waste Electrical and Electronic Device (WEEE)' on the reduction of the use of hazardous substances in electrical and electronic device and the disposal of waste".

The crossed-out wheelie bin symbol on the device or its packaging indicates that the product must be disposed of separately from other waste at the end of its useful life.

The user must then take the discarded device to a separate collection centre for electrical and electronic waste.

For further details, please contact the relevant local authority.

Adequate separate collection of the devices for subsequent recycling, treatment or environmentally sound disposal helps prevent damage to the environment and human health and encourages the reuse and/or recycling of device materials.

N.B.

Unauthorised disposal of the device or its parts by the user entails the application of administrative sanctions in accordance with the legal provisions in force in the country of disposal of the device.

10. TROUBLESHOOTING

WARNING

⚠️ **In the event of anomalies or faults not described in this document, or if they remain after having applied the recommended solution, do not work on the device or tamper with it in any way, but contact the installer. Contact the Manufacturer directly for any further support.**

10.1 DEVICE FAULT REPORTS

ON-SCREEN DISPLAY	RGB LED	CAUSE	SOLUTION
x	x	Device not powered on	Check that voltage is present
RCBO FAULT	●	Protective device tripped	Check the vehicle, reset the switch and restart the device.
MIRR FAULT	●	Overlapping contacts detected	Check the contactor, reset the switch.
CPLS FAULT	(((●)))	Pilot circuit open.	Vehicle disconnected or check charging cable.
CPSE FAULT	(((●)))	Pilot circuit fault	Check charging cable.
PPLS FAULT	(((●)))	Plug presence open.	Check the connection and check the condition of the charging cable.
PPSE FAULT	(((●)))	Plug presence fault.	Check charging cable.
BLCK FAULT	(((●)))	Plug block not in position.	Check the charging cable connection or check the correct operation of the block actuator.
OVCE FAULT	(((●)))	Current absorption higher than maximum set current detected.	Check the vehicle.
VENT FAULT	(((●)))	Vehicle requiring ventilation detected.	Bridge the J21 contact (SCU) with system present or with natural ventilation.
RCTE FAULT	(((●)))	Pilot circuit control diode missing.	Check the vehicle.

ON-SCREEN DISPLAY	RGB LED	CAUSE	SOLUTION
PEN FAULT	(((●)))	Abnormal voltage detected.	Check mains power network.
EMTR FAULT	(((●)))	Failure to communicate with internal energy meter.	Check internal meter operation or interferences on the serial line.
EMEX FAULT	(((●)))	Failure to communicate with external energy meter.	Check external meter operation or interferences on the serial line.
RCDM FAULT	(((●)))	Earth leakage detected with continuous component greater than 6mA.	Check the vehicle.
MAINS BREAKDOWN (timer)	(((●)))	No voltage while charging. If the voltage returns within 3 minutes, charging resumes, otherwise it is terminated (only with auxiliary battery).	
PLUG OUT	(((●)))	Plug inserted without prior authorisation detected.	Remove the plug and present an authorised card.
UNAUTHORIZED USER	(((●)))	Unknown or unauthorised card code.	Add or authorise the new card code.
CLOSE LID	●	Charging flap open	Close charging flap or check switch operation.
MFRE FAULT	●	Failure to communicate with RFID reader.	Check reader operation or for interference on serial line.
CLKE FAULT	●	Date and time not set.	

x	off	
● - ● - ●	steady light	
(((●))) – (((●)))	flashing light	

SCAME

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