BE-R Series

User and installation manual

CE

READ CAREFULLY BEFORE USING THE STATION

KEEP FOR FUTURE REFERENCE

SCAME

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1. INTRODUCTION

1.1 PURPOSE OF THE MANUAL

The object of this user and installation manual is the charging station for electric vehicles of the **BE-R** series in all its versions (see par. 3.4).

The purpose of this manual is to provide:

- The **user** with all the information required for the safe use of the station and keeping it in optimal operating conditions.
- The **installer** with all the information required to work safely during the installation and commissioning of the station.

1.2 MANUFACTURER IDENTIFICATION

The Manufacturer of the station covered by this manual is:

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

1.3 LAYOUT OF THE MANUAL

This manual is divided into chapters that refer to different topics related to the various phases of the life cycle of the station that are of interest to the end user. Each chapter is divided into paragraphs, each of which deals with specific points of the overall topic to which the chapter refers.

References to titles or paragraphs are reported with the abbreviation chap. or par. followed by the relative number. Example: “chap. 2" or "par. 2.1”.

1.4 LIABILITY AND WARRANTY

- The manufacturer's warranty included in the Italia Consumer Code (Articles 128 et seq.) applies to the station and covers the reimbursement, repair or replacement necessary to remedy any manufacturing defects that may occur during standard use for a period of 24 months from the date that the station is delivered.
- Any modifications to the station, or installations and start-ups not compliant with the instructions reported in this manual shall result in the nullification of the warranty and the invalidation of the product certificates.
- The full or partial reproduction of this manual is prohibited without the permission of the Manufacturer.
- The Manufacturer reserves the right to make changes or improvements to the station and documentation without prior notice.

1.5 SUPPORT

For further information on the station and its applications, consult the documentation provided on the website by the Manufacturer by scanning the QR code or visiting the website: e-mobility.scame.com/download.

Please use the contact details below if you need support from the Manufacturer:

InfoTECH

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

NOTE

The end user is informed that the diagnostic and maintenance operations will be carried out by a technician approved by SCAME who will connect to the devices with credentials provided by SCAME

2. SAFETY

WARNING

The Manufacturer is not liable for any damage to persons or property if the conditions described in this manual are not respected.

2.1 GENERAL INFORMATION

This manual contains instructions whose importance is fundamental as they are related to the safety of the user and the station. These instructions must be followed scrupulously in order to ensure the safety of people and things in dangerous situations that could occur during the described operations.

To ensure that these instructions are easily identifiable within the manual, they have been included in a text box accompanied by a pictogram indicating the generic hazard, following the definitions below:

DANGER

Instruction that refers to a situation of imminent risk that, if not avoided, causes instant death or serious or permanent damage to health.

WARNING

Instruction that refers to a situation of potential risk that, if not avoided, may cause death or serious damage to health.

WARNING

Instruction referring to a potential risky situation which, if not avoided, could cause safety-related damage to the station.

NOTE

Additional information not related to risk situations that may lead to damage to persons or property.

2.2 GENERAL SAFETY INSTRUCTIONS

Failure to comply with these safety instructions can cause serious injuries with even fatal consequences (risk of electrocution, explosion or electric arc) or damage to the station.

USE OF THE STATION

- Before using the station, read all instructions carefully.
- The station is intended for the implementation of charging mode 3 (according to IEC/EN 61851-1 standard) 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 standards).
- The station is intended to be used in environments such as: parking lots; private garages; condominium parking spaces; charging stations or dedicated charging points in business facilities (e.g. hotels, restaurants, service areas, shopping malls, shops, etc.).
- Do not use the station for any purpose other than that for which it is intended.
- The station is not intended for use by persons (including children) with reduced physical, mental or sensory capabilities or with insufficient experience and/or skills, unless they are under the supervision of a person responsible for their safety or are instructed by them on the use of the station.
- Children must not play with the station or with the materials that form its packaging.
- Before connecting the vehicle to the station, make sure it is firmly secured.
- Cables, sockets and plugs used to connect the vehicle must comply with the safety requirements of the legislation in force in the country of installation of the station.
- The use of extension cables to connect the vehicle is considered by the Manufacturer to be improper use of the station and is therefore prohibited.
- At the end of charging, disconnect the charging cable from the station and the vehicle and store it in a place suitable for its storage for future use.

INSTALLATION OF THE STATION

- Before installation or any type of operation on the station, read all instructions carefully.
- The installation and commissioning of the station must only be carried out by qualified and authorized personnel for the purpose and in compliance with the safety regulations and legislation in force in the country of installation of the station.
- After removing the packaging, check whether the station is intact and has not been damaged.
- If the station is damaged it should not be installed or used. Contact the Manufacturer to agree on the appropriate procedures to be implemented.
- The components of the packaging must be delivered to the appropriate disposal centers and in no case left unattended or accessible to children, animals or unauthorised persons.
- Do not install the station in a potentially explosive environment or where there are inflammable substances.
- Install the station in areas not directly irradiated by the sun.

- Before proceeding with the installation, check that the mains voltage corresponds to the characteristics indicated on the identification label placed on the base of the station.
- Before making the electrical connection, check that there is no voltage in the system.
- Before starting up the station, check the grounding of the metal structure through the yellow-green conductor and provide automatic and differential protection of the power supply line coordinated with the earthing system.
- Once the station is connected to the electrical system, before any intervention on the station, disconnect the power supply and make sure there is no voltage on each part using a suitable tool for use.

CLEANING AND MAINTENANCE OF THE STATION

- To clean, use a damp cloth or neutral detergent compatible with plastic materials.
- Station maintenance operations must only be carried out by qualified and authorised personnel.
- Before any operation on the station, disconnect the voltage and make sure there is no voltage on each part using a tool suitable for use.
- Carry out the checks and inspections on the station according to the methods and intervals provided for in the user and installation manual.
- Do not touch the printed circuit boards and/or use suitable instruments when accessing components/parts subject to electrostatic discharges.

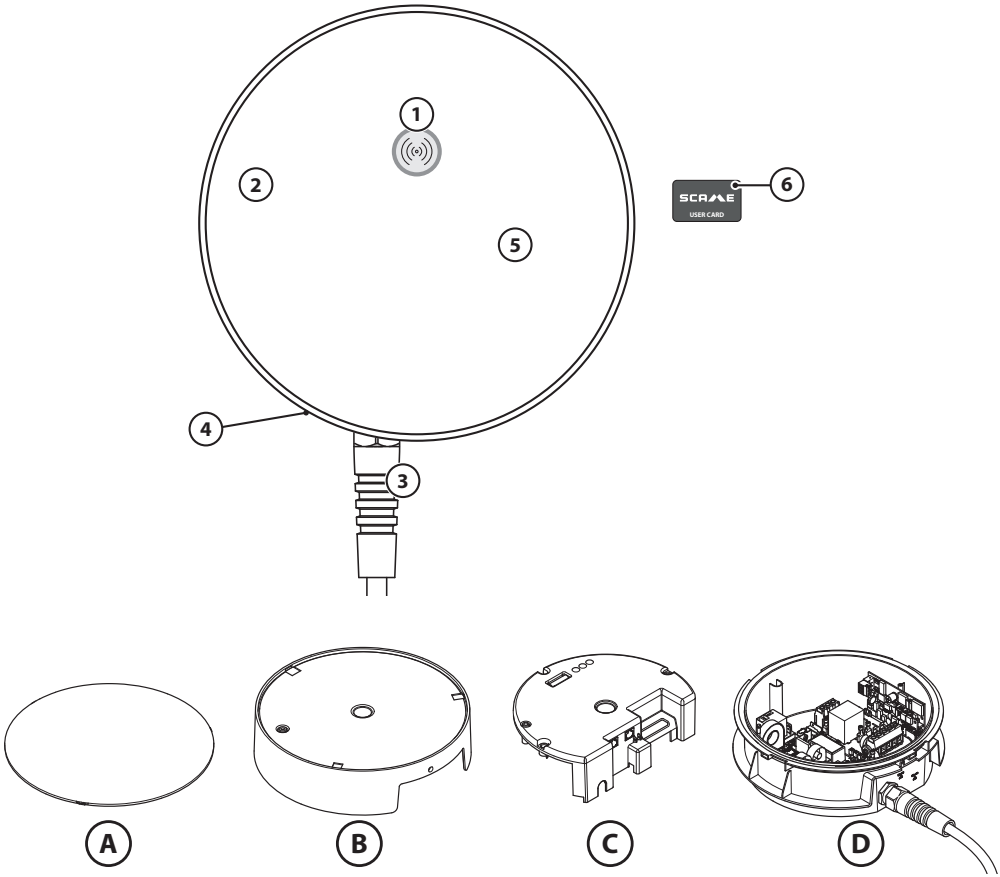
IN CASE OF FAULT OR MALFUNCTION

In case of fault or malfunction of the station, contact the Installer. For further support, please contact the Manufacturer directly.

In the event of a fire, extinguish it as you would with any other electrical equipment according to the regulations in force in the country where the station is installed.

3. DESCRIPTION OF THE STATION

3.1 COMPONENTS OF THE STATION



The station, depending on the version, may be equipped with:

1. RFID reader (Mifare Classic or Mifare Plus) *for business versions
2. LED status indicator
3. Charging sockets:
- Charging cable with T2 connector

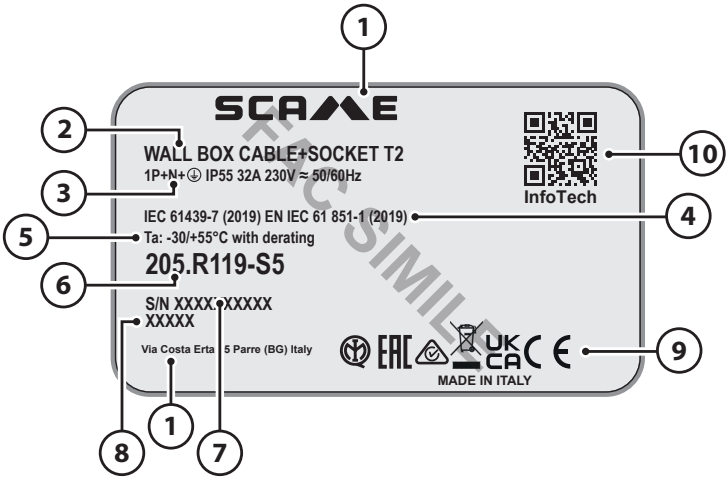
4. Identification label
5. Graphic panel
6. User Card (for business versions)

A. Customisable panel
B. Shutter
C. Protection guard
D. Base

3.2 IDENTIFICATION LABEL

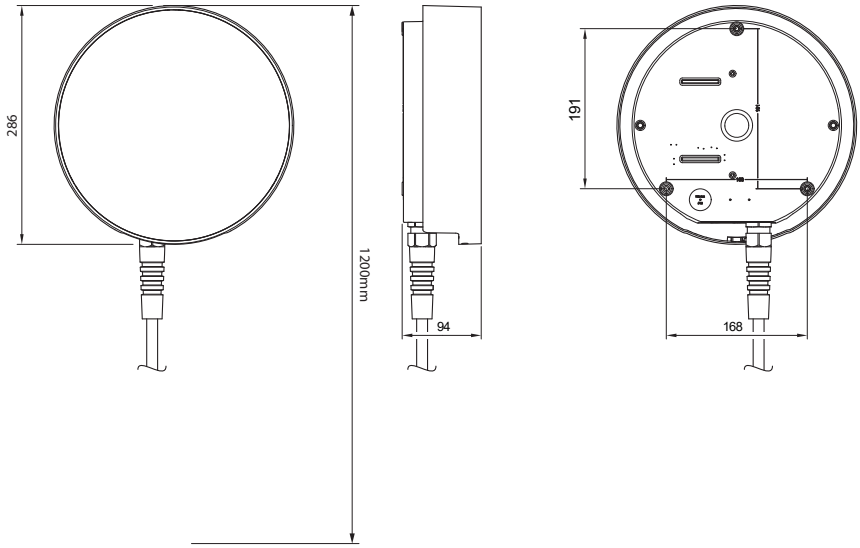
WARNING

Do not remove the identification label. In the event of a damaged and/or no longer legible label, contact the Manufacturer to request a new one and proceed with the replacement.



1. Manufacturer Data
2. Station description
3. Technical data
4. Regulatory reference
5. Ambient temperature
6. Station code
7. Serial number
8. Production date
9. Markings
10. QR Code for documentation request

3.3 TECHNICAL FEATURES



Dimensions (HxWxW)	ø286x94mm
Rated current	16A - 32A
Rated voltage	230Vac-400Vac
Rated frequency	50-60 Hz
Insulation voltage	250V-500V
IP degree of protection	IP55
Ambient temperature	Operating temperature from -30°C +55°C with derating
Material	Engineering plastics
Self-extinguishing temperature (GWT)	650°C
Impact resistance (IK grade)	IK11
Installation	Wall-mounted
Saline solution	Resistant
UV rays	Resistant

IEC/EN 61851-1 CLASSIFICATIONS

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

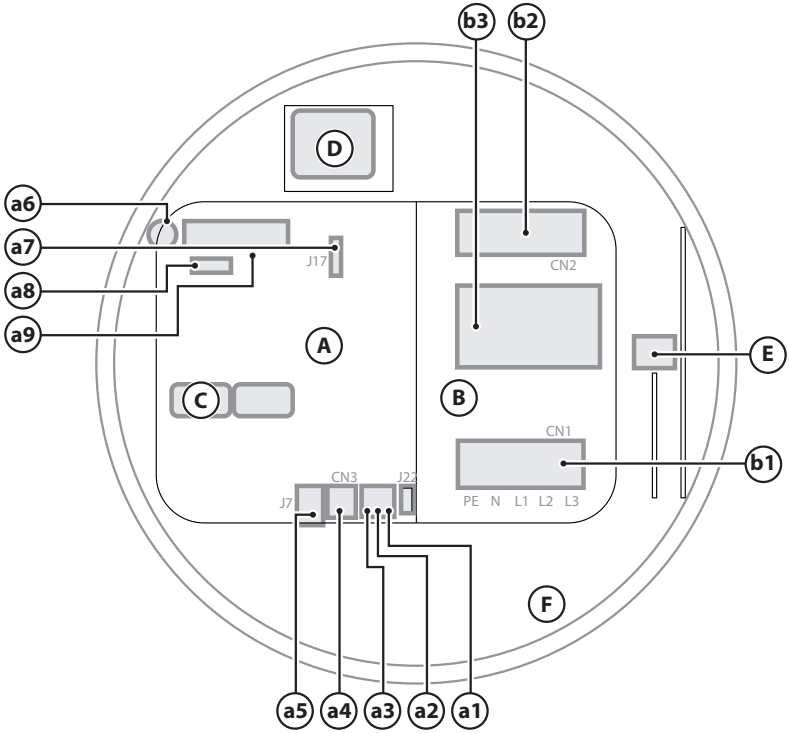
Supply input features	EV power stations connected to the AC mains power supply
Electrical connection method	Permanently connected
Supply output features	EV AC Power stations
Normal environmental conditions	Outdoor and indoor use
Special environmental conditions	Operating temperature from -30°C +55°C with derating
Access condition	Stations for places with unrestricted access
Assembly method	Fixed station Wall mounting Surface mounting
Protection against electric shock	Class I station
Charging mode	Mode 3

3.4 STATION VERSIONS

LITE	Station that operates independently and cannot be included within a management network. **Operating mode**: FREE and PERSONAL.
BUSINESS	Station that can be inserted into a management network as a satellite. **Operating mode:** FREE, PERSONAL and NET.

3.5 INTERNAL COMPONENTS

To access the internal components, follow the instructions in par. 4.1.2.



A. Basic control board

- **a1:** CP tethered version (J22)
- **a2:** AB/REM Remote enabling (J22)
- **a3:** BBN/+24V Shunt release coil (J22)
- **a4:** A+/GND/A-/12V External power meter (CN3)
- **a5:** A-/A+/GND NET (RS485) (J7) preparation
- **a6:** led status indicator
- **a7:** RFID reader (J17)
- **a8:** Reboot button (SW1)
- **a9:** DC leakage detector

B. Relay board (can be single-phase or three-phase depending on the model purchased)

- **b1:** PE/N/L1/L2/L3 station supply terminal board (CN1)
- **b2:** charging connector wiring terminal block(CN2)
- **b3:** control relay

C. TA board (measures current values)

D. PEN board (set up to meet safety requirements required by the UK market)

E. CHAIN board 2 (provided only in the models set up for dialogue with the Open Meter 2G domestic energy meters, for the Italian market).

F. Power supply line input set up

3.5.1 AB-REM: REMOTE ENABLING CONTACT (A2)

The remote enabling contact (by default open) allows to:

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

3.5.2 J22 BBN / +12V SHUNT RELEASE COIL (A3)

To ensure a high level of electrical safety of the system, the station is equipped with a control system that verifies the actual disconnection of the output power to the connector. In the event of a malfunction of the internal switching device, the system detects the anomaly and promptly activates a relay connected to the terminal.

The station must be connected to a 12V shunt release coil (not supplied), which, integrated with the system guards (not supplied), allows to interrupt the power supply upstream of the station.

4. INSTALLING THE STATION

WARNING

Station installation operations must only be carried out by qualified and authorised personnel.

4.1 PRELIMINARY OPERATIONS

4.1.1 PACKAGING

WARNING

Pay the utmost attention when transporting and handling the station in its packaging: avoid causing any form of collision.

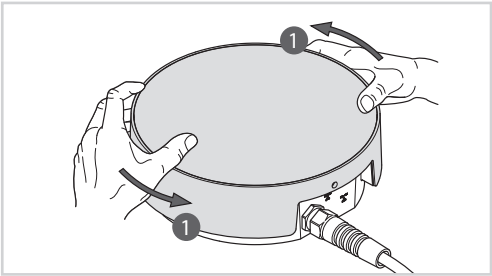
1. Remove the station from the packaging and place it on a horizontal surface of adequate dimensions and characteristics to support its weight (e.g. a sturdy table).
2. After removing the packaging, check the wholeness of the station and its components.

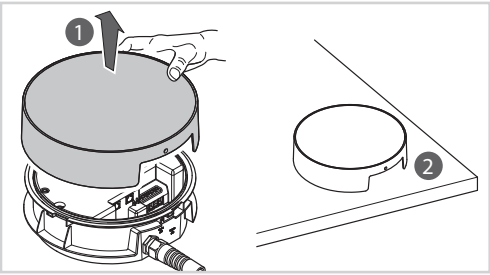
WARNING

The components of the packaging must be delivered to the appropriate disposal centers and in no case left unattended or accessible to children, animals or unauthorised persons.

4.1.2 OPENING THE SHUTTER

1. Turn the shutter counterclockwise keeping the base firm.
2. Lift the shutter and carefully place it on a clean surface





NOTE

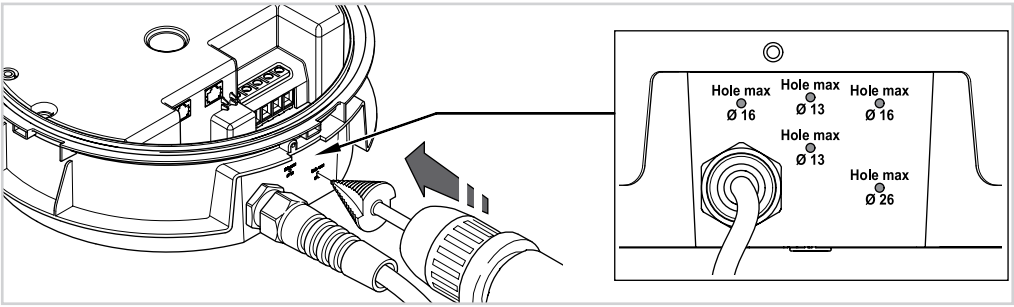
Removing the station shutter provides access to the various connection points necessary for commissioning operations. Do not remove the electronics protection guard without first contacting the technical support service.

4.2 DRILLING FOR CABLE ENTRY

WARNING

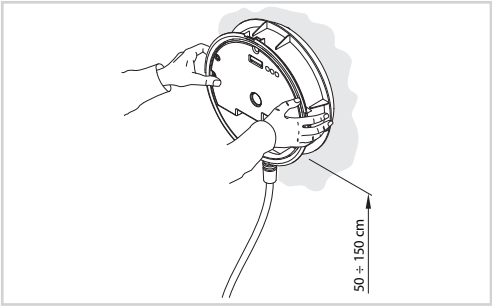
The drilling for the cable entry must be functional to the correct passing through of the power cable.

1. Drill the hole for the passing through of the power cable and any auxiliary cables. The base is equipped with references that facilitate the drilling operation; however, it is essential to pay the utmost attention to avoid damaging the internal components of the station. At the end of the drilling, install the appropriate cable glands, selecting them according to the dimensional and functional features of the cables used.

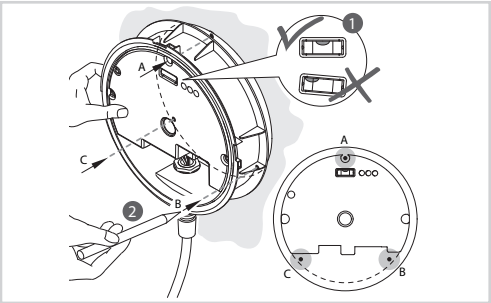


4.3 WALL-MOUNTING

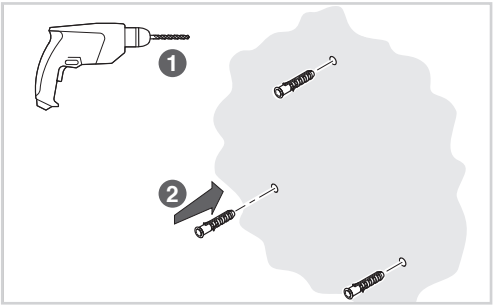
1. Place the station without the shutter on the mounting wall leaving 50 to 150 cm from the floor to the bottom wire at the outlet of the connector.



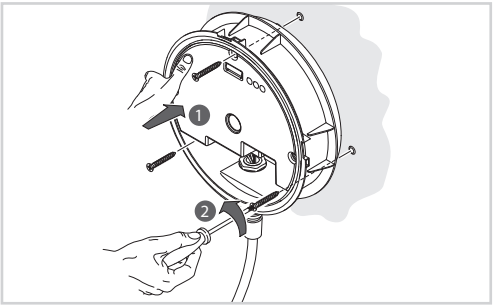
2. Identify and mark the fixing points on the wall using the level integrated in the station guard as a reference, in order to guarantee a correct alignment of the unit.



3. Drill the holes in the wall at the points marked previously.
4. Insert wall plugs into the holes.



5. Fix the station to the wall using the holes provided in the guard.



4.4 ELECTRICAL CONNECTION

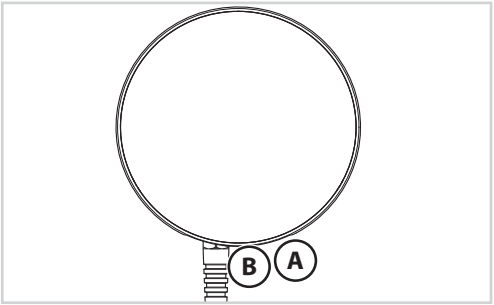
WARNING

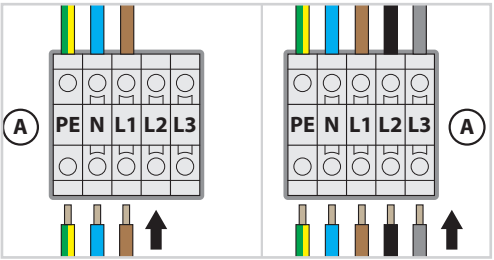
Before making the electrical connection of the station, check that there is no voltage in the system.

1. Cut off power to the electrical system.
2. Fit a cable gland of appropriate size in the hole for the passage of the power cable.
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/three-phase connection
   - (**B**) auxiliary connection, if required

NOTE

For the characteristics of the power cable, refer to par. 4.4.2. For further information, refer to the wiring diagram.





4. Power the station by supplying voltage to the system.
5. Check the electrical values using appropriate instruments (e.g. multimeter).

NOTE

For the verification of the electrical values, refer to the system requirements (par. 4.4.1).

NOTE

In the case of stations installed in IT/NL, the installer is recommended to connect the current release disconnector coupled to the external protections of the microcontroller as indicated on the wiring diagram provided in the product.

WARNING

Values different from those indicated in the system requirements (par. 4.4.1) could jeopardise the charging.

4.4.1 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)	50-60 Hz
Earthing resistance (Rt)	< 50Ω
Total harmonic distortion (THD)	< 8%

4.4.2 FEATURES OF THE POWER SUPPLY LINE

WARNING

The power supply line must be made with cables of adequate cross-section for the load and have adequate upstream protection installed. The designer of the electrical system is the only person in charge of sizing the power line.

FEATURES OF THE POWER CABLE*				
Power (kW)	**Voltage (V)**	**Current (A)**	**Wire gauge (mm²)**	**Max. length (m)**
7.4	230	32	3G6	40
11	400	16	5G4	100
22	400	32	5G6	80

* Values determined considering cables type FG16OR16 0.6/1kV and voltage drop <4%.

According to the aforementioned table, it is advisable to install a (minimum) upstream protection with the following features: 7.4 kW = 1P+N C32 / 11 = kW 3P+N C16 / 22 kW = 3P+N C32

NOTE

It should be borne in mind that the configuration of the station output power can be performed directly via the app.

4.5 CONNECTION TO THE MANAGEMENT NETWORK (BUSINESS VERSIONS)

WARNING

Before carrying out any work on the station, disconnect the power supply and ensure that there is no voltage on each part using a suitable tool.

Depending on the version and intended application, the station can be inserted into a management network as a satellite station. To connect the station to the network, proceed as follows:

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

NOTE

For Ethernet connection specifications, see par. 4.5.1.

2. Connect the RS485 serial line coming from the satellite stations to the master station (up to 16 stations can be connected), see par. 4.5.2.

4.5.1 ETHERNET CONNECTION REQUIREMENTS

To connect the Ethernet cable to the station, you must observe the following instructions::

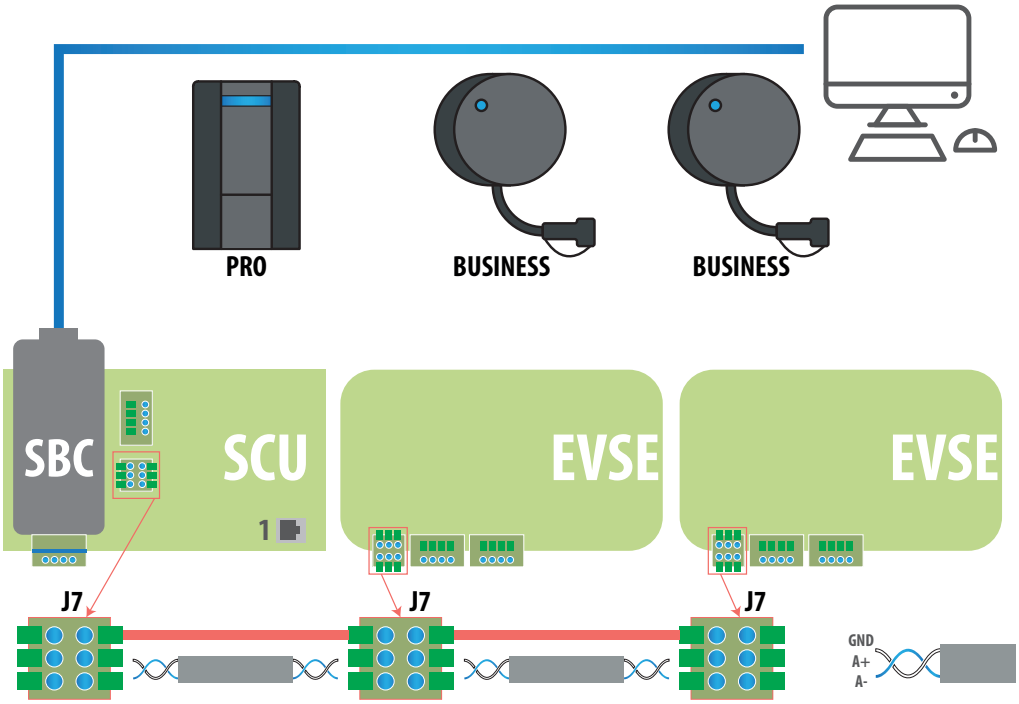
1. Insert one uncrimped end of the Ethernet cable (Cat. 6 S/FTP) through the cable gland on the station.
2. Using an appropriate crimping tool, crimp the end of the cable inserted inside the station.
3. Connect the cable to the router's LAN Ethernet port on the station.
4. Cut to length and crimp the end of the cable that is outside the station.
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 meters or less, the integrated PE connection is sufficient. • For cable lengths exceeding 30 meters, it is necessary to additionally connect the PE shielding at the other end of the cable.

4.5.2 CONNECTION DIAGRAM

CONNECTION WITH MIXED ELECTRONICS (SCU + BE-R)



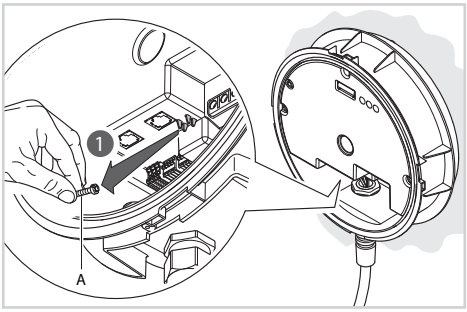
RS485 CONNECTION FEATURES	
Network cable	Type F/UTP CAT6 in separate conduit
Mutual capacitance	< 10pF/m
Capacitance difference	< 60pF/m
Blue/white pair:	**Blue:** A- **White:** A+
Brown/white:	**Brown:** GND **White:** GND
Max. length	400 m between first and last station

4.6 COMMISSIONING

WARNING

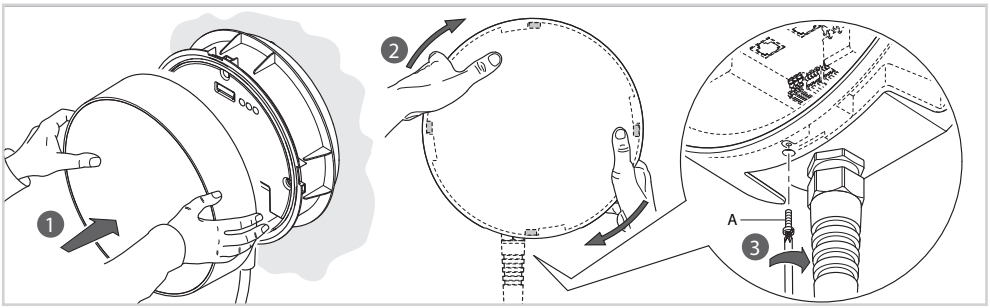
Before any operation on the station, disconnect the voltage and make sure there is no voltage on each part using a tool suitable for use.

1. Take the screw placed in the appropriate niche inside the guard and use it to securely fasten the shutter to the base of the station.

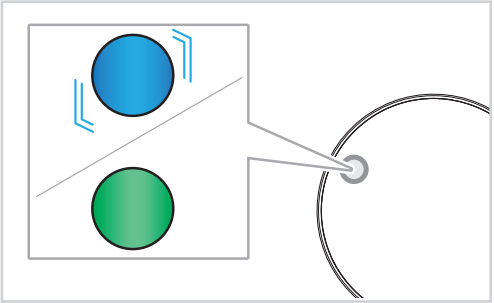


2. Turn the shutter clockwise until the hole at the bottom of the station is correctly aligned.

3. Position the shutter on the base of the station, then rotate it clockwise until the hole located at the bottom of the station is correctly aligned.



4. Power the station by supplying voltage to the electrical system.
5. Wait for the flashing blue LED to turn green.
6. The station is ready for use.



5. OPERATING MODES

The charging station version is LITE, and it can be configured in the following operating modes:

- **FREE (para. 5.1):** access to charging takes place freely, i.e. without the need for identification
- **PERSONAL (para. 5.2):** access to charging occurs via app identification.

5.1 FREE OPERATING MODE

NOTE

Charging stations in FREE mode can be used freely without the need for identification.

The start of a charging session in FREE mode takes place by simply connecting the charging cable to the vehicle.

VEHICLE CHARGING PROCEDURE

1. Connect the charging cable to the vehicle
2. Wait for the green LED to turn blue. The blue LED indicates that charging has started
3. Wait for the blue LED to start flashing. The flashing blue LED indicates that charging is complete
4. In the event of a charging interruption from the APP or vehicle, the LED will remain blinking blue
5. Disconnect the charging cable from the vehicle and store it correctly by wrapping it around the station

5.1.1 CHANGING THE MODE FROM FREE TO PERSONAL

1. Terminate any charging in progress.
2. Changing the operating mode is managed in the SCAME E-MOBILITY application by accessing the dedicated area (see video tutorial chap. 6.1.1).
3. Repeat the operation to go back to the previous mode

5.1.2 STATUS MESSAGES IN FREE OPERATING MODE

ACTION	RGB LED	STATUS
Station not powered	×	×
Supply power to station	(((●))) (((○))) (((●)))	SCAME PARRE (firmware release)
Station powered	●	SOCKET AVAILABLE
Connect vehicle	(((●)))	CONNECTOR INSERTED - WAITING FOR EV
If vehicle needs charging	●	CHARGING (calibration) (current)(power)(time)
If vehicle does not need charging	(((●)))	SUSPENSION (current)(power)(time)
If station suspends charging	(((●)))	WAITING FOR RM (time)
Charging completed	(((●)))	REMOVE CONNECTOR
Charging completed	●	SOCKET AVAILABLE
Socket not available	●	SOCKET NOT AVAILABLE

× off

● - ● - ● steady light

(((●))) (((○))) (((●))) flashing light

5.2 PERSONAL OPERATING MODE

Charging stations in PERSONAL mode can only be used after identification by APP, which allows the identification, start, interruption and monitoring of the charging.

5.2.1 CHANGING THE MODE FROM PERSONAL TO FREE

1. Terminate charging in progress
2. The change of operating mode is managed through the SCAME E-MOBILITY application. Access the dedicated area within the app and follow the on-screen instructions (see video tutorial chap. 6.1.1)
3. Repeat the operation to go back to the previous mode.

5.2.2 PERSONAL OPERATING MODE STATUS

ACTION	RGB LED	STATUS
Station not powered	×	×
Supply power to station	(((●))) (((○))) (((●)))	SCAME PARRE (firmware release)
Station powered	●	SOCKET AVAILABLE
Enabling charging	(((●)))	INSERT CONNECTOR
Connect vehicle	(((●)))	CONNECTOR INSERTED - WAITING FOR EV
If vehicle needs charging	●	CHARGING (calibration) (current)(power)(time)
If vehicle does not need charging	(((●)))	SUSPENSION (current)(power)(time)
If station suspends charging	(((●)))	WAITING FOR RM (time)
Charging completed	(((●)))	REMOVE CONNECTOR
Remove plug	●	SOCKET AVAILABLE

× off

● - ● steady light

(((●))) (((○))) (((●))) flashing light

6. FUNCTIONALITY

6.1 SCAME E-MOBILITY

Through the SCAME E-MOBILITY app you can manage the station directly from the smartphone, in particular you can:

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

NOTE

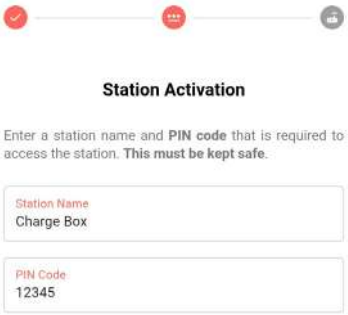
You can download the SCAME E-MOBILITY app from Google Play for Android and/or Apple Store for IOS.

To ensure the operation of the station with the APP, you will need to connect to a 2.4 GHz Wi-Fi network.

6.1.1 ACTIVATING THE STATION

1. Download the SCAME E-MOBILITY app to your multimedia device.
2. Stand in front of a station that is switched on.
3. Connect to the station's Wi-Fi network, identifiable by the name on the product label.
   The connection can be carried out in two ways:
   - by scanning the QR Code on the label (see chapter 6.1.2)
   - by activating the Wi-Fi search of your mobile device and manually selecting the station network.
4. Launch the SCAME E-MOBILITY app.
5. Accept the privacy policy and terms of service by pressing the ACCEPT and CONTINUE button.
6. Continue through the tutorial screens by pressing the FORWARD button.
7. From the list displayed in the app, select the station to be configured

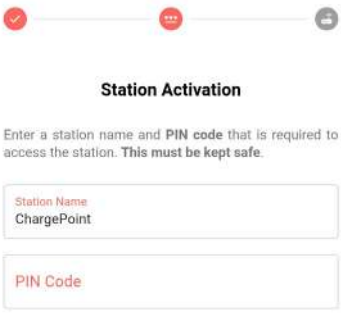
8. Enter the activation code on the safety Instructions sheet or on the station (Activation key). Then press the CONFIRM button.



10. Set the 5-digit PIN and press the CONFIRM key.

NOTE

If you log in from a different device than the one on which the activation was carried out, you will need to log in using the PIN set. Therefore, it is recommended to note it before pressing the CONFIRM key.



9. Set the station name.

NOTE

Do not to leave the default station name.

11. Lastly, if you want to connect the station to an external Wi-Fi network, after selecting it from the list of available connections, enter its password and press the CONFIRM key to complete the activation of the station

NOTE

To ensure proper functioning of the station, signal reception must be stable and above -80dBm.

NOTE

SCAME E-MOBILITY APP ACTIVATION VIDEO TUTORIAL

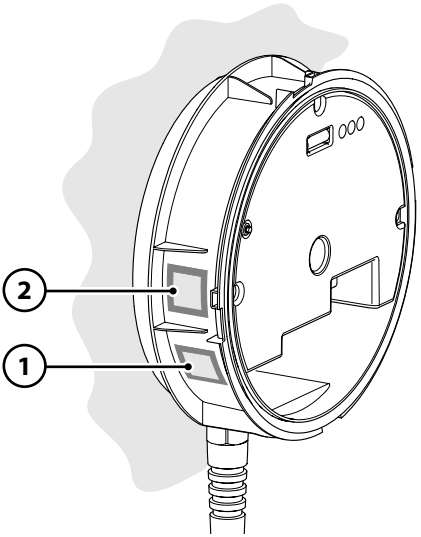
To activate the APP, a video tutorial is also available by framing the QR Code below.

6.1.2 ACTIVATION CODES

NOTE

The labels indicated below on the station are also present on the Safety Instructionssheet.

1. Wi-Fi Pin/PASSWORD/SSID: Required for activation of the SCAME E-MOBILITY app (par. 6.1.1)
2. QR CODE CHAIN 2: Necessary for Chain 2 activation (par. 6.1.3)



6.1.3 CHAIN2 ACTIVATION (FOR ITALIAN MARKET ONLY)

WARNING

Before activating the Chain2 system, check with your energy supplier whether:
- **the meter is a second generation one;**
- **the energy distribution cabin infrastructure of the area is compatible with the Chain2 protocol.**

Before carrying out the Chain2 activation procedure, make sure that you have activated the station (par. 6.1.1). Then, proceed as follows:

1. Download the free CHAIN2 ACTIVATOR app from Google Play/Apple Store.
2. Stand in front of a station that is switched on.
3. Launch the CHAIN2 ACTIVATOR app.
4. Register by filling in the required fields using the POD holder's data.
5. Confirm registration upon receipt of a verification e-mail.
6. Log in.
7. Create a system by filling in the required data using the 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 board.

NOTE

To add the Chain2 board, GPS and Bluetooth of the device must be activated.

10. Scan the QR code on the Safety Instructions sheet or in the station and proceed (only one Chain2 board must be turned on, LED 1 must be steady green and LED 2 flashing yellow).
11. If the activation is completed successfully, the Chain2 board will be associated with the POD (LED 1 steady green, LED 2 flashing green upon reception of the signal).
12. If activation is not successful, repeat the procedure from step 9.
13. Save and close the application.

NOTE

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

WARNING

The connection between the station and the meter is made thanks to "Power Line" technology which also allows for significant distances to be reached.

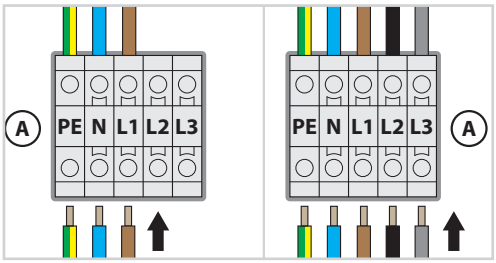
However, the quality of the signal can be degraded by the number of power line branches between the meter and the station or by electrical interference caused by the presence of other devices on the network that compromise the signal.

CHAIN2 CONNECTION INSTRUCTIONS

In a single-phase system, the Chain2 signal is present on the phase conductor.

In a three-phase system, the Chain2 signal is present on the T-phase conductor.

It is recommended to connect the power supply line to the wall box as indicated in this document.



CHECK CORRECT RECEPTION OF CHAIN2 SIGNAL

After the activation phase CHAIN2 the alarm of the wall box will be activated:

- **Flashing yellow LED under the protection guard.**
- **ERROR status in Scame E-Mobility app**
  - Click on the INFO icon and follow the instructions displayed:
- **No Chain2 signal:**
  - After pairing the pod to the wall box via the Chain2 Activator, connect a load greater than 300W to the system.
    CAUTION: it is recommended not to use storage systems during this stage.
  - When the first signal is received, the alarm will be resolved (steady green LED, AVAILABLE status in Scame-Emobility app).
- **If the alarm persists:**
  - Check that the phase carrying the signal (T for three-phase systems) is connected to L1.
  - Possible presence of disturbances on the network.
  - In case of an emergency, the alarm can be disabled by setting EMEX OFF. CAUTION: the station will not modulate the power and will charge at the contractually set power.

NOTE ON THE OPERATION OF THE THREE-PHASE WALL BOX CHAIN2

The Chain2 protocol provides to date only the data of total absorbed power.

The three-phase wall box in this configuration will always operate in UNBALANCE ON mode (par. 7.2.2.1).

In case of charging of single-phase electric vehicles, they will be allowed to charge to the contractual power on the single phase L1.

CHAIN2 ACTIVATION VIDEO TUTORIAL

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

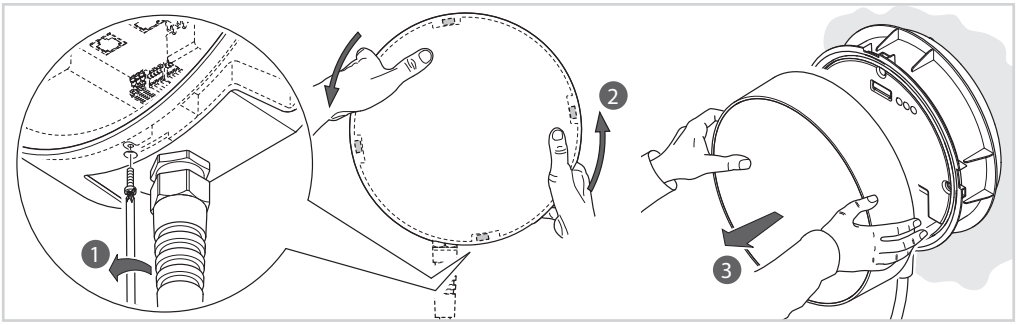
7. ACCESSORIES

To consult the technical specifications of the various accessories available, refer to the online documentation provided by the Manufacturer.

7.1 CUSTOMISABLE PANEL

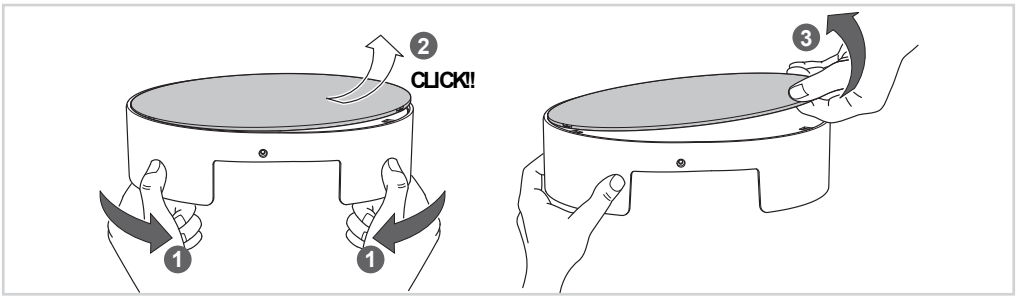
The BE-R charging station is equipped with a circular front panel, provided at the time of purchase. This panel can be replaced and, on request, graphically customised.

1. OPENING THE SHUTTER
   remove the top shutter following the instructions below.



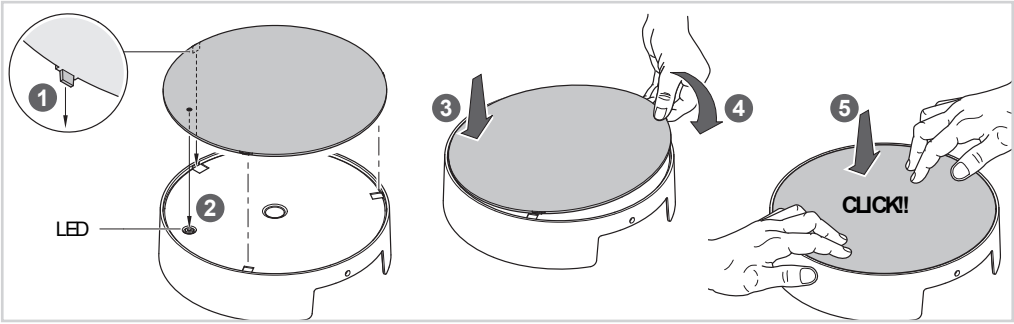
2. REMOVING THE FRONT PANEL
   Carefully bend the base of the shutter and apply even pressure along the edges of the disc, until the panel is lifted. Next, use your hand to release the panel from the fixing pins.

3. Once the panel is partially lifted, complete the removal by acting manually and releasing it from the three anchor points. To facilitate this operation, it is advisable to slightly bend the base of the shutter.



4. INSTALLATION OF THE NEW PANEL
Place the new disc on the outer surface of the shutter, making sure that the three fixing hooks are correctly aligned with the corresponding seats of the panel. Also check the correct alignment of the hole dedicated to the signalling LED.
Gently bend the base of the shutter and press evenly along the edges of the disc until you obtain a correct coupling between the panel and the support.

5. FINAL CLOSING
Replace the shutter on the base of the station and complete the closure following the instructions in paragraph 4.5.



7.2 POWER MANAGEMENT (OPTIONAL)

WARNING

With external energy meters, Power Management must be active.

NOTE

Power Management kits are not provided for Chain2 versions.

The Power Management function allows to automatically modulate the charging current of the electric vehicle according to the user's contractual power and the power used by the home (e.g. washing machine, TV, oven, etc.) in order to avoid untimely disconnections of the meter.

NOTE

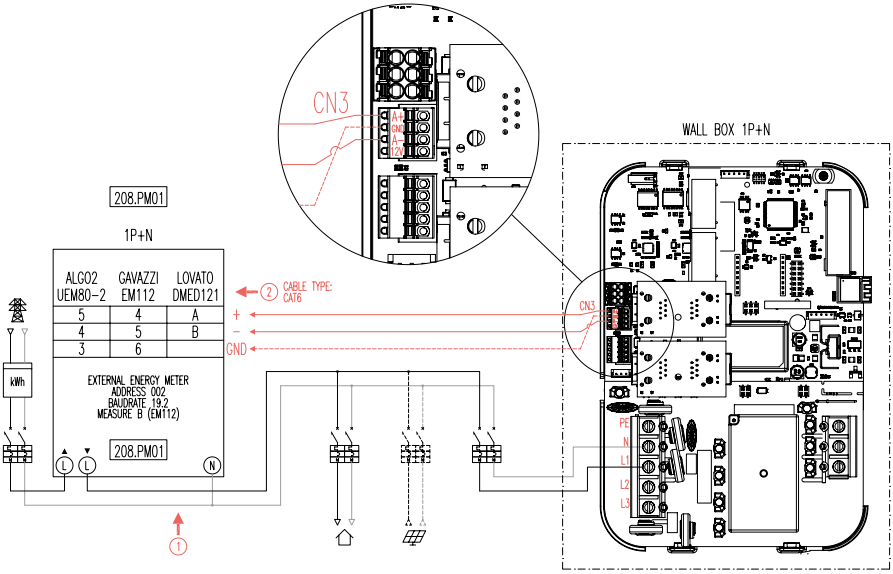
- **In the event that the available power is less than the minimum value accepted by the vehicle, the station will suspend any charging in progress and resume it whenever possible.**
- **It should be noted that there are electric vehicles on the market that are not compatible with this function, therefore the "awakening" procedure implemented in the station (according to the IEC/EN 61851-1) has no effect. These vehicles may remain in "sleep" mode and may not resume charging unless they are disconnected from the station or other unblocking operations are performed (it is advisable to refer to the manual supplied with your car).**

7.2.1 POWER MANAGEMENT INSTALLATION

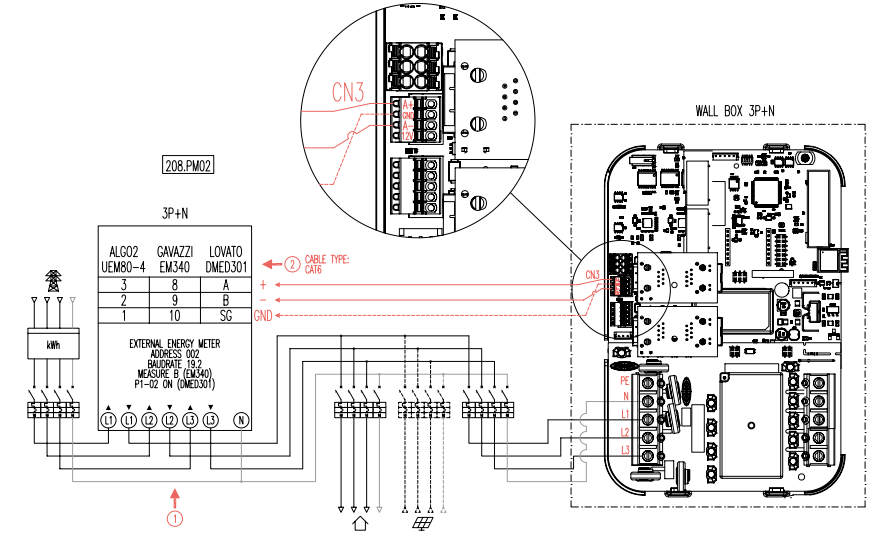
7.2.1.1 POWER MANAGEMENT INSTALLATION 208.PM01/ 208.PM02

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



WARNING

- **Install the additional energy meter downstream of the energy meter and/or the main switch and upstream of any photovoltaic system.**
- **Connect the additional energy meter to the terminal CN3 present on the station controller with shielded cable (e.g. type CAT6).**
- **The maximum power load of the additional energy meter depends on the model supplied*: Single-phase 80a = 18.4kW; Three-phase 80A = 55.3kW.**

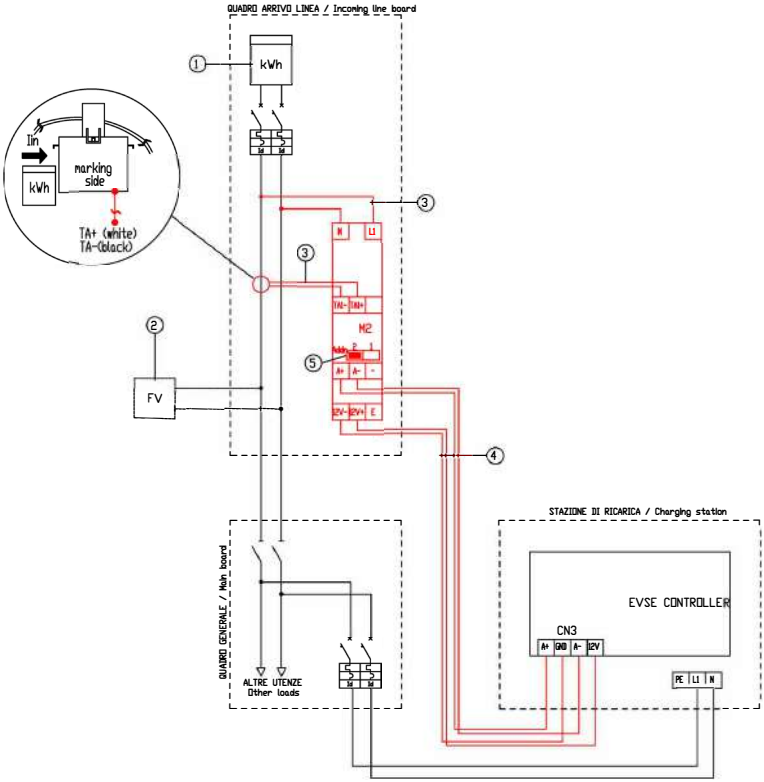
NOTE

Should there be no communication with the additional energy meter, the station inhibits charging and the status signal displayed will be "EMEX FAULT".

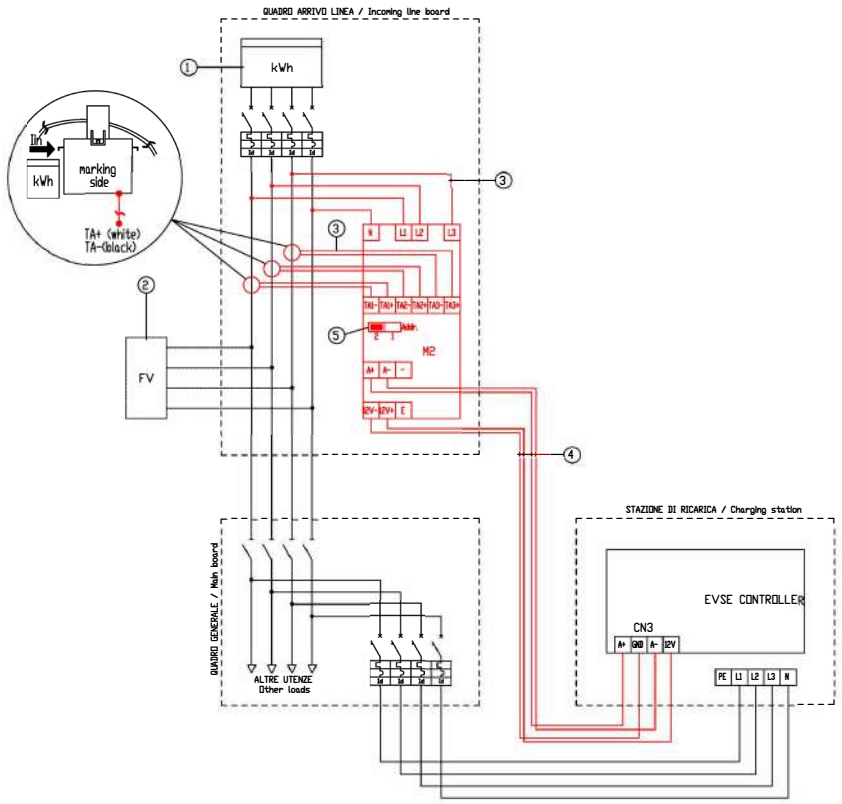
7.2.1.2 POWER MANAGEMENT INSTALLATION 208.PM03/ 208.PM04

The Power Management Installation Kit consists of an additional power meter already configured to be installed as shown below:

SINGLE-PHASE STATION 208.PM03



THREE-PHASE STATION 208.PM04



WARNING

- **Install the additional power meter downstream of the energy meter and/or main switch and upstream of any photovoltaic system.**
- **Connect the current and voltage sensors to the additional power meter.**
- **Open the core of the current sensor, position it around the conductor of a single phase to be monitored, and close it, ensuring it is properly tightened. Pay close attention to the correct direction of line input, as indicated by the arrow on the device label.**
- **Connect the additional power meter to terminal CN3 on the station controller using shielded cable (e.g., CAT6).**
- **Make sure the configuration selector is set to position "2".**
- **The maximum power supported by the additional energy meter depends on the model supplied*: Single-phase 110A = 25.3kW; Three-phase 110A = 75.9kW.**

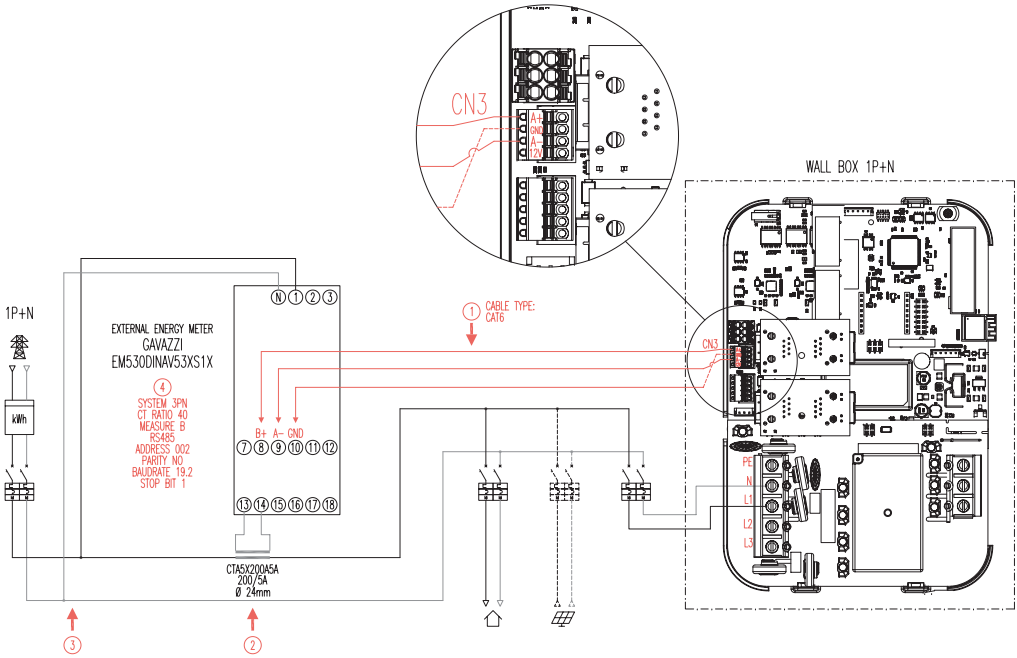
NOTE

- **If there is no communication with the additional energy meter, the station inhibits charging and the status message displayed will be "EMEX FAULT".**

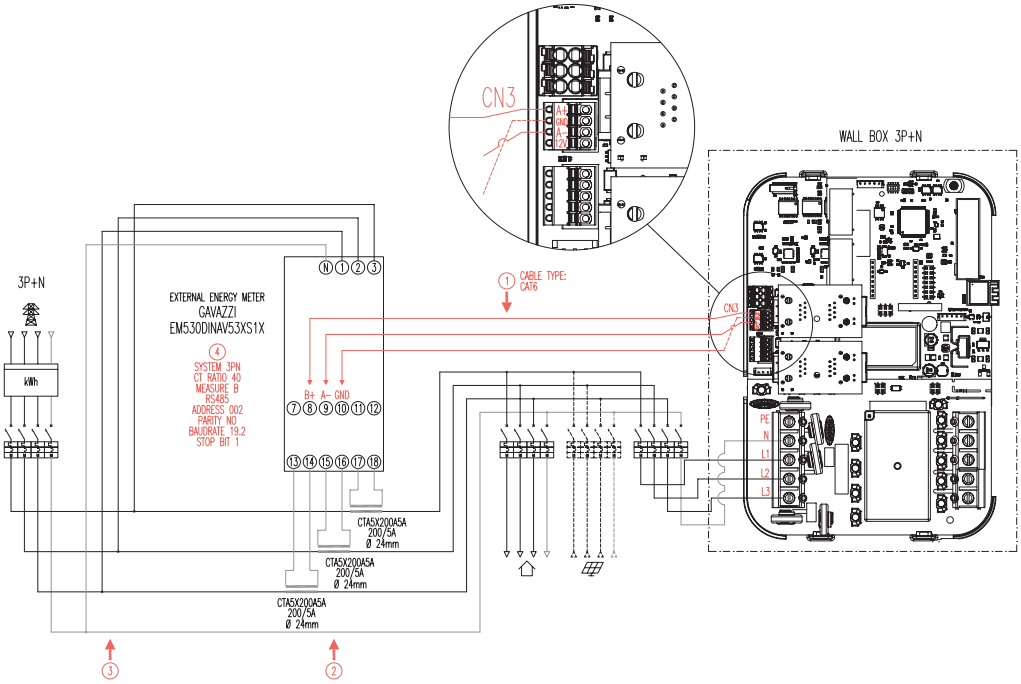
7.2.1.3 POWER MANAGEMENT INSTALLATION 208.PM05

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

SINGLE-PHASE STATION 208.PM05



THREE-PHASE STATION 208.PM05



WARNING

- **Install the additional power meter downstream of the energy meter and/or main switch and upstream of any photovoltaic system.**
- **Connect the additional power meter to terminal CN3 on the station controller using shielded cable (e.g., CAT6).**
- **Connect the 5A current transformers to the additional energy meter.**
- **Open the core of the current sensor, position it around the conductor of a single phase to be monitored, and close it again, ensuring it is properly tightened. Pay close attention to the correct direction of line input.**
- **The maximum power supported by the additional energy meter is 99 kW.**

NOTE

In case of failure to communicate with the additional energy meter, the station inhibits charging and the status message displayed will be "EMEX FAULT"

7.2.2 ENABLING POWER MANAGEMENT

To enable Power Management:

- Make sure that EMEX ON is active in the settings menu and then select the Power Management parameter to ON.

When Power Management is enabled, the charging time (hours/minutes/seconds) can be displayed during charging. In addition, it cyclically displays:

- Power output in kilowatt hours (**Etot**)
- Current absorbed by the vehicle in Amps (only **L1** if single-phase, **L2+L3** for three-phase)
- Power absorbed by the vehicle in kilowatts (**Pist**)
- Total power absorbed by the network in kilowatts (**Pest**)

7.2.2.1 PROGRAMMING PARAMETERS

You can change the following programming parameters:

- **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 grid and the power generated by the local renewable energy plant, if any.
  - **ECO Smart**: It uses the power generated by the renewable source plus a contribution from the grid to compensate for any power losses by guaranteeing a minimum level of charge. Mode selectable only when there is a local production system from a renewable source (e.g. photovoltaic, wind...).
  - **ECO Plus**: It uses the power generated by the local production plant from renewable sources only (e.g. photovoltaic, wind...).

NOTE

- **Charging in this mode is completely dependent on the state of generation of the renewable source and may be subject to interruptions such that the vehicle may not charge in the desired time frame.**

- **Pmax** (default 3kW single-phase, 6kW three-phase): is the maximum power value that can be absorbed by the network (it is recommended to enter the contractual power value of your energy meter).
- **Imin** (default 6.0A): this is the value of the minimum current at which your vehicle can charge (we recommend reading your vehicle's manual to determine the value).
- **Hpower** (default 1%): this is the hysteresis value of the power threshold at which the station pauses and resumes charging (for systems characterised by power surges, we recommend increasing the value to prevent frequent charging pauses and restarts).
- **Dset** (default 0.5kW): this is the value of power variation that does not affect the regulation system (for

systems characterised by power surges, we recommend increasing the value to prevent frequent modulations of the vehicle charging current).

- **DMAX** (default 40%): this is the power surplus (compared to the contractual power) above which current charge is immediately suspended (we recommend reducing the value in the event of inadvertent meter tripping).
- **UNBALANCE** (default OFF): only for three-phase, allows the load to be unbalanced on phase L1 when charging single-phase electric vehicles.

EXAMPLE: THREE-PHASE WALL BOX WITH PMAX SET TO 6 kW		
UNBALANCE	MAXIMUM DRAWABLE POWER	
	FROM THREE-PHASE VEHICLE	FROM SINGLE-PHASE VEHICLE
OFF	6kW	2kW
ON	6kW	6kW

- **EMEX FAULT** (default ON): this enables or disables control of communication with the external energy meter (we recommend disabling control only in the event of an emergency since, without communication, the station does not modulate the power and charges constantly at the rated current set).
- **TIME RANGE** (default OFF): with PMAX set between 3 and 4.5kW, it enables the extension of contractual power to a maximum of 6kW (including a 10% surplus) during the time of consumption bracket 3 (exclusive function for Italy, only for stations with local server).

8. CLEANING AND MAINTENANCE

8.1 CLEANING

Use a damp cloth or a neutral detergent safe for use with plastic for cleaning the station.

After charging the vehicle, make sure you close the charging door of the station to prevent external agents from settling on the charging socket.

8.2 MAINTENANCE

WARNING

Station maintenance operations must only be carried out by qualified and authorised personnel.

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

- **Every six months**: check the structure, the external components and check the operation of the protection switches.
- **Every twelve months**: check the internal components and check the tightening of the clamps.

9. DISPOSAL

"Implementation of Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)", relating to the reduction of the use of hazardous substances in electrical and electronic stations, as well as waste disposal".

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

The user must then dispose of discarded stations at appropriate separate collection centres for electrical and electronic waste.

For more details, please contact your local authority.

Proper separate collection of the stations for subsequent recycling, treatment or environmentally sound disposal helps to prevent harm to the environment and human health and promotes reuse and/or recycling of the station materials.

NOTE

The improper disposal of the station or its parts by the user will result in the application of administrative penalties provided for by the laws in force in the country where the station is disposed of.

10. ERRORS AND FAULTS

WARNING

In case of errors or faults not described in this document, or their persistence following the application of the reported solution, do not intervene on the station or tamper with it in any way, but contact the installer. Contact the Manufacturer directly for any further support.

10.1 REPORTING STATION ERRORS

STATUS REPORTING	RGB LED	CAUSE	SOLUTION
x	x	Station not powered.	Check for voltage.
MIRR FAULT	●	Overlapping contacts found.	Check contactor, reset 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 connection and charging cable condition.
PPSE FAULT	(((●)))	Plug presence fault.	Check charging cable.
OVCE FAULT	(((●)))	Input current greater than maximum set value.	Check vehicle.
VENT FAULT	(((●)))	Vehicle requiring ventilation found.	The station does not support vehicles that need ventilation (please contact customer service).
RCTE FAULT	(((●)))	No pilot circuit diode.	Check vehicle.
PEN FAULT	●	Abnormal voltage detected.	Check mains power supply.
EMTR FAULT	●	Failure to communicate with internal energy meter.	Check operation of the internal meter or presence of disturbances on the serial line.

STATUS REPORTING	RGB LED	CAUSE	SOLUTION
EMEX FAULT	●	Failure to communicate with external energy meter.	Check operation of the external meter or presence of disturbances on the serial line.
RCDM FAULT	(((●)))	Earth leakage found with continuous component greater than 6mA.	Check vehicle.
NO VOLTAGE (Vbus)	x	Power failure during charging. In the event of power failure, the charge is terminated.	

x off

● - ● steady light

(((●))) - (((●))) flashing light

SCAME

InfoTECH

ITALY

Numero Verde

800-018009

WORLDWIDE

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