

# USER MANUAL CHARGING STATIONS AC

SCAME

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## GENERAL INFORMATION

The Scame charging stations carry out charging mode 3 (according to the IEC/EN 61851-1 standard) which consists of connecting the electric or hybrid vehicle to the AC power supply. Using specific connectors (according to IEC/EN 62196-1 e 2 standards).

The E-Bike charging stations are distribution panels (according to the IEC/EN 61439-3 standard) equipped with domestic sockets (according to IEC 60884-1) intended for charging electric pedal bicycles assisted with external battery charger; their use for refills in mode 1 is allowed only where not charge mode 3 is mandatory (according to the IEC/EN 61851-1 standard).

- This manual contains warnings and instructions that must be followed for the installation, use and maintenance of the charging station and which must be available for consultation by authorised personnel.
- Station installation and start-up, together with maintenance operations, must be carried out by qualified and specifically authorised personnel in compliance with current safety standards, regulations and legislation.
- The manufacturer of the station shall not be held liable for any damage to persons, animals and/or property resulting from failure to comply with the instructions in this manual.
- Given that improvement is continuous, we reserve the right to make changes to the product and this manual at any time.
- The total or partial reproduction of this manual without the prior consent of Scame Parre S.p.A. is prohibited.



### **HAZARD: Risk of electrical shock, explosion or electric arcs**

- In the event of fire, comply with the regulations in force in the country where the station is installed
- Prior to performing any operations on the charging station, disconnect the power and use suitable tools to check that the power is disconnected from all parts.
- Before starting up the station, check that the metal structure is earthed by way of the yellow-green conductor and protect the power line using an automatic safety device and differential switch coordinated with the grounding system.
- Before connecting the vehicle to the station, make sure it is firmly secured.
- Power cables, sockets and plugs used to connect the vehicle must comply with safety requirements laid down by current legislation.
- It is prohibited to use extension cords to connect the vehicle.
- Failure to comply with safety precautions may cause serious injury and even death.
- 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.



### **CAUTION: Risk of damaging the station**

- Do not touch the printed circuit boards and/or use suitable instruments when accessing components/parts subject to electrostatic discharges.
- If necessary due to the environmental conditions, install devices to protect against atmospheric discharges in the upstream power distribution board (e.g. surge arrester type 2,  $U_p = 1.5 \text{ kV}$ ,  $I_n = 20 \text{ kA}$ ).
- If the station is damaged it should not be installed or used.
- To clean, use a damp cloth or neutral detergent compatible with plastic.

## **WARRANTY**

- The charging station referred to by this manual is covered by a two-year manufacturer's warranty in accordance with the Consumer Code (articles 128 and following), which includes reimbursement, necessary repairs or replacement to rectify any manufacturing defects encountered during normal use for a period of 24 months from the date of delivery of the product.
- 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.

## **ASSEMBLY INSTRUCTIONS**

### ***FLOOR STANDING STATIONS***

- Floor standing charging stations are supplied pre-assembled (body and base).
- The body is secured to the base using #4 M12 threaded rods and corresponding bolts, which in the case of two-stage installations can be disassembled to allow the base alone to be anchored to the floor.
- The base may be anchored to the floor using the cramp iron kit (optional) to be embedded in concrete, or by means of #4 rawlplugs (not included).
- The cramp iron kit contains a plate with #4 M8 J-shaped threaded rods (L=210mm).

### ***WALL STATIONS***

- Wall charging stations are supplied assembled (base and cover).
- Access the internal compartment by removing the shutter to secure the station. Follow the instruction sheet to secure.
- For drilling, observe the measurements on the instruction sheet (included).

### ***POLE STATIONS (OPTIONAL)***

- Anchor the pole to the floor using #4 rawlplugs (not included) and secure the plate to the pole using the supplied collars.
- Secure the station in the same way as wall mounting on the plate.

**FOR COMPLETE ASSEMBLY INSTRUCTIONS SEE INSTRUCTION SHEETS (INCLUDED)**

**INSTALLATION IN AREAS NOT DIRECTLY EXPOSED TO THE SUN IS RECOMMENDED. USE SUITABLE SUPPORTS.**

## CABLING INSTRUCTIONS

### SYSTEM REQUIREMENTS

- Check the following electrical values:
  - ◇ Grounding system: TT, TN(S), TN(C),
  - ◇ Phase to phase voltage (L-L): between 380 and 400Vac inclusive
  - ◇ Phase to neutral voltage (L-N): between 220 and 230Vac inclusive
  - ◇ Neutral to ground voltage (N-PE): less than 5Vac
  - ◇ Frequency (f): 50 or 60Hz
  - ◇ Ground resistance (Rt): less than 50Ω
  - ◇ Total Harmonic Distortion (THD): less than 8%
- Other values may compromise charging.

### POWER LINE

- The stations have spaces provided for cable entry: drill holes and install cable glands as indicated on the instruction sheet (included).
- The stations have terminal blocks for cable connections: connect phase, neutral and earth conductors as shown in the wiring diagram (included).

**In the case of tethered stations without RCBO installed in IT/NL, the installer is recommended to connect the shunt release coupled to the external protections of the microcontroller as indicated in the electrical diagram provided with the product.**

- Create the power line with protection and ducting of a section suitable for the load

Power (kW)	Voltage (V)	Current (A)	Cable section (mm <sup>2</sup> )	Max lenght (m)	Upstream protection (minimum)
3,7	230	16	3G4	50	1P+N C16
7,4	230	32	3G6	40	1P+N C32
11	400	16	5G4	100	3P+N C16
22	400	32	5G6	80	3P+N C32
44	400	63	5G16	100	3P+N C63

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

**The designer of the electrical system is solely responsible the sizing of the power line and adequate upstream protection.**

### **ADDITIONAL INFORMATION**

#### **SCU: control board**

##### **SW1: reboot button.**

- Short press to restart the station.
- Prolonged pressure (> 20S) causes the board to be reset to the default configuration (you will need to contact support).

Warning: the default configuration is to be used only in an emergency and may not work correctly on some versions, the original configuration must be restored as soon as possible.

##### **CN8: selector for maximum deliverable current**

- 0: 6A, 1: 10A, 2: 13A, 3: 16A, 4: 20A, 5: 25A, 6: 32A, 7: 40A, 8: 50A, 9: 63A

##### **AB-REM: remote enabling contact (open by default )**

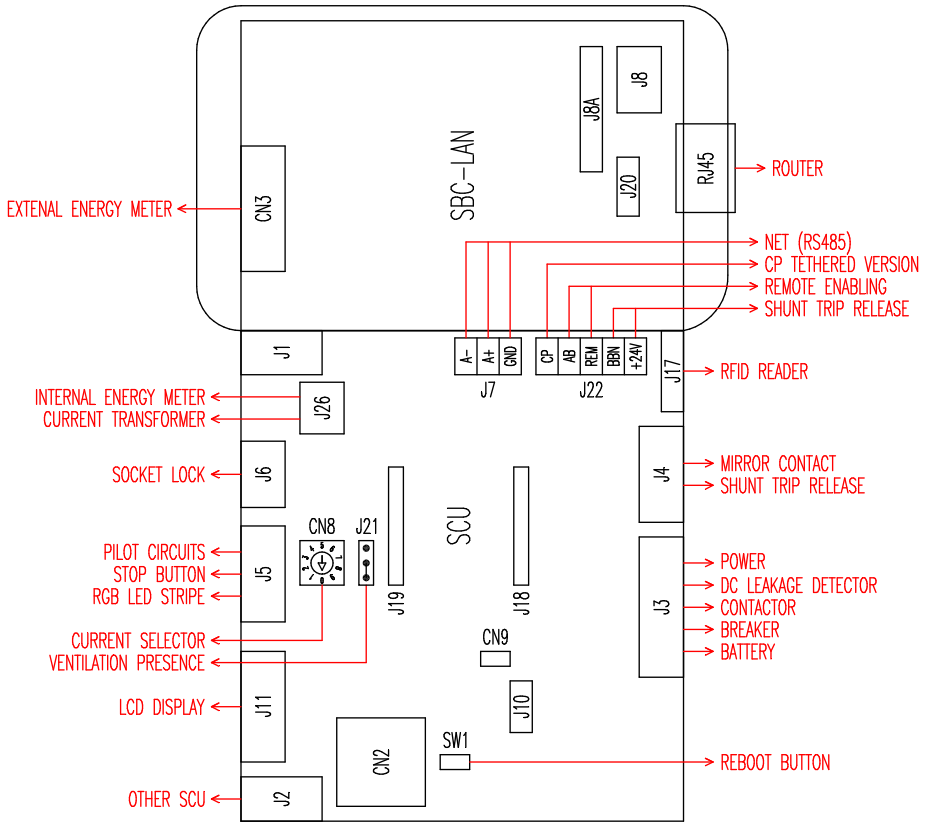
- If closed, it suspends the charge in progress or inhibits a new charge (Vehicle charging begins, but is suspended after a few seconds).
- If open, it resumes charging in progress or allows a new charge.

##### **SBC-LAN: local server with OCPP protocol (Optional)**

- Remote management device

##### **J21: presenza ventilazione**

- 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 .



## PRODUCT DESCRIPTION

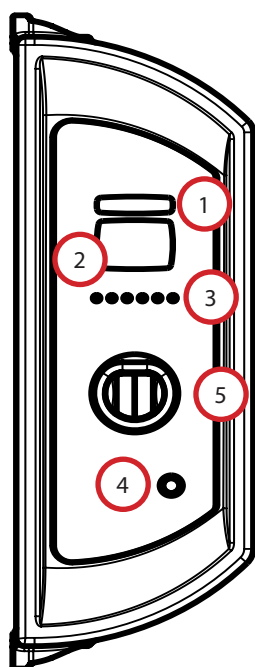
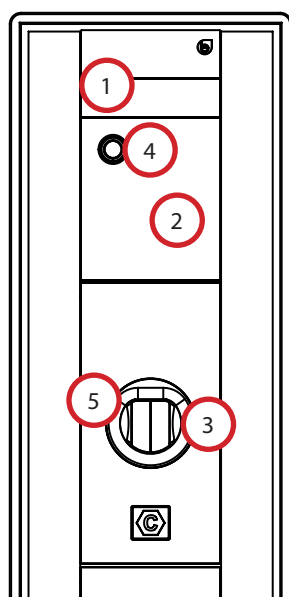
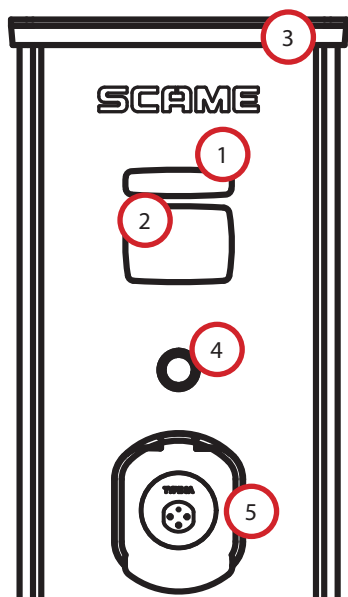
Depending on the version, the stations can be equipped with:

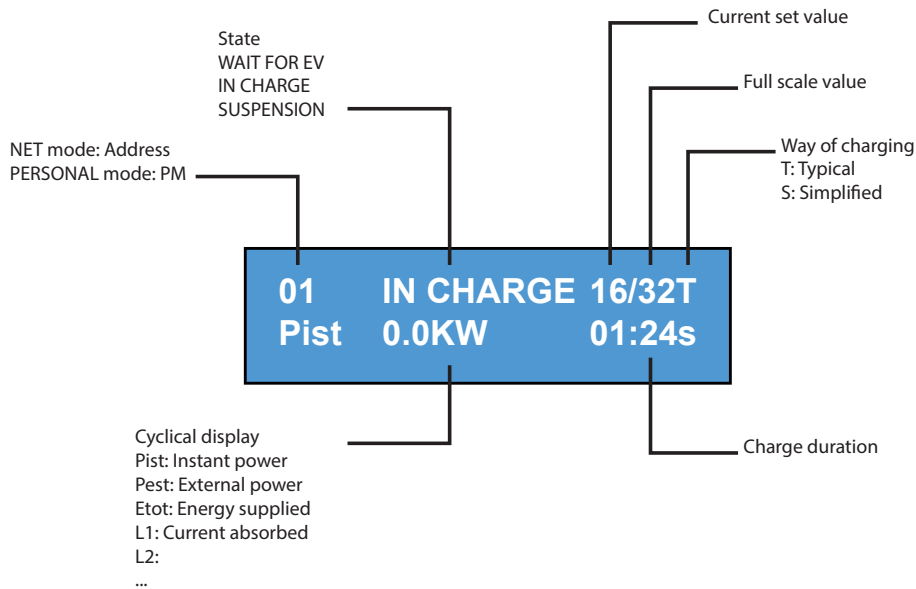
- 1. Display (multi-language).**
- 2. RFID reader (Mifare Classic or Mifare Plus).**
- 3. LED (LED pair or RGB strip)**
- 4. Button:**
  - Change language (press when charging point is not in use).
  - Consumption display (long press when charging point is not in use. Only with energy meters).
  - Charging interrupted (press during charging in free mode).
- 5. Sockets:**
  - Picoblade connector with cable (e.g. type 1 and type 2).
  - Without blocks (e.g. type 3A and GERMAN).
  - With plug block (e.g. type 2).
  - With plug block/shutter (e.g. type 3A, type 2 and GERMAN).

**Depending on the version of the charging station (Lite/Business/Pro), the following operating modes can be configured:**

- **FREE:** access to charging takes place freely, i.e. without the need for identification
- **PERSONAL:** access to charging is by means of identification via App or RFID card
- **WEB/NET:** access to charging takes place with or without identification according to the rules defined on the Scame Management System







## CHANGE DISPLAY LANGUAGE

### LANGUAGE CHANGE

Briefly press the button (after 1 minute the default language returns).

### SET DEFAULT LANGUAGE

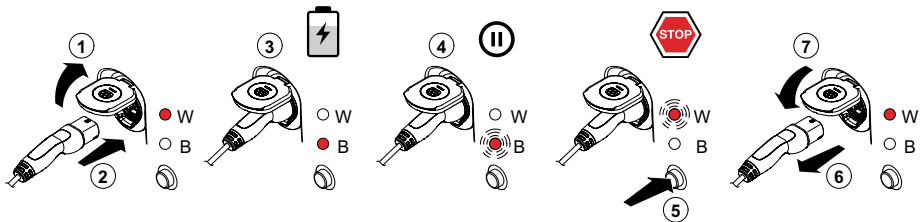
"Long" press of the button

## FREE OPERATING MODE

### Stations, UB

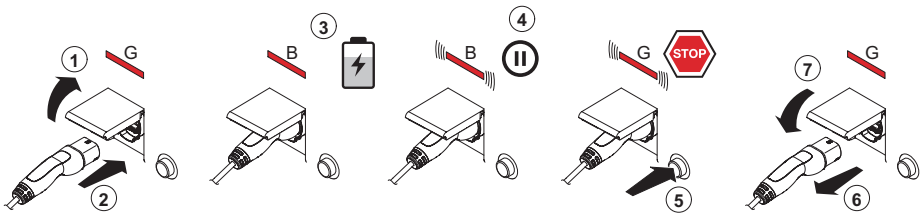
Charging stations in FREE mode can be used freely without the need for identification.

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



W: White B: Blue

### Stations BE-W, BE-A, BE-B, BE-K, CA, CB, WD



G: Green B: Blue

## VEHICLE CHARGING PROCEDURE

1. Connect the charging cable to the vehicle.
2. In the case of a charging station with a socket, connect the other end of the charging cable to the station.
3. Wait for the green LED to turn blue. The blue LED indicates that charging has started.
4. Wait for the blue LED to start flashing. The flashing blue LED indicates that charging is complete.

5. Press the button to stop charging and wait for the LED to turn green
6. In the case of a charging station with a socket, disconnect the charging cable from the station
7. Close the charging station door and disconnect the charging cable from the vehicle

NB: After charging, it is mandatory to disconnect the charging cable

## CHANGING THE OPERATING MODE FROM FREE TO PERSONAL

- Terminate charging in progress
- Press and hold the button and, at the same time, show the Master Card on the RFID reader to change mode
- Repeat the operation to go back to the previous mode

### STATUS MESSAGES IN FREE OPERATING MODE

Status	RGB LED	Display (if included)
Station not powered	×	×
Supply power to station	(( ( ● )) )	SCAME PARRE (firmware release)
Station powered	●	SOCKET AVAILABLE
Insert plug in socket	●	PLUG INSERTED
Connect vehicle	(( ( ● )) )	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)
Press button	(( ( ● )) )	REMOVE PLUG
Remove plug	●	SOCKET AVAILABLE

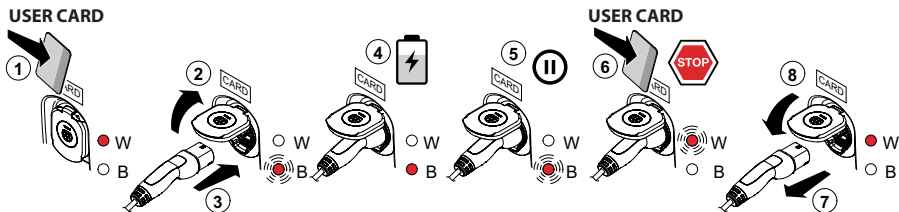
× = off   ● - ● = steady light   (( ( ● )) ) - (( ( ● )) ) = flashing light

## PERSONAL OPERATING MODE

### Stations, UB

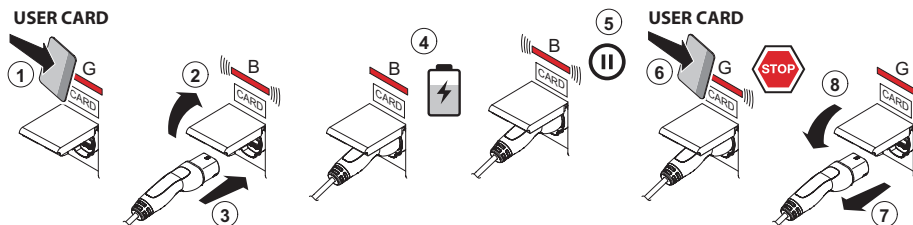
Charging stations in PERSONAL mode can only be used after identification.

The start of a charging session in PERSONAL operating mode takes place via the identification method of the charging station, which varies according to the version (APP or RFID card)



W: White B: Blue

**Stations BE-W, BE-A, BE-B, BE-K, CA, CB, WD**



G: Green B: Blue

## VEHICLE CHARGING PROCEDURE

1. Show the User Card on the RFID reader to identify yourself
2. Connect the charging cable to the vehicle
3. In the case of a charging station with a socket, connect the other end of the charging cable to the station
4. Wait for the green LED to turn blue. The blue LED indicates that charging has started
5. Wait for the blue LED to start flashing. The flashing blue LED indicates that charging is complete
6. Show the User Card on the RFID reader to stop charging and wait for the LED to turn green

7. In the case of a charging station with a socket, disconnect the charging cable from the station
8. Close the charging station door and disconnect the charging cable from the vehicle

NB: After charging, it is mandatory to disconnect the charging cable.

**CHANGING THE OPERATING MODE FROM PERSONAL TO FREE**

- Terminate charging in progress
- Press and hold the button and, at the same time, show the Master Card on the RFID reader to change mode
- Repeat the operation to go back to the previous operating mode

**STATUS MESSAGES IN PERSONAL OPERATING MODE**

Status	RGB LED	Display (if included)
Station not powered	×	×
Supply power to station	(( ( ● )) )	SCAME PARRE (firmware release)
Station powered	●	CARD PRESENT
Present card	(( ( ● )) )	INSERT PLUG
Insert plug in socket	(( ( ● )) )	PLUG INSERTED
Connect vehicle	(( ( ● )) )	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)
Present card	(( ( ● )) )	REMOVE PLUG
Remove plug	●	CARD PRESENT

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



## USER MANAGEMENT

### ***PRESENT NEW USER CARDS***

- With the station in PERSONAL mode  
(display: PM PRESENT CARD)
- Show master card on the RFID reader to enter programming mode  
(display: DATABASE MANAGEMENT – PRESENT CARD)
- Show the user card to be inserted into the memory on the RFID reader  
(display: ID REGISTER – 001 USERS)
- Show all user cards to be inserted into the memory or close database management presenting the master card or allowing countdown to terminate

### ***USER CARD DELETION***

- With the station in PERSONAL mode  
(display: PM PRESENT CARD)
- Show master card on the RFID reader to enter programming mode  
(display: DATABASE MANAGEMENT – PRESENT CARD)
- Show the user card on the RFID reader to be deleted from the memory  
(display:DELETE USER?)
- Show the same user card on the RFID reader to confirm deletion (display:ID DELETED–000 USERS)
- Show all user cards to be deleted from the memory or close database management presenting the master card or allowing countdown to terminate

### WEB/NET OPERATING MODE

The WEB/NET operating mode distinguishes between Master stations and Satellite stations.

Master stations are equipped with the Scame Management System.

Satellite stations are controlled by the Master.

The stations, whether Master or Satellite, can be accessed with or without identification according to the rules defined in the Scame Management System.

The Scame Management System allows for the WEB/NET operating mode to be configured in:

- LOCAL: the entire management of the Master/Satellite system is entrusted to the Scame Management System
- OCPP: the management of the Master/Satellite system is entrusted to an external provider

By default, the Master station is configured in the LOCAL operating mode and its charging points

can be identified on the display and in the Scame Management System by the connector identifiers

"01", "02", "03", "04" (depending on the number of charging points of the Master station).

These numeric values of the connector identifiers are pre-assigned by default at the factory.

To change the operating mode from Local to Ocpp, see the SETTINGS section in the Scame Management System paragraph

## MASTER/SATELLITE SYSTEM CONFIGURATION

A Master/Satellite system can manage up to a maximum of 16 charging points.

Adding Satellite stations to the Master.

After installing the Master station, it is possible to add satellite stations to the system. To add Satellite stations, it is necessary to connect them in cascade to the Master via Modbus RS485 communication protocol (for further details, see the dedicated paragraph).

These connections must be made in the absence of power (system switched off). When re-powering the system, the Master station must be switched on first and then the Satellite stations must be powered one at a time.

The Scame Management System will automatically detect the Satellite station within 30 seconds of it being switched on and it will automatically set its operating mode to WEB/NET (Satellite).

By default, the connector identifiers of the Satellite stations are configured at the factory with the numeric values "11", "12", "13", "14" (depending on the number of charging points of the Satellite station) and are shown on the station display.

Le stazioni Satellite che hanno un unico punto di ricarica sono configurate in fabbrica con il valore numerico "16".

Satellite stations that have a single charging point are configured at the factory with the numeric value "16".

Depending on the power-up sequence of the Satellite stations, these values will be automatically changed in ascending and contiguous order with respect to the numeric identifiers of the Master.

**ATTENTION:** it is possible to power up all Satellite stations at the same time, but in this way the value of the connector identifier will be random. To change the sequence of connector identifier values, it will be necessary to switch off the Master station, reset all satellite stations to the factory settings (see dedicated paragraph) and then disconnect the power supply to the entire system. Restart according to the procedure described above.

Changing the connector identifiers in the LOCAL and OCPP operating modes.

In the "connector details" screen in the Scame Management System, it is possible to change the values of the connector identifiers (see dedicated section).

**Socket details**

Connector Identifier: 1

Name:

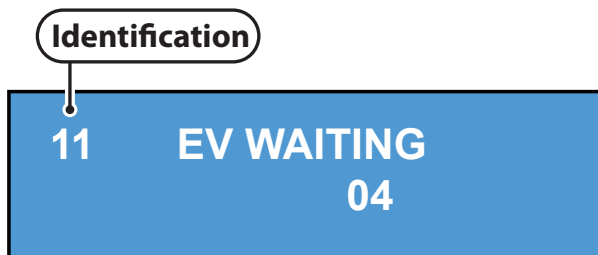
Serial Number: 00012345  
 Board type: SCU  
 Bootloader version: V4.5

Socket Type: Connector Type 2  
 Hardware revision: 8C  
 Unit ID: 1

Rated power: 22.169 kW  
 Firmware version: V4.3.3B 8C

CANCEL SAVE

Via the Scame Management System, it is possible to change the numeric values of the connector identifiers to make them appear on the display in the desired sequence.

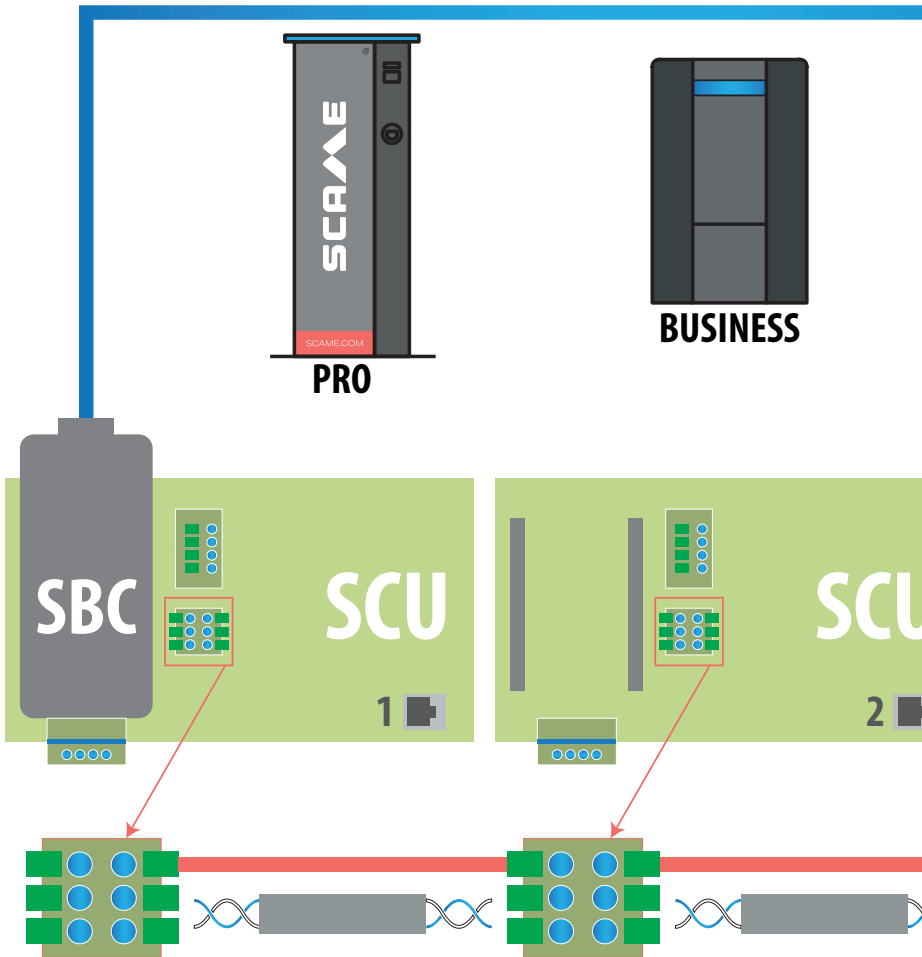


ATTENTION: the connector identifier, which is the value visible on the station display, can currently be changed when the Master/Satellite system is in the LOCAL operating mode.



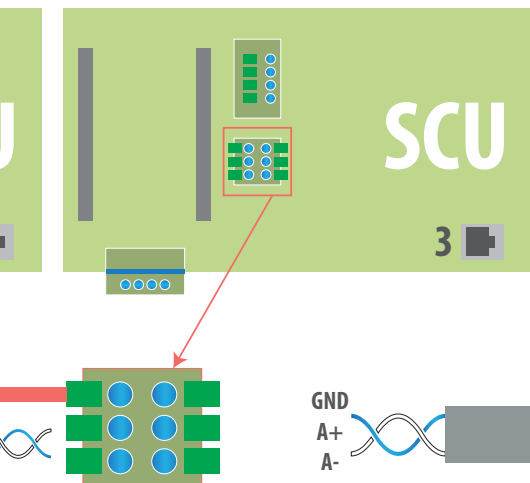
## CONNECTION INSTRUCTIONS

### Connection system with SCU electronics only



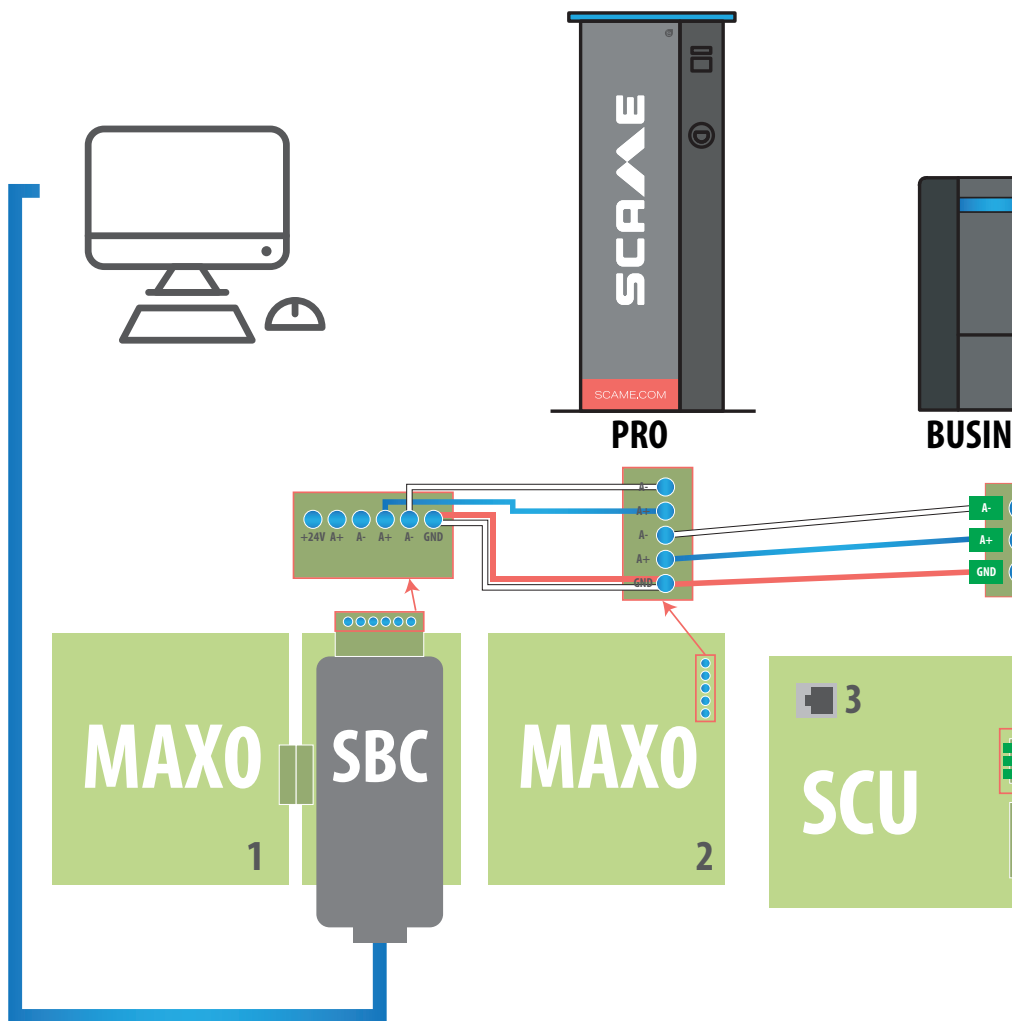


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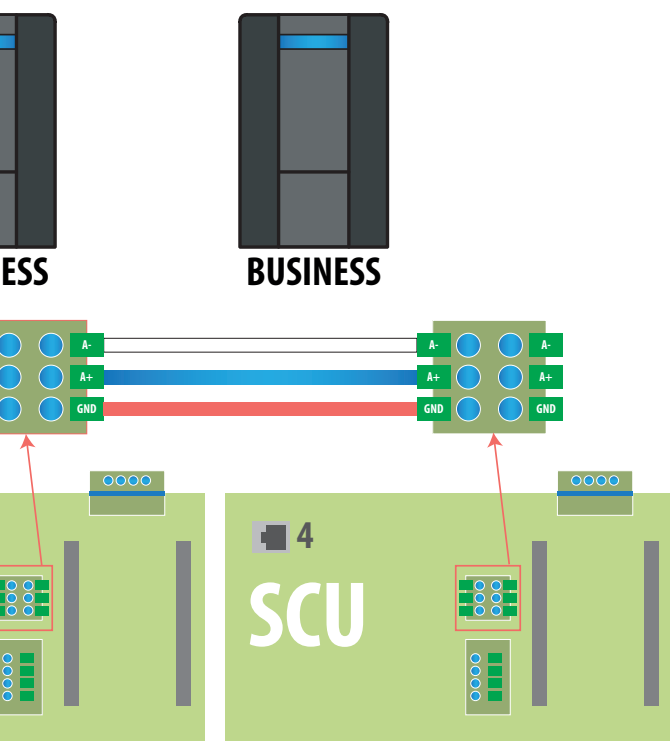
TYPE F/UTP CAT6 NETWORK CABLE
IN A SEPARATE PIPELINE
Mutual capabilities < 10 pF/m
Capacity imbalance < 60 pF/m
Blue/white pair :
Blue : A+
White : A-
Brown/white pair :
Brown : GND
White : GND
Maximum length of 400 m between first and last station

## Mixed connection system with MAX0/SCU electronics



**BUSINESS** stations with **MAX0** electronics are only compatible with **PRO** stations produced before 2025





**TYPE F/UTP CAT6 NETWORK CABLE  
IN A SEPARATE PIPELINE**

**Mutual capabilities < 10 pF/m**

**Capacity imbalance < 60 pF/m**

**Blue/white pair :**

**Blue : A+**

**White : A-**

**Brown/white pair :**

**Brown : GND**

**White : GND**

**Maximum length of 400 m**

**between  
first and last station**

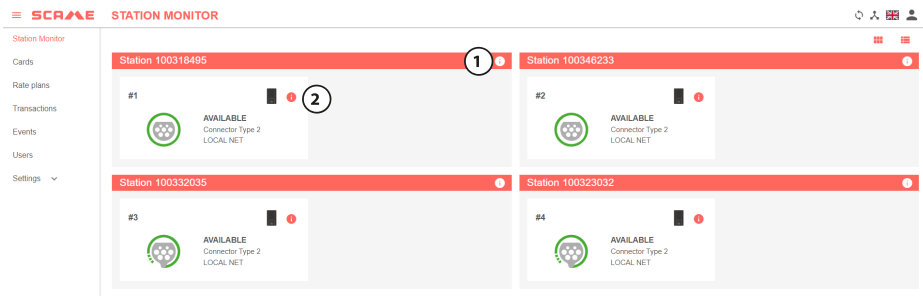
## SCAME MANAGEMENT SYSTEM

To access the Scame Management System built into the Master stations, connect via LAN to the station's IP address from your web browser and enter your credentials; it is not necessary to install any software.

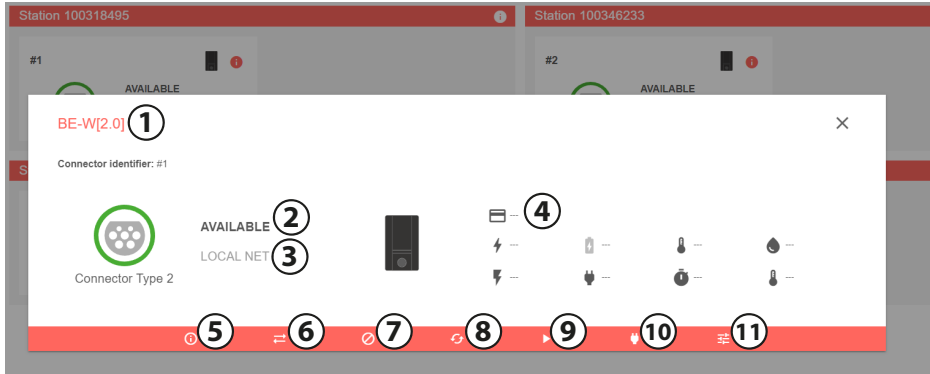
- Via web browser, access the server's IP address  
(default address: 192.168.30.126; **username: administrator ; password: Admin123-**)

### STATION MONITOR

This screen displays the charging stations and the status of the respective connectors.



1. view more station details
2. view more connector details



### Connector Detail Screen

In the connector detail screen you can view more details and perform various actions.

1. Station model
2. Connector status
3. Operating and identification mode
4. Charging session status information
5. Connector details: to find information on connector identifier and name. In the "name" field, it is possible to add a description of the charging point. The description will be visible in the Scame Management System in the "station monitor" screen.
6. Changing the identification rule: Local Free (without identification) or Local Net (identification required)
  - LOCAL FREE: access to charging takes place freely, i.e. without the need for identification
  - LOCAL NET: access to charging is via card identification (RFID card reading) or via the "Start charging" command from the Scame Management System (see point 9 of the list below)
7. Connect enabling/disabling
8. Connector Hard Reset
9. Start charging: To start charging, it is necessary to select the card number (Tag) with which to start the session (function available only in Local Net mode)
10. Adjustment of the maximum power that can be delivered by the individual connector

nected.

11. Hardware Configuration: allows enabled users to change the connector system parameters and perform Firmware updates.

## CARDS AND TARIFF PLANS

- In “Local Free” mode, the identification rules set out in the “Cards” and “Tariff Plans” screens are not considered since access to charging takes place freely and does not require user identification.
- In “Local Net” mode, it is possible to view and manage the enabling of the cards registered in the Scame Management System and their possible validity date.

ID Tag ↓	Description	Active	Expiry date (ddMM/yyyy)	Rate plan	Operations
99A327B1	Red Card				
006FCBE5	White Card				

In the “Cards” screen, it is possible to view, add and change the enabling/disabling of cards.

For each card, it is possible to:

- Define an expiry date after which the card will no longer be enabled for charging
- Associate a “Tariff Plan” to define further charging limitations

In the “Rate Plans” screen, it is possible to view, change and create new tariff plans.

Tariff Plans consist in defining certain limitations that can be applied to the charging session.

The following variables can be defined:

- Maximum number of charging sessions – corresponds to the maximum number of charging sessions that can be started by a card.  
Each time a charging session is started, the card will deduct one unit regardless of the time or power output.
- Total Time – a total value of time available to be used within the expiry date of the card
- Partial Time – a maximum value of time available per charging session
- Energia Totale – un valore complessivo di energia erogabile da utilizzare entro la Total Energy – a total value of deliverable energy to be used within the expiry date of the card

- Partial Energy - a maximum value of deliverable energy per charging session

Note: the “Tariff Plans” screen is only available in Local Net mode.

- In “OCPP” mode, it is possible to view the “Local List” and the “Cache” defined by the OCPP protocol. The identification rules are managed in the central station of the OCPP provider.

SCAME

CARDS

Station Monitor

Cards

Transactions

Events

Users

Settings

CACHE

LOCAL LIST

DELETE CARDS

UPDATE

SHOW FILTERS

ID Tag	Status	Expiry date (dd/MM/yyyy)	Parent ID Tag
▲ No card found			

## TRANSACTIONS

In this screen, it is possible to view and export the list of charging transactions carried out on the charging stations.

SCAME

CHARGING TRANSACTIONS

Station Monitor

Cards

Rate plans

Transactions

Events

Users

Settings

DELETE TRANSACTIONS

UPDATE

EXPORT TO EXCEL

SHOW FILTERS

Id	Id Connector	Card	Status	Error	Start (dd/MM/yyyy)	Stop (dd/MM/yyyy)	Duration	Energy	Operations
1	1	Red Card	Closed		09/08/2024, 19:59:27	09/08/2024, 17:03:23	00:03:14:mm	1.39 kWh	<div>⏮</div> <div>⏭</div>

1-1 of 1

## EVENTS

This screen records all the operations performed within the “Scame Management System”

SCAME

EVENTS

Station Monitor

Cards

Rate plans

Transactions

Events

Users

Settings

UPDATE

DELETE EVENTS

SHOW FILTERS

Type	Priorities	Date (dd/MM/yyyy)	Operations
Ocpp connection	2	09/08/2024, 17:07:47	<div>⏮</div> <div>⏭</div>
System logic change	1	09/08/2024, 17:07:47	<div>⏮</div> <div>⏭</div>
Ocpp connection	2	09/08/2024, 17:07:24	<div>⏮</div> <div>⏭</div>
System logic change	1	09/08/2024, 17:07:24	<div>⏮</div> <div>⏭</div>
User interface access	3	09/08/2024, 17:05:56	<div>⏮</div> <div>⏭</div>

USERS

In this screen, it is possible to define the users who have access to the system.

Each user can be assigned a Role, which defines their access permissions to the Scame Management System.

Roles

- Administrator: has full access to the system
- Data manager: has access only to the “Cards” and “Tariff Plans” screens
- Operator: has access only to the “Transactions” screen

Note:

There can be several users with the same Role

SCAME

USERS

Station Monitor

Cards

Rate plans

Transactions

Events

Users

Settings

ADD USER

EXPORT TO EXCEL

SHOW FILTERS

User	Alias	Active	Role	Language	Operations
ADMINISTRATOR			Administrator	English	

1 of 1

CONFIGURATION

In this section, it is possible to configure the following settings of the “Scame Management System”.

- General: language and time zone configurations
- Network: network configurations for remote access to the station
- Operating mode: change of operating mode, from LOCAL to OCPP, and configuration of OCPP protocol parameters.
- Load Balancing: configurations corresponding to the balancing of the power output of the charging stations (see following paragraph)
- Advanced: in this screen, it is possible to:
  - ◇ Update the software and firmware of the entire charging system.  
NOTE: firmware updates carried out via this screen affect the entire charging system (Master stations and respective Satellite stations).

To update the firmware of a specific connector, go to “Hardware Configuration” in the “Connector Monitor” screen; see the Load Balancing paragraph

- ◇ Restart the hardware and restart the software

## LOAD BALANCING

The Scame Management System can be used to define different rules with which to manage the balancing of the power that can be delivered by the charging system.

If the system does not have enough power available to allow all charging points to deliver the minimum power required for a charging session to run smoothly, any new sessions will be temporarily suspended. Temporarily suspended charging sessions will be automatically re-initialised when one of the current charging sessions ends.

NOTE: The Scame Load Balancing feature can be activated in all WEB/NET operating modes (Local Free, Local Net, OCPP).

- **Disabled:** the system does not perform load balancing
- **Load Balancing:** This functionality allows for a maximum power threshold (Set Point) for the entire Master/Satellite system to be defined. In the event that the sum of the nominal powers of the charging points in use exceeds this threshold, the “Democratic Load Balancing” algorithm will be activated. This will democratically redistribute the power available from the entire system to all connectors, thus keeping it below the set maximum threshold, but allowing all vehicles to continue charging.

The algorithm does not take into account how many and which phases are involved in the charging session and imposes the same power on both three-phase and single-phase vehicles.

- **Dynamic Load Balancing:** This feature allows for a maximum power threshold (Set Point) for each phase of the system (R-S-T) for the entire Master/Satellite system to be defined. In the event that the sum of the instantaneous powers delivered by the charging points in use exceeds this threshold, the “Dynamic Load Balancing” algorithm will be activated. This will redistribute the power available from the entire system to the different charging points. The algorithm takes into account how many and which phases are involved in the charging session and adjusts the power depending on whether the vehicle is three-phase or single-phase.

NOTE: In order for the algorithm to work, it will be necessary to configure the phase cabling for each individual charging point.

This configuration is set in the dedicated menu item

- Set Point: this is the maximum power threshold that is defined for the entire charging system. It can be of two types:

- o Static: The system checks that the sum of the instantaneous powers delivered by the charging stations does not exceed this value. The system does not take into account any absorption of other loads. (Dynamic Load Balancing and Load Balancing)

- o Dynamic: The maximum power threshold for the Master/Satellite system takes into account any absorption of other loads. (Dynamic Load Balancing only)

NOTE: To allow the system to take into account the consumption of other loads, it will be necessary to install an Energy Meter upstream of the system to be monitored. See the following paragraph for further details.



## ENERGY METER INSTALLATION AND CONFIGURATION

For Dynamic Load Balancing operation with Dynamic Set-Point, an energy meter must be installed upstream of the system to be monitored.

The following Energy Meter models are compatible with the Scame Management System:

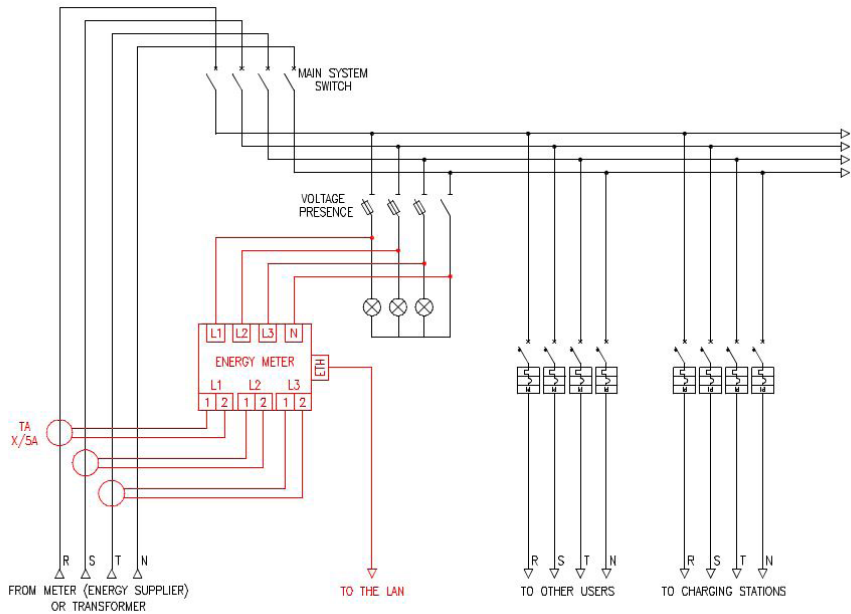
- Algo2 UEM1P5-4D (1101.0011.0001) o UEM6C-4D E (1113.0011.0001)
- Lovato DMG300 + EXM1013
- Gavazzi EM24-DIN.AV5.3.X.E1.X

In order for the energy meter to be able to detect the absorption on the line, it is necessary to connect:

- 3 current probes (one for each phase):
  - The probe is made with current transformer (CT) with 5A output
  - It is recommended to size the CT according to the size of the cable and the current to be measured
  - To make installation and maintenance easier, it is advisable to choose an openable type CT
- 3 voltage probes (one for each phase)::
  - The probe is made with a simple electrical connection.
  - To make installation and maintenance easier, it is advisable to connect the energy meter downstream of the voltage presence protections (if present).

NOTE: Check the installation regulations in force in the country of use

Below is an example of a typical energy meter connection.



In order for the energy meter to be reachable from the Scame Management System, it is necessary to configure its network parameters: refer to the documentation accompanying the designated energy meter to set:

- IP Address, Subnet mask, Gateway::
- To be expressly requested from your network administrator.
- Primary DNS:
- To be requested from your network administrator, if not strictly necessary you can leave default 8.8.8.8
- Secondary DNS:
- To be requested from your network administrator, if not strictly necessary you can leave default 8.8.4.4
- Modbus address:

- Default 01
  - Modbus address
- Default 502 for models: Algo2 e Gavazzi
- Default 1001 for models: Lovato

## ERRORS

Display (if included)	RGB LED	Cause/Solution
x	x	The station is not powered. Check for voltage.
RCBO FAULT	●	Protection triggered. Check vehicle, reset switch and restart station.
MIRR FAULT	●	Overlapping contacts found. Check contactor, reset switch.
CPLS FAULT	(( ( ● )) )	Pilot circuit open. Vehicle disconnected or check cord-set.
CPSE FAULT	(( ( ● )) )	Pilot circuit fault. Check cord set.
PPLS FAULT	(( ( ● )) )	Plug presence open. Plug disconnected or check cord-set.
PPSE FAULT	(( ( ● )) )	Plug presence fault. Check cord set.
BLCK FAULT	(( ( ● )) )	Plug block not in position. Plug not inserted correctly or check operation of block actuator.
OVCE FAULT	(( ( ● )) )	Power draw higher than the maximum set current detected. Check vehicle.
VENT FAULT	(( ( ● )) )	Vehicle requiring ventilation detected. Bridge contact IN7-GND (MAX0) / J21(SCU) if present or if natural ventilation.
RCTE FAULT	(( ( ● )) )	Pilot circuit control diode absent. Check vehicle.
PEN FAULT	(( ( ● )) )	Abnormal voltage detected. Check mains power supply.

## ERRORS

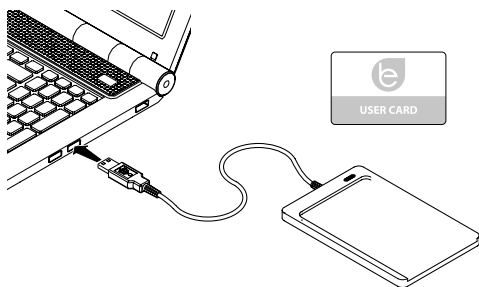
Display (if included)	RGB LED	Cause/Solution
EMTR FAULT	(( ( ● )) )	No communication with digital internal energy meter. Check meter operation or for any disturbances on serial line.
EMEX FAULT	(( ( ● )) )	No communication with digital external energy meter. Check meter operation or for any disturbances on serial line.
RCDM FAULT	(( ( ● )) )	Earth leakage detected with continuous component greater than 6 mA. Check vehicle.
NO VOLTAGE (timer)	(( ( ● )) )	No voltage during charging. If voltage returns within 3 minutes, charging resumes, otherwise it ends (with auxiliary battery only).
REMOVE PLUG	(( ( ● )) )	Plug inserted without prior authorisation. Remove plug and present an authorised card.
UNAUTHORISED USER	(( ( ● )) )	Unknown or unauthorised card code. Add or authorise the new code in the control system.
CLOSE SHUTTER	●	Shutter closure failure detected. Close shutter or check switch operation.
MFRE FAULT	●	No communication with RFID reader. Check reader operation or presence of disturbances on serial line.
CLKE FAULT	●	Date and time not set.

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

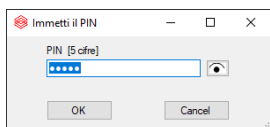
## CARD PROGRAMMER (208.PROG2)

### PROGRAMMER SOFTWARE – For Microsoft Windows 7, 8, 10, 11 operating systems only

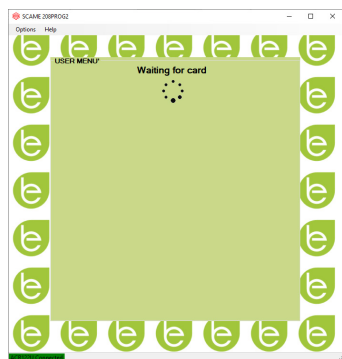
- Before connecting the programmer to the computer, download the application software 208Prog2\_V1.zip from the download area of our website <https://e-mobility.scame.com/download>.
- Install the software by launching the program 208Prog2Installer\_V1.exe.
- Except for special needs, it is advisable to accept the proposed selections and to install the drivers (if it is not possible to install the drivers, continue anyway).
- Connect the programmer to a USB port on the computer.



- Run the program 208Prog2\_V1.exe; the following screens will be displayed:



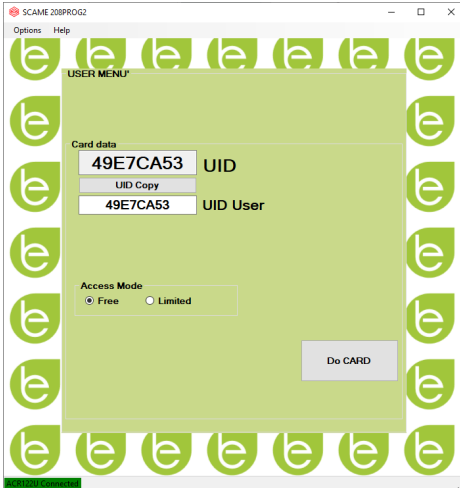
- Enter unauthorized write lock PIN (optional, 5 digits, default 00000)



- Check that the programmer is correctly connected (see the green box in the bottom left corner).
- Select the desired language from the OPTIONS menu.

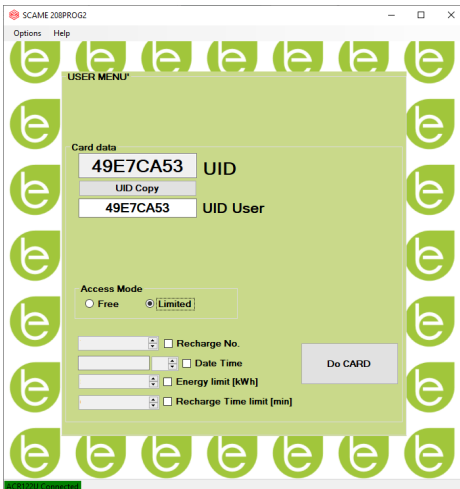
## USER CARD PROGRAMMER

- Place the user card on the programmer; the following screen will be displayed:



- To change the card code (optional): Edit the UID field, entering 8 hexadecimal digits of your choice (e.g. AAAA0001).
- To create a card without restrictions, leave the FREE access type selected.
- Click on the CREATE CARD button; a short beep will confirm the creation of the card.

- To activate the restrictions, select the LIMITED access type; the following screen will be displayed:



- To activate one of more restrictions, flag the relative field.
- To change the parameter, click on the arrows.
- Leave the field empty if you do not want to activate the relative restriction.
- Click on the CREATE CARD button; a short beep will confirm the creation of the card (energy and time limits can be set of for firmware versions 1.4.020 or later)

## MASTER CARD PROGRAMMER

- Place the master card on the programmer; the following screen will be displayed:



- To set the date and time at the station, select DATE TIME.
- To delete the user cards stored in the station, select DELETE LIST
- Click on the CREATE CARD button; a short beep will confirm the creation of the card.
- Swipe the master card on the station reader to confirm the setting.



## MAINTENANCE

The charging station is essentially a distribution panel. The following operations should therefore be carried out by qualified personnel at regular intervals:

- Every six months: check structure and external components and check operation of safety switches.
- Every twelve months: check internal components and check tightness of terminals.

## SUPPORT

In the event of operating issues, the first person to contact is your trusted installer.

The Scame customer service centre is available to respond to additional technical queries.

Visit our website: <https://emobility-scame.com/>

## DISPOSAL INSTRUCTIONS



"Implementation of Directive 2012/19/EU on Waste Electrical and Electronic Equipment (RAEE)", pertaining to reduced use of hazardous substances in electrical and electronic equipment, as well as to waste disposal".

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

The user must therefore take the dismissed equipment to suitable separate collection centres for electrical and electronic waste.

For more details, please contact the appropriate authority.

Suitable segregated collection of the equipment for subsequent recycling, treatment or environmentally-friendly disposal helps prevent damage to the environment and to human health, and encourages the re-use and/or recycling of the materials that make up the equipment.

Abusive disposal of the product by the user shall result in the application of administrative fines in accordance with the laws in force.







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