

EcoStruxure™ EV Charging Expert

User Guide

07/2025



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About this guide

Document scope

The purpose of this guide is to provide installers, maintenance personnel and users with the technical information necessary to install, commission and use the EcoStruxure EV Charging Expert.

Introduction

- EcoStruxure EV Charging Expert main features:
 - allocate a current setpoint to the charging stations in operation
 - see in real time the status of the charging stations through the dashboard
 - manage user authentication for charging authorization
 - get the charging sessions history and data from the charging stations in the network
- EcoStruxure EV Charging Expert is compatible with remote supervision from a Charge Point Operator in OCPP 1.6 Json.
- EcoStruxure EV Charging Expert allows two access profiles:
 - Admin:** Access to all configuration parameters and features, dashboard operation and RFID cards management.
 - User:** Dashboard operation.

Related documents

Title of documentation	Reference number
eMobility Infrastructure Design guide for building applications	EVSOL1DG001EN
Instructions sheet for Acti9 Smartlink SI D gateway A9XMWA20 (English, Dutch, French, German, Italian, Portuguese, Spanish, Chinese, Russian)	NVE60007
Instructions sheet for power meter METSEPM5320 (English, Dutch, French, German, Italian, Portuguese, Spanish, Chinese, Russian)	HRB69887
Instructions sheet for power meter A9MEM3250 (English, Dutch, French, German, Italian, Portuguese, Spanish, Chinese, Russian)	NHA15795
Instructions sheet for Enerlin'X IFE gateway LV434002 (English, French)	DOCA0084
Instructions sheet Enerlin'X EIFE communication module LV851001 (English, French)	DOCA0106
Installation guide for EcoStruxure EV Charging Expert (English)	DOCA0164EN

You can download these technical publications and other technical information from our website at <https://www.se/en/download>

Safety information

Important information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in death or serious injury**.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in death or serious injury**.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in minor or moderate injury**.

NOTICE

NOTICE is used to address practices not related to physical injury.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation and has received safety training to recognize and avoid the hazards involved.

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Chapter 1.

SYSTEM

ENVIRONMENT

1.1 Glossary

- **EV** : Electrical Vehicle
- **AC**: Alternate Current
- **DC**: Direct Current
- **VIP**: Very Important Person
- **RFID**: Radio Frequency Identification
- **CDR**: Charging Data Record
- **HMI**: Human Machine Interface
- **OCPP**: Open Charge Point Protocol
- **DHCP**: Dynamic Host Configuration Protocol

1.2 EcoStruxure EV Charging Expert

1.2.1 Overview

1.2.1.1 Power management functions

For a specific electrical infrastructure, the maximum power available for EV charging is distributed among the connected vehicles.

An electric vehicle needs a minimum setpoint to accept charging and, if this minimum is not available, the charge will temporarily be suspended.

The Load Management System allows the admin profile to choose between two thresholds (floor values) for AC charging:

- 8A by default for single phase charging and 14A by default for three-phase charging (based on EV/ZE ready)
- 6A by default for both single phase and three-phase (based on IEC 61851)

When a new vehicle connects and there is not enough available power, the system will suspend the charging of another vehicle to allow the new vehicle to charge.

Two options of charging prioritization are available during the configuration of the load management system:

- Energy:

The system suspends the charging of vehicles which have already consumed the highest amount of energy. This option is set by default.

- Duration:

The system suspends the charging of vehicles with the longest charging time.

In both cases, the EcoStruxure EV Charging Expert reviews these values every 15 minutes and updates charging priorities accordingly.

EcoStruxure EV Charging Expert can manage VIP information with operator or admin profile:

- VIP RFID: Once authenticated as VIP EV driver, the EV gets maximum available* power no matter the charging station.

Note: VIP RFID card is not available when remote supervision communication is activated

- VIP charging station: The charging station allows any EV to get the maximum available* power.

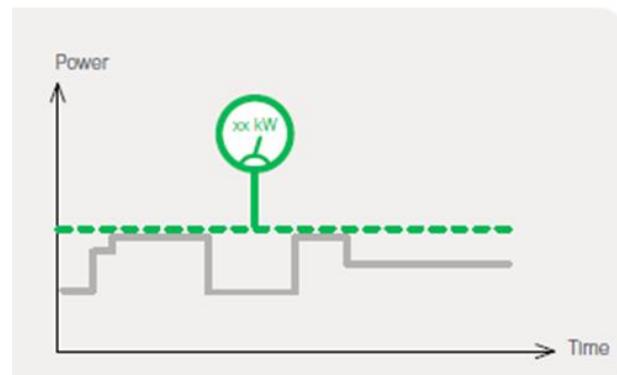
**The maximum available power for VIP status may be lower than the charging station rating depending on the number of simultaneous VIP charging sessions.*

1.2.1.2 Static and dynamic power management

Static mode

The maximum current setpoint for the whole charging infrastructure is a static value depending on the subscribed power supply and limitations of power distribution. This current is distributed between all connected vehicles to limit the risk of installation tripping.

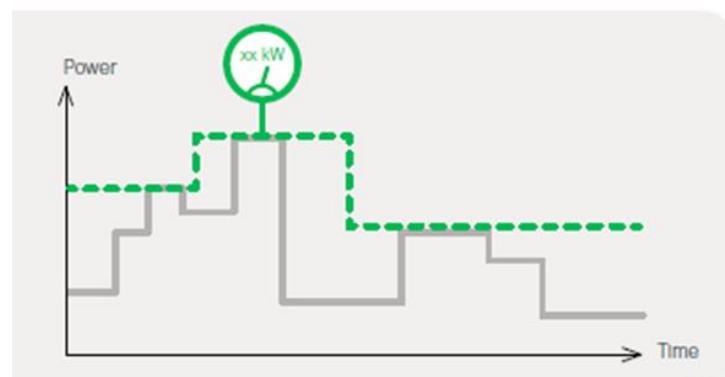
Consumption profile in static mode:



Dynamic mode

The maximum current setpoint for the whole charging infrastructure changes dynamically according to the building consumption while considering the subscribed power supply. The remaining available current is distributed between all connected vehicles to limit the risk of installation tripping.

Consumption profile in dynamic mode:



In dynamic mode, the EcoStruxure EV Charging Expert must be connected to power meters measuring the consumption of the building and the charging stations.

1.2.1.3 EcoStruxure EV Charging Expert product range & features

		Load Management License				
		HMIBSCEA53D1EDB	HMIBSCEA53D1EDS	HMIBSCEA53D1EDM	HMIBSCEA53D1EDL	HMIBSCEA53D1EM30
	Supported stations	EVlink Pro AC EVlink Pro DC	Schneider Charge Pro			
Capacity	Max number of charging stations	5	15	50	100	30
Power Management	With a static setpoint	●	●	●	●	●
	With a dynamic setpoint	●	●	●	●	●
Multi zone	Max number of zones	20	20	20	20	5
	Max number of zone levels (Top zone + sub-zones)	4	4	4	4	3
Advanced	Local production Local authentication Transactions logs	●	●	●	●	

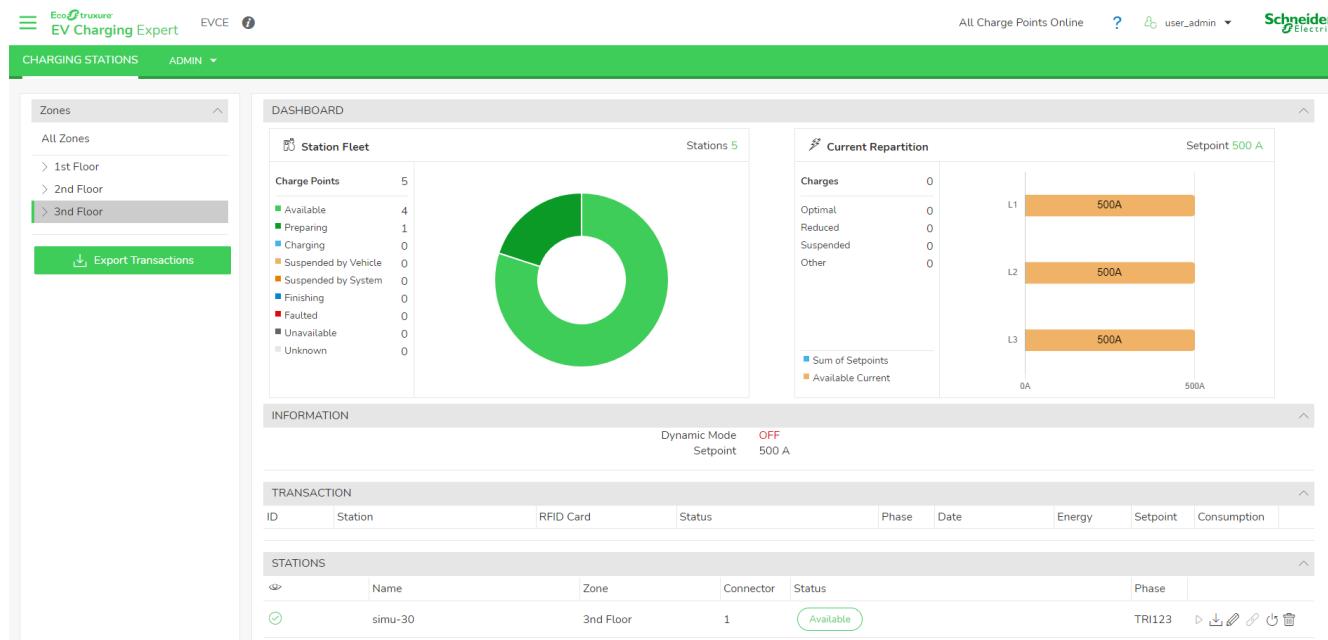
		Load Management License	
		HMIBSCEA53D1EDBSCP	HMIBSCEA53D1EDSSCP
	Supported stations	EVlink Pro AC EVlink Pro DC Schneider Charge Pro	EVlink Pro AC EVlink Pro DC Schneider Charge Pro
Capacity	Max number of charging stations	5	15
Power Management	With a static setpoint	●	●
	With a dynamic setpoint	●	●
Multi zone	Max number of zones	20	20
	Max number of zone levels (Top zone + sub-zones)	4	4
Advanced	Local production Local authentication Transactions logs	●	●

1.2.1.4 User profile features

Operate EcoStruxure EV Charging Expert Dashboard

The dashboard displays:

- The status of all charge points (connectors)
- The power consumption per phase



Remote control of charging station and transactions

Below actions are available through “Charging Station” tab:

- Remote start
- Remote stop
- Remote force stop
- Reboot (automatic charging resume)
- Reset (charging stopped)
- Access to maintenance report
- Access to webserver (if feature available for charging station)

**Only available when remote supervision is deactivated*

RFID cards management

When the EcoStruxure EV Charging Expert is in standalone mode (remote supervision deactivated), it is possible to:

1. Create authentication group
2. Configure authentication strategy of each group
3. Allocate RFID cards and stations to these groups

Access through “RFID cards management” from the dashboard. See [chapter 3.11](#)

Export Charging Data Records (CDR)

On the EcoStruxure EV Charging Expert Dashboard, the user can see the active charging sessions.

EcoStruxure EV Charging Expert can register over 1 million transactions data, also called charging data records, in its internal memory. The charging data records can be exported as an external file in CSV format for all the charging stations.

It is possible to select the period before exporting the file.

Access through “Export transactions” from the dashboard. See [chapter 3.2.3](#)

1.2.1.5 Admin profile features

In addition to the user profile features, the admin profile can change the configuration of the charging stations, and upgrade EcoStruxure EV Charging Expert firmware.

EcoStruxure EV Charging Expert commissioning

All parameters are accessible via the admin/configuration page.

The admin profile sets configuration parameters for:

- Network configuration
- Remote supervision
- Energy management
- Date & Time
- Zone management
- Power meters
- Time of use
- Digital inputs
- Certificates
- Firmwares of charging stations
- Advanced Parameters
- User management
- Logs
- Device report
- Station reports
- Zone/Station configuration

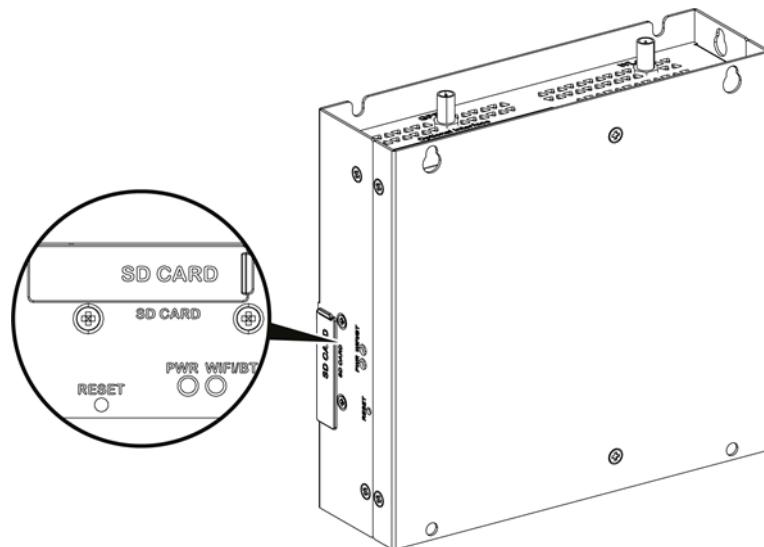
EcoStruxure EV Charging Expert maintenance

The admin profile can:

- Update the EcoStruxure EV Charging Expert firmware
- Get EcoStruxure EV Charging Expert logs
- Operate a “Back to factory”
- Operate a “Save & restore”
- Manage users accounts and passwords
- Download EcoStruxure EV Charging Expert maintenance report
- Download charging station maintenance report
- Access the Wizard that is used for initial commissioning

1.2.1.6 EcoStruxure EV Charging Expert hardware features

Description

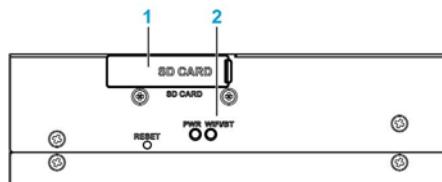


Reset button (**deactivated**) and LEDs

The table below describes the meaning of the status LEDs

Marking	Color	State	Meaning
PWR	Green	On	Active (user operates OS) (state S0)
		Off	Application failure
WiFi/BT	Green	On	Application starting
		Blink	Application running

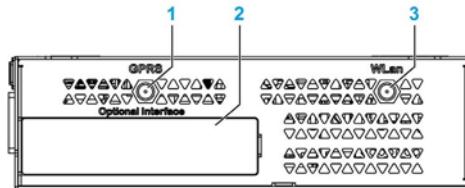
Side view



1 - SD card socket (SD card not delivered with the EcoStruxure EV Charging Expert)

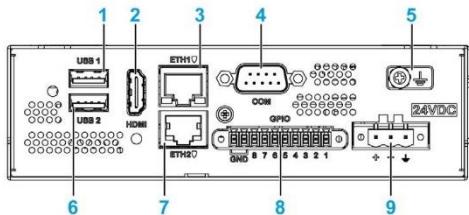
2- LEDs

Front view



- 1 - SMA connector for the GPRS/4G external antenna (not available)
 2 - Optional interface
 3 - SMA connector for the WLAN external antenna (not available)

Rear view



- 1 - USB1 (USB 2.0) (RTU ModBus device only)
 2 - HDMI port (deactivated*)
 3 - ETH1 (10/100/1000 Mb/s)
 4 - COM port RS-232/422/485 (deactivated*)
 5 - Ground connection pin
 6 - USB2 (USB 2.0) (only for ModBus communication)
 7 - ETH2 (10/100/1000 Mb/s) (deactivated*)
 8 - GPIO
 9 - DC power connector

* **Hardware deactivation improves cybersecurity**

1.2.1.7 EVlink charging stations

Charging station	Supported	Minimal version
EVlink Pro AC	Yes	1.6.0
EVlink Pro DC 120/150/180	Yes	2.7.02
EVlink Pro DC 60	Yes	2.6.15
EVlink Parking	Yes	3.4.0.10
EVlink Smart WallBox	Yes	3.4.0.10
EVlink City	Yes	3.4.0.10
24kW DC Charger	Yes	V028.803
Schneider Charge Pro	Yes (only for specific references)	2.0.3
Bender	No	
WallBee	No	

Latest releases are available on se.com/download.

For previous releases, contact [Schneider Electric Customer Care Center](http://schneider-electric-customer-care-center).

1.2.1.8 Power meters

Note: power metering is only required when the EcoStruxure EV Charging Expert is used in dynamic mode.

The table below lists few recommended power meters.

Name	Pole description	Input type	Comment
A9MEM3250 (PAS600+ Acti 9 iEM3000) 	1P + N / 3P / 3P + N	External CT: 1 A or 5 A CT: Current Transformer	
METSEPM5320 (PowerLogic PM5000) 	1P + N / 3P / 3P + N		
A9XMWD20 (PowerTag Link + Power Tags) 	1P + N / 3P / 3P + N	Wireless energy sensor PowerTag up to 630 A	
Compact NSX circuit breaker with embedded metering (with Enerlin'X IFE gateway) 	3P / 4P	Modbus TCP	For 3P, If you want to have power per phase with NSX 3- poles, you must add external neutral voltage tap
Masterpact MTZ circuit breaker with embedded metering (with embedded Enerlin'X EIFE module) 	3P / 4P	Modbus TCP	For 3P, If you want to have power per phase with MTZ 3- poles, you must add external neutral voltage tap

1.2.1.8.1 Modbus registers tables

The following tables show the ModBus registers per type of power meter.

Power meter model	"PM5320, IEM3x5x, Power tag A"
Register @	Description
3000	Current Ph1
3002	Current Ph2
3004	Current Ph3
3054	Power Ph1
3056	Power Ph2
3058	Power Ph3
3060	Total Active Power
3204	Total Active Energy Delivered

Power meter model	"NSX legacy"
Register @	Description
12016	Current Ph1
12017	Current Ph2
12018	Current Ph3
12038	Power Ph1
12039	Power Ph2
12040	Power Ph3
12041	Total Active Power
12050	Total Active Energy Delivered

Power meter model	"NSX"
Register @	Description
32028	Current Ph1
32030	Current Ph2
32032	Current Ph3
32077	Power Ph1
32074	Power Ph2
32076	Power Ph3
32078	Total Active Power
32096	Total Active Energy Delivered

Power meter model	"MTZ"
Register @	Description
32028	Current Ph1
32030	Current Ph2
32032	Current Ph3
32077	Power Ph1
32074	Power Ph2
32076	Power Ph3
32078	Total Active Power
32096	Total Active Energy Delivered

Other power meters that are not part of this selection (refer to [chapter 1.1.1.8](#)) are compatible with EcoStruxure EV Charging Expert as well. When commissioning the power meter, select from the drop-down list on "Model" field the corresponding model of power meter matching the appropriate registers list.

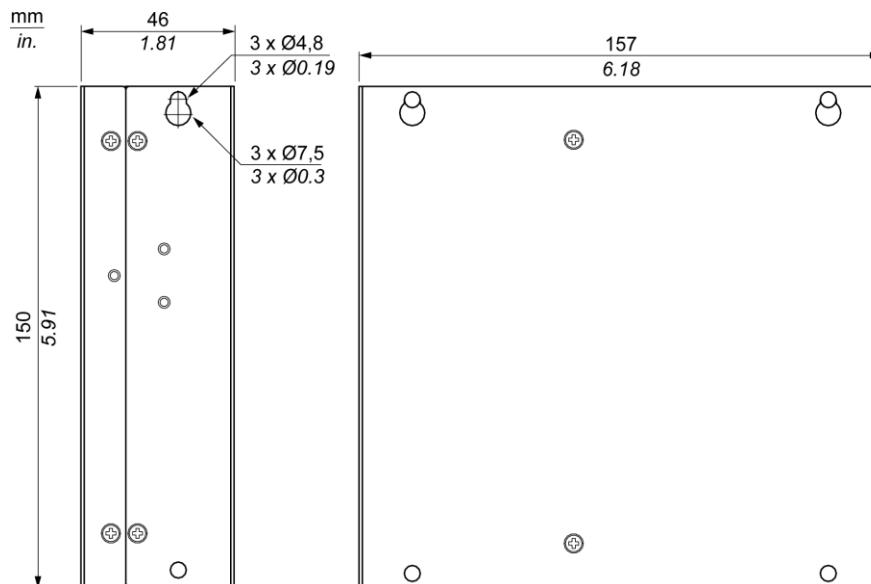
See [chapter 3.6](#) for more information.

1.3 EcoStruxure EV Charging Expert characteristics

1.3.1 General characteristics

Element	Characteristics
Operating System	Linux Yocto
Cooling method	Natural air flow
Weight	1 kg (2.2 lbs)

1.3.1.1 Dimensions



1.3.2 Environmental characteristics

Characteristics	Value
Degree of protection	IP 40
Pollution degree	For use in pollution degree 2 environment
Operating temperature	0...50 °C
Operating temperature for horizontal mounting	0...50 °C
Storage temperature	0...50 °C
Operating altitude	2,000 m (6,560 ft) max
Random vibration	5...500 Hz: 2 G _{rms}
Storage humidity	10...95 % RH at 40 °C (104 °F), no condensation

1.3.3 Power supply characteristics

Element	Characteristics
Rated voltage	24 Vdc
Inrush current	1,5 A
Power consumption	16 W

1.3.4 Communication modules

1.3.4.1 USB interface

Element	Characteristics
Type	USB 2.0
Current load	Maximum 0.5 A
Connection	Type A

1.3.4.2 Ethernet interface

Element	Characteristics
Type	RJ45
Speed	10/100/1000 Mb/s base-T

1.4 Set up of EcoStruxure EV Charging Expert system environment

1.4.1 EcoStruxure EV Charging Expert installation

See DOCA0164EN EcoStruxure EV Charging Expert installation guide" available on the EcoStruxure EV Charging Expert packaging and on se.com/download.

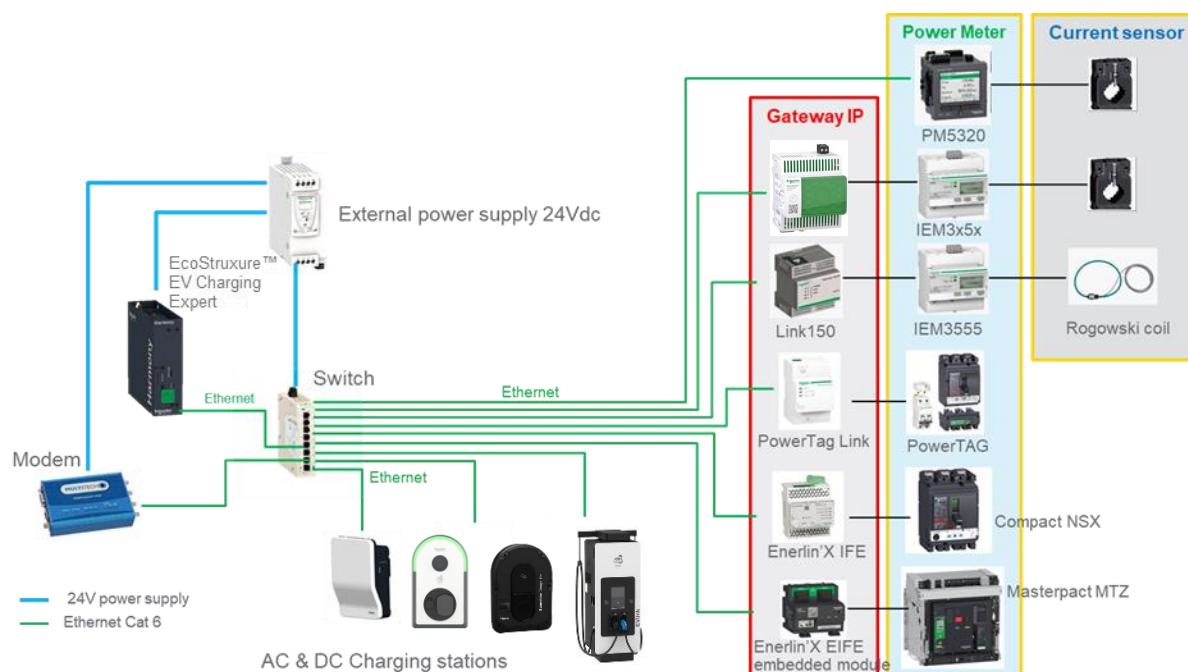
1.4.1.1 Ethernet connection: charging station connection

EcoStruxure EV Charging Expert is connected to the charging station network through ethernet ETH1.

Use an ethernet straight cable between EcoStruxure EV Charging Expert and the charging station Ethernet network.

NOTICE
<ul style="list-style-type: none"> • Connect the charging station network only ETH 1 • ETH 2 network must be activated through UI (see 3.3 Network Configuration)
Failure to follow this instruction will not enable EcoStruxure EV Charging Expert connectivity and expected functionalities.

1.4.1.2 Power meter connection



Gateways and power meters must be set correctly before starting the EcoStruxure EV Charging Expert commissioning. Please check the relevant documentation to perform this step.

Note: power metering is only required when the EcoStruxure EV Charging Expert is used in dynamic load management mode.

1.5 Electrical zone definition

An electrical zone is made of one switchboard:

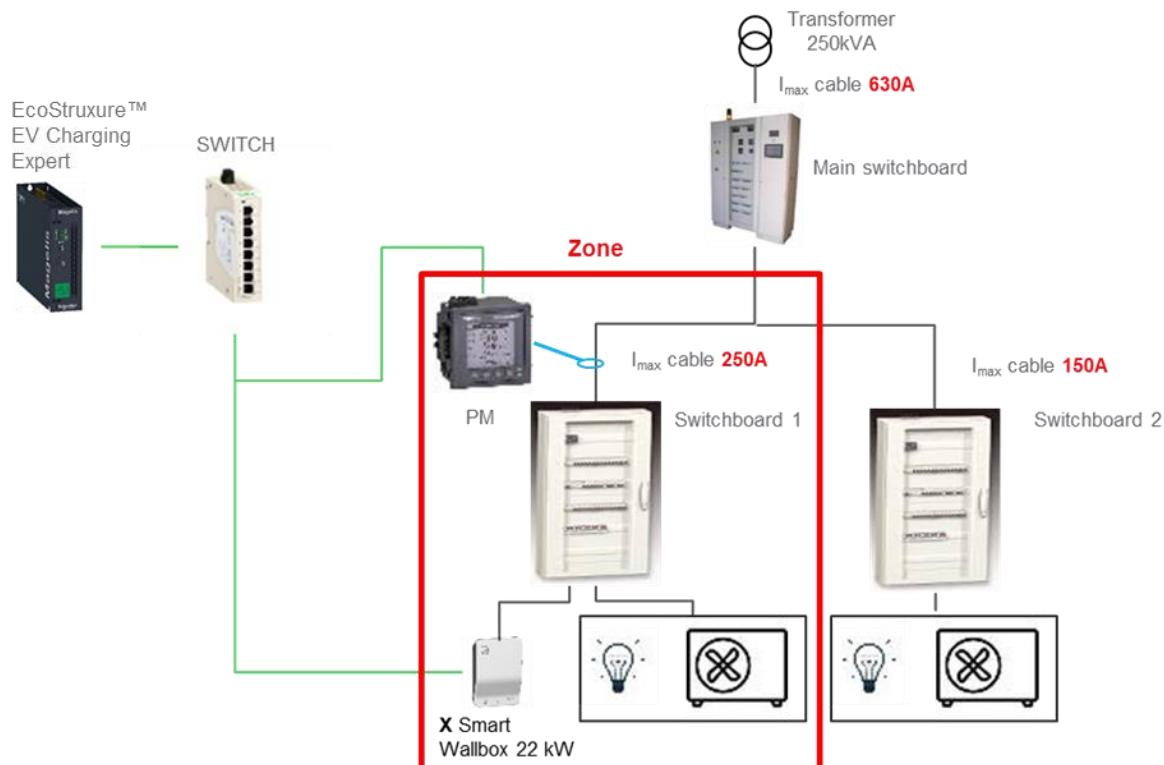
- directly supplying charging stations and possibly other electrical loads,
- or supplying other switchboards of which at least one is supplying charging stations and possibly other electrical loads. This latter forms a sub-zone. The total installed current of all sub-zones must be at least equal to the maximum current that can be delivered by the upper zone switchboard. A maximum of three levels of sub-zones is possible.

For a dynamic zone, a maximum degraded current should be defined in case of power meter disconnection. This maximum degraded current corresponds to the among of available current that is always guaranteed for EV charging.

Example #1: one single zone

In this example, the main switchboard can supply both switchboards at the maximum current. Energy management is required in the zone if the switchboard #1 cannot supply all charging stations and other electrical loads at the same time at the maximum current.

In case of a power meter disconnection, if the maximal building electrical load of the zone is estimated to ~150A, the maximal available current for EV charging in this zone is 100A.



Example #2: one zone with one sub-zone

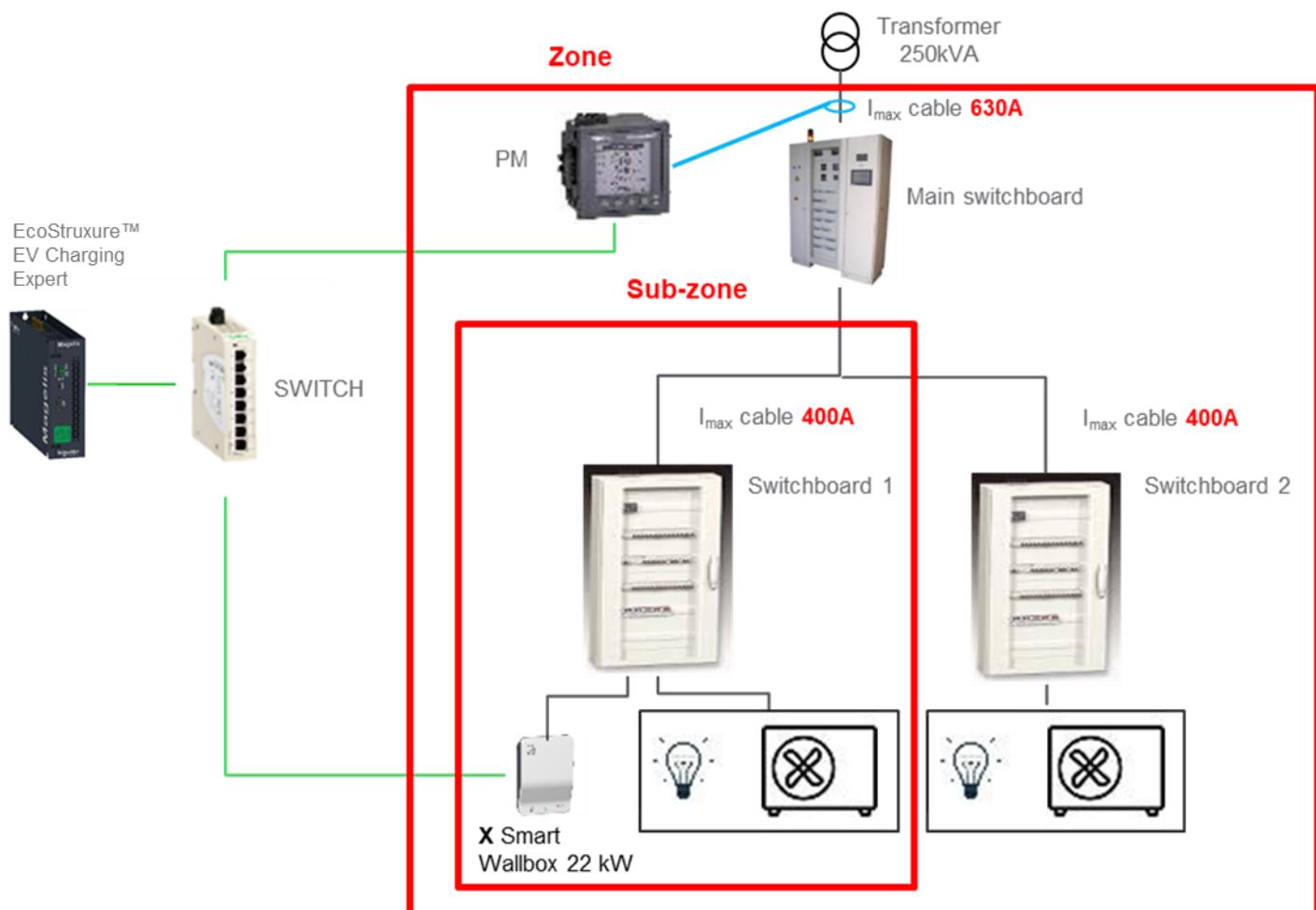
In this example, the main switchboard cannot supply both switchboards at the maximum current. In the same way, the switchboard #1 cannot supply all charging stations and other electrical loads at the same time at the maximum current.

The current available for EV charging depends on:

- the total consumption of other electrical loads supplied by switchboards #1 and #2 due to the current limitation of the main switchboard (630 A),
- the consumption of other electrical loads supplied by switchboard #1 due to its current limitation (400 A)

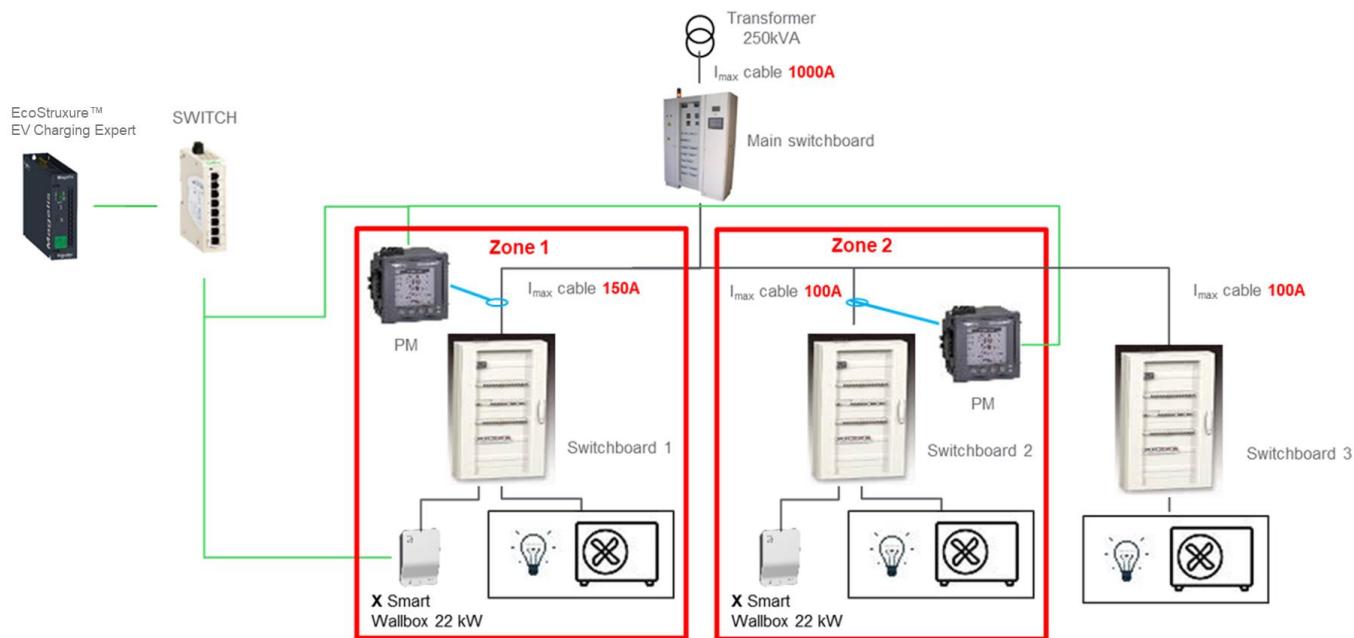
In case of power meter disconnection, the maximum degraded current of the top zone should be defined regarding the estimation of the maximum building electrical loads of switchboards #1 and #2.

As a result, it is necessary to define a zone (main switchboard) with a sub-zone (switchboard #1).



Example #3: two zones at the same level

In this example, the main switchboard can supply switchboards #1 & #2 at the maximum power. Energy management is required in each zone if switchboards #1 and #2 cannot supply all charging stations and other electrical loads at the same time at the maximum power.



Chapter 2.

EcoStruxure EV

Charging Expert

COMMISSIONNING

During the first commissioning, a configuration assistant (**wizard**) will guide the installer to set the EcoStruxure EV Charging Expert. If you have already done the first commissioning, please go to [chapter 3 OPERATION INTERFACE](#).

NOTICE

Impossible to commission in EcoStruxure EV Charging Expert a charger with ongoing charging session.

- Stop all ongoing charging session
- Unplug all cars connected to the charging station
- Start the EcoStruxure EV Charging Expert commissioning or re-commissioning

Failure to follow these instructions can block the stations pairing with EV Charging Expert.

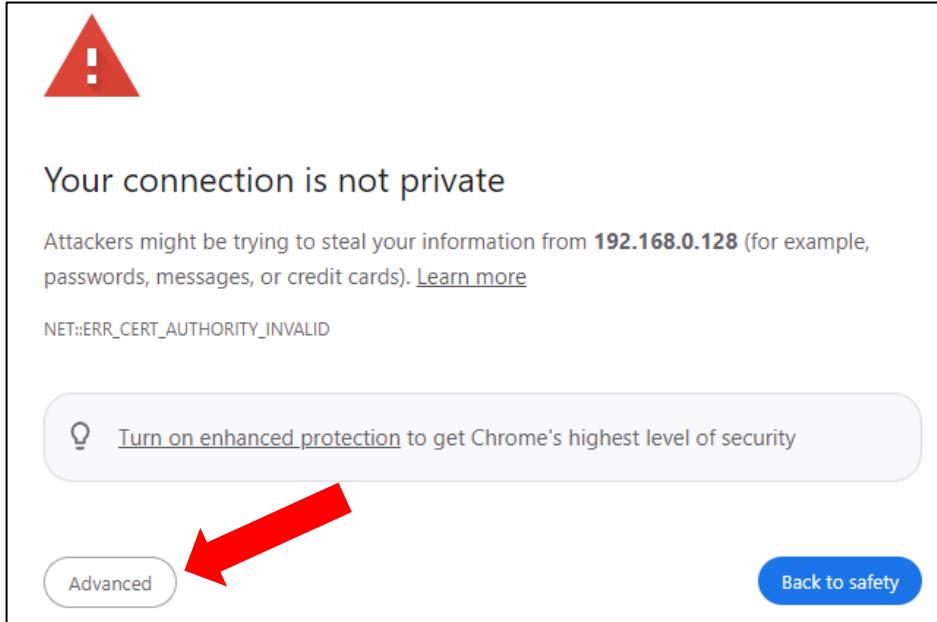
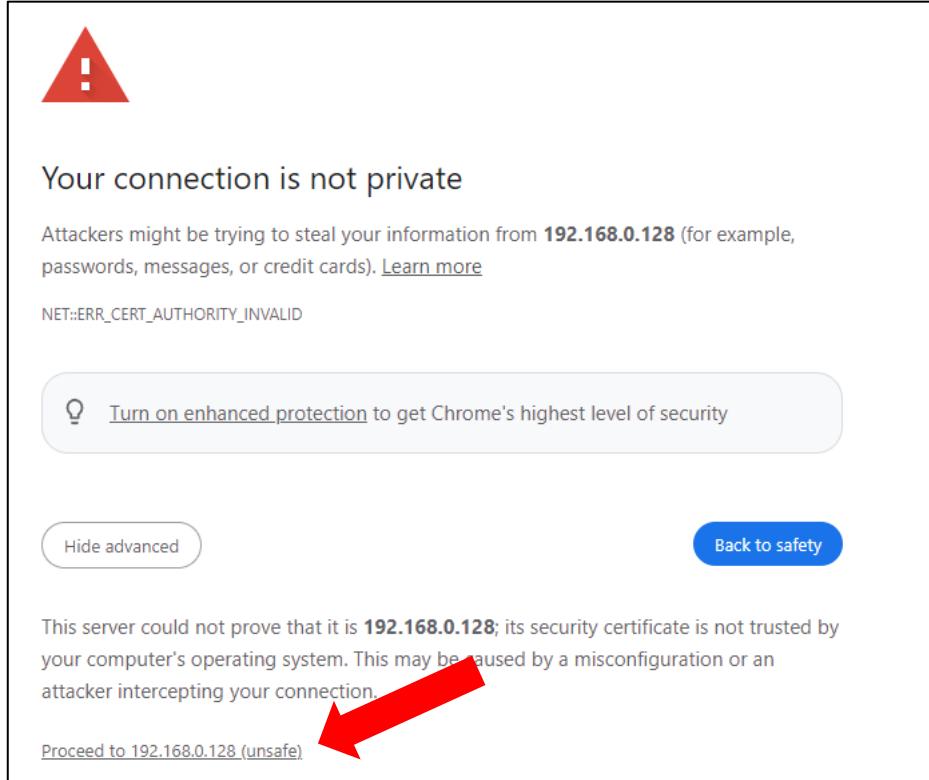
2.1 Starting with EcoStruxure EV Charging Expert

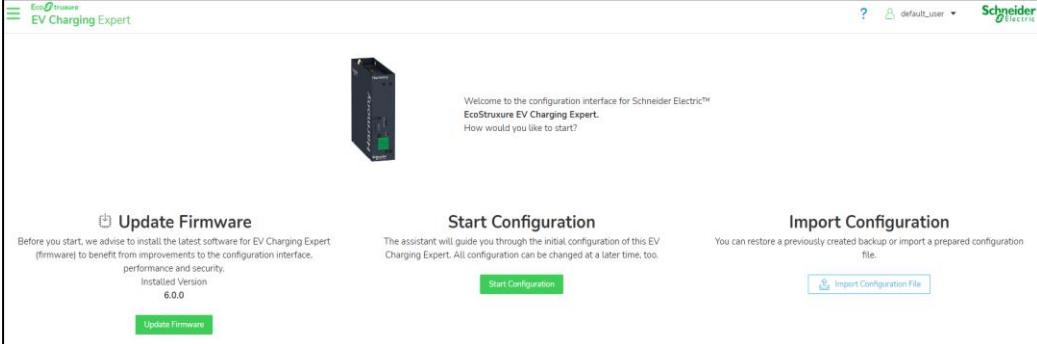
2.1.1 Computer configuration

Step	Action
1	Connect your computer to the EcoStruxure EV Charging Expert Ethernet network
2	Open the local network properties menu on your computer
3	Open Internet Protocol TCP/IP v4 properties.
4	Set the static IP address properties as follows: IP address: 192.168.0.x (where x is a number between 50 and 100) Subnet mask: 255.255.255.0 No default gateway No DNS server No proxy

2.1.2 Login to the EcoStruxure EV Charging Expert

Step	Action
1	Open a web browser and type 192.168.0.128 in the URL field

Step	Action
	<p>A security warning may be displayed: click on "Advanced" button if this occurs (see capture below)</p>  <p>Then click on "Proceed to @ ..."</p> 

Step	Action
2	<p>To start with EcoStruxure EV Charging Expert, there are 3 options:</p>  <ul style="list-style-type: none"> • Update the firmware: It is recommended to update the product with the latest version of firmware that has been issued. The file needs to be available locally, hence the installer needs to download it previously from se.com. • Start new configuration : chapter 2.3 • Import EcoStruxure EV Charging Expert: chapter 3.20.2

2.2 Credentials configuration

In EcoStruxure EV Charging Expert there are two different user profiles:

- **Administrator:** Access to all configuration parameters and features, dashboard operation and RFID card management.
- **User:** Dashboard operation and RFID card management.

The screenshot shows the 'Set Login Credentials' page of the EcoStruxure EV Charging Expert. At the top, there is a navigation bar with tabs numbered 1 to 10: Credentials, Network, Remote Supervision, Stations, Power Meter, Zones, Stations Assignment, Energy Management, Authentication, and RFID Cards. On the right, there is a user dropdown set to 'default_user'. Below the navigation bar, the title 'Set Login Credentials' is displayed. A note below the title states: 'To avoid unauthorized access to this configuration interface, please define username and password for an administrator and a first user.' The 'Administrator' section contains fields for 'Username' (a text input box with a note: 'You should not use Root, Admin or Administrator, as they are easy to guess'), 'Password' (a text input box with a note: 'Your password must satisfy the following conditions: at least 12 characters long lowercase characters uppercase characters numbers special characters (@\$!%?&)'), and 'Repeat Password' (a text input box with a note: 'You should not use Root, Admin or Administrator, as they are easy to guess'). There is also a checkbox labeled 'I securely stored these credentials. A factory reset is the only option if they get lost.' The 'First User' section contains a note: 'After initial configuration, users can monitor the installation's status, and manage badges. Please create one first user here, you can add more users later.' At the bottom, there are 'Previous' and 'Save and Next' buttons.

At the credentials step, the installer is asked to create an administrator profile and a user profile.

The passwords must satisfy the following conditions:

- at least 12 characters long lowercase
- characters uppercase
- characters numbers
- special characters (@\$!%?&).

The login cannot be “Root”, “Admin” or “Administrator”.

2.3 Wizard steps

The wizard allows to configure EcoStruxure EV Charging Expert with only 10 steps.

2.3.1 Network

See [chapter 3.3](#)

2.3.2 Remote supervision

See [chapter 3.4](#)

2.3.3 Date & Time

2.3.4 Energy management

See [chapter 3.5](#)

2.3.5 Stations configuration

See [chapter 3.6](#)

2.3.6 Power meter configuration

See [chapter 3.7](#)

2.3.7 Zones configuration

See [chapter 3.8](#)

2.3.8 Station assignment

See [chapter 3.8.5](#)

2.3.9 Authentication group

See [chapter 3.11.1](#)

2.3.10 RFID Cards

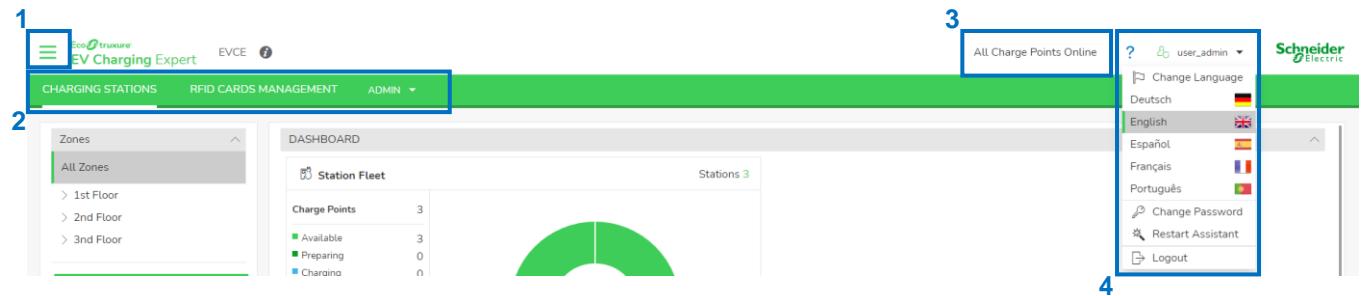
See [chapter 3.11.2](#)

Chapter 3.

OPERATION

INTERFACE

3.1 Menu and status bar



Mark	Description
1	Menu to update EcoStruxure EV Charging Expert and upgrade licence
2	Administrator menu to manage configurations
3	Charging station status (Online/Offline/Faulted state)
4	User management: <ul style="list-style-type: none"> • Change language • Update password • Restart assistant: restart wizard menu • Logout

3.2 Dashboard

3.2.1 Global view

This page displays the ongoing status of the charging stations, load transaction information and zone configuration. Furthermore, it's possible to manage charging stations (reboot/remote start&stop/diagnostic report).

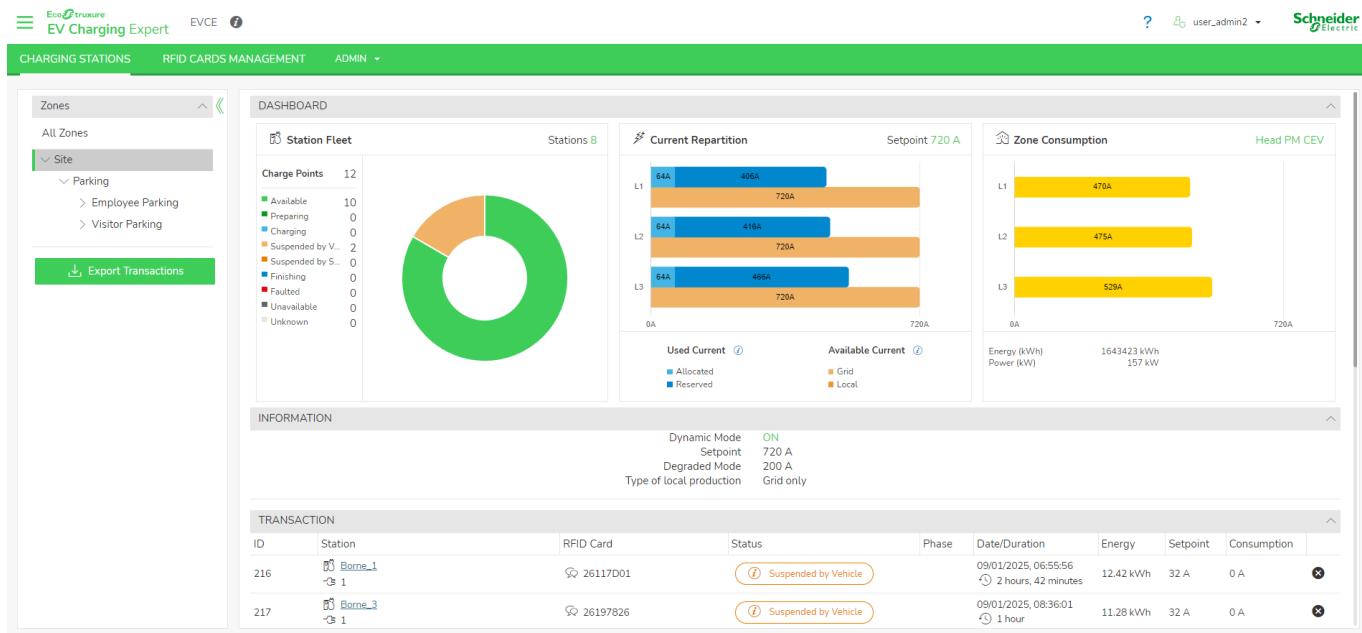
The screenshot shows the EcoStruxure EV Charging Expert Global view dashboard. The interface is organized into four main sections:

- 1. Zones:** A sidebar on the left showing a tree structure of zones: All Zones, 1st Floor (1st Floor - South, A11223344001, 1st Floor - North), 2nd Floor, and 3rd Floor. A green button labeled "Export Transactions" is at the bottom.
- 2. Dashboard:** The main top-right area. It includes a "Station Fleet" summary table and a donut chart. The summary table shows 3 Charge Points: Available (2), Preparing (0), Charging (1), Suspended by Vehicle (0), Suspended by System (0), Finishing (0), Faulted (0), Unavailable (0), and Unknown (0). The donut chart is divided into blue and green segments.
- 3. Transaction:** A table showing a single transaction: ID 1, Station A11223344001, RFID Card SIMTAG, Status Charging, Phase 1, Date/Duration 15/07/2024, 09:34:57, 1 minute, Energy 0.33 kWh, Setpoint 32 A, Consumption 31.93 A. A green button labeled "Edit" is at the bottom.
- 4. Stations:** A table showing a single station: Name A11223344001, Zone 1st Floor - South, Connector 1, Status Charging, Phase TRI123. A green button labeled "Edit" is at the bottom.

The global view is made of four parts:

1. Electrical zone topology and transactions exports information.
2. Dashboard with zones and charging stations information.
3. Transaction information and management.
4. Stations assignation and management.

3.2.2 Zone view



Zone view is available when a zone is selected in the zone topology panel. The zone view provides below data:

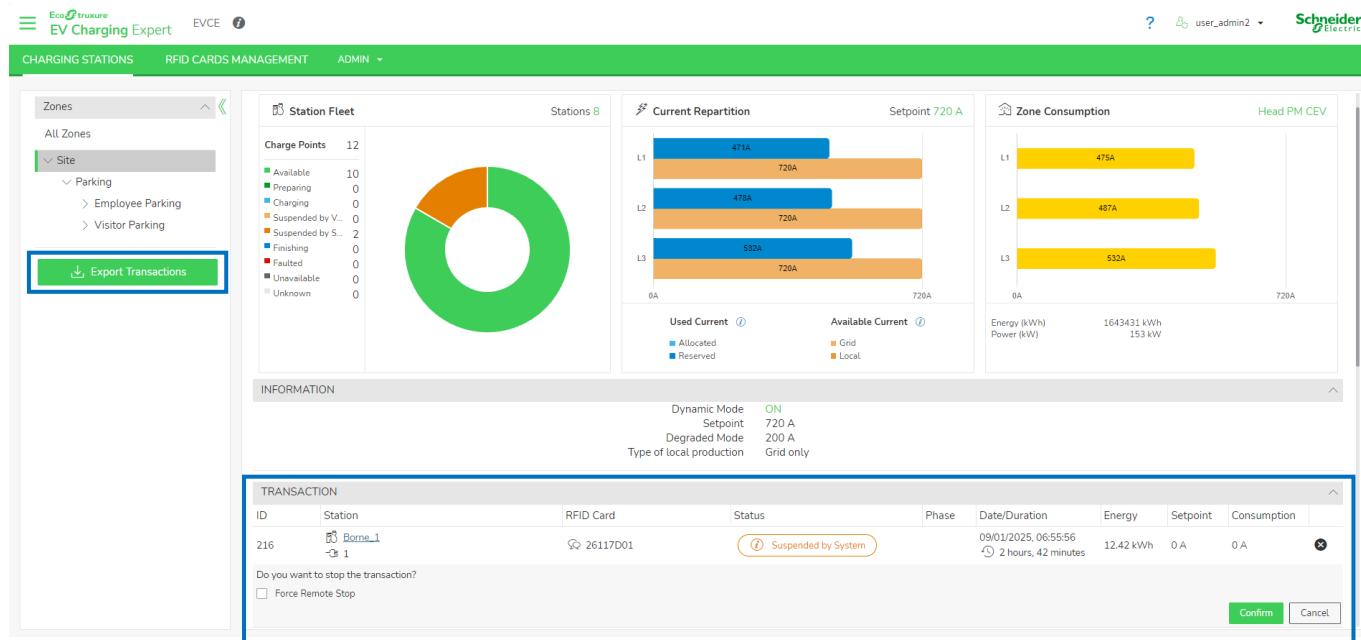
- **Station Fleet:** Status of charging stations assigned to the zone.
- **Current Repartition:** Charging setpoint available according to the active zone maximum current, zone consumption and transactions information.
 - **Allocated:** Allocated current to charging stations during transaction
 - **Reserved:** Reserved current for building consumptions and disconnected stations (degraded setpoint apply to charging station).
 - **Grid:** Available current from grid (with reduction)
 - **Local:** Available current from local production
- **Zone Consumption** (only for dynamic zone): Consumption of the zone reported by assigned power meter.

STATIONS					
	Name	Zone	Connector	Status	Phase
✓	A11223344001	1st Floor - South	1	Charging	TRI123 ⋮ ✖ ✖ ✖ ✖

Zone view is enabling charging stations management:

- **Remote start** ▶: Start a charging session (deactivated when supervision is configured).
- **Diagnostic** ⬇️: Generate a manual charging station report of the charging station ([see chapter 3.16.3](#) for download page).
- **Configuration** 🔧: Update charging station configuration ([see chapter 3.2.4](#))
- **Webserver** 🔗: Webserver of the charging station (option available only for charging station supporting web pages interface).
- **Reboot** ⟳
- **Delete** ✖: Delete charging station configuration into EcoStuxure EV Charging Expert (impossible to delete a charging station with an ongoing transaction).

3.2.3 Transaction view



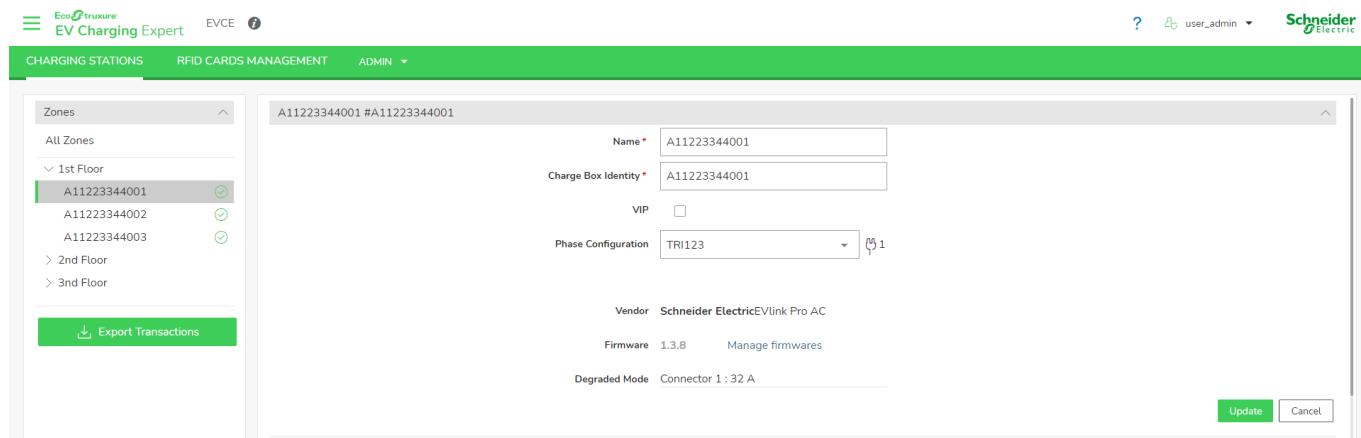
Transaction view provides all information for an active transaction:

- **ID:** Unique identifier of the transaction
- **Station:** Station name and connector used for the charging session
- **RFID Card:** Card which launch the transaction.
- **Status:** Status of the transaction according to OCPP standard (Charging / SuspendedEV / SuspendedEVSE / Finishing)
- **Phase:** Selected phases by EV (mono-phase or tri-phased)
- **Date/Duration:** Transaction start date and effective charging duration (time passed in charging state)
- **Energy:** Energy consumed by the ongoing transaction
- **Setpoint:** Current setpoint (intensity or power allocated to the charging station).
- **Consumption:** Consumption of the charging station.

At the left of ongoing charging session, it's possible to remotely stop the charging sessions with the button **X**, a **Force Remote Stop** option is available to stop a charging session if there are some troubles with this charging session.

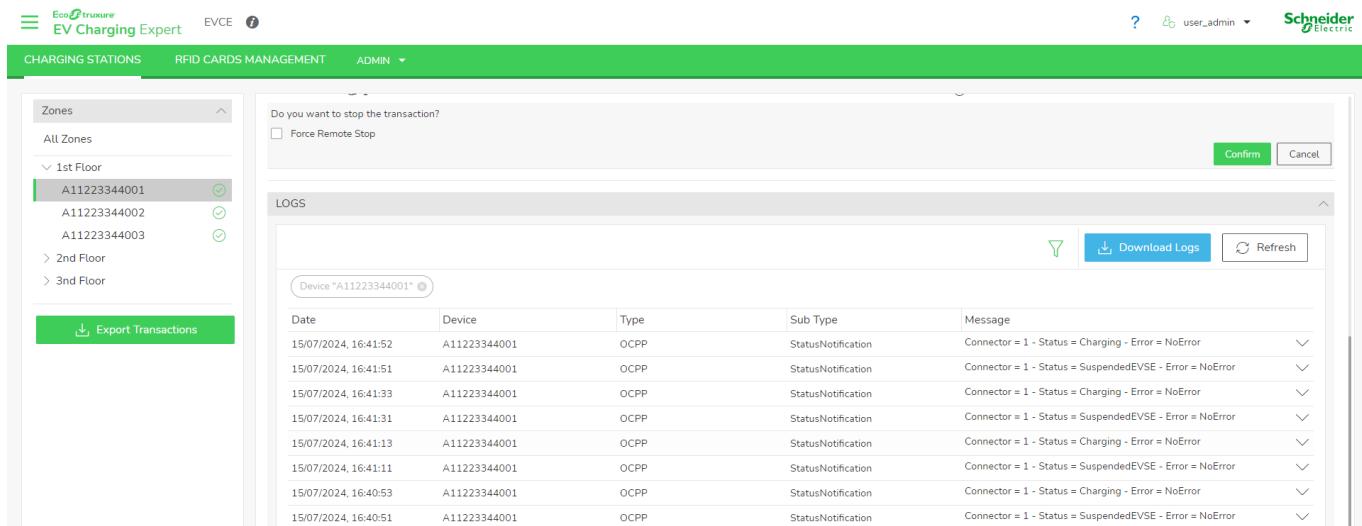
Transaction logs are available for download by using **Export Transactions** button. Select a start and end date to make a partial transaction export.

3.2.4 Station view



To access the station details, select the charging station in zones hierarchy. Below information is accessible:

- **Name:** Name of the charging station into EcoStruxure EV Charging Expert.
- **Charge Box Identity:** Name of the charging station for the remote supervision.
- **VIP:** Select this option to activate VIP for the charging station.
- **Phase configuration:** Electrical configuration of charging station (see [chapter 3.5.4](#))
- **Vendor:** Vendor of the charging station.
- **Firmware:** Firmware version and management (see [chapter 3.13](#)).
- **Degraded Mode:** Current allocated to the charging station in degraded mode (see [chapter 3.7.4](#)).



The screenshot shows the EcoStruxure EV Charging Expert software interface. The top navigation bar includes the logo, 'EVCE', and 'ADMIN'. The main menu bar has 'CHARGING STATIONS', 'RFID CARDS MANAGEMENT', and 'ADMIN'. On the left, a 'Zones' sidebar shows a tree structure with 'All Zones', '1st Floor' (selected), and '2nd Floor'. Under '1st Floor', three devices are listed: A11223344001, A11223344002, and A11223344003. A 'Logs' section on the right displays a table of OCPP commands for device A11223344001, with columns for Date, Device, Type, Sub Type, and Message. A 'Download Logs' button is available. A modal dialog box is open, asking 'Do you want to stop the transaction?' with options 'Force Remote Stop', 'Confirm', and 'Cancel'.

Date	Device	Type	Sub Type	Message
15/07/2024, 16:41:52	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = Charging - Error = NoError
15/07/2024, 16:41:51	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = SuspendedEVSE - Error = NoError
15/07/2024, 16:41:33	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = Charging - Error = NoError
15/07/2024, 16:41:31	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = SuspendedEVSE - Error = NoError
15/07/2024, 16:41:13	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = Charging - Error = NoError
15/07/2024, 16:41:11	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = SuspendedEVSE - Error = NoError
15/07/2024, 16:40:53	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = Charging - Error = NoError
15/07/2024, 16:40:51	A11223344001	OCPP	StatusNotification	Connector = 1 - Status = SuspendedEVSE - Error = NoError

In station view, a log section displays all OCPP commands received by EcoStruxure EV Charging Expert from the selected charging station.

3.3 Network configuration

Access by the Admin tab → Configuration → Network

Réseau

Nom de l'appareil: EVCE 3

Configuration du proxy: OFF

URL du proxy:

EV Network (i)

Activate DHCP client: OFF

Adresse IP: 192.168.0.151

Masque de sous réseau: 255.255.255.0

Passerelle par défaut:

DNS Server

Serveur DNS préféré: 8.8.8.8

Serveur DNS secondaire:

Configuration du serveur DHCP: OFF

Plage d'adresse: - - -

Secondary Network (i)

Activate DHCP client: OFF

Adresse IP: 192.168.1.128

Masque de sous réseau: 255.255.255.0

Passerelle par défaut:

Enregistrer **Rétablir**

3.3.1 EcoStruxure EV Charging Expert name

It is mandatory to define a name to EcoStruxure EV Charging Expert.

3.3.2 Network configuration

EV Network (i)

Activate DHCP client: OFF

Adresse IP: 192.168.0.151

Masque de sous réseau: 255.255.255.0

Passerelle par défaut:

Secondary Network (i)

Activate DHCP client: OFF

Adresse IP: 192.168.1.128

Masque de sous réseau: 255.255.255.0

Passerelle par défaut:

Fields	Factory setting	Description
EV network		
Activate DHCP client	Activated	Activate or not the DHCP client. The device IP address will change based on the DHCP if you activate this.
IP address	192.168.0.128	EcoStruxure EV Charging Expert IP address
Network mask	255.255.255.0	EcoStruxure EV Charging Expert sub-network mask
Default gateway (1)	192.168.0.254	Gateway IP address. Mandatory to connect two networks so that devices on one network can communicate with the devices of another network.
Preferred DNS server (2)	8.8.8.8	Preferred DNS server IP address (2)
Alternative DNS server	-	Other DNS server IP address (2)
Secondary Network	Deactivated	Activate another subnetwork on the second ethernet port to access the web pages

- (1) Address of the modem used for the connection to the supervision, if any. All charging stations on the same sub-network than EVCE must be configured with the same gateway IP address.
- (2) DNS Server is used to convert URL to IP address. May be provided by the remote supervision (through a dedicated SIM card for example). Google DNS server by default.

NOTICE

Presence of charging stations in a different subnetwork of EcoStruxure EV Charging Expert

- Configure for each charging station gateway and DNS information

Failure to follow these instructions can result in a network issue for all connected devices.

3.3.3 Proxy configuration

Proxy URL: Proxy URL when proxy is used as an intermediary between a user's device and the internet, enhancing security by masking the user's IP address, allowing organizations to control and monitor internet usage, and enabling access to geo-blocked or restricted content.

3.3.4 DHCP server configuration

DHCP: Dynamic Host Configuration Protocol is a protocol used to provide quick, automatic, and central management for the distribution of IP addresses within a network.

EcoStruxure EV Charging Expert can be configured to act as a DHCP server to assign IP addresses to charging stations in the defined range.

by-default sub-network (192.168.0.0-255) is being used. The use of 192.168.0.0, 192.168.0.254 and 192.168.0.255 are to avoid.

NOTICE

Presence of a DHCP server on the network which conflicts with EcoStruxure EV Charging Expert DHCP server.

- Deactivate EcoStruxure EV Charging Expert DHCP server

Failure to follow these instructions can result in a network issue for all connected devices.

3.4 Remote supervision configuration

Access by the Admin tab → configuration → remote supervision

3.4.1 Supervision selection

Supervision mode

Local [?](#)
 Unique [?](#)
 Multiple [?](#)

Save

There are 3 types of EcoStruxure EV Charging Expert supervision:

- **Local:** EcoStruxure EV Charging Expert is managing authentication rules and badges. See [chapter 3.11](#)
- **Unique:** One supervision is managing authentication rules and badges of the complete installation
- **Multiple:** Charging stations are divided in groups managed by a specific supervision or by EcoStruxure EV Charging Expert

3.4.2 Unique supervision

Supervision mode

Local [?](#)
 Unique [?](#)
 Multiple [?](#)

Advanced Configuration

Remote Supervision URL Address: ws://test.com

WebSocket Ping Interval: 10

Message timeout: 10

Forward security event to CPO: ON

Basic Authentication: OFF ON

Save Test Connection

3.4.2.1 Prerequisites

Remote supervision must be enabled to allow its configuration. Enter the URL to be used by the charging stations to establish communication with the remote supervision. The communication protocol **must be OCPP 1.6 Json**.

3.4.2.2 Supervision configuration

- **URL Address:** Enter WebSocket (ws) or WebSocket Secure (wss) URL. It is recommended to use a WebSocket secure as a good practice of cybersecurity. In this case, it is necessary to add a certificate after commissioning steps, see [chapter 3.12](#).
- **WebSocket Ping Interval:** Positive values are interpreted as number of seconds between pings. Value must be between 1 and 60s
- **Message timeout:** Interval between request and response OCPP message before considering the connection lost. Value must be between 1 and 60s
- **Forward security event to CPO:** Authorize to forward security event to supervision

3.4.2.3 Basic authentication

Add a Basic Authentication password for all charging stations to secure communication between EcoStruxure EV Charging Expert and supervision. There are 2 options:

- **One password by station:** One unique password for each station. To add or change basic authentication password, it's necessary to select charging station into installation page and click on **Change password**.

- **Same password for all charging stations:** Once the option is selected, a popup will appear offering the possibility to add basic authentication key according to 2 formats (ASCII or HEXA format). Password is used for all stations and can be changed later by supervision through OCPP commands.

3.4.2.4 Restrictions

If remote supervision option is activated, it is the responsibility of the remote supervision system to handle EV driver authentication and to consider charging station specific keys for authentication management.

When the remote supervision is activated, the date and time are provided by the remote supervision even if time zone still has to be configured in the next panel (Date & Time).

3.4.3 Multiple supervision

3.4.3.1 Supervision configuration

3.4.3.2 Supervision management

Multiple supervisions option offers the possibility to manage authentication strategy according to supervision or local strategy. To manage the installation, it is necessary to create authentication groups and assigned charging stations to a group. An authentication group is a selection of charging stations associated with to a charging point operator. There are 2 charging point operator options:

- Select a **supervision as charge point operator**: select in the list the supervision already configures.
- Select **local as charge point operator**: please see chapter [3.11.1.2](#) and to manage RFID card, please see chapter [3.11.2](#).

3.5 Energy management configuration

Access by the Admin tab → configuration → energy management

The screenshot shows the 'Energy Management' tab selected in the top navigation bar. The interface is divided into several sections:

- Charging Stations Default Configuration:** Includes a dropdown for 'Load Shedding Priority' set to 'Energy'.
- Consumption Optimisation Configuration:** Contains fields for 'Activation' (ON/OFF), 'Setpoint reduction trigger value' (10), 'Reduction efficiency value' (10), 'Minimal gap with EV consumption' (10), and 'Optimization delay (s)' (30).
- Suspended by System Strategy:** Shows 'Strategy' options: 'Allow' (selected), 'Disabled', and 'Reused setpoint'.
- Electrical grid:** Shows 'Type of electrical network' options: '3 x 400V with neutral' (selected) and '3 x 230V no neutral'.
- Local production management:** Shows 'Type of local production' options: 'Grid only' (selected), 'Local production + Grid', and 'Local production only'.

A green 'Save' button is located at the bottom left.

3.5.1 Load shedding configuration

Load shedding mechanism is activated once there is not enough available current in a zone to provide floor value to all charges simultaneously. When such a situation happens, chose between energy or duration priority: to favour the newest transactions or the transactions that delivered the lowest amount energy:

- **Energy:** Proportional to the energy consumed (kWh). Favour transaction which has delivered the lowest amount energy. This option is set by default.
- **Duration:** Proportional to the charging time. Favour transaction which has the lowest charging time

The charging station floor value is defined by IEC 61851 and EV/ZE standard for AC installation:

- IEC 61851 (6A in both single and 3-phases connection)
- EV/ZE ready (8A in single-phase, 14A in 3-phase connection)

3.5.2 Consumption optimisation configuration

Consumption optimization mechanism is activated to manage energy management with different parameters:

- **Setpoint reduction trigger value:** Difference between decreasing EV consumption and setpoint before triggering the optimization.
- **Reduction efficiency value:** Gap between the consumption and the new setpoint calculated by the optimization.
- **Minimal gap with EV consumption:** Gap between the increasing EV consumption and the setpoint triggering more power allocation to the charging station.

3.5.3 Allow Suspended by System

If a transaction stop consuming energy (current lower than 1A), EcoStruxure EV Charging Expert can pause the transaction (Suspended by System) and restart transaction after a wake-up interval defined in second.

3.5.4 Electrical grid

According to electrical grid configuration, it is possible to select 2 types of grid configuration. To manage electrical network configuration, it is important not to have any charging station installed. Two options are available:

- **3 x 400V with neutral**



- **3 x 230V without neutral**



For 3 x 230V without neutral there is some restrictions charging station should be connected in monophase. To configure the phase rotation please see [chapter 3.6.4](#)

⚠ CAUTION

Installation power outage

Change electrical connection to monophase and configure electrical setting charging station if presence of charging station with tripahses configuration into an electrical grid configuration in 3 x 230V

Failure to follow these instructions can result in an installation trip.

3.5.5 Local production management

3.5.5.1 Prerequisites

To manage local production there are 3 options:

- **Grid only** (selected by default): Power coming only from grid
- **Local production + grid**: Local solar production is added to power coming from utility for higher consumption capacity.
- **Local production only**: Enable green charging by considering solar energy only as available power for your EV charging installation

3.5.5.2 Local production

If 2nd or 3rd option are chosen, then it is necessary to add power meter dedicated to solar production. Please see [chapter 3.7.2](#) to add a power meter and [chapter 3.8.3](#) to associate the local production to an electrical zone.

For reduction, when it is applied with EBMS, time of use or DI it concerned only the maximum current of the zone, additional current provides by local production are not consider.

For example, a zone with 100A a reduction to 70% with a solar production of 20A. After energy management computation there is 90A available for the charging stations.

⚠ CAUTION

Wrong power meter wiring

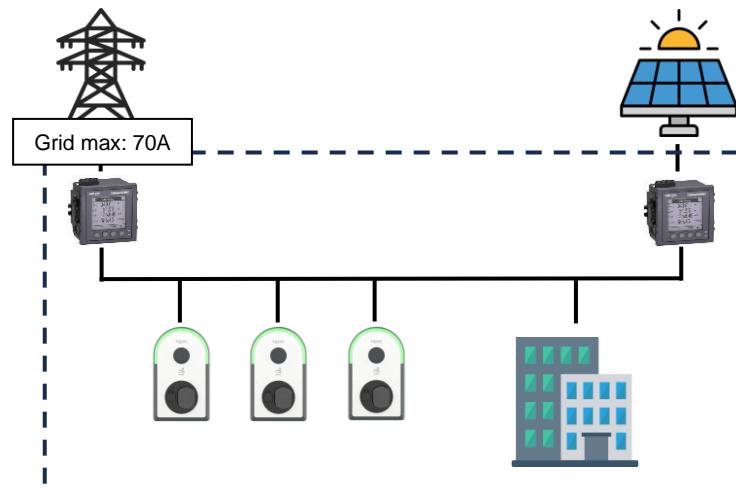
The power meter wiring must include a neutral and be wired in the correct direction.

Failure to follow these instructions can result in an installation trip.

3.5.5.3 Example

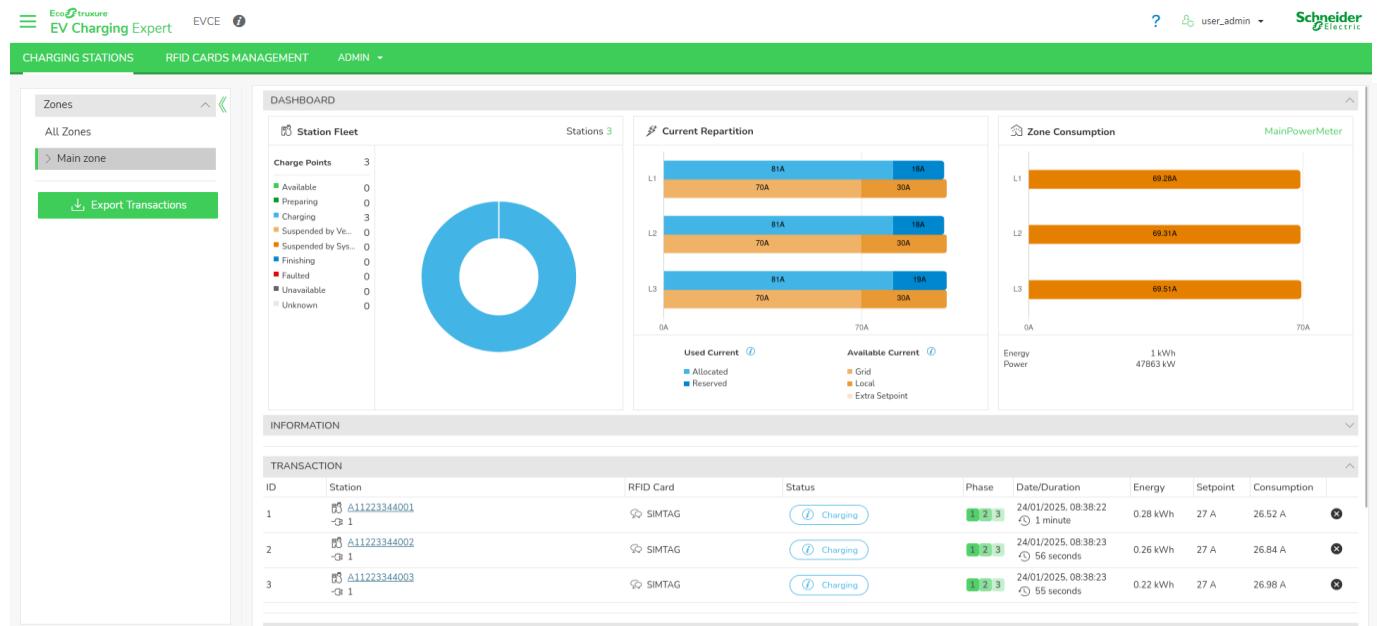
For the example, there is a dynamic electrical zone on 70A with solar production and 3 charging stations associate to the electrical zone.

The schematic of the installation:



Zone configuration: Main zone has 70A maximum current and MainPowerMeter is the power meter associate to the electrical zone to compute consumption of charging stations and building. SolarPowerMeter is the power meter associate to the local production into the electrical zone.

Dashboard:



On the dashboard there is 3 transactions in progress, maximum current of the zone is 70A but it is increase to 100A with 30A of local production. And the building consumes 19A. So the energy management computation gives 27A for each transaction:

$$\frac{(Max\ current + Local\ production) - Building\ consumption}{Number\ of\ transaction} = \frac{(70A + 30A) - 19A}{3} = 27A$$

3.6 Charging stations commissioning

Access by Admin tab → configuration → Installation

3.6.1 Prerequisites

Charging stations must be powered on and connected to the network before the EcoStruxure EV Charging Expert commissioning. Charging stations must have a compatible firmware version, see [chapter 1.1.2.1 EVlink charging stations](#)

NOTICE

Impossible to install charging station with webserver opened.

- Close charging station webserver

Failure to follow these instructions can result in an impossibility of installing a charging station.

NOTICE

Restrictions on charging stations IP addresses and box identities

- Avoid the use of sub-network addresses +0, +MAX, +MAX-1. If the by-default sub-network (192.168.0.0-255) is being used, avoid the use of 192.168.0.0, 192.168.0.254 and 192.168.0.255.
- Charging stations box identities must contain only a-z, A-Z, 0-9, '*', '-', '_', '=', '+', '|', '@', '!'
- Charging stations box identities should not contain any space
- Charging stations box identities must not exceed 30 characters
- Charging stations box identities must be unique by station.

Failure to follow these instructions can result in an impossibility of installing a charging station.

3.6.2 Charging station installation page

Status	Model	Station Name	IP Address	Connectors	Box Identity	Zones	
5 Charging Stations Recovered							
<input type="checkbox"/>	New station	Open OCPP Open OCPP cha... SN: A11223344004	A11223344004	DHCP <input checked="" type="checkbox"/> 192.168.0.150	1 TRI123	A11223344004	
<input checked="" type="checkbox"/>	New station	Open OCPP Open OCPP cha... SN: A11223344005	A11223344005	DHCP <input checked="" type="checkbox"/> 192.168.0.150	1 TRI123	A11223344005	
Vendor	Open OCPP	Authentication group	Group 1 (i)				
Serial Number	A11223344005	Firmware Version	1.0.0	VIP Charging	<input type="checkbox"/>		
	Installed	Open OCPP Open OCPP cha... SN: A11223344001	A11223344001	DHCP <input checked="" type="checkbox"/> 192.168.0.150	1 TRI123	A11223344001	1st Floor - South
	Installed	Open OCPP Open OCPP cha... SN: A11223344002	A11223344002	DHCP <input checked="" type="checkbox"/> 192.168.0.150	1 TRI123	A11223344002	1st Floor - North
Installed Station							

All charging stations already installed are present into the installation page before to launch a network discovering. To detect all new charging stations and proceed to installations, first click on **Discover** button to launch a network scan of all stations.

3.6.3 Charging station status

In charging station installation page after a discovery, some stations may not be installed. Below are the possible reasons:

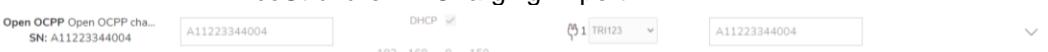
- Current charging station version is not supported by EcoStruxure EV Charging Expert (see [chapter 1.1.2.1](#)). In this case the station must be upgraded to a compatible version first.



- It is impossible to establish a connection with charging station. Try to perform a manual installation (see [chapter 3.5.5](#)) or perform a back to factory of the charging station.



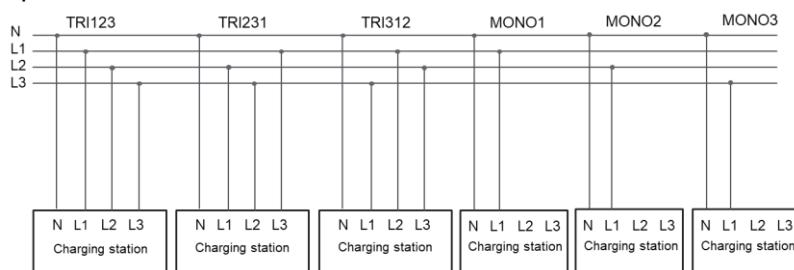
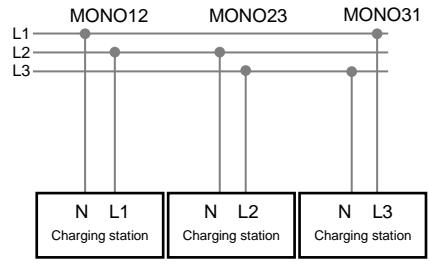
- Charging station is newly discovered and ready to be installed into EcoStruxure EV Charging Expert.



- Charging station already installed into EcoStruxure EV Charging Expert.



3.6.4 Charging station configuration

Steps	Description
1	<p>Click on  to discover new charging station to install and present into the network</p>
2	<p>Update charging station settings:</p> <ul style="list-style-type: none"> Station name: Select a name to identify your charging station. (max 30 characters) IP Address: 2 options: <ul style="list-style-type: none"> DHCP activated: Select DHCP if there is a DHCP server activated (in EcoStruxure EV Charging Expert or local network). DHCP deactivated: Set IP address according to network architecture. Connector(s): Select the phase wiring of each connector in charging station according to electrical cabling. <p><i>example for 3 x 400V with neutral:</i></p>  <p><i>example for 3 x 230 without neutral:</i></p>  <ul style="list-style-type: none"> Box identity: If a supervision is activated, select the name configured by supervision to identify the charging station. Otherwise select a name to identify the charging station. Zones: Zone assignment, see chapter 3.7.5
3	<p>Advanced details and configuration:</p> <ul style="list-style-type: none"> Vendor: Charging station vendor Serial number Authentication group: Authentication group assignment, see chapter 3.11.1 Version: Charging station firmware version VIP Charging: Check the box to activate the VIP status of the charging station. Note: a VIP station status provides VIP privileges on load balancing. It means maximum energy will always be allocated to this station before the others. Change password: when one password by station is selected, there is the possibility to add a password for each charging station with hexa or ascii format.

3.6.5 Manual charging station configuration

If a charging station is not detected automatically during scan, it is possible to declare it manually with OCPP or IP address (only for EVlink Pro AC or EVlink City / Parking / Smart Wallbox).

3.6.5.1 OCPP configuration

To install a new charging station with OCPP, it is mandatory to first update charging station configuration:

- **Supervision URL:** add EcoStruxure EV Charging Expert URL. For unsecure connection:
 - o ws://XXX.XXX.XXX.XXX:9979 – No security profile

For secure connection, add **OCPP certificate** (see [chapter 3.12](#)) and update supervision URL:

- `wss://XXX.XXX.XXX.XXX:9980` – Activate security profile 0 with WebSocket secure.
- `wss://XXX.XXX.XXX.XXX:9981` – Activate security profile 1.
- `wss://XXX.XXX.XXX.XXX:9982` – Activate security profile 2.

Replace: `XXX.XXX.XXX.XXX` by EcoStruxure EV Charging Expert IP address.

- **Webserver certificate:** mandatory to get maintenance report and update charging station.

To complete the installation, please return to the installation page.

3.6.5.2 IP address configuration

Install a new charging station with IP address is available only for EVlink Pro AC or EVlink City / Parking / Smart Wallbox. After clicking on **+**, a popup will appear to select the charging station model and IP address.

The screenshot shows the 'CHARGING STATIONS' section of the software. At the top, there are search and filter options, and a button to 'Discover' new stations. Below this, a table lists 45 stations, each with a status indicator (green for 'Installed'), name, IP address (e.g., 192.168.0.4), and other configuration details. At the bottom right of the table, there is a button labeled 'Add a Station Manually' with a red box around it.

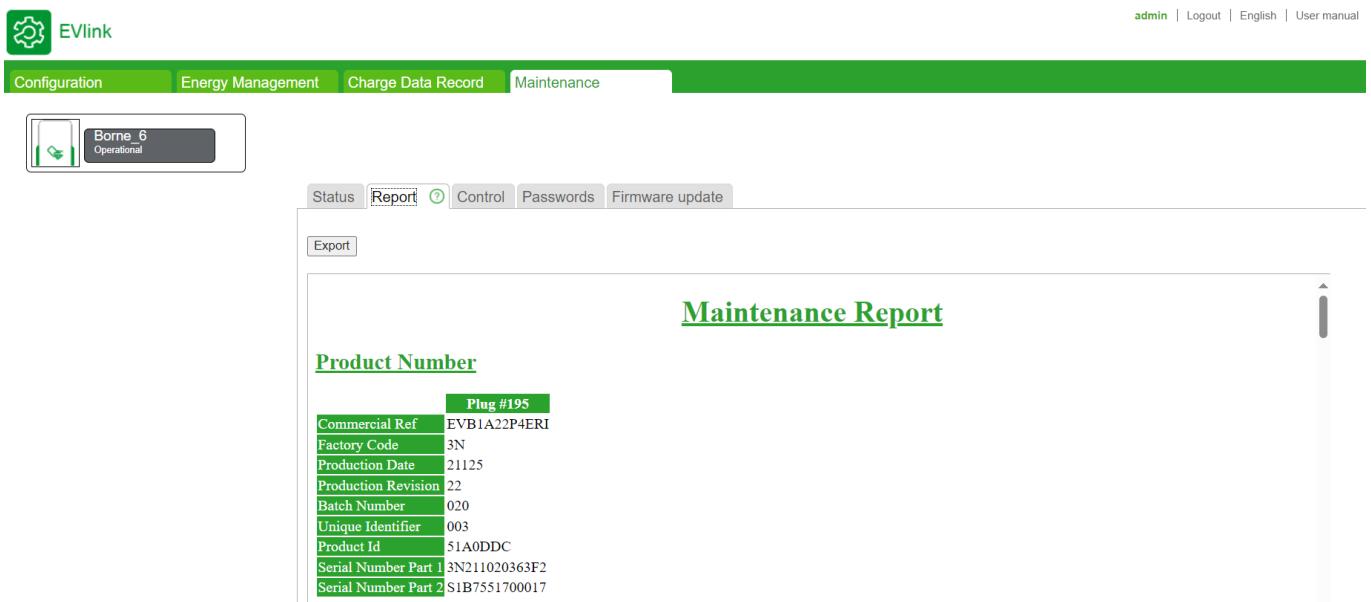
Once information is confirmed, to complete the installation, please return to the installation page to see charging station.

3.6.5.3 Get the serial number of a charging station

For EVlink Parking, EVlink Smart WallBox and EVlink City it is mandatory to add **Serial Number**:

The screenshot shows the 'CHARGING STATIONS' section with 8 stations detected. A modal window titled 'Add a Station' is open, prompting for 'Model' (set to 'EVlink City, Parking or Smart Wallbox'), 'IP Address' (set to '192.168.0.0'), and 'Serial Number' (empty). A note at the bottom of the modal says 'Please refer to the user guide (section 'Get the serial number of a charging station') to find the serial number'. The 'IP Address' field is highlighted with a red box.

To add Serial number, it is necessary to connect to the webserver interface of the charging station : Maintenance > Report. The concatenation of Serial Number Part 1 & Serial Number Part 2 gives the serial number of the charging station.



The screenshot shows the EVLink web interface. At the top, there is a navigation bar with tabs: Configuration, Energy Management, Charge Data Record, Maintenance, Status, Report (which is selected), Control, Passwords, and Firmware update. Below the navigation bar, there is a section for 'Borne 6 Operational' with a status icon. The main content area is titled 'Maintenance Report' and contains a table for 'Product Number' with the following data:

Plug #195	
Commercial Ref	EVB1A22P4ERI
Factory Code	3N
Production Date	21125
Production Revision	22
Batch Number	020
Unique Identifier	003
Product Id	51A0DDC
Serial Number Part 1	3N211020363F2
Serial Number Part 2	S1B7551700017

ei. :

*With this image above the concatenation of the serial number will be the following:
3N211020363F2S1B7551700017*

3.7 Power meter configuration

Access by Admin tab → configuration → Power meters

The screenshot shows the 'Power Meters' configuration page. At the top, there are tabs for 'Manage Power Meters', 'Define Power Meter Models', and 'Power Meter Configuration'. Below this, a table lists a single power meter named 'Test' with model 'pm5320'. The table columns include Status, Name, Model, Network Configuration, Current (A), Energy (kWh), Power (kW), Edit, and Delete. A 'TCP 192.168.0.150:502 #255' entry is shown in the Network Configuration column. The 'Edit' button for the 'Test' row is highlighted. Below the table, a detailed configuration form is displayed for the selected power meter. The form fields include:

- Name ***: A red-bordered input field.
- RTU**: A checkbox followed by a help icon.
- Model**: A dropdown menu.
- IP Address ***: A red-bordered input field with a placeholder '192 . 168 . 0 . 0' and a help icon.
- IP Port ***: A red-bordered input field with a placeholder '502' and a help icon.
- Slave ID ***: A red-bordered input field with a placeholder '255'.

At the bottom right of the configuration form are 'Save' and 'Cancel' buttons. A green '+' button is located below the configuration form. Navigation buttons 'Previous' and 'Next' are at the bottom left and right respectively.

3.7.1 Prerequisites

Power meters are only required in EcoStruxure EV Charging Expert dynamic mode. Ethernet connection must be configured (see [chapter 1.3.1.2](#)) regardless of the EcoStruxure EV Charging Expert and prior to the commissioning.

3.7.2 Manage Power Meters

The configuration form for a power meter zone includes the following fields:

- Name ***: Power meter zone
- RTU**: A checkbox followed by a help icon.
- Model**: pm5320
- IP Address ***: 192 . 168 . 0 . 0
- IP Port ***: 502
- Slave ID ***: 255

Two options to connect power meter EcoStruxure EV Charging Expert:

- TCP: Connection is made directly with the product through the network. It is mandatory to provide the IP address and port of power meter.
- RTU: The connection is established directly with power meter using RS485 cable and USB adaptor. The power meter configuration should be:
 - **Baud Rate**: 19200 bits per second (bps). This determines the speed at which data is transmitted over the serial communication line.
 - **Data Bits**: 8. Each character is represented by 8 bits of data.
 - **Parity**: None. No parity bit is used for error checking.
 - **Stop Bits**: 1. One stop bit is used to signal the end of each character.

For both solutions, it's mandatory to select a supported model (see [chapter 1.1.1.8](#)) or customized model (see [chapter 3.6.3](#)). Power meter slave id matches the power meter Modbus configuration at this IP address (see [chapter 1.3.1.2](#)).

As soon as the power meter(s) are defined and updated, status column indicate connection status of device with EcoStruxure EV Charger Expert.

3.7.3 Define a new power meter model

Power Meters Manage Power Meters Define Power Meter Models Power Meter Configuration

Configure new power meter models

Model Name: New Power Meter

Registers

RMS Current on Phase 1

- Address: 1
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

RMS Current on Phase 2

- Address: 2
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

RMS Current on Phase 3

- Address: 3
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

Active Power on Phase 1

- Address: 4
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

Active Power on Phase 2

- Address: 5
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

Active Power on Phase 3

- Address: 6
- Format: float32
- Type: Holding Register
- Scale Factor: 1
- Endian: LittleEndian

Save Cancel Import Export

1. Click on to create a new power meter model.
2. Enter a name to the new model.
3. Fill the fields in each register:
 - Modbus register address
 - Format (float32, int64, int32, int16, uint64, uint32, uint16)
 - Type (Holding or Input register)
 - Scale factor. In case "Scale factor" is 1, values are expected as units:
 - Amps for current measurements (10 000 as RMS current with Scale factor 0.001 is considered as 10Amps)
 - kW for power measurements (1 000 as active power with Scale factor 0.1 is considered as 100kW)
 - kWh for energy measurements
4. Save the new power meter model.

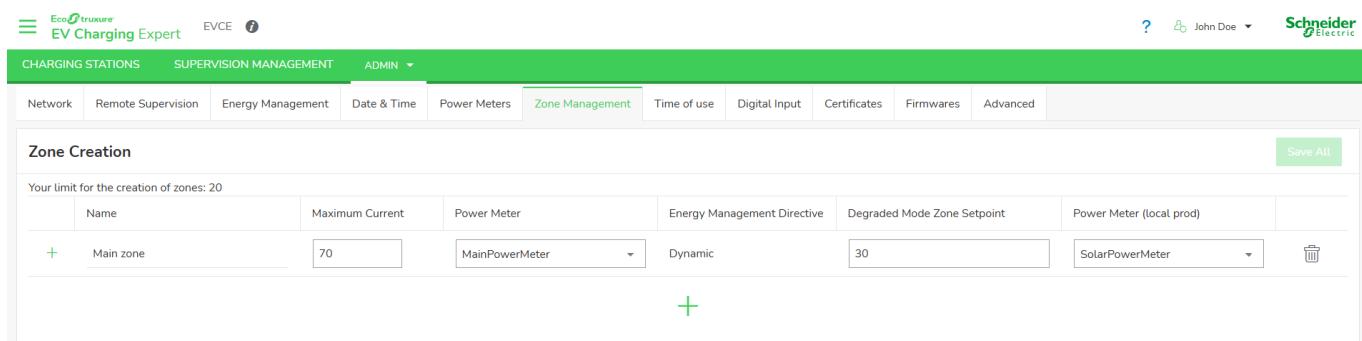
3.8 Zone configuration

Access by the Admin tab → configuration → zone management

3.8.1 Prerequisites

At zone or subzone creation, it is important to define a maximum current limitation. To declare a zone as dynamic (for dynamic load balancing), simply assign a power meter to the electrical zone (configured power meter [chapter 3.6.2](#)).

3.8.2 Zone configuration



The screenshot shows the software's navigation bar with 'EV Charging Expert' and 'EVCE' selected. The main menu has 'CHARGING STATIONS' and 'SUPERVISION MANAGEMENT' tabs, with 'ADMIN' dropdown. Under 'ADMIN', the 'Zone Management' tab is active. The 'Zone Creation' sub-section is open, showing a table for creating zones. A row is being edited for a 'Main zone' with a maximum current of 70, assigned to 'MainPowerMeter' and 'Dynamic' mode, with a '30' setpoint and 'SolarPowerMeter' assigned. A green '+' button is available to add more rows.

EcoStruxure EV Charging Expert can manage different zones and subzones based on the electrical architecture deployed in the installation. Please refer to [chapter 1.4](#).

3.8.3 Zone creation

Step	Comments
1	Click on  to create a zone.
2	Click on  next to Zone name to create a subzone .
3	<p>Set the maximum current allowed in zone or subzone.</p> <p>Note:</p> <ul style="list-style-type: none"> The value must be lower or equal to the electrical capacity of the installation. Max intensity in a sub-zone cannot be higher than the maximum intensity in the related zone.
4	To create a dynamic zone , select the power meter measuring the zone current. A power meter is assigned to a single zone and cannot be shared .
5	For the dynamic zone, set a Degraded Setpoint , it's used when the communication is lost with the power meter. <u>This corresponds to the amount of power that is always available for EV charging, irrespective of other electrical loads in the same zone.</u>
6	Only for local production, select the power meter measuring the local production energy. A power meter cannot be shared .

To delete an electrical zone, it is necessary to delete previously all charging stations assigned to this electrical zone.

3.8.4 Degraded Mode

Degraded mode allows charging stations to continue charging, even if there is communication loss with EcoStruxure EV Charging Expert. For each charging station connector, an offline maximum current is calculated according to:

- Maximum current of static zone
- Degraded Mode Zone Setpoint of a dynamic zone (refer below)

For a dynamic zone, a **Degraded Mode Zone Setpoint** defines the maximum current that is always available for EV charging irrespective of other loads in same electrical zone. Ensure degraded mode zone setpoint defined for dynamic zone is enough to manage charging stations even if EcoStruxure Charging Expert loses building consumption information. For dynamic zone, offline management is active when communication is lost with charging station or power meter dedicated to the zone.

Examples:

Static zone:

Static zone characteristics:

- Maximum current: 60A
- 3 EVlink Pro AC (1 connector)

Degraded calculation: $60/3 = 20$, for each connector 20A should be available even if connection is lost with EcoStruxure EV Charging Expert.

Static zone with reduction:

Static zone characteristics:

- Maximum current: 60A
- 3 EVlink Pro AC (1 connector)
- Reduction to 80% – Only 48A are now available.

Degraded calculation: $48/3 = 16$, for each connector 16A should be available even if connection is lost with EcoStruxure EV Charging Expert.

Dynamic zone:

Dynamic zone characteristics:

- Degraded Mode Zone Setpoint: 30A
- 3 EVlink Pro AC (1 connector)

Degraded calculation: $30/3 = 10$, for each connector 10A should be available even if connection is lost with power meter.

3.8.5 Charging station electrical zone assignation

To manage charging stations, it is required to assign charging stations to electrical zone previously configured. A station can be assigned only to a terminal zone (zone without subzone).

Configuration of stations per zone

Unassigned Stations

Chargers

1st Floor - South

1st Floor - North

2nd Floor - South

2nd Floor - North

3rd Floor

4th Floor - North

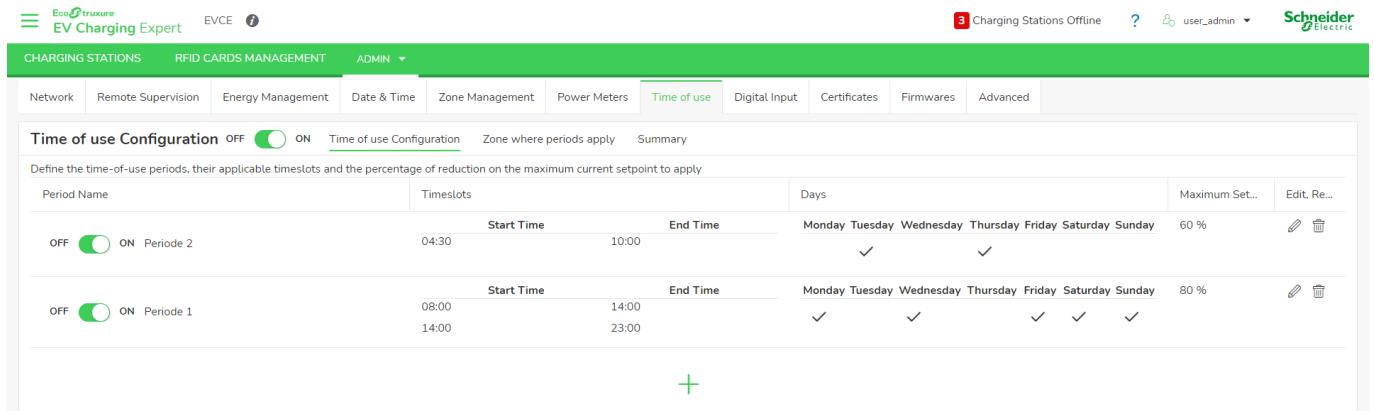
To assign station in an electrical zone:

- Select multiple charging stations, click on **Move Selection To** and select an electrical zone.
- Click on charging station and select an electrical zone.

3.9 Time Of Use

Access: Admin tab → Configuration → Time-of-use

3.9.1 Definition



Time of use Configuration OFF ON Time of use Configuration Zone where periods apply Summary

Define the time-of-use periods, their applicable timeslots and the percentage of reduction on the maximum current setpoint to apply

Period Name	Timeslots	Days	Maximum Set...	Edit, Re...
OFF <input checked="" type="button"/> ON Periode 2	Start Time: 04:30 End Time: 10:00	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	60 %	<input type="button"/> <input type="button"/>
OFF <input checked="" type="button"/> ON Periode 1	Start Time: 08:00 End Time: 14:00	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	80 %	<input type="button"/> <input type="button"/>

+

Use Time Of Use (TOU) configuration to reduce the power capacity per zone depending on day/time to match the local tariff policy.

A total of 5 periods and 20 timeslots can be configured. A period is defined by:

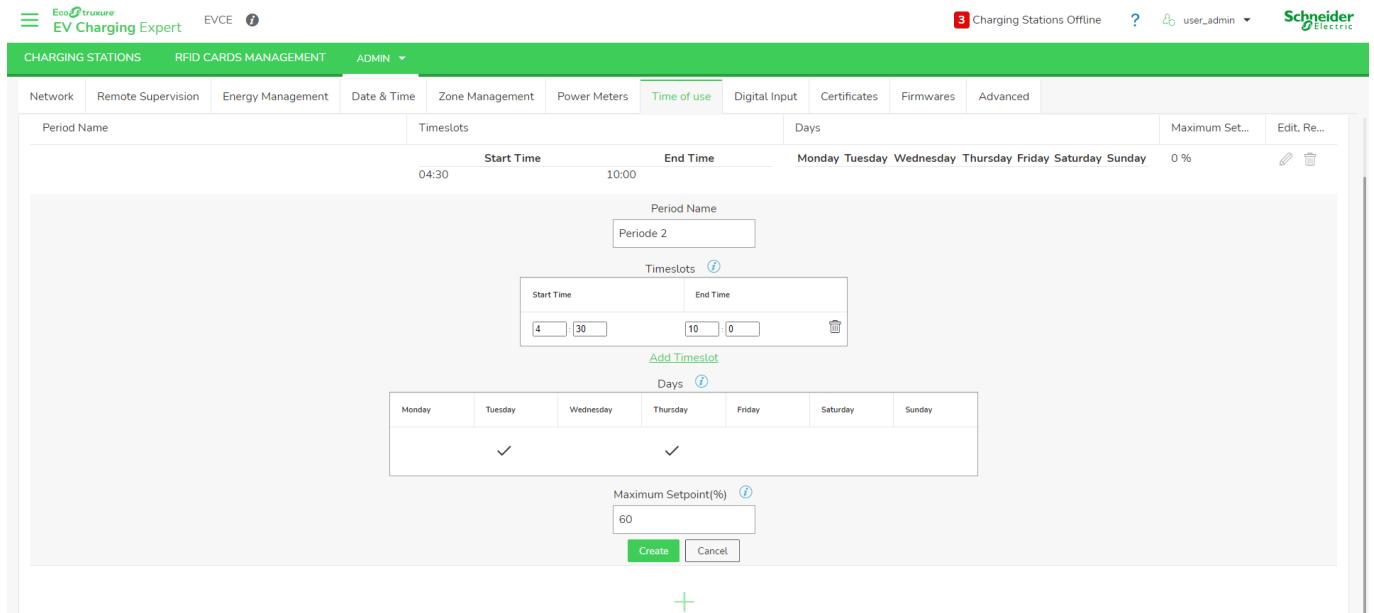
- **Days:** Selected days where timeslots are applied.
- **Timeslots:** Start and stop time when reduction is applied.
- **Reduction:** Ratio of the maximum current of a zone. For example, for a zone with a maximum setpoint of 100A, if a ratio at 80% is applied then the new maximum setpoint is 80A for the zone.

When digital input functionality is activated, the time of use configuration is no more considered.

3.9.2 Prerequisites

At least one zone must be created (see [chapter 3.7](#)).

3.9.3 Time Of Use configuration tab



Period Name: Periode 2

Timeslots: Start Time: 04:30 End Time: 10:00

Days: Monday Tuesday

Maximum Setpoint(%): 60

+

step	comments
1	Click on + icon to create a tariff period.
2	Enter period Name
3	Define Timeslots : <ul style="list-style-type: none"> Start time Stop time Clicking on 'Add a timeslot' to add another timeslot for this reduction
4	Define Days when timeslots are applied
5	Define a ratio (percentage) of Maximum setpoint reduction

3.9.4 Zone configuration tab

For each reduction, it is possible to assign one or more periods to a zone.

Zone	All Periods	Periode 1	Periode 2	Periode 3
1st Floor	OFF <input checked="" type="button"/> ON			
2nd Floor	OFF <input type="button"/> ON			
3rd Floor	OFF <input type="button"/> ON			

3.9.5 Summary tab

Summary tabs displays maximum current reduction applied to each zone and period.

Zone	Nominal Current (A)	Current on "Periode 1" (A)	Current on "Periode 2" (A)
1st Floor	500	300	0
2nd Floor	500	500	500
3rd Floor	300	300	300

3.10 Digital Inputs

Access: Admin tab → Configuration → Digital Input

3.10.1 Definition

EcoStruxure EV Charging Expert digital inputs (DI) are accessible through GPIO connections located on the rear side. Activation of a digital input reduces maximum zone current according to its configuration.



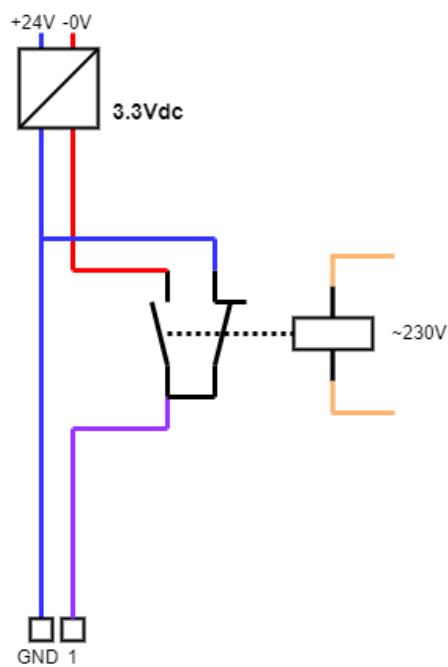
3.10.2 Commissioning

# Digital Input	Name	Reduction	Edit
OFF <input checked="" type="button"/> ON 1	input1	0 %	<input type="button"/>
OFF <input checked="" type="button"/> ON 2	input2	0 %	<input type="button"/>
OFF <input checked="" type="button"/> ON 3	input3	0 %	<input type="button"/>

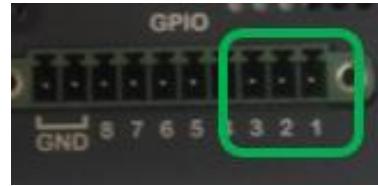
Each digital input can be activated or deactivated separately. Settings:

- **Name**
- **Maximum Setpoint:** Reduction (percentage) applied to EcoStruxure EV Charging Expert zones.

3.10.3 Electrical connection



Only digital inputs 1, 2 & 3 are driven by GPIO channels 1, 2 & 3. To activate a digital input, it must be powered to 3.3 Vdc TTL.



3.11 Local authentication management

When there is no configured supervision, the EcoStruxure EV Charging Expert offers the possibility to manage authentication strategy to grant access to the charging stations.

The RFID cards management feature is made of two parts:

- Authentication groups of chargers
- RFID cards

3.11.1 Authentication group

An authentication group is a selection of charging stations associated with a list of RFID cards. Each authentication group has its own online and offline authentication strategies.

Each charging station can only be associated with a single authentication group when RFID cards can be assigned to several groups (see [chapter 3.11.2](#)).

3.11.1.1 First installation

The screenshot shows the 'Authentication groups' configuration screen in the EcoStruxure EV Charging Expert software. The top navigation bar includes links for Credentials, Network, Remote Supervision, Date & Time, Stations, Power Meter, Zones, Stations Assignment, Energy Management, Authentication, and RFID Cards. The Authentication section is currently selected. The main content area is titled 'Choose the default configuration of your authentication groups'. It offers three options:

- One global group:** All the chargers will be in the same group. You will then be able to create more authentication groups. Button: **Generate default group**.
- One group per charger:** As many groups as chargers will be created. This is recommended mode for residential building with private chargers. Button: **Generate X groups**.
- Custom installation:** No group will be created. Button: **Create custom installation**.

At the bottom are 'Previous' and 'Next' navigation buttons.

At first installation, three options are proposed:

- One global group: All installed chargers will be assigned to one authentication group.
- One group per charger: An authentication group is created for each charging station (best solution to manage one RFID badge for one charging station).
- Custom installation: Create one or multiple authentication groups according to installation needs.

After configuration, it is possible to change authentication configuration from **Admin** panel.

3.11.1.2 Authentication group management

The screenshot shows the 'Authentication groups' section of the software. It displays two groups: 'Group 1' and 'Group 2'. Each group has an 'Authentication mode' dropdown set to 'Authorize only the known RFID...' and an 'Offline strategy' dropdown set to 'Allow RFID Cards already used...'. The 'Chargers' table shows a single entry for Group 1: 'A11223344001' with 'Box ID' 'A11223344001' and 'IP Address' '192.168.0.150'. A message at the bottom of the 'Chargers' section states: 'No charger was assigned to this group yet. Please move the chargers from an existing group'. Navigation buttons 'Previous' and 'Save and Next' are at the bottom.

In authentication group management, **online** and **offline** authentication strategies are defined.

About Authentication mode:

- **Authorize all RFID cards:** Charging station starts a transaction only if EV driver uses a RFID card on the charging station (whatever is RFID).
- **Authorize only the known RFID cards:** Charging station starts a transaction only if EV driver uses a RFID card known by EcoStruxure EV Charging Expert.
- **Disable RFID card reader:** Charging station starts a transaction when EV is plugged without any other action.

About **Offline strategy**, the charging station disconnected from EcoStruxure EV Charging Expert behaves as below:

- **Authorize all RFID cards:** Charging station starts a transaction only if EV driver uses a RFID card on the charging station.
- **Reject all RFID cards:** No transaction is allowed when charging station is disconnected from EcoStruxure EV Charging Expert.
- **Using cache:** Offline charging station starts a transaction only if RFID card was already used on the charging station when it was online and accepted by EcoStruxure EV Charging Expert.

3.11.2 RFID cards

3.11.2.1 Add RFID card

In the EcoStruxure EV Charging Expert, a RFID card is added with below details:

- **VIP:** Provide VIP privileges, EV driver will have priority in load management system. Disabled by default.
- **Authorized:** Authorize EV driver to start a transaction with this RFID card. Only used for assigned authentication group with **Authorize only the known RFID cards** authentication strategy. Unauthorized by default.
- **Comments:** Associate a comment to a RFID card.
- **Authentication group:** Assign a RFID card to one or more authentication groups (see [chapter 2.9.1.2](#))

3.11.2.2 Import/Export RFID card

RFID cards list can be exported or imported from web interface. The file format supported by EcoStruxure EV Charging Expert is a CSV file with 4 columns:

- **id_tag:** String type, that corresponds to RFID card information.
- **is_blocked:** Integer type (only 0 and 1 value accepted), that corresponds to authorize (0) or not (1).
- **vip_level:** Integer type (only 0 and 1 value accepted), that corresponds to VIP activation (1) or VIP deactivation (0). A VIP badge gets priority on power allocation before the other charging stations.
- **comments:** String type, that corresponds to comment associate to RFID card.

CSV file example:

```
id_tag;is_blocked;vip_level;comments;
E6716CW6514DA;0;0;Card A;
E6654ASXF651G;0;1;Card A;
```

NOTICE

Impossible to import RFID card list from EcoStruxure EV Charging version below 6.0.0.

- Export csv file from previous EcoStruxure EV Charging Expert version change the format to respect new format and import RFID card list.

Failure to follow these instructions can result in an impossibility recovery RFID card list.

3.12 Certificates

Access by Admin tab → Configuration → Certificates

3.12.1 Manage Certificates

Id	Name	Subject	Expires on	Type
1	Amazon_Root_CA_1	C = US, O = Amazon, CN = Amazon Root CA 1	17/01/2038	built-in
2	GlobalSign_Root_CA	C = BE, O = GlobalSign nv-sa, OU = Root CA, C...	28/01/2028	built-in
3	QuoVadis_Root_CA_1_G3	C = BM, O = QuoVadis Limited, CN = QuoVadis ...	12/01/2042	built-in
4	CFCA_EV_ROOT	C = CN, O = China Financial Certification Autho...	31/12/2029	built-in
5	DigiCert_Global_Root_CA	C = US, O = DigiCert Inc, OU = www.digicert.co...	10/11/2031	built-in
6	DigiCert_Global_Root_G2	C = US, O = DigiCert Inc, OU = www.digicert.co...	15/01/2038	built-in
7	Entrust_Root_Certification_Authority_-EC1	C = US, O = "Entrust, Inc.", OU = See www.entr...	18/12/2037	built-in
8	COMODO_RSA_Certification_Authority	C = GB, ST = Greater Manchester, L = Salford, ...	19/01/2038	built-in

Addition or deletion of certificates are allowed in **Manage Certificates** page. For instance, a new remote supervision certificate is uploaded in this bank of certificates to perform a WebSocket secure connection.

3.12.2 Device certificates

Certificate for the OCPP communication

[Download](#)

Certificate for the webserver

[Download](#)

OCPP & Webserver certificates page provides EcoStruxure EV Charging Expert certificates to establish a secure communication between device and charging stations:

- **OCPP certificate:** This certificate is uploaded in the charging station to generate a WebSocket secure connection and manage charging station with OCPP security profiles 1 & 2.

- **Webserver certificate:** This certificate is uploaded in the charging station to establish a HTTPs connection and perform firmware update or get maintenance report in EcoStruxure EV Charging Expert.

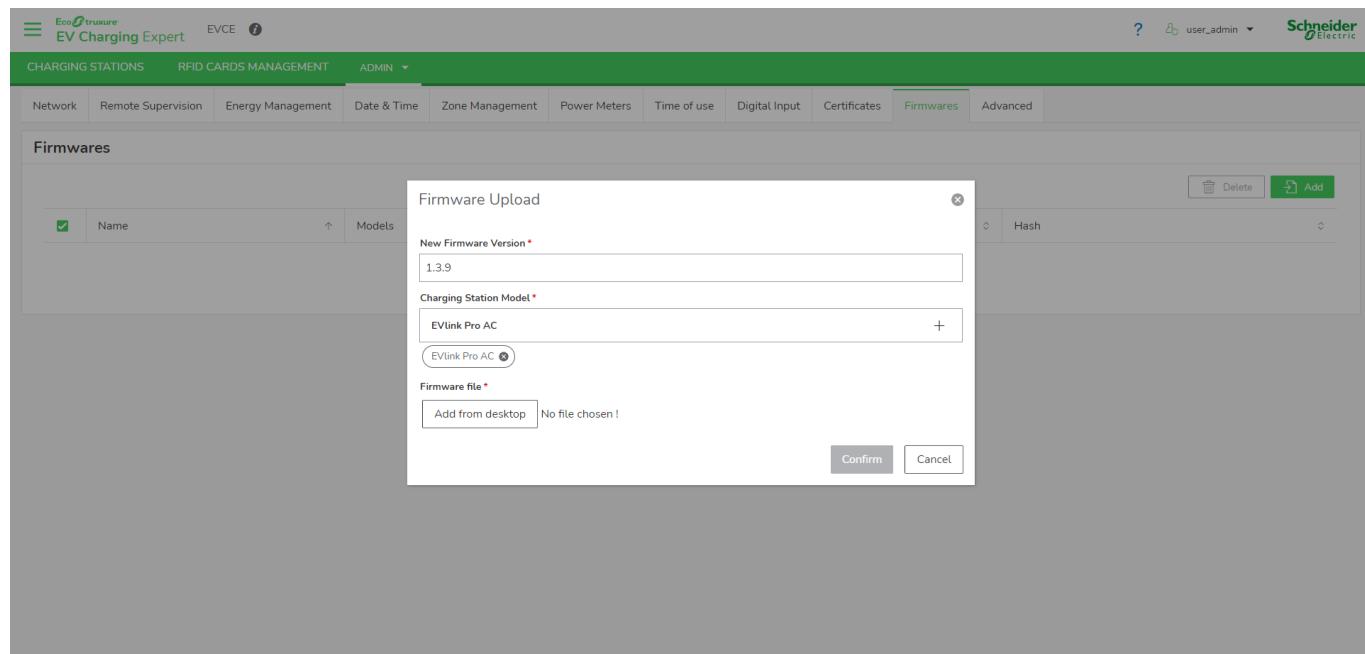
3.13 Charging station firmware

Access by Admin tab → Configuration → Firmware

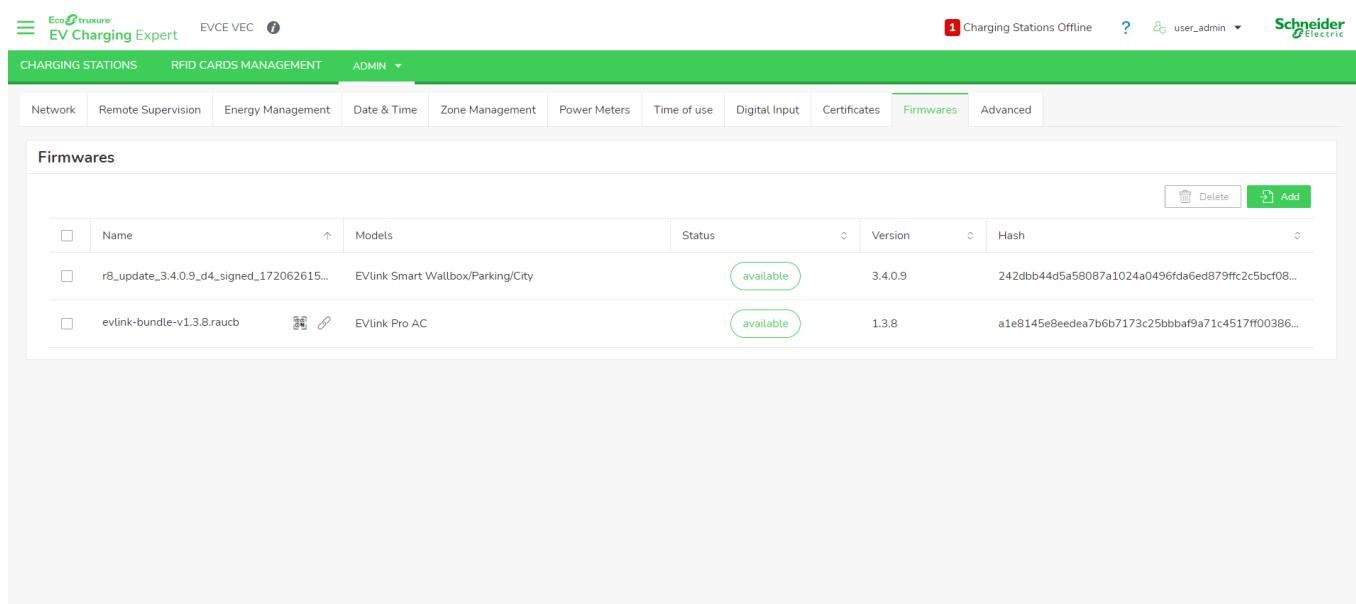
3.13.1 Manage charging station firmware

To update a charging station through EcoStruxure EV Charging Expert, it is required first to add its firmware file in local storage:

- Click on the **Add** button
- Add a firmware version
- Select the charging station model
- Choose the firmware file on your computer
- **Confirm** to start uploading the file into EcoStruxure EV Charging Expert.



Upload progression is displayed as percentage. At the end of the upload, firmware status is displayed as **Available** (Ready for a firmware upgrade operation) or **Upload error** (impossible to upload the firmware file).



EcoStruxure EV Charging Expert doesn't accept more than one firmware per charging station model. There cannot be more than 6 firmware files at a time.

3.13.2 Internal HTTP server

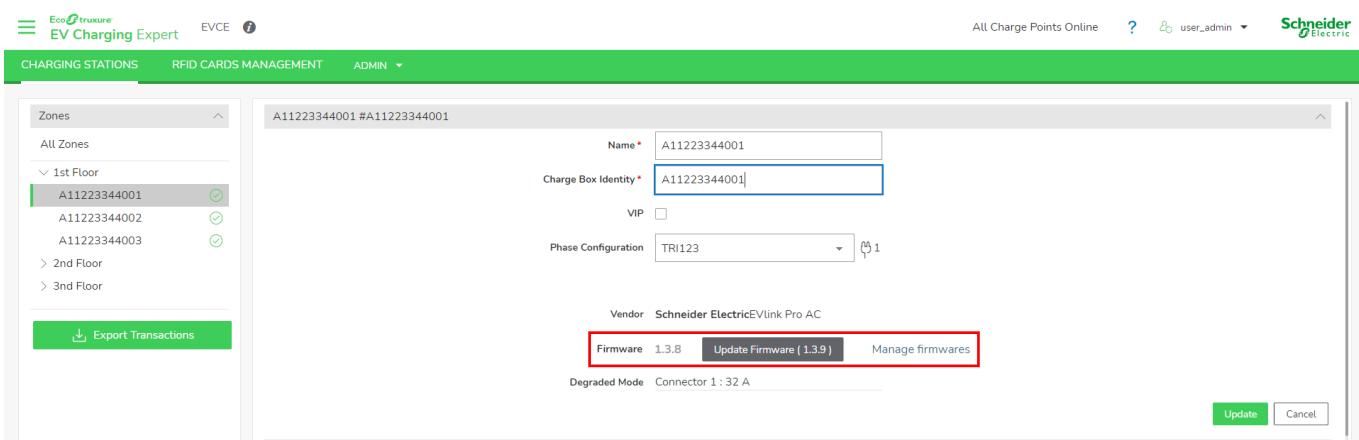
EcoStruxure EV Charging Expert includes an internal HTTP server, allowing locally connected charging stations to be updated directly from an application or a monitoring system by copying the server URL link.

The URL link is available on firmware station management page and there are two options to get the URL link:

- QR code: 
- Copy/Past: 

It is also possible to manage HTTP unsecure server, see [chapter 3.14](#).

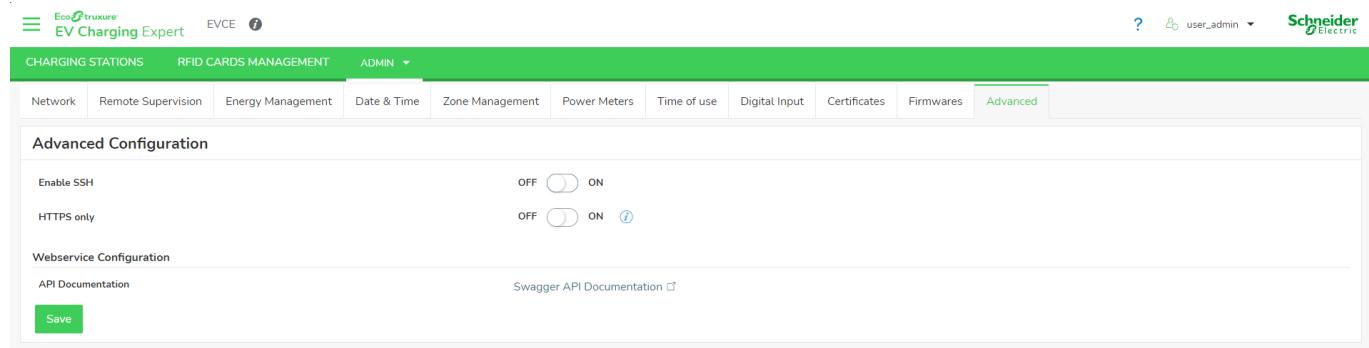
3.13.3 Perform charging station update



When a new firmware version is available into EcoStruxure EV Charging Expert, **Update Firmware** button appears. The charging station can be upgraded to this new suggested version only when there is no transaction in progress.

3.14 Advanced configuration

Access by Admin tab → Configuration → Advanced



The screenshot shows the 'Advanced Configuration' page of the EcoStruxure EV Charging Expert software. At the top, there are tabs for CHARGING STATIONS, RFID CARDS MANAGEMENT, and ADMIN. Under ADMIN, there are sub-tabs: Network, Remote Supervision, Energy Management, Date & Time, Zone Management, Power Meters, Time of use, Digital Input, Certificates, Firmwares, and Advanced. The 'Advanced' tab is selected. The main content area has sections for 'Enable SSH' (ON), 'HTTPS only' (ON), and 'Webservice Configuration' (Swagger API Documentation). A 'Save' button is located at the bottom left.

In this section are configured EcoStruxure EV Charging Expert advanced parameters related to SSH and access to API. API documentation is accessible as Swagger format to describe all possible commands to integrate EV charging infrastructure into an Energy or Building Management Software.

With **HTTPS only**, it is possible to deactivate HTTP server and manage EcoStruxure EV Charging Expert communication with charging station only in secure way.

For cybersecurity reasons, it is recommended to activate SSH only for maintenance purpose. Please contact Schneider Electric support prior to use this option.

3.15 User management

Access by the Admin tab → Users management

3.15.1 User management landing page

The screenshot shows the 'User Management' page with a table of users. The columns are: Username, Role, Date of Creation, and Last Access. The data is as follows:

Username	Role	Date of Creation	Last Access
user_admin	admin	15/07/2024, 15:38:01	17/07/2024, 11:25:52
user_operator	operator	15/07/2024, 15:38:01	--

Buttons for '+ Add User' and 'Refresh' are visible at the top right.

During the wizard, two default users are created (see [chapter 2.2](#)):

- Admin user
- Operator user

3.15.2 User addition

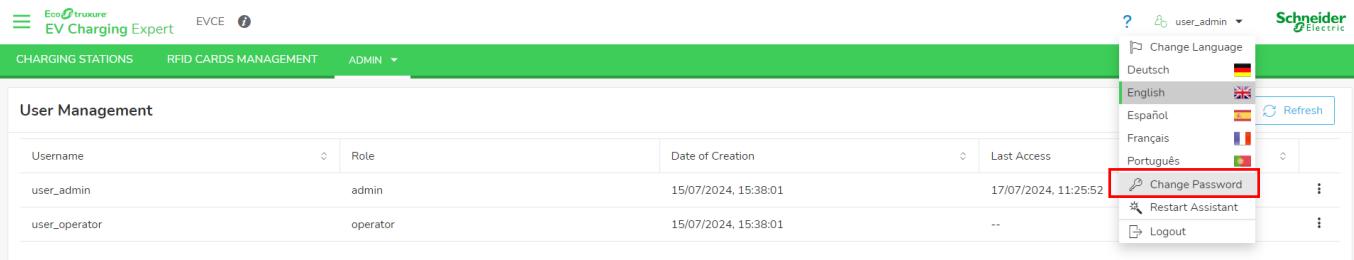
The screenshot shows the 'User Management' page with an 'Add User' modal open. The modal has the following fields:

- New User Role: A dropdown menu with 'Select options' and a '+' button.
- New Username: A text input field containing 'user_ebms'.
- New User Password: A password input field with a placeholder '*****' and a visibility icon.
- Confirm Password: A password input field with a placeholder '*****' and a visibility icon.
- A note below the password fields: 'Your password must satisfy the following conditions: at least 12 characters long lowercase characters uppercase characters numbers special characters (@\$!%?&)'.
- Buttons at the bottom: 'Save' and 'Cancel'.

To create a user, click on **Add User** and fill below information:

- **New User Role:**
 - Admin: Manager of the installation. This role has access to all settings.
 - Operator: Role used for monitoring and operating. An operator can manage authentication and check transactions.
 - EBMS (Building Management System): Role used for Energy of Building Management Softwares, capable of managing charging stations directly through the REST API of EcoStruxure EV Charging Expert.
- **New Username**
- **New User Password / Confirm Password:** The password must be at least 12 characters long and must contain lowercase characters, uppercase characters, numbers, special characters (@\$!%?&)

3.15.3 Change the user password



The screenshot shows the 'User Management' section of the EV Charging Expert interface. A context menu is open for the user 'user_admin'. The menu includes options for 'Change Language' (with English selected), 'Change Password' (highlighted with a red box), 'Restart Assistant', and 'Logout'.

Username	Role	Date of Creation	Last Access
user_admin	admin	15/07/2024, 15:38:01	17/07/2024, 11:25:52
user_operator	operator	15/07/2024, 15:38:01	--

A user can change webpage password anytime from personal menu.

3.15.4 Edit a user

Users can be edited from the user administration webpage, only accessible to administrators.



The screenshot shows the 'User Management' section of the EV Charging Expert interface. A context menu is open for the user 'user_admin'. The menu includes options for 'Edit User' and 'Delete User'.

Username	Role	Date of Creation	Last Access
user_admin	admin	15/07/2024, 15:38:01	17/07/2024, 11:25:52
user_operator	operator	15/07/2024, 15:38:01	--

3.16 Maintenance

3.16.1 Device logs

Access by the Admin tab → Logs

In log tab, all information related to security events, communication and load balancing are available. The logs can be filtered and exported according to charging stations, zones and log types.

EV Charging Expert is capable of storing up to 100,000 entries.

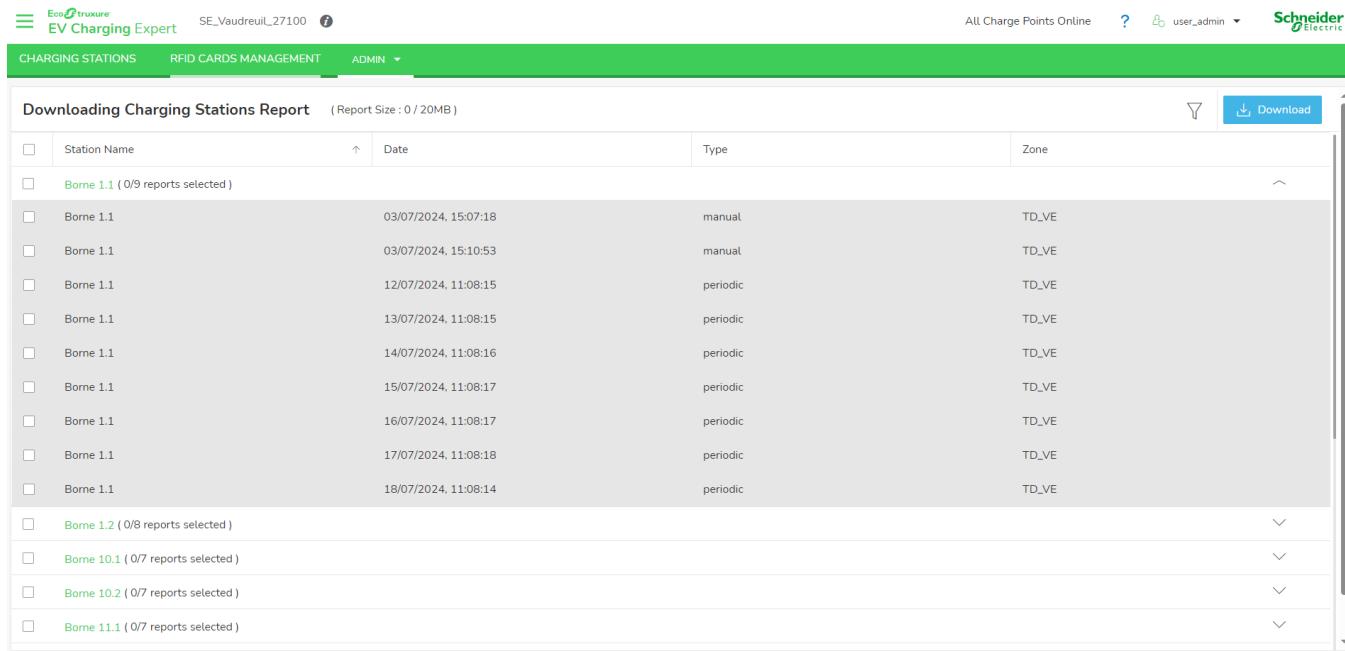
3.16.2 Device maintenance report

Access by the Admin tab → Device Report

EcoStruxure EV Charging Expert diagnostic is a file containing all information about the device (identification, firmware version, logs etc.).

3.16.3 Charging station maintenance report

Access by the Admin tab → Station reports



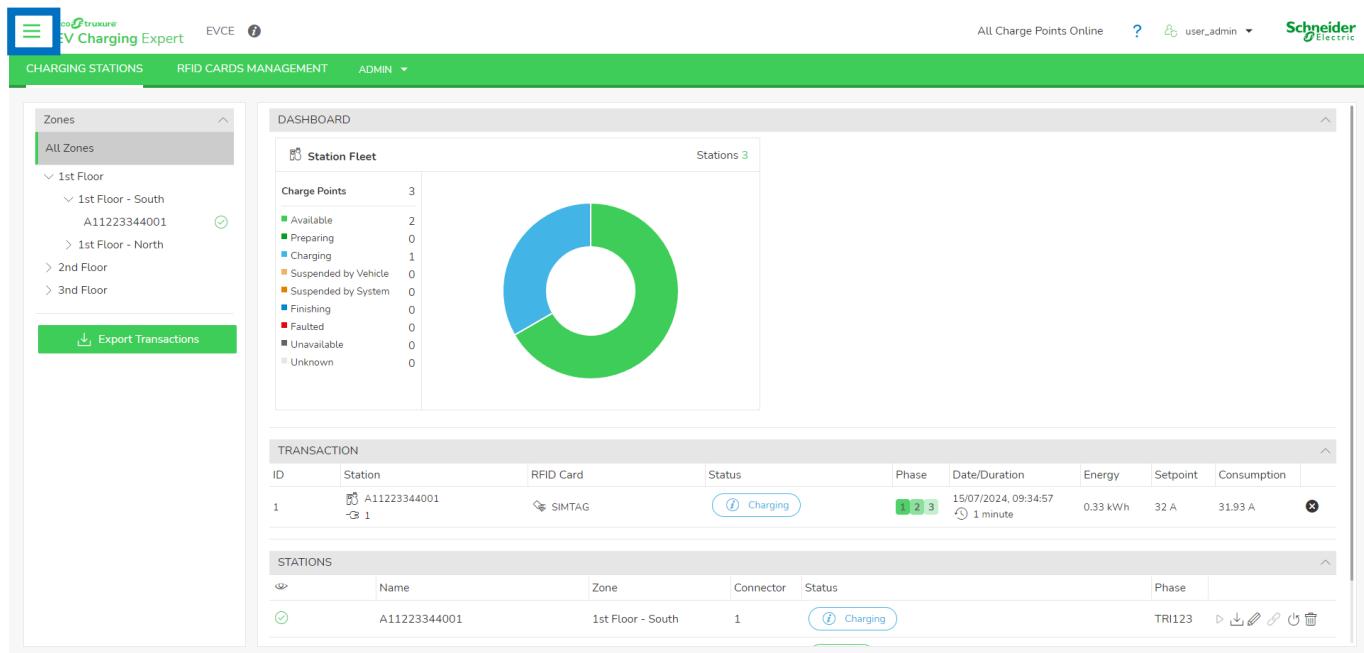
Downloading Charging Stations Report (Report Size : 0 / 20MB)				
<input type="checkbox"/>	Station Name	↑ Date	Type	Zone
<input type="checkbox"/> Borne 1.1 (0/9 reports selected)				
<input type="checkbox"/>	Borne 1.1	03/07/2024, 15:07:18	manual	TD_VE
<input type="checkbox"/>	Borne 1.1	03/07/2024, 15:10:53	manual	TD_VE
<input type="checkbox"/>	Borne 1.1	12/07/2024, 11:08:15	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	13/07/2024, 11:08:15	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	14/07/2024, 11:08:16	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	15/07/2024, 11:08:17	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	16/07/2024, 11:08:17	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	17/07/2024, 11:08:18	periodic	TD_VE
<input type="checkbox"/>	Borne 1.1	18/07/2024, 11:08:14	periodic	TD_VE
<input type="checkbox"/> Borne 1.2 (0/8 reports selected)				
<input type="checkbox"/>	Borne 10.1	0/7 reports selected		
<input type="checkbox"/>	Borne 10.2	0/7 reports selected		
<input type="checkbox"/>	Borne 11.1	0/7 reports selected		

For each charging station with maintenance reports generation feature, EcoStruxure EV Charging Expert saves periodically a device report. From 5 to 10 periodic / manual reports can be stored. To generate a report manually, see [chapter 3.2.2](#).

To download device report, please select device reports and click on **Download**.

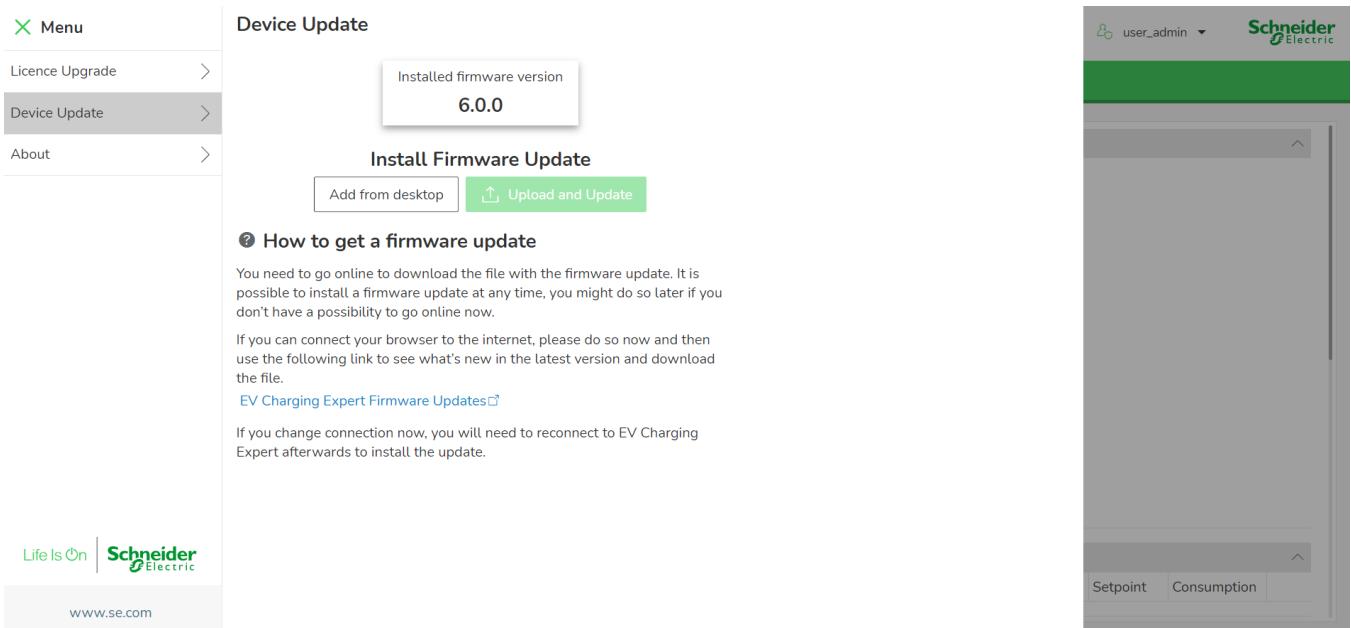
3.17 EV Charging Expert Firmware update

Access by hamburger menu → Firmware Update



The screenshot shows the main interface of the EcoStruxure EV Charging Expert software. The top navigation bar includes 'EV Charging Expert', 'EVCE', and 'user_admin'. The left sidebar shows 'Zones' with 'All Zones' expanded, listing '1st Floor' (1st Floor - South, A11223344001), '2nd Floor', and '3rd Floor'. A green button 'Export Transactions' is visible. The central area has a 'DASHBOARD' section with a 'Station Fleet' donut chart and a table of charge point status. Below it is a 'TRANSACTION' table showing a single entry for station A11223344001. The 'STATIONS' table shows station A11223344001 with status 'Charging'.

To upgrade EcoStruxure EV Charging Expert, select bundle from desktop. An update page appears while new version gets installed. Around one minute after the upgrade start, an automatic reboot happens to apply the new firmware.



The screenshot shows the 'Device Update' page. The left sidebar has 'Menu' with 'Licence Upgrade', 'Device Update' (selected), and 'About'. The main area shows 'Installed firmware version' as '6.0.0' and an 'Install Firmware Update' section with 'Add from desktop' and a green 'Upload and Update' button. Below is a section titled 'How to get a firmware update' with instructions and a link to 'EV Charging Expert Firmware Updates'. The bottom of the page includes the Schneider Electric logo and 'www.se.com'.

3.18 License upgrade

EcoStruxure EV Charging Expert license can be upgraded (for example, from a 15 charging stations reference, to a 50 charging stations license). Please contact your Schneider Electric commercial partner.

Access by hamburger menu → Firmware Update

EcoStruxure EV Charging Expert serial number is required to get an upgrade package. All information is present on licence page and should be provided to Schneider Electric.

Description	Type	Reference	Validity
EV charge controller, EcoStruxure EV Charging Expert, 150 charging stations, dynamic charge management	base	HMIBSCEA53D1E2L	29/07/2124

Request By Email link will automatically open your email software and prepare a message with all required product information.

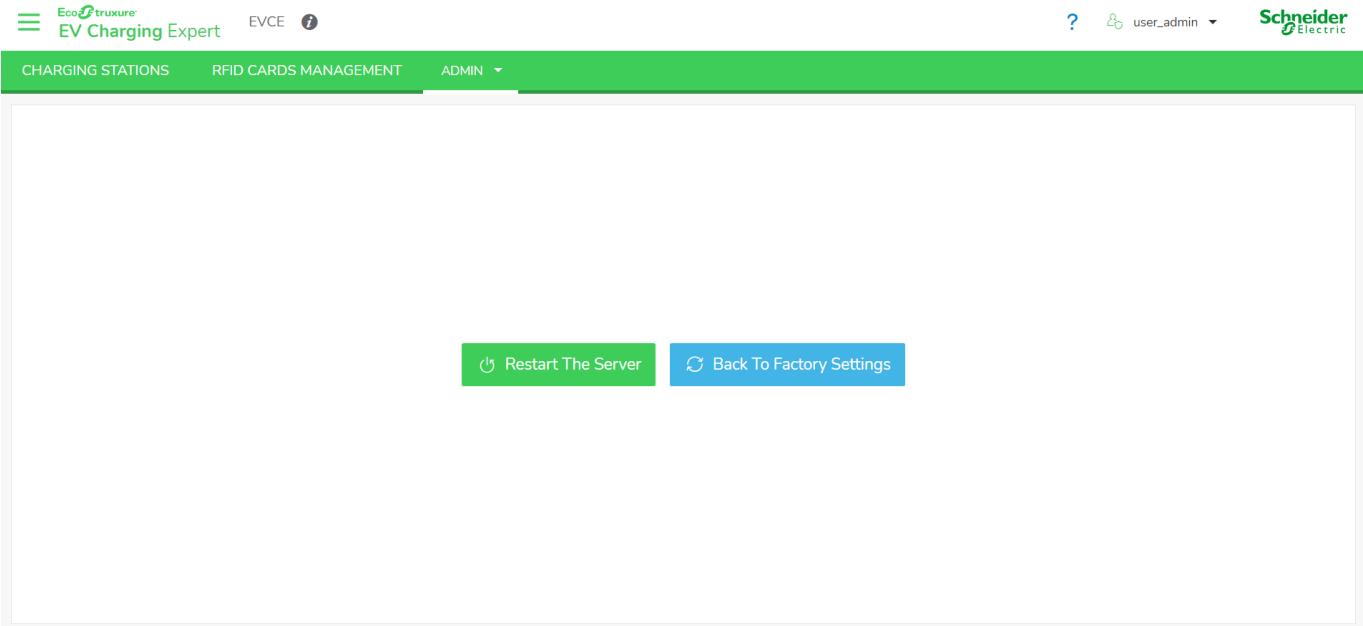
A license upgrade can:

- Increase the number of charging stations in EVCE.
- Add zones.
- Add features: local production, local CSMS.
- Add new models of charging stations.

3.19 Reboot and back to factory settings

Access by the Admin tab → Restart or Factory Reset

3.19.1 Reboot and back to factory settings from the webserver



When **Restart The Server** is selected, the EcoStruxure EV Charging Expert reboots. During the reboot, the communication with supervision and charging stations is lost.

When **Back To Factory Settings** is selected, all information stored into the EcoStruxure EV Charging Expert is erased. This action is irreversible.

3.19.2 Hardware back to factory settings

This procedure describes the steps to flash an EcoStruxure EV Charging Expert using industrial SD Card. This is the only procedure to run a complete reset of the product to version 6 and more.

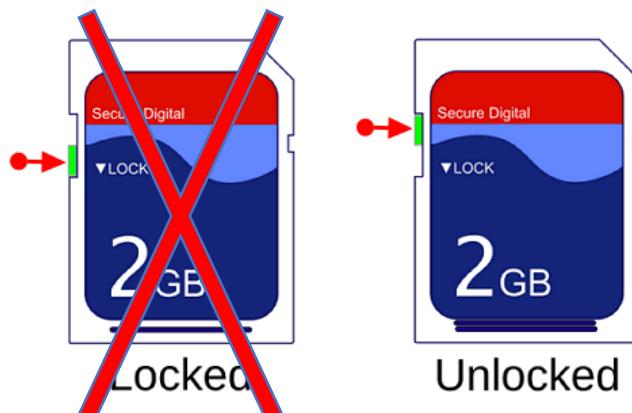
3.19.2.1 Prerequisites

The following material is required:

- An SD Card of at least 8 GB (can be a microSD card with an SD card adapter)
- A Windows computer with an SD Card reader and administrative rights

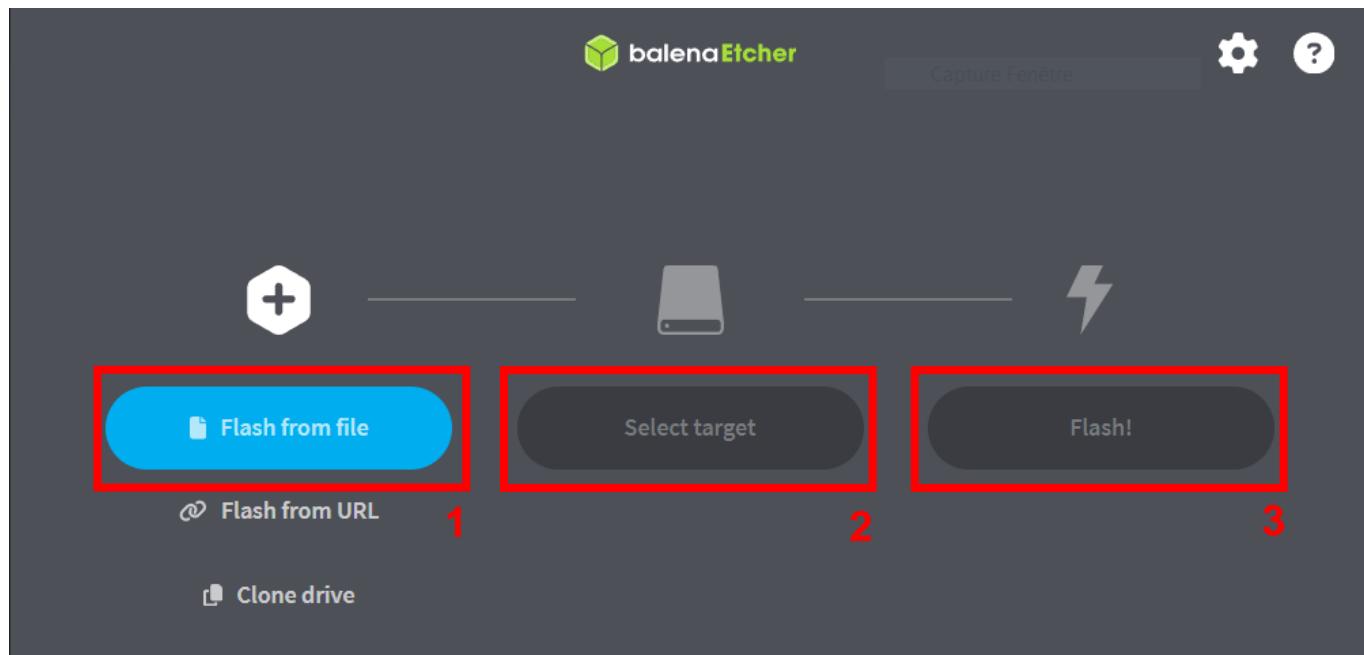
3.19.2.2 SD Card preparation

The SD card / SD card adapter side latch should be “Unlocked” position:



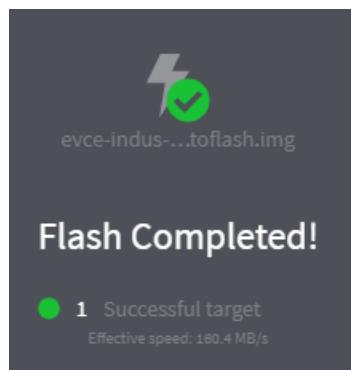
Plug the SD Card to the Windows computer using an internal SD card reader or an external USB SD card reader. Download Balena Etcher software from <https://etcher.balena.io/>

Install the downloaded software on your computer (administrative rights may be required). Launch the Etcher software:



1. Download the EcoStruxure EV Charging Expert SD card back to factory image on se.com, click on “Flash from file” and select the image.
2. Click on “Select target” and select your SD card.
3. Click on “Flash”. The SD card content will be erased and replaced by the EcoStruxure EV Charging Expert back to factory image. Wait for the Decompressing, Flashing and Verifying process to end with success.

At the end you should get the following message:



If you have an error, try again by using another SD card or another SD card reader.

3.19.2.3 Flashing the EcoStruxure EV Charging Expert

1. Unplug the device from power source.
2. Insert the prepared SD Card into the HMIBSC SD card slot (see [chapter 1.1.1.6](#)).
3. Plug the device from power source.
4. Led start blinking quickly.
5. At the end of the installation, led blinks slowly.
6. Don't forget to remove the SD Card and restart your device.

3.20 Save and Restore

3.20.1 Save configuration

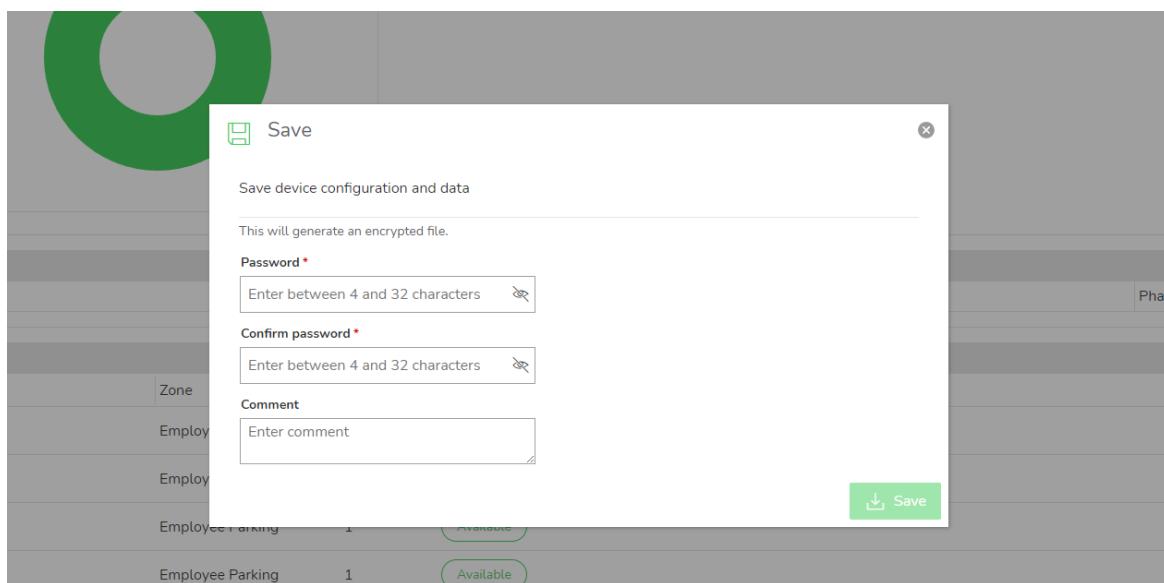
Access by the Admin tab → Save

The EcoStruxure EV Charging Expert allows to save a backup of the current system configuration. This configuration can be imported later to restore automatically a lost configuration.

Configuration export content:

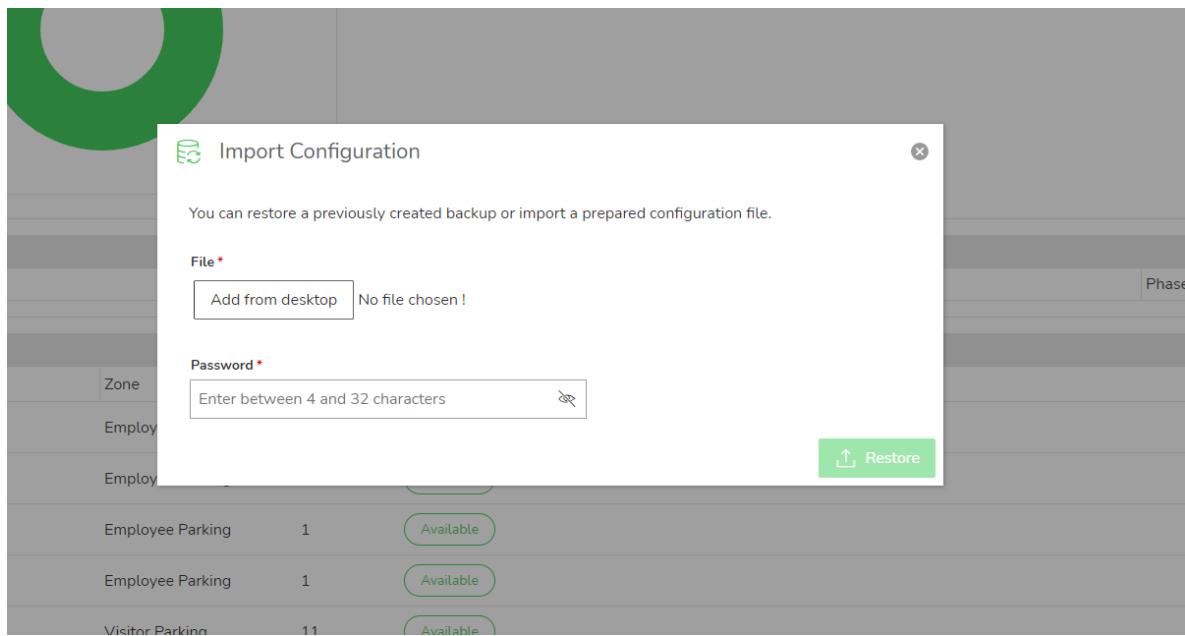
- Admin and user profiles credentials
- Charging stations configuration
- Zones configuration
- Power meters configuration
- Network configuration
- Authentication strategies
- List of RFID cards
- Authentication groups

When clicking **Save** button, a password and comment are required to generate the backup file. In order to guarantee the security of your information, exported file is encrypted and signed. It is strongly recommended to save the exported file in a safe repository.



3.20.2 Restore configuration

Restore pop-up allows to recover a configuration from a previous configuration export. Only configuration file from version 6.0.0 or upper are compatible. This requires configuration file password to be installed.



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