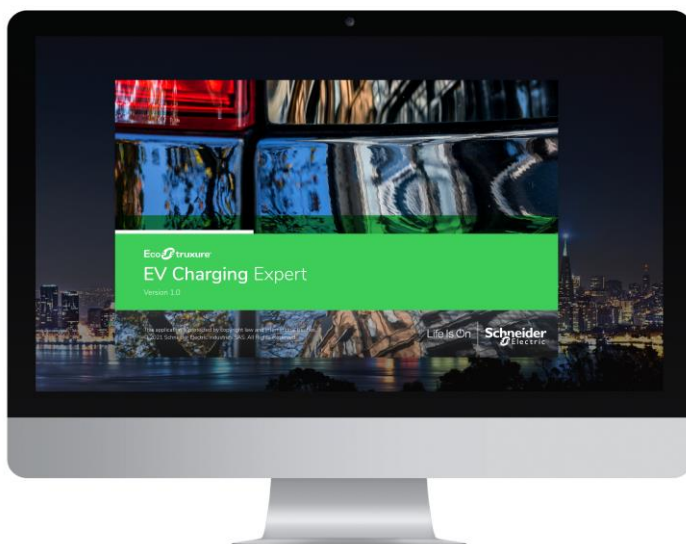


EcoStruxure™ EV Charging Expert

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.

Table of contents

Chapter 1. SYSTEM ENVIRONMENT	8
1.1 Glossary	9
1.2 EcoStruxure EV Charging Expert	9
1.2.1 Overview	9
1.3 EcoStruxure EV Charging Expert characteristics	18
1.3.1 General characteristics	18
1.3.2 Environmental characteristics	18
1.3.3 Power supply characteristics	18
1.3.4 Communication modules	19
1.4 Set up of EcoStruxure EV Charging Expert system environment	20
1.4.1 EcoStruxure EV Charging Expert installation	20
1.5 Electrical zone definition	21
Chapter 2. EcoStruxure EV Charging Expert COMMISSIONING	24
2.1 Starting with EcoStruxure EV Charging Expert	24
2.1.1 Computer configuration	24
2.1.2 Login to the EcoStruxure EV Charging Expert	24
2.2 Credentials configuration	27
2.3 Wizard steps	27
2.3.1 Network	27
2.3.2 Remote supervision	27
2.3.3 Date & Time	27
2.3.4 Energy management	27
2.3.5 Stations configuration	28
2.3.6 Power meter configuration	28
2.3.7 Zones configuration	28
2.3.8 Station assignment	28
2.3.9 Authentication group	28
2.3.10 RFID Cards	28
Chapter 3. OPERATION INTERFACE	29
3.1 Menu and status bar	30
3.2 Dashboard	31
3.2.1 Global view	31
3.2.2 Zone view	32
3.2.3 Transaction view	33
3.2.4 Station view	33
3.3 Network configuration	35
3.3.1 EcoStruxure EV Charging Expert name	35
3.3.2 Network configuration	35
3.3.3 Proxy configuration	36
3.3.4 DHCP server configuration	36
3.4 Remote supervision configuration	37
3.4.1 Supervision selection	37
3.4.2 Unique supervision	37
3.4.3 Multiple supervision	38
3.5 Energy management configuration	40
3.5.1 Load shedding configuration	40
3.5.2 Consumption optimisation configuration	40

3.5.3	Allow Suspended by System	40
3.5.4	Electrical grid	41
3.5.5	Local production management	41
3.6	Charging stations commissioning	44
3.6.1	Prerequisites	44
3.6.2	Charging station installation page.....	44
3.6.3	Charging station status	45
3.6.4	Charging station configuration	46
3.6.5	Manual charging station configuration	46
3.7	Power meter configuration	49
3.7.1	Prerequisites	49
3.7.2	Manage Power Meters.....	49
3.7.3	Define a new power meter model	50
3.8	Zone configuration	51
3.8.1	Prerequisites	51
3.8.2	Zone configuration	51
3.8.3	Zone creation	51
3.8.4	Degraded Mode	52
3.8.5	Charging station electrical zone assignation	52
3.9	Time Of Use	54
3.9.1	Definition	54
3.9.2	Prerequisites	54
3.9.3	Time Of Use configuration tab	54
3.9.4	Zone configuration tab	55
3.9.5	Summary tab.....	55
3.10	Digital Inputs	56
3.10.1	Definition	56
3.10.2	Commissioning	56
3.10.3	Electrical connection	57
3.11	Local authentication management	58
3.11.1	Authentication group	58
3.11.2	RFID cards.....	60
3.12	Certificates	61
3.12.1	Manage Certificates	61
3.12.2	Device certificates	61
3.13	Charging station firmware	63
3.13.1	Manage charging station firmware.....	63
3.13.2	Internal HTTP server.....	64
3.13.3	Perform charging station update.....	64
3.14	Advanced configuration	65
3.15	User management	66
3.15.1	User management landing page.....	66
3.15.2	User addition	66
3.15.3	Change the user password.....	67
3.15.4	Edit a user.....	67
3.16	Maintenance.....	68
3.16.1	Device logs	68
3.16.2	Device maintenance report.....	68
3.16.3	Charging station maintenance report.....	69
3.17	EV Charging Expert Firmware update	70
3.18	License upgrade.....	71

3.19	Reboot and back to factory settings	72
3.19.1	Reboot and back to factory settings from the webserver	72
3.19.2	Hardware back to factory settings	72
3.20	Save and Restore	74
3.20.1	Save configuration	74
3.20.2	Restore configuration.....	74

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.

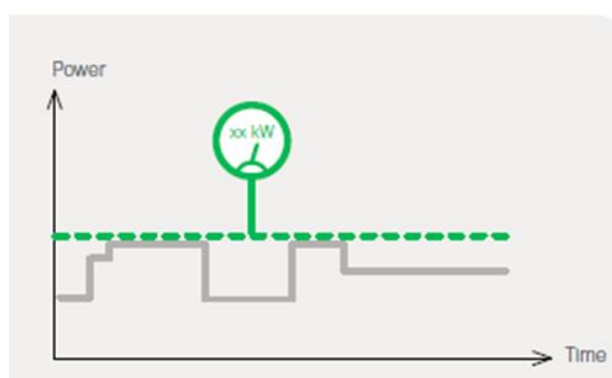
**The maximum available power for VIP status may be lower than the charging station rating depending on the number of simultaneous VIP charging sessions.*

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.

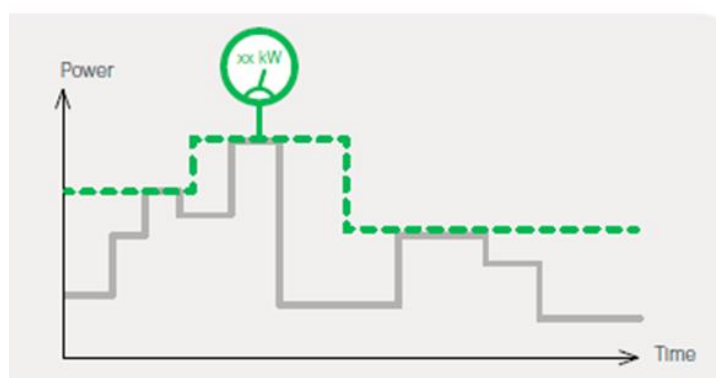
Consumption profile in static mode:



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	EVlink Pro AC EVlink Pro DC	EVlink Pro AC EVlink Pro DC	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	●	●	●	●	

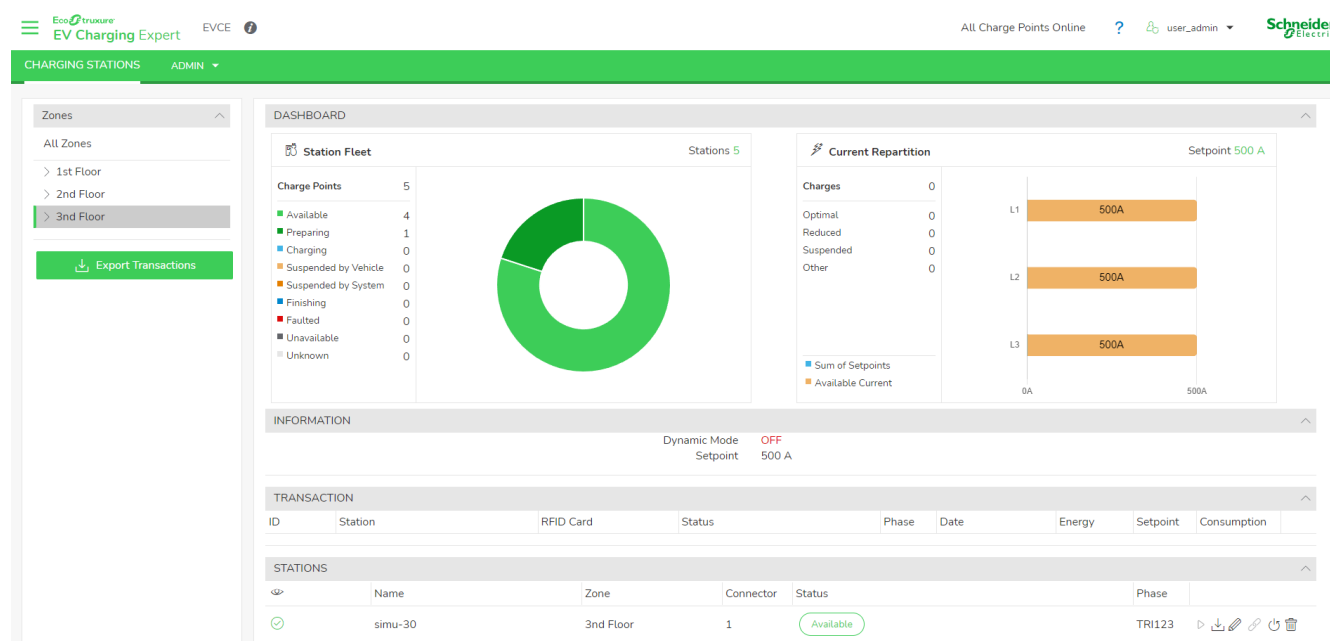
		Load Management License	
		HMIBSCEA53D1EDBSCP	HMIBSCEA53D1EDSSCP
	Supported stations	EVlink Pro AC EVlink Pro DC Schneider Charge Pro	EVlink Pro AC EVlink Pro DC Schneider Charge Pro
Capacity	Max number of charging stations	5	15
Power Management	With a static setpoint	●	●
	With a dynamic setpoint	●	●
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

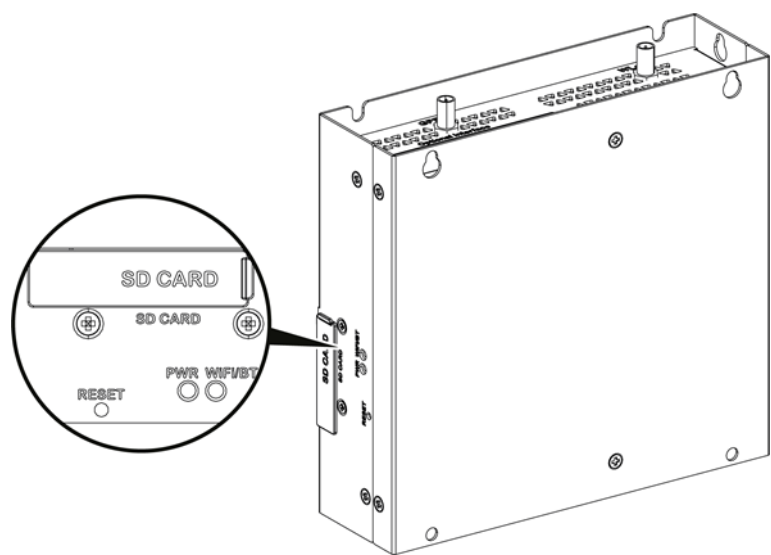
EcoStruxure EV Charging Expert maintenance

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

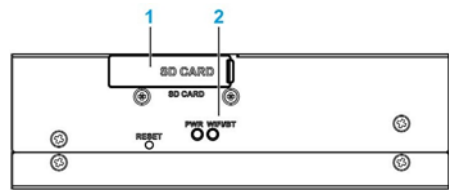


Reset button (**deactivated**) and LEDs

The table below describes the meaning of the status LEDs

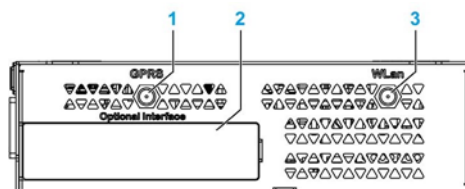
Marking	Color	State	Meaning
PWR	Green	On	Active (user operates OS) (state S0)
WiFi/BT	Green	Off	Application failure
		On	Application starting
		Blink	Application running

Side view



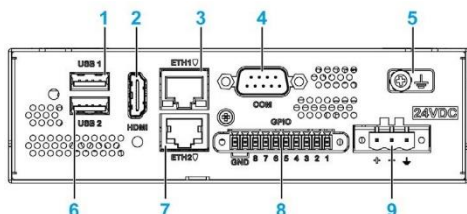
- 1 - SD card socket (SD card not delivered with the EcoStruxure EV Charging Expert)
- 2- LEDs

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](#).

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.

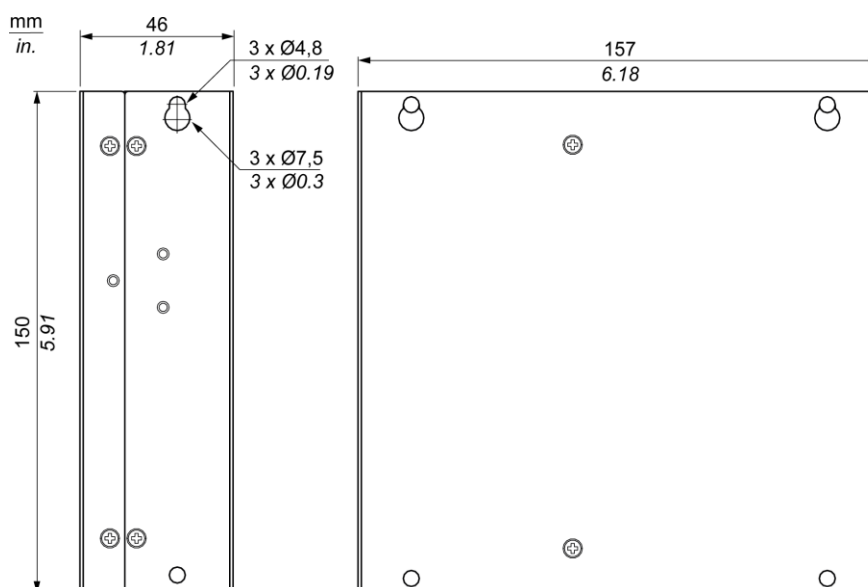
See [chapter 3.6](#) for more information.

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.

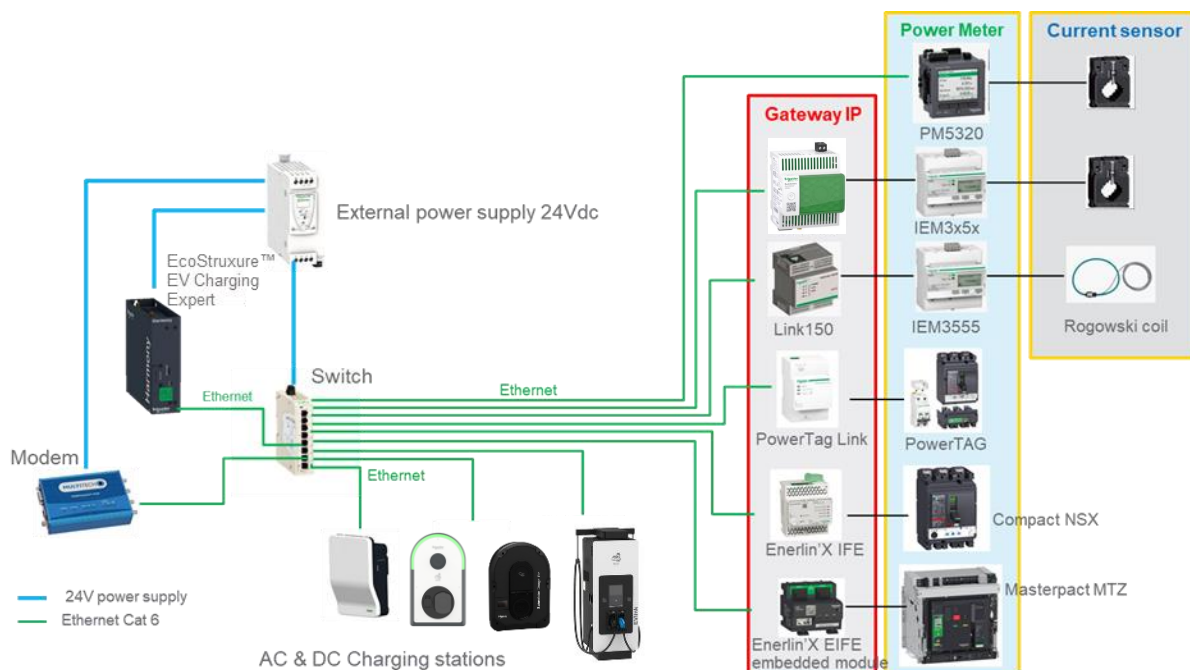
Use an ethernet straight cable between EcoStruxure EV Charging Expert and the charging station Ethernet network.

NOTICE

- 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:

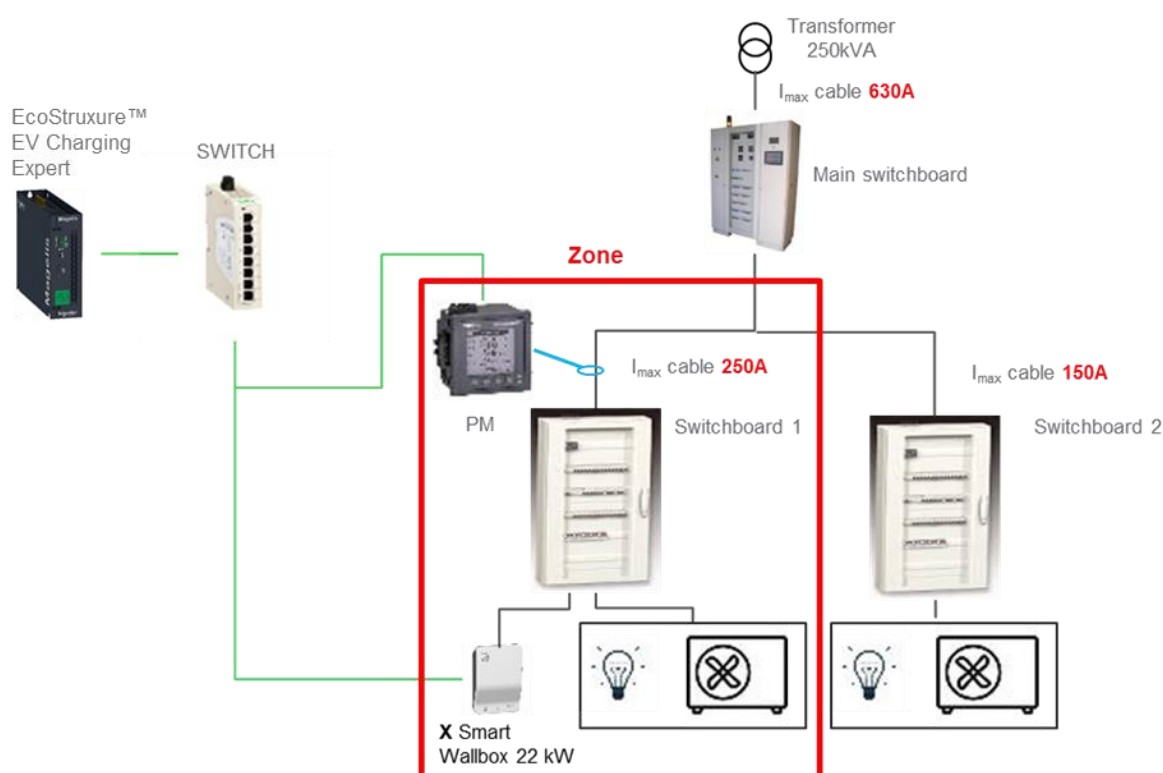
- directly supplying charging stations and possibly other electrical loads,
- or supplying other switchboards of which at least one is supplying charging stations and possibly other electrical loads. This latter forms a sub-zone. The total installed current of all sub-zones must be at least equal to 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

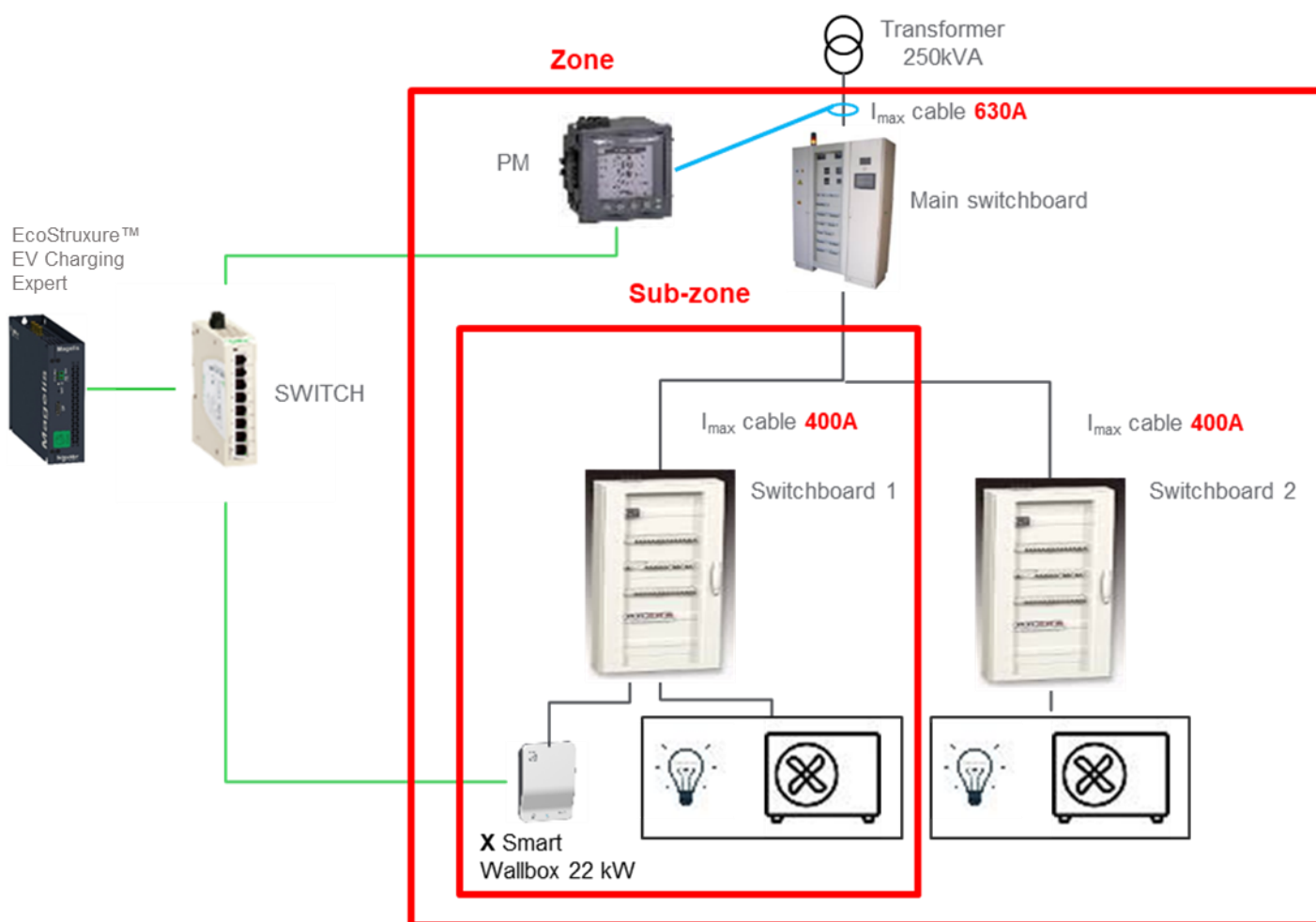
In this example, the main switchboard cannot supply both switchboards at the maximum current. In the same way, the switchboard #1 cannot supply all charging stations and other electrical loads at the same time at the maximum current.

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)

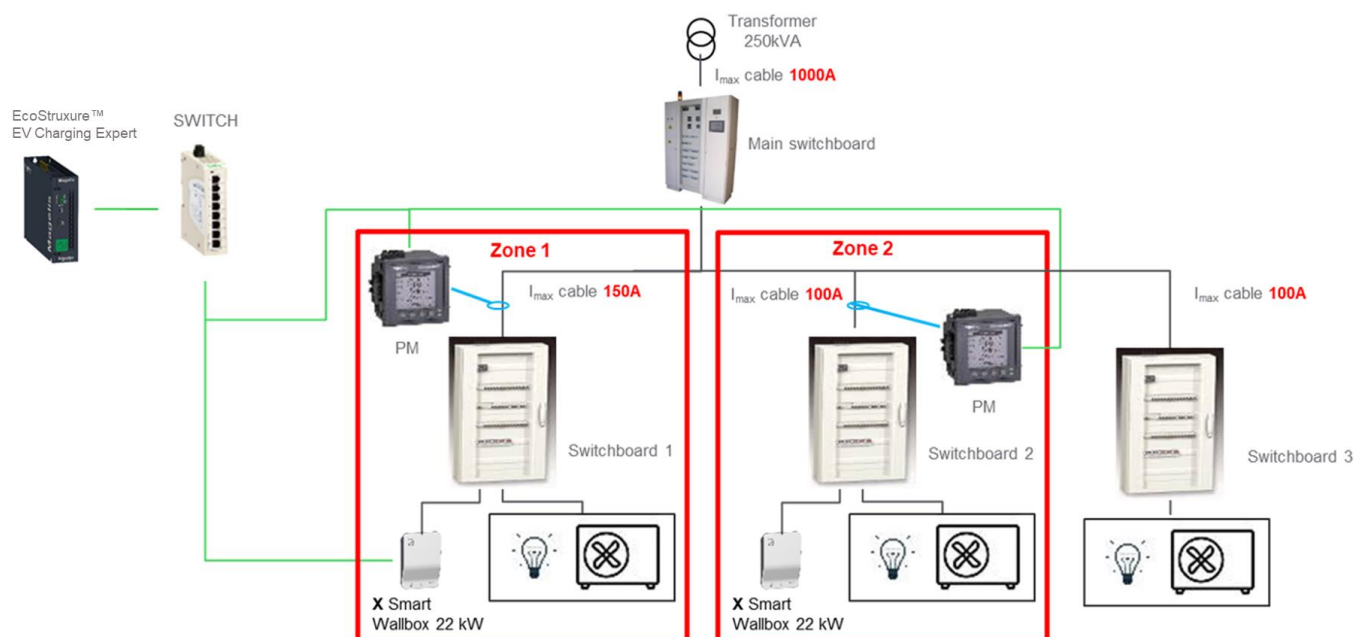
In case of power meter disconnection, the maximum degraded current of the top zone should be defined regarding the estimation of the maximum building electrical loads of switchboards #1 and #2.

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 COMMISSIONING

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.

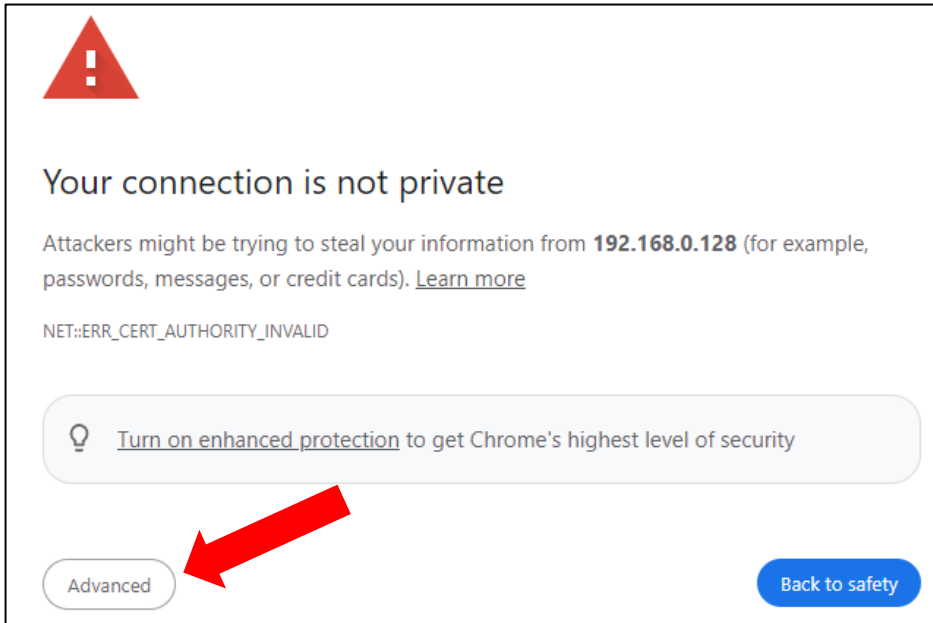
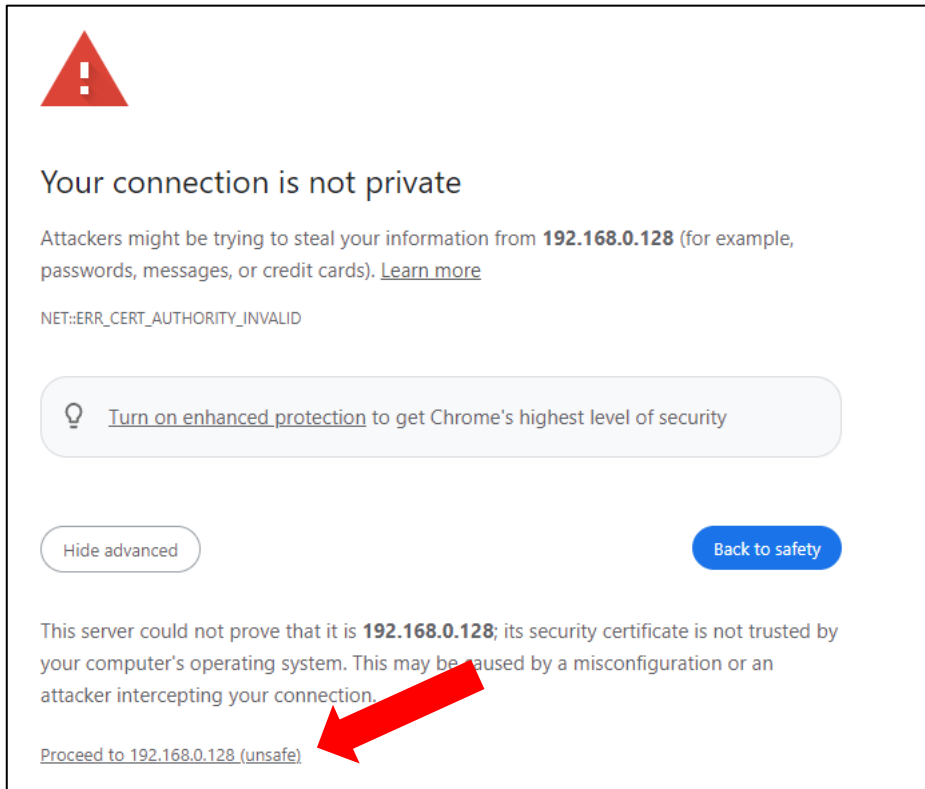
2.1 Starting with EcoStruxure EV Charging Expert

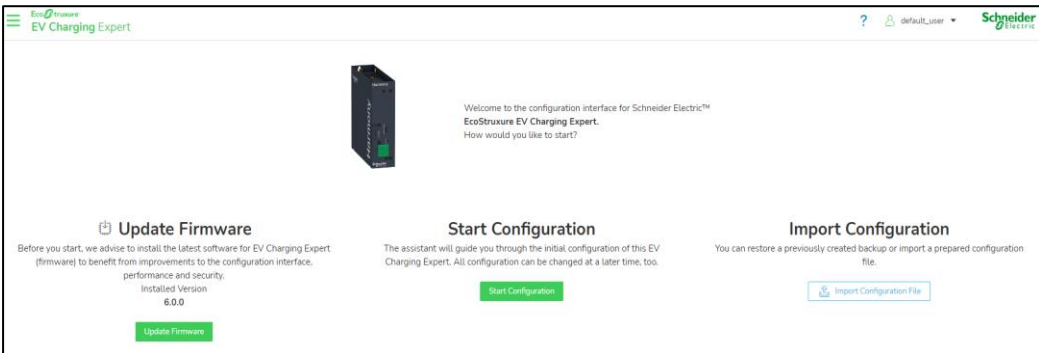
2.1.1 Computer configuration

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> <div data-bbox="429 262 1366 882">  </div> <p>Then click on "Proceed to @ ..."</p> <div data-bbox="437 1010 1366 1796">  </div>

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.

Set Login Credentials

To avoid unauthorized access to this configuration interface, please define username and password for an administrator and a first user.

Administrator

The administrator has access to all configuration for this EV Charging Expert and needs to complete the initial configuration before users can access the interface.

Username

You should not use Root, Admin or Administrator, as they are easy to guess.

Password

Your password must satisfy the following conditions at least 12 characters long lowercase characters uppercase characters numbers special characters (@\$!%?&).

Repeat Password

☐ I securely stored these credentials. A factory reset is the only option if they get lost.

First User

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.

Previous Save and Next

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

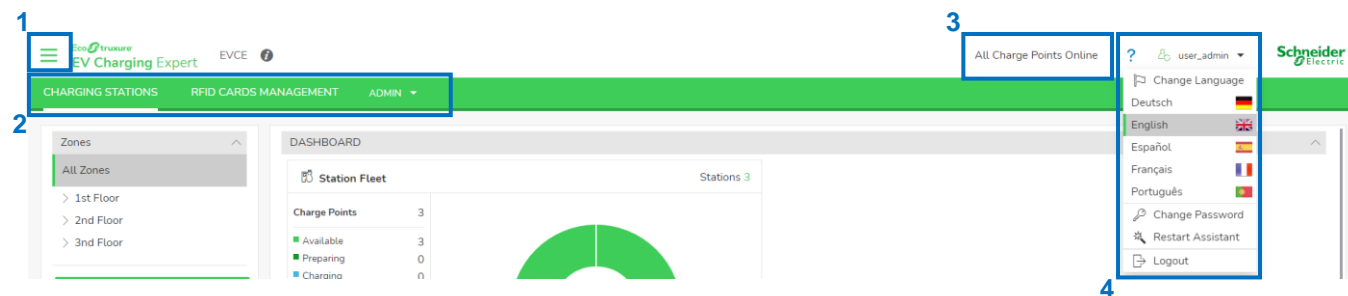
See [chapter 3.11.2](#)

Chapter 3.

OPERATION

INTERFACE

3.1 Menu and status bar

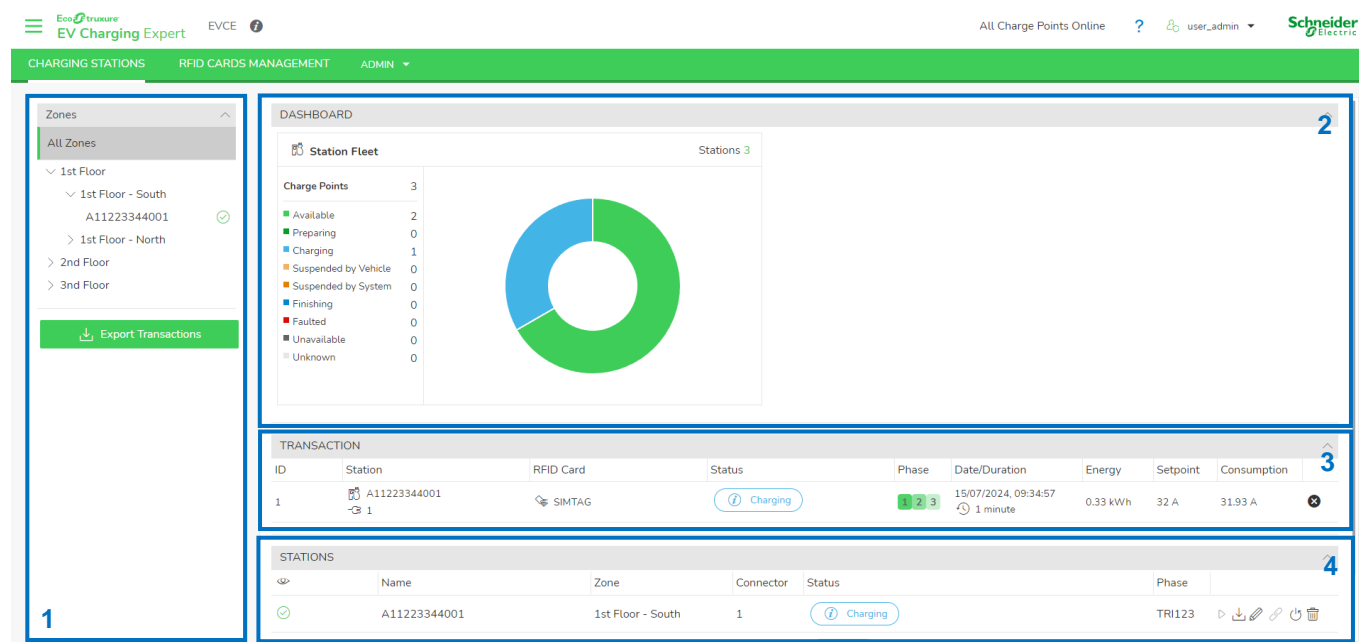


Mark	Description
1	Menu to update EcoStruxure EV Charging Expert and upgrade licence
2	Administrator menu to manage configurations
3	Charging station status (Online/Offline/Faulted state)
4	User management: <ul style="list-style-type: none"> • Change language • Update password • Restart assistant: restart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

3.2 Dashboard

3.2.1 Global view

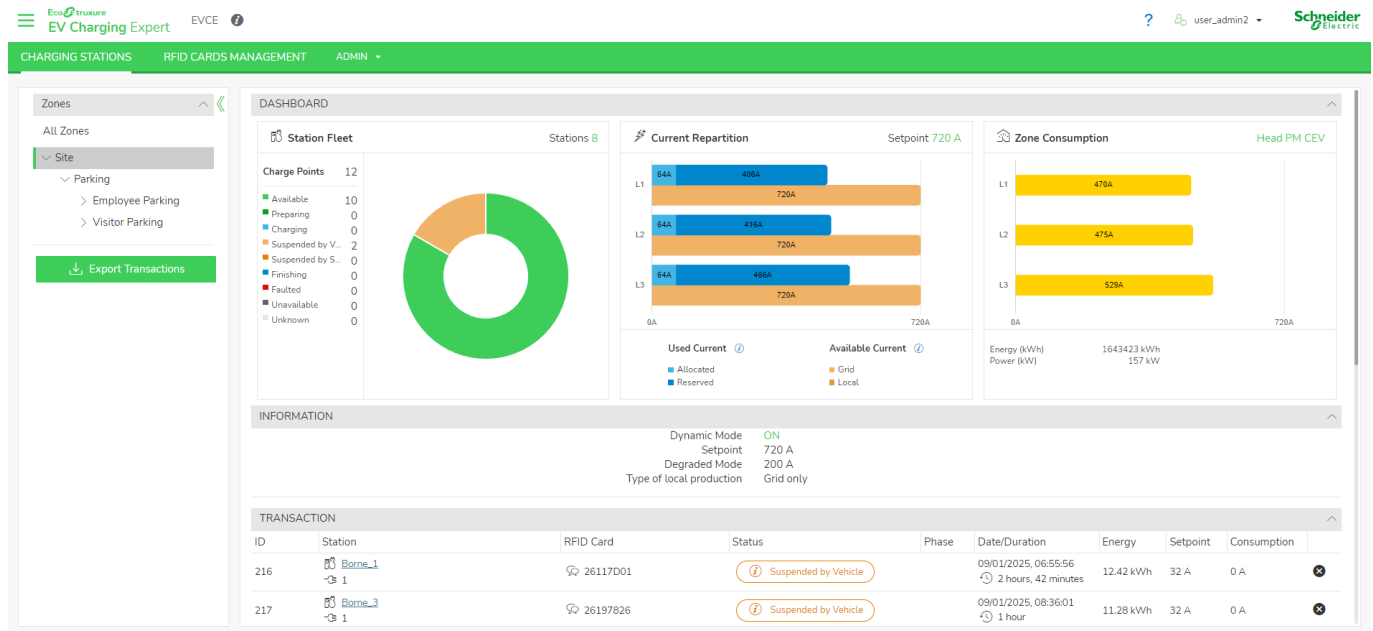
This page displays the ongoing status of the charging stations, load transaction information and zone configuration. Furthermore, it's possible to manage charging stations (reboot/remote start&stop/diagnostic report).



The 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:

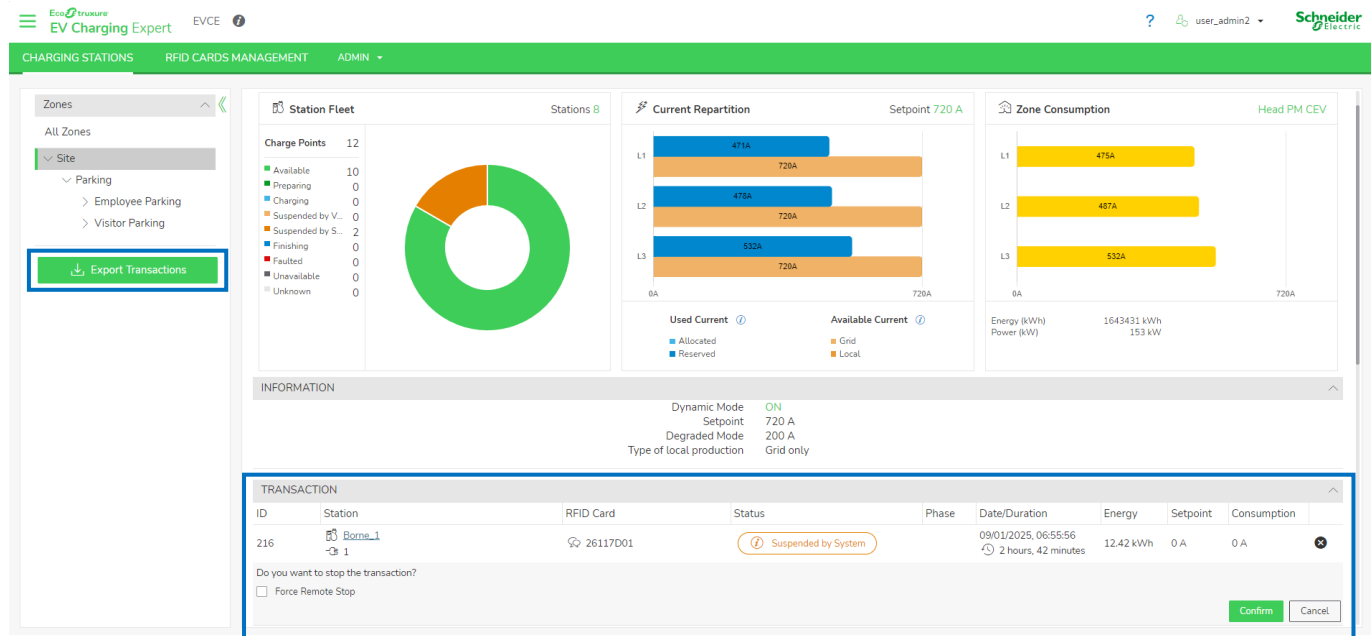
- **Station Fleet:** Status of charging stations assigned to the zone.
- **Current Repartition:** Charging setpoint available according to the active zone maximum current, zone consumption and transactions information.
 - **Allocated:** Allocated current to charging stations during transaction
 - **Reserved:** 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 , 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

Station Details

Name	A11223344001
Charge Box Identity	A11223344001
VIP	<input type="checkbox"/>
Phase Configuration	TRI123
Vendor	Schneider ElectricEVLink Pro AC
Firmware	1.3.8
Degraded Mode	Connector 1: 32 A

Update **Cancel**

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 interface. On the left, the 'Zones' sidebar lists 'All Zones' and '1st Floor' with three devices: A11223344001, A11223344002, and A11223344003. A11223344001 is selected. Below the sidebar is an 'Export Transactions' button. The main area displays a confirmation dialog 'Do you want to stop the transaction?' with a 'Force Remote Stop' checkbox and 'Confirm'/'Cancel' buttons. Below this is the 'LOGS' section for device 'A11223344001', featuring a 'Download Logs' button and a 'Refresh' button. The log table contains the following data:

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

ON

URL du proxy

EV Network

?

Active DHCP client

OFF

ON

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 auxiliaire

Configuration du serveur DHCP

?

OFF

ON

Page d'adresse

?

Secondary Network

?

OFF

ON

Active DHCP client

OFF

ON

?

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

?

Active DHCP client

OFF

ON

Adresse IP

192 . 168 . 0 . 151

Masque de sous réseau

255 . 255 . 255 . 0

Passerelle par défaut

Secondary Network

?

OFF

ON

Active DHCP client

OFF

ON

?

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

The screenshot shows the 'Remote Supervision Configuration' page. Under 'Supervision mode', the 'Local' option is selected with a green dot. The 'Unique' and 'Multiple' options are unselected. Each option has a small circular help icon to its right. A green 'Save' button is located at the bottom left of the configuration area.

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

The screenshot shows the 'Advanced Configuration' section of the 'Remote Supervision Configuration' page. The 'Supervision mode' is set to 'Unique'. The 'Advanced Configuration' section includes the following fields and settings:

- Remote Supervision URL Address:** ws://test.com
- Websocket Ping Interval:** 10
- Message timeout:** 10
- Forward security event to CPO:** ON (toggle switch)
- Basic Authentication:** OFF (toggle switch)

 At the bottom left, there are 'Save' and 'Test Connection' buttons.

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**.

The screenshot shows the 'CHARGING STATIONS' section of the 'EV Charging Expert' interface. It features a search bar, a 'More Filters' dropdown, and a status indicator '41 Stations Detected'. Below this is a table with columns: Status, Model, Station Name, IP Address, Connectors, Box Identity, and Zones. Two stations are listed: 'Station 04' and 'Station 05'. Each station entry includes a 'Change password' button. The interface also shows a 'Discover' button and an 'Install Selected' button.

- **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

The screenshot shows the 'SUPERVISION MANAGEMENT' section of the 'EV Charging Expert' interface. It includes tabs for 'Network', 'Remote Supervision', 'Energy Management', 'Date & Time', 'Power Meters', 'Zone Management', 'Time of use', 'Digital Input', 'Certificates', 'Firmwares', and 'Advanced'. The 'Remote Supervision Configuration' section is active, showing 'Supervision mode' with 'Multiple' selected. Below this is the 'Charging point operator' section, which includes a table for defining operators. A green '+' button is visible below the table.

Name	URL	Websocket Ping Interval	Message timeout	Forward security event	Synchronize time	Basic Authentication	
CPO 1	wss://cpo1.com	10s	10s	x	x	x	
CPO 2	ws://cpo2.com	10s	9s	✓	x	x	
CPO 3	wss://cpo3.com	30s	30s	✓	x	✓	

To manage supervisions, it is necessary to click on + and refer to [chapter 3.4.2](#) to configure a supervision.

3.4.3.2 Supervision management

The screenshot displays the 'Authentication groups' management interface. On the left, an 'Unassigned' list contains stations 03 through 11. The main area shows two authentication groups: 'CPO One' and 'Free parking'. For 'CPO One', the 'Charging point operator' dropdown is open, showing options 'CPO 1', 'Local', 'CPO 2', and 'CPO 3'. For 'Free parking', the 'Charging point operator' dropdown is set to 'Local'. The 'Free parking' group also displays 'Authentication mode' (Authorize all RFID Cards) and 'Offline strategy' (Authorize all RFID Cards). Both dropdown menus are highlighted with red boxes.

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' configuration page in the 'ADMIN' tab. The page is divided into several sections:

- Charging Stations Default Configuration:** Includes 'Minimum current setpoint for an electrical vehicle to charge' with radio buttons for 'IEC 61851 (6A Single- and Three-phase)' and 'EV/ZE Ready (8A Single-phase/14A Three-phase)'. The 'EV/ZE Ready' option is selected. Below it is a 'Load Shedding Priority' dropdown menu set to 'Energy'.
- Consumption Optimisation Configuration:** Includes an 'Activation' toggle switch set to 'ON'. Below it are input fields for 'Setpoint reduction trigger value *', 'Reduction efficiency value *', and 'Minimal gap with EV consumption *', all set to '10'. There is also a dropdown for 'Optimization delay (s)' set to '30'.
- Suspended by System Strategy:** Includes a 'Strategy' section with radio buttons for 'Allow', 'Disabled', and 'Reused setpoint'. The 'Allow' option is selected.
- Electrical grid:** Includes a 'Type of electrical network' section with radio buttons for '3 x 400V with neutral' and '3 x 230V no neutral'. The '3 x 400V with neutral' option is selected.
- Local production management:** Includes a 'Type of local production' section with radio buttons for 'Grid only', 'Local production + Grid', and 'Local production only'. The 'Local production + Grid' option is selected.

A 'Save' button is located at the bottom left of the configuration area.

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 are some restrictions: the 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 settings of the charging station if presence of a charging station with triphases 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 a 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

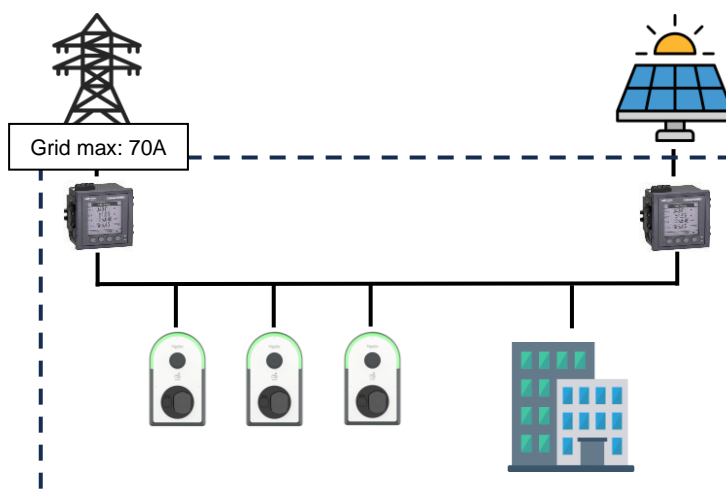
The power meter wiring must include a neutral and be wired in the correct direction.

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.

EVCE

John Doe

CHARGING STATIONS
SUPERVISION MANAGEMENT
ADMIN

Network
Remote Supervision
Energy Management
Date & Time
Power Meters
Zone Management
Time of use
Digital Input
Certificates
Firmwares
Advanced

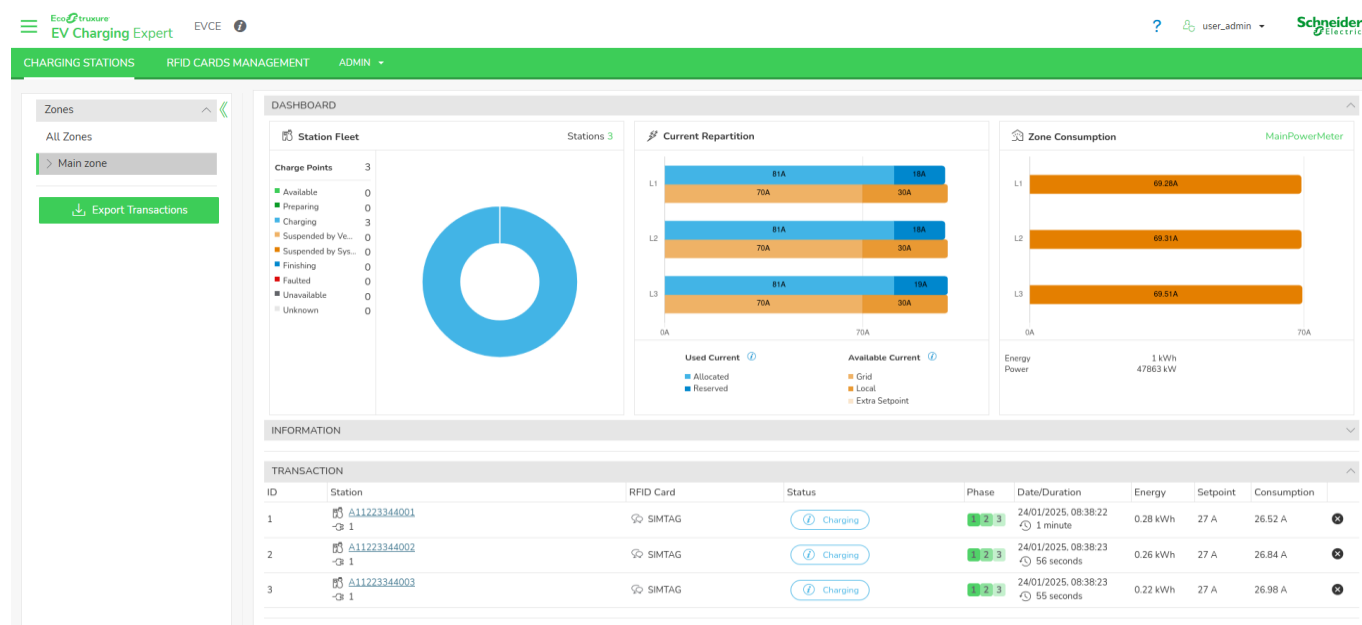
Zone Creation

Save All

Your limit for the creation of zones: 20

	Name	Maximum Current	Power Meter	Energy Management Directive	Degraded Mode Zone Setpoint	Power Meter (local prod)	
+	Main zone	70	MainPowerMeter	Dynamic	30	SolarPowerMeter	
+							

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

The screenshot shows the 'Installation' page in the Schneider Electric EV Charging Expert interface. The page has a green header with navigation tabs: CHARGING STATIONS, RFID CARDS MANAGEMENT, and ADMIN. A search bar is at the top left, and a 'Discover' button is at the top right. The main content area shows a table of 5 detected charging stations. The first two are 'New station' and the last two are 'Installed'. Each row shows details like Model, Station Name, IP Address, Connectors, Box Identity, and Zones. A 'Discover' button is visible in the top right corner.

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

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.

☐

Warning

Schneider Electric EVLink Pr...
SN: A21301010232

192.168.0.223

Information

Unable to install this station with current version 1.3.7. Upgrade the station's firmware to 1.3.8 or later.

Troubleshoot

Remove

- 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.

☐

Error

Schneider Electric EVLink Pr...
SN: R23054000005

192.168.0.10

Information

Error during last saving/discovering. Please redo last action

Troubleshoot

Remove

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

☐

New station

Open OCPP Open OCPP cha...
SN: A11223344004

A11223344004

DHCP ☒

192.168.0.150

1

TRI123

A11223344004

- Charging station already installed into EcoStruxure EV Charging Expert.

Installed

Open OCPP Open OCPP cha...
SN: A11223344001

A11223344001

DHCP ☒

192.168.0.150


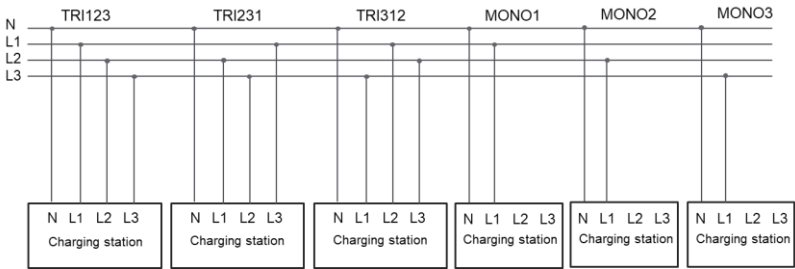
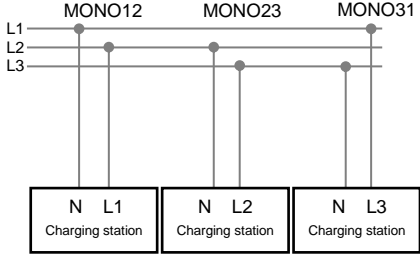
1

TRI123

A11223344001

1st Floor - South

3.6.4 Charging station configuration

Steps	Description
1	Click on  to discover new charging station to install and present into the network
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. <i>example for 3 x 400V with neutral:</i>  <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:
 - ws://XXX.XXX.XXX.XXX:9979 – No security profile

For secure connection, add **OCP 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.

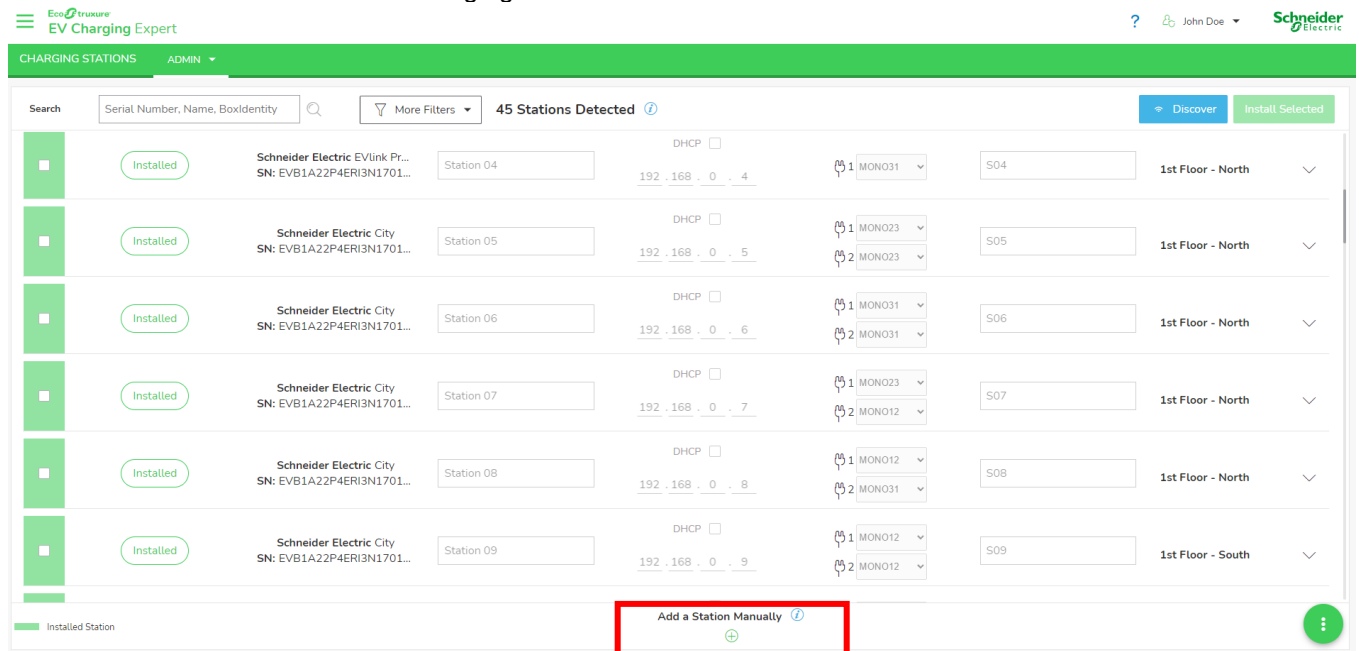
Replace: XXX.XXX.XXX.XXX by EcoStruxure EV Charging Expert IP address.

- **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

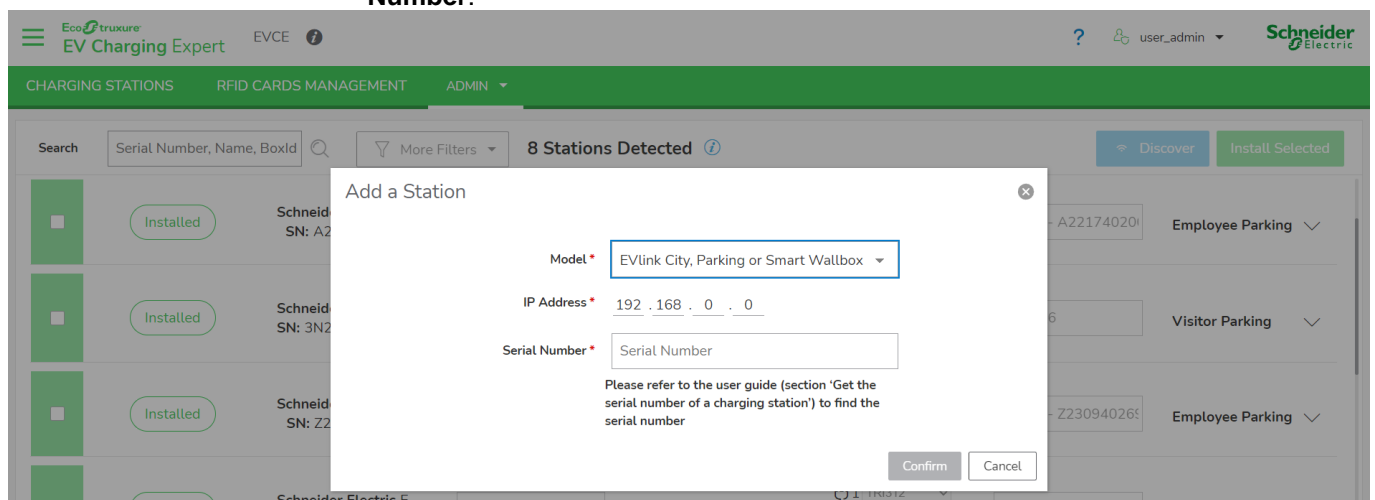
Install a new charging station with IP address is available only for EVlink Pro AC or EVlink City / Parking / Smart Wallbox. After clicking on +, a popup will appear to select the charging station model and IP address.



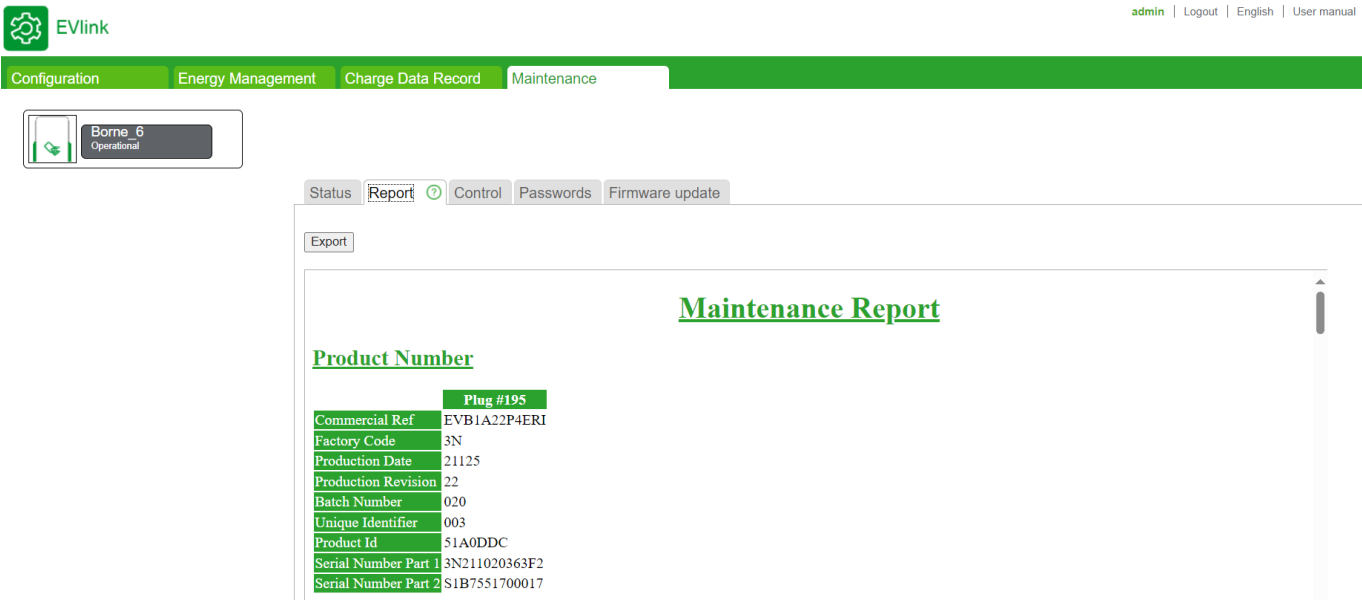
Once information is confirmed, to complete the installation, please return to the installation page to see charging station.

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**:



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.



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 in the EcoStruxure EV Charging Expert software. The top navigation bar includes tabs for Network, Remote Supervision, Date & Time, Stations, Power Meter (selected), Zones, Stations Assignment, Energy Management, Authentication, and RFID Cards. Below the navigation bar, there are sub-tabs: Power Meters, Manage Power Meters, Define Power Meter Models, and Power Meter Configuration. The main content area is titled 'Define the power meters that will be used in your device'. It contains a table with columns: Status, Name, Model, Network Configuration, Current (A), Energy (kWh), Power (kW), Edit, and Delete. The table has two rows: one with a green status icon and the name 'Test', and another with a red status icon and the name 'TCP 192.168.0.0:502 #255'. Below the table is a form to add a new power meter. The form fields are: Name (text input), RTU (checkbox), Model (dropdown menu), IP Address (text input with a hint icon), IP Port (text input), and Slave ID (text input). At the bottom right of the form are 'Save' and 'Cancel' buttons. A green plus icon is centered below the form.

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 screenshot shows the 'Manage Power Meters' form. It contains the following fields: 'Name' (text input with value 'Power meter zone'), 'RTU' (checkbox), 'Model' (dropdown menu with value 'pm5320'), 'IP Address' (text input with value '192 . 168 . 0 . 0' and a hint icon), 'IP Port' (text input with value '502'), and 'Slave ID' (text input with value '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 Save Cancel Import Export

Power Meter Models

- pm5320
- iem3x5x
- Power Tag A
- NSX legacy
- NSX
- MTZ

+

Model Name

Registers

RMS Current on Phase 1		RMS Current on Phase 2		RMS Current on Phase 3	
Address	<input type="text" value="1"/>	Address	<input type="text" value="2"/>	Address	<input type="text" value="3"/>
Format	<input type="text" value="float32"/>	Format	<input type="text" value="float32"/>	Format	<input type="text" value="float32"/>
Type	<input type="text" value="Holding Register"/>	Type	<input type="text" value="Holding Register"/>	Type	<input type="text" value="Holding Register"/>
Scale Factor	<input type="text" value="1"/>	Scale Factor	<input type="text" value="1"/>	Scale Factor	<input type="text" value="1"/>
Endian	<input checked="" type="radio"/> Little Endian <input type="radio"/> Big Endian	Endian	<input checked="" type="radio"/> Little Endian <input type="radio"/> Big Endian	Endian	<input checked="" type="radio"/> Little Endian <input type="radio"/> Big Endian

Active Power on Phase 1		Active Power on Phase 2		Active Power on Phase 3	
Address	<input type="text" value="4"/>	Address	<input type="text" value="5"/>	Address	<input type="text" value="6"/>
Format	<input type="text" value="float32"/>	Format	<input type="text" value="float32"/>	Format	<input type="text" value="float32"/>
Type	<input type="text" value="Holding Register"/>	Type	<input type="text" value="Holding Register"/>	Type	<input type="text" value="Holding Register"/>
Scale Factor	<input type="text" value="1"/>	Scale Factor	<input type="text" value="1"/>	Scale Factor	<input type="text" value="1"/>

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

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	Set the maximum current allowed in zone or subzone. Note: <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

The screenshot shows the 'EcoStruxure EV Charging Expert' interface. On the left, a sidebar lists 'Zones' under '1st Floor', including 'A11223344001', 'A11223344002', and 'A11223344003'. The main area displays configuration for a specific station (A11223344001). Fields include 'Name', 'Charge Box Identity', 'VIP' (checkbox), 'Phase Configuration' (dropdown), 'Vendor' (Schneider Electric EVlink Pro AC), and 'Firmware' (1.3.9). A red box highlights the 'Degraded Mode' section, which shows 'Connector 1 : 32 A'. At the bottom right, there are 'Update' and 'Cancel' buttons.

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:

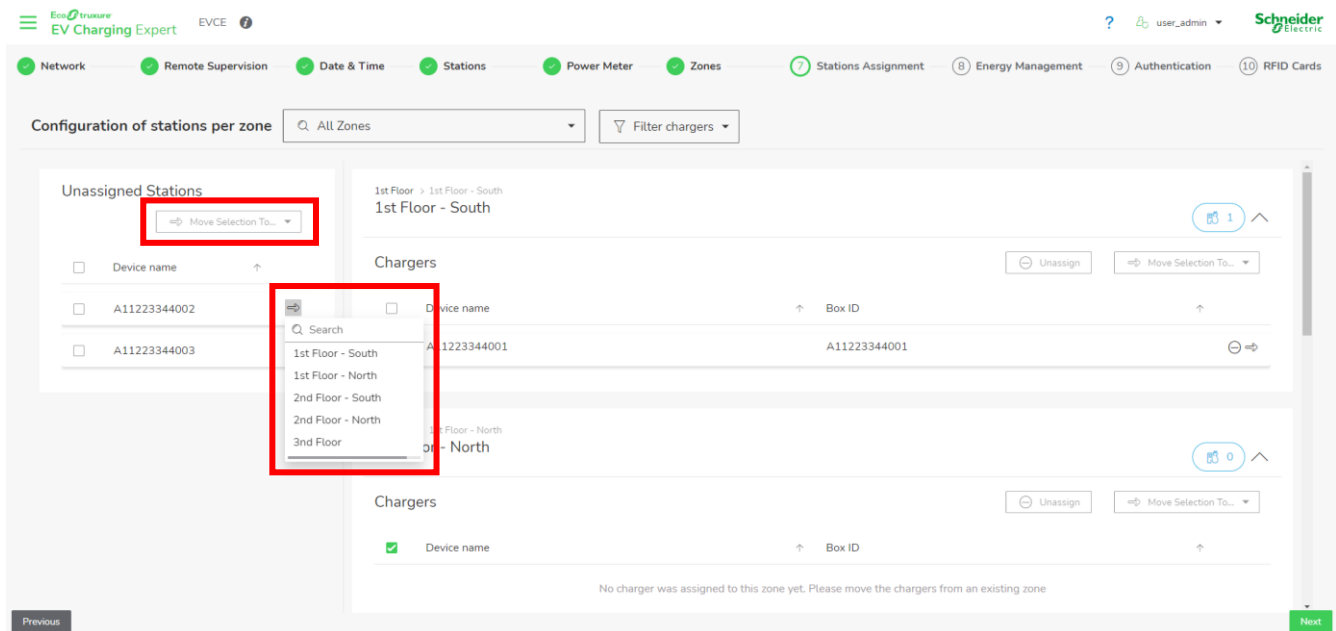
Dynamic zone characteristics:

- 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).



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="checkbox"/> ON <input type="checkbox"/> Periode 2	Start Time: 04:30 End Time: 10:00	Monday Tuesday Wednesday Thursday Friday Saturday Sunday ✓	60 %	
OFF <input checked="" type="checkbox"/> ON <input type="checkbox"/> Periode 1	Start Time: 08:00 End Time: 14:00 14:00 23:00	Monday Tuesday Wednesday Thursday Friday Saturday Sunday ✓ ✓ ✓ ✓ ✓	80 %	

+

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

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...
Periode 2	Start Time: 04:30 End Time: 10:00	Monday Tuesday Wednesday Thursday Friday Saturday Sunday ✓	0 %	

Period Name:

Timeslots

Start Time: End Time:

[Add Timeslot](#)

Days

Monday Tuesday Wednesday Thursday Friday Saturday Sunday
✓

Maximum Setpoint(%)

+

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.

3.9.5 Summary tab

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

Zone	Nominal Current (A)	Current on "Period 1" (A)	Current on "Period 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.



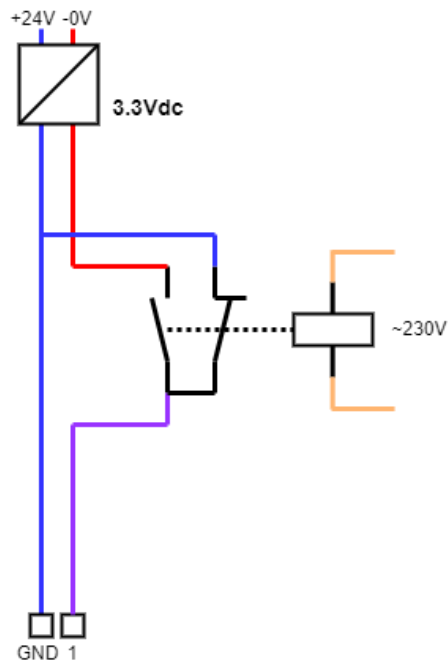
3.10.2 Commissioning

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

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:

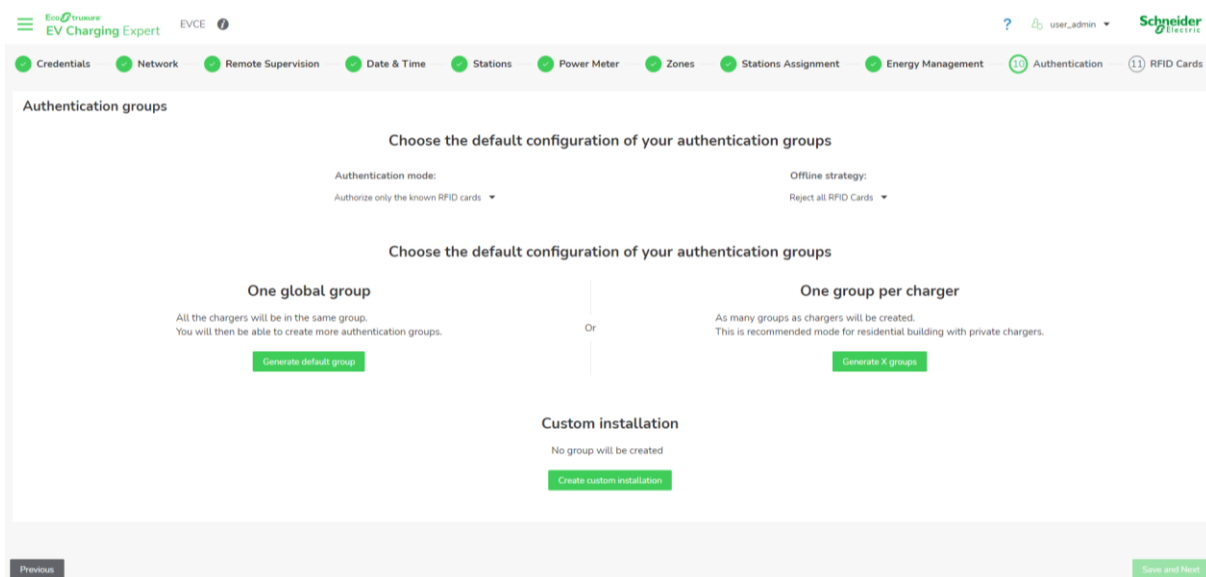
- Authentication groups of chargers
- RFID cards

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

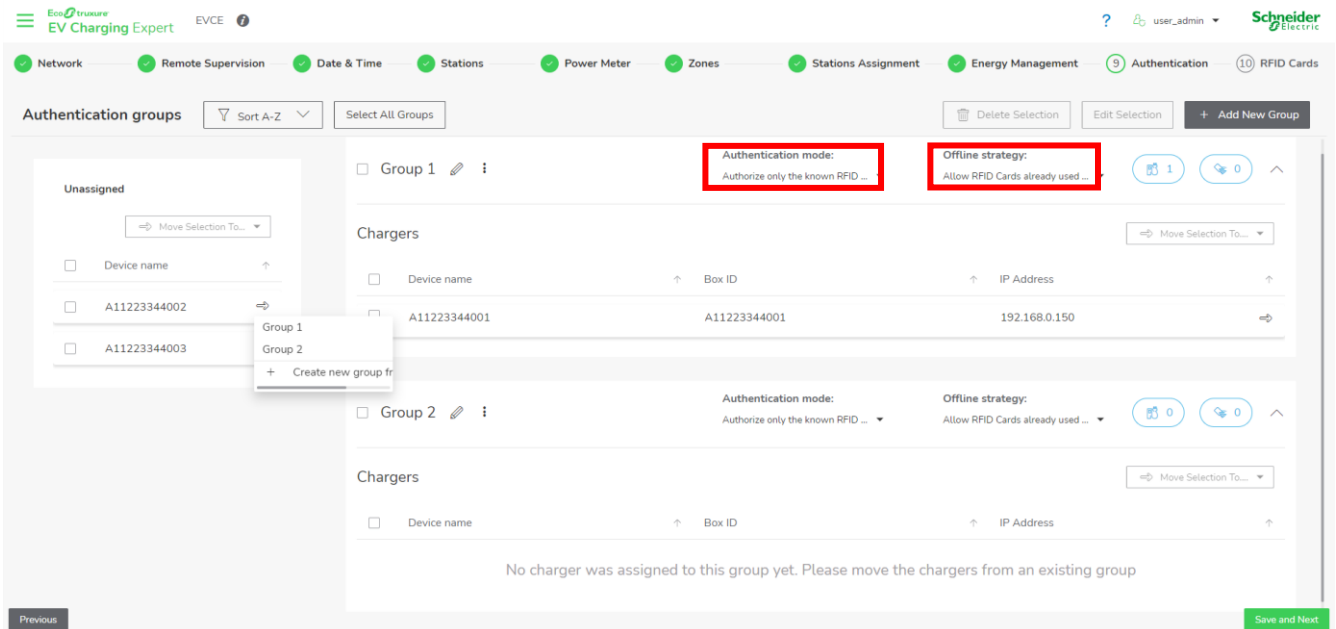


At first installation, three options are proposed:

- 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



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 bellow 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	Action
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.

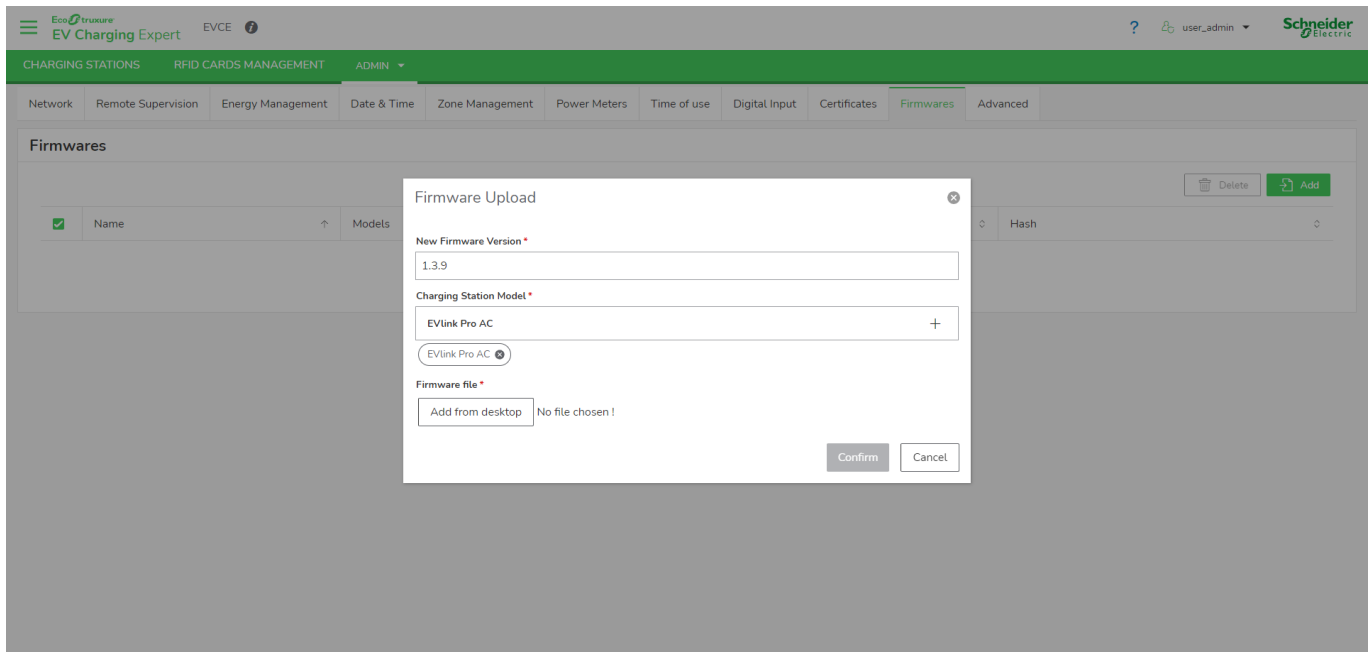
3.13 Charging station firmware

Access by Admin tab → Configuration → Firmware

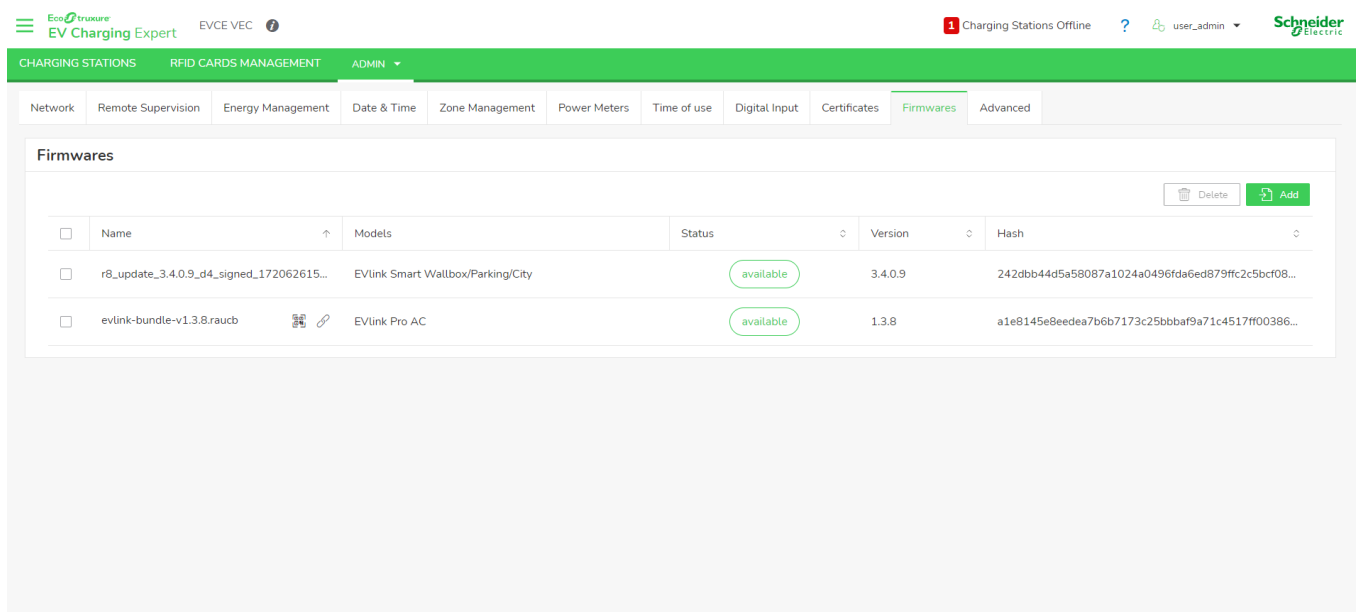
3.13.1 Manage charging station firmware

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

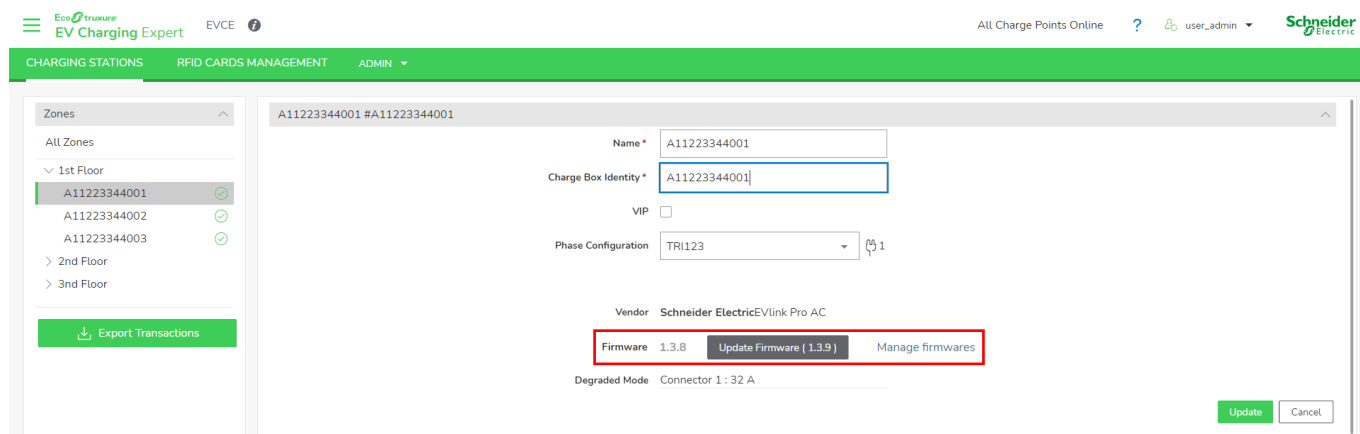
EcoStruxure EV Charging Expert includes an internal HTTP server, allowing locally connected charging stations to be updated directly from an application or a monitoring system by copying the server URL link.

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



The screenshot shows the EcoStruxure EV Charging Expert interface. On the left, there is a sidebar with a 'Zones' menu. Under '1st Floor', three charging stations are listed: A11223344001 (selected), A11223344002, and A11223344003. Below the list is a green button labeled 'Export Transactions'. The main area displays the configuration for station A11223344001. Fields include 'Name' (A11223344001), 'Charge Box Identity' (A11223344001), 'VIP' (unchecked), and 'Phase Configuration' (TRI123). The 'Vendor' is 'Schneider ElectricEVlink Pro AC'. A red box highlights the 'Firmware' section, showing 'Firmware 1.3.8', an 'Update Firmware (1.3.9)' button, and a 'Manage firmwares' link. Below this, 'Degraded Mode' is set to 'Connector 1 : 32 A'. At the bottom right are 'Update' and 'Cancel' buttons.

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 in the EcoStruxure EV Charging Expert interface. The top navigation bar includes 'CHARGING STATIONS', 'RFID CARDS MANAGEMENT', and 'ADMIN'. The 'ADMIN' tab is active, and the 'Advanced' sub-tab is selected. The page contains the following settings:

- Enable SSH:** A toggle switch currently set to 'OFF'. It can be switched to 'ON'.
- HTTPS only:** A toggle switch currently set to 'OFF'. It can be switched to 'ON'. A blue information icon is present next to the 'ON' position.
- Webservice Configuration:** A section containing a link for 'API Documentation' and a link for 'Swagger API Documentation'.

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

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.

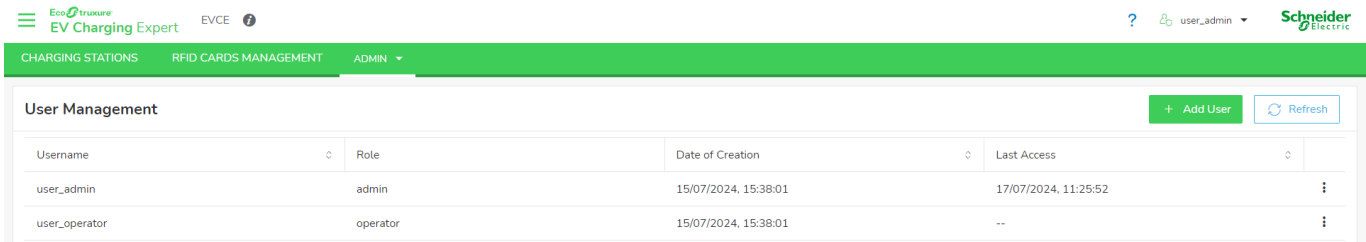
With **HTTPS only**, it is possible to deactivate HTTP server and manage EcoStruxure EV Charging Expert communication with charging station only in secure way.

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

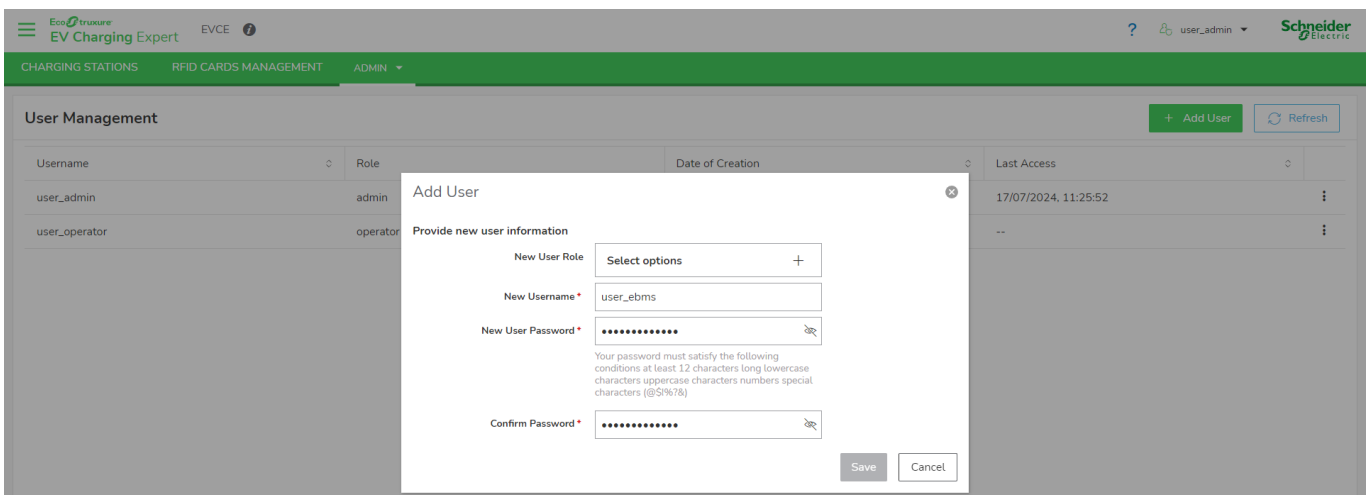


Username	Role	Date of Creation	Last Access
user_admin	admin	15/07/2024, 15:38:01	17/07/2024, 11:25:52
user_operator	operator	15/07/2024, 15:38:01	--

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

- Admin user
- Operator user

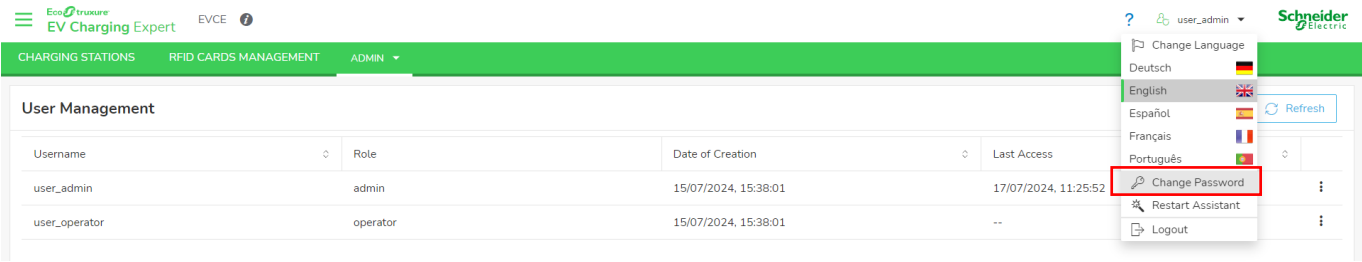
3.15.2 User addition



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 (@\$!%?&)

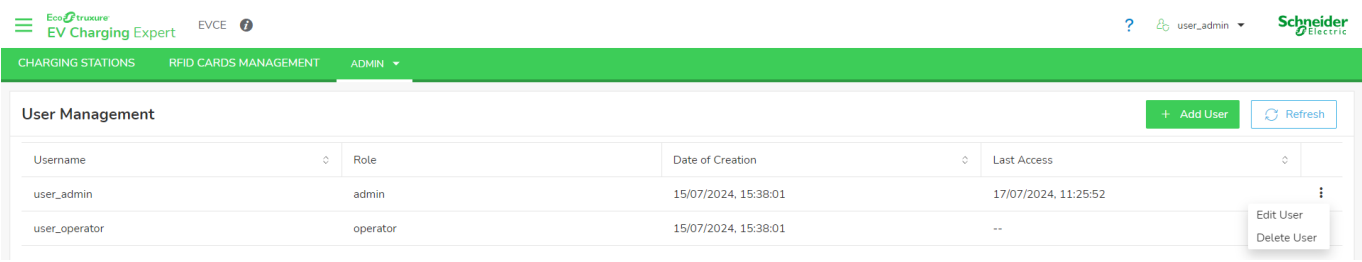
3.15.3 Change the user password



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.



3.16 Maintenance

3.16.1 Device logs

Access by the Admin tab → Logs

EcoStruxure

EV Charging Expert

EVCE

CHARGING STATIONSRFID CARDS MANAGEMENTADMIN

?

user_admin

Schneider Electric

Logs

Filter

Device

Type here

1st Floor

2nd Floor

3rd Floor

Zone

Search here

System

Other

EM

Security

Log Type

Clear Filters

Confirm

Select all

Date	Device	Type	Sub Type	Message
18/07/2024, 15:33:13	EVCE	Security	connection_success	Logon
18/07/2024, 15:31:04	EVCE	Security	connection_failure	Unknown
18/07/2024, 15:31:04	EVCE	Security	connection_failure	Unknown
18/07/2024, 15:31:04	EVCE	Security	connection_failure	Unknown
18/07/2024, 15:31:04	EVCE	Security	connection_failure	Unknown
18/07/2024, 12:00:09	EVCE	Time of use	Status	Period : P
18/07/2024, 09:44:07	EVCE	Stations maintenance	Restarting periodic generati...	86400s (
18/07/2024, 09:43:28	EVCE	Security	connection_success	Logon
18/07/2024, 09:43:21	EVCE	Security	connection_failure	Unknown
18/07/2024, 09:43:21	EVCE	Security	connection_failure	Unknown user

Items per page

10

<

>

Page

1

/ 59

>

>

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

EVCE

CHARGING STATIONSRFID CARDS MANAGEMENTADMIN

?

user_admin

Schneider Electric

Download EV Charging Expert Diagnostic

Download

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

EcoStruxure

EV Charging Expert

SE_Vaudreuil_27100

All Charge Points Online

?

user_admin

Schneider Electric

CHARGING STATIONSRFID CARDS MANAGEMENTADMIN

Downloading Charging Stations Report (Report Size : 0 / 20MB)

Station Name

↑

Date

Type

Zone

Borne 1.1 (0/9 reports selected)

^

Borne 1.1

03/07/2024, 15:07:18

manual

TD_VE

Borne 1.1

03/07/2024, 15:10:53

manual

TD_VE

Borne 1.1

12/07/2024, 11:08:15

periodic

TD_VE

Borne 1.1

13/07/2024, 11:08:15

periodic

TD_VE

Borne 1.1

14/07/2024, 11:08:16

periodic

TD_VE

Borne 1.1

15/07/2024, 11:08:17

periodic

TD_VE

Borne 1.1

16/07/2024, 11:08:17

periodic

TD_VE

Borne 1.1

17/07/2024, 11:08:18

periodic

TD_VE

Borne 1.1

18/07/2024, 11:08:14

periodic

TD_VE

Borne 1.2 (0/8 reports selected)

^

Borne 10.1 (0/7 reports selected)

^

Borne 10.2 (0/7 reports selected)

^

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**.

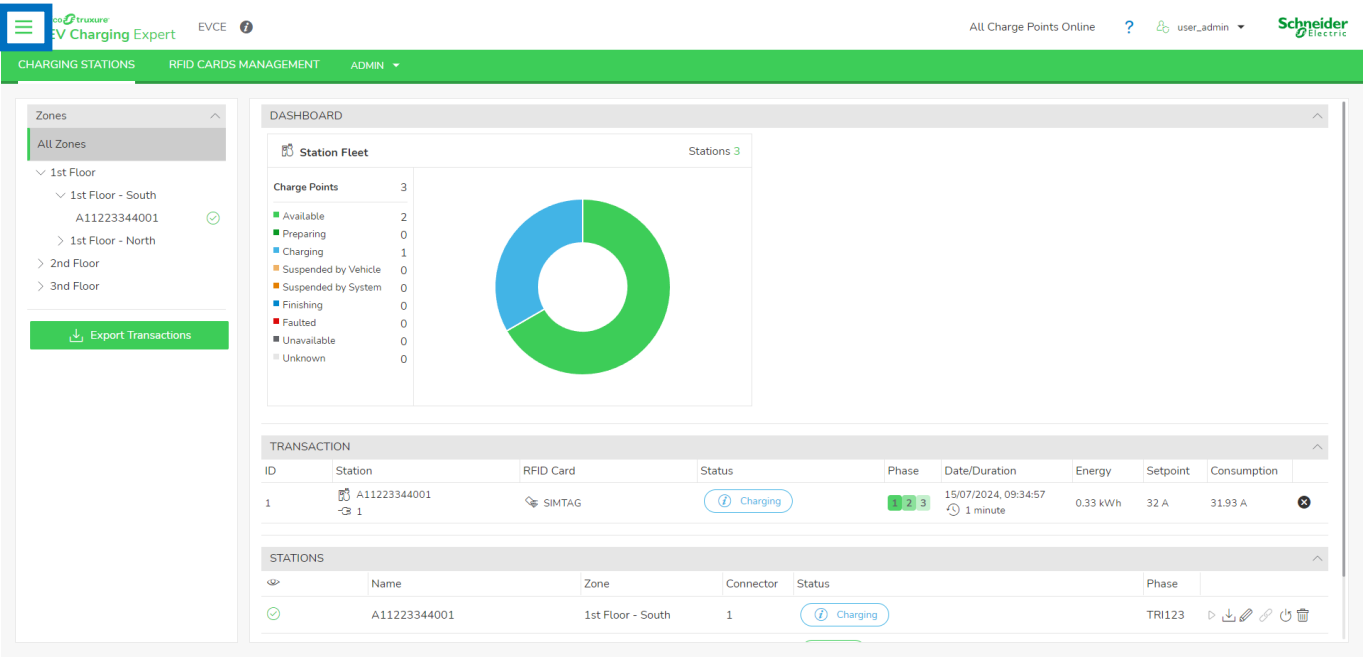
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69

3.17 EV Charging Expert Firmware update

Access by hamburger menu → Firmware Update



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.

Menu

Licence Upgrade

Device Update

About

Device Update

Installed firmware version

6.0.0

Install Firmware Update

Add from desktop

Upload and Update

How to get a firmware update

You need to go online to download the file with the firmware update. It is possible to install a firmware update at any time, you might do so later if you don't have a possibility to go online now.

If you can connect your browser to the internet, please do so now and then use the following link to see what's new in the latest version and download the file.

EV Charging Expert Firmware Updates

If you change connection now, you will need to reconnect to EV Charging Expert afterwards to install the update.

user_admin

Schneider Electric

Setpoint

Consumption

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.

X Menu

Licence Upgrade >
Back To Factory Settings >
About >

User licence

Current licence

Reference Name: HMIBSCEA53D1E2L

Serial Number: S/N1234568

150 Stations

20 Zones

4 Zone levels

Local Production

Local CSMS

Add-on licences

Licence request

To request a new licence, please send an email to the address below. A new file will be provided by Schneider Electric support teams to upgrade the licence.

[Request By Email](#)

Upload Licence Key

Add the licence key from your Desktop and click on Upload.

Add from desktop Upload

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

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

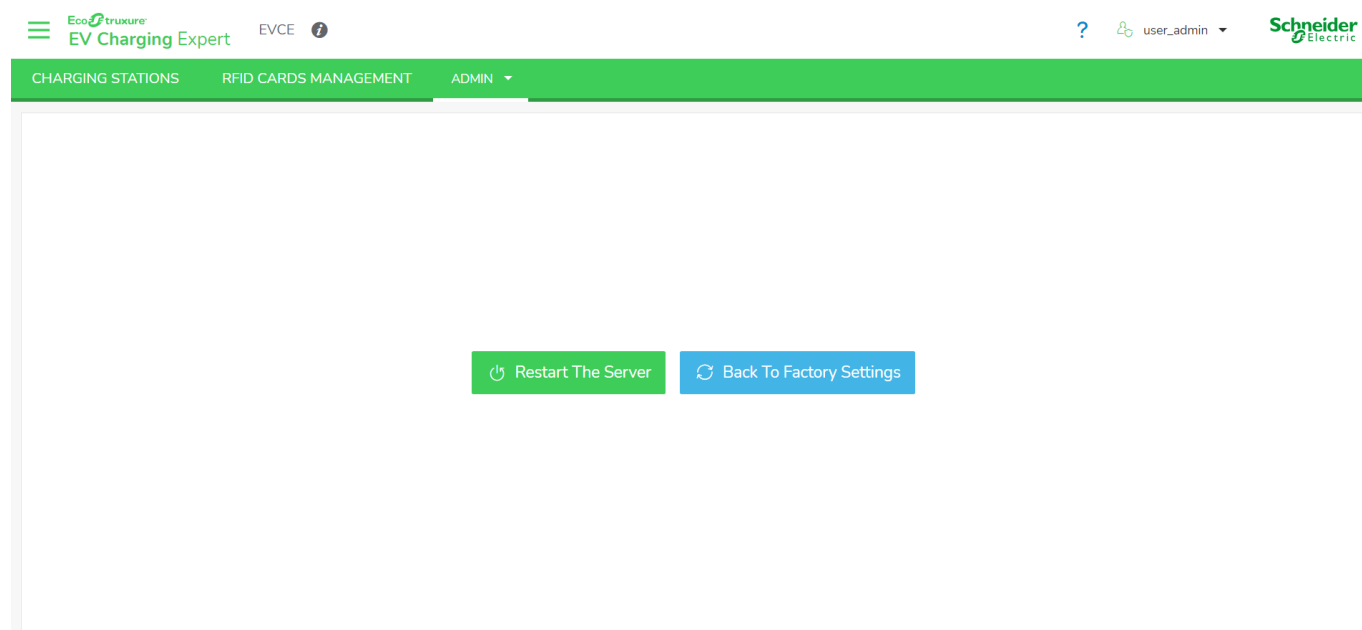
A license upgrade can:

- 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.

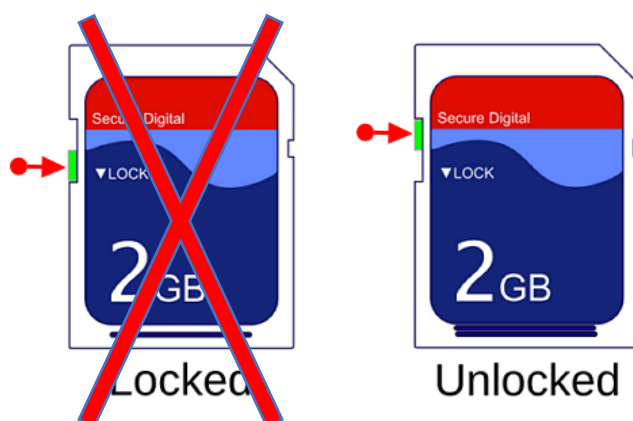
3.19.2.1 Prerequisites

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

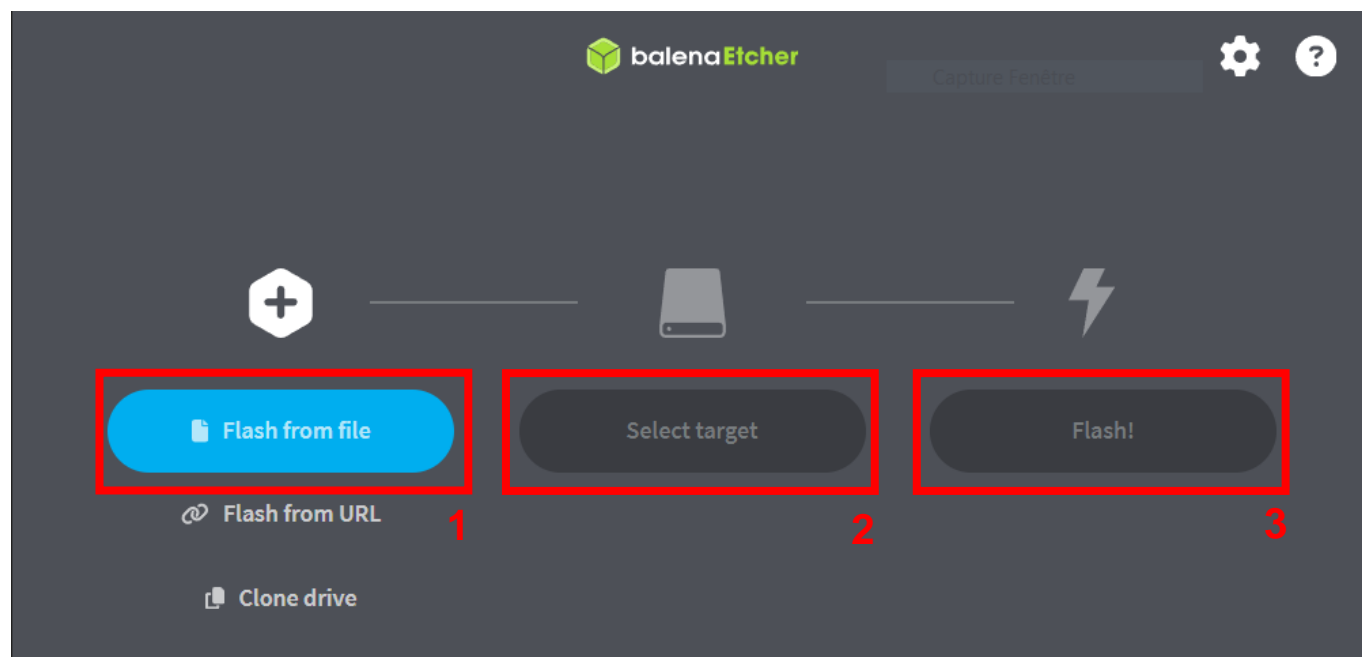
3.19.2.2 SD Card preparation

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



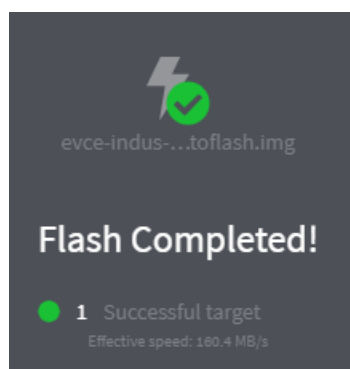
Plug the SD Card to the Windows computer using an internal SD card reader or an external USB SD card reader. Download Balena Etcher software from <https://etcher.balena.io/>

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

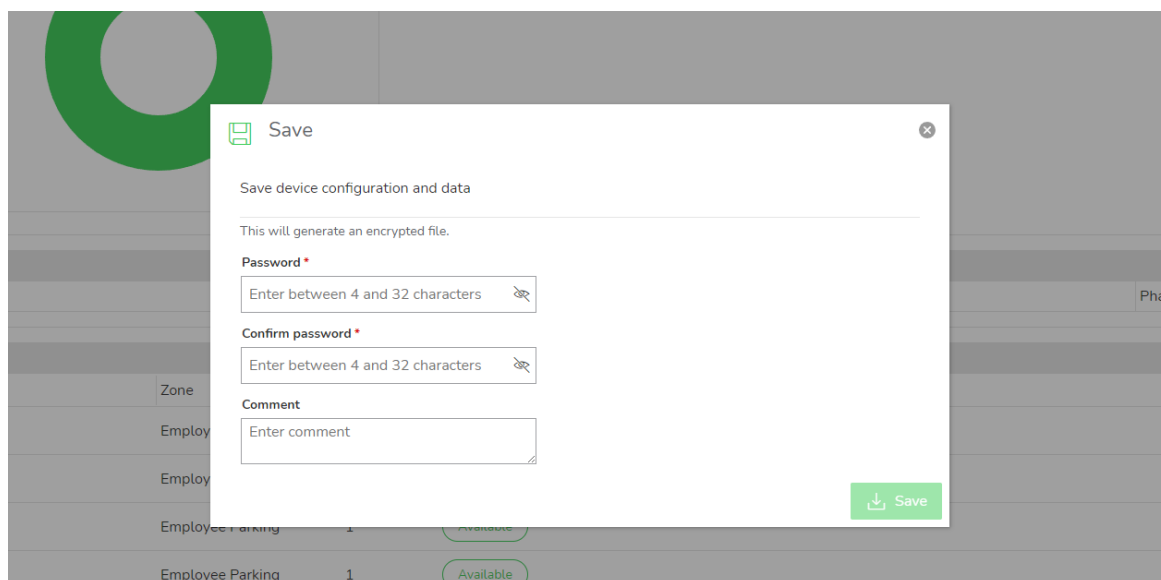
Access by the Admin tab → Save

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:

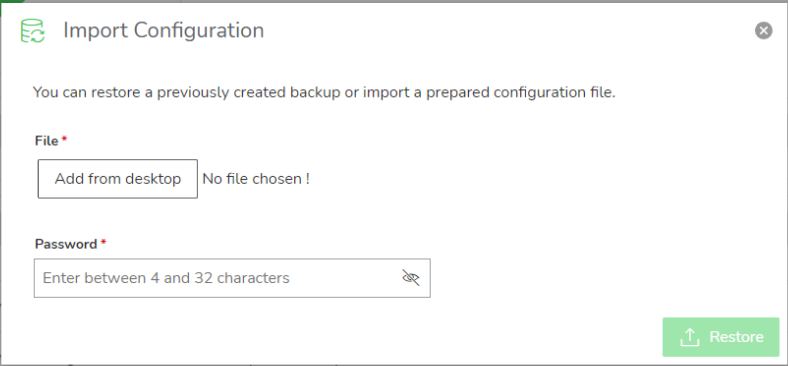
- Admin and user profiles credentials
- Charging stations configuration
- Zones configuration
- Power meters configuration
- Network configuration
- Authentication strategies
- List of RFID cards
- Authentication groups

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.



The image shows a software interface with a modal dialog box titled "Import Configuration". The dialog has a close button in the top right corner. Inside the dialog, there is a message: "You can restore a previously created backup or import a prepared configuration file." Below this, there are two sections. The first is labeled "File *" and contains a button "Add from desktop" and the text "No file chosen !". The second is labeled "Password *" and contains a text input field with the placeholder text "Enter between 4 and 32 characters" and a small icon of a key with a slash. At the bottom right of the dialog is a green button with an upward arrow icon and the text "Restore". In the background, a table is partially visible with columns for "Zone", "Employ", and "Phase". The table has three rows: "Employee Parking" with value "1" and status "Available", "Employee Parking" with value "1" and status "Available", and "Visitor Parking" with value "11" and status "Available".

Import Configuration

You can restore a previously created backup or import a prepared configuration file.

File *

Add from desktop No file chosen !

Password *

Enter between 4 and 32 characters

Restore

Zone	Employ	Phase
Employee Parking	1	Available
Employee Parking	1	Available
Visitor Parking	11	Available

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