

EVlink Load Management System

User Guide

09/2020



EVlink Load Management System is a **Solar Impulse Efficient Solution**.

Find out more here.

<https://solarimpulse.com/efficient-solutions/EVlink-load-management-system>



Legal information

The Schneider Electric brand and any registered trademarks of Schneider Electric Industries SAS referred to in this guide are the sole property of Schneider Electric SA and its subsidiaries. They may not be used for any purpose without the owner's permission, given in writing. This guide and its content are protected, within the meaning of the French intellectual property code (Code de la propriété intellectuelle français, referred to hereafter as "the Code"), under the laws of copyright covering texts, drawings and models, as well as by trademark law. You agree not to reproduce, other than for your own personal, noncommercial use as defined in the Code, all or part of this guide on any medium whatsoever without Schneider Electric's permission, given in writing. You also agree not to establish any hypertext links to this guide or its content. Schneider Electric does not grant any right or license for the personal and noncommercial use of the guide or its content, except for a non-exclusive license to consult it on an "as is" basis, at your own risk. All other rights are reserved.

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.

As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

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 EVlink Load Management System (EVlink LMS).

Introduction

- EVlink LMS 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
- EVlink LMS is compatible with remote supervision from a Charge Point Operator in OCPP 1.6 Json.
- EVlink LMS allows two access profiles:

Admin: Access to all configuration parameters and features, dashboard operation and badges management.

User: Dashboard operation and badges management.

Related documents

Title of documentation	Reference number
EVlink Parking - EVlink Smart Wallbox - EVlink City - Charging station Commissioning Guide (English)	DOCA0060EN
EVlink Parking - EVlink City - EVlink Smart Wallbox - Charging Stations - Troubleshooting Guide (English)	DOCA0117EN
Instructions sheet - EVP2MM - Modem (English, French)	QGH5298301
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 EVlink LMS (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 EVlink Load Management System	9
1.1.1 Overview	9
1.1.2 EVlink LMS communication devices	14
1.1.3 EVlink LMS network architecture	16
1.2 EVlink LMS characteristics	18
1.2.1 General characteristics	18
1.2.2 Environmental characteristics	18
1.2.3 Power supply characteristics	18
1.2.4 Communication modules	19
1.3 Set up of EVlink LMS system environment	20
1.3.1 EVlink LMS installation	20
1.4 Zone definition	22
1.5 Commissioning of remote connection to EVlink LMS	25
1.5.1 Initial condition	25
1.5.2 Example of selection of the modem port:	25
1.5.3 Commissioning of the EVlink modem (EVP3MM)	26
Chapter 2. EVlink LMS COMMISSIONING	30
2.1 Getting started with EVlink LMS	31
2.1.1 Computer configuration	31
2.1.2 Login to the EVlink LMS (Wizard)	31
2.2 EVlink LMS commissioning	33
2.2.1 Firmware update	33
2.2.2 Administration and User password configuration	34
2.2.3 Log in the EVlink LMS	35
2.3 Network configuration	36
2.3.1 Ethernet configuration	36
2.3.2 DHCP server configuration	37
2.4 Power meter configuration	38
2.4.1 Prerequisites	38
2.4.2 Power meter landing page	38
2.4.3 Power meter setting	39
2.5 Zone configuration	41
2.5.1 Prerequisites	41
2.5.2 Zone configuration	41
2.5.3 Zone creation	42
2.5.4 Degraded Mode	42
2.5.5 Zone settings	44
2.6 Remote supervision configuration	45
2.6.1 Remote supervision configuration	45
2.7 Authentication mode configuration	47
2.7.1 Authentication mode with remote supervision	47
2.7.2 Authentication mode without remote supervision	48
2.8 Charging station commissioning	49
2.8.1 Prerequisites	49
2.8.2 Charging station landing page	49
2.8.3 Description	49

2.8.4	Charging station configuration	50
2.9	Load shedding strategy and degraded mode.....	51
2.9.1	Definition	51
2.9.2	Prerequisites	51
2.9.3	Degraded mode configuration page	51
2.10	Badge management	53
2.10.1	Prerequisites	53
2.10.2	Badge management configuration page.....	53
2.10.3	Badge addition	53
2.10.4	Badge file export	54
2.10.5	Badge removal.....	54
2.10.6	Badge update.....	54
Chapter 3.	OPERATION INTERFACE	55
3.1	Login to the EVlink LMS (Webserver)	56
3.2	Menu and status bar.....	56
3.2.1	Bar items.....	56
3.3	Dashboard.....	57
3.3.1	Global view	57
3.3.2	Zone view.....	58
3.3.3	Charging station view	59
3.4	Badge management	60
3.4.1	Prerequisites	60
3.4.2	Badge management configuration page.....	60
3.4.3	Badge addition	60
3.4.4	Badge file export	61
3.4.5	Badge removal.....	61
3.4.6	Badge update.....	61
3.5	Network configuration.....	62
3.5.1	Ethernet configuration.....	62
3.5.2	Proxy configuration	62
3.5.3	DHCP server configuration	62
3.6	Remote supervision configuration	63
3.6.1	Remote supervision configuration	63
3.7	Zone configuration.....	65
3.7.1	Prerequisites	65
3.7.2	Zone landing page	65
3.7.3	Description	66
3.7.4	Degraded mode	66
3.7.5	Zone settings	66
3.7.6	Authentication mode by zone	67
3.8	Power meter configuration	68
3.9	Time-of-use (TOU)	69
3.9.1	Definition	69
3.9.2	Prerequisites	69
3.9.3	Tariff period configuration tab	69
3.9.4	Zone configuration tab	72
3.9.5	Summary tab.....	72
3.9.6	Disable TOU feature	73
3.10	Energy Management through Digital inputs	74
3.10.1	Definition	74
3.10.2	Prerequisites	74
3.10.3	Commissioning	74

3.10.4	Electrical connection	75
3.10.5	Maximum setpoint management	76
3.11	Advanced configuration.....	77
3.11.1	Definition	77
3.11.1	Cybersecurity.....	77
3.11.2	Power meter	77
3.12	User management.....	78
3.12.1	User management landing page	78
3.12.2	Add a user	78
3.12.3	Change the user password.....	79
3.12.4	Delete a user	79
3.13	Charging station commissioning	80
3.13.1	Prerequisites	80
3.13.2	Charging station landing page.....	80
3.13.3	Description.....	80
3.13.4	Update charging station discovery	80
3.13.5	Definition of authentication mode	82
3.14	Load shedding strategy and degraded mode	83
3.14.1	Definition	83
3.14.2	Prerequisites	83
3.14.3	Degraded mode configuration page	83
3.15	Maintenance.....	84
3.15.1	Download the maintenance report.....	84
3.15.2	Read EVlink LMS Logs.....	84
3.16	EVlink LMS firmware update.....	85
3.17	Reboot and back to factory settings.....	86
3.17.1	Reboot and back to factory settings from the webserver	86
3.17.2	Hardware back to factory settings	86
3.18	Save and Restore	87
3.18.1	Save the LMS configuration	87
3.18.2	Restore during system commissioning.....	87
3.18.3	Restore during system operation.....	88
Chapter 4.	EVlink LMS Maintenance	89
4.1	Hardware back to factory settings.....	90
4.1.1	Definition	90
4.1.2	Prerequisites	90
4.1.3	Hardware back to Factory Settings procedure	90
4.2	Regular cleaning and maintenance.....	91
4.2.1	Introduction	91
4.2.2	Cleaning solutions	91

Chapter 1.

SYSTEM ENVIRONMENT

1.1 EVlink Load Management System

1.1.1 Overview

1.1.1.1 Power management functions

The power available for the charging stations will be distributed among the vehicles that are charging.

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

The Load Management System allows the Admin profile to choose between two thresholds (floor values):

- 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 options, the EVlink LMS checks the values every 15 minutes and updates charging rights accordingly

Only the Admin profile can change this parameter.

According to the EVlink LMS reference (only available for commercial references HMIBSCEA53D1ESM, -EDM, -EDL), the EVlink LMS can manage:

- VIP badges, that make it possible for the user to get the maximum available* power at any time no matter the charging station.
- VIP charging stations, that make it possible for any user badge to get the maximum available* power at any time on that specific VIP charging station.

The VIP status (badge or charging station) can be added or deleted with the Admin or User profiles.

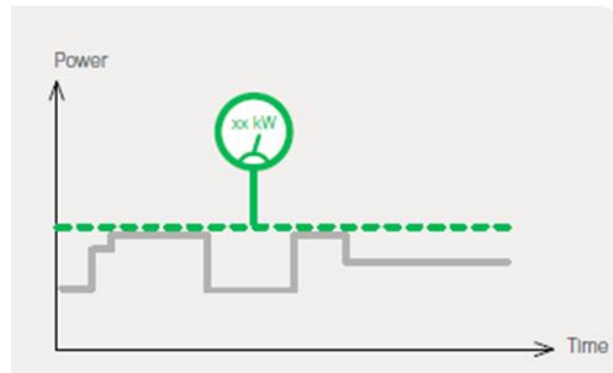
**The maximum available power for VIP status may be lower than the charging station rating depending on the number of VIP charging at the same time.*

1.1.1.2 Power management: two possible implementations

Static mode

The maximum current setpoint for the whole charging infrastructure is a fixed value depending on the subscribed power supply and on the consumed power in the rest of the building. This current is distributed between all connected vehicles to limit the risk of installation tripping.

Consumption profile in static mode:

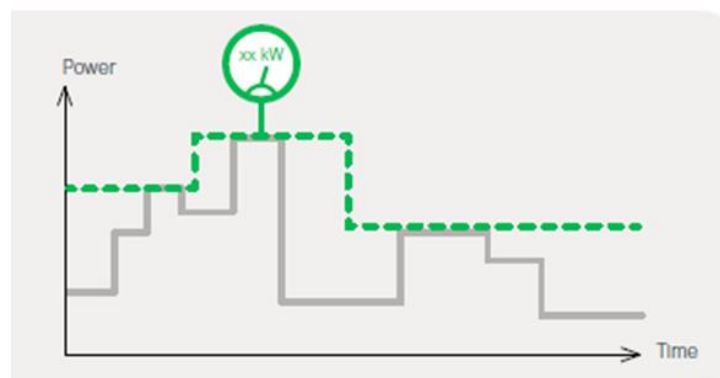


For example, ten 22kVA charging points can be used at the same time with a total consumption not exceeding 100kVA.

Dynamic mode

The maximum current setpoint for the whole charging infrastructure dynamically changes 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:



For example, ten 22kVA charging points can be used at the same time within an installation designed to provide 150kVA for both the building and all the charging stations. Depending on the building consumption, the maximum current setpoint for the whole charging infrastructure can theoretically reach 150kVA.

In dynamic mode, the EVlink LMS must be connected to power meters measuring the consumption of the building and the charging stations.

1.1.1.3 EVlink LMS product range & features

Features / Licenses		STATIC MODE (dynamic load management with STATIC current setpoint)		DYNAMIC & STATIC MODES (dynamic load management with DYNAMIC current setpoint, or STATIC current setpoint)			
		HMIBSCEA53D1ESS	HMIBSCEA53D1FSM	HMIBSCEA53D1EDB	HMIBSCEA53D1EDS	HMIBSCEA53D1EDM	HMIBSCEA53D1EDL
CAPACITY	Number of EVlink charging stations	15	50	5	15	50	100
POWER MANAGEMENT	Dynamic, with a STATIC current setpoint	▬	▬	▬	▬	▬	▬
	Dynamic, with a DYNAMIC current setpoint				▬	▬	▬
	Time of Use		▬		▬	▬	▬
MULTI ZONE	Digital Inputs		▬		▬	▬	▬
	Maximum number of zones	1	10	2	2	10	20
OTHER LOADS	Maximum number of zones levels	1	3	2	2	3	3
	Power consumption reporting on other feeders		▬			▬	▬
BADGE MANAGEMENT	VIP privilege user badge		▬			▬	▬
STATIONS MANAGEMENT	VIP privileged charging station		▬			▬	▬

Note: The maximum number of zones includes zones and sub-zones (refer to [chapter 2.5 Zones configuration](#)).

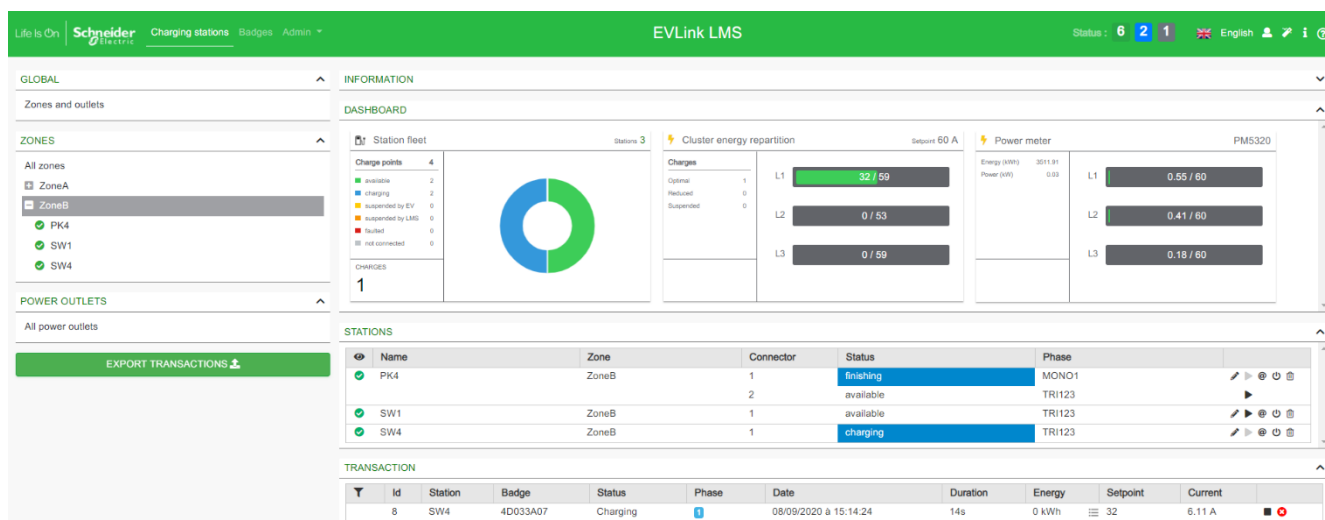
Contact your Schneider Electric sales representative if you wish to upgrade from your current EVlink LMS software license (commercial reference) to a higher version.

1.1.1.4 User profile features

Operate EVlink LMS Dashboard

At a glance the user can:

- See the status of all charging stations or some of them
- Track the power consumption per phase



Remote control of charging station and transactions

Remote start, remote stop, remote force stop, reboot (automatic charging resume), reset (charging stopped), access to maintenance report
 Access through "Station" tab.

Add, remove badges in a list

When the EVlink LMS is set in authentication mode, the following features are available: add, remove, update badges and modify credentials (ex: VIP badges).
 Access through "Badges" page from the dashboard.

Export Charging Data Records (CDR)

On the EVlink LMS Dashboard, the user can see the ongoing charging sessions or all the sessions since the commissioning of the EVlink LMS.

The charging data records can also be exported to 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 transaction” from the dashboard.

1.1.1.5 Admin profile features

In addition to the user profile features, the Admin profile can change the configuration of the charging stations, and upgrade EVlink LMS firmware.

EVlink LMS commissioning

All the parameters are accessible via the Admin page.

The Admin profile sets configuration parameters for:

- Network configuration
- Remote supervision
- Zone operating mode (static or dynamic)
- Current limitation per zone
- Charging stations
- Load-shedding strategy and degraded mode (communication lost)
- Time of use
- Digital inputs

EVlink LMS maintenance

The Admin profile can:

- Update the EVlink LMS firmware
- Operate a “Back to factory”
- Operate a “Save & restore”
- Manage users accounts and passwords
- Download EVlink LMS maintenance report
- Access the Wizard that is used for initial commissioning

1.1.1.6 EVlink Load Management System hardware features

⚠ CAUTION

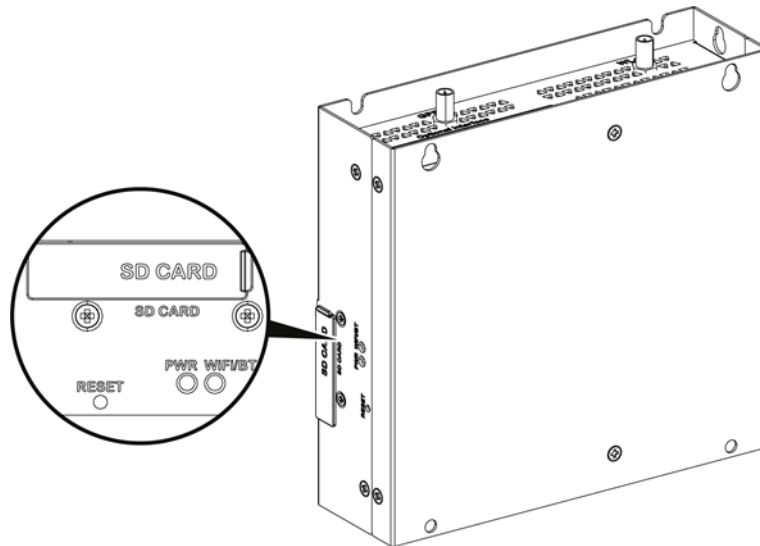
RISK OF BURNS

Do not touch the surface of the heat sink during operation.

During operation, the surface temperature of the heat sink may exceed 70 °C.

Failure to follow these instructions could result in minor or moderate injury

Description

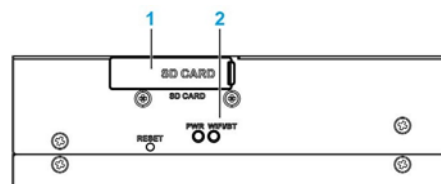


Reset button and LEDs

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	No WiFi/BT data transmission
		On	Data transmission

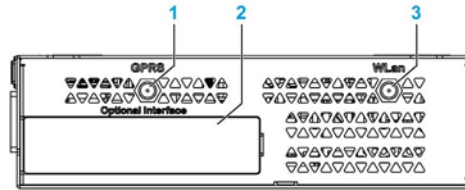
Front view



1 - SD card socket (SD card not delivered with the EVlink LMS)

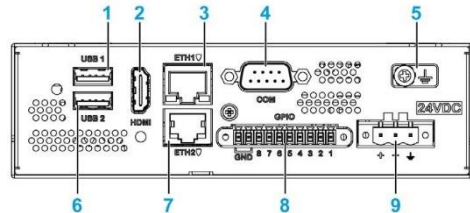
2- LEDs and reset button

Top view



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

Bottom view



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

1.1.2 EVlink LMS communication devices

1.1.2.1 EVlink charging stations

EVLINK CHARGING STATIONS COMPATIBILITY

SMART
WALLBOX

PARKING

DC FAST
CHARGE

For AC charging stations, the EVlink LMS is compatible with the **v3.2.0.0.12** firmware release or higher. See DOCA0060 “EVlink Charging Stations commissioning guide” to learn how to check the firmware release of the charging stations and update it.

For DC FAST CHARGE 24 kW stations, the EVlink LMS is compatible with mono and bi-conductor stations on **v22PRO017362 V013** firmware release or higher. Please contact your local Schneider Electric representative if you want to configure a DC FAST CHARGE station.






Latest releases are available on se.com/download.

For previous releases, contact Schneider Electric Customer Care Center.

1.1.2.2 Power meters

Note: power metering is only required when the EVlink LMS is used in dynamic mode.

The table below lists the power meters compatible with the EVlink LMS.

Name	Pole description	Input type	Connection to EVlink LMS
<p>A9MEM3250 (Link 150 + Acti 9 iEM3000)</p> 	1P + N / 3P / 3P + N	<p>External CT: 1 A or 5 A</p> <p>CT: Current Transformer</p>	See § 3.2.5 Power meter connection
<p>METSEPM5320 (PowerLogic PM5000)</p> 	1P + N / 3P / 3P + N		On the same network where the EVlink LMS is connected
<p>A9XMWA20 (Smartlink SI D + Power Tags)</p> 	1P + N / 3P / 3P + N	<p>Wireless energy sensor PowerTag up to 630 A</p>	On the same network where the EVlink LMS is connected
<p>Compact NSX circuit breaker with embedded metering (with Enerlin'X IFE gateway)</p> 	3P / 4P	Modbus TCP	On the same network where the EVlink LMS is connected
<p>Masterpact MTZ circuit breaker with embedded metering (with embedded Enerlin'X EIFE module)</p> 	3P / 4P	Modbus TCP	On the same network where the EVlink LMS is connected

1.1.2.2.1 Modbus registers tables

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

Power meter model	“PM5320, IEM3x5x, Power tag”
Register @	Description
3000	Intensity Ph1
3002	Intensity Ph2
3004	Intensity Ph3
3060	power Total Active
3204	energyDeliveredActive

Power meter model	“NSX legacy”
Register @	Description
12016	Intensity Ph1
12017	Intensity Ph2
12018	Intensity Ph3
12041	power Total Active
12050	energyDeliveredActive


Power meter model	“NSX”
Register @	Description
1016	Intensity Ph1
1017	Intensity Ph2
1018	Intensity Ph3
1037	power Total Active
2000	energyDeliveredActive

Power meter model	“MTZ”
Register @	Description
32028	Intensity Ph1
32030	Intensity Ph2
32032	Intensity Ph3
32078	power Total Active
32096	energyDeliveredActive

Other power meters than those listed on the table on chapter 1.1.2.2 are compatible with EVlink LMS as well, as long as they match one of the four lists of ModBus registers detailed here above. 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 2.4 Power Meters commissioning](#) for more information.

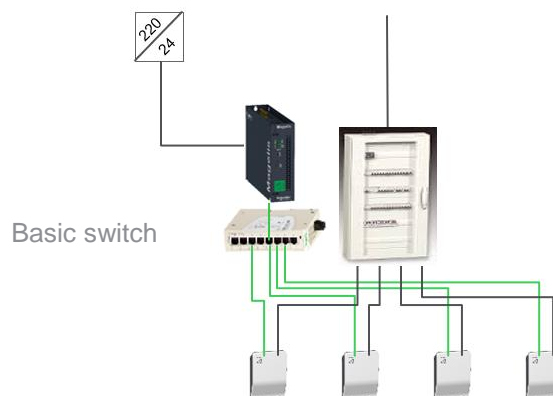
1.1.2.3 Modem

Name	Description	Connection to EVlink LMS
 EVP3MM	3G/4G	On the same network where the EVlink LMS is connected

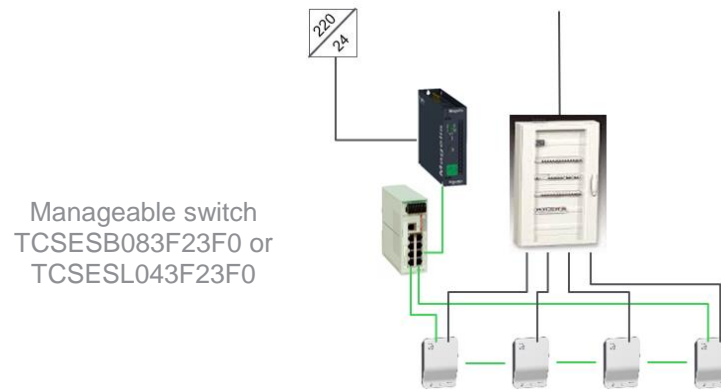
Note: Other modems could be used (router function is required).

1.1.3 EVlink LMS network architecture

1.1.3.1 Star topology

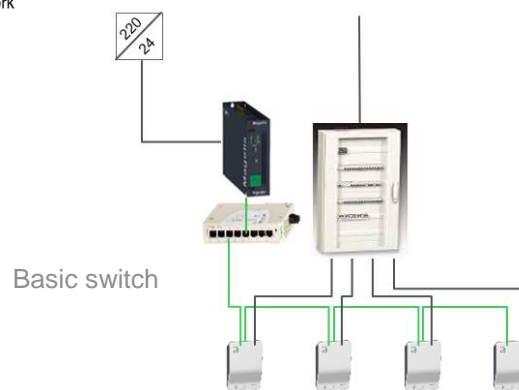


1.1.3.2 Ring topology



1.1.3.3 Daisy chain topology

— Ethernet network
— Power supply



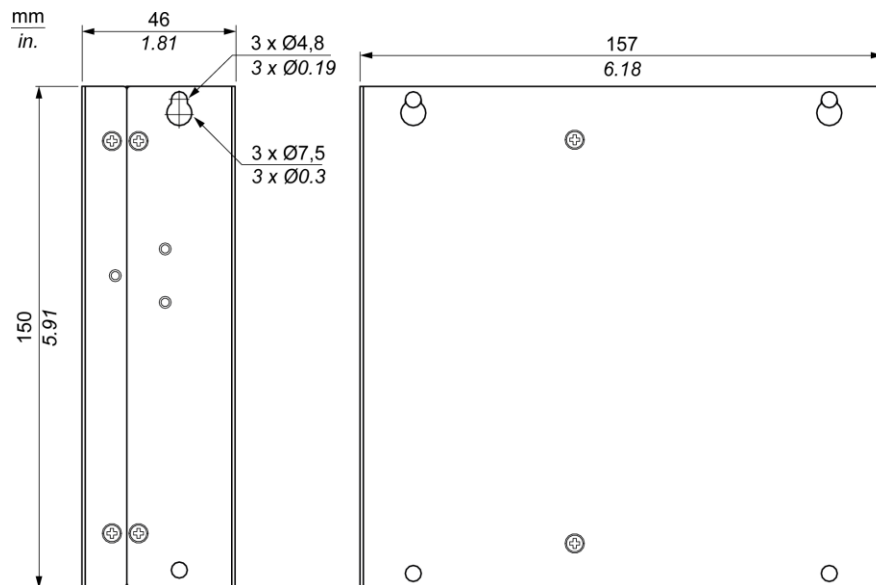
This topology is not recommended as it does not ensure optimum continuity of service

1.2 EVlink LMS characteristics

1.2.1 General characteristics

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

1.2.1.1 Dimensions



1.2.2 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

1.2.3 Power supply characteristics

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

1.2.4 Communication modules

1.2.4.1 USB interface

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

1.2.4.2 Ethernet interface

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

1.3 Set up of EVlink LMS system environment

1.3.1 EVlink LMS installation

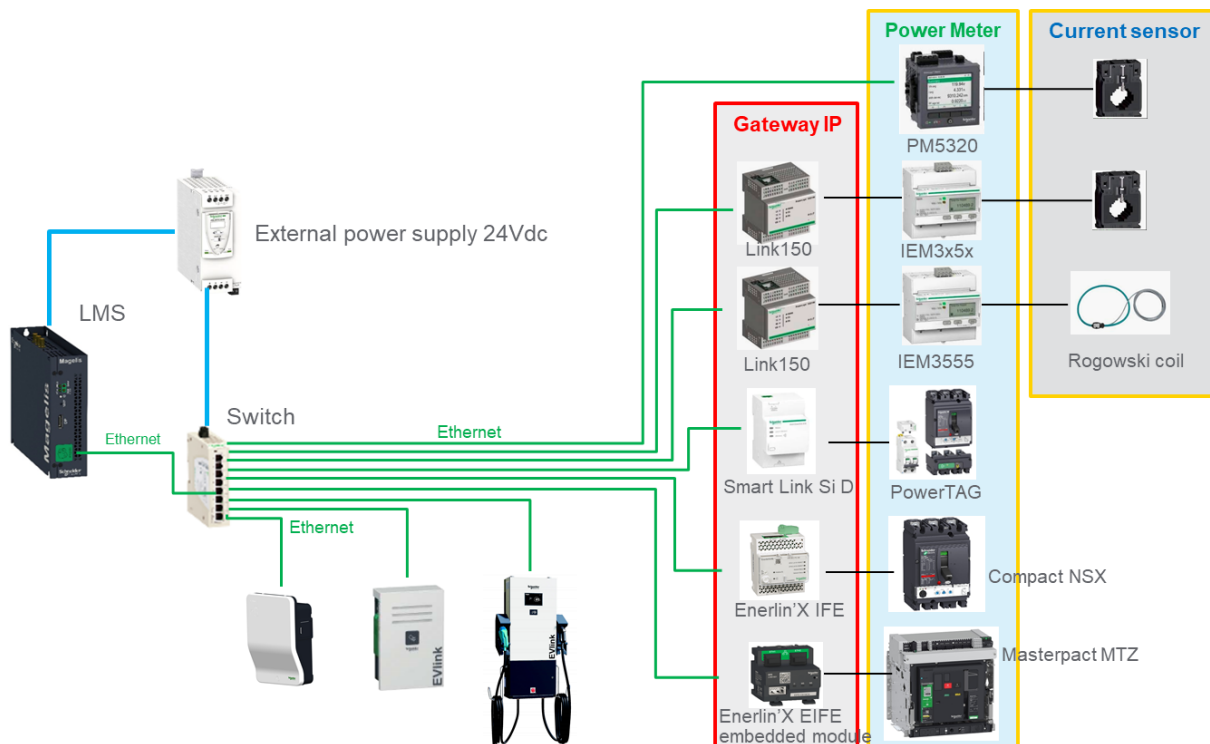
See DOCA0164EN-02 “EVlink LMS installation guide” available on the EVlink LMS packaging and on se.com/download

1.3.1.1 Ethernet connection: charging station connection

EVlink LMS is connected to the charging station network through Ethernet connector ETH1 (**do not use ETH2**).

Use an Ethernet straight cable between EVlink LMS and the charging station Ethernet network.

1.3.1.2 Power meter connection



Gateways and power meters must be set correctly before starting the EVlink LMS commissioning. Please check the relevant documentation to perform this step.

Note: power metering is only required when the EVlink LMS is used in dynamic load management mode.

Link: commercial reference EGX150

User Guide document reference available on se.com :

- EN → DOCA0110EN
- FR → DOCA0110FR

Acti9 PowerTag Link (Acti 9 Smartlink): commercial reference A9XMWA20

User Guide document reference available on se.com :

- EN → DOCA0157EN
- FR → DOCA0157FR

PM5320: commercial reference METSEPM5320

User Guide document reference available on se.com :

- EN → EAV15107-EN
- FR → EAV15107-FR

Acti 9 IEM3X5X: commercial reference A9MEM3X5X

User Guide document reference available on se.com :

- EN → DOCA0005EN
- FR → DOCA0005FR

PowerTag A9MEM15XX

User Guide document reference available on se.com :

- EN → DOCA0157EN
- FR → DOCA0157FR

PowerTag A9MEM15XX & Acti 9 IEM3X5X: refer to Schneider Electric catalog to select the right reference

Enerlin'X IFE LV434002:

User Guide document reference available on se.com :

- EN → DOCA0084EN
- FR → DOCA0084FR

Enerlin'X EIFE LV851001:

User Guide document reference available on se.com :

- EN → DOCA0106EN
- FR → DOCA0106FR

1.4 Zone definition

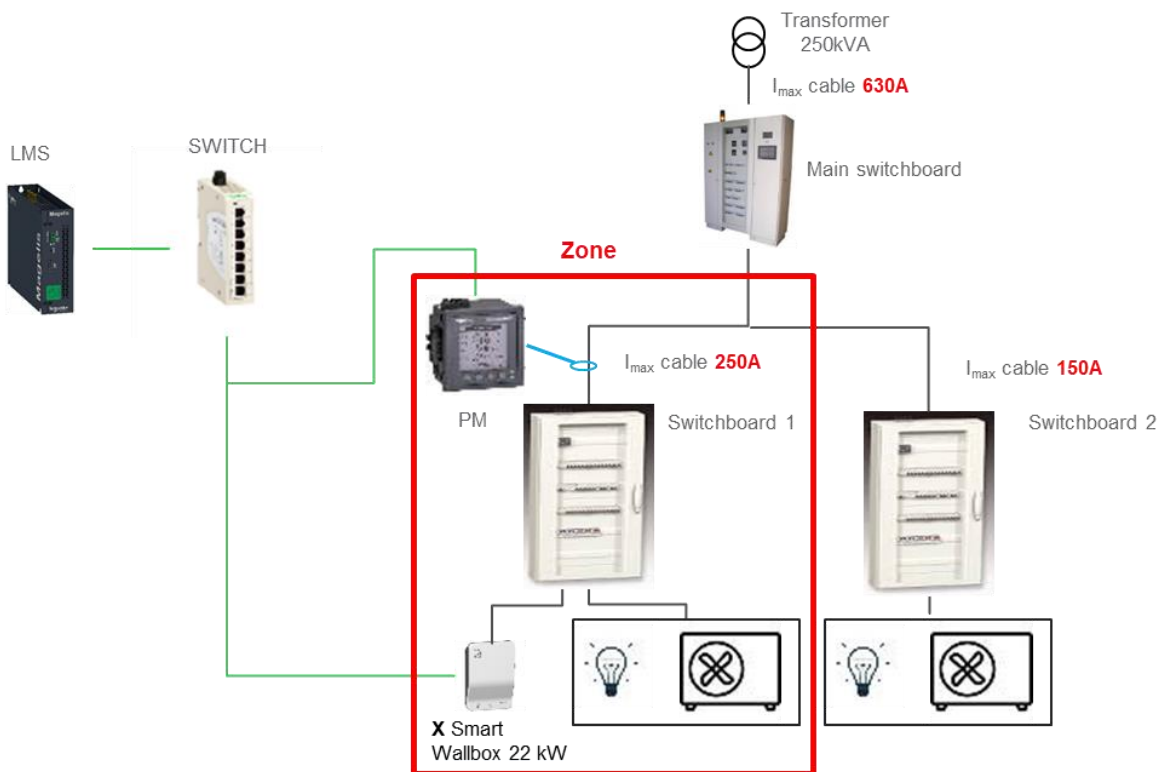
A zone is made of one switchboard:

- 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 power of all sub-zones must be at least equal to the maximum power that can be delivered by the upper zone switchboard. Three levels of sub-zones are possible.

The maximum number of zones and sub-zones depends on the EVlink LMS reference (see features table on [chapter 1.1.1.3](#)).

Example #1: one single zone

In this example, the main switchboard can supply both switchboards at the maximum power. 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 power.



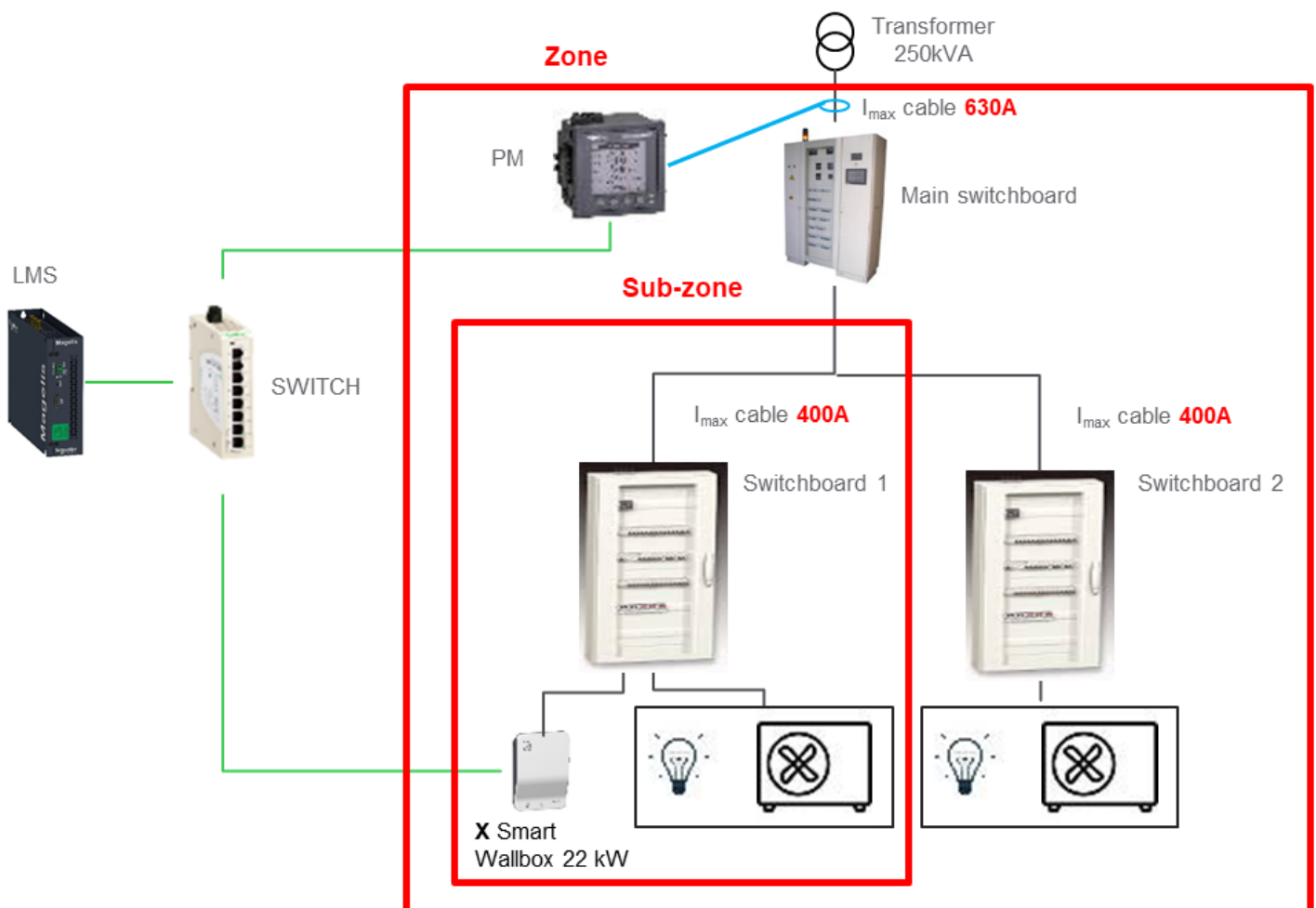
Example #2: one zone with one sub-zone

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

The power available to charging stations will depend on:

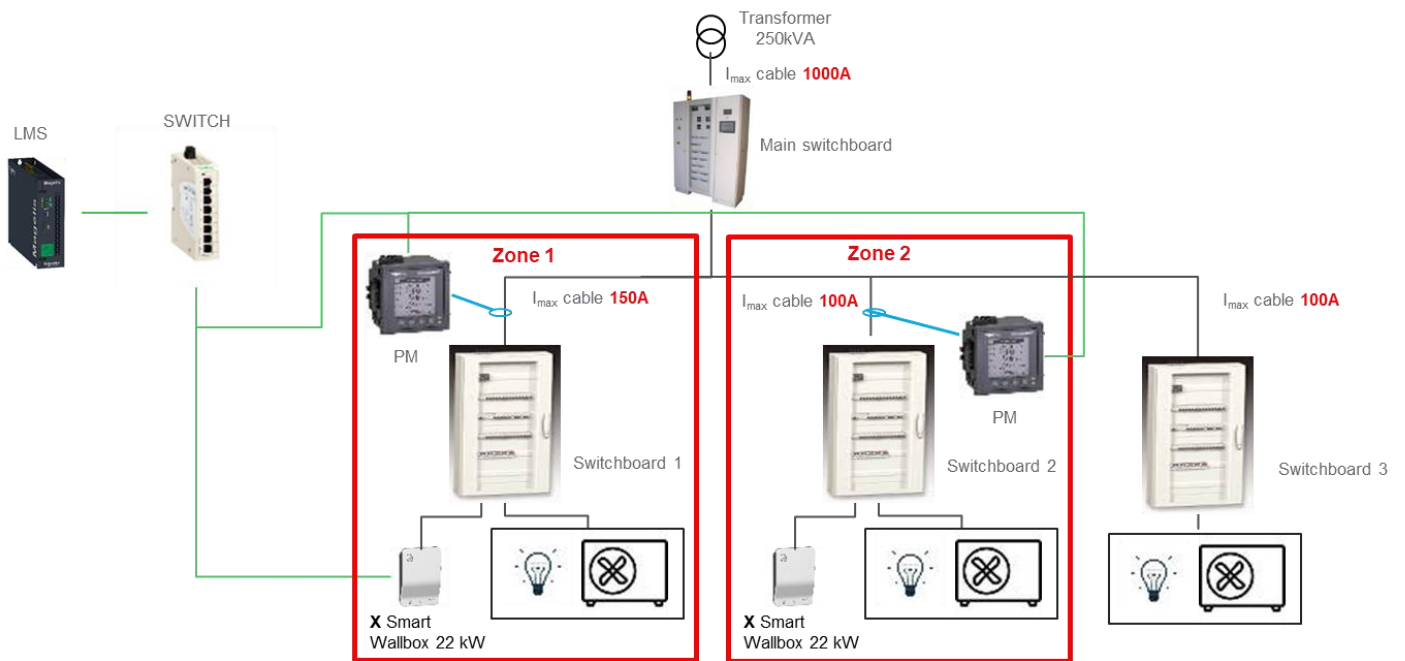
- the total consumption of other electrical loads supplied by switchboards 1 and 2 due to the current limitation of the main switchboard (630 A),
- on the consumption of other electrical loads supplied by switchboard 1 due to its current limitation (400 A)

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 both switchboards 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.



1.5 Commissioning of remote connection to EVlink LMS

Please go to [chapter 2 EVlink LMS COMMISSIONING](#) if you do not plan to access the EVlink LMS remotely.

1.5.1 Initial condition

Connect to the modem via your web browser.

1.5.1.1 IP Address:

EVlink LMS IP (default address): 192.168.0.128

Modem IP (default address): 192.168.0.254

Sim card IP (example): 193.192.200.10

1.5.1.2 Prerequisites:

Cellular configuration must be done (see NNZ2678201-01 "Instruction sheet for EVP3MM Modem")

1.5.2 Example of selection of the modem port:

Default EVlink LMS IP 192.168.0.128

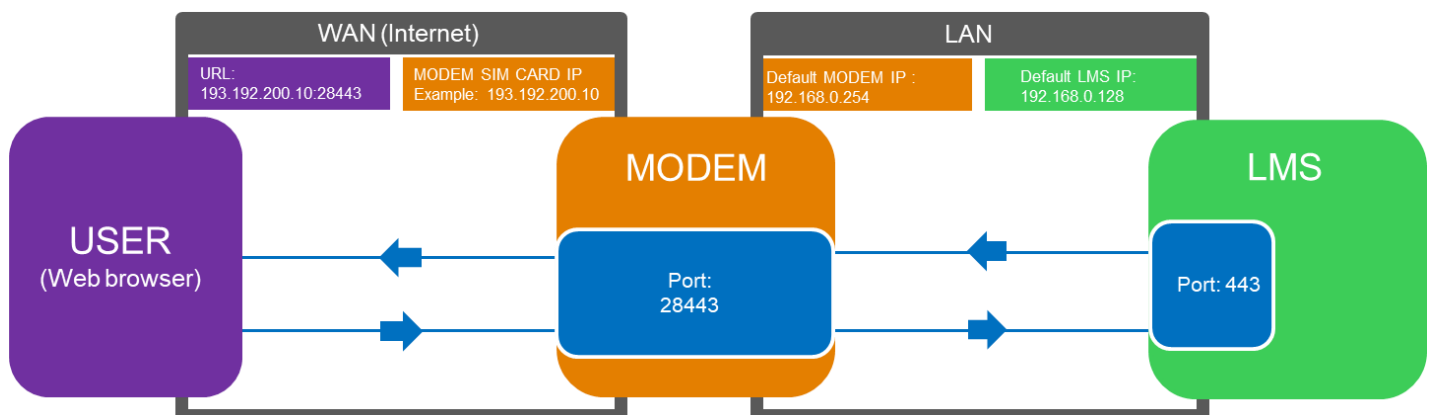
EVlink LMS port (Port to access to the EVlink LMS dashboard): 443

Select the last two digits of the EVlink LMS IP address (28) and concatenate it to the EVlink LMS port (443)

Result: Modem Port = 28443

NOTE: the port number cannot exceed 65535

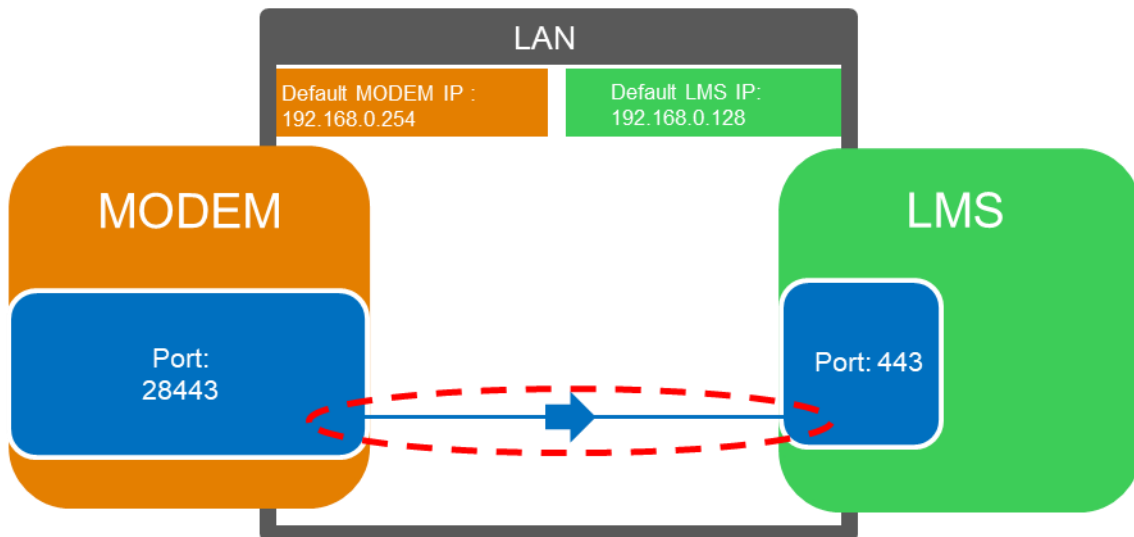
Network schematic of the EVlink LMS remote connection



WAN: Wide Area Network
LAN: Local Area Network

1.5.3 Commissioning of the EVlink modem (EVP3MM)

1.5.3.1 Configuration of the downstream communication channel



- 1/ Go to settings tab
- 2/ Check the status of the configuration
The button must indicate "Advanced". If it is not the case, click the button.
- 3/ Click "add rule"

Schneider Electric mPower™ Edge Intelligence rCell - Intelligent Cellular Router
MTRLEU7 Firmware 5.1.3

Home
Save And Restart
Setup
Cellular **1**
Firewall
Settings
Trusted IP
Static Routes
SMS
Tunnels
Administration
Status & Logs
Commands
Apps
Help

FIREWALL SETTINGS **2** **Advanced**

Port Forwarding **3** **Add Rule**

Name	WAN Ports	Destination	Protocol	Options
<input type="checkbox"/> Forward commissionin...	80	192.168.0.102:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP	8080	192.168.0.102:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	81	192.168.0.104:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 104	8081	192.168.0.104:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	82	192.168.0.106:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 106	8082	192.168.0.106:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	83	192.168.0.108:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 108	8083	192.168.0.108:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	84	192.168.0.110:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 110	8084	192.168.0.110:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	85	192.168.0.112:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 112	8085	192.168.0.112:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	86	192.168.0.114:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 114	8086	192.168.0.114:8080	TCP/UDP	^ v ✕
<input type="checkbox"/> Forward commissionin...	87	192.168.0.116:80	TCP/UDP	^ v ✕
<input checked="" type="checkbox"/> Forward OCPP SOAP 116	8087	192.168.0.116:8080	TCP/UDP	^ v ✕

The Inbound Forwarding Rule window appears

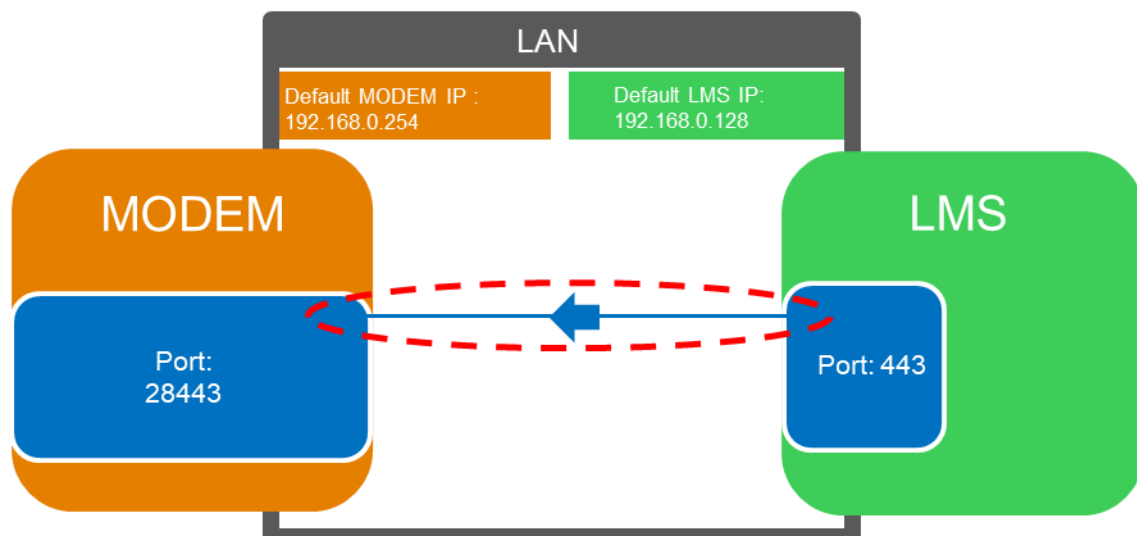
4/ Insert the following parameters:

- Name: Indicate a name for the connection (example: Remote connection)
- WAN Port(s) (Port selected previously): 28443
- Destination LAN IP (EVlink LMS IP): 192.168.0.128
- Destination LAN Port (Port to access the EVlink LMS dashboard): 443

5/ Then click the Submit button

The screenshot shows the 'FIREWALL RULE CONFIGURATION' window in the Schneider Electric mPower Edge Intelligence rCell interface. The window is titled 'FIREWALL RULE CONFIGURATION' and contains an 'Inbound Forwarding Rule' section. The 'External WAN Port(s)' is set to 28443, and the 'Destination LAN Port(s)' is set to 443. The 'Destination LAN IP' is set to 192.168.0.128. The 'Protocol' is set to TCP/UDP. The 'Inbound Filter Rule' section shows 'External Source IP' as ANY and 'External Source Ports' as ANY. The 'Submit' button is highlighted with a red box.

1.5.3.3 Configuration of the upstream communication channel



6/ Click Advanced to switch the status of the configuration to Advanced (The button should indicate Normal)

The screenshot shows the 'FIREWALL SETTINGS' page. On the right side, there is a blue button labeled 'Normal' which is highlighted with a red rectangular box. The main content area displays a table of 'Prerouting Rules' with columns for Name, Source, Destination, Protocol, NAT IP, and Options. Several rules are checked, including 'Forward OCPP S...' for various destination ports.

7/ Click "Add SNAT Rule" (scroll down to find the button)

The screenshot shows two sections: 'Output Filter Rules' and 'Postrouting Rules'. Both sections have a table with columns for Name, Source, Destination, Protocol, Target, and Options. The 'Postrouting Rules' section has a red box around the 'Add SNAT Rule' button in the top right corner. The tables currently show 'No rules yet'.

The Postrouting Rule window appears.

8/ Insert the following parameters:

- Name: Indicate a name for the connection (example: Remote connection)
- Destination LAN IP (EVlink LMS IP): 192.168.0.128
- Destination LAN Port (Port to accede to the EVlink LMS dashboard): 443
- NAT IP (Modem IP): 192.168.0.254

9/ Then click Submit.

Schneider Electric mPower™ Edge Intelligence rCell - Intelligent Cellular Router
MTR-LEU7 Firmware 5.1.3

Home
Save And Restart
Setup
Cellular
Firewall
Settings
Trusted IP
Static Routes
SMS
Tunnels
Administration
Status & Logs
Commands
Apps
Help

FIREWALL RULE CONFIGURATION

Postrouting Rule (SNAT)

Name: Description:

Destination Settings

Destination IP: Destination Port:

Destination Mask: Destination Interface:

Source Settings

Source IP: Source Mask:

Source Port:

Source Interface:

General Configuration

Protocol: NAT IP:

Target: NAT Port:

Then click on the button “Save and restart” to finish the configuration.

Schneider Electric mPower™ Edge Intelligence rCell - Intelligent Cellular Router
MTR-LEU7 Firmware 5.1.3

Home
Save And Restart
Setup
Cellular
Firewall
Settings
Trusted IP
Static Routes
SMS
Tunnels
Administration
Status & Logs
Commands
Apps
Help

FIREWALL SETTINGS

Normal

Preouting Rules Add DNAT Rule

Name	Source	Destination	Protocol	NAT IP	Options
<input type="checkbox"/> Forward commis...	WAN	80	TCP/UDP	192.168.0.102:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8080	TCP/UDP	192.168.0.102:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	81	TCP/UDP	192.168.0.104:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8081	TCP/UDP	192.168.0.104:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	82	TCP/UDP	192.168.0.106:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8082	TCP/UDP	192.168.0.106:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	83	TCP/UDP	192.168.0.108:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8083	TCP/UDP	192.168.0.108:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	84	TCP/UDP	192.168.0.110:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8084	TCP/UDP	192.168.0.110:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	85	TCP/UDP	192.168.0.112:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8085	TCP/UDP	192.168.0.112:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	86	TCP/UDP	192.168.0.114:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8086	TCP/UDP	192.168.0.114:8080	^ v ✎ 🗑
<input type="checkbox"/> Forward commis...	WAN	87	TCP/UDP	192.168.0.116:80	^ v ✎ 🗑
<input checked="" type="checkbox"/> Forward OCPP S...	WAN	8087	TCP/UDP	192.168.0.116:8080	^ v ✎ 🗑

Input Filter Rules Add Rule

Thanks to this operation, the USER will be able to access the EVlink LMS dashboard through 193.192.200.10:28443

Chapter 2.

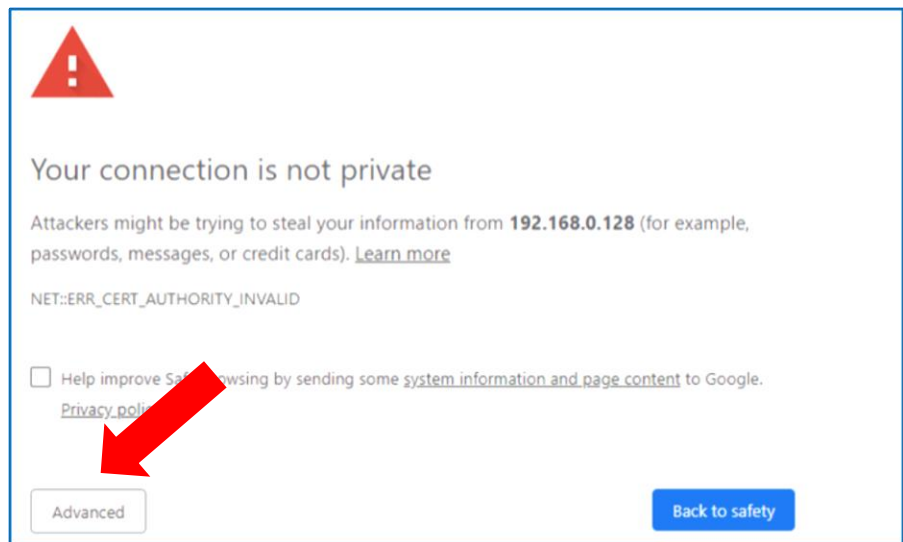
EVlink LMS COMMISSIONNING

2.1 Getting started with EVlink LMS

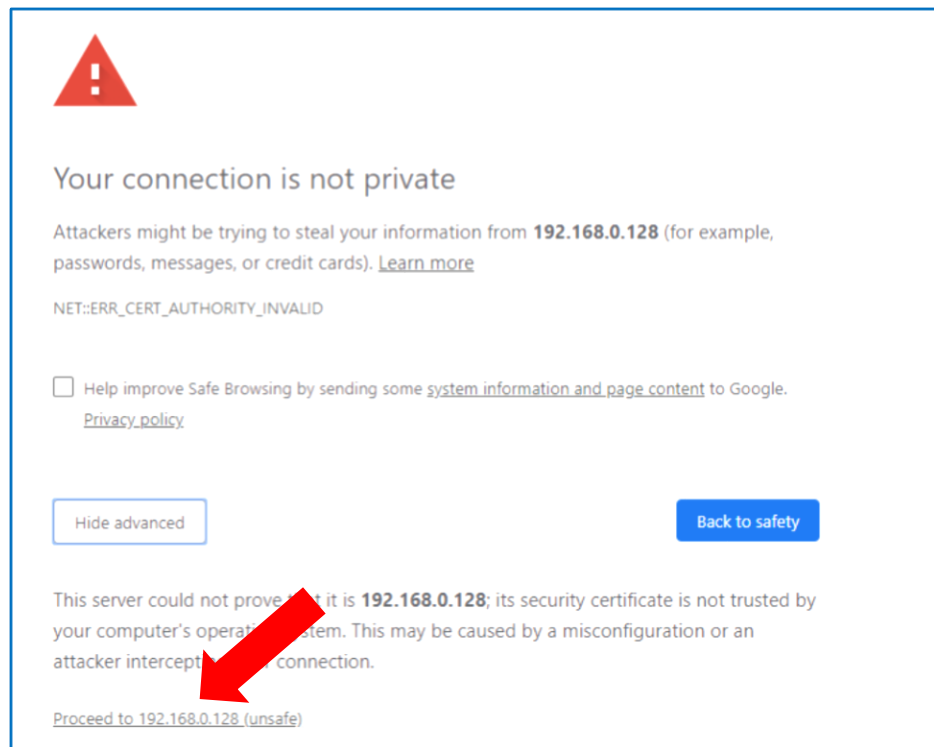
2.1.1 Computer configuration

Step	Action
1	Connect your computer to the EVlink LMS Ethernet network
2	Open the local network properties menu of 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

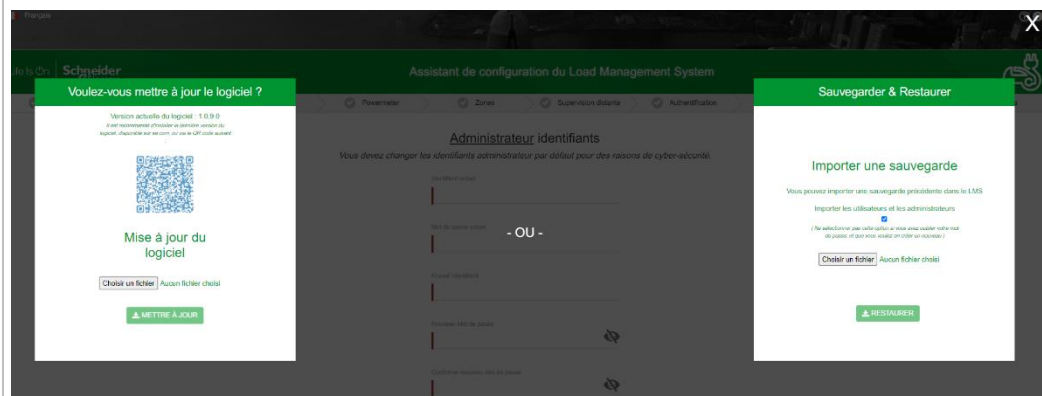
2.1.2 Login to the EVlink LMS (Wizard)

Step	Action
1	<p>Open a web browser and type 192.168.0.128 in the URL field</p> <p>If the EVlink LMS IP has been changed, you may not know its IP address. To have access to the product, you can use your computer to detect the EVlink LMS on the network. On Windows, open the Windows Explorer and click the network icon (scroll down on the left menu). After a short loading time, the EVlink LMS available on the network are displayed, named according to their reference. You can double-click on the EVlink LMS icon to open its commissioning tool.</p> <p>NOTE: Only Google Chrome web browser is compatible (72.0.3626.121 or upper)</p> <p>A security warning may be displayed: click on “Advanced” button if this occurs (see capture below)</p> <div data-bbox="529 1171 1436 1711" style="border: 1px solid blue; padding: 10px; margin: 10px 0;">  </div>

Then click on "Proceed to @ ..."



- 2 If needed Update the firmware (more details on [chapter 2.2.1](#)) or Restore the EVlink LMS (more details on [chapter 3.18.2](#)).



If not, click on the "X" to close the window.

- 3 Log in with credentials as below:

Login: admin

Password: ADMIN



2.2 EVlink LMS commissioning

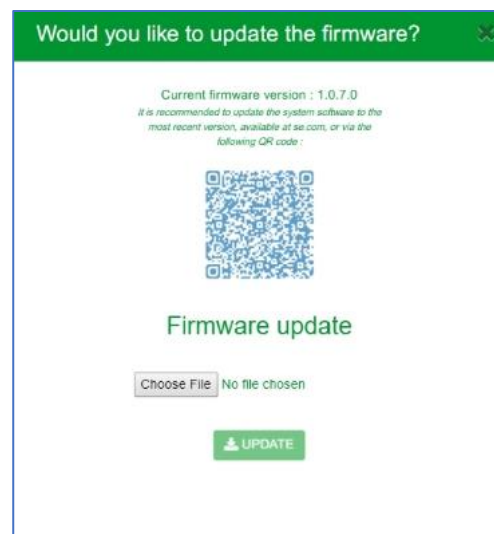
During the first commissioning, a configuration assistant (wizard) will guide the installer to set the EVlink LMS. If you have already done the first commissioning, please go to [chapter 3 OPERATION INTERFACE](#).



Note: During EVlink LMS commissioning or re-commissioning, current charging sessions ongoing on chargers in the network will be interrupted, since chargers will need to reboot.

2.2.1 Firmware update

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. A QR code is provided on screen to the webpage on se.com where the latest firmware release is available. If the firmware version is already the most recent one available, click on the top right cross to close the window.



For current firmware versions equal or lower than 1.0.6.3, the QR code will not be shown on screen. In that case, please look for the latest firmware release on se.com, or use the following QR code or URL address:



<https://www.schneider-electric.com/en/product-range-download/62159-EVlink-load-management-system/?parent-category-id=1800&parent-subcategory-id=1840&filter=business-5-residential-and-small-business#/software-firmware-tab>

During the firmware update process the EVlink LMS will lose connection. A message will be shown on-screen for that. That is the normal behavior. Please wait a few seconds for the connection to be reestablished, or else refresh your browser.

2.2.2 Administration and User password configuration

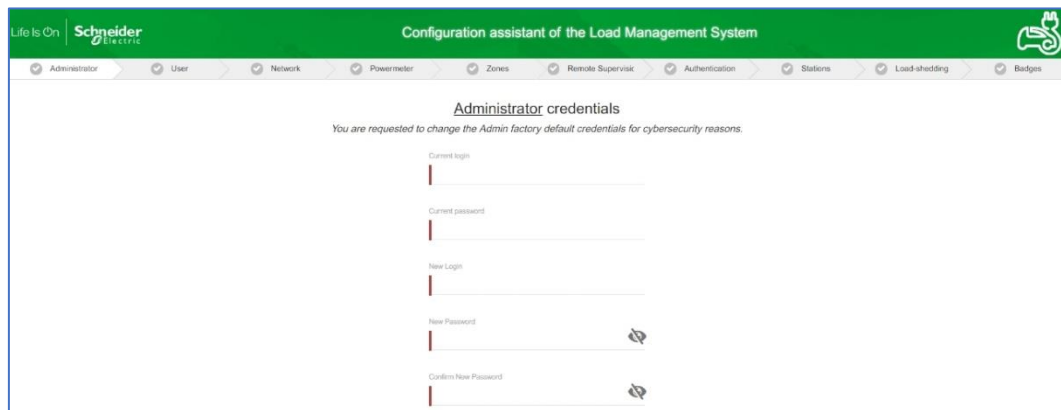
In EVlink LMS there are two different user profiles:

Admin: Access to all configuration parameters and features, dashboard operation and badge management.

User: Dashboard operation and badge management.

On the credentials step, the installer is asked to create an Administration profile and a User profile.

2.2.2.1 Administration profile creation



The screenshot shows the 'Configuration assistant of the Load Management System' interface. The top navigation bar includes tabs for Administrator, User, Network, Powermeter, Zones, Remote Supervision, Authentication, Stators, Load-shedding, and Badges. The current step is 'Administrator credentials', with a sub-header 'Administrator credentials' and a note: 'You are requested to change the Admin factory default credentials for cybersecurity reasons.' The form contains five input fields: 'Current login', 'Current password', 'New Login', 'New Password', and 'Confirm New Password'. The 'New Password' and 'Confirm New Password' fields have a strength indicator icon to their right.

The installer is asked to set new administrator credentials.

The passwords must have at least 8 characters, including at least 1 upper-case letter, 1 lower-case letter, 1 number and 1 special character (!, #, @, -, etc.).

The login cannot be "Admin".

2.2.2.2 User profile creation

The installer is asked to set new user credentials.

The passwords must have at least 8 characters, including at least 1 upper-case letter, 1 lower-case letter, 1 number and 1 special character (!, #, @, -, etc.).

Once the new user profile is created, the option to abandon the configuration assistant is enabled by means of an exit arrow symbol on the top right area of the screen.



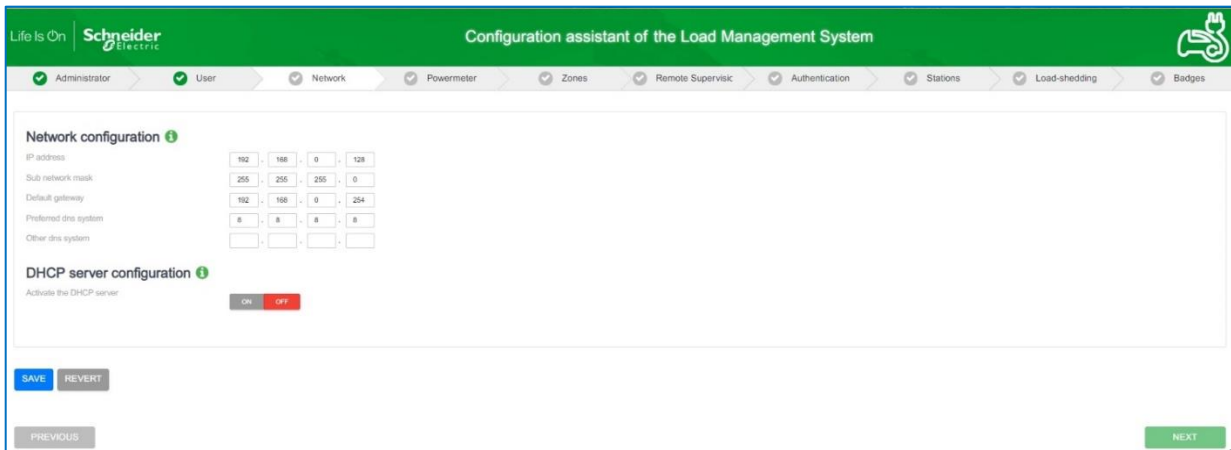
2.2.3 Log in the EVlink LMS

On the configuration assistant, at different steps during the commissioning, the installer is asked to restart the EVlink LMS. At restart, after creation of administration and user account, the EVlink LMS requires to log in to continue the Wizard.

Login with Administrator credentials to have the right to continue the Wizard.

2.3 Network configuration

2.3.1 Ethernet configuration



Gateway: A network gateway connects two networks so the devices on one network can communicate with the devices on another network.

DNS: Domain Name System is the naming system for computers and devices connected to a Local Area Network (LAN) or the Internet.

Fields	Access rights		Factory setting	Description
	Admin	User		
IP address	R/W	NA	192.168.0.128	EVlink LMS IP address
Network mask	R/W	NA	255.255.255.0	EVlink LMS sub-network mask
Default gateway	R/W	NA	192.168.0.254	Gateway IP address (1)
Preferred DNS system	R/W	NA	8.8.8.8	Preferred DNS server IP address (2)
Other DNS system	R/W	NA		Other DNS server IP address (2)

R/W: Read/Write - NA: Not Available

- (1) Address of the modem used for the connection to the supervision, if any.
- (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. Avoid the use of "50" as the last octet on charging stations IP addresses (that is, X.Y.Z.50 is forbidden).



Note: If the EVLMS sub-network (**192.168.0.128**) is changed, the sub-network of the computer must also be changed after the reboot of the EVLMS.

2.3.2 DHCP server configuration

DHCP server configuration i

Activate the DHCP server
 ON OFF

Address range i

192 . 168 . 0 . 200

192 . 168 . 0 . 210

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.

EVlink LMS can be configured to act as a DHCP server to assign IP addresses to charging stations in the defined range, provided that they are configured to support this feature.

Settings	Access rights		Factory setting	Description
	Admin	User		
DHCP range high	R/W	NA	192.168.0.250	DHCP range high IP address limit
DHCP range low	R/W	NA	192.168.0.200	DHCP range low IP address limit

R/W: Read/Write - NA: Not Available



Note: Restrictions on charging stations IP addresses:

- Avoid the use of "50" as the last octet on charging stations IP addresses (that is, X.Y.Z.50 is forbidden)
- Avoid the use of sub-network addresses +0, +1, +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, 192.168.0.1, 192.168.0.254 and 192.168.0.255.



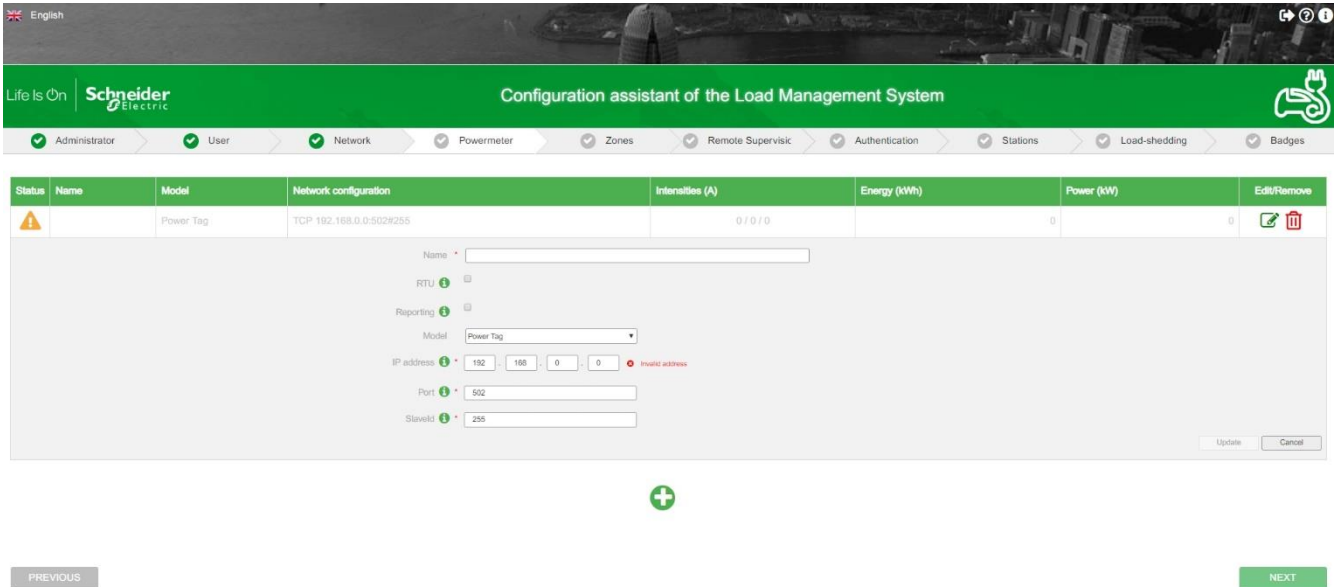
Note: Check with the building IT manager if the DHCP is already activated on the same network as the EVLMS. If yes, do not activate DHCP on the EVLMS.

2.4 Power meter configuration

2.4.1 Prerequisites

Reminder: Power meters are only required in EVlink LMS dynamic mode. Their Ethernet connection must be configured (See [chapter 1.3.1.2 Power meter connection](#)) regardless of the EVlink LMS and prior to the EVlink LMS commissioning

2.4.2 Power meter landing page



Icons	Access rights		Description
	Admin	User	
	Yes	No	Add a new power meter
	Yes	No	Update the power meter parameters
	Yes	No	Remove the power meter
	Yes	No	Power meter correctly connected
	Yes	No	Power meter not connected
	Yes	No	Connection not established with the power meter (EVlink LMS reboot may be need)

2.4.3 Power meter setting

Description

RTU and TCP are both communication protocols used by Schneider Electric power meters. If the RTU check box is not selected, it means that the communication is TCP. In such cases, please follow instructions in the table below to create the power meter in the EVlink LMS.

The screenshot shows a configuration form for a power meter. A red arrow points to the 'Name' field. Below it is the 'RTU' checkbox, which is currently unchecked. There are also 'Reporting' and 'Model' fields. The 'IP address' field consists of four boxes containing '192', '168', '0', and '0', with a red error message 'Invalid address' next to it. The 'Port' field contains '502' and the 'SlaveId' field contains '255'.

Settings	Access rights		Range	Factory setting	Fields to enter per protocol and per settings		Description
	Admin	User			RTU	TCP	
Name	R/W	NA			X	X	Power meter name (Please select an unambiguous name, where the power meter is located example: main switchboard power meter)
Protocol	R/W	NA	TCP	X		X	Power meter communication protocol
			RTU		X		
Reporting (1)	R/W	NA	No	X	X	X	Select this option when Power meter is used to register consumption of electrical loads other than charging stations
			Yes		X	X	
Model	R/W	NA	IEM3x5x		X	X	Power meter model.
			PM5320		X	X	
			PowerTag		X	X	
			NSX / NSX Legacy (3)			X	
			Masterpact MTZ			X	
IP address (2)	R/W	NA				X	Power meter IP address: Avoid the use of "50" as the last octet on charging stations IP addresses (that is, X.Y.Z.50 is forbidden). Indicate the parameters that have been configured during the commissioning of the power meter (see chapter 1.3.1.2 Power meter connection)

Settings	Access rights		Range	Factory setting	Fields to enter per protocol and per settings		Description
	Admin	User			RTU	TCP	
Port (2)	R/W	NA		502	X	X	Power meter TCP port: Indicate the parameters that have been configured during the commissioning of the power meter (see chapter 1.3.1.2 Power meter connection)
Slave Id	R/W	NA	1 - 255	255	X	X	Power meter slave Id: Indicate the parameters that have been configured during the commissioning of the power meter (see chapter 1.3.1.2 Power meter connection)

- (1) Availability depends on supported EVlink LMS reference
(2) Mandatory only when TCP protocol is selected
(3) Some early versions of Compact NSX circuit breakers may require selecting “NSX Legacy” as power meter
R/W: Read/Write - NA: Not Available

As soon as the power meter(s) are defined and updated, the success of the connection is verified and shown on screen. A successful connection will carry an



icon on each power meter line.

2.5 Zone configuration

2.5.1 Prerequisites

Reminder: Each zone and subzone to be created will need a maximum current setpoint defined for it. Zones or subzones to be managed with a dynamic energy management directive will need a power meter (configured in the previous step) assigned to each of them.

2.5.2 Zone configuration


The screenshot shows the 'Zone creation' interface in the Schneider Electric Configuration assistant. The interface is titled 'Configuration assistant of the Load Management System' and includes a progress bar with steps: Administrator, User, Network, Powermeter, Zones, Remote Supervision, Authentication, Stations, Load-shedding, and Badges. The 'Zones' step is active. The 'Zone creation' section shows a table with columns for Name, Max intensity, Power meter, and Energy management directive. There are five rows: ZoneA, ZoneB, ZoneC, PARK C1, and PARK C2. Each row has input fields for Name, Max intensity, Power meter, and Energy management directive, and a 'Suggested mode zone setpoint' field. Green checkmarks and red X marks are visible next to each row.

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

The configuration assistant allows the installer to define the name of each zone and its sub-zones, as well as its maximum current setpoint (maximum intensity), the energy management mode for the zone, and the power meter to associate to the zone if the energy management mode is dynamic.

Icon	Access rights		Description
	Admin	User	
	Yes	No	Add a new zone
	Yes	No	Save the zone configuration
	Yes	No	Delete a zone

2.5.3 Zone creation

Step	Comments
1	Click on + next to Name to create a zone. Several zones can be created depending on the EVlink LMS reference (see table in chapter 1.1.1.3).
2	Click on + next to Zone to create a sub-zone. Several sub-zones can be created depending on the EVlink LMS reference.
3	Set the maximum intensity allowed in each zone and sub-zone. 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	In dynamic mode, select the power meter measuring the zone current. A power meter is assigned to a single zone and cannot be shared.
5	By default the new zone is in Static mode. Select a power meter to put it in Dynamic mode. The power meter measures the zone current. It is assigned to a single zone and cannot be shared. Static mode: The maximum power setpoint value for the charging stations is equal to the subscribed demand or any fixed value. Dynamic mode: The remaining power at the building level is allocated to the charging infrastructure in real time.
6	For the dynamic zone, set a Default Setpoint to be used when the communication is lost with the PM (see chapter 2.5.4.2). 

2.5.4 Degraded Mode

The LMS define a degraded mode on the energy management of a zone, permitting vehicles to continue loading safely, when communications issues appear.

2.5.4.1 Degraded mode for a static zone

For a static zone, the LMS defines the intensity that the charging station will deliver, **when the communication is lost with the LMS.**

To calculate the degraded mode to apply to each charger, the LMS verify first that the Maximum Intensity set by the user for the zone permits each charger to have the minimum intensity defined. It can be 6, 8 or 14A according to the user choice in chapter 2.9.3:

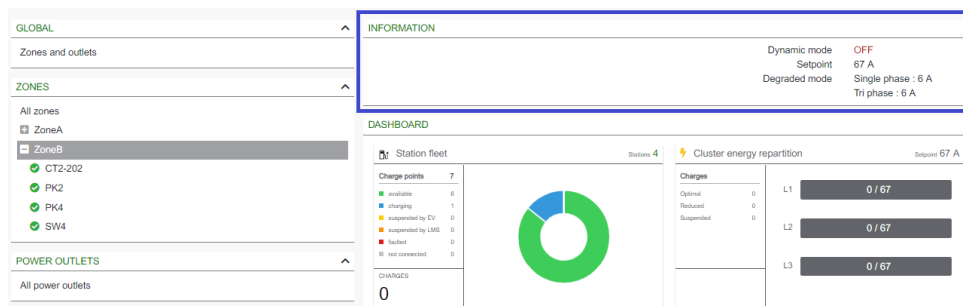
- IEC 61851: the setpoint is 6A in single phase and tri phases
- EV/ZE ready: 8A single phase and 14A on tri phases

Note that for this calculation, there is cases:

- The TE charger or the Smart Wallbox with one TE/T2 card, will have a setpoint at 10A
- The EVlink City charging station will have a setpoint at 14A

If the Maximum Intensity is:

- Enough, the degraded mode is equal to 6, 8 or 14 A (or 10 for TE) for each disconnected charger.
- Not enough: the degraded mode is equal to zero (0) for each disconnected charger, meaning that no vehicle can load.



Example – Degraded mode calculation:

The static zone PARK1 has 3 Charging stations:

- Two (2) EVlink Parking T2
- EVlink SmartWallBox T2/TE

The Maximum setpoint is 40A

The LMS calculate the minimum setpoint needed for the charging stations, taking into account the IEC 6185 standard chosen:

- Each EVlink Parking T2 need: $2 \text{ chargers} * 6A = 12A$.
- EVlink SmartWallBox T2/TE: 10A

The minimum setpoint needed for all charging stations is 34A (12A+12A+10A).

Conclusion: the degraded mode for each charger will be 6A because the maximum intensity is enough.

For the remaining charging stations that still be connected to the LMS, the maximum current to share is equal to: **the Maximum Intensity set for the Zone** minus (-) **the sum of default setpoint of disconnected charging stations**.

Example – Remaining setpoint for connected Charging stations:

In the zone described in the example upper, one (1) EVlink Parking T2 has lost the communication with the LMS.

As the standard chosen is IEC 61851, the default setpoint is 6A for each charger of the disconnected EVlink Parking.

For the remaining charging stations of the zone, the maximum current to manage is: $40A - (2 \text{ chargers} * 6A)$.

So, there is 28A available for the 2 charging stations.

2.5.4.2 Degraded mode for a dynamic zone

A Dynamic zone is linked to a Power Meter. **When the communication is lost with the PM**, the LMS manage the zone as a static one with the default setpoint defined by the user.

By default, this setpoint is zero, meaning that the vehicles cannot load when the communication is lost with the PM.

When the communication is lost with the LMS, the disconnected charging stations has a setpoint equal to zero (0) A.

For the remaining charging stations that still be connected to the LMS, the maximum current to share is equal to **the Maximum Intensity set for the Zone**.

2.5.4.3 Particular case: DC charging station



Note: The LMS has no control on DC charging station during disconnection. The last setpoint is kept till the reconnection

2.5.5 Zone settings

Settings	Access rights		Range	Factory setting	Description
	Admin	User			
Name	R/W	NA			Zone name
Max intensity	R/W	NA			Maximum current available (A) in the selected zone
Power meter	R/W	NA			Power meter assigned to the selected zone
Power management	R/W	NA	Dynamic		Zone supporting dynamic energy management
			Static		Zone supporting static energy management

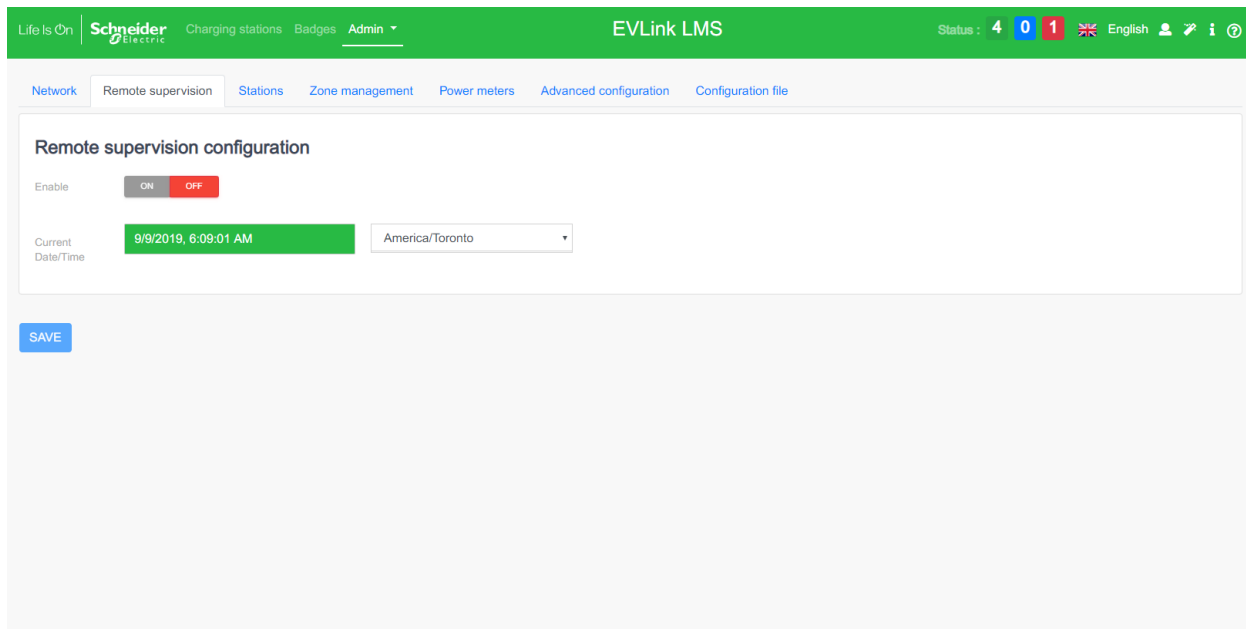
R/W: Read/Write - NA: Not Available

2.6 Remote supervision configuration

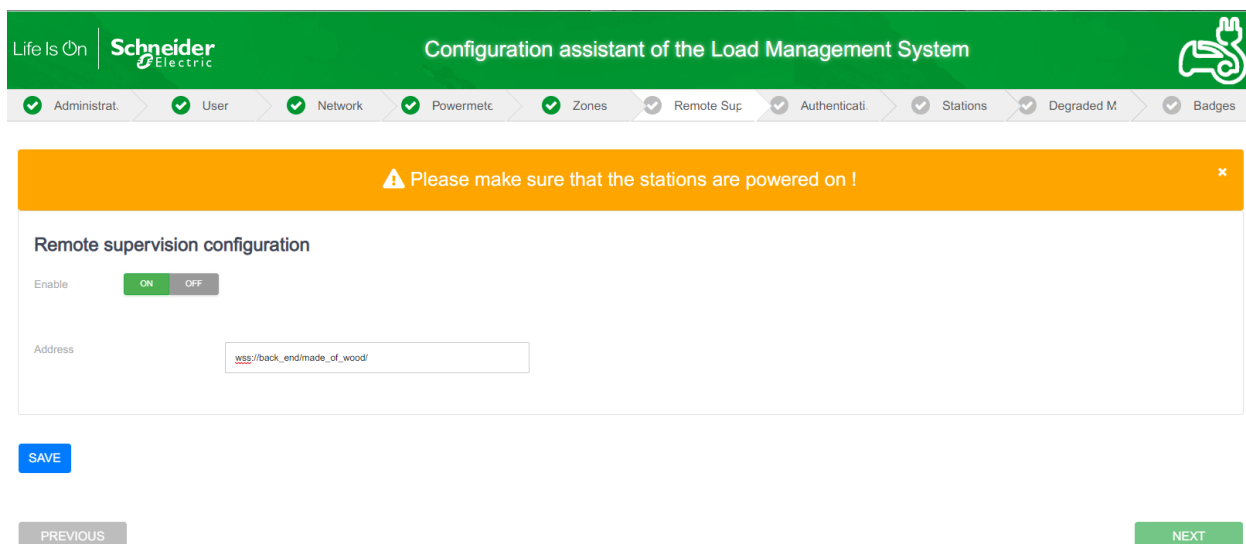
2.6.1 Remote supervision configuration

The remote supervision must be enabled when the customer has chosen to have the installation managed by a CPO (Charge Point Operator). The CPO will provide the installer with a URL. The URL will be used by the charging stations to establish communication between the remote supervision and the charging stations. The communication protocol **must be OCPP 1.6 Json**.

The remote supervision is disabled (OFF) by default. The time and date provided by the web browser are displayed. The LMS allows to configure the time zone.



When the remote supervision is enabled (ON), the time and date are provided by the remote supervision.



When enabled, the remote supervision must be configured with the communication parameters between the remote supervision and the EVlink LMS.

The main field to enter is the remote supervision URL address.

Settings	Access rights		Factory setting	Description
	Admin	User		
Address (Supervision URL)	R/W	NA		Remote supervision URL; Start with ws:// or wss:// in case of secure mode

R/W: Read/Write - NA: Not Available

When the installer clicks “Next”, the system will reboot to take into account the new settings. Then the installer needs to log in again to perform the next configuration steps.



Note: If the EVLMS sub-network (**192.168.0.128**) is changed, the sub-network of the computer must also be changed after the reboot of the EVLMS.

2.7 Authentication mode configuration

The authentication mode defines the rules and strategy to grant access to the charging stations. Moreover, it allows to define the behavior of the charging stations in the case that the connection between the charging stations and the EVlink LMS is lost.

2.7.1 Authentication mode with remote supervision

When the authentication is managed by remote supervision, the possible options are:

“**CPO**”: The remote supervision defines the behavior of badge authentication. The same behavior is expected on each charging station when the connection is lost. This option requires the charging stations to be equipped with an RFID reader.

When the connection is lost with the remote supervision, the behavior options to choose from are:

- “**Allow all**”: All requests to charge are accepted by the charging stations whatever the badge
- “**Reject**”: All requests to charge are refused by the charging stations whatever the badge
- “**Reject with cache list**”: Requests to charge coming from badges already used on the specific charging station will be accepted.

“**Charging stations**”: only the badges created in the charging station are allowed. The same behavior is expected when the connection is lost.



Note: The installer should implement the badge list on each charging station if this option is selected.

“**RFID disabled**”: The RFID reader is disabled. When this option is selected, a submenu opens to define whether the authentication mode is one of the following two options:

- “**Remote request: Yes**”: managed by a 3rd-party system (remote supervision) which gives or rejects access.
- “**Remote request: No**”: there is no authentication mode and hence, to charge, the user only needs to connect the plug (default value)

When the required option(s) are selected, click on “Next” button.

2.7.2 Authentication mode without remote supervision

Configuration of the user identification and access mode to use the charging stations

Authentication mode

LMS - Allow all badges

LMS - Allow only the known badges

Charging stations

RFID disabled

Authentication mode in case of disconnection between EVlink LMS and the charging stations

Allow all

Reject

Reject with cache list

PREVIOUS NEXT

When the authentication is managed by the EVlink LMS, the possible options are:

“LMS – Allow all badges”: The EVlink LMS will allow any badge to charge. The same behavior is expected on each charging station when the connection is lost. This option requires the charging stations to be equipped with an RFID reader.

“LMS – Allow only the known badges”. Only the badges created in the EVlink LMS are allowed. When a badge is scanned at a charging station, it will get permission to charge or not based on whether it is included or not in the list hosted in the EVlink LMS. This is the default option.

When the connection is lost with the EVlink LMS, the behavior options to choose from are:

- **“Allow all”**: All requests to charge are accepted by the charging stations whatever the badge
- **“Reject”**: All requests to charge are refused by the charging stations whatever the badge
- **“Reject with cache list”**: Requests to charge coming from badges already used on the specific charging station will be accepted.

“Charging stations”: only the badges created in the charging station are allowed. The same behavior is expected when the connection is lost.



Note: The installer should implement the badge list on each charging station if this option is selected.

“RFID disabled”: The RFID reader is disabled. When this option is selected, a submenu opens to define whether the authentication mode is one of the following two options:

- **“Remote request: Yes”**: managed by a 3rd-party system (remote supervision) which gives or rejects access.
- **“Remote request: No”**: there is no authentication mode and hence, to charge, the user only needs to connect the plug (default value)

When the required option(s) are selected, click the “Next” button.

2.8 Charging station commissioning

2.8.1 Prerequisites

Charging stations must be powered on and connected to the Ethernet network prior to the EVlink LMS commissioning.

Charging stations must have a compatible firmware version, see see [chapter 1.1.2.1 EVlink charging stations](#)



Note: Restrictions on charging stations IP addresses and box identities:

- Avoid the use of "50" as the last octet on charging stations IP addresses (that is, X.Y.Z.50 is forbidden)
- Avoid the use of sub-network addresses +0, +1, +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, 192.168.0.1, 192.168.0.254 and 192.168.0.255.
- Charging stations box identities must not contain any space.

2.8.2 Charging station landing page

Station installation

Model	IP	Station name	Connector(s)	Box Identity	Zones
Smart Wallbox SN: EVB1AZPHERF0r7p0cY6RkA8m9w04	192 - 168 - 10 - 60	Smart TE 60	TRI123	TE 60	zone # 2
DCFC CCS	192 - 168 - 10 - 71	IES	W1	DC50	zone # 2

■ Registered station
■ The station's ip address or chargebox identity is not unique or the ip is reserved
■ The station's name is not unique





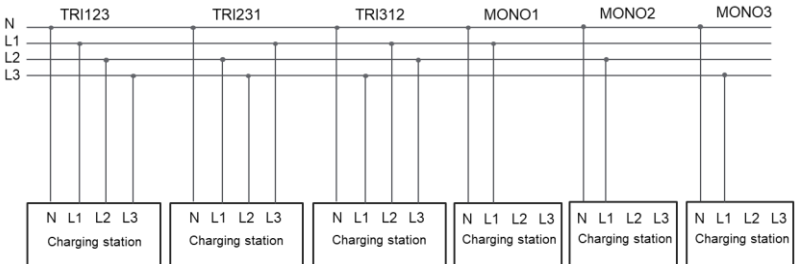


Add a charging station IP address manually +

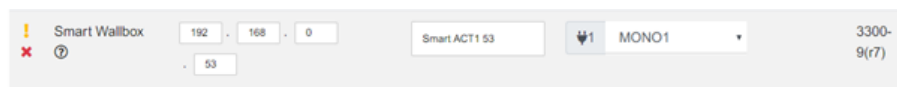
192 - 168 - 0 - 0 + SAVE ALL

2.8.3 Description

Icons	Description
	Show all charging stations on the network
	Refresh the display of charging station settings
	Add manually a charging station not scanned by the LMS
	Save settings

2.8.4 Charging station configuration

Steps	Description
1	Click 
2	<p>If a charging station is not scanned automatically by the LMS, add it manually by entering its IP address on the field provided for it, and clicking icon </p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p>Add a charging station IP address manually </p> <p style="text-align: center;">192 . 168 . 0 . 0 </p> </div>
3	<p>Update charging station settings:</p> <ul style="list-style-type: none"> - IP Address: Change this parameter if the building IT manager imposes fixed IP addresses (avoid X.Y.X.50) - Station name: It is recommended to select a name that indicates the location of the station and the name of the parking (50 characters max) - Connector(s): in order to optimize load management, it is recommended to rotate the phases of the charging stations installed on the same site. Select here the phase wiring of each connector of the charging station according to the electrical wiring as implemented in the electrical network. e.g. <div style="text-align: center; margin: 10px 0;">  </div> <ul style="list-style-type: none"> - VIP: Check the box to activate the VIP status to the charging station. - Version: Firmware version embedded in the charging station. See chapter 2.8.1 Prerequisites - Box identity: If the EVlink LMS is connected to a remote supervision insert here the box identity provided by the Charge Point Operator (CPO). By default, it is the charging station MAC address. The box identity must not contain spaces. - Zones: Please choose the zone where the charging station belongs. Please note that the serial number of the charging station can be read by placing the pointer over the little question mark symbol next to each charging station model.
4	<p>Modify the authentication mode on the station. For that purpose, click on . Then select the authentication mode and the authentication mode when disconnected.</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;">  </div>
4	Click the “Save All” button to initiate the configuration of the charging stations
5	Click “Next” to complete the step



Note: If the installation of a charging station does not succeed (marked with a red cross). In that case please relaunch the installation of the charging station.

During the configuration of the charging stations, the EVlink LMS will automatically update the firmware of the charging stations in the network to the charging station firmware version embedded in the EVlink LMS firmware.

2.9 Load shedding strategy and degraded mode

2.9.1 Definition

The degraded mode is a parameter defining the current setpoint allocated to the charging station when the communication between the charging station and the EVlink LMS is lost. It is also the threshold under which the charge will be suspended in normal mode.

In dynamic mode, the EVlink LMS will favor the continuity of service of the building, therefore the current setpoint will be set by default to 0 A.

However, EVlink LMS allows the person in charge of the system configuration to define a degraded mode maximum current setpoint.



It is recommended to ensure that the degraded mode maximum current setpoint defined by the installer is available for EV charging **at all times**. Otherwise there's a risk of power outage in the building.

2.9.2 Prerequisites

The sum of the degraded mode setpoint must be lower than the max intensity of the zone. Otherwise, for safety and continuity of service reasons, the **EVlink LMS will automatically configure the current setpoint to 0A**

2.9.3 Degraded mode configuration page

Step	Description
1	Select the minimum current setpoint at which the EVs will accept to charge for your installation <ul style="list-style-type: none"> - IEC 61851 (6A single phase and 3 phases) - EV/ZE ready (8A single phase and 14A 3 phases)
2	Please choose the load shedding priority option <ul style="list-style-type: none"> >Energy: Proportional to the energy consumed (kWh) <ul style="list-style-type: none"> • The system suspends the charging of vehicles which have consumed the highest amount of energy since the beginning of the charging process. This option is set by default. >Duration: Proportional to the charging time

Step	Description
	<ul style="list-style-type: none">• The system suspends the charging of vehicles which have charged for the longest time since the beginning of the charging process.
3	Click "Next" to complete the process



Note: DC fast charging stations don't support degraded mode. Make sure the electric network is dimensioned and configured taking that into account.

2.10 Badge management

This is the last step in the configuration wizard. The same interface is included in the EVlink LMS Dashboard, badges tab. If the authentication mode has been set to “LMS – Allow only the known badges”, the list of authorized badges must be entered here.

2.10.1 Prerequisites

Beforehand the authentication mode must have been set to “LMS – Allow only the known badges”. Otherwise, you can skip this step.

2.10.2 Badge management configuration page

IdTag ^	VIP	Authorized	Registration ^	Last time seen ^	Comments
134AD2B5	<input type="checkbox"/>	<input type="checkbox"/>	25/03 10:17	25/03 10:34	=SE=
DE005DCB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25/03 10:17	25/03 10:17	RENAULT
E2C28302	<input type="checkbox"/>	<input type="checkbox"/>	25/03 10:16	25/03 10:16	JVI

2.10.3 Badge addition

2.10.3.1 Badge manual addition

IdTag ^	VIP	Authorized	Registration ^	Last time seen ^	Comments
<input type="text"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Step	Description
1	Click the “Add a badge” button.
2	Enter the IdTag of the badge NOTE: to know the IdTag, use a dedicated smartphone app or other device
3	Select the status: <ul style="list-style-type: none"> - VIP (otherwise, standard badge): Select this option to provide the badge with VIP privileges. This option is available only in specific EVlink LMS references (refer to chapter 1.1.1.3).and only with EVlink LMS authentication selected (refer to chapter 2.7). - Authorized: Select this option to authorize the badge to charge.
4	Enter comments (example, name of the owner of the badge, 50 characters max).
5	Click the “SAVE ALL” button

2.10.3.2 Badge list import



Note: if the installer imports a list of badges, all previously registered badges will be deleted

If the badge list is already available:

Step	Description
1	Click the "IMPORT" button on the EVlink LMS badge configuration page..
2	Select the import file format: EVlink LMS or charging station. <i>The file format of the EVlink LMS and the charging station are different. The charging station file is compatible with the EVlink LMS but not the reverse.</i>
3	Click Confirm.

If the badge list is not yet available and needs to be created:

Step	Description
1	Swipe all badges to be imported into the EVlink LMS in front of the RFID card reader of a charging station connected to the EVlink LMS.
2	Export the badge list from the charging station (see DOCA0060EN)
3	Click the IMPORT button on the EVlink LMS badge configuration page and import the file with the badge list from your computer
4	Confirm.

This last procedure is the most efficient way to add a large group of new badges to the EVlink LMS.

2.10.4 Badge file export

The export feature is used to back up the badge list in the EVlink LMS format.

2.10.5 Badge removal

Select the red button located on the right-hand side of each badge line to remove the badge from the list.

2.10.6 Badge update

The following fields can be updated:

- Authorization
- Type (VIP, or Standard by unselecting VIP) (available on specific EVlink LMS commercial references, see [chapter 1.1.1.3.](#))
- Comments

Chapter 3.

OPERATION

INTERFACE

3.1 Login to the EVlink LMS (Webserver)

Step	Action
1	Prerequisite: Wizard process completed Open a web browser (Google Chrome) and enter 192.168.0.128 (default address) or the address defined during the commissioning.
2	Log in with credentials defined for Admin profile during the commissioning



3.2 Menu and status bar

3.2.1 Bar items



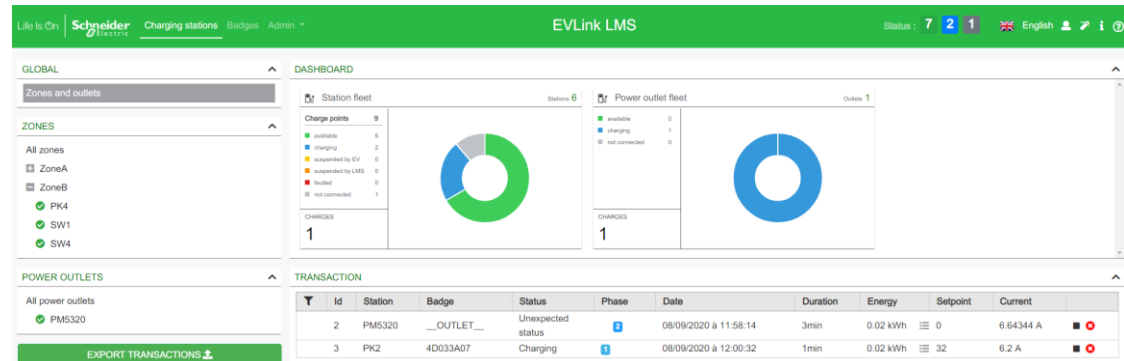
Mark	Description
1	EVlink LMS contextual menu
2	Number of charging stations per status: green – available, blue – charging in progress, red – malfunctioning
3	Language selection (English or French)
4	Logout
5	Commissioning assistant restart button
6	Display of EVlink LMS firmware version
7	Access to download the user guide

3.3 Dashboard

Access by the Stations tab

3.3.1 Global view

The purpose of this tab is to display the ongoing status of the charging stations and the load transactions managed by the EVlink LMS.



Moreover, some specific actions can be executed on connected charging stations.

The global view is made up of three parts:

- On the left: EVlink LMS topology, zone organization, power outlets (other loads than charging station for which we want to monitor the consumption) - each part can be selected, then expanded or collapsed to display or hide details.
- In the center: status of charging stations and power outlets when “Global” is selected.
- At the bottom: ongoing charging sessions when “Global” is selected and control button to remotely stop the charging session.

Action

Icon	Description
	Stop transaction: remotely stop the selected charging session(s)
	Force Stop transaction: force the LMS to stop a transaction
	Display charging sessions: only ongoing sessions (by default) or all sessions

EXPORT TRANSACTIONS button: Click here to export the charging data records for the transactions done on all charging stations in the network since the commissioning of the EVlink LMS.

The charging data records are exported to an external file in CSV format for all the charging stations.

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

The exported data are the following:

- Transaction number
- Charging station ID
- Socket outlet
- User ID
- Type of charge
- Start datetime
- End datetime
- Energy consumed (kWh)
- Socket type
- Transaction duration
- Comment
- Charge box identity
- NoPeriod: Energy consumed (kWh) during the transaction outside of any defined time-of-use period and timeslots.

There may be additional columns for each and every time-of-use tariff period available at the time of the export. Each additional column is named after the corresponding period name and the values shown correspond to the energy in kWh consumed within the transaction during the specific period. See Time-of-use (TOU) documentation at [chapter 3.9.3](#) for more details about time-of-use tariff periods.

3.3.2 Zone view










Zone view is available when a zone is selected in the left panel.

The zone view provides the same data as the global view plus the capability for the user to manage the charging stations.

The screenshot displays the EVLink LMS interface for ZoneB. The left sidebar shows 'ZONES' with 'ZoneB' selected, listing stations PK4, SW1, and SW4. The main dashboard includes:

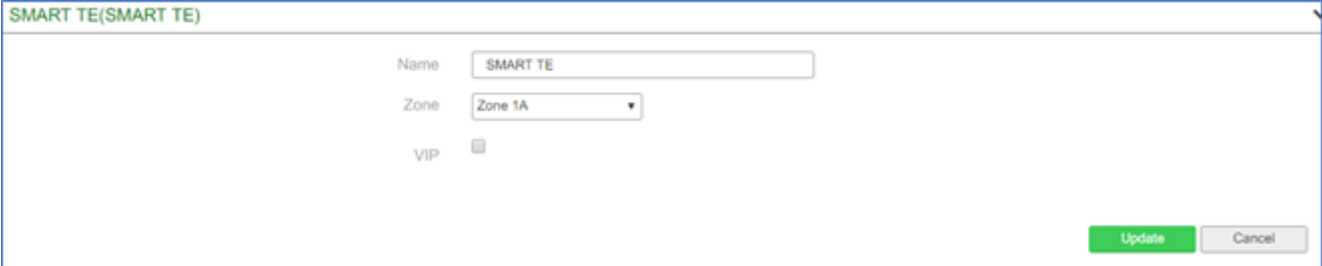
- Station fleet:** A donut chart showing 4 charge points: 2 available (green), 2 charging (blue), 0 suspended by EV (orange), 0 suspended by cable (red), 0 faulted (yellow), and 0 not connected (grey).
- Cluster energy repartition:** A table showing energy distribution across three phases: L1 (32 / 59 kWh), L2 (0 / 53 kWh), and L3 (0 / 59 kWh).
- Power meter:** A table showing energy and power consumption for three phases: L1 (0.55 / 60 kWh), L2 (0.41 / 60 kWh), and L3 (0.18 / 60 kWh).
- STATIONS:** A table listing stations PK4, SW1, and SW4 with their respective zones, connectors, and statuses (finishing, available, charging).
- TRANSACTION:** A table showing a transaction for station SW4, badge 4D033A07, charging on 08/09/2020 at 15:14:24, with a duration of 14s and 0 kWh energy consumed.

Actions

Icon	Description
	Update a charging station (details in next part)
	Start a session: remotely start a charging session on the selected charge point
	Connect to a charging station web server
	Reboot a charging station
	Remove a charging station from the EVlink LMS
	Stop a session: remotely stop a charging session / transaction on the selected charge point
	Force Stop transaction: force the EVlink LMS to stop a charging session / transaction <i>(just needed in the particular case of the EVlink LMS losing connection to the charging station during the transaction, and control to stop the fictive transaction remaining is needed).</i>
	Display charging sessions: display only ongoing (by default) or all charging stations
	Status of the connection devices

3.3.3 Charging station view

The charging station view is available when a charging station is selected in the left panel or by the charging station update icon in the bottom panel.



The following changes can be done:

- Charging station name
- Charging station zone
- If available, charging station type status: VIP or standard

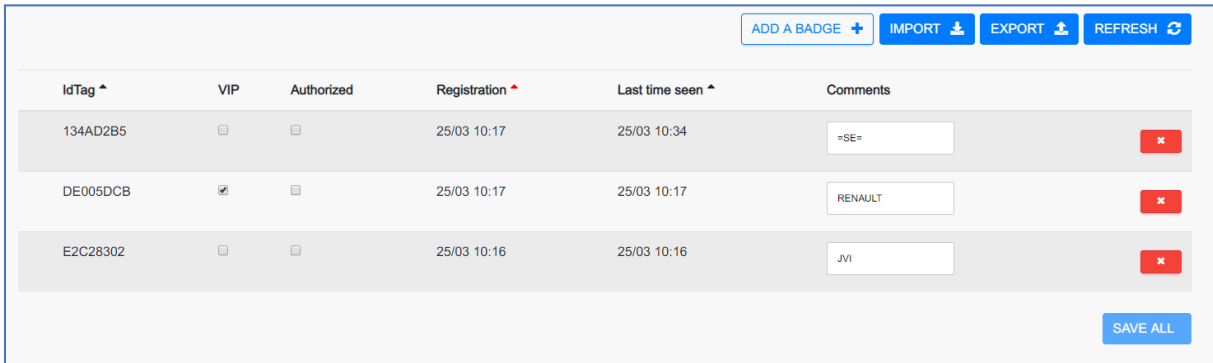
3.4 Badge management

The same interface as in the configuration assistant is included in the EVlink LMS Dashboard, badges tab. If the authentication mode has been set to “LMS – Allow only the known badges”, the list of authorized badges must be entered here.

3.4.1 Prerequisites

Beforehand the authentication mode must have been set to “LMS – Allow only the known badges”. Otherwise, you can skip this step.

3.4.2 Badge management configuration page

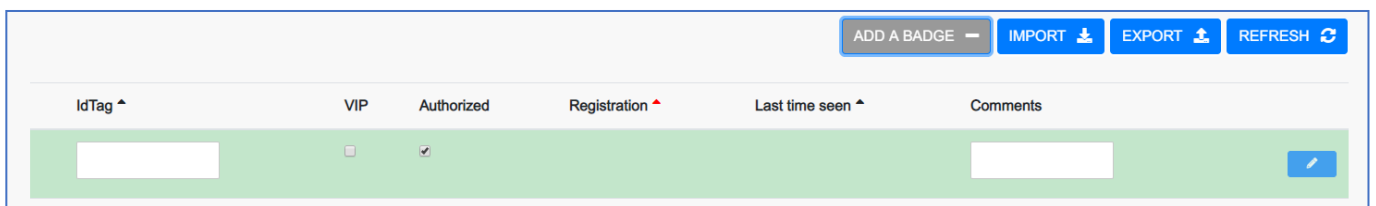


3.4.3 Badge addition

3.4.3.1 Badge swipe

Step	Description
1	Swipe the badge in front of the RFID card reader of a charging station connected to the EVlink LMS.
2	Click the Refresh button on the EVlink LMS badge configuration page.
3	Select the status: <ul style="list-style-type: none"> - VIP (otherwise, standard badge): Select this option to provide the badge with VIP privileges. This option is available only in specific EVlink LMS commercial references (refer to chapter 1.1.1.3) and only with EVlink LMS authentication selected (refer to chapter 2.7). - Authorized: Select this option to authorize the badge to charge.
4	Enter comments (50 characters max)
5	Click the “SAVE ALL” button

3.4.3.2 Badge manual addition



Step	Description
1	Click the “Add a badge” button.
2	Enter the IdTag of the badge NOTE: to know the IdTag, use a dedicated smartphone app or other device

3	Select the status: <ul style="list-style-type: none"> - VIP (otherwise, standard badge): Select this option to provide the badge with VIP privileges. This option is available only in specific EVlink LMS references (refer to chapter 1.1.1.3) and only with EVlink LMS authentication selected (refer to chapter 2.7). - Authorized: Select this option to authorize the badge to charge.
4	Enter comments (example, name of the owner of the badge, 50 characters max).
5	Click on the "SAVE ALL" button

3.4.3.3 Badge list import



Note: if the installer imports a list of badges, all previously registered badges will be deleted

If the badges list is already available:

Step	Description
1	Click the "IMPORT" button on the EVlink LMS badge configuration page..
2	Select the import file format: EVlink LMS or charging station. The file format of the EVlink LMS and the charging station are different. The charging station file is compatible with the EVlink LMS but not the reverse.
3	Click on Confirm.

If the badges list is not yet available and needs to be created:

Step	Description
1	Swipe all badges to be imported into the EVlink LMS in front of the RFID card reader of a charging station connected to the EVlink LMS.
2	Export the badge list from the charging station (see DOCA0060EN)
3	Click on the IMPORT button on the EVlink LMS badge configuration page and import the file with the badge list from your computer
4	Confirm.

This last procedure is the most efficient way to add a large group of new badges to the EVlink LMS.

3.4.4 Badge file export

The export feature is used to back up the badge list in the EVlink LMS format.

3.4.5 Badge removal

Select the red button located on the right-hand side of each badge line to remove the badge from the list.

3.4.6 Badge update

The following fields can be updated:

- Authorization
- Type (VIP, or Standard by unselecting VIP). This option is available **only in specific EVlink LMS commercial references** (refer to [chapter 1.1.1.3](#)).**and only with EVlink LMS authentication selected** (refer to [chapter 3.7.5](#)).
- Comments

3.5 Network configuration

Access by the Admin tab → Configuration → Network



Note: Whatever the parameters changed in network configuration, a reboot must be done after the configuration.

Network configuration i

IP address . . .

Sub network mask . . .

Default gateway . . .

Preferred dns system . . .

Other dns system . . .

Proxy configuration

Activate proxy support ON OFF

DHCP server configuration i

Activate the DHCP server ON OFF

3.5.1 Ethernet configuration

Consult [chapter 2.3.1 Ethernet Configuration](#).

3.5.2 Proxy configuration

Proxy: A proxy server is a dedicated computer or a software system running on a computer that acts as an intermediary between an endpoint device, such as a computer, and another server from which a user or client is requesting a service.



Note: Must be activated if required by network installation

Settings	Access rights		Factory setting	Description
	Admin	User		
Proxy address	R/W	NA		Proxy server IP address (1)
Proxy port	R/W	NA	80	Proxy server port used (1)

R/W: Read/Write - NA: Not Available

(1) Available only with Proxy support activated

3.5.3 DHCP server configuration

Consult chapter 2.3.3 DHCP server configuration.

3.6 Remote supervision configuration

Access by the Admin tab → configuration → remote supervision



Note: Whatever the parameters changed in supervision configuration, a reboot must be done after the configuration.

3.6.1 Remote supervision configuration

The remote supervision must be enabled when the customer has chosen to have the installation managed by a CPO (Charge Point Operator). The CPO will provide the installer with a URL. The URL will be used by the charging stations to establish communication between the remote supervision and the charging stations. The communication protocol **must be OCPP 1.6 Json**.

The remote supervision is disabled (OFF) by default. The time and date provided by the web browser are displayed.

Remote supervision configuration

Enable ON OFF

Current Date/Time **Thu Mar 21 2019 15:55:45 GMT+0100**

Remote supervision configuration

Enable ON OFF

Remote supervision URL address

TransactionMessageAttempts

WebSocketPingInterval

When the remote supervision is enabled (ON), the time and date are provided by the remote supervision

The remote supervision must be configured with the communication parameters between the remote supervision and the EVlink LMS.

The main field to enter is the CPO supervision URL address. The other fields are parameters used by OCPP experts. The installer can choose to leave the default values. The CPO will change them afterwards if needed.

Settings	Access rights		Factory setting	Description
	Admin	User		
Supervision URL	R/W	NA		Remote supervision URL; Start with ws:// or wss:// in case of secure mode
TransactionMessageAttempts	R/W	NA	500	Maximum message sending attempts before drop
WebSocketPingInterval	R/W	NA	120 sec	Web socket ping interval

R/W: Read/Write - NA: Not Available

3.7 Zone configuration

Access by the Admin tab → configuration → zone management



Note: All parameter change in zones configuration (with the exception of a change limited to Max Intensity), requires a reboot after the configuration.

3.7.1 Prerequisites

Reminder: Power meters are only required in EVlink LMS dynamic mode. Their Ethernet connection must be configured regardless of the EVlink LMS and prior to the EVlink LMS commissioning.

3.7.2 Zone landing page

Zone creation REFRESH

Your limit for the creation of zones : 10

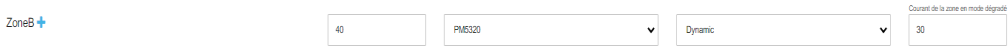
Name +	Max intensity	Power meter	Energy management directive	Authentication mode		
ZoneA +	75		Static	LMS - Allow only the known badges	✓	✗
ZoneB +	40	PUR220	Dynamic	LMS - Allow only the known badges	✓	✗
ZoneC +	60		Static	LMS - Allow all badges	✓	✗
PARK C1 +	32		Static	LMS - Allow only the known badges	✓	✗
PARK C2 +	32		Static	RFID disabled	✓	✗

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

The zone landing page allows the installer to define the name of each zone and its sub-zones, as well as its maximum current setpoint (maximum intensity), the energy management mode for the zone, and the power meter to associate to the zone if the management mode is dynamic

Icon	Access rights		Description
	Admin	User	
	Yes	No	Add a new zone
	Yes	No	Save the zone configuration
	Yes	No	Remove the zone

3.7.3 Description

Step	comments
1	Click + next to Name to create a zone. Several zones can be created depending on the EVlink LMS reference.
2	Click + next to Zone to create a sub-zone. Several sub-zones can be created depending on the EVlink LMS reference.
3	Set the maximum intensity allowed in each zone and sub-zone. 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	By default the new zone is in Static mode. Select a power meter to put it in Dynamic mode. The power meter measures the zone current. It is assigned to a single zone and cannot be shared. Static mode: The maximum power setpoint value for the charging stations is equal to the subscribed demand or any fixed value. Dynamic mode: The remaining power at the building level is allocated to the charging infrastructure in real time.
5	For the dynamic zone, set a Default Setpoint to be used when the communication is lost with the PM (see chapter 2.5.4.2) 
6	Select an authentication mode for the zone.

3.7.4 Degraded mode

The degraded mode is described in [chapter 2.5.4](#).

3.7.5 Zone settings

Settings	Access rights		Range	Factory setting	Description
	Admin	User			
Name	R/W	NA			Zone name
Max intensity	R/W	NA			Maximum current available (A) in the selected zone
Power meter	R/W	NA			Power meter assigned to the selected zone
Power management	R/W	NA	Dynamic		Zone supporting dynamic energy management
			Static		Zone supporting static energy management
Authentication mode	R/W	NA		NA	Authentication mode applied in the zone

R/W: Read/Write - NA: Not Available

3.7.6 Authentication mode by zone

Network Remote supervision Load-shedding **Zone management** Power meters Time-of-use Digital Input Advanced

Zone creation REFRESH

Your limit for the creation of zones : 10

Name +	Max intensity	Power meter	Energy management directive	Authentication mode		
ZoneA +	70		Static	LMS - Allow only the known badges	✓	✗
ZoneB +	40	PM5320	Dynamic	LMS - Allow all badges	✓	✗
ZoneC +	60		Static	LMS - Allow all badges	✓	✗
PARK C1 +	32		Static	Remote request	✓	✗
PARK C2 +	32		Static	RFID disabled	✓	✗

The authentication mode can be defined for an entire zone. It is propagated by default to all charging stations of the zone. To start a load, the authentication mode registered on the charging station is taken into account. This one can be modified individually on dashboard (see chapter 3.3.3) or during installation (see chapter 3.12.5).

The authentication modes are described in [chapter 2.7 Authentication mode configuration](#).

3.8 Power meter configuration

Access by Admin tab → configuration → Power meters

Consult [chapter 2.4 Power Meter Configuration](#) to know what the prerequisites are, and to know how to configure power meters and their settings.

3.9 Time-of-use (TOU)

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

3.9.1 Definition

The time-of-use (TOU) feature allows to define a reduced maximum current setpoint during the times of the day when electricity is more expensive, when the building is under time-of-use type of electricity tariffs. In this way, EV charging can be maximized when electricity has a lower price, and limited when it has a higher price, based on the settings defined by the operator.

A total of 5 tariff periods can be defined, and a total of 20 timeslots can be defined and associated to those tariff periods. You can define TOU period characteristics and then choose to deactivate them if you want to temporarily cancel them, but you don't wish to lose their settings.

TOU feature setup and visualization is only available for the Admin profile.



Note: the TOU configuration is not taken account when the Digital Input functionality is activated

3.9.2 Prerequisites

- This feature is available for commercial references HMIBSCEA53D1ESM, -EDS, -EDM and -EDL.
- At least 1 zone must be created (please refer to [chapter 3.7 Zone creation](#))

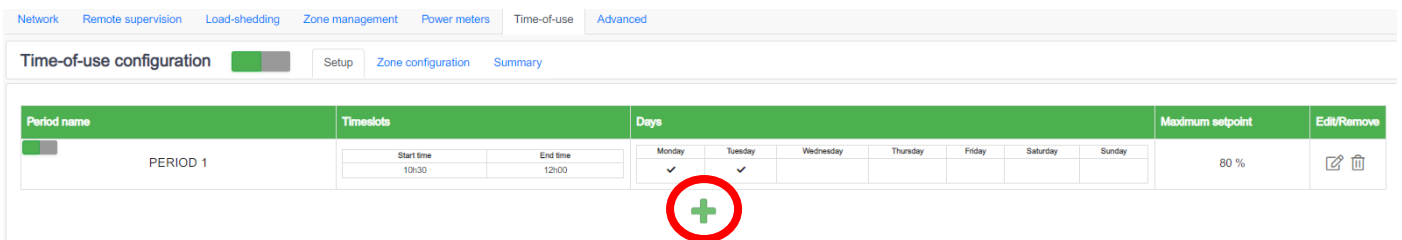
3.9.3 Tariff period configuration tab

3.9.3.1 Create periods

Define the % of maximum setpoint reduction required per TOU period. For example: for a zone with a maximum setpoint of 100A, if 80% is defined, the new maximum setpoint will be 80A.

- For Dynamic load management, the maximum setpoint applied will be the lower of the two:
 - the % of reduction defined, or
 - the dynamic current available in real time
- For Static load management, the % of reduction defined will apply

The user can create several periods using the “+” symbol on the screen.



Five steps are needed to create a period:

step	comments
1	Click on + icon to create a tariff period. Several periods up to 5 can be created
2	Enter period Name
3	Define Timeslots : min 1, max 20 by clicking on 'Add a timeslot' link
4	Define application week day . At least 1 day must be selected.
5	Define % of Maximum setpoint reduction

Period name

Timeslots

Start time	End time	
4 h 30 m	10 h 0 m	✕
20 h 0 m	22 h 20 m	✕

[Add a timeslot](#)

Days

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	✓		✓	✓		

Maximum setpoint

 %

For the remaining time slots of the day that are not aligned to any tariff period, no reduction of current setpoint will be applied. Nominal current setpoint per zone will apply.

3.9.3.2 Description

Settings	Access rights		Range	Factory setting	Description
	Admin	User			
Name	R/W	NA			Tariff period name
Timeslots	R/W	NA	0 - 23 for hours 0-59 for minutes		The tariff period is active only within defined time slots. - 1 min per period - 20 max across all periods
Days	R/W	NA			The tariff period is active every week on the selected days. At least 1 day per period needs to be selected.
Maximum setpoint	R/W	NA	0 - 100		% of reduction to apply to the maximum current setpoint





R/W: Read/Write - NA: Not Available

3.9.3.3 Update period

You can update the characteristics of a tariff period by clicking the corresponding Edit button.

Time-of-use configuration

Setup Zone configuration Summary

Period name	Timeslots	Days	Maximum setpoint	Edit/Remove
PERIOD 1	Start time: 10h30, End time: 12h00	Monday, Tuesday	80 %	 
PERIOD 2	Start time: 04h30, End time: 20h00 20h00, 22h20	Monday, Tuesday, Thursday, Friday	60 %	 

Period name: PERIOD 2

Timeslots:

Start time	End time
4 h 30 m	10 h 0 m
20 h 0 m	22 h 20 m

[Add a timeslot](#)

Days:





Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	✓		✓	✓		

Maximum setpoint: 60 %

3.9.3.4 Remove a period

You can remove a tariff period by clicking the corresponding Delete button.

Time-of-use configuration ■ ■ Setup [Zone configuration](#) [Summary](#)

Period name	Timeslots	Days	Maximum setpoint	Edit/Remove
PERIOD 1	Start time: 10:30, End time: 12:00	Monday ✓, Tuesday ✓, Wednesday, Thursday, Friday, Saturday, Sunday	80 %	 
PERIOD 2	Start time: 04:30, End time: 10:00 20:00, 22:20	Monday, Tuesday ✓, Wednesday, Thursday ✓, Friday ✓, Saturday, Sunday	60 %	 

The period will be removed

Confirm Cancel

+

3.9.4 Zone configuration tab

Define the parking zones where you require all or part of the defined TOU periods to apply. By default, all defined TOU periods apply to all zones but the EVlink LMS allows you to modify that.

Time-of-use configuration ■ ■ Setup [Zone configuration](#) [Summary](#)

Zone	All periods	PERIOD 1	PERIOD 2
ZONE 1			
↳ ZONE 1 N			
↳ ZONE 1 S			
ZONE 2			

You can disable some or all periods for each zone.

Time-of-use configuration ■ ■ Setup [Zone configuration](#) [Summary](#)

Zone	All periods	PERIOD 1	PERIOD 2
ZONE 1			
↳ ZONE 1 N			
↳ ZONE 1 S			
ZONE 2			

3.9.5 Summary tab

On the “Summary” tab, verify the resulting TOU settings in terms of what tariff periods apply to what zones, and what is the resulting maximum current setpoint in Amps based on the % reduction defined during tariff period definition.


Time-of-use configuration ■ ■ Setup [Zone configuration](#) [Summary](#)






Zone	Initial intensity (A)	Intensity on "PERIOD 1" (A)	Intensity on "PERIOD 2" (A)
ZONE 1			
↳ ZONE 1 N	80	64	48
↳ ZONE 1 S	60	48	36
ZONE 2	100	80	60

If you have disabled some period(s) on some zone(s), the current value shown for them will be the nominal one for the zone. That fact will be highlighted with cursive, bold font.

3.9.6 Disable TOU feature

You can disable or enable the TOU feature by clicking on this button

Time-of-use configuration  Zone configuration Summary

Period name	Timeslots		Days							Maximum setpoint	Edit/Remove
	Start time	End time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
PERIOD 1	19:30	12:00	✓	✓						80 %	 
PERIOD 2	04:30	10:00		✓		✓	✓			60 %	 
											

3.10 Energy Management through Digital inputs

Access: Admin tab → Configuration → Digital Input

3.10.1 Definition

This feature allows to define a reduced maximum current setpoint driven by EVlink LMS digital inputs.

EVlink LMS digital inputs (DI) are accessible through GPIO connections located on the bottom side. Up to 3 DI current limitations can be configured and enabled.

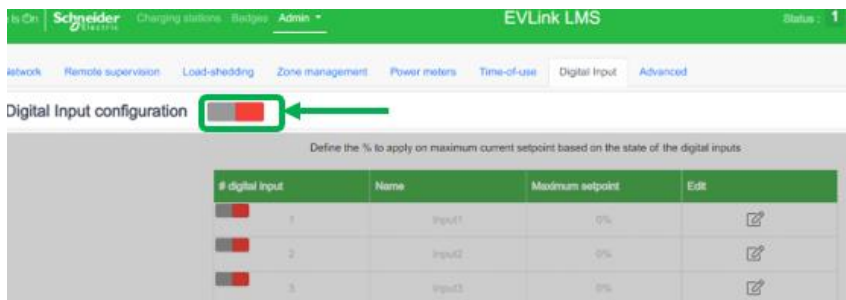


3.10.2 Prerequisites

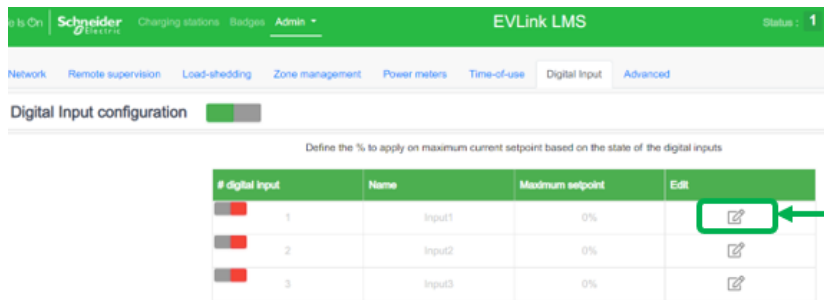
This feature is only available for commercial references HMIBSCEA53D1ESM, -EDS, -EDM and -EDL.

3.10.3 Commissioning

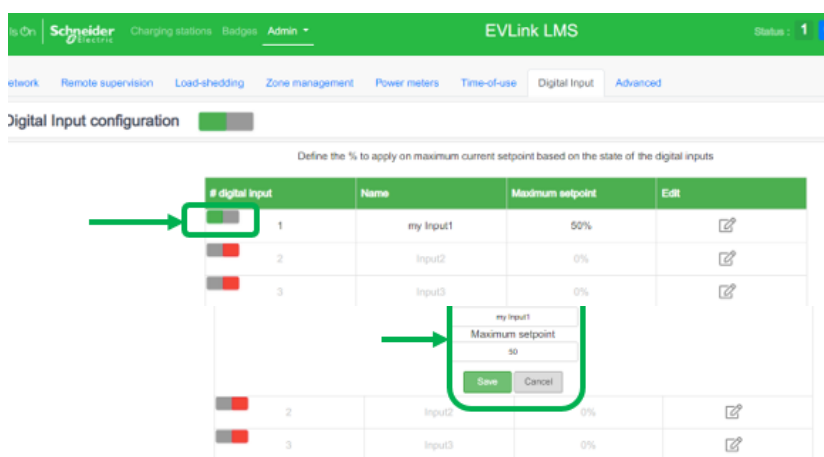
- Energy management through DI setup and visualization are only available for Admin profile, to be configured during Operation phase (not configurable during initial commissioning phase).
- Click on “Digital Input configuration” button to enable the feature:



- Once the feature enabled, click on the Edit icon to update DI characteristics:
 - Maximum setpoint authorized values from 0 to 99%
 - To leave the field blank is not allowed



- Each DI can be enabled / disabled separately:



3.10.4 Electrical connection

- Digital inputs 1, 2 & 3 are driven by GPIO channels 1, 2 & 3:



- **Each digital input is activated as both conditions are satisfied:**
 - enabled through EVlink LMS electrical commissioning
 - the corresponding GPIO channel is powered by 3.3 Vdc TTL.



Note: An external 3,3 Vdc supply power needs to be foreseen. A higher voltage supply may damage the GPIO unit.

3.10.5 Maximum setpoint management

- As the DI is activated the maximum setpoint reduction is applied to all zones
- Zone operating on static energy management:
 - Ratio of the maximum setpoint
Example: zone nominal setpoint 100A, DI maximum setpoint 80% -> zone reduced setpoint 80A
- Zone operating on dynamic energy management:
 - Minimum between the ratio of maximum setpoint and the dynamic setpoint or the degraded setpoint in power meter loss
Example 1: zone nominal setpoint 100A, DI maximum setpoint 70%, dynamic setpoint 90A -> zone reduced setpoint 70A
Example 2: zone nominal setpoint 100A, DI maximum setpoint 70%, dynamic setpoint 50A -> zone reduced setpoint 50A
Example 3: zone nominal setpoint 100A, DI maximum setpoint 10%, degraded setpoint 30A -> zone reduced setpoint 10A
- Setting maximum setpoint at 0% induce suspension of all loads
- DI energy management versus Time-of-Use:
 - As the DI is activated, the Time-of-Use settings are ignored
- Multiple DI activation:
 - As multiple DI are activated, the lowest maximum setpoint is applied.

3.11 Advanced configuration

Access: Admin tab → Configuration → Advanced

3.11.1 Definition

In this section you can configure EVLink LMS advanced parameters related to cybersecurity and power meters.

Advanced configuration setup and visualization are only available for Admin profile, during Operation phase (not during initial commissioning phase).

The screenshot displays the 'Advanced configuration' page in the EVLink LMS interface. The page has a green header with the Schneider Electric logo and navigation tabs for 'Network', 'Remote supervision', 'Load-shedding', 'Zone management', 'Power meters', 'Time-of-use', 'Digital Input', and 'Advanced'. The 'Advanced' tab is selected. Below the header, there are four configuration items, each with a label and a text input field:

- Session timeout configuration (in seconds): 6000
- Connection consecutive attempts before locking: 5
- Login locked period (in seconds): 60
- Power meter polling period (in milliseconds): 500

A blue 'SAVE' button is positioned at the bottom left of the configuration area.

3.11.1 Cybersecurity

- **Session Timeout:** allows to define the web session timeout on web interface. The timeout is the duration in seconds without any interaction with the web interface. When the timeout is reached, the system will redirect to the login page.
- **Connection consecutive attempts before locking:** allows to define the maximum limit of unsuccessful connection attempts that are allowed with user or admin credentials before the system is locked.
- **Login locked period:** Allows to define in seconds the period during which the login is blocked after the previously define maximum unsuccessful login attempts.

3.11.2 Power meter

- **Power meter polling period:** allows to define in milliseconds the frequency of data acquisition from the power meters used for dynamic energy management.

3.12 User management

Access by the Admin tab → Users management

3.12.1 User management landing page

Name	Role	Date of creation	Last access
Bruno	ADMIN	21/03/2019 14:22:48	25/03/2019 08:38:28
Youssef	USER	21/03/2019 14:23:18	21/03/2019 14:23:18

There are two profiles in the EVlink LMS:

Admin: full access to all configuration parameters

User: badge management, access to the dashboard in read-only mode

See [chapter 2.2.2](#) for login and password rules.

3.12.2 Add a user

All fields must be populated.

Current login

Current password

Please choose the role of the new user

Administrator

User

New Password

Confirm New Password

CONFIRM

CANCEL

3.12.3 Change the user password

All fields must be populated.

Current login

Current password

User login

New Password

Confirm New Password

CONFIRM

CANCEL

3.12.4 Delete a user

All fields must be populated.

Current login

Current password

User name to delete

CONFIRM

CANCEL

3.13 Charging station commissioning

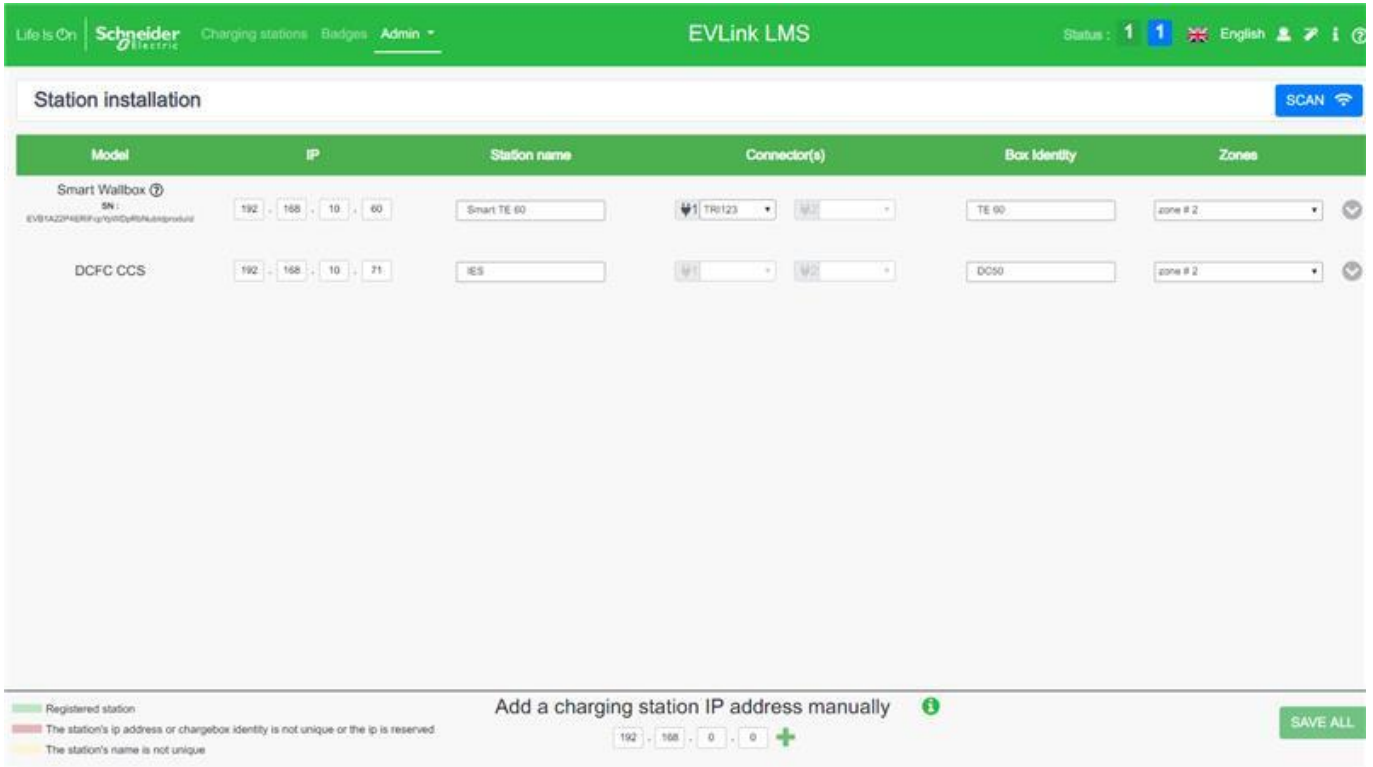
Access: Admin tab → Station installation

3.13.1 Prerequisites

Charging stations must be powered and connected to the Ethernet network prior to the EVlink LMS commissioning.

Charging stations must have the right firmware version, [see chapter 1.1.2.1 EVlink charging stations](#)

3.13.2 Charging station landing page




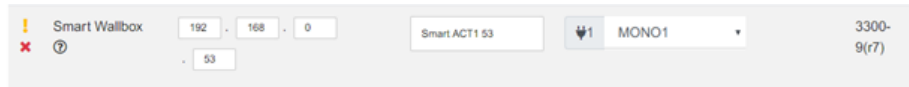
3.13.3 Description

Icon	Description
	Show all charging stations on the network
	Refresh the display charging station settings
	Save settings
	Add manually a charging station

3.13.4 Update charging station discovery

Steps	Description
1	Select the IP addresses scan range: enter the lowest and highest IP addresses. Note: if you have changed the sub-network of the EVlink LMS during the Network step, please update the scan range addresses accordingly.

Steps	Description
2	Click 
3	<p>Update charging station settings:</p> <ul style="list-style-type: none"> - IP Address: Change this parameter if the building IT manager imposes fixed IP addresses (avoid X.Y.X.50) - Station name: It is recommended to select a name that indicates the location of the station and the name of the parking (50 characters max) - Connector(s): in order to optimize load management, it is recommended to rotate the phases of the charging stations installed on the same site. Select here the phase wiring of each connector of the charging station according to the electrical wiring as implemented in the electrical network. e.g. <div data-bbox="475 593 1273 862" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> </div> <ul style="list-style-type: none"> - VIP: Check the box to activate the VIP status to the charging station. - Auth mode: The authentication mode will define the rules and strategy to grant access to the EV charging stations (see chapter 2.7). - Auth disconnected mode: it allows to define the behavior when the connection between the charging stations and the EVlink LMS is lost. (see chapter 2.7). - Version: Firmware version embedded in the charging station. See chapter 1.1.2.1 for compatibility. - Box identity: If the EVlink LMS is connected to a remote supervision, insert here the box identity provided by the Charge Point Operator (CPO). By default, it is the charging station MAC address. The box identity must not contain spaces. - Zones: Please choose the zone where the charging station belongs. Please note that the serial number of the charging station can be read by placing the pointer over the little question mark symbol next to each charging station model.
4	Click the “Save All” button to initiate the configuration of the charging stations
5	Click “Next” to complete the step



Note: It is possible that the installation of a charging station is not successful (marked with a red cross). In this case please relaunch the installation of the charging station.

During the configuration of the charging stations, the EVlink LMS will automatically update the firmware of the charging stations in the network to the charging station firmware version embedded in the LMS firmware.

3.13.5 Definition of authentication mode

The authentication mode will define the rules and strategy to grant access to the charging stations. Moreover, it allows to define the behavior of the charging stations in the case that the connection between the charging stations and the EVlink LMS is lost.

The different authentication mode options are detailed on [chapter 2.7](#).

3.14 Load shedding strategy and degraded mode

Access: Admin tab → Configuration → Stations



Note: Whatever the parameters changed in degraded mode configuration, a reboot on the EVLMS and charging station must be done after the configuration.



Note: For the particular case of DC fast charging stations, the respect of the degraded mode instructions is not ensured, hence make sure the dimensioning of the electrical network and the nominal power provided to them are sufficient to avoid power outages.

3.14.1 Definition

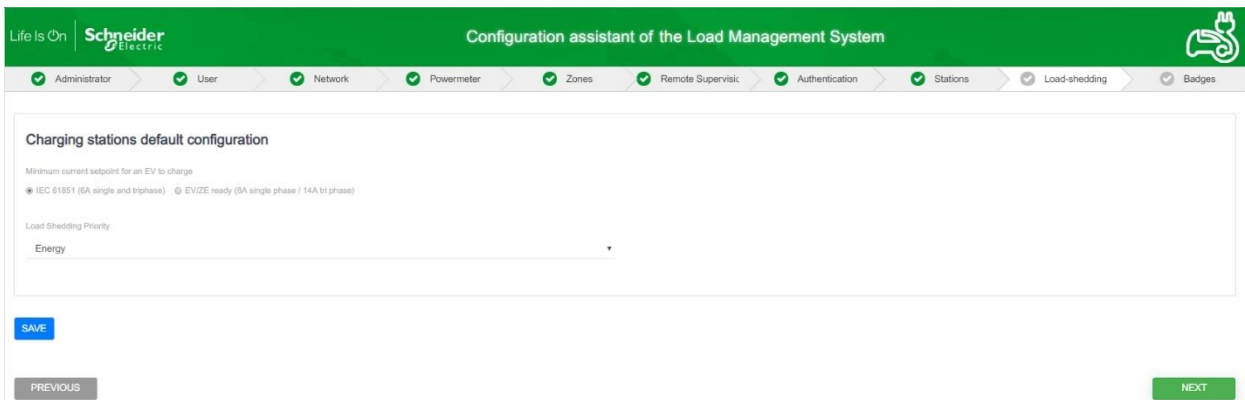
The degraded mode is a parameter defining the current setpoint allocated to the charging station when the communication between the charging station and the EVlink LMS is lost. It is also the threshold under which the charge will be suspended in normal mode.

In dynamic mode, the EVlink LMS will favor the continuity of service of the building hence the current setpoint will be set to 0 A.

3.14.2 Prerequisites

The sum of the degrade mode setpoint must be lower than the max intensity of the zone. Otherwise, for safety and continuity of service reasons, **the EVlink LMS will automatically configure the current setpoint to 0A**

3.14.3 Degraded mode configuration page



Step	Description
1	Select the minimum setpoint for your installation <ul style="list-style-type: none"> - IEC 61851 ready (6A single phase and 3 phases) - EV/ZE ready (8A single phase and 14A 3 phases)
2	Please choose the load shedding priority option: <ul style="list-style-type: none"> >Energy: Proportional to the energy consumed (kWh) <ul style="list-style-type: none"> • The system suspends the charging of vehicles which have consumed the highest amount of energy since the beginning of the charging process. This option is set by default.

Step	Description
	<p>>Duration: Proportional to the charging time</p> <ul style="list-style-type: none"> The system suspends the charging of vehicles which have charged for the longest time since the beginning of the charging process.
3	Click on “Next” to complete the process

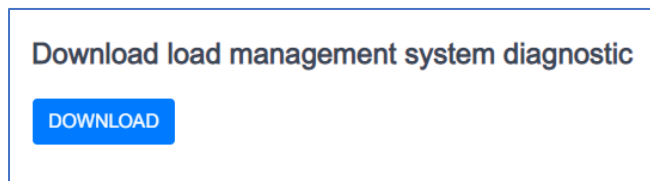


Note: DC fast charging stations don't support degraded mode. Make sure the electric network is dimensioned and configured taking that into account.

3.15 Maintenance

3.15.1 Download the maintenance report

Access by the Admin tab → Reports



Click on Download button to get the EVlink LMS maintenance report in HTML format.

3.15.2 Read EVlink LMS Logs

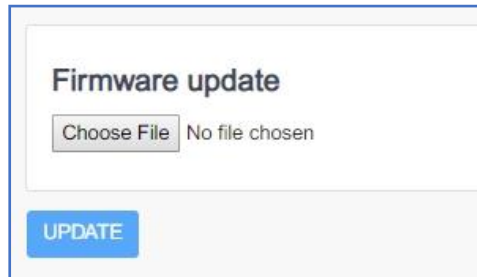
Access by the Admin tab → Logs

Date	Level	Stations	Command	Message
22/03/2019 15:20:42	0	LC	Stats	uptime:13738 sysUptime:13750 load:32/44/53 freeram:555M vmSize:2097M rss:22M
22/03/2019 15:20:32	0	LC	Stats	uptime:13728 sysUptime:13740 load:38/45/53 freeram:554M vmSize:2097M rss:22M
22/03/2019 15:20:26	0	Smart TE	Heartbeat	
22/03/2019 15:20:22	0	LC	Stats	uptime:13718 sysUptime:13730 load:45/47/54 freeram:555M vmSize:2097M rss:22M
22/03/2019 15:20:12	0	LC	Stats	uptime:13708 sysUptime:13720 load:34/45/53 freeram:555M vmSize:2097M rss:22M
22/03/2019 15:20:02	0	LC	Stats	uptime:13698 sysUptime:13710 load:40/47/54 freeram:554M vmSize:2097M rss:22M
22/03/2019 15:19:52	1	LC	PM	Recap read PM Ph1: 0.0A Ph2: 0.0A Ph3: 0.0A

3.16 EVlink LMS firmware update

You can update the new firmware release of the EVlink LMS.

Access by the Admin tab → Update



Firmware update

Choose File No file chosen

UPDATE

Click Choose file to select the binary file. The latest firmware release is available on se.com. You can use the following QR code or URL address to locate it:



<https://www.schneider-electric.com/en/product-range-download/62159-EVlink-load-management-system/?parent-category-id=1800&parent-subcategory-id=1840&filter=business-5-residential-and-small-business#/software-firmware-tab>

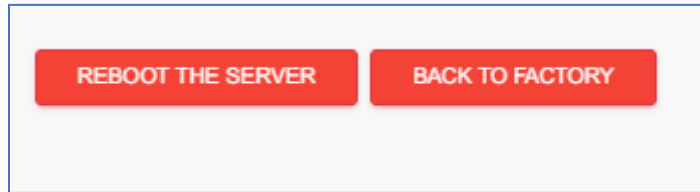
Click UPDATE to install the firmware in the EVlink LMS.
Then reboot the EVlink LMS.

It is possible to upgrade your current EVlink LMS license to a more sophisticated one (for example, from a commercial reference able to manage up to 15 charging stations, to a new one able to manage up to 50 charging stations). If you wish to do so, please contact Schneider Electric, or your Schneider Electric commercial partner.

3.17 Reboot and back to factory settings

3.17.1 Reboot and back to factory settings from the webserver

Access by the Admin tab → Reboot



Click on “Reboot the server” to restart the EVlink LMS application.

Click on “Back to factory” to restore the EVlink LMS factory settings:

- The following data will be deleted:
 - Badge list
 - Charging stations
 - Zones
 - Power meters
 - Transaction data
 - User list (except factory default user, ADMIN)
- The remote supervision connection will be removed
- The network settings will be reset

During the reboot process or the back to factory process the EVlink LMS will lose connection. A message will be shown on-screen for that. That is the normal behavior. Please wait a few seconds for the connection to be reestablished, or else refresh your browser.

3.17.2 Hardware back to factory settings

Refer to [chapter 4.1 Hardware back to factory settings](#).

3.18 Save and Restore

Access by the Admin tab → Save & Restore

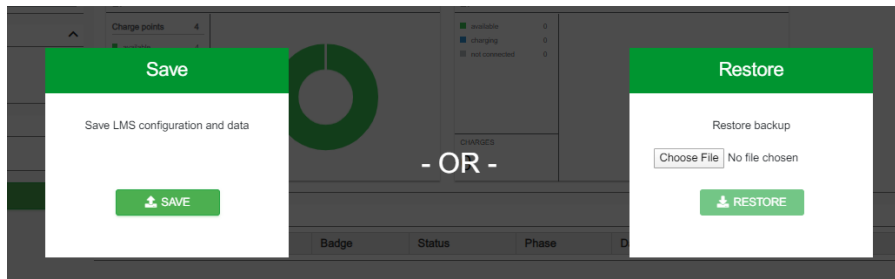
3.18.1 Save the LMS configuration

The EVlink LMS allows to save a backup of the current system configuration to be able to import it later if needed and avoid having to reconfigure again the system.

The information that is backed up is the following:

- Admin and user profiles credentials
- Charging stations configuration
- Zones configuration
- Power meters configuration
- Network configuration
- Authentication strategy configuration
- List of badges
- Charging data records

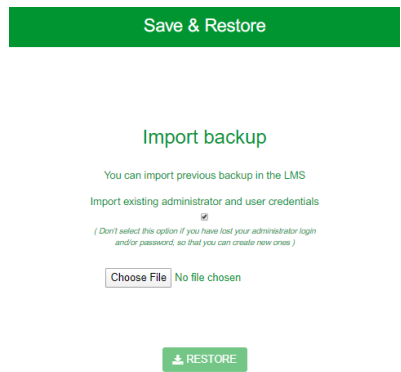
When you click Admin tab -> “Save & Restore”, the following pop-up is displayed. It allows to either save or restore the EVlink LMS configuration.



When clicking the button “Save”, a backup file is generated. For the security of your information, it is crypted and signed. It is advised to register it in a safe repository.

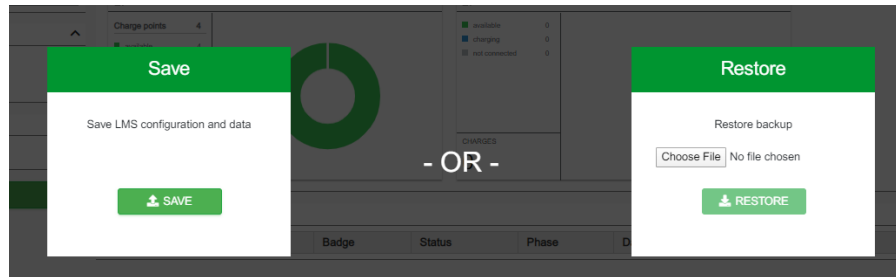
3.18.2 Restore during system commissioning

The “Save & Restore” pop-up during the system commissioning allows the user to restore a previously saved system configuration. It also allows to unselect the restoration of the administrator and user credentials so that, if the reason of the configuration restore is the loss of the administrator credentials and the consequent implementation of a hardware back-to-factory settings (see chapter 4.1), the administrator credentials can be recreated.



3.18.3 Restore during system operation

The “Save & Restore” pop-up during system operation (access via Admin tab) allows to either restore a previously-saved system configuration by choosing the appropriate file locally



Note: The information about the transactions registered between the date of the backup and the current date will be lost when implementing a configuration restoration. If you don't want to lose them, please make sure you save them by exporting them prior to the restore. See chapter 1.1.1.4 to know how to do it.



Note: The information on the badges added between the date of the backup and the current date will be lost when implementing a backup restore. If you don't want to lose them, please make sure you save them by exporting them prior to the restore. See chapter 3.4.4 to know how to do it.

Chapter 4. EVlink LMS Maintenance

4.1 Hardware back to factory settings

4.1.1 Definition


If you find yourself in a situation where you can no longer access your EVlink LMS user interface (for example, because you have lost your Admin credentials, or if you have changed the network settings in a wrong way) you may consider restoring your EVlink LMS to its factory settings using the physical procedure to do it.

Note: When you reset your EVlink LMS to factory settings all data will be deleted. To know the list of data this procedure will delete, please refer to [chapter 3.16.1](#).

4.1.2 Prerequisites

EVlink LMS must be powered on.

4.1.3 Hardware back to Factory Settings procedure

Step	Description
1	<p>Create a wired bridge between the GPIO 7 and the GPIO 8 of the product connector for at least 5s.</p> 
2	After at least 5s, remove the wired bridge.
3	<p>Wait for the reboot of the product. You can now login to the EVlink LMS (configuration assistant, see chapter 2.1).</p>

4.2 Regular cleaning and maintenance

4.2.1 Introduction

Inspect the EVlink LMS Box periodically to determine its general condition. For example:

- Are all power cords and cables connected properly? Have any become loose?
- Are all installation screws holding the unit securely?
- Is the ambient temperature within the specified range?

The following sections describe maintenance procedures for the EVlink LMS Box, which must be carried out by a trained, qualified user.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both the EVlink LMS Box and the power supply.
- Always use a properly rated voltage sensing device to confirm that power is off.
- Replace and secure all covers or elements of the system before applying power to the unit.
- Use only the specified voltage when operating the EVlink LMS Box. The AC unit is designed to use 100...240 Vac input. The DC unit is designed to use 24 Vdc input. Always check whether your device is AC or DC powered before applying power.

Failure to follow these instructions will result in death or serious injury.

During the operation, the surface temperature of the heat sink may exceed 70 ° C (158 ° F).

WARNING

RISK OF BURNS

Do not touch the surface of the heat sink during operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

4.2.2 Cleaning solutions

CAUTION

HARMFUL CLEANING SOLUTIONS

- Do not clean the unit or any component of the unit with paint thinner, organic solvents, or strong acids.
- Use only a mild soap or detergent that will not harm the polycarbonate material of the screen.

Failure to follow these instructions can result in injury or equipment damage.

Schneider Electric Industries SAS

35, rue Joseph Monier
CS 30323
92506 Rueil Malmaison Cedex
France

www.se.com

DOCA0163EN© 2020 Schneider Electric. All rights reserved