

# **EVlink**

Troubleshooting guide

# DOCA0117EN-01



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This document contains general descriptions and/or general technical specifications of the products mentioned. It cannot be used to determine the suitability or reliability of these products for specific user applications. It is the responsibility of each user or integrator to conduct the appropriate risk analysis in full, assessing and testing products as regards the application in which they will be used and the execution of this application. Neither Schneider Electric nor any of its affiliated companies or subsidiaries can be held responsible for incorrect use of the information contained in this document. If you have any suggestions for improvements or correction, or have found errors in this publication, please notify us.

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All relevant state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When equipment is used for applications with technical safety requirements, follow the relevant instructions.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operation.

Failure to follow this instruction can result in injury or equipment damage.

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# Safety information



#### **IMPORTANT INFORMATION**

#### **NOTICE**

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



The addition of one of these symbols to a Danger safety label on a device indicates that an electrical hazard exists, which could result in death or personal injury if the instructions are not followed.



This is the safety alert symbol. It warns you of a risk of physical injury. You must comply strictly with the safety instructions associated with this symbol to avoid injuring yourself or putting your life in danger.

!

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

## **▲** WARNING

WARNING indicates a potentially hazardous situation which, if the safety instructions are not followed, could result in death or serious injury.

## **A** CAUTION

CAUTION indicates a potentially hazardous situation which, if the safety instructions are not followed, could result in slight or serious injury.

#### **NOTICE**

**NOTICE** indicates practices that do not involve the risk of bodily injury.

#### **IMPORTANT NOTE**

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

# About this manual



#### Aim of this document

The purpose of this document is to guide you in troubleshooting:

- an EVlink Parking EVF1, EVW1, EVF2 or EVW2 charging station;
- an EVlink City EVC charging station;
- an EVlink Smart Wallbox EVB charging station.

This document tells you how to:

- carry out first level troubleshooting without PC and without opening the charging station;
- carry out second level troubleshooting with PC connected to the charging station;
- restore the factory settings of the charging station.

This document is intended for:

- commissioning technicians;
- site operators.

#### Area of application

The characteristics given in this document must be identical to those provided on-line.

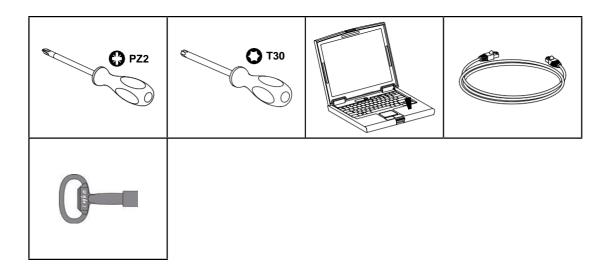
In accordance with our policy of continuous improvement, we may revise the content to improve the clarity and accuracy. In the event of a difference between this user manual and the information on-line, use the latter as reference.

#### Related document(s)

Document title	Catalogue number
EVlink charging stations - Commissioning Guide	DOCA0060EN

 $You \, can \, download \, these \, publications \, and \, other \, technical \, information \, from \, our \, website \, at \, http://download.schneider-electric.com.$ 

# Tools and accessories required



# **Application**

This guide is applicable to the Smart Wallbox.

This guide is also applicable to Parking and City stations with a date code equal to or greater than 2014 week 45.

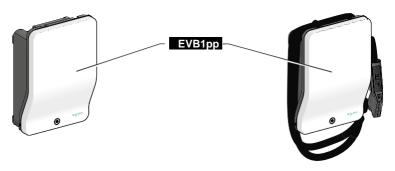


If your charging station has a date code less than 14451, contact Schneider Electric Customer Care Center to update the charging station software.

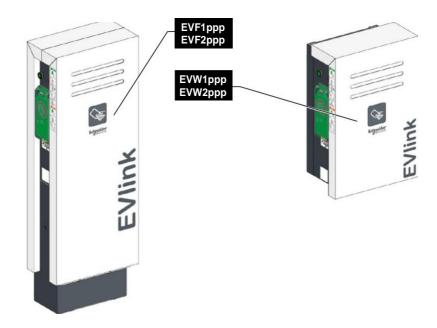
For City EVC, the serial number must be equal to or later than 4514 •••• where 45 corresponds to the week and 14 to the year.

# **Product Family**

## **EVlink Smart Wallbox**



## **EVlink Parking**



# **EVlink City**

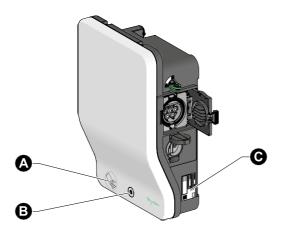


# Chapter 1

# First level troubleshooting with indicator lights and buttons - Without PC

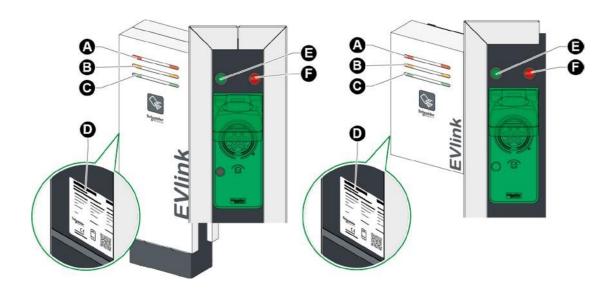
## 1.1 Description

#### **EVlink Smart Wallbox**



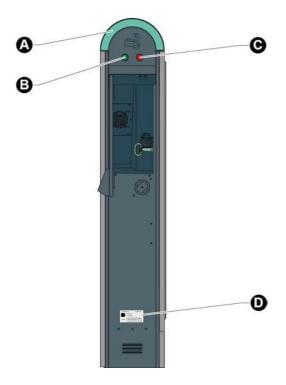
- ARFID reader (according to model)
- Stop/Restart button and status indicator light
- Product label

#### **EVlink Parking**



- ♠Socket-outlet not functioning indicator light (red)
- **B**Socket-outlet reserved indicator light (orange)
- **©**Socket-outlet available indicator light (green)
- n Product label
- Luminous green push-button Start and Unlock
- Charge stop button

#### **EVlink City**



- **A**Station status indicator light
- **B**Luminous push-button Start and Unlock
- **©**Luminous push-button Stop
- ●Product label

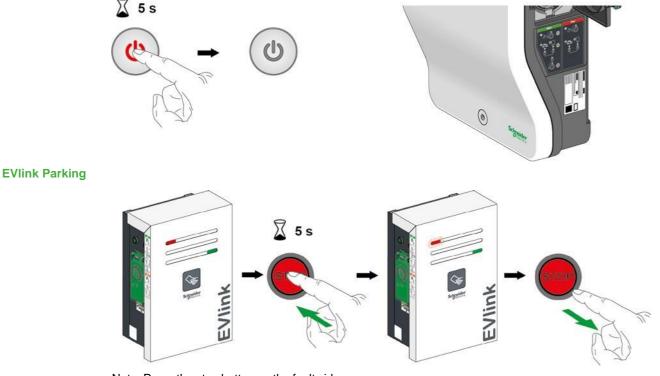
## 1.2 Charging station troubleshooting mode

#### **IMPORTANT NOTE:**

Before starting the troubleshooting phase, check the status of the protective devices (circuit breakers, differential switches, etc.) on your equipment.

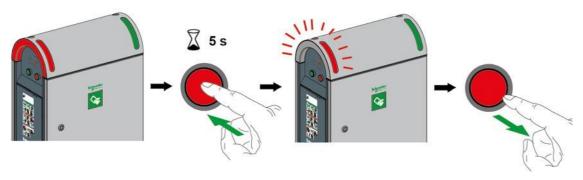
To access the charging station troubleshooting mode, the status indicator light of the socket concerned must first be permanently red.

#### **EVlink Smart Wallbox**



Note: Press the stop button on the fault side.

#### **EVlink City**



Note: Press the stop button on the fault side.

## 1.3 Reading fault codes

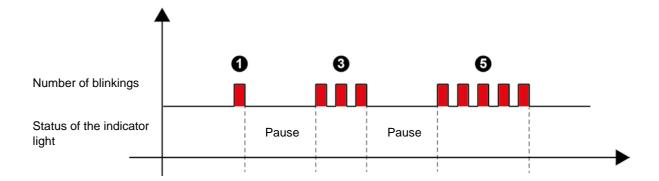
In troubleshooting mode, the charging station launches a sequence of blinkings:

- of the indicator light on the front panel of the Smart Wallbox;
- of the red indicator light on the front panel on the fault side for Parking and City.

The number of blinkings indicates a specific fault code; see the table on page 11 for more details on possible malfunctions.

A sequence may have several fault codes. A pause between each sequence of blinkings on the push-button indicates the beginning or end of a sequence. The fault codes are in chronological order.

If two station sockets are faulty, the operation must be repeated on both sides (Parking and City).



## 1.4 First level troubleshooting

Number of blinking	Description	Parking	City	Smart Wallbox	What to do
1	Surge arrestor fault (Faulty cartridge, badly inserted, "Status" connector unplugged or broken wire)	x	X		Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
2	Non-locked socket fault => discordance between socket/trap lock sensor status	x	x	x	Check the general status of your connector and socket. Check whether the socket locking hatch is damaged. Remove any foreign bodies that may be in the socket. Try again to insert the connector completely.
2	Trap not locked fault => Discordance in the trap inductive sensor	x	x		Check the general status of the trap. Remove any foreign bodies that may be in the trap closure area. Try again to close your trap by pressing on it firmly.
3	Impossible to connect the master board	X	X		
3	Capacity charge level too low for the functioning of socket locking/unlocking			x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
4	Contactor status wrong (discordance fault)	X	х	X	
4	Return of the status Input 1 wrong (Socket breaker T2/T3 or Diff. sw. or Domestic socket breaker)	х	x	x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
5	Loss of communication with the cluster manager	X	x	х	
5	No communication with the modem, RSSI less than 10 (with modem =s= configuration by default)	x	x	x	Contact Schneider Electric Customer Care Center
5	Supervision fault = communication problem with "Supervision" (OCPP) or rights	x	x	x	after first noting the commercial reference and serial number on the product label.
5	Loss of communication with the NTP server	x	x	х	
6	Loss of communication with the RFID reader (RFID reader disconnected or faulty)	x	X	x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.

Life Is On Schneider

Number of blinking	Description	Parking	City	Smart Wallbox	What to do
6	Loss of communication with the "IEM3xxx" energy meter	x	X	x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
7	Number of charge phases wrong => if single-phase charging station used as three-phase	x	x		Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
7	Over-current charging fault	x	x	х	Try with another vehicle.
8	Loss of communication with the RFID reader or other (third party)	x	x	x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label
8	Socket or electric vehicle not connected after one minute or for the City = Domestic and T2/T3 connected on the same side	x	x	x	Check the general status of your cables and your station and car side sockets. Remove any foreign bodies that may be in the interconnections. Try again to fully insert the connectors. Try with another cable.
8	Communication fault with a Mode 3 vehicle ("CP" error: Pilot control)	X	X	X	
8	Cable status wrong (the value of the coding resistor "PP" is wrong)	x	X	x	Try with another cable; if this still does not work, try with another vehicle or simulator.
8	Charging fault on short-circuit Pilot wire (CP)	X	X	x	
8	Charging fault following disconnection of the cable of the electric vehicle.	x	x	x	Try with another cable; if this still does not work, try with another vehicle or simulator and do not disconnect the cable while charging. Interrupt charging on the vehicle side by requesting cable disconnection and then on the station side.
9	Anti-intrusion fault on the charging station (Door open or faulty door contact)	x	x		Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.
10	Configuration file missing, damaged or already open	x	x	x	Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.

# **Chapter 2**

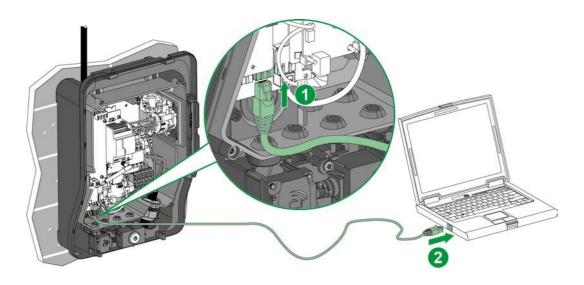
# Second level troubleshooting with a PC

## 2.1 Connection to the charging station

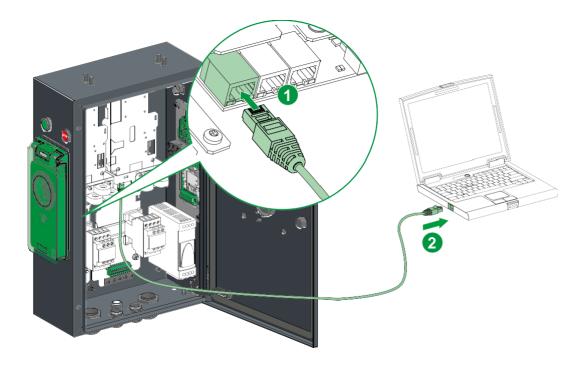
#### **IMPORTANT NOTE:**

Before starting the troubleshooting phase, check the status of the protective devices (breakers, differential switches, etc.) and that power is supplied to your equipment.

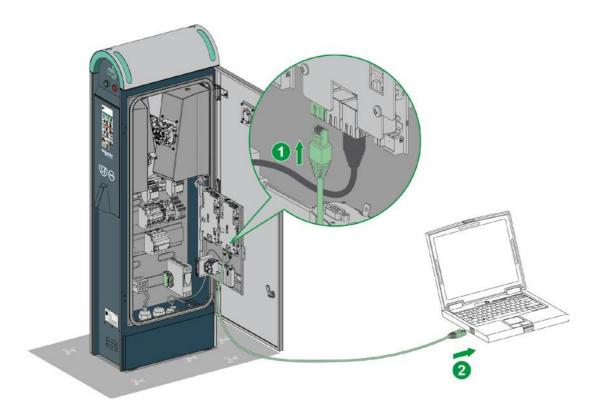
#### **EVlink Smart Wallbox**



#### **EVlink Parking**



# **EVlink City**



# 2.2 Computer configuration

Step	Action
1	Check that your PC is connected by Ethernet cable to the charging station and that the latter is powered up.
2	Open the network properties menu on your PC.
3	Click "Connect to local network".
4	Click "Properties".
5	Open the properties of the Internet version 4 protocol (TCP/IP v4).
6	Set the static IP address properties as follows (note the settings before modifying so as to be able to return afterwards to the initial configuration):  b IP address: 192.168.0.x (where x is a number between 241 and 249)  b Subnet mask: 255.255.255.0  b No default gateway  b No DNS server  b No proxy

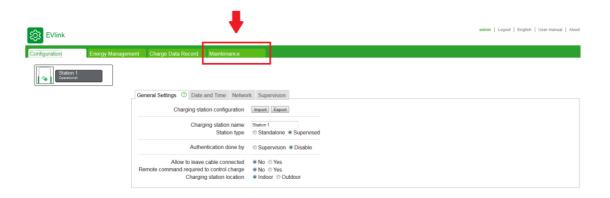
#### 2.3 Downloading the report

Open your Internet browser and enter *http://192.168.0.102* in the URL address bar. IP valid ex-factory. If the IP of the station has changed meanwhile, configure your network settings accordingly and enter the new address in your browser.

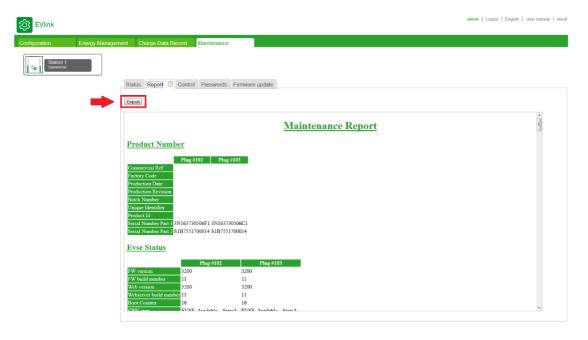
Choose the language and enter the login details:

- User: admin
- Password: ADMIN

Go to the "Maintenance" tab.



Click "Export" in the "Status" field in the "Maintenance" tab.



Save the report on your PC.

The exported file is in HTML format and is opened with an Internet browser.

## 2.4 Description of the report

The red frames in each part of the report indicate important information for the Customer Care Center.

#### **Product reference**

#### Product number

	Plug #102	Plug #103		
Commercial Ref	EV.1S22P33R	EV.1S22P33R		
Factory Code	3N	3N		
Production Date	14122	14122		
Production Revision	09	09		
Batch Number	003	003		
Unique Identifier	003	003		
Product Id	50097F3	50097F3		
Serial Number Part 1	3N135130433A	2 3N135130434H1		
Serial Number Part 2	S1B7551700007 S1B7551700007			

#### **Software versions**

#### **EVSE Status**

	Plug #102	Plug #103
FW version	2703	2703
FW build number	17	17
Web version	2703	2703
Webserver build number	17	17
Boot Counter	6	6
CPW state	EVSE_Available_StateA	EVSE_AvailableStateA
Cable state	Not_Plugged	Not_Plugged
EV state	A_Not_Present_12V	A_Not_Present_12V
Last charge status	255	255
Evse Status	NormalMode3	NormalMode3
Outlet Status	NotInitiatized	NotInitiatized
Outlet Status Last Error	NotInitiatized	NotInitiatized
Selected Charge Power	NOTHING	NOTHING
Selected Charge Duration	Undefined	Undefined
[ErrorStatusWord_Level2]	0x0000	0x0000
[ErrorStatusWord_Level1]	0x0040	0x0040

#### **Event status**

## Event status (KO = fault).

#### **Event Status**

bit description	Plug #102
Evt #1 - Rfid Reader	OK
Evt #3 - Internal Communication	OK
Evt #4 - Outlet Lock	OK
Evt #5 - Contactor State	OK
Evt #6 - Surge Arrestor	OK
Evt #7 - Anti-intrusion	OK
Evt #8 - Hardware Configuration	OK
Evt #9 - Software Configuration	OK
Evt #10 - Flap Sensor	OK
Evt #11 - Upstream Protection Devices	OK
Evt #12 - Power Meter Communication	OK
Evt #13 - Remote Authentication Communication	OK
Evt #14 - [Un]Plug Process	OK
Evt #15 - Load tri-phasis compliancy	OK
Evt #16 - Plc Communication	OK
Evt #17 - Control Pilot (CP) Signal conformity	OK
Evt #18 - Plug Presence (PP) conformity	OK
Evt #19 - Charge Alarm EV Disconnected	OK
Evt #20 - Charge Alarm ShortCut	OK
Evt #21 - Charge Alarm OverLoad	OK
Evt #22 - Charge Alarm Ventilation Not Allowed	OK
Evt #24 - Modem Communication	OK
Evt #25 - Energy Reserve	OK
Evt #29 - Remote EM Communication	OK
Evt #30 - Supervision Communication	OK
Evt #31 - NTP Server Communication	OK

#### List of latest events

Correspondence of the "Latest events" described in the Event Status table:

#### Latest events

#### Latest events

Start Date	End Date	Plug Event Code

#### **Additional information**

The remaining information is for Schneider Electric.

#### Hardware Reference

	Plug #102	Plug #103
enveloppe	Monoblock	Monoblock
outletNumber	Socket-outlet 2	Socket-outlet 2
plugType	T3	T3
boardType	MP2	MP2
isAttachedCable	False	False
pushButton	Normal and stop	Normal and stop
lockType	Double lock	Double lock
lightIndicators	AVAILABILITY_AND_BOOKED_AND_OUT_OF_ORDER	AVAILABILITY_AND_BOOKED_AND_OUT_OF_ORDER
chargeIndicators	Load lamp only	Load lamp only
buzzer	KINGSTATE KPE-182	KINGSTATE KPE-182
modem	None	None
display	None	None
rfidReader	OSITRACK	OSITRACK

#### Io Model



#### **Network**

	Plug #102	Plug #103
Physical Address	00 - 80 - f4 - 42 - 10 - bf	00 - 80 - f4 - 42 - 10 - 70
Ip Address	0.0.0.0	0.0.0.0
Sub-Network Mask	255.255.255.0	255.255.255.0
Default Gateway	192.168.0.254	192.168.0.254
Prefered DNS Server	0.0.0.0	0.0.0.0

Internal

## 2.5 Second level troubleshooting

Event	Description	Parking	City	Smart Wallbox	What to do
Evt#1 - Rfid Status	Loss of communication with the RFID reader (RFID reader disconnected or faulty)	x	x	x	Check the wiring of the RFID badge reader, the status of the LEDs on it and the software version in the update tab of the Internet server of the charging station.
Evt#3 – Internal Communicatio n	Impossible to connect the master board	x	x		Check the Ethernet cable between the two boards. Try replacing or changing the connector on the boards. Check the communication by the LEDs on the RJ45 (orange/green/blinking or not). Also check to the right of the 3 RJ45 connectors the status of the board LEDs (green/red/blinking or not). Re-boot the charging station. If there is still the fault on re-booting, perform a back to factory on the left then on the right. See chapter 3.1.
Evt#4 – Outlet Lock	Non-locked socket fault => discordance between socket/trap lock sensor status	x	x	x	Check the general status of your connector and socket. Check whether the socket locking hatch is damaged or missing. Remove any foreign bodies that may be in the socket or the cable. Try again to insert the connector completely.
Evt#5 – Contactor State	Contactor status wrong (discordance fault)	x	X	x	Check that the contactor is not stuck and the wiring of auxiliary contacts.  If the contactor is stuck, have your vehicle checked at the dealer's; there may be a short-circuit in the on-board charger.  Change the contactor.
Evt#6 – Surge Arrestor	Surge arrestor fault (Faulty cartridge, badly inserted, "Status" connector unplugged or broken wire)	x	x		If you do not have surge arrestors in your configuration, check the shunt. If you have surge arrestors, check the status of the cartridges and that they are well inserted. In all cases, check the connector on the electronic board and on the surge arrestor. The circuit must be completed to allow charging.
Evt#7 – Anti- intrusion	Anti-intrusion fault on the charging station (Door open or faulty door contact)	x	x		The charging station goes to return to factor settings mode if you attempt troubleshooting using the buttons. The green push-button will blink for 5s. Do not press it. Check the door and the door contact, check the change of red => green status of the indicator lights by pressing the door contact. Check that the bracket is not bent, the status of the cables from the door contact at the bottom of the appliance and that the connectors are well inserted on the electronic board.
Evt#8 - Software Configuration	Configuration file missing, damaged or already open	x	X	x	Go to charging station commissioning tool. Before making any modifications at all to this file, save it. If you have already saved this file, import it. If you have no backup, perform a return to factory settings in the maintenance tab and reboot the station before redo a complete commissioning.
Evt#9 - Hardware Configuration	Wrong value in EEPROM	х	х		Contact Schneider Electric Customer Care Center after first noting the commercial reference and serial number on the product label.

Event	Description	Parking	City	Smart Wallbox	What to do
Evt#10 – Flap Sensor (DI ShutterUnlock)	Trap not locked fault => Discordance in the trap inductive sensor	x	x		Check the general status of the trap. Remove any foreign bodies that may be in the trap closure area. Try again to close your trap by pressing on it firmly. Check the status and position of the inductive sensor.
Evt#11 - Upstream Protection Devices	Return of the status Input 1 wrong (City: Socket breaker T2/T3 or Diff. sw. or Domestic socket breaker)	x	x	x	Check the status of your protective devices. Breaker, Mnx, differential switch. Check the wiring of the OF and Mnx. Check the connectors of these functions inside the charging station.
Evt#12 – Power Meter Communication	Loss of communication with the "IEM3xxx" energy meter	x	x	x	Check the wiring of the energy meter and its power supply. Check that the settings are coherent with those in the commissioning guide.
Evt#13 - Remote Authentication Communication	Loss of communication with the RFID reader or other (third party)	x	x	x	Check the status of the LEDs on your external RFID reader and the connections up to the charging station. Re-boot the 2 systems, the external reader then the station.
Evt#14 – [Un]Plug Process	Socket or electric vehicle not connected after one minute or for the City = Domestic and T2/T3 connected on the same side	x	x	x	Check the general status of your cable and your station side and car side sockets. Check that your car locks the cable properly. Remove any foreign bodies that may be in the interconnections. Try again to insert the connectors completely.
Evt#15 – Load tri-phasis compliancy	Number of charge phases wrong => if single-phase charging station used as three- phase	x	x		You have a 7kW charger (single-phase) and you have connected 3 phases to it. Try disconnecting phases 2 and 3.
Evt#16 - Plc Communication	Loss of communication with the cluster manager	x	x	x	[OPTION, cluster of charging stations only] Check the Ethernet cable between the charging station and the PLC. Check the status of the PLC in run mode; any errors on the status LEDs. Reset the PLC cabinet and boxes.
Evt#17 – Control Pilot (CP) Signal conformity	Communication fault with a Mode 3 vehicle ("CP" error: Pilot control)	x	X	x	Try with another cable; if this still does not work, try with another vehicle or simulator.
Evt#18 – Plug Presence (PP) conformity	Cable status wrong (the value of the coding resistor "PP" is wrong)	X	x	x	Try with another cable; if this still does not work, try with another vehicle or simulator.
Evt#19 – Charge Alarm EV Disconnected	Charging fault following disconnection of the cable of the electric vehicle	x	x	x	Try with another cable; if this still does not work, try with another vehicle or simulator and do not disconnect the cable while charging. Interrupt charging on the vehicle side by requesting cable disconnection and then on the charging station side.

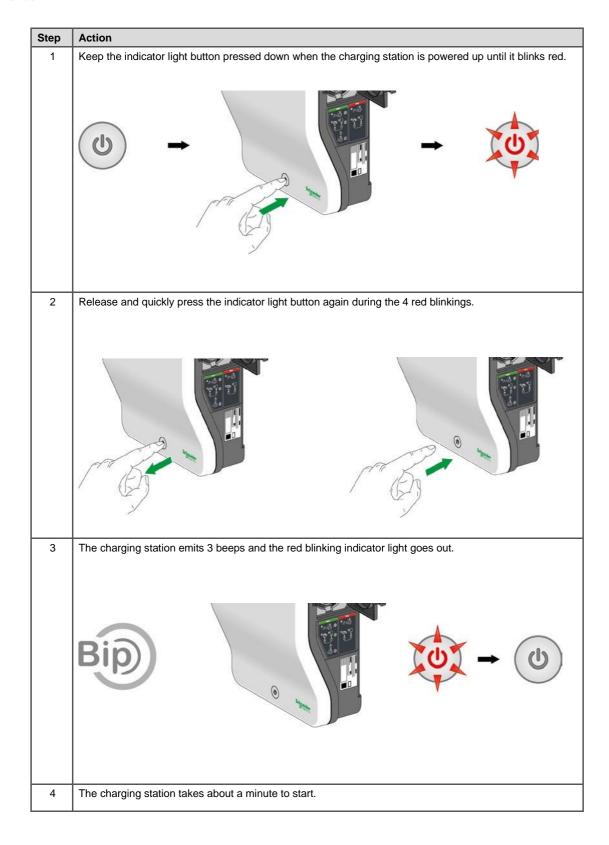
Event	Description	Parking	City	Smart Wallbox	What to do
Evt#20 – Charge Alarm ShortCut	Charging fault on short- circuit Pilot wire (CP)	x	x	x	Try with another cable; if this still does not work, try with another vehicle or simulator.
Evt#21 – Charge Alarm Overload	Over-current charging fault	x	X	x	Try with another vehicle.
Evt#22 – Charge Alarm Ventilation Not Allowed	Battery gas leakage during load. Car asking box ventilation	x	X	X	SW configuration tells that the charging station is indoor, and the vehicle requests ventilation with old batteries car technologies which are not supported
Evt#24 - Modem Communication	No communication with the modem, RSSI less than 10 (with modem =s= configuration by default)	x	x	x	OPTION Check the Ethernet cable between the charging station and the modem. Check the modem power supply. Refer to the modem documentation to analyse the status LEDs. Reset the box and the modem. Change the antenna position, check the RSSI (GPRS signal strength) in the modem Internet server. This must be greater than 10.
Evt#25 - Energy Reserve	Capacity charge level too low for the functioning of socket locking/unlocking				Can happen when the plug is not correctly inserted in the socket and the charging station fails to lock the plug. This event is cleared after few seconds, when the energy reserve is restored
Evt#29 – Remote EM Communication	Lose communication between Remote EM and chargepoint	х	x	x	Check the status of the local supervision and your communication link (Modbus Ethernet). Reboot the whole system.
Evt#30 – Supervision communication	Supervision fault = communication problem with "Supervision" (OCPP) or rights	х	x	х	OPTION Check the status of your charging station in the charging station commissioning tool and export the maintenance report. Reset the box and the modem. Change the antenna position, check the RSSI (GPRS signal strength) in the modem commissioning tool. This must be greater than 10. Call the administrator (Supervision) of your charging station to obtain its status. Check the concordance between the charging station and the back-end (box identity charging station registration).
Evt#31 - NTP Server CommunicationError	Loss of communication with the NTP serve	x	x	x	Try changing your NTP server settings in the commissioning tool of the charging station and check the connection (wire and firewall) to your network.

# **Chapter 3**

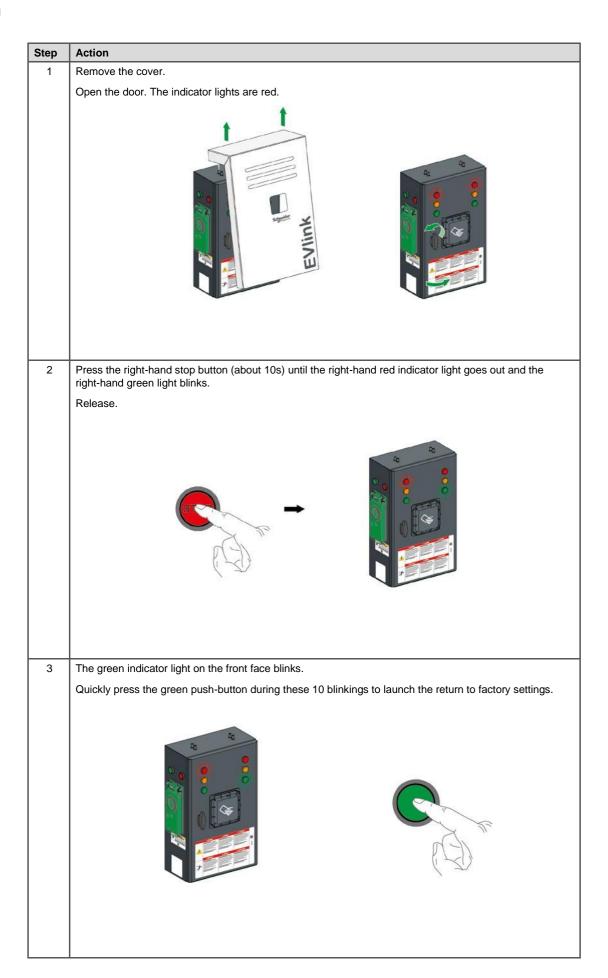
# Returning to factory settings of the charging station

## 3.1 Manually and without PC

#### **EVlink Smart Wallbox**

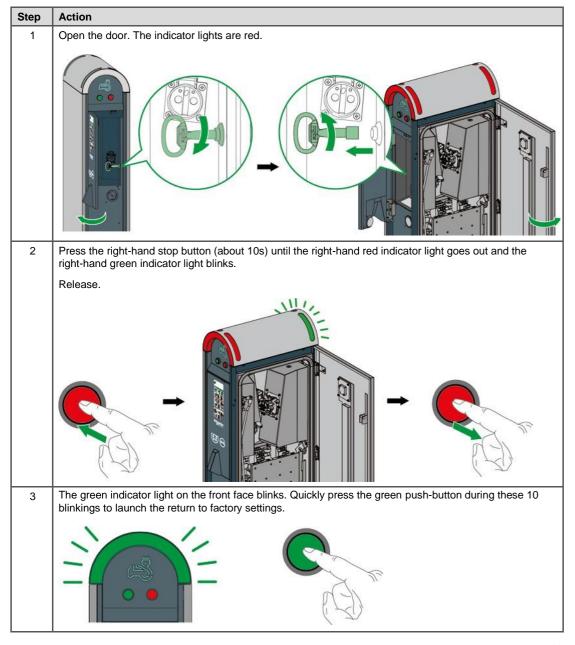


#### **EVlink Parking**

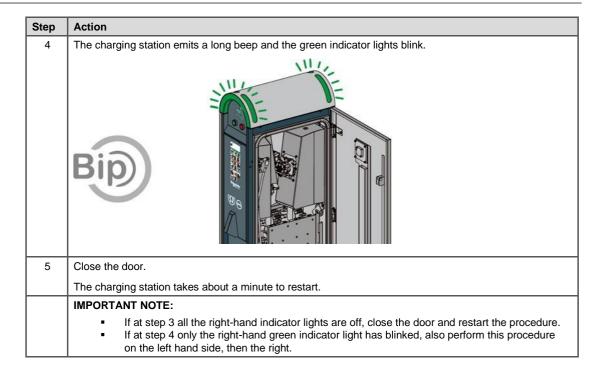


# The charging station emits a long beep and the green indicator lights blink. Close the door. The charging station takes about a minute to restart. IMPORTANT NOTE: If at step 3 all the right-hand indicator lights are off, close the door and restart the procedure. If at step 4 only the right-hand green indicator light has blinked, also perform this procedure on the left hand side, then the right.

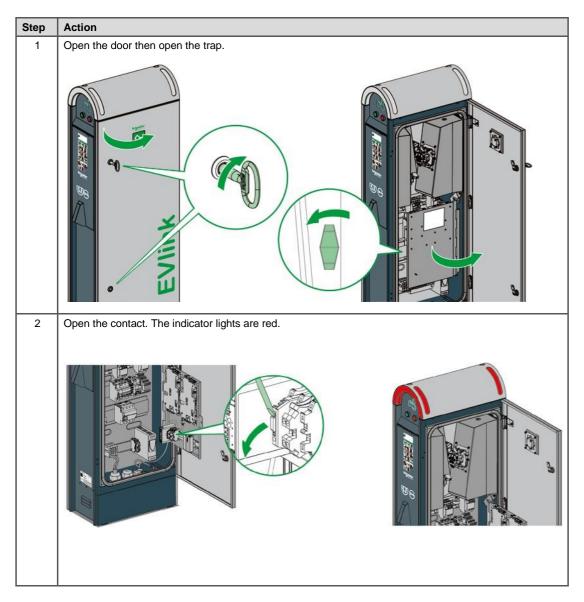
#### EVlink City - (-> 05 / 2016)

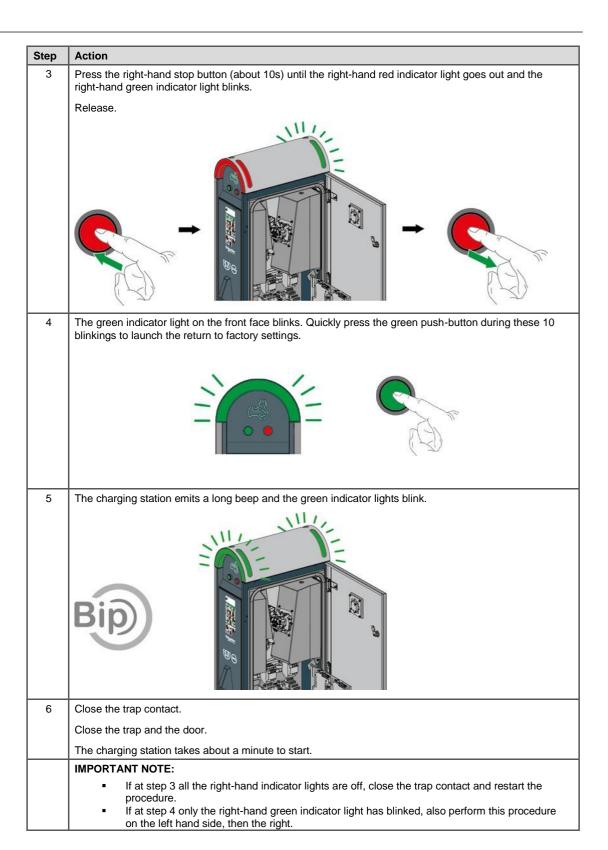


Internal



#### EVlink City - (05 / 2016 ->)





#### 3.2 With PC

To return to factory settings with a PC and the commissioning tool, refer to the document DOCA0060EN.

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35, rue Joseph Monier F-92505 Rueil-Malmaison Cedex Phone: + 33 (0) 1 41 29 70 00 Fax: + 33 (0) 1 41 29 71 00 www.schneider-electric.com

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

