EVlink

Pro AC Charging Infrastructure

Preventive Maintenance Guide

Highly reliable and smart charging stations for an increased efficiency and sustainability

DOCA0312EN-00
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www.se.com

Legal Information

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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 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 this 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.

About the Book

EVlink Master Range

EVlink is the Schneider Electric range of eMobility solutions with electric vehicle (EV) charging stations, EV charging infrastructure load management, and EV Field Services. eMobility solutions can be used in a full range of applications such as residential, buildings, and fleets that enable driving to a net-zero future.

Document Scope

This document provides you with information on periodic preventive maintenance on an EVlink Pro AC charging station and an EVlink Pro AC Metal charging station, under normal environment and operating conditions (according to IEC 61851 and IEC 60364-7-722 standards).

This document provides detailed information on how to:

- carry out external checks of the charging station.
- carry out mechanical checks of the charging station.

This document is intended for commissioning technicians, electrical contractors and site operators.

Read this document carefully and keep it at hand.

Validity Note

This document applies to Schneider Electric EVlink Pro AC charging stations.

This publication is not intended and not adequate to check proper electrical performance of a charging station that has been disassembled, modified, rebuilt, refurbished, or handled in any manner not intended or authorized by Schneider Electric.

Online Information

The technical characteristics of the charging stations described in this guide also appear online. To access the information online, go to the Schneider Electric home page at www.se.com.

The information contained in this guide is likely to be updated at any time. Schneider Electric strongly recommends that you have the most recent and up-to-date version available on www.se.com/ww/en/download.

Related Documents

Title of documentation	Reference number
EVlink Pro AC - Installation Guide	NNZ1940301
EVlink Pro AC - Troubleshooting Guide	DOCA0286EN
EVlink Pro AC - Spare Part Replacement Guide	GEX2273501
EVlink Pro AC - Spare part replacement guide for standards	GEX4591201
EVlink Pro AC - OCPP Protocol Connectivity Guide	GEX1969200
EVlink Pro AC - Modbus Connectivity Guide	GEX1969300

Title of documentation	Reference number
EcoStruxure™ EV Charging Expert User Guide	DOCA0163EN
EVlink Pro AC Firmware	GEX28844
EVlink™ Electric Vehicle Charging Stations and Services Catalog	2800CT1001
Video *How to Install EVlink Pro AC Charging Station*	https://www.youtube.com/watch?v=VodE9VnBgdQ
Video on the Lock Out Tag Out (LOTO) procedure	www.se.com
Video *How to Update EVlink Pro AC Firmware With eSetup*	https://www.youtube.com/watch?v=tBzjU5-Kxs8&t=4s
Video *How to Diagnose an EVlink Pro AC Issue with eSetup*	https://www.youtube.com/watch?v=F_8wHNBjfxI

You can download these technical publications and other technical information from our website at www.se.com/ww/en/download.

Trademark

QR Code is a registered trademark of DENSO WAVE INCORPORATED in Japan and other countries.

List of Tools

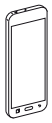
To carry out the preventive maintenance of an EVlink Pro AC charging station and an EVlink Pro AC Metal charging station, you need the following tools:

Insulating gloves (class A at least)

Face shield

Padlock or other circuit breaker locking system

Voltmeter

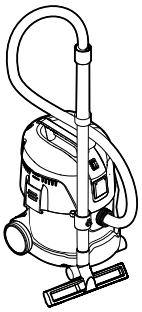


Smartphone

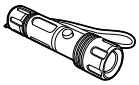
eSetup application - Google store

eSetup application - Apple store

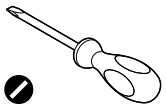
Admin badge and eSetup PIN code of the charging station



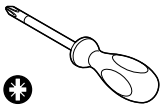
Vacuum cleaner (EMC compliant)



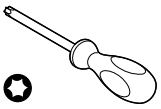
Flashlight



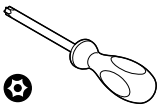
3 mm
4 mm



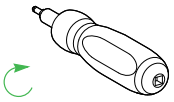
PZ2



T10

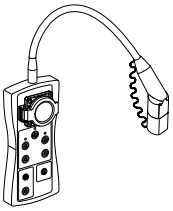


T20 Security x 100 mm

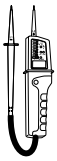


0.5 Nm – 3.5 Nm

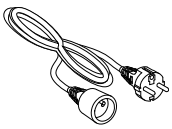
Extension cable for the indicator light



Electric vehicle testing tool

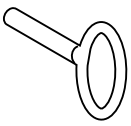


Safety tester



Extension cord

For EVlink Pro AC Metal Charging Station Only



Special key to open the EVlink Pro AC Metal charging station

For Manufacturer Maintenance Only

Earth impedance measuring tool

EVlink Pro AC Description

EVlink Pro AC

EVlink Pro AC is an AC power system for electric vehicles.

There are three types of Pro AC charging stations:

- Charging stations with a T2S socket
- Charging stations with an attached cable
- Charging stations with a T2S socket and a domestic socket

EVlink Pro AC Metal

The EVlink Pro AC Metal charging station is assembled with the following components:

- A metal kit enclosure:
  - wall mounted for 1 charge point, or
  - floor standing for 1 charge point, or
  - floor standing for 2 charge points.
- EVlink Pro AC charger to be installed inside the metal enclosure.
- Optional: Kaedra enclosure and/or Thalassa enclosure to be mounted inside the metal enclosure(s) for hosting the electrical protections.

EVlink Pro AC Identification

The industrial identification label of EVlink Pro AC is located at the side of the charging station.

It indicates the serial number (**SN**) and the commercial part number (**EVB3 xxx**).

The serial number is coded M_YY_WW_D_RR_LL_NN, where:

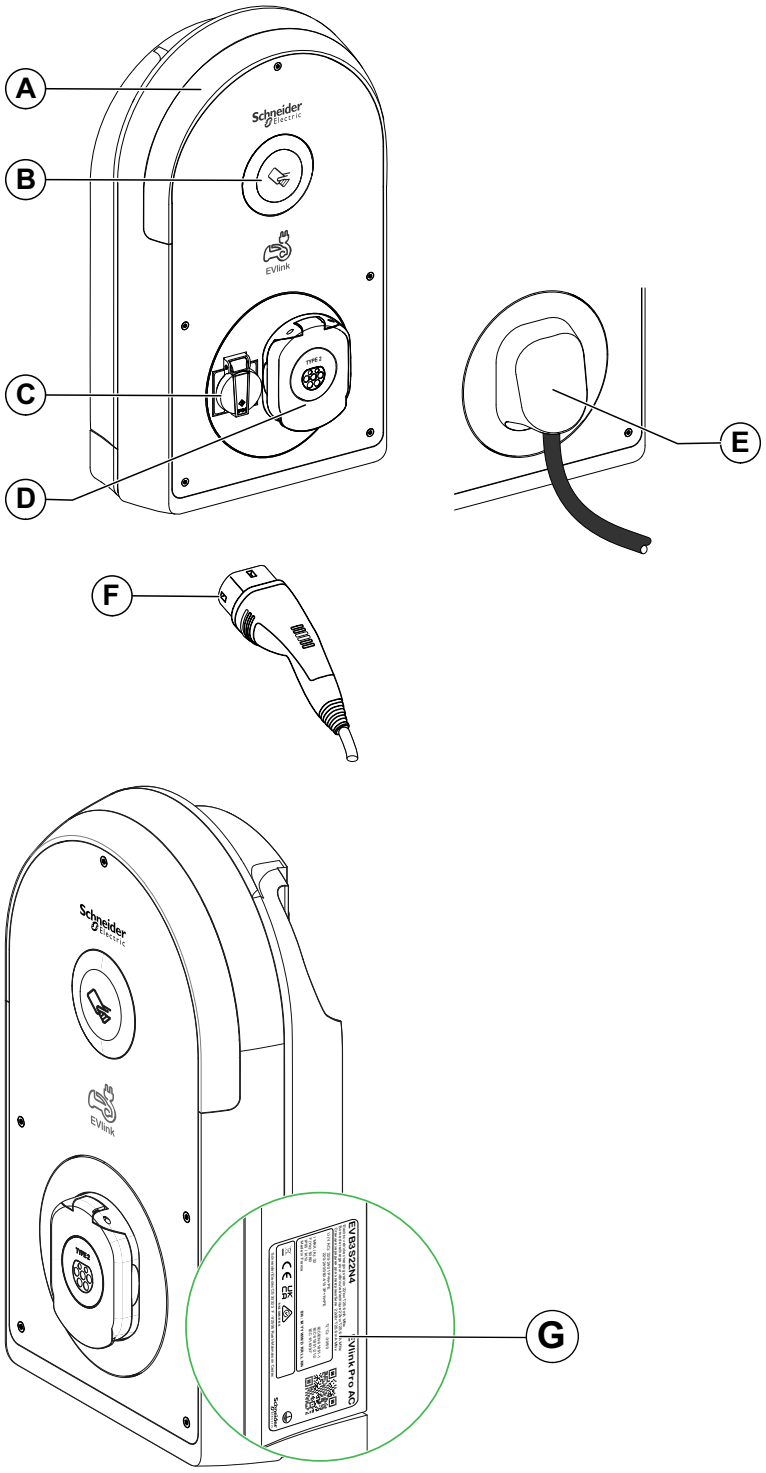
- M: Manufacture plant and production line code
- YY: Year of the manufacture
- WW: Week of the manufacture
- D: Day of the week of manufacture (Monday =1)
- RR: Revision of the charging station
- LL: Production batch number
- NN: Unique production batch number

For example, R22045040123 means that update 04 of charging station 23 of batch 01 was manufactured at plant R on Friday 28 January 2022.

When the QR code on the identification label is scanned with a smartphone running a QR code reader and connected to the Internet, the Go2SE landing page is displayed. The landing page gives access to charging station characteristics and documentation.

Exterior View

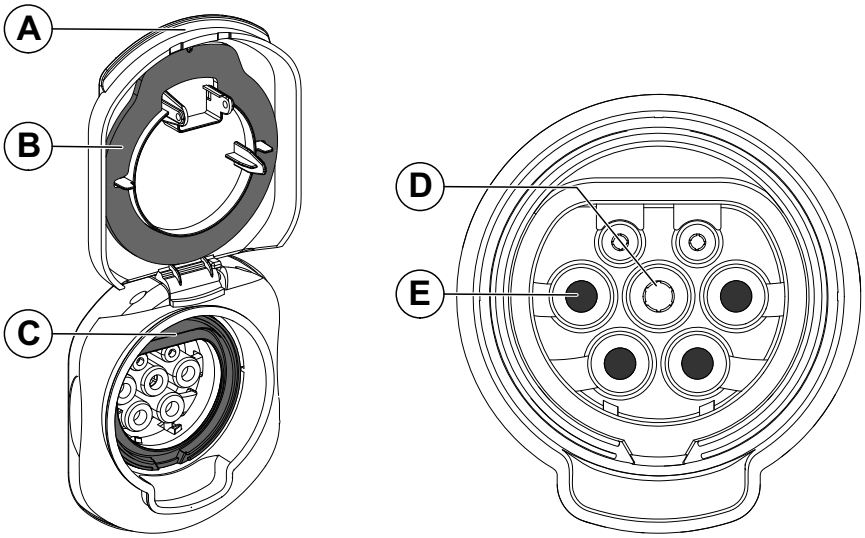
The following graphic describes the charging station exterior.



A. Status indicator light
B. RFID / NFC reader
C. Domestic socket (TE or TF type)
D. Socket with shutters T2S
E. 5 m attached cable
F. T2 vehicle connector
G. Identification label

Socket With Shutters T2S

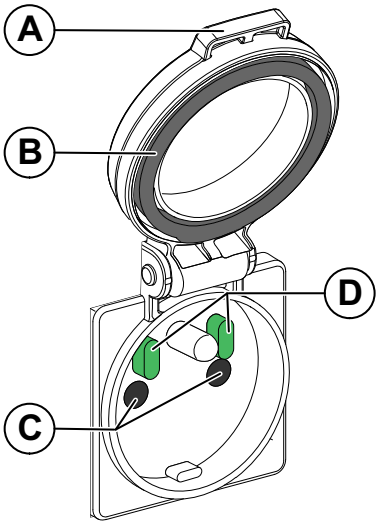
The following graphic describes the socket with shutters T2S.



A. Flap
B. Flap gasket
C. Socket gasket
D. Earth contact
E. Four shutters

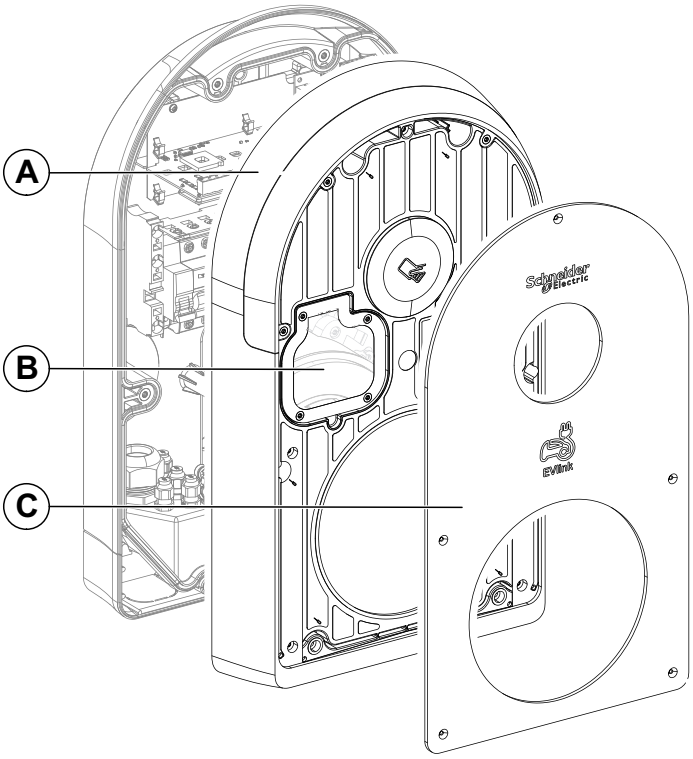
Domestic Socket

The following graphic describes the domestic socket.



A. Flap
B. Flap gasket
C. Two shutters
D. Two sensors

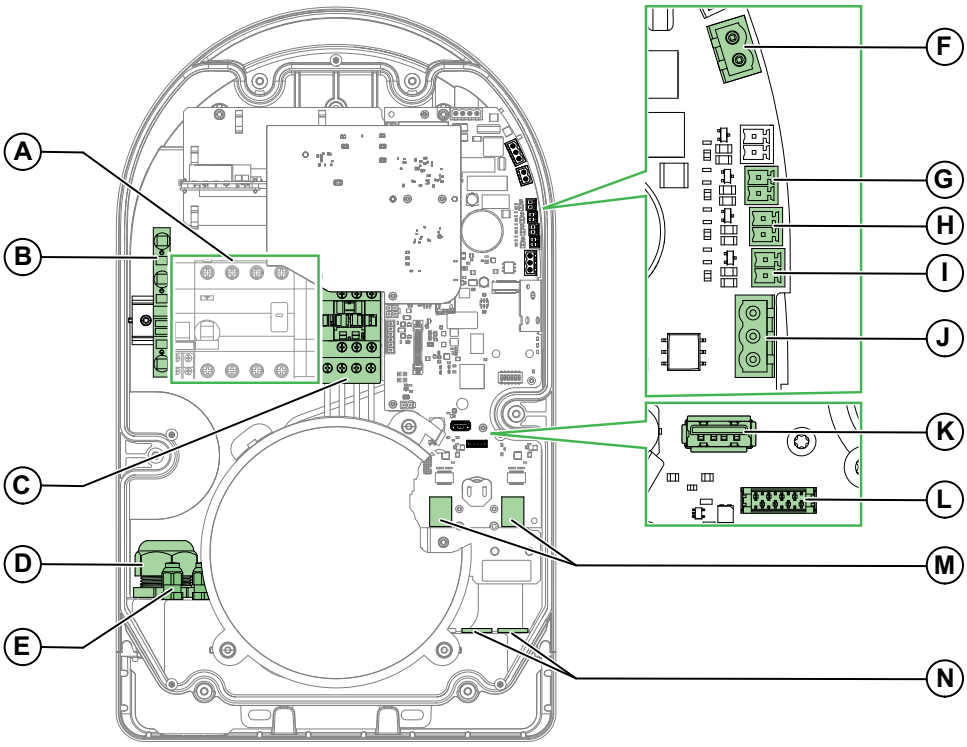
Covers



A. Front cover
B. Transparent window
C. Front plate

Inside View

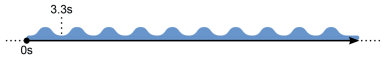
To remove the covers and access the inside of the EVlink Pro AC, refer to the *EVlink Pro AC Installation Guide* NNZ1940301.



A. Power terminal block (the representation can differ according to the models)
B. Ground terminal block, X1
C. Contactor
D. Input/cable gland for power cable
E. Cable input for connectors E1–E11
F. Connector for under-voltage release E10 / E11
G. Connector for E5 / E6 vehicle detection input
H. Connector for E3 / E4 deferred start input
I. Connector for E1 / E2 power limit input
J. Modbus connector E7 / E8 / E9
K. USB connector
L. Connector for DEM (Dynamic Energy Management) function through TIC interface (optional accessory for France only)
M. Ethernet ports ETH1 / ETH2
N. Ethernet and DEM signal cable inputs/cable glands

Status Indicator Light

The charging station status is indicated by a LED color code, described in the following table.

Charging station status		Type of light
Administrator status	Open Bluetooth, ready for badge recording	
Charge point status	Available	
	Unavailable or Reserved	
Communication setup status	• Bluetooth pairing in progress: pairing success • Request of the terminal location via eSetup	 Fixed green: charge point status
	Bluetooth pairing in progress: pairing failed	 Fast blink green minimum 3 s Fast blink orange minimum 5 s Fixed green: charge point status
	Authentication in progress: authentication success	 • Fast blink minimum 2 s • Fixed green: charge point status
	Authentication in progress: authentication failed	 • Fast blink green minimum 2 s • Fixed green: charge point status
Charging status	Authentication success, waiting for EV to connect	
	Communication test between EV and charging station (deferred start)	 Blink minimum 200 ms
	EV plugged and in charge	
	EV plugged, charge interrupted to save energy or for any reason unrelated to the EV	 Blink minimum 200 ms
	EV plugged, no charge with EV	 Blink minimum 200 ms
Error	Internal error	 Blink minimum 200 ms
	EV communication error	 Blink minimum 200 ms
	Power meter communication error	 Blink minimum 200 ms
	OCPP communication error	 Blink minimum 200 ms

Preventive Maintenance Plan

Installation assessment of the AC infrastructure is carried out at the end of the installation.

To maintain the AC infrastructure in operating and protective conditions, Schneider Electric recommends systematic checks and periodic maintenance to be carried out by qualified personnel.

A complete check-up is recommended when tripping occurs due to a short-time or instantaneous short-circuit.

For additional information, assistance or on-site service, contact the local Customer Care Center.

Preventive Maintenance Safety Instructions

Maintenance recommendations for each charging station are intended to maintain the equipment or subassemblies in a satisfactory operational state for their usual service life.

⚠WARNING

HAZARD OF UNINTENDED EQUIPMENT OPERATION

- Follow the recommendations for the maintenance given in the different chapters of this document, for each part of the charging station which is maintainable.
- The preventive maintenance must be carried out on each charging station, one charging station at a time.
- The scope of the preventive maintenance is limited to the entry cable connection of the charging stations and does not apply to the switchboard.

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

If the recommended maintenance plan is not done as required, the service life of the charging station is reduced.

EcoStruxure Facility Expert

Schneider Electric recommends using EcoStruxure Facility Expert, a free application to improve your operational efficiency and develop your services business.

EcoStruxure Facility Expert provides the following characteristics:

- Accurate planning of preventive maintenance tasks and interventions, which leads to reducing working time
- Greater visibility of your work by easily generated reports, which allows you to create bills faster
- Details of activities undertaken during a given period, to demonstrate the impact of your company's services
- A way to share information securely, both internally and externally, giving your customers easy access to digital copies of your transactions

The QR code on EVlink charging stations enables maintenance personnel to access the following information through EcoStruxure Facility Expert:

- EVlink charging station information
- Technical documentation

- Maintenance plan for EVlink charging stations

To download EcoStruxure Facility Expert:

- For Android: https://play.google.com/store/apps/details?id=com.schneiderelectric.facilityhero&hl=ln&gl=US
- For iOS: https://apps.apple.com/fr/app/ecostruxure-facility-expert/id1208566782

Maintenance Programs

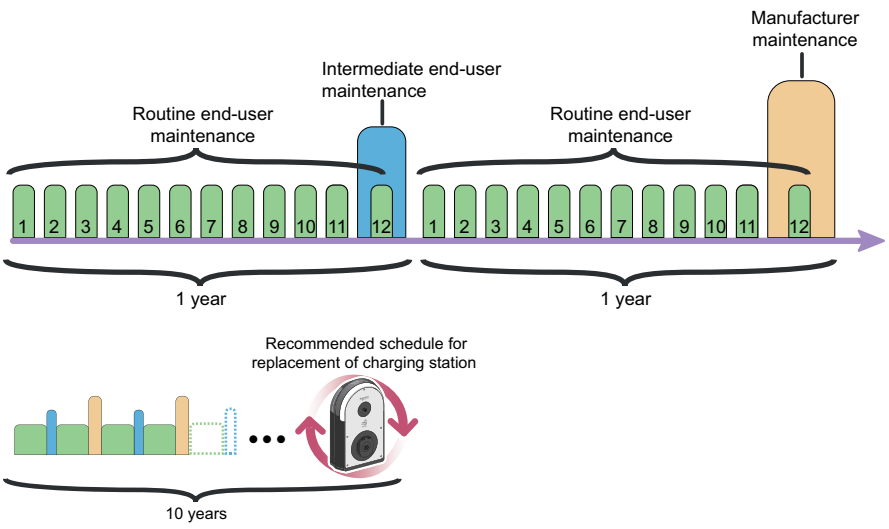
The following table summarizes maintenance operations for the three preventive maintenance programs:

Maintenance program	Maintenance description	Performed by
Routine end-user maintenance	Visual inspection and functional testing, replacement of inoperative accessories.	• Trained and qualified end-user personnel • Trained and qualified maintenance service provider personnel • Schneider Electric field service representatives
Intermediate end-user maintenance	Routine end-user maintenance, plus operational servicing and subassembly tests.	• Trained and qualified maintenance service provider personnel • Schneider Electric field service representatives
Manufacturer maintenance	Intermediate end-user maintenance, plus diagnostics and part replacements by Schneider Electric Services.	Schneider Electric field service representatives or certified partners

Defining a Maintenance Plan

The three preventive maintenance programs take place with the following frequency:

Maintenance program	Every month	Every two years (alternately)
Routine end-user maintenance	□	–
Intermediate end-user maintenance	–	□
Manufacturer maintenance	–	□



Recommended Frequency for the Routine End-User Maintenance Program

The following table indicates the recommended frequency to perform the routine end-user maintenance program according to operating conditions and criticality of the user application.

Operating conditions	Frequency
Home	Every year
Semi-public car park	Every month
Fleet	Every month

Recommended Frequency for the Intermediate End-User Maintenance Program

The following table indicates the recommended frequency to perform the intermediate end-user maintenance program according to operating conditions and criticality of the user application.

Operating conditions	Frequency
Home	N/A
Semi-public car park	Every two years (alternately with manufacturer maintenance)
Fleet	N/A

Recommended Frequency for Manufacturer Maintenance Program

The following table indicates the recommended frequency to perform the manufacturer maintenance program according to operating conditions and criticality of the user application.

Operating conditions	Frequency
Home	N/A
Semi-public car park	Every two years (alternately with intermediate end-user maintenance)
Fleet	Every year

Routine End-User Maintenance Procedures

Safety Instructions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, NOM 029-STPS, or local equivalent.
- The charging stations must only be installed and serviced by qualified electrical personnel.
- Unless specified otherwise in the maintenance procedures, all operations must be carried out with the charging station, and the auxiliary circuits de-energized.
- Always use a properly rated voltage sensing device to confirm that the charging station and the auxiliary circuits are de-energized.
- Install safety barriers and display a danger sign.
- During the tests, it is strictly forbidden for anyone to touch the charging station or the conductors while voltage is applied.
- Before turning on power to the charging station, check that all connections are made with the correct tightening torque.
- Before turning on power to the charging station, put all devices, doors, and covers back in place.
- Before turning on power to the charging station, beware of potential hazards and carefully inspect the work area for tools and objects that may have been left inside the charging station.

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

Procedure Definition

Procedure characteristics	Description
Actions	• Visually check that there are no visible signs of aging or damage on the charging station. • Check the charging station functions. • Replace the inoperative accessories.
Goals	• Verify that the charging station is operative. • Protect the EV drivers. • Keep the installation in good working order.
Performed by	• Trained and qualified end-user personnel according to local requirements • Trained and qualified maintenance service provider personnel according to local requirements • Schneider Electric field service representatives
Frequency	Every month. Refer to *Recommended Frequency for the Routine End-User Maintenance Program*, page 19.
Necessary tools	• A testing tool. If not available, use a charging cable and an electric vehicle. • A flashlight
Duration	Around 30 minutes
Related documents, page 6	• *EVlink Pro AC - Installation Guide* (NNZ1940301) • *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) • *EVlink Pro AC - Spare Part Replacement Guide* (GEX2273501) • *EVlink Pro AC - Spare part replacement guide for standards* (GEX4591201)

Preliminary Conditions

No specific preliminary conditions out of the local requirements.

External Check

Checking the Exterior Condition of the Pro AC Charging Station

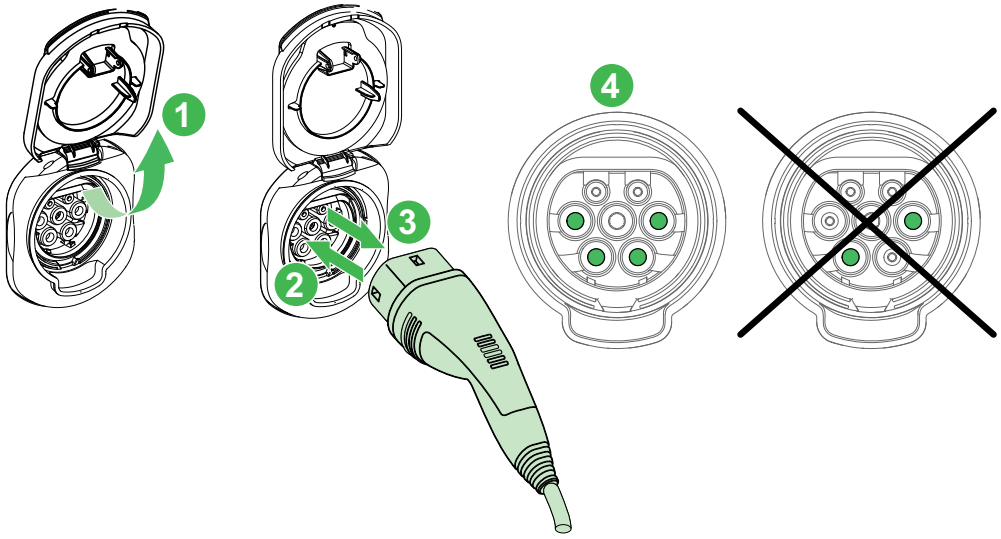
Step	Action	Expected result	Corrective action	Spare part references
Charging station body	Write down the charging station serial number and the commercial reference on the checklist, page 44. Refer to the EVlink Pro AC Identification, page 11.	–	–	–
	Check the stability of the charging station body. Refer to no. 1 in the checklist.	The charging station body is stable in all directions.	If the charging station body is not stable, fasten the charging station body.	–
	Check the charging station body integrity, including RFID reader, labels (serial number), front plate. Refer to no. 2 in the checklist.	There are no cracks, holes or burn marks.	In case of cracks, holes or burn marks, replace the front plate.	EVP1SS
Front plate	Check the fastening screws. Refer to no. 3 in the checklist.	The five fastening screws are present and properly fastened.	Fasten the screws or replace the front plate.	EVP1SS
	Check adjustment of the front plate to the front cover. Refer to no. 4 in the checklist.	The front plate is adjusted to the front cover.	If the front plate is not adjusted, adjust it to the front cover.	–
Indicator light	Check the indicator light. Refer to no. 5 in the checklist.	The indicator light is on and steady green.	If the indicator light is off, red or white, contact your installer.	–

Checking Plugs and Cables

Checking the T2S Socket

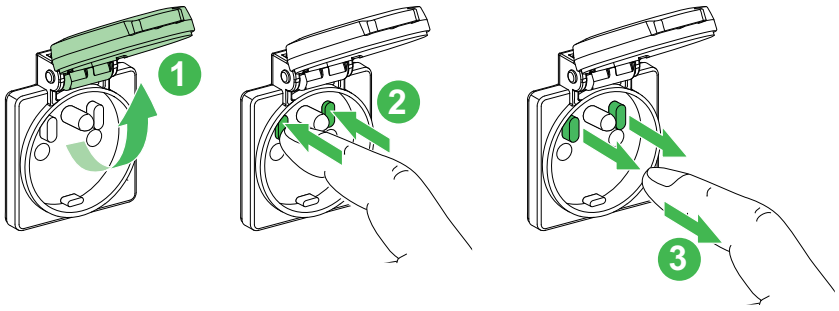
Step	Action	Expected result	Corrective action	Spare part references
Visual inspection	Check inside the T2S socket. Refer to no. 6 in the checklist.	There is no foreign material inside the T2S socket.	Remove foreign material without any tool and without disassembly. If you need using a tool or open the charging station to remove foreign material, contact your installer.	–
	Check the aspect of the T2S socket.	There is no rust. Refer to no. 7 in the checklist.	In case of rust, contact your installer.	–
		There are no cracks. Refer to no. 8 in the checklist.	In case of cracks, contact your installer to replace the T2S socket.	• EVP1SSS41 • EVP1SSS43 • EVP1SSS51 • EVP1SSS53 Refer to the *EVlink™ Pro AC - Spare Part Replacement Guide* (GEX2273501).
	Check the integrity of the two gaskets. Refer to B and C on the graphic describing the socket with shutters T2S, page 13. Refer to no. 9 in the checklist.	The two gaskets are in good condition.	If the two gaskets are not in good condition, contact your installer to replace the T2S socket.	
	Using a flashlight, check the presence of the shutters on T2S contacts (E on the graphic describing the socket with shutters T2S, page 13). Refer to no. 10 in the checklist.	The shutters are properly in place: T2S contacts are hidden.	In case of missing shutters, contact your installer to replace the T2S socket.	
	Check the earth contact of the T2S socket (D on the graphic describing the socket with shutters T2S, page 13). Refer to no. 11 in the checklist.	There are no burning marks on the earth contact of the T2S socket.	In case of burning marks, contact your installer to replace the T2S socket.	

Step	Action	Expected result	Corrective action	Spare part references
Flap	Check the flap integrity. Refer to flap (A) in *Socket With Shutters T2S*, page 13. Refer to no. 12 in the checklist.	The flap is in good condition.	If the flap is not in good condition, contact your installer to replace the T2S socket.	• EVP1SSS41 • EVP1SSS43 • EVP1SSS51 • EVP1SSS53 Refer to the *EVlink™ Pro AC - Spare Part Replacement Guide* (GEX2273501).
		The flap closes properly.	If the flap does not close properly, contact your installer to replace the T2S socket.	
Connections	Check that the T2S connector can easily be plugged in and unplugged: 1. Open the flap of the T2S socket. 2. Plug the cable. 3. Unplug the cable. 4. Check that the four shutters are in place. Refer to no. 13 in the checklist.	The four shutters are back in place.	If the four shutters are not back in place, contact your installer to replace the T2S socket.	



Checking the Domestic Socket (TE/TF) (if applicable)

Step	Action	Expected result	Corrective action	Spare part references
Visual inspection	Check inside the domestic socket. Refer to no. 14 in the checklist.	There is no foreign material inside the domestic socket.	Remove foreign material.	–
	Check the aspect of the domestic socket.	There is no rust. Refer to no. 15 in the checklist.	In case of rust, contact your installer.	–
		There are no overheating marks on the domestic socket. Refer to no. 16 in the checklist.	In case of overheating marks, contact your installer to replace the domestic socket.	• EVP1SSSE for type E • EVP1SSSF for type F Refer to the *EVlink™ Pro AC - Spare Part Replacement Guide* (GEX2273501).
	Check the TE/TF contacts. Refer to no. 17 in the checklist.	The shutters on TE/TF contacts are present.	If the shutters on TE/TF contacts are not present, contact your installer to replace the domestic socket.	

Step	Action	Expected result	Corrective action	Spare part references
Flap	Check the flap integrity.	The flap is in good condition. Refer to no. 18 in the checklist.	If the flap is not in good condition, contact your installer to replace the domestic socket.	• EVP1SSSE for type E • EVP1SSSF for type F Refer to the *EVlink™ Pro AC - Spare Part Replacement Guide* (GEX2273501).
		The flap closes properly. Refer to no. 19 in the checklist.	If the flap does not close properly, contact your installer to replace the domestic socket.	
	Check the integrity of the gasket on the flap. Refer to the description of the domestic socket, page 13. Refer to no. 20 in the checklist.	The gasket is in good condition.	If the gasket is not in good condition, contact your installer to replace the domestic socket during the next intermediate/manufacturer maintenance.	
Connections	Check that the TE/TF connector can easily be plugged in and unplugged: 1. Open the flap of the domestic socket. 2. Plug the cable. 3. Unplug the cable. 4. Check that the shutters are in place. Refer to no. 21 in the checklist.	The shutters are back in place.	If the shutters are not back in place, contact your installer to replace the domestic socket.	
	Check that the plug presence sensor operates correctly: 1. Open the flap. 1. Push the sensor. 2. Release the sensor. Refer to no. 22 in the checklist.	The plug presence sensor returns in place.	If the plug presence sensor is not back in place, contact your installer to replace the domestic socket.	
				

Checking the Separate or Attached Cable (if applicable)

Step	Action	Expected result	Corrective action	Spare part references
Visual inspection	Check the aspect of the cable.	There is no foreign material around the cable. Refer to no. 23 in the checklist.	Remove foreign material.	–
		There are no burn marks, pinch marks, cuts or cracks on the cable. Refer to no. 24 in the checklist.	In case of burn marks, pinch marks, cuts or cracks, replace the cable.	• EVP1CSS323C • EVP1CSS321C Refer to the *EVlink™ Pro AC - Spare Part Replacement Guide* (GEX2273501). Cable gland kit: • PE M32 ESSENTRA CG-M32-1 • nut M32 ESSENTRA CGLN-M32
	Check the aspect of the connector.	There is no rust, no hole, and no burning mark on the connector, and no foreign body inside the connector. If possible, plug and unplug the connector, making sure that it plugs properly. Refer to no. 25 in the checklist.	In case of rust, hole, or burning mark, contact your installer to replace the cable. In case of foreign body, contact your installer.	
Cap	Check the cap on the cable. Refer to no. 26 in the checklist.	The cap is present on the cable.	In case of missing cap, replace the cable.	
Cable glanding	If attached cable, check that the cable glanding is in good condition. Refer to no. 27 in the checklist.	The output of the cable is in good condition.	If the output of the cable is not in good condition, contact your installer to replace the attached cable.	

Cleaning the Charging Station

NOTICE
HAZARD OF EQUIPMENT DAMAGE • Do not pour water on the charging station, especially when flaps are open. • Do not clean inside the T2S and TE/TF sockets. **Failure to follow these instructions can result in equipment damage.**

- Remove any foreign material.
- Clean the external covers and components using soap and a damp tissue.

Refer to no. 28 in the checklist.

Functional Tests

Step	Action	Expected result	Corrective action
Vehicle charging	Plug in the electric vehicle.	The indicator light is dimming blue.	Refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.
Domestic plug	Plug a light in the domestic socket.	The indicator light is dimming blue.	

Refer to no. 29 and no. 30 in the checklist.

Intermediate End-User Maintenance Procedures

Safety Instructions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, NOM 029-STPS, or local equivalent.
- The charging station must only be installed and serviced by qualified electrical personnel.
- Unless specified otherwise in the maintenance procedures, all operations must be carried out with the charging station and the auxiliary circuits de-energized.
- Always use a properly rated voltage sensing device to confirm that the charging station and the auxiliary circuits are de-energized.
- Install safety barriers and display a danger sign.
- During the tests, it is strictly forbidden for anyone to touch the charging station or the conductors while voltage is applied.
- Before turning on power to the charging station, check that all connections are made with the correct tightening torque.
- Before turning on power to the charging station, put all devices, doors, and covers back in place.
- Before turning on power to the charging station, beware of potential hazards and carefully inspect the work area for tools and objects that may have been left inside the charging station.

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

NOTICE

HAZARD OF EQUIPMENT DAMAGE

If you are working on an MR charging station, be aware of the two different RCDs any time you switch off the charging station.

Failure to follow these instructions can result in equipment damage.

LOTO Procedure

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

In case of work or maintenance to be performed on electric devices with the power off, respect the LOTO (Lock Out Tag Out) procedure.

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

The LOTO steps are the following:

1. Prepare for shutdown: identify the charging station that requires lockout, which sources of energy must be controlled, and what lockout device to be used. Notify all affected personnel.
2. Shutdown the charging station.

3. Isolate the charging station from its energy source: turn off all power supplying this charging station before working inside.
4. Secure isolation of the charging station: attach lock out and/or tag out devices to each energy-isolating device.
5. Check the absence of voltage at the place closest to the intervention: any potentially hazardous stored or residual energy must be made non-hazardous.

Procedure Definition

Procedure characteristics	Description
Actions	• Perform routine end-user maintenance. • Perform operational servicing. • Test subassembly.
Goals	• Verify that the charging stations are operative. • Protect the EV drivers. • Keep the installation in good working order.
Performed by	• Trained and qualified maintenance service provider personnel according to local requirements • Schneider Electric field service representatives
Frequency	Every two years. Refer to *Recommended Frequency for the Intermediate End-User Maintenance*, page 19.
Necessary tools	Refer to the list of tools, page 8.
Duration	Around one hour
Related documents, page 6	• *EVlink Pro AC - Installation Guide* (NNZ1940301) • *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) • *EVlink Pro AC - Spare Part Replacement Guide* (GEX2273501) • *EVlink Pro AC - Spare part replacement guide for standards* (GEX4591201)

Preliminary Conditions

Besides local requirements, an electrical clearance is required.

External Check

Refer to *External Check* in *Routine End-User Maintenance Procedures*, page 21.

Cleaning the Charging Station

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Respect the LOTO procedure, page 27.

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

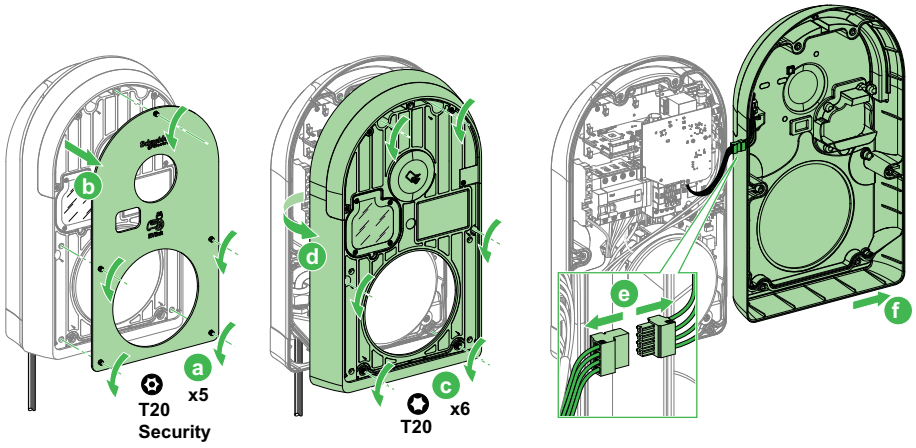
NOTICE

HAZARD OF EQUIPMENT DAMAGE

- Do not pour water on the charging station, especially when the charging station is open.
- Do not clean inside the T2S and TE/TF sockets.

Failure to follow these instructions can result in equipment damage.

1. Open the charging station. Refer to the *EVlink Pro AC - Installation Guide* (NNZ1940301):
   a. Unscrew the five screws on the front plate with a T20 Security screwdriver.
   b. Remove the front plate.
   c. Unscrew the six screws from the front cover with a T20 screwdriver.
   d. Open the front cover.
   e. Unplug the indicator light connector.
   f. Remove the front cover.



2. Check the absence of voltage on the input terminals.
3. Remove any foreign material.
4. Clean the dust from the inside of the charging station using an EMC compliant vacuum cleaner.
5. Write down the micro-switches position according to the chapter *Physical Derating* in the *EVlink Pro AC - Installation Guide* (NNZ1940301). Refer to no. 31 in the checklist.

Functional Tests

Prerequisites

NOTICE
HAZARD OF PERFORMING TESTS INCORRECTLY Functional tests must be performed by a qualified electrician. **Failure to follow these instructions can result in equipment damage.**

Step	Action	Expected result
1	Remove the consignment padlock.	–
2	Switch on the power in the distribution panel.	–
3	Switch on the switch gear inside the charging station if present. The switch gear is accessible through the maintenance window.	Wait for the indicator light to light up in steady green.
4	Discover the charging station with eSetup. If the charging station does not appear in the detected devices list, an admin badge is required. Tap the admin badge on the RFID reader of the charging station. Refer to no. 32 in the checklist.	The charging station smoothly blinks green and becomes available on eSetup application.
5	Select the charging station. Enter a wrong PIN code.	The indicator light is blinking orange.
6	Enter the correct PIN code. Refer to no. 33 in the checklist.	You have access to the configuration interface of the charging station.

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

eSetup

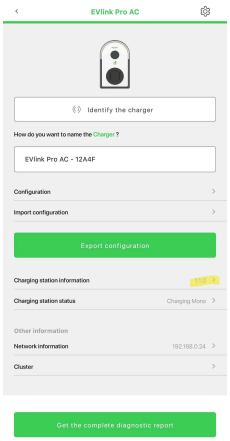
Exporting Backup File

Step	Action
1	On eSetup application, select **Get the complete diagnostic report** (with password) to download: • the full report, • the Charge Details Records, • the configuration file, • the list of authorized badges. Refer to no. 34 in the checklist. Write down the password in the comment section of the checklist.
2	Save all this information in a secure folder. Refer to no. 35 in the checklist.

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN).

Quick Maintenance Diagnostic

Step	Action	Corrective action
1	Open the diagnostic report.	–
2	Check that the latest version of firmware (available on www.se.com) is installed.	–

Step	Action	Corrective action
	Refer to no. 43 in the checklist.  **Software versions** Charger 1.1.6 EVSE 1.1.6	
3	On eSetup, in the menu **Configuration > Electrical Settings**, read the maximum values of switch configuration, indicating the configuration of the charging station power. Check the coherence of the configuration with the electrical environment: • Upstream circuit breaker rating (refer to no. 36 in the checklist). • Cable section (Refer to no. 37 in the checklist). • At least one RCD in the power line (refer to no. 38 in the checklist). • Check the maximum value in **Configuration > Electrical settings > Maximum charging current** on eSetup and compare it with the switch position. (refer to no. 39 in the checklist). **Charge Management** **Protection** Value I Max Evse Capacity TE 10 I Max Evse Capacity T2 32 I Max Cable 99 I Max M3S 10 I Max Derating HW 32 I Max Derating SW 16	Refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN).
4	Analyze latest events and the boot counter. Write down the boot counter and compare it to the boot counter in the previous report. The typical value is lower than 10 (refer to no. 40 in the checklist). History Timestamp Event Error group Error **Evse status** Value Boot Counter 13	

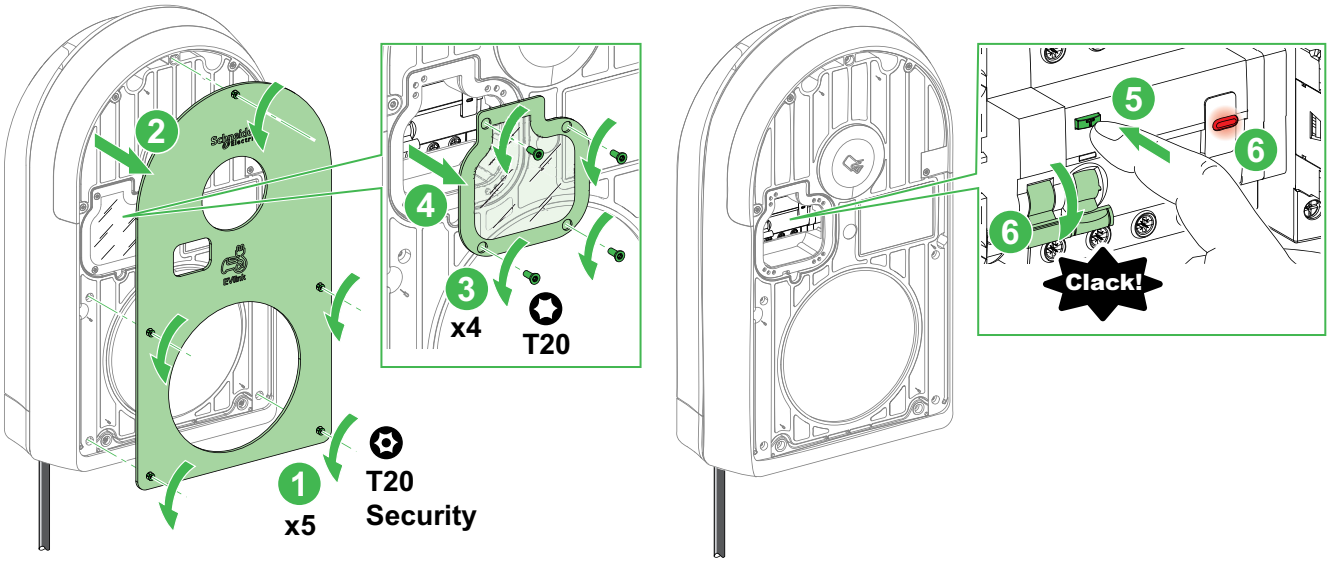
Power Meter (if applicable)

Step	Action	Expected result	Corrective action
1	Check that the power meter displays the cumulated energy consumption (kWh). Refer to no. 41 in the checklist. **NOTE:** If the charging station is a reference M charging station, the power meter is embedded.	The value in kWh is above zero and above the value of the previous maintenance.	If the value is inconsistent, illegible or null, contact your installer.
2	Write down the displayed power consumption value.	–	–

Residual Current Device (RCD)

NOTE: The concerned charging stations are the EVB3xxxxxA or B charging stations.

Step	Action	Expected result
1	Check that the indicator light is ON but not white.	–
2	Open the front plate (1, 2) and the transparent window (3, 4).	–
3	To trip the embedded Residual Current Device, press the test button (5).	The protective device trips and the RCD red indicator is on.
4	Switch on the charging station, using the Residual Current Device (6).	The indicator light changes from white to green after approximately two minutes. Refer to no. 42 in the checklist.



For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

Firmware Upgrade (if applicable)

Step	Action	Expected result
1	Before updating, make sure that the charging station is lighten up steady green.	The charging station is lighten up steady green.
2	If the firmware is not up-to-date, upgrade the firmware.	–
3	Once the upgrade has been done, look at the **Charging station information > Firmware version** on eSetup.	Check that the most recent firmware version has been properly installed.
4	Check that the indicator light lights up steady green.	The indicator light is steady green.

Refer to no. 43 in the checklist.

For further information, refer to:

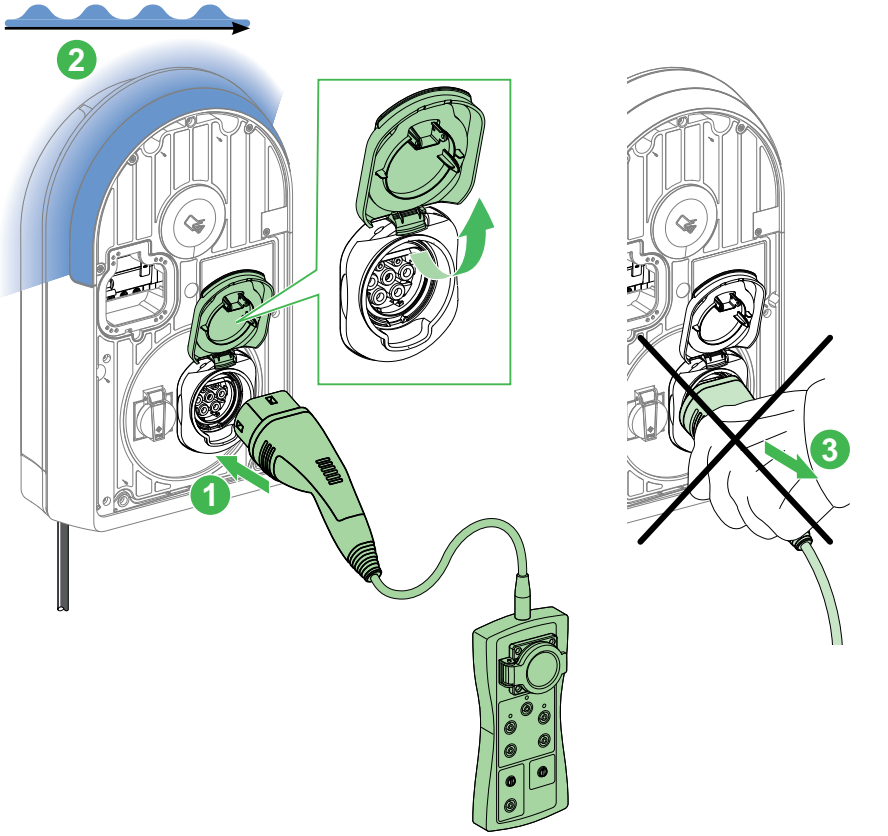
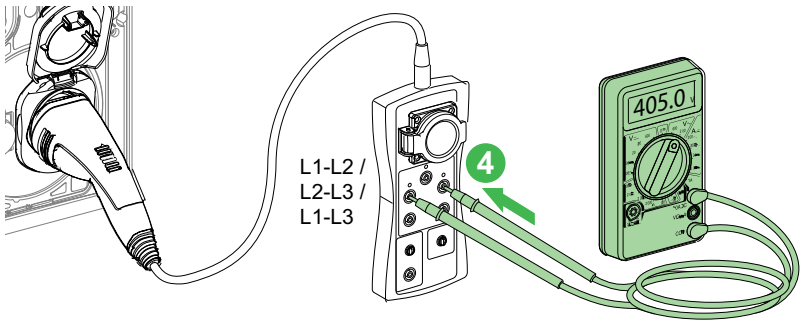
- The *EVlink Pro AC - Installation Guide* (NNZ1940301), the firmware update documents, the *Release Note*.
- The *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN)., or contact the Customer Care Center.

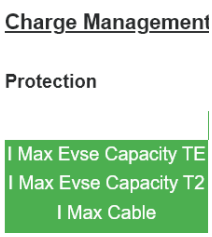
Changing Authentication Settings (if applicable)

Step	Action
1	If the charging station is supervised by an operator or the EVCE, switch the charging station to stand-alone mode in eSetup (menu **Configuration > Supervision > Off > Save**). Accept the restart of the charging station.
2	Select the free charging mode in eSetup (menu **Configuration > Authentication and badges > Free charging without lock > Save**).

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN).

T2S Socket Tests

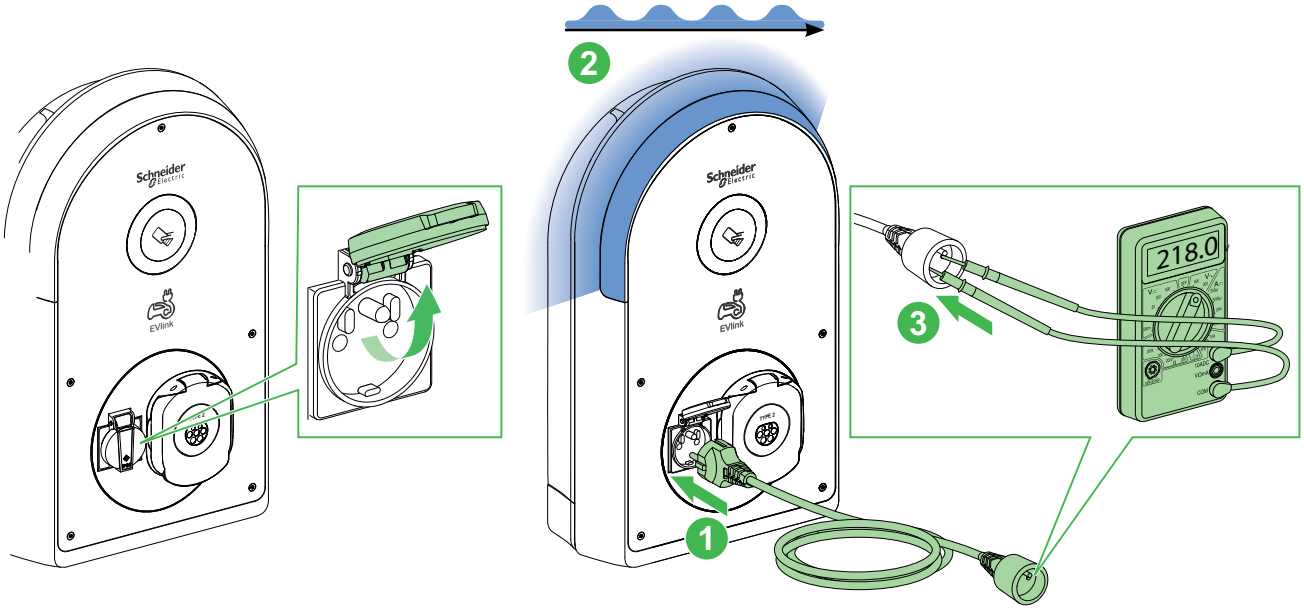
Step	Action	Expected result	Corrective action
1	Plug in the testing tool.	–	–
2	Simulate a charge.	The indicator light is dimming blue.	–
3	Check that the testing tool connector is locked in the charging station.	It is impossible to pull out the connector. Refer to no. 44 in the checklist.	–
4	Measure the phase to phase and single-phase voltages on the testing tool.	The voltage between neutral and phases is between 220 V and 240 V. The voltage between phases is between 380 V and 415 V. Refer to no. 45 in the checklist.	If the voltage is not in line with recommendations, contact a Schneider Electric field service representative for investigations.
			
			
5	Download the diagnostic report.	–	–
6	In the diagnostic report, check: 1. The hardware and software current settings.	–	–

Step	Action	Expected result	Corrective action
	2. The charging station status: • Charger status • Charge information  3. That the IMax cable intensity value (in A) is in accordance with the plugged testing tool and the previously checked settings.		
7	Put the testing tool in non-connected mode.	The indicator light turns red.	–
8	Unplug the testing tool.	The indicator light turns green.	–

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

Domestic Socket Tests

Step	Action	Expected result
1	Open the flap of the domestic socket.	
2	Plug an extension cord in the domestic socket (1).	The indicator light is dimming blue (2).
3	Plug a multimeter in the extension cord (3).	Voltage is present at the end of the extension cord.



Refer to no. 46 in the checklist.

RFID Reader Test

Step	Action	Expected result
1	On eSetup, change authentication mode: **Configuration > Authentication and Badges > Lock in Public environment > Save**.	–
2	Register a new badge.	There is a new badge recorded in the registered NFC badges.
3	Delete the badge you just created in eSetup.	–
4	Change the authentication mode back to the **Free charging without lock**.	–

Refer to no. 47 in the checklist.

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

iMnX Test

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSAZ462, NOM-029-STPS or local equivalent.
- This charging station must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this charging station before working on or inside charging station.
- Always use a properly rated voltage sensing device to confirm power is off.
- Put back all devices, doors, and covers before turning on power to this charging station.
- Beware of potential hazards, and carefully inspect the work area for tools and objects that may have been left inside the charging station.

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

Step	Action	Expected result
1	Switch off the charging station using the charging station switch.	–
2	Remove the front cover.	–
3	Plug the indicator light using an extension cable.	–
4	Switch on the charging station.	The indicator light turns steady green, NOT WHITE.
5	Test the IMnX according to the *EVlink Pro AC - Installation Guide* (NNZ1940301).	The iMnX trips.
6	Disconnect the extension cable.	–
7	Put back the front cover.	–
8	Switch on the charging station.	–
9	Put back the transparent window and the front plate.	–

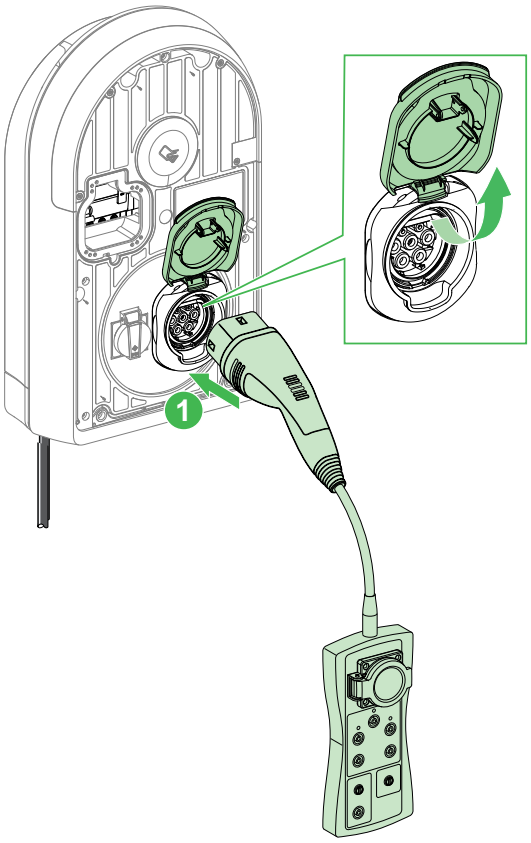
For further information, refer to:

- The *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.
- The *EVlink Pro AC - Installation Guide* (NNZ1940301):

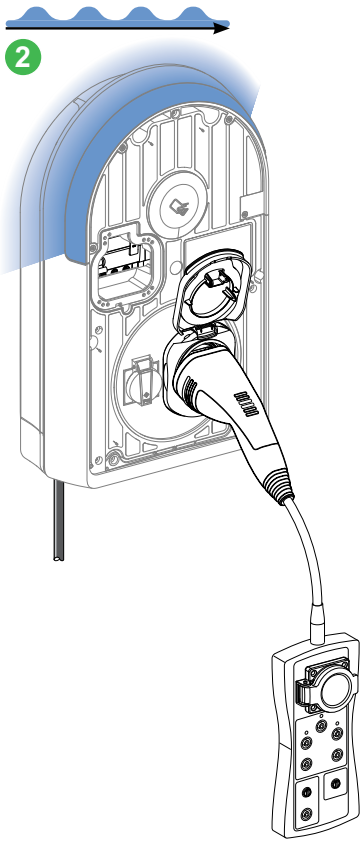
Refer to no. 48 in the checklist.

Earth Measurements (Only for EV Ready Compliant Installation)

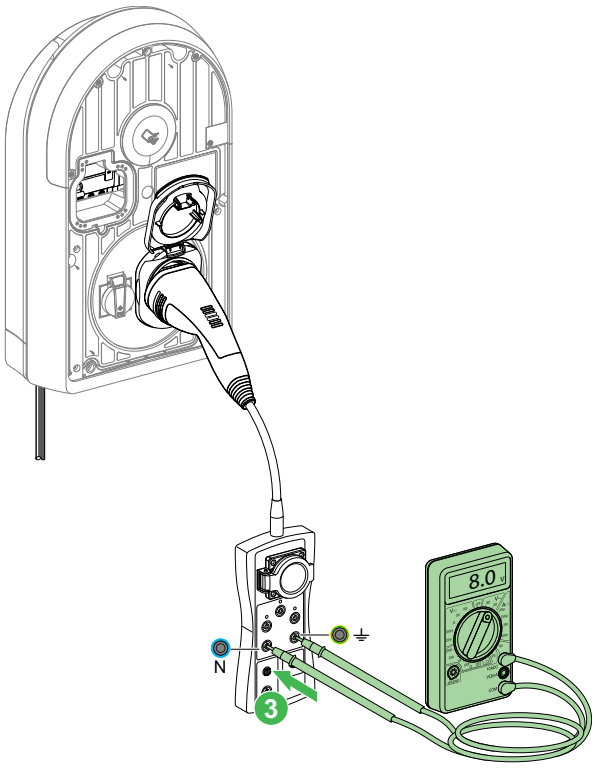
Step	Action	Expected result	Corrective action
1	Connect the testing tool.	–	–

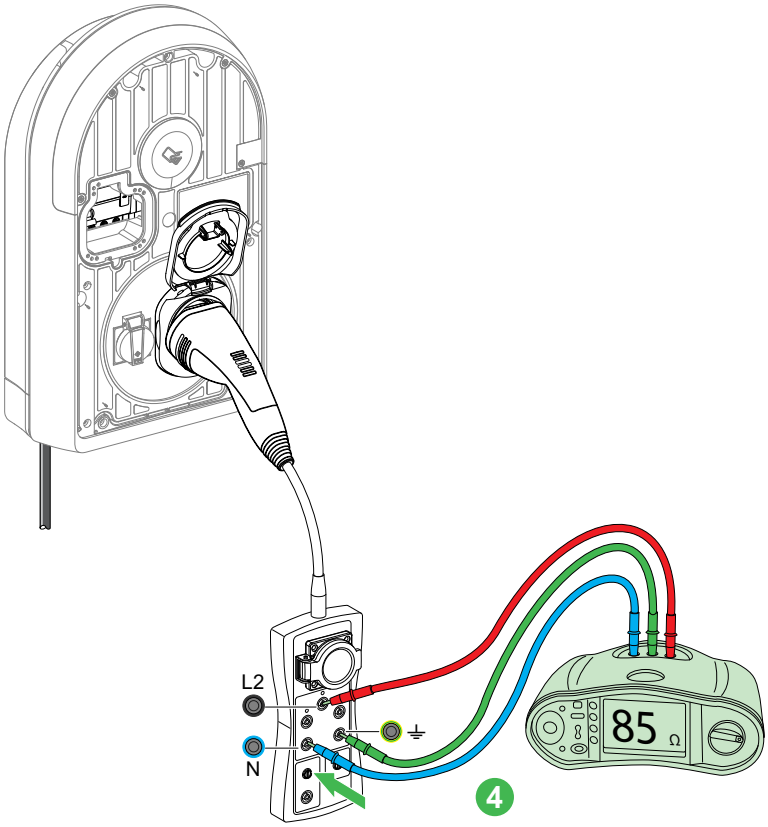


Step	Action	Expected result	Corrective action
2	Start a charging session with the testing tool.	The indicator light is dimming blue.	–



3	Connect a voltmeter on the testing tool.	The voltage between earth and neutral is under 10 V.	If the voltage between earth and neutral is above 10 V, contact a Schneider Electric field service representative for investigations.



Step	Action	Expected result	Corrective action
4	Connect the impedance sensor on the testing tool measuring socket.	The earth impedance is lower than 100 Ohms. Refer to no. 49 in the checklist.	If the earth impedance is above 100 Ohms, contact a Schneider Electric field service representative for investigations.
			
5	Stop the charging simulation.	–	–
6	Disconnect the testing tool.	–	–

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

Back to Customer Settings

Step	Action	Expected result	Corrective action
1	Using eSetup, import the configuration file back into the charging station.	–	Contact the Customer Care Center.
2	Start a charging session with the testing tool or with an EV.	The charging sequence is as expected regarding the configuration (supervision, authentication mode). Refer to no. 50 in the checklist.	If the charging sequence is not as expected, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

Before Leaving the Site

Step	Action	Expected result
1	Put back the front cover, the transparent window and the front plate of the charging station.	The front cover, the transparent window and the front plate are properly attached. Refer to no. 51 in the checklist.
2	Check around the charging station.	There are no tools or documents left around the charging station. Refer to no. 52 in the checklist.
3	Export the full diagnostic report using eSetup for maintenance traceability. Get the complete diagnostic report with password.	–
4	Take a picture of the electrical panel and of the charging station.	–
5	Save the diagnostic report and the pictures in a secure folder.	–

For further information, refer to the *EVlink Pro AC - Troubleshooting Guide* (DOCA0286EN) or contact the Customer Care Center.

Manufacturer Maintenance

Safety Instructions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, NOM 029-STPS, or local equivalent.
- The charging station must only be installed and serviced by qualified electrical personnel.
- Unless specified otherwise in the maintenance procedures, all operations must be carried out with the charging station, and the auxiliary circuits de-energized.
- Respect the LOTO procedure, page 27.
- Check that the charging station is de-energized on the upstream and downstream terminals.
- Always use a properly rated voltage sensing device to confirm that the charging station and the auxiliary circuits are de-energized.
- Install safety barriers and display a danger sign.
- During the tests, it is strictly forbidden for anyone to touch the charging station or the conductors while voltage is applied.
- Before turning on power to the charging station, check that all connections are made with the correct tightening torque.
- Before turning on power to the charging station, put all devices, doors, and covers back in place.
- Before turning on power to the charging station, beware of potential hazards and carefully inspect the work area for tools and objects that may have been left inside the charging station.

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

Replacement Procedures

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Protective devices must be replaced only by trained Schneider Electric experts or partners.

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

The actions to be carried out in case of inoperative charging stations depend on the type of product:

- Battery: for its replacement, refer to the *EVlink Pro AC - Installation Guide* (NNZ1940301).
- Protective devices: to be replaced only by trained Schneider Electric experts or partners.
- Firmware: regular updates are recommended. For latest firmware releases available, refer to the *EVlink Pro AC - OCPP Protocol Connectivity Guide* (GEX1969200), the *EVlink Pro AC - Modbus Connectivity Guide* (GEX1969300), and the Schneider Electric home page at www.se.com.

- EVlink Pro AC spare parts: refer to the *EVlink Pro AC - Spare Part Replacement Guide* (GEX2273501) and the *EVlink Pro AC - Spare part replacement guide for standards* (GEX4591201).

For further information, contact Schneider Electric Customer Care Center.

Checklist

Download the checklist (DOCA0323EN-00) available on the Schneider Electric website, or print the checklist and use it to record the results of the preventive maintenance procedure.

Tick the check box against the column **Yes** when the step has been performed and is conclusive. When the preventive maintenance has been satisfactorily completed, sign the checklist with date.

Recommended Checks to be Done on an EVlink Pro AC Charging Infrastructure

Serial number: **Commercial reference:**	**Charging station location:**
Installation company:	**Installers:**
Verification company:	**Verified by:**
Installation can be energized: YES ◯ NO ◯	**Date:**
For more information on recommended checks, refer to the *EVlink Pro AC - Installation Guide* (NNZ1940301).	**Signature:**

Critical level:
- OK
- Intervention should be planned
- Charging station stopped and intervention planned as soon as

	N°	Topics	NA				Comments
ROUTINE		**External Check**					
	1	The charging station body is stable in all directions.					
	2	The charging station body is undamaged: no cracks, holes or burn marks on the RFID reader, the label, the front plate.					
	3	The five fastening screws are present on the front plate and properly fastened.					
	4	The front plate is adjusted to the front cover.					
	5	The indicator light turns steady green when the charging station is available.					
		T2S Socket Check					
	6	There is no foreign material inside the T2S socket.					
	7	There is no rust inside the T2S socket.					
	8	There are no cracks on the T2S socket.					
	9	The gaskets on the T2S socket are in good condition.					
	10	All the shutters on T2S contacts are present and properly in place.					
	11	There are no burning marks on the earth contact of the T2S socket.					
	12	The flap of the T2S socket is in good condition.					
	13	The T2S connector can easily be plugged in and unplugged.					
		Domestic Socket Check					
	14	There is no foreign material inside the domestic socket.					
	15	There is no rust on the domestic socket.					
	16	There are no overheating marks on the domestic socket.					
	17	The shutters on the TE/TF contacts are present and properly in place.					
	18	The flap of the domestic socket is in good condition.					
	19	The flap of the domestic socket closes properly.					
	20	The gasket flap of the domestic socket is in good condition.					
	21	The TE/TF connector can easily be plugged in and unplugged.					
	22	The plug presence sensor operates correctly.					
		Cable Check					
	23	There is no foreign material around the cable.					
	24	There are no burn marks, pinch marks, cuts or cracks on the cable.					
	25	There is no rust, no hole, and no burning mark on the connector, and no foreign body inside the connector.					
	26	The cap is present on the cable.					
	27	The cable glanding is in good condition.					
		Cleanliness Check					
	28	There is no dust outside the charging station.					
		Charging Check					
	29	The indicator light is dimming blue when the EV is in charge.					
	30	There is no abnormal noise during the charge.					

INTERMEDIATE	**Internal Inspection**													
	31	The inside of the charging station has been cleaned and maintained.					Micro-switches	1	2	3	4	5	6	
							On/Off							
	eSetup Check													
	32	Tapping an admin badge on the RFID reader gives access to the charging station on eSetup.												
	33	The PIN code gives access to the configuration interface of the charging station.					PIN:							
	34	On eSetup, selecting **Get the complete diagnostic report** downloads the full report, CDR, configuration file and the list of authorized badges. Write down the password.					.zip password:							
	Quick Maintenance Diagnostic													
	35	Report saved and checked.												
	36	The configuration of the charging station power is coherent with upstream circuit breaker rating.												
	37	The configuration of the charging station power is coherent with cable section.												
	38	There is at least one RCD in the power line.												
	39	The maximum charging current value on eSetup is coherent with the switch position.												
	40	The boot counter is lower than 10.					Boot counter:							
	Power Meter Check													
	41	The power meter displays a cumulated energy consumption (kWh) above zero and above the value of the previous maintenance. Write down the cumulated energy consumption.					Energy: kWh							
	RCD Check													
	42	The residual current device is working properly.												
	Firmware Check													
	43	Firmware is up to date/updated to the latest version.					Firmware version:							
	T2S Socket Check													
	44	The plug lock is working properly for T2S socket.												
	45	The voltage between neutral and phases is between 220 V and 240 V. The voltage between phases is between 380 V and 415 V.					U31: U12: U23: V1N: V2N: V3N: VN-GND:							
	Domestic Socket Check													
	46	Voltage is present at the end of the extension cord. Write down the measured voltage.					V1N: Vac							
	RFID Reader Check													
	47	The RFID reader is working properly.												
	iMnX Check													
	48	The iMnX is working properly.												
	Earth Measurement Check													
	49	The earth impedance is lower than 100 Ohms.					Impedance measurement: VN-GND:							
	Back to Customer Settings													
	50	The charging sequence is as expected regarding the configuration (supervision, authentication code).												
	Check Before Leaving the Site													
	51	The front cover, the transparent window and the front plate are properly attached.												
	52	There are no tools or documents left around the charging station.												

Glossary

A

AC: Alternative Current

D

DEM: Dynamic Energy Management

Diagnostic report: Contains important information for Schneider Electric Customer Care Center to assess the issue with the EVlink Pro AC charging station.

E

EVCE: Electric Vehicle Charging Expert. Electric vehicle charging infrastructure load management, access management and supervision solution. Formerly known as EVlink Load Management System.

EV: Electric vehicle

L

LOTO: Lock Out Tag Out. Safety procedure for de-energizing and securing equipment, machinery or processes, so that hazardous energy is not re-introduced during servicing or repair.

O

OCPP: Open Charge Point Protocol. An application protocol for communication between electric vehicle charging stations and a central management system, also known as a charging station network, similar to cell phones and cell phone networks.

R

RCD: Residual Current Device. Safety device that switches off electricity automatically if there is a fault.

Printed in:
Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison - France
+ 33 (0) 1 41 29 70 00

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92500 Rueil Malmaison
France

+ 33 (0) 1 41 29 70 00

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