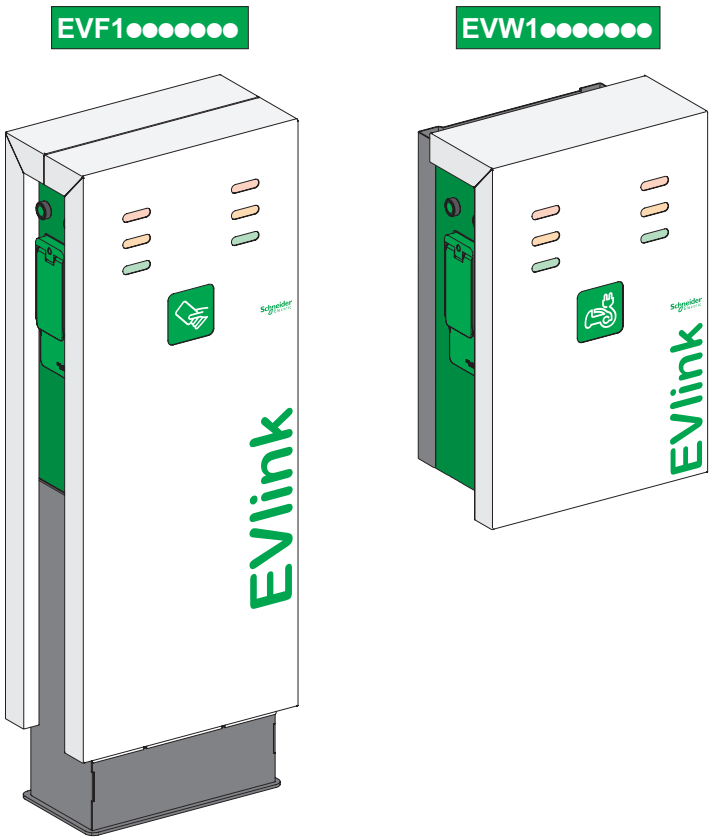
EVlink Parking
EVF1 - EVW1

Parking Charging Stations
User Manual

07/2013



DOCA0063EN-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.

Table of Contents

1. 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, 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 will 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

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 **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which **could result in** minor or moderate 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.

A qualified person is one who has skills and knowledge related to the construction, operation and installation of electrical equipment, and has undertaken safety training in how to identify and avoid the hazards involved.

This device must not be installed or used if you notice that it is damaged.

The manufacturer cannot be held responsible for failure to follow the instructions given in this instruction sheet.

2. About This Manual

Aim of This Document

The purpose of this manual is to provide the information needed to use EVlink Parking EVF1 and EVW1 charging stations.

⚠ ⚠ DANGER

RISK OF ELECTROCUTION
Do not replace connector units or plates unless you work for Schneider Electric After-Sales Service.
Failure to follow these instructions will result in death or serious injury.

Area of Application

This user manual applies to the following EVlink Parking charging stations:
- EVF1••••••• 7-22 kW floor standing charging stations
- EVW1••••••• 7-22 kW wall mounted charging stations

Related Documents

Document Title	Reference
Instruction Sheet for EVlink Parking EVF1••••••• and EVlink Parking EVW1••••••• Charging Stations	HRB50435
EVlink Parking Guide to Installation, Configuration and Replacement	DOCA0061FR, DOCA0061EN, DOCA0061DE, DOCA0061ES, DOCA0061IT, DOCA0061NL
EVlink Parking Charging Station Maintenance Manual	DOCA0031FR or DOCA0031EN

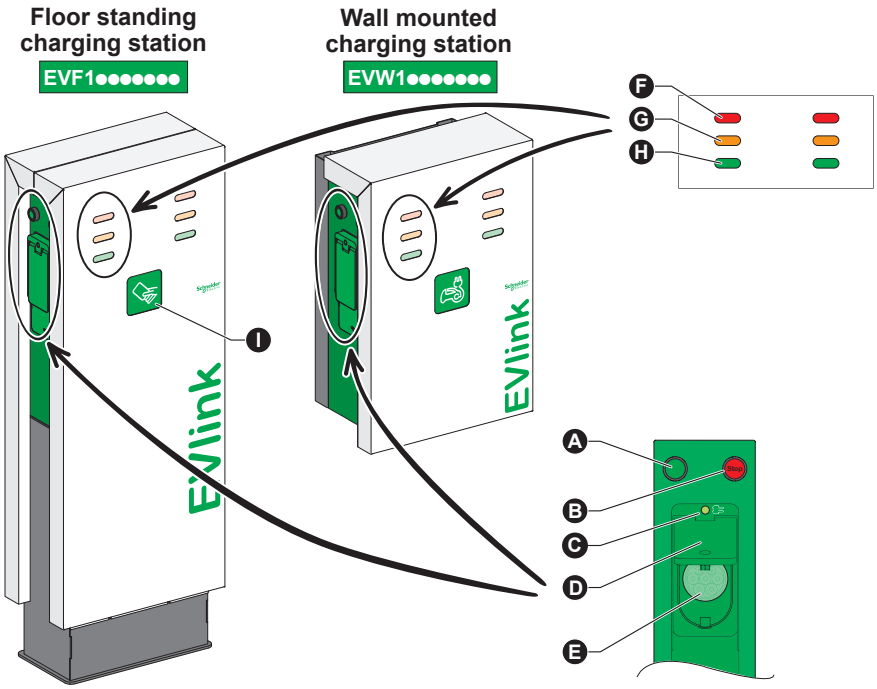
You can download these technical publications and other technical information from our website at www.schneider-electric.com.

3. Overview

Introduction

EVlink Parking charging stations are designed for secure car parks used by jointly-owned properties, businesses, vehicle fleets and shopping malls. They can be installed indoors or outdoors. Depending on the model, it may be possible to identify users with an RFID badge.
The electric vehicle is connected directly to the grid with a special plug and a dedicated circuit, according to “IEC mode 3” (CHAdeMO DC charging). The control and protection functions operate continuously in the system.

Description



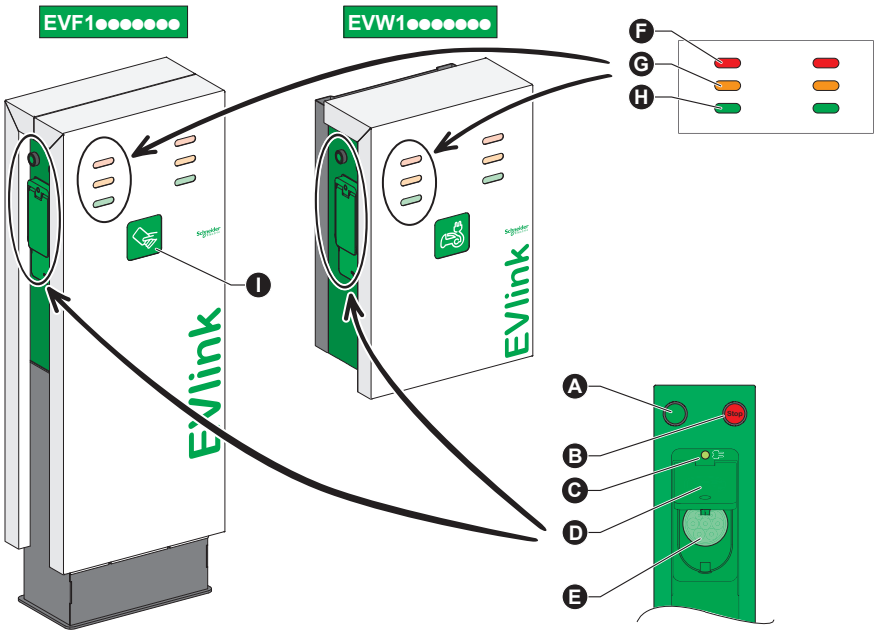
A	Shutter release button/indicator (green indicator light)	**F**	Detected-fault indicator (red indicator light)
B	Charging stop button	**G**	Maintenance/reservation indicator (orange indicator light)
C	Charging indicator (green indicator light)	**H**	Socket-outlet available indicator (green indicator light)
D	Shutter	**I**	RFID reader
E	Socket-outlet		

EVlink Parking charging stations are equipped with either 1 or 2 type T2 connector(s), or 1 or 2 type T3 connector(s).
The charging power of EVlink Advanced Parking charging stations is either 7 kW or 22 kW.
For charging stations with a plug and socket-outlet, this is on the right.
For charging stations with an RFID reader, the administrator and user badges are supplied with the charging station (1 administrator badge, 9 user badges).
These badges are registered (or declared) by the installer, on site, once installation is complete.
For more information, refer to the “EVlink Parking Guide to Installation, Configuration and Replacement”, reference DOCA0061.

Administrator badge: “Admin”

User badge: “User”

Charging Station States



A Shutter release button/indicator (green indicator light)

B Charging stop button

C Charging indicator (green indicator light)

D Shutter

E Socket-outlet

F Detected-fault indicator (red indicator light)

G Maintenance/reservation indicator (orange indicator light)

H Socket-outlet available indicator (green indicator light)

I RFID reader

Charging Cable	Indicator Lights					Charging Station Status
	A	C	F	G	H	
Not connected to the socket	Off	Off	Off	Off	Off	Socket **not energized** or defective
	Off	Off	Off	Off	**On**	Socket **energized and available** for charging
	Off	Off	Off	**On**	Off	Socket **reserved** or undergoing maintenance
	Off	Off	**On**	Off	Off	Socket **faulty** (tamper prevention, surge arrester, etc.)
	Blinking	Off	Off	Off	**On**	Session open after the badge has been swiped OK (1)
	Blinking	Blinking	Off	Off	**On**	Socket **selected** (side with LED **A** on) for cable connection
Connected to the socket and to the vehicle	Blinking	Blinking	Off	Off	**On**	Socket **locked** (waiting to charge)
	On	Blinking slowly	Off	Off	Off	Charging **in progress**
	On	Off	Off	Off	Off	**Charging stopped** by the electric vehicle or by the supervision system
	On	**On**	Off	Off	Off	**Charging suspended** by the supervision system or by the energy manager
	Off	Off	**On**	Off	Off	**Charging interrupted** (safety device, tamper prevention, overload, etc.)
	Off	Blinking	Off	Off	Off	**Charging stopped by pressing B** (awaiting release)

(1) only on charging stations with an RFID reader.

4. Using the Charging Station

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, ARC FLASH, BURNS OR EXPLOSION

- Do not use this equipment if it is damaged or if the charging cable appears to be damaged.
- Charge your vehicle in a well-ventilated area as recommended by the manufacturer.
- Do not modify the equipment installation.

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

⚠ ⚠ DANGER

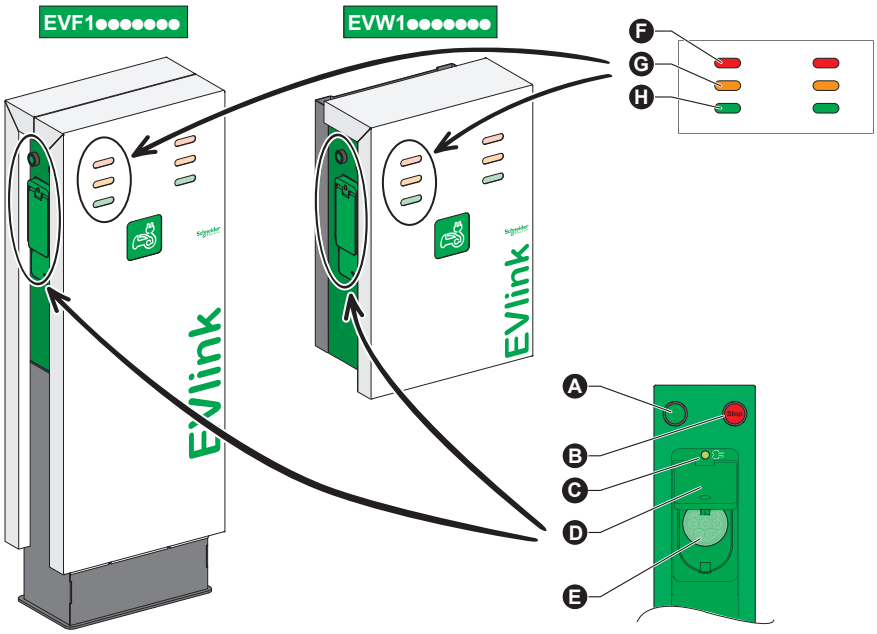
RISK OF DAMAGE TO EQUIPMENT AND ELECTRIC SHOCK

- Do not use this equipment in the rain or in storm conditions.
- Do not spray water on this equipment.
- Do not wash the electric vehicle while it is charging.

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

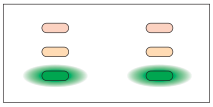
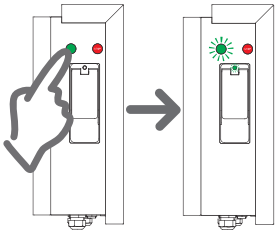
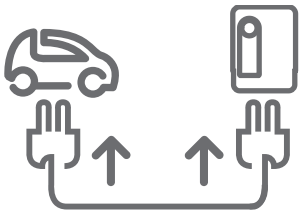
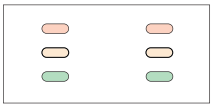
Charging Station Without an RFID Reader

Overview of Indicator Lights and Pushbuttons

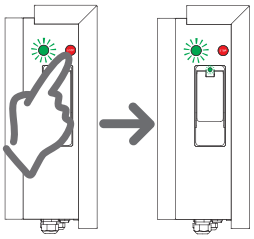
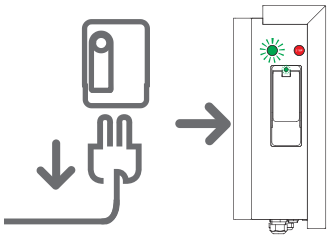
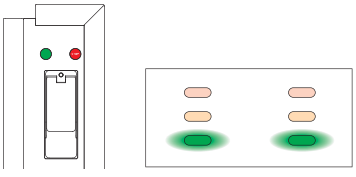


A	Shutter release button/indicator (green indicator light)	**E**	Socket-outlet
B	Charging stop button	**F**	Detected-fault indicator (red indicator light)
C	Charging indicator (green indicator light)	**G**	Maintenance/reservation indicator (orange indicator light)
D	Shutter	**H**	Socket-outlet available indicator (green indicator light)

Starting Charging

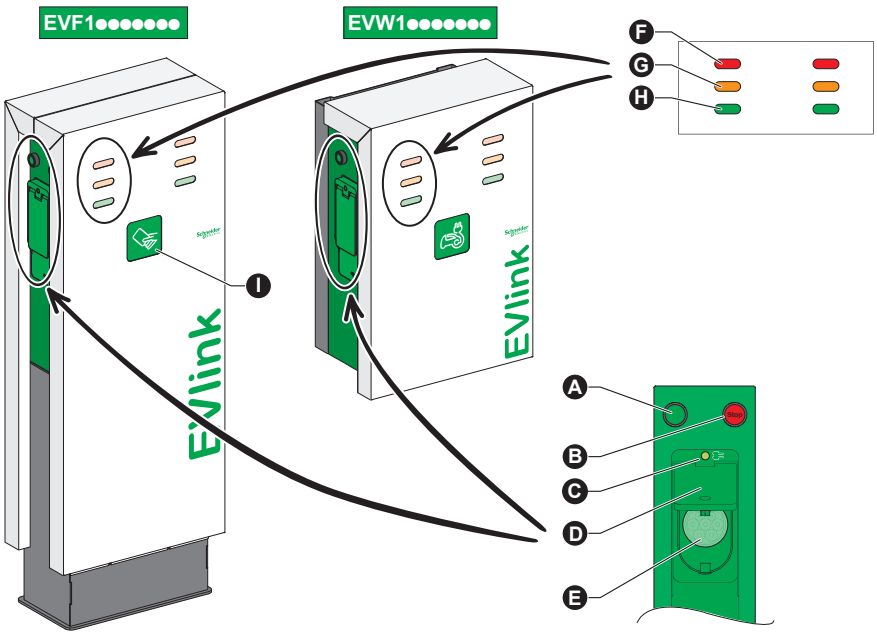
Step	Action	Illustration
1	● The charging station is available. *The "socket-outlet available" indicator light* **(H)** *is on.*	
2	● Choose one side of the charging station (if charging station with 2 socket-outlets). ● Press the shutter release button **(A)**. *The shutter release button/indicator light* **(A)** *blinks.* *The shutter is released.*	
3	● Plug the charging cable into the charging station socket-outlet and into the vehicle socket-outlet. *The shutter release button/indicator light* **(A)** *is permanently on.* *The "charging" indicator light* **(C)** *blinks quickly.*	
4	● The electric vehicle is on charge. *The "charging" indicator light* **(C)** *blinks slowly.* *The "socket-outlet available" indicator light* **(H)** *goes out.*	

Stopping Charging

Step	Action	Illustration
1	● Press the red "Stop" button **(B)**. *The "charging" indicator light* **(C)** *blinks quickly.*	
2	● Unplug the cable from the charging station and the vehicle. *The "charging" indicator light* **(C)** *blinks quickly.*	
3	● Close the shutter. ● The charging station is available. *The "charging" indicator light* **(C)** *goes out.* *The shutter release button/indicator light* **(A)** *goes out.* *The "socket-outlet available" indicator light* **(H)** *lights up.*	

Charging Station With an RFID Reader

Overview of Indicator Lights and Pushbuttons



A Shutter release button/indicator (green indicator light)

B Charging stop button

C Charging indicator (green indicator light)

D Shutter

E Socket-outlet

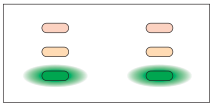
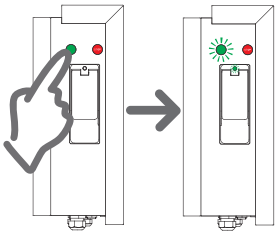
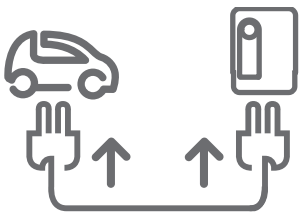
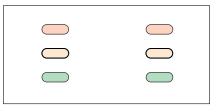
F Detected-fault indicator (red indicator light)

G Maintenance/reservation indicator (orange indicator light)

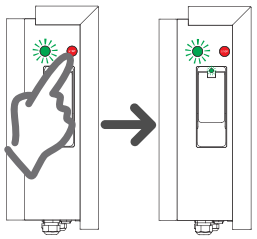
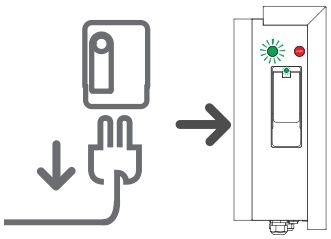
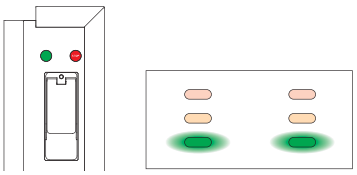
H Socket-outlet available indicator (green indicator light)

I RFID reader

Starting Charging

Step	Action	Illustration
1	● The charging station is available. *The "socket-outlet available" indicator light* **(H)** *is on.*	
2	● Pass the badge over the RFID reader **(I)**. *The "maintenance/reservation" indicator light* **(G)** *blinks.* *Note: If the charging station is connected to the supervision system, there may be a wait state.*	
3	● Choose one side of the charging station (if charging station with 2 socket-outlets). ● Press the shutter release button **(A)**. *The shutter release button/indicator light* **(A)** *blinks.* *The shutter is released.*	
4	● Plug the charging cable into the charging station socket-outlet and into the vehicle socket-outlet. *The shutter release button/indicator light* **(A)** *is permanently on.* *The "charging" indicator light* **(C)** *blinks quickly.*	
5	● The electric vehicle is on charge. *The "charging" indicator light* **(C)** *blinks slowly.* *The "socket-outlet available" indicator light* **(H)** *goes out.*	

Stopping Charging

Step	Action	Illustration
1	• Pass the badge over the RFID reader **(I)**. *The "maintenance/reservation" indicator light* **(G)** *blinks.* *Note: If the charging station is connected to the supervision system, there may be a wait state.*	
2	• Press the red "Stop" button **(B)**. *The "charging" indicator light* **(C)** *blinks quickly.*	
3	• Unplug the cable from the charging station and the vehicle. *The "charging" indicator light* **(C)** *blinks quickly.*	
4	• Close the shutter. • The charging station is available. *The "charging" indicator light* **(C)** *goes out.* *The shutter release button/indicator light* **(A)** *goes out.* *The "socket-outlet available" indicator light* **(H)** *lights up.*	

5. Care

⚠ CAUTION

RISK OF DAMAGE TO EQUIPMENT
- Do not spray water on this equipment.
- Do not clean this equipment while the electric vehicle is charging.

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

NOTICE

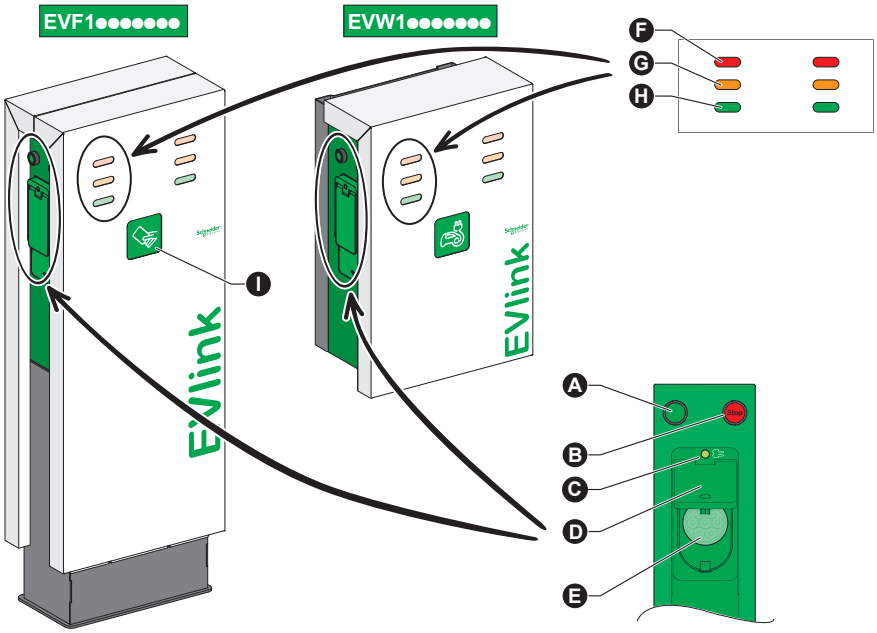
RISK OF DAMAGING THE CHARGING STATION
Do not allow the charging station to come into contact with automotive fluids (e.g., gas, diesel).
Failure to follow these instructions can result in equipment damage.

Before starting to clean the charging station, stop charging, unplug the charging cable from the charging station socket-outlet and check that the socket-outlet shutter is lowered.
For more information, see “Stopping Charging”, page 9 for charging stations without an RFID reader and “Stopping Charging”, page 12 for charging stations with an RFID reader.

We recommend cleaning the charging station with a soft dry cloth. Never use abrasive pads or detergents.

6. Maintenance

Troubleshooting Assistance



A Shutter release button/indicator (green indicator light)

B Charging stop button

C Charging indicator (green indicator light)

D Shutter

E Socket-outlet

F Detected-fault indicator (red indicator light)

G Maintenance/reservation indicator (orange indicator light)

H Socket-outlet available indicator (green indicator light)

I RFID reader

Charging Station Status	Description of Fault	Corrective Action
The indicator lights (**F, G and H**) on the front panel are off (charging station energized up and no sockets plugged in)	No ∿ 230 V power supply	Check the external ∿ 230 V power supply
	No ⎓ 24 V power supply	Check the internal ⎓ 24 V power supply
	Fault in sending back status information from the power circuit breakers to the PLC	● Fault in the auxiliary indicating the circuit breaker status (open or closed), in sending back information to the PLC: change the auxiliary indicating the circuit breaker status ● Fault in the connections: check connection of the auxiliary indicating the circuit breaker status ● If the connection is OK, check the continuity of the indication circuit with an ohmmeter (the charging station power supply must be switched off): replace the cables ● The PLC input card is not working: change the input card
	The indicator lights are not connected	Check the indicator light connections
	The indicator lights are not working	Replace the indicator lights (refer to maintenance manual DOCA0031)
	The contactor is stuck or the circuit board is not working	Change the plate (refer to maintenance manual DOCA0031)
The green indicator light (**H**) on the front panel stays on when the socket is plugged in	The socket is not detected	Check that the plug and socket-outlet is fully inserted in the charging station (press hard)
	The charging cable is damaged	Try plugging in a different cable
	Problem with the circuit board or socket-outlet	● Check the continuity of the socket-outlet; if there is a problem, replace the socket-outlet (refer to maintenance manual DOCA0031) ● Look at the indicator light on the circuit board: - If it is red, switch the station power supply off and then on again - If it stays red, check the charging station wiring and make sure no connector has come unplugged - If the wiring seems all right, reflash the program onto the circuit board - If this operation is unsuccessful, change the plate (refer to maintenance manual DOCA0031) - If the indicator light turns green, try to restart charging - If the indicator light is green, change the plate (refer to maintenance manual DOCA0031)
	The green indicator light (**H**) on the front panel is not working	Check the continuity of the button
	The charging cable is non-compliant (the cable coding resistance does not allow the cable to be detected)	Try plugging in a different cable
Despite the plug and socket-outlet being correctly inserted (on both the charging station and the vehicle), the charging indicator light (**C**) does not blink	Check the plug and socket-outlet is locked properly	● If it is not locked: - Check the socket-outlet wiring - Check the socket-outlet power supply - If you cannot detect a problem, change the socket-outlet (refer to maintenance manual DOCA0031) ● If it is locked, see below
	The charging indicator light is disconnected	Check the indicator light connection
	The charging indicator light is not working	Change the socket-outlet (refer to maintenance manual DOCA0031)
	The charging cable is defective	Try plugging in a different cable
	The vehicle is fully charged	Check the vehicle charging status
	The circuit board is not working	Change the plate (refer to maintenance manual DOCA0031)
After plugging the plug and socket-outlet into the charging station, the station attempts to lock the plug and socket-outlet 5 times without success	The plug and socket-outlet is not pushed in far enough	Check that the plug and socket-outlet is fully inserted in the charging station (press hard)
	The position contact on the plug and socket-outlet is defective	Change the socket-outlet (refer to maintenance manual DOCA0031)

Charging Station Status	Description of Fault	Corrective Action
After charging the vehicle, the green indicator light on the front panel lights up again, but the plug and socket-outlet cannot be withdrawn	The wiring is faulty	Check the socket-outlet wiring
	The socket-outlet is faulty	Change the socket-outlet (refer to maintenance manual DOCA0031)
Vehicle charging does not start (but the charging indicator blinks)	The vehicle is in “standby” mode	Open the vehicle door to exit standby mode
	The cable is damaged	Try plugging in a different cable
	The charging station or the vehicle is not working	Check the charging station with the EVlink vehicle simulator ● If no fault is detected, take the vehicle back to the manufacturer ● If a fault is detected: change the plate (refer to maintenance manual DOCA0031)
Charging is interrupted while the socket is connected	The vehicle is fully charged	Check the vehicle charging status
	The vehicle cannot detect any current (single-phase charging station)	● Check the charging station's supply wiring ● Check the connection ● Check the charging station with the EVlink vehicle simulator (check that phase/neutral have not been reversed)
	The vehicle detects an overvoltage (three-phase charging station)	● Check the charging station's supply wiring ● Check the connection ● Check the charging station with the EVlink vehicle simulator (check that phase/neutral have not been reversed)
	Overcurrent	● Re-start charging and measure the current consumption with an ammeter. ● Try connecting the vehicle to a different charging station. ● Change the plate (refer to maintenance manual DOCA0031)
	The cable insulation is damaged	Try plugging in a different cable
	Problem with the socket-outlet	Change the socket-outlet (refer to maintenance manual DOCA0031)
When you press the Stop button, charging does not stop (charging indicator light blinks) and the plug and socket-outlet remains locked	The Stop button is not working	Change the Stop button (refer to maintenance manual DOCA0031)
	The circuit board is not working	Change the plate (refer to maintenance manual DOCA0031)
The vehicle does not charge even though everything seems to be working	A power cable is missing or damaged	Measure the voltage upstream of the contactor
		If the voltage is correct, use the EVlink vehicle simulator to locate the problem
	A load-shedding device is connected to the charging station and is active	Check that a load-shedding device is connected and active. Wait for it to authorize charging again
	The ground resistance exceeds the charging station permissible value	To check and resolve this problem, contact a qualified electrician
The charging cable is damaged at the end of charging	The cable does not meet the required specifications	Check the cable specifications, check that the wire cross-section is suitable for the current delivered
	Cable quality problem	Change the charging cable
The charging station cap is damaged	Accident, vandalism	Replace the cap (refer to maintenance manual DOCA0031)
A plug and socket-outlet shutter is damaged	Accident, vandalism	Replace the shutter (refer to maintenance manual DOCA0031)
The surge arrester is not working (red indicator light on the cartridge on or indication on the supervision PC)	Overvoltage	● Replace the surge arrester (refer to maintenance manual DOCA0031) or ● Replace the surge arrester cartridge (refer to maintenance manual DOCA0031)
The red indicator light (**F**) is on	The charging station is faulty	● Press the red “Stop” button (**B**) ● Unplug the cable from the charging station ● Close the shutter ● The charging station is available ● Plug the cable back in ● If the fault persists, contact Schneider Electric support

Intervention

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, ARC FLASH, BURNS OR EXPLOSION
Do not attempt to remove the caps from the unit.
Failure to follow these instructions will result in death or serious injury.

Please refer to maintenance document DOCA0031FR or DOCA0031EN available on our website (www.schneider-electric.com).

EVlink Technical Support

The Schneider Electric Customer Care Center is available to answer all your technical questions about EVlink charging stations.
You can find the contact details for the Schneider Electric Customer Care Center in your country as follows:

- Browse our website www.schneider-electric.com
- Select your country (with the [Change country] option), confirm your selection
- Click on the “Customer Care Center” button

7. Characteristics

General Characteristics

Characteristic	Value
IP protection indices	• Charging stations: IP54 • Socket-outlets: IP44, in compliance with standard IEC 61851
IK protection index	• Charging stations: IK10 • Socket-outlets: IK10
Operating temperature	-30°C to +50°C
Storage temperature	-40°C to +80°C

Electrical Characteristics

Characteristic	Value
Power supply	• ∿ 230 V 50 Hz/60 Hz, Phase + Neutral + Earth • ∿ 400 V 50 Hz/60 Hz, 3 Phases + Neutral + Earth
Earthing system arrangement	TT or TN, IT prohibited (1)
Power on network side	• 7 kW via type 2 or type 3 connector/∿ 230 V • 22 kW via type 2 or type 3 connector/∿ 400 V
Cos ϕ	> 0.95
Communication	• Ethernet (with protection and control cabinet) • GPRS modem if Modem option
Number of plug and socket-outlet(s)	1 or 2 plug and socket-outlets per unit
Type 2 connection socket	• Type 2 according to IEC 62196 • 7-pin connector • I max.: 32 A
Type 3 connection socket	• Type 3 according to IEC 62196 • 7-pin connector • I max.: 32 A
Charging mode	Mode 3 according to IEC 61851

(1) For the IT earthing system, the neutral point connection must be changed, for example by installing an isolation transformer with a TT or TN connection downstream.

Certification

CB certification		
Marking CE		
Conforming to standards:	IEC 61851-22 Edition 1.0 – 2001/05	
	IEC 61851-1 Edition 2.0 – 2010/11	
	Low Voltage directive (2006/95/EC)	
	Electromagnetic Compatibility (EMC) directive (2004/108/EC)	
	Radio and telecommunications terminal equipment (R&TTE) directive (1999/5/EC) (1)	● Radio section: - ETSI EN 300-330-1 (V1.7.1) - ETSI EN 300-330-2 (V1.5.1) - ETSI EN 302-291-1 (V1.1.1) - ETSI EN 302-291-2 (V1.1.1) ● Health section: - NF EN 50364 (2010) - NF EN 62369-1 (2009) ● Electrical safety section: Covered by tests under the standard IEC EN 61851-1 (Edition 2.0)/22 (Edition 1.0) ● Electromagnetic compatibility section (EMC): EN 301-489-1/7 covered by standard IEC EN 61851-1 (Edition 2.0)/22 (Edition 1.0)

(1) Only for devices equipped with an RFID reader.

Storage

The charging stations are supplied in individual cardboard boxes. When commissioning the product, all the protection for transport must be removed before energization. We recommend storing the charging stations in their packaging, sheltered from rain and damp.

Transport

Throughout the transport phase, take all necessary measures to keep the pallet stable.

Equipment Handling

EVlink Parking charging stations must be handled by two people as specified in the Employment Code.

8. Protecting the Environment

Recycling Packaging

The packaging materials from this equipment can be recycled. Please help protect the environment by recycling them in appropriate containers. Thank you for playing your part in protecting the environment.

End-of-Life Recycling

Products in the EVlink Parking range have been optimized to reduce the amount of waste produced at the end of their useful life and for better recovery of component parts and materials when following customary processing procedures. Products have been designed so that their components can be processed by conventional procedures: decontamination where this is recommended, reuse and/or dismantling in order to improve recycling performance, and crushing to separate out the rest of the materials.

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