Schneider Charge - EVH5•••N•

User manual



Customer Care Center





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Sa	ety	3
1	Contents	4
2	Description	5
:	2.1 Product References and Characteristics	5
:	2.2 Product Description	5
3	Characteristics	7
:	3.1 General Data	7
:	3.2 Certification	7
:	3.3 Environment	7
:	3.4 Accessories	7
4	Protection	8
	Jpstream Protections	8
I	Distribution System Operator	8
I	Power Cable Requirements	8
5	Electrical Diagram	9
6	Installation	10
	6.1 Equipment Supplied by User	. 10
	5.2 Tools Supplied by User	. 10
	5.3 Wall Mounting	. 10
	5.4 Wiring	. 12
7	Connection	.17
	7.1 Wire-up Signal Line	. 17
	7.2 Wire-up Power Supply	. 17
8	Inspection	.18
9	Energy Management (For Schneider Charge with TIC Function)	18
10	Commissioning With eSetup Application	19
	10.1 Connect & Update	. 19
	10.2 Configure Electrical Settings	.20
	10.3 Pre-configure the Smart Charging Application (Optional)	. 20
	10.4 Finalize	. 20
	10.5 Ready to Operate	20
11	Operation	21
	11.1 Connecting the Electric Vehicle Charging Station	. 21
	11.2 Disconnecting the Electric Vehicle	. 21
	11.3 Connection to a Smart Charging Application	. 21
	11.3.1 Prerequisites	
	11.3.2 Connect	
	11.3.3 Ready to Operate Remotely	
12	Cable Storage	23
13	Charging Station Indicators	23
14	Basic Troubleshooting	.24
15	Wireless Feature Declaration	24
16	Recycle	24

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Safety

Important Information

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 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 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

- The installation, maintenance and eventual replacement of this device must only be carried out by a qualified electrician.
- This device must not be repaired.
- All applicable local, regional and national regulations must be complied with during the installation, use, maintenance and replacement of this device.
- This device should not be installed if, when unpacking it, you observe that it is damaged.
- Schneider Electric cannot be held responsible in the event of non-compliance with the instructions in this document and in the documents to which it refers.
- The service instruction must be observed throughout the life time of this device.



(1) Only used for installation on irregular wall

(2) Replacement screw

(3) Used for power cable 10-20 mm

(4) Used for power cable 20-23 mm, only provided in EVH5A22N2S/EVH5A22N400F

2.1 Product References and Characteristics

Product Reference		EVH5A07 N2C5	EVH5A07 N2C7	EVH5A11 N2C5	EVH5A11 N2C7	EVH5A22 N2S	EVH5A22 N400F
	IEC						
Market	France						
	UK						
	Network	1P+N	1P+N	1P/3P+N	1P/3P+N	1P/3P+N	1P/3P+N
	Power rating (1P/3P) (kW)	7.4	7.4	(3.7)*/11	(3.7)*/11	(7,4)*/(11)**/22	(7,4)*/(11)**/22
Electrical	Max Current per phase (A)	32	32	16	16	32	32
Characteristics	Number of charge point	1	1	1	1	1	1
onaraotonstios	T2S socket	-	-	-	-		
	Attached cable	5 m/16 ft	7 m/22 ft	5 m/16 ft	7 m/22 ft	-	-
	In-built RDC-DD 6mA						
Dratactions	In-built PEN protection	-	-	-	-	-	-
Protections	IP55						
	IK10						
	With Anti-Tripping Module EVA2HPC1 (1P+N until 100A)						
Load	With Anti-Tripping Module EVA4HPC1 (1P+N until 50A)						
	With Anti-Tripping Module EVA2HPC3 (3P+N until 50A)	ĺ					
Management	With Linky Meter (TIC)	-	-	-	-	-	
	DSO input (dry contact)						
	Wall mounted						
		352x244x107 mm		352x244x107 mm		352x244x117 mm	
Installation	Dimensions	13.9x9	.6x4.2 in	13.9x9.6x4.2 in		13.9x9.6x4.6 in	
	Weight	4.5 kg/9.92 lb	5.3 kg/11.68 lb	4.5 kg/9.92 lb	5.2 kg/11.46 lb	3.2 kg/7.05 lb	3.2 kg/7.05 lb
Configuration	With eSetup app (Wi-Fi Access Point)						
	Wi-Fi 2.4 GHz						
Connectivity for Supervision	Ethernet (1 port)						
	OCPP1.6J						
	Wiser						
	Connect-able to third party app						
	Power						
In-built	Current						
Metering	Energy						

*When power supply is single-phase, please use charger according to the power in brackets. **With derating by eSetup.

2.2 Product Description

- This charging station is an electrical appliance that supplies electric energy to charge plug-in electric vehicles for indoor and private outdoor areas.
- When installing and using the charging station, ensure that you comply with local regulations.
 The intended use of the equipment includes, in all cases, the environmental conditions established for the equipment.



A	Cable winding trough	When not in use, wrap the charging cable around the charging station's trough to avoid tripping hazards and equipment damage.
B	Front indicator light	Indicates the status of the charging station and charging session, Section "Charging Station Indicators", page 23.
C	Side indicator light	Indicates status during Wi-Fi access point commissioning and anti-tripping module pairing.
D	Functional button	Press to enable Wi-Fi access point/Reset PIN Code/anti-tripping module pairing (power off and then back on the product to enable this button).



Description

2.2 Product Description



A	Cable winding trough	When not in use, wrap the charging cable around the charging station's trough to avoid tripping hazards and equipment damage.
B	Front indicator light	Indicates the status of the charging station and charging session, Section "Charging Station Indicators", page 23.
0	Side indicator light	Indicates status during Wi-Fi access point commissioning and anti-tripping module pairing.
D	Functional button	Press to enable Wi-Fi access point/Reset PIN Code/anti-tripping module pairing (power off and then back on the product to enable this button).
Ø	Charging socket	Plug in your T2 charging cable.

3.1 General Data

- Ingress protection rating: IP55 (IEC 60529)
- Impact protection rating: IK10 (IEC 62262)
- Socket for T2 cable or T2 attached cable according to IEC 62196-1 and IEC 62196-2
- Operating temperature:
 - □ -30°C to +50°C for 7.4 kW (1P 32A) Schneider Charge with T2S socket (-22°F to +122°F) (up to 55°C/131°F with derating)

 - □ -30°C to +55°C for 11 kW (3P 16A) Schneider Charge with T2S socket (-22°F to +131°F)
 □ -30°C to +45°C for 22 kW (3P 32A) Schneider Charge with T2S socket (-22°F to +113°F) (up to 55°C/131°F with derating)
 - □ -35°C to +50°C for 7.4 kW (1P 32Å) Schneider Charge with attached cable (-31°F to +122°F) (up to 55°C/131°F with derating)
 - □ -35°C to +55°C for 11 kW (3P 16A) Schneider Charge with attached cable (-31°F to +131°F)
- Storage temperature: -40°C to +85°C (-40°F to +185°F) ■ Relative humidity: 5-95 %
- Rated voltage (depending on model):
 - □ For 7.4 kW: 230V AC +/- 10 %, 50/60 Hz □ For 11 kW/22 kW: 400V AC +/- 10 %, 50/60 Hz
- Rated charging current: 32A for 7.4 kW, 16A for 11 kW and 32A for 22 kW
- Accuracy of current, voltage and power measurement: 1 %
- Diagram of the earthing system:TN-S, TN-C-S, TT, IT (only 230V)
- Designed for indoor and outdoor use
- OCPP 1.6J
- Wi-Fi feature 2.4 GHz
- □ Operating frequency bands: 2412 MHz–2472 MHz
- □ Maximal RF output power: less than 20 dBm (18.25 dBm)

1 Ethernet port

3.2 Certification

- IEC/EN 61851-1
- IEC 61851-21 2
- EN 61000-6-1
- EN 61000-6-3
- EN 300328
- EV Ready *

*Only available for EVH5A22N400F

3.3 Environment

- Compliant with the RoHS European directive
- Compliant with the REACH European regulation

3.4 Accessories

- Schneider charge anti-tripping module (peak controller), single-phase, low rating (EVA4HPC1, 16-50A)
- Schneider charge anti-tripping module (peak controller), single-phase, high rating (EVA2HPC1, 32-100A)
- Schneider charge anti-tripping module (peak controller), three-phase, low rating (EVA2HPC3, 16-50A)
- Schneider charge Gun Holder (EVA5GH)

Notes:

- The anti-tripping module adapt/limits the power draw of the Schneider Charge, in some cases completely stopping the charging, to avoid a power outage of your
- home electrical supply. Schneider Charge provides pairing function with anti-tripping module. Refer to the anti-tripping module's instruction sheet.
- according to the power available for the electrical installation, especially if the home is equipped with a heat pump. Minimum recommendation: 25A 3P+N.

A A DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Do not install automatic reset systems on the residual current protection device. Failure to follow these instructions will result in death or serious injury.

Upstream Protections

The Electric Vehicle measures the ground resistance and will only start charging if it is lower than the threshold defined by the Electric Vehicle manufacturer. Refer to the vehicle's technical documentation.

The choice of electrical protections and wire gauges must comply with local regulations and the information below as well as the constraints of the electrical installation. In particular, the selected protection must not only satisfy the requirements of IEC 61851-1 ed 3.0 but must also limit the value of I²t to less than 75 000 A²s in case of a short-circuit.

Charging station rated current	32A 1-Phase	16A 3-Phase	32A 3-Phase
Charging station power rating	7.4 kW	11 kW	22 kW
Protection against overload and short circuits	40A curve B or C(1)	20A curve C	40A curve C
Differential protection	30mA type A Si	30mA type A Si	30mA type A Si

(1) According to selectivity with upstream protections

Recommended protection: Actig iC60

A Undervoltage release (iMNx) controlled by the charging station must be installed to enable to activate the upstream circuit-breaker tripping.

The protections described below should only be taken as suggestions and Schneider Electric cannot be held liable.

Recommendations for lightning protection

One surge arrester per charging station is recommended for high keraunic levels, mandatory if required by local regulations.

Distribution System Operator

According to Technical Connection Rules VDE-AR-N-4100:2019-04 Cl. 10.6.4, a charging station with a total rated power of more than 12 kVA must have a remote power

- control interface to allow remote Control by the Distribution System Operator (DSO).
 - A dry connector for DSO input to suspend/power limit.
 Input connector for DSO cable: 0.2-1.5 mm² (AWG 24-15.5) flex and rigid cable.

Power Cable Requirements

- For wiring section "Wiring", page 12, please comply with local regulations.
- The maximum wire gauge should not exceed 10 mm² (AWG 7).
- Two types of wire as recommended when connecting the charging station to the power supply:
 - To use flexible cables.
 To use rigid cable.

1-phase installations (except EVH5A22N400F)

	Distribution board	Undervoltage Release (iMNx)	Distribution System Operator (DSO)	
Diameter	3 x 6 mm ² (3 x AWG 9) (Type U1000R2V 3G)	2 x 0.5 mm ² (2 x AWG 20)	2 x 0.5 mm ² (2 x AWG 20)	
Length	< 50 meters (164.04 ft)	< 30 meters (98.43 ft)	< 30 meters (98.43 ft)	
3-phase installatio	ons (except EVH5A22N400F)			
	Distribution board	Undervoltage Release (iMNx)	Distribution System Operator (DSO)	
Diameter	5 x 6 mm² (5 x AWG 9) (Type U1000R2V 5G)	2 x 0.5 mm ² (2 x AWG 20)	2 x 0.5 mm ² (2 x AWG 20)	
Length	< 50 meters (164.04 ft)	< 30 meters (98.43 ft)	< 30 meters (98.43 ft)	
EVH5A22N400F i	nstallations	· ·	·	
	Distribution board	Undervoltage Release (iMNx)	Distribution System Operator (DSO)	
Diameter	5 x 10 mm ² (5 x AWG 7) (Type U1000R2V 5G)/3 10 mm ² (3 x AWG 7) (Type U1000R2V 3G)	x 2 x 0.5 mm ² (2 x AWG 20)	2 x 0.5 mm ² (2 x AWG 20)	
Length	< 50 meters (164 ft)	< 30 meters (98 ft)	< 30 meters (98 ft)	





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9/24







Installation

6.4 Wiring











A A DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect the mains power supply before working on the charging station.Use a Voltage Tester of appropriate rating.
- Do not turn on the charging station if the earth resistance measured is higher than the threshold defined in the enforceable regulations.
- Connection to a Undervoltage release (MNx). It is not supplied with the charging station.
- Do not connect to an IT earthing system if the voltage exceeds 240Vac
- Install the over-current and residual current protections upstream of Charging station.
- Do not use a system which automatically resets the residual current circuit breaker.
- Failure to follow these instructions will result in death or serious injury.

7.1 Wire-up Signal Line



230V AC 1-phase



PE L2



400V AC 3-phase







When power supply is single-phase, please follow the wiring method with 1-phase Schneider Charge.

230V AC 1-phase No Neutral



230V AC 3-phase No Neutral





6

When power supply is single-phase, please follow the wiring method with 1-phase Schneider Charge.

A A DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Wear suitable personal protective equipment (PPE) and follow all safety procedures. Failure to follow these instructions will result in death or serious injury.

- Check that the inspection hatch is correctly screwed down.
- Ensure that the power cable is securely fastened by the crimping collar.
- Check that the cover of the charging station is intact and hasn't suffered any obvious mechanical damage or deformation.
- Check that the charging station is securely fastened to the wall.
- Check that nothing is impeding the connection of the charging cable to the charging station socket.

Energy Management (For Schneider Charge with TIC Function)

- The charging station is fitted with a TIC input (Tele-Information Consumer) enabling it to be connected to French utility electronic meters (former electronic meters and new Linky meters).
- The TIC link is to be wired to the terminal block I1-I2.
- The TIC interface is intended to limit the power consumed by the car when the power requested is greater than the power available in the installation (utility meter or connection circuit-breaker) when the overall consumption of the home is close to the subscribed power. The TIC interface serves to avoid the tripping of the main circuit breaker when the overall electrical consumption of the home is close to the subscribed power. In some cases the TIC interface can completely stop the EV charging, to avoid a power outage of your home electrical supply.
- Only one charging station can be interfaced with the meter. No manual setting is needed. As per the information provided by the TIC interface instant overall current and subscribed current value the charging station calculates the maximum charging current value available for the electric vehicle and automatically adjusts the maximum charging current setpoint value given to the vehicle. When the value gets lower than the minimum acceptable by the vehicle the charging process is suspended and will resume as soon as possible.
- Each time the TIC output of the meter cannot be easily reached a TIC simulator can be used. Please refer to its documentation to know how to install it and operate it. The TIC simulator can also be used outside France regardless of the utility meter, in countries where there is a limited (subscribed) power at home. Please check the TIC simulator documentation to confirm the feasibility. Also, it is recommended to use Anti-Tripping Module if TIC is not available.





Operation

11.1 Connecting the Electric Vehicle Charging Station

- Connect the charging cable's plug into the Electric Vehicle charging station's socket.
- Connect the charging cable's connector into the Electric Vehicle's inlet.
- The charge's LED indicator will change from a solid green to pulsing blue.

11.2 Disconnecting the Electric Vehicle

A WARNING

RISK OF INJURY

Do not use brute force to unplug the charging connector from the Electric Vehicle as it is mechanically locked . Failure to follow these instructions can result in death, serious injury, or equipment damage.

- Stop the charging session via the Electric Vehicle to unlock the connector.
- Unplug the charging station's connector from the Electric Vehicle's inlet.
- Wind the charging cable around the Electric Vehicle charging station's winding trough.

11.3 Connection to a Smart Charging Application

When connected to a smart charging application, the charging station can be controlled remotely. Scheduling and history functions help to optimize the charging cost.

The smart charging application will help to update the software of the charging station for a better charging experience.

Note: some control features might be available in the charging station but not in the smart charging application or vice-versa.

11.3.1 Prerequisites



11.3 Connection to a Smart Charging Application

11.3.2 Connect



Ready to use!

The charging station is now ready to charge an electrical vehicle and operate with its smart charging application!



🗛 🗛 DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Regularly check the integrity of the cable. Failure to follow these instructions will result in death or serious injury.

- Ensure that the charging connector and charging cable are securely stored between charging sessions.
 Wrap the charging cable around the charging station's cable trough.
 If the Schneider Charge is installed outdoors, Remove the cap.
 If the Schneider Charge is installed indoors, protect the connector by covering it with the dust cap.



<u></u>	
Front Indicator Light	Charging station status
Solid White	Restart of the charging station – Please wait!
Breathing Green	Wi-Fi access point activated for commissioning
Blinking Green	Firmware upgrade on going – Please wait!
Solid Green	Ready
Breathing Blue	Charging on going
Blinking Blue	Charge suspension by the smart charging application or lack of remaining power in the house
Solid Blue	Charge suspension by electric vehicle or battery full or charging session preparation
Breathing Orange	Not connected to the smart charging application when connectivity configured
Solid Orange	Locked
Solid Red	Stop/Error – Refer to trouble shooting section

(\$=\$)	Side indicator light	Charging station status
	No light	PUSH button not activated - Power off and then back on the charging station to activate it
	Solid Green	Ready to activate Wi-Fi access point for commissioning/ Ready to enter in pairing mode with anti-tripping module (peak controller)
*	Blinking Green	Wi-Fi access point activated for commissioning
*	Blinking Blue	Pairing mode with anti-tripping module (peak controller) activated
₩	Blinking Red	Anti-tripping module power line communication or TIC communication (France only) lost

Symptom		Possible causes and solutions				
\frown	Connector plugged into electric vehicle but not charging, LED illuminated solid green	 Verify that the connector was inserted properly by unplugging and plugging it back into the electric vehicle's socket. Verify the charging sequence by following the procedure described in section "Operation". 				
<u>ب</u>	Connector plugged into electric vehicle but not charging, LED illuminated Blinking blue	 Verify that you do not have a schedule in progress through the smart charging application that prevents charging the car. In case you have installed an anti-tripping module. The anti-tripping module limits the maximum power draw of the Schneider Charge and can completely stop the charge to avoid a power outage of your home electrical supply under all conditions. Reduce the home load to have at least 9A current available per phase to restart charging the car. Be sure you have enough power in your electricity subscription for charging the car and for the house loads. You probably need to increase the electricity subscription of your electrical installation. 				
\frown	Connector plugged into electric vehicle but not charging, LED illuminated Solid blue	Verify that you do not have a schedule in progress through your car that prevents charging the car.				
$\widehat{}$	Charging station's LED breathing Orange	 Restart the Schneider Charge. The Schneider Charge is not connected to the domestic network when using Wi-Fi: Verify that you have connected the Schneider Charge to a 2.4 GHz Wi-Fi with WPA2 password. Verify that the Wi-Fi name and password are correct. In case the Wi-Fi signal is too weak: connect the charging station with Ethernet cable, or add a Wi-Fi repeater. Verify that internet router is working properly. 				
\frown	Charging station's LED illuminated red	Switch off the power supply to the charging station, unplug the connector from the electric vehicle, reconnect the power supply, wait for the charging station to become ready (LED illuminated solid green), before reconnecting the connector to the electric vehicle.				
\cap	Charging station's LED off	 No power supply. Verify that the cabling is correct and that circuit breaker did not trip. Otherwise, switch off the power supply to the charging station, The charging station is possibly damaged. Please contact Schneider Electric's Customer Care Centre. 				
××-	Charging station's LED White light flashing and then power off	Power supply overvoltage seriously (Voltage more than 300V between phase line and neutral line). Switch off the power supply to the charging station, The charging station is possibly damaged. Please check power voltage.				
	QR code sticker for Wi-Fi access point password is lost	The Wi-Fi access point password to connect eSetup application to perform the configuration or modify the settings can be recovered inside the product by removing the front cover.				
	PIN code for eSetup application is lost	A new PIN Code can be created by clicking on "Reset PIN code" and follow the instructions in eSetup application.				
	Main incomer circuit breaker has tripped	 add a anti-tripping module (All countries) or connect the TIC to the meter (France only) to allow the load shedder. if the anti-tripping module is already installed, check that the setting is correct and that it is correctly pairred with the charging station: see anti-tripping module user guide. For TIC version (France Only): check that the TIC is correctly connected to the charging station by using eSetup application. if you have changed your contract from History to Standard, you must restart the charging station to allow the modification in the charging station. It will automatically detect the contract type at each restart. 				
	Connect the charging station to a smart charging application unsuccessfully	When the back-end application requests for the Serial Number, you shall enter the Charger Point Identification number (CPID) that you could find on the side of the charging station.				

Wireless Feature Declaration

For Europe (where the CE marking is applicable):

Hereby, Schneider Electric Industries, declares that this electric vehicle charging station Schneider Charge is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directives RED 2014/53/EU.

- The EU declaration of conformity for Schneider Charge offer (EV23101601) can be downloaded on: se.com/docs.
- Wi-Fi:

 $\hfill\square$ Operating frequency bands: 2412 MHz–2472 MHz

□ Maximal RF output power: less than 20 dBm (18.25 dBm)



The packaging materials from this equipment can be recycled.

The product and all accessories marked with this symbol are electrical and electronic components that must be disposed of separately from household waste. Please help protect the environment by disposing waste in appropriate containers.

Thank you for helping to protect the environment.