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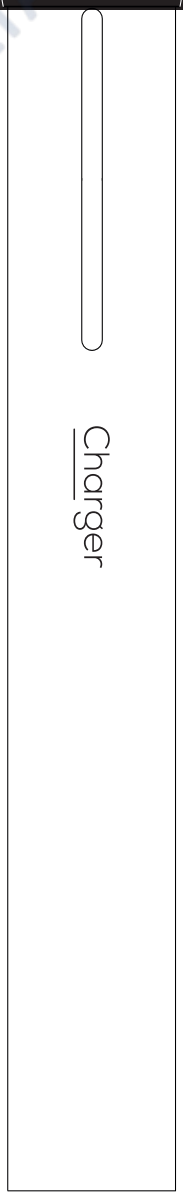
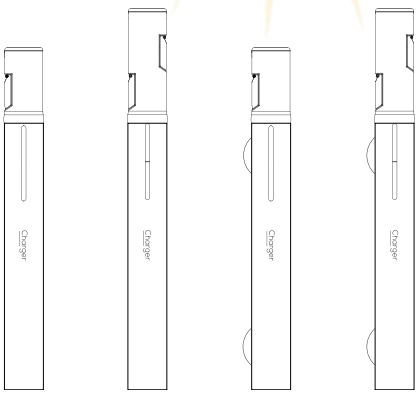


ENG

Installation Guide

EV Charger – All Vertical Models

ACS111, ACS121, ACS211 and ACS221
(11KW/22KW) and subsets.



SOLARONE.RO SISTEME FOTOVOLTAICE

Download on the App Store

GET IT ON Google Play

Scan for:
Official Website

Before you start:

1. We recommend **qualified personnel** for this operation

2. Time needed: **up to 1 hour**

3. **Retain this Guide** for future reference

4. These **cards** that you will find in the Guide are very important. Please give them your **attention.**

Astreea Igloos North America, LLC PO Box 773192
Eagle River Alaska 99577 www.us.astreea.com

Please call our customer service
US & Canada: (907) 931-4469 (English and French)
or contact email address at: info@us.astreea.com
CUSTOMER SERVICE HOURS ARE: 9.00 AM - 4.00 PM MONDAY - FRIDAY EST.

SOLARONE.RO SISTEME FOTOVOLTAICE

Summary

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SOLARONE.RO SISTEME FOTOVOLTAICE

1. Requirements before installation

astreea®

If any malfunctions or issues arise as a result of an incorrect installation, please initially reach out to the company responsible for the installation.

If the problem persists, don't hesitate to get in touch with Astreea® Support.

info@astreea.com

astreea.com/charger

1.1 Safety instructions

Please review the safety guidelines provided below prior to utilizing the EV Charging Station to minimize the potential dangers of fire, electrical shocks, personal harm, or equipment damage. Only trained personnel should perform installations and adjustments. To mitigate the risk of electrical shock, refrain from conducting any maintenance unless you possess the necessary qualifications, as outlined in the operating instructions.

When working with electrical components, adhere to the local and national wiring standards and regulations, as well as the instructions provided here for installation. Connecting to the main power supply must align with the national regulations governing electrical installations.

This product has been meticulously designed and tested to comply with international standards. Utilize the equipment solely for its intended purpose and within the specified operating parameters.

1.2 Liability

Astreea® assumes no liability for the following cases in the event of personal injury or property damage:

- **Mishandling of the charging station**
- **Structural modifications to the charging station**
- **Deployment of unqualified technical personnel for installation**
- **Utilization of unauthorized spare parts or accessories**
- **Alterations to the configuration of the charge controller**
- **Inappropriate usage of the charging station**
- **Failure to adhere to the instructions provided in the manual**

1.3 Intended use

The charging station is designed exclusively for charging electric vehicles, such as electric cars, and should not be used to connect other devices like power tools.

This charging station is suitable for both indoor and outdoor use and must be installed vertically on a wall or a stable floor foundation with a flat surface, such as a brick or concrete wall. The installation and connection of the charging station must comply with the relevant national regulations.

The intended use of this device always includes compliance with the environmental conditions for which it was specifically developed.

The charging station has undergone development, manufacturing, testing, and documentation processes in accordance with the appropriate safety standards.

It's important to note that as long as the provided instructions and safety guidelines for the intended use are followed, the product is unlikely to pose any health risks to individuals or cause damage to property.

However, it is crucial to emphasize that failure to adhere to these safety instructions can result in severe risks, including the possibility of fatalities, injuries, and damage to the device.

It is of utmost importance to exercise extreme caution in adhering to the warnings outlined in this installation and operating manual. Below, we provide explanations for the significance of each individual symbol:

Danger! Electrical voltage hazard
Ignoring the instructions may result in damage to the charging station, serious injury or even death.

Attention! General safety hazard
Ignoring the instructions may result in damage to the charging station, serious injury or even death.

Advice/Note! Important information or procedure
Said instructions must be followed for the orderly operation of the charging station.

1.4 Requirements and Observations

The following requirements and observations must be met and followed:

- No direct spray of water on the surface of the charger.
- Have enough distance present from other technical equipment.
- No installation in areas with high risk of flooding.
- No installation in areas with any risk of explosion.
- Make sure the charging cable is not being strained during the charging operation or obstructed by any direct or indirect means.
- The mounting surface must be designed with sufficient strength in order to withstand the mechanical stress specified in the Guide (concrete is recommended).
- The ambient temperature must not be lower than -20 °C or higher than 50 °C.
- For installation of low-voltage systems, the specifications IEC 60364-1 and IEC 60364-5-52 must comply.
- Make sure the power supply assigned to the charger has sufficient capacity to uphold the electrical consumption of the charger.
- Ensure the electrical protection of the power supply assigned to the charger before, during and after the charging procedure.
- A stable and high-performing wireless internet connection is required for receiving software updates and the proper operation of the charger and mobile application.
- The housing of the charging system must always be kept closed.
- When the charging system is connected, you must not clean or wash the vehicle with a high-pressure cleaner because the plug-in connection is not sealed against direct pressurized water.
- Never install near fire sources, explosive materials, combustibles or other flammable sources.
- Never use it at places where gas or other chemical explosions could occur.
- It must be connected all the times to the ground, otherwise it will not allow charging.
- Turn off the EV Charging Station power before installing or performing operations to it.
- Make sure children are supervised if using the equipment.
- Do not put fingers or insert objects or sharp metallic objects into the terminals. Do not insert objects into any other parts of the EV Charging Station.
- Do not use the device if the power cord or EV cable is broken, shows any signs of damage or does not function properly.
- Do not use the Charging Station if it is broken, defective, cracked, damaged or does not function properly.
- Do not apply strong force on the equipment, to prevent crashes and deterioration.
- Do not use any sharp objects to damage the product.
- Do not service the equipment by yourself, do not open, disassemble or make any modifications to it.
- Do not touch any live electrical parts.
- Do not place the charging cables connected to the charging station in water.
- Make sure ground connection is properly done to prevent equipment damage.
- Transport the device with care in its original package to avoid damage to it and its components.
- As the Charging Station can affect the functioning of certain medical electronic implants, check any potential side effects with your electronic device manufacturer before using the device.

The charging system is not suitable for charging vehicles with outgassing batteries (e.g. leadacid batteries).

The charging protocol respects the following IECs:
• Charging in accordance with type 3 of IEC 61851-1
• Socket connectors in accordance with IEC 62196-2

The charging system is solely designed for fixed installations and should only be operated and utilized by individuals who have thoroughly reviewed the operating manual.

Qualified electricians are required to have thoroughly studied and comprehended the equipment documentation and are expected to adhere to its instructions.

1.5 Qualification of electricians

The electrician entrusted with the installation should possess expertise in the following areas:
• Up-to-date safety guidelines
• Safety instructions detailed in the manual
• Proficiency in both fundamental and advanced electrical and electronic skills
• Familiarity with safety procedures concerning electrical system operation
• Experience in the installation of three-phase electrical systems
• Knowledge of circuit breaker voltages and fundamental principles

⚠

When deciding on the placement of your Astreea® Charger, please keep in mind the importance of not obstructing entry or exit points and allowing for the passage of rescue or emergency vehicles.

Additionally, make an effort to steer clear of locations where other individuals might stumble upon or accidentally collide with the station.

1.6 Pacemakers or ICDs

Guidance for Individuals with Pacemakers (PM) or Implantable Cardioverter Defibrillators (ICD):
Astreea® charging systems, when used as intended, comply with the European guideline on electromagnetic compatibility, specifically regarding radiated interference.

If individuals with pacemakers (PM) or implantable cardioverter defibrillators (ICD) wish to engage in activities involving charging systems and their associated devices as per their intended usage, Astreea® cannot provide any assessment regarding the suitability of these medical devices. Astreea® lacks the capability to evaluate the susceptibility of pacemakers or implantable cardioverter defibrillators to electromagnetic radiation. Only the manufacturers of these medical devices can provide such assessments.

As a precaution, Astreea® recommends that individuals in this category consult with the manufacturer of their pacemaker or defibrillator, as well as their relevant insurance company, before working on Astreea® charging systems.

This step is essential to ensure that no potential health or safety risks are involved in their use.

1.7 Installation and tests

Guidelines for Choosing Protective Equipment for Basic and Fault Protection Against Direct or Indirect Contact:

• Electrical Circuit Breakers: It is essential to safeguard the charging system using circuit breakers that adhere to the specific regulations established by the relevant national authorities.

The selection of these circuit breakers depends on factors such as the required tripping time, internal network resistance, conductor cross-sectional area, conductor lengths, and the preset rating of the charging system.

The short-circuit protection mechanism of the conductor should possess a characteristic that allows for 8-10 times the Inom value (nominal current) and must not surpass a maximum nominal current of 32 A, contingent upon the preset rating of the charging system.

• Residual-Current Circuit Breaker (RCD): To ensure personal safety, it is possible that national regulations require an upstream RCD with a sensitivity of 30 mA AC. Select an appropriate RCD that aligns with the national regulatory requirements.

• AC Residual-Current Detection: The charging system comes equipped with built-in AC residual-current detection as a convenient feature. This detection mechanism will deactivate the charging system, at the latest, when a residual current exceeding 30 mA AC is detected.

1.8 Information on initial inspections after installation and repeat inspections

National regulations may necessitate inspections of the charging system both before its initial startup and at regular intervals thereafter. These inspections should be conducted in strict accordance with the relevant rules and regulations.

Below, we provide guidance on how to carry out these inspections:

1. PE Conductor Test: After the installation and before the first activation, it is essential to assess the continuity of the PE (Protective Earth) conductor. To perform this test, connect the charging coupler to a test adapter designed for vehicle simulation as per EN 61581-1 guidelines. Measure the resistance of the PE conductor between the PE conductor socket of the adapter and the connection point of the PE conductor within the building's electrical cabinet.

The resistance of the PE conductor, for a total conductor length (including the connecting line to the charging system and the vehicle charging cable) of up to 5 meters, should not exceed 300 milliohms (mΩ).
For longer cables, you may need to adjust the value in accordance with applicable national regulations. In any case, the resistance must not exceed 1 ohm.

2. Insulation Test: Since the charging system incorporates a disconnecting relay, two insulation measurements are required. To conduct these tests, the charging system must be disconnected from the power supply. Therefore, before performing the measurement, ensure that the supply voltage is switched off using the circuit breaker located in the building's electrical cabinet.

Ensure that the power supply line feeding into and around the charger is disconnected during the foundation creation, installation, or repair process.

Neglecting to follow these safety instructions can pose a potentially lethal risk associated with electric voltage.

1.9 Working on the charging system without risk

Prior to connecting the charger to the vehicle, please adhere to the following precautions:
• Ensure that the connecting line of the charging system is fully unwound.
• Thoroughly inspect the charging system's housing, connecting line, charging coupler, cable, and connectors to confirm that they are free from any damage.
• When handling the plug-in connection of the charging system, hold onto the charging coupler rather than the charging cable.
• Take precautions to prevent anyone from potentially tripping over the charging cable.
In the event of malfunctions or a failure of the charging system:
• Disconnect the charging system from the power supply by turning off the corresponding circuit breaker located within the building.
• Display a notice indicating the name of the authorized individual responsible for reactivating the circuit breaker.

1.10 Measurements and tests

Primary Side Insulation Measurement:
Conduct an insulation resistance measurement on the primary side of the charging system at the point where the power supply line connects to the charging system within the building's electrical cabinet. The recorded value should not surpass 1 megaohm (MΩ).

Secondary Side Insulation Measurement:
To perform this measurement, connect the charging coupler to a test adapter designed for vehicle simulation following the EN 61581-1 standards. Measure the insulation through the measuring sockets located on the test adapter. Ensure that the measured value does not exceed 1 megaohm (MΩ).

Alternatively, you can utilize the differential current method in conjunction with the measurement of the Protective Earth (PE) conductor current. In both scenarios, the recorded value must not exceed 3.5 milliamperes (mA).

To conduct these measurements, connect the charging coupler to a test adapter designed for vehicle simulation per the EN 61581-1 guidelines. Perform the measurements with the adapter set to the "C mode" and gauge the differential current at the point where the power supply line connects to the charging system within the building's electrical cabinet.

1.11 Testing

Testing Power-Off Condition in the Event of a Short-Circuit:
For these assessments, connect the charging coupler to a test adapter designed for vehicle simulation following EN 61581-1 standards. These measurements should be conducted with the adapter set in the "C mode."

Perform the measurements using the measuring sockets on the test adapter. Ensure that the recorded values align with those specified for the chosen circuit breaker.

• Testing Power-Off Condition in Case of a Fault:
For these evaluations, link the charging coupler to a test adapter designed for vehicle simulation in accordance with EN 61581-1 guidelines. These measurements should also be carried out with the adapter in the "C mode."

Conduct the measurements using appropriate instruments on the measuring sockets of the test adapter. The measured values must adhere to the requirements established for the selected circuit breaker.

• Testing Integrated DC Residual-Current Detection:
To perform these tests, connect the charging coupler to a test adapter for vehicle simulation as per EN 61581-1 standards, ensuring that the adapter is in the "C mode."

Conduct the measurements using suitable instruments on the measuring sockets of the test adapter.
If the detected residual current exceeds 6 milliamperes (mA) DC, the charging system should disconnect the charging coupler from the power supply, and the system's fault indicator must be activated.

• Testing Integrated AC Residual-Current Detection:
For these assessments, connect the charging coupler to a test adapter for vehicle simulation in line with EN 61581-1 standards. Perform the measurements with the adapter set in the "C mode." Conduct measurements using appropriate instruments on the measuring sockets of the test adapter.

If the observed residual current exceeds 30 milliamperes (mA) AC, the charging system should disconnect the charging coupler from the power supply, with a tripping time not exceeding 40 milliseconds. The system's fault indicator should also be activated. Note that if the upstream Residual Current Devices (RCDs) are properly dimensioned, they should not trip.

• Testing Upstream RCD:
Due to the integrated AC residual-current detection, the upstream RCD should be tested at the connection point of the power supply line to the charging system within the building's electrical cabinet.

1.12 Operator control elements

LED Functionality:
The LED serves as an indicator for the charging system's operational status. For detailed information regarding these operational states, please refer to the operating manual.

Initiating the Charging Process:
The charging process will commence automatically once the charging coupler is plugged in and the vehicle requests a charging session.

Terminating the Charging Process:
To halt the charging process, follow one of the following methods:
1. Utilize the vehicle's operational control, as described in your vehicle's owner's manual.
2. Disconnect the charging station from the power source by switching off the corresponding circuit breaker in the building.
3. Employ the Astreea® Charger app to cease the charging session.

The charging process can be stopped by using the mobile application or the vehicle control system.

If the automatic magnetic lock fails, do NOT attempt to remove the cable during the charging process.

Individuals with pacemakers or defibrillators should refrain from engaging in any tasks or being in proximity to the charging systems and associated devices.

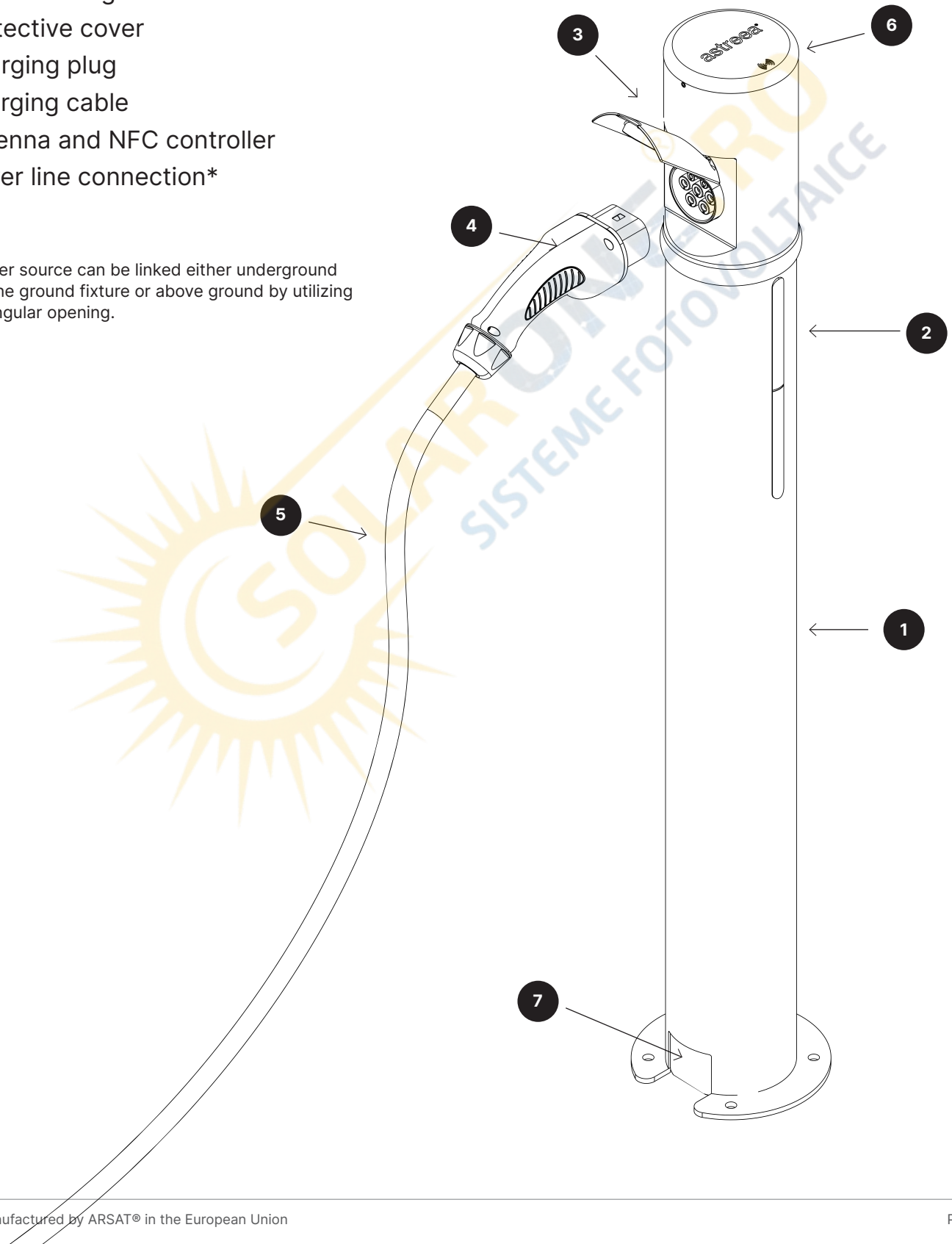
This includes activities such as maintenance operations or addressing any faults.

1.13 The structure of your Astreea® Charger

Structure of Astreea® Charger:

1. Body
2. Status LED light
3. Protective cover
4. Charging plug
5. Charging cable
6. Antenna and NFC controller
7. Power line connection*

*The power source can be linked either underground through the ground fixture or above ground by utilizing the rectangular opening.



Discover our EV chargers

Self Standing 22 kW

Single Socket or Cable Charger

Model:	ACS111-11, ACS111-12, ACS111-21, ACS111-22
Max Output Power:	11 / 22 KW
Output Connection:	Type 2 Charging Socket
Cable available:	Yes (optional)
Mid Meter available:	Yes (optional)
Commercial use:	Based on user choice
Customizable:	Yes (optional)

Self Standing 2 × 22 kW

Double Socket or Double Cable Charger

Model:	ACS121-11, ACS121-12, ACS121-21, ACS121-22
Max Output Power:	2×22 KW
Output Connection:	Type 2 Charging Socket
Cable available:	Yes (optional)
Mid Meter available:	Yes (optional)
Commercial use:	Based on user choice
Customizable:	Yes (optional)

Wallbox 22 kW

Single Socket or Cable Charger

Model:	ACS211-11, ACS211-12, ACS211-21, ACS211-22
Max Output Power:	22 KW
Output Connection:	Type 2 Charging Socket
Cable available:	Yes (optional)
Mid Meter available:	Yes (optional)
Commercial use:	Based on user choice
Customizable:	Yes (optional)

Wallbox 2 × 22 kW

Double Socket or Double Cable Charger

Model:	ACS221-11, ACS221-12, ACS221-21, ACS221-22
Max Output Power:	2×22 KW
Output Connection:	Type 2 Charging Socket
Cable available:	Yes (optional)
Mid Meter available:	Yes (optional)
Commercial use:	Based on user choice
Customizable:	Yes (optional)

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2. Technical Data

Vehicle Connection	Chargers with 1 socket	Chargers with 2 sockets
Type 2 charging socket	16 A* / 32A	**2 x** 16 A* / 32A
Maximum charging current	16 A / 32 A	**2 x** 16 A / 32 A
Maximum charging power	11 kW / 22 kW	**2 x** 11 kW / 22 kW
Output voltage		230 / 400 V
Protections		
Required protections		External type ARCBO, ground fault including DC residual current protection, external surge protection
Protection Class		IP54
Mechanical Protection		IK10
Operating Temperature		-30C to 50C
Humidity		5% - 95% without condensation
Communication and protocols		
Interface		Astreea® Mobile Application iOS / Android, RGBW LED
Protocols		* Wi-Fi, Modbus TCP, NFC type A, OCCP 2.0, Ethernet/LAN, LTE 4G
Protocols		* Dynamic Load Balancing, Meter or MID Meter integration, Interactive in-app Map, RFID & NFC authorization, charging history, Real-time Configurable Maximum Power, User management and privilege system, Solar Panel integration, Remote cloud support, Charging Scheduler, Smart Home compatibility, Web-based Analytics Platform

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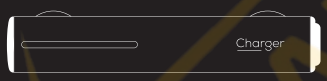
Mandatory power connections	
Nominal voltage	230 / 400V
Nominal current	16 A / 32 A
Circuit Breakers	20 A / 40 A, 3-poles
AC fault detection	RCCB, Type A, 30mA

*Some software features and systems may still be in the development phase at the time of purchase.

Horizontal Wallbox

ACS311



Self Standing

ACS111

ACS121

Wallboxes

ACS211

ACS221

Scan for:
astreea.com/charger

Remember

There are **5 different models** serving one purpose:
making e-charging the coolest thing there is.

Missing or you lost spares? Please call our customer service: (907) 931-4469

3. Assembly. Anchoring with foundation and metal frame.

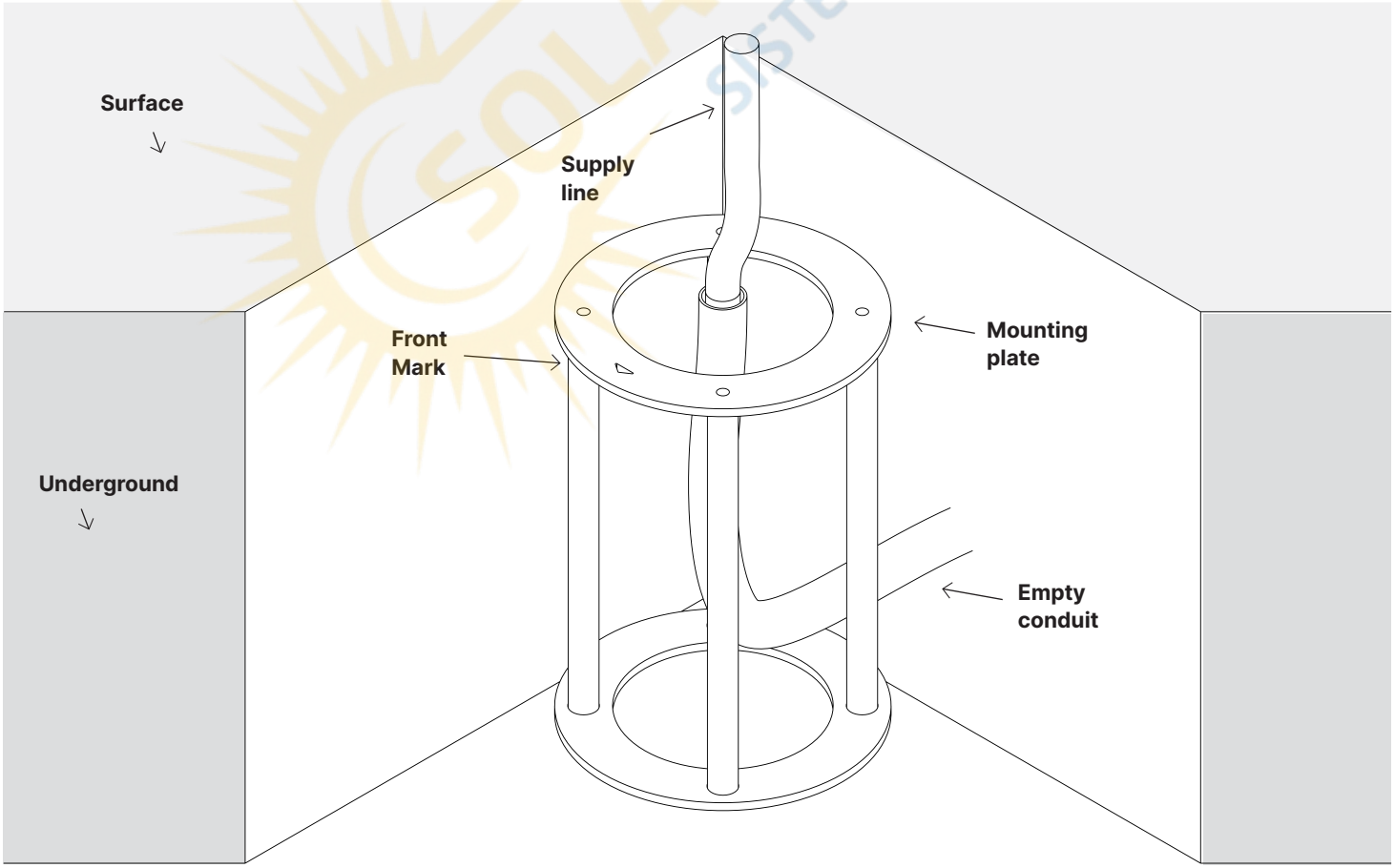
3.1. Creating the foundation

To ensure the secure and stable installation of the Charger, Astreea® recommends utilizing the optional Stainless steel Foundation Frame, which is embedded in concrete. It is essential to prevent any cement from entering the threaded holes during this process.
Additionally, it's crucial to take precautions to avoid damaging or scratching the electrical cables and their protective coverings during installation. The use of pre-made bolting points simplifies the assembly of the charging column:

- If necessary, you can adjust the height as needed.
- Begin by excavating the ground and forming a shutter for the foundation area.
- Insert the Foundation Frame and thread an empty conduit through the designated opening.
- While aligning the base frame, pay attention to the front mark located on the mounting plate. This indicates which way the LEDs will be facing
- Guide the supply line through the empty conduit.
- Leave an ample length above the ground surface.
- Level the foundation frame to ensure that the foundation plate is flush with the ground.
- Verify that there are no exposed electrical wires visible after completing the installation.

Make certain that the selected foundation possesses the necessary structural strength to endure the forces exerted during the installation procedure.

Concrete is recommended.



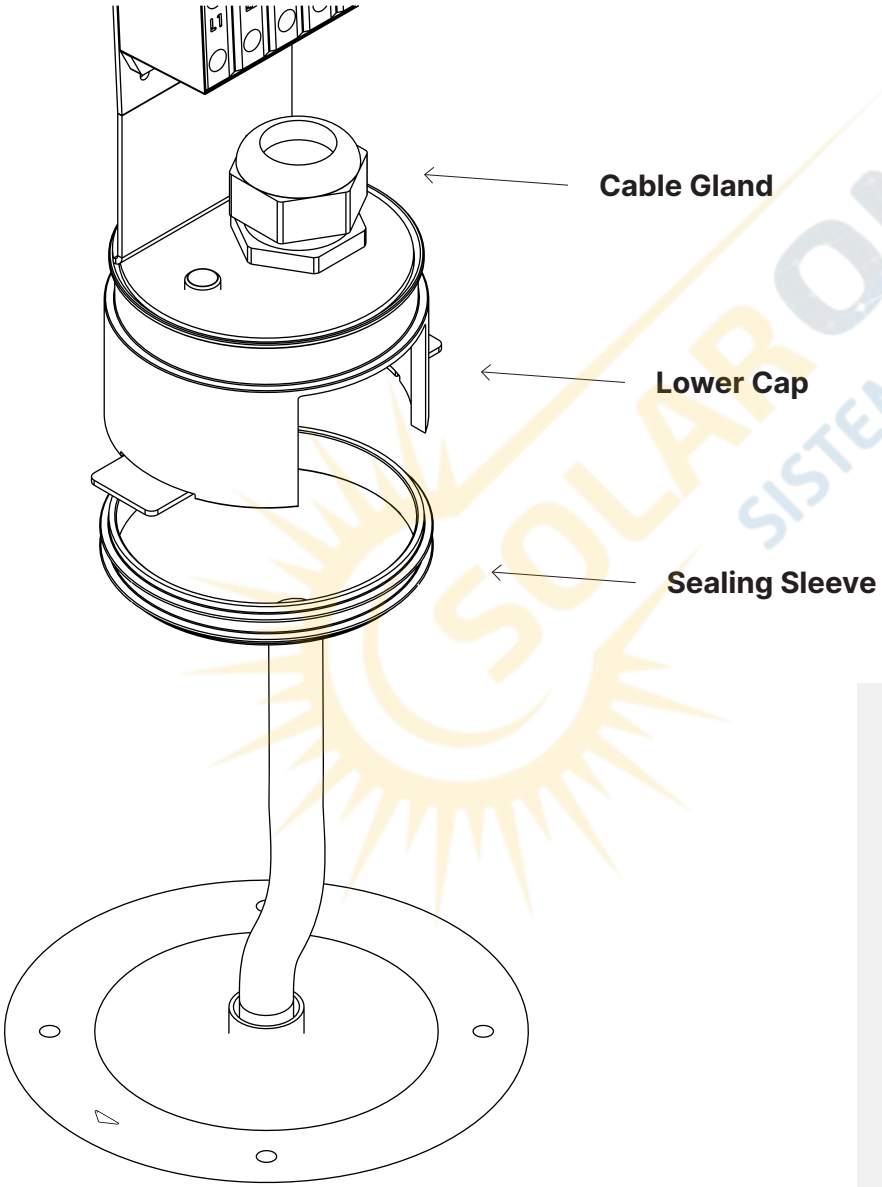
The illustrations portray a charger with only one socket. There could be some minor variations in other models.

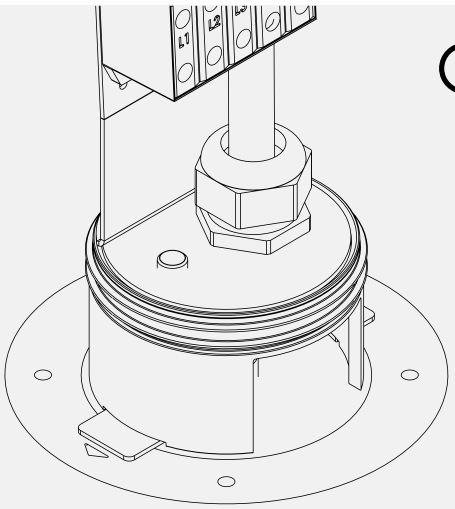
3.2. Mount the sleeve on the lower cap

Once the foundation has solidified, follow these steps:
1. Detach the Lower Cap from the interior of the charger by pulling down.
2. Attach the Sealing Sleeve to the Lower Cap in the designated position.
3. Place the Lower Cap onto the Foundation Frame, following the visual references provided in the images below.

Ensure the sleeve is securely positioned on the socket, free from any creases or debris. Properly tighten the Cable Gland to prevent water condensation.

The Front Mark indicates the position the charger will be facing after the installation. Make sure that the front mark is facing your desired mounting position before placing it into the cement.





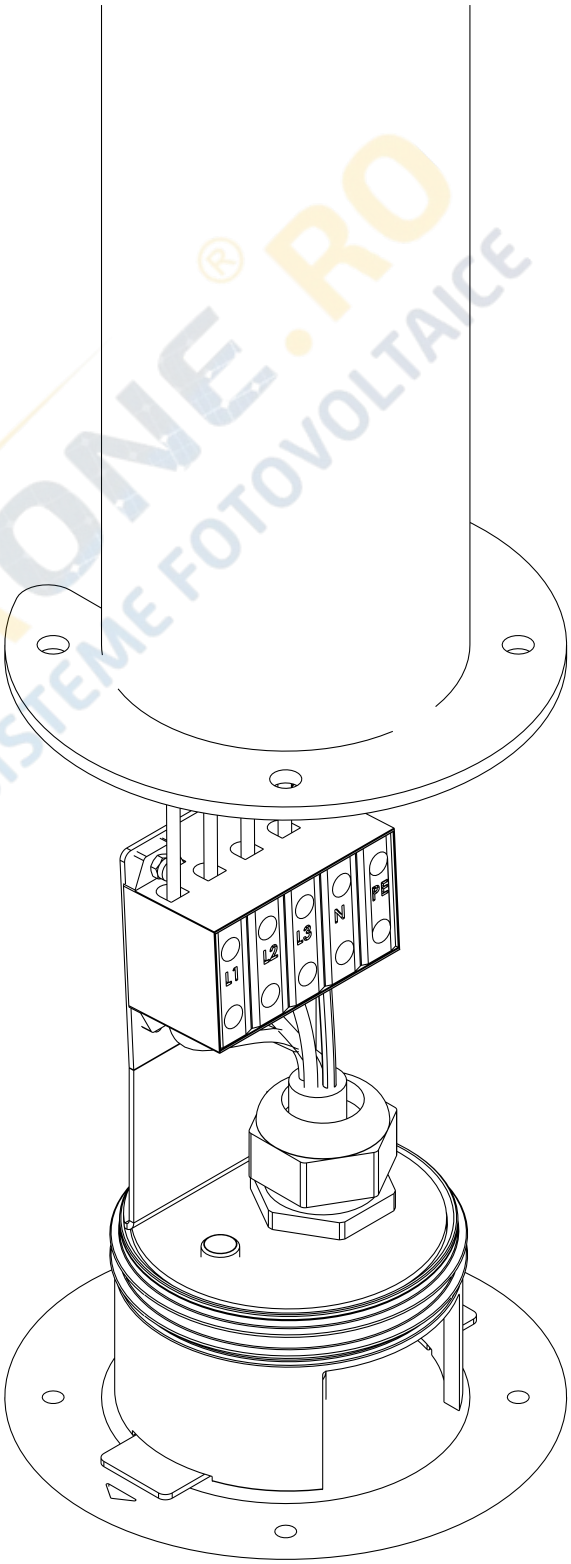
Correct assembly

The illustrations portray a charger with only one socket. There could be some minor variations in other models.

4. Linking the wires

4.1 Feed the supply cables through the cable gland

Pull the cables through the cable gland, adjust the length of the wires and strip off the jacket making sure to leave out at least 10 mm at the top.



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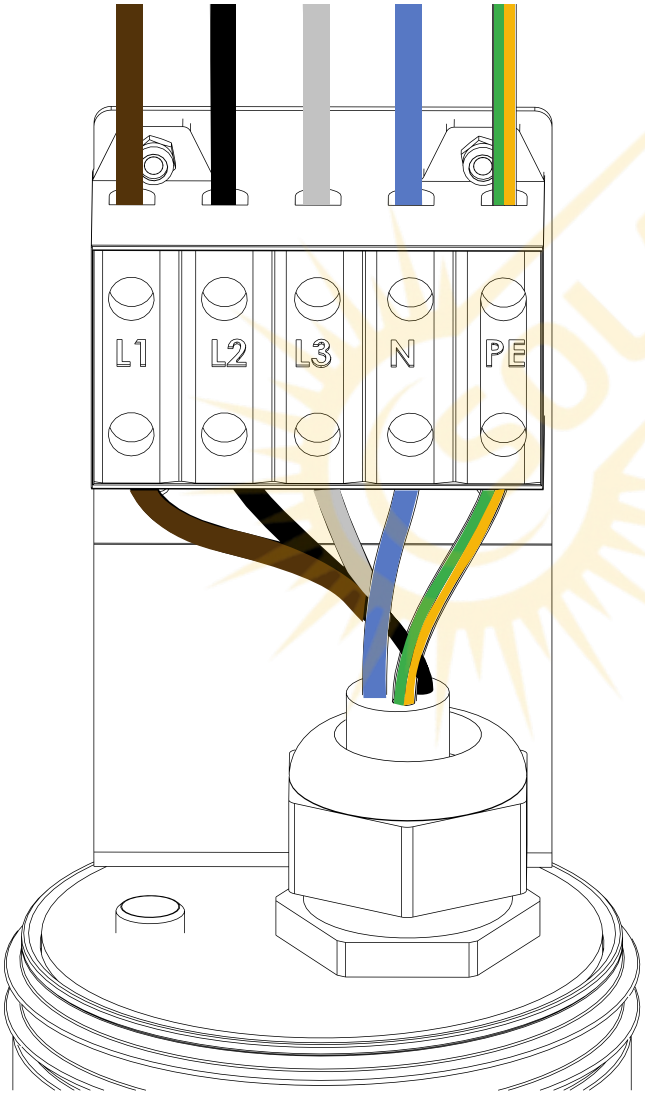
The illustrations portray a charger with only one socket. There could be some minor variations in other models.

4.2 Link the wires to the terminal strip

After you've customized the wire length and removed the cable insulation, proceed to connect the wires.
Refer to the connection diagram in the table below, which illustrates how to connect the ground-side supply line to the charging unit cables along with their respective functions.
Ensure the wires are connected accurately, as failure to do so could result in charger damage or personal injuries.

Supply Line Ground		Terminal Strip	Loading Unit	
Colour	**Function**	**Label**	**Colour**	**Function**
Brown	Phase 1	L1	Brown	Phase 1
Black	Phase 2	L2	Black	Phase 2
Grey	Phase 3	L3	Grey	Phase 3
Blue	Neutral Conductor	N	Blue	Neutral Conductor
Green/Yellow	Protective Conductor	PE	Green/Yellow	Protective Conductor



Only qualified personnel should undertake the electrical installation of the charging station.

During the electrical system installation, it is crucial to prevent cable damage or compression, as these issues could disrupt functionality in the future, lead to defects, or even trigger a fire.

The illustrations portray a charger with only one socket. There could be some minor variations in other models.

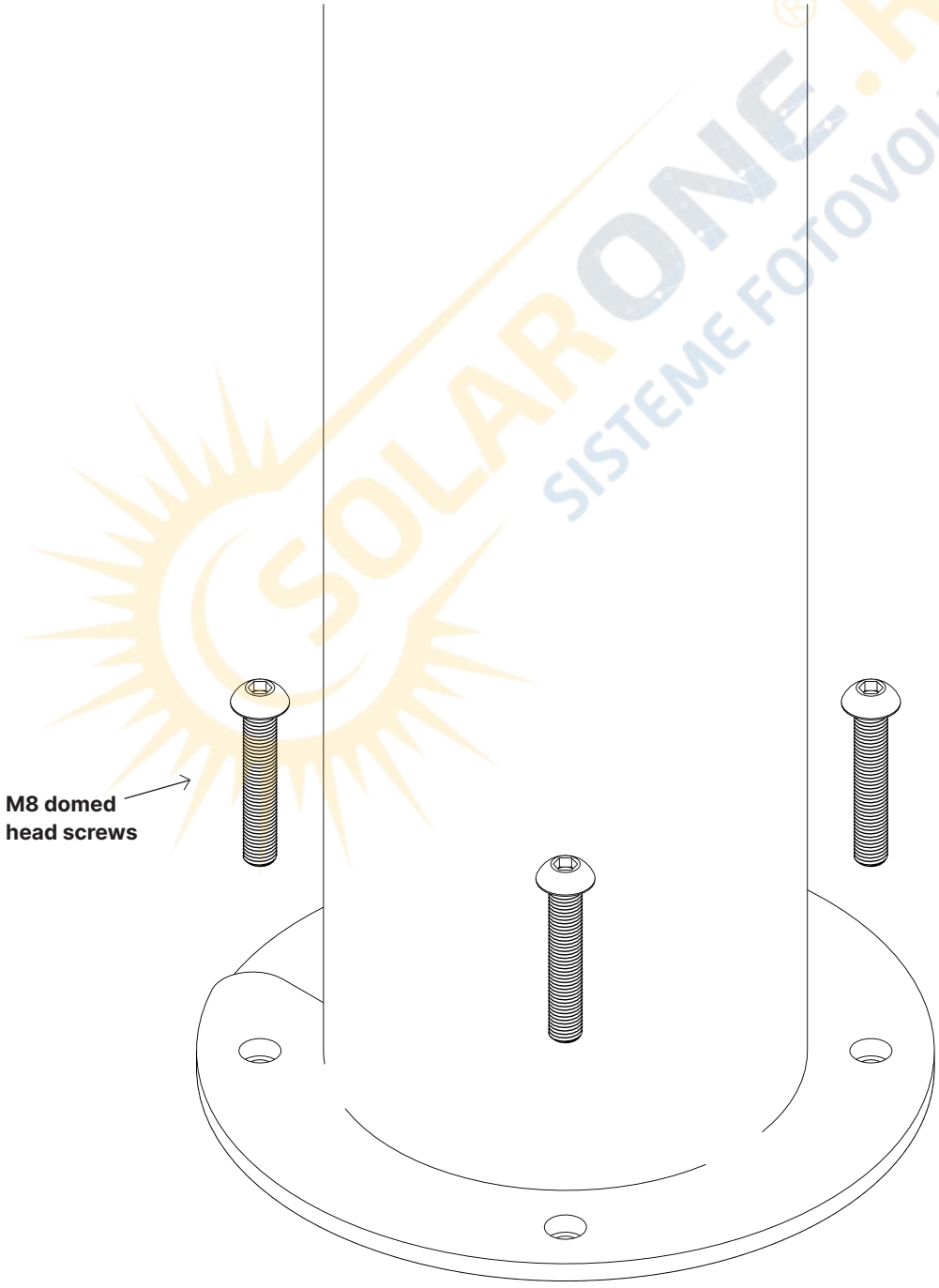
5. Finishing the installation

5.1 Fix the charger to the foundation

After securely connecting the cables, carefully insert the socket back into the Charger and position it over the Foundation Frame. Ensure that the holes in the Charger's base align with those in the Foundation Frame.

To affix the charger to the Foundation Frame, utilize 4 x M8 domed screws, which are provided.
If you attempt to affix the charger without the Foundation Frame, use conexpands instead.

Remember to apply pipe lubricant on the sealing before reinserting the socket into the charger.



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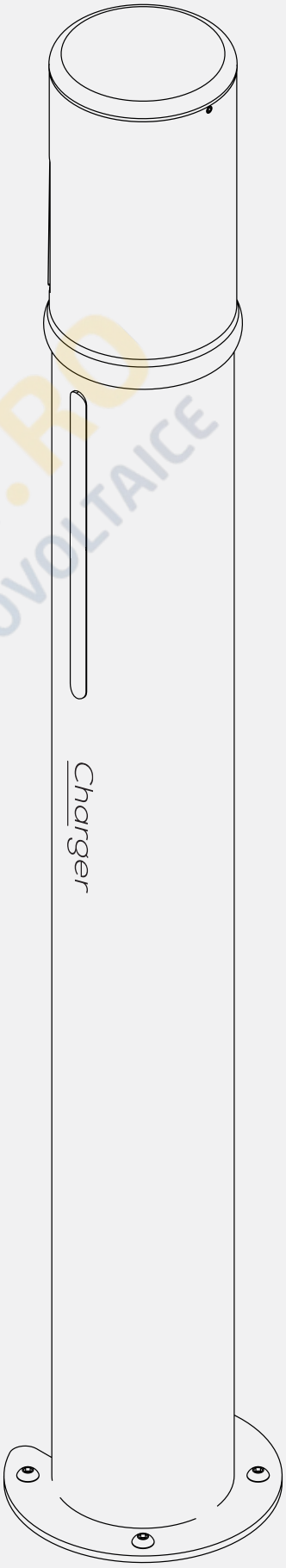
SISTEME FOTOVOLTAICE

ASTREEA® CHARGER SELF STANDING

READY TO USE

Scan the QR code provided on the Certificate of Conformity and follow the instructions within the mobile application to register your charger.

If you possess a double socket charger, be sure to scan both QR codes.



A sluggish or unreliable internet connection can result in the mobile application not functioning as expected, leading to delayed responses and potential crashes. It's essential to ensure a stable internet connection is maintained for both the charger and the mobile app to operate smoothly.

astreea®

Made in EU
Astreea Charger

Voltage:	3 × 400V AC 3P+N+PE
Input current:	32A
Output current:	32A
Frequency:	50Hz
Protection class:	IP54
Tmin/max:	-30°C/+50°C

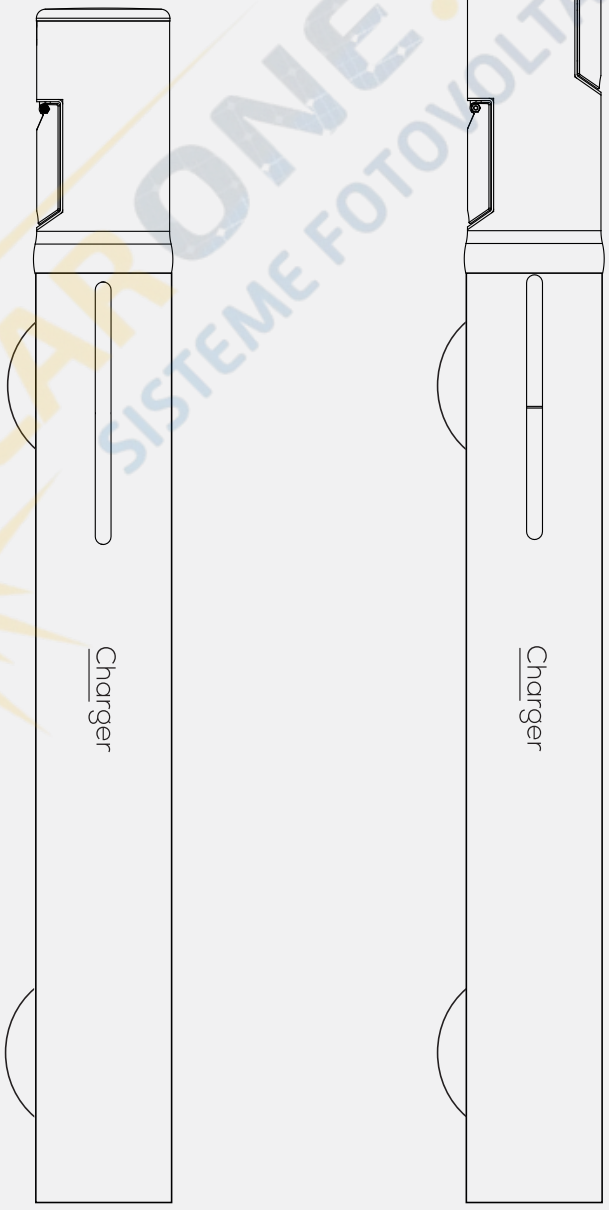
astreea.com/charger

The Astreea® Charger includes a sticker that contains crucial information about the charging station. Whether or not you choose to affix the sticker to the charger body is entirely optional.

SOLAR ONE® SISTEME FOTOVOLTAICE

astrəea®

Installation guide for wall chargers



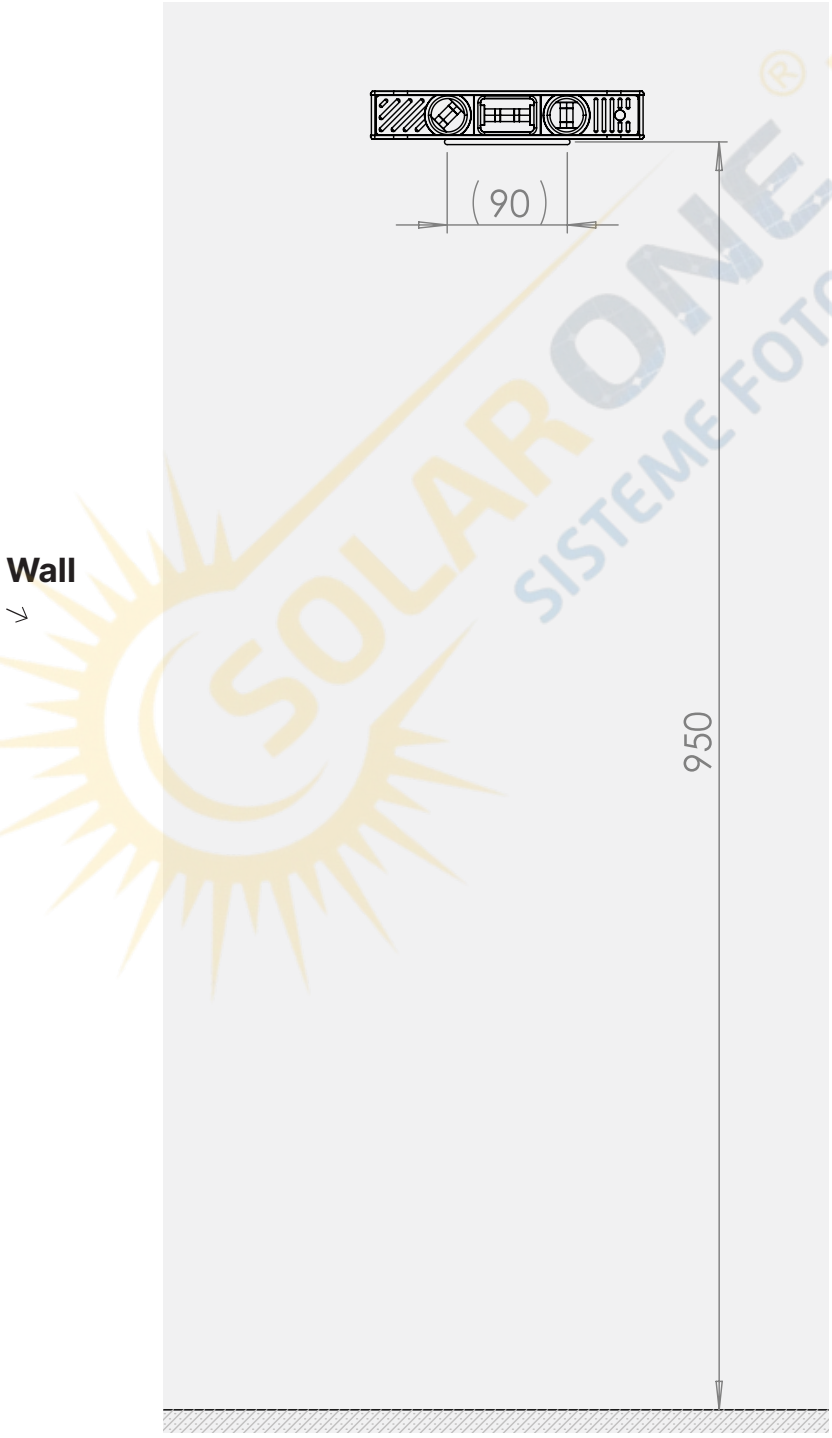
SOLARONE.RO
SISTEME FOTOVOLTAICE

1. Anchoring the charger to the wall

1.1 Choosing the installation surface

Prior to charger installation, it is essential to select an appropriate mounting surface capable of enduring both the installation process's forces and the everyday wear and tear of the charging station.
Astreea® suggests utilizing concrete as the preferred mounting surface, ensuring it possesses the necessary physical characteristics suitable for both installation and long-term use.

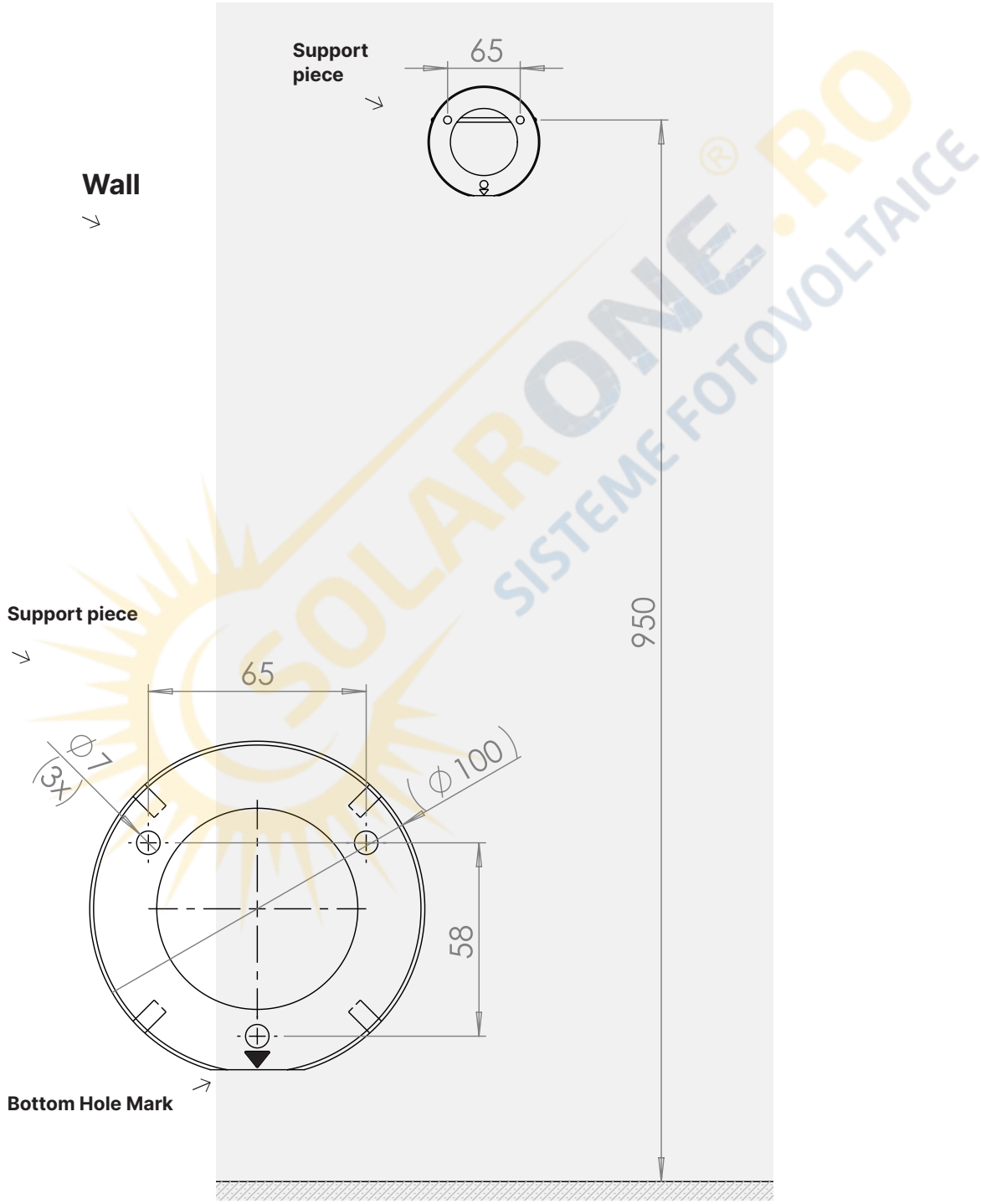
Step 1. Mark a line with a length of approximately 90mm at a height of 950mm from the ground. Ensure that this line is perfectly horizontal using a level.



SOLARONE.RO SISTEME FOTOVOLTAICE

1.2 Mounting on the chosen surface

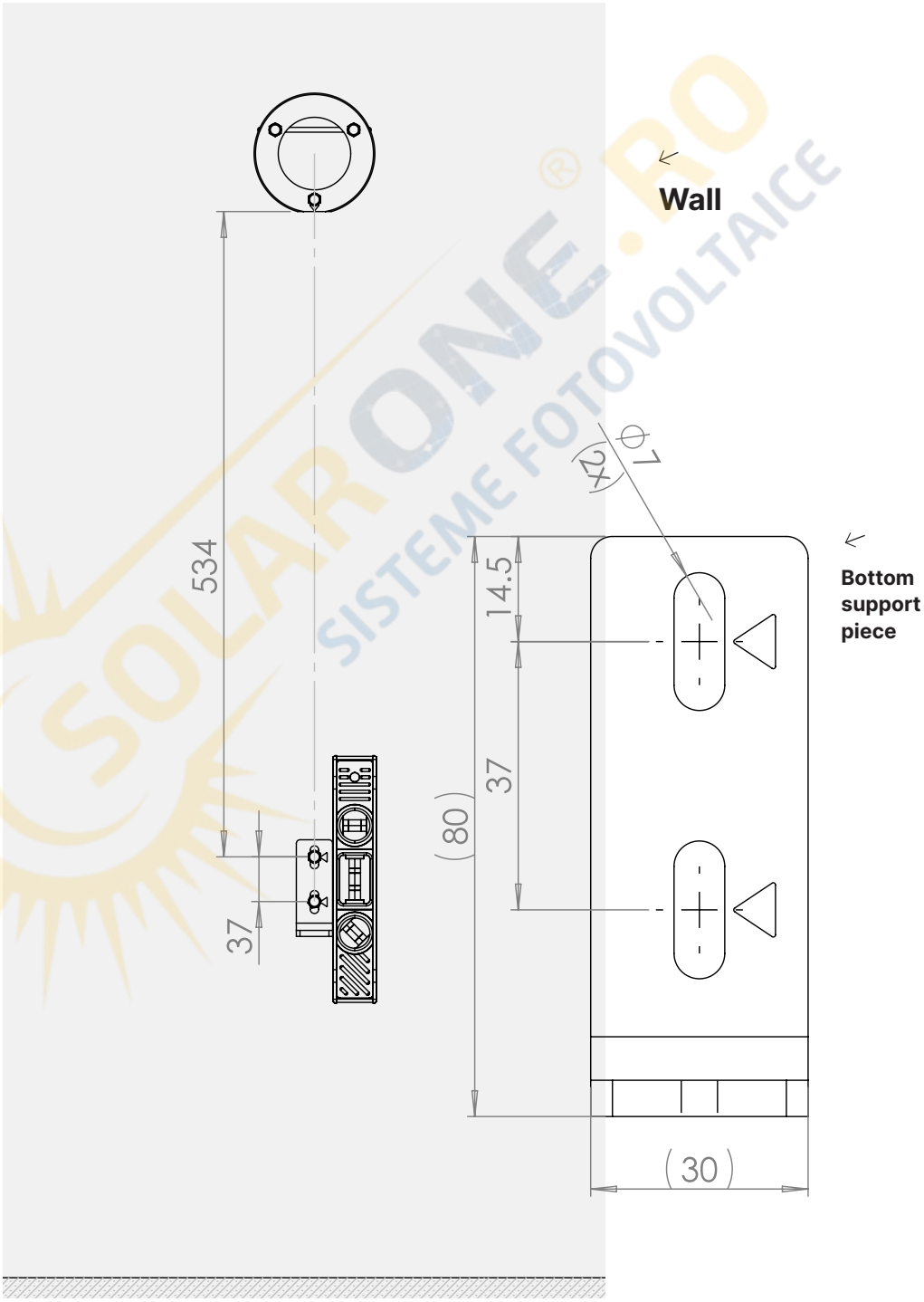
Step 2. Place the support piece on the wall, aligning the hole marked at the bottom with the other two holes matching the line drawn on the wall, marking the positions of the fastening holes. The diameter of these holes is determined by the chosen fastening system. The fastening system is not included in the package; it should be selected based on the type of wall for the installation.



The illustrations portray a charger with only one socket. There could be some minor variations in other models.

1.3 Mounting on the chosen surface

Step 3. After attaching the support piece to the wall, you should mark the positions of the other two fastening holes for the lower support according to the specified measurements. Pay close attention to their alignment, ensuring they are perfectly vertical and centered with respect to the support piece.

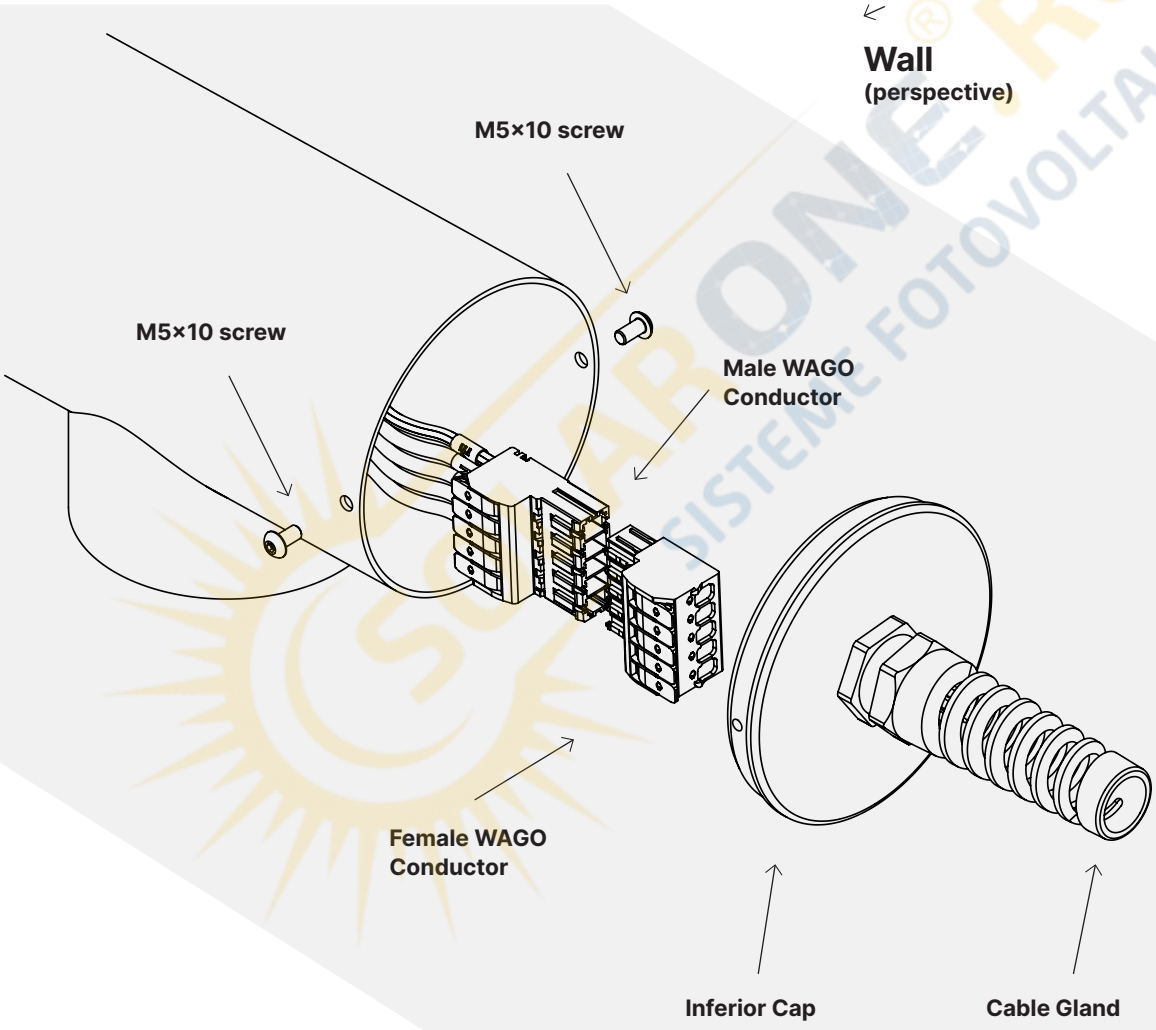


CAUTION:
When securing the lower support, make sure it aligns vertically.

The illustrations portray a charger with only one socket. There could be some minor variations in other models.

1.4 Mounting the Inferior Cap

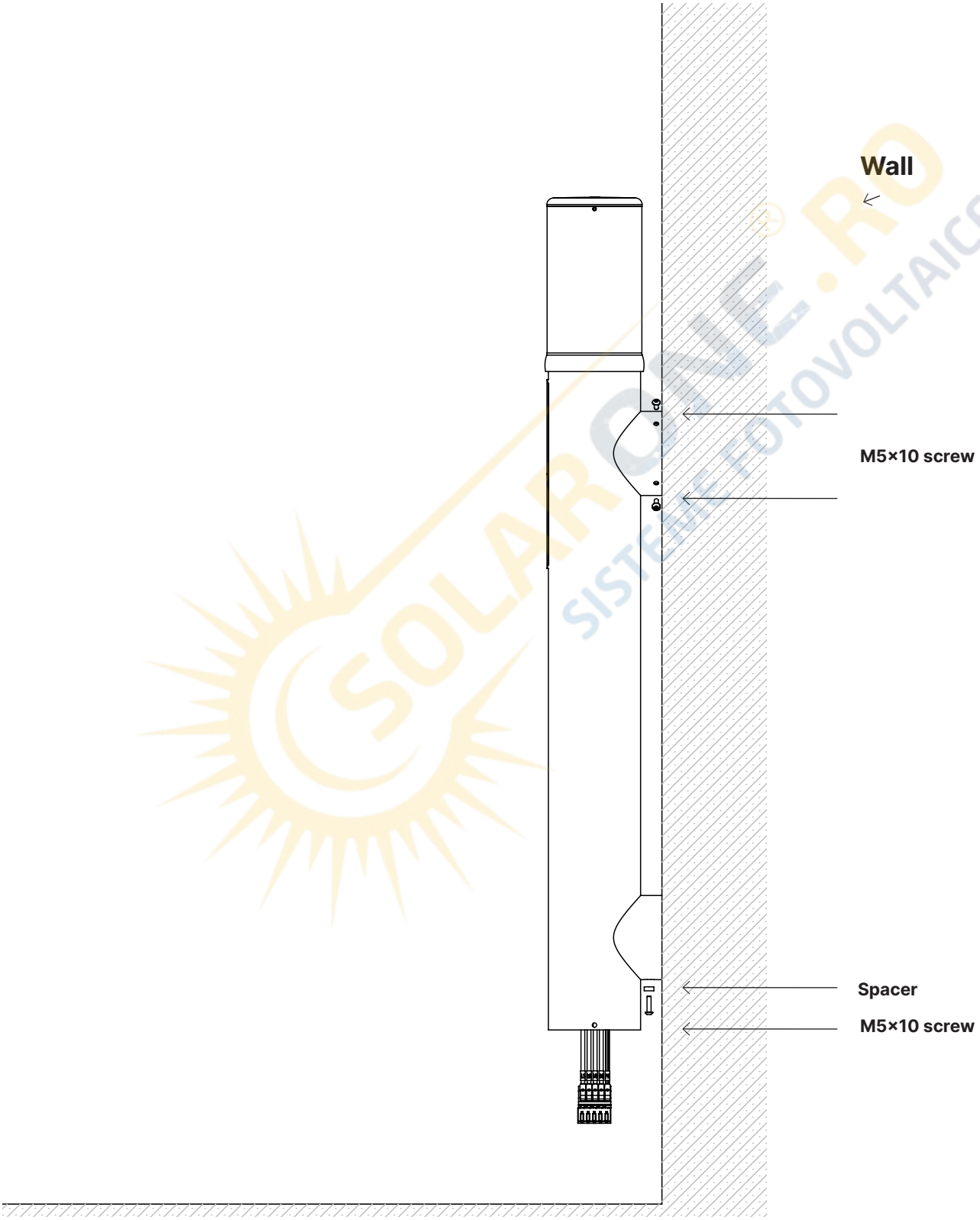
1. Unscrew the two M5×10 screws to remove the bottom cover of the station.
2. Detach the WAGO female connector.
3. Screw the conduit gland onto the bottom cover.



The illustrations portray a charger with only one socket. There could be some minor variations in other models.

1.5 Mouting on the wall

Position the station on the wall, using the support piece, while also checking if the lower support needs to be adjusted vertically.
If repositioning is required, ensure that the station is securely fastened both at the bottom and the top.
Tightening the screws should only be done once all fastening screws have been partially threaded in.

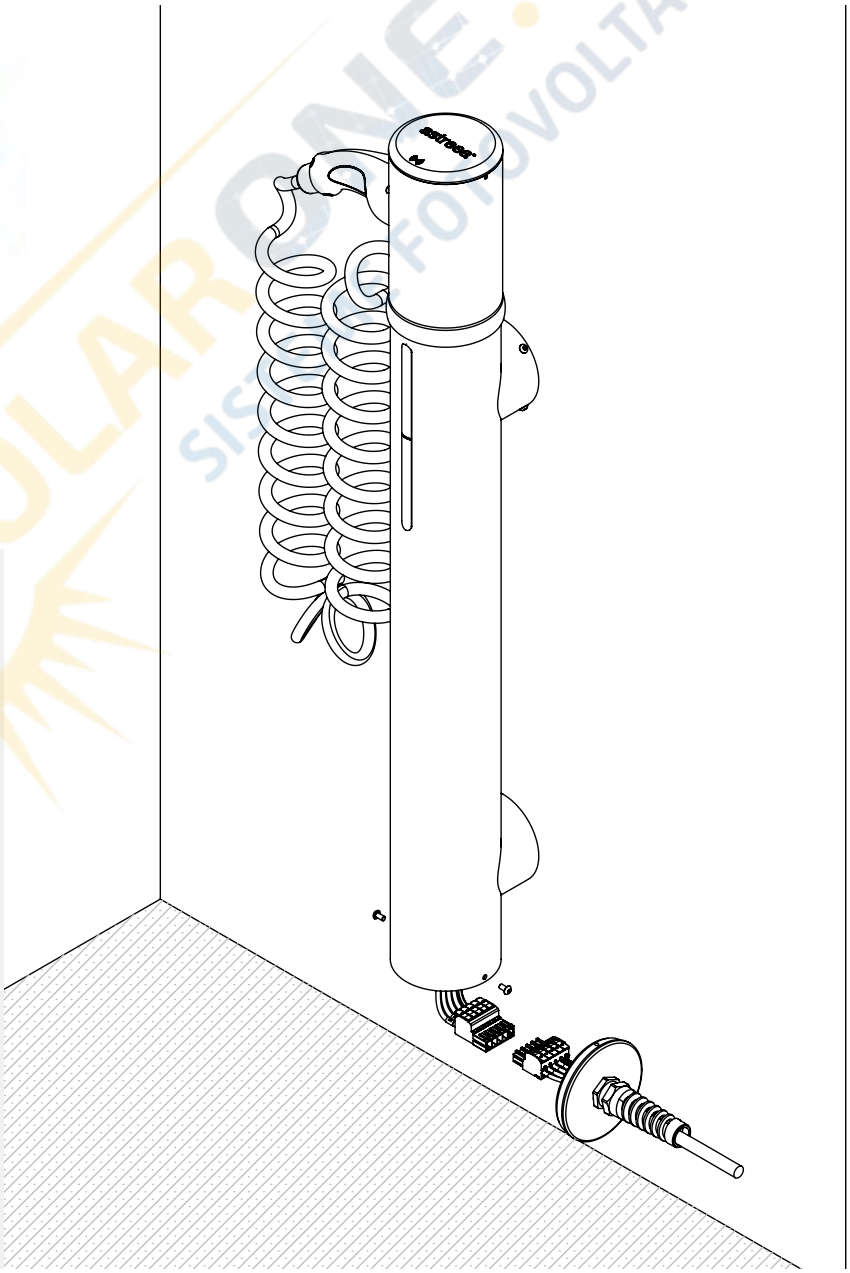


The illustrations portray a charger with only one socket. There could be some minor variations in other models.

2. Linking the supply line and wires

The power cable should be passed through the conduit gland and the first bottom cover. Connect the wires to the WAGO female connector according to the following diagram:

Supply Line Ground		Terminal Strip	Loading Unit	
Colour	**Function**	**Label**	**Colour**	**Function**
Brown	Phase 1	L1	Brown	Phase 1
Black	Phase 2	L2	Black	Phase 2
Grey	Phase 3	L3	Grey	Phase 3
Blue	Neutral Conductor	N	Blue	Neutral Conductor
Green/Yellow	Protective Conductor	PE	Green/Yellow	Protective Conductor



Only qualified personnel should undertake the electrical installation of the charging station.

During the electrical system installation, it is crucial to prevent cable damage or compression, as these issues could disrupt functionality in the future, lead to defects, or even trigger a fire.

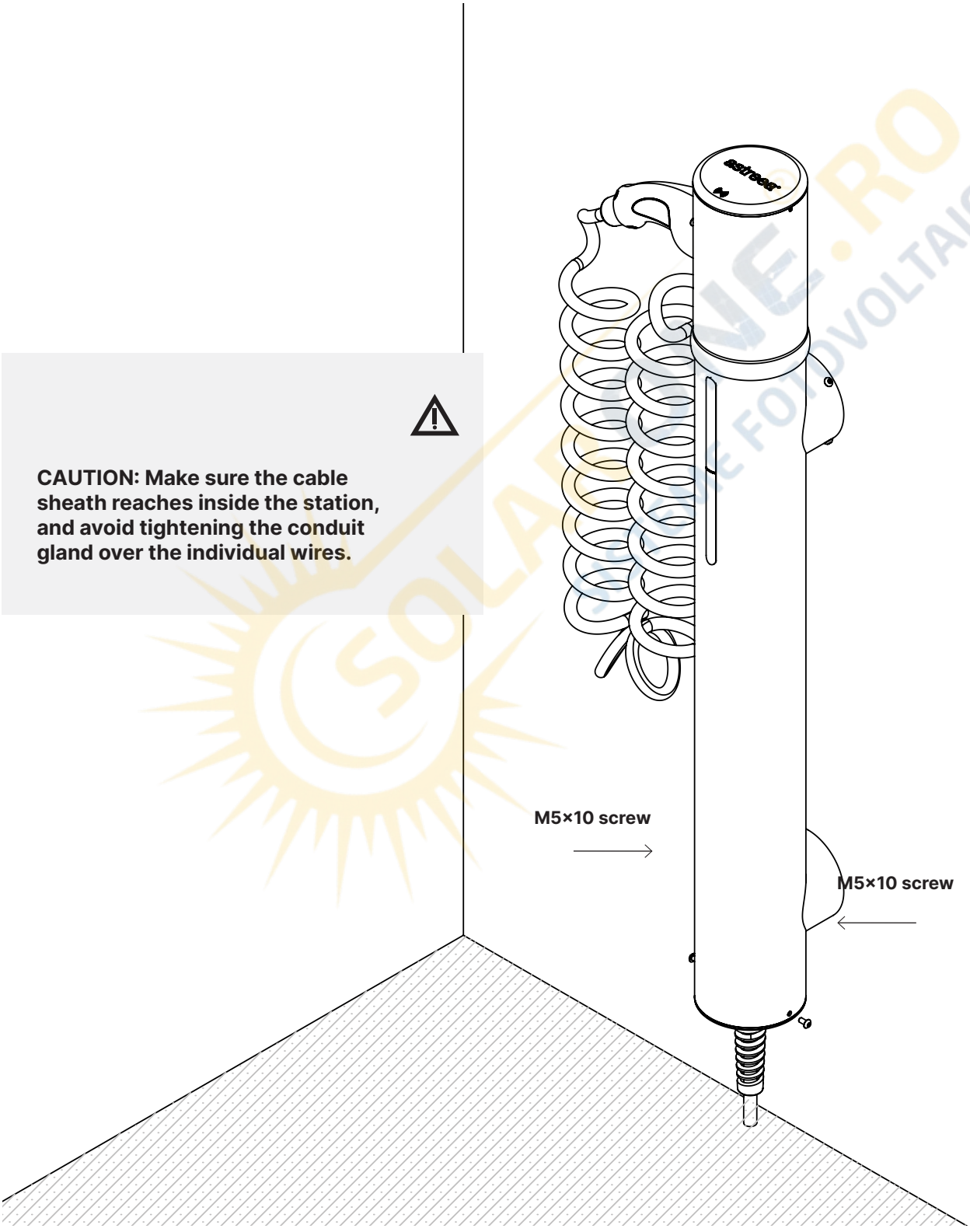
The illustrations portray a charger with only one socket. There could be some minor variations in other models.

3. Finishing the installation

Mount the bottom cover onto the station body by tightening the two M5×10 screws. After tightening the screws, also tighten the conduit gland nut to ensure a proper seal.

CAUTION: Make sure the cable sheath reaches inside the station, and avoid tightening the conduit gland over the individual wires.

CAUTION: Make sure the cable sheath reaches inside the station, and avoid tightening the conduit gland over the individual wires.



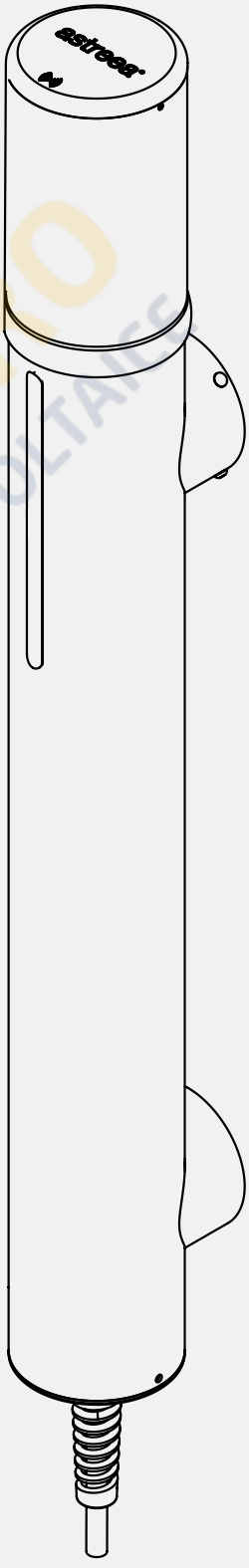
The illustrations portray a charger with only one socket. There could be some minor variations in other models.

ASTREEA® CHARGER SELF STANDING

READY TO USE

Scan the QR code provided on the Certificate of Conformity and follow the instructions within the mobile application to register your charger.

If you possess a double socket charger, be sure to scan both QR codes.



⚠

A sluggish or unreliable internet connection can result in the mobile application not functioning as expected, leading to delayed responses and potential crashes. It's essential to ensure a stable internet connection is maintained for both the charger and the mobile app to operate smoothly.

astreea®

Made in EU
Astreea Charger

Voltage:	3 × 400V AC 3P+N+PE
Input current:	32A
Output current:	32A
Frequency:	50Hz
Protection class:	IP54
Tmin/max:	-30°C/+50°C

astreea.com/charger

The Astreea® Charger includes a sticker that contains crucial information about the charging station. Whether or not you choose to affix the sticker to the charger body is entirely optional.

SOLAR ONE® SISTEME FOTOVOLTAICE

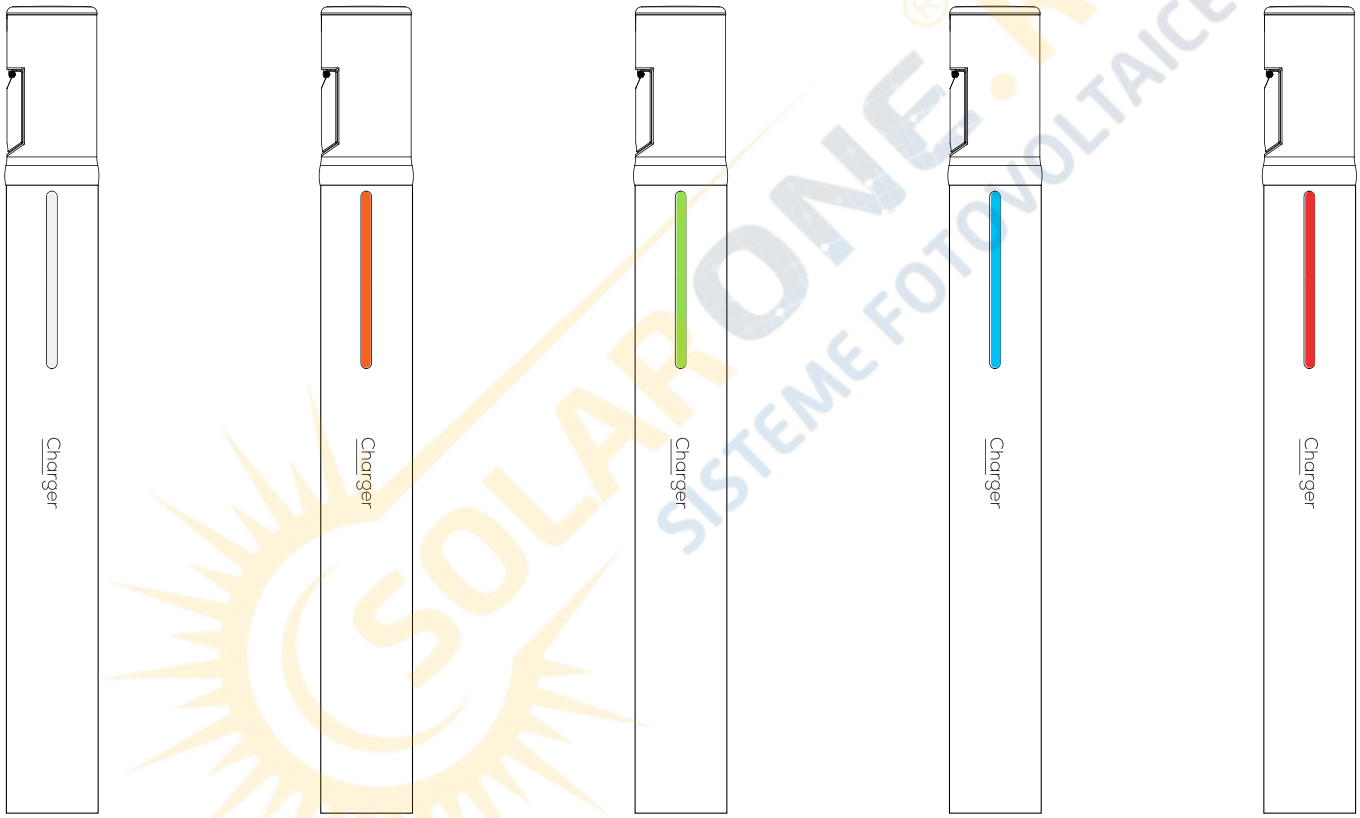
USAGE OPERATIONS

1. LED status indicator

The Astreea® Charger is equipped with an integrated status monitoring system, which relies on the installed RBGW LED.

The LED's colors are preset and cannot be customized by the user during installation. Each color corresponds to a potential state of the charger, offering live information regarding the station's condition.

If the LED bar is not illuminated, it may indicate an issue with either the power system or the LED bar itself. It is advisable to reach out to Astreea® Support for assistance in such cases.



SOLARONE.RO SISTEME FOTOVOLTAICE

THE COLORS REPRESENT:

- **White:** The charger is in the process of initializing and downloading the most recent software update, if one is available.
- **Orange:** The station is waiting for enrollment. This may occur during the initial setup of the charger or when the connection to Wi-Fi is lost.
- **Green:** The charger is ready for charging.
- **Blue:** The charger is waiting for authorization via the app or an NFC/RFID card.
- **Blue – pulsating:** The charging process is currently in progress.
- **Red:** The station has encountered a fault. Please contact Astreea® Support for assistance.

2. Astreea® Charger App

How to use the mobile app

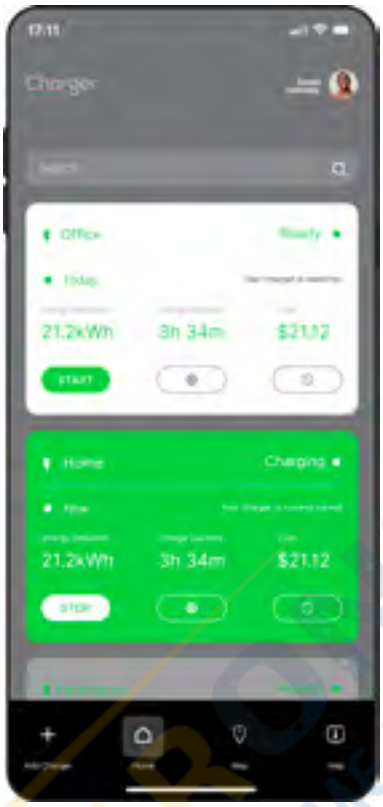
Privacy notice - tap “Continue” after reading the privacy notice

Login screen - enter your account details or login with your Apple account

After log in - tap “Start pairing” button and enable the Camera Permission in order to scan the QR Code provided to you in the Certificate of Conformity.

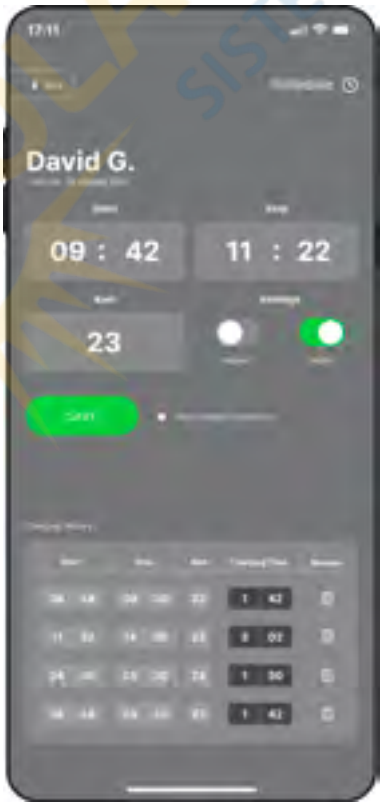
After scanning the code, connect the charger to your local Wi-Fi network and wait for the enrollment to finish.

Charging screen - you have a full status of your Charger(s), the duration and costs for each and additional settings



Status screen - you'll get a full status of your charge

You can schedule your charges according to your needs and also keep track of everything



Certified by:

Missing or you lost spares? Please call our customer service: (907) 931-4469

The Certificate of Conformity

The Certificate of Conformity (CoC) contains crucial details about your charger purchase. To register your Astreea® Charger using the mobile application, you must utilize the app to scan the QR codes found on the CoC.
Please note that Astreea® will not issue duplicate CoCs.

Exercise caution when sharing the QR codes with others, as scanning them grants significant access to your charger.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

astreea® Charger

Certificate no.: AS-CH-2023000063
Date: 18.07.2023
Serial no: SNASTR2228 1 B027C5763ECD4E69CF8E2E026695BB91E3F6887C
SNASTR2228 2 B027C5763ECD4E69CF8E2E026695BB91E3F6887C

CERTIFICATE OF QUALITY/CONFORMITY/WARRANTY

Applicant:	S.C. ARSAT INDUSTRIE S.R.L., str. 601, no. 53, 317235, Pecica, Arad, Romania
Manufacturer:	S.C. ARSAT INDUSTRIE S.R.L., str. 601, no. 53, 317235, Pecica, Arad, Romania
Product:	Astreea Charger
Model:	ACS111 (22KW) ☐ ACS121 (2 x 22 l) ☒ ☐
In compliance with:	SR EN ISO / IEC 17067 SE EN IEC 61851-1:2019 EU Directive 2014/35/EU EU-Directive 2014/53/EU
Rated Input Voltage:	3x400Vac
Power system:	TN-S (L1, L2, L3, N, PE)
Rated frequency:	50 Hz
Max. Input Current:	32 A
User Selectable:	10, 16, 20, 25, 32 A
Max. Output Power:	22 KW
Protection class:	IP 54
Output Connection:	Type 2 charging socket ☒ Type 2 charging cable ☐
MID Meter:	Yes ☒ No ☐
Operation Temp.:	-30°C to 50° C
Humidity:	5% - 95% without condensation
Mechanical Protection:	IK10
Enclosure:	metallic, electrostatically painted, with plastic cover
Electrical Protection:	External Type A RCBO required, overcurrent, overvoltage, undervoltage, ground fault including DC residual current protection, external surge protection
Status indication:	Dynamic RGBW led fully configurable
Protocols:	OCPP1.6, ModBus TCP. Wi-Fi
Software:	Apple IOS and Android mobile device app, cloud support
Dimensions (HxD):	1091.5mm x Ø114mm / 42.97in x Ø4.48in
Base Diameter:	Ø174mm / Ø0.685in

QR code 1:

CE

QR code 2:

ARSAT INDUSTRIE declares that the electrical charger complies with all the characteristics described above.
This document serves as a 1 year warranty for the above product.
This document is valid without signature.

Scan using Astreea Charger App

Scan using Astreea Charger App

ZERTIFIKAT ◆ CERTIFICATE ◆ ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

astreea Charger

Certificat nr.: AS-CH-202300003
Data: 16.06.2023
Serial nr.: SNASTR2161 1 367577FB579C2D252FF96AFA2DFF21D22B6CEBE3

CERTIFICAT DE CALITATE/CONFORMITATE/GARANȚIE

Furnizor:	S.C. ARSAT INDUSTRIE S.R.L., str. 601, nr. 53, 317235, Pecica, Arad, Romania
Producător:	S.C. ARSAT INDUSTRIE S.R.L., str. 601, nr. 53, 317235, Pecica, Arad, Romania
Produs:	Astreea Charger
Model:	ACS111 (22KW) ACS121 (2 x 22 KW)
In conformitate cu:	SR EN ISO / IEC 17067 SE EN IEC 61851-1:2019
Voltaj intrare:	3x400Vac
Sistem de energie:	TN-S (L1, L2, L3, N, PE)
Frecvență:	50 Hz
Curent de intrare max.:	32 A
Curent configurabil:	10, 16, 20, 25, 32 A
Putere de ieșire max.:	22 KW
Clasa de protecție:	IP 54
Conexiune de ieșire:	Priză Type 2 Cablu de încărcare Type 2
Temperatură de operare.:	-30°C ... 50° C
Umiditate:	5% - 95% fără condens
Clasă protecție mecanică:	IK10
Corp:	metalic, vopsit electrostatic, cu capac de plastic
Clasa de protecție electrică:	Type A RCBO extern, supracurent, supratensiune, subtensiune, împământare inclusiv protecție la curent rezidual DC, protecție externă la supratensiune
Indicator luminos:	Led RGBW configurabil
Protocol:	OCPP1.6, ModBus TCP, Wi-Fi
Software:	aplicații Apple IOS și Android, suport cloud
Dimensiuni (HxD):	1091.5mm x Ø114mm / 42.97in x Ø4.48in
Diametrul bazei:	Ø174mm / Ø0.685in

CE

ARSAT INDUSTRIE declară că stația de încărcare corespunde cu toate caracteristicile de mai sus.

Acest document servește ca o garanție de 5 ani a produsului.
Acest document este valabil fără semnătură.

SOLARONE.RO SISTEME FOTOVOLTAICE

OICPE
ELECTRIC PRODUCTS CERTIFICATION
INDEPENDENT BODY
OICPE - ORGANISM INDEPENDENT PENTRU CERTIFICAREA PRODUSELOR ELECTRICE

CERTIFICAT DE CONFORMITATE

schema «1a»

cu respectarea activităților din SR EN ISO / IEC 17067

Certificate of Conformity

scheme «1a» in compliance with the activities of SR EN ISO / IEC 17067

Certificat nr: *Certificate No.*	1101	**Data emiterii:** *Date of issue: (day/month/year)*	03.10.2022	**Statut:** *Status*	Initial	**Exemplar nr:** *Copy No.*	3/4
Număr dosar certificare: *Certification file No.*	478/1	**Contract General nr:** *General Agreement No.*	40 1/04.08.2022			**Pagina** *Page*	1/2

Titular certificat (nume și adresă): *Certificate holder (name and address)*	**ARSAT INDUSTRIE SRL** **601 Street, No. 53, Pecica, Arad County, Romania**
Domeniu de aplicare: *Application range*	Code CPSA 271. Electrical equipment. Electric motors, generators, transformers, electricity distribution and control apparatus
Denumirea produsului: *Product name:*	**ASTREEA CHARGING STATION**
Tip/model de referință: *Reference type/model*	**ACS121-A**
Variantă(e): *Variant(s):*	-
Marca comercială înregistrată: *Registered Trade Mark:*	astrə ea
Producător (nume și adresă): *Manufacturer (name and address):*	**ARSAT INDUSTRIE SRL** **601 Street, No. 53, Pecica, Arad County, Romania**
Locul de producție (nume și adresă): *Manufacturing location (name and address):*	**ARSAT INDUSTRIE SRL** **601 Street, No. 53, Pecica, Arad County, Romania**
Standard național sau alt normativ utilizat pentru certificare: *National standard or other normative document used as reference for certification:*	**SR EN IEC 61851-1:2019**
Raport de încercări (nr./data): *Test Report (No./date):*	**According to Annex**
Certificatul este valabil până la data: (zi / lună / an) *The certificate is valid until (day / month / year):*	**02.10.2024**

În baza rezultatelor încercărilor efectuate, se declară că produsul este în conformitate cu standard(ele) menționat(e) mai sus.
Based on the results of the performed tests, the product is declared to be in compliance with the above standard(s).

Schema de certificare utilizată este «1a» (certificarea conformității pe bază de încercări de tip). Acest certificat este valabil numai pentru eșantionul supus încercărilor de tip. Producele de același tip fabricate ulterior nu sunt acoperite de acest Certificat de Conformitate. Producătorul va emite pe propria sa răspundere Declarația de Conformitate pentru produsele de același tip fabricate ulterior și va aplica marcajul CE dacă sunt îndeplinite toate cerințele directivelor europene aplicabile produsului certificat de OICPE.
The certification scheme used is «1a» (conformity certification based on type tests). This certificate is valid only for the sample underwent to the type tests. Subsequently manufactured products of the same type are not covered by this Certificate of Conformity. The manufacturer will draw up on sole responsibility the Declaration of Conformity for products of the same type produced later and affixed the CE marking if all requirements of applicable European directives to the certified product by OICPE are fulfilled.

Acest certificat și anexele sale pot fi reproduse numai în întregime. Statutul și autenticitatea acestui certificat poate fi verificată pe site-ul www.oicpe.ro
This certificate and its annex may only be reproduced in full. The Status and authenticity of this certificate may be verified by visiting site: www.oicpe.ro

Acest certificat nu este transferabil și rămâne proprietatea organismului emitent.
This certificate is not transferable and remains the property of the issuing body.

MANAGER DEPARTAMENT CERTIFICARE
CERTIFICATION DEPARTMENT MANAGER
Ing. Dragoș Rosmeteniuc

OICPE Cod F-1 I/R1

Ediția din 12.01.2022

INTERNATIONAL INSTITUTE OF WELDING

Having satisfied the requirements of the IIW Manufacturer Certification Scheme for the Management of Quality in Welding

The Unit: *SC ARSAT INDUSTRIE S.R.L.*

Located in: *317235 Pecica, Str. 601, nr. 53*

Company: *SC ARSAT INDUSTRIE S.R.L.*

is certified in accordance with

ISO 3834 Part 2 - Doc. IAB 340

for the product(s):

Welded metallic structures, components and devices for the railway and aerospace industry, components for cranes and excavators, metal structures for wind turbines

with the scope of work stated in the attached Schedule

Certificate number and revision status: *113/1/2018 rev. 0*

First issue date: *25.07.2018*

Current issue date: *25.07.2018*

Date of expiry: *24.07.2021 (pending successful annual audits)*

ANBCC Governing Board Representative — *ISIM Cert Timisoara* — *Romulus Pascu*

Scheme Manager — *Horia Dascău*

IIW AUTHORISED NATIONAL BODY FOR COMPANY CERTIFICATION — ISIM CERT — TIMISOARA ROMANIA

This Certificate is subject to the rules established by IIW for the certification of Companies

EUROPEAN FEDERATION FOR WELDING, JOINING AND CUTTING

Having satisfied requirements of the EWF Manufacturer Certification System for the following Scheme(s):

EN ISO 3834-2

The Unit: *SC ARSAT INDUSTRIE S.R.L.*
Located in: *317235 Pecica, Str. 601, nr. 53*
Company : *SC ARSAT INDUSTRIE S.R.L.*
is certified for the product(s)

Welded metallic structures, components and devices for the railway and aerospace industry, components for cranes and excavators, metal structures for wind turbines

With the scope of work stated in the attached Schedule

Certificate number and revision status: *113/1/2018 rev. 0*

First issue date: *25.07.2018*
Renewal date: *25.07.2018*
Date of expiry: *24.07.2021 (pending successful annual audits)*

Chairman
ANBCC Govering Boad
ISIM Cert Timisoara
Romulus Pascu

ISIM CERT TIMISOARA ROMANIA

Scheme Manager
Horia Dugcău

EWF PARTICIPATING COUNTRIES
Austria · Belgium · Bosnia and Herzegovina · Bulgaria · Croatia · Czech Republic · Denmark · Finland · France · Germany · Hungary · Iceland · Italy · Luxembourg · Netherlands · Norway · Poland · Portugal · Romania · Russia · Serbia · Slovakia · Slovenia · Spain · Sweden · Switzerland · Ukraine · United Kingdom

This certificate is subject to the rules established by EWF for the certification of Companies

OICPE
ELECTRIC PRODUCTS CERTIFICATION INDEPENDENT BODY

OICPE - ORGANISM INDEPENDENT PENTRU CERTIFICAREA PRODUSELOR ELECTRICE

www.oicpe.ro

Splaiul Unirii 313, int 2, parter din constructia P+4, C1-U63 030138, sector 3, Bucuresti - România
031 426 0979
oicpe@oicpe.ro
Nr. RC: J40/3946/2009
CIF: RO25338954
Cont: RO60CARP0453PD0633890R301-Patria Bank RO71TREZ5068800X011505 - Trezoreria sector 3

Număr dosar certificare: 478/1
Certification file no:

ANEXĂ
Annex

Exemplar nr: 3/4
Copy No:
Pagina 2/2
Page

Această anexă este valabilă numai cu **CERTIFICATUL DE CONFORMITATE nr. 1101 / 03.10.2022**
This annex is valid only together with the CERTIFICATE OF CONFORMITY No

Titular certificat (nume şi adresă): ARSAT INDUSTRIE SRL
Certificate holder (name and address): **601 Street, No. 53, Pecica, Arad County, Romania**

Denumire produs: **ASTREEA CHARGING STATION**
Product name:

Nr.crt. *No*	Tip/model *Type/Model*	Raport de încercare *Test Report*	Date tehnice *Technical Data*
1	**ACS121-A** (reference) serial: 22280000011 / 07.2022	**429/29.09.2022** issued by OICPE-LICPE according to SR EN IEC 61851-1:2019 **430/29.09.2022** issued by OICPE-LICPE according to SR EN IEC 61851-1:2019	Rated input voltage: 3x400 V_{ac} Power system: TN-S (L1, L2, L3, N, PE) Rated frequency: 50 Hz Rated current, max. 2x32 A (for simultaneous charging) Degree of protection provided by enclosure: IP 54 Degree of protection against external mechanical impact: IK10, anti-vandalism Degree of protection against electrical schocks: I Cooling: natural ventilation Operating temperature range: -30 °C ... + 50 °C Enclosure: metallic, electrostatically painted, with plastic cover Overall dimensions (diameter x height): Ø 114 mm x 1200 mm Weight: max. 14 kg Mounting: on the ground Use: outdoor Output: Rated output voltage: 3x400 V_{ac} Output current: max. 32 A / output Output power: max. 22 kW / output Socket number: 2 Chargin mode: mode 3 Type of connections to the electric vehicle: fixed sockets The equipment is intended for supplying AC power to electric vehicles (EV). It allows the simultaneous charging of 2 electric vehicles.

MANAGER DEPARTAMENT CERTIFICARE
CERTIFICATION DEPARTMENT MANAGER
Ing. Dragoş Rosmeteniuc

OICPE Cod F-11/R

Ediția din 12.01.2022

Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. 01 100 1521053

TÜV Rheinland Cert GmbH certifies:

Certificate Holder: **S.C. ARSAT INDUSTRIE S.R.L.**
Str. 601 nr. 53
RO-317235 Pecica, jud. Arad

Scope: Production of machined parts and welded structures.

An audit was performed, Report No. 1521053. Proof has been furnished that the requirements according to ISO 9001:2015 are fulfilled.

Validity: The due date for all future audits is **18 of November**.
The certificate is valid from **2019-11-28** until **2022-11-27**.
First certification 2004

2019-12-03

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com

IAF DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-01-00

TÜVRheinland®
Precisely Right.

SOLARONE.RO SISTEME FOTOVOLTAICE

Certificate

Standard **ISO 14001:2015**

Certificate Registr. No. 01 104 1521053

TÜV Rheinland Cert GmbH certifies:

Certificate Holder: **S.C. ARSAT INDUSTRIE S.R.L.**
Str. 601 nr. 53
RO-317235 Pecica, jud. Arad

Scope: Production of machined parts and welded structures.

An audit was performed, Report No. 1521053. Proof has been furnished that the requirements according to ISO 14001:2015 are fulfilled.

Validity: The due date for all future audits is **18 of November.**
The certificate is valid from **2019-11-28** until **2022-11-27.**
First certification 2016

2019-12-03

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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IAF

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SOLARONE.RO SISTEME FOTOVOLTAICE

Certificate

Standard **ISO 45001:2018**

Certificate Registr. No. **01 213 1521053**

Certificate Holder: **ARSAT INDUSTRIE S.R.L.**
Str. 601 nr. 53
317235 Pecica, jud. Arad
Romania

Scope: Production of machined parts and welded structures.

Proof has been furnished by means of an audit that the requirements of ISO 45001:2018 are met.

Validity: The certificate is valid from 2020-01-07 until 2022-12-18.
First certification 2016

2020-01-07

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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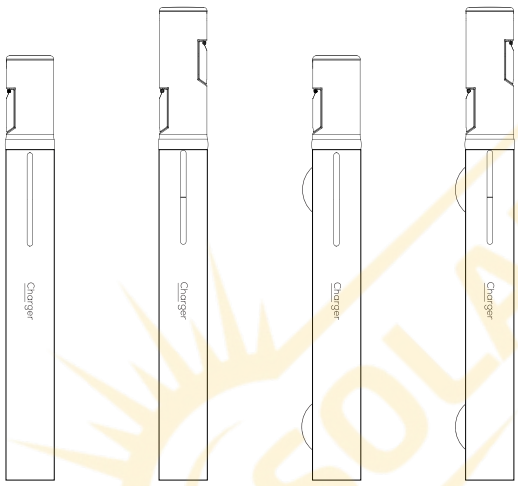
astreea®



EV Charger – All Vertical Models

ACS111, ACS121, ACS211 and ACS221
(11KW/22KW) and subsets.

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astreea.com/charger

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