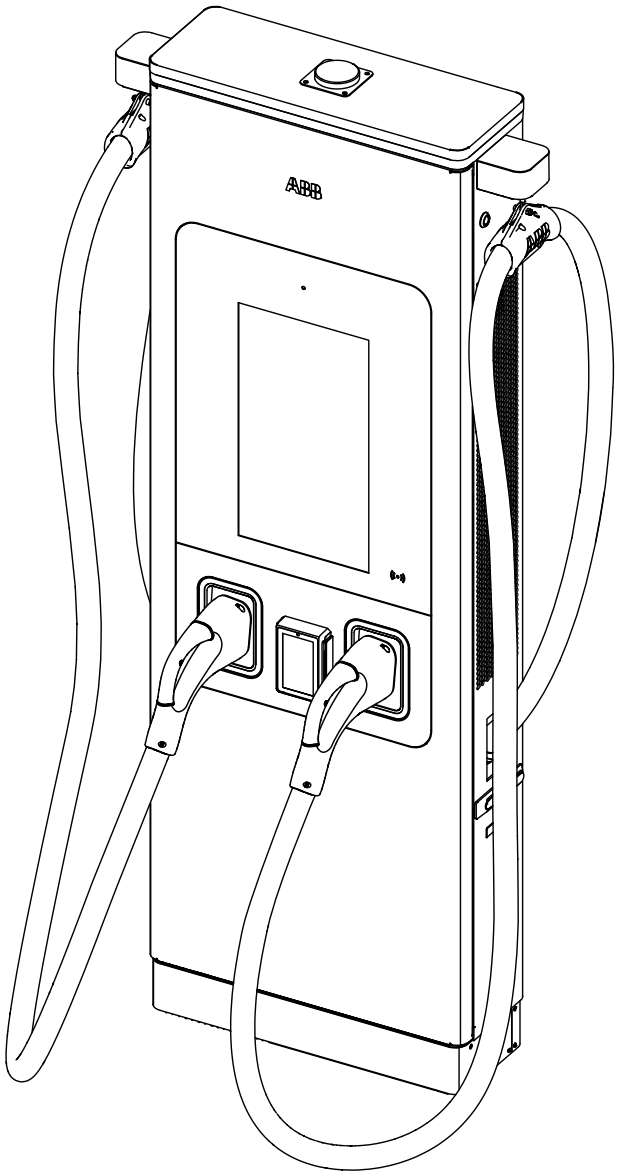
ABB E-MOBILITY CHARGING STATION

Operation and installation manual

C50 - CE



EN

ATTENTION – IMPORTANT SAFETY INSTRUCTIONS
This manual contains important safety instructions that must be followed during operation, installation, handling and maintenance of the EVSE.

ATTENTION – SAVE THESE INSTRUCTIONS
This document is a part of the EVSE, keep it in a safe place near the EVSE for easy reference during installation, handling, operation and maintenance.

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Document revision history

Version	Date	Description
00A	November 2024	Preliminary version
00B	December 2024	Preliminary version
001	December 2024	First feedbacks implementation
002	March 2025	C50 EAP (early adopted program) - Initial version
003	March 2026	Ext. breaker value, AC connection, concrete foundation

NOTE
Latest version of the manual can be dowloaded at this ABB library link

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1. Introduction and general information

This chapter will give instruction on the correct use of this document.

Chapter recipients:



- Owner
- Qualified installer
- Handling and transportation company
- User

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1.1 Disclaimer and warranty conditions

ABB E-mobility is not liable for any damages, losses, costs or expenses resulting from the improper handling, installation and use of the product described in this document and product related features, in particular resulting from non-compliance with the instructions of this document and other applicable regulations and standards (e.g. installation, transport, occupational health, digital security, and other safety standards).

ATTENTION
Any modification, manipulation, or alteration not expressly agreed with the manufacturer, concerning either hardware or software, shall result in the immediate nullification of the warranty.
In the event that the instructions set out in this manual are not strictly complied with, any warranty applicable to this EVSE will be rendered null and void with immediate effect. Any deviation to the instructions contained in this manual must be approved (in writing) prior to such deviation is executed by ABB E-mobility or authorized Service partners. In the event that ABB E-mobility suffers any damage as a result of the non-compliance with the instructions set out herein, ABB E-mobility reserves the right to seek recourse for such damages from the party causing such damages. Reach out to the contact centre for support: https://e-mobility.abb.com/contact-centers/

ATTENTION
The use of any adaptors, conversion adapters or cord extension are not permitted, and will render any warranty null and void. In addition, ABB E-mobility does not accept any liability for any damages caused as a result of not following this instructions.

1.2 Function and target of this document

The document is applicable to **C50** product (Including all variants and options).

The purpose of this document is to give the information that is necessary to safely do these tasks:
- Install the EVSE
- Operate the EVSE
- Perform basic maintenance tasks

NOTE
This manual covers the EVSE only and NO other equipment (external protection devices, electrical vehicles, etc) to which it is connected. Some component’s information given in this manual is taken from the original supplier documents. Please refer to the supplier websites for the complete and updated documentation.

1.3 Language

The original instructions of this document are in English (EN-US). All other language versions are translations of the original instructions and the manufacturer cannot be held liable for errors in the translation. Refer to the original English version in case of doubts.

1.4 How to use this document

Make sure that you know the structure and contents of this document.
Read the safety chapter and make sure that you know all the instructions.
Follow the steps in the procedures fully and in the correct sequence.

The document is intended for these groups:
- Owner of the EVSE
- Electrical designers and System integrator
- Transporters and Handlers
- Qualified installers
- User

1.5 Abbreviations

Abbreviation / Termin	Description
AC	Alternating current
CAN	Controller area network
CCS	Combined Charging System, a standard charging method for electric vehicles
CHAdeMO	Abbreviation of CHArge de MOve, a standard charging method for electric vehicles
CPU	Central processing unit
DC	Direct current
EMC	Electromagnetic compatibility
EV	Electric vehicle
EVSE	Electric vehicle supply equipment
HMI	Human Machine Interface
HVC	Heavy Vehicle Charger
MCB	Miniature circuit breaker
MID	Measuring Instruments Directive
NFC	Near field communication
OCPP	Open charge point protocol
PE	Protective earth
PPE	Personal protective equipment
RCD	Residual current device
RFID	Radio-frequency identification
SPD	Surge protective devices

1.6 Terminology

Terminology	Description
Network operating center of ABB EV Infrastructure	Facility of the manufacturer to do a remote check on the correct operation of the EVSE
Cabinet	Enclosure of the EVSE, including the components on the inside
Power cabinet	Intermediate unit that provides DC power to the Charge control set. Gets its power from a power distribution board.
Interlock	The Interlock is an isolated current loop and is a feature that makes the state of two mechanisms or functions mutually dependent.

Terminology	Description
Cable slack	Extra length of cable from the top of the foundation so that the cable length is sufficient to connect to the correct terminal in the EVSE
Grid provider	Company that is responsible for the transport and distribution of electricity
Local rules	All rules that apply to the EVSE during the entire lifecycle of the EVSE. The local rules also include the national laws and regulations
Open charge point protocol	Open standard for communication with charge stations
Protective devices	Devices for the personal protection of individuals against the risk of injury or electrical shock when they do commissioning, operation and maintenance activities. Examples of protective devices are a door, the electrical parts covers, the latches, etc.
Site operator	Entity that is responsible for the day-to-day control of the EVSE. The site operator does not have to be the owner
Qualified installer	The installer is a qualified person to install the EVSE according to the applicable local rules and fully knows the EVSE and its safe installation. The qualified installer obeys all local rules and the instructions in the operation and installation manual.
Owner	Legal owner of the EVSE
User	Owner of an EV, who uses the EVSE to charge the EV

NOTE
it is possible that not all terms are present in this document.

2. Safety

This chapter contains the safety instructions which must be complied with during handling, installation, commissioning, operation and maintenance of the EVSE. Always obey and follow the reading order of instruction exactly as described in this manual to prevent injury or damage to the EVSE.
The manufacturer is not liable for any damage caused as a result of such failure to comply with the instructions for any upstream or downstream equipment to the EVSE.

The instructions provided in the manual do not replace:
- the safety devices
- the technical and operative data labels on the product
- the safety local rules

NOTE
The operators must read and comply with the technical information and instruction provided in the manual and in any additional attached documentation.

Chapter recipients:

- Owner
- Qualified installer
- Handling and transportation company
- User

EN

2.1 Liability

The manufacturer declares that the EVSE complies with the regulations currently in force in the country of installation and has issued the corresponding declaration of conformity.

The manufacturer is not liable for damages, losses, costs or expenses incurred by any user of the EVSE (e.g. the installation engineer or owner of the EVSE) if such damages, losses, costs or expenses result from a failure to comply with the applicable safety instructions given by the manufacturer, including, but not limited to, the following:

- Comply with the local rules and the instructions in this manual. If the local rules contradict the instructions in this manual, the local rules must be applied.
- Power outages or disruptions to the electrical supply to the EVSE.
- Accumulation of dirt or ingress of foreign substances within the EVSE.
- Corrosion of component parts.
- Damage to software or hardware due to any IT security problem, such as but not limited to a virus breakout or malicious hacking of the system.
- Damage or failure of EVSE caused by vermin, insect infestations or the like.
- Damage or failure resulting from faults in some other equipment connected to the EVSE.
- Damage or loss caused by hazards such as fire, flood, storm or the like or spillage or leakage of chemicals or harmful substances onto the EVSE.
- Fault tracing caused by problems from a source external to the scope of work.
- Unprofessional or incorrect handling of the EVSE, not complying to this manual and/or local rules
- Unprofessional or incorrect installation, installation not complying to standards, or installation not following these installation instructions contained in the product specific manual.
- Improper operation (in breach of the technical requirements or specifications or manuals of the product), negligence or repairs carried out by the Owner (or any third party not authorized by the manufacturer). It is absolutely forbidden to modify the EVSE.
- Non-compliance with the applicable safety regulations or other legal standards by other parties than the manufacturer.
- Insufficient ventilation of the EVSE.
- Operation of the EVSE outside of its design conditions.
- Damage or failure due to relocations or alterations of the EVSE from the original installation location or alteration of the overall normal condition of the system.
- Only make changes to the EVSE if the manufacturer approves in writing of the changes.
- Damage or loss due to improper use of the EVSE.
- EV low battery during use.
- Any check to make sure the battery is sufficiently recharged before using the EV.
- Deterioration resulting from transportation or particular environmental conditions;
- Performing maintenance incorrectly or not at all;
- Disposal of the EVSE, or any part thereof, or violation of any applicable laws and regulations resulting from such disposal by User or third parties.
- Damage resulting from improper storage conditions.

2.1.1 Responsibilities and qualifications for the Users

Operators responsible for handling, installation, operation, maintenance and service must:

- Comply with the applicable (local) laws and regulations..
- Identify any hazards and do a risk assessment prior to commercing work that result from the working conditions on the site.
- Operate the EVSE with the protective devices installed and make sure that all protective devices are re-installed after any installation or maintenance operation.
- Prepare and execute an emergency plan that instructs people what to do in the event of an emergency relating to the EVSE or to another site emergency.
- Make sure that all employees, the owner and third parties are qualified according to the applicable local laws and/or rules to do the work.
- Make sure that there is sufficient space around the EVSE to safely handling, commissioning, do maintenance and installation activities.

- Identify a site operator who is responsible for the safe operation of the EVSE and for the coordination of all work, if the owner does not do these tasks.

Moreover the qualified installer must:
- Fully knows the EVSE and its safe installation.
- Be a qualified technician and have a valid license to work on EVSEs.
- Comply all local rules and the instructions in the installation procedures in this document.

2.2 Intended use

This EVSE has the exclusive function of fast EV charging and it is intended to be used both in indoor and outdoor environments.

DANGER
ABB E-mobility is not liable for any risk and damage related to any use other than the use described in this manual. The EVSE shall only be used in accordance with the intended use set out in this manual and no party has the right to make any changes without express permission from ABB E-mobility.

NOTE
The EVSE can be only connected to the electricity grid in countries for which it has been certified.
The EVSE may only be used in compliance with all its technical characteristics.
Only use the EVSE with accessories that the ABB E-mobility provides and that comply with local laws and regulations.

2.2.1 Risks related to improper use or product defect

To avoid risk related to improper use of the EVSE, it is forbidden:
- To install the EVSE in environments subject to particular conditions of flammability or in adverse or disallowed environmental conditions, (temperature and humidity).
- To use the EVSE with safety devices which are faulty or disabled.
- To use the EVSE or parts of the EVSE by linking it to other machines or equipment, unless expressly provided for.
- To modify operating parameters that are not accessible to the operator and/or parts of the EVSE to vary its performance or change its isolation.
- To clean with corrosive products that could corrode parts of the EVSE or generate electrostatic charges.
- To place any heavy object, sit or stand up on the EVSE.

To avoid any serious consequence on personal safety, to know the ways in which the EVSE must not be used and in the event of residual risks which persist, despite the protection and safety measures integrated in the EVSE, reach out to the local entity of ABB E-mobility for support.

DANGER
Do not proceed with installation if the integrity of the EVSE is compromised.
Do not use the EVSE if you find any operating anomalies.

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2.2.2 Residual risks

Despite the warnings and safety systems, there are still some residual risks that cannot be eliminated. These risks are listed in the following table with some suggestions to prevent them:

Risk analysis and description	Suggested action
Stored energy in components that could generate hazardous discharges.	Wait at least 15 minutes after turning off the EVSE and perform the total isolation procedure before working on the internal components of the charger
Noise pollution due to installation in unsuitable environments or where individuals routinely work and/or animals dwell most of the time.	Reassess the environment or the place of installation.
Adverse external climatic conditions, accumulations of rainwater, low temperatures, high humidity, etc.	Maintain ambient conditions suitable for the system.
Overheating of components (transformers, accumulators, coils, etc.) which could cause burns. Clogged EVSE cooling slots or systems.	Use suitable PPE. Wait for the parts to cool down before opening the EVSE. Do not block cooling vents or heat sinks.
Inadequate cleaning that: - does not allow adequate air intake for cooling - does not allows the reading of safety labels.	Clean the EVSE, labels and installation environment.
The EVSE contains components and circuit boards that are sensitive to electrostatic discharge.	Take ESD prevention measures to protect the electronic components during installation and maintenance of the EVSE.
Inadequate training of staff.	Ask for supplementary courses.
Incomplete installation, EVSE or its components temporarily mounted.	Prevent unauthorized access to the installation area by barricading the area and placing warning signs indicating the condition of the EVSE.
The AC cable, owned by the user, could be damaged (valid only if the AC socket is present on the EVSE).	Check the integrity of the cable and connectors before connecting the cable to the EVSE.
Not allowed to place in ATEX environment.	Reassess the environment or the place of installation.
Hand/finger crushed into CMS slot of the EVSE when it comes back to resting position	The CMS is retracted by its spring towards its resting position. Pay attention and do not put your hand or fingers along the path of CMS, when the CMS is moving, there is risk of injury.

2.3 General signs and signal words

In the manual and/or in some cases on the EVSE, the danger or hazard zones/components are indicated with signs, labels, symbols or icons.

Symbol	Description
	General risk
	With signal word ‘Danger’: If you do not obey the instruction, this can cause injury or death
	With signal word ‘Warning’: If you do not obey the instruction, this can cause injury
	With signal word ‘Caution’: If you do not obey the instruction, this can cause damage to the EVSE or to property
	Hazardous voltage that gives risk of electrocution
	Risk of pinching or crushing of body parts

Symbol	Description
	Rotating parts that can cause a risk of entrapment
	Hot surface that gives risk of burn injuries
	With signal word ‘Note’: A note gives more data, to make it easier to do the steps, for example
	Information about the condition of the EVSE before you start the procedure
	Requirements for personnel for a procedure
	General safety instructions for a procedure
	Information about spare parts that are necessary for a procedure
	Information about support equipment that is necessary for a procedure
	Information about supplies (consumables) that are necessary for a procedure
	Make sure that the power supply to the EVSE is disconnected
	Electrotechnical expertise is required, according to the local rules
	Alternate current
	Direct current
	Protective Earth (PE)
	 Sign that means that you must read the manual before you install the EVSE
	Waste from electrical and electronic equipment
	Center of gravity (CoG)

NOTE
It is possible that not all symbols or signal words are present in this document

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2.4 Personal protective equipment

A Personal Protective Equipment (PPE) is clothing or equipment designed to protect/reduce employees from exposure to work place hazards and the risk of injury.

Symbol	Description
	Protecting clothing
	Safety gloves
	Safety shoes
	Safety glasses
	Work helmet

2.5 Safety instructions

- Only perform the procedures as indicated in this document.
- Only perform any services as qualified installer or user of the EVSE when you are fully qualified to do so.



DANGER
In case of inconsistency or contradiction between any requirements or procedure contained in this document and any such local laws and/or rules, comply with the stricter conditions.

2.5.1 Safety instructions - Transport of the EVSE





- Wear on the correct personal protective equipment.
- Only use hoisting equipment to lift the EVSE as permitted by ABB E-mobility.
- Take into account the mass and the center of gravity of the EVSE.
- Obey the applicable safety instructions for the hoisting equipment or for the forklift truck. For example, the instructions specified on the related shipment label that is applied to the EVSE packaging.



2.5.2 Safety instructions - Installation of the EVSE



- Wear on the correct personal protective equipment.
- Make sure that there is no voltage on the input cables prior to conducting any installation activities.
- Keep unqualified personnel at a safe distance during installation.
- Only use electrical wires of sufficient gauge and insulation to handle the rated current and voltage demand.
- Make sure that the load capacity of the grid is in accordance with the EVSE.
- During installation and electrical connection of the cables (AC, PE, Ethernet, signals, etc.) do not modify the configuration and positioning of the electrical system inside the EVSE.
- Make sure that the internal electrical system and connection cables (AC, PE, Ethernet, signals, etc.) are protected from damage and cannot get trapped in any part of the EVSE.
- Do not open any covers/doors of the EVSE in case of adverse climate conditions. Infiltration of water or sand and presence of high humidity can cause damage of the EVSE. It is of paramount importance to evaluate the weather conditions in the risk assessment prior any intervention on the EVSE.
- Protect the EVSE with safety devices and measures as specified in accordance with local legislation and regulations.
- Make sure that the EVSE is connected to a Protective Earth (PE).
- Make sure that the connections to the EVSE comply with all applicable local rules.

Additional instructions during ground works

- Make sure that the equipments used during ground works are certified.
- Comply with all applicable local rules.

2.5.3 Safety instructions - Maintenance of the EVSE



- Wear on the correct personal protective equipment.
- Make sure that there aren't supply voltages on the input cables during the complete cleaning or maintenance procedure. Perform the total de-energization of the EVSE.
- Keep unauthorized personnel at a safe distance during cleaning or maintenance.
- If for cleaning or maintenance it is necessary to remove safety devices or protection, immediately install them after the work.

2.5.4 Safety instructions - Use of the EVSE

Do not use the EVSE if the safety or the safe use of the EVSE is at risk. In these cases immediately contact the manufacturer.
This includes, but is not limited to, these conditions:

- An enclosure has damage.
- An EV charge cable or connector is damaged.
- Lightning struck the EVSE.
- There was an accident or risk of fire at or near the EVSE.
- Water entered the EVSE.
- The EVSE is hit by any object (vehicle, fallen tree, etc).
- The EVSE shows signs of vandalism.

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2.6 Discard the EVSE or parts of the EVSE

Incorrect waste handling can have a negative effect on the environment and human health due to potential hazardous substances. With the correct disposal of this product, you contribute to reuse and recycling of materials and protection of the environment.



- Obey the local law and rules when you discard parts, packaging material or the EVSE.
- Discard electrical and electronic equipment separately in compliance with the WEEE - 2012/19/EU Directive on waste of electrical and electronic equipment.
- As the symbol of the crossed out wheeled-bin on your EVSE indicates, do not mix or dispose the EVSE with your household waste, at the end of use. Instead, hand the EVSE over to your local community waste collection point for recycling.
- For more information, contact the Government Waste-Disposal department in your country.

2.7 Cybersecurity

This product and its features are designed to be connected to and to communicate information and data via a network interface. The owner and site operator agree to use the product and its features at their sole risk, in its judgment. It is the manufacturer’s responsiblity to provide connectivity to the customers backend. Thereafter it is the owners and the site operator’s sole responsibility to provide and continuously ensure connection between the manufacturer’s network and the owner’s and/or site operator’s network or any other network (as the case may be). The owner and site operator shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc) to protect its network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. Use of embedded software and ABB systems by owner and site operator is at your sole risk and quality, accuracy, and performance efforts are with you. ABB E-mobility is not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

3. Description

This chapter contains information about the models, details of the EVSE, characteristics and technical data, overall dimensions and EVSE identification.

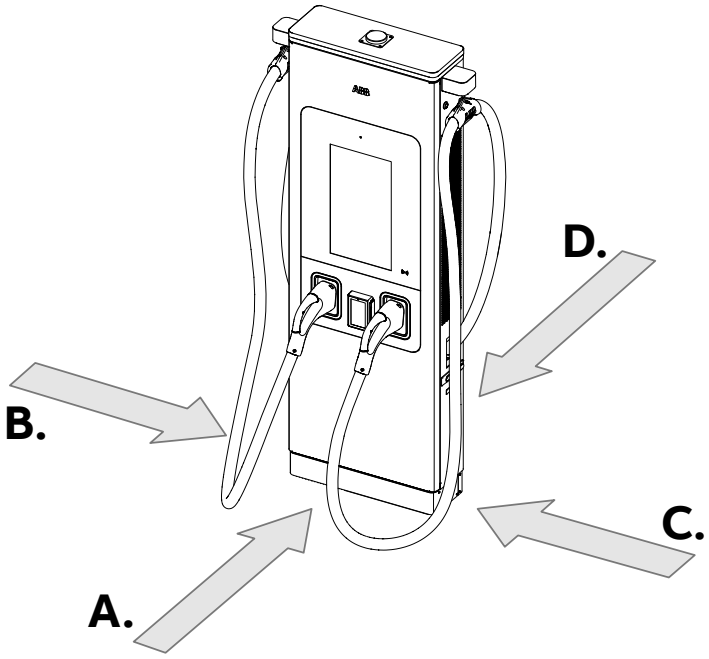
A description of the EVSE characteristics is provided to identify its main components and specify the technical terminology used in the manual.

Chapter recipients:

- Owner
- Qualified installer
- User

EN

3.1 Orientation agreements



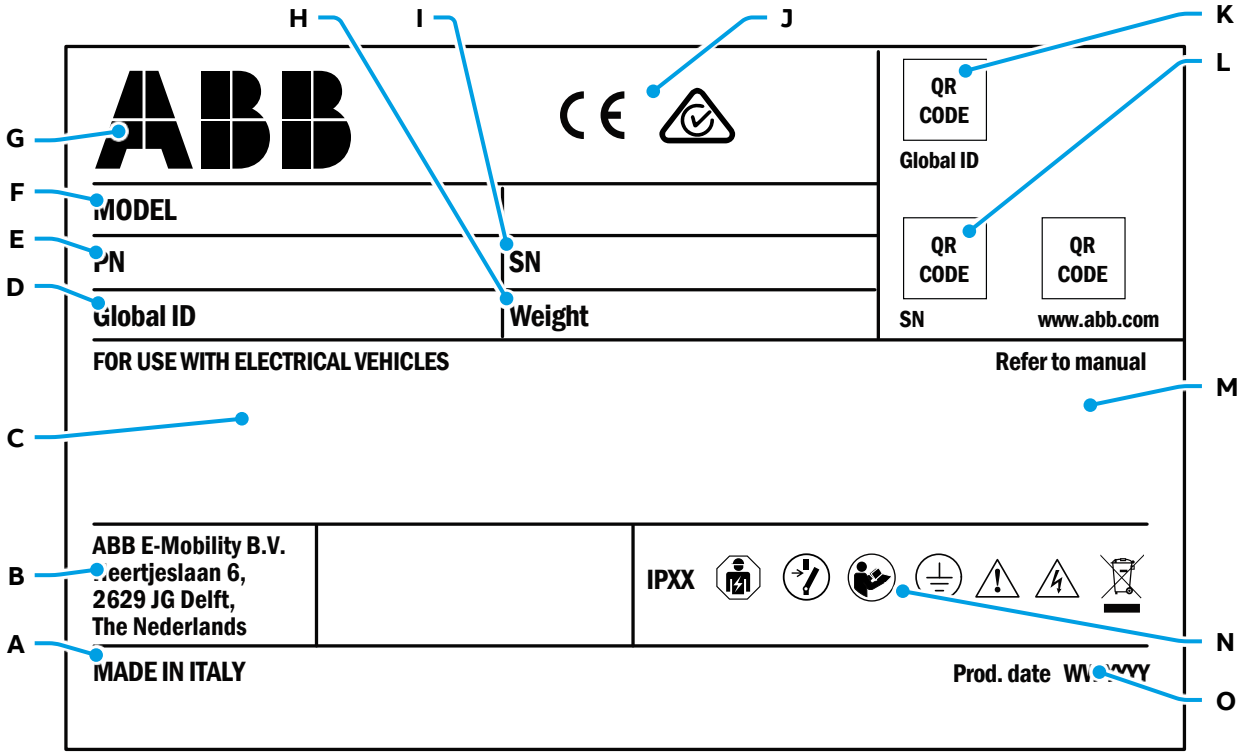
A. Front side: face forward to the EVSE during normal use
B. Left side
C. Right side
D. Rear side

3.1.1 EVSE identification code

Structure of the identification code of the EVSE.

C50 -S1	CE	1	CC	
Main product	**Localization**	**Output current**	**EV charge cable connection**	**Field Description**
C PP -SS				• **C is the “EVSE identification”:** – C = “Compact” product family • **PP is the “output power”:** – 50 = 50 kW output power • **-SS is the “product series”:** – S0 = Series 0 (EAP program) – S1 = Series 1 – S2 = Series 2 – S3 = Series 3
	MM			• **MM is the “localization”:** – CE = for IEC market
		Z		• **Z is the “output current”:** – 1 = 150 A output current
			XX	• **XX is the “EV charging cable type”:** – CC = CCS2 + CCS2

3.2 Type plate - Identification of EVSE



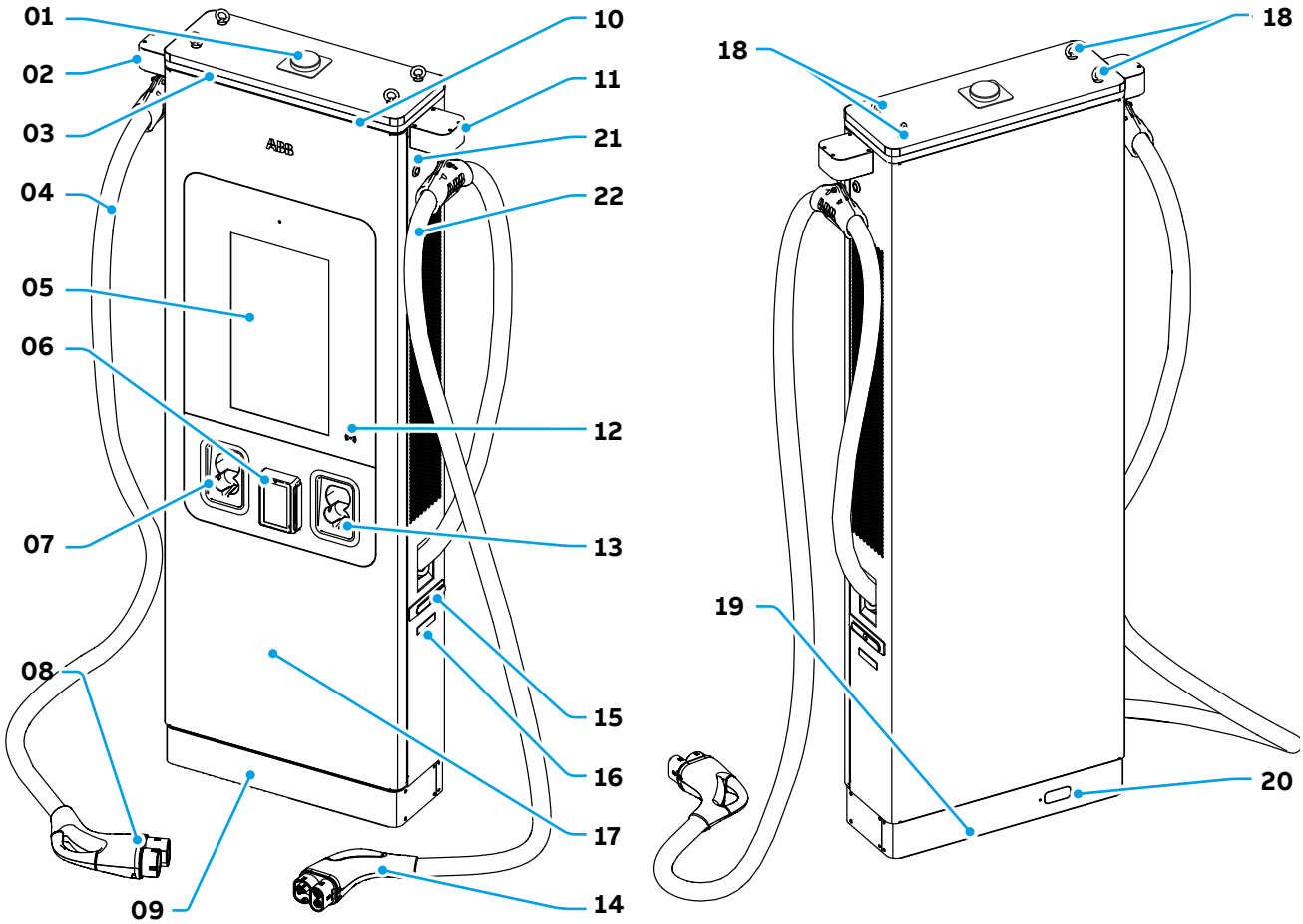
Ref.	Description
A	Country of origin
B	Address of the manufacturer
C	Technical data
D	Global ID
E	Part number
F	Model designation
G	Manufacturer
H	Weight
I	Serial number
J	Certification marks
K	Global ID - QR code
L	Serial number - QR code
M	Additional rating data
N	Safety and info symbols
O	Production date

NOTE
Find the type plate on your EVSE to see the applicable data.

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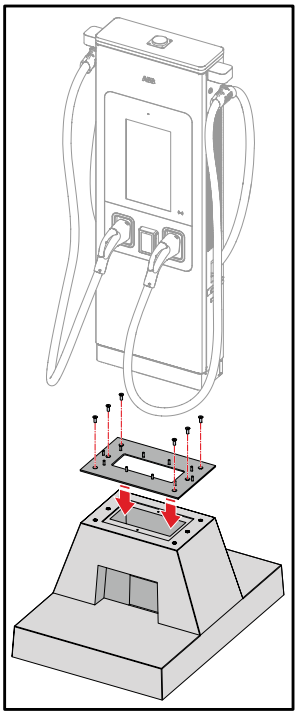
3.3 C50 Overview

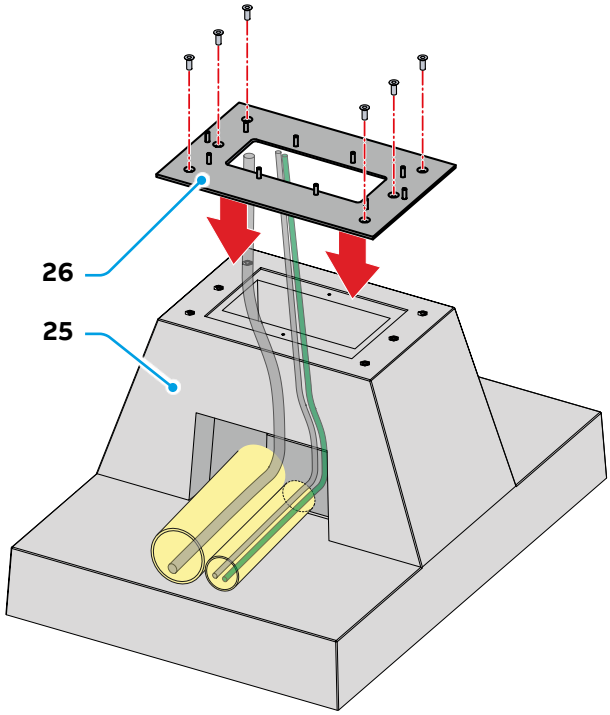
3.3.1 Overview - EVSE outside



Ref.	Part	Function
01	Wireless antenna	To send and receive data via cellular signal
02	CMS - Output 1	Cable management system of the Output 1
03	Status LED strip - Output 1	To view the status of the Output 1
04	Charging cable - Output 1	To connect the Output 1 of the EVSE to the EV
05	Touchscreen Display	Human-machine interface (HMI)
06	Payment terminal (optional)	To pay for the charging session
07	Connector holder with LED - Output 1	To hold the charging connector and show the status of Output 1
08	Charging connector - Output 1	To connect the Output 1 of the EVSE to the EV
09	Removable front base cover	To access the EVSE’s anchoring points to the foundations
10	Status LED strip - Output 2	To view the status of the Output 2
11	CMS - Output 2	Cable management system of the Output 2
12	RFID	To read the information from an RFID card
13	Connector holder with LED - Output 2	To hold the charging connector and show the status of Output 2
14	Charging connector - Output 2	To connect the Output 2 of the EVSE to the EV
15	Swing handle lock	To lock and open the front door together with Quarter-turn lock **(21)**
16	Meter display (optional)	To read the meter data
17	Front door	To access the inside of the EVSE
18	Lifting points (Eyebolts)	Lifting points to connect the hoisting equipment
19	Removable rear base cover	To access the EVSE’s anchoring points to the foundations
20	Rear cables entry	To pass the cables inside the EVSE from the rear side
21	Quarter-turn lock	To lock and open the front door together with Swing handle lock **(15)**
22	Charging cable - Output 2	To connect the Output 2 of the EVSE to the EV

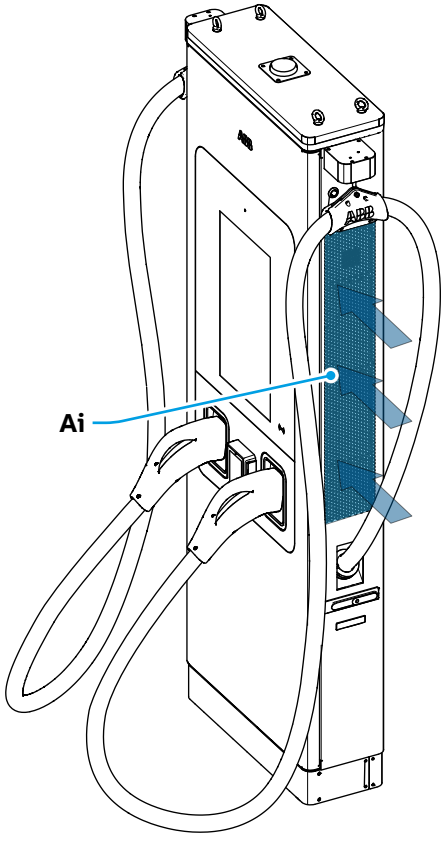
3.3.2 Overview - Concrete foundation and cables entry

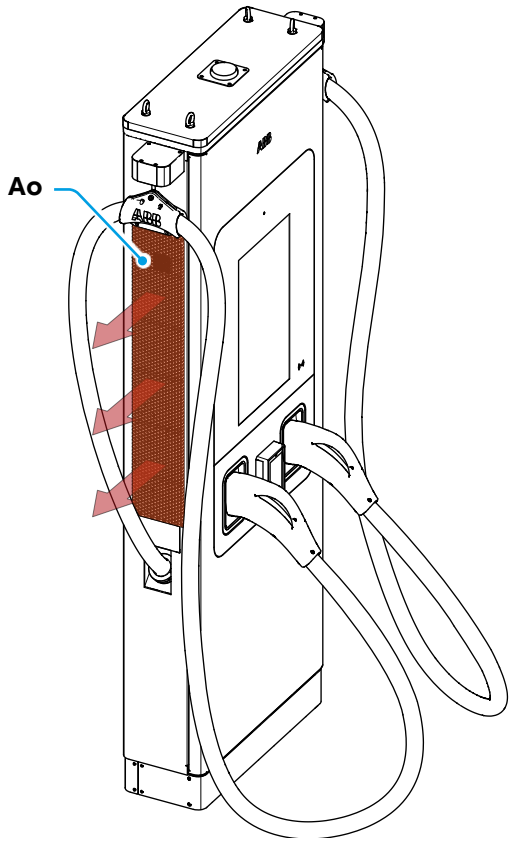




Ref.	Part	Function
25	Concrete foundation	To route the cables under the EVSE
26	Concrete foundation interface plate	To anchor the EVSE to the foundation

3.3.3 Overview - Air openings and filters

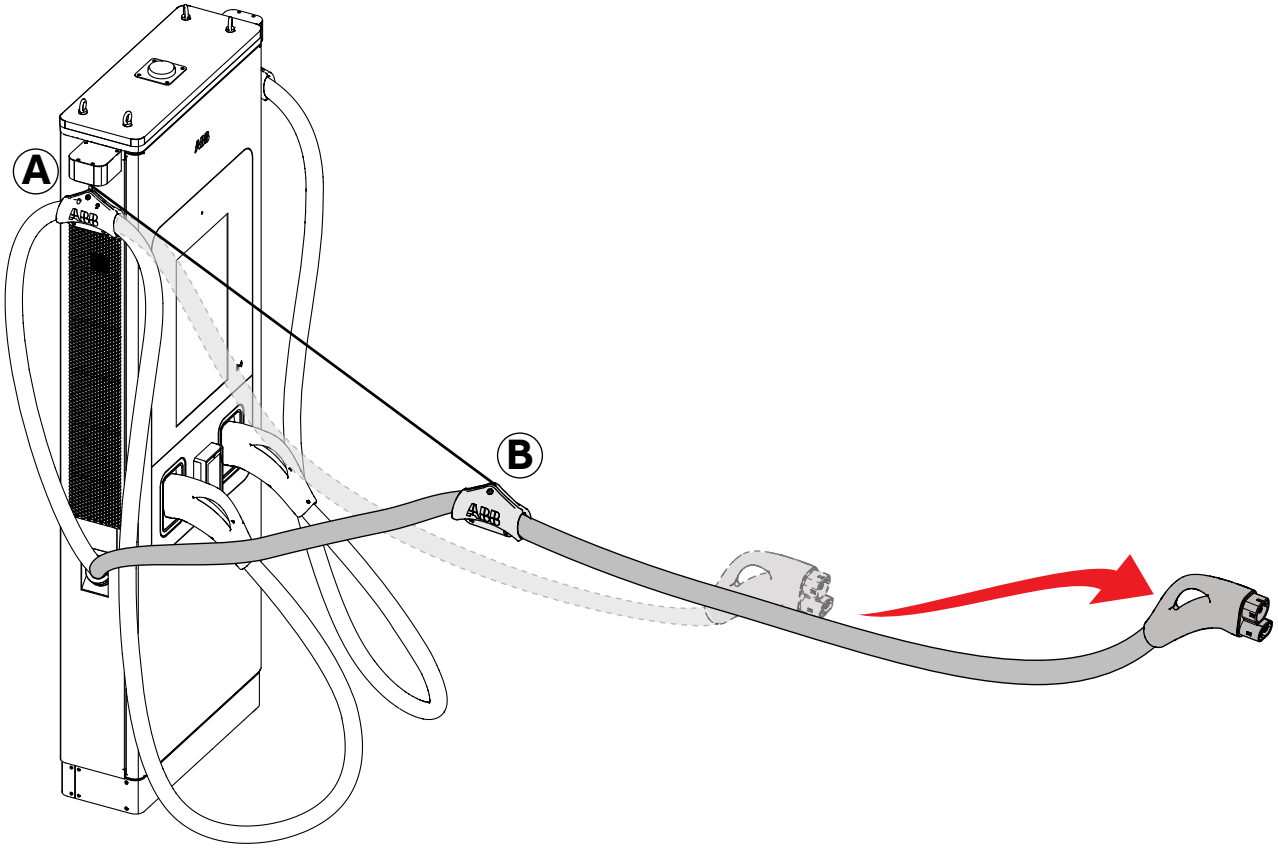




Ref.	Part	Function
Ai	Air inlet with filter	To filter and let cooling air in. The airflow makes sure that the parts on the inside of the EVSE do not become too hot.
Ao	Air outlet with filter	To filter and let cooling air out.

EN

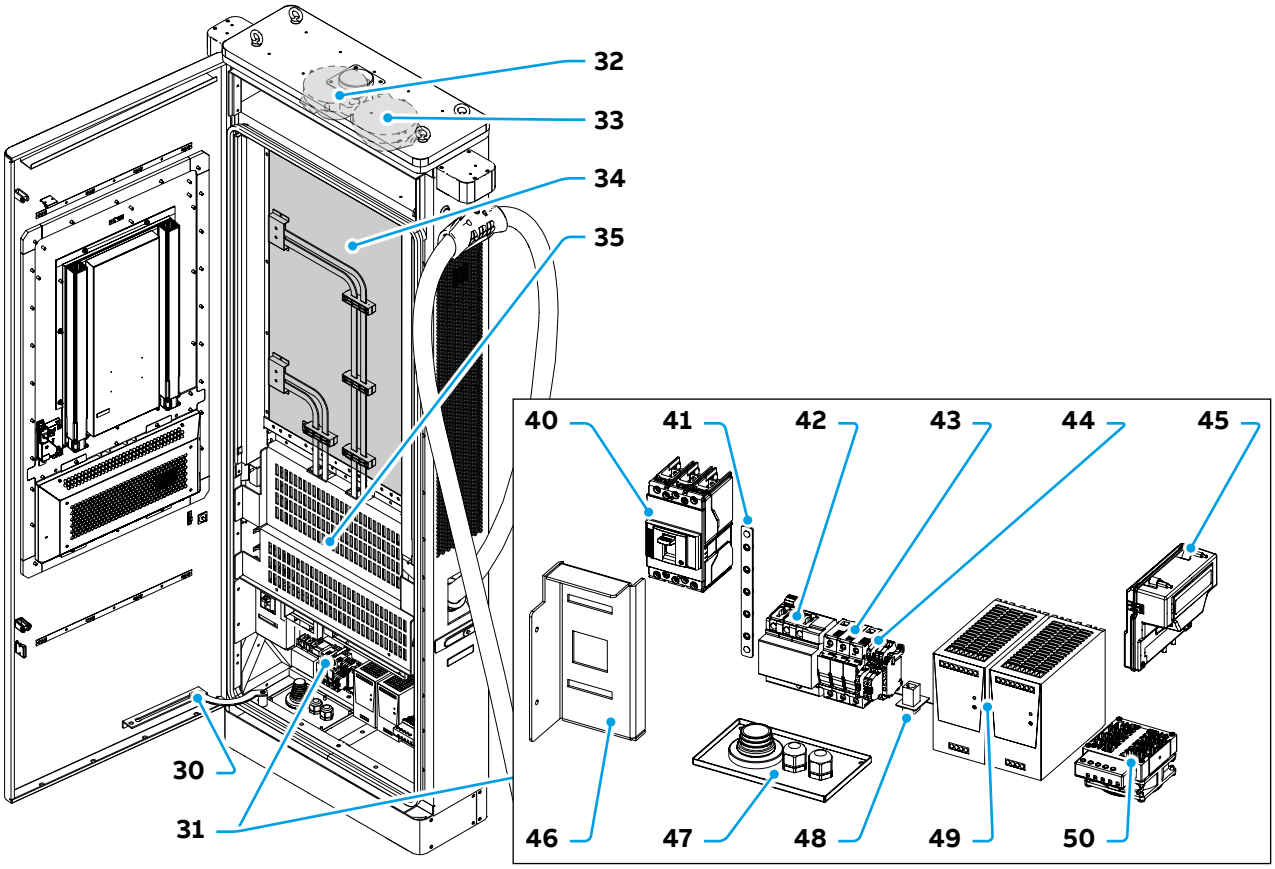
3.3.4 Overview - CMS (cable management system)



Ref.	Part
A	CMS rest position
B	CMS extended position

NOTE
The illustration shows how the CMS of Output 1 works. The same applies to the CMS of Output 2

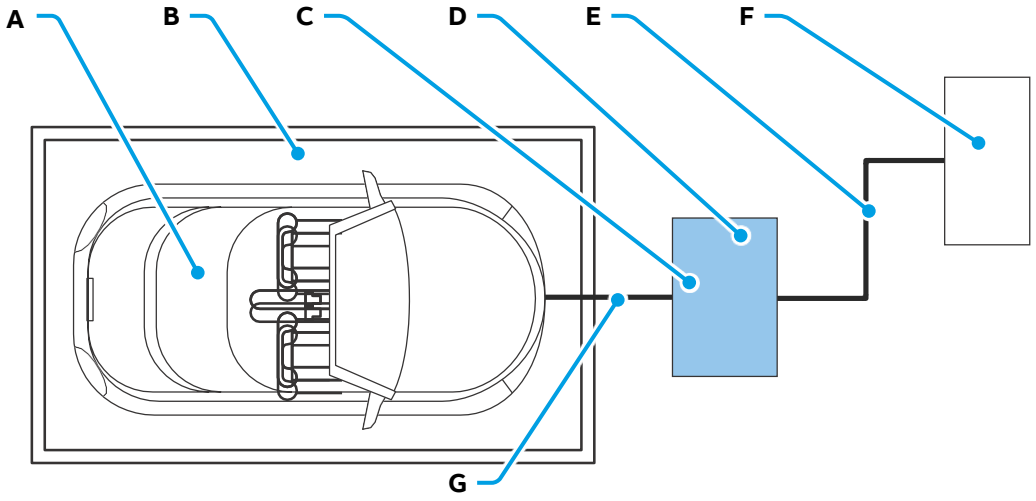
3.3.5 Overview - EVSE inside



Ref.	Part	Function
30	Doorstop	To keep the door locked in the open position
31	Connection section	To connect AC, PE, Ethernet, External stop button and tilt sensor (optional) cables
32	CMS internal reel - Output 1	To rewind the CMS cord of the output 1
33	CMS internal reel - Output 2	To rewind the CMS cord of the output 2
34	Power module	To provide power to the EVSE
35	Communication and control section	To allocate the communication and control board
40	Main AC switch	To isolate the AC input voltage
41	PE busbar	To connect the Protective Earth (PE) cable
42	Main AC SPD	Surge protection device. To protect the AC input line from overvoltage
43	Main AC SPD fuses	To protect and isolate the Main AC SPD
44	X111 terminal block	To connect External stop button (optional) cable
45	Meter display (optional)	To read the meter data
46	Main AC protection barrier	To protect the AC terminals from accidental contact
47	Cables entry plate	To route the cables inside the EVSE in the right position
48	Ethernet connector	To connect the EVSE to Internet (e.g. in case of lack of cellular signal)
49	Auxiliary power supply	To supply the auxiliary voltage to the internal devices/ components
50	Heater	To remove internal condensation

EN

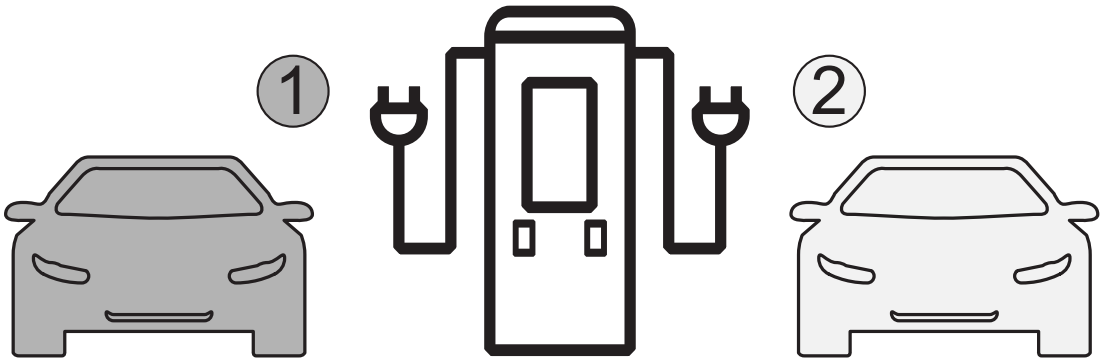
3.4 System Overview



Ref.	Part	Function
A	EV	Electrical Vehicle to be recharged
B	Parking space	To park the EV during charge session
C	Front of the EVSE	Side of EVSE with EV connectors and HMI (User Interface)
D	EVSE	EV charger
E	AC input cable	To supply the input AC voltage to the EVSE
F	Power distribution board	AC grid input protection and distribution circuits
G	EV charge cable	To connect the EV to the EVSE

3.5 Power allocation strategy

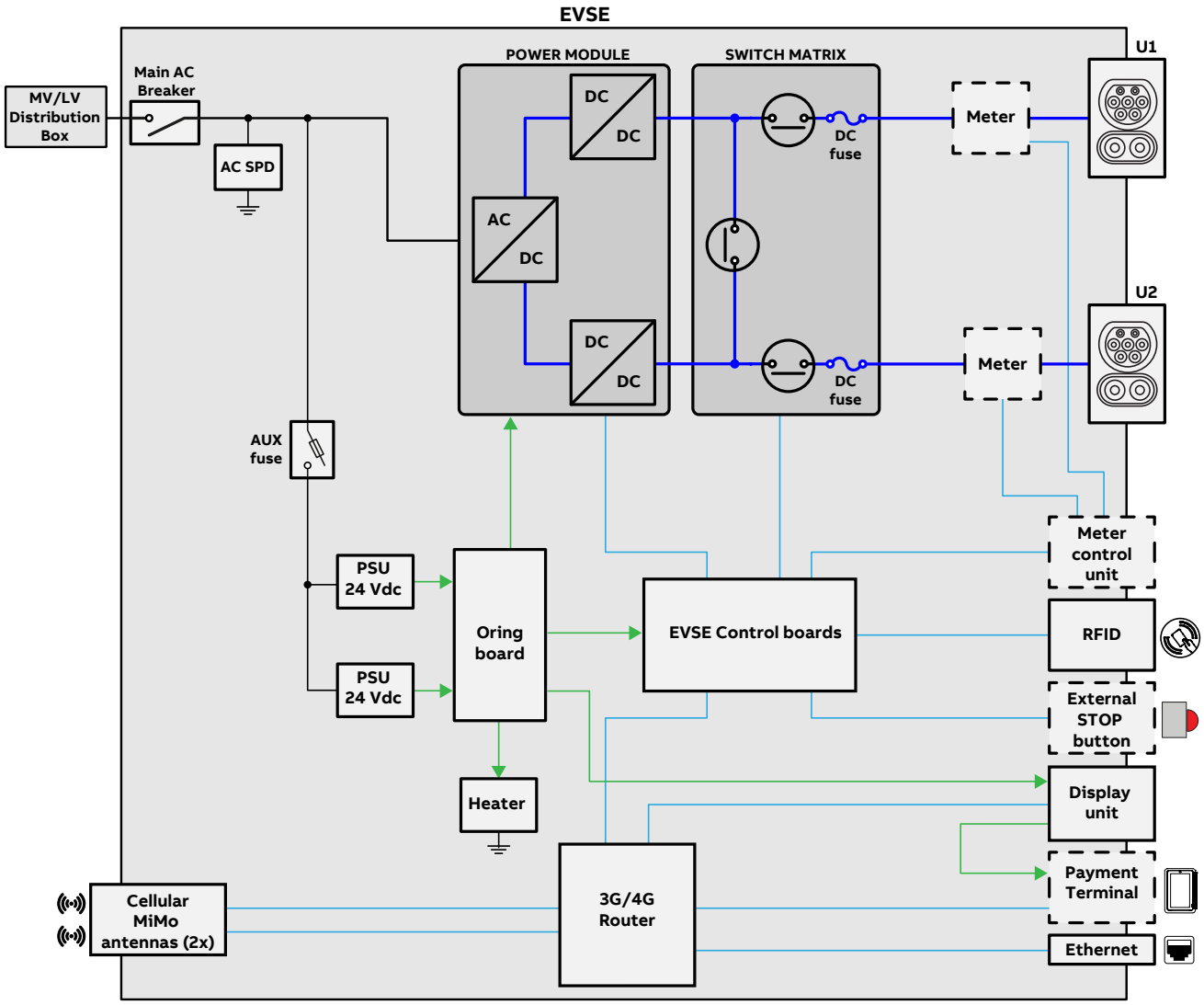
The charging power can be allocated between the 2 outputs in this way:



Output 1		Output 2	
Power	**Current**	**Power**	**Current**
50 kW	Max 150 A	0 kW	0 A
25 kW	Max 75 A	25 kW	Max 75 A
0 kW	Max 0 A	50 kW	Max 150 A

3.6 Block diagram

Block diagram of C50 with simple power distribution, allocation power with a resolution of 50% of the rated power.

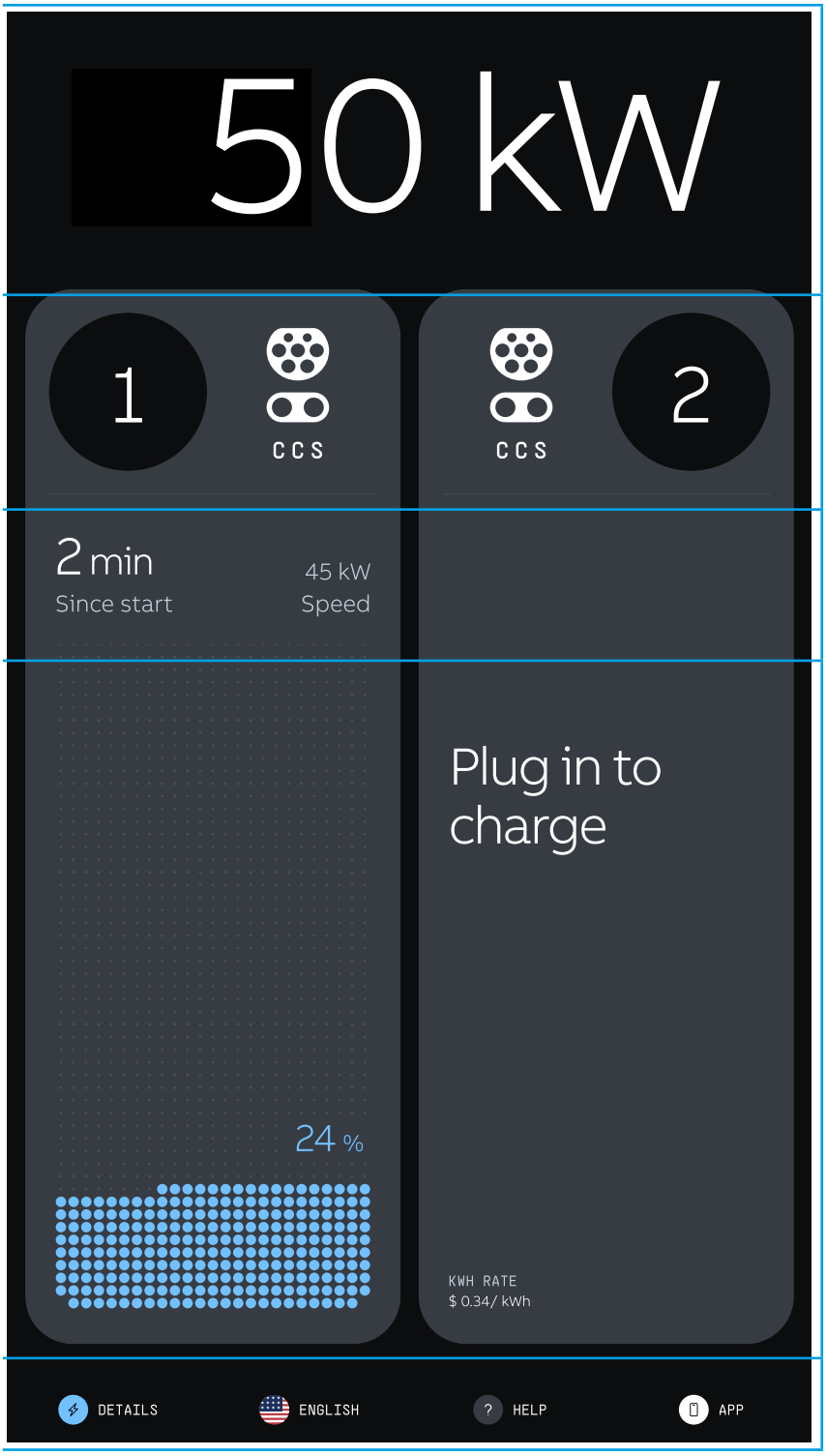


Colours	Description
	Bold lines: AC power line
	Thin lines: AC auxiliary line
	DC power line
	Control signal or monitoring signal
	DC auxiliary line (24 Vdc)

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3.7 Description of the HMI

3.7.1 Home screen description



Nominal power of EVSE

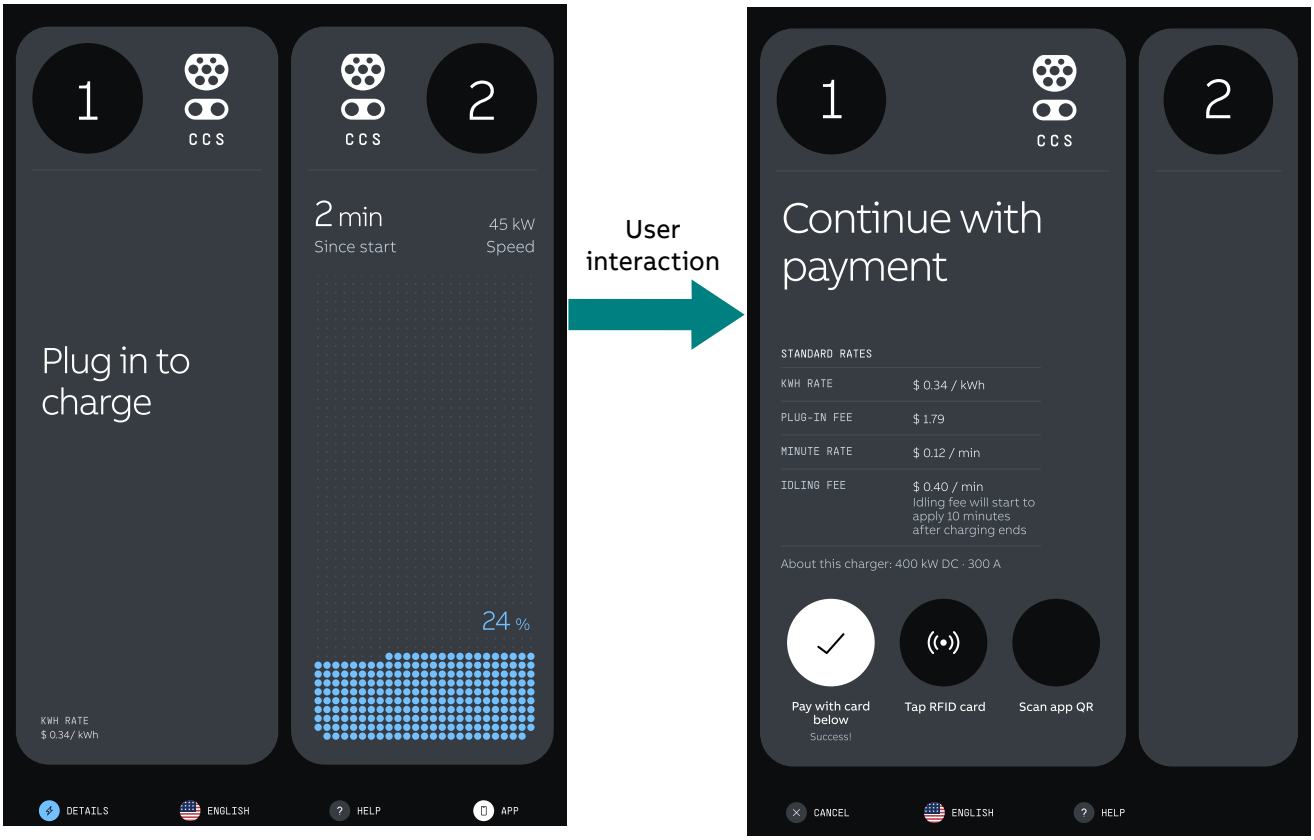
Connector index and the connector type.

Contextual status info such as charging status or whether the car is idling.

Information and guiding “Call to actions” at each step.

The menu carries contextual actions for each step of the flow.

In Home view two columns split the screen 50:50, giving content to the respective connector side.
As the user interacts with the EVSE, the respective display section will expand (75:25), creating more space for interaction.



3.7.2 Menu and Touchscreen

The display is touchscreen and the menu icons are contextual to the step of the charging process.

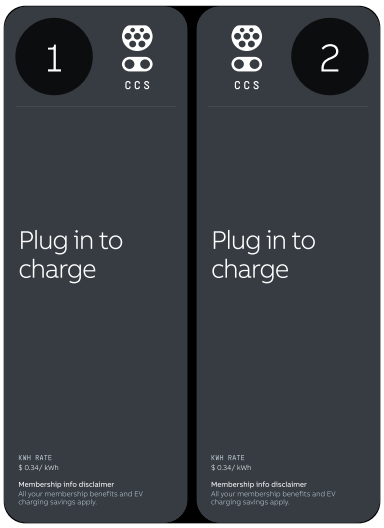
NOTE
"Language" and "help" icons are constant options.
Help icon will be showed up throughout the journey, and therefore will give access to contextual information at different stages of the journey.

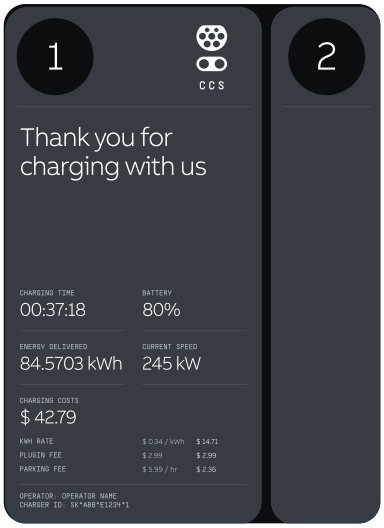
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3.7.3 Screen colours and status

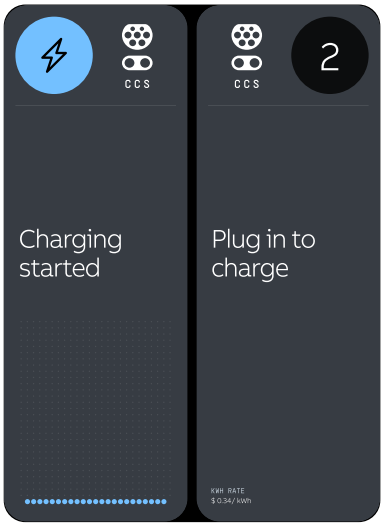
The system follows a simple colour logic that embodies the following EVSE states:

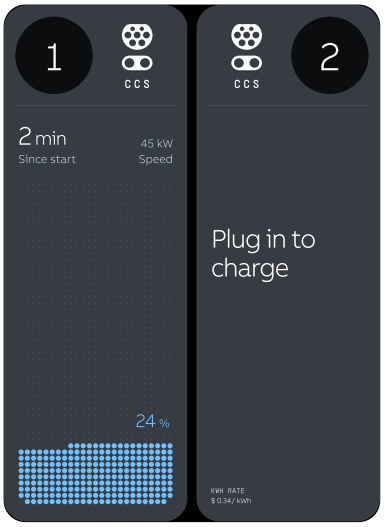
- **White** - Default color (Example: EVSE available, charging session detail)





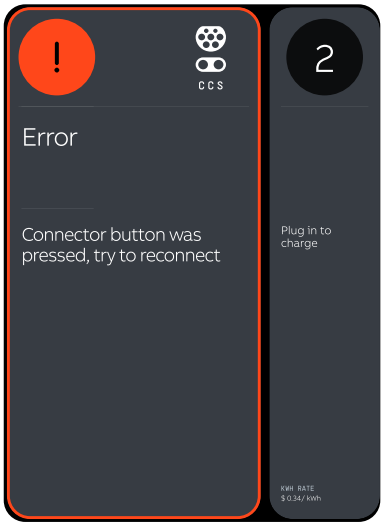
- **Light blue** - Charging moments, connecting moments, accents (Example: connecting and charging)

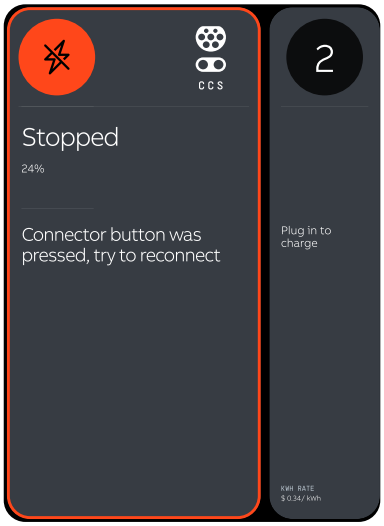






- **Orange** - Connector has an error (Example: error status)





3.8 RFID - Authorization to charge

It is possible to use the EVSE with or without authorization.
An authorization can be based on radio frequency identification (RFID), a personal identification number, or a mobile authentication method. Authorization can be a standard solution from the manufacturer, or from an external company that offers authorization solutions via OCPP.

NOTE
RFID Authorization shall be enabled by Charge Point Operator (CPO) OCPP server backend

3.9 Cloud service portal

ABB E-mobility provides a set of cloud-based tools to commission, monitor and troubleshoot the EVSE.

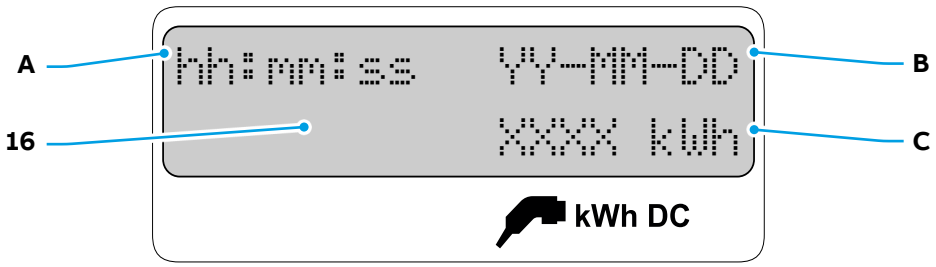
NOTE
Reach out to the local entity of ABB E-mobility for more information:
https://e-mobility.abb.com/contact-centers/.

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3.10 Options

3.10.1 Fiscal metering system

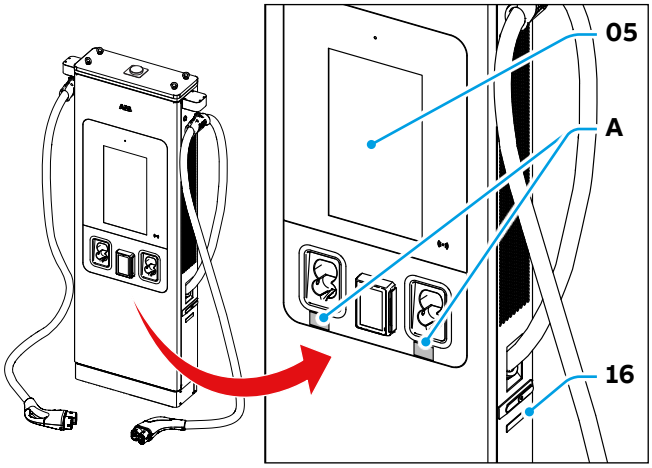
The EVSE can optionally be equipped with a DC energy metering system. The dedicated Meter display **(16)** on the front panel shows:
A. Time (hh:mm:ss)
B. Date (YY-MM-DD)
C. Delivered DC power (kWh)



NOTE
The presence of the energy metering system is mandatory in some countries. Do a check of the regulations that are applicable in the region of installation.

NOTE
For the German and Austria market the EVSE is equipped with energy metering system to comply with “MessEG”. Refer to the online dedicated documentation:
- EU Declaration of conformity
- Mess EV Declaration of conformity
- Mess EV Measurement accuracy information according to the type test certificate (Messrichtigkeitshinweise gemäß Baumusterprüfbescheinigung)

The legally relevant metering display **(16)** can be found next to the main HMI **(05)** (which is showing non legally relevant data) **on the front door of the EVSE**.



The signed meter data created by the metering system can be retrieved by users from the operator of the charging station; the data integrity can be checked using the public keys **(A)** that allows to decrypt the legally relevant metering data of the charging session.
Transparency software (V1.3.0) shall be used for data validation. It can be retrieved at https://safe-ev.org/en/.

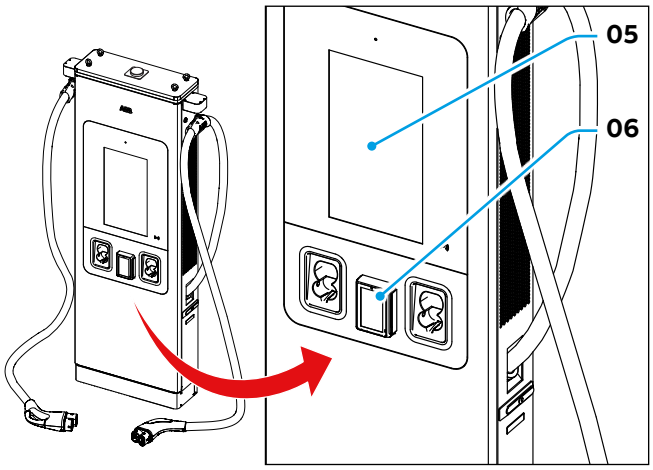
The public key is an unique ID of an energy meter installed on the EVSE which is connected to the corresponding outlet and is visible on a QR-code sticker next to the charging connector holder **(A)**.

NOTE
For more detailed information please reach out to the operator of the charging station.

3.11 Payment terminal

The EVSE is equipped with payment terminal enabling merchants to provide secure payment methods and enhance their customer's experience.

Payment terminal is fully integrated with EVSE software providing guidance during the payment process on the EVSE display **(05)**.



NOTE
It is the owner's and site owner's sole responsiblity to inspect the payment terminal on a daily basis for:
- Damaged seal label. The label is broken and left "VOID" on the payment terminal
- Missing or damaged screws
- Incorrect or redundant keyboard overlays
- Holes in the payment terminal housing that should not existent
- External wires exist around the payment terminal
- Missing or unmatched manufacturer barcode label
- Any suspicious objects internal and around IC card slot

If any of the above anomolies are discovered or if any tampering or opening of the payment terminal, please stop using the payment terminal immediately and reach out to the local entity of ABB E-mobility https://e-mobility.abb.com/contact-centers/.

4. Transport, handling and unpacking

In this section are explained all the transport specification, including handling and unpacking procedures of the EVSE.

Chapter recipients:

- Owner
- Qualified installer
- Handling and transportation company

4.1 Transport the EVSE to the site

A transport company delivers the EVSE close to the site.

CAUTION
The risk transfers to the operator upon delivery in accordance with the agreed INCOTERMS 2020. Any responsiblity and liability with respect to handling of the EVSE after the point of delivery is for the account of the operator.

NOTE
If you need to store the EVSE before installation, obey the ambient conditions for storage (refer to section “10.1.2. Environmental Conditions”).
DO NOT store the EVSE in a location exposed to severe weather conditions (e.g. rain, snow or a high level of humidity).

CAUTION
It is prohibited to transport or handle the EVSE without following the applicable instructions accurately. Comply with all instructions to safely handle the EVSE

WARNING
Please follow these steps to comply with the applicable safety measures applicable to the working area including instructions for safe handling of the EVSE

DANGER
Handling personnel must wear all appropriate and applicable personal protective equipment (PPE) and follow all the applicable Health and Safety measures applicable to the working area.

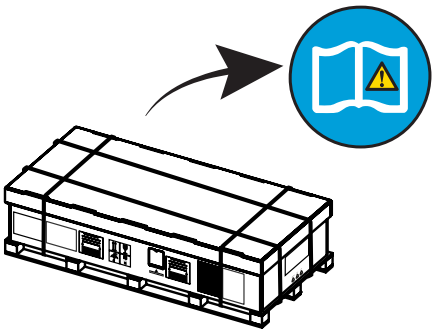
NOTE
The manufacturer is not liable for any damages resulting from the improper handling and transportation of the EVSE, in particular resulting from non- compliance with these instructions and other applicable regulations and standards (e.g. transport, occupational health and other safety standards).

4.1.1 Visual inspection on the packaged EVSE

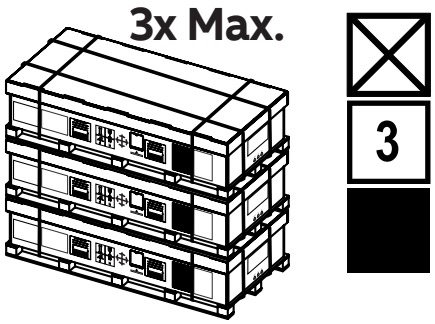
- Check and respect the indications of the symbols on the packaging:

Symbol	Description
	Handle with care
	Fragile
	Keep dry
	Center of gravity
	This side Up
	Do not tilt

- Read and follow the operating and safety instructions labeled on the package.



- Check that a maximum of 3 units are stacked .



- The package of product should must not be broken and/or scratched in any point.

> **NOTE**
> If the package is damaged and/or scratched check the external cosmetic of product by removing the protections. If damage is observed, document it and contact ABB E-mobility.

- The pallet shall be intact and not damaged for a safe transportation and handling of the product.

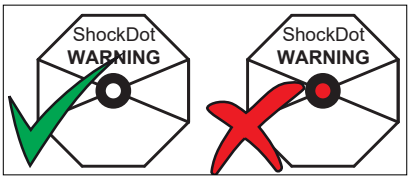
> **NOTE**
> If damage is observed, document it and contact ABB E-mobility.

- Check the shock and tilt sensor labels.

> **NOTE**
> The Tilt Watch and Shock Watch sensor label are placed on the outside of the packaging of the EVSE.

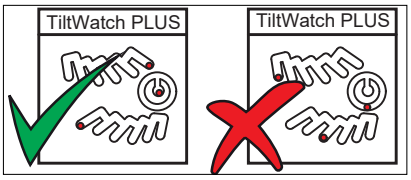
In the event that the tilt sensor shows that the EVSE has been tilted by more than 50° and/or if the shock sensor has been activated, proceed to:
- inspect the EVSE. The packaging must be removed in order to examine the extent of the damage to the EVSE. In case the EVSE is mechanically damaged, externally or in its inner parts, and cannot be installed, provide pictures to ABB E-mobility service team.
- take photographs as evidence of any damage.
- record the damage on the transportation document (e.g. CMR/waybill or AWB/air waybill) before accepting the delivery. State which type of EVSE is damaged and how many EVSE’s are damaged.
- accept the EVSE with reserve and return to the forwarder the transport document with the reserve indicating the damage.

<u>How to check the Shock sensor label</u>



The Shock Watch sensor contain a tube filled with red liquid held in suspension. When the EVSE is subjected to an impact exceeding a specified G-level, the shock disrupts the surface tension of the liquid, releasing the highly visible red dye into the length of the tube, creating a permanent and immediate indication of mishandling.
Normal movement or road shock will not affect the shock sensor device (it is only triggered by those impacts for which it is designed).
Once activated, the shock watch sensor cannot be reset.

How to check the Tilt sensor label
The Tilt Watch Sensor provides 360° monitoring and indicating the exact angle of tilt or whether complete overturn occurred. This represent an indication of mishandling that may result into a damage.
The Tilt Watch Sensor is immune to normal handling conditions and aircraft takeoff angles.

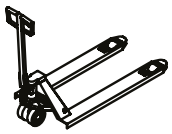
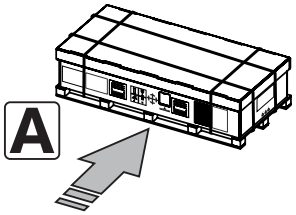
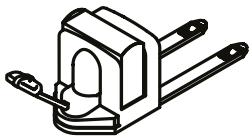
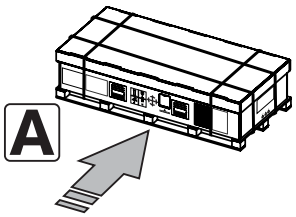
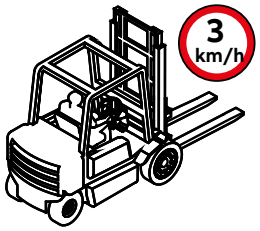
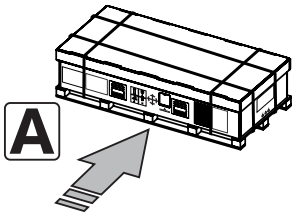
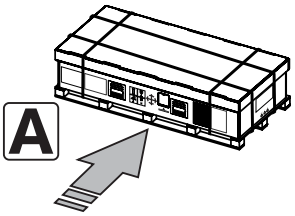


- Check the integrity of the charging connector(s) of the EVSE. The charging connector(s) and their cables shall be not damaged and/or scratched.

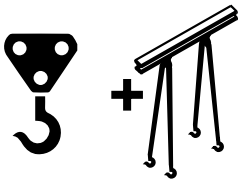
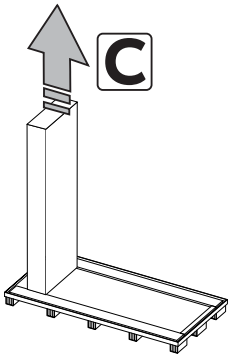
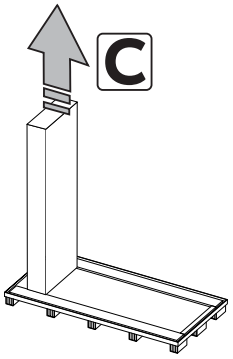
NOTE
If damage is observed, document it and contact ABB E-mobility service team.

4.1.2 Preliminary checks on lifting equipment

- Handling personnel must wear all appropriate and applicable personal protective equipment (PPE) and follow all the applicable Health and Safety measures applicable to the working area.
- Handling operators must comply to all local regulations.
- Check the weight on the transport document before moving the load.
- Check the position of the center of gravity before lifting the EVSE.
  The higher the position of center of gravity, the more care is required to handle the EVSE to avoid overturning.
- Check that the equipment used to move or hoist the EVSE is suitable, able to move the EVSE based on weight.

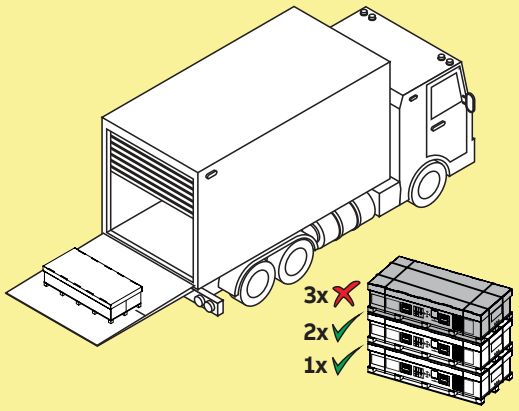
Equipment	Movement	Lifting
	 Only short move	✗
• Pallet Stacker 	 Only short move	✗
• Forklift Truck • Wheel loader pallet fork 		

EN

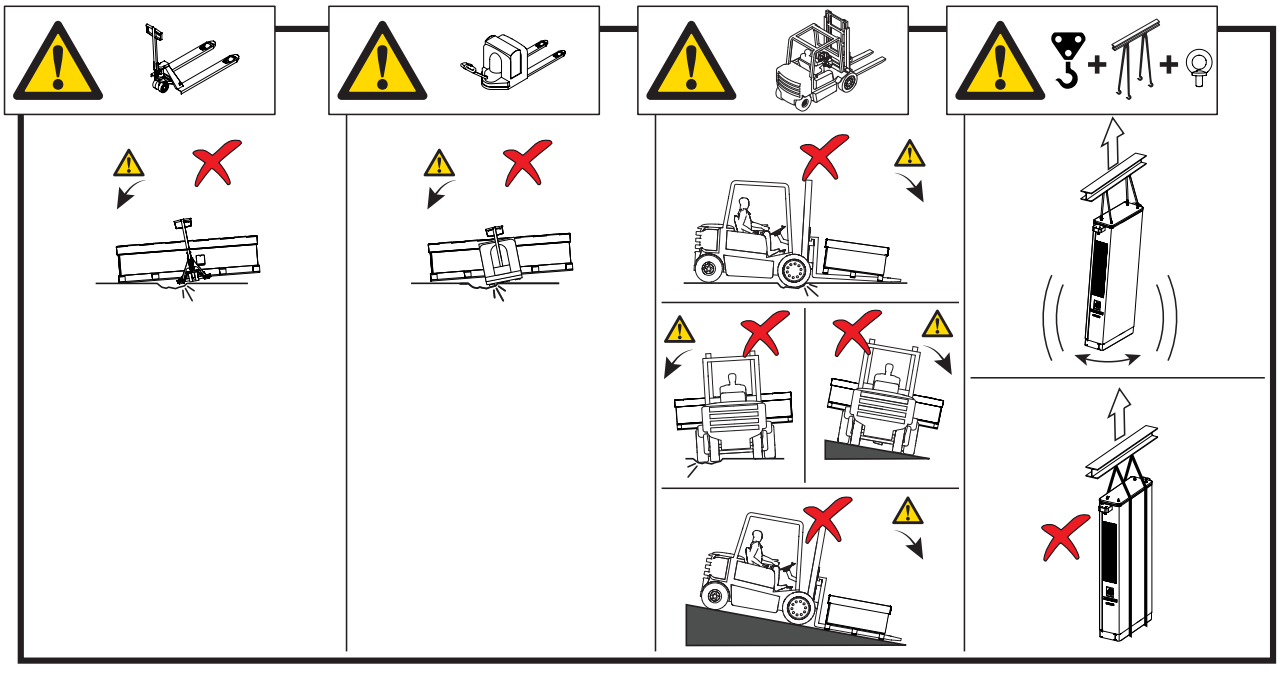
Equipment	Movement	Lifting
• Hoist / Crane 		

DANGER

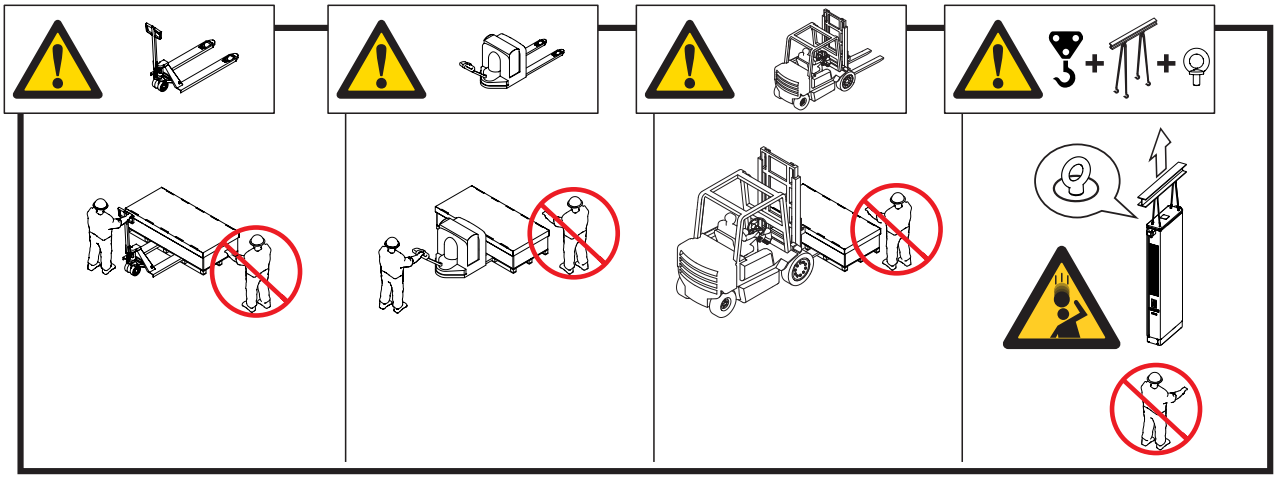
- The forks need to be fully able to move into the pallet to provide full support and operated by trained staff.
- Knowing the total weight, ropes and chains needs to be suitable and in safe conditions and operated by trained staff.
- Pallet jack and Pallet stacker are not suitable to lift up the EVSE. They can be used for short distance movement only.
- During movement operations the EVSE must be raised 3 cm max from the ground level.
- Use truck tail lift as lifting equipment with max 2 stacked units .



- Check that the working place conditions are safe before handling the load (such as obstacle-free unloading area, proper flooring, safe path and other conditions).



- Ensure that the area is not accessible to unauthorized personnel and the personnel involved in handling the EVSE are fully aware of the local rules and processes that apply when handling the EVSE and keep sufficient distance away from the moving EVSE.



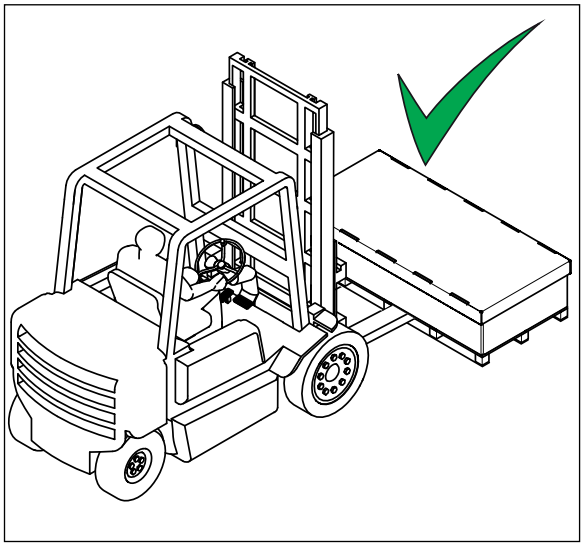
EN

4.2 Lifting of the EVSE

WARNING
- Risk of pinching or crushing, the EVSE is heavy
- Make sure that the hoisting equipment can lift the EVSE safely
- Obey the safety instructions that apply to the hoisting equipment
- Take into account the dimensions, the weight and the center of gravity of the EVSE.
- Ensure the lifting & hoisting activity is performed under supervision.

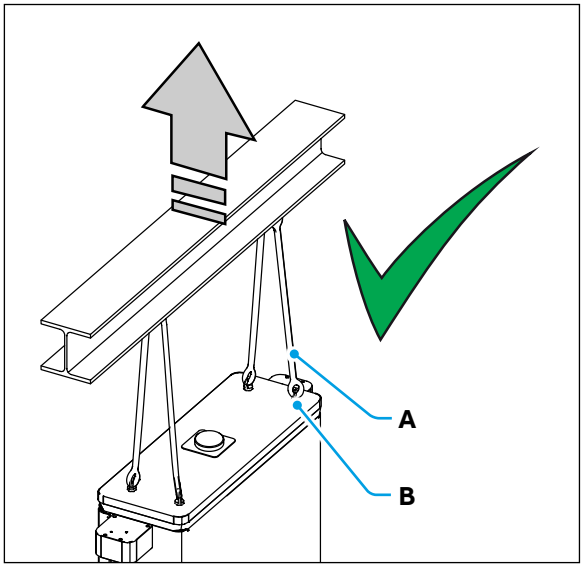
CAUTION
- Do not drop the cabinet.
- Do not tilt the cabinet.
- Make sure there are no dynamic forces on the lifting points.

4.2.1 Forklift Truck / Wheel loader pallet fork



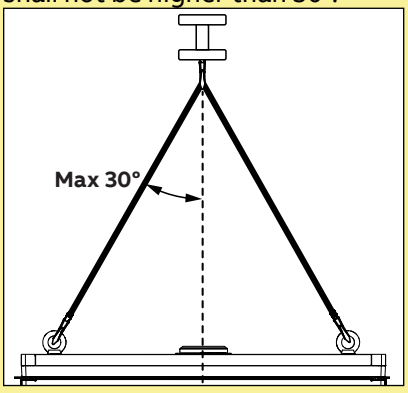
- Move the forks of the forklift truck in the gaps at the side of the cabinet.
- Move the cabinet to the correct location.

4.2.2 Hoist / Crane



- Connect the ropes or chain **(A)** of the hoisting equipment to the four eyebolts **(B)**.
- Align eyebolts (unscrewing it) to ropes/chains direction when lifting the EVSE.

DANGER
Inclination of ropes/chain from the vertical shall not be higher than 30°.



- Move the cabinet to the correct location.

4.3 Unpacking

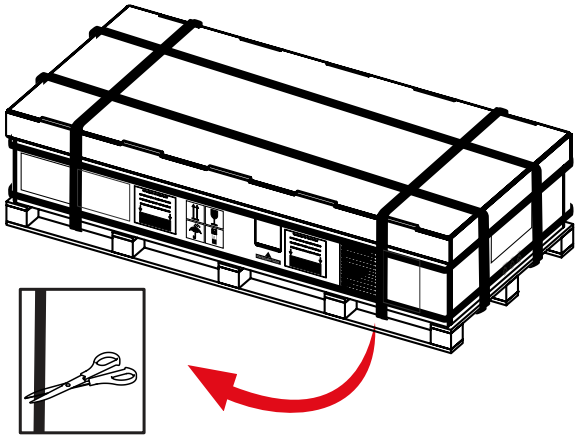
WARNING
Packaging elements (cardboard, cellophane, staples, adhesive tape, straps, etc.) may cause cuts and/or injuries if not handled with care. They should be removed with the proper equipment.

NOTE
The components of the packaging must be disposed in accordance with the regulations in force in the country of installation.

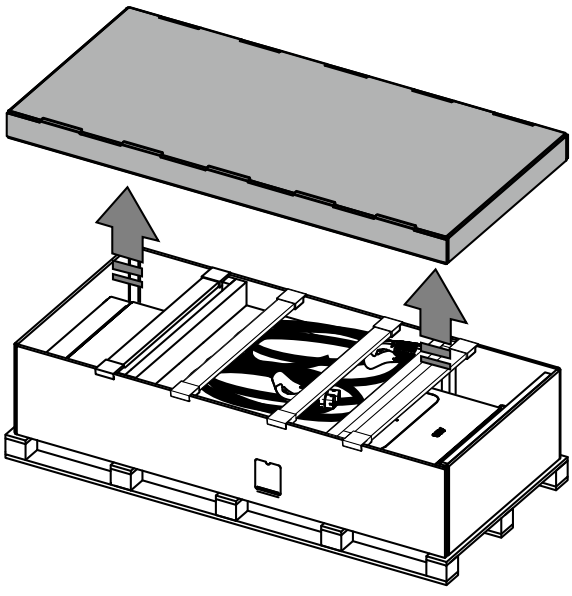
NOTE
If you notice any damage either on the outside of the packaging, on the EVSE when opening the packaging, or parts not according to the order, please reach out to the local entity of ABB E-mobility B.V. for support:
https://e-mobility.abb.com/contact-centers/.

4.3.1 Unpacking procedure

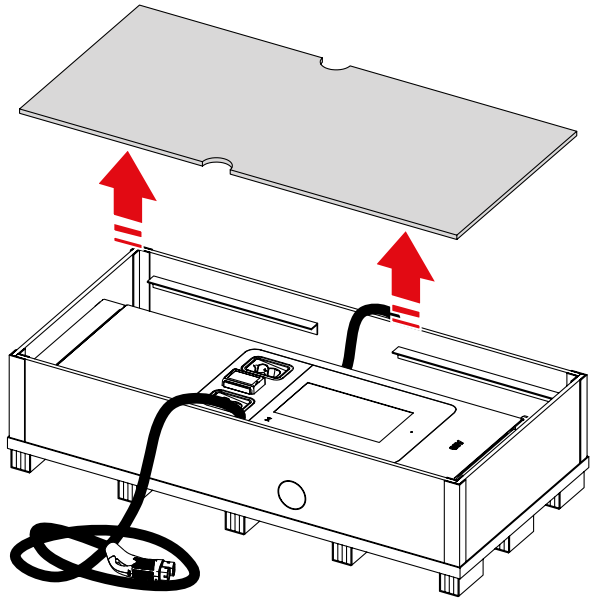
NOTE
Ensure that all parts are delivered in accordance with the order.



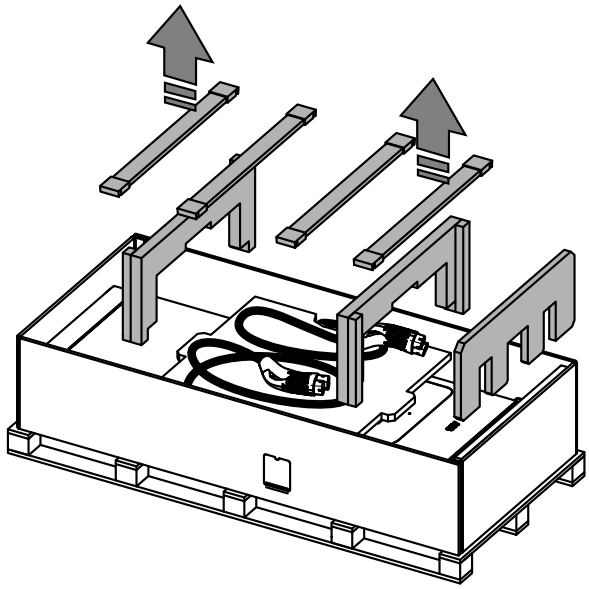
- Cut and remove the plastic straps.



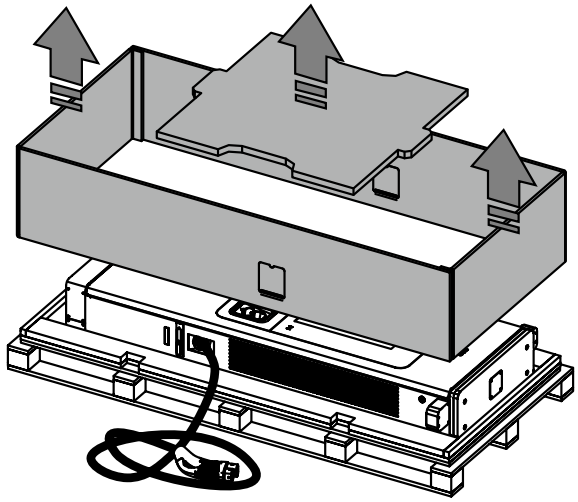
- Remove the top cover of the packaging.



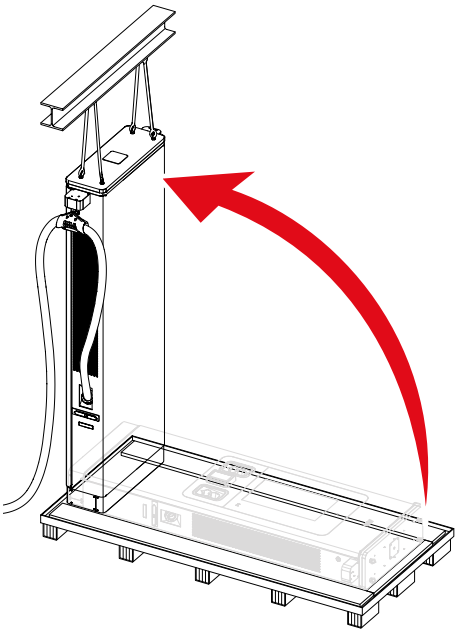
- Remove the internal divider cardboard



- Remove the internal foam/cardboard.



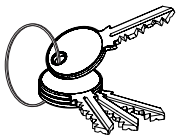
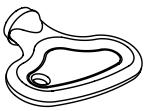
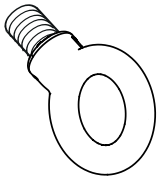
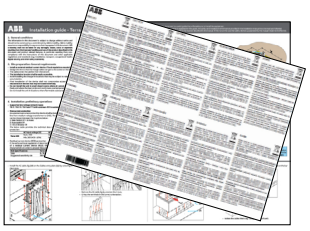
- Remove the internal foam/cardboard and the cardboard walls.



- Install the four eyebolds (hoisting rings) on the top of the EVSE
- Connect the ropes or chain to the four eyebolts using prescribed lifting equipment.
- Lift the EVSE in vertical position.
- Move the EVSE to the correct location. Refer to chapter "4. Transport, handling and unpacking".

4.3.2 Components supplied with the EVSE

When the EVSE is unpacked, make sure all components supplied with the EVSE are present:

Component	Description	Quantity
	Keys to open the Swing handle lock **(15)**	2
	Keys to open the Quarter-turn lock **(21)**	2
	Nuts to install the EVSE to the Prefabricated foundation	10
	Caps to be installed in place of the eyebolts	4
	Eyebolts	4
	Installation guide + RAEE flyer	1 + 1

5. Access to the inside of EVSE

In this section are illustrated all the access procedures.

Chapter recipients:

- Qualified installer

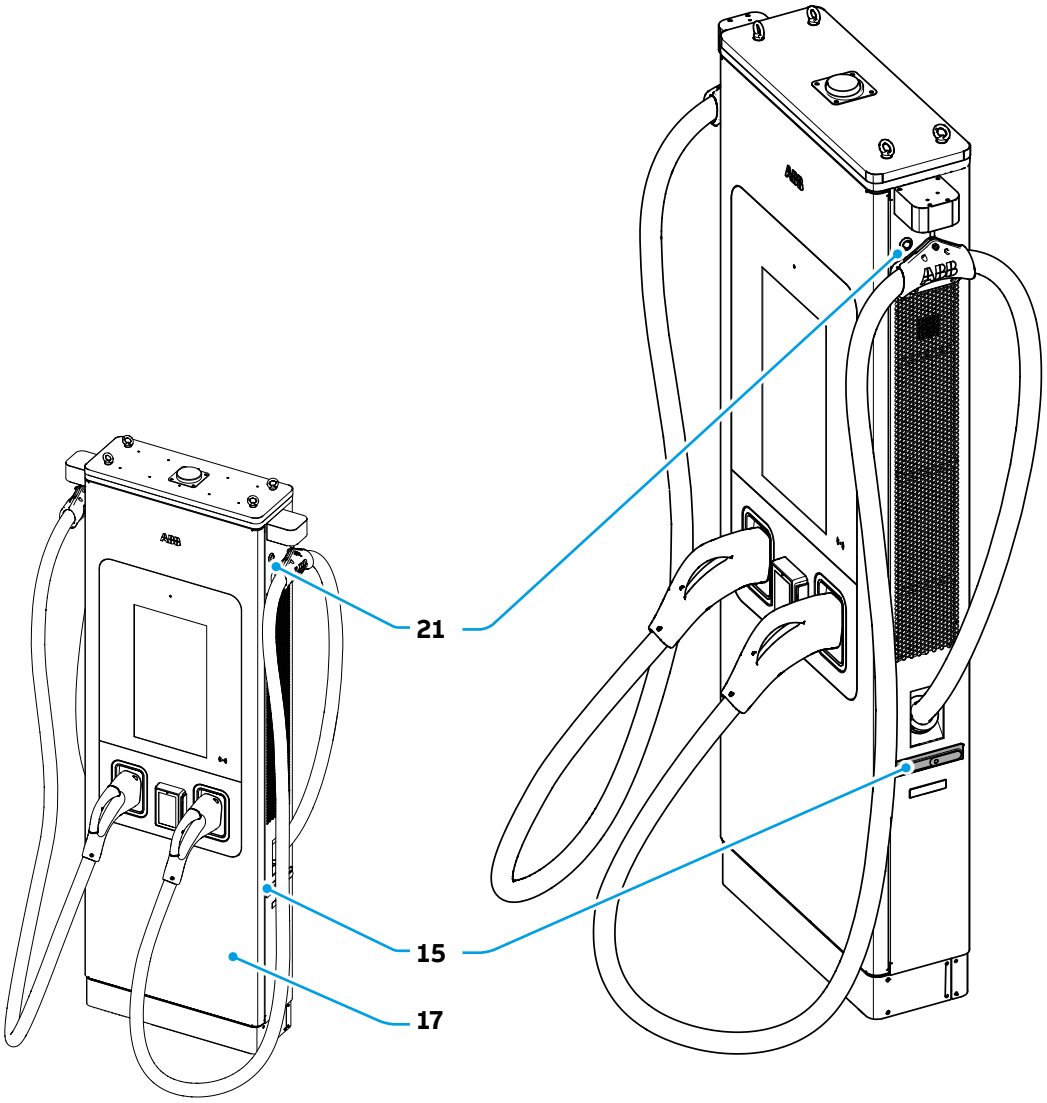
5.1 Open the doors

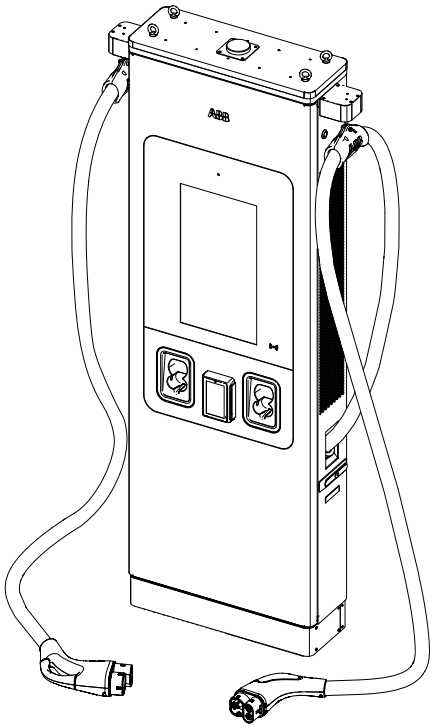
HAZARDOUS VOLTAGE
Make sure that only qualified persons have access to the door key and is wearing the correct protective clothing as set out above.

NOTE
There is one unique door key for each EVSE.

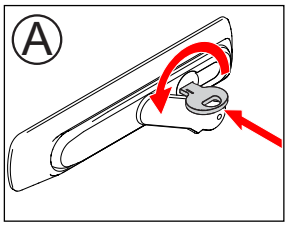
5.1.1 Open the front door

Use the door key to unlock the swing handle lock **(15)** and the Quarter-turn lock **(21)** to open the front door **(17)**.

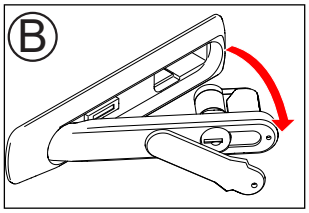




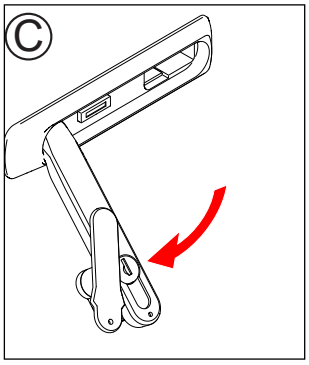
- Remove the charging connectors from the connector holders and put them down, being careful not to damage them.



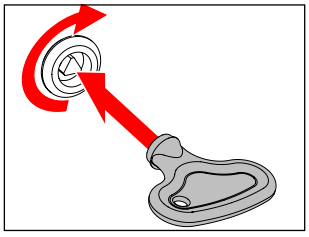
- Move the protection and insert the supplied door key. Turn the key to unlock the Swing handle lock **(15)**.



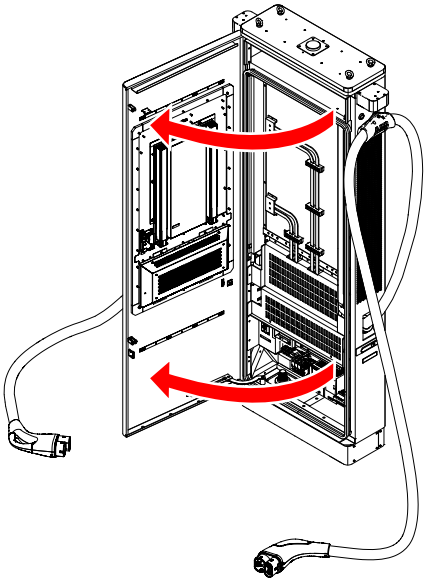
- Pull the handle forward until you can turn it to the right.



- Turn the handle to the right until the front door is free to open.



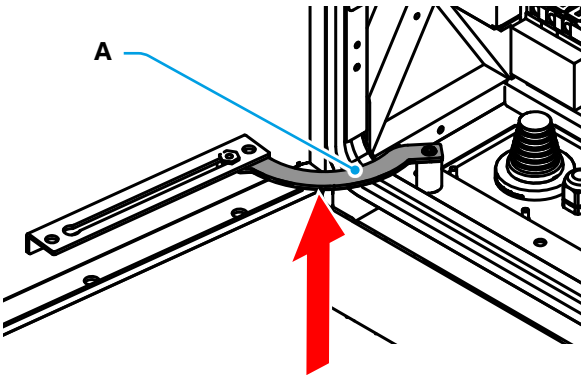
- Use the supplied door key to unlock the quarter-turn locks **(21)**.



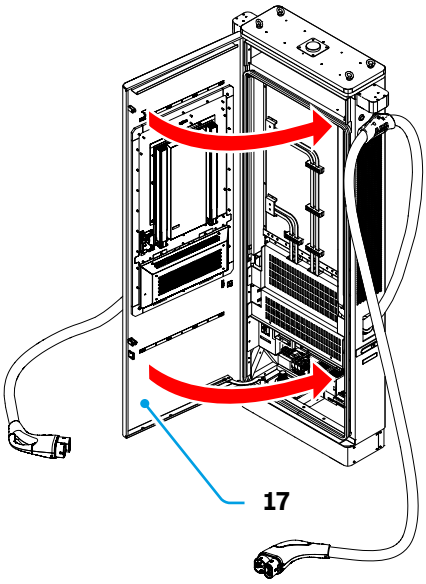
- Open the front door **(17)**.

5.1.2 Close the front door

In order to close the front door **(17)** of the EVSE, repeat the operations described in the “Open the front door“ section in reverse order.



- To unlock the front door **(17)** is necessary to release the door stay system by pushing up the lever **(A)**.



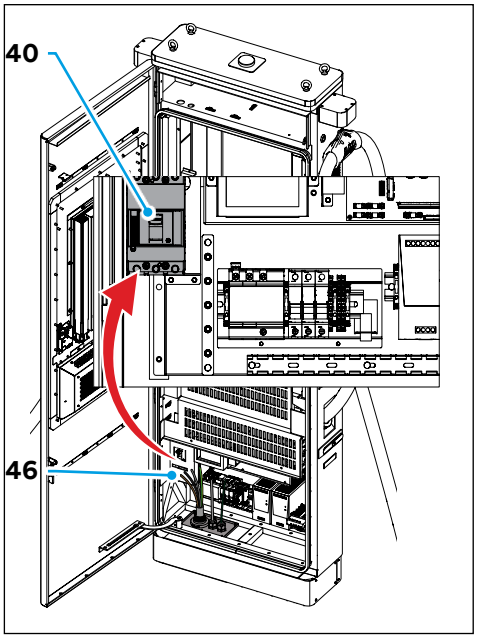
- Close the front door **(17)** of the EVSE by repeating the operations described in the “Open the doors“ section in reverse order.

NOTE
Close the door applying the proper force in a way that it fits its final position before turning the Swing handle lock **(15)**.

EN

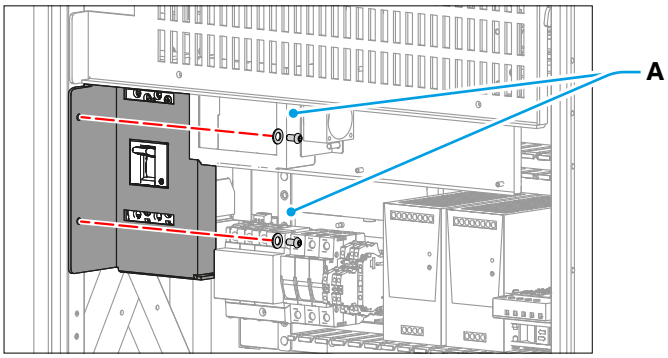
5.2 Remove the Main AC protection barriers

To access the Main AC switch **(40)**, located on the lower front side, is necessary to remove the Main AC protection barriers **(46)**.

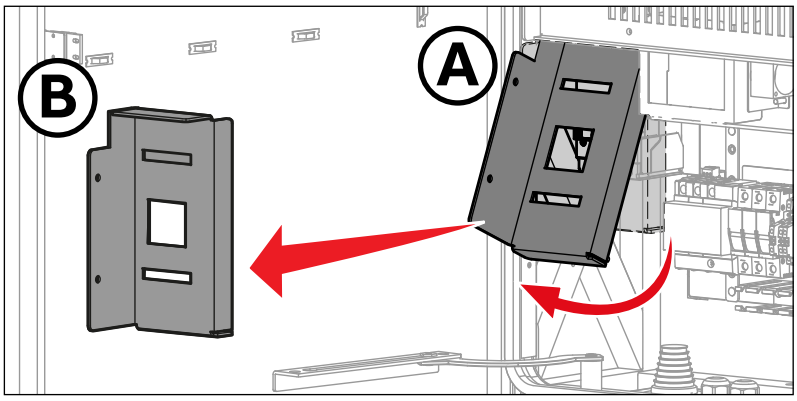


- Once the protections have been removed, it is possible to access the connection terminals of the Main AC switch **(40)**.

HAZARDOUS VOLTAGE
Do not turn on the EVSE without the Main AC protection barriers **(46)**.



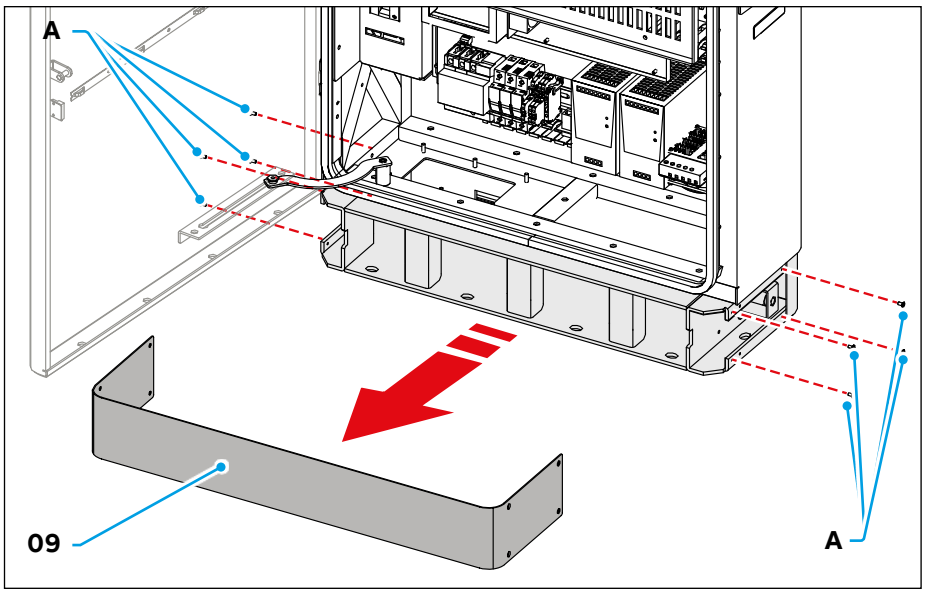
- Unscrew and remove the 2 screws **(A)**.



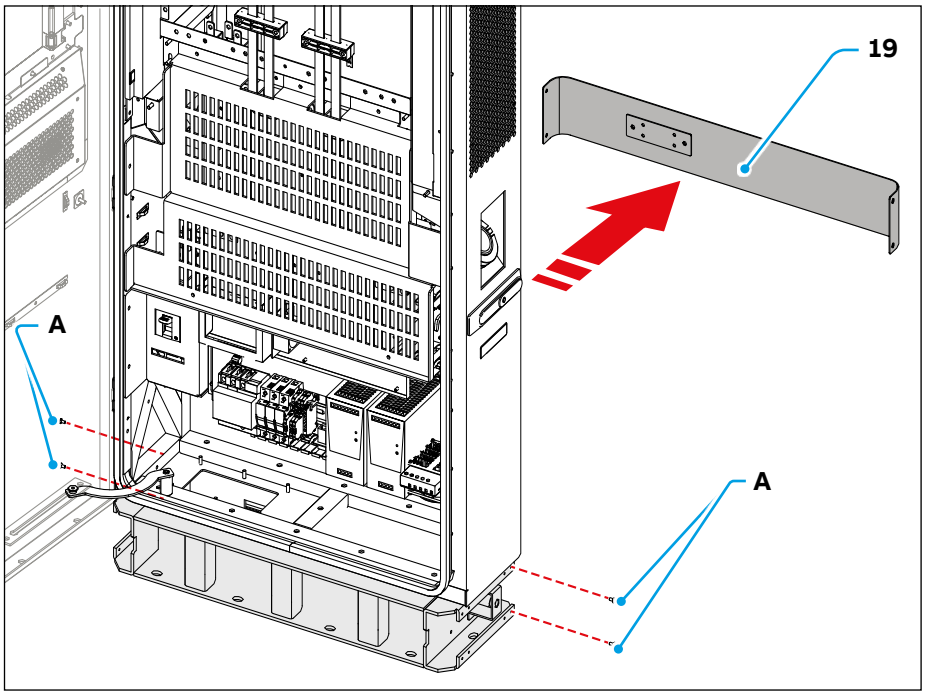
- Remove the cover by rotating it **(A)** and then sliding it **(B)** outwards.

5.3 Remove the Base covers

To access the fastener between the EVSE and the foundation is necessary to remove the Removable front base cover **(09)** and the Removable rear base cover **(19)**.



- Unscrew and remove the 8 fasteners **(A)** on left and right sides of the EVSE.
- Remove the front base cover **(09)** by sliding it forward.



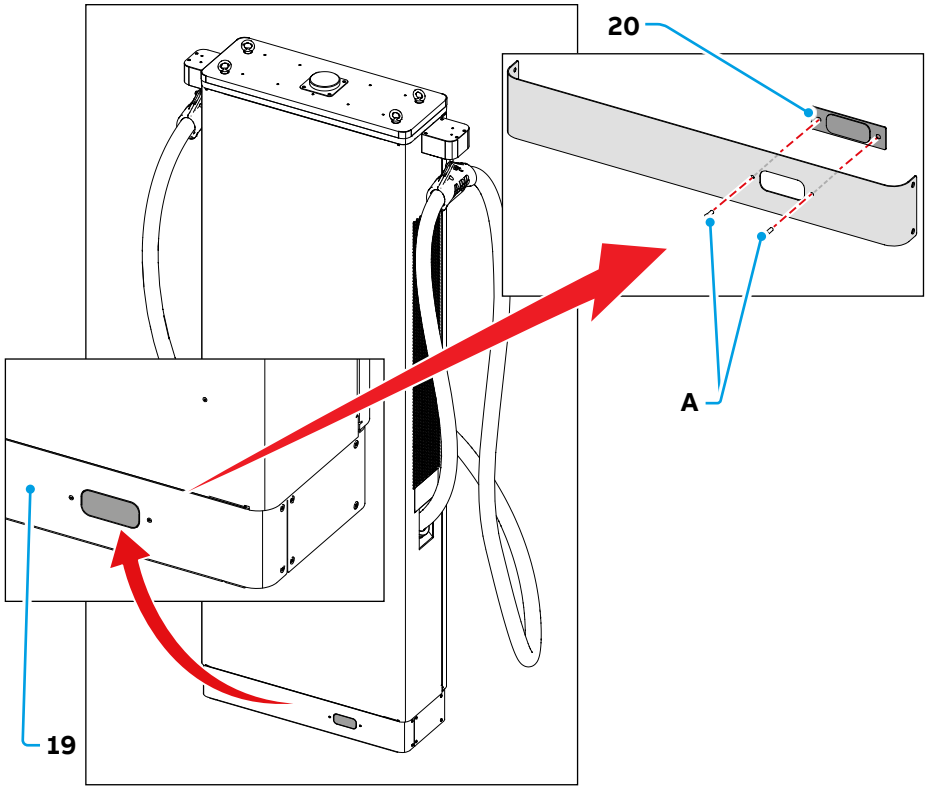
- Unscrew and remove the 4 fasteners **(A)** on the left and right sides of the EVSE.
- Remove the rear base cover **(19)** by flowing it back.

EN

5.4 Open the rear cable entry

To access the fastener between the EVSE and the foundation is necessary to remove the Removable front base cover **(09)** and the Removable rear base cover **(19)**.

The Removable rear base cover **(19)** is equipped with an additional cable entry **(20)**.



- Remove the rear base cover **(19)**.
- Unscrew and remove the 2 fasteners **(A)**.
- Remove the cover on the rear cable entry **(20)**.

6. Installation

In this section are illustrated all the installation procedure.

Chapter recipients:

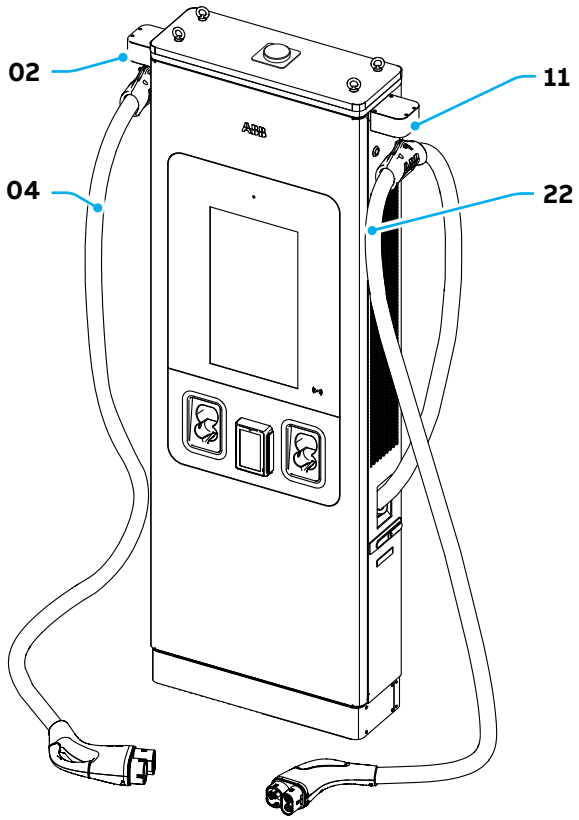
- Owner
- Qualified installer
- Handling company

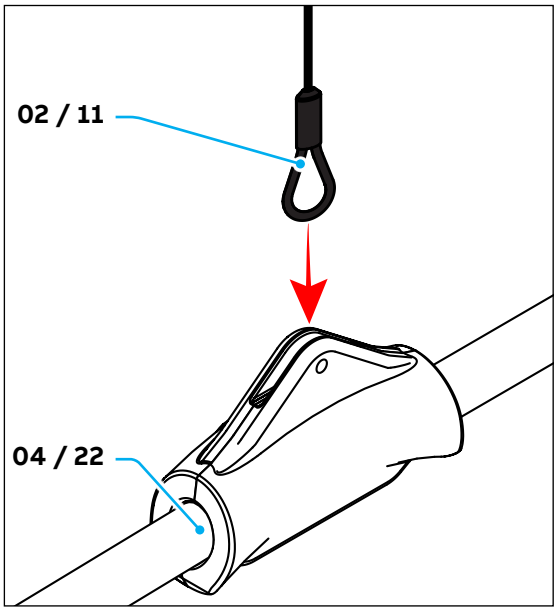
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6.1 Installation of the EVSE

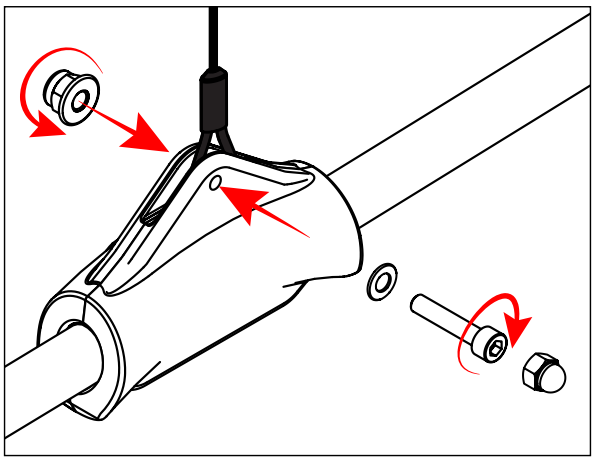
6.1.1 Install the charging cables on the CMS

After removing the packaging, the charging cables must be installed on the respective CMS:
- Charging cable - Output 1 **(04)** on the CMS - Output 1 **(02)**
- Charging cable - Output 2 **(22)** on the CMS - Output 2 **(11)**

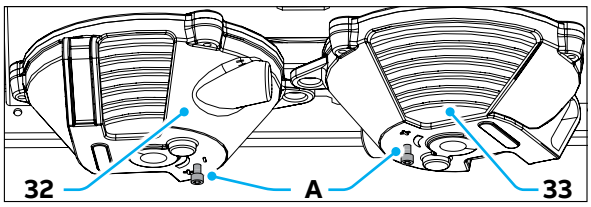




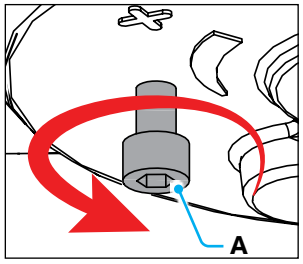
- Align the CMS rope on the hole in the cable clamp.



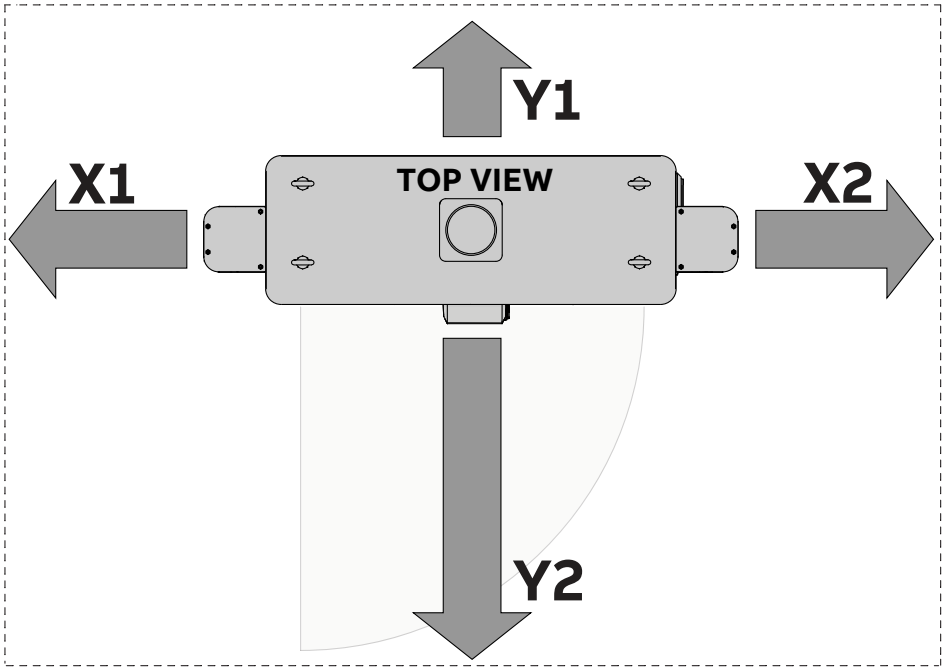
- Install the clamp, one on each charging cable **(04) (22)**, on the rope of the respective CMS **(02) (11)** as shown in the side illustration using the supplied components.



- Open the front door of the EVSE. Refer to "5.1.1. Open the front door"
- Remove the safety screw **(A)** on each cable reel **(32) (33)** installed on the internal top side of the EVSE.



6.1.2 Floor space requirements



Parameter	Description	Specification [mm]
X1	Space to the left side	500
X2	Space to the right side	500
Y1	Space to secure the removable base cover	150
Y2	Space to open the front door	800

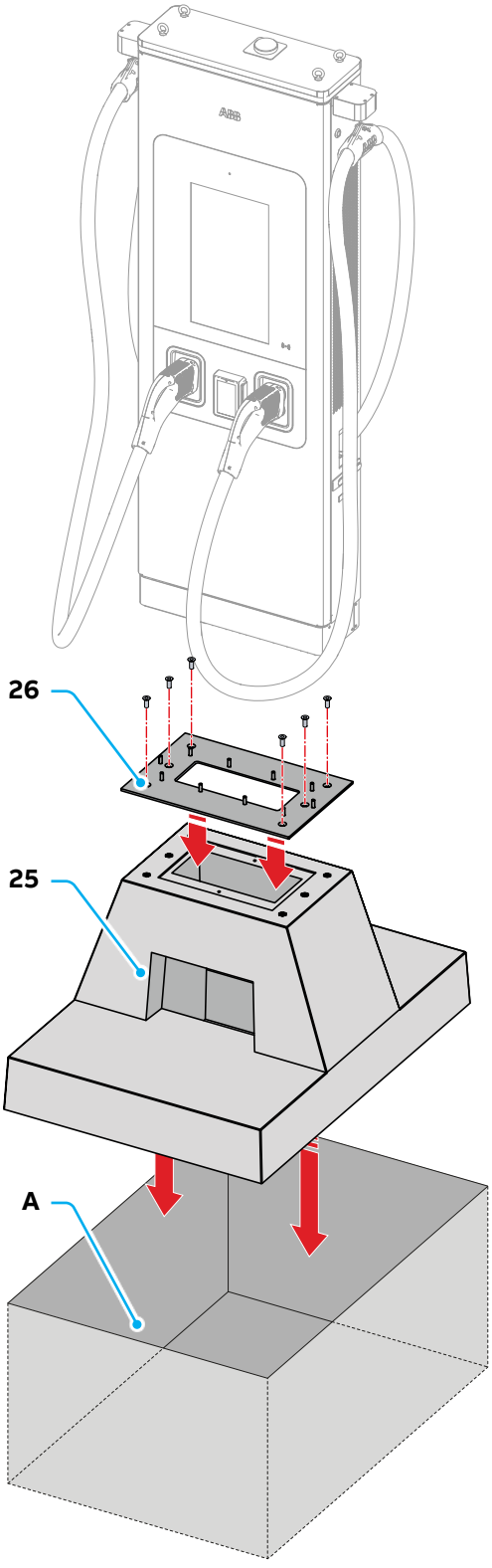
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6.1.3 Prepare the foundation

The EVSE can be installed on:

- **Prefabricated foundation** (to be ordered from ABB E-mobility). Refer to section “6.1.3.1. Prepare the prefabricated foundation”.
- **Custom foundation**. In this case use the drawing of the “11.4. EVSE Footprint for custom foundation” to build the foundations before to install the EVSE. Refer to section “6.1.3.2. Prepare the custom foundation”.

6.1.3.1 Prepare the prefabricated foundation



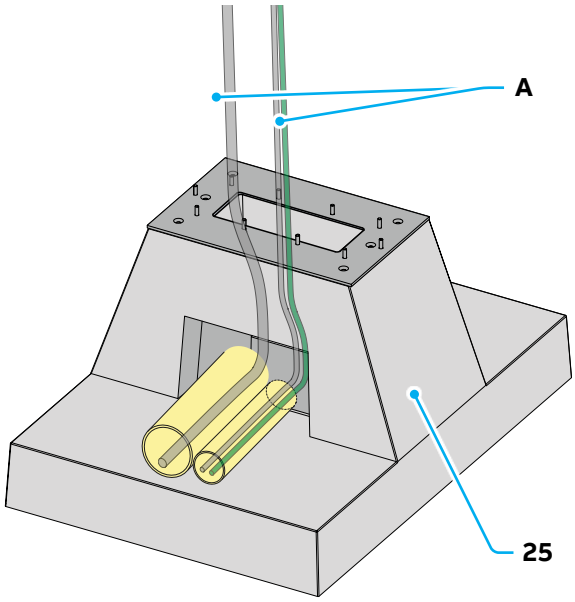
- Take the prefabricated Concrete foundation **(25)**.

> **NOTE**
> Contact the manufacturer to order the foundation for your EVSE.

> **NOTE**
> Refer to “11.3. Prefabricated foundation” for the foundation specifications.

- Dig the pit **(A)** for the Concrete foundation **(25)**.
- Place the Concrete foundation **(25)** in the ground pit.
- Install the Concrete foundation interface plate **(26)** using the 6 supplied fasteners.

> **NOTE**
> Refer to “10.4. Torque specification” for the tightening torque value



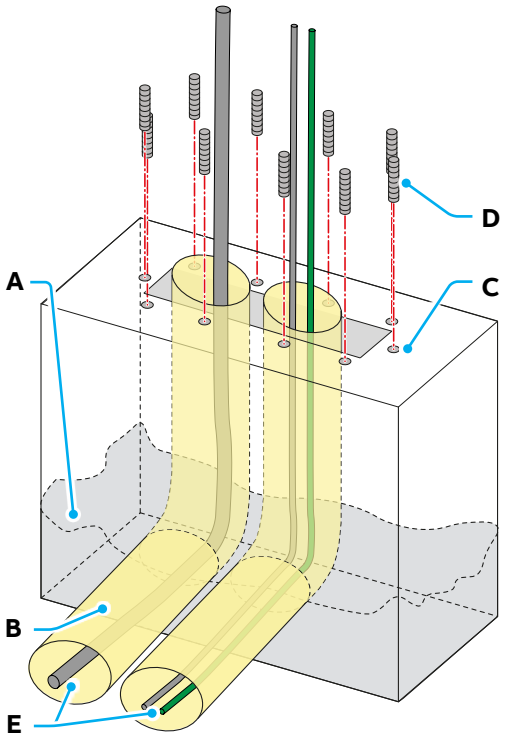
- Prepare the site and the underground cable conduits; route the power and signal cables **(A)** inside the Concrete foundation **(25)** using the 2 entry holes **(B)** and applying cable slack of each cable 700 mm from the ground level. Refer to "10.3. Cable specifications" for cable dimesions.

NOTE
Is recommended to route the power and signal cables inside separated underground cable conduits.

6.1.3.2 Prepare the custom foundation

The EVSE shall be installed on a custom foundation suitable to support the weight of the equipment. Use the drawing of the "11.4. EVSE Footprint for custom foundation" to build the foundations before to install the EVSE as described in the instruction below.

NOTE
In the event that the customer designs a customised foundation, the customer shall comply with all applicable (local) legislation and regulations with respect to the use and stability of the EVSE and its foundation



- Dig the hole **(A)** for the casted foundation. For the specifications, refer to section "11.4. EVSE Footprint for custom foundation".
- Prepare the site and the underground cable conduits.

NOTE
Is recommended to route the power and signal cables inside separated underground cable conduits.

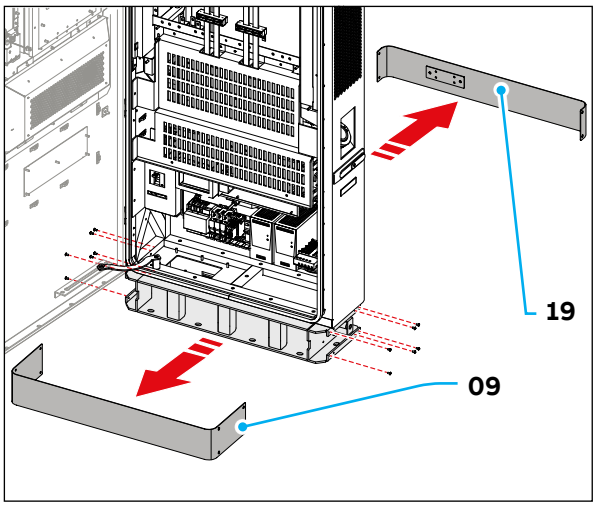
- Pour the concrete into the hole. Make sure that the cable conduits **(B)** are in the correct position.

NOTE
Let the concrete dry.

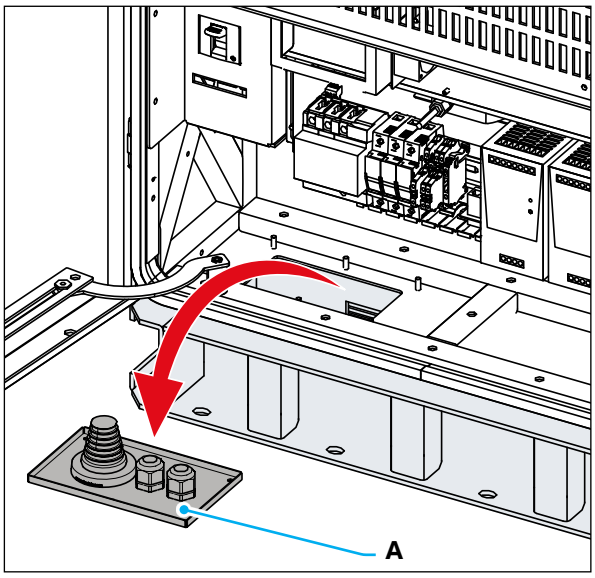
- Drill the fixing points **(C)**.
- Install the 10 threaded inserts **(D)** (size M10) according to the measurements in the technical drawing "11.4. EVSE Footprint for custom foundation".

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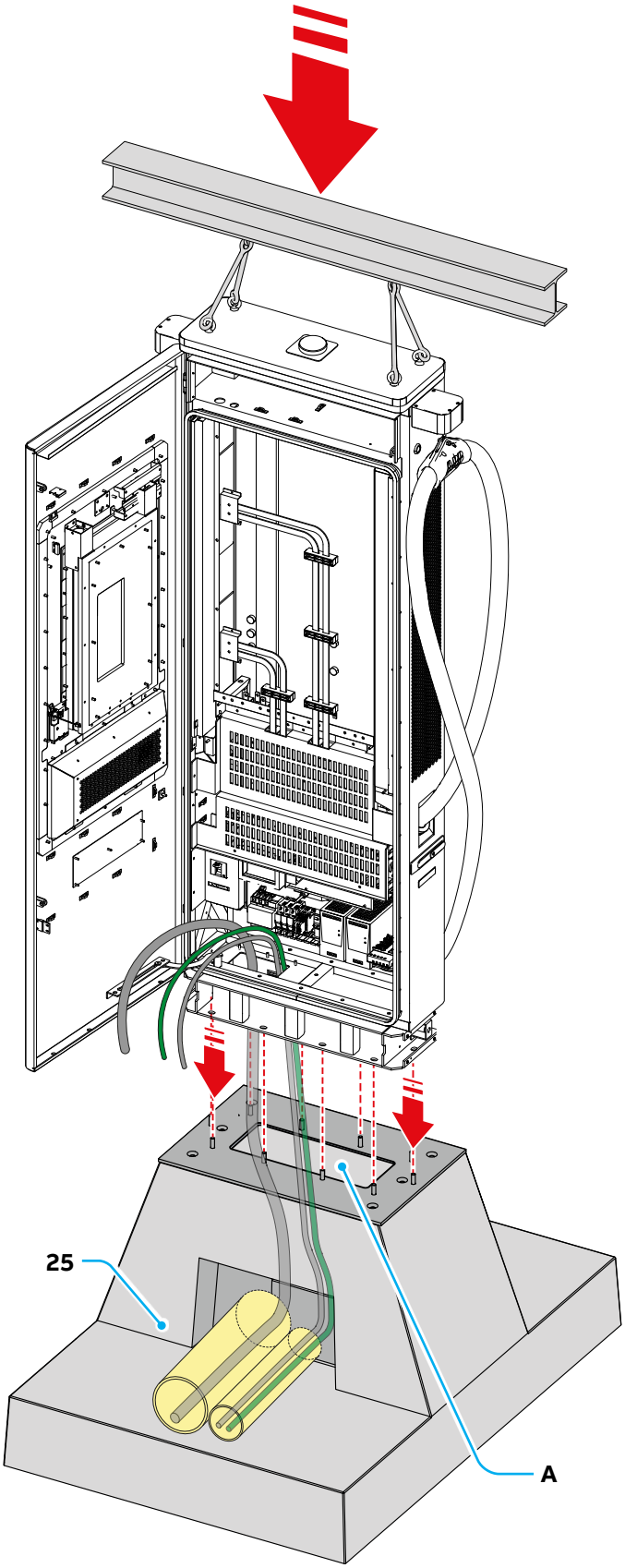
6.1.4 Install the EVSE on the foundation



- Connect the ropes/chains of the hoisting equipment to the eyebolts installed on the top side of EVSE.
- Hook up the lifting means and stretch the ropes leaving them slightly loose.
- Disassemble the 2 Base covers **(09)** and **(19)**. Refer to “5.3. Remove the Base covers”.



- Open the front door. Refer to “5.1.1. Open the front door”.
- Unmount the cable entry plate **(A)** by undoing the 6 nuts.
- Remove the Main AC protection barrier **(46)**. Refer to “5.2. Remove the Main AC protection barriers”.
- Close the front door.
- Lift and move the EVSE to the final location.



- Open the front door of the EVSE when is near to ground.
- Carefully lower the EVSE on the concrete foundation **(25)**. During this phase the cables must be passed through the hole **(A)**:
  - AC multicore cable (L1 , L2, L3 and PE)
  - Ethernet (optional)
  - External Stop button (optional)

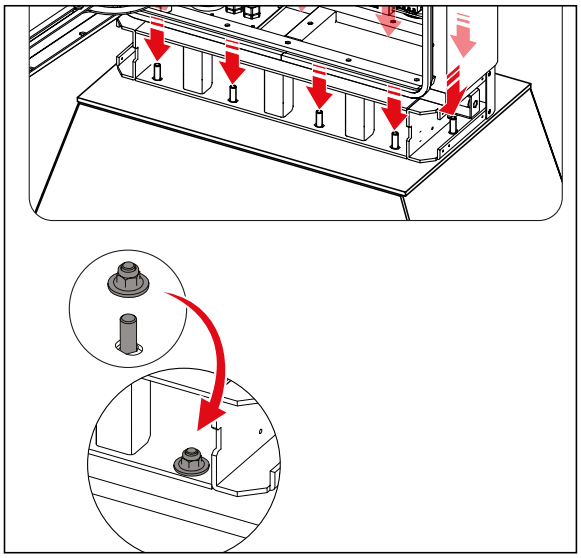
NOTE
Cable slack at least 700 mm.

Risk of pinching or crushing of property or person.
Make sure that cables do not get trapped between the EVSE and the base.

NOTE
Align the 10 holes in the EVSE to the threaded studs on the foundation.

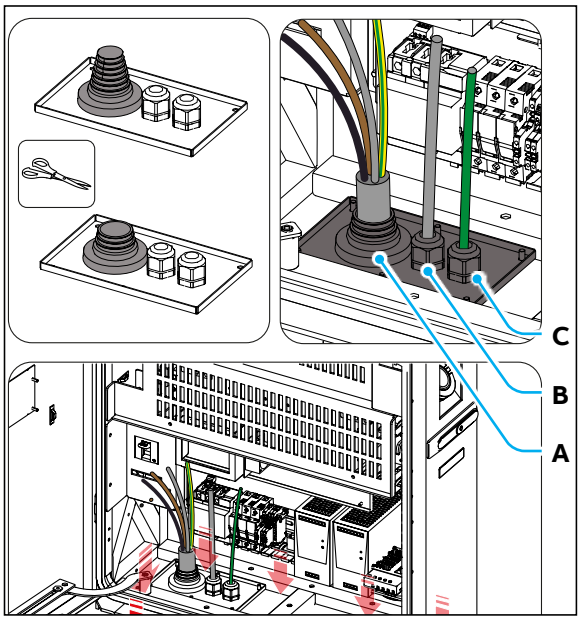
CAUTION
Make sure that there are no kinks in the cables

EN

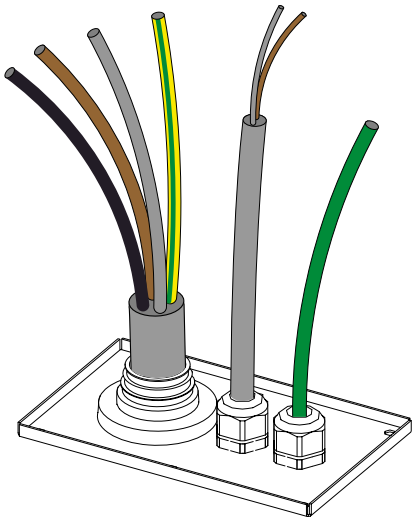


- Install the 10 nuts (size M10) to secure the EVSE to the foundation.

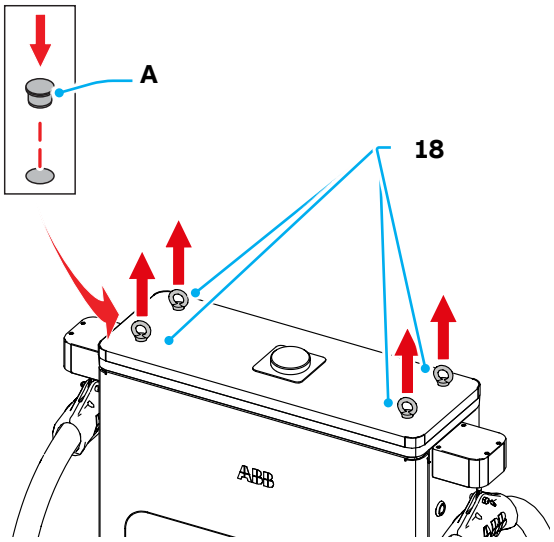
> **NOTE**
> Refer to “10.4. Torque specification” for the tightening torque value



- Pass the cables through the cable glands:
  - AC multicore cable (L1 , L2, L3 and PE) **(A)**
  - External Stop button (optional) **(B)**
  - Ethernet (optional) **(C)**



- Mount the plate to the EVSE floor using the 6 nuts removed in the installation steps before.



- Remove the Lifting points (Eyebolts) **(18)** on the roof.
- Install the plastic Caps **(A)** where the eyebolts were installed.

The mechanical installation of the EVSE is completed and the electrical connections can be executed.

7. Electrical connection

In this section are listed all the electrical connection procedure.

Chapter recipients:

- Qualified installer

EN

7.1 Electrical connection - preliminary operations

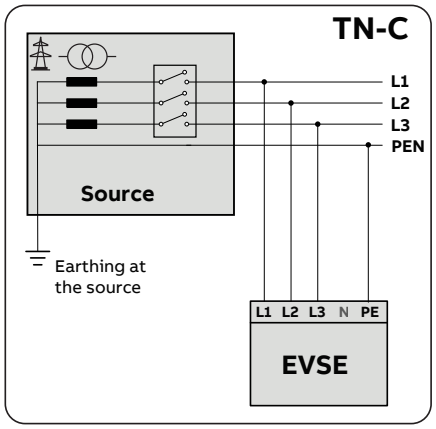
7.1.1 Supported low voltage network types

The following network configurations are permitted for the connection of the EVSE:

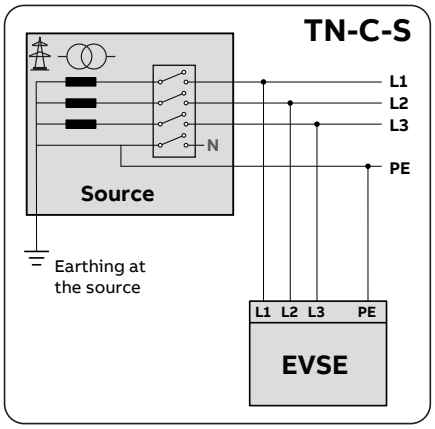
- TN-C
- TN-C-S
- TN-S
- TT

NOTE
Operation in IT networks is not allowed.

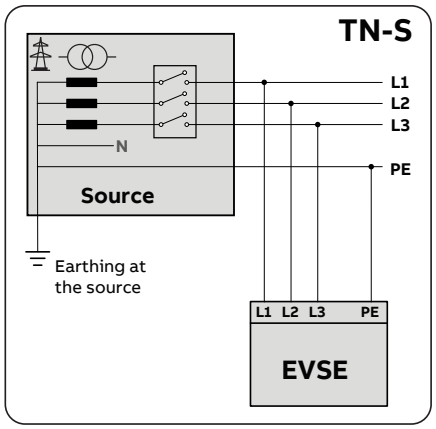
NOTE
The neutral (N) connection is not present in the EVSE.



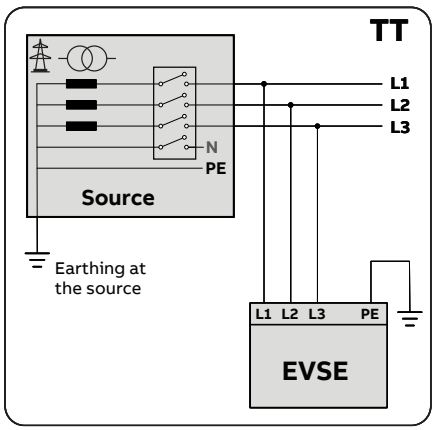
- Wire L1, L2, L3
- Wire PEN to the EVSE earthing bar with no interruptions



- Wire L1, L2, L3
- Wire PE to the EVSE earthing bar without interruption



- Wire L1, L2, L3
- Wire PE to the EVSE earthing bar without interruption

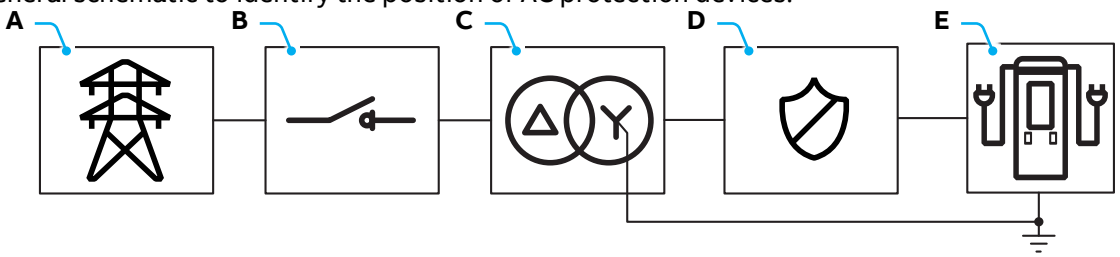


- Wire L1, L2, L3
- Do not wire Main PE to the EVSE
- Connect Local PE to EVSE earthing bar

NOTE
RCD is mandatory

7.1.2 External AC input protections

General schematic to identify the position of AC protection devices.



Parameter	Description
A	Medium voltage network
B	Medium voltage breaker
C	Medium voltage/Low voltage transformer
D	Low voltage protection devices: - Overcurrent protection - Residual Current Protection (RCD) - Surge Protection Device (SPD) Type 1 ⚠ This information does not supersede any legal regulations. The installer engineer should be aware that local regulations may impose requirements not reflected in this document. The most stringent requirements shall be applied.
E	EVSE

7.1.2.1 Overcurrent protection

An external overcurrent protection device shall be installed to protect the line from medium voltage transformer to EVSE. The protection system can be chosen between the 3 options below:
1. Main switch + 3x fuses 125A (gG or aG)
2. 3x fuses 125A (gG or aG)
3. Circuit breaker 3p 125A (thermal protection not mandatory)

NOTE
In weak grids the AC voltage may vary from nominal voltage; in these conditions EVSE works with higher input current then nominal one. This information has to be taken in consideration to properly select the overcurrent protection device.

The below table provides the technical data to size the overcurrent protection:

	C50
Rated AC input current	77 A @ rated AC input voltage (400 Vac)
Max AC input current	85 A @ min AC input voltage (400 - 10% = 360 Vac)
Maximum energy withstand short-circuit capability	0.9 MA^2s

7.1.2.2 Residual Current Device (RCD) protection

HAZARDOUS VOLTAGE
If the applicable local regulation of electrical installations require the use of a residual Current Device (RCD), a Type B or B+, with adjustable residual operating current (I∆n [mA]), is mandatory.

NOTE
When using residual-current device with a lower operating current (I∆n), there is a risk of false tripping of the residual-current device, depending on the system design.

NOTE
In the case of systems which consist of several EVSE connected to a single protection, adjustment of tripping value and time, may be required.

In case of installation of a residual current protection device, this shall meet the following characteristics in order to prevent false protection tripping:

RCD Specifications	C50
Type	B / B+
Suggested sensitivity I∆n	100 mA

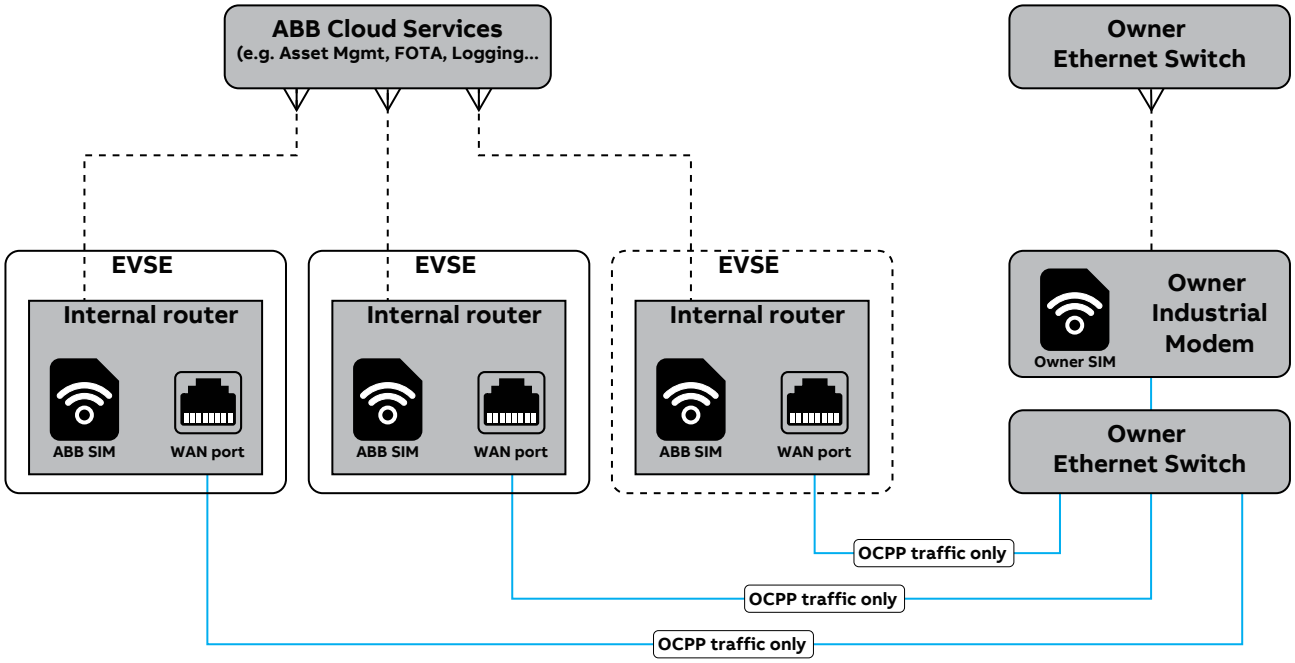
EN

7.1.3 Internet access

ABB E-mobility requires an Internet connection to the charger for remote service operations including diagnosis, troubleshooting and performing software/firmware update.
The owner is responsible for a stable and reliable Internet connection for the EVSE.
Contingency planning and the associated costs are the responsibility of the installer/owner.

The standard product configuration, provides two different interfaces based on traffic splitting:
- Internet via cellular Ethernet network is dedicated exclusively to ABB connected services
- Internet via WAN (Ethernet connection) is dedicated exclusively to managing the Owner OCPP connection.

An example of this architecture can be found below:



7.1.3.1 Internet via cellular network connection

This is the standard connection to the Internet using the EVSE’s standard featured hardware. The solution provides internet access via 3G and 4G cellular network, but it’s reserved for ABB’s connected services only.
it is expected thet a cellular availability test is performed, prior to construction of the site, to ensure that there is a reasonable signal quality in one of the following frequencies range:

- 698...960 MHz
- 1710...2690 MHz

NOTE
Signal strength must be greater than -85 dBm and measured with a cellular signal meter. Handheld mobile phones are not recommended for assessing signal strength since they are not reliable measuring devices

NOTE
The EVSE supports SIM cards provided by ABB E-mobility only. Any other types of SIM cards are not permitted.

7.1.3.2 Internet via WAN (Ethernet connection)

The WAN port (Ethernet connection) in the EVSE must be connected to the Owner’s own router or network, allowing the EVSE to use the Owner-provided Internet connection for OCPP traffic to the Owner CSMS (backend).
It is up to the owner to decide how to provide connectivity with their router connected to the EVSE WAN port.

NOTE
Reach out to the local entity of ABB E-mobility for exception to this standard configuration: https://e-mobility.abb.com/contact-centers/.

7.2 Protective earth (PE) connection

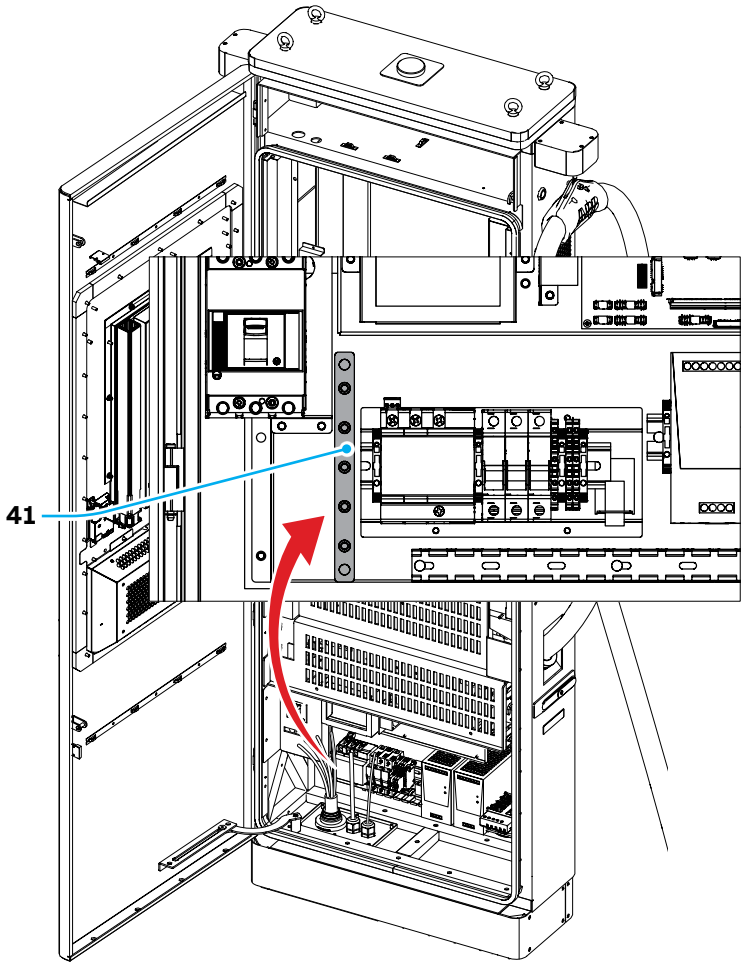
HAZARDOUS VOLTAGE
The EVSE's protective earth (PE) connection is mandatory.

HAZARDOUS VOLTAGE
Before carrying out any operation, check that any external switch of voltage sources (upstream to the EVSE) are in OFF position and check for voltage absence on the AC conductors!

The EVSE must be earthed via the connection points marked with the protective earth symbol and using a cable with an appropriate conductor cross-section for the maximum ground fault current that the system might experience.

The earth connection must be made through the Protective Earth (PE) internal connection busbar **(41)**.

NOTE
Any failure of the EVSE not connected to PE is not covered by the warranty.



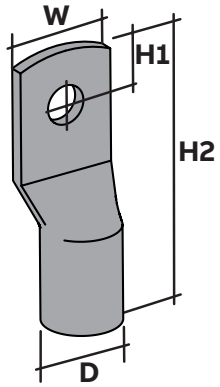
CAUTION
In compliance with applicable (local) laws, regulations and applicable standard(s), it is necessary to install an earthing cable in one of the protective earth terminal with a minimum section of at least half of the phase cable cross section.
This is valid only if the protective earthing conductor is made of the same metal as the phase conductors. If this is not so, the cross-sectional area of the earthing conductor is to be determined in a manner which produces an equivalent conductance.

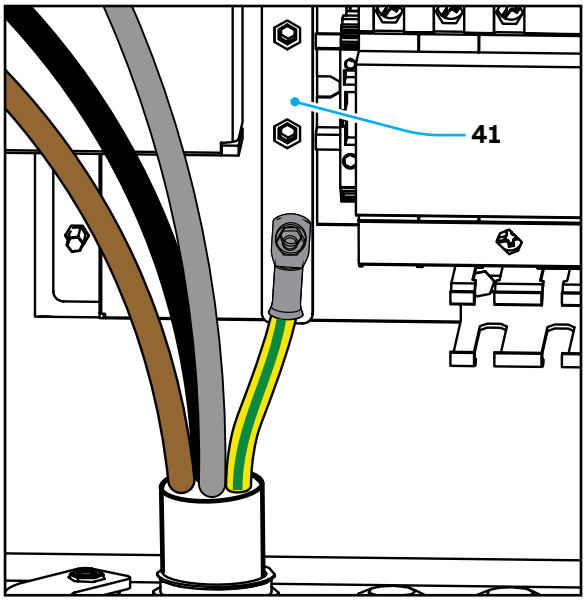
EN

7.2.1 Connect the PE wire

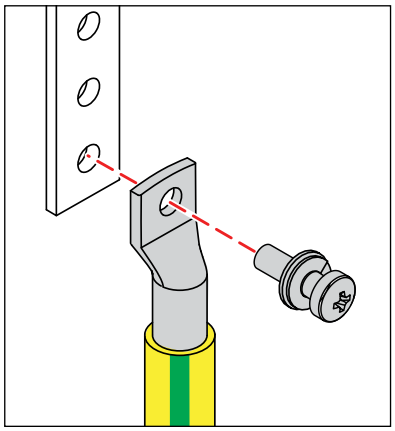
- Choose the cable lugs suitable for the cables used taking into consideration that the maximum dimensions of the cable lugs must be:

Maximum cable lug dimension	
W	max 16 mm
H1	10 mm
H2	35 mm
D	11 mm
Hole	Ø6.5 mm





- Install the Main Protective Earth (PE) cable on the PE busbar **(41)**.



NOTE
Refer to section “10.3. Cable specifications” for specification and size of the cables.

- Tighten the fasteners respecting the torque.

NOTE
Refer to section “10.4. Torque specification” for the tightening torque value.

NOTE
Is suggested to make torque markings when tightening the fasteners to the required torque.

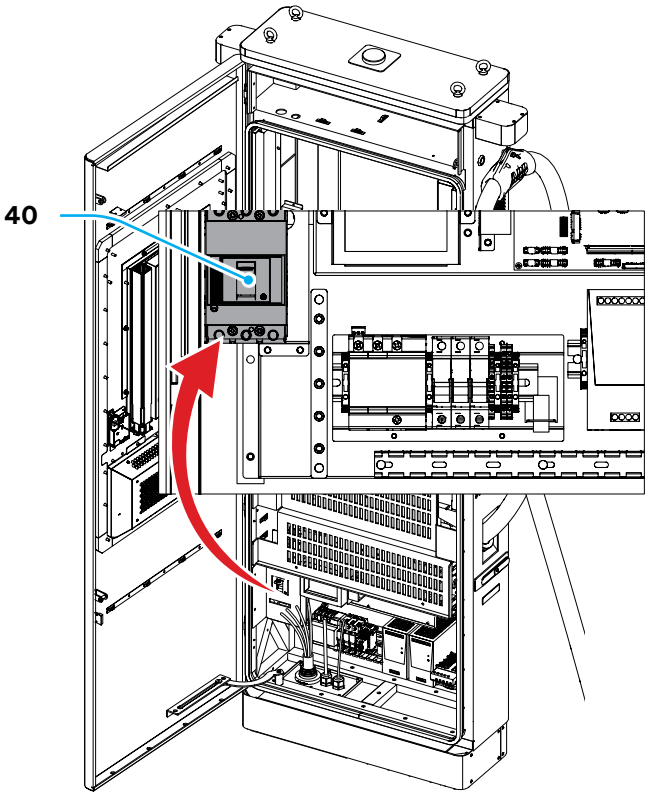
7.3 AC input connection

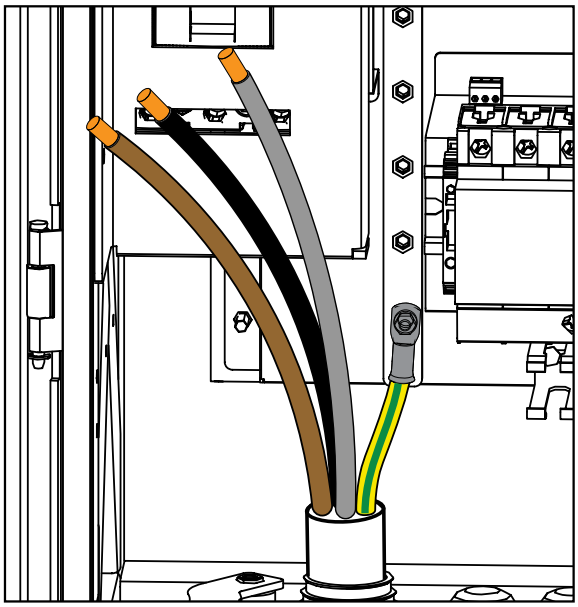
HAZARDOUS VOLTAGE
Before carrying out any operation, check that any external switch of voltage sources (upstream to the EVSE) are in OFF position and check for voltage absence on the AC conductors!

The EVSE must be connected to the AC input using copper or aluminum cables with an appropriate conductor cross-section for minimize loss of power.

NOTE
Any failure of the EVSE not connected to PE is not covered by the warranty.

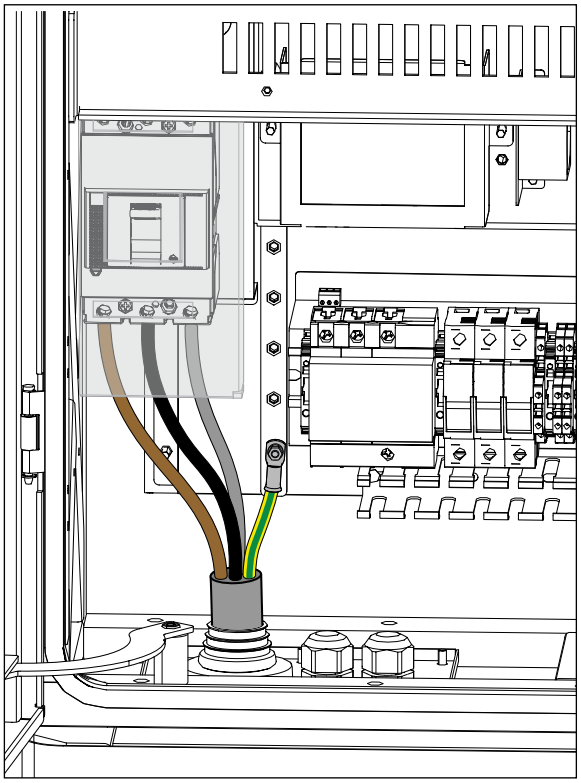
The AC connection must be made on the terminals of Main AC switch **(40)**.



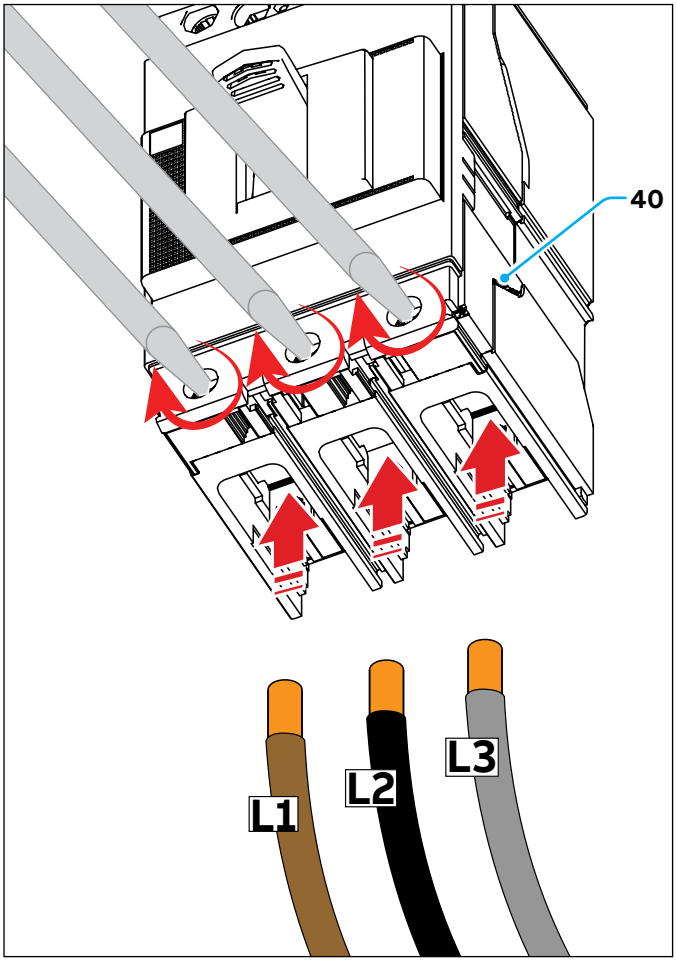


- Remove the Main AC breaker protection barrier **(46)**
- Strip the three AC cables according to the “10.3. Cable specifications”

EN



- Connect the AC cables to the Main AC breaker **(40)** terminals.



- Tighten the fasteners respecting following torque:

NOTE
Refer to section “10.4. Torque specification” for the tightening torque value.

NOTE
Is suggested to make torque markings when tightening the fasteners to the required torque.

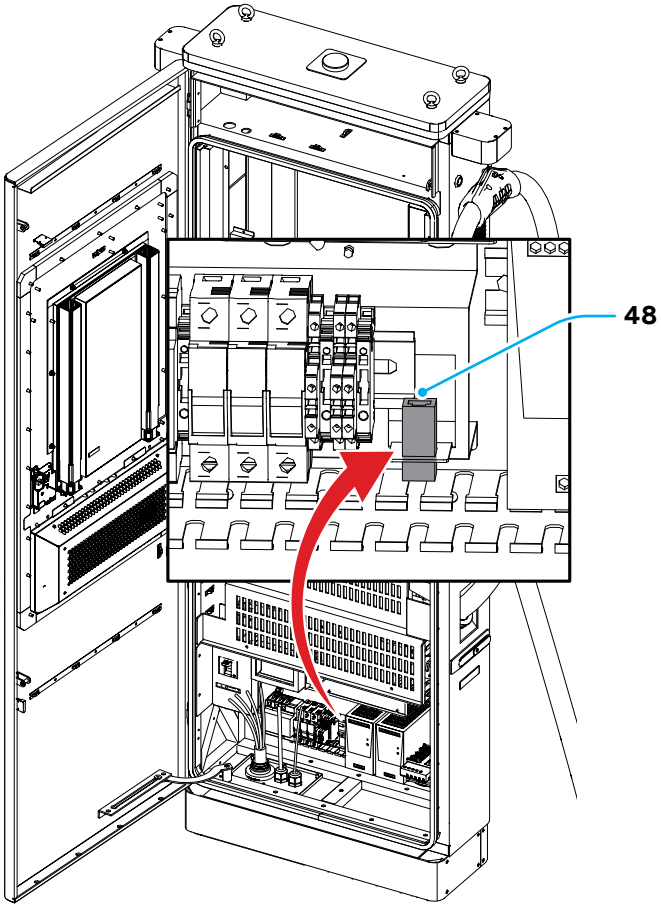
7.4 Ethernet connection

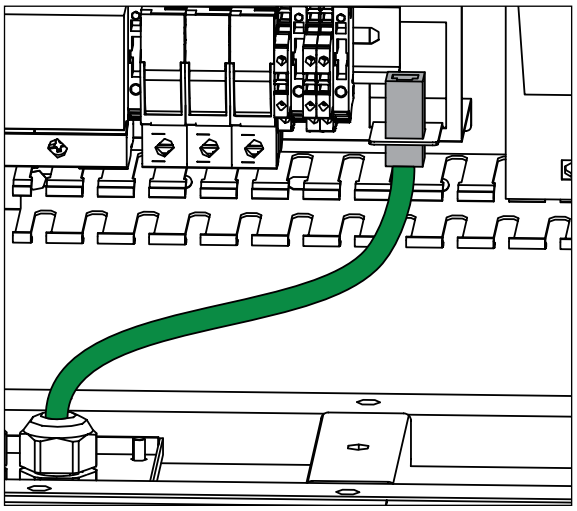
The charger’s Ethernet communication, if the Ethernet port is enabled and an on-site Internet connection is available, allows to the charger to transmit telemetry data to the ABB EVCI Cloud without the need to install any additional devices (the logging functionality is already integrated into the charger by default). ABB’s EVCI cloud platform consists of several solutions for monitoring and management of chargers in real-time. For more information, please refer to https://new.abb.com/ev-charging/connected-services/web-modules.

NOTE
We recommend using at least a CAT 5e category Ethernet cable for standard connection performance.
For installations in environments with a high presence of electromagnetic interference and/or noise, we recommend using at least a CAT 6 shielded LAN cable.
For installations in environments subject to extreme conditions, consult an expert technician.

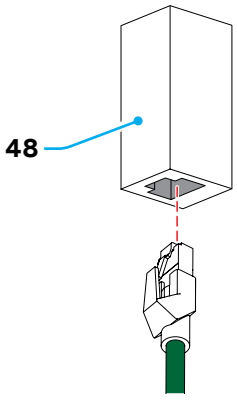
7.4.1 Connect the Ethernet cable

The Ethernet connection must be made on Ethernet connector **(48)**.





- Connect the Ethernet cable to the Ethernet connector **(48)**.



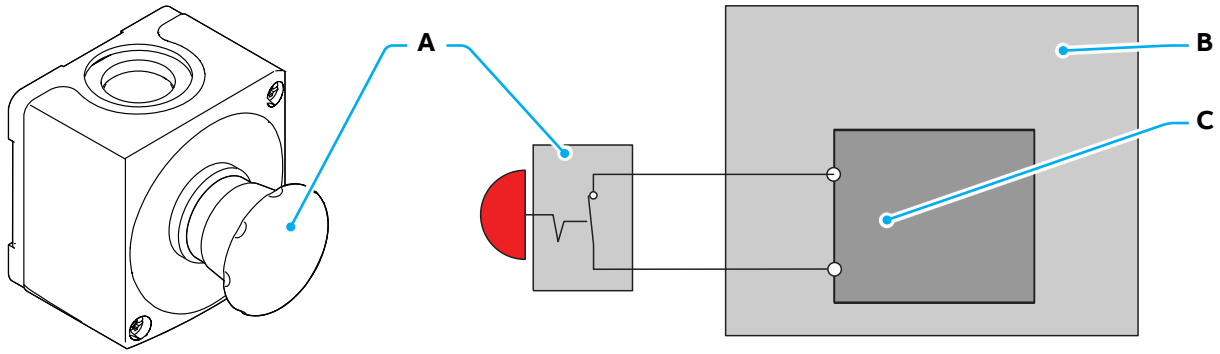
EN

7.5 External Stop button

An External Stop button can be connected to the EVSE to stop the charging session (software shutdown).

NOTE
The External Stop button is optional.
The placement of this button is external to the EVSE and must be decided during the system design phase.
Please note this External Button is not an Emergency Stop Button that denergizes the EVSE

The External Stop button must have a normally closed contact. When the button is activated (contact is open) the EVSE will to stop the charging session.

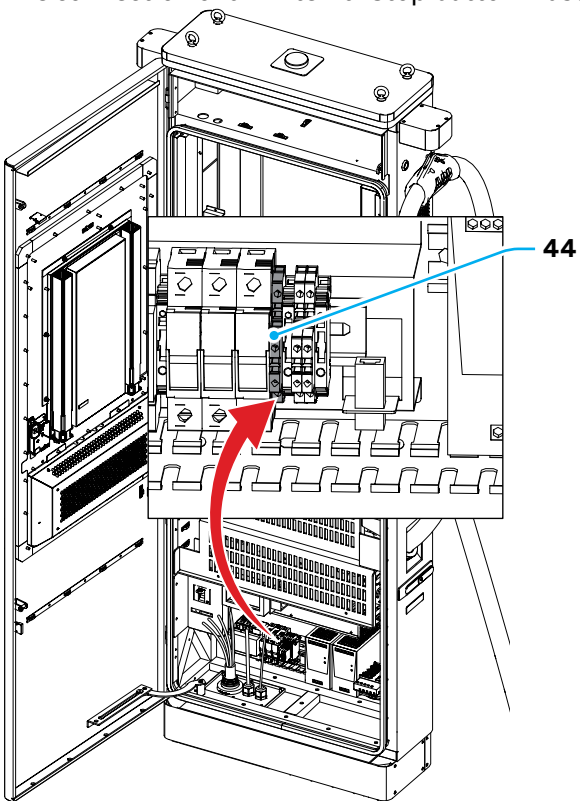


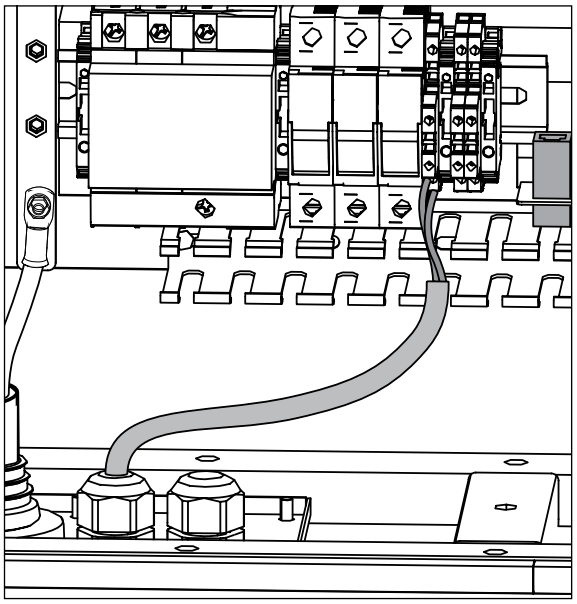
Ref.	Description
A	External Stop button
B	EVSE
C	X111 terminal block

NOTE
The Stop button and all other external components are optionals and not within the standard scope of the EVSE.

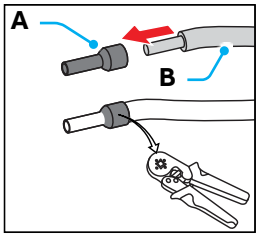
7.5.1 Connect External Stop button

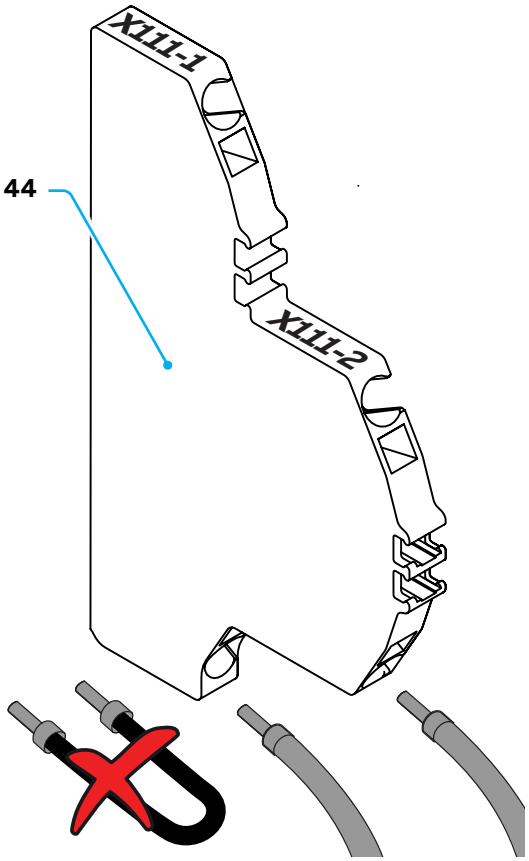
The connection of an External Stop button must be made on X111 terminal block **(44)**.



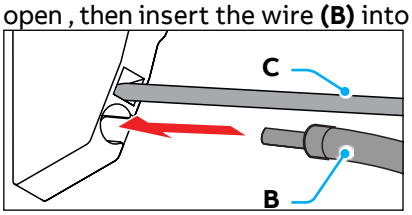


- Cut the 2 wires to connect the External Stop button, so that they reach the lower side of terminal block X111 **(44)**.
- Strip the insulation from the end of the wires.
- Crimp a ferrule **(A)** on the end of the wires **(B)**.

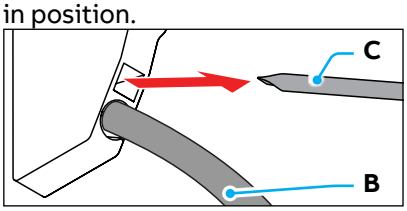




- To install the wires on the spring terminal blocks follow the step:
  - Insert a flat screwdriver **(C)** and push till the spring is open , then insert the wire **(B)** into the connector.



  - Remove the flat screwdriver **(C)** keeping the wire **(B)** in position.



- Remove the jumper on the lower side of the terminal block between the X111-1 and X111-2 terminals.
- Connect the following wires:

Wire	X111 Terminal	Description
EMO1	X111-1	EMO1 In
EMO_GND	X111-2	EMO1 GND

8. Operation and correct use

This chapter will give instruction on the correct use of the EVSE.

Chapter recipients:

- Owner
- Qualified installer
- User

8.1 Prepare for commissioning of the EVSE

Danger: Hazardous voltage
Under no circumstances is any person other than a service engineer of ABB E-mobility (or service parners) authorised to commission the EVSE.

The below requirements and operations are Owner/Qualified installer responsibilities before commissioning of EVSE can take place:

1. The qualified installer have to inform the owner that the EVSE is ready for commissioning
2. The owner/qualified installer must inform ABB E-mobility that the EVSE is installed correctly in order to schedule the commissioning and ensure that the site complies with these requirements:
   - The EVSE is correctly installed
   - AC input power is available from the grid provider
   - The qualified installer have to be present during the commissioning, for assistance and to energize the power to the EVSE on the power distribution board
   - Internet access is available, through cellular (default) or wired Ethernet connection. Refer to "7.1.3. Internet access"
   - An electrical vehicle, with compatible connection inlet, have to be available to test the EVSE functionalities. If the EVSE has more than one charging connector type, electrical vehicles with charging inlet for each type must be available
   - Night illumination must be sufficient to easily see the charging cables and other obstacles around the EVSE
   - The owner is available to receive instructions from the ABB E-mobility service engineer
   - If necessary, remove internal condensation before use, to prevent damage to the EVSE.
3. The owner/qualified installer have to make sure that these data are available:
   - Contact data of the contact person on site
   - Address of the EVSE
   - Site name
   - Installation date
   - Exact location of the EVSE: longitude and latitude. If there are more EVSEs on one location, make sure that the coordinates are slightly different (at least 0.0001 degree) so that the EVSEs are not at the same location on the map.
   - Specification of the external AC protection devices at the power distribution board
   - Special remarks (e.g.. to decline the authorization for the service engineer of the manufacturer to take photos)
   - Photo of the top view, side view, foundation/cables arrival view, torque markings of the EVSE
   - Any safety incidents occurred
   - Any concerns/challenges face during installation

8.2 Prepare for use of the EVSE

Once the EVSE has been commissioned, and before it is used by the operator or any user, the owner of the EVSE must ensure that the EVSE is installed in accordance with the manual. The owner, the operator or any user may only operate the EVSE after obtaining the (written) approval from ABB E-mobility that the commissioning was sucessful and that the EVSE is ready for use:

General risk:
After the approval:
- do not perform any change on the EVSE.
- Make an emergency plan that instructs people what to do in case of an emergency
- If necessary, give special instructions to end user on how use the EVSE
- Make sure that the space around the EVSE cannot get blocked

8.3 Charging session

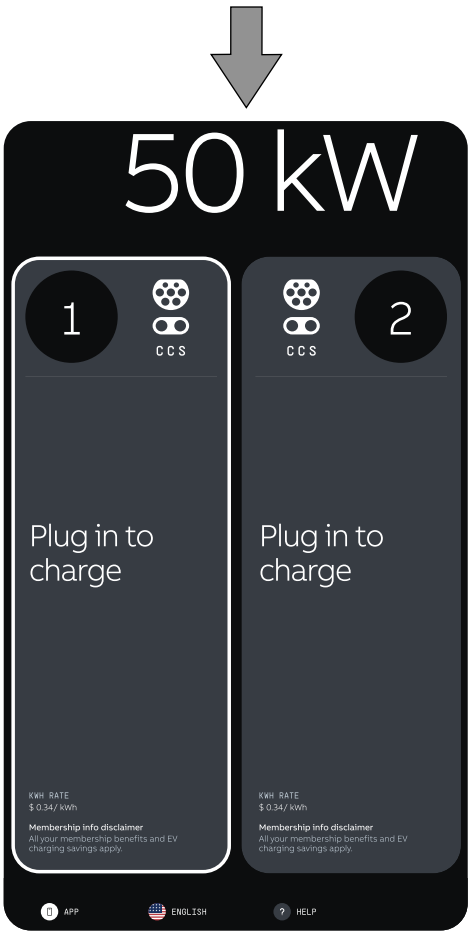
To initiate a charging session, the user can either plug first, or tap their credit card/RFID tag to authorize first.

NOTE
To interact with the display use the dedicated icons in the lower part of the touchscreen. The icons are contextual to the step of the charging process.

EN

8.3.1 Start a charging session (Plug first)

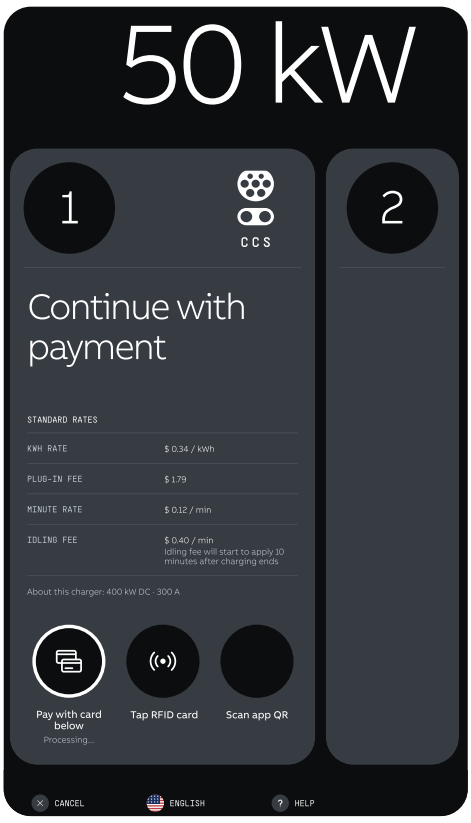
To initiate a charging session the user must remove the charging connector from the EVSE and plug it on the EV (in this case connector on Output 1)



Take the charging connector from the EVSE

Connector taken

White outline as feedback to reassure users of taken connector and that action needs to be taken.

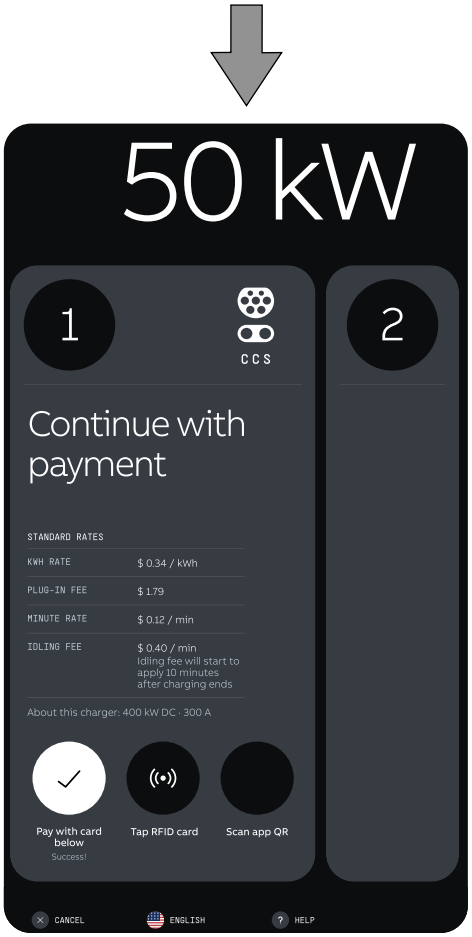


Charging connector plugged in successfully

Authorization

The payment screen offers pricing, main payment options and a button to reveal further (regional/CPO) payment options.

Payment options shouldn’t require any further user interaction with the screen, ie. selecting. QR codes are directly scannable, the PT and RFID reader are ready to be presented with a card.



Use one of the payment method:

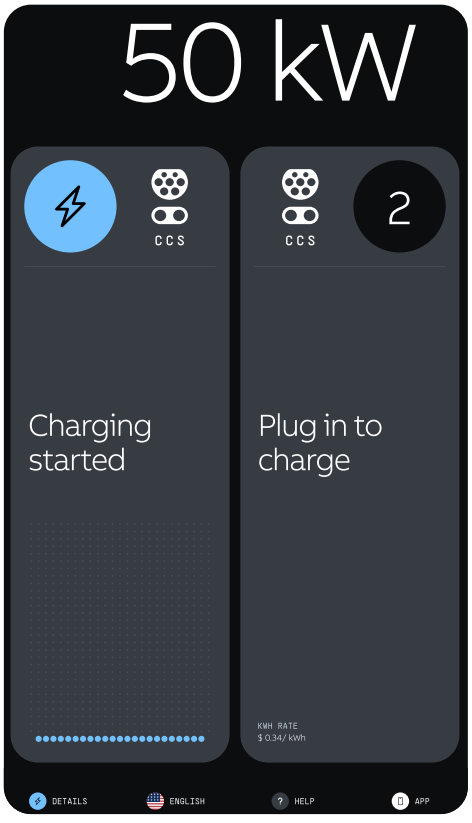
1. Tap Debit/credit card
2. Tap membership card/tag RFID
3. Scan the QR code to pay with the phone

Waiting for authorization

After payment, the screen will display the loading phase.

Authorizing successful!

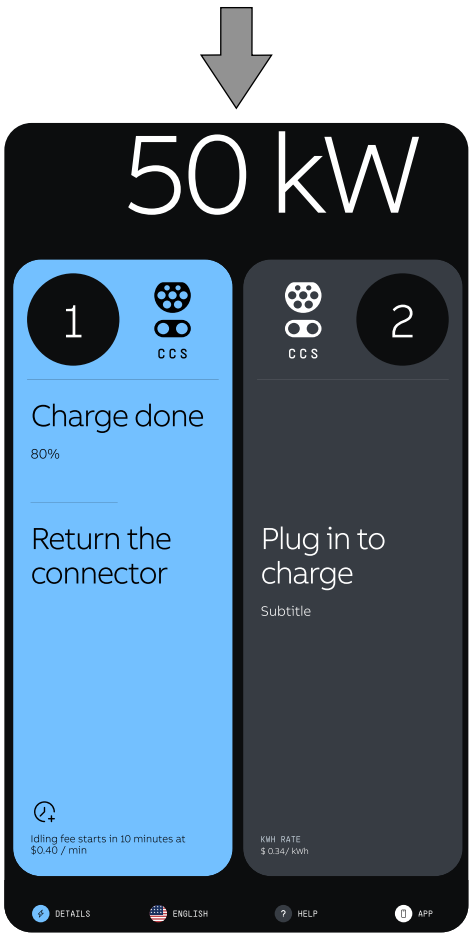
A confirmation animation (on the selected payment method) is displayed before moving to charging home view.



Start of charging session (automatic process)

Starting the charging session.

As soon as the EV is connected the charging session will begin

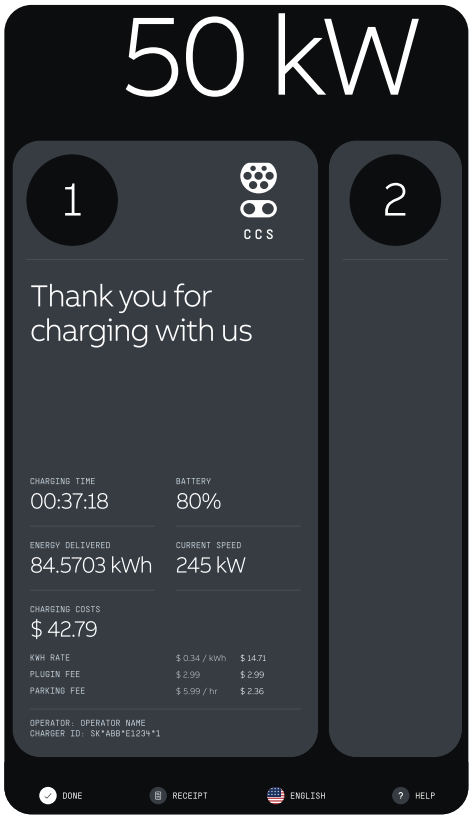


Wait for the end of the charging session and return the charging connector

Return the charging connector

At the end of the charging session return the connector on the EVSE connector holder.

Tap on “DETAILS”



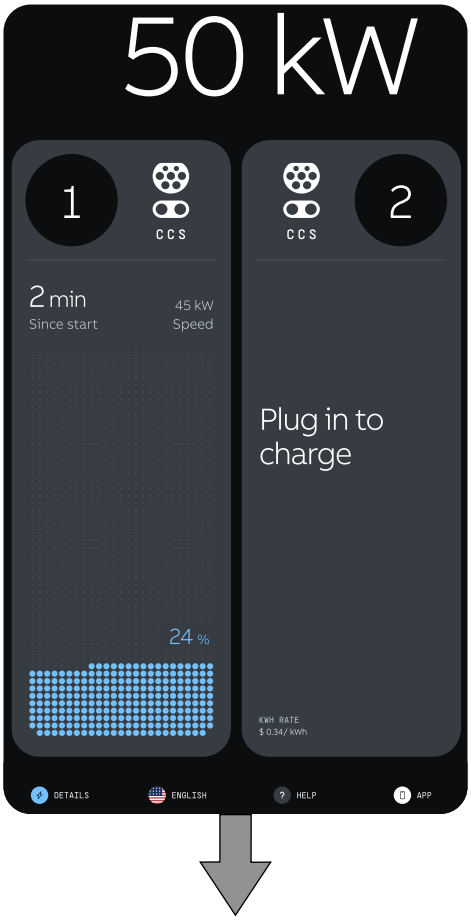
Final charge details after returning connector

It is possible to consult pricing and charging detail by clicking on “DETAILS”.

Danger: Hazardous voltage
The charging connector will be locked in position to not permit the disconnection during the charging session.

8.3.2 Stop a charging session

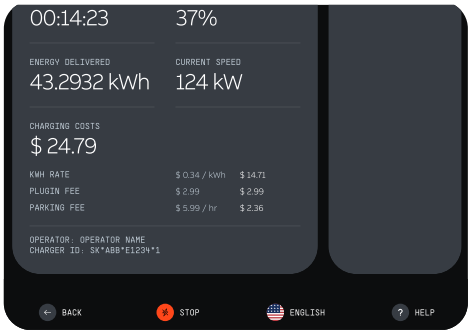
It is possible to stop the charging session at any time by selecting stop on the display menu



Charging session is ongoing

Press stop

Charging session stopped!



The connector can be unplugged from the EV.
Insert the cable into the connector holder related to the output used for charging (located on the same side).

NOTE
If installed, is possible to stop the charging session using a dedicated external button positioned near to the EVSE.

NOTE
The connector is unlocked by the vehicle.

NOTE
In some cases, the EV locks the connector to the EV. To unlock the connector, obey the instructions for the EV.

9. Maintenance and troubleshooting

In this section the user will be instructed on maintenance and cleaning procedures.

Preliminary requirements

- Owner
- Qualified installer
- ABB E-mobility Service or authorized service partners

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9.1 Routine maintenance

Maintenance activities on the EVSE shall be performed, at regular time-based intervals, to increase the lifespan and reduce possible downtime.

NOTE
The routine maintenance schedule may vary depending on the environmental conditions and number of charging sessions of the EVSE.

NOTE
In addition to routine maintenance, a scheduled component replacement shall be performed to guarantee the continuity of operation of the EVSE.
Contact ABB E-mobility https://e-mobility.abb.com/contact-centers/. for more information on available Service Level Agreements.

HAZARDOUS VOLTAGE
Operation on the inside of the EVSE shall be performed only by authorized or trained personnel. If is necessary to operate on the internal parts of the EVSE, wait at least 15 minutes after turning off the EVSE and perform the total isolation procedure.

9.2 Troubleshooting

If you get a problem on the EVSE, the below troubleshooting can help to resolve the problem.

NOTE
If you cannot find a solution for the problem, please reach out to the local entity of ABB E-mobility B.V. for support:
https://e-mobility.abb.com/contact-centers/.

Problem	Possible cause	Possible solution
The display is black and it does not light up when you press a display button	Main AC voltage is missing	Check main AC voltage presence
	Upstream AC protection trip	Check and reactivate the upstream AC protection
	EVSE internal problem	Contact ABB E-mobility Service dept.
The display shows this message: **Unable to lock the connector**	The EV charge cable is not connected correctly to the EV.	Connect the EV charge cable to the EV correctly.
	You are not authorized for the charge session	Make sure that you have authorization to charge the EV.
The display shows this message: **Unable to unlock the connector from car**	A dangerous voltage is present on the EV charging cable	• Wait 5 minutes and start/stop the charging session again. • Press the Stop button (if present).
The display shows this message: **Insulation detection error**	There is an insulation problem on the EV or the EVSE	• Try to restart the charging session • Try another EVSE to charge the EV in order to understand in the problem is coming from the EV. • If the problem come from the EVSE, reach out to the local entity of ABB E-mobility B.V. for support.
The display shows this message: **The vehicle misbehaved**	There is a communication problem between the EV and the EVSE	Reach out to the local entity of ABB E-mobility B.V. for support
The display shows this message: **Out of order**	The owner disabled the EVSE	Check if the EVSE is disabled via ABB EVCI Cloud or OCPP back-end and if required enable it.
	EVSE internal problem	Contact ABB E-mobility Service dept.

10. Technical data

This chapter contains information about the models, details of the EVSE, characteristics and technical data, overall dimensions and EVSE identification.

A description of the EVSE characteristics is provided to identify its main components and specify the technical terminology used in the manual.

Chapter recipients:



- Owner
- Qualified installer

10.1 Technical data

10.1.1 Technical data table

	C50
EVSE configuration	
Charging standard (IEC 61851-1)	Mode 4
Number of outputs	2
Number of EV served	Up to two EV in parallel
Output combinations	Output 1: CCS 2  / Output 2: CCS 2 
Cable type	Air cooled cable
Cable length and reach	Length: 4.2 m Reach: 3.9 m with integrated balancer CMS
Total system efficiency	up to 96%
DC Output	
Rated DC power	50 kW
Dynamic Power Sharing	25 kW power granularity
Rated DC voltage	150...980 V
DC current	Peak 150 A
Overvoltage category	II
AC Input	
AC connection	3 Phases + PE
Rated AC voltage	400 V +10...-15 %
Rated frequency	50 Hz ± 10%
Rated AC current	77 A
Max AC current @ min AC input voltage (400 - 10% = 360 Vac)	85 A
Maximum energy withstand short-circuit capability	0.9 MA^2s
Short circuit current (SCCR)	35 kA
Max apparent power	54 kVA
Power Factor	≥ 0.99 @ full load
Total Harmonic Distortion (THD)	< 3 %
Earthing systems	TN-S, TN-C, TN-C-S, TT (with upstream RCD)
Overvoltage category	III
Protection Class	I
AC Input breaker	3 poles, 125A, 690V AC (ABB model: 1SDA067417R1)
Protection	Overcurrent, overvoltage, undervoltage, ground fault including DC leakage protection, overtemperature, integrated SPD
SPD	Yes, Type 1 + Type 2
Mechanical	
Dimensions (H x W x D)	1967 x 653 x 235.5 mm (EVSE without CMS) 1967 x 853 x 235.5 mm (EVSE with CMS)
Mounting Type	Floor mounted
Weight	<175 kg
Enclosure type	Aluminum
IK rating	IK10 (LED, IM30 payment terminal, gun holder: IK08)
Accessibility	Meets ADA requirements for height, reach, and UI
Lifting points	4 x eyebolts (on the top of the EVSE)

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	C50
Environmental	
IP rating	IP54
Environmental type	Indoor and Outdoor
Pollution degree	3 Outside (2 Inside)
Noise level	55 dB(A) average @ 1 m, 25 °C (77 °F), ISO 11203
User Interface	
Display type	21.5” HD full color LCD
Display interface	Touchscreen, Android based “ABB E-mobility Human Guided Interface OS”
Display languages	English, French, Spanish, German, Italian, Dutch, Norwegian (others available via Software upgrade)
Lighting	Dual RGBW LED strips on top
Authentication methods	RFID, Autocharge, Plug&Charge, credit/debit card, mobile app
RFID system	ISO 14443 A+ B to part 4 and ISO/IEC 15693 and the following standards: NFC, Calypso, Ultralight, Paypass, HID
Remote Management	Access control, configuration, diagnostics, software updates
Energy metering	Ready for Eichrecht / PTB and MID compliancy for DC outlets
Connectivity	
Network Connections	Dual SIM; GSM/3G/4G; 10/100 Base-T Ethernet
Communication Protocol	Open Charge Point Protocol (OCPP) 1.6J and 2.0.1
Standards	
Mark of Conformity	CE
Safety Standards	IEC61851-23 ed.1 IEC61851-1 ed. 3
EMC Directive	IEC61851-21-2
Metering	Eichrecht
Manufactured	Europe
Vehicle Communication Protocol	DIN SPEC 70121, ISO 15118-2, ISO 15118-3, Autocharge, Plug and Charge
RED Directive	EN 301 489-1 V2.2.3:2019, EN 301 489-3 V2.3.2:2023, EN 301 489-52 V1.2.1:2021, EN 300 330 V2.1.1:2017, EN 301 908-1 V15.2.1:2023, EN 301 908-13 V13.2.1: 2022 EN 301 908-2 V13.1.1:2020
Additional standards	DC plugs compliant with IEC 62196-1:2014, IEC 62196-3:2014, Cabinet IP rating according to IEC 60529:2013, Cabinet IK rating according to IEC 62262 Edition 1.1 2021-09

10.1.2 Environmental Conditions

Caution:
Contact ABB E-Mobility (https://e-mobility.abb.com/contact-centers/.) if the EVSE is installed or operated in the presence of:
- seawater of 0...1.640 ft (0...500m)
- aerosol salt concentration larger than 100ug/m3
- conductive dust: pm 10 >100 ug/m3
- condensing humidity (i.e., 100%): >130 days per year

ABB E-mobility has the right to void the warranty in the event that this prescription is not complied with and if the EVSE is not covered by dedicated SLA (Service Level Agreement)

General risk:
The EVSE is equipped with a heater being active in harsh conditions (high humidity and very low temperature).
The installed EVSE must be energized or at least properly protected to avoid condensation or formation of ice inside the EVSE.
ABB E-mobility has the right to void the warranty in the event that this prescription is not complied with.

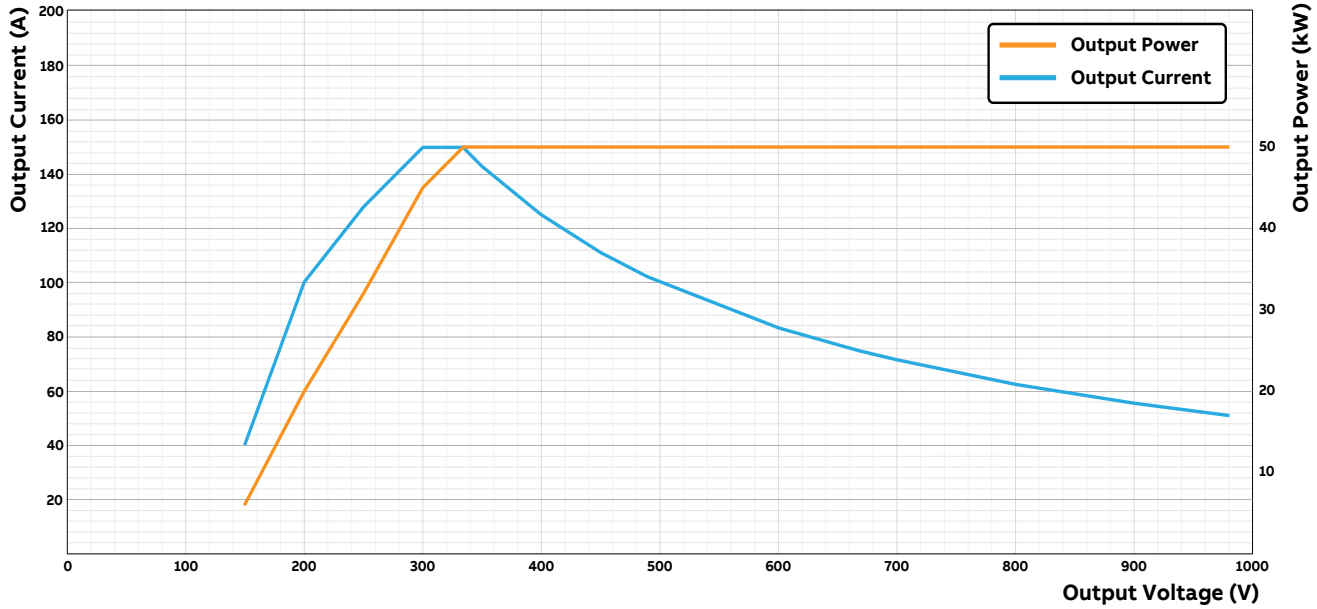
	Storage (in the package)	Transportation [4] (in the package)	Installation (Operation) [5]
Environment type	Indoor	Weather-protected [3]	Indoor and Outdoor
Ambient air temperature	-5...40 °C	-35...55 °C	-30...55 °C derating from 40 °C
Relative Humidity	5...95% @ 30 °C	5...100% @ 27 °C	5...100% @ 27 °C
Altitude (without derating)	-	-	2500 m
Condensation	No [6]	No [6]	Yes
Wind-driven precipitation	No	No	Yes
Formation of ice	No	No	Yes
Maximum storage time [1]	1 year [2]	-	-

1. Starting from manufacturing date
2. Contact ABB E-mobility if the EVSE has been stored for longer periods
3. Protected from the influences of meteorological conditions
4. Transportation conditions are those that the product can be exposed to while transported and handled in its original package
5. EVSE powered on
6. Moderate condensation on the package may occasionally occur due to variations in temperature

10.2 Output curves

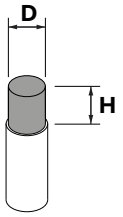
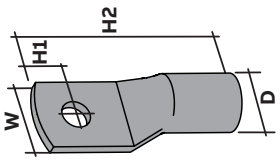
EVSE output power may be reduced by:
- Environmental conditions(e.g ambient temperature)
- Time between charging sessions
- E-Vehicle power peak duration and battery State of Charge (SoC)

10.2.1 Output power Vs output voltage and current curve



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10.3 Cable specifications

AC Input and Protective Earth (PE)			
AC cable cross section	1 x 70 mm² each phase [1] (Copper or Aluminum)		
AC connection type	Screw terminals connection on the Main AC Switch **(40)** for cables with the following dimensions.		
	Cable dimension		
	D	Ø max 9.5 mm	
	H	min 16 mm	
PE cable cross section	The PE cable should be at least half of the phase cable cross section		
PE connection type	M6 cable lug on the PE busbar **(41)**		
	Max. cable lug dimension		
	W	max 16 mm	
	H1	10 mm	
	H2	35 mm	
	D	11 mm	
	Hole	Ø6.5 mm	
AC multi core cable diameter L1, L2, L3 and PE (Grommet on cable entry plate)	Max. 36 mm		
Insulation	Material serviceable for outdoor, UV-protected and suitable for use in underground ducts according to local rules.		
Ethernet			
CAT	CAT 5e (recommend) CAT 6 (high presence of electromagnetic interference and/or noise)		
Ethernet cable diameter (cable entry plate)	7...13 mm		
Insulation	Material serviceable for outdoor, UV-protected and suitable for use in underground ducts according to local rules.		
External Stop button (option)			
Number of wires	2		
Max. Wires cross section	0.22...4 mm²		
Cable diameter (cable entry plate)	7...13 mm		
Conductor	Fine strand copper wire		
Insulation	Material serviceable for outdoor, UV-protected and suitable for use in underground ducts according to local rules.		

1. Electrical designers/qualified installers shall select the proper conductor cross section depending on type of core, insulation, ambient temperature, method of installation and other conditions.

10.4 Torque specification

Component to be fastened	Specification [Nm]
PE connection busbar	6
L1, L2, L3 connection terminals	5 (cable 16...70 mm²)
Fasteners to connect the Concrete foundation interface plate **(26)** to the Concrete foundation **(25)** (M12 bolt)	62.5 ± 20%
Fasteners to connect the EVSE to the Concrete foundation interface plate **(26)** (M10 bolt)	16

11. Attachments

In this section additional technical drawing, specification, schematics are given.

NOTE
If you need further information, reach out to the local entity of ABB E-mobility B.V. for support:
https://e-mobility.abb.com/contact-centers/

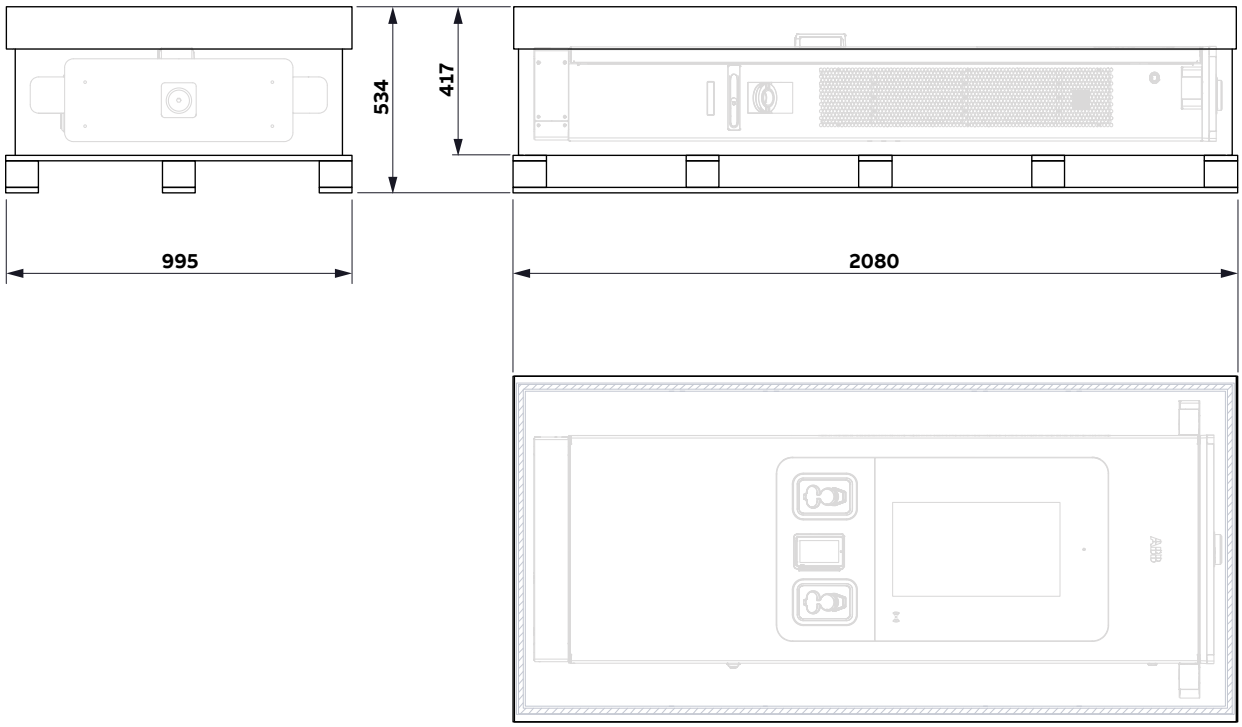
Chapter recipients:

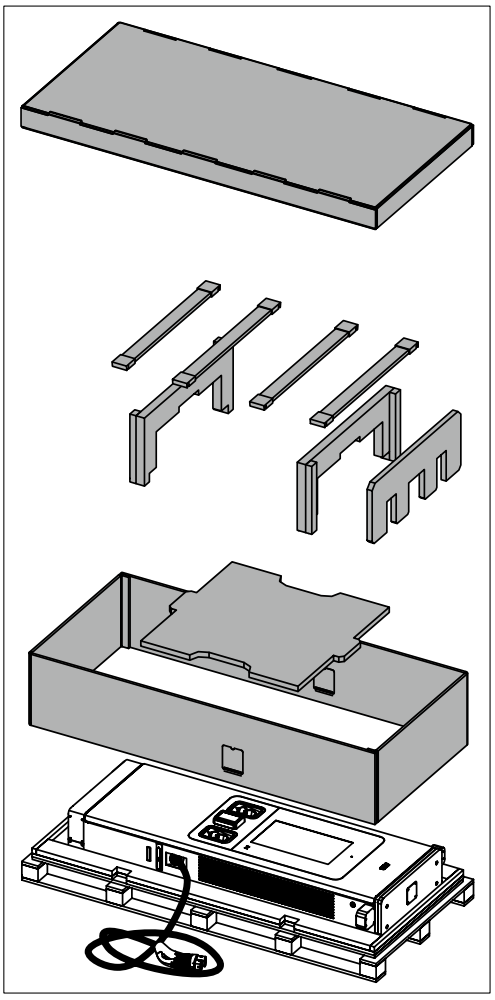
- Owner
- Qualified installer

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11.1 Dimensions of packaged EVSE

NOTE
The measurements in the drawing are in inches and millimeters [in (mm)]

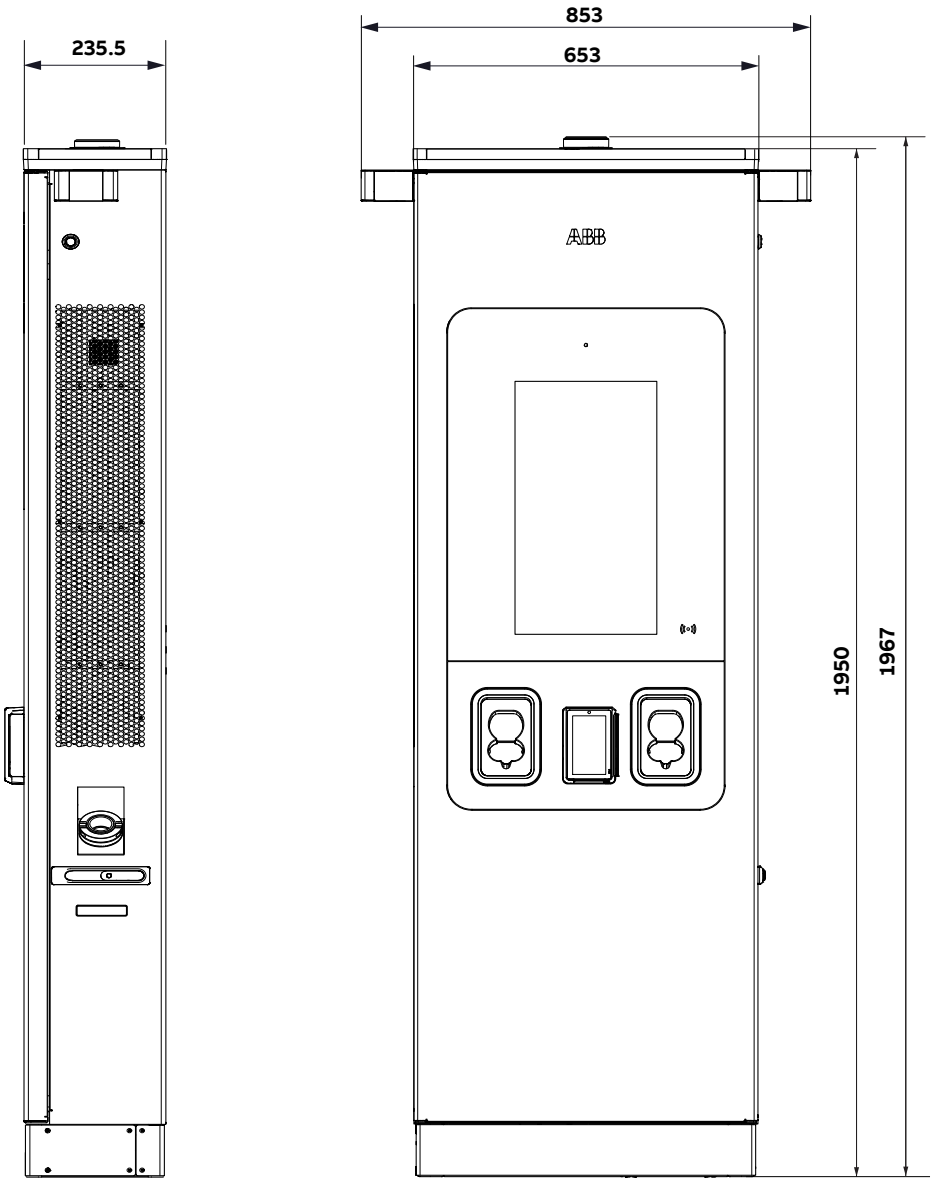


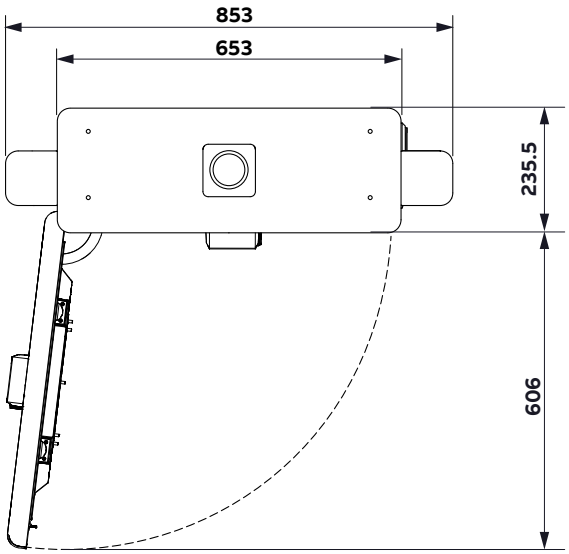


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11.2 Dimensions of unpackaged EVSE

NOTE
The measurements in the drawing are in millimeters (mm)

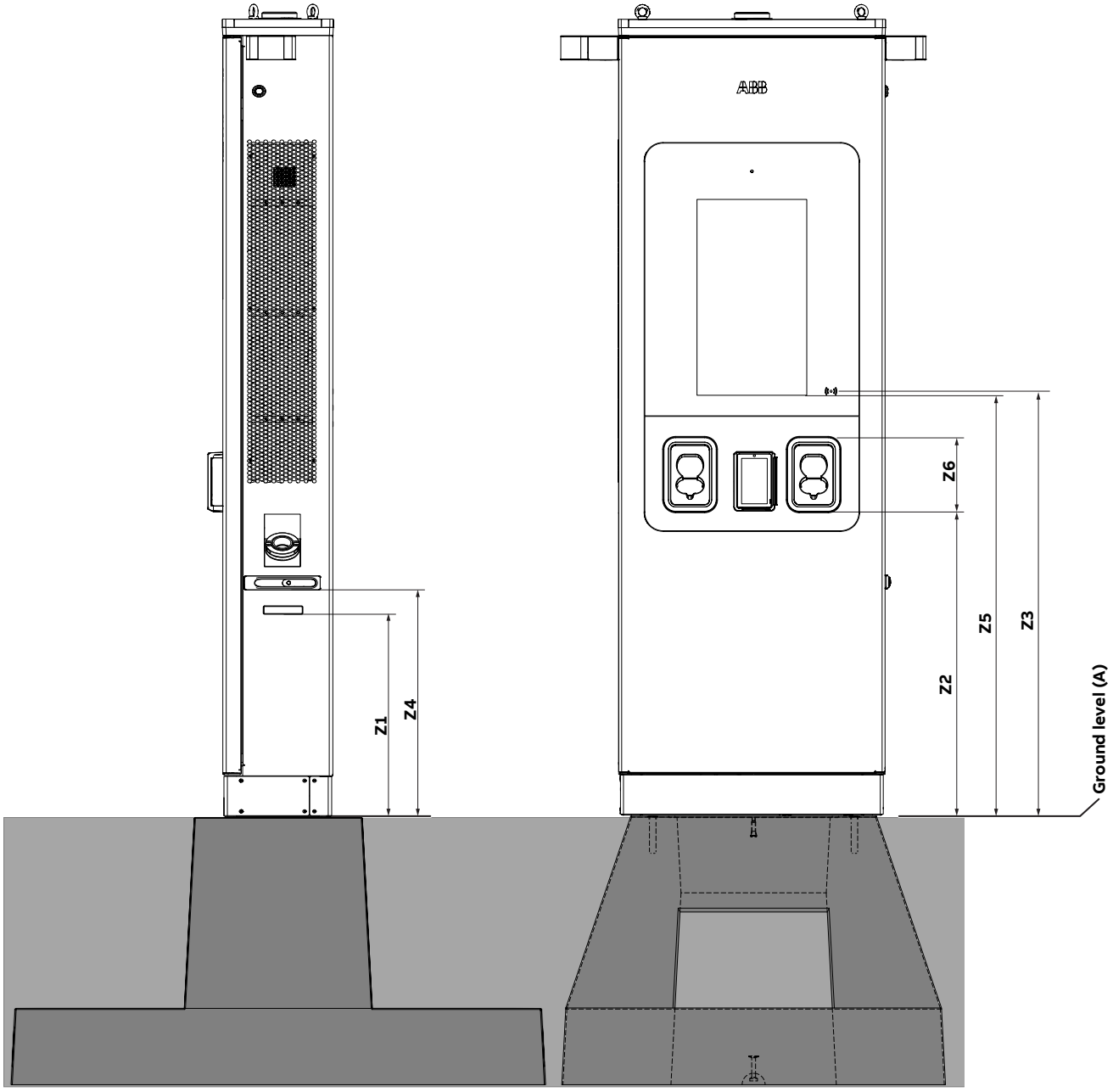




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11.3 Height of user operable elements

NOTE
The measurements in the drawing are in millimeters (mm)



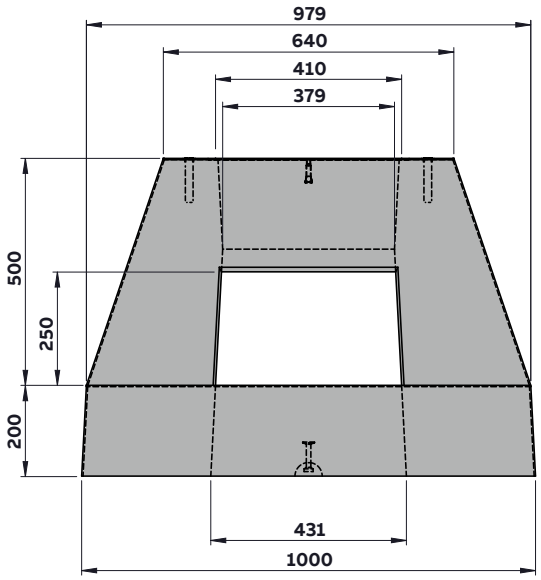
Parameter	Description	Specification [in (mm)]
A	Foundation/Ground level	0 mm
Z1	Meter display (lowest height of user operable elements on the EVSE)	496 mm
Z2	Heights of connector holders and payment terminal	743.9 mm
Z3	Height of RFID reader	1036.6 mm
Z4	Height of Swing handle lock	554.7 mm
Z5	Height of touchscreen display (highest height of user operable element on the EVSE)	1029 mm
Z6	Heightof gun holder	182.1 mm

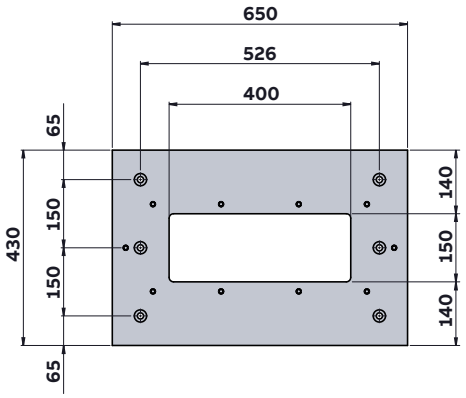
11.4 Prefabricated foundation

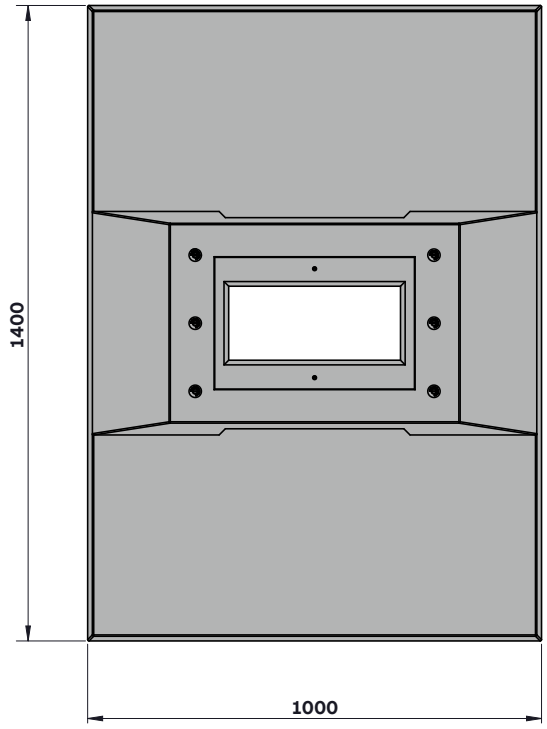
The drawing shows all the necessary measurements of the prefabricated foundation:

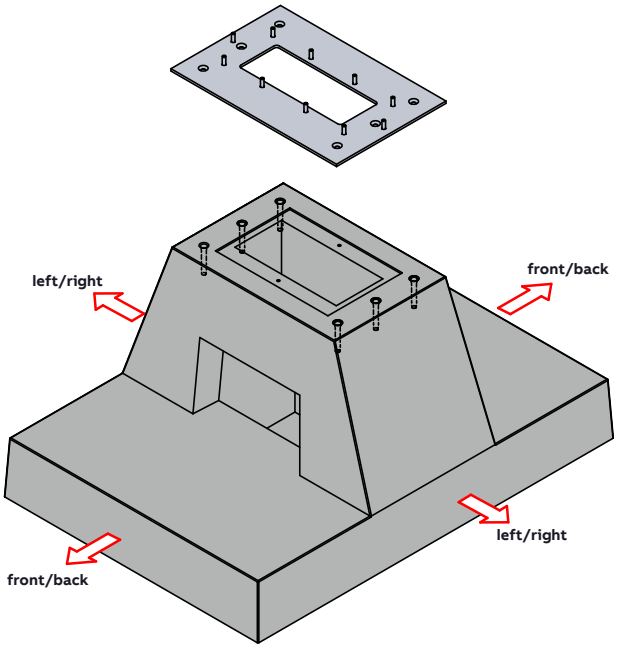
NOTE
The measurements in the drawing are in millimeters (mm).
On the top side of the prefabricated foundation an arrow indicates the front side.

NOTE
Each side has a square hole (250 x 200 mm) to fit the underground cable conduits.









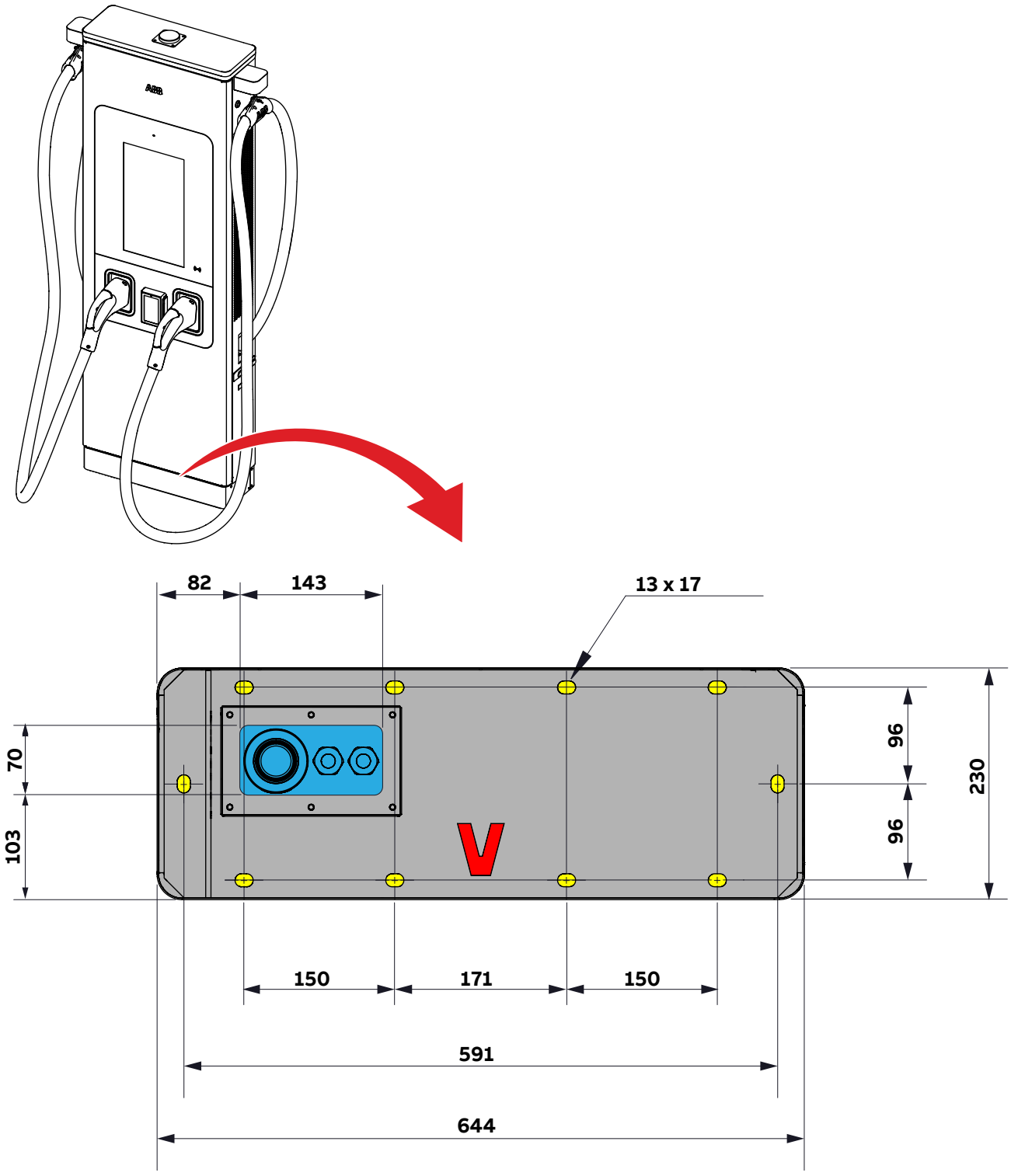
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11.5 EVSE Footprint for custom foundation

The drawing (top view) shows all the necessary measurements to prepare a custom foundation:
- drill the holes to fasten the EVSE to the floor/basement (in yellow)
- prepare the position of the cables coming from the underground cable conduit (in blue)

NOTE
The red arrow indicates the front side of the EVSE.

NOTE
The measurements in the drawing are in millimeters (mm).



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https://e-mobility.abb.com/

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EFFECTIVE 16/03/2026