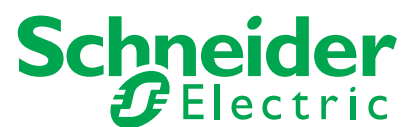
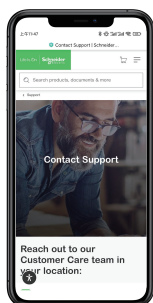


en Installation Manual

Schneider StarCharge Fast 720 Power Cabinet



Customer Care Center



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Legal Information



The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

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Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

General

Warning Symbols Definitions

The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

▲ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

▲ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

▲ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Safety Instructions

▲ ▲ DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices or equivalent local standards.
 - This equipment must only be installed, commissioned and serviced by qualified electrical personnel.
 - Turn off all power supplying this equipment before working on or inside equipment.
 - Always use a properly rated voltage sensing device to confirm power is off.
 - Do not use this product if the enclosure, EV cable, or the EV connector is broken, cracked, open, or shows any other indication of damage.
 - Do not put fingers or objects into the electric vehicle connector.
 - The use of extension DC cables or vehicle connector adapters is not permitted.
- Failure to follow these instructions will result in death or serious injury.**

▲ WARNING

RISK OF BURNING

- Do not store flammable and explosive materials near the Power Cabinet.
 - In case of overheating or fire starting near the Power Cabinet, press the emergency charge stop button of the Power Cabinet and unplug the car. Move away from the Power Cabinet and call the fire department.
- Failure to follow these instructions can result in death, serious injury, or equipment damage.**

▲ CAUTION

HAZARD OF DEGRADATION OF EQUIPMENT PERFORMANCE

- You must be a licensed electrician and complete a training course to become a Schneider StarCharge Fast Power Cabinet certified installer.
 - Schneider Electric will not accept any liability for consequences arising from the use of this material. Do not modify any mechanical or electrical parts.
 - A qualified person is a person who has the skills and know-how relating to the construction, installation and operation of electrical equipment and who has received a safety training which enables him to recognize and avoid risks.
- Failure to follow these instructions can result in injury or equipment damage.**

NOTICE

RISK OF DAMAGING

- Schneider StarCharge Fast Power Cabinet should be installed, operated, serviced and maintained only by qualified personnel.
- Schneider Electric will not accept any liability for consequences arising from the use of this material.
- A qualified person is a person who has the skills and know-how relating to the construction, installation and operation of electrical equipment and who has received a safety training which enables him to recognize and avoid risks.

Failure to follow these instructions can result in equipment damage.

Radio Equipment Conformity

EU Declaration of Conformity

Schneider StarCharge Fast 720 Power Cabinet is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive: 2014/53/EU.

The EU declaration of conformity for Schneider StarCharge Fast 720 Power Cabinet offer (EU1007172-0) can be downloaded on: www.se.com/docs.

UK Declaration of Conformity

Schneider StarCharge Fast 720 Power Cabinet is in compliance with the essential requirements and other relevant provisions. of Radio Equipment Regulations 2017-UK SI 2017 No.1206.

The UK declaration of conformity for Schneider StarCharge Fast 720 Power Cabinet offer (UK1007176-0) can be downloaded on: www.se.com/uk/docs.

Communication Frequencies

	Operation Frequency	Output Power
GSM900:	TX: 880 MHz to 915 MHz RX: 925 MHz to 960 MHz	25.81 dBm
GSM1800:	TX: 1710 MHz to 1785 MHz RX: 1805 MHz to 1880 MHz	22.81 dBm
WCDMA		
Band1:	TX: 1920-1980 MHz RX: 2110-2170 MHz	25.00 dBm
Band8:	TX: 880-915 MHz RX: 925-960 MHz	25.00 dBm
LTE		
Band1:	TX: 1920-1980 MHz RX: 2110-2170 MHz	25.00 dBm
Band3:	TX: 1710-1785 MHz RX: 1805-1880 MHz	25.00 dBm
Band7:	TX: 2500-2570 MHz RX: 2620-2690 MHz	25.00 dBm
Band8:	TX: 880-915 MHz RX: 925-960 MHz	25.00 dBm
Band20:	TX: 832-862 MHz RX: 791-821 MHz	25.00 dBm
Band28:	TX: 703-748 MHz RX: 758-803 MHz	25.00 dBm
Band38:	2570-2620 MHz(TDD)	25.00 dBm
Band40:	2300-2400 MHz(TDD)	25.00 dBm
Band41:	2496-2690 MHz(TDD)	25.00 dBm

Wireless Frequencies

Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate
IEEE 802.11b	2412~2472	DSSS	20MHz	Up to 11Mbps
IEEE 802.11g	2412~2472	OFDM	20MHz	Up to 54Mbps
IEEE 802.11n 2.4GHz 20MHz	2412~2472	OFDM	20MHz	Up to 72.2Mbps
Channel Number	IEEE 802.11b/g, IEEE 802.11n HT20: 13 Channels			
Channel Step	WiFi: Channels with 5MHz step			

Standards and Compliance

Directive RE: 2014/53/UE	RE Directive: 2014/53/EU
Directive RoHS: 2011/65/UE, 2015/863/UE	RoHS Directive: 2011/65/EU: 2015/863/EU

Based on following standards:

EN IEC 61851-1:2019+AC:2023-12, EN 61851-23:2014+AC:2016-06, EN 61851-24:2014 + AC:2015, EN 61000-6-2:2005 + AC 2005,

EN IEC 61000-6-2:2019*, EN 61000-6-4:2007 + A1:2011, EN IEC 61000-6-4:2019**, EN IEC 61851-21-2:2021***

EN 301 489-1 V1.9.2(2011-09), EN 301 489-1 V2.2.3(2019-11)****, EN 301 489-17 V3.2.4(2020-09),

EN 301 489-17 V3.3.1(2024-09), EN 301 489-52 V1.2.1(2021-11), EN 301 489-52 V1.3.1(2024-11)

EN 301 511 V12.5.1(2017-03), EN 301 908-1 V15.2.1(2023-01), EN 301 908-2 V13.1.1(2020-06),

EN 301 908-13 V13.2.1(2022-02), EN 301 908-13 V13.3.1(2024-10)****, EN 300 328 V2.2.2(2019-07)

EN 62311:2008, EN IEC 62311:2020, EN 62479:2010

IEC 61439-7:2018

EN IEC 63000:2018

EN 18031-1:2024, EN 18031-2:2024, EN 18031-3:2024

* The EN IEC 61000-6-2:2019 is not an harmonized standard but the Schneider StarCharge Fast 720 Power Cabinet is already compliant with EN IEC 61000-6-2:2019.

** The EN IEC 61000-6-4:2019 is not an harmonized standard but the Schneider StarCharge Fast 720 Power Cabinet is already compliant with EN IEC 61000-6-4:2019.

*** The EN IEC 61851-21-2:2021 is not an harmonized standard but the Schneider StarCharge Fast 720 Power Cabinet is already compliant with EN IEC 61851-21-2:2021.

**** The EN 301 489-1 V2.2.3(2019-11) is not an harmonized standard but the Schneider StarCharge Fast 720 Power Cabinet is already compliant with EN 301 489-1 V2.2.3(2019-11).

***** The EN 301 908-13 V13.3.1(2024-10) is not an harmonized standard but the Schneider StarCharge Fast 720 Power Cabinet is already compliant with EN 301 908-13 V13.3.1(2024-10).

Important



To help you make the best use of your Charging Station, we have prepared this manual with the utmost care. It provides all the information you need to prepare for the installation and to install your equipment.

We urge you to read it attentively and follow its instructions.

- The product must be installed according to the specifications and requirements as defined by Schneider Electric. No responsibility is assumed by Schneider Electric if these requirements are not respected.
- Non-approved installation methods are performed at the risk of the contractor and void the (limited) warranty.
- Under no circumstances will compliance with the information in this manual relieve the user of his/her responsibility to comply with all applicable codes or safety standards.
- This document describes the most used installation and mounting scenarios.
- If situations arise in which it is not possible to perform an installation following the procedures provided in this document, contact Schneider Electric.
- Schneider Electric is not responsible for any damages that may result from custom installations that are not described in this document or for any failure to adhere to installation recommendations.

Preface

This guide describes the planning and physical installation of the Schneider StarCharge Fast 720 Power Cabinet. The Schneider StarCharge Fast 720 Power Cabinets are easy to install DC fast Charging Station for electric vehicles. Fast Charging Station are electrical installations with high electric currents. Therefore, the installation must be planned carefully, and must be done by certified personnel only (according to local standards).

The Schneider StarCharge Fast 720 Power Cabinet is scalable from 480kW to 720kW with 40kW power module, and the Schneider StarCharge Fast 480 Power Cabinet is scalable from 360kW to 480kW with 30kW power module. Will it bring any confusion about 480kW type because of the power module mentioned here is 30kW, but in the previous sentence which described that 40kW power module will be applied.

As the physical installation of all types is equal, they will be referred to hereafter as Schneider StarCharge Fast 720 Power Cabinet only and this will account for all types, unless specifically stated otherwise.

Schneider StarCharge Fast 720 Power Cabinet is available in different versions. The different versions are described in the scope of application section.

NOTE: Installing the Schneider StarCharge Fast 720 Power Cabinet requires at least two people and takes approximately 1-2 hours. This time estimate does not include the time needed to commission the Power Cabinet.

Scope of Application

Type of equipment applicable to this manual: Schneider StarCharge Fast 360-480 Power Cabinet; Schneider StarCharge Fast 480-720 Power Cabinet List of references supported are:

Commercial Reference	Nominal Power	Power module
EVD1S720	720kW DC	40kW * 18pcs
EVD1S480	480kW DC	40kW * 12pcs
EVD1S483	480kW DC	30kW * 16pcs
EVD1S360	360kW DC	30kW * 12pcs

*For more customized commercial reference, please contact Schneider Electric.

⚠ CAUTION

RISK OF TRIPPING ON LOOSE CABLE

- For versions not equipped with cable management system, it is mandatory to allocate a solution or space to place the cable in order to prevent cars from running on it.

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

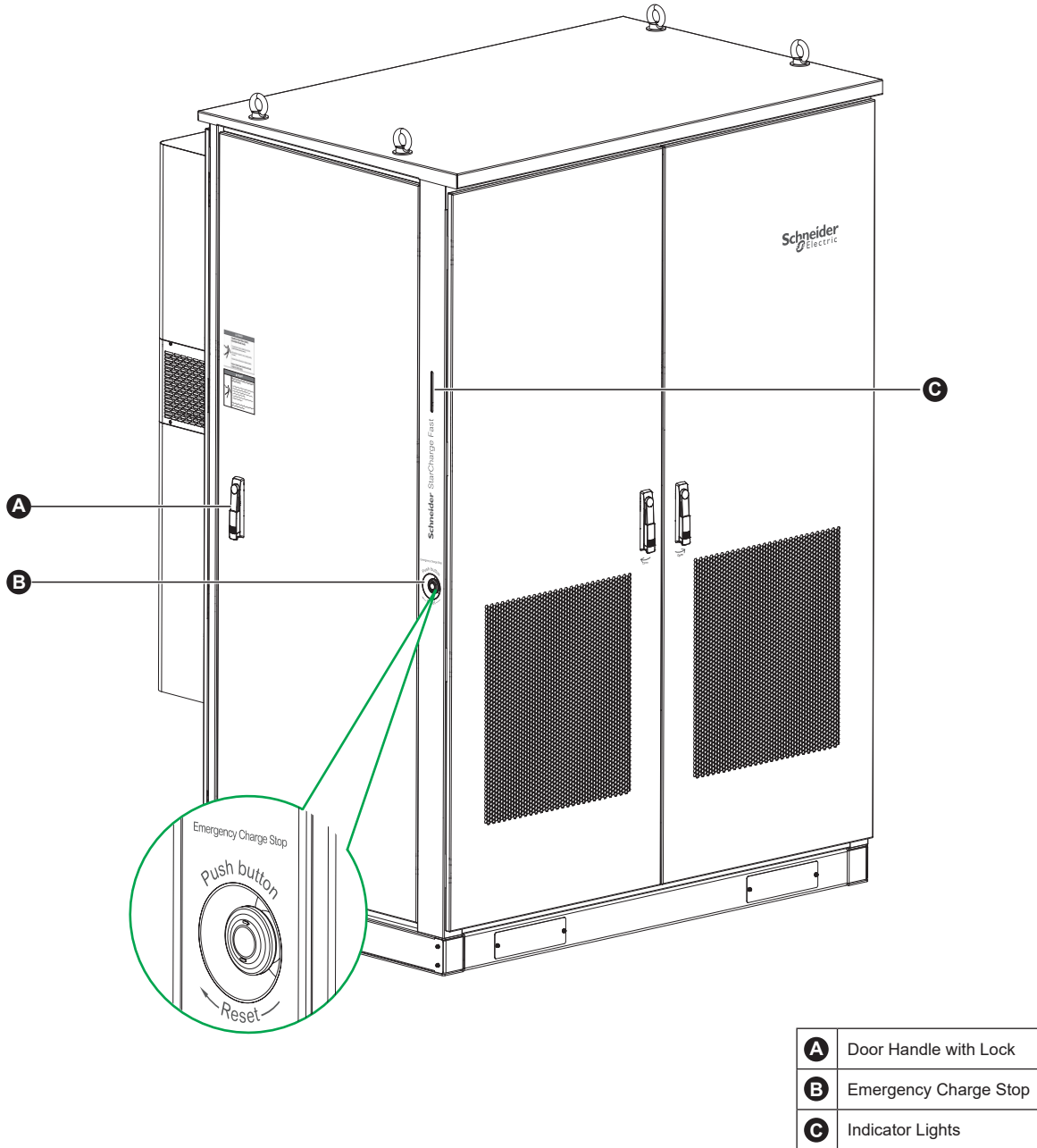
Available Documentation

Schneider StarCharge Fast available documents for each phase of the project:

Document	Reference	Content	Audiences
Schneider StarCharge Fast 720 Datasheet	998-24285450	Full Power Cabinet specifications	Site designer, installer, and station operator
Schneider StarCharge Fast 720 Power Cabinet Installation Guide	JPS6871301	Civil, mechanical, and electrical installation guidelines	Site engineer or installer/contractor
Schneider StarCharge Fast 720 Dispenser Installation Guide	JPS7899601	Civil, mechanical, and electrical installation guidelines	Site engineer or installer/contractor
Schneider StarCharge Fast 720 Owners Guide	D3998049	Operation and maintenance guidelines	Site operator and end user
Schneider StarCharge Fast 720 Commissioning Guide	D3998054	Electrical and Communication guidelines	Site engineer or installer/contractor/station operator
Schneider StarCharge Fast 720 OCPP Guide	D3999127	Integration rule of charger for Charge Point Operator	Charge Point Operator/Contractor
Schneider StarCharge Fast 720 Cybersecurity Guide	D3999124	Cybersecurity rules and guidelines	Charge Point Operator/Contractor

1

System Overview



2

Installation Environment

The environmental conditions listed in the table below should be taken into consideration when selecting the installation site of the Schneider StarCharge Fast 720 Power Cabinet.

Environmental parameter	Permissible Conditions
EMC environment	Industrial environment – Class A
Ambient temperature	-30°C ~ 55°C, derating after 50°C
Humidity	5%~ 95%
Altitude	Up to 2000 m
Degree of protection	IP55
Mechanical impact protection	IK10
Pollution degree	PD3
Mounting method	Stationary equipment, ground mounted or floor mounted
Ambience	Non explosive environments Housing corrosion protection level C4M Example of environment <ul style="list-style-type: none"> ■ Outdoor: Urban and industrial atmospheres, moderate sulphur dioxide pollution, coastal area with low salinity ■ Indoor: Production rooms with high humidity and some air pollution
Location	Avoid accumulation of sand, dust, snow etc

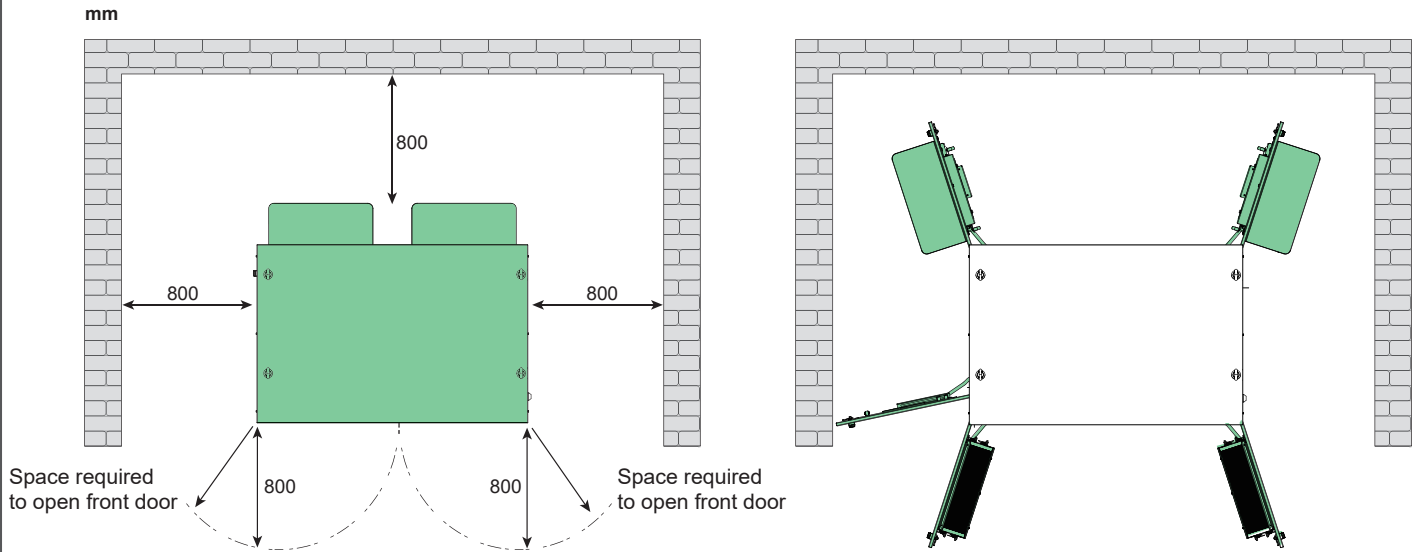
NOTE: Contact Schneider Electric if the Power Cabinet will be installed closer than 4 km to a sea/ocean coastline.

3.1 Maintenance Distance

NOTICE

RISK OF EQUIPMENT DAMAGE

Always follow the instructions described below when Power Cabinets need to be installed near walls or other obstacles, a certain maintenance distance needs to be allocated. Failure to follow these instructions can result in equipment damage.



NOTE: Ensure that enough space is available around the installation pad to use a forklift and other lifting equipment, unpack crates, remove packing materials, and allow two people to freely move throughout the area.

3.2 Underground Concrete Base

⚠ WARNING

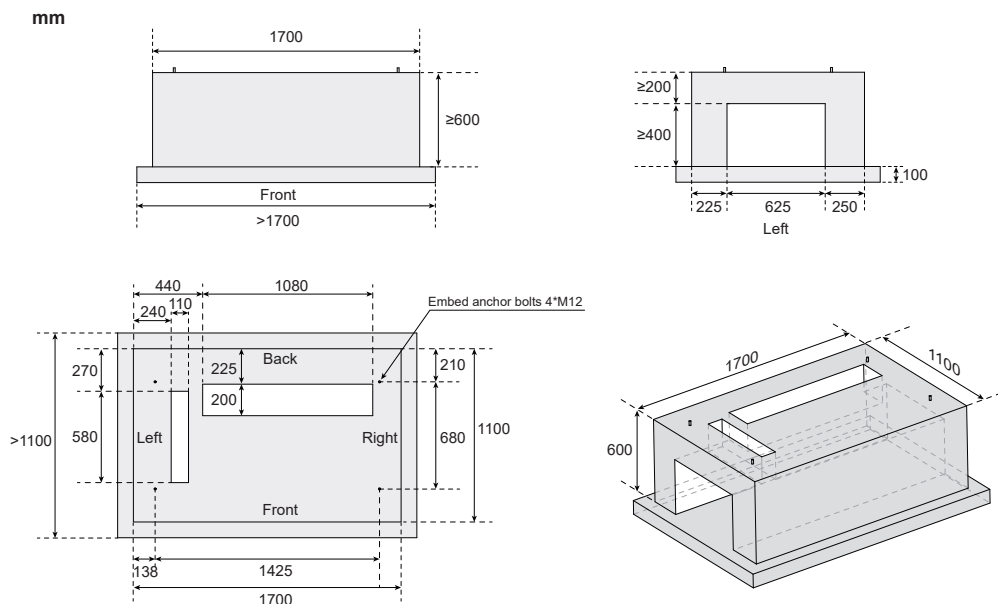
HAZARD OF HEAVY EQUIPMENT FALLING

- The Schneider StarCharge Fast Charging Station shall be mounted on concrete flooring. If the Power Cabinet will be installed outdoors in sandy or soil ground or on a frost line, a concrete base is mandatory.
 - Always follow the instructions and information provided in this guide or a Schneider Electric-approved mounting solution, to install the Schneider StarCharge Fast 720 Power Cabinet.
 - Non-approved installation methods are performed at the risk of the contractor and void the limited warranty.
- Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Before beginning work, check that the site meets these civil and mechanical requirements outlined below, as illustrated in the following image.

1. Underground concrete base guidelines

- The concrete pad must have a site drawing approved by a structural engineer for this specific site considering the soil behavior and/or any frost line and conforms to the mentioned specifications. Ensure a flat surface level with slight outward slope to drain any water, ensuring no obstacles prevent water draining from the base. The top of the concrete base must be at least 200mm higher than the 0 finish floor level, and should not be higher than 200mm above the 0 finish floor. However it may be higher according to the different site situations and local regulations. Please consider the height of the door handle, emergency charge stop button, and indicator light when designing the concrete base elevation.



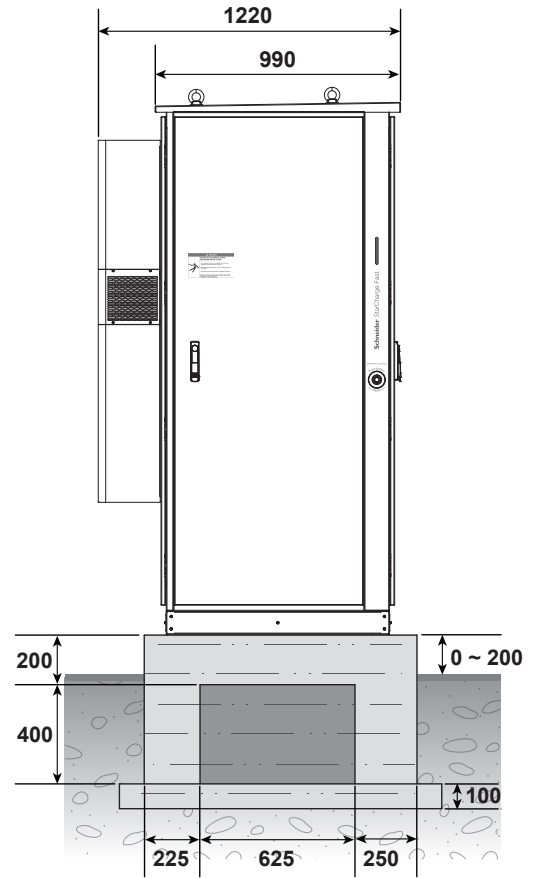
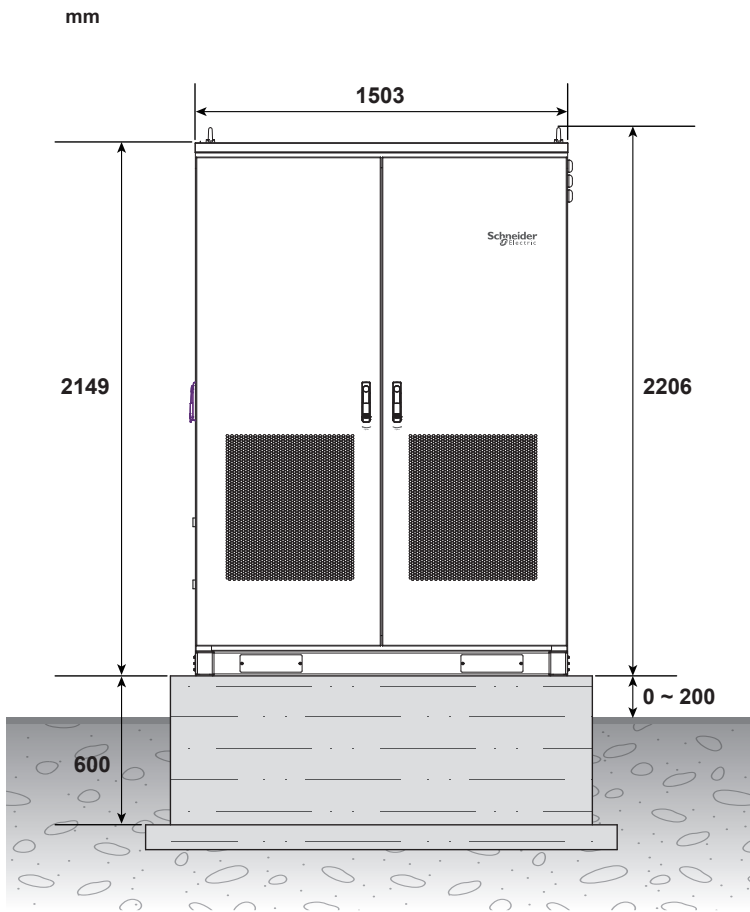
- After the concrete has dried, 4 M12 screws with length L = 250 mm are fixed into the concrete pad according to the provided template (Appendix 2) with 30 - 40 mm of threads exposed.

3

Site Preparation

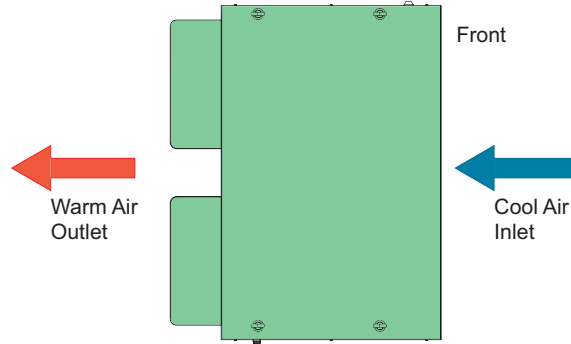
3.2 Underground Concrete Base

2. Installation and construction



3.3 Ventilation Requirements

Ventilation of the Power Cabinet



3.4 Signage and Location

Use road signs and/or special marking to direct drivers to the Charging Station locations and to distinguish the Electric Vehicle parking spaces from ICE (Internal Combustion Engine) vehicles spaces.

To provide a secure comfortable environment for users, and to prevent vandalism and/or theft:

- Install the Charging Station in a location where it can be clearly seen and/or monitored.
- Use 24/7 security control.
- Install sufficient lighting around the Charging Station.
- For a comfortable user experience it is recommended to install a shed or other protection from the direct sunlight while using the Charging Station.

3.5 Bollards

It is advised to place bollards around the Charging Station to protect against cars collisions.

NOTE: Bollards limiting the access

When installing bollards around the Charging Station make sure all doors can still be opened to be able to service the Charging Station.

In case bollards are installed that are blocking the doors, make sure they are the removable kind.

If removable bollards are used, ensure the tool/key required to remove them is available in case of the Charging Station requiring services.

3.6 Tilt / Collision Sensor

Schneider StarCharge Fast 720 Power Cabinet is equipped with a tilt sensor that will interrupt output power/charging session if the sensor detects a tilt in the cabinet in any direction, for example if a vehicle collides with the Power Cabinet.

If triggered the indicator light will turn RED and any ongoing charging session will stop. The relevant error code will be relayed to the OCPP backend if connected.

▲ WARNING**RISK OF FIRE AND/OR EQUIPMENT DAMAGE**

- Ensure the appropriate circuit protection, and metering is in place at the installation site.
- Ensure that a grounding conductor that complies with local codes is properly grounded to earth at the power distribution equipment.
- Ensure that a correctly rated, dedicated breaker is installed for each Power Cabinet.
- In the event of irregularities or disturbances in the operation of the device press the emergency charge stop button and unplug your car.
- In France, if the maximum power delivered by the product is modified, it has to be indicated on the product by customer.

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

The electrical requirements for each type of Power Cabinet shall be followed according to this table:

Electrical Parameters	
Rated supply voltage	380 V – 415 Vac +/- 10 % 50 / 60 Hz
Earthing system	– TT – TN-S/TN-C-S
Protection against electric shock	Class I
Connection method	Permanently connected
Rated insulation voltage	500 V
Rated impulse withstand voltage	4 kV
Rated conditional short-circuit current	50 kA
Power factor	0.99 at nominal output power
Efficiency	Up to 97% (power module)
THDi	<5 % at nominal output power

Upstream Protection	
Circuit breaker*	3PH + N + PE
*It is required to use circuit breaker, and type A residual current protection may be installed upstream in accordance with local regulations or customer application.	
Nominal output power	720kW 480kW 360kW
Rated input current	1139A 759A 570A
Max input current	1266A 843A 633A

Cable Type	
Suggested cable type	U1000 R2V Fine or Extra Fine Wire Strands

Cable Entry	
Suggested copper conductor cross section:	
* The Power Cabinet requires 2 AC input power supply circuits: Circuit 1 and Circuit 2. The upstream circuit breakers and cables for each circuit should be selected according to half of the rated current and maximum current of the Power Cabinet.	

From	To	Function	Suggested cable with copper conduct		Suggested cable with aluminum conduct		
			Single-core cable	Multi-core cable	Single-core cable	Multi-core cable	
Power distribution panel	480~720 kW range power cabinet	Circuit 1: L1	2 x (0.6kV/1kV 1 x 240mm ²)	Not applied	Not applied	Not applied	
		Circuit 1: L2	2 x (0.6kV/1kV 1 x 240mm ²)				
		Circuit 1: L3	2 x (0.6kV/1kV 1 x 240mm ²)				
		Circuit 1: N	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 1: PE	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 2: L1	2 x (0.6kV/1kV 1 x 240mm ²)				
		Circuit 2: L2	2 x (0.6kV/1kV 1 x 240mm ²)				
		Circuit 2: L3	2 x (0.6kV/1kV 1 x 240mm ²)				
		Circuit 2: N	2 x (0.6kV/1kV 1 x 120mm ²)				
Power distribution panel	360~480 kW range power cabinet	Circuit 1: L1	2 x (0.6kV/1kV 1 x 120mm ²)	2 x (0.6kV/1kV 3 x 150mm ² + 2 x 95mm ²)	2 x (0.6kV/1kV 1 x 185mm ²)	2 x (0.6kV/1kV 3 x 240mm ² + 2 x 120mm ²)	
		Circuit 1: L2	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 1: L3	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 1: N	1 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 1: PE	1 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 2: L1	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 2: L2	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 2: L3	2 x (0.6kV/1kV 1 x 120mm ²)				
		Circuit 2: N	1 x (0.6kV/1kV 1 x 120mm ²)				
Power distribution panel	Power cabinet	Passive dry contact signal for opening upstream breakers	Not applied	1 x (RVV 2 x 0.5mm ²)	Not applied	Not applied	
Router on-site	Power cabinet	Ethernet connection with CSMS backend	Not applied	1 x RJ45 CAT 6 shielded twisted pairs Ethernet cable	Not applied	Not applied	
Power cabinet	Each dispenser	ConnectorA: DC+	2 x (0.6kV/1kV 1 x 150mm ²)	Not applied	2 x (0.6kV/1kV 1 x 240mm ²)	Not applied	
		ConnectorA: DC-	2 x (0.6kV/1kV 1 x 150mm ²)		2 x (0.6kV/1kV 1 x 240mm ²)		
		Connector B: DC+	2 x (0.6kV/1kV 1 x 150mm ²)		2 x (0.6kV/1kV 1 x 240mm ²)		
		Connector B: DC-	2 x (0.6kV/1kV 1 x 150mm ²)		2 x (0.6kV/1kV 1 x 240mm ²)		
		PE	1 x (0.6kV/1kV 1 x 25mm ²)		1 x (0.6kV/1kV 1 x 35mm ²)		
		230VAC power supply: L	Not applied		1 x (RVV 2 x 4mm ²)		Not applied
		230VAC power supply: N	Not applied				
Ethernet connection between power cabinet and dispenser	Not applied	1 x RJ45 CAT 6 shielded twisted pairs Ethernet cable	Not applied	Not applied			

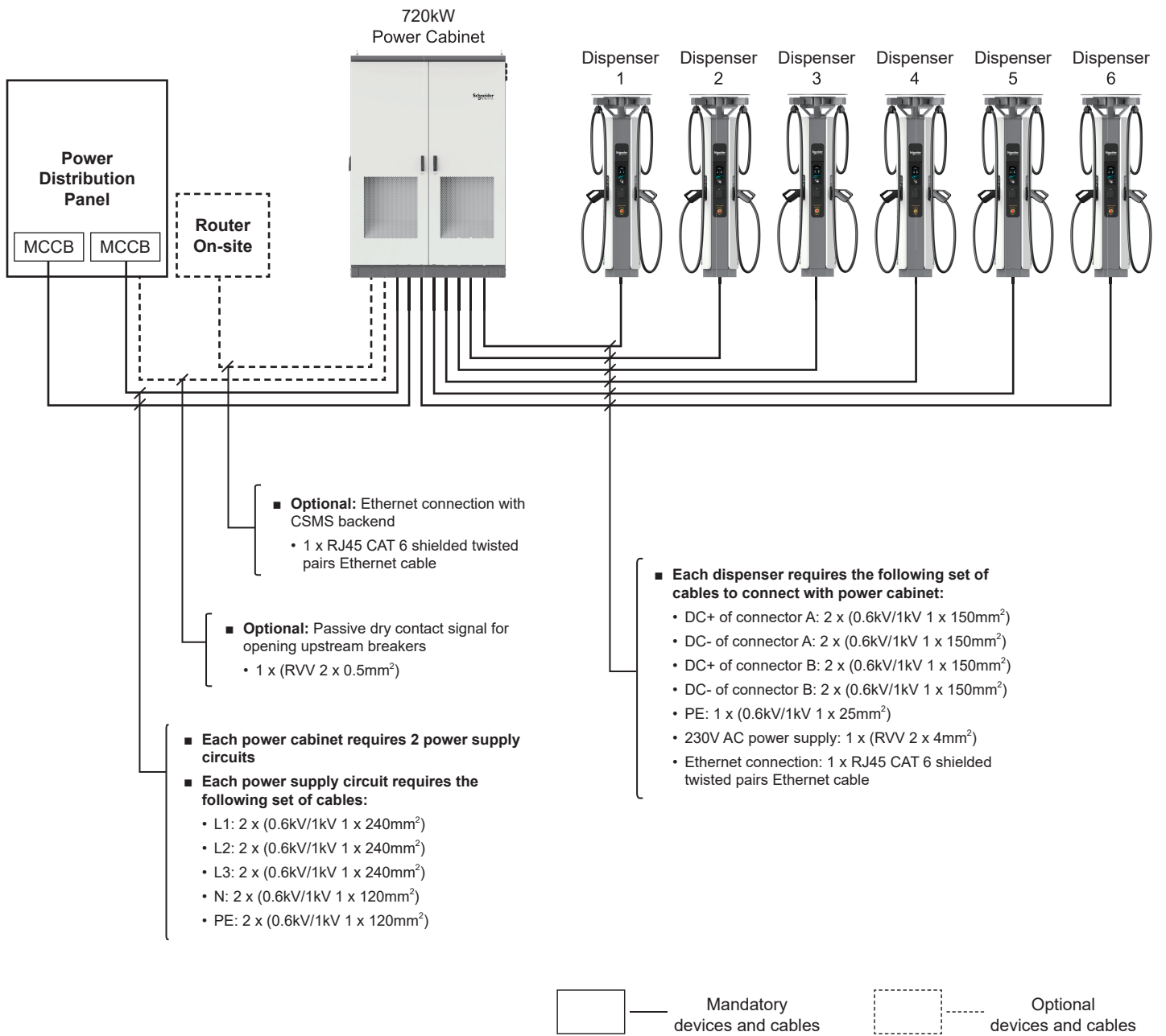
NOTE:

- The suggested cross-section above is based on the conditions: single-core or multi-core XLPE insulation cables on unperforated tray (reference installation method C in IEC 60364-5-52), single-layer touching arrangement, 40°C ambient air temperature.
- The necessary cable size calculations need to be verified according to site conditions, cable route, length, voltage drop. If you have future upgrade plans, it is recommended to install electric infrastructure suitable for the future installation.
- The AC busbars L1, L2 and L3 of Power Cabinet support the connection of a maximum of 2 copper or aluminum conductor cables with a cross-sectional area of 240mm². The AC busbars N and PE of Power Cabinet support the connection of a maximum of 2 copper or aluminum conductor cables with a cross-sectional area of 120mm².
- The DC busbars DC+ and DC- of Power Cabinet and Dispenser support the connection of a maximum of 2 copper or aluminum conductor cables with a cross-sectional area of 240mm².
- Bimetallic lugs must be used in the case of Aluminum cables.

4

Electrical Requirements

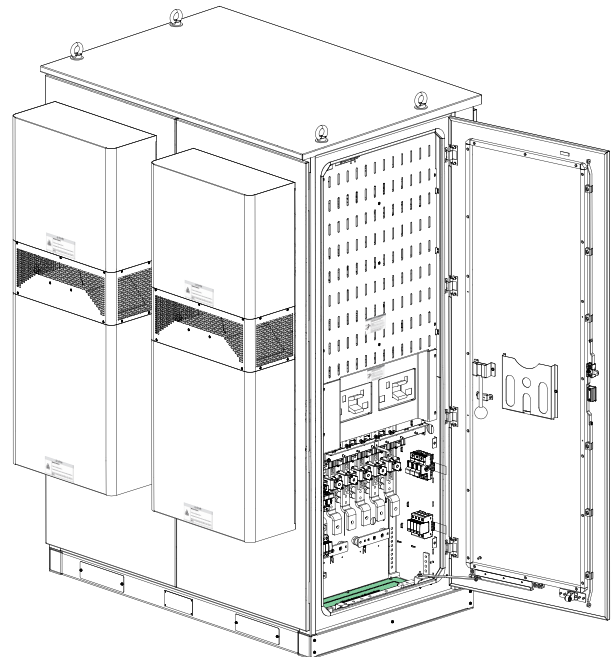
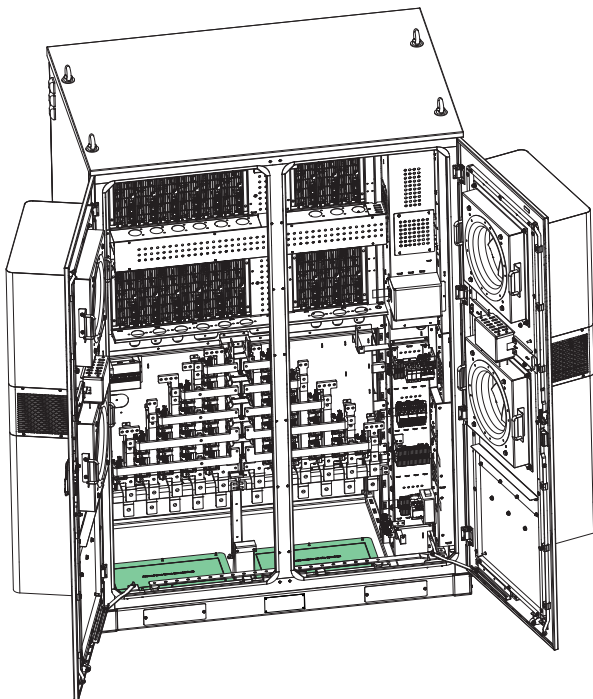
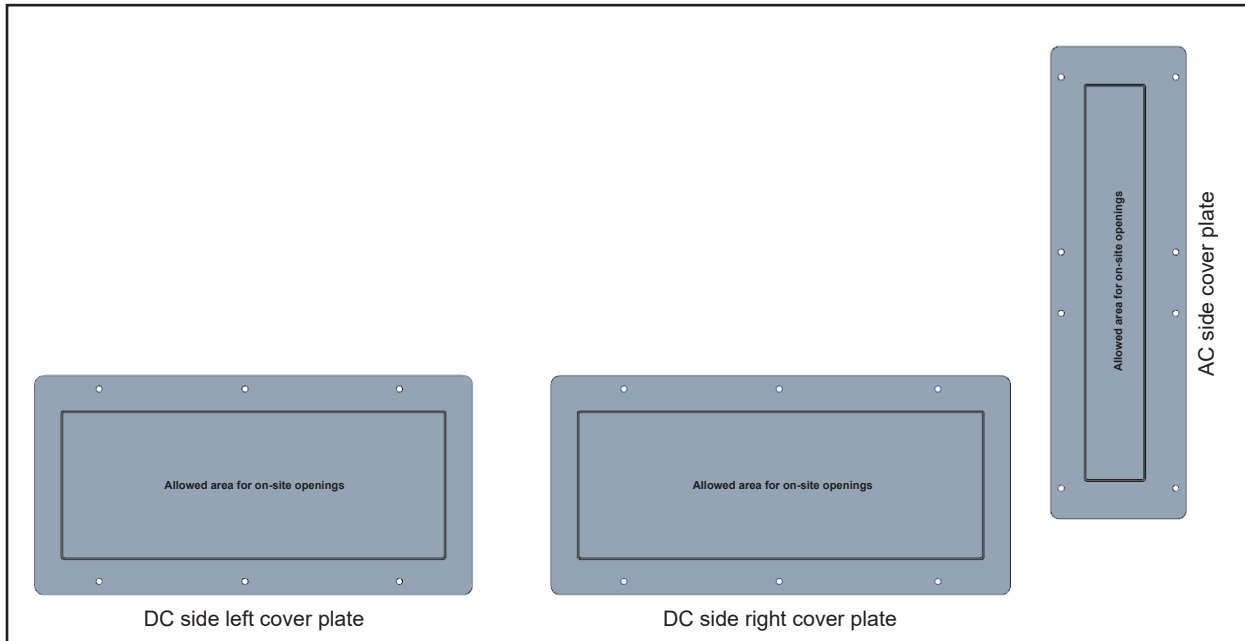
Wiring diagram (taking 720kW Power Cabinet and copper conductor cable as an example):



2 sets of bottom cable entry cover palates are provided with the Power Cabinet. One set is the plates without openings which are assembled on the Power Cabinet, and the other is the plates with pre-drilled openings which are in the packing accessory kit.

4.1 Bottom cable entry cover plates without openings

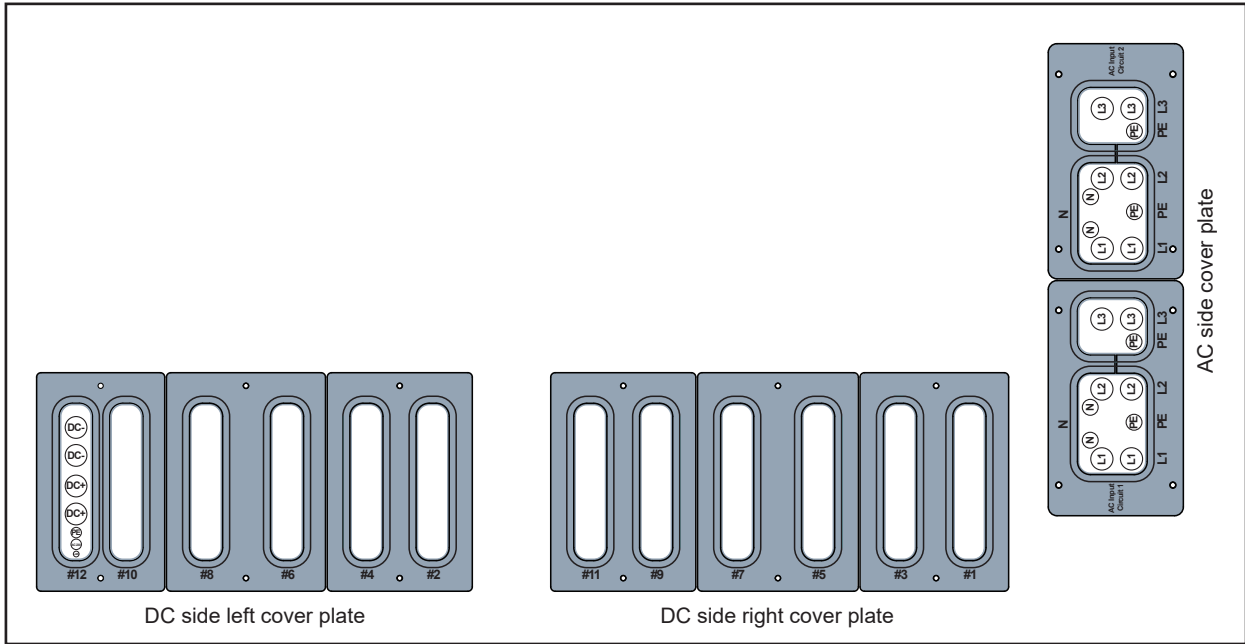
Power Cabinet



- The installer shall drill holes in the bottom cable entry plate for cable passage, based on the quantity and cross-section of on-site cables.
- After drilling holes in the bottom cable entry plate, protective measures must be implemented to prevent cable damage from sharp hole edges prior to cable routing and fixing. Recommended protective accessories include cable glands, or nylon/rubber buckle-type or tower-shaped grommets made of nylon or rubber, which shall be provided by the customer or installer based on the actual size and quantity of on-site cables.
- The space between cables, drilled openings in bottom cable entry plate, and the base plate of the cabinet shall be filled with fireproof sealing material to keep the IP protection.

4.2 Bottom cable entry cover plates with pre-drilled openings

Power Cabinet



- The space between cables, pre-drilled openings in bottom cable entry plate, and the base plate of the cabinet shall be filled with fireproof sealing material to keep the IP protection.
- The diagram above provides the recommended cable layout in pre-drilled openings, based on the routing path and termination location of cables inside the Power Cabinet.

5 Communication

5.1 Cellular and wireless signal

Use a signal detection device to ensure the signal is within the recommended strength according to the below guidelines:

(Note that these numbers are negative, so -70 dBm is stronger than -85 dBm, and -90 dBm is weaker).

Signal Quality	Cellular Signal	CSQ
	Excellent	> 15
	Fair	2 to 14
	Poor	< 2

Signal Quality	Wireless LAN Signal (WIFI)	CSQ
	Excellent	> -70
	Fair	-70 to -90
	Poor	< -90

5.2 Ethernet cable

Use RJ45 cat 6, shielded, twisted pairs.

6 Required Materials and Tools

Before you go to the site, please prepare the following tools/equipment:

- Forklift/Crane
- Step ladder
- Personal Protective Equipment (PPE)
- Cable cutter
- Wire stripper
- Wire presser/pliers
- Power drill
- Spirit level
- Toolbox
- Multimeter
- LOTO (Lock Out Tag Out) equipment
- Fireproof sealing material

NOTE: The above tools should be selected according to the actual situation on-site.

7 Receiving, Handling

7.1 Receiving

⚠ DANGER

HAZARD OF HEAVY EQUIPMENT FALLING

Do not stand or move beneath the crate as it is being lifted or tilted.

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

⚠ WARNING

HAZARD OF EQUIPMENT FALLING

■ When handled from the bottom, the Power Cabinet must be lifted with care and held in place during transport by properly strapping them onto the forklift or handling equipment.

■ Always transport and store the Power Cabinet in its original packaging.

■ Ensure the load rating of all lifting equipment (forklift, crane and lifting straps, etc) is adequate for the weight of the Power Cabinet as shown below.

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

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

■ Do not install the Power Cabinet during harsh weather.

■ If you must complete the installation in rain or wind, you must use a weather-proof shelter that covers all boxes and components to avoid water entering inside the enclosure.

■ Ensure upstream protection breaker is locked in the Open (Off) position and a voltage absence test is performed before starting the installation.

■ Do not use power tools during installation or servicing. Over-torquing can damage the equipment.

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

7.2 Contents

Inside the Schneider StarCharge Fast 720 Power Cabinet shipping box you should find the below mentioned items and documents. If there are any missing items or documents, please contact Schneider Electric for the necessary replacements.

Item	Quantity
Mounting template	1
Schneider StarCharge Fast 720 Power Cabinet	1
Keys	5
User guidance sticker	1
Emergency charge stop cover plate	1
Bottom cable entry cover plate with pre-drilled openings	8
Safety labels in multiple languages	22
Cap nut	22

Documents

Installation manual

Each Schneider StarCharge Fast 720 Power Cabinet ships in one crate. Ensure you have correct crate at the installation site.

Commercial Reference	Shipping dimensions (W*D*H)	Shipping weight (kg)
EVD1S720	1705*1375*2380mm	1366
EVD1S480	1705*1375*2380mm	1264
EVD1S483	1705*1375*2380mm	1218
EVD1S360	1705*1375*2380mm	1154

*For more customized commercial reference, please contact Schneider Electric.



⚠ CAUTION**HAZARD OF SHARP EDGES**

It is recommended to wear protection gloves when unpacking the Power Cabinet as there could be sharp edges.
Failure to follow these instructions can result in injury.

⚠ CAUTION**HAZARD OF POTENTIAL LOOSE COMPONENTS INSIDE BOX**

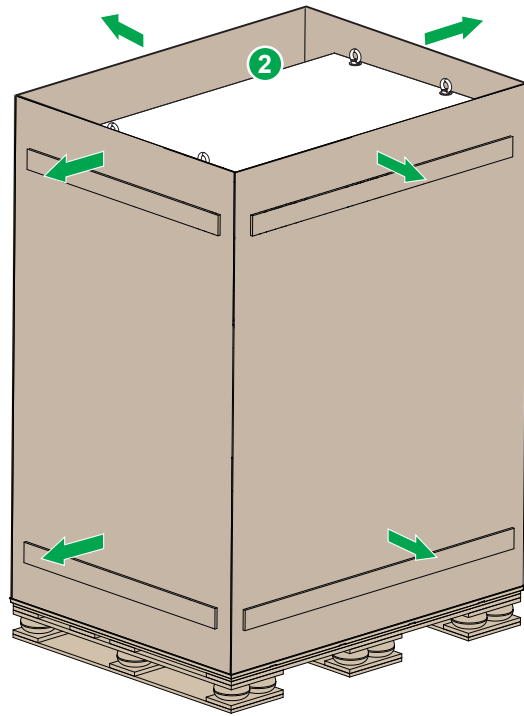
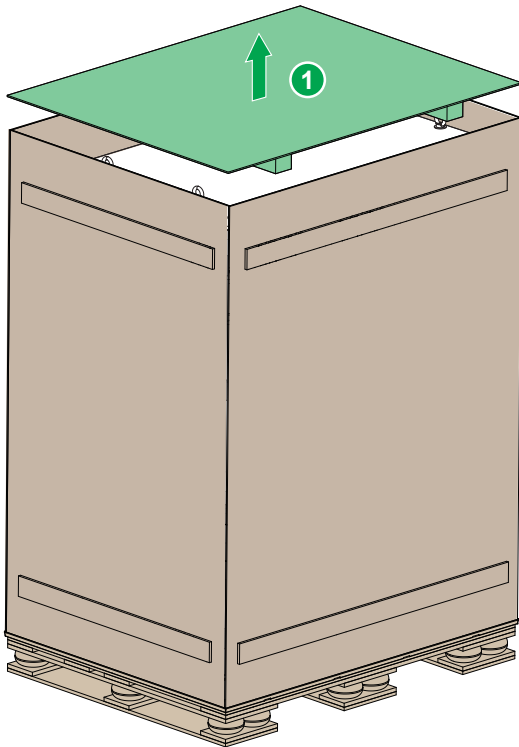
- At receiving always inspect the Tilt and Shock sensors on the crate for potential damage or mishandling.
 - If the sensors are triggered do not attempt to unpack, inform the transport agent and refuse reception.
- Failure to follow these instructions can result in injury or equipment damage.**

**⚠ WARNING****RISK OF EQUIPMENT DAMAGE**

2 operators and safety step ladders are required to safely unbox the Schneider StarCharge Fast 720 Power Cabinet.
Failure to follow these instructions can result in death, serious injury, or equipment damage.

8.1 Unpacking**Unpacking steps:**

- Place the Power Cabinet crate close to where it will be installed.
- Remove the top cover of the wooden crate.
- Proceed to removing the side panels of the crate.
- Carefully remove the plastic wrapping around the charger.

**8.2 Inspection****After unpacking the Schneider StarCharge Fast 720 Power Cabinet, the installer should check all the items below:**

- Appearance: check whether the appearance of the Power Cabinet is damaged, whether there is any damage such as paint loss, scratch, deformation, and whether the structure of Power Cabinet is damaged during transportation.
- Labels: check whether the nameplate of Power Cabinet is correct, clear and complete, and whether the safety warning signs are posted in place.
- Contents: check whether the documents and accessories are complete according to the list of contents above.
- After inspection ensure the Power Cabinet is covered/protected from the weather.

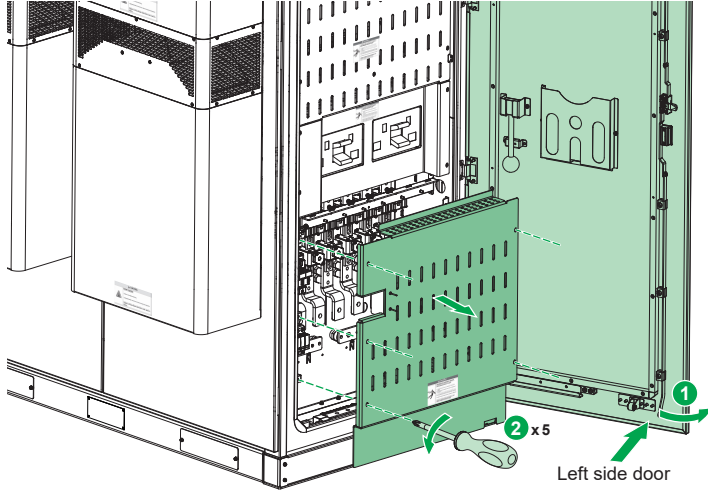
⚠ WARNING

HAZARD OF HEAVY EQUIPMENT FALLING

- The Schneider StarCharge Fast 720 Power Cabinet weighs 1016kg ~ 1228kg with power modules, ensure appropriate hoisting ropes and machinery.
- Extreme caution must be exercised while handling, lifting, or hoisting the Power Cabinet.
- Personal Protective Equipment required, hard hat, safety shoes, gloves.

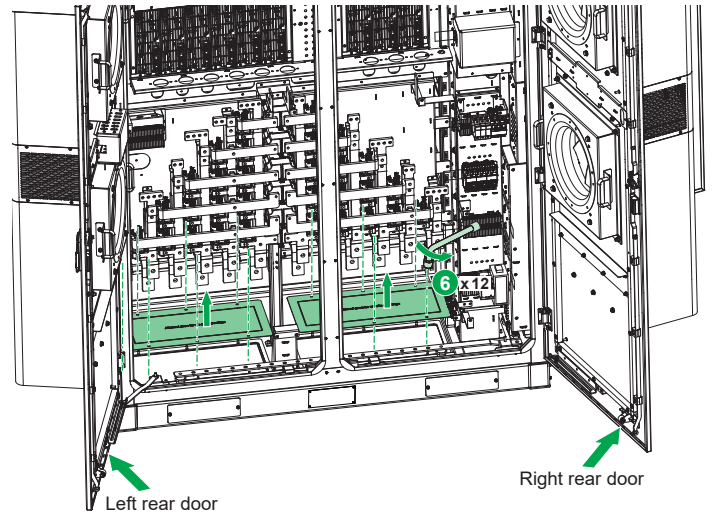
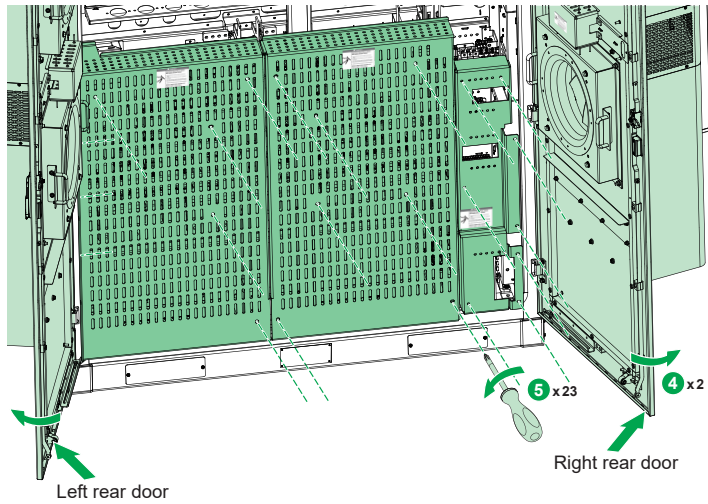
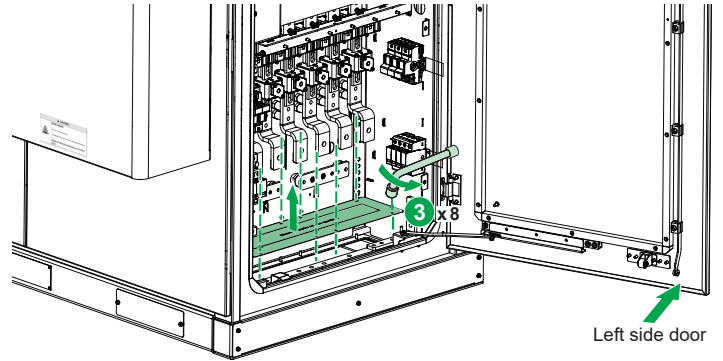
Failure to follow these instructions can result in death, serious injury, or equipment damage.

9.1 Before Hoisting

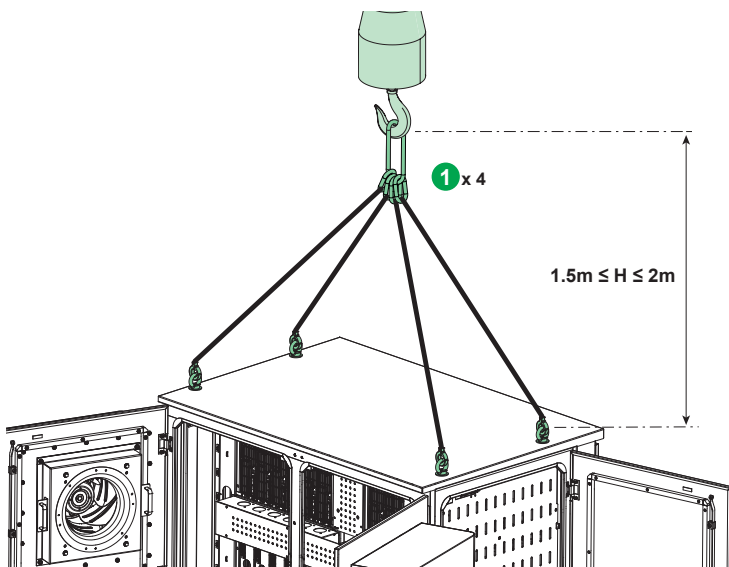


Before lifting the Power Cabinet,

- Open the left door, remove the protection plate for AC input copper bus-bars, and remove the bottom cable entry plate for AC input cables.
- Open the rear door, remove the protection plates for DC output copper bus-bars, and remove the bottom cable entry plates for DC output cables.



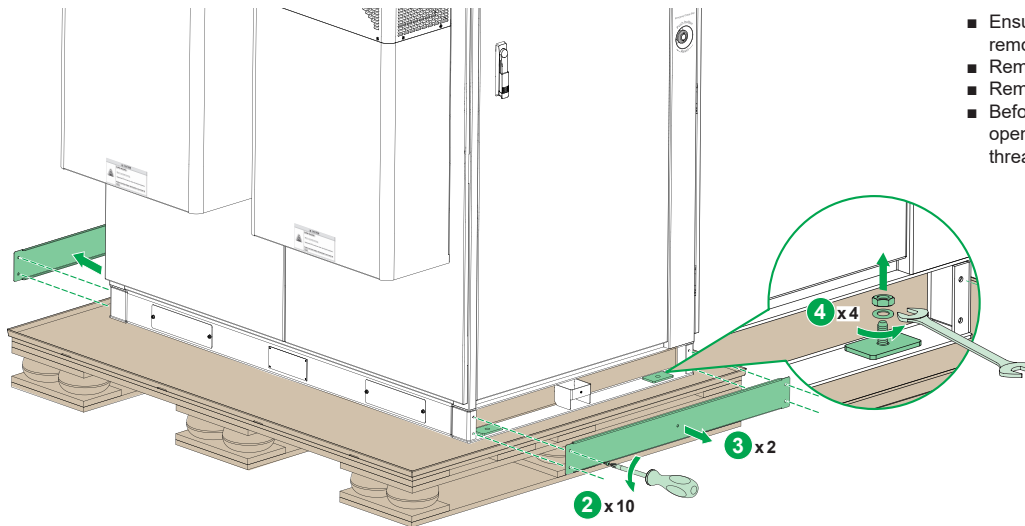
9.2 Hoisting



- Each of the top 4 lifting rings shall have a rope at each lifting point.
- Keep the hoisting angle of the rope $\geq 60^\circ$.
- The force center of the hook shall be located at a symmetrical force center.
- Ensure the suitable rope length.

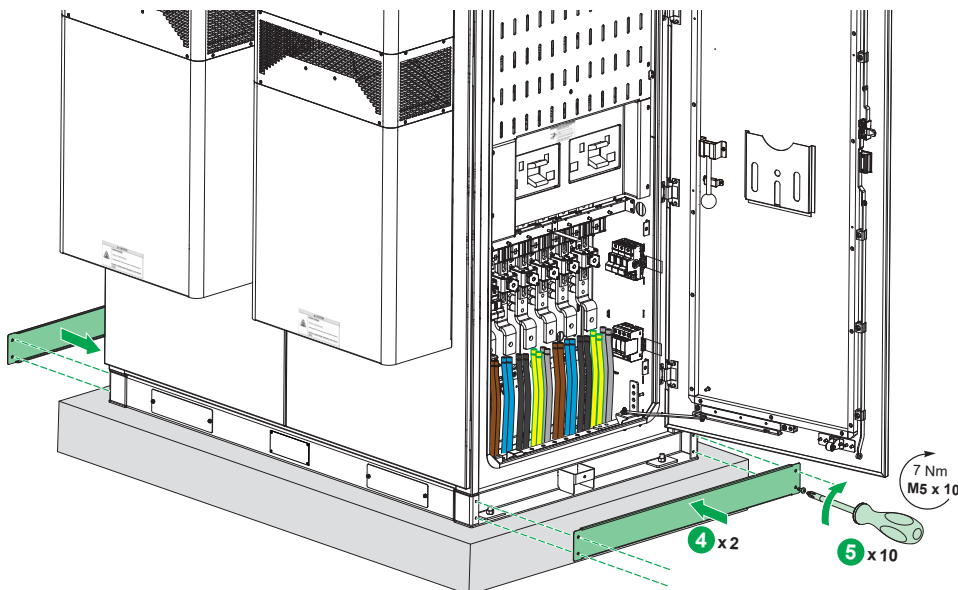
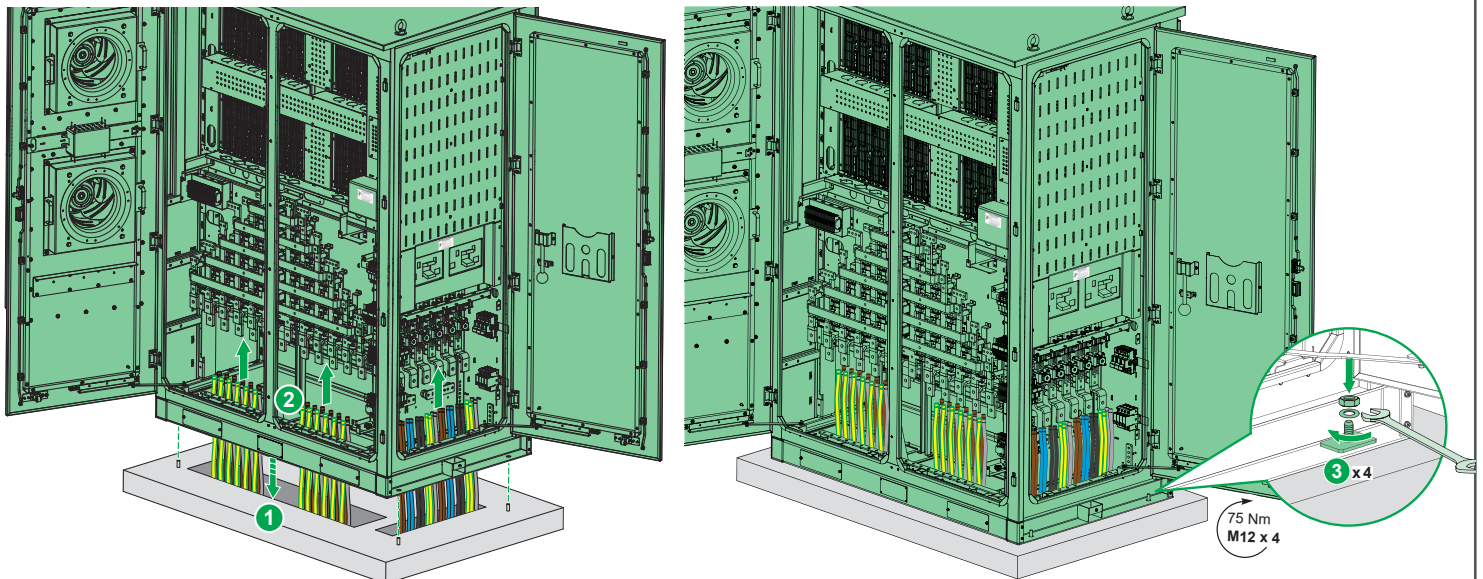
NOTE: The Power Cabinet can be damaged if the suitable rope length is not used.

9.2 Hoisting



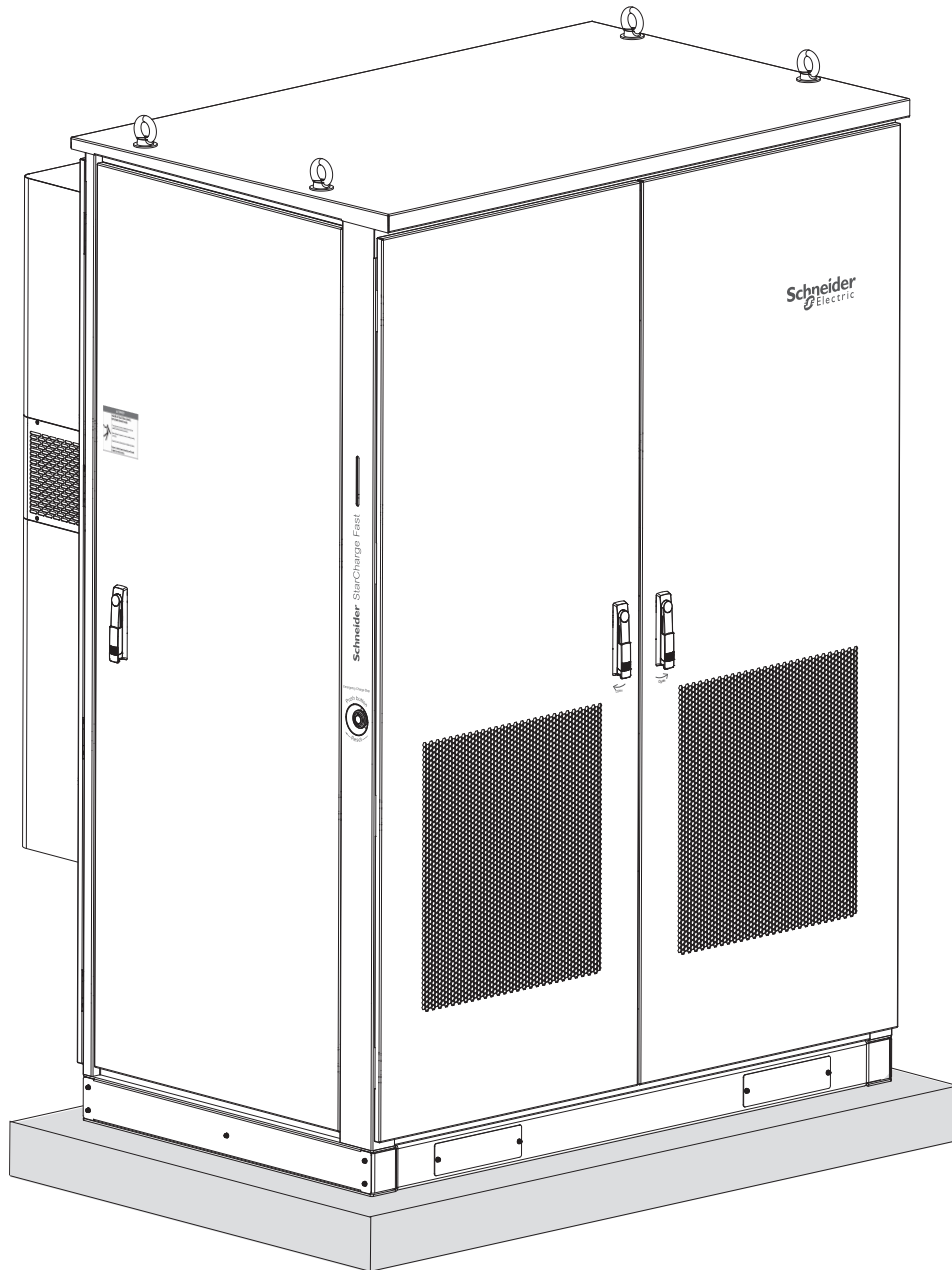
- Ensure the Power Cabinet is supported from top before removing the pallet.
- Remove the cover plates on both sides of the base.
- Remove the fixing bolts between the pallet and the base.
- Before lifting, the left-side door and rear door shall be opened to facilitate observation and operation when threading cables into the cabinet from the bottom.

9.3 Fixing



- During placing the Power Cabinet on concrete base, the mounting holes on cabinet base should be aligned with the embedded bolts.
- After confirming that the power cabinet is placed stably on the concrete base, fix the nuts.
- Install the bottom left and right cover plates.

9.3 Fixing



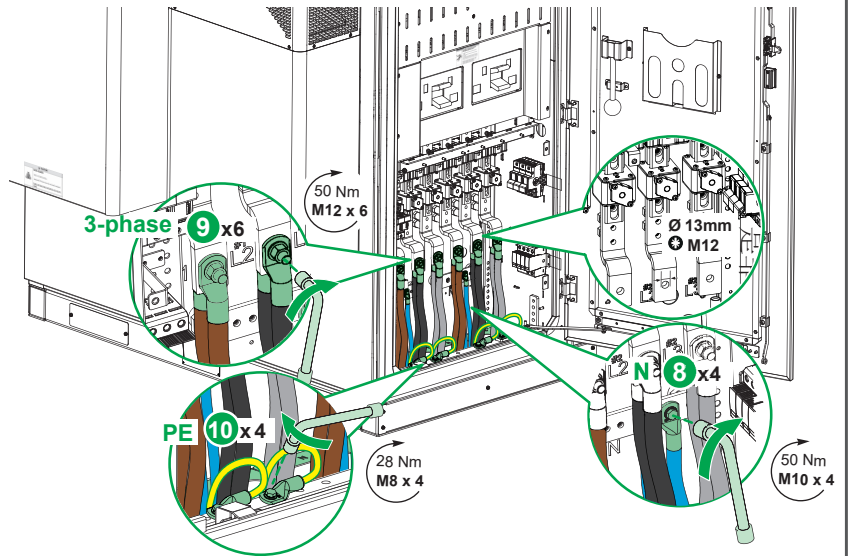
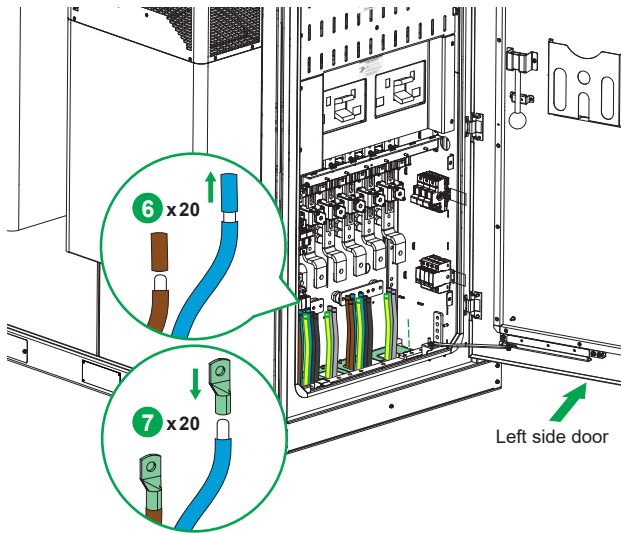
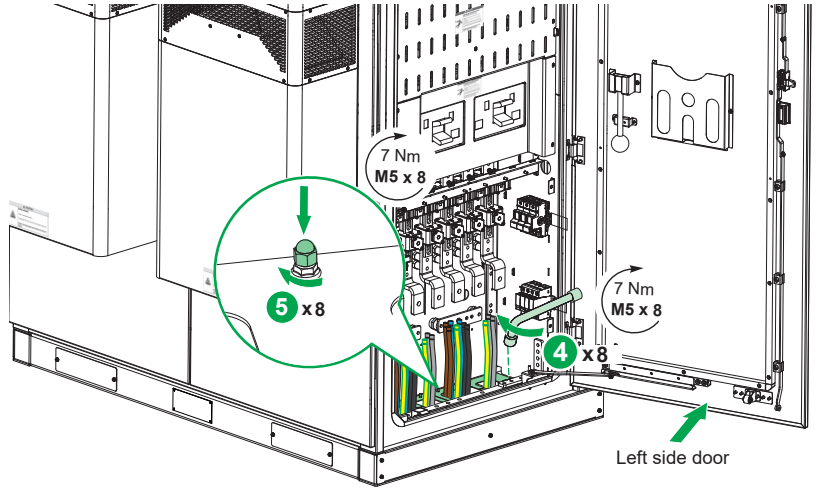
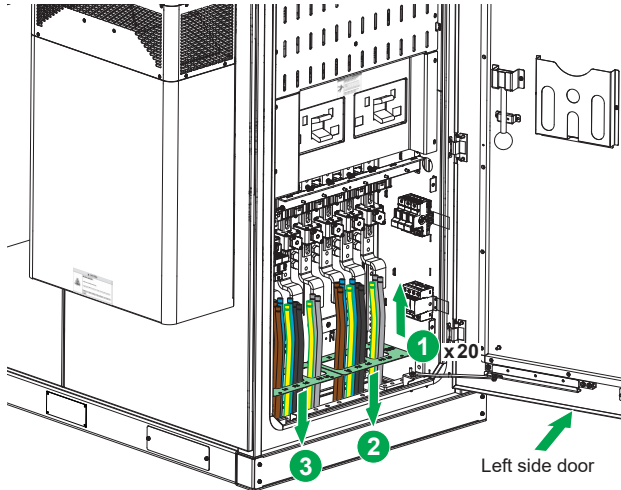
10 Connecting

10.1 Connecting the AC power cables

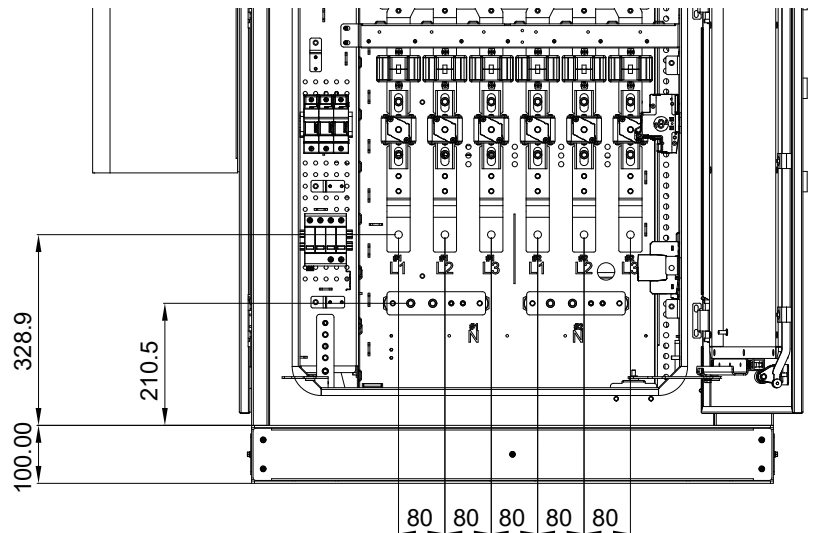
⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- It is mandatory to make the PE wire longer than the phase wires to ensure that the PE wire stays connected the longest if the Power Cabinet is moved by an accident/collision.
 - Always connect the protective earth first, before connecting the N and phase wiring.
- Failure to follow these instructions will result in death or serious injury.



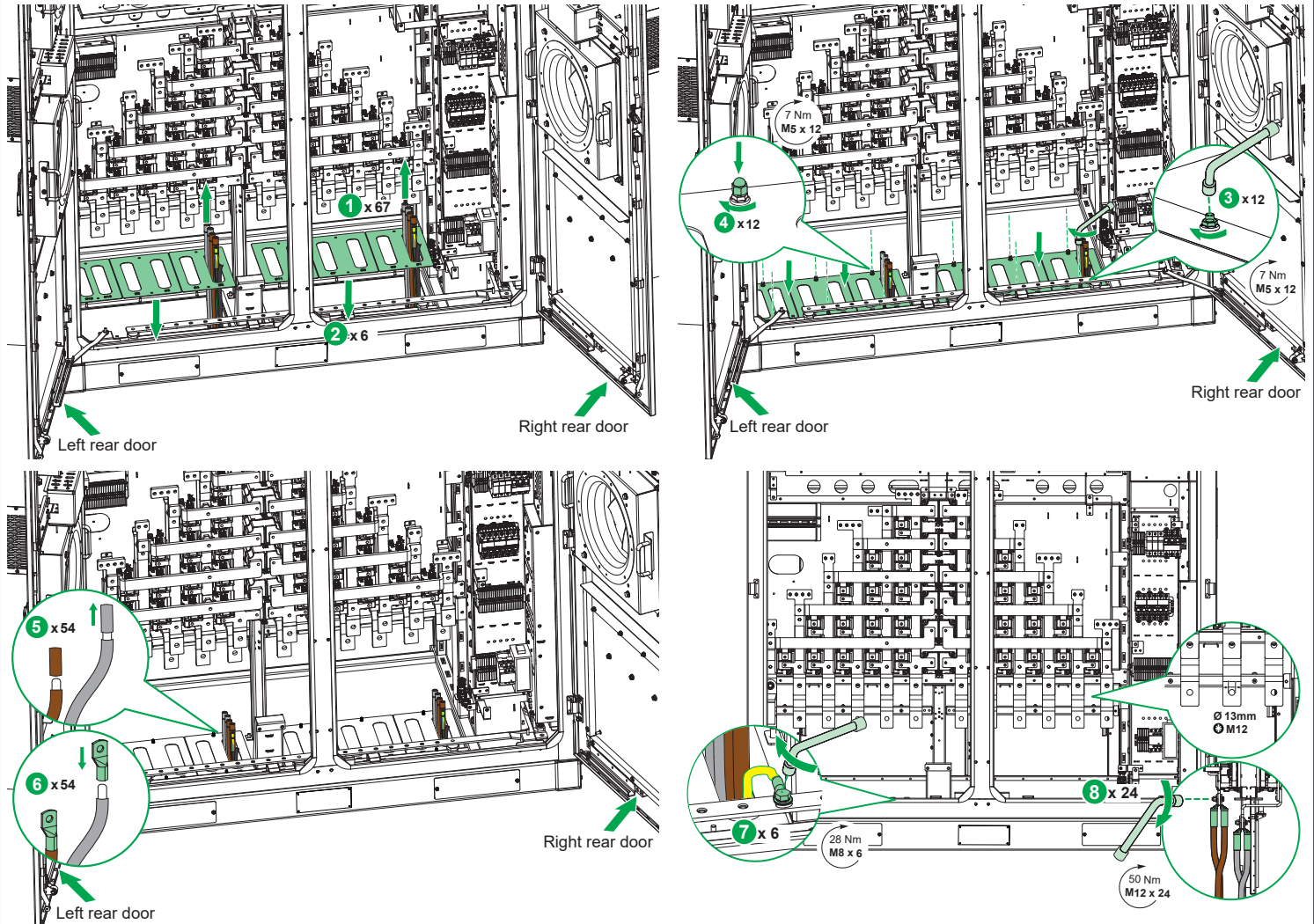
- Appropriate terminals shall be selected based on the cable cross-sectional area, conductor type, and bolt size.
- The wire stripping length shall be matched to the terminal model.
- Appropriate tools shall be selected for terminal crimping to ensure a secure crimp connection.
- Cables shall be labeled to avoid electrical faults caused by wiring errors.



10 Connecting

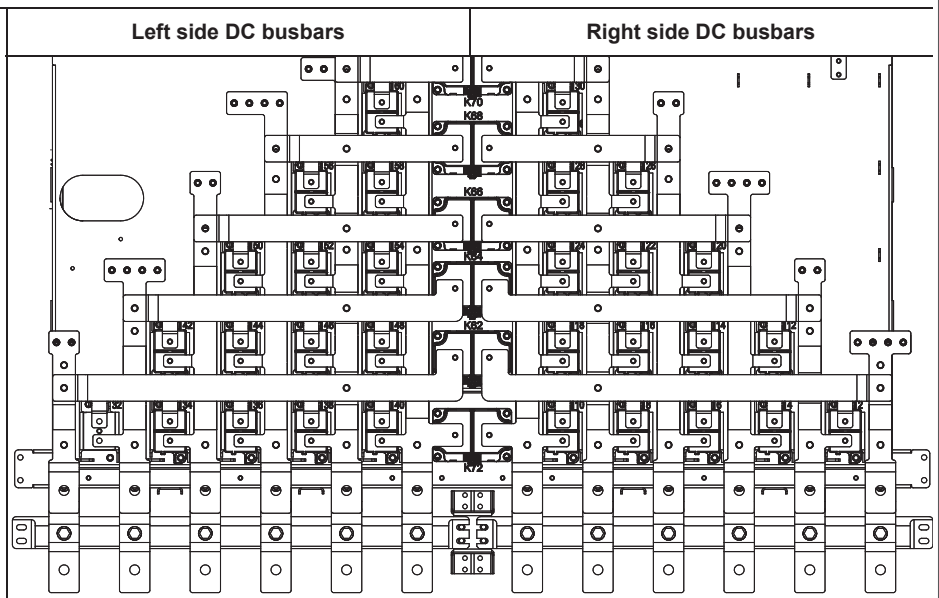
10.2 Connecting the DC power cables

- For intuitive illustration, the figures show DC power cable wiring steps via connecting only charging connector 1 and charging connector 2.



- Appropriate terminals shall be selected based on the cable cross-sectional area, conductor type, and bolt size.
- The wire stripping length shall be matched to the terminal model.
- Appropriate tools shall be selected for terminal crimping to ensure a secure crimp connection.
- Cables shall be labeled to avoid electrical faults caused by wiring errors.

Physical DC busbars

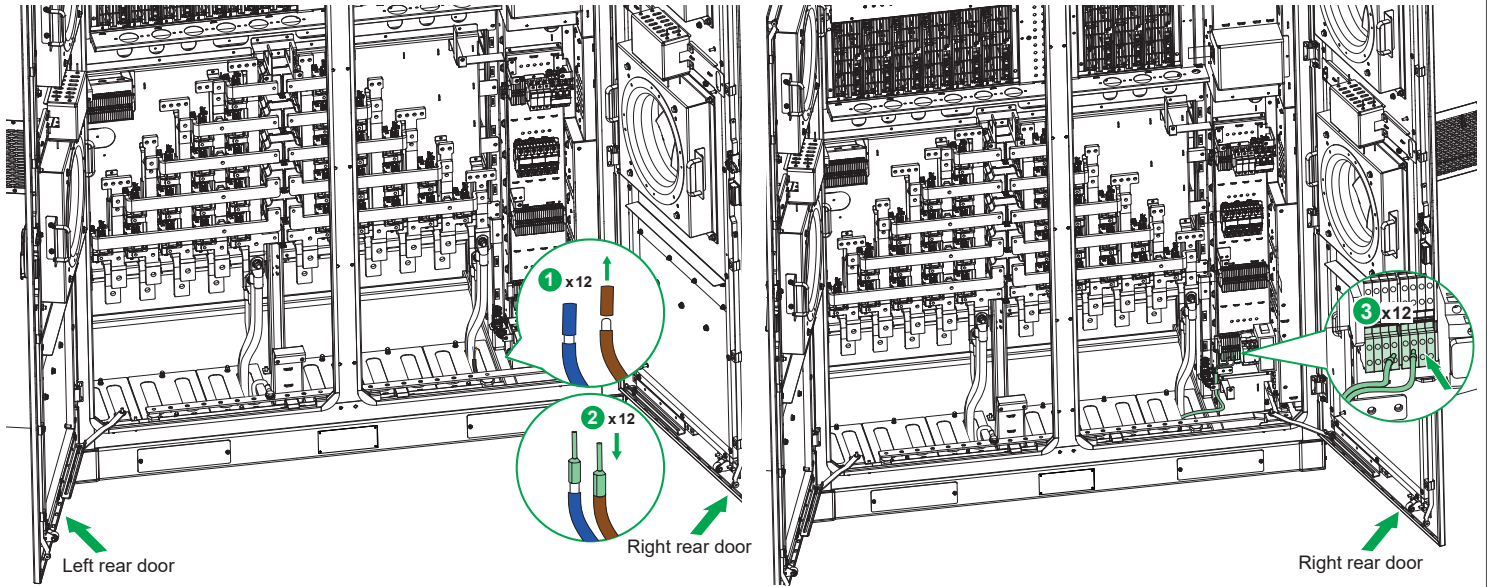


Identification tag of DC busbars in Power Cabinet	12	10	8	6	4	2	11	9	7	5	3	1
Number of charging connector in Dispenser	12	10	8	6	4	2	11	9	7	5	3	1
Mandatory sequence to wire charging connectors	12	10	8	6	4	2	11	9	7	5	3	1

- During wiring, the number of the charging connector shall be consistent with that of the bus-bar, and incorrect connection is strictly prohibited to avoid electrical faults.
- When the number of charging connectors is fewer than 12, the cables shall be connected to the bus-bars in sequence in ascending order of their numbers. Leaving any bus-bar with an intermediate number (between the smallest and largest numbers of the used charging connectors) unwired is not permitted.

10 Connecting

10.3 Connecting 230V AC power supply cables

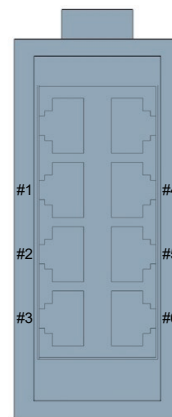
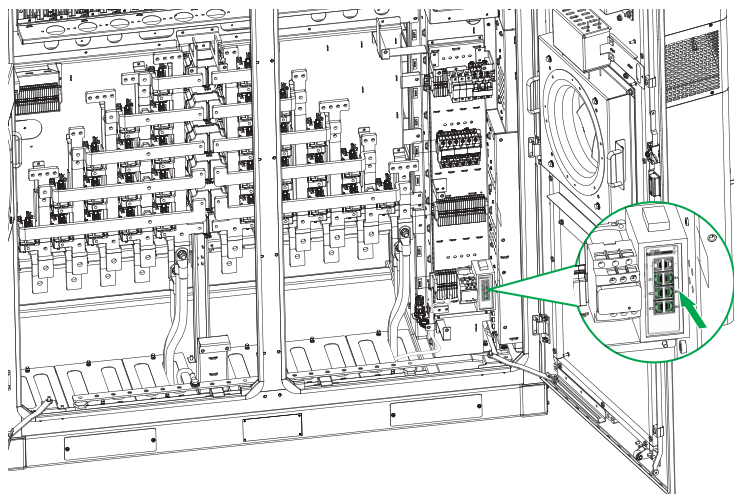


- Appropriate terminals shall be selected based on the cable cross-sectional area, conductor type, and bolt size.
- The wire stripping length shall be matched to the terminal model.
- Appropriate tools shall be selected for terminal crimping to ensure a secure crimp connection.
- Cables shall be labeled to avoid electrical faults caused by wiring errors.

	N	N	N	N	L1	L2	L3	L3
(Input)	○	○	○	○	○	○	○	○
(Output)	○	○	○	○	○	○	○	○
(Output)	#1	#2	#3	○	#1	#2	#3	○
(Output)	#4	#5	#6	○	#4	#5	#6	○

- The diagram on the left indicates the recommended 230V power supply circuit wiring for dispenser #1 ~ #6.

10.4 Ethernet Connection with Dispensers



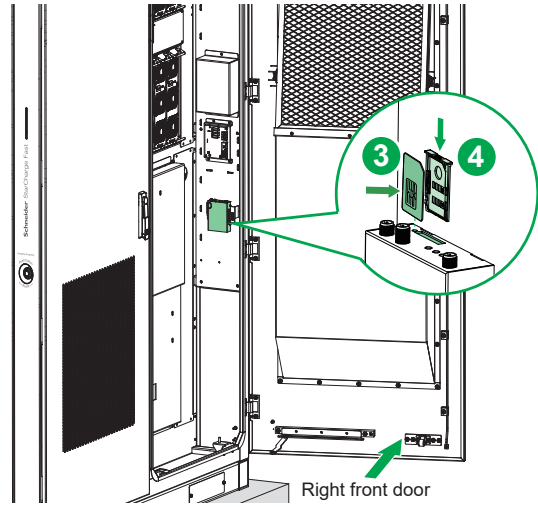
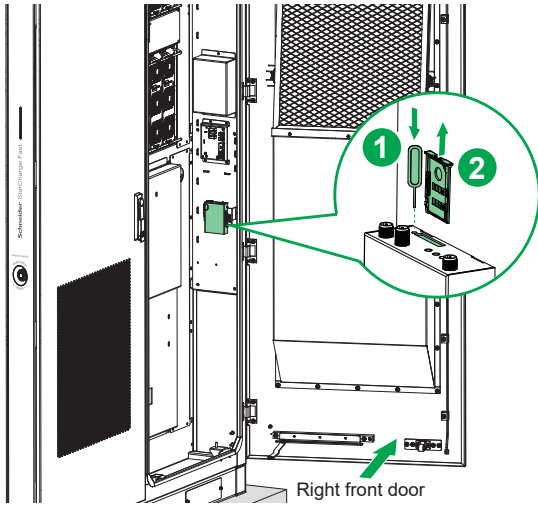
- The diagram above indicates the recommended Ethernet cable wiring for dispenser #1 ~ #6.

10 Connecting

10.5 Installation of 4G SIM card for CSMS backend connectivity (Optional)

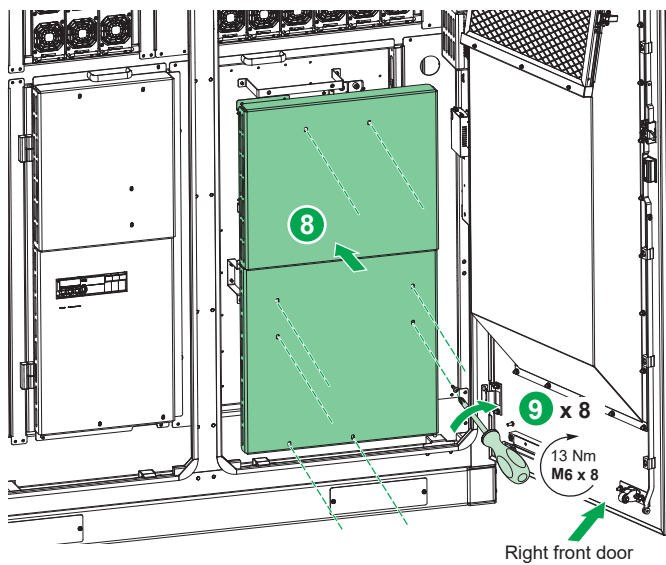
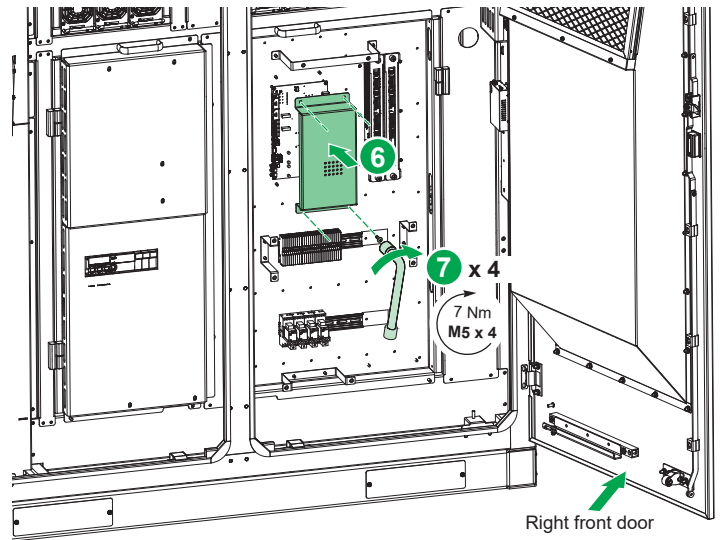
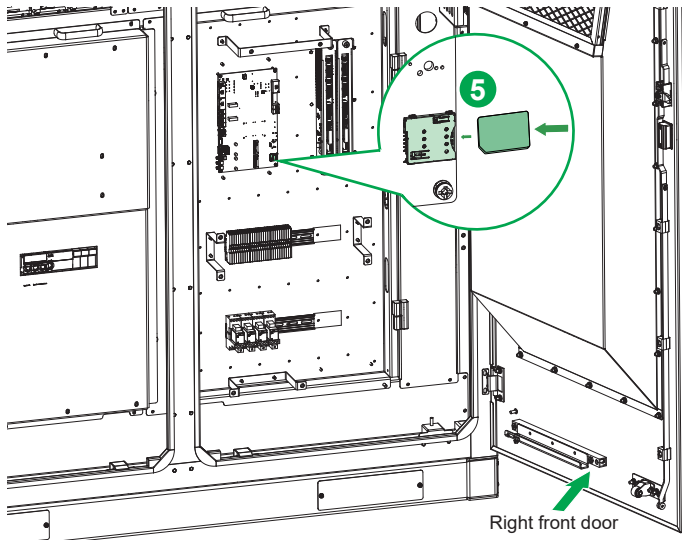
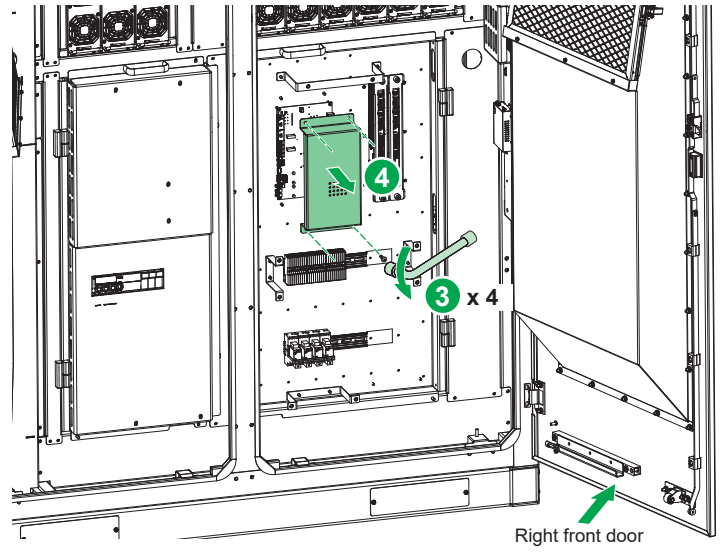
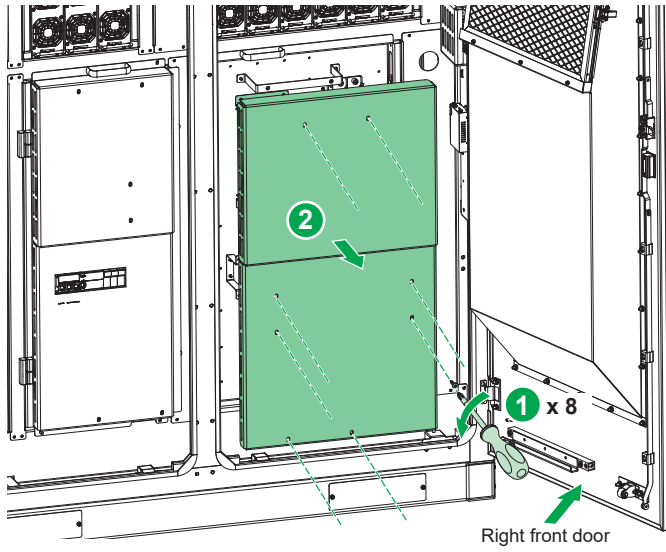
NOTE: In case 4G connection selected for CSMS backend connectivity, 4G SIM Card should be installed in the router.
The SIM Card slot is able to receive a Mini 25 mm SIM Card only.

- Locate the router indicated in the image below.
- Carefully insert the SIM Card in the dedicated slot shown below.
- To remove the SIM Card, pull out the SIM Card.



10 Connecting

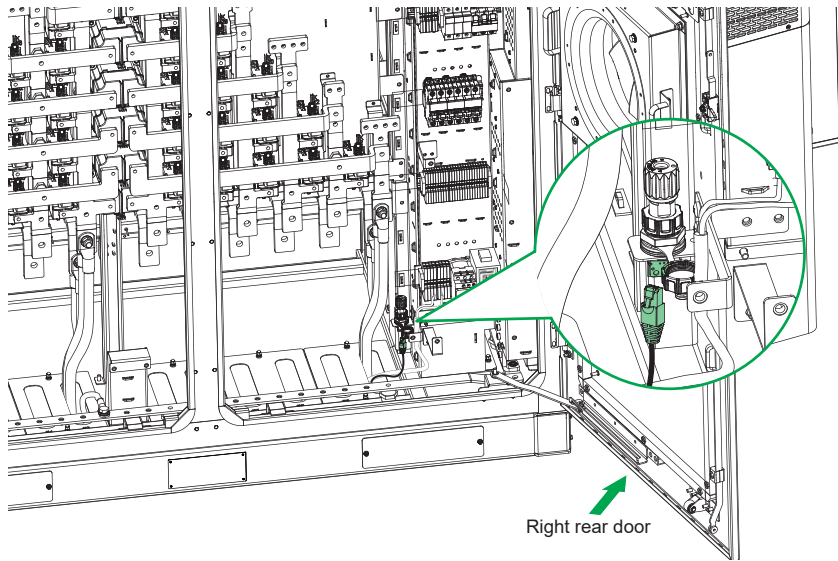
10.6 Installation of 4G SIM card for EcoStruxure Energy Asset Portal backend connectivity (Optional)



10 Connecting

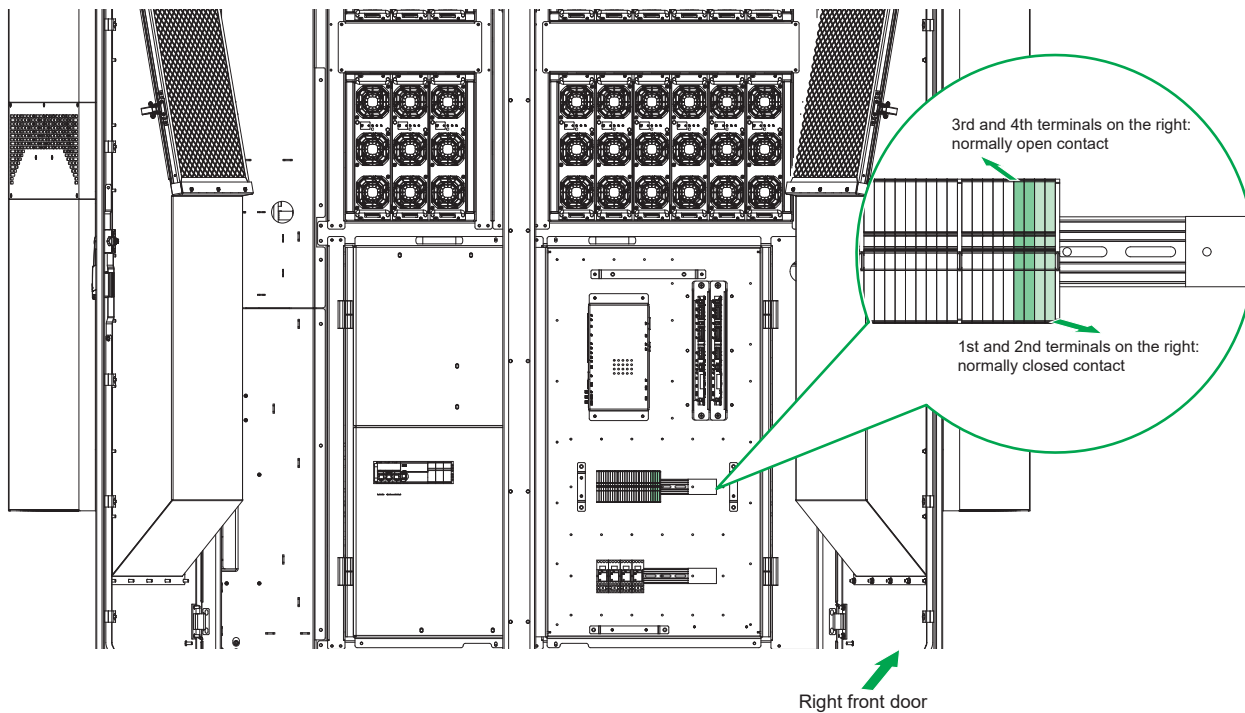
10.7 Ethernet Connection with CSMS backend (Optional)

NOTE: In case Ethernet connection selected for CSMS backend connectivity, the Ethernet cable from the on-site router shall be connected to the RJ45 socket (which is already connected to the WAN port of the router inside the Power Cabinet).



10.8 Connecting the control cable for opening upstream circuit breakers (Optional)

■ The Power Cabinet provides 2 passive dry contact signals for opening upstream breakers (250V/5A, 1 set of normally open contact, 1 set of normally closed contact). When the water immersion or tilt switches of the Power Cabinet is triggered, these signals will change from normally open to closed, or from normally closed to open.

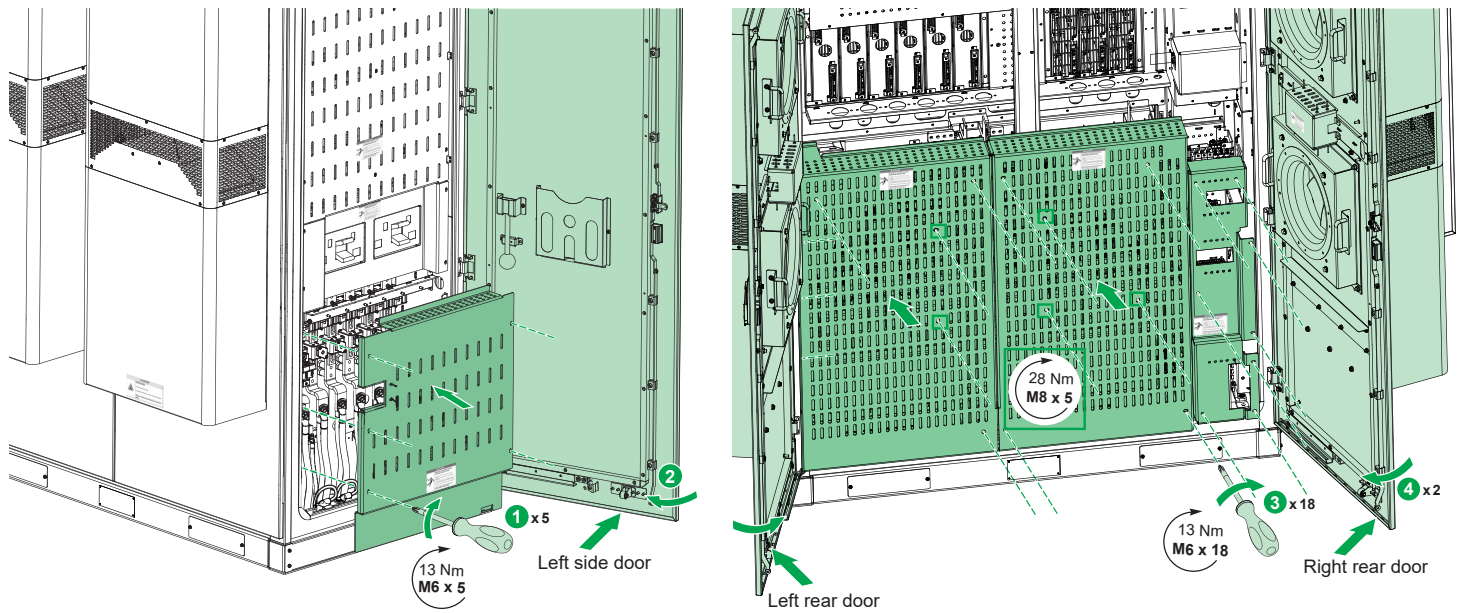


10 Connecting

10.9 Sealing the cables

- Cable fireproof sealing construction shall be carried out after the completion of civil engineering and cable laying.
- Flexible organic sealing materials will harden in low-temperature environments. Before use, they should be appropriately heated until the material softens and then construction can proceed.
- Cable fireproof sealing construction usage procedure:
 - Clean the area to be sealed and the surface of the cable.
 - Open the incoming cable harness, connect and secure the cable, adjust the incoming code frozen (if any) to the appropriate position and secure it.
 - Fill the gaps between the cable and the incoming line code frozen tightly with flexible organic fireproofing material. The filling range of the flexible organic fireproofing material shall exceed the perimeter of the incoming line hole or the incoming line code frozen (if any) by more than 10mm, and the filling height shall be greater than 20mm.
 - Shape the sealed area, with the shape preferably being regular and the surface seamless. If additional cables need to be installed, the sealing should be promptly restored after the installation is completed.
 - On the outer side (outside the cabinet) of the cable surface at the sealing location, cable fireproof coating shall be evenly applied, with a thickness of not less than 1mm and a length of not less than 1500mm.
 - Clean up all the leftovers, garbage, and debris in the construction work area.
- In addition to complying with the above requirements, the construction of fireproof sealing for power engineering cables shall also comply with the provisions of the current relevant standards of the country where it is located.

10.10 Install the protection cover plates, and lock the doors



- Complete the installation checklist (Appendix 1) and ensure any open points are closed before placing it in the document holder inside the Power Cabinet for verification prior to commissioning.
- Place the provided user guidance sticker on a suitable/visible location on the Power Cabinet. (Optional).

Power cabinet is available
 Armoire de puissance disponible
 Leistungsschrank ist verfügbar
 El gabinete de potencia está disponible
 Energiskapet er tilgjengelig

The vehicle is charging
 Le véhicule électrique charge
 Fahrzeug lädt
 Vehículo eléctrico cargando
 Lading av elektriske kjøretøy

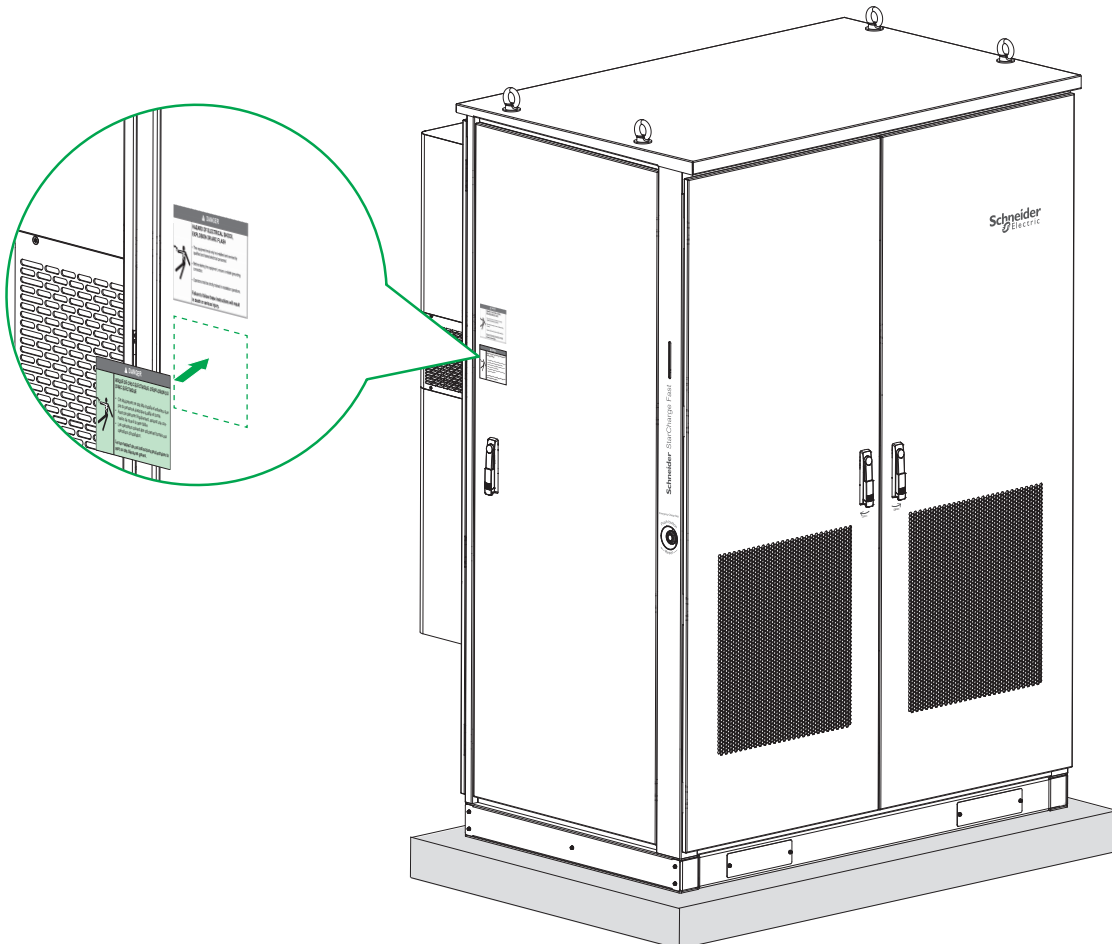
Power cabinet reserved or unavailable
 Armoire de puissance réservée ou non disponible
 Leistungsschrank ist reserviert oder nicht verfügbar
 El gabinete de potencia está reservado o no disponible
 Energiskapet er reservert eller utilgjengelig

Power cabinet maintenance needed
 Entretien de l'armoire de puissance nécessaire
 Wartung des Leistungsschranks erforderlich
 Es necesario el mantenimiento del gabinete de potencia
 Vedlikehold av Energiskapet er nødvendig

Maintenance in progress
 Entretien en cours
 Wartung läuft
 Mantenimiento en curso
 Vedlikehold pågår

Schneider
Electric

- Place the provided safety label in the local language on the Power Cabinet, below the existing English safety label.



12 Startup / Shutdown

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

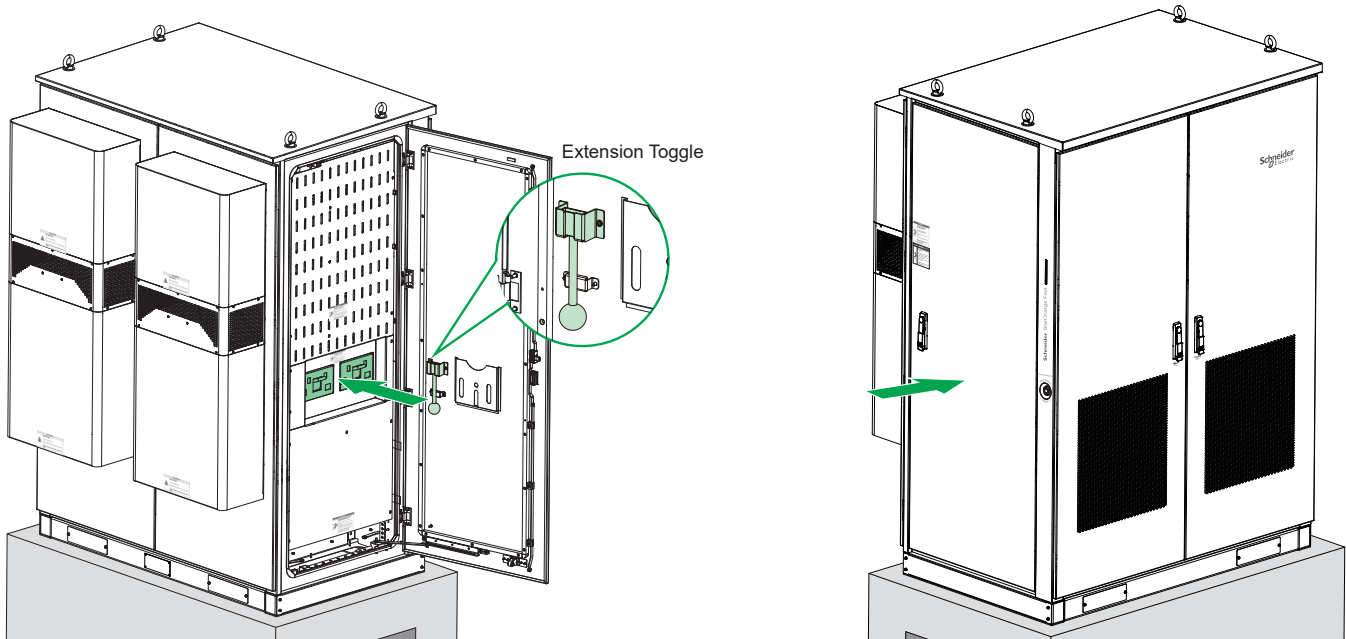
- When the system is in an open or dangerous condition, do not allow unqualified persons to go near it. Instruct/warn people about the potential harmful high voltages.
 - Make sure that the main upstream protection switch of the power supply for the product is set to the OFF position. Follow standard Lock-Out/Tag-Out procedures before proceeding.
 - Always perform a voltage absence test to confirm that electrical power is disconnected from the system.
- Failure to follow these instructions will result in death or serious injury.**

12.1 Startup

After completing the installation inspection checklist, you can proceed to startup the Power Cabinet to test the power system:

- A** • Keep the upstream circuit breaker in the open (OFF) position and proceed to close (ON) the QF11, QF12 circuit breakers in the Power Cabinet. When closing and opening the circuit breaker QF11 and QF12, it is recommended to use the extension toggle.
- B** • Close and secure all the Power Cabinet doors.
- C** • Proceed to close the upstream circuit breaker (ON).
- D** • Wait for 1 minute for the indicator light to come online. Verify that indicator light is stable green.
- E** • Switch off the charger and wait 5 minutes before you proceed to commissioning.

Location of QF11, QF12
Left door



12.2 Shutdown

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK

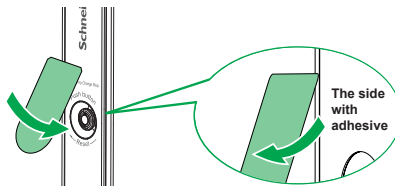
It is mandatory to wait 5 minutes after the equipment is disconnected to allow capacitors to discharge before touching any internal parts.
Failure to follow these instructions will result in death or serious injury.

To shutdown the system:

- A** • Open the power cabinet QF11 and QF12 circuit breakers (OFF).
- B** • Proceed to Open the upstream circuit breakers (OFF).

13 Hide Emergency charge stop button (Optional)

If the emergency charge stop function is not required, peel off the protective film from the adhesive back of the emergency charge stop cover plate, attach it over the emergency charge stop button and its markings. Before attachment, clean the surface with alcohol or an appropriate solvent to remove any oil or dust. Press evenly during attachment to ensure a secure bond.





Product Disposal

To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product and packaging materials are recyclable as marked.

Please find below link and enter the product reference number for files: Product Environmental Profile and Product End of Life Instructions

checkaproduct.se.com

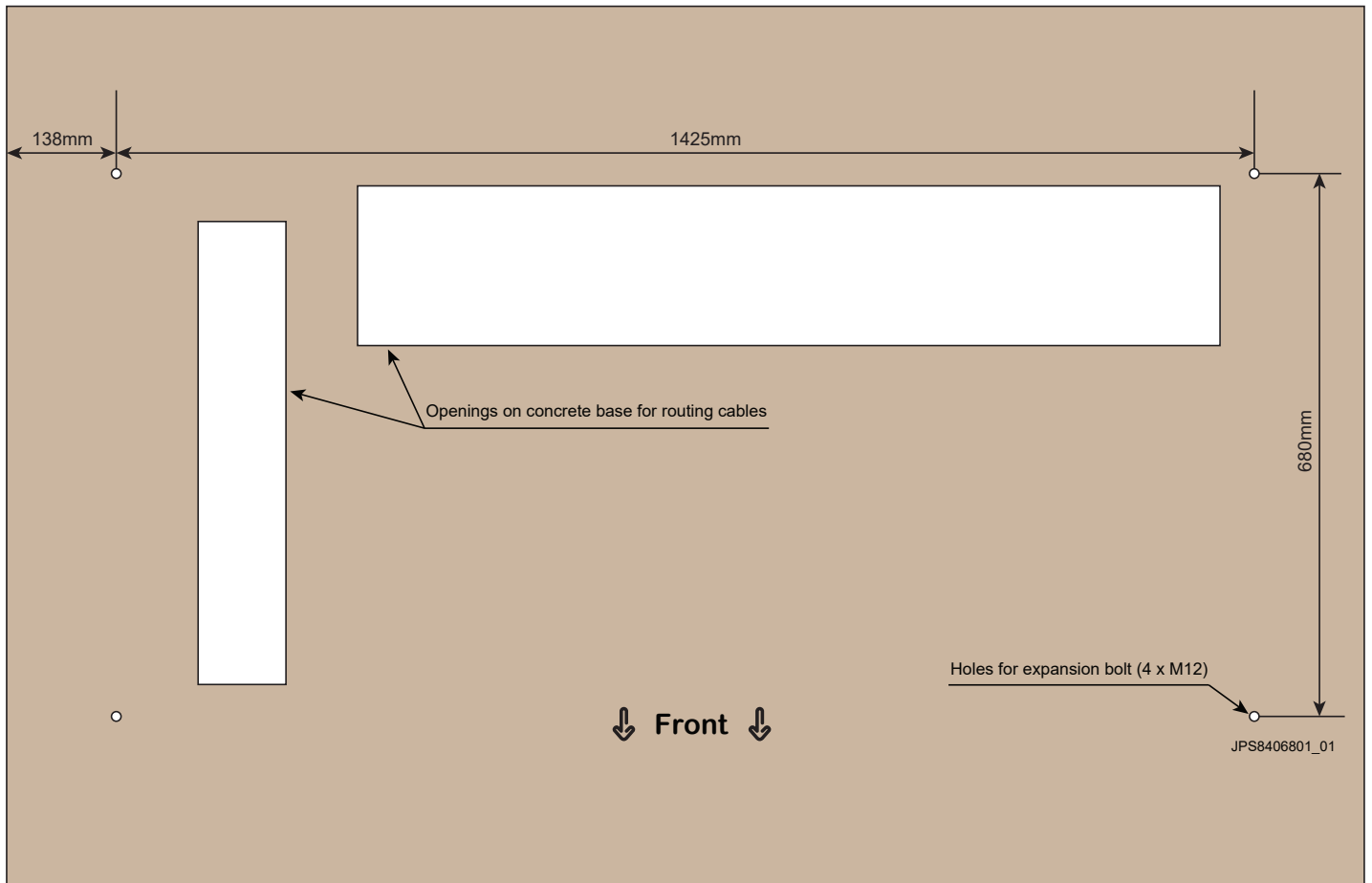
Appendix 1: Installation Check List

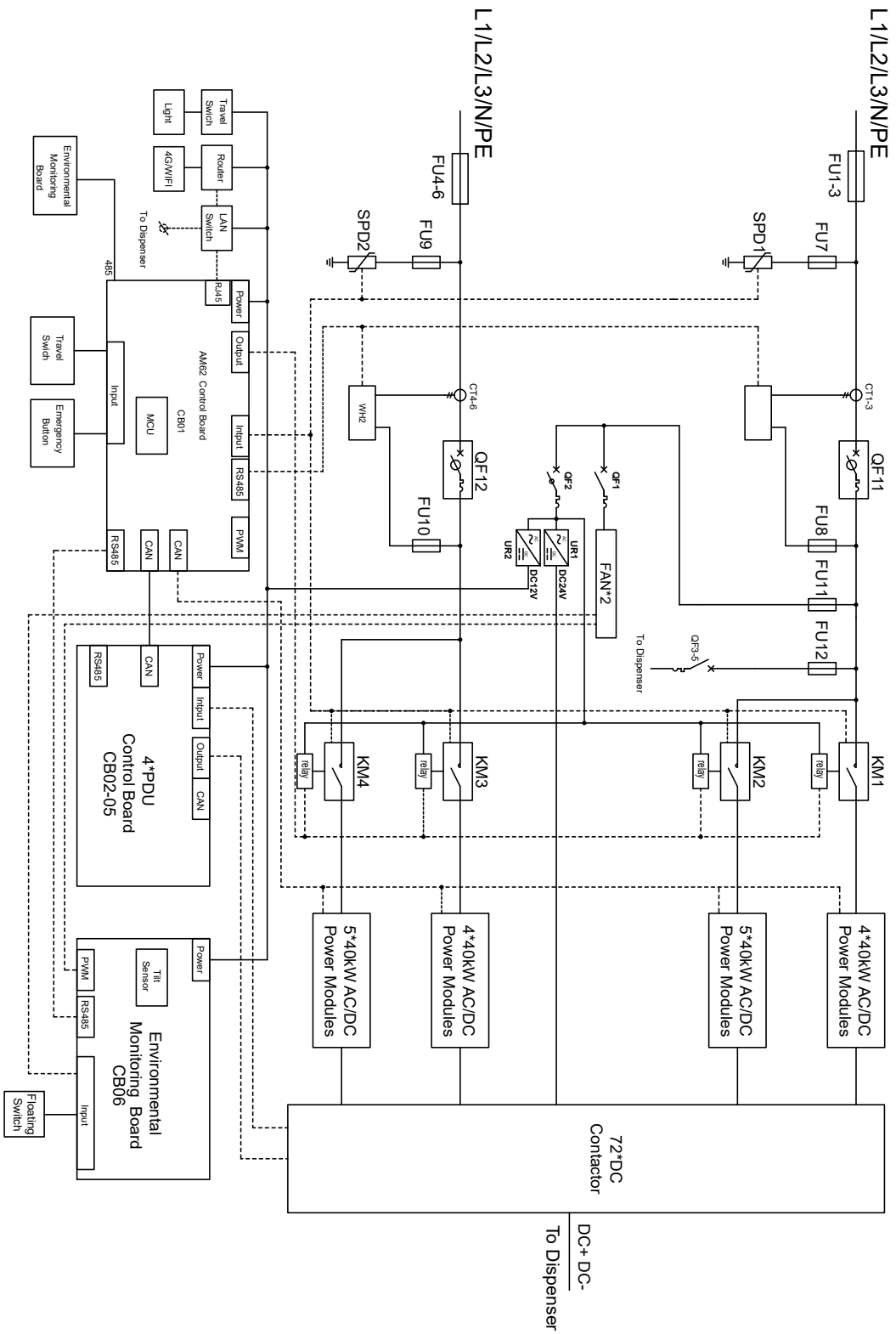
Category	Inspection or Verification	Remarks or Repairs
Structure	Check whether the Power Cabinet base plates and cable glands are fixed and sealed.	
	Check the Power Cabinet is well mounted on the concrete foundation and is leveled.	
	Check whether all doors operation and panels are intact, closed and locks are intact.	
	Check that the IP is maintained, gaskets and cable glands secured and no openings permit dust, insects or rodents.	
	Check the necessary space is available for maintenance and all construction work is complete.	
Aesthetic	Check the appearance and cleanliness.	
	Check all signs and notices are clear and intact and remove the protective film from the notices.	
Internal components	Verify the QF11 and QF12 circuit breakers are opened (OFF). Position before energizing.	
	Check whether the internal components of the charger are intact (Removal of internal covers is not required).	
	Visually check for any loose component or wiring.	
	Check for any loose hardware or foreign objects in the bottom of the charger.	
	Verify all grounding cables are secured on all doors and on the bottom of the charger.	
Electrical tests	Grounding resistance is $\leq 4\Omega$.	
	Check for over/under voltage.	
Power connections	The specifications of the cables used meet the power requirements of the Power Cabinet.	
	All power connections (AC, DC and PE) are securely torqued according to the recommended values (AC & DC 50 Nm, PE 28 Nm).	
	AC phase orientation and DC charging connector sequence are correct and identified on the cables.	
	Check clearance and creepage distances.	
	No leakage, damage, scratches on cable insulation and all electrical connections and wiring are correct and complete.	
Check the power module plug in connectors are intact (both AC input and DC output).		
Communication	Ensure that the 4G SIM Card is installed if required.	
	Ensure that the Ethernet cable connected to the RJ45 port if required.	

Verified by:

NOTE: Complete the installation checklist and ensure any open points are closed before placing it in the document holder inside the power cabinet for verification prior to commissioning.

Appendix 2: Mounting Template





- FU 1-12 AC Fuse
- SPD 1-2 SPD
- QF 11-12 MCCB
- QF 1-5 MCB
- WH 1-2 AC Meter
- UR 1-2 Power Supply
- CT 1-6 Current Transformer
- KM 1-4 AC Contactor
- CB01 AM62 Control Board
- CB02-05 PDU Control Board
- CB06 Environmental Monitoring Board

