User Manual



Mega Link

To prevent damage to the product caused by improper use, please carefully read this manual before operation.

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FOXESS Co., Ltd

Add: No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang,
China

Tel: 0577-88159999

Postcode: 325024

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1 Notes on This Manual

The Mega Link is designed and tested in accordance with international safety requirements. Certain safety precautions must be taken when installing and operating this product. The installer must read and follow all instructions, cautions and warnings in this installation manual.

Scope of Validity

This manual describes the assembly, installation, commissioning, maintenance and troubleshooting of the following model(s) of products:
Mega Link-1500

Target Group

This manual is intended for use by qualified electricians only. All procedures described herein shall be performed by trained and experienced electrical personnel in compliance with basic electrical safety requirements.

Symbols Used

The following symbols are used in the manual to highlight information in order to ensure the safety of the user's person and property when using the product, and to use the product more efficiently and optimally. The following symbols may appear in this manual, and the meanings they represent are listed below:

⚠ 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.

Note!

"Note" provides important tips and guidance.

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This table explains the symbols shown on the device and on the label:

Symbols	Explanation
	Danger of high voltages. Danger to life due to high voltages in the device!
	Hazards, warnings and cautions. Important safety information regarding personal safety. Failure to follow the safety information in this manual could result in injury or even death.
	Beware of hot surface. The device can become hot during operation. Avoid contact during operation.
	Capacitor discharge. Before opening the cover, the device must be disconnected from the grid and the H3-Plus inverters or G-Max Plus units. Please wait at least 15 minutes for the storage capacitors to discharge completely.
	Read the manual before performing any operations on the device.
	Recyclable symbol. Product components can be recycled. Dispose of waste device via dedicated recycling channels instead of general waste streams.
	CE mark. The device complies with the requirements of the applicable CE guidelines.
	Product should not be disposed as household waste.

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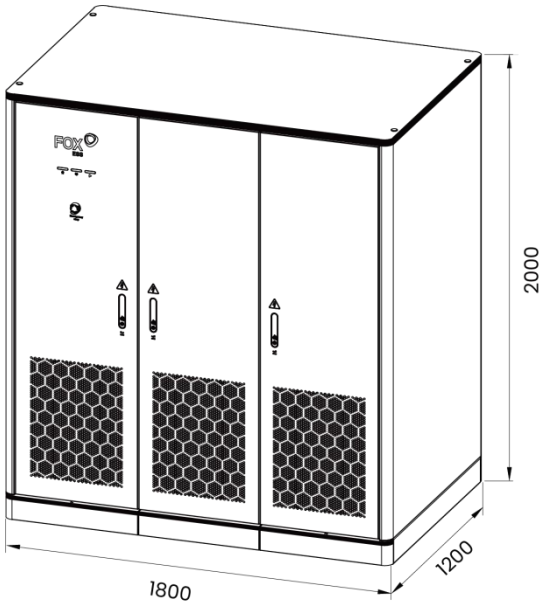
2 Introduction

2.1 Mega Link Features

The Mega Link is applicable to industrial and commercial photovoltaic energy storage and stand-alone energy storage applications. It supports data acquisition and monitoring, off-grid and backup power switching, diesel generator set control, and energy management. This product must be used together with the battery packs and inverters supplied by the Fox ESS.

Advantages	
	✓ Supports connection of multiple Fox ESS C&I inverters. ✓ Supports connection to diesel generator sets. ✓ Enables seamless switching between grid-tied and off-grid modes. ✓ Equipped with an intelligent load selection circuit. ✓ Built-in bypass circuit to improve system reliability. ✓ Embedded Fox ESS AI Link Pro energy management system.

2.2 Dimensions and Appearance

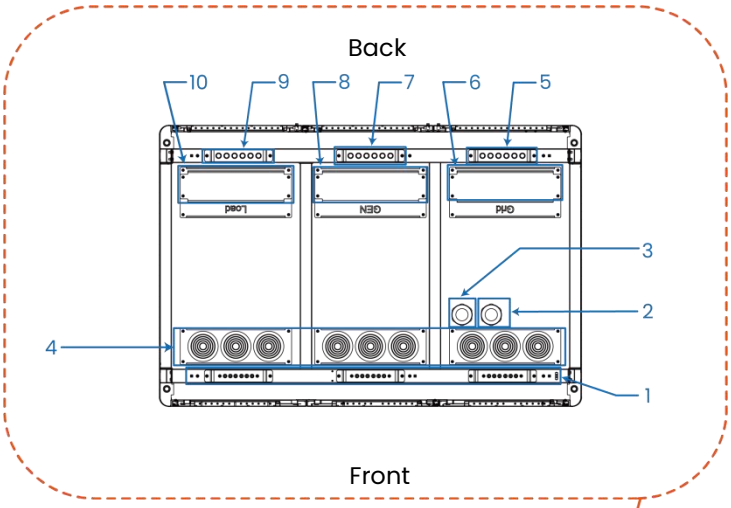


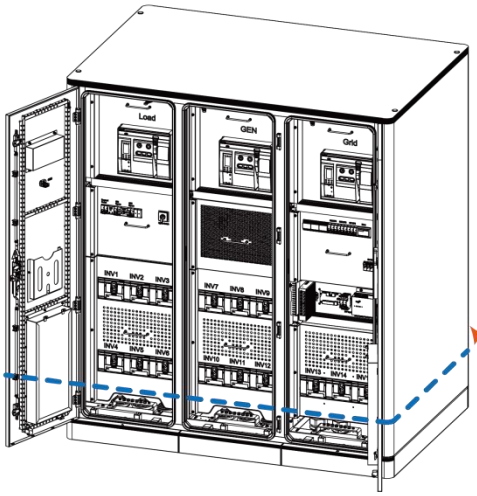
Unit: mm

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2.3 Port Descriptions

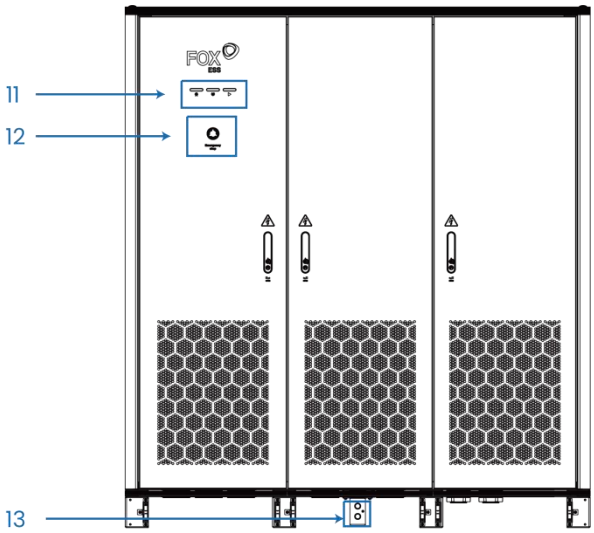
Top View (Cross-Sectional View)





Top View of the Mega Link at This Section

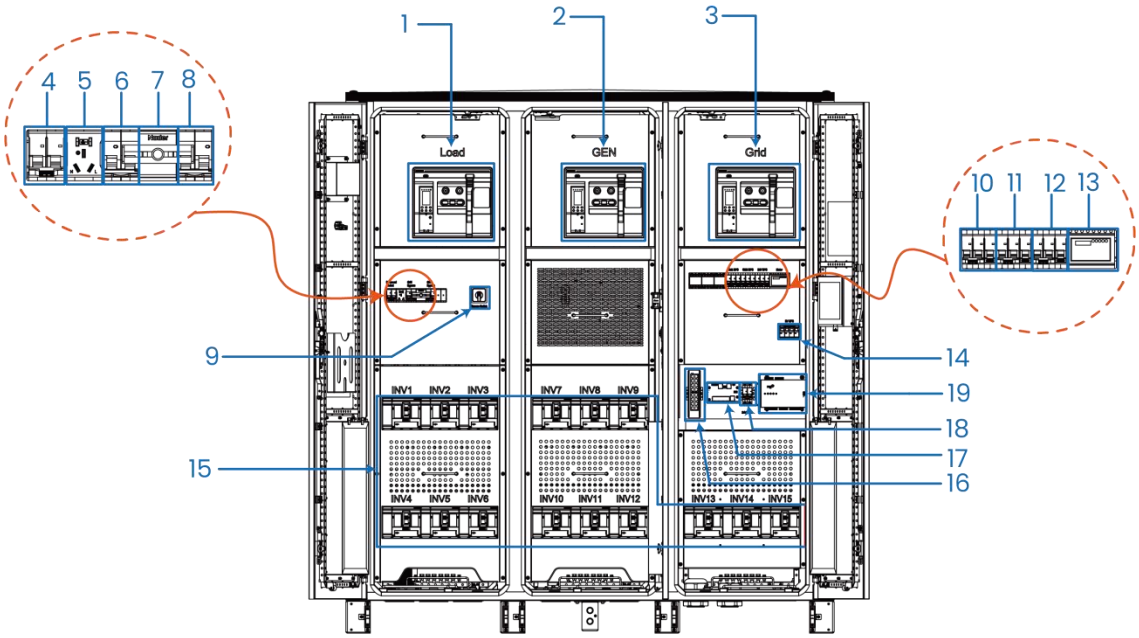
Front View (Cabinet Door Closed)



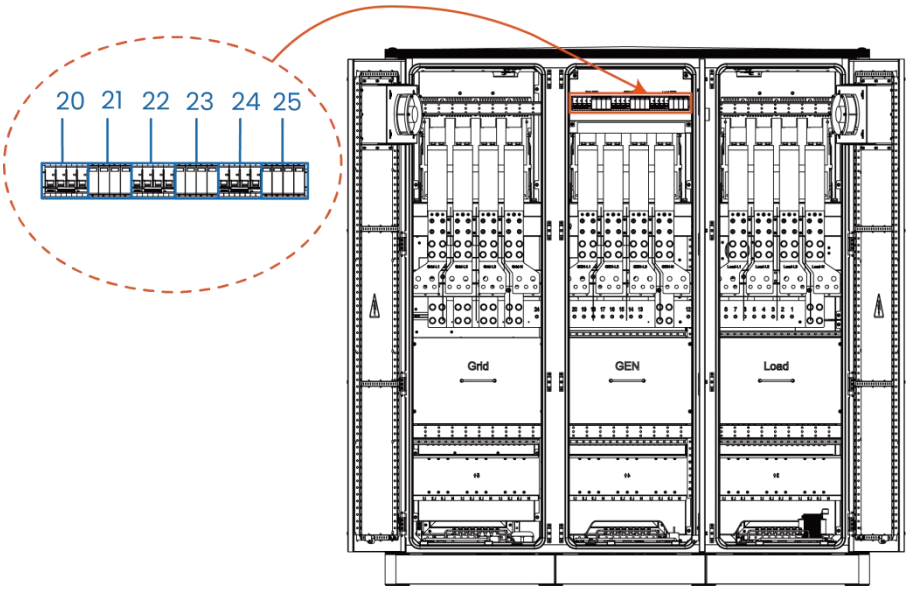
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Serial No.	Description	Serial No.	Description
1	Inverter Grounding Bar	2	Reserved Outlet for Signal and Cables
3	Outlet for Signal and Communication Cables	4	Inverter Cable Inlet
5	Grid-Side Grounding Bar	6	Grid Cable Inlet
7	Generator-Side Grounding Bar	8	Generator Cable Inlet
9	Load-Side Grounding Bar	10	Load Cable Inlet
11	Indicator	12	Emergency Stop Button
13	Cabinet Bottom Grounding Bar		

Front View (Cabinet Door Open)



Rear View (Cabinet Door Open)



Serial No.	Label	Description	Serial No.	Label	Description
1	ACB3	Air-Circuit Breaker (Load Connection)	2	ACB2	Air-circuit Breaker (Generator Connection)
3	ACB1	Air-Circuit Breaker (Grid Connection)	4	QF6	Maintenance Socket Circuit Breaker
5	Socket	Maintenance Socket	6	QF1	Grid Bypass Circuit Breaker
7	SL	Physical Interlock Switch (between Grid Bypass Switch and Generator Bypass Switch)	8	QF2	Generator Bypass Circuit Breaker
9	SW1	Bypass Transfer Switch	10	QF7	Grid Auxiliary Power Circuit Breaker
11	QF8	Generator Auxiliary Power Circuit Breaker	12	QF9	Inverter Auxiliary Power Circuit Breaker
13	METER	AC Meter	14	QF10	DC Auxiliary Power Circuit Breaker
15	QF12~ QF26	AC Circuit Breakers (Inverter Connection)	16	Switch	Switch
17	Conver ter Board	Reserved Communication Interface (Parallel Communication, DRM Control, Reserved External Meter Interface and Diesel Generator Control	18	QF11	Reserved 24V Power Supply Circuit Breaker
19	AI LINK PRO	Energy Management System	20	QF3	Grid-Side SPD Circuit Breaker

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21	SPD1	Grid-Side Surge Protective Device	22	QF4	Generator-Side SPD Circuit Breaker
23	SPD2	Generator-Side Surge Protective Device	24	QF5	Load-Side SPD Circuit Breaker
25	SPD3	Load-Side Surge Protective Device			

2.4 System Wiring

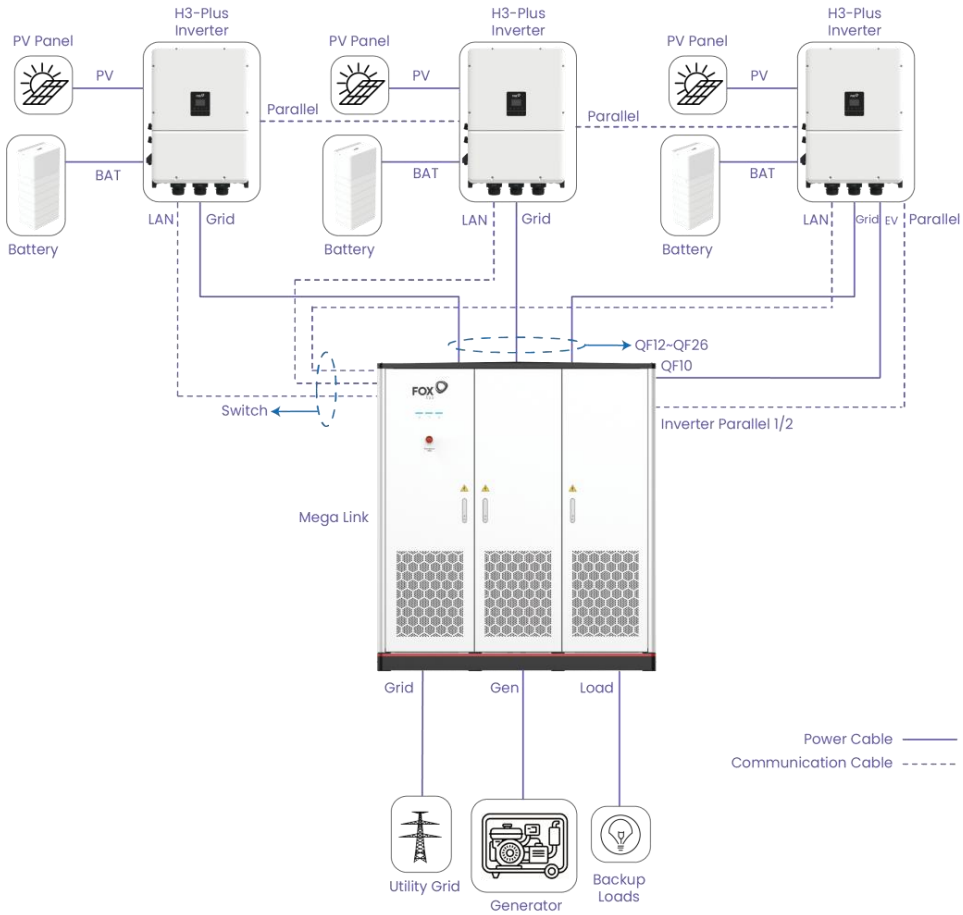
2.4.1 Whole-Home Backup

Scenario 1: With H3-Plus

This diagram illustrates the Mega Link Whole-Home Backup system using parallel H3-Plus three-phase storage inverters.

Each H3-Plus inverter connects to PV panels and a battery unit (BAT). The inverters communicate via parallel cables and connect to the central Mega Link cabinet through power and communication lines.

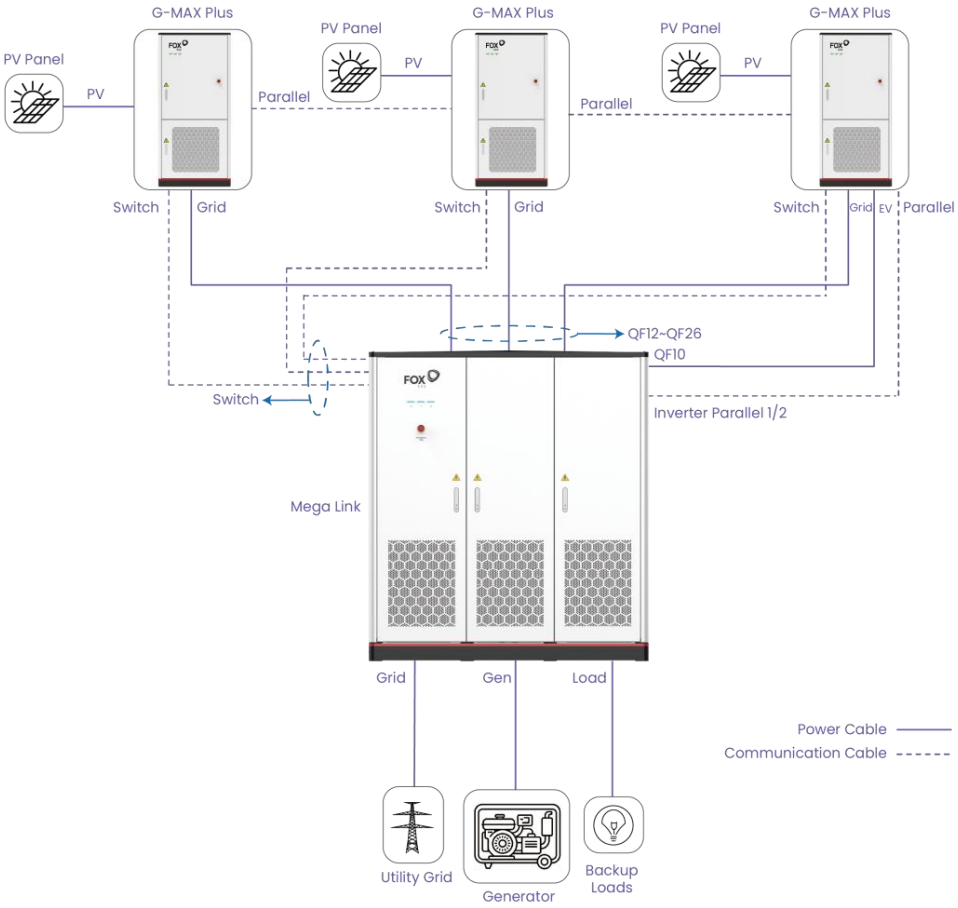
As the core distribution hub, the Mega Link cabinet connects to the grid, backup generator and critical loads.



Scenario 2: With G-MAX Plus

This diagram illustrates the Mega Link Whole-Home Backup energy system based on multiple parallel G-MAX Plus energy storage systems.

The Mega Link cabinet acts as the core power distribution hub. It provides interfaces for the utility grid, backup generator and backup loads.



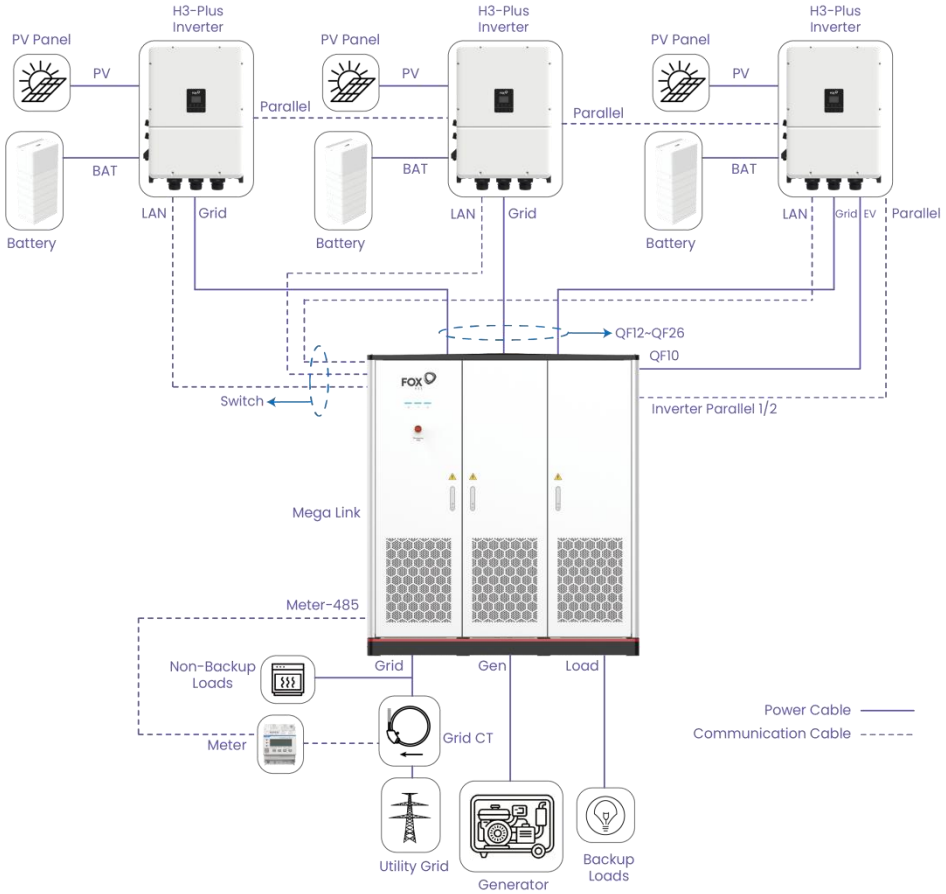
2.4.2 Partial Backup

Scenario 1: With H3-Plus

This diagram illustrates the Mega Link Partial Backup energy system built upon multiple parallel H3-Plus three-phase storage inverters. The Mega Link cabinet serves as the core power distribution hub.

Difference from Whole-Home Backup:

Unlike Whole-Home Backup which supplies power to all home loads during grid outages, this Partial Backup architecture separates loads into two categories. When the utility grid fails, only the critical backup loads receive continuous power from solar, battery and generator sources; the non-backup loads remain disconnected and will not be powered in off-grid backup mode.



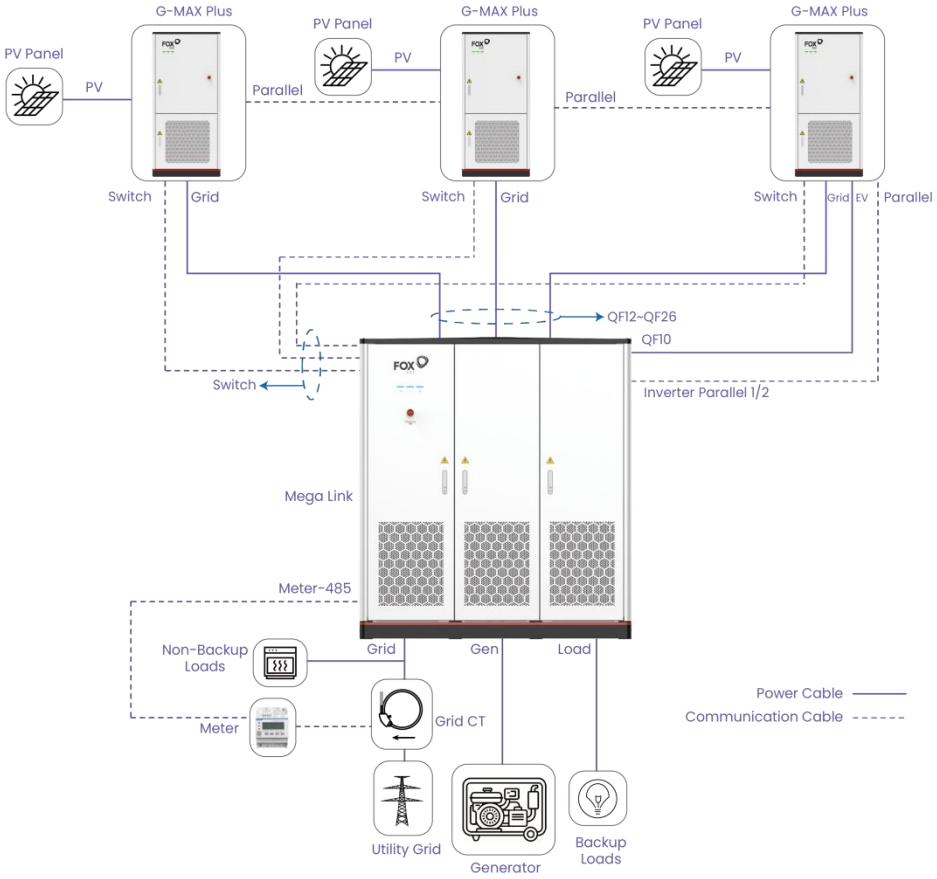
Scenario 2: With G-MAX Plus

This diagram illustrates the Mega Link Partial Backup energy system built upon multiple parallel G-MAX Plus energy storage systems.

The Mega Link cabinet acts as the core power distribution hub.

Difference from Whole-Home Backup:

Unlike the Whole-Home Backup configuration, which delivers backup power to all critical home loads during grid outages, this Partial Backup design segregates loads into two groups. When utility power is lost, only the backup loads receive continuous power from solar, battery and generator sources; non-backup loads remain isolated and will not be energized in off-grid backup mode.



3 Safety

The Mega Link is designed and tested in accordance with international safety requirements. However, certain safety precautions must be taken into account when installing and operating this device. The installer must read and follow all instructions, cautions, and warnings in this manual.

⚠ Warning!

- It is strictly prohibited to operate the product (including, but not limited to, handling, installation, electrical connection, powering up, maintenance, working at height, etc.) in bad weather, such as thunder, lightning, rain, snow, or winds of more than force six grades.
- In case of fire, evacuate the building or product area and call the fire alarm. In any case, re-entry into the burning area is strictly prohibited.

Note!

- All operations including transport, installation, start-up, and maintenance, must be carried out by qualified, trained personnel. Irrelevant personnel are prohibited from approaching the work area.
- The electrical installation & maintenance of the device shall be conducted by a licensed electrician and shall comply with local wiring rules and regulations.
- Please operate the device under the condition that you are familiar with and understand the contents of this manual and have the appropriate tools.

3.1 Unpacking and Inspection

Note!

- Check all safety signs, warning labels and nameplates on the product.
- Safety markings, warning labels and nameplates must be clearly visible and not be removed or covered before the product is scrapped.
- Upon receipt of the product, check the appearance of the product and components for damage, check whether the product received is consistent with the actual product ordered, if there is a problem with the above check items, please do not install and contact us.

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3.2 Handling Safety

⚠ Danger!

- Make sure the product is free of any electrical connections before installation.
- When installing, if drilling is required, make sure you have avoided the pipeline and electric wire in the wall.

⚠ Warning!

- Before installation, check the device to ensure it is free of any transport or handling damage, which could affect insulation integrity or safety clearances. Choose the installation location carefully and adhere to specified cooling requirements. Unauthorized removal of necessary protections, improper use, incorrect installation, and operation may lead to serious safety and shock hazards or device damage.
- Any time the device has been disconnected from the public network, please be extremely cautious as some components can retain charge sufficient to create a shock hazard. Prior to touching any part of the device please ensure surfaces and device are under touch with safe temperatures and voltage potentials before proceeding.

⚠ Caution!

- If the product supports lifting and handling methods and needs to be lifted by heavy tools, it is prohibited for people to pass or stay underneath the product.
- Take the product weight into account during handling, and maintain proper balance to prevent tipping or dropping.
- When using a forklift, align the forks with the device' s centre of gravity and secure the device as required. Assign a dedicated observer for handling operations. Never stand beneath the forks.
- During transportation, the device tilt angle must be less than 10°, and the undulation height must be as low as possible. Take into account the heights of persons assigned to handle the device to ensure that the device is handled stably.

Note!

- Before handling the product, always check to make sure that the tools you are using have been regularly maintained.
- Before connecting the device to the power distribution grid, contact the local power distribution grid company to get appropriate approvals. This connection must be made only by qualified technical personnel.
- Do not install the device in adverse environmental conditions such as in close proximity to flammable or explosive substances; in a corrosive environment; where there is exposure to extremely high or low temperatures; or where humidity is high.
- Do not use the device when the safety devices do not work or are disabled.
- Inform the manufacturer about non-standard installation conditions.
- Use personal protective device, including gloves and eye protection during the installation.

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3.3 Electrical Connection Safety

⚠ Danger!

- Before making electrical connections, make sure that the device is not damaged, otherwise it may be dangerous!
- Always make sure that the device and all switches connected to it are disconnected before electrical connections are made, otherwise there is a risk of electric shock.
- When making electrical connections, be sure to wear personal protective device and use special insulating tools.
- Before touching a DC cable, always use a measuring device to ensure that the cable is not energized.

⚠ Warning!

- Before supplying power, connect the ground wire.
- Incorrect grounding can cause personal injury, death or device failure and increase electromagnetic interference.
- Ensure that the size of the grounding wire meets the requirements of the safety regulations.

3.4 Operation Safety

When routing cables, ensure a distance of at least 30 mm between the cables and heat-generating components or areas to protect the insulation layer of cables from aging and damage.

⚠ Danger!

- Do not touch the device enclosure.
- Do not touch any wiring terminal of the device. Otherwise, electric shock may occur.
- Do not disassemble any parts of the device. Otherwise, electric shock may occur.
- It is strictly forbidden to touch any hot parts of the device. Otherwise, it may cause burns.
- RF exposure warning: To satisfy RF exposure requirements, a separation distance of 20 cm or more should be maintained between this device and persons during device operation.

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3.5 Maintenance Safety

Risk of device damage or personal injury due to incorrect service!

⚠ Danger!

- Before maintenance, disconnect all the circuit breakers. Then wait until the system is completely powered off before proceeding. Otherwise, a fire inside the product or an explosion may occur, causing personal injuries.
- After the device is powered off for 15 minutes, measure the voltage and current with professional instrument. Only when there is no voltage nor current can operators who wear protective device operate and maintain the device.
- Even if the device is shut down, it may still be hot and cause burns. Wear protective gloves before operating the device after it cools down.
- The power grid side may generate voltage. Always use a standard voltmeter to ensure that there is no voltage before touching.

Note!

- Before handling the product, always check to make sure that the tools you are using have been regularly maintained.
- Before connecting the device to the power distribution grid, contact the local power distribution grid company to get appropriate approvals. This connection must be made only by qualified technical personnel.
- Do not install the device in adverse environmental conditions such as in close proximity to flammable or explosive substances; in a corrosive environment; where there is exposure to extremely high or low temperatures; or where humidity is high.
- Do not use the device when the safety devices do not work or are disabled.
- Inform the manufacturer about non-standard installation conditions.
- Use personal protective device, including gloves and eye protection during the installation.

3.6 Disposal Safety

Please scrap the device in accordance with relevant local regulations and standards to avoid property losses or casualties.

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4 Storage and Transport Requirements

4.1 Storage Requirements

If the device is not put into operation immediately, it must be stored under specific environmental conditions.

- The storage location must comply with local laws and regulations. And must be free of harmful gases, flammable, explosive materials, and corrosive chemicals.
- Store the device as per the storage requirements indicated on the packaging.
- Do not store device without packaging. If the device is unpacked and will not be used immediately, place it back into its original packaging, keep the desiccant inside, and seal with tape.
- Regularly inspect the storage condition of the device. (Record the temperature, humidity and other conditions of the storage environment during storage.) Replace packaging materials promptly if necessary.
  - Storage Temperature: -40°C to +70°C; Operating Temperature: -30°C to +60°C
  - Humidity: 0 to 100% (No Condensing)
- Do not step on the device or place foreign objects on it, as this may cause damage.
- For long-term storage, the device must be covered or appropriate measures taken to protect it from contamination and environmental impact.
- If the device has been stored for more than 2 years, carry out professional inspection and testing before commissioning.
- Do not expose the device to direct sunlight, humidity, condensation, dust, rain, or flammable, explosive or corrosive environments.

4.2 Transport Requirements

- Please package the product strictly before transporting it by vehicle. Closed boxes must be used for long-distance transportation.
- It is strictly prohibited to transport this product together with other equipment or items that may affect or damage the product.

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5 Installation

5.1 Check before Installation

Make sure the device has not been damaged during transportation. If there is any visible damage, such as cracks, please contact your dealer immediately.

The following items must be checked before and after unpacking:

No.	Items
1	Before unpacking, inspect the product's external packaging for any issues such as damage, breakage, moisture, dampness, or deformation.
2	After unpacking, check the product and its accessories for surface defects like damage, rust, or dents.
3	Check if the nameplate information matches the model of the ordered product.
4	Check the warning label for any damage, scratches, fading, etc.

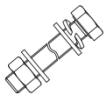
5.2 Packing List

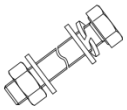
Open the package and take out the product, please check the accessories first. The packing list is as shown as below:


A


B

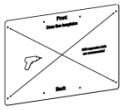

C


D

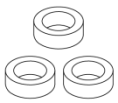

E



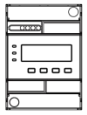
F


G


H


I


J


K


L


M


N

Object	Quantity	Description	Object	Quantity	Description
A	1	Mega Link	B	4	Eyebolt
C	8	Sealing Clay	D	36	M12 × 50 Bolt Assembly
E	24	M16 × 60 Bolt Assembly	F	1	Quick Installation Guide
G	1	Drilling Template	H	1	Connector

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I	3	Small Magnetic Ring	J	2	4 mm & 6 mm Internal Hexagon Wrench
K	1	Meter	L	1	Rogowski Coil
M	1	USB Flash Disk	N	2	DC Terminal

5.3 Mounting

The Mega Link with protection rating IP55 can be installed both indoors and outdoors. The device should be installed at a height that allows easy viewing of the control panel, as well as easy electrical connection, operation and maintenance.

5.3.1 Environment Requirements

- Do not install the device in mold-prone, smoky, flammable, explosive environments, or environments with conductive metal dust or magnetic dust.
- Make sure there are no trees around the installation location to prevent strong winds from blowing down branches or leaves that may block the product door or air inlet.
- The Mega Link shall be installed at least 1000 meters away from corrosion sources that may cause salt or acid damage. Corrosion sources include but are not limited to seashores, thermal power plants, chemical plants, smelters, coal plants, rubber plants and electroplating factories.
- Do not tilt or invert the device. Ensure horizontal installation.
- Do not install the device in locations with fire hazards or high moisture risk.
- Do not install the device in enclosed, poorly ventilated areas lacking fire protection measures and accessible only with difficulty for firefighters.
- Do not install the device underneath water sources, including but not limited to water pipes and air-conditioner vents where condensate or water leakage may occur. Otherwise, liquid ingress into the device may cause a short circuit.
- If the outer surface of the device is damaged, repaint it timely.
- Grid-tied/off-grid switching produces audible noise. It is recommended to mount the device near the AC distribution box and away from rest areas.
- Do not install the device in environments with strong electromagnetic interference.
- Avoid opening the cabinet door or performing maintenance or repair operations in rainy, thunderstorm or humid weather conditions
- Not near the television antenna or antenna cable.
- Not higher than altitude of about 3000 m above sea level.
- The device becomes hot during operation. If installed indoors, ensure adequate ventilation. Do not install it where personnel can easily touch its heat-dissipating surfaces.
  - Storage Temperature: -40°C to +70°C; Operating Temperature: -30°C to +60°C
  - Humidity: 0 to 100% (No Condensing)
- The air inlet and outlet must be professionally protected from rain, wind, sand and dust.
- The location should not be accessible to children.

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5.3.2 Foundation Requirements

- Do not install the device on flammable substrates.
- The mounting base shall satisfy load-bearing requirements and be free from adverse geological conditions, including but not limited to mucky soil and soft sod. Brick-concrete structures and concrete walls are recommended.
- The mounting base shall be flat, and the installation area shall meet the required installation clearance.
- No water or electrical conduits shall run within the mounting base to prevent hazards caused by drilling during device installation.

Items	Requirements
Base Surface	Be concrete or non-combustible, level, firm, and load-bearing. Constructed using corrosion-resistant concrete. Additional anti-corrosion coating treatment shall be applied where necessary.
Load Capacity	Designed for total equipment weight; if the weight exceeds 2 t, reassess and reinforce the foundation accordingly.
Connections	Adjusted based on site conditions. On hard surfaces, secure using welding or bolting.
Water Protection	Keep base above highest historical water level. Designed with a drainage slope of ≥ 3% to prevent seawater backflow and water accumulation.

5.3.3 Cable Trench Requirements

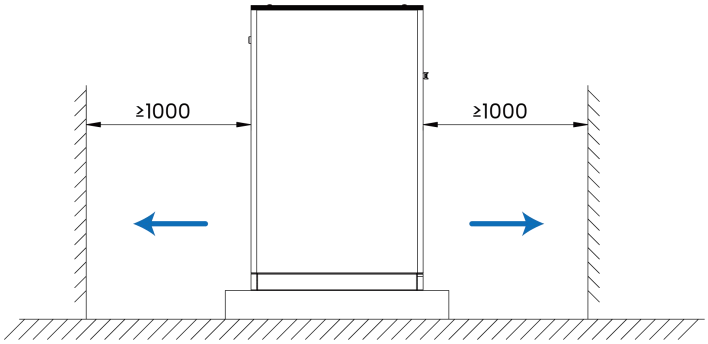
The Mega Link adopts the bottom cable entry method. To prevent foreign objects from entering, there is no cable entry hole on the side of the cabinet. The cables must be entered through the trench. Therefore, a trench must be preset on site. The trench has the following requirements:

- Since the Mega Link uses bottom cable entry, the trench must have necessary dust and rodent-proof design to prevent foreign objects from entering.
- The trench needs to have necessary waterproof and moisture-proof design to prevent the cables from aging and short-circuiting, which will affect the normal operation of the device.
- Since the Mega Link has a large power, the required cables are thicker, so the cross-sectional area of the cables must be fully considered when designing the trench.
- Since communication connections exist between G-Max Plus / H3-plus and Mega Link, it is recommended that the trenches for communication cables and power cables be separated or provided with shielding.

5.3.4 Space Requirements

Sufficient maintenance space and heat dissipation and ventilation space must be reserved at the installation location. The recommended space dimensions are as shown in the figure below.

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Unit: mm

Note!

For indoor installation, compliance with local regulations is required. Ensure the ambient temperature is ≤45°C with adequate ventilation.

5.3.5 Required Tools

Tools required for installation include, but not limited to, the following recommended tools. If necessary, use other auxiliary tools on the spot.



⚠ Danger!

- Special care must be taken to protect personal safety.
- PPE must be worn during transfer and installation.

⚠Warning!

Please use proper protective measures, such as foam or protective cloth, keep the unit

well protected from hard objects that may damage their exterior appearance or body during handling and installation.

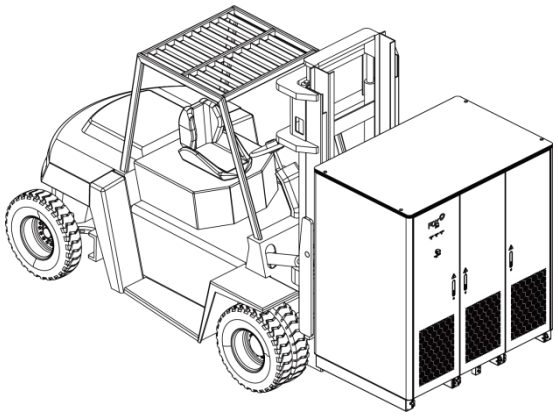
5.3.6 Installation Steps

1. Device Handling

There are two ways to handle unopened packaging: forklift handling and crane handling.

Method 1: Forklift Handling

Test the fork and adjust the forklift tine width so that the load's center of gravity is centered between the tines. Then lift the Mega Link and move it to the appropriate position. (Forklift Handling Capacity: ⩾2 t)



⚠ Caution!

- It is forbidden to transport hydraulic trucks over long distances or on slopes, otherwise the hydraulic trucks may be damaged.
- Please handle it gently when taking off and landing to avoid shock or vibration. When lowering the forklift, be careful not to press your feet.

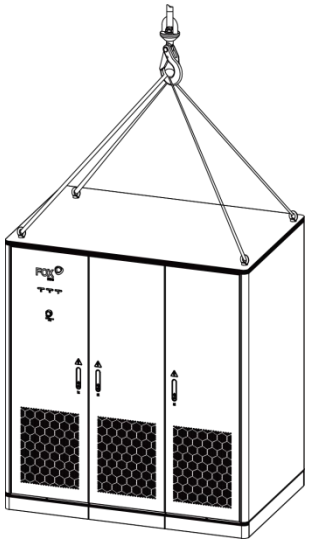
Note!

- It is necessary to test the fork. If it is not suitable, the forklift foot position needs to be adjusted.
- During transportation, the tilt angle must be less than 10°, and the undulation height must be as low as possible.
- Considering that the equipment is high and may block the driver's sight, it is recommended to arrange for personnel to guide the driver depending on the situation.

Method 2: Crane Handling

Use slings (min. 3t capacity each). Secure the cabinet, with hook ≥1 m from the cabinet top. Then lift the Mega Link and move it to the appropriate position.

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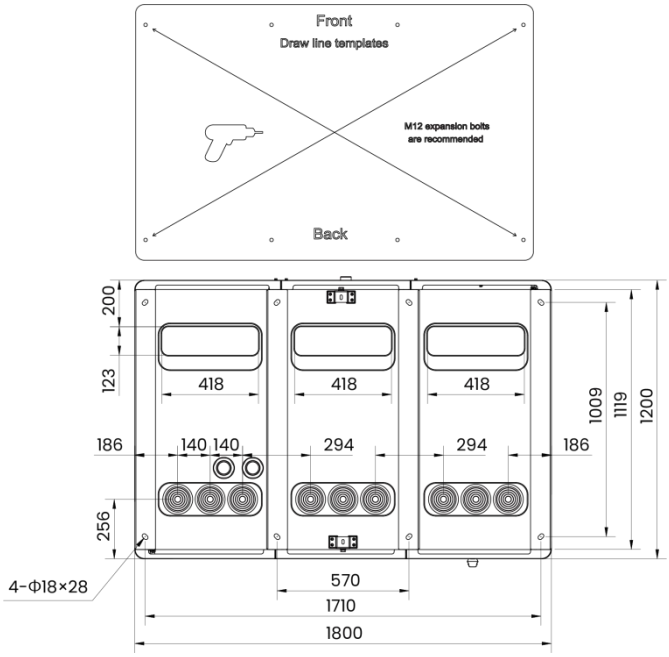
Note!

- Please carry out a test lifting to confirm that the straps can bear the weight of the Mega Link.
- Before moving, please make sure that the cabinet door is locked to avoid injuries caused by sudden opening during transportation.
- Lift and place gently when taking off and landing to avoid shock or vibration.
- The swing angle must be less than 10°.

2. Hole Drilling

Please refer to the figure below for the installation hole location diagram.

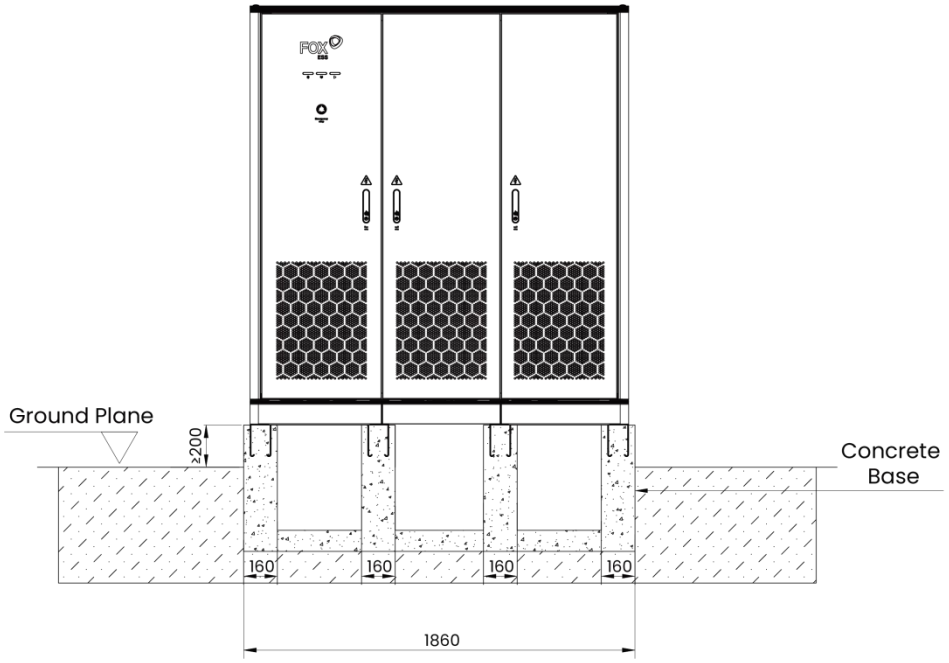
Drilling Template



Bottom View

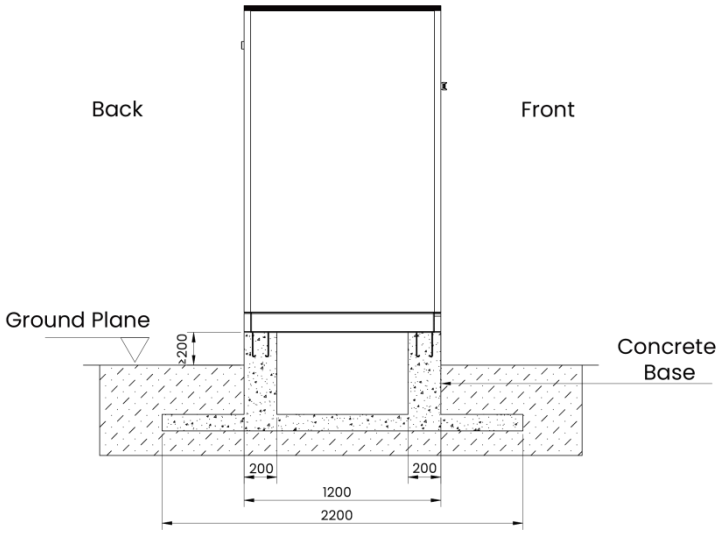
Unit: mm

3. Place the Mega Link on the foundation and tighten the screws to secure the device. (The following foundation drawings are for reference only.)



Mounting Base Section (Front View)

Unit: mm



Mounting Base Section (Side View)

Unit: mm

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5.4 Wiring

5.4.1 Wiring Precautions

⚠ Danger!

- Must ensure that cables are voltage-free with a measuring instrument before proceeding electrical connection.
- Before electrical connections, please make sure that all switches connected to the Mega Link are set to "OFF", otherwise electric shock may occur!
- Do not close the AC circuit breaker until the electrical connection is completed.

⚠ Warning!

- Install the external protective grounding cable first when performing electrical connection and remove the external protective grounding cable last when removing the device. Otherwise, it may cause personal injury or product damage.
- Please use measuring devices with an appropriate range. Over-voltage can damage the measuring device and cause personal injury.

Note!

- Electrical connection must be performed by professionals.
- Operators must wear proper personal protective equipment during electrical connections.
- All cables used in the system must be firmly attached, properly insulated, and adequately dimensioned.
- Cables used by the user shall comply with the requirements of local laws and regulations.
- When the wiring is completed, seal the gap at the cable inlet and outlet holes with fireproof / waterproof materials such as fireproof mud to prevent foreign matter or moisture from entering and affecting the long-term normal operation of the device.

5.4.2 Cable Specifications

Serial No.	Cable Category	Cable Name	Recommended Specification
1	AC Cable	Grid AC Power Supply (L1\L2\L3\N)	Copper Cable Cross-Sectional Area: 400 mm²×4
		Generator AC Power Supply (L1\L2\L3\N)	Copper Cable Cross-Sectional Area: 400 mm²×4
		Load-Side Output Cable (L1\L2\L3\N)	Copper Cable Cross-Sectional Area: 400 mm²×4

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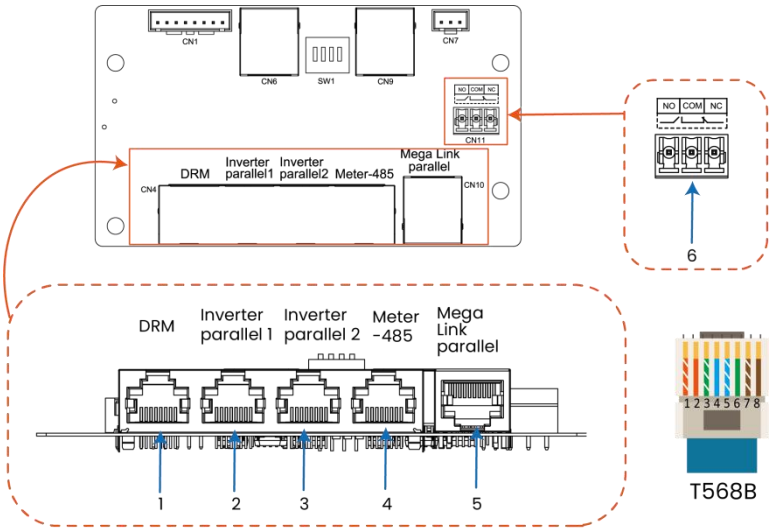
		Inverter AC Power Supply (L1\L2\L3\N)	Copper Cable Cross-Sectional Area: 70 mm²; Aluminum Cable Cross-Sectional Area: 95 mm²; (Max. Power of Single Inverter: 137 kW, Max. Current: 200 A)
2	DC Cable	Reserved 24 V Supply Power	UL1015; Copper Cable Cross-Sectional Area:
		DC Power Supply	UL10269; Copper Cable Cross-Sectional Area: 25 mm²; Withstand voltage greater than DC 1000 V
3	Grounding Cable	Cabinet Base Grounding Cable	Cross-Sectional Area: 800 mm²
		Inverter Grounding Cable	Cross-Sectional Area: 35 mm²
		Grid / Generator / Load Grounding Cable	Cross-Sectional Area: 180 mm²×6
4	Communication Cable	Parallel-Connection Communication Cable	ULCat5E FTP 24AWG; Or 8-core shielded twisted-pair cable for outdoor application (Single-core cross-sectional area: 0.2 mm²)
		DRM Communication Cable	
		Meter Communication Cable	
5	Signal Cable	Generator DO Cable	UL1569 22AWG; Or outdoor shielded 3-core cable (single-core cross–sectional area: 0.32 mm²)

Note!

- Select cables of different specifications based on the actual on-site load and power demand. Ensure that the cable cross-sectional area meets the actual current-carrying capacity requirements.
- The recommended cross-sectional areas for AC cables and ground wires in the table above are values for system full-load operation (2279 A). Customers may adjust them according to actual operating conditions.

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5.4.3 Communication Port Introduction



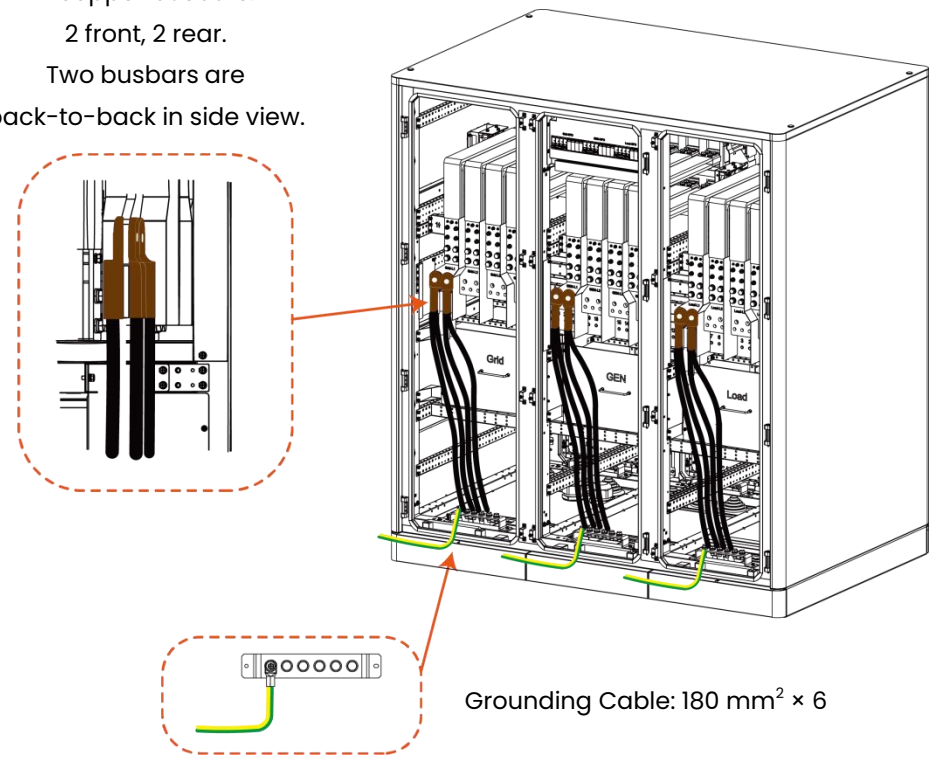
Object	Label	Description
1	DRM	Logic Terminal for AS/NZS 4777.2:2020
2	Inverter Parallel 1	Parallel Communication Terminal
3	Inverter Parallel 2	Parallel Communication Terminal
4	Meter-485	RS485 Communication Terminal
5	Mega Link Parallel	Parallel Communication Terminal with mega link
6	NO COM NC	Digital Output (ON/OFF Switching Signal)

Pin	1	2	3	4	5	6	7	8
DRM	DRM1/5	DRM2/6	DRM3/7	DRM4/8	REF GEN/0	COM LOAD/0	DI_GND	DI_GND
Meter-485	RS485 _1_A	RS485 _1_B	RS485 _2_A			RS485 _2_B		
DO	DO-NO	DO-COM	DO-NC					

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5.4.4 Grid, Generator, and Load Cable Wiring

4 copper busbars:
2 front, 2 rear.
Two busbars are
back-to-back in side view.



Grounding Cable: 180 mm^2 × 6

Note!

The diagram above shows the wiring arrangement for copper busbars and grounding busbars. Only a portion of the cables under the system's full-load operating condition are illustrated. The remaining copper busbar wiring shall follow the diagram. The number of connections and conductor size may be adjusted to suit the customer's actual application requirements.

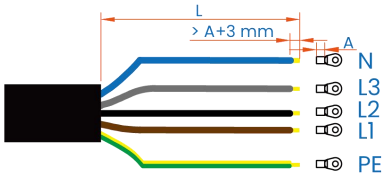
5.4.5 Inverter AC Cable Wiring

Before routing AC cables, please make sure that the reserved length of the inverter AC cables within the cabinet meets the specifications in the table below.

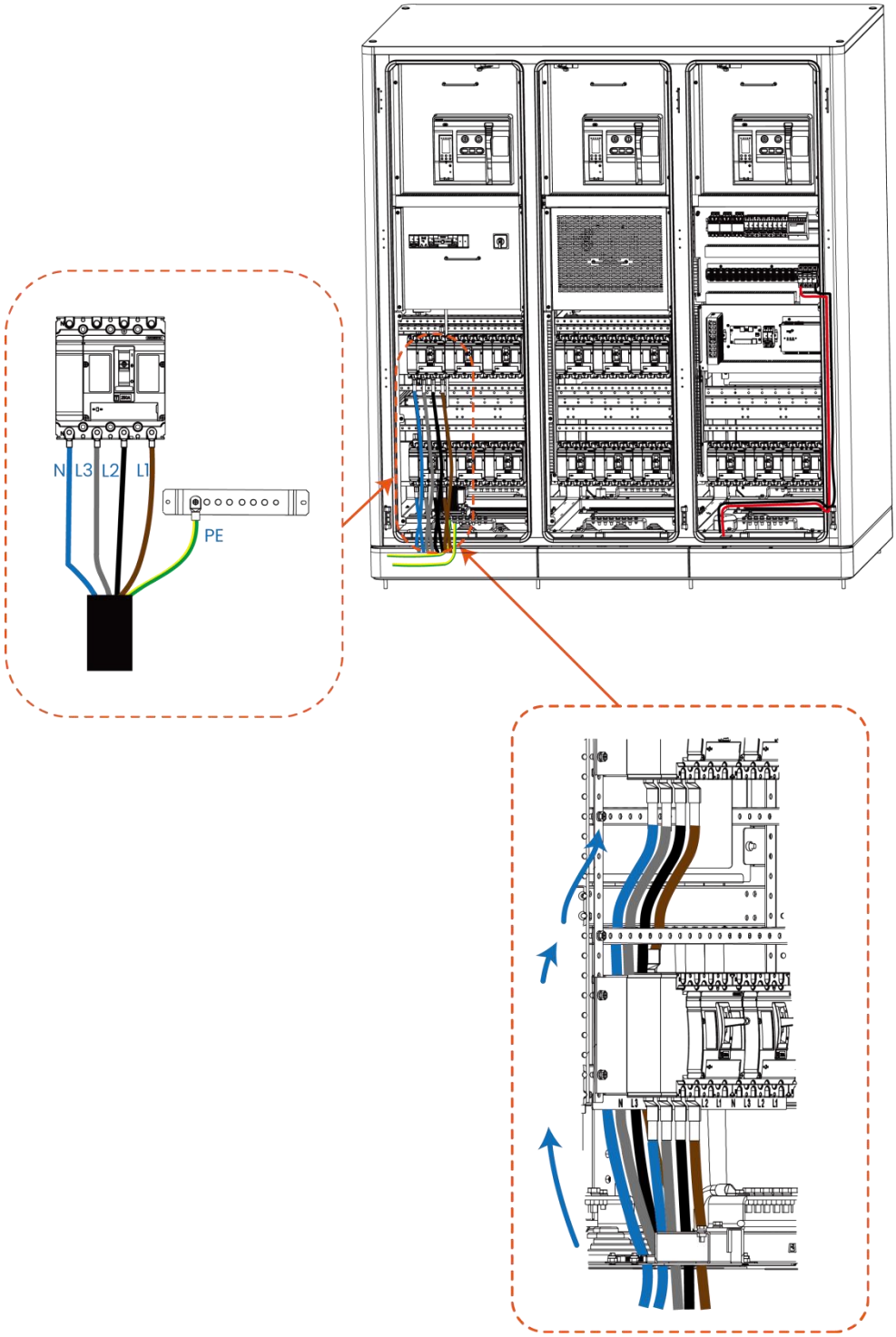
Circuit Breaker	L1	L2	L3	N	PE
QF12~QF14, QF18~QF20	800 mm	800 mm	800 mm	800 mm	200 mm
QF15~QF17, QF21~QF26	400 mm	400 mm	400 mm	400 mm	200 mm

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1. Strip the AC cables for terminal installation.



2. Connect the AC cables to circuit breakers. The cables for the upper circuit breaker shall be routed from the back of the lower circuit breaker to the upper breaker.



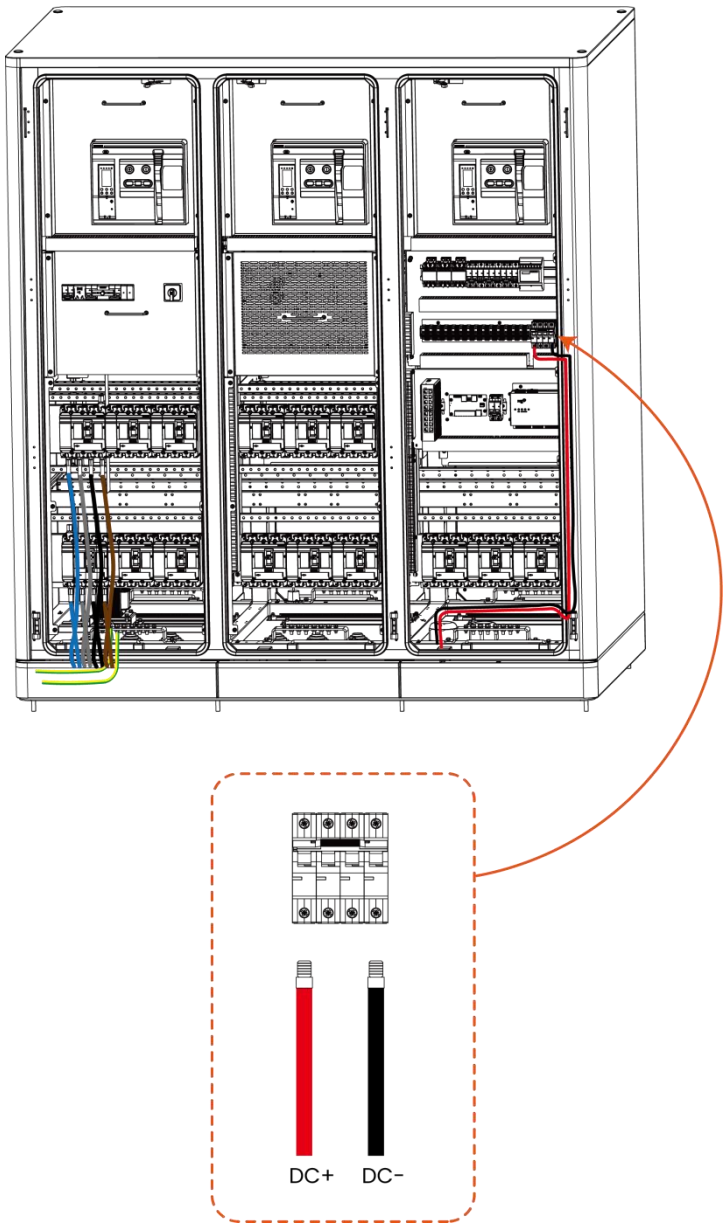
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5.4.6 DC Cable Wiring

This diagram illustrates DC cable wiring inside the Mega Link cabinet.

Red cable is for DC+, black cable for DC-.

DC positive and negative conductors are routed and connected to the corresponding terminal block within the cabinet for DC power distribution.

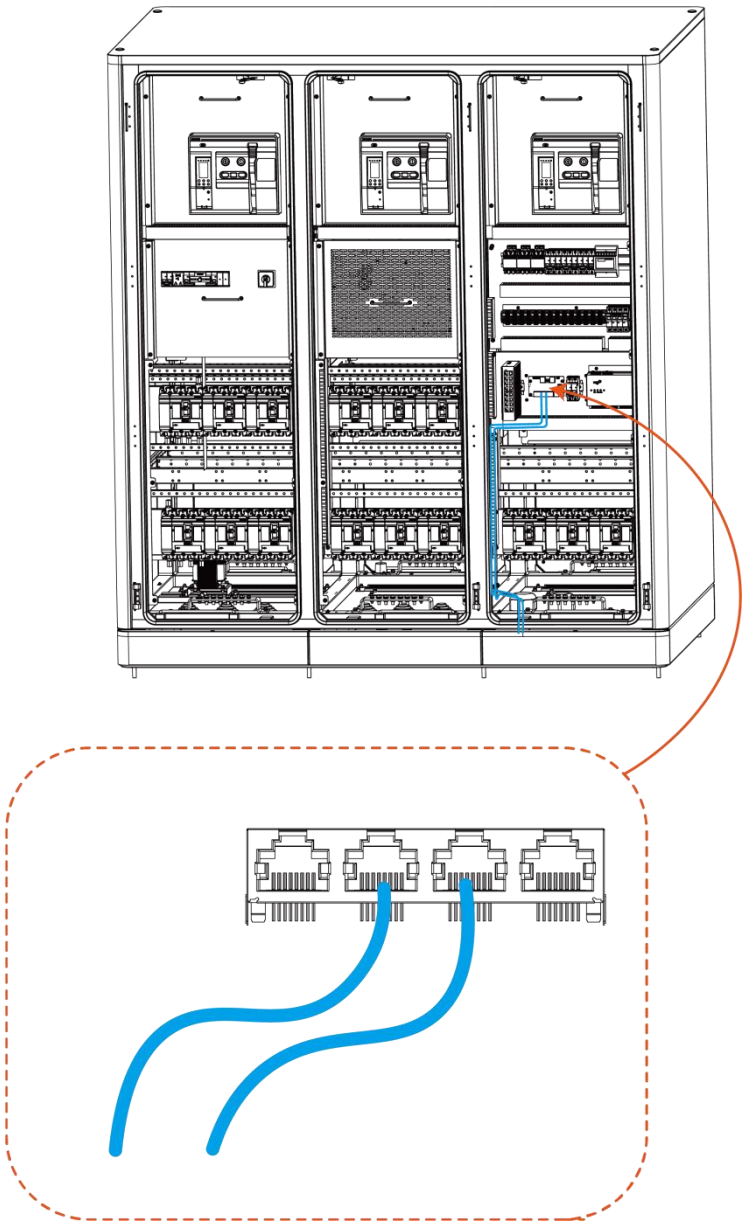


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5.4.7 Parallel Network Cable Wiring

This diagram shows the Mega Link parallel network cable wiring inside the cabinet.

Ethernet cables are connected to the RJ45 ports of the communication module, used for parallel communication between units. The blue network cables route inside the cabinet to establish inter-module parallel connection for system synchronization and data exchange.

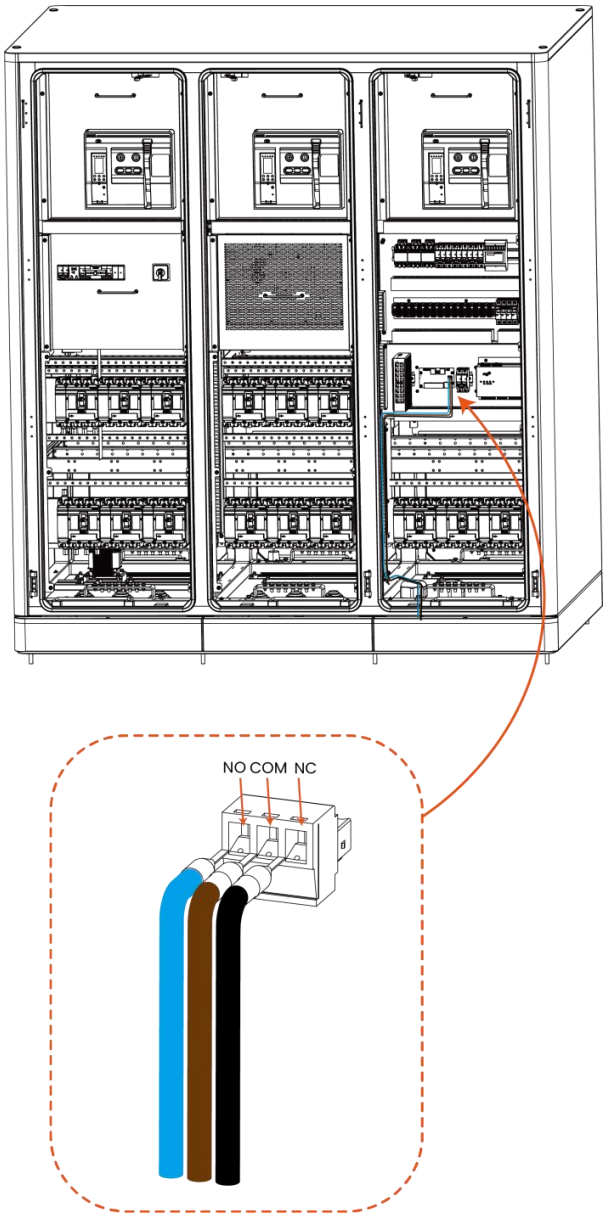


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5.4.8 Generator DO Cable Wiring

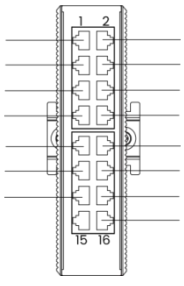
This diagram shows the Generator DO (Digital Output) cable wiring inside the cabinet.

Three signal wires are connected to the relay terminal marked “NO, COM, NC”. This dry contact digital output interface is used to send control signals to start/stop the generator.



5.4.9 Switch Wiring

Connect to the LAN port of H3-Plus or the switch port of G-Max Plus in sequence.

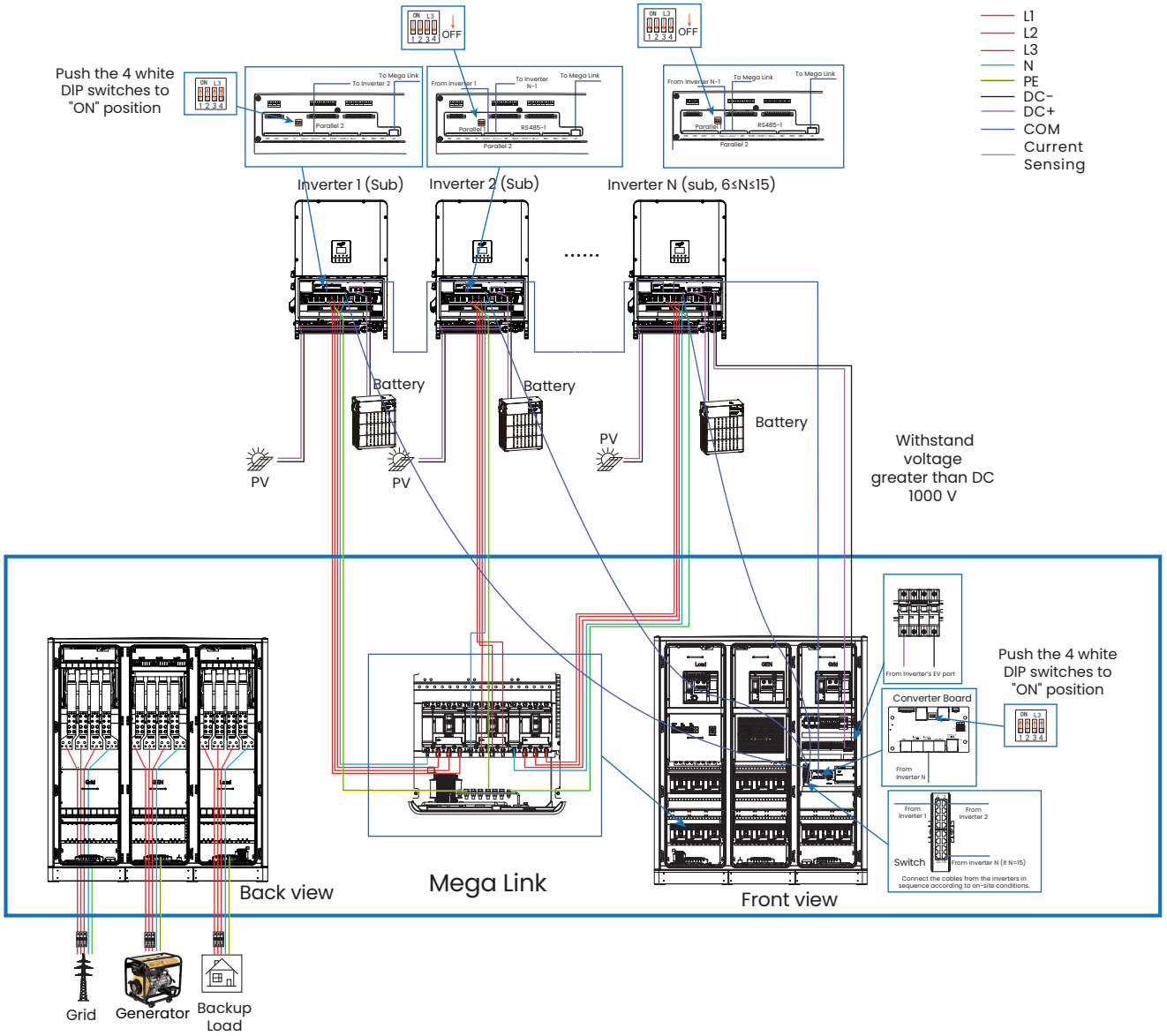


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5.4.10 Backup Power System

Whole-Home Backup

Grid & Generator-Tied Parallel System with Mega Link H3-Plus



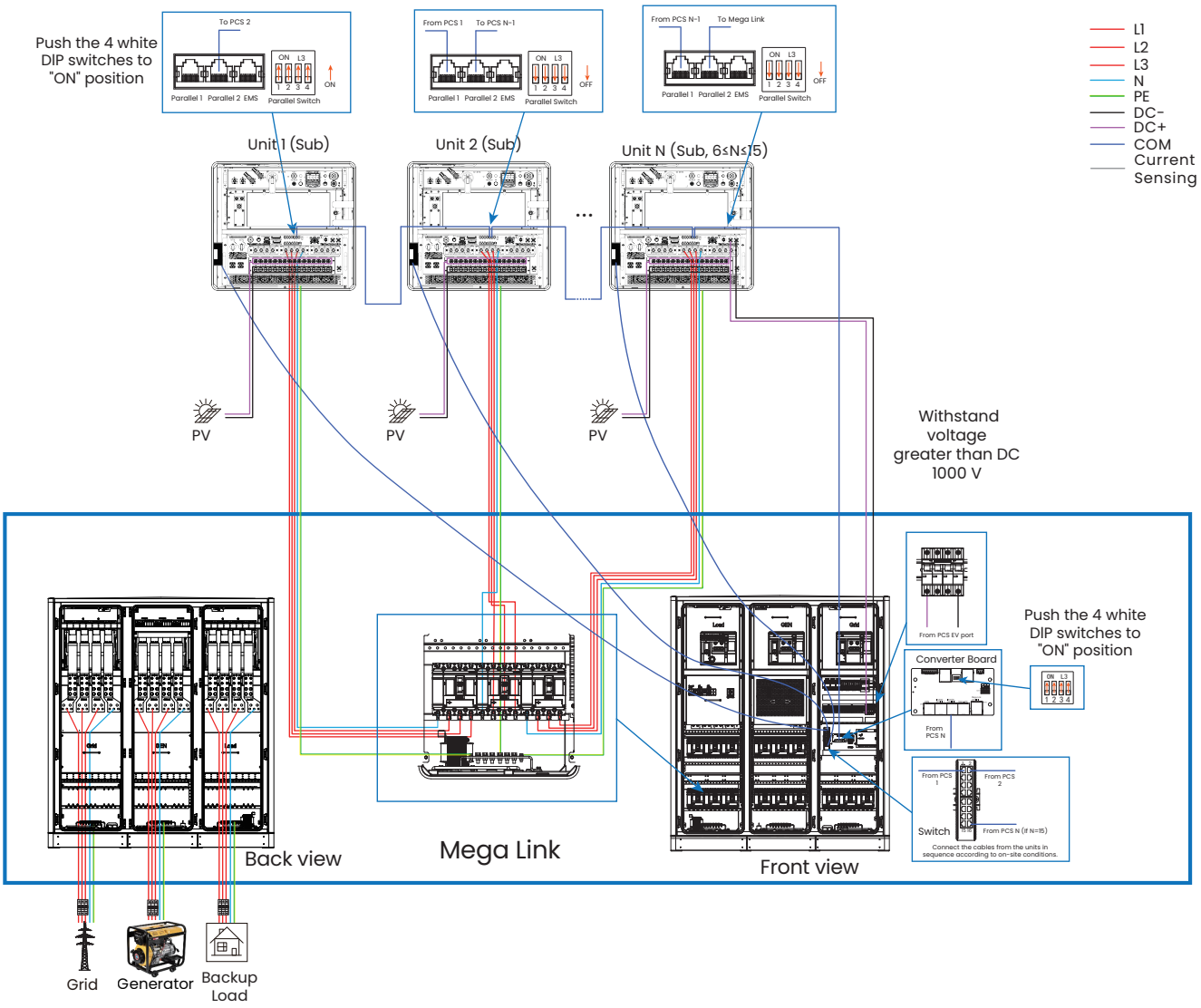
1. Wire each H3-Plus inverters according to its user manual.
2. Please use twisted-pair network cable as the communication cable.
3. Turn on the DIP switches on the first inverter and the Mega Link, and turn off those on the remaining inverters.
4. Please connect to a reliable network to ensure the equipment is online.
5. When multiple inverters are connected in parallel, if one of them is energized, all other inverters connected in parallel with it may also be energized.
6. Each inverter should be of the same model, and ideally, the same number of batteries and the same number of photovoltaic panels should be configured.

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Whole-Home Backup

Grid & Generator-Tied Parallel System with Mega Link

G-Max Plus



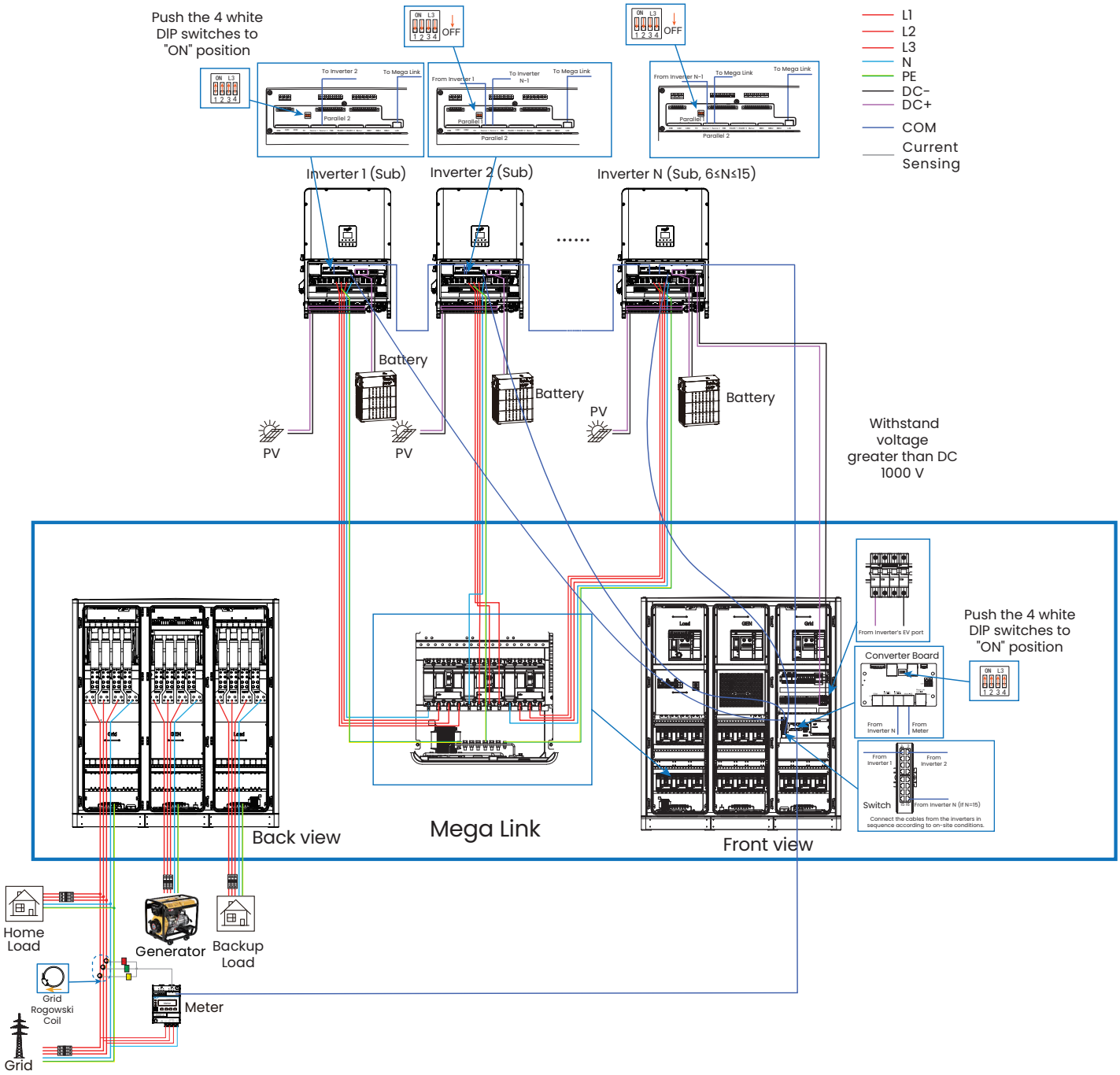
1. Wire each G-Max Plus unit according to its user manual.
2. Please use twisted-pair network cable as the communication cable.
3. Turn on the DIP switches on the first G-Max Plus unit and the Mega Link, and turn off those on the remaining units.
4. Please connect to a reliable network to ensure the device is online.
5. When multiple G-Max Plus units are connected in parallel, if one of them is energized, all other G-Max Plus units connected in parallel with it may also be energized.
6. Each G-Max Plus unit should be of the same model, and ideally, the same number of photovoltaic panels should be configured.

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Partial-Home Backup

Grid & Generator-Tied Parallel System with Mega Link

H3-Plus



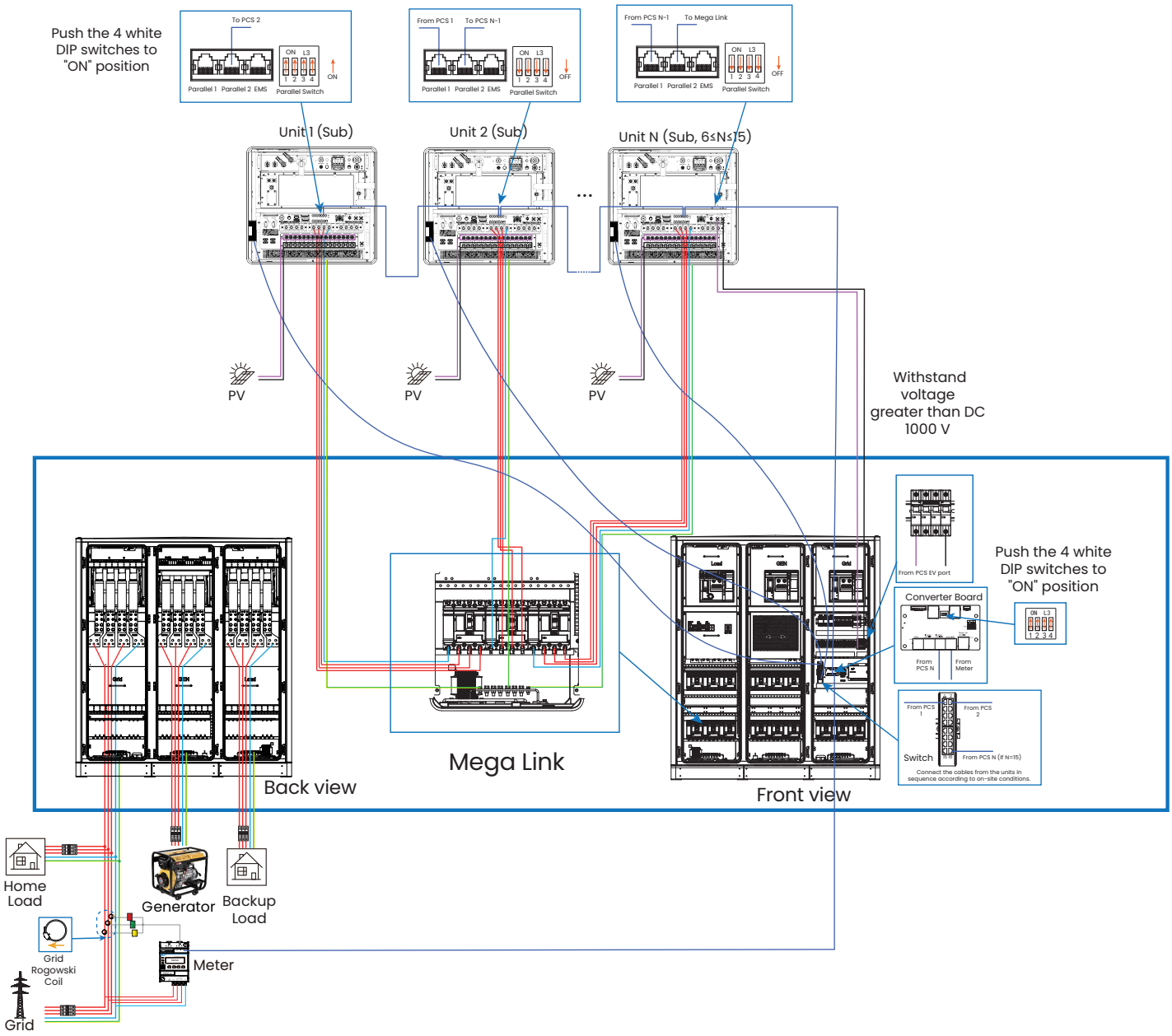
1. Wire each G-Max Plus unit according to its user manual.
2. Please use twisted-pair network cable as the communication cable.
3. Turn on the DIP switches on the first inverter and the Mega Link, and turn off those on the remaining inverters.
4. Please connect to a reliable network to ensure the equipment is online.
5. When multiple inverters are connected in parallel, if one of them is energized, all other inverters connected in parallel with it may also be energized.
6. Each inverter should be of the same model, and ideally, the same number of batteries and the same number of photovoltaic panels should be configured.

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Partial-Home Backup

Grid & Generator-Tied Parallel System with Mega Link

G-Max Plus



1. Wire each G-Max Plus unit according to its user manual.
2. Please use twisted-pair network cable as the communication cable.
3. Turn on the DIP switches on the first G-Max Plus unit and the Mega Link, and turn off those on the remaining units.
4. Please connect to a reliable network to ensure the device is online.
5. When multiple G-Max Plus units are connected in parallel, if one of them is energized, all other G-Max Plus units connected in parallel with it may also be energized.
6. Each G-Max Plus unit should be of the same model, and ideally, the same number of photovoltaic panels should be configured.

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5.5 ACB Trip Unit Setting

The Mega Link system is equipped with three 2500 A Air Circuit Breakers (ACB) and multiple 250 A inverter breakers (QF12–QF26).

The 2500 A ACBs for grid, generator and load adopt unified protection configuration. Overload, short-time delay and instantaneous short-circuit protections are activated. The 250 A inverter breakers provide overload and instantaneous short-circuit protection.

ACB	Label	Parameter Value
ACB1 Grid Breaker 2500 A	Ir	1
	Isd	8
	Ii	12
	Ig	off
	Tr	1
	Tsd	0.4
	Tg	off
ACB2 Generator Breaker 2500 A	Ir	1
	Isd	8
	Ii	12
	Ig	off
	Tr	1
	Tsd	0.4
	Tg	off
ACB3 Load Breaker 2500 A	Ir	1
	Isd	8
	Ii	12
	Ig	off
	Tr	1
	Tsd	0.4
	Tg	off

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QF12–QF26 Inverter Breaker 250 A	Ir	1
	Ii	10

Note!

The parameters in the table above are set for full-load operation (main circuit: 2279 A, inverter circuit: 200 A). You may adjust the relevant parameters according to actual operating conditions. To prevent accidents, please consult Fox ESS technicians before modifying the ACB parameter values.

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6 Commissioning and Operation

6.1 Inspection before Commissioning

Before powering on, please check the following items carefully to ensure they are correct.

- Please make sure that the equipment is securely installed.
- Please make sure that grounding cables, AC cables, DC cables, and signal cables are properly connected with no omissions.
- Please make sure that lock screws and connectors are fitted in place without any looseness.
- Please make sure that cutouts of cable ties are free of burrs or sharp edges.
- Please make sure that unused ports are protected with waterproof covers or plugs.
- Please make sure that there are no construction residues inside and outside the equipment.
- Please make sure no tools or parts have been left inside the equipment.
- Use a multimeter to check whether the AC and DC voltages meet the starting conditions and there is no overvoltage hazard.
- All safety signs and warning labels on the cabinet are firmly affixed and clearly visible.

6.2 Internet Connection

Method 1: Ethernet

Please connect the ETH 1 port of the AI Link Pro to the Router.

Method 2: 4G

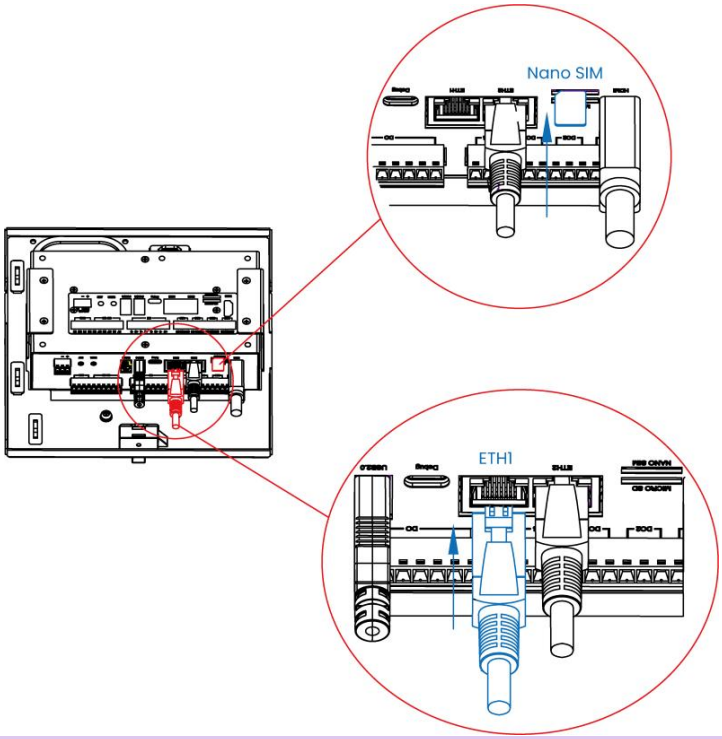
Ensure that the entire system is shut down and the AI Link Pro is completely powered off.

Insert the Nano SIM card with the metal contacts facing downward, then restart the system.

Note!

- A SIM card with a minimum data traffic allowance of 1 × N GB is required, where N = the quantity of H3-Plus inverters or G-Max Plus units.
- In the parallel system of Mega Link and G-Max Plus units, 4G SIM cards are not required for the G-Max Plus units. Only the AI Link Pro within the Mega Link cabinet shall be configured.

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6.3 Startup

- Check if SPD circuit breakers QF3, QF4, QF5 are closed.
- Check whether the wiring for inverter breakers QF12–QF26, DC supply breaker QF10 and grid/generator breakers ACB1/ACB2 is correct and secure.
- Confirm bypass switch SW1 is at the "AUTO" position and bypass breakers QF1, QF2 are open. (Normal state: SW1 = AUTO; QF1, QF2 = open)
- Close breakers: QF7, QF8, QF9, QF10.
- Close inverter breakers: QF12–QF26.
- Power on H3-Plus inverters or G-Max Plus units according to their respective user manuals.

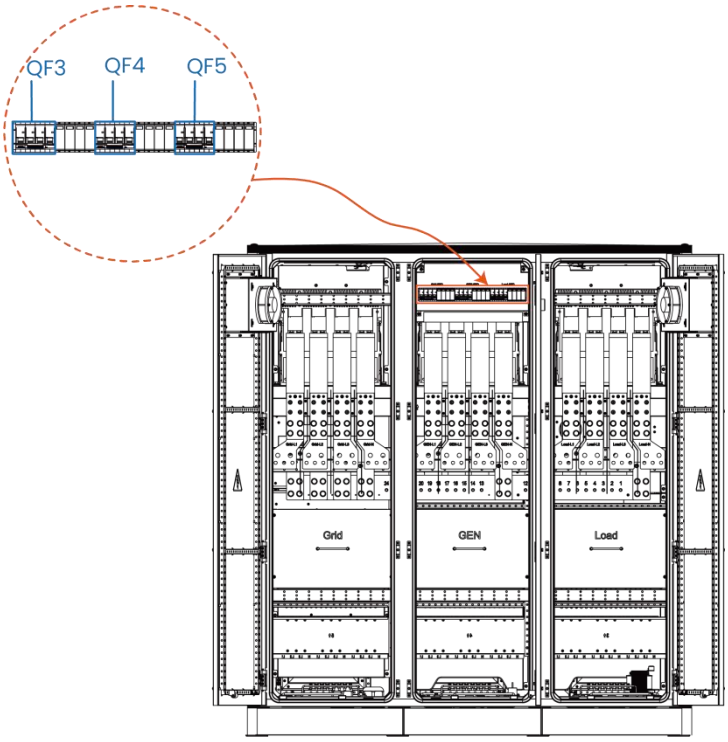
⚠ Caution!

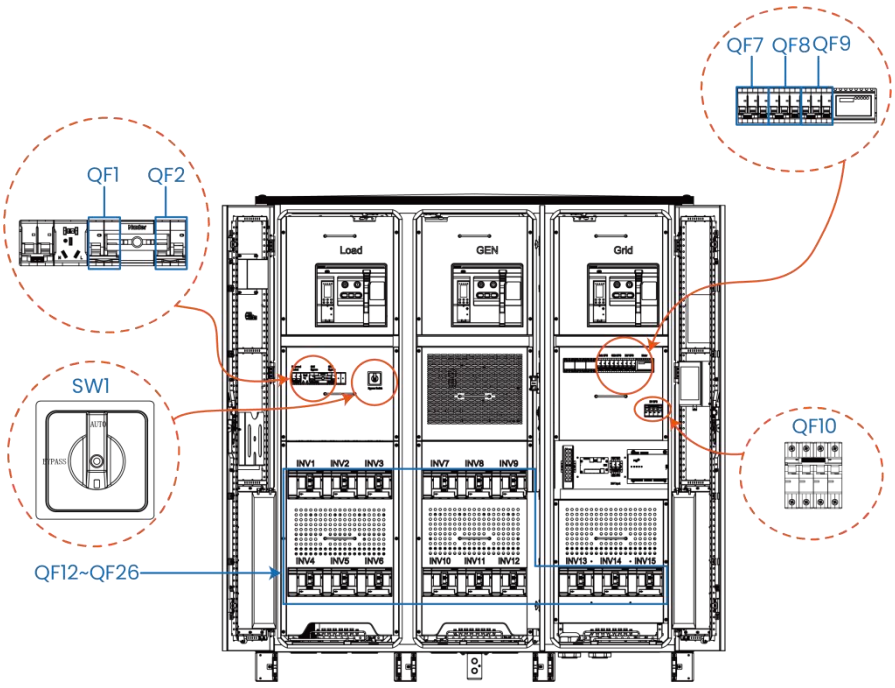
- Electric shock hazard exists if the product is not earthed.
- If the surge protector circuit breakers are not closed, a fault of the surge protector may cause damage to the load and the product.

Note!

- Switch on the upstream AC power supply.
- Connect 6 ground wires to both the Grid side and the Gen side.
- Ensure the cable routing sequence from the inverter side to the inverter circuit breakers (QF12–QF26) is correct.
- Ensure the routing sequence of grid-side and generator-side input cables is correct.
- Ensure the input voltage of AC power supply circuit breakers QF7, QF8, QF9 (select circuit breakers according to the customer's on-site power supply scenario) is ≥180 V.

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6.4 Configuring AI Link Pro

1. Log In Steps

Users can log into the AI Link Pro via the LAN or Wi-Fi AP. Please select the corresponding mode according to the on-site network conditions.

Method 1: LAN

(1) Connect a computer or tablet to the same LAN as the AI Link Pro.

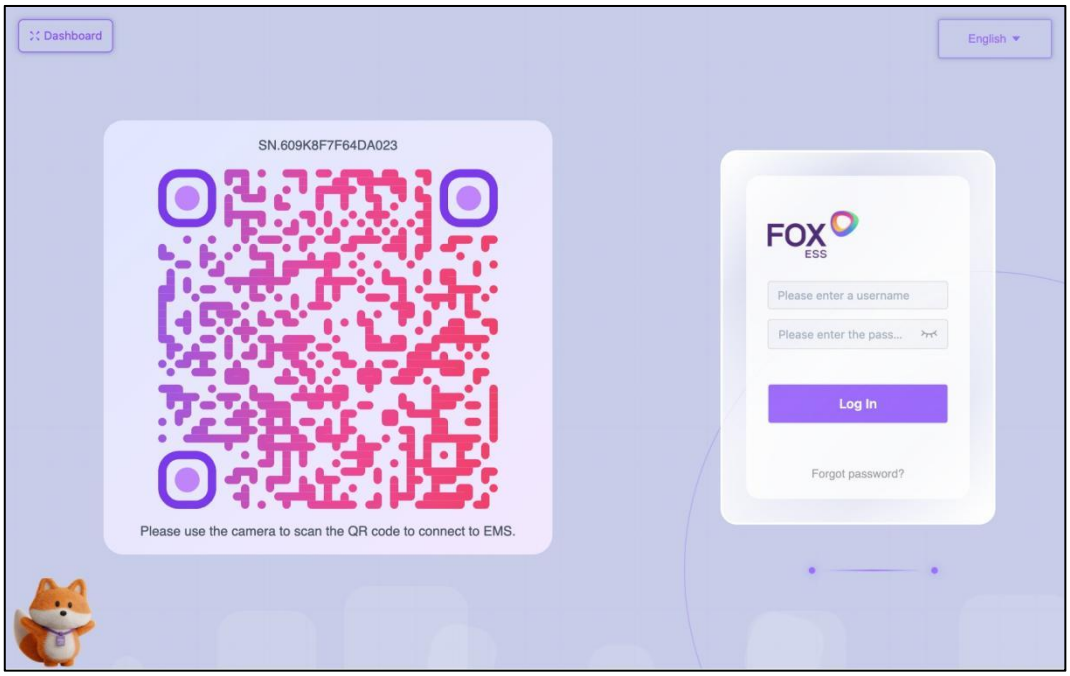
(2) Open Chrome, Edge or other web browsers.

(3) Enter the IP address of the corresponding AI Link Pro with port 8089 in the browser's address bar. (For example: 192.168.151:8089)

(4) Enter your username and password.

(5) Click "Log In" to access the system.

(6) If you have forgotten your password, click the "Forgot password" option.



Note!

- A computer or tablet shall be connected to the same LAN as the AI Link Pro.
- Each AI Link Pro has a unique IP address. Please use the actual IP address corresponding to the target device.

Method 2: AI Link Pro Wi-Fi AP

(1) Open the Wi-Fi settings on your computer or tablet, or scan the QR code on the Log In page displayed on the screen.

(2) Select Wi-Fi AP (For example: EMS-609K8F7F61UA015) and enter default password "12345678".

(3) Open web browser after successful connection.

(4) In the browser's address bar, enter the default address: http://192.168.138.1:8089

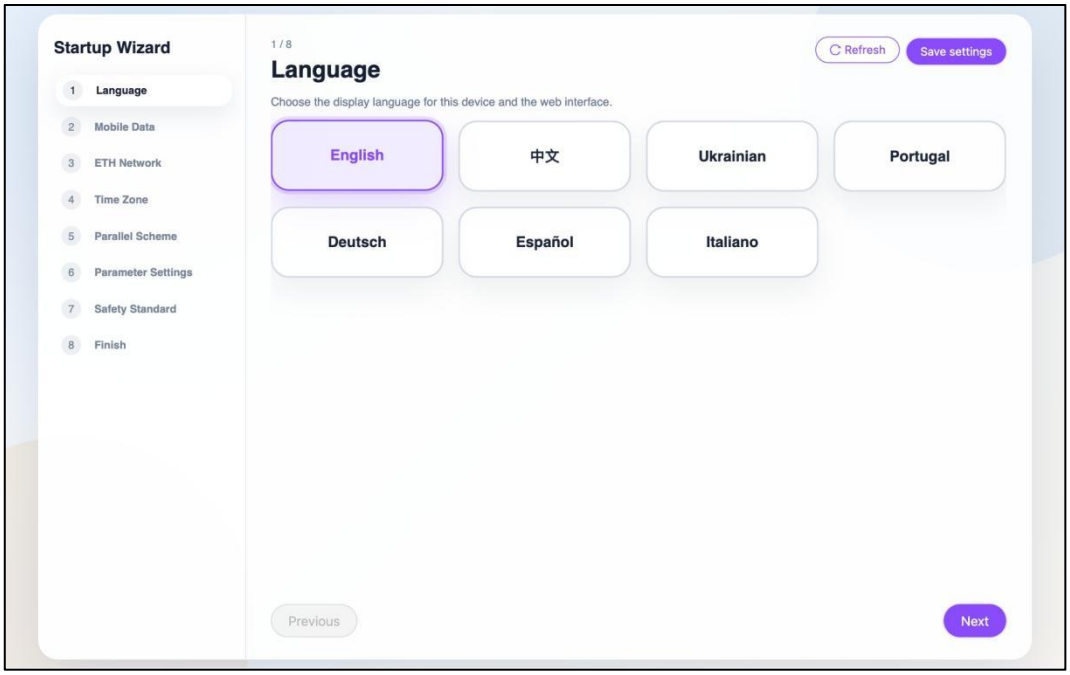
(5) Enter your username and password.

(6) Click "Log In" to access the system.

(7) If you have forgotten your password, click the "Forgot password" option.

2. During initial unit deployment, the Startup Wizard will pop up. Users shall follow the on-screen prompts to complete basic configuration on each unit. On the "Language" interface, select a language and tap "Next" to continue.

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3. Configure mobile data parameters as required.

- **Case 1: 4G Connection**

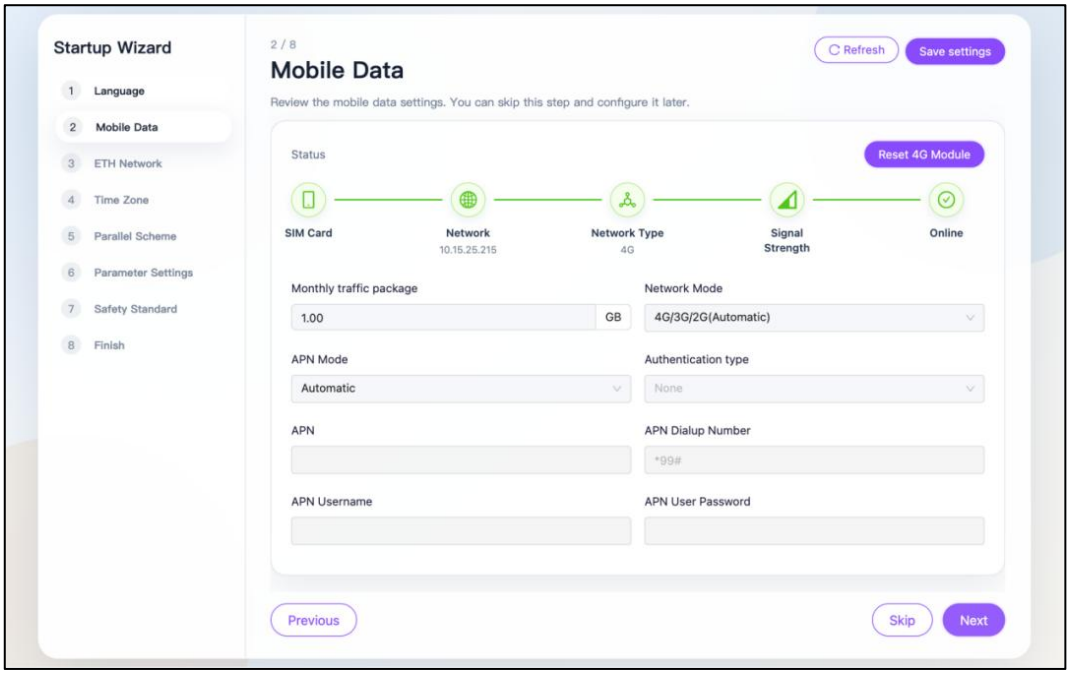
  (1) Check the "Status" section to confirm whether the 4G module is online.

  (2) Enter the monthly traffic limit according to the local SIM card plan.

  (3) Tap "Next" to save the configuration and continue.

- **Case 2: Ethernet Connection**

For Ethernet connections, mobile data parameters do not need to be configured. Tap "Skip" at the bottom right.



4. Configure network parameters as required.

Ethernet Connection

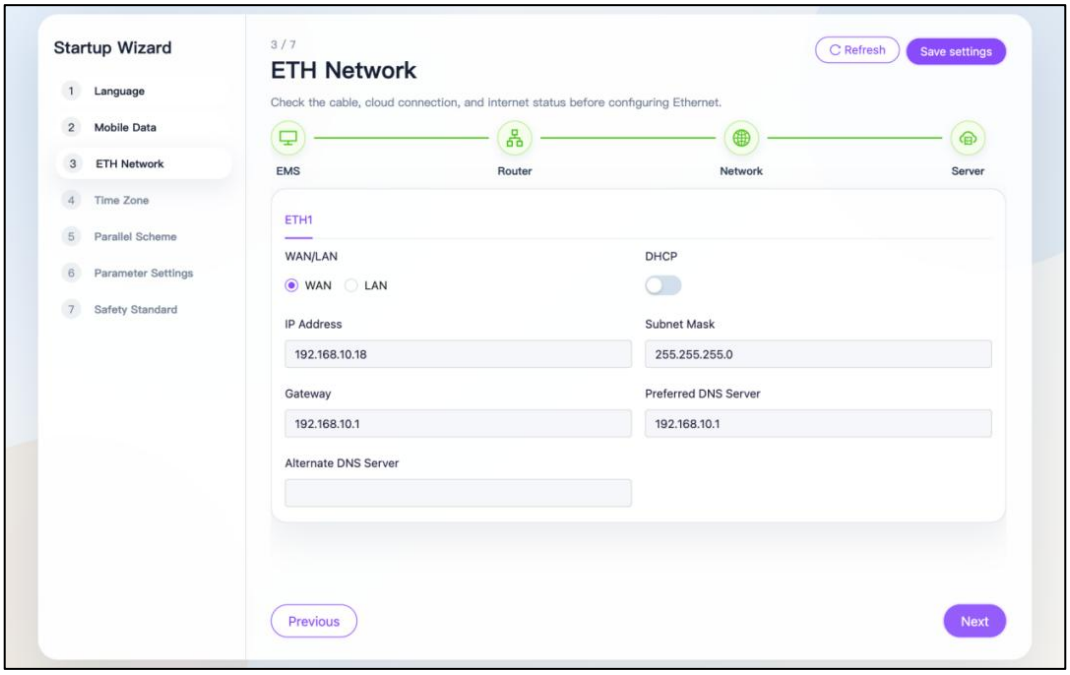
(1) Check the connection status of the AI Link Pro, router, network and server, and confirm whether the corresponding icons are green.

(2) Tap “Next” to continue.

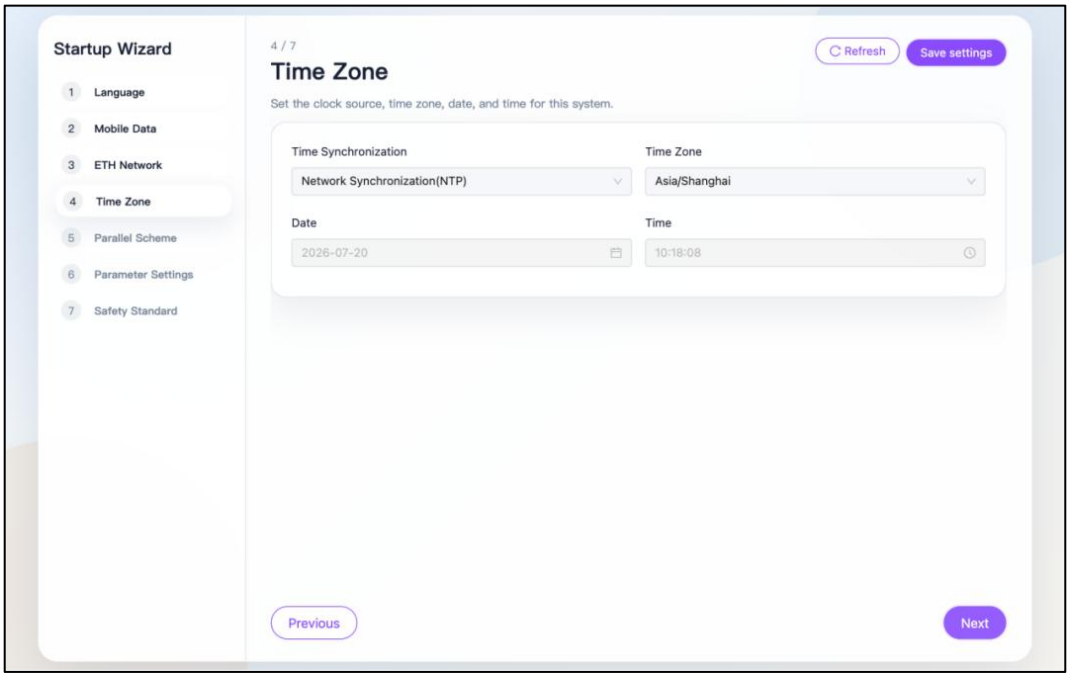
Static IP Address (Optional)

(1) When a static IP address is required, disable the “DHCP” and enter the IP address, subnet mask, gateway, preferred DNS address and alternate DNS address.

(2) Tap “Next” to continue.

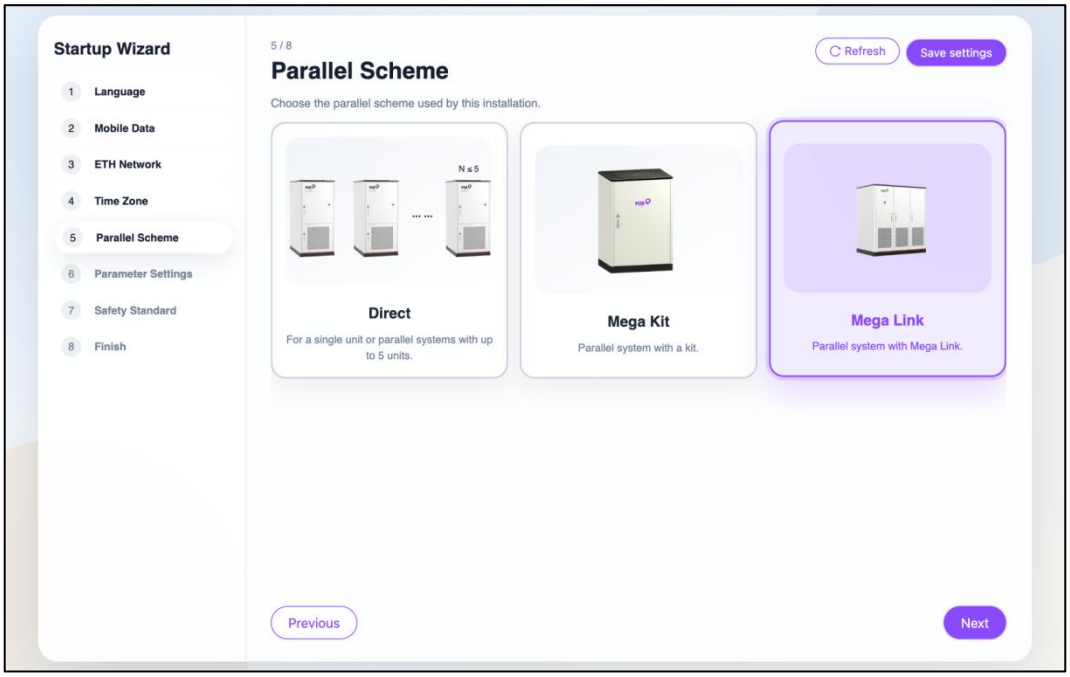


5. After the device is connected to the network, the time zone is automatically synchronized. Confirm whether the displayed date and time are correct and tap “Next”.

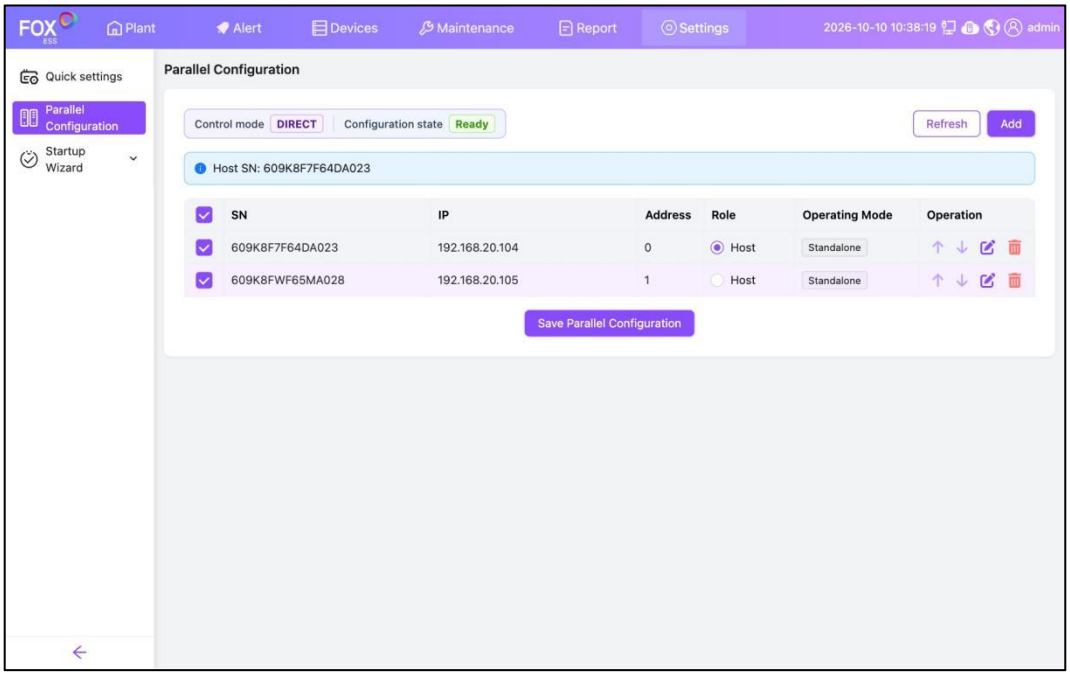


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6. The default mode is "**Mega Link**". Please tap "Next".



7. Configure the system operating parameters as required.



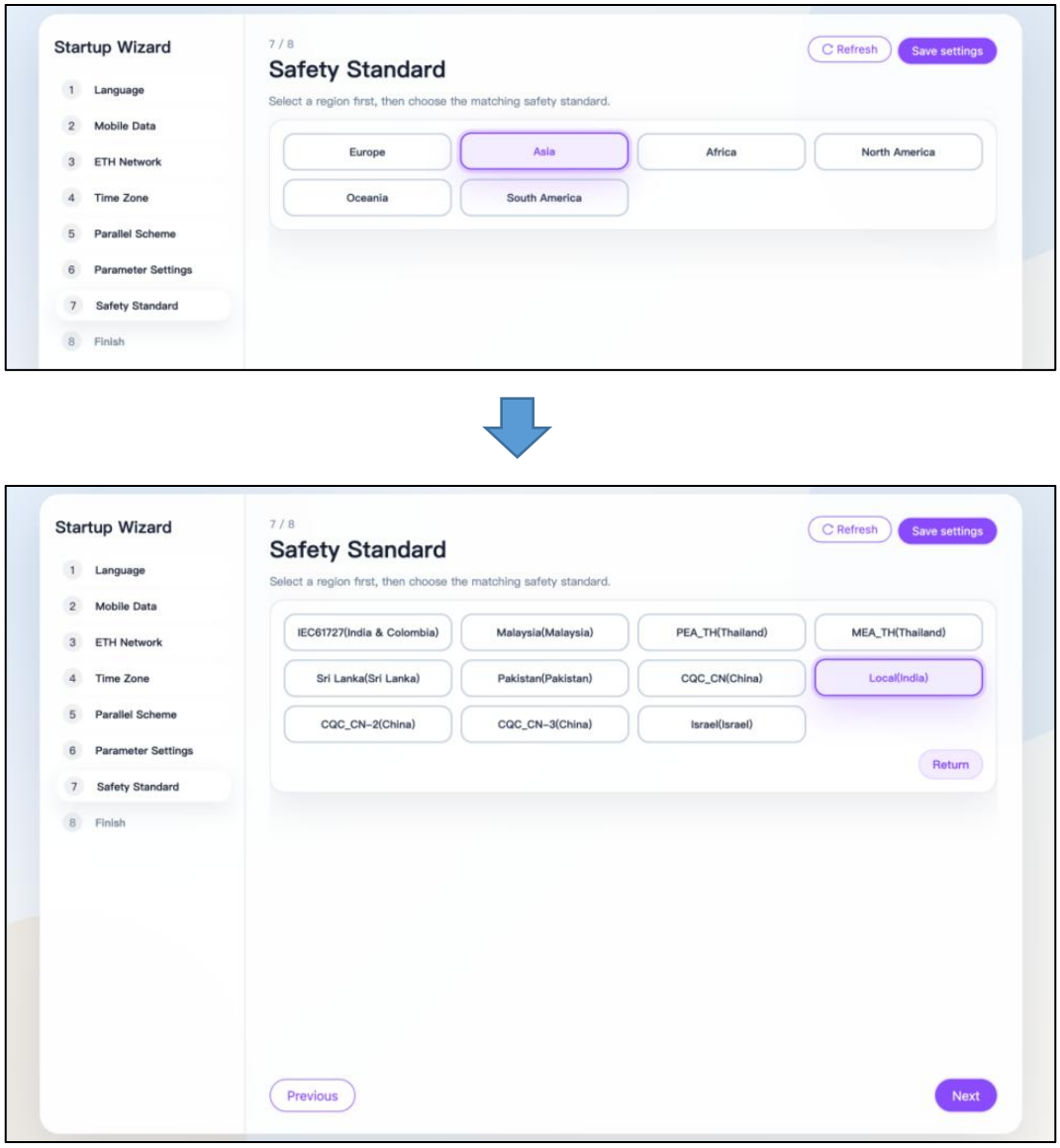
8. Configure safety regulation parameters.

(1) Select the region according to the project location.

(2) Select the specific safety standard under that region.

(3) Tap "Next" to continue.

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9. On the “Finish” interface, complete the startup wizard according to the on-screen prompts.

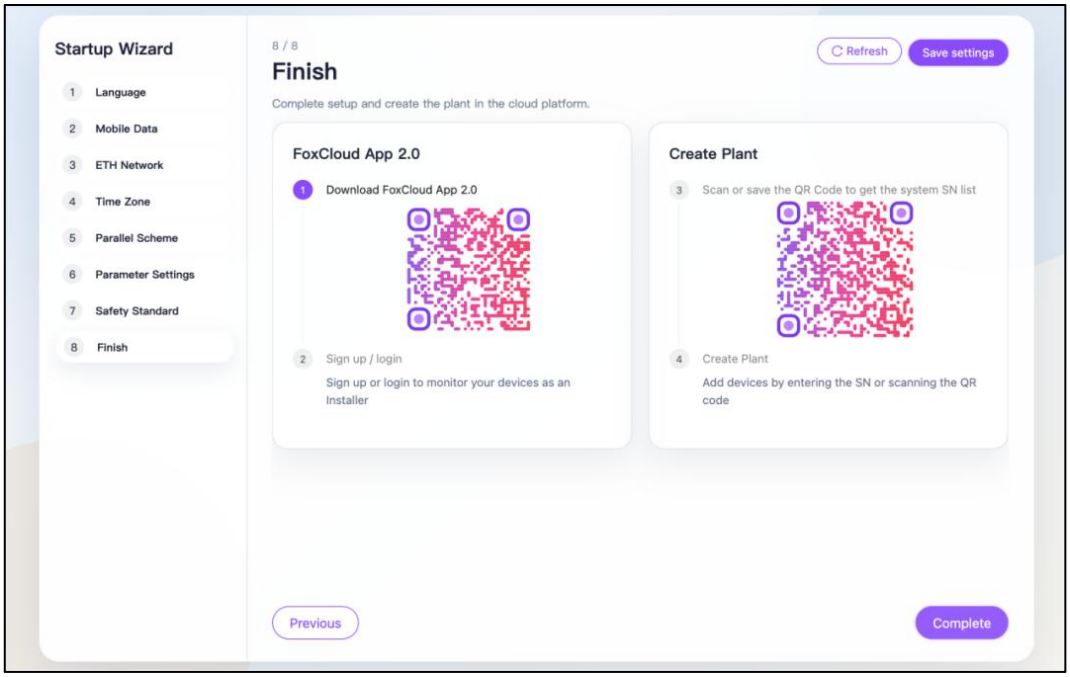
(1) Scan the QR code to download the FoxCloud App 2.0. Users can register or log in to the App as an installer.

(2) Scan the QR code in the "Create Plant" section to retrieve the system SN list.

(3) Create a power plant and add units on the cloud platform.

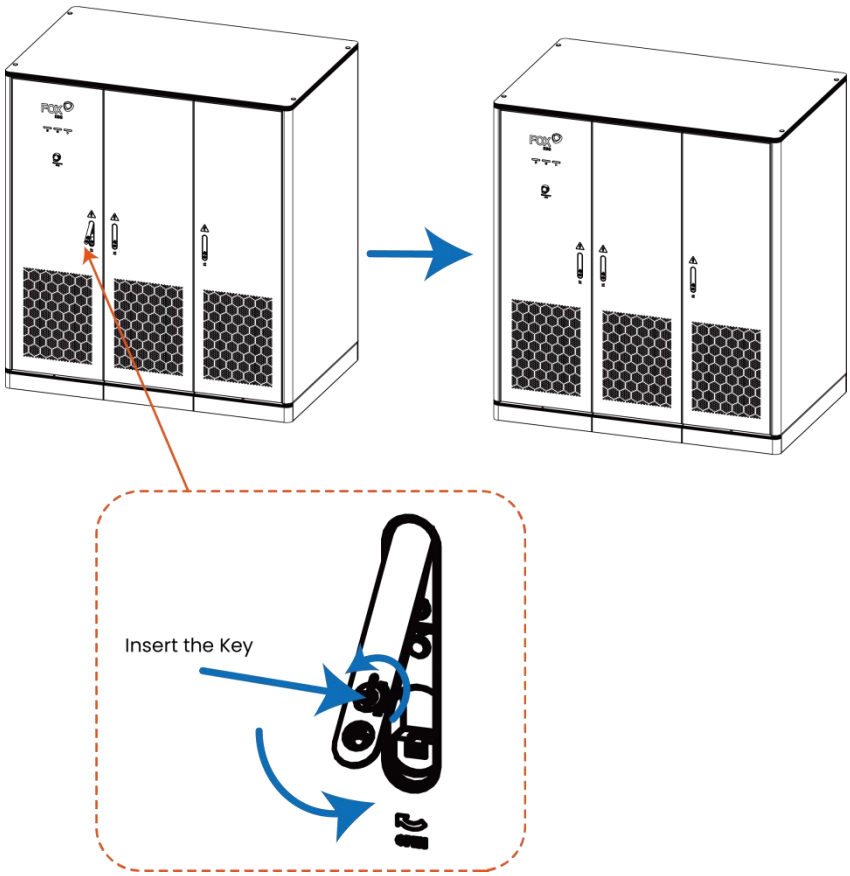
(4) Tap “Complete” to finish all settings.

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6.5 Cabinet Door Closing

1. Turn the handle counterclockwise to return it to its original position.
2. Insert the key into the lock.
3. Turn the key counterclockwise to lock the cabinet door.



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7 Maintenance

Due to the influence of environmental temperature, humidity, dust and vibration, the components inside the Mega Link will age, which may cause potential failure of the device or reduce the service life of the cabinet. Therefore, it is necessary to perform daily and regular maintenance on the device.

⚠ Danger!

- Even after disconnecting the switches, the cable connection terminals inside the cabinets of the energy storage integrated system remain live! To avoid the risk of electric shock, before performing maintenance and repair operations:
  (1) Disconnect all switches.
  (2) Disconnect the upstream and downstream circuit breakers of the energy storage integrated system.
- After the power is disconnected, a warning sign needs to be placed at the disconnection point to prevent accidental re-energization during maintenance.

⚠ Caution!

- Only personnel with professional qualifications and authorization can perform maintenance and other operations on the energy storage integration system.
- After shutting down, wait at least 15 minutes before opening the cabinet door. Before starting maintenance, ensure that the inside of the equipment is completely de-energized.
- To prevent unexpected hazards, maintenance personnel must wear appropriate insulating protective equipment.
- Do not leave metal parts (e.g., screws, washers) inside the energy storage integrated system during maintenance, as this may damage the device!

Note!

- The ingress of wind, sand, and moisture can damage electrical equipment or affect the operational performance of the energy storage integrated system.
- Do not open the equipment cabinet doors during windy/sandy conditions or when the ambient relative humidity exceeds 95%.
- All maintenance work should only commence when conditions are windless, sand-free, clear, and dry.

7.1 Routine Inspection Items

Routine inspection items are implemented according to the following points:

Yearly maintenance as a target for routine inspection cycle, everything else remote.

The Mega Link need to be monitored in real time, and designated personnel should be assigned to observe at designated locations. If abnormal operation or abnormal voltage and current are found, maintenance should be carried out in a timely manner.

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Serial Number	Routine Inspection Items	Confirm
1	Check whether there is any abnormal sound inside the cabinet.	
2	Check whether there is any peculiar smell inside the cabinet.	
3	Check/Monitor the temperature via the AI Link Pro to ensure it is within the normal range.	
4	Check that the outer surface of the chassis is not damaged, use water or alcohol to clean the dirty areas on the surface, and touch up the damaged paint on the surface. Please refer to the detailed steps.	
5	Check that there is no damage or rust on the appearance of the equipment.	
6	The internal temperature of the equipment was checked with an infrared temperature measuring instrument and no abnormality was found.	
7	Check whether the equipment's ventilation, ambient temperature, humidity, dust and other environmental conditions meet the requirements.	
8	Check whether the insulation layer of the cable is aging or damaged. If necessary, add corresponding insulation measures or replace the cable.	
9	Check that there are no signs of aging or burning on the connecting bolts, and use tools to confirm that they are in a tightened state.	

7.2 Indicator Status

The three indicator lights of Mega Link indicate grid status, communication status and device operating status.

Observe the indicators to judge the equipment operating status.

<table>
<tr><th colspan="3">Indicator Status</th><th>Description</th></tr>
<tr><td>
Grid</td><td>
Communication</td><td>
Run/Fault</td><td></td></tr>
<tr><td>Green</td><td rowspan="4">Steady ON (Normal Communication); Otherwise OFF</td><td>Green</td><td>Grid-Tied Operation</td></tr>
<tr><td>Green Blinking</td><td>Green Blinking</td><td>Grid Present, Standby or Startup</td></tr>
<tr><td>OFF</td><td>Green</td><td>Off-Grid Operation</td></tr>
<tr><td>OFF</td><td>Green Blinking</td><td>Off-Grid Standby or Startup</td></tr>
</table>

N/A		Red	Fault Occurred

7.3 Cooling Device Maintenance

Maintenance Items	Maintaining Standards	Maintenance Cycle	Detection Method	Approach
Fan operation reliability	There is no dust or other foreign matter blocking the air outlet. The fan blades are not damaged, and the fan rotates smoothly without abnormal noise.	6 months	Visual inspection	After power is turned off for 1 minute, use a brush to clean the dust on the fan, tighten the fan, and check whether there are any internal cables interfering with the fan's rotation. Clean any foreign objects at the air outlet.

7.4 Other Maintenance Projects

To ensure the normal operation of the Mega Link, please refer to the following table to perform regular maintenance on the device.

Maintenance Project	Maintenance Methods	Maintenance Cycle
Internal electrical component inspection	Check the following items and perform maintenance a. Check the dust on the circuit board and components. If there is too much dust, use tools to clean it.	Half a year
Security function check	Check the following items and perform maintenance a. Check the safety warning signs of the energy storage system. If any damage or blur is found, please replace it in time. b. Check whether the emergency stop function of the equipment is normal	Half a year
Inside the device	Check whether there is pollution, foreign matter, dust inside the equipment and clean it	One year

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The Mega Link wiring harness inspection	Check the following items and perform maintenance a. Check whether the equipment wiring harness rubber sleeve is damaged, whether the copper wire is exposed, damaged, rusted, etc., and whether the connecting screws are loose. b. Check whether the inlet and outlet holes of the Mega Link are sealed completely.	One year
Ground	Check the following items and perform maintenance a. Check whether the ground wire is connected reliably b. Check whether the ground wire resistance meets the specification	One year
System status	Check the following items and perform maintenance a. Check whether there is excessive noise, vibration or other abnormal phenomena during the operation of the equipment b. Check whether the temperature and humidity of the equipment are within the normal range. c. Check whether the equipment is damaged, components are damaged, or rusted. d. Check whether the air outlet of the device is blocked	Two years

Note!

The table only shows the recommended routine maintenance intervals for the product. The actual maintenance cycle should be determined based on the specific installation environment of the product. Factors such as the scale of the power station, its location, and the on-site environment will all affect the maintenance cycle of the product. If the operating environment is windy and sandy, the maintenance cycle needs to be shortened and the maintenance frequency increased.

7.5 System Cleaning

Since the Mega Link operates outdoors for a long time, regular cleaning is necessary. Regular cleaning can maintain the appearance of the equipment, reduce corrosion of the casing, improve the heat dissipation efficiency of the equipment, thereby extending the service life of the equipment and improving system operating efficiency.

1. Clean the outside of the Mega Link.

The exterior of the Mega Link can be sprayed with cleaning agent and then wiped with a rag to prevent water stains from flowing into the equipment from the air outlet during cleaning.

2. Clean the inside of the Mega Link.

Inside the Mega Link, use a vacuum cleaner to absorb dust.

3. Door lock and hinge inspection

Check whether the door locks, hinges, etc. of the Mega Link can be used normally and whether there are any jams, etc.

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4. Inspection of sealing condition

A good seal is an important guarantee for effectively preventing water seepage inside the Mega Link. It should be carefully checked. If the seal is damaged, please deal with it immediately.

7.6 Cabinet Refinishing

In adverse weather conditions, such as rain, snow, high winds, sandstorms, etc., refinishing shall be discontinued if the outdoor installation area of the equipment is not covered in any way.

When replacing the paint, please strictly follow the same or similar colour of the location where the paint has fallen off.

In order to keep the appearance of the equipment in good condition, if you find any paint falling off, please touch up the paint immediately.

7.6.1 Paint Refinishing Instructions

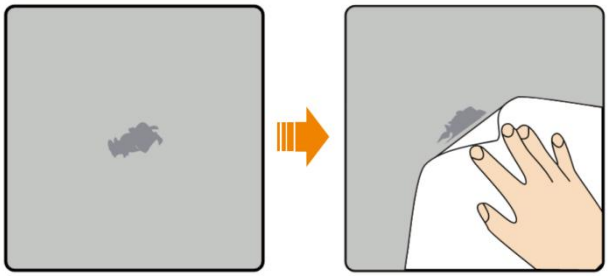
<table>
<tr><th>Extent of paint damage</th><th>Tools & Materials</th><th>Paint Repairing Steps</th><th>Paint Refinishing Instructions</th></tr>
<tr><td>Slight paint loss on equipment (not touching steel substrate)</td><td rowspan="2">Spray paint or lacquer, brush (for fine areas of paint loss), fine sandpaper, pure alcohol, cotton cloth, spray gun (for large areas of paint loss).</td><td rowspan="2">Steps 1, 2, 3 and 5 (in Section 10.6.2)</td><td rowspan="4">a. For colours, please contact after-sales service.
b. For minor paint loss or small areas of stubborn dirt, it is recommended to use spray paint and brush for touch-up.
c. For severe paint loss or large areas of stubborn dirt, it is recommended to use oil paint and a spray gun for touch-ups.
d. When painting, make sure that the damaged areas are and the thickness of the paint are and the thickness of the paint are even and appropriate to ensure the</td></tr>
<tr><td>Stubborn dirt on equipment</td></tr>
<tr><td>Significant paint loss on equipment (primer damaged, touching steel substrate)</td><td>Spray paint or lacquer, zinc-rich primer, brush (for fine areas of paint loss), fine sandpaper, pure alcohol, cotton cloth, spray gun (for large areas of paint loss).</td><td>Steps 1, 2, 3, 4 and 5 (in Section 10.6.2)</td></tr>
<tr><td>Logo or design broken and surface dented</td><td colspan="2">If the logo or any other design is damaged, please contact your local paint company for a paint refinishing plan based on the size, colour and extent of the damage to the logo or</td></tr>
</table>

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	design. a. For damage <100 mm² and <3 mm deep, it is recommended that the dents are first filled with atomic grey and then treated in accordance with the Severe Paint Loss Treatment Procedure. b. If the damage is >100 mm² or >3 mm in depth, please contact your local supplier for a repair plan according to the actual situation.	appearance of the whole The appearance is uniform. e. After painting, let the cabinet stand for at least 30 minutes to allow the paint to dry. After painting, the cabinet must be left to dry for at least 30 minutes before proceeding to the next step. dry before proceeding to the next step.

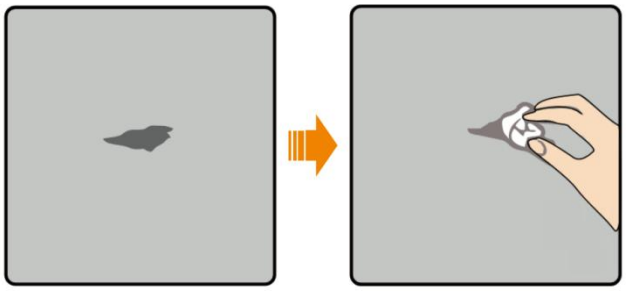
7.6.2 Paint Repairing Steps

1. Step 1: Lightly sand the painted areas with fine sandpaper to remove any surface rust or dirt.



Sanding off areas of paint

2. Clean the paint loss area properly with a damp cotton cloth to remove the dirt, and then wipe it with a dry cotton cloth.



Cleaning of paint loss areas

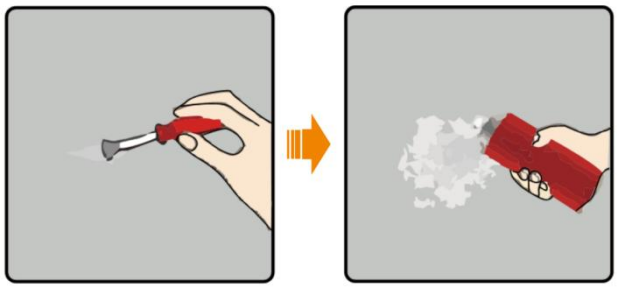
3. Apply the zinc rich primer to the surface of the flaking area with a brush or spray gun. If the metal layer underneath the area of paint loss is exposed.
   - First, an epoxy zinc-rich primer must be applied to the surface of the metal layer;
   - Next, an acrylic topcoat is applied until the primer dries and completely covers the bare

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metal layer.

Epoxy zinc-rich primer and acrylic topcoat should be decided according to the paint coating of the equipment surface.

4. Depending on the extent of the paint damage, either self-apply, brush or use a spray gun to evenly spray the damaged area.
   When refinishing, make sure that the application range, paint thickness and smoothness of the area where the paint has fallen off are all even and appropriate to ensure a consistent overall appearance.
   If there are other colours around the area where the paint has fallen off, carefully cover the undamaged area with tape or paper before painting to avoid accidentally spraying on the other colours.



Touch up paint

5. After touching up, allow the paint to dry for at least 30 minutes and then check the area for compliance.
   The colour of the repaired area should be the same as the colour of the surrounding area. The colour difference can be measured with a colourimeter and should be ≤ 3. For colours that cannot be measured with a colourimeter, make sure that there is no significant colour difference between the edges of the repaired area and the surrounding area, and that there are no bumps, scratches, paint flaking or paint breaks.

If spray painting is used, it is recommended that 3 coats be applied before checking for compliance. If not, please repeat the spraying several times until it meets the requirements.

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7.7 Alarm List

Item	Fault Code	Statement	Solution
1	1040	Unbalanced Grid Voltage	1. Check that the grid voltage is within the normal range. 2. Check whether the neutral cable is connected correctly. 3. If the cable is connected properly but the fault is triggered frequently and affects the power production of the PV plant, contact the local power operator.
2	1042	Grid Frequency High	1. If the fault is triggered accidentally, it may be due to temporary abnormalities in the power grid. The Fox inverter will automatically recover after the power grid has resumed normal operation. 2. If the fault is triggered frequently, check whether the grid frequency is within the acceptable range. If it is not, contact the local power operator. If grid frequency is within the acceptable range, modify the grid overfrequency protection threshold with the consent from the local power operator.
3	1043	Grid Frequency Low	1. If the fault is triggered accidentally, it may be due to temporary abnormalities in the power grid. The Fox inverter will automatically recover after the power grid has resumed normal operation. 2. If the fault is triggered frequently, check whether the grid frequency is within the acceptable range. If it is not, contact the local power operator. If grid frequency is within the acceptable range, modify the grid underfrequency protection threshold with the consent from the local power operator.

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Item	Fault Code	Statement	Solution
4	1044	Grid Phase Voltage Over Limit	1. If the fault is occasionally triggered, it may be caused by temporary voltage anomalies in the power grid. The inverter will automatically resume operation once the grid returns to normal. 2. Check whether the grid-connected phase voltage exceeds the specified limit. If it is outside the standard range, contact the local power operator for grid adjustment measures. 3. If the grid-connected phase voltage has been confirmed to exceed the limit and approval has been obtained from the local power operator, you may manually adjust the over/undervoltage protection threshold parameters to adapt to actual grid conditions.
5	1045	Grid Line Voltage Over Limit	1. If the fault is occasionally triggered, it may be caused by temporary voltage anomalies in the power grid. The inverter will automatically resume operation once the grid returns to normal. 2. Check whether the grid-connected line voltage exceeds the specified limit. If it is outside the standard range, contact the local power operator for grid adjustment measures. 3. If the grid-connected line voltage has been confirmed to exceed the limit and approval has been obtained from the local power operator, you may manually adjust the over/undervoltage protection threshold parameters to adapt to actual grid conditions.
6	1051	Grid Phase Drop Fault	1. Check the configuration if the "OFF-GRID Enable" is set. 2. Check whether the grid voltage and

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Item	Fault Code	Statement	Solution
			frequency are within the acceptable range, if they are both within the acceptable range, contact your installer.
7	1052	Parallel Inverter Wiring Fault	1. Check if there is any wiring issue on the power line between all the paralleled inverters (not just the one reporting the fault). 2. If the fault still exists, contact your installer.
8	1053	Parallel Inverter Running Mode Conflict Fault	1. Check the country code setting, and check each inverter wire connection. 2. If the fault still exists, contact your installer.
9	1054	Parallel Inverter Master lost Fault	1. Check the parallel setting,make sure the master inverter is online. 2. If the fault still exists, contact your installer.
10	1095	ESTOP Trigger	1. Check whether the Emergency Stop Switch is pushed. 2. Check whether the Emergency Stop Switch cable is open. 3. Check whether the Emergency Stop Switch cable is connected to the correct connector of the device. 4. Check whether the jumper in the inverter or the FOX Hub is connected well. 5. If the fault still exists, contact your installer.
11	1096	Grid Feed-in or Power Draw	1. Check whether the actual grid import/export power exceeds the configured limits, and make sure the EMS power limit settings match the site requirements. 2. If import power is too high, reduce the load or battery charging power. If export power is too high, reduce generation or battery discharging power.

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Item	Fault Code	Statement	Solution
			3. Have your installer check the meter/CT direction, phase mapping, ratio, wiring and communication to confirm that the measured power and its direction are correct. 4. If the fault persists, contact your installer.
12	1108	Abnormal Frequency Detection Value	1. If the fault occurs occasionally, it may be caused by temporary grid abnormalities. The inverter will automatically resume operation once the grid returns to normal. 2. If the fault occurs frequently, check whether the grid voltage and frequency are within the allowable range. If out of range, contact the local power utility. If the voltage and frequency are normal, contact your installer.
13	1123	Grid Relay Fault	1. Check whether the AC grid cables especially the neutral cables are connected correctly. 2. Check whether the configuration of "Country" is correct. 3. If the fault still exists, contact your installer.
14	1136	Load Overpower Fault	1. Check if the power of the loads exceeds the rated value. 2. Check the SOC of the battery and verify if the power of the loads exceeds the battery's power. 3. If the fault still exists, contact your installer.
15	1140	AC Couple Fault	1. The generator is running, turn off the ACCouple enable bit. 2. Check the ACCouple settings and wiring.
16	1183	Permanent Overload Fault	1. Reduce the load, starting with high-power equipment. Make sure the total load and the load on each phase

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Item	Fault Code	Statement	Solution
			are within the limits of the system and associated circuits. 2. Avoid starting multiple high-power devices or devices with high inrush current at the same time. Start them in stages if necessary. 3. Have your installer check current and power measurements for the load, grid and generator circuits. After removing the overload, follow the specified fault recovery procedure. If the protection remains active or recurs, contact your installer.
17	1185	Abnormal Grid Startup Voltage	1. Check whether the grid voltage and frequency are normal. 2. If the alarm is triggered accidentally, it may be due to temporary radiation interference. The inverter will automatically recover after the interference disappears. 3. If the alarm is triggered frequently, contact your installer.
18	1186	Off-grid Running Alarm	1. Check whether the grid voltage and frequency are normal.
19	1188	AC Lightning Protector Anomaly	1. Turn off the AC output switch, DC input switch, and battery switch in order, and then turn on the battery switch, AC output switch, and DC input switch in sequence after 2 minutes. 2. If the alarm still exists, contact your installer.
20	1189	DC Lightning Protector Anomaly	1. Turn off the AC output switch, DC input switch, and battery switch in order, and then turn on the battery switch, AC output switch, and DC input switch in sequence after 2 minutes. 2. If the alarm still exists, contact your installer.
21	1193	EEPROM Write-read Alarm	1. Turn off the AC output switch, DC input switch, and battery switch in

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Item	Fault Code	Statement	Solution
			order, and then turn on the battery switch, AC output switch, and DC input switch in sequence after 2 minutes. 2. If the alarm still exists, contact your installer.
22	1195	Grid Phase Change Alarm	1. Turn off the inverter and restart it. 2. Check whether the grid phase sequence is consistent with the generator phase sequence.
23	1197	DSP Parallel CANComm Alarm	1. Check whether the communication cables among FOX Inverters are properly connected. 2. Check whether the length of the communication cable exceeds the upper threshold in the specification, and whether it is shielded twisted pair with drain wire.3.Turn off the AC output switch, DC input switch, and battery switch in order, and then turn on the battery switch, AC output switch, and DC input switch in sequence after 2 minutes. If the alarm still exists, contact your installer.
24	1202	Parallel Inverter Running Mode Conflict Alarm	1. Check the country code setting, and check each inverter wire connection. 2. If the alarm still exists, contact your installer.
25	1208	Mega Temperature Alarm	1. Have your installer follow the shutdown and isolation procedure to check the temperature sensors, cables and connectors for loose connections, open circuits or short circuits. 2. If a temperature sensor is faulty, contact your installer to inspect and replace the affected component.
26	1209	Mega Control Board Fan Alarm	1. Check that the control board fan rotates normally when commanded to run. Check for foreign objects, dust buildup or a blocked airflow path. 2. Have your installer follow the

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Item	Fault Code	Statement	Solution
			shutdown and isolation procedure to check the fan power supply, control and feedback wiring, and connectors. 3. If the fan still fails to operate normally or the alarm persists after obstructions are removed, contact your installer to inspect and replace the fan or related components.
27	1210	Mega Cabinet Fan Alarm	1. Check the cabinet air inlets, outlets, filters and airflow paths for dust or foreign objects. Make sure the cabinet fan rotates normally when commanded to run. 2. Have your installer follow the shutdown and isolation procedure to remove obstructions and check the fan power supply, control and feedback wiring, and connectors. 3. If the fan still fails to operate normally or the alarm persists, contact your installer to inspect and replace the affected component.
28	1369	Mega Turbu Fan Alarm	1. Check that the turbulence fan rotates normally when commanded to run. Check for dust, foreign objects or a jammed impeller. 2. Have your installer follow the shutdown and isolation procedure to check the fan power supply, control and feedback wiring, and connectors for secure connections. 3. If the fault persists, contact your installer.
29	1633	Mega Grid Circuit Breaker: Energy Storage Motor Fault	1. Have your installer check the control power supply, spring-charging motor and associated wiring of the grid circuit breaker. Make sure the spring-charging supply is normal. 2. Check the spring-charging mechanism and charged-position

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Item	Fault Code	Statement	Solution
			feedback switch for jamming or loose feedback wiring. 3. If the fault persists, contact your installer.
30	1634	Mega Grid Circuit Breaker: Closed-State Fault	1. Have your installer check that the grid circuit breaker is fully spring-charged, its control power supply is normal, and its position feedback is correct. 2. Check the undervoltage release circuit, closing control circuit, auxiliary contacts, operating mechanism and associated interlock conditions for loose wiring, incorrect feedback or failure to become ready to close. 3. If the fault persists, contact your installer.
31	1635	Mega Grid Circuit Breaker Fault	1. Have your installer check the actual position, control power supply, operating mechanism and auxiliary contact feedback of the grid circuit breaker. Make sure the actual state matches the control command. 2. Check the grid input wiring, phase sequence, voltage and frequency. If the fault occurs during an off-grid to on-grid transition, check the synchronization conditions. 3. If the breaker cannot open or close reliably as commanded, or the fault persists, stop switching and contact your installer.
32	1636	Mega Load Circuit Breaker: Energy Storage Motor Fault	1. Have your installer check the control power supply, spring-charging motor and associated wiring of the load circuit breaker. Make sure the spring-charging supply is normal. 2. Check the spring-charging mechanism and charged-position feedback switch for jamming or loose

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Item	Fault Code	Statement	Solution
			feedback wiring. 3. If the fault persists, contact your installer.
33	1637	Mega Load Circuit Breaker: Closed-State Fault	1. Have your installer check that the load circuit breaker is fully spring-charged, its control power supply is normal, and its position feedback is correct. 2. Check the closing control circuit, auxiliary contacts, operating mechanism and associated interlock conditions for incorrect feedback or failure to become ready to close. 3. If the fault persists, contact your installer.
34	1638	Mega Load Circuit Breaker Fault	1. Have your installer check that the actual open/closed state of the load circuit breaker matches the control command. Check the mechanism, opening/closing control circuit and auxiliary contact feedback. 2. Check the load circuit wiring and associated voltage measurements for failure of the breaker to operate or incorrect feedback. 3. If the breaker cannot open or close reliably or the fault persists, stop switching and contact your installer.
35	1639	Mega Generator Circuit Breaker: Energy Storage Motor Fault	1. Have your installer check the control power supply, spring-charging motor and associated wiring of the generator circuit breaker. Make sure the spring-charging supply is normal. 2. Check the spring-charging mechanism and charged-position feedback switch for jamming or loose feedback wiring. 3. If the fault persists, contact your installer.
36	1640	Mega Generator Circuit	1. Have your installer check the

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Item	Fault Code	Statement	Solution
		Breaker: Closed-State Fault	generator circuit breaker spring-charged status, control power supply, undervoltage release circuit and position feedback. 2. Check the associated interlocks, closing control circuit and mechanism for failure to become ready, loose wiring or incorrect feedback. 3. If the fault persists, contact your installer.
37	1641	Mega Generator Circuit Breaker Fault	1. Have your installer check the actual position, control circuit and auxiliary contact feedback of the generator circuit breaker. Make sure the actual state matches the control command. 2. Check the generator wiring, phase sequence, voltage and frequency. 3. If the breaker cannot open or close reliably or the fault persists, stop switching and contact your installer.
38	1642	Mega Cabinet Overtemperature Fault	1. Check the ambient temperature, cabinet air inlets and outlets, and installation ventilation. Check for blocked airflow paths or filters. 2. Check that the cabinet, control board and turbulence fans operate as required. Resolve any associated fan alarms first. 3. Reduce the system load and allow the equipment to cool. If the fault persists after cooling or recurs frequently, contact your installer.
39	1643	Mega BUCK Power Supply Fault	1. Check that a normal AC input is available on the grid, inverter or generator side, and check for other power supply faults. 2. Have your installer follow the shutdown and isolation procedure to check the BUCK auxiliary power supply input, output, wiring and power-good

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Item	Fault Code	Statement	Solution
			feedback circuit. 3. If the AC input is normal but the auxiliary supply remains abnormal, contact your installer to inspect and replace the faulty supply or related components.
40	1644	Mega Manual Bypass Switch Event	1. Check whether the manual bypass switch was engaged for maintenance. If bypass operation is intentional, follow the bypass operating procedure. 2. To restore normal operation, have your installer disengage manual bypass in the specified switching sequence and verify the associated circuit breaker and interlock states. 3. If the event persists after bypass is disengaged, have your installer check the bypass position auxiliary contact, feedback wiring and input signal.

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8 Technical Parameters

Technical Parameters

8.1 Grid Connection

Model	Mega Link-1500
Nominal AC Voltage [V]	380/400
Max. AC Current [A]	2279
Max. AC Power [kW]	1500
Nominal Frequency [Hz]	50/60
Switching Time [ms]*	Up to 0

*Test condition: With the grid disconnected, both the rated power of the inverter and the battery's output power capability shall exceed the total power demand of the backup loads.

8.2 Load Connection

Model	Mega Link-1500
Nominal AC Voltage [V]	380/400
Max. AC Current [A]	2279
Max. AC Power [kW]	1500
Nominal Frequency [Hz]	50/60

8.3 Inverter Connection

Model	Mega Link-1500
Number of Connection Ports	15
Max. AC Current [A]	250
Nominal AC Voltage [V]	380/400
Max. AC Power [kW]	137.5

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Nominal Frequency [Hz]	50/60

8.4 Generator Connection

Model	Mega Link-1500
Nominal AC Voltage [V]	380/400
Max. AC Current [A]	2279
Max. AC Power [kW]	1500
Nominal Frequency [Hz]	50/60

8.5 General Specification

Model	Mega Link-1500
Dimension (W×D×H) [mm]	1800 × 1200 × 2000
Weight [kg]	1200
Operating Temperature [°C]	-30 to +60
Humidity	0 to 100% (No Condensing)
Electrical Protection	Class I
Operating Altitude [m]	3000
Ingress Protection (IP) Rating	IP55
Cooling	Smart Air Cooling
Installation Method	Ground-Mounted
Communication Ports	RS485, Ethernet, USB, HDMI, Dry Contact

8.6 Standard Compliance

Model	Mega Link-1500
Certification	IEC 61439-1/2, IEC 61000-6-4/2

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9 Contact US

If you have any questions about the product, please contact us:

- Fox ESS Headquarters: No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China.
- Wuxi R&D Center: No. 37 Huaqing Avenue, Wuxi Economic Development Zone (Intersection of Huaqing Avenue and Huayun Road)
- Wuhan R&D Center: 6th Floor, Block A, Tower T4, CHINA PROCUREMENT CENTER No. 789 Gaoxin Avenue, East Lake New Technology Development Zone, Wuhan, Hubei, China.
- Shanghai R&D Center: No.1255, Jinhai Road, Pudong New Area, Shanghai, China.
- After-Sales Service Hotline: 400 1888 900
- Contact Telephone (Wenzhou): 0577-88159999
- Contact Telephone (Wuxi): 0510-68092998
- Contact Us: info@fox-ess.com
- Contact Us (EV Charger): ev@fox-ess.com
- After-Sales Service: service@fox-ess.com

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