GOODWE

SCU3000
Smart Communication Unit

User Manual

Smart Communication Unit

SCU3000-S&SCU3000&SCU3000A-S&SCU3000A

Trademarks

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NOTICE

The information in this document is subject to change due to product updates or other reasons. This document cannot replace the product labels or the safety precautions unless otherwise specified. All descriptions in the document are for guidance only.

CONTENT

01　About This document

This document describes the product information, installation, electrical connection, commissioning, troubleshooting, and maintenance. Read through this document before installing and operating the product. All the installers and users have to be familiar with the product features, functions, and safety precautions. This document is subject to update without notice. For more product details and latest documents, please visit www. goodwe.com.

1.1 Applicable Model

This document applies to Smart Communication Unit: SCU3000-S, SCU3000, SCU3000A-S, and SCU3000A. (SCU for short)

1.2 Target Audience

This document applies to trained and knowledgeable technical professionals only. The technical personnel has to be familiar with the product, local standards, and electric systems.

1.3 Symbol Definition

Different levels of warning messages in this document are defined as follows:

⚠ DANGER
Indicates a high-level hazard that, if not avoided, will result in death or serious injury.
⚠ WARNING
Indicates a medium-level hazard that, if not avoided, could result in death or serious injury.
⚠ CAUTION
Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.
NOTICE
Highlights key information and supplements the texts. Or some skills and methods to solve product-related problems to save time.

2   Safety Precaution

⚠ WARNING
The equipment is designed and tested strictly in compliance with related safety rules. Read and follow all the safety instructions and cautions before any operations. Improper operation might cause personal injury or property damage as the equipments are electrical equipment.

2.1 General Safety

NOTICE
• The information in this document is subject to change due to product updates or other reasons. This document cannot replace the product labels or the safety precaution unless otherwise specified. All descriptions in the document are for guidance only. • Before installations, read through this document to learn about the product and the precautions. • All installations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations. • Strictly follow the installation, operation, and configuration instructions in this document. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions. For more warranty details, visit https://en.goodwe.com/warranty.

2.2 Grounding Safety

⚠ DANGER
When installing the equipment, the grounding cable must be installed first; when removing the equipment, the grounding cable must be removed last.

⚠ WARNING
• Connect a PE cable to the nearest grounding point of the equipment. • Choose the grounding point on the cabinet for grounding as priority. • Make sure the equipment is reliably grounded before operation.

2.3 Personal Safety

⚠ DANGER
• Use insulating tools and wear personal protective equipment (PPE) when operating the equipment to ensure personal safety. • Do not touch the equipment when it is short-circuited. Keep away from the equipment, and turn off the power immediately. • Before wiring, disconnect all upstream switches to ensure the equipment is not powered on.

2.4 Equipment Safety

⚠ DANGER
Make sure the installation place is solid enough to bear the equipment weight before installation.

⚠ WARNING
• Use appropriate tools for proper installation, maintenance, etc. • Observe local standards and safety regulations when operating the equipment. • Unauthorized disassembly or modification may cause damage to the equipment, which is not covered within the warranty scope.

2.5 Definition of Warning Labels

⚠ DANGER
• All labels and warning marks must be clear and distinct after the installation. Do not block, alter, or damage any label. • Warning labels on the equipment are as follows.

⚠	HIGH VOLTAGE HAZARD Power off the equipment before any operations.	⚠	Potential risks exist. Wear proper PPE before any operations.
📖	Read through the document before any operations.	⏚	Grounding point.
CE	CE marking	🗑	Do not dispose of the equipment as household waste. Discard the product in compliance with local laws and regulations, or send it back to the manufacturer.

2.6 Personnel Requirements

NOTICE
• Personnel who install or maintain the equipment must be strictly trained, learn about safety precautions and correct operations. • Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the equipment or parts.

2.7 EU Declaration of Conformity

GoodWe Technologies Co., Ltd. hereby declares that the equipment without wireless communication modules sold in the European market meets the requirements of the following directives:
• Electromagnetic compatibility Directive 2014/30/EU (EMC)
• Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
• Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
• Waste Electrical and Electronic Equipment 2012/19/EU
• Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)
You can download the EU Declaration of Conformity on: https://en.goodwe.com.

2.8 Cyber Security Declaration of Conformity

Remote Data Collection Statement
Equipment manufacturers will regularly and remotely collect limited non sensitive data generated during product use, including abnormal event information and indicator information, such as system alarm information, illegal operation records, abnormal scalar measurement, etc. This can help the backend technical team of equipment manufacturers timely discover problems in the system and respond, reducing customer losses.

GW Security Vulnerabilities Management
The GOODWE Product Network Security Processing Team (PNSPT) is dedicated to addressing security vulnerabilities in GOODWE products. These vulnerabilities, unlike quality defects, must be exploited by an attacker to cause harm. PNSPT commits to managing security issues according to relevant standards, reducing vulnerabilities, and providing timely risk mitigations to minimize harm to customers.
Key Commitments:
1. Vulnerability Management:
   • Reduce and eliminate security risks for customers.
   • Provide prompt risk mitigations after discovering vulnerabilities.

- Identify and manage responsibilities, including legal, contractual, and public standards.
- Continuously improve processes and standards based on industry best practices.

2. Reporting Vulnerabilities:

- Encourages reporting from security researchers, organizations, customers, and suppliers.
- Reports should include a description, product model, software version, and contact information via email to service@goodwe.com.
- Maintain confidentiality until a solution is available.

3. Vulnerability Response:

- Analyze, validate, and assess the severity of reported vulnerabilities. After receiving the vulnerability report, we will analyze it and reply to the customer within 7 days.
- Develop and prioritize remediation strategies, including patches and risk mitigations. When the vulnerability is confirmed, we will provide a fixing plan within 30 days. After the plan is confirmed, we will fix the vulnerability and verify it, and issue updates within 90 days.
- Work with suppliers for vulnerability remediation when necessary.

4. Confidentiality and Data Protection:

- Ensure information is shared only among relevant handlers.
- Protect data and maintain confidentiality until solutions are provided.
- Comply with legal requirements and protect obtained data.

5.   Service Term Statement

The equipment manufacturer commit to providing ongoing updates and maintenance of software and security features for five years after product release, ending on September 30, 2029. After the security update support period is extended, it will be updated in time later; after the security update support period is released, it will not be shortened later.

PNSPT ensures a proactive and responsible approach to managing security vulnerabilities, aiming to maintain the integrity, availability, and confidentiality of GOODWE products and services.

3   Product Introduction

3.1 Product Overview

- The SCU products, including SCU3000-S, SCU3000, SCU3000A-S, and SCU3000A, are outdoor smart communication units, integrating EzLogger, PLC module, Fiber channel switch (FC switch), Fiber optic splice closure (FOSC), and so on, which
- Supports receiving and processing data reported by inverters via PLC or RS485 communication.
- Is able to report or receive commands from the monitoring platform via Ethernet or the optical fiber.
- Allows multiple SCUs to communicate in a fiber ring network with built-in FC switch.
- Supports wall mounting, standing and pole mounting, which is convenient for equipment installation, maintenance and other operations.
- Equips security locks on the cabinet door to ensure the safety of the equipment.

3.2 Model Description

SCU3000A-S

1   2   3 4

No.	Explanation	
1	Product type	SCU: Smart Control Unit
2	Generation code	3000: third generation
3	Hardware version code	• None: first generation, PLC communication • A: second generation, HPLC communication
4	Number of PLC communication cables	• None: two PLC communication cables connected • S: single PLC communication cable connected

NOTICE:

SCU3000 and SCU3000-S are integrated with Ezlogger3000U. SCU3000A and SCU3000A-S are integrated with Ezlogger3000U-A

3.3 Networking
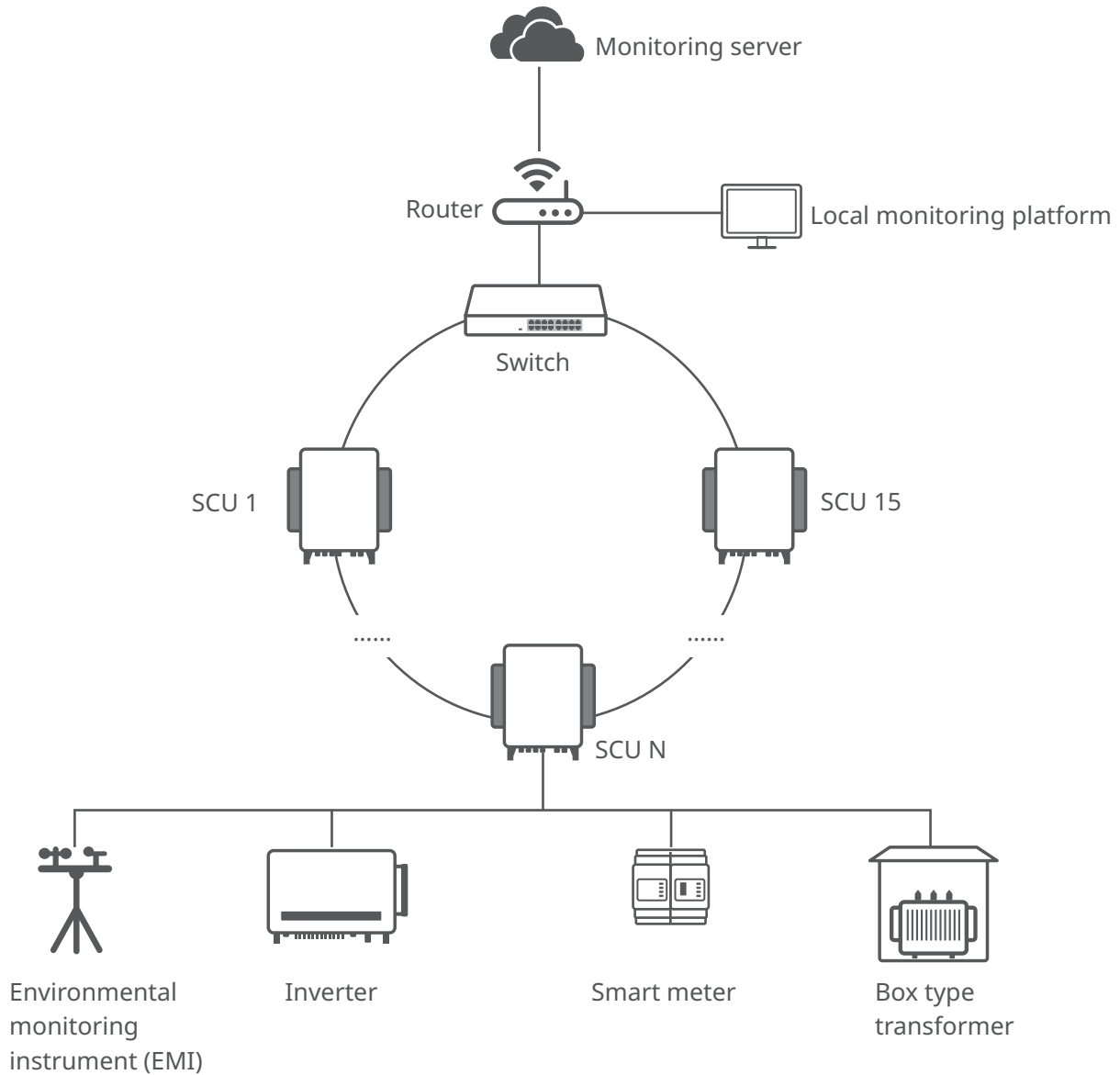
- Supports up to 15 SCUs for fiber ring networking.
- A single PLC communication channel in SCU can support a maximum of 60 inverters' connections.
- A single RS485 communication channel in SCU can support a maximum of 20 inverters' connections.

3.4 Parts and Dimension

Cabinet door   Lock

Mounting plate

Grounding point

Fixing hole   Ventilation valve   Cable routing hole   Fixing hole
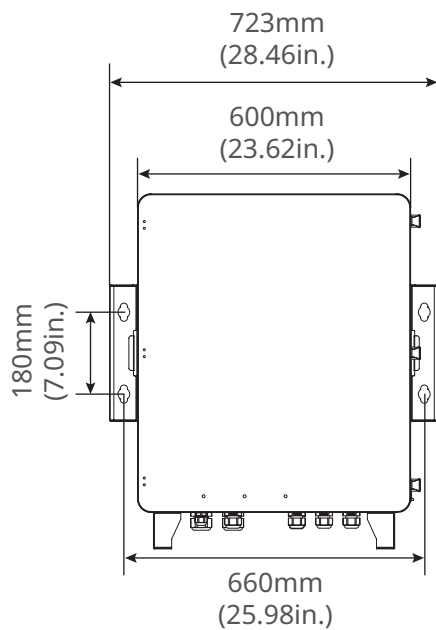
226mm
(8.90in.)

201mm
(7.91in.)

723mm
(28.46in.)

600mm
(23.62in.)

780mm
(30.71in.)

700mm
(27.56in.)

180mm
(7.09in.)

660mm
(25.98in.)

488mm
(19.21in.)

144mm
(5.67in.)
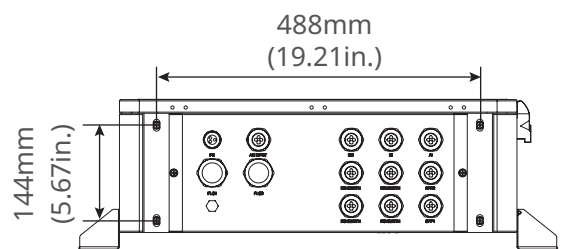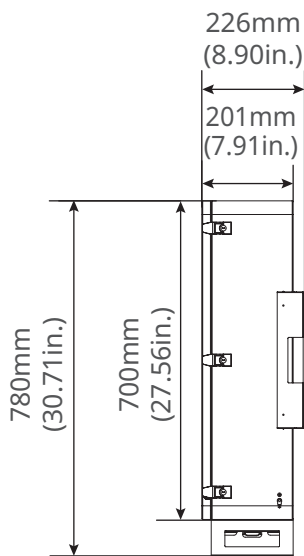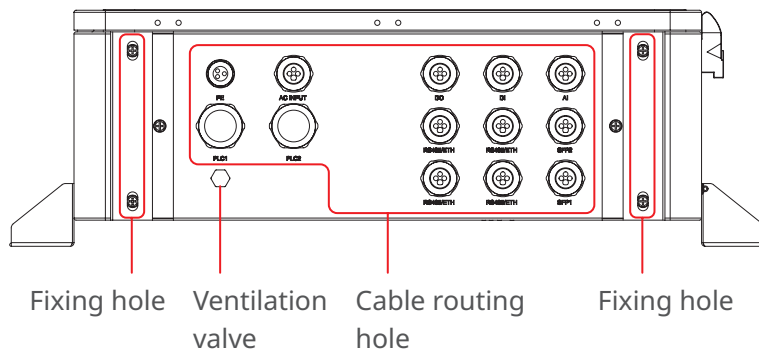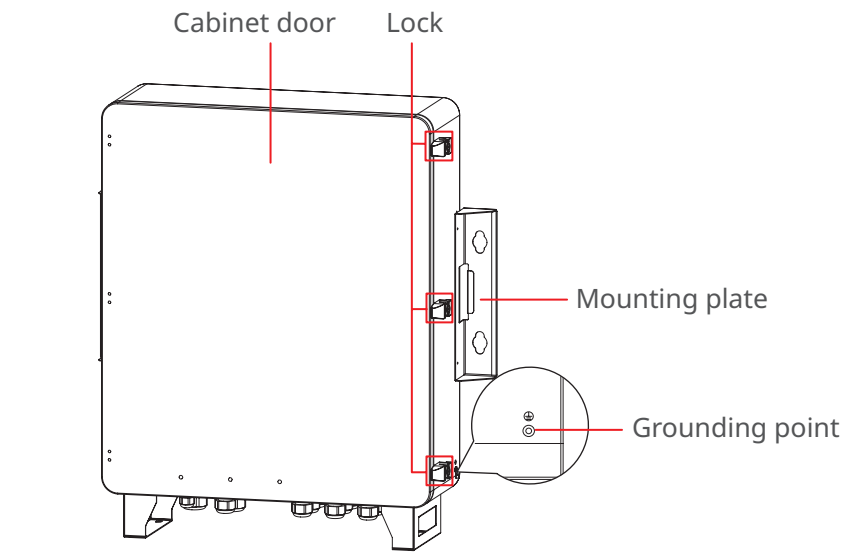
3.5　Nameplate

The nameplate is for reference only.

Product: Smart Communication Unit **Model:SCU3000**	———— Product type and model

Input section:

Input	U_{AC}:100...240Va.c.
	$P_{AC,r}$:≤35W
	$f_{AC,r}$:50/60Hz ———— Technical parameters

$T_{operating}$: -30‑60℃ , IP65, Protective Class I
PLC+RS485

Safety symbols and certification marks

S/N

GOODWE

Manufacturer: GoodWe Technologies Co., Ltd.
E-mail: service@goodwe.com
No.90 Zijin Rd., New District, Suzhou, 215011, China
Importer: GoodWe Europe GmbH (Only For Europe)
Kistlerhofstrasse 17081379 Muenchen Germany　Made in China

———— GoodWe Logo, contact information and serial number

3.6 Internal Composition
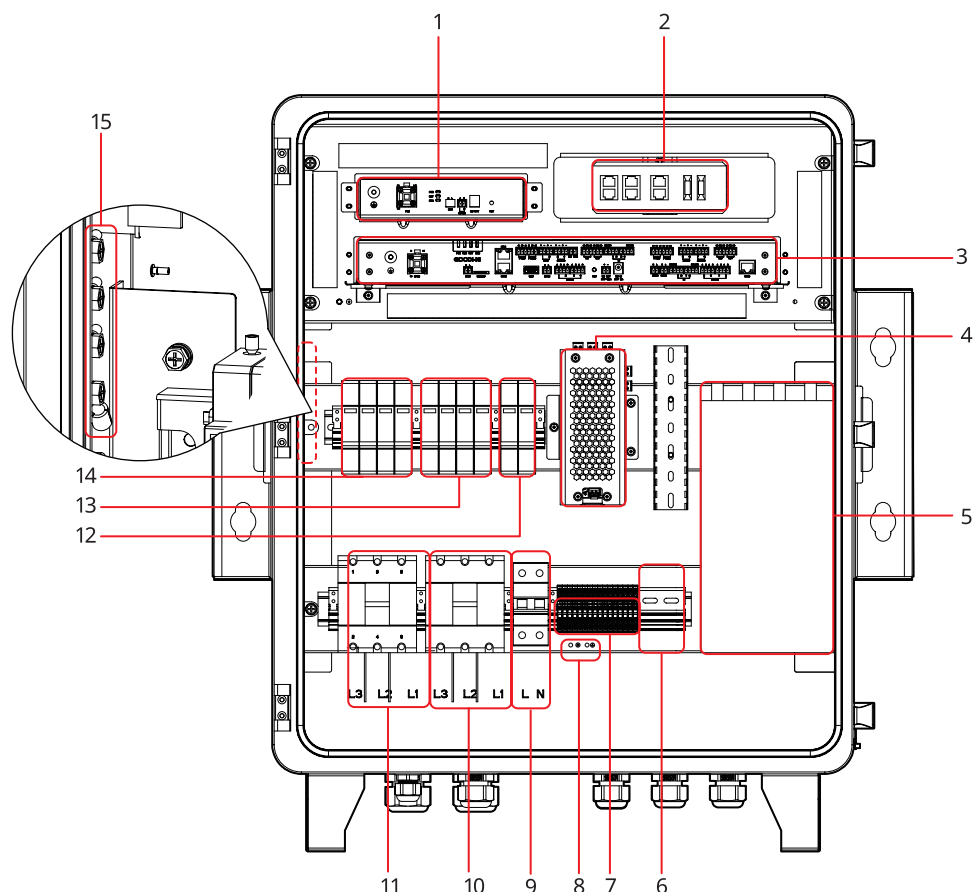
| No.	Item	Explanation
1	(Optional) PLC CCO module	(Optional) PLC CCO module is used in dual split-box transformer scenarios. Used to report and deliver Optional integrated module. SCU3000A: HPLC_CCO module. SCU3000: PLC_CCO module. There is no PLC_CCO module for SCU3000A-S and SCU3000-S.
2	Switch	The switch is a 2-fiber 6-electrical industrial ring network switch. It is internally connected to EzLogger via electrical ports and externally connected to the router, switch, or computer via Ethernet cables or optical fibers.
3	EzLogger	Smart data logger. SCU3000 and SCU3000-S: integrated with Ezlogger3000U. SCU3000A and SCU3000A-S: integrated with Ezlogger3000U-A.
4	Power adapter	An AC to DC power module that provides 24V, 3.2A DC power to SCU.
5	Fiber optic splice closure (FOSC)	Used to connect to the switch via the optical ports internally, and to lead out the fiber externally.
6	Reserved installation place	Prepare other devices if needed. Rail specification: 35mm in height and 45mm in width.
7	RS485 communication terminal	Connects to the RS485 communication terminal.
8	Grounding point for RS485 communication	Grounding point for the shielding layer of the RS485 communication cable.
9	Single-phase input switch	Single-phase AC circuit breaker, with a specification of 1P, 400V, 25A.
10	Three-phase input switch	Three-phase AC circuit breaker, with a specification of 3P, 1000V, 32A, which connects with PLC1 cable.

| No.	Item	Explanation
11	(Optional) Three-phase input switch	Three-phase AC circuit breaker, with a specification of 3P, 1000V, 32A, which connects with PLC2 cable.
12	Surge protection module (SPD)	Single-phase AC surge protection module with a specification of 385V AC/20kA.
13	Surge protection module (SPD)	Three-phase AC surge protection module with a specification of 1500V AC/20kA.
14	(Optional) Surge protection module	Three-phase AC surge protection module with a specification of 1500V AC/20kA.
15	Grounding bar for protection	Protective earthing (PE) bar to protect the SCU.

3.7 Electrical Diagram
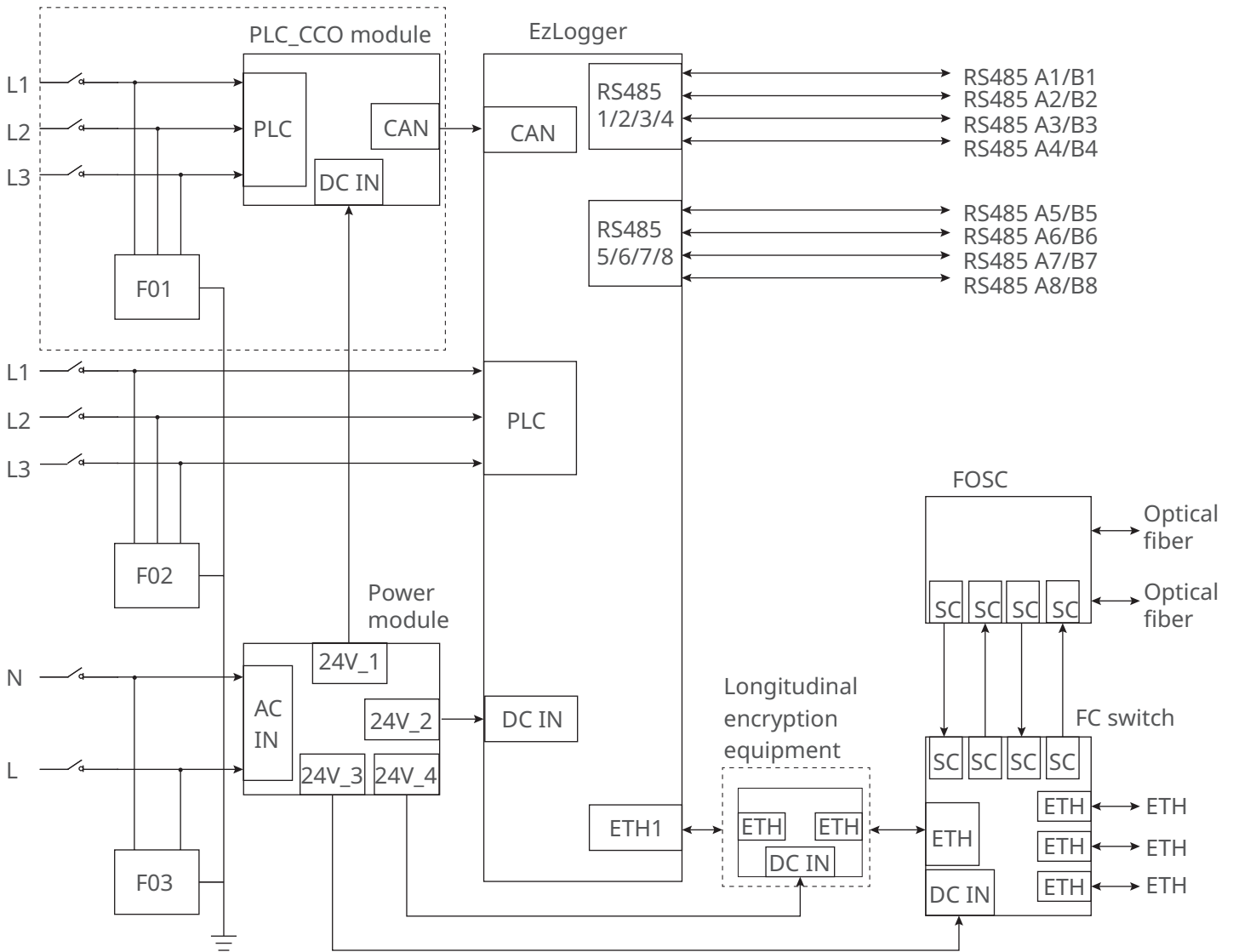
NOTICE:
- Optional integrated module. SCU3000A: HPLC_CCO module. SCU3000: PLC_CCO module.
- SCU3000 and SCU3000-S: integrated with Ezlogger3000U. SCU3000A and SCU3000A-S: integrated with Ezlogger3000U-A.
- Longitudinal encryption equipment: optional.
- F01/F02/F03 are Surge protection modules.

3.8 RS485 Communication Networking

The SCU supports connecting to inverters, transformers, environmental monitoring equipments, and other equipments via the RS485 communication.
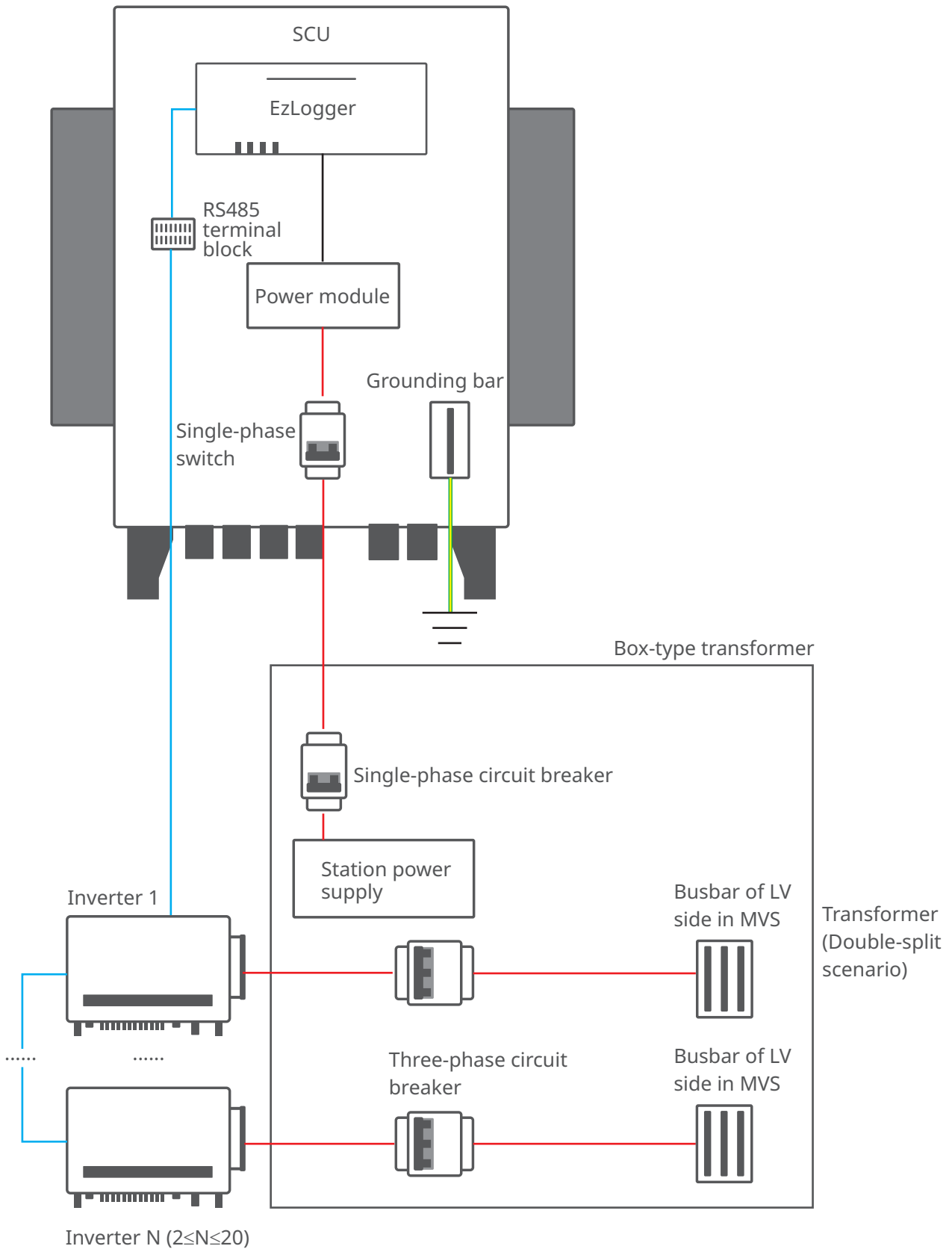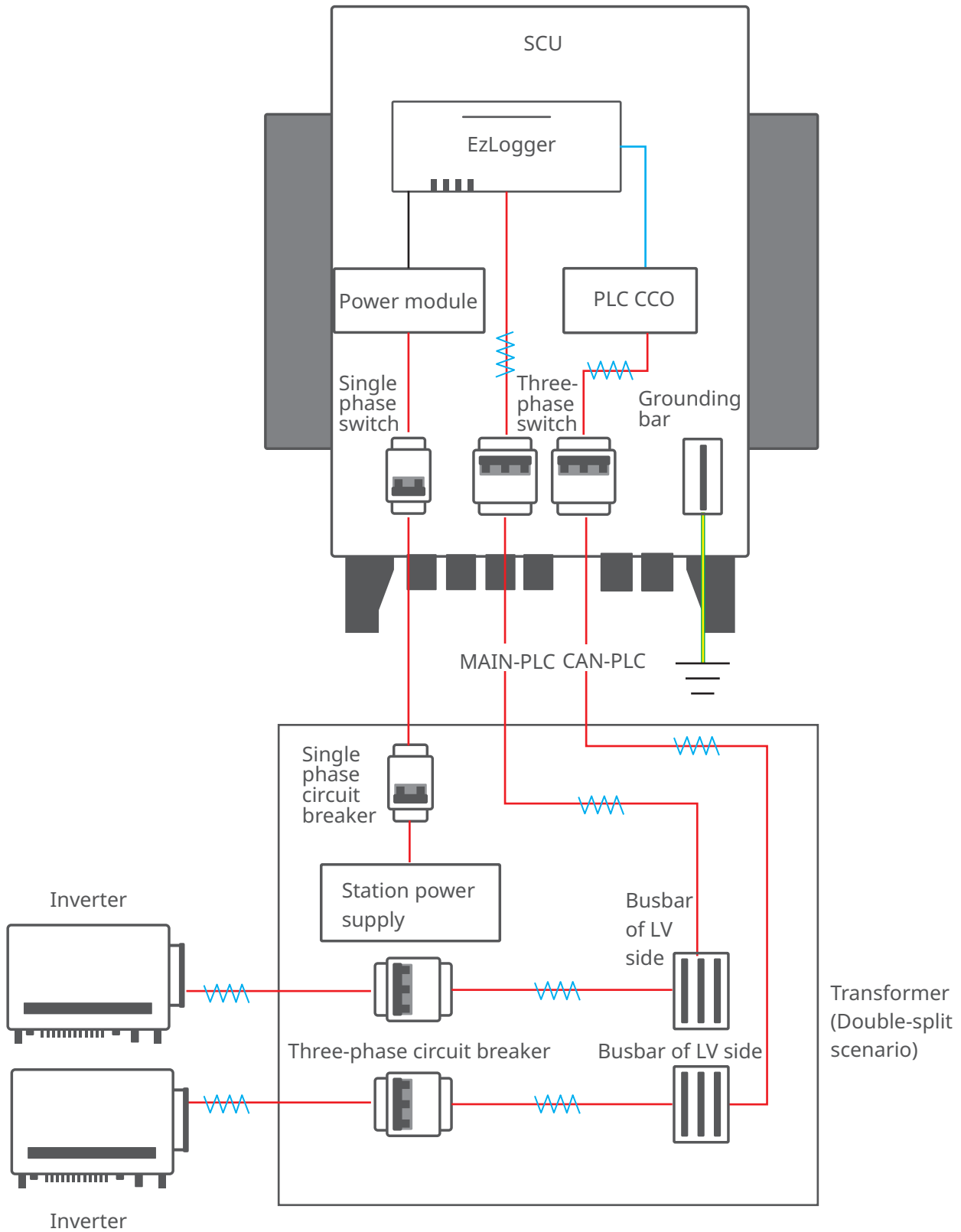
3.9 PLC Communication Networking

SCU supports PLC communication.

When connecting to a dual-winding transformer, only one PLC communication is required through the three-phase AC wire.

When connecting to a split transformer, two PLC communications are required through the three-phase AC wire.

4   Check and Storage

4.1 Check Before Receiving

Check the following items before receiving the product.

1. Check the outer packing box for damage, such as holes, cracks, deformation, and others signs of equipment damage. Do not unpack the package and contact the supplier as soon as possible if any damage is found.
2. Check the product model. If the product model is not what you requested, do not unpack the product and contact the supplier.
3. Check the deliverables for correct model, complete contents, and intact appearance. Contact the supplier as soon as possible if any damage is found.
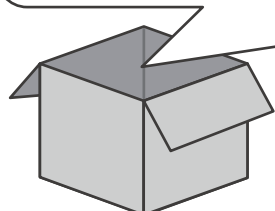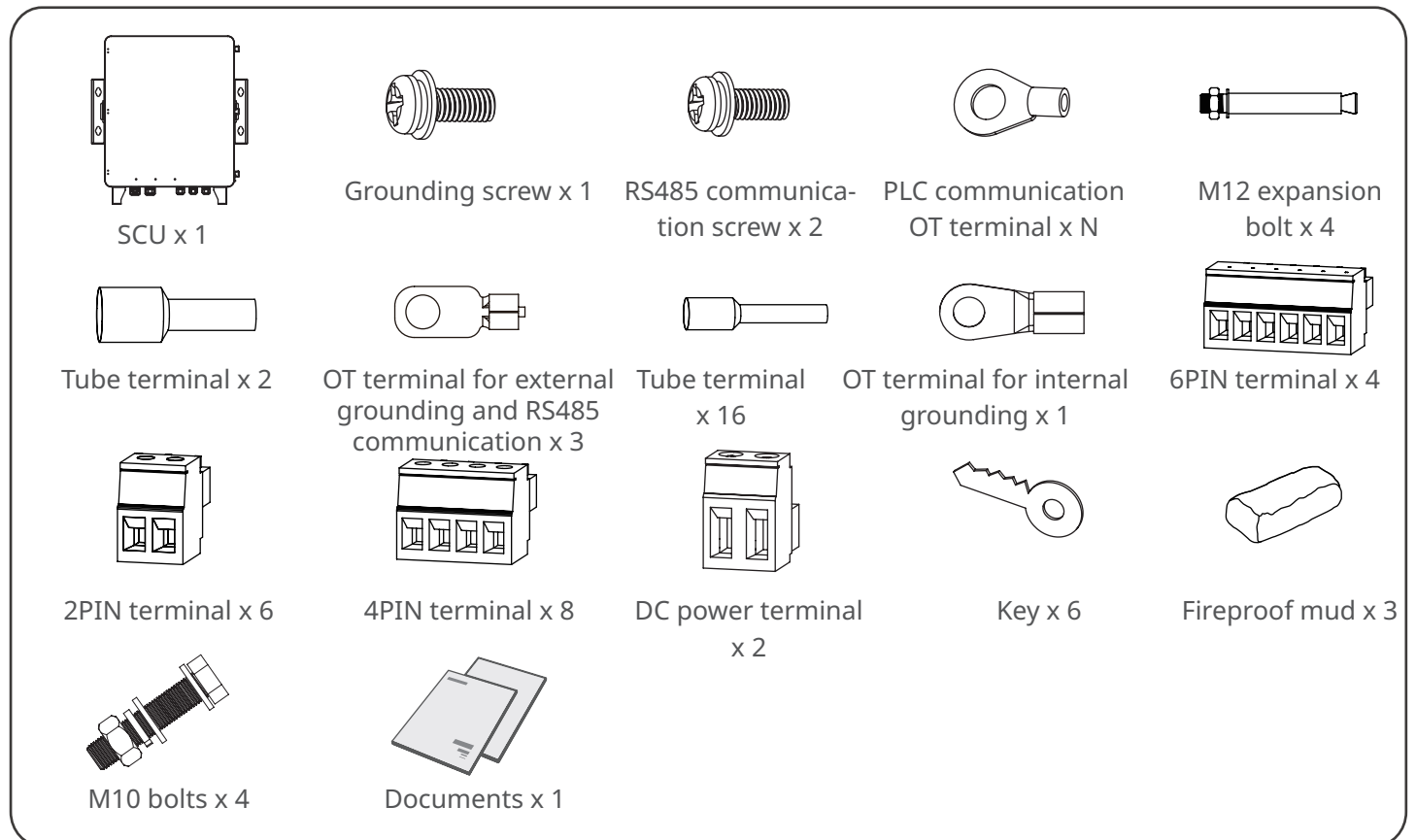
4.2 Storage

If the equipment is not to be installed or used immediately, please ensure that the storage environment meets the following requirements:

1. Do not unpack the outer package or throw the desiccant away.
2. Store the equipment in a clean place. Make sure the temperature and humidity are appropriate and no condensation.
3. Stack the equipment complying with the labels and requirements on the packing box.
4. The equipment must be stacked with caution to prevent them from falling.
5. If the equipment has been long term stored, it should be checked by professionals before being put into use.

4.3 Deliverables

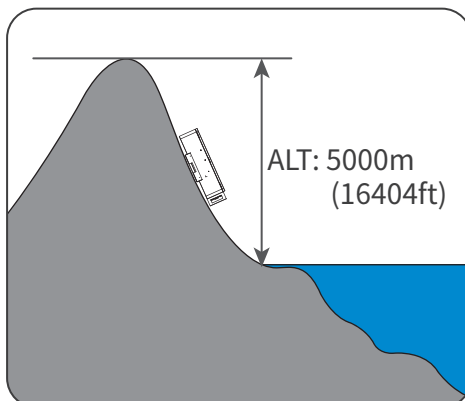| NOTICE |
| --- |
| • Use the delivered terminals and screws. The manufacturer shall not be liable for the equipment damage if other screws or terminals are used. |
| • PLC communication OT terminals: 6 in double-split scenario, 3 in dual-winding scenario. |

SCU x 1

Grounding screw x 1

RS485 communication screw x 2

PLC communication OT terminal x N

M12 expansion bolt x 4

Tube terminal x 2

OT terminal for external grounding and RS485 communication x 3

Tube terminal x 16

OT terminal for internal grounding x 1

6PIN terminal x 4

2PIN terminal x 6

4PIN terminal x 8

DC power terminal x 2

Key x 6

Fireproof mud x 3

M10 bolts x 4

Documents x 1

5 Installation

5.1 Installation Requirements

Installation Environment Requirements

1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. Install the equipment on a surface that is solid enough to bear its weight.
3. The place to install the equipment shall be well-ventilated for heat radiation and large enough for operations.
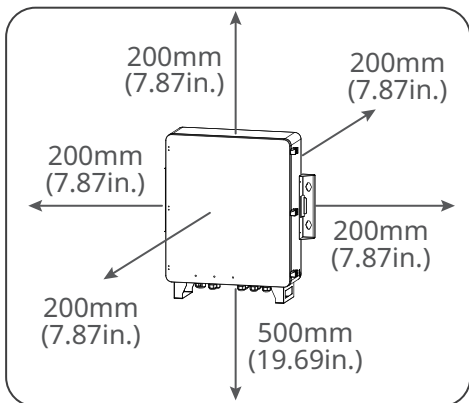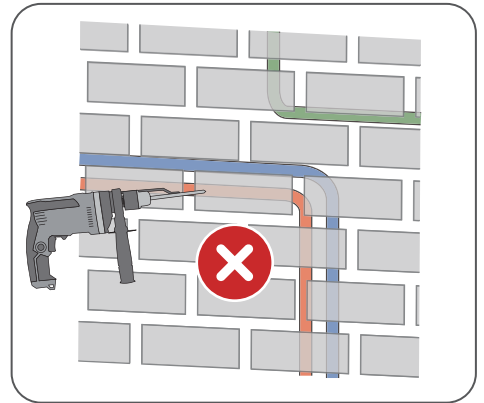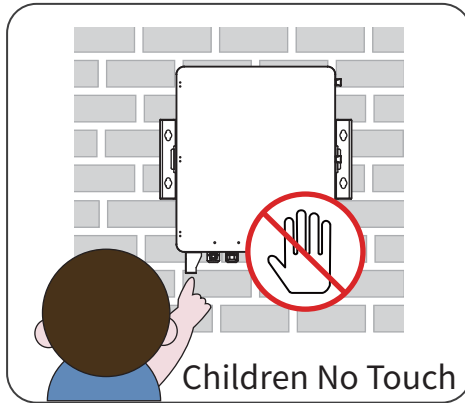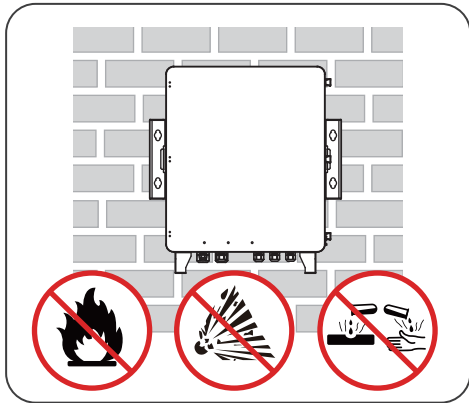4. The equipment with a high ingress protection rating can be installed outdoors.The temperature and humidity at the installation site should be within the appropriate range.
5. It is recommended to install the equipment in a sheltered place.
6. Do not install the equipment in a place that is easy to touch, especially within children's reach.
7. Install the equipment at a height that is convenient for operation and maintenance, electrical connections, and checking indicators and labels.
8. Install the equipment away from electromagnetic interference.
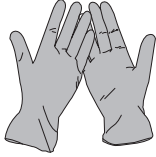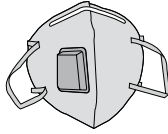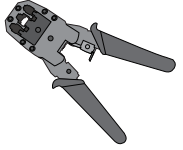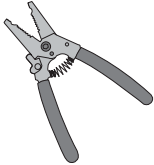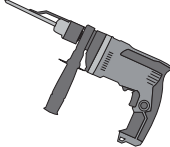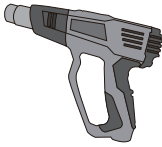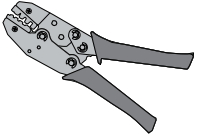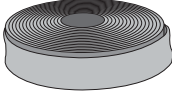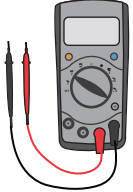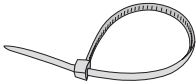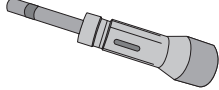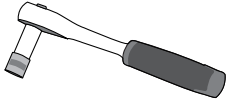
Mounting Support Requirements

- The mounting support shall be nonflammable and fireproof.
- Install the equipment on a surface that is solid enough to bear its weight.

Children No Touch

200mm (7.87in.) 200mm (7.87in.) 200mm (7.87in.) 200mm (7.87in.) 200mm (7.87in.) 500mm (19.69in.)

-30°C~60°C (-22°F~+140°F)

IP65

0%~95%RH

ALT: 5000m (16404ft)
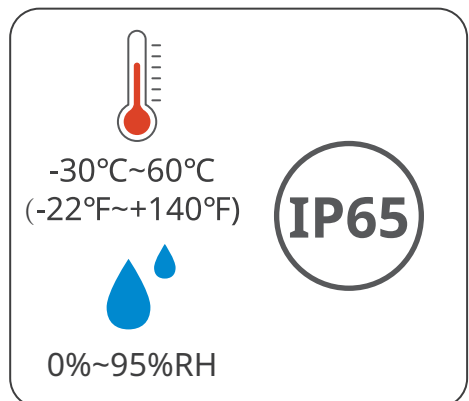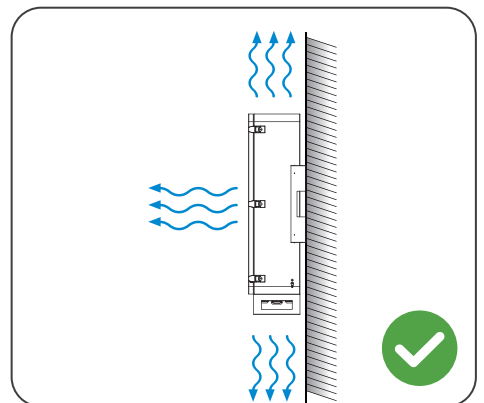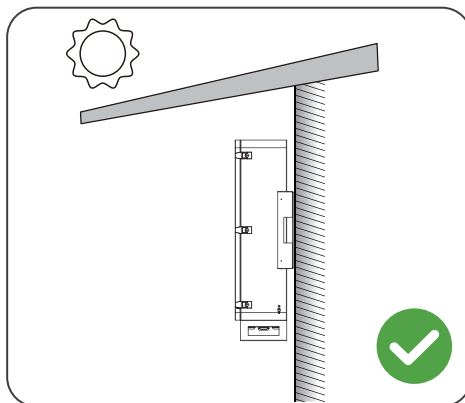
Installation Tool Requirements

The following tools are recommended when installing the equipment. Use other auxiliary tools on site if necessary.

Goggles	Safety shoes	Safety gloves	Dust mask	RJ45 crimping tool
Diagonal pliers	Wire stripper	Hammer drill	Heat gun	Crimping tool
Marker	Level	Heat shrink tube	Rubber hammer	Multimeter
Vacuum cleaner	Cable tie	Torque wrench M3 M4/M6	Socket wrench M5/M12	

5.2 SCU Installation

5.2.1 Moving the SCU

⚠ CAUTION
Move the equipment to the site before installation. Follow the instructions below to avoid personal injury or equipment damage. 1. Consider the weight of the equipment before moving it. Assign enough personnel to move the equipment to avoid personal injury. 2. Wear safety gloves to avoid personal injury. 3. Keep the equipment in balance during moving to avoid its falling down.

5.2.2 Wall-Mounting

NOTICE
• Avoid the water pipes and cables buried in the wall when drilling holes. • Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes.

Step 1: Put the SCU on the wall horizontally and mark positions for drilling holes.

Step 2: Drill holes to a depth of 70mm(2.76in.) with the hammer drill. The diameter of the drill bit should be 15mm(0.59in.).

Step 3: Lift the SCU by two persons and hang it onto the expansion bolts. Secure the SCU with the assistance of a third person using a socket wrench to tighten the expansion bolts.
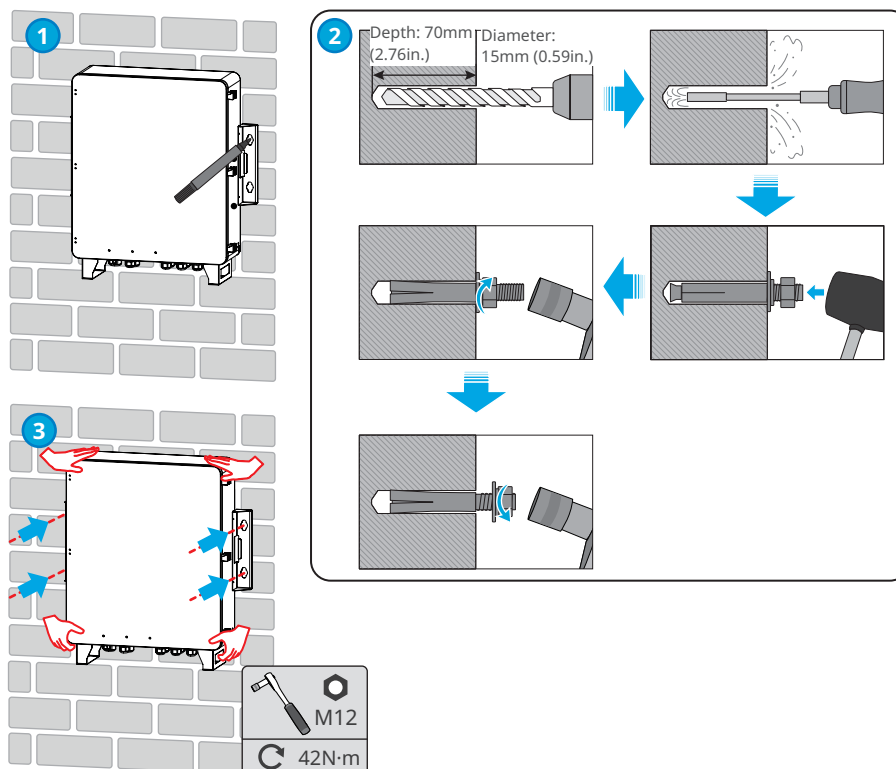
5.2.3 Pole-Mounting

NOTICE
When installing the SCU around a pole, prepare the necessary pole mounting accessories.
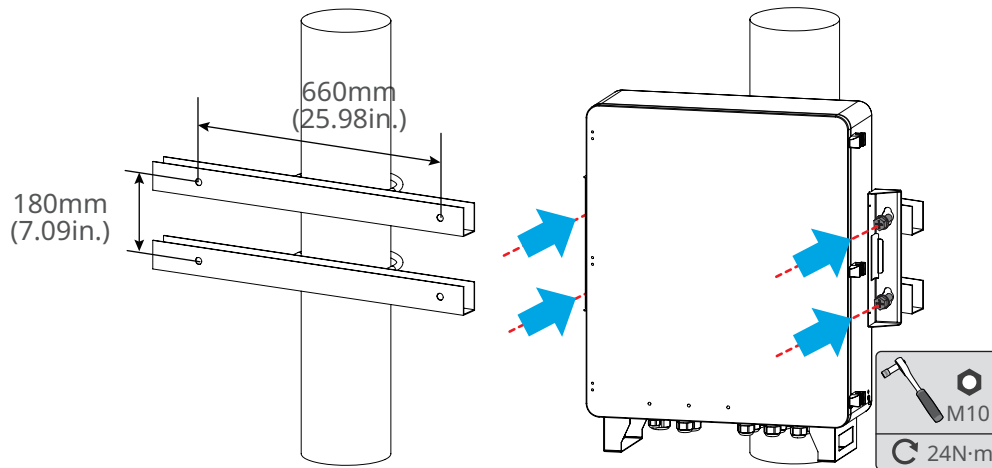
5.2.4 Standing-Mounting

NOTICE
• When installing the SCU in a standing position, please choose a suitable location with two sturdy bases. • It is recommended to use M12 bolts to secure the SCU to the bases.

Step 1: Put the SCU on two flat bases and mark positions for drilling holes.

Step 2: Drill holes to a depth of 70mm(2.76in.) with the hammer drill. The diameter of the drill bit should be 15mm(0.59in.).

Step 3: Fix the SCU on the bases with M12 bolts.
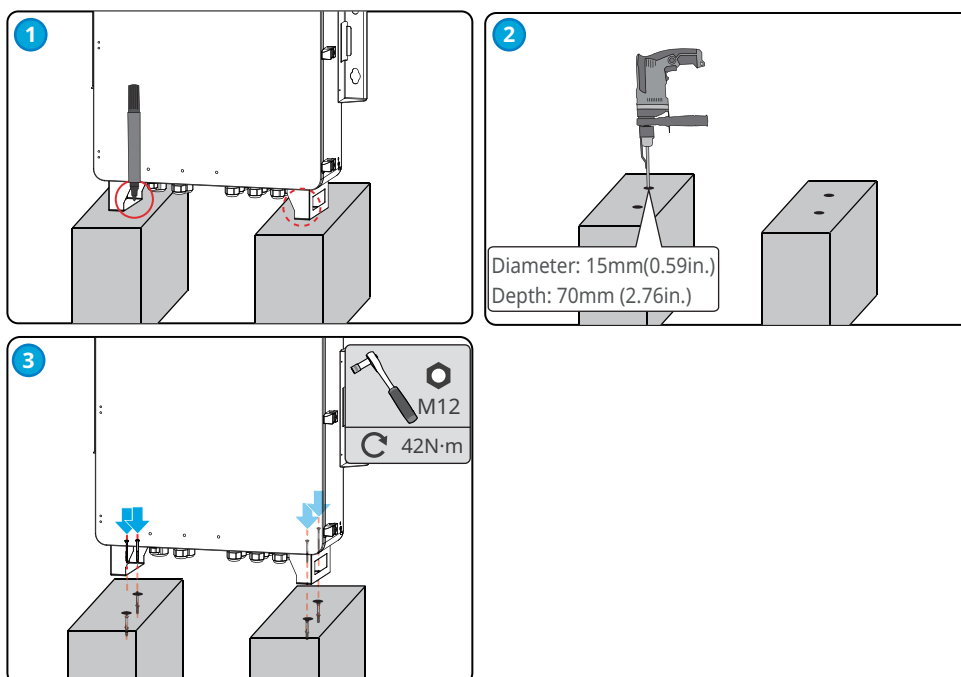
5.3 Opening the Cabinet Door

⚠ WARNING
• Take protective measures to prevent the rain or snow from entering the cabinet when opening the cabinet door in rainy or snowy weather. If the rain or snow cannot be prevented from entering the cabinet, do not open the cabinet door. • Before opening the cabinet door, make sure that the main switch of the SCU is disconnected. If energized operation is required, please take appropriate insulation protection measures.

NOTICE
Please use the key to open the cabinet door of the SCU. Keep the keys properly after usage for future use.

Step 1: Insert the keys into the three lock cylinders separately.
Step 2: Turn the keys clockwise.

Step 3: Open the cabinet door.

Step 4: Remove the protective cover.
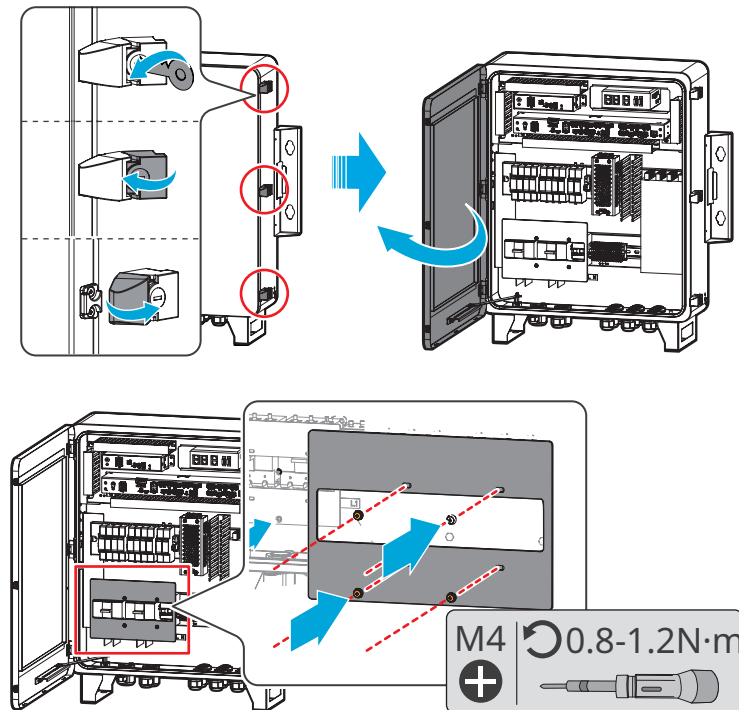
6　Electrical Connection

6.1　Safety Precaution

⚠ DANGER
• Disconnect all upstream switches of the SCU to power off the equipment before any electrical connections. Do not work with power on. Otherwise, an electric shock may occur. • All operations, cables and parts specification during the electrical connection shall be in compliance with local laws and regulations. • If the tension is too large, the cable may be poorly connected. Reserve a certain length of the cable before connecting it to the SCU cable port.

NOTICE
• Wear PPE like safety shoes, safety gloves, and insulating gloves during electrical connections. • All electrical connections should be performed by qualified professionals. • Cable colors in this document are for reference only. The cable specifications shall meet local laws and regulations. • Tie the same type cables together, and place them at least 500mm away from cables of different types. Do not place the cables entangled or crossed.

Connecting the Cables via Water Connectors

The SCU is connecting with exterior cables via waterproof connectors.

Step 1: Remove the locking cap from the waterproof connector, and remove the rubber ring.
Step 2: Route the cable through the locking cap and the rubber ring.
Step 3: Tighten the lock cap securely.
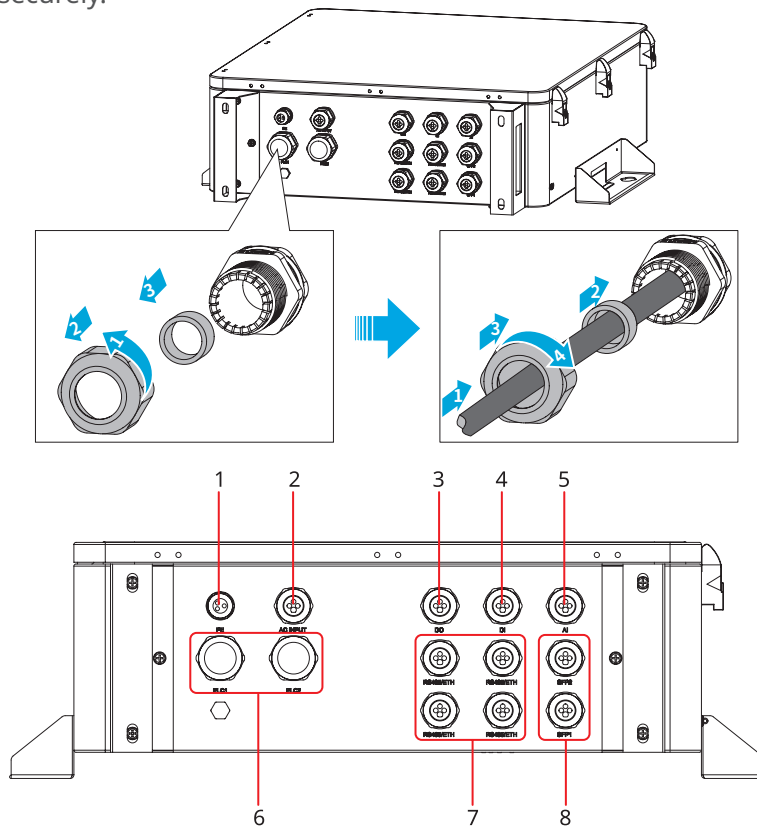
No.	Silkscreen	Cable through waterproof connectors	Max dimension of cable
1	PE	PE cable	18mm (0.71in.)
2	AC INPUT	Single-phase AC cable	23mm (0.91in.)
3	DO	DO signal cable	
4	DI	DI signal cable	
5	AI	AI signal cable and PT signal cable	
6	PLC1/PLC2	Three-phase AC cable	25.4mm (1in.)
7	RS485/ETH	RS485 communication cable/Ethernet cable	23mm (0.91in.)
8	SFP1 SFP2	Optical fiber	

| | Three-phase AC cable | | Optical fiber | | PE cable |
| | Single-phase AC cable | | RS485 communication cable | | Ethernet cable |
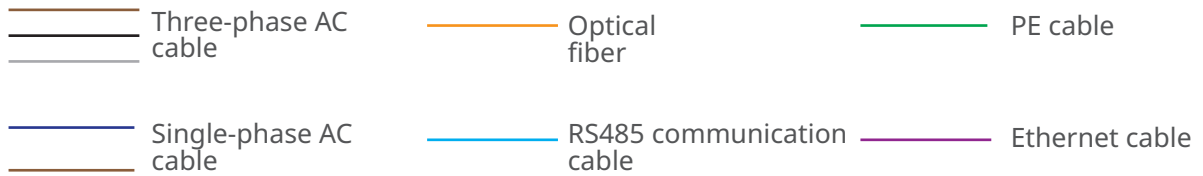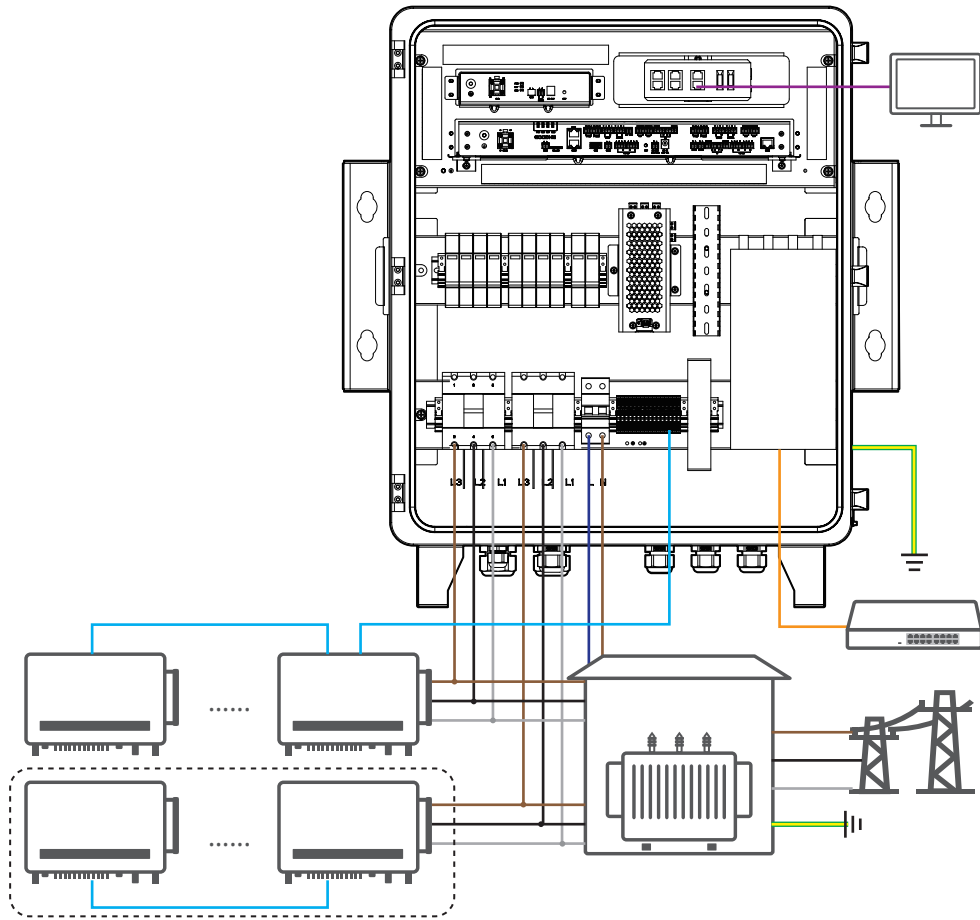
No.	Item	Silkscreen	Cable Specification
1	Three-phase AC cable	L1, L2, L3	• Outdoor single core copper cable, withstand voltage>1000V • Conductor cross-sectional area: 1.5mm^2-2.5mm^2 (14AWG-12AWG)
2	Single-phase AC cable	L, N	• Outdoor copper cable, withstand voltage>300V • Conductor cross-sectional area: 2.5mm^2-4mm^2 (12AWG-10AWG)
3	RS485 communication cable	A1-A8, B1-B8	• Outdoor shielded twisted pair • Conductor cross-sectional area: 0.2mm^2-1mm^2 (24AWG-18AWG)
4	Optical fiber	-	• 4-8 core optical fiber with 1310nm in transmission wavelength • Outer diameter ≤18mm (0.71in.)
5	Ethernet cable	ETH	• Outdoor CAT 5E shielded Ethernet cable • Outer diameter<9mm (0.35in.) • Shielded RJ45 connector
6	Grounding bar cable	⏚	• Outdoor copper cable • Conductor cross-sectional area: 6mm^2-10mm^2 (8AWG-6AWG)
7	PE cable outside of the equipment	⏚	• Outdoor copper cable • Conductor cross-sectional area: 2.5mm^2-4mm^2 (12AWG-10AWG)

6.2 Connecting the PE Cable

⚠ WARNING
• Connect all grounding points of the equipment nearer.   • Make sure the equipment is reliably grounded before operation.   • To improve the corrosion resistance of the terminal, it is recommended to apply silica gel or paint on the grounding terminal after installing the PE cable.

NOTICE
• Use the OT grounding terminals and screws delivered.   • Prepare the PE cable.

Step 1: Strip an appropriate length of insulation from the cable.
Step 2: Crimp the OT terminals.

Step 3: Wrap the crimping area with insulation tube.

Step 4: Connect the PE cable to the internal grounding bar of the cabinet.

Connecting the PE cable outside the SCU

(Optional) PE cable inside the SCU
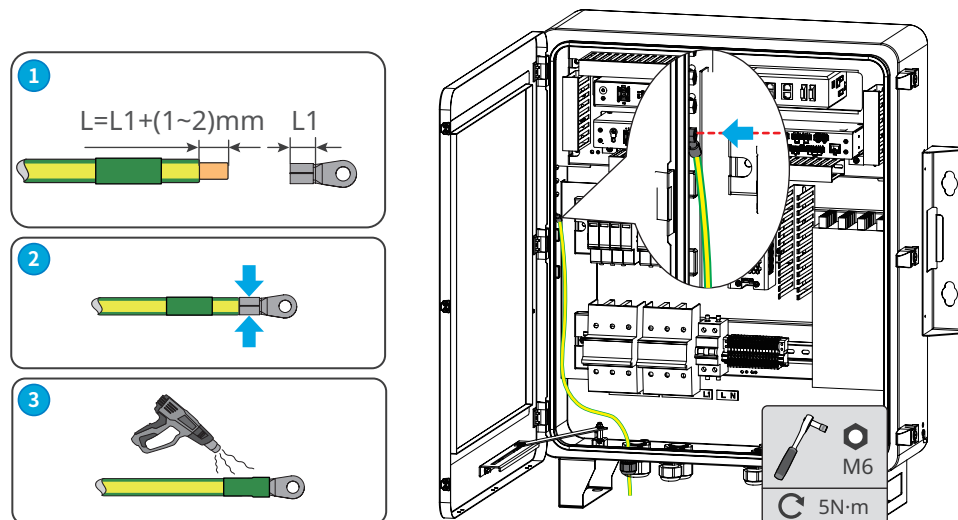
6.3　Three-Phase AC Input Cable

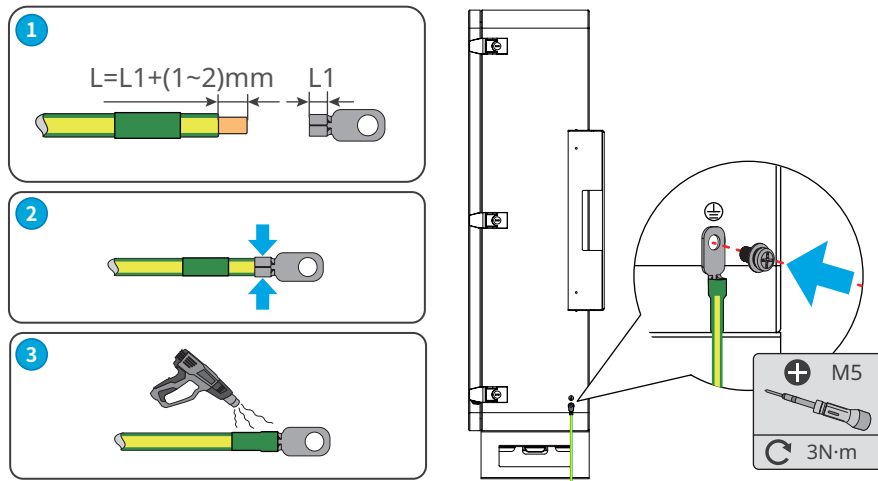| NOTICE |
|---|
| • Multi-core cables are recommended for PLC communication.The maximum communication distance between the inverter and the transformer is 1000m. |
| • When single-core cables are used, the three phase cables must be bound 1m apart. The maximum communication distance between the inverter and transformer is 500m. |
| • The sampling cable between the SCU and the busbar of the box-type transformer should not exceed 3 meters. |
| • When the inverter is connected to a dual-winding transformer, only one PLC communication is required. |
| • When the inverter is connected to a split transformer, two PLC communication cables are required. |
| Below is taking the connection of a dual split transformer as an example. |

Step 1: Strip an appropriate length of insulation from the cable.
Step 2: Crimp the OT terminals.
Step 3: Wrap the crimping area with insulation tube.
Step 4: Connect the L1, L2, and L3 cables to the three-phase AC switch.

Multi-core cable

SCU　　　　Box-type transformer　　　　　　　　　　　　　　Inverter

Single-core cable

SCU　　　　Box-type transformer　　　　　　　　　　　　　　Inverter
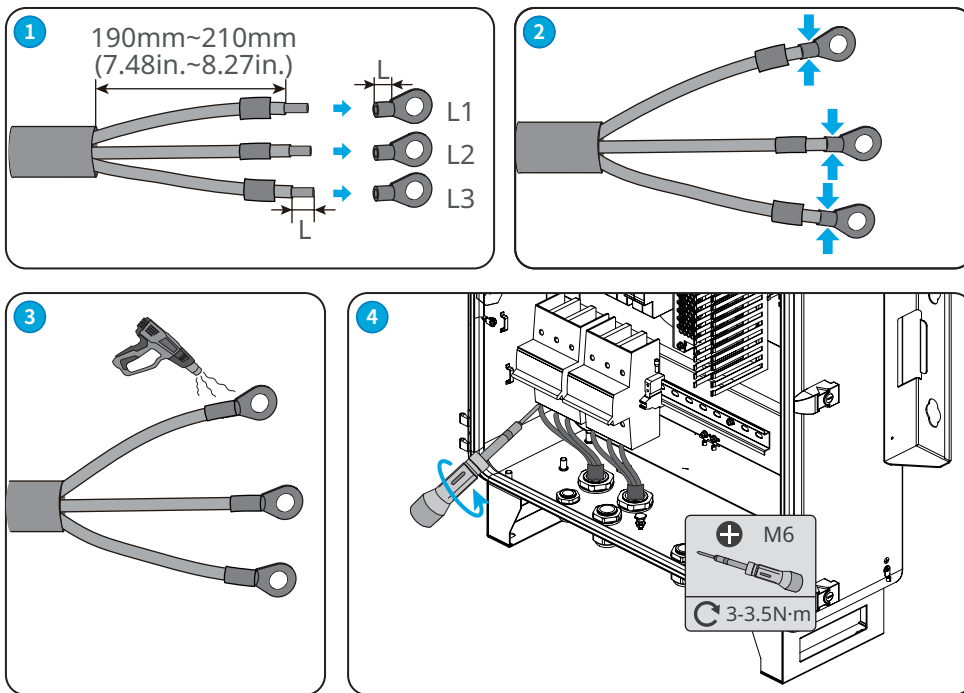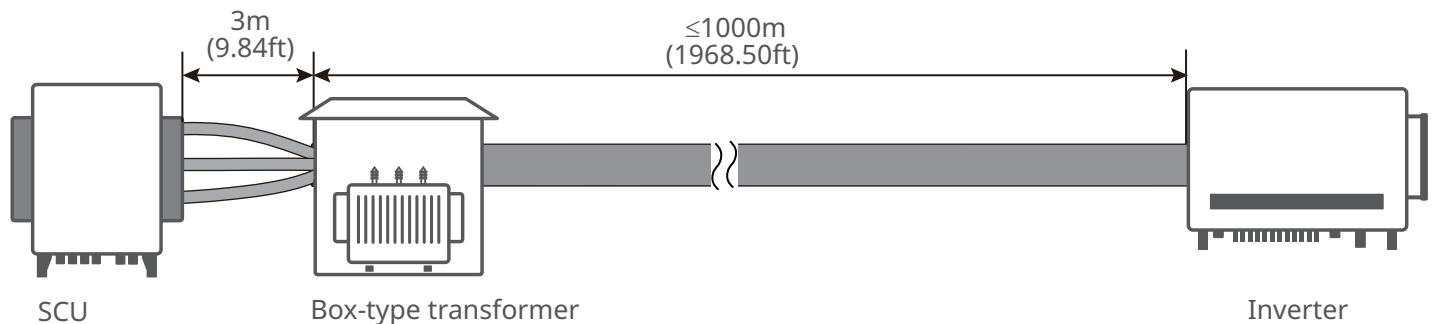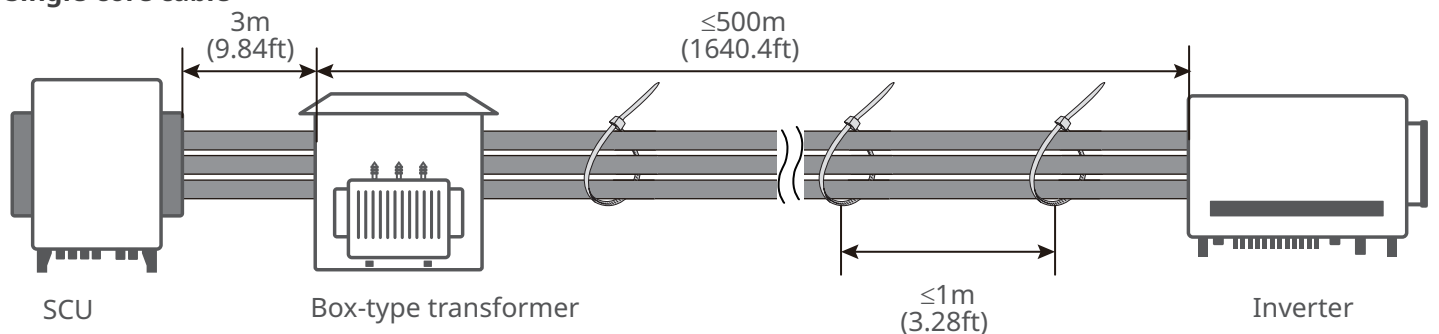
6.4 Connecting the Single-Phase Power Cable

NOTICE

Connect the L and N cables to the L and N terminals of the power supply inside the box-type transformer via a mini circuit breaker

Step 1 Strip an appropriate length of insulation from the cable.
Step 2 Crimp the pin terminals.
Step 3 Connect the L and N cables to the single-phase AC switch.
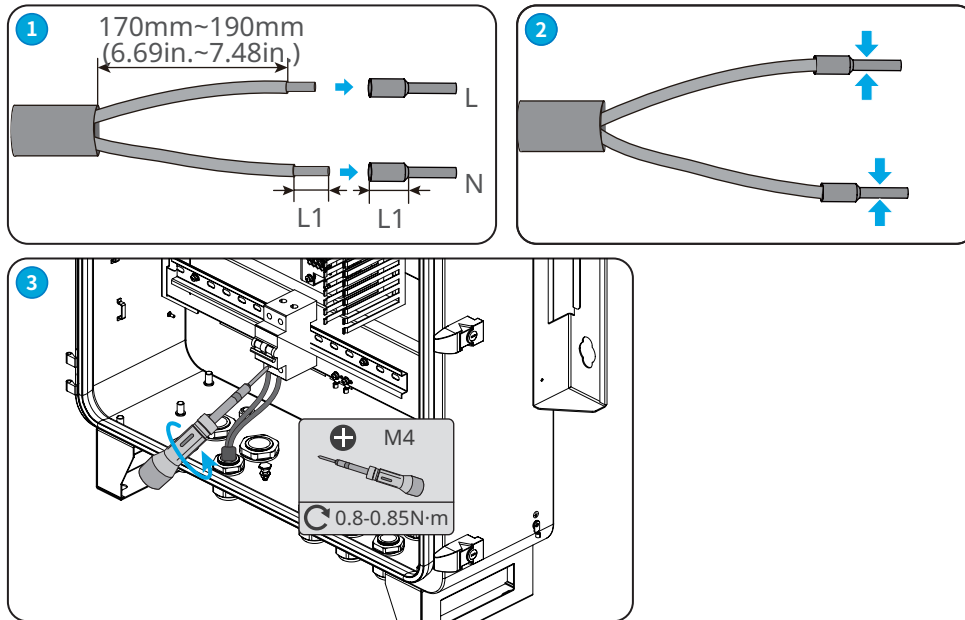
6.5 Connecting the RS485 Communication Cable

NOTICE

The SCU is integrated with an RS485 terminal block to connect and communicate with RS485 device. The connection method for RS485 communication cables is the same. Below is taking the example of the connection of two communication cables.

Step 1 Strip an appropriate length of insulation from the cable and crimp the pin terminal.
Step 2 Connect the shielding layer of the cable to the RS485 grounding point.
Step 3 Insert the communication terminal into the RS485 terminal block.

Port	Silkscreen	Port Definition	Port	Silkscreen	Port Definition
RS485-1	A1	RS485-1A	RS485-5	A5	RS485-5A
	B1	RS485-1B		B5	RS485-5B
RS485-2	A2	RS485-2A	RS485-6	A6	RS485-6A
	B2	RS485-2B		B6	RS485-6B
RS485-3	A3	RS485-3A	RS485-7	A7	RS485-7A
	B3	RS485-3B		B7	RS485-7B
RS485-4	A4	RS485-4A	RS485-8	A8	RS485-8A
	B4	RS485-4B		B8	RS485-8B
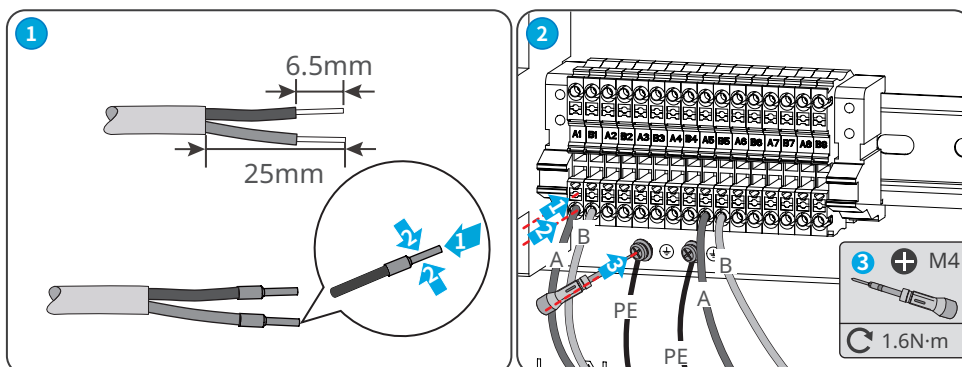
6.6 Connecting the Optical Fiber

NOTICE
• Use the delivered optical fiber and connecting terminals. • The connection and fusion of the optical fiber shall be carried out by professionals.

Fiber Optic Splice Closure (FOSC) -12 ports

Fiber Optic Splice Closure (FOSC) -24 ports
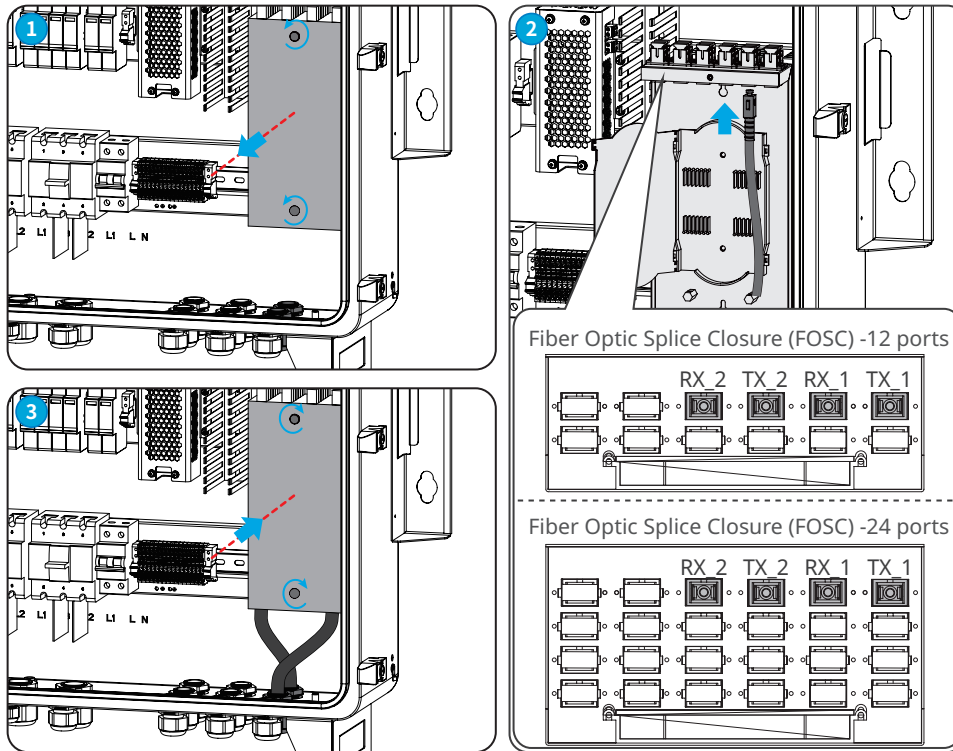
6.7 Connecting the DO/DI/AI/PT100/PT1000 Signal Cable

The equipment reserves "DO", "DI", "AI", "ETH", "PT100/ PT1000" waterproof connectors to route the corresponding signal cables. For signal cable specification, wiring and memory card installation, please refer to Ezlogger 3000U/3000U-A User Manual.

7   Equipment Commissioning

7.1 Check before Power On

No.	Check Item
1	The SCU is firmly installed in a clean place where is well-ventilated and easy to operate.
2	The PE cable, AC output cable, and communication cable are connected correctly and securely.
3	Cable ties are intact, routed properly and evenly.
4	Unused ports and terminals are sealed.
5	The internal of the equipment is clean and tidy, with no dust, dirt and construction leftovers.
6	The paint outside the equipment is intact. If there is damage, please fill the paint immediately to prevent corrosion.
7	The upstream switches and switches inside the SCU are all disconnected.
8	The input voltage and frequency of the SCU are within its working voltage and frequency range.

7.2 Power On

⚠ WARNING
• Wear proper PPE before any operations. • Ensure that the SCU is properly grounded.
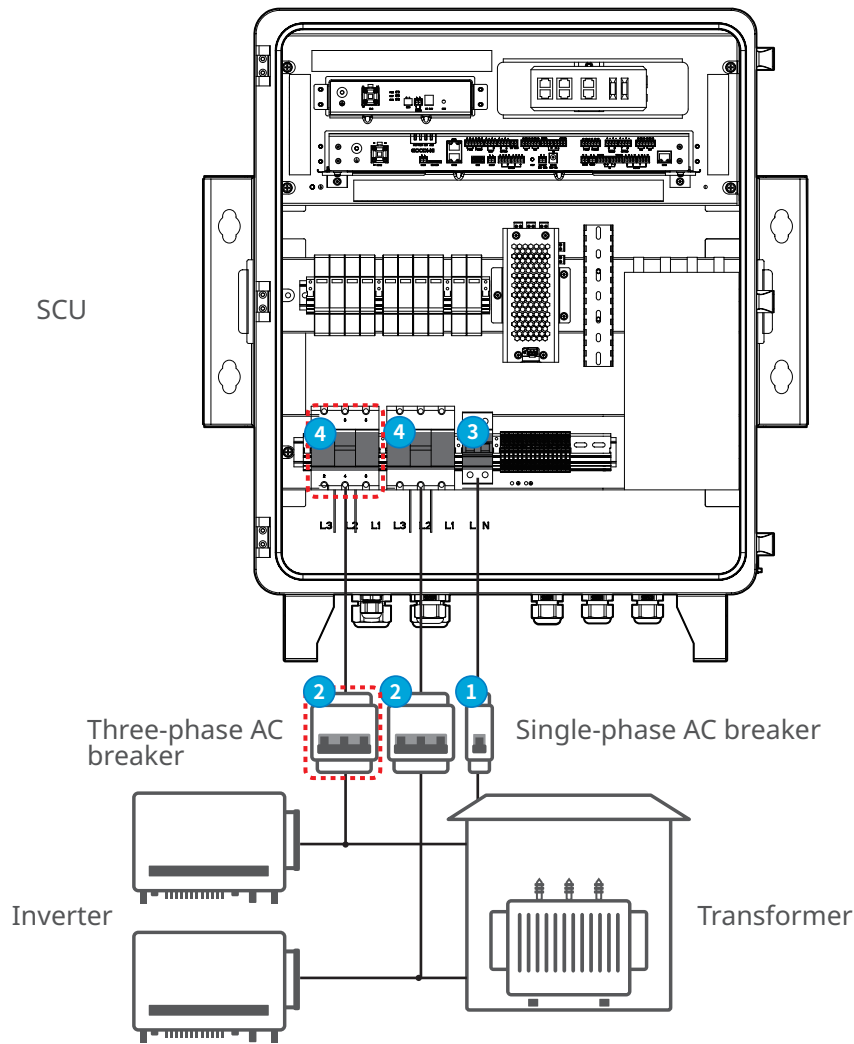
Step 1 Connect the single-phase power switch inside the transformer that supplies power to the SCU.

Step 2 Connect the three-phase power switch inside the transformer that connects the remote transformer to the SCU.

- If the SCU is connected to a single PLC communication, turn on the three-phase power switch of the corresponding circuit.
- If the SCU is connected to a dual PLC communication, turn on the three-phase power switch of the corresponding circuit.

Step 3 Connect the single-phase input switch inside the SCU.

Step 4 Connect the three-phase input switch inside the SCU.

- If the SCU is connected to a single PLC communication, turn on the three-phase power switch of the corresponding circuit.
- If the SCU is connected to a dual PLC communication, turn on the three-phase power switch of the corresponding circuit.

8   System Commissioning

8.1 Commissioning the SCU

NOTICE
The parameters of the SCU shall be set by professionals. Incorrect settings may affect system operation and power generation.

For information on how to configure the SCU, including changing the password and restoring factory settings, please refer to Ezlogger3000U&Ezlogger3000U-A User Manual.

Ezlogger3000U&E-zlogger3000U-A

8.2 Closing the Cabinet Door

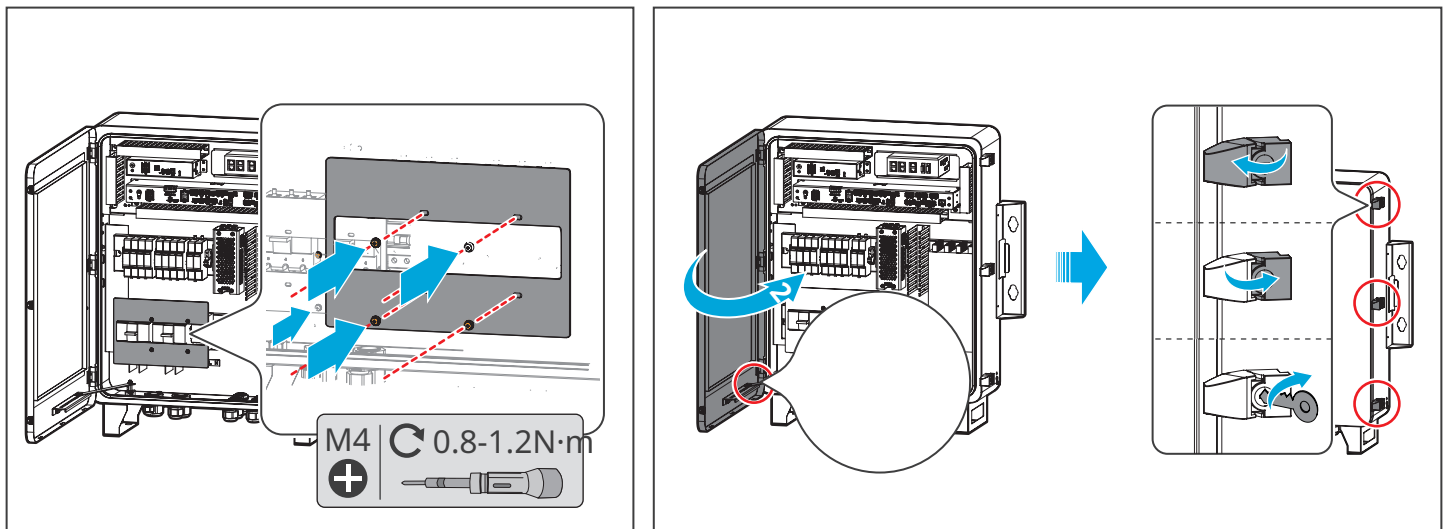| NOTICE |
| --- |
| • Install the protective cover before closing the door.
• Please lock the cabinet door of the SCU with keys. After locking the door, please keep the keys in a safe place for future use. |

9 Maintenance

9.1 Power Off

⚠ DANGER
• Power off the SCU before maintain it. Otherwise, the SCU may be damaged or electric shocks may occur. • Delayed discharge. Wait until the components are discharged after power off. • Wear proper PPE before any operations.

Step 1 Disconnect the single-phase power switch that supplies power to the SCU from the remote transformer.

Step 2 Disconnect the three-phase power switch that connects the remote transformer to the SCU.

- If the SCU is connected to a single PLC communication, disconnect the three-phase power switch of the corresponding circuit.

- If the SCU is connected to a dual PLC communication, disconnect the three-phase power switched of the corresponding circuits.

Step 3 Disconnect the single-phase input switch inside the SCU.

Step 4 Disconnect the three-phase input switch inside the SCU.

- If the SCU is connected to a single PLC communication, disconnect the three-phase power switch of the corresponding circuit.

- If the SCU is connected to a dual PLC communication, disconnect the three-phase power switched of the corresponding circuits.

9.2 Maintenance

⚠ DANGER
Power off the SCU before operations and maintenance. Otherwise, the SCU may be damaged or electric shocks may occur.

NOTICE
• Use keys to open the cabinet door of the SCU. After opening the door, please keep the key in a safe place for future use. • In case of rainy or snowy weather, take protective measures to prevent the rain or snow from entering the cabinet when opening the cabinet door. If the rain or snow cannot be prevented from entering the cabinet, do not open the cabinet door. • Before opening the cabinet door, please ensure that the upstream switch of the SCU is disconnected. If energized operation is required, please take appropriate insulation protection measures.

Maintaining Item	Maintaining Method	Maintaining Period
Appearance Checking	• Check whether the unit is deformed, damaged, • Check whether there is foreign bodies inside the SCU.	Once 6 months or once a year
Electrical Connection	• Check whether the cables are securely connected. Check whether the cables are broken or whether there is any exposed copper core. • Check whether all the terminals and ports are properly sealed. Reseal the cable hole if it is not sealed or too big.	Once 6 months or once a year
System running	Check whether the system is running normally.	Once 6 months or once a year
Grounding	Check whether all PE cables are reliably grounded.	Once 6 months or once a year

9.3 Removing the SCU

⚠WARNING
• Make sure the SCU is powered off. • Wear proper PPE before any operations.

Step 1: Disconnect all electrical connections, including single-phase AC cables, three-phase AC cables, communication cables, and PE cables.

Step 2: Take the SCU down from the wall or the bracket.

Step 3: Store the SCU properly. If the SCU needs to be used later, ensure that the storage conditions meet the requirements.

9.4 Disposing of the SCU

If the SCU cannot work any more, dispose of it according to the local disposal requirements for electrical equipment waste. Do not dispose of it as household waste.

9.5 Troubleshooting

Perform troubleshooting according to the following methods. Contact the after-sales service if these methods do not work.

Collect the information below before contacting the after-sales service, so that the problems can be solved quickly.

1. Equipment information: Serial number, software version, installation date of the equipment, time of occurrence of the fault, frequency of the fault, etc.

2. Equipment installation environment: It is recommended to provide photos, videos, or other files to assist in analyzing the problem.

3. Utility grid situation.

No.	Fault	Cause	Solutions
1	The SCU is not able to power on.	Power module input ports are not securely connected:	Reconnect the power input ports.
		Power module input cables are not securely connected:	Reconnect the power module input cables.
		Equipment malfunction	Contact your distributor or after-sales service center.
2	ETH communication abnormal	Ethernet cable is not properly connected:	Reconnect the Ethernet cable.
		ETH port parameters abnormal.	Double-check and set the ETH port parameters to establish successful communication.
		Switch or router malfunction	Replace the switch or router.
		Equipment malfunction	Contact your distributor or after-sales service center.
3	RS485 communication abnormal	RS485 wiring abnormal	Check if the cable connections are correct and secure.
		RS485 communication parameter setting abnormal:	Recheck and set the RS485 communication parameters.
		Equipment malfunction	Contact your distributor or after-sales service center.
4	PLC communication abnormal	PLC wiring abnormal	Ensure that the PLC cables are properly connected and the switches are closed correctly.
		PLC communication parameter setting abnormal:	Double-check and set the PLC port parameters to establish successful communication.
		equipment malfunction:	Contact your distributor or after-sales service center.

10 Technical Parameters

Technical Parameters	SCU3000-S	SCU3000	SCU3000A-S	SCU3000A
Communication				
Max. Inverters Supported	200	200	200	200
RS485 interface	8	8	8	8
Ethernet	2*RJ45, 10/100 Mbps	2*RJ45, 10/100 Mbps	2*RJ45, 10/100 Mbps	2*RJ45, 10/100 Mbps
Number of PLC	1*PLC	2*PLC	1*HPLC	2*HPLC
Input Voltage Range of PLC(V)	800	800	800	800
Configuration				
Datalogger	EzLogger3000U*1	EzLogger3000U*1	EzLogger3000U-A*1	EzLogger3000U-A*1
Fibre Channel Switch	2 optical ports, 6 electrical ports	2 optical ports, 6 electrical ports	2 optical ports, 6 electrical ports	2 optical ports, 6 electrical ports
Fiber Termination Box	24 ports, SC single-mode	24 ports, SC single-mode	24 ports, SC single-mode	24 ports, SC single-mode
Power Supply	100~240Vac, 50/60 Hz	100~240Vac, 50/60 Hz	100~240Vac, 50/60 Hz	100~240Vac, 50/60 Hz
Power Consumption (W)	≤20	≤35	≤20	≤35
Mechanical				
Dimensions (W×H×D mm)	723*780*226	723*780*226	723*780*226	723*780*226
Weight (kg)	25	28	25	28
Installation Method	Wall mounting, bracket mounting, pole mounting	Wall mounting, bracket mounting, pole mounting	Wall mounting, bracket mounting, pole mounting	Wall mounting, bracket mounting, pole mounting
Environment				
Operating Temperature Range (℃)	-30 ~ +60	-30 ~ +60	-30 ~ +60	-30 ~ +60
Storage Temperature Range (℃)	-40 ~ +70	-40 ~ +70	-40 ~ +70	-40 ~ +70
Relative Humidity	5~95%	5~95%	5~95%	5~95%
Max. Operating Altitude (m)	5000	5000	5000	5000
Ingress Protection Rating	IP65	IP65	IP65	IP65

GoodWe Technologies Co., Ltd.

No. 90 Zijin Rd., New District, Suzhou, 215011, China

www.goodwe.com

service@goodwe.com

Local Contacts