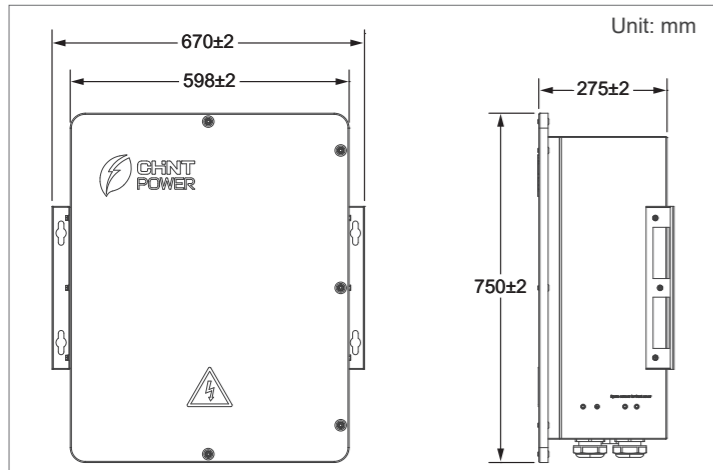


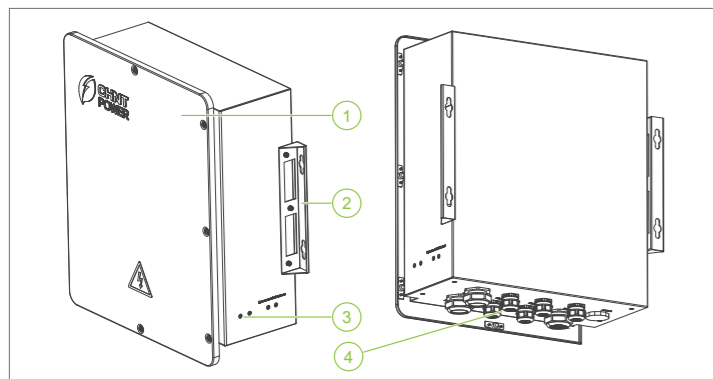
This guide covers the essential procedures for installation and wiring. For more information, please refer to the user manual.

1. Product Overview

1.1 Dimensions



1.2 Appearance and Components

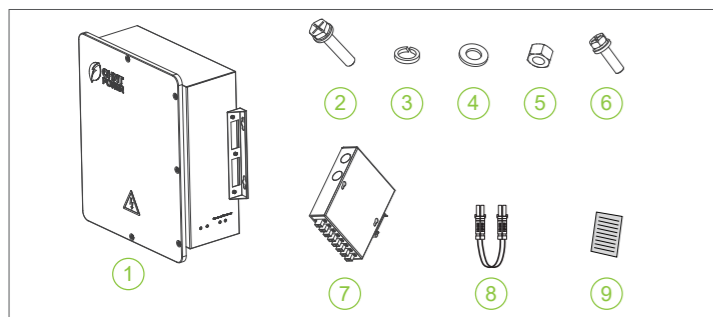


No.	Name	Description
1	Front Cover	Provides access to internal components for wiring
2	Mounting Bracket	Secures the unit to a wall, pole, or support bracket
3	External Grounding Point	Connects the chassis to earth ground
4	Cable Glands	Seal and route incoming/outgoing cables

2. Installation

2.1 Packing List

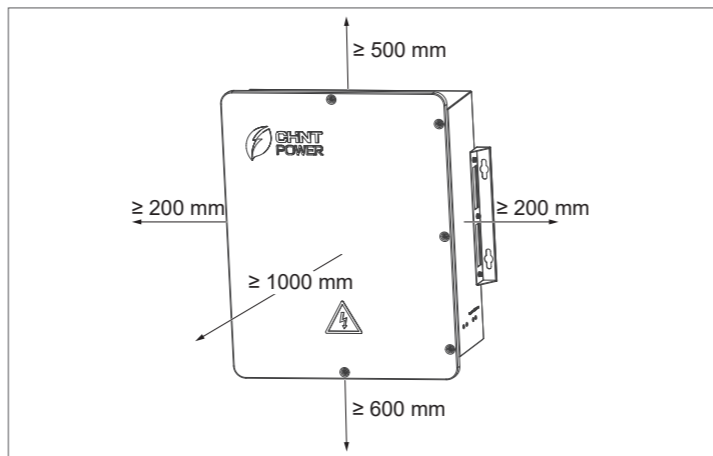
Before installation, inspect the components for damage and verify that the following items are included:



No.	Item	Qty	Note
1	Smart Communication Unit	1	–
2	M10 × 50 Screw	4	For mounting communication unit
3	M10 Spring Washer	4	
4	M10 Flat Washer	4	
5	M10 Nut	4	
6	M6 × 16 Screw	1	For external grounding
7	Fiber Optic Terminal Box	1	16-core; for fiber optic termination and patch cord connection
8	Fiber Optic Patch Cord	4	Length: 1 m
9	Documentation	1	Quick Installation Guide

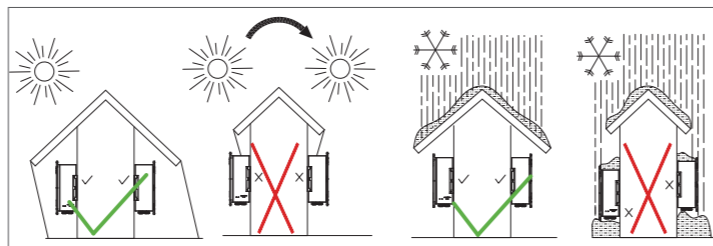
2.2 Recommended Clearances

Maintain the specified minimum clearances around the communication to ensure proper heat dissipation and ventilation. Increase these distances in enclosed spaces. Do not place any objects that could obstruct airflow around the unit.

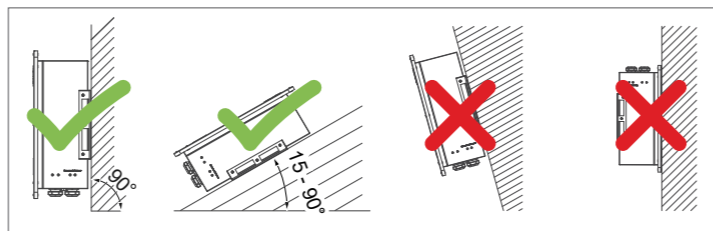


2.3 Installation Environment

It is recommended to install the communication unit under a sunshade to avoid direct sunlight, rain and snow accumulation, prevent the unit from triggering power derating, increasing failure rate or reducing service life.



2.4 Installation Mode



2.5 Communication Unit Installation

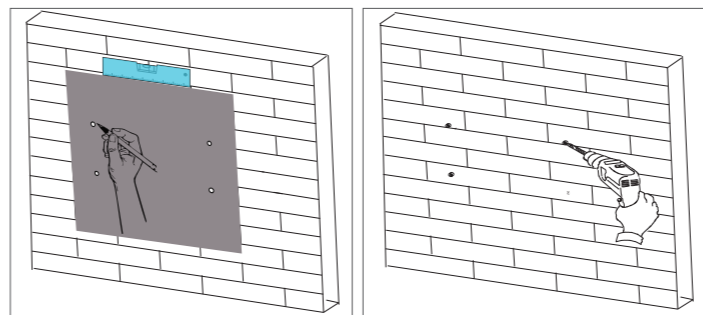
The communication unit supports three installation methods: wall mounting, bracket mounting, and pole mounting.

DANGER

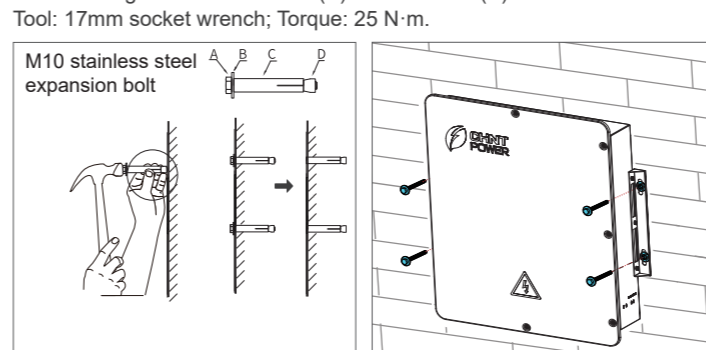
- Before installation, have a qualified engineer confirm that the selected support structure (wall, bracket, or pole) can support the unit's weight (30 kg).
- Three people are recommended: two to lift and hold the unit, and one to mount it. Maintain balance to prevent it from tipping over or falling.
- Install the unit on the shaded side of PV panels.
- The recommended cable length between the communication box and the transformer is ≤ 10 m.

2.5.1 Wall Mounting

- Remove the packing box cover (drilling template). Place it on the wall at a suitable installation position and use a level ruler to level it. Mark the installation holes with a marker.
- Drill holes at the marked positions using an electric drill with a 12 mm bit.

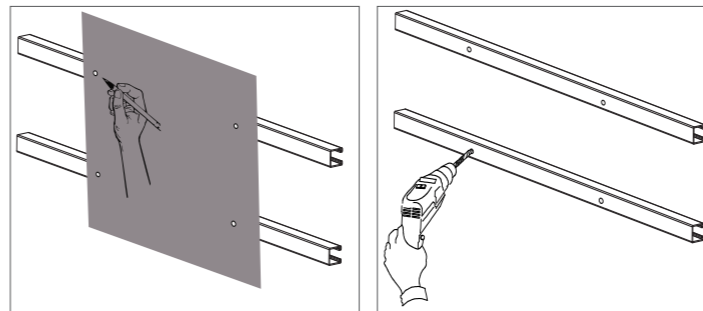


- Drive the M10 stainless steel expansion bolts (user-supplied) into the holes. Remove the bolts (A) and washers (B) for later use, leaving the sleeves (C) and expansion cones (D) in the wall.
- Two people are required to lift the unit and align the holes on mounting bracket with the expansion bolts. A third person secures the unit to the wall using the removed bolts (A) and washers (B).



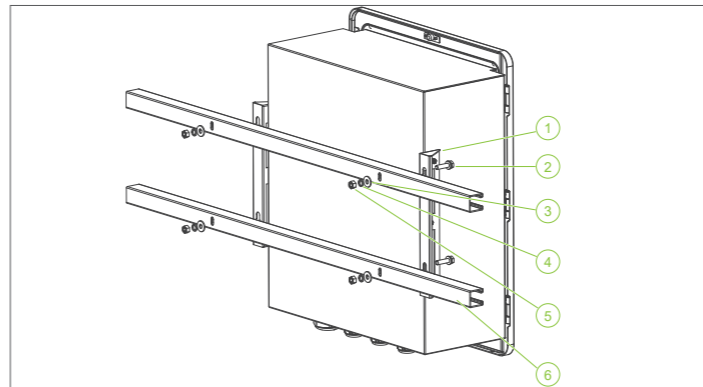
2.5.2 Bracket Mounting

- Remove the packing box cover (drilling template). Place it on the support bracket at the installation position and mark the installation holes with a marker.
- Drill holes at the marked positions using an electric drill with a 12 mm bit.



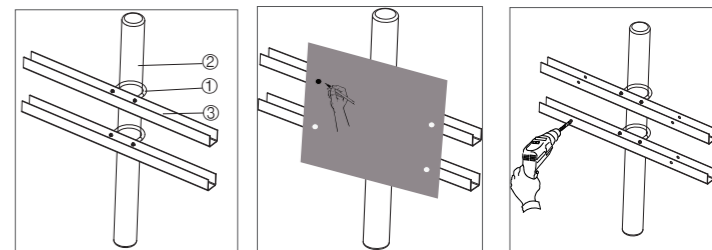
- Two people are required to lift the communication unit and align the holes on the mounting bracket (1) with the drilled holes on the support structure (6). A third person secures the unit as follows:
 - Insert the M10x50 screws (2) through the holes.
 - Secure using M10 flat washers (3), M10 spring washers (4), and M10 nuts (5).

Tool: 17 mm socket wrench; Torque: 25 N·m



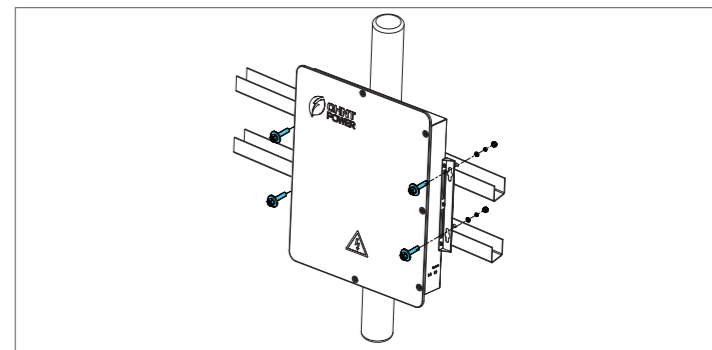
2.5.3 Pole Mounting

- Secure the support bracket (3) to the pole (2) using the pole clamps (1) and nuts. Ensure the bracket is mounted evenly to prevent tilting.
- Remove the packing box cover (drilling template). Place it on the support bracket at the installation position and mark the installation holes with a marker.
- Drill holes at the marked positions using an electric drill with a 12 mm bit.



- Two people are required to lift the communication unit and align the holes on the mounting bracket with the drilled holes on the support bracket. A third person secures the unit as follows:
 - Insert the provided M10x50 screws through the holes.
 - Secure using M10 flat washers, M10 spring washers, and M10 nuts.

Tool: 17 mm socket wrench; Torque: 25 N·m



NOTICE Ensure the support bracket is evenly mounted on the pole and the device is centered on the bracket. Unbalanced installation may cause the device to tilt or fall.

3. Electrical Connection

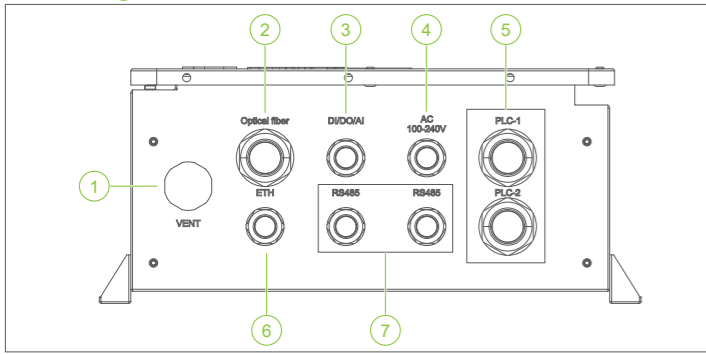
DANGER

- Electrical connections must comply with all applicable national electrical standards and local regulations.
- Disconnect all upstream and internal power switches and circuit breakers before opening the door.
- Use certified protective gear and insulated tools to prevent electric shock or short circuits.
- Take protective measures to prevent moisture ingress if opening the door in rainy or snowy conditions.

3.1 Cable Specification

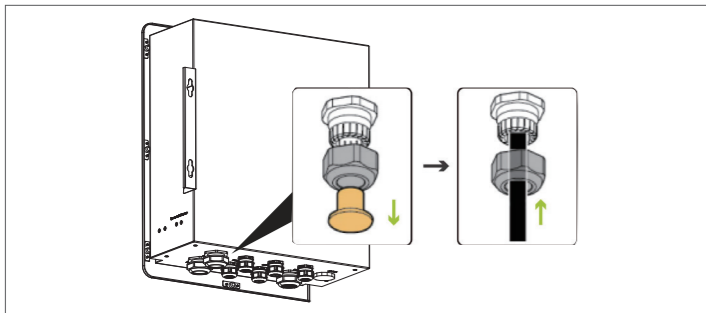
No.	Type	Specification	CSA Range / Recommended
1	Three-phase AC Cable	Three-core outdoor copper cable; working voltage to ground ≥ 800 V	4–10 mm ² / 10 mm ²
2	Single-phase AC Cable	Two-core outdoor copper cable; working voltage to ground ≥ 300 V	4–6 mm ² / 4 mm ²
3	RS485 Communication Cable	Computer cable for outdoor use (DJYP2VP2-22 2×2×1) or armored shielded twisted pair cable	1.5–2.5 mm ² / 1.5 mm ²
4	DI/DO/AI Signal Cable	Two-core or multi-core outdoor copper cable	0.2–1.5 mm ² / 1.5 mm ²
5	Fiber Optic Patch Cord	Single-mode Single-core LC-LC	–
6	External Grounding Cable	Outdoor copper cable and OT-M6 terminal	6–16 mm ² / 16 mm ²

3.2 Wiring Interfaces



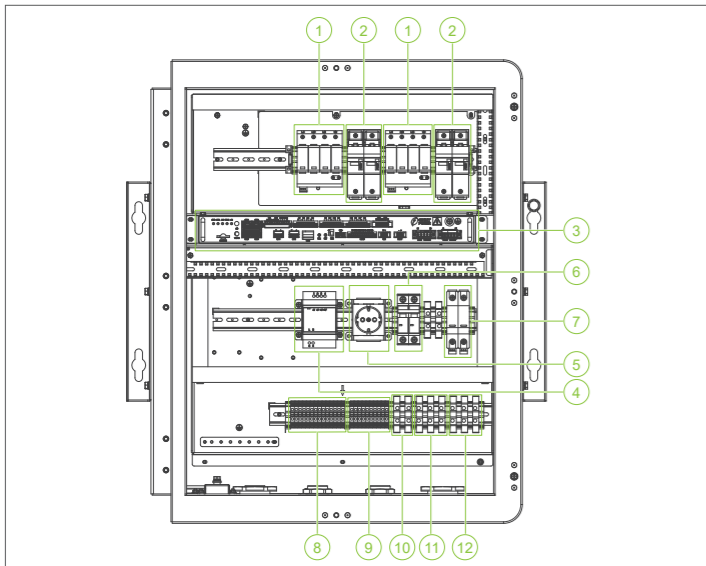
No.	Name	Purpose
1	Vent Valve	For releasing internal pressure
2	Waterproof Fiber Optic Cable Gland	For connecting fiber optic cable
3	Waterproof DI/DO/AI Signal Cable Gland	For connecting DI/DO/AI signal cable
4	Waterproof single-phase AC Cable gland	For connecting single-phase AC cable
5	Waterproof three-phase AC Cable gland	For connecting three-phase AC cable
6	Waterproof Ethernet Cable Gland	For connecting Ethernet cable
7	Waterproof RS485 Communication Cable Gland	For connecting RS485 communication cable

Before wiring, unscrew the cable glands according to the wiring requirements for threading, as shown below:



3.3 Cable Connection

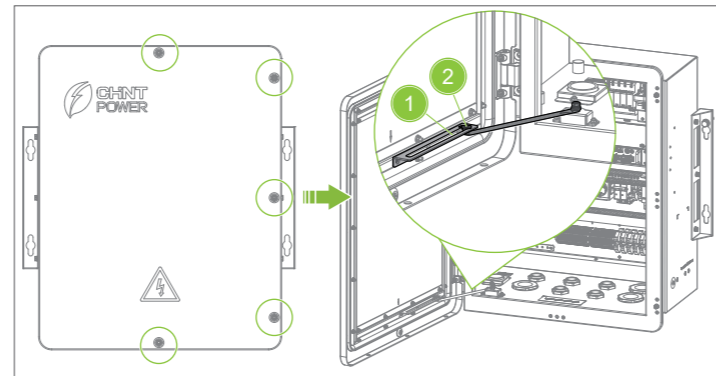
The internal modules of the SCU100S-00-EU Smart Communication Unit are shown in the following figure.



- Three-phase AC SPD (Surge Protective Device)
- Three-phase AC fuse
- Smart Data Logger
- Power Supply Module
- Maintenance Socket
- Miniature Circuit Breaker
- Single-phase AC SPD
- DI/DO/AI Terminal
- RS485 Terminal
- Single-phase Input terminal
- Three-phase Input terminal 1
- Three-phase Input terminal 2

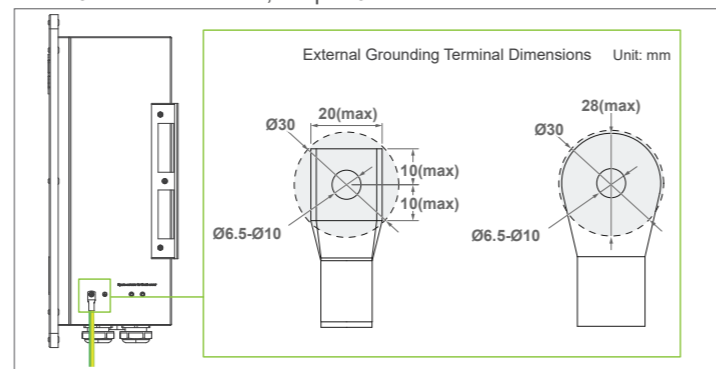
3.3.1 Preparation Before Wiring

Use a 5mm hex wrench to remove the five screws on the front cover and open the front cover; then place the moving end of the support rod (2) into the slot (1) of the slide rail to secure the top cover.



3.3.2 External Grounding

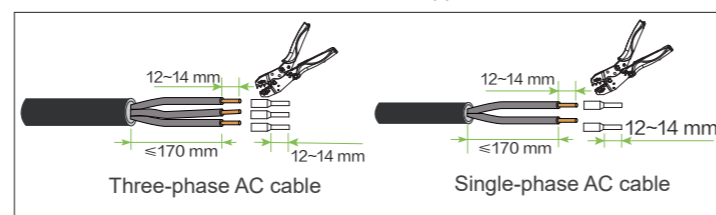
Connect grounding cable to the grounding hole at the lower-right corner outside the communication unit using the M6x16 screw. Tool: 10mm socket wrench; Torque: 6 N.m.



Note: After wiring, the external grounding point needs to be coated with glue or paint. Other sizes of grounding cables that meet local standards and safety regulations can also be used for grounding connections. But CHINT shall not be liable for any damage caused.

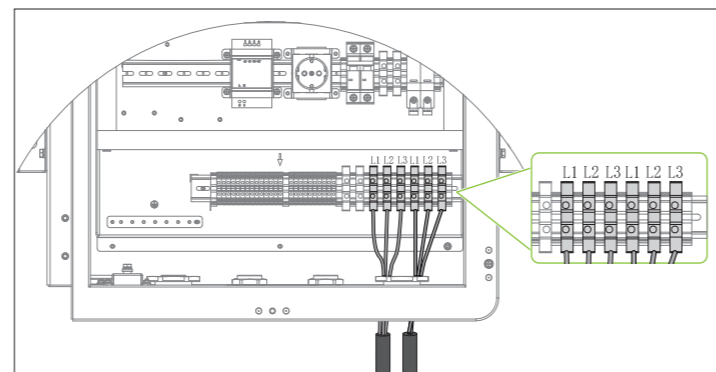
3.3.3 AC Cable Connection

1. Preparation: Strip the jacket and insulation of the AC cable to the specified length (see figure below). Insert the conductors into the cord end terminal until the insulation touches the terminal collar. Crimp the metal barrel firmly. Note: The cord end terminals are user-supplied.

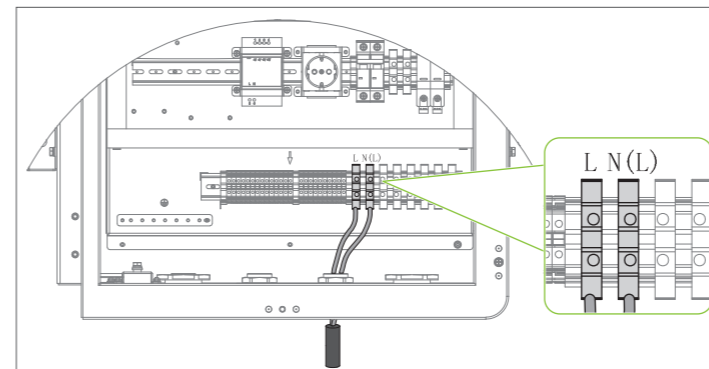


2. Connection: Route the cables into the communication unit. Insert the crimped wires into the corresponding terminals and tighten the screws. Tool: No. 2 Phillips screwdriver; Torque: 1.3 N.m

- Three-phase AC Cables: Connect to the Three-phase input terminal (PLC)

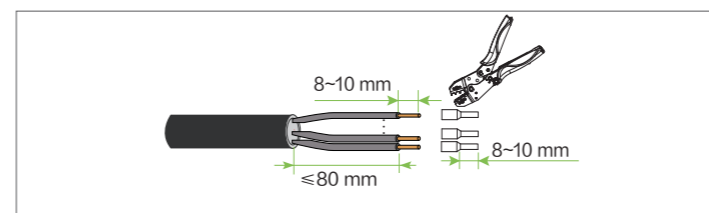


- Single-phase AC Cable: Connect to the Single-phase input terminal (100Vac-260Vac)



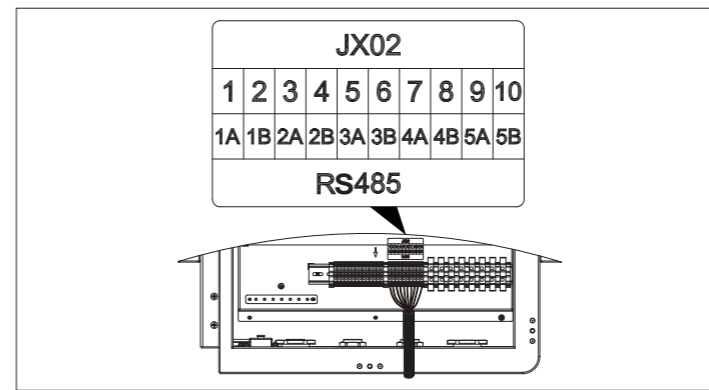
3.3.4 RS485 Cable and DI / DO / AI Cable Connection

1. Preparation: Strip the jacket and insulation of the RS485 cable and DI / DO / AI cable to the specified length (see figure below). Insert the conductors into the cord end terminal until the insulation touches the terminal collar. Crimp the metal barrel firmly. Note: The cord end terminals are user-supplied.

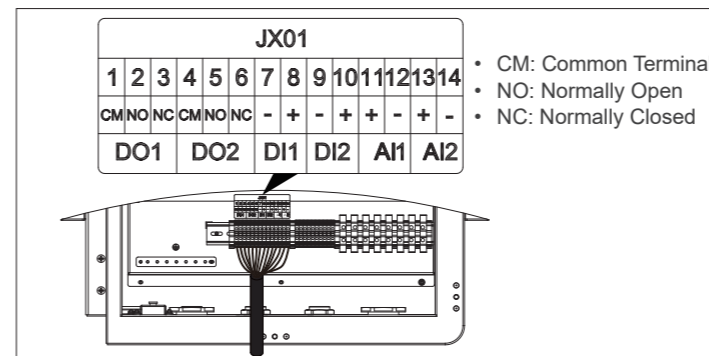


2. Connection: Route the cables into the communication unit. Insert the crimped wires into the corresponding terminals and tighten the screws. Tool: No. 1.5 Phillips screwdriver; Torque: 0.8 N.m

- RS485 Communication Cable



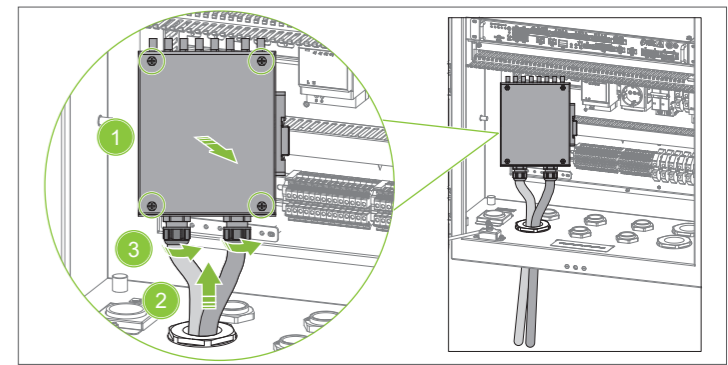
- DI / DO / AI Cable



3.3.5 Fiber Optic Terminal Box Installation

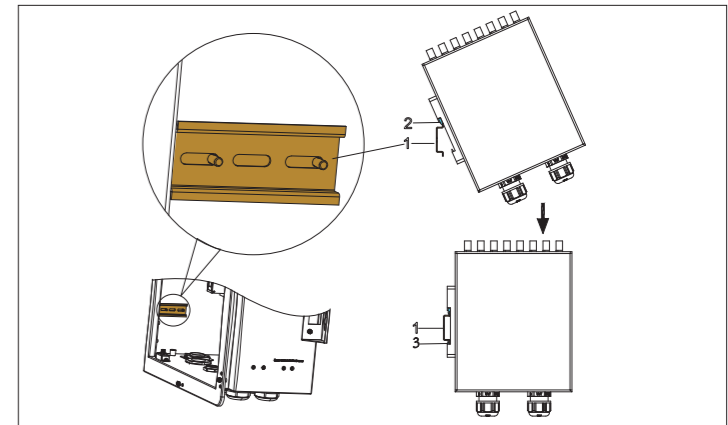
The SCU100S series is supplied with one fiber optic terminal box as standard. Additional terminal boxes can be installed on site if required. Install the terminal box as follows:

- Open the Terminal Box: Loosen the 4 screws on the cover of the Fiber Optic Terminal Box and remove the cover (see 1).
- Cable Entry: Loosen the fiber optic cable gland at the bottom of the communication unit. Route the external fiber optic cable into the unit through this gland (see 2).
- Splicing: Insert the fiber cable into the terminal box through its entry gland (see 3). Have a qualified professional splice the fibers and wind the excess length securely onto the internal splice tray.

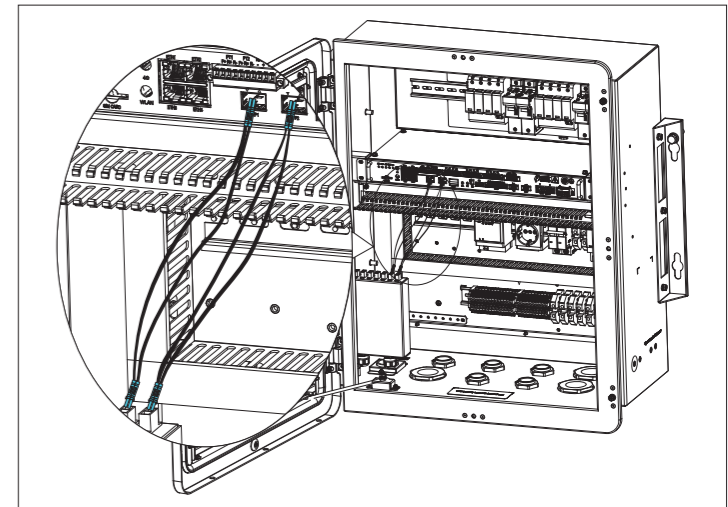


4. Closing the Box: Once wiring is complete, reattach the cover and tighten the 4 screws.

5. Mount the Wired Terminal Box onto the Rail: Hook the upper spring clip (2) onto the top edge of the DIN rail (1), then press the bottom of the box (3) until it snaps into place (click sound) to ensure it is securely fixed.

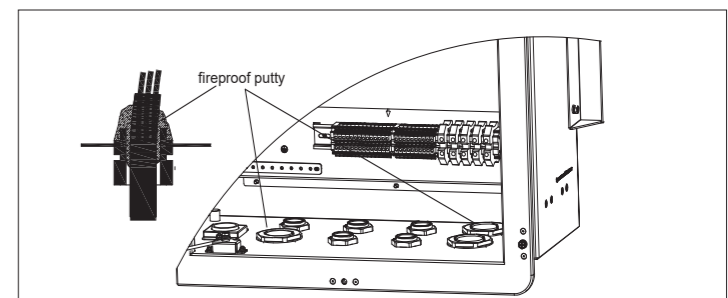


6. Connecting Patch Cords: Connect one end of the fiber optic patch cord to the terminal box and the other end to the SFP 1 (Optical Module 1) and SFP 2 (Optical Module 2) ports of the Data Logger until you hear a "click".



3.4 Finishing Installation

1. Cable Management & Sealing: Adjust the positions of all cables inside the cabinet. Tighten the cable gland nuts at the bottom to secure the cables, and apply fireproof mud (sealing compound) to the cable entries to prevent moisture ingress.



2. Closing the Unit: Retract the support rod on the front cover. Close the cover and tighten the original 5 screws to complete the installation. Torque: 3 N.m