SUNGROW
Clean power for all

Quick Installation Guide

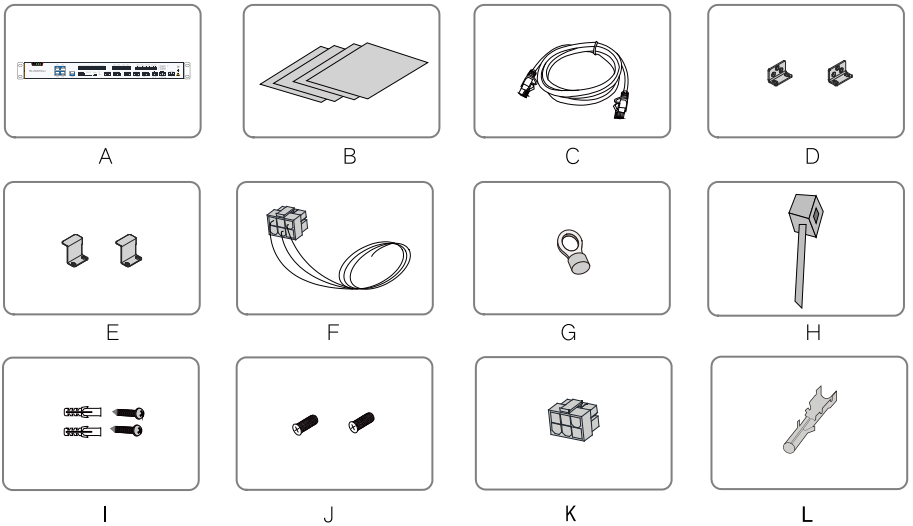
Data Logger

Logger4000

Logger4000-QIEN-Ver22-202211

1 Unpacking and Inspection

Check the package and remove the internal accessories.

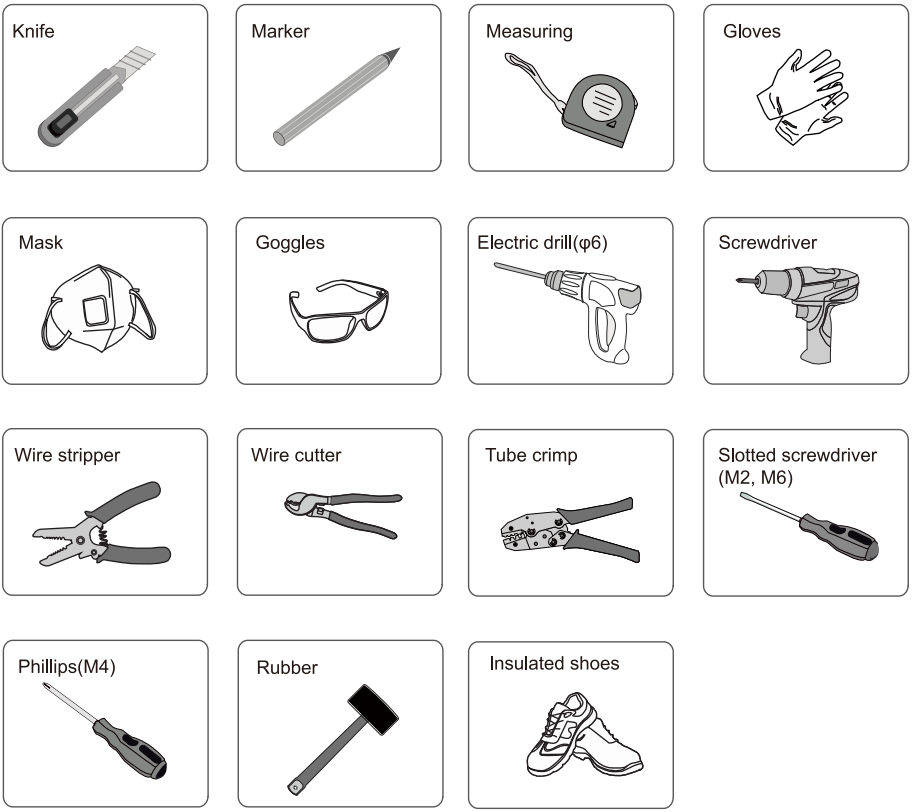


No.	Name	Description
A	Logger4000	-
B	Documents	Quick installation guide, quality certificate,packing list, product test report, and warranty card
C	Ethernet cable	1
D	Mounting ear	2
E	Bottom supporter	2
F	PLC cable	-
G	OT terminal	2
H	Nylon cable tie	10
I	Tapping screw assembly	8, including ST4.8x19 expansion bolts and tapping screws, used for wall-mounted installation

No.	Name	Description
J	Fastener assembly	6, M4x8 cross recessed countersunk head screws, used to anchor the mounting ears to the Logger4000
K	Socket	1
L	Pin	6

If anything is missing or damaged, please contact the supplier.

2 Installation Tools



3 Typical Application Scenarioes

Connection through Sore Switch

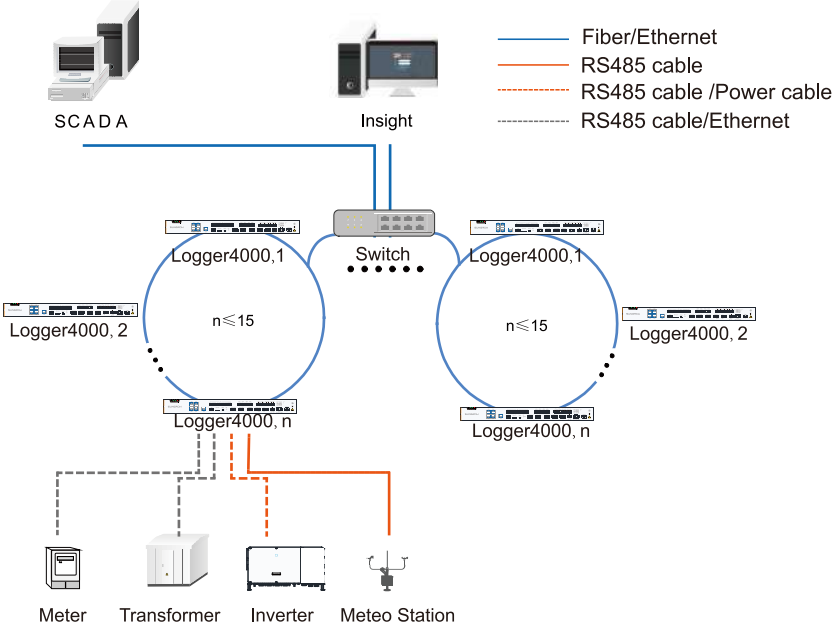


Fig3-1 Ring networking

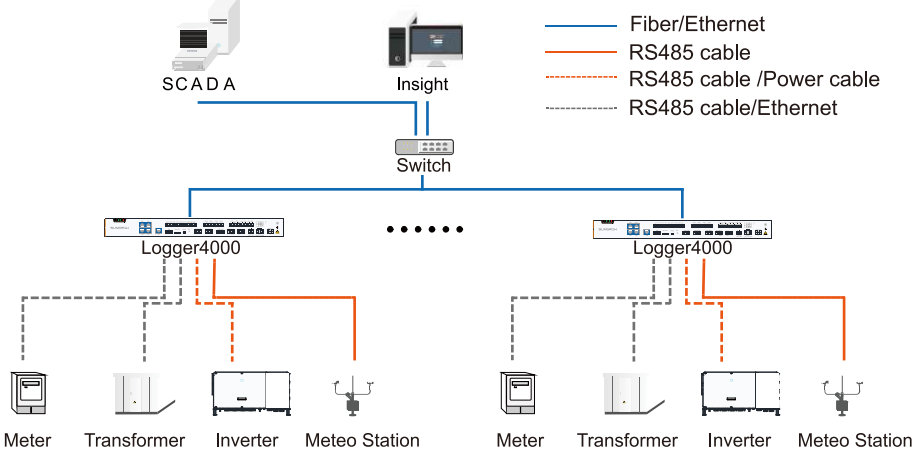
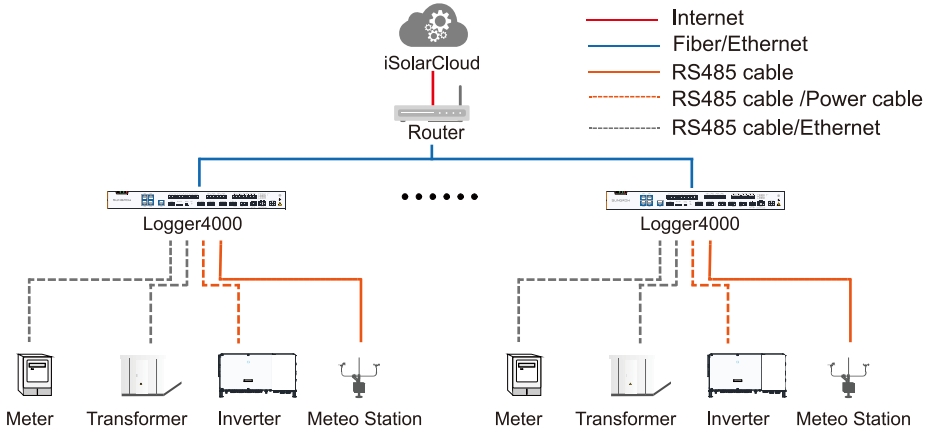


Fig3-2 Star networking

Connection through Router



4 Mechanical Installation

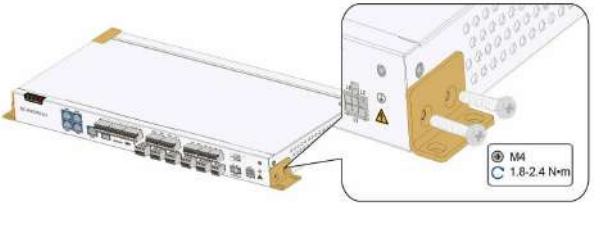
4.1 Wall-Mounted Installation

DANGER

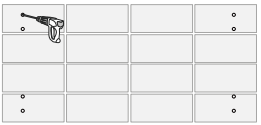
Avoid drilling holes in the utility pipes and/or cables attached to back of the wall!

Turn on the vacuum cleaner and wear safety goggles and dust mask throughout the drilling process to avoid dust inhalation or contact with eyes.

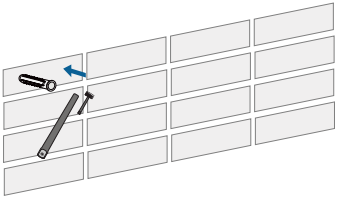
step1: Install Mounting Ears and Bottom Supporters

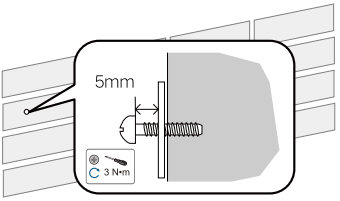


step2: Drill the holes with a hammer drill of φ6mm.



step3: Fixing the Logger4000



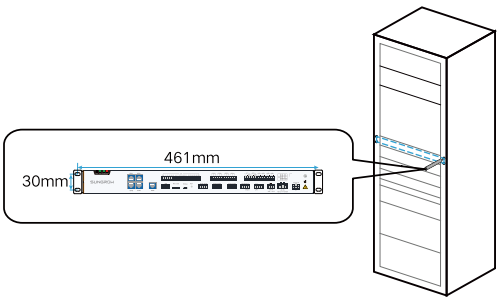


4.2 Rack-mounted Installation

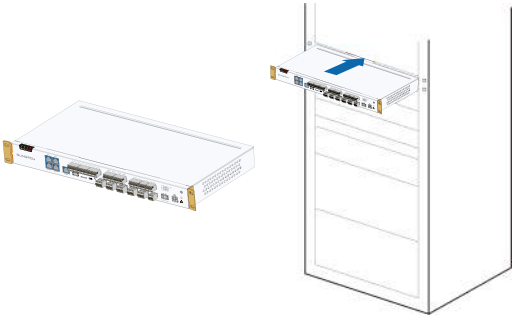
Use 1U standard rack in case of the rack-mounted installation.

step1: Installing Mounting Ears

step2: Drill holes on the rack with a hammer drill of φ6mm.



step3: Fixing the Logger4000



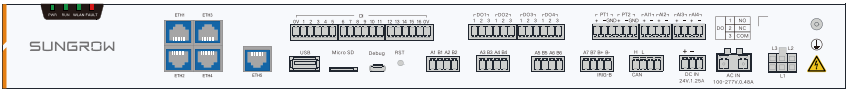
5 Electrical Connection

⚠ NOTICE

Incorrect wiring will cause device damage or even personal injury.

All cables must be intact, well insulated, appropriately dimensioned, and firmly connected.

5.1 Port Introduction



Identifier	Name	Recommended cable	Description
ETH1~ETH2	Ethernet port	-	Can be connected to the background through devices like switch and router.
ETH3~ETH4	Fast dispatch port	-	Used for active and reactive fast scheduling using Goose.
ETH5	Ethernet port	-	Reserved for master/standby functions.
DI	Digital input	0.75mm² outdoor anti-ultraviolet wire	Passive dry contact input port
USB	USB port	-	Reserved

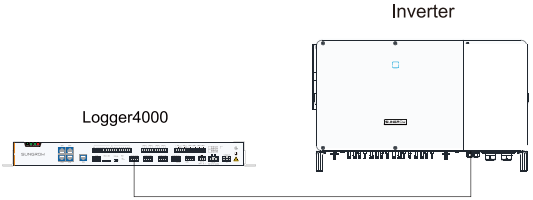
Identifier	Name	Recommended cable	Description
Micro SD	SD port	-	Used for software programming (this port is only available to SUNGROW technicians)
Debug	Debug port	-	Used for debugging of Logger4000
RST	Reset	-	Press and hold (> 30s) to restart Logger4000 and restore factory settings Short press (< 3s), function reserved
DO1~DO4	Digital output	0.75mm² outdoor anti-ultraviolet wire	Relay output interface Relay specification: 250Vac/1A or 30Vdc/1A
PT1, PT2, AI1~AI4	Analog input	0.75mm² outdoor anti-ultraviolet wire	PT100/PT1000 detect range: -30℃~120℃ Two-wire or three-wire connection method AI1: 0~10Vdc AI2~AI4: 4~20mA
A1B1~A7B7	RS485 communication interface	2 x (0.75~1.5)mm² outdoor anti-ultraviolet twisted pair with a shielding layer	Support of 7 inputs of RS485 Can be connected to both slave device and background
IRIG-B	Inter-Range Instrumentation Group-Time Code Format B	-	Reserved
CAN	CAN communication port	-	Reserved
DC IN 24V,1.25A	DC24V power supply port	1~1.5mm² outdoor anti-ultraviolet wire	If the current is ≤1.25A, the switch mode power supply at this port requires reinforced insulation.
AC IN 100–277V ,0.48A	AC power supply port	1~1.5mm² outdoor anti-ultraviolet wire	Connecting 100~277Vac (50/60Hz), current≤0.48A
⏚	Grounding hole	1~1.5mm² outdoor anti-ultraviolet wire	Connecting protective grounding cable
L1, L2, L3	MPLC communication interface	0.5~0.75mm², cable withstand voltage:cable grounding working voltage ≥ 1000 V	Can be connected to string inverters equipped with PLC communication function

5.2 Connecting to the Inverter

5.2.1 Connecting to the Device with RS485 Port

Connecting to a Single Inverter

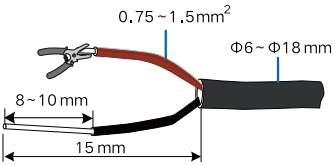
Insert the communication cable led from the inverter to any RS485 port (A1B1–A7B7) of the Logger4000.



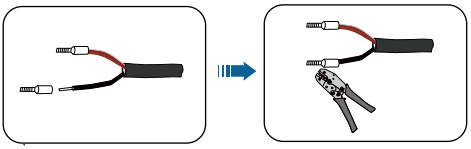
Connecting to Multiple Inverters

Multiple inverters are connected to the Logger4000 in the RS485 daisy chain manner.

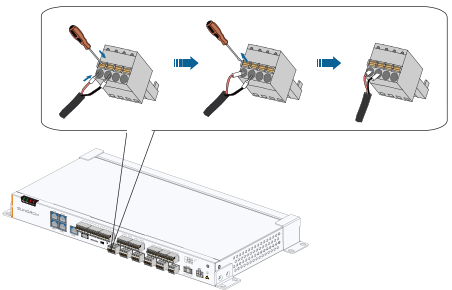
step1: Striping Cables



step2: Crimp the wiring terminal.

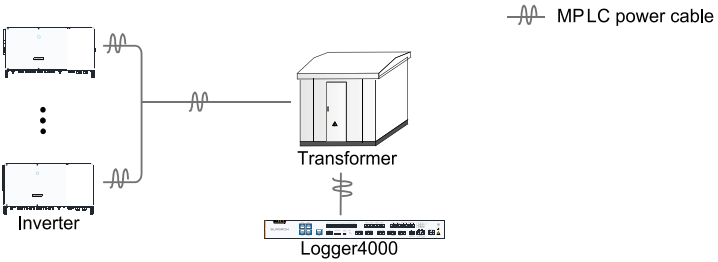


step3: Connecting Methods



5.2.2 Connecting to the Inverter with MPLC Port

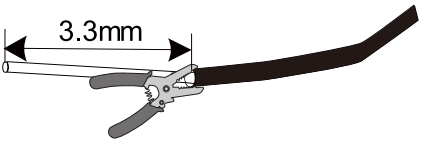
Integrated with MPLC master node, the Logger4000 can be connected to the inverter integrated with MPLC slave node and achieve MPLC communication by using existing power cable.



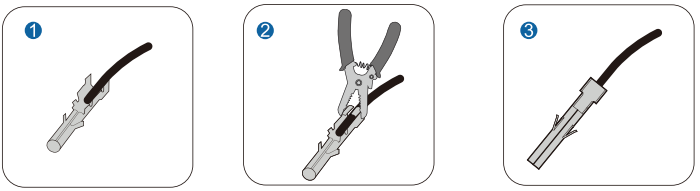
Preparation before wiring

- Disconnect the transformer from the grid.
- Disconnect the DC side of the inverter and make sure the system is in safe state.
- If the MPLC cable in the scope of delivery is found short on site, prepare the MPLC cable referring to the following steps.

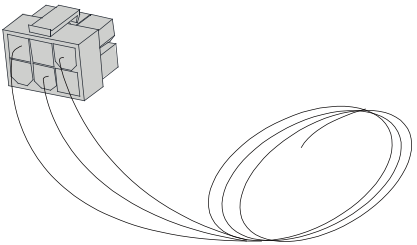
1. Strip the protection layer of the MPLC cable with a wire stripper, as shown in the figure below.



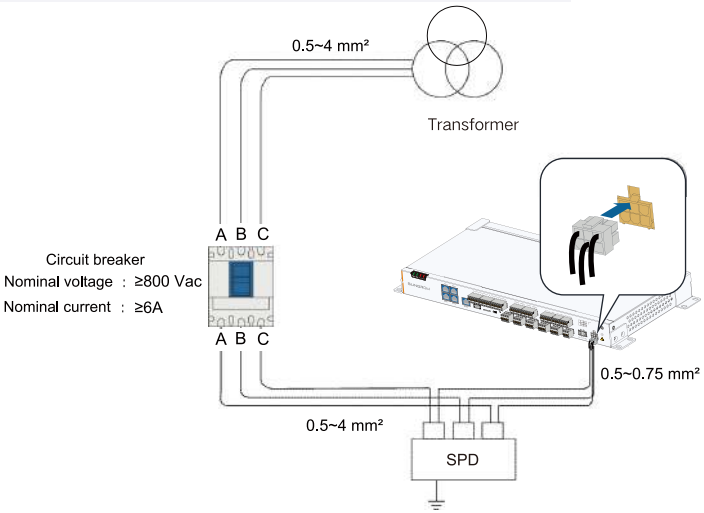
2. Install the pin on the MPLC cable after the protective layer has been removed, and crimp the MPLC cable using crimping tools. Prepare three MPLC cables with pins.



3. Connect the pins of the cables to the socket, as shown in the following figure.



step1: Connecting Methods



⚠ NOTICE

- Isolation voltage of the MPLC cable should be greater than 1,000V, recommended cable specification: 0.5~0.75mm²
- MPLC cable must be connected to an additional SPD with the protection degree of 3. Otherwise, device damage may occur.

NOTICE

- The built-in MPLC module of the Logger4000 supports AC voltage less than 1000V.
- In case of MPLC communication, the distance between the Logger4000 and the inverter should be no more than 1,000m.

NOTICE

MPLC networking is intended for medium voltage grid-connection. If low voltage grid-connection is desired, observe the following two conditions:

- Never connect a load between the Logger4000 and the MPLC slave node.
- The distance between the Logger4000 and the load should be greater than 20m, that is, the LV grid-connection point should be more than 20m away from the nearest load distribution line. The load includes air conditioners, machines, motors, etc.

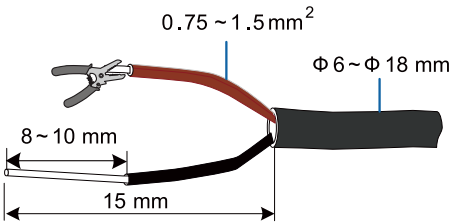
NOTICE

In case of MPLC communication, note that:

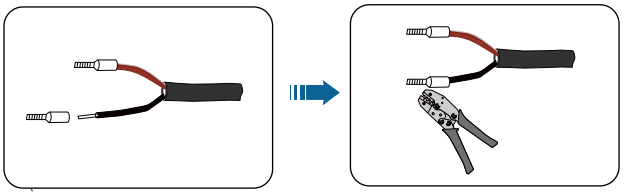
- Electrical connection between the inverter and its downstream transformer has been correctly performed.
- Input and output circuit breakers of the Logger, inverter, and transformer are connected.

5.3 Connecting to the Meteo Station

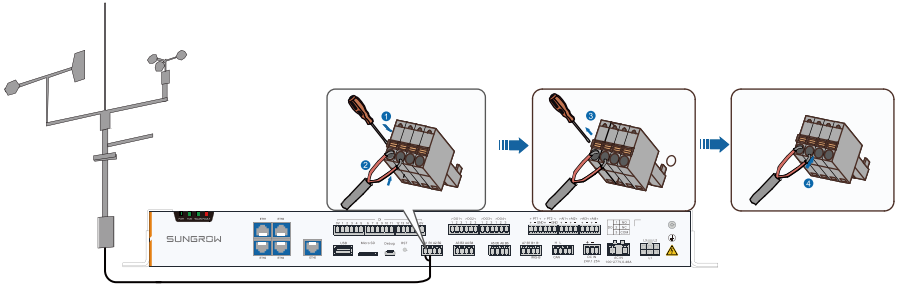
step1: Striping Cables



step2: Crimp the wiring terminal.



step3: Connecting Methods



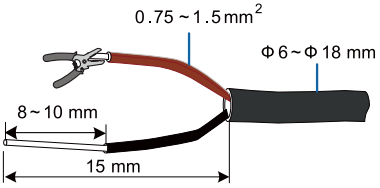
5.4 Connecting to the Energy Meter

The Logger can be connected to the energy meter through the RS485 port or the Ethernet port. Specifically, refer to the table below.

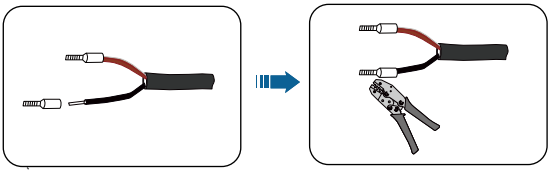
Energy Meter	Communication Port	Port Definition	Protocol Type	Wiring Method
Wasion	24	RS485-A	Modbus RTU	RS485 Cable Connection
	25	RS485-B		
	26	Public		
	27	RS485-A		
	28	RS485-B		
Acrel	21	RS485-A	Modbus RTU	RS485 Cable Connection
	22	RS485-B		
Weidmuller EM610	17	RS485-A	Modbus RTU	RS485 Cable Connection
	16	RS485-B		
Janitza UMG604	22	RS485-B	Modbus RTU	RS485 Cable Connection
	23	RS485-A		
	Ethernet	Ethernet	Modbus TCP	Ethernet Cable Connection

Method1 RS485 Cable Connection

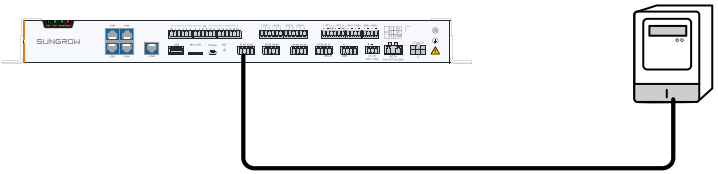
step1: Striping Cables



step2: Crimp the wiring terminal.



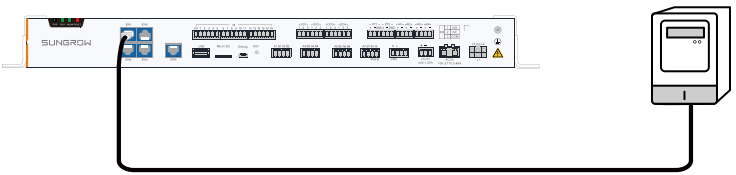
step3: Connecting Methods



Method2 Ethernet Cable Connection

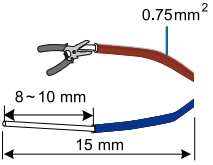
Connect the "Ethernet" port of the energy meter and the "ETH1,ETH2,ETH5" port of the Logger with a network cable.

step1: Connecting Methods

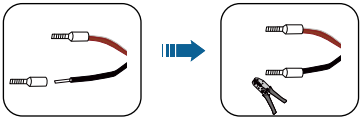


5.5 Wiring of DI Signal

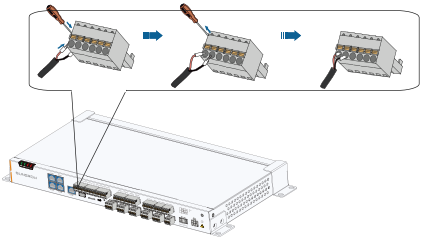
step1: Striping Cables



step2: Crimp the wiring terminal.



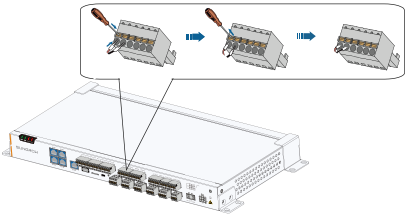
step3: Connecting Methods



5.6 Wiring of DO Signal

step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

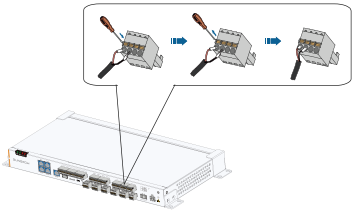
step3: Connecting Methods



5.7 Wiring of AI Signal

step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

step3: Connecting Methods

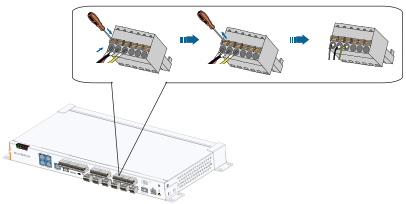


5.8 Wiring of PT Signal

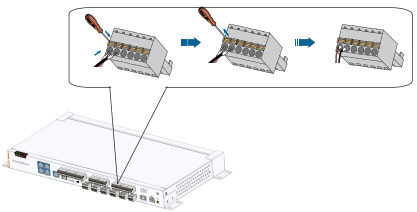
step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

step3: Connecting Methods

3–wire PT100/PT1000 connection:

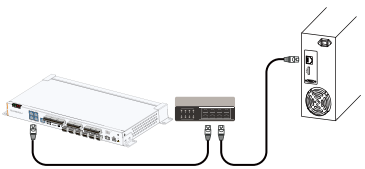


2–wire PT100/PT1000 connection:



5.9 Connecting to the Remote Monitoring Device

step1: Connecting Methods



step2: Configure network parameters.

Please refer to Step 1 in Commissioning Steps to set the default IP address of Ethernet ports (ETH1, ETH2, ETH5).

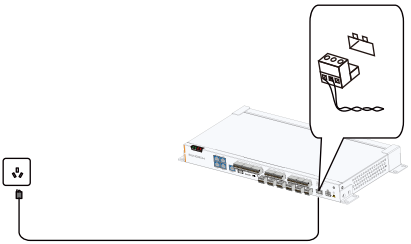
If the DHCP function is enabled for Ethernet ports (ETH1,ETH2,ETH5), it is available to read the IP address of the Ethernet port after connecting it to a router.

5.10 Connecting to the AC Power Supply

The Logger4000 can be connected to a power source with voltage ranging from 100 to 277Vac.

step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

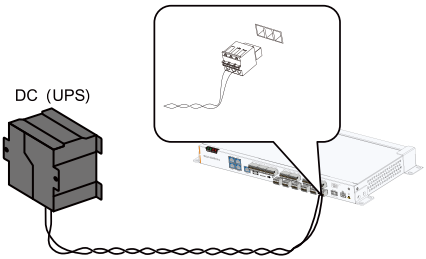
step3: Connecting Methods



5.11 Connecting to the DC Power Supply

step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

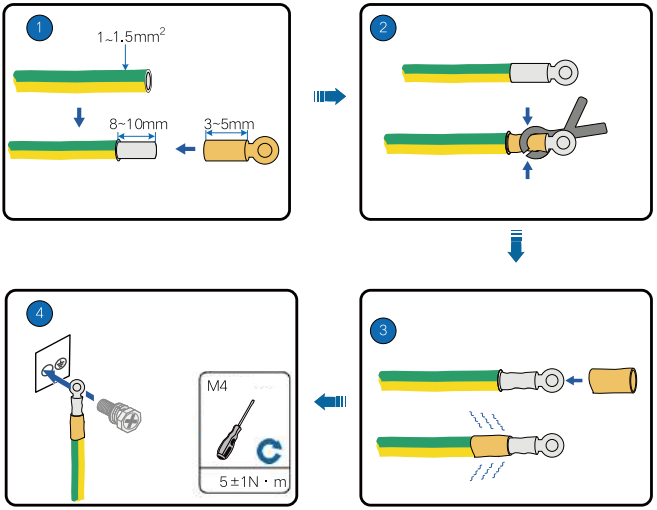
step3: Connecting Methods



5.12 Earthing Connection

NOTICE

The grounding cable should be grounded reliably. Otherwise,lethal electric shock may occur in case of fault; and the device may be damaged due to lightning.



6 Commissioning

Inspection before Commissioning

No.	Inspection item
1	All cables are intact, well-insulated, and appropriately dimensioned
2	All cables are connected correctly and firmly
3	The polarity of the power supply cable is correct. The grounding cable is reliably grounded

Commissioning Steps

No.	Description
1	Connect the commissioning PC to one of ETH1, ETH2, ETH5 ports of the logger with a network cable. ETH1, Default IP: 12.12.12.12, Virtual IP: 15.15.15.15 ETH2, Default IP: 13.13.13.13, Virtual IP: 16.16.16.16 ETH5, Default IP: 14.14.14.14, Virtual IP: 17.17.17.17
2	Connect external power supply to power on Logger4000.

No.	Description
3	Observe whether the indicator RUN at the exterior of Logger4000 flickers normally.
4	Access the default IP address of the connected port using Internet Explorer, Safari, or Chrome.
5	Configure serial port parameters on the Web interface.
6	Add PV devices connected to Logger4000 to the Web interface by means of searching or manual adding.
7	Configure IP address.
8	Configure iSolarCloud address if inverter data needs to be uploaded to iSolarCloud. Accessed iSolarCloud site is "Chinese Server" by default. In mainland Chain, set the site to "Chinese Server". In Europe, set the site to "European Server". In Austrlia, set the site to "Australian Server". In other regions, set the site to "International Server".
9	Access the Web interface of Logger4000 and check whether running data of string inverters manufactured by SUNGROW is normal.
10	Create power plants through iSolarCloud App, and check whether data displayed on iSolarCloud is normal.

More information in the QR code or
at http://support.sungrowpower.com

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