

# Quick Installation Guide

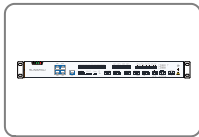
## Data Logger

Logger4000

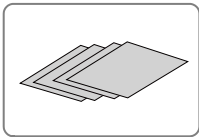


# 1 Unpacking and Inspection

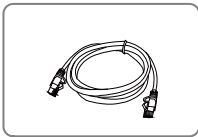
Check the package and remove the internal accessories.



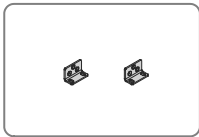
A



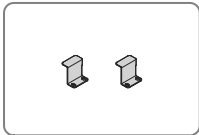
B



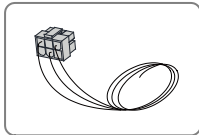
C



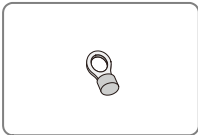
D



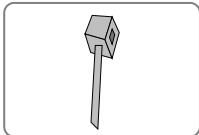
E



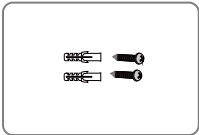
F



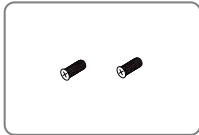
G



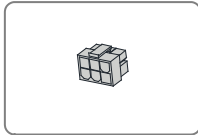
H



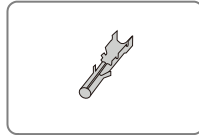
I



J



K



L

| 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

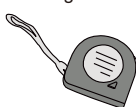
Knife



Marker



Measuring



Gloves



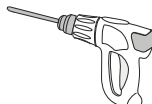
Mask



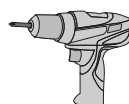
Goggles



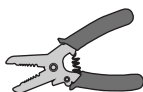
Electric drill(φ6)



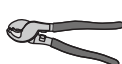
Screwdriver



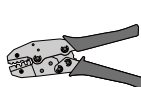
Wire stripper



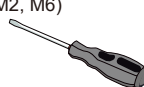
Wire cutter



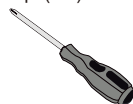
Tube crimp



Slotted screwdriver  
(M2, M6)



Phillips(M4)



Rubber



Insulated shoes



### 3 Typical Application Scenarios

#### Connection through Sore Switch

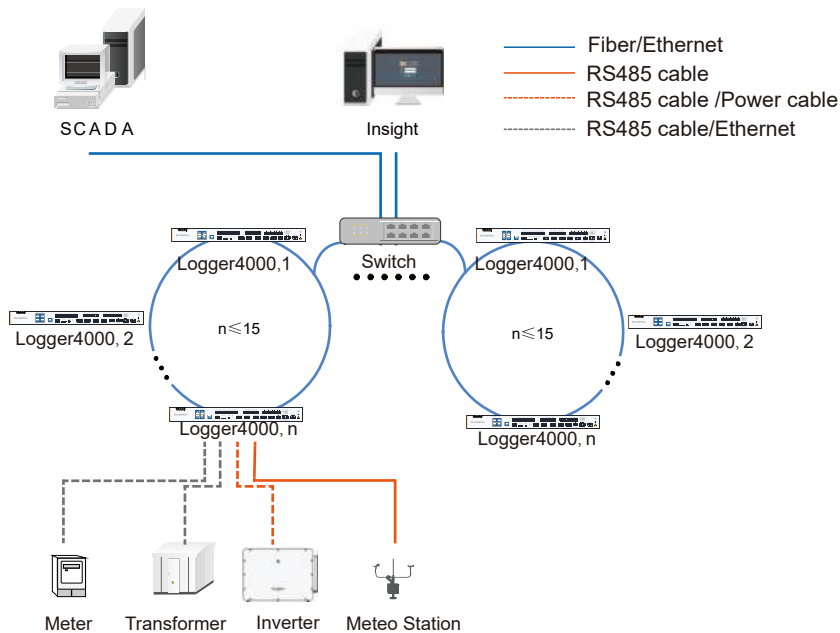


Fig3-1 Ring networking

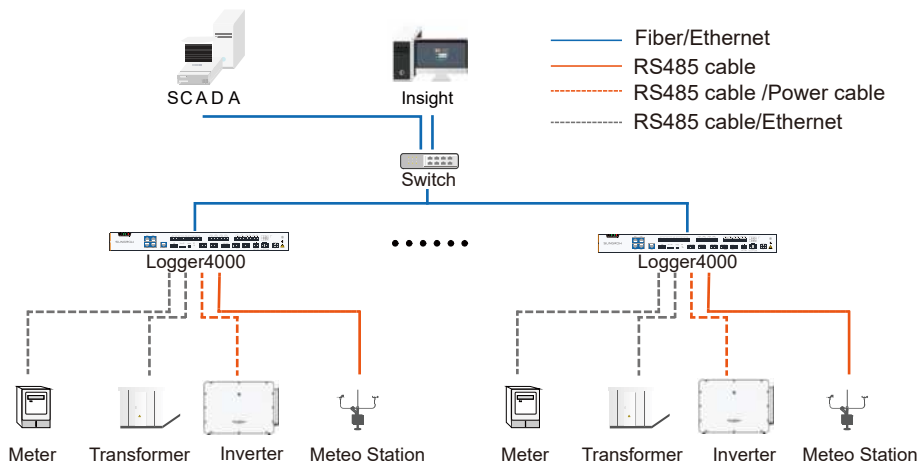
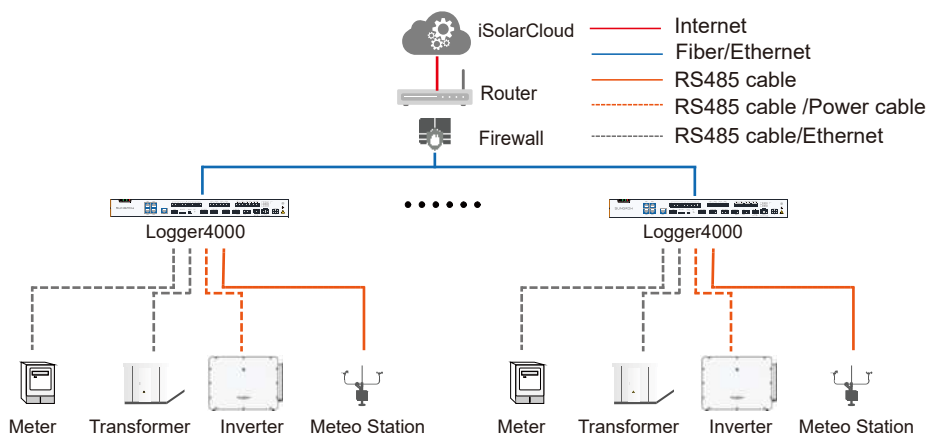


Fig3-2 Star networking

## Connection through Router



- iSolarCloud is no longer available in North America.
- The router and firewall are not included in the scope of delivery and need to be prepared by the customer.
- The data forwarding function of the Data Logger is disabled by default.

Prior to activation, the user must provide explicit consent with full awareness and establish a secure connection to the public network through encrypted authentication. Remote access is only valid after authorization, and all operations are logged for audit and traceability purposes.

## 4 Mechanical Installation

### 4.1 Wall-Mounted Installation

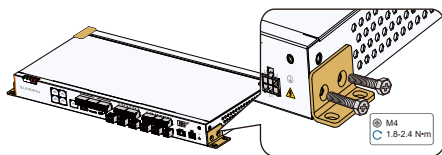
#### DANGER

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

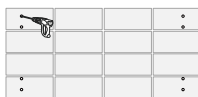


Turn on the vacuum cleaner and wear safety goggles and dust mask throughout the drilling process to avoid dust inhalation or contact with eyes.

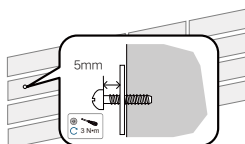
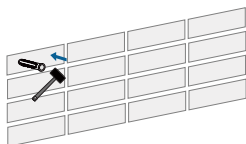
### step1: Install Mounting Ears and Bottom Supporters



### step2: Drill the holes with a hammer drill of $\phi 6\text{mm}$ .



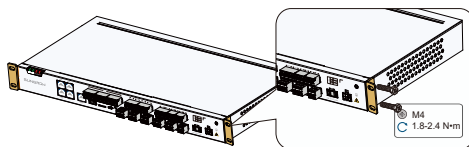
### step3: Fixing the Logger4000



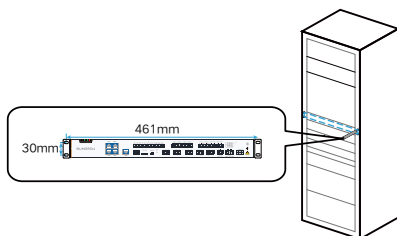
## 4.2 Rack-mounted Installation

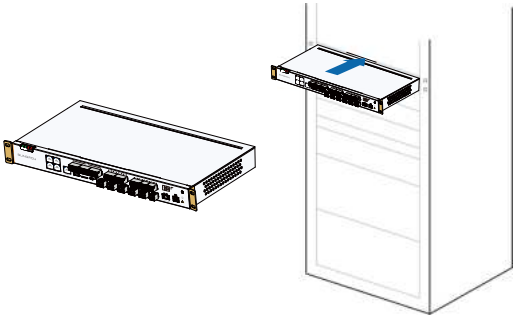
Use 1U standard rack in case of the rack-mounted installation.

### step1: Installing Mounting Ears



### step2: Drill holes on the rack with a hammer drill of $\phi 6\text{mm}$ .





## 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      | 0.75mm <sup>2</sup> 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<br>Short press (< 3s), function reserved  |
| DO1~DO4                                                                            | Digital output                                       | 0.75mm <sup>2</sup> outdoor anti-ultraviolet wire                                           | Relay output interface<br>Relay specification: 250Vac/1A or 30Vdc/1A                                                |
| PT1, PT2, AI1~AI4                                                                  | Analog input                                         | 0.75mm <sup>2</sup> outdoor anti-ultraviolet wire                                           | PT100/PT1000 detect range: -30℃~120℃<br>Two-wire or three-wire connection method<br>AI1: 0~10Vdc<br>AI2~AI4: 4~20mA |
| A1B1~A7B7                                                                          | RS485 communication interface                        | 2 x (0.75~1.5)mm <sup>2</sup> outdoor anti-ultraviolet twisted pair with a shielding layer  | Support of 7 inputs of RS485<br>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                              | 1~1.5mm <sup>2</sup> 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                                 | 1~1.5mm <sup>2</sup> outdoor anti-ultraviolet wire                                          | Connecting 100~277Vac (50/60Hz), current≤0.48A                                                                      |
|  | Grounding hole                                       | 1~1.5mm <sup>2</sup> outdoor anti-ultraviolet wire                                          | Connecting protective grounding cable                                                                               |
| L1, L2, L3                                                                         | MPLC communication interface                         | 0.5~0.75mm <sup>2</sup> , 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

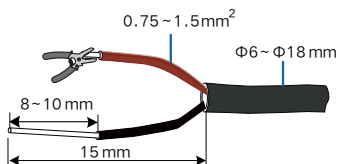
Insert the communication cable led from the inverter to any RS485 port (A1B1–A7B7) of the Logger4000.



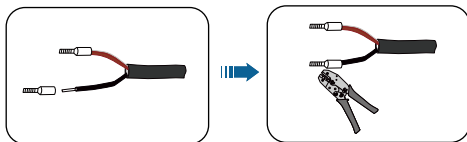
#### Connecting to Multiple Inverters

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

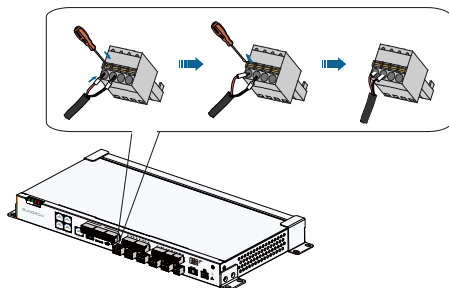
##### step1: Stripping Cables



##### step2: Crimp the wiring terminal.

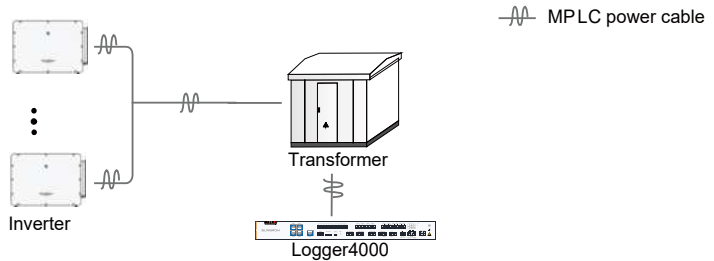


##### step3: Connecting Methods



### 5.2.2 Connecting to the Inverter with MPLC Port

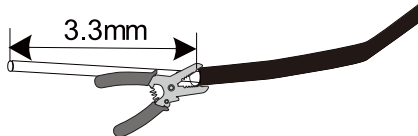
Integrated with MPLC master node, the Logger4000 can be connected to the inverter integrated with MPLC slave node and achieve MPLC communication by using existing power cable.



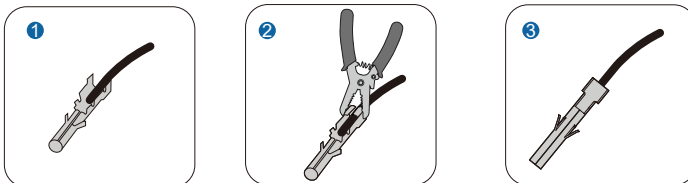
#### Preparation before wiring

- 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.

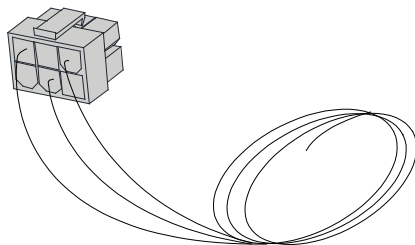
1. Strip the protection layer of the MPLC cable with a wire stripper, as shown in the figure below.



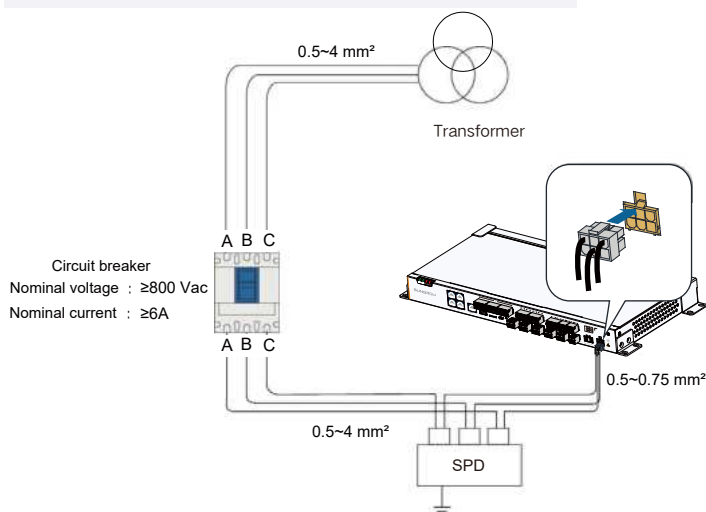
2. Install the pin on the MPLC cable after the protective layer has been removed, and crimp the MPLC cable using crimping tools. Prepare three MPLC cables with pins.



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.

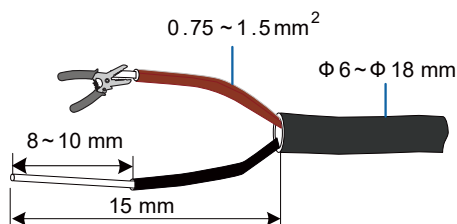
### ⚠ NOTICE

In case of MPLC communication, note that:

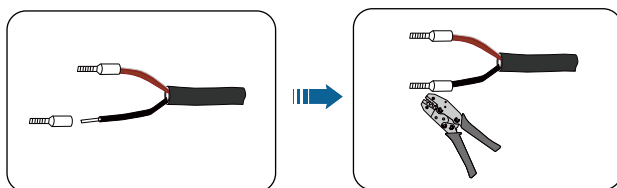
- Electrical connection between the inverter and its downstream transformer has been correctly performed.
- Input and output circuit breakers of the Logger, inverter, and transformer are connected.

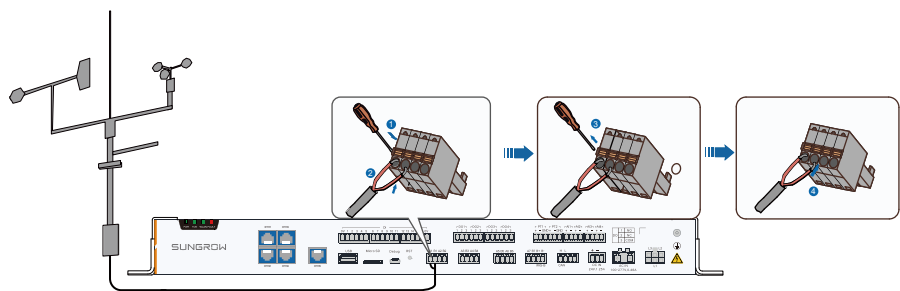
## 5.3 Connecting to the Meteo Station

### step1: Striping Cables



### step2: Crimp the wiring terminal.





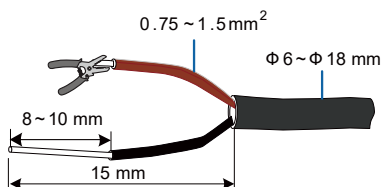
5.4 Connecting to the Energy Meter

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

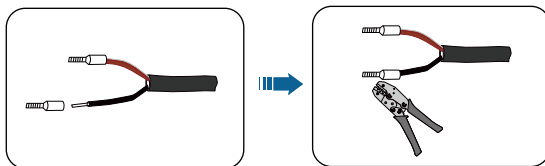
| Energy Meter     | Communication Port | Port Definition | Protocol Type | Wiring Method             |
|------------------|--------------------|-----------------|---------------|---------------------------|
| Wasion           | 24                 | RS485-A         | Modbus RTU    | RS485 Cable Connection    |
|                  | 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

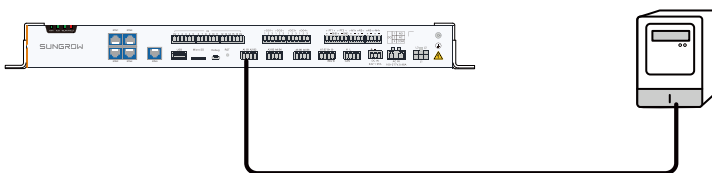
### step1: Stripping Cables



### step2: Crimp the wiring terminal.



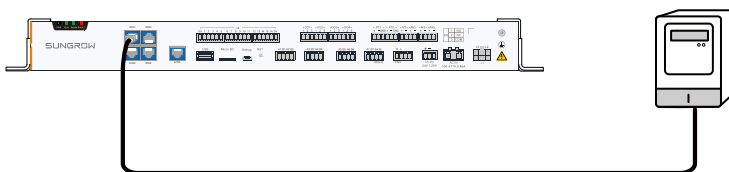
### step3: Connecting Methods



## Method2 Ethernet Cable Connection

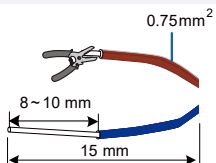
Connect the "Ethernet" port of the energy meter and the "ETH1,ETH2,ETH5" port of the Logger with a network cable.

### step1: Connecting Methods

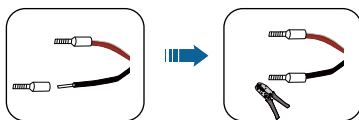


## 5.5 Wiring of DI Signal

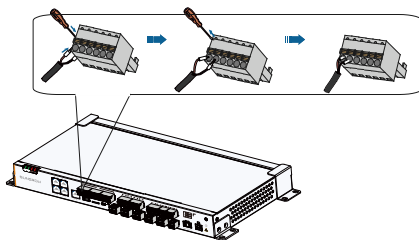
### step1: Stripping Cables



### step2: Crimp the wiring terminal.



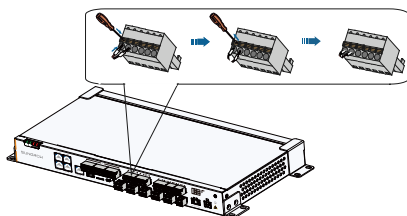
### step3: Connecting Methods



## 5.6 Wiring of DO Signal

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

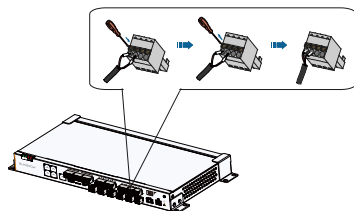
### step3: Connecting Methods



## 5.7 Wiring of AI Signal

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

### step3: Connecting Methods

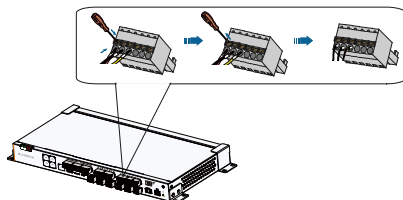


## 5.8 Wiring of PT Signal

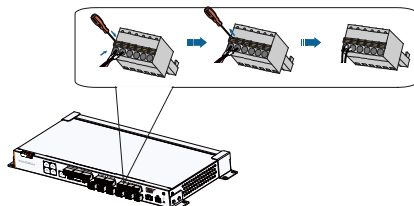
step1~2: Refer to steps 1 to 2 of the wiring of DI Signal

### step3: Connecting Methods

3-wire PT100/PT1000 connection:

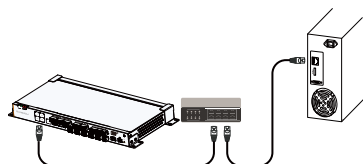


2-wire PT100/PT1000 connection:



## 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).

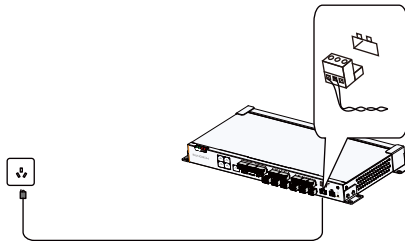
If the DHCP function is enabled for Ethernet ports (ETH1,ETH2,ETH5), it is available to read the IP address of the Ethernet port after connecting it to a router.

## 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

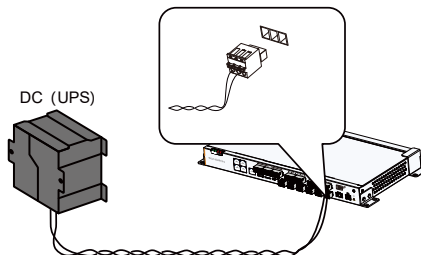
step3: Connecting Methods



## 5.11 Connecting to the DC Power Supply

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

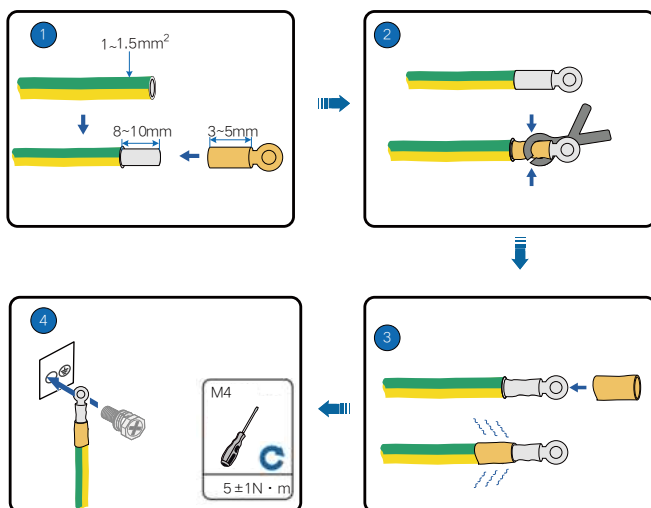
step3: Connecting Methods



## 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   | <p>Connect the commissioning PC to one of ETH1, ETH2, ETH5 ports of the logger with a network cable.</p> <p>ETH1, Default IP : 12.12.12.12, Virtual IP : 15.15.15.15</p> <p>ETH2, Default IP : 13.13.13.13, Virtual IP : 16.16.16.16</p> <p>ETH5, Default IP : 14.14.14.14, Virtual IP : 17.17.17.17</p> |
| 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   | <p>Configure iSolarCloud address if inverter data needs to be uploaded to iSolarCloud.</p> <p>Accessed iSolarCloud site is "Chinese Server" by default.</p> <p>In mainland China, set the site to "Chinese Server".</p> <p>In Europe, set the site to "European Server".</p> <p>In Austria, set the site to "Austrian Server".</p> <p>In other regions, set the site to "International Server".</p> |
| 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.                                                                                                                                                                                                                                                                                             |



iSolarCloud is no longer available in North America.



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