

Ai-Logger 2000

Quick Installation Guide



1 General information

This quick installation guide should be read together with the user manual. In case of doubt and uncertainties, the content in the user manual takes precedence over the content in this guide.

The contents of this guide may be updated or revised due to on-going product development and continuous improvement. The information in this guide is subject to change without notice. The latest version of this document and the user manual for installation, commissioning, configuration and decommissioning are to be found in PDF format at www.solplanet.net.

2 Safety

2.1 Intended use

The device is a compact solution for monitoring and managing multi-model composite systems. It integrates ports, converts protocols, collects data, and enables centralized monitoring and maintenance.

The product is intended for indoor applications only.

The logger collects comprehensive data from your solar plant, including inverters, smart energy meters, weather stations, environmental sensors, among other equipment.

The type label must be permanently attached to the product and must be in a legible condition.

This document does not replace any regional, state, provincial, federal or national laws, regulations or standards that apply to the installation, electrical safety and use of the product.

2.2 Important safety instructions

Before installing, operating, or maintaining the equipment, read this document thoroughly and follow all safety instructions (including those on the equipment).

DANGER

Touching the exposed conductors of the ABUS communication port may result in an electric shock hazard!

The communication line from the ABUS communication port is directly connected to the inverter's AC side. Contact with live conductors when the upstream switch is not disconnected will result in a fatal risk of electric shock.

- To use the ABUS communication port, install the the product in a restricted area.
- Before installing the communication line for ABUS communication port, the upstream AC circuit breaker must be turned off.
- Do not touch communication lines or connection terminals for ABUS communication during normal operation of the product.

DANGER

Damage to to electrical cables and utility service lines can cause personal injury!

Electrical cables or utility service lines (gas or water) may be mounted externally on walls.

- Ensure no cables or utility service lines mounted on the wall or inside the wall cavity are damaged when drilling.

NOTICE

High voltage with risk of electric shock.

- The ABUS communication port remains energized after disconnection and cannot be operated immediately. Wait at least 30 seconds for the capacitor to discharge before handling.

NOTICE

Damage to the product due to electrostatic discharge risk.

Internal components of the product can be irreparably damaged by electrostatic discharge.

- Always ground yourself before handling any component.

3 EU Declaration of Conformity

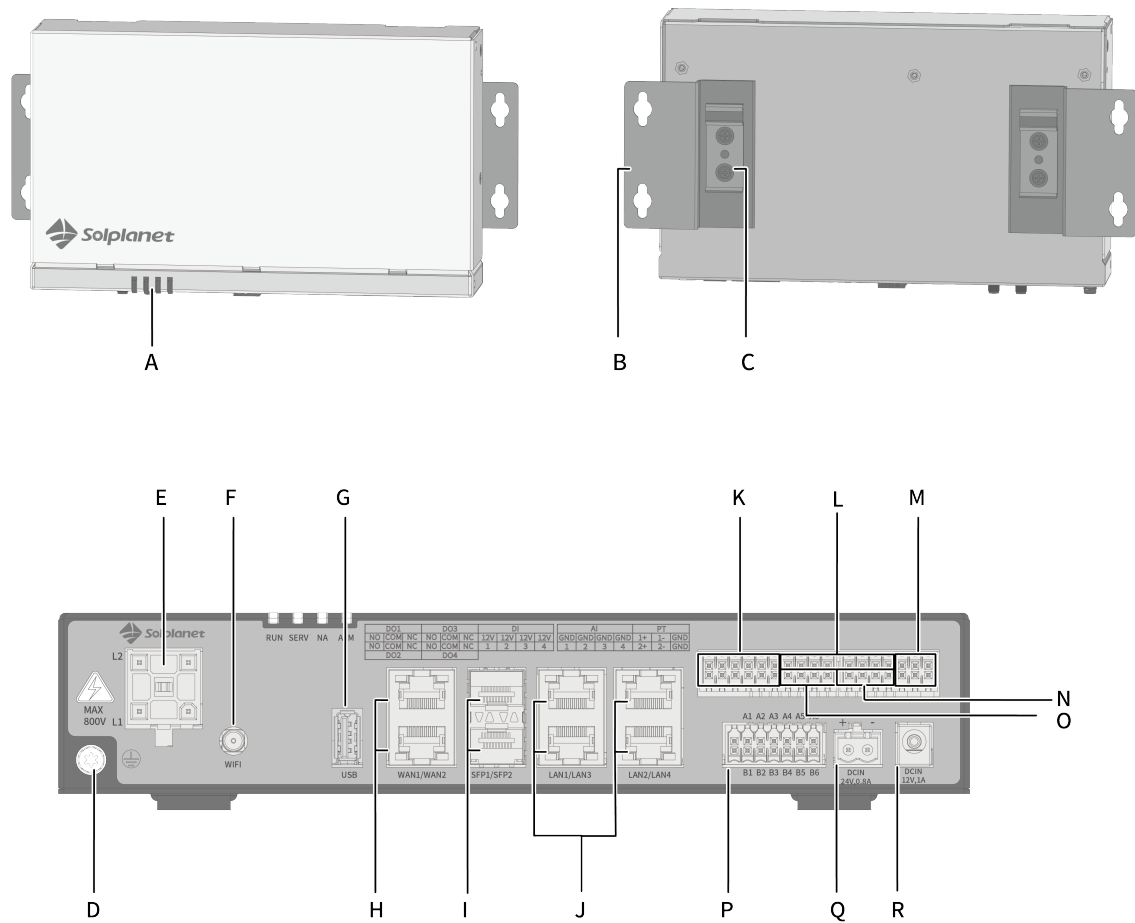
Within the scope of the EU directives



- Radio Equipment Directive 2014/53/EU (L 153/62-106, May 22, 2014) (RED)
- Restriction of the use of certain hazardous substances 2011/65/EU (L 174/88, June 8, 2011) and 2015/863/EU (L 137/10, March 31, 2015) (RoHS) AISWEI Technology Co., Ltd. confirms herewith that the product described in this manual are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives.

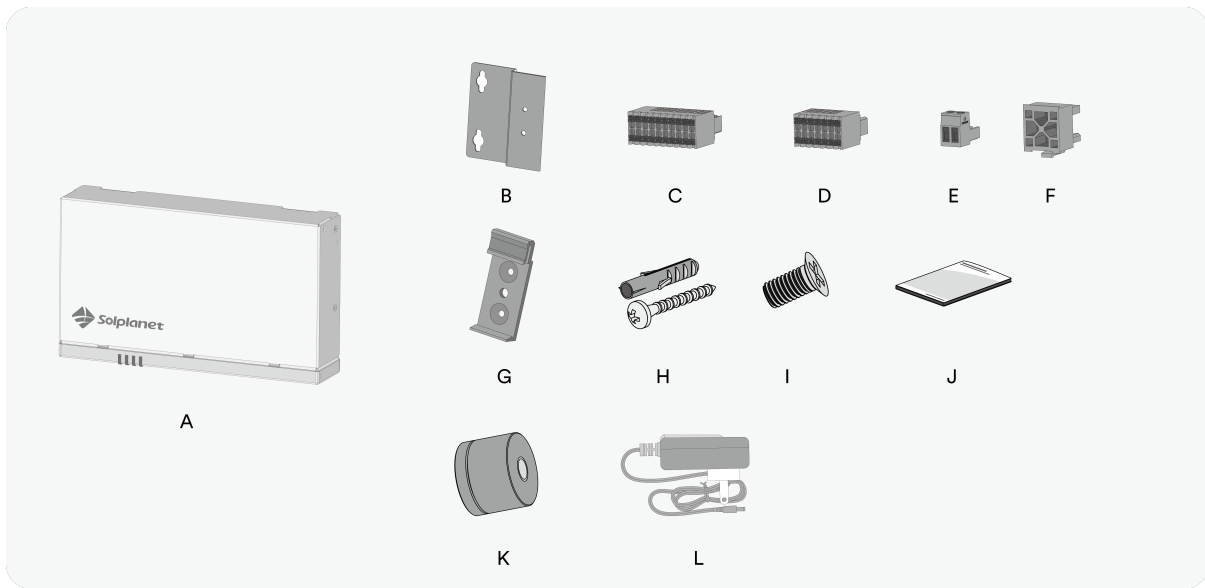
The entire EU Declaration of Conformity can be found at www.solplanet.net.

4 Overview









No.	Name	No.	Name
A	LED indicators	J	100 Gigabit Ethernet ports (LAN1/2/3/4)
B	Mounting brackets	K	Digital signal output port
C	DIN rail mounting bracket	L	12 V power output port
D	Additional Grounding Screw	M	PT temperature sensor port (PT100/1000)
E	ABUS communication port	N	Analog signal input port
F	Wi-Fi antenna port	O	Digital Signal Input Port (DI)
G	USB port	P	RS485 communication port
H	100 Gigabit Ethernet port (WAN1/2)	Q	24 V power input port
I	Fiber optic communication port (SFP1/2)	R	12 V power input port

5 Scope of Delivery



NO.	Name	Quantity
A	Ai-Logger 2000	1
B	Mounting bracket	2
C	Terminal (20 pin)	1
D	Terminal (14 pin)	2
E	Terminal (2 pin)	1
F	ABUS Terminal	1
G	DIN rail mounting bracket	2
H	Wall anchor with screw	4
I	M3 screws	4
J	Quick installation guide	1
K	Wi-Fi antenna	1
L	12 V Power Supply Adapter	1

6 Interpreting LED indicators Status

LED indicator	LED	Description
System operation indicator (RUN)		Green light off: Unit is either not powered or faulty.
		Green light on: System is powered and operating normally.
Alarm status indicator (ALM)		Red light off: No alarms, or system is not powered.
		Red light on: Emergency/Alarm;, system stopped or the core module malfunctioning.
Communication connection indicator (SERV)		Green light off: No connection to remote server.
		Green light on: Connected to remote server.

7 Cables Specifications

Type	Recommended Cable Specification
PE cable	Outdoor copper-core cable with a cross-sectional area of 4 – 6 mm ² or 12 – 10 AWG.
Network cable	Customers should provide their own network cable, preferably Cat 5e or higher, with a shielded crystal head.
RS485 communication cable	Two-core or multi-core outdoor shielded cable with a cross-sectional area of 0.2 – 2.5 mm ² or 24 – 14 AWG.
DI signal cable	
Output power cable (12 V/100 mA)	Two-core or multiple-core cable with a cross-sectional area of 0.2 – 1.5 mm ² or 24 – 16 AWG.
AI signal cable	
DO signal cable	
24 V input power cable (Optional)	Two-core cable with a cross-sectional area of 0.2 – 1.5 mm ² or 24 – 16 AWG.

8 Mounting

8.1 Installation environment

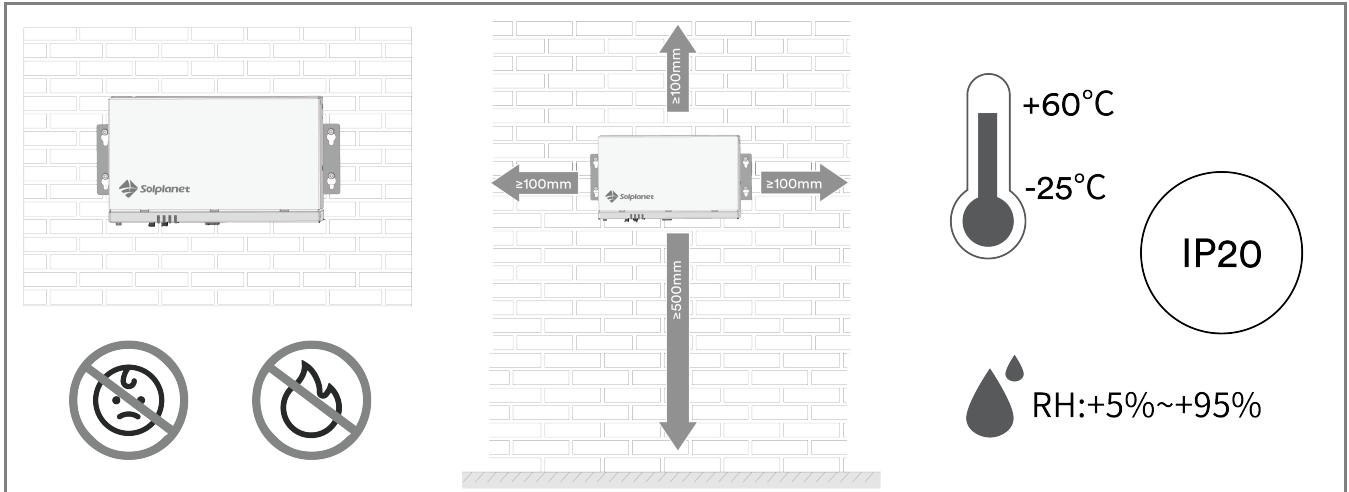


Diagram illustrating the installation environment for the Solplanet device. The device is shown mounted on a brick wall. Environmental specifications are provided:

- Temperature range: $+60^{\circ}\text{C}$ to -25°C
- Humidity range: $\text{RH}: +5\% \sim +95\%$
- Protection level: **IP20**

Clearance requirements are indicated by arrows:

- Top clearance: $\geq 100\text{mm}$
- Bottom clearance: $\geq 500\text{mm}$
- Left clearance: $\geq 100\text{mm}$
- Right clearance: $\geq 100\text{mm}$

Prohibited conditions are shown with icons: a sad face (no vibration) and a flame (no fire).

8.2 Mounting

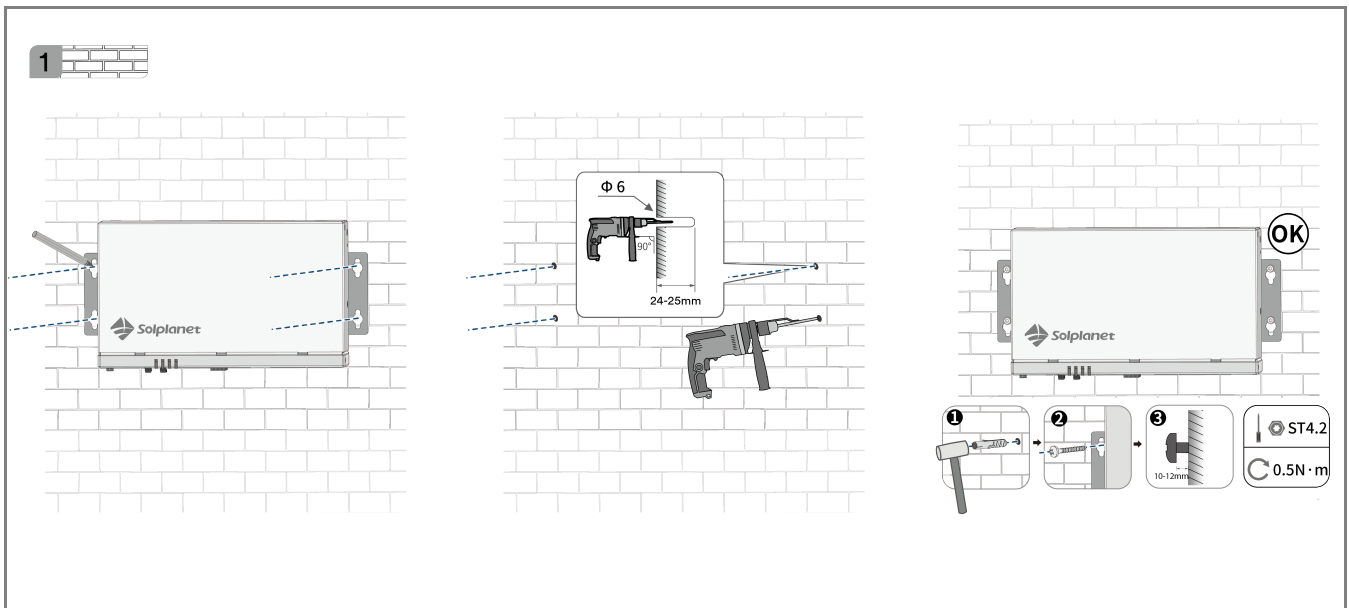
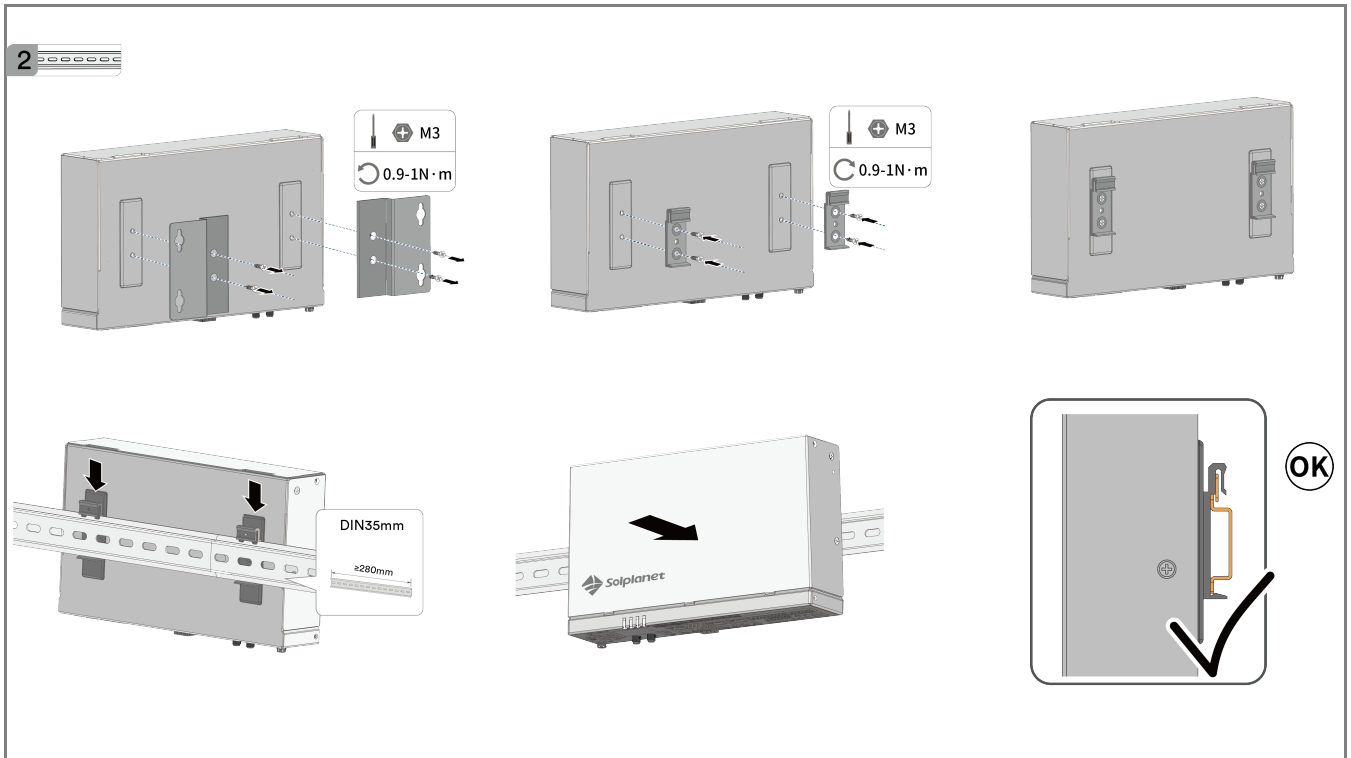


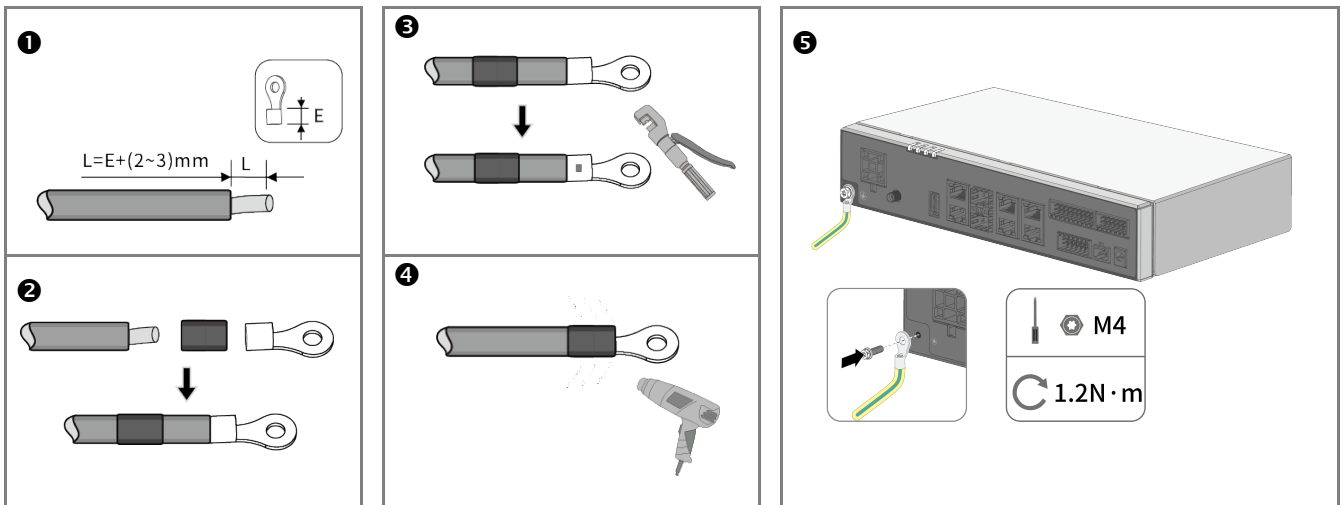
Diagram illustrating the mounting procedure for the Solplanet device, showing three steps:

- 1** Marking: The device is positioned on the wall, and the mounting holes are marked.
- 2** Drilling: A hole is drilled with a diameter of $\Phi 6$ and a depth of $24-25\text{mm}$.
- 3** Screwing: The device is secured to the wall using a screw. The screw specifications are ST4.2 with a torque of $0.5\text{N}\cdot\text{m}$. The hole depth is $10-12\text{mm}$.

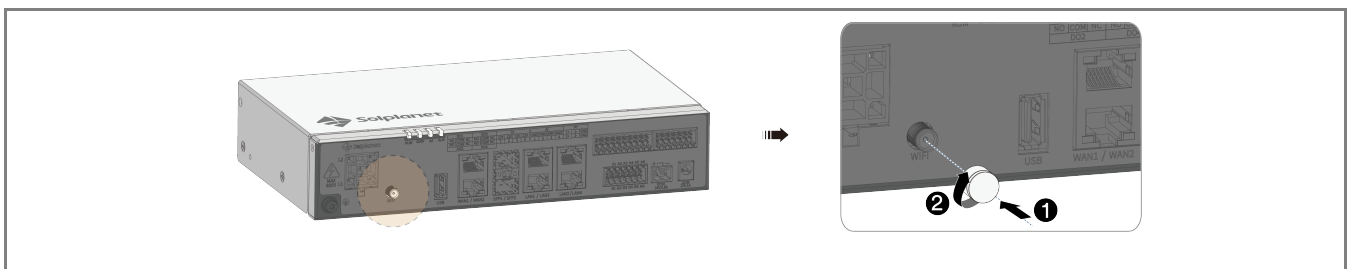
The final step shows the device mounted on the wall, marked with an "OK" symbol.



8.3 PE Cable connection



8.4 Installing the Wi-Fi Antenna

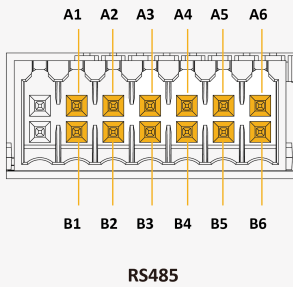


NOTICE

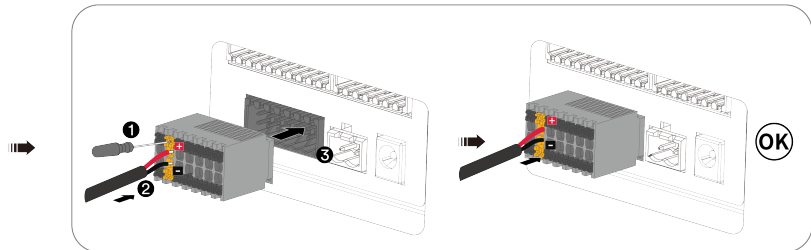
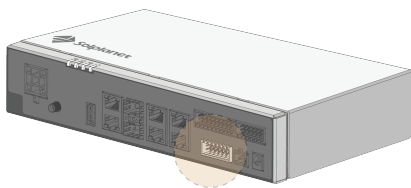
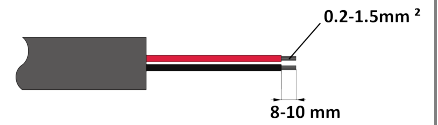
Recommended communication distance less than 3 M.

8.5 RS485 communication connection

The RS485 communication module supports 6 independent RS485 connections and protocols including Modbus-RTU, standard IEC103, and DL/T645.

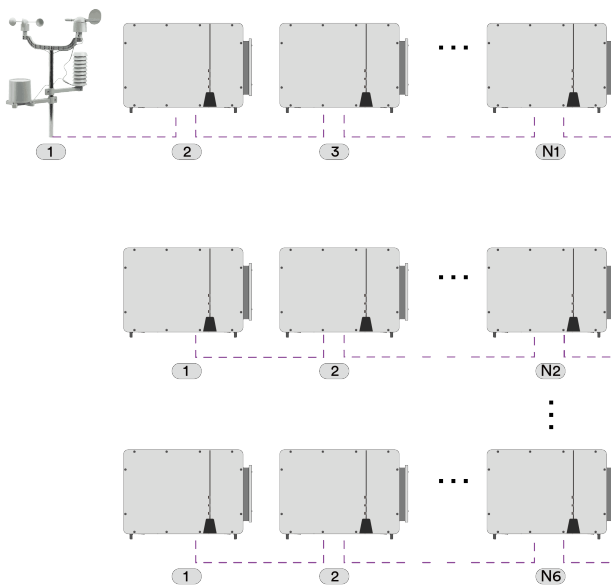


No.	Port	Description
RS485-1	A1(+)	RS485A, RS485 Differential Signaling+ RS485B, RS485 differential signaling-
	B1(-)	
RS485-2	A2(+)	
	B2(-)	
RS485-3	A3(+)	
	B3(-)	
RS485-4	A4(+)	
	B4(-)	
RS485-5	A5(+)	
	B5(-)	
RS485-6	A6(+)	
	B6(-)	



Connect multiple inverters or environmental monitors

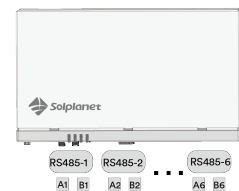
Environmental monitor



$N_1, N_2 \dots N_6 \leq 30$

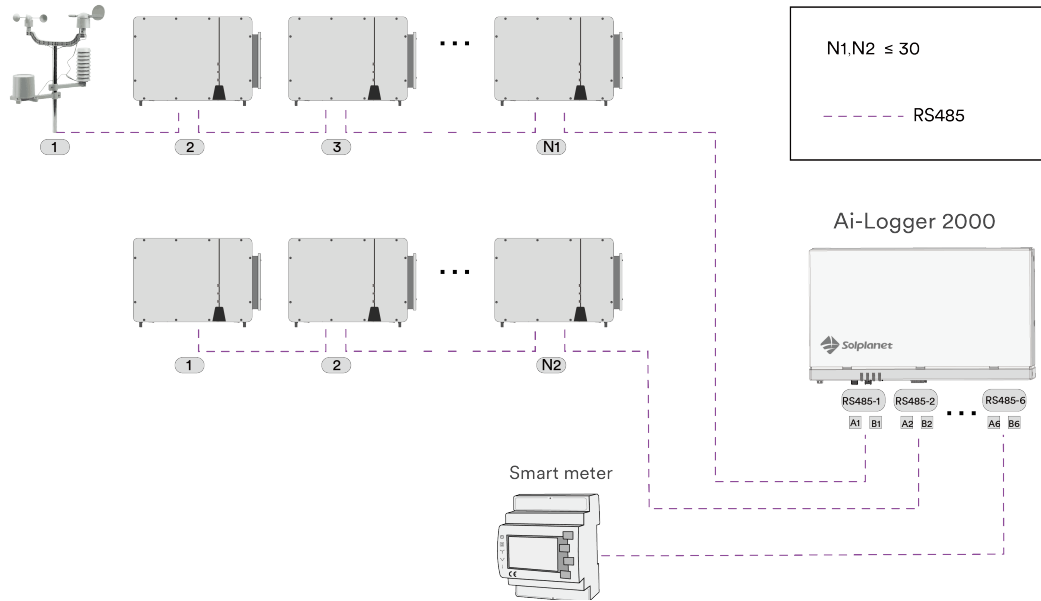
----- RS485

Ai-Logger 2000



Connect Smart Meters

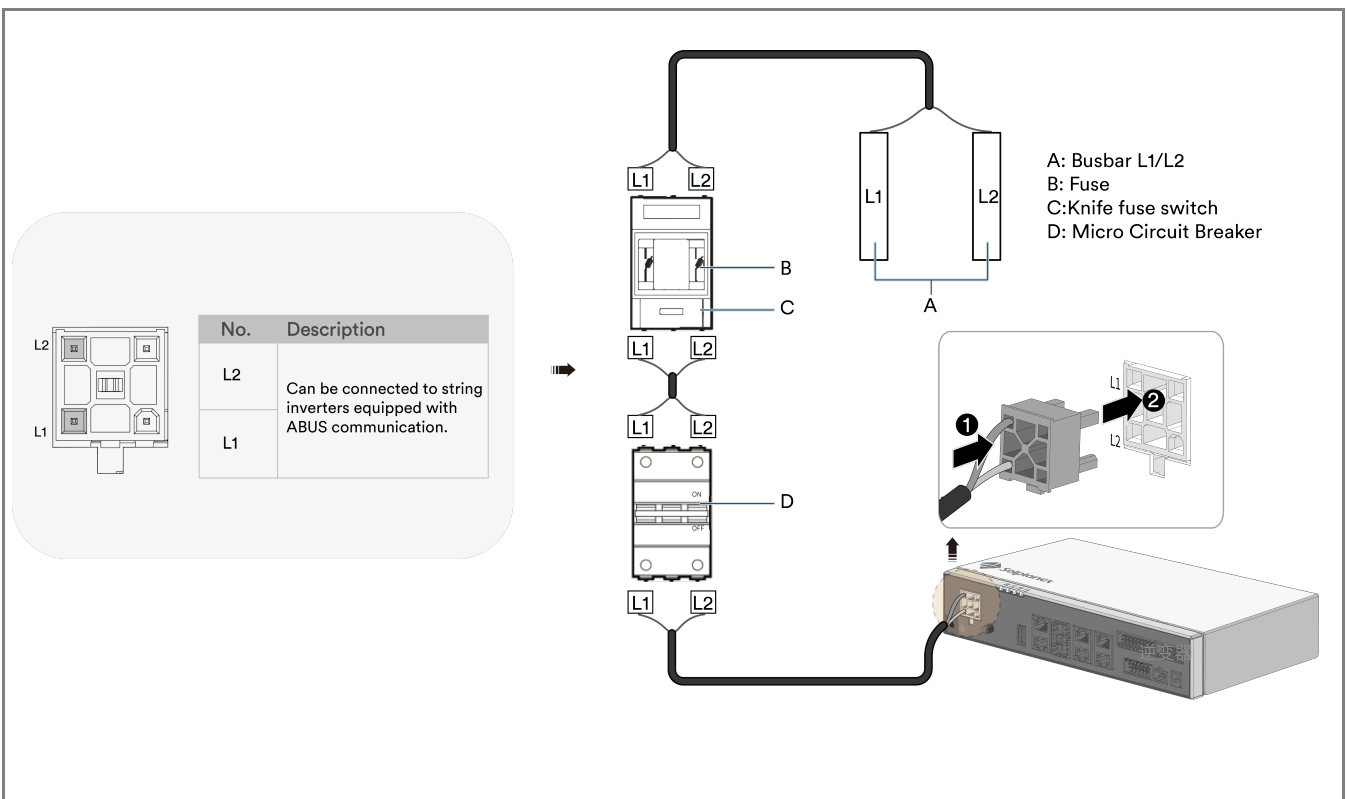
Environmental monitor



NOTICE

- On the same RS485 bus, the communication parameters should be the same except for the device address.
- The smart meter, as a parallel monitoring device, needs to occupy one RS485 port exclusively.

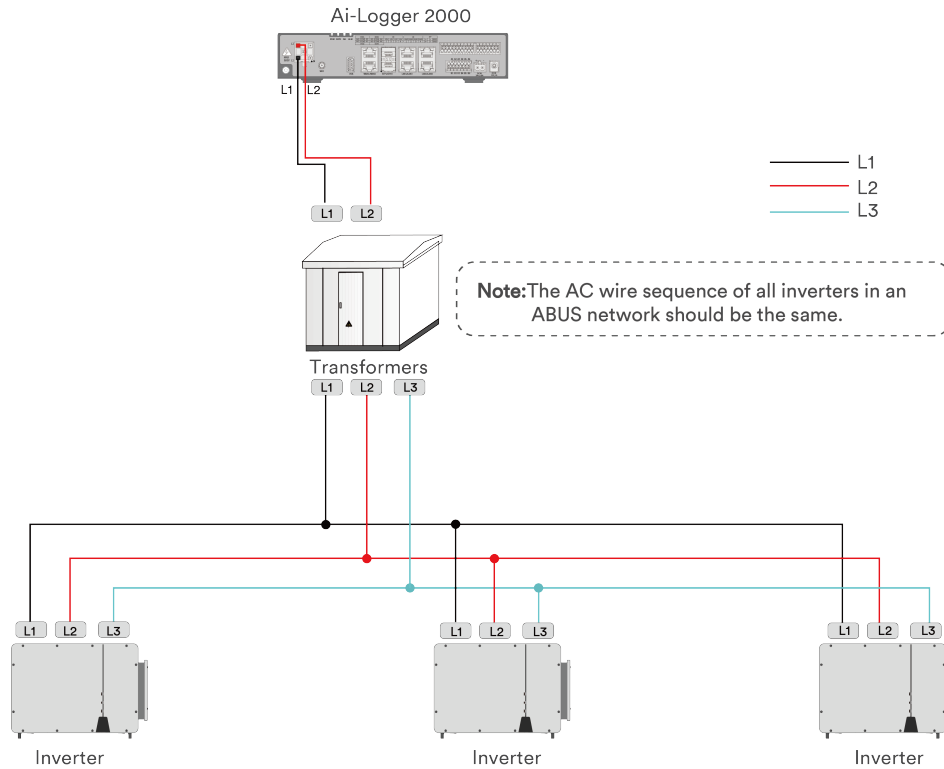
8.6 ABUS communication port connection



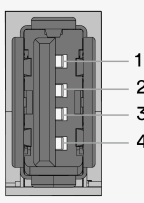
NOTICE

Single-phase Connect L1 and L2 as shown in the diagram, to avoid communication issues or command loss.

- If both Ai-Logger 2000 and inverter support ABUS communication, they can connect via AC power line. In this case, the RS485 communication line to the inverter is not required.
- When using ABUS communication, ensure a miniature circuit breaker and a knife-fused switch are installed to prevent short circuits and damage to the device.

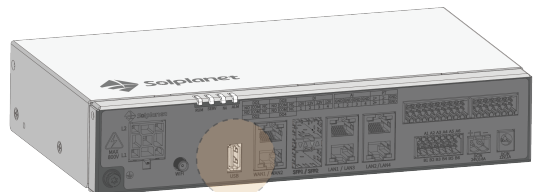


8.7 USB connection

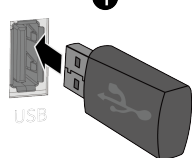


No.	Description
1	
2	Performs local maintenance operations such as firmware upgrades and data exports for the Ai-Logger 2000.
3	
4	

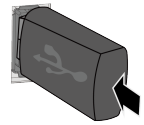
USB



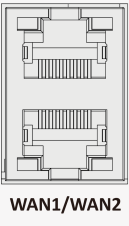
↓



→



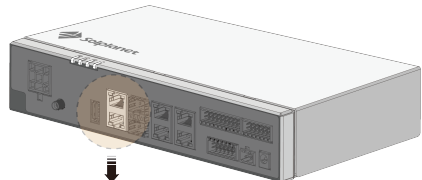
8.8 Ethernet WAN Port connection

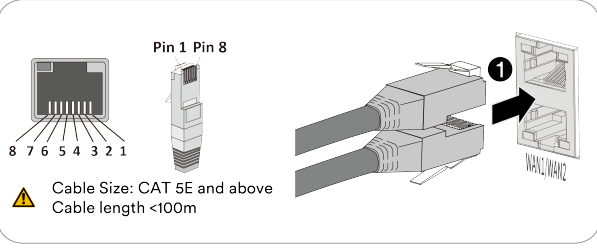


WAN1/WAN2

No.	Description
WAN1 (Up)	Connect Ethernet switches, routers, computers, and other devices to operate.
WAN2 (Down)	

→





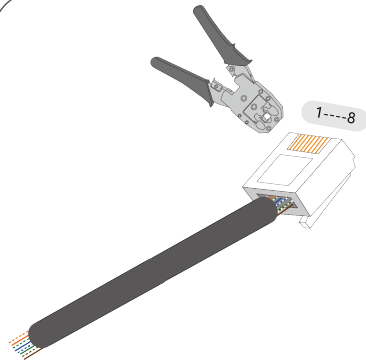
Pin 1 Pin 8

8 7 6 5 4 3 2 1

⚠ Cable Size: CAT 5E and above
Cable length <100m

NOTICE

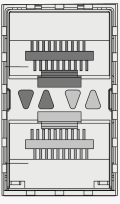
When crimping the cable, make sure that the shield of the cable is securely connected to the metal casing of the crystal head.



Correspondence between network wires and metal contacts:

Pin 1: White-orange	Pin 2: Orange
Pin 3: White-green	Pin 4: Blue
Pin 5: White-blue	Pin 6: Green
Pin 7: White-brown	Pin 8: Brown

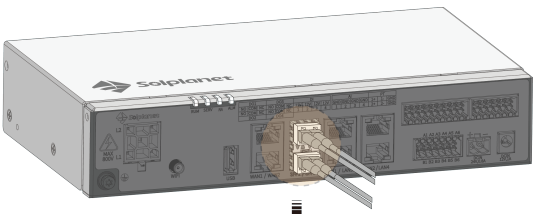
8.9 SFP Fiber Optic Interface connection

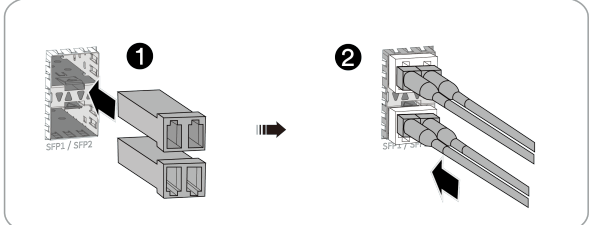


SFP1/SFP2

No.	Description
SFP1 (Up)	Supports 100/1000 Mbps with SFP or eSFP optical modules, enabling optical ring networking via the HSR protocol.
SFP2 (Down)	

→





1 2

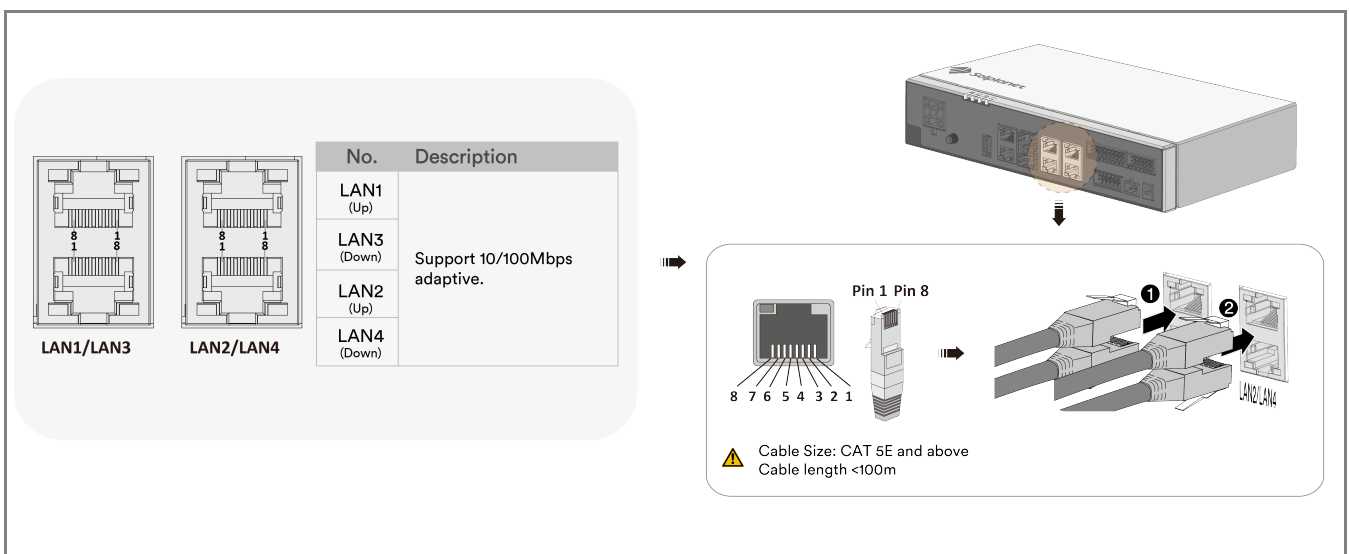
NOTICE

- The optical module is optional. If you configure it by yourself, select a 100/1000 Mbps optical module according to the docking port of the optical switch. The optical module adopts SFP or eSFP package.
 - 100 Mbps modules support transmission distances >12km.
 - 1000 Mbps modules support transmission distances ≥10km.
- When inserting the optical module into the SFP1 port, please make sure the label side is facing up; when inserting into the SFP2 port, please ensure the label side is facing down.

NOTICE

- To pull out the fiber optic patch cable, press the cable catch.
- To remove the optical module, use the puller and ensure an interval of at least 0.2 seconds before pulling it out.

8.10 Ethernet LAN Port connection



No.	Description
LAN1 (Up)	Support 10/100Mbps adaptive.
LAN3 (Down)	
LAN2 (Up)	
LAN4 (Down)	

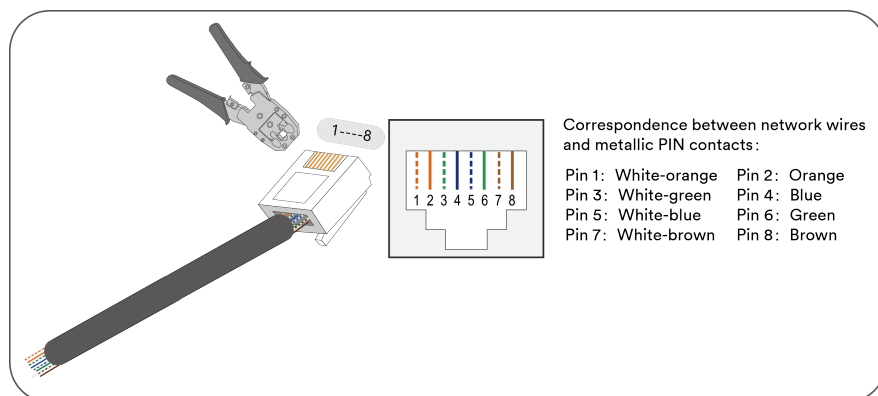
Pin 1 Pin 8

8 7 6 5 4 3 2 1

⚠ Cable Size: CAT 5E and above
Cable length <100m

NOTICE

When crimping the cable, make sure that the shield of the cable is securely connected to the metal casing of the crystal head.



Correspondence between network wires and metallic PIN contacts:

Pin 1: White-orange	Pin 2: Orange
Pin 3: White-green	Pin 4: Blue
Pin 5: White-blue	Pin 6: Green
Pin 7: White-brown	Pin 8: Brown

8.11 Digital Signal input connection

Digital input for connecting DI-type grid dispatching commands or alarm signals, with a recommended signal transmission distance of no more than 10 m.

No.	Port	Description
1	DI_1	12 V
		1
		12 V
		2
2	DI_2	12 V
		2
		12 V
		3
3	DI_3	12 V
		3
		12 V
		4

8.12 Analog signal input connection

Analog input for connecting environmental monitoring sensors, with a recommended transmission distance of no more than 10 m.

No.	Port	Description
1	AI_1	GND
		1
2	AI_2	GND
		2
3	AI_3	GND
		3
4	AI_4	GND
		4

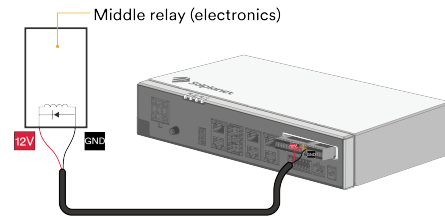
8.13 12 V power output port connection

The port provides 12 V output with a maximum capacity of 0.1 A for sound and light alarm applications, driving intermediate relay coils. Recommended transmission distance ≤ 10 m.

No.	Port	Description
1	12 V(+)	Positive cable (red) can be connected to any port 1-4
2	12 V(+)	
3	12 V(+)	
4	12 V(+)	
5	GND(-)	Negative cable (black) can be connected to any port 5-8
6	GND(-)	
7	GND(-)	
8	GND(-)	

NOTICE

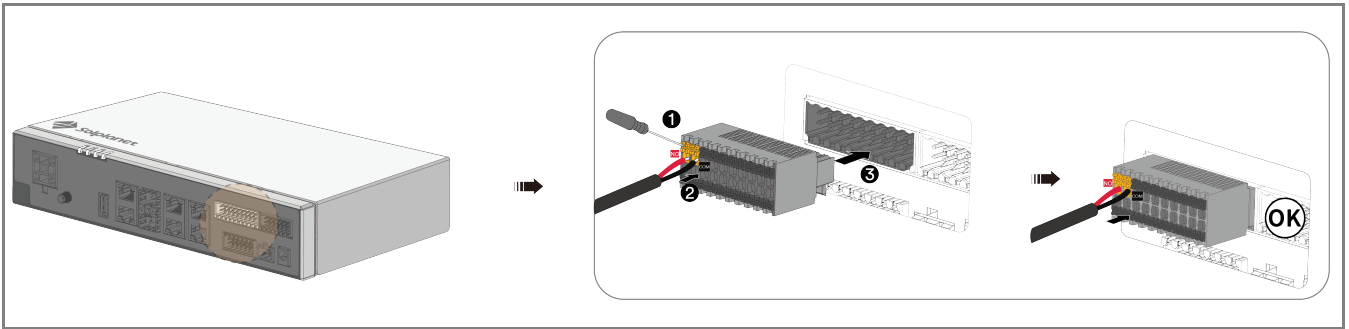
Use an intermediate relay with a coil containing a renewable diode for device damage prevention.



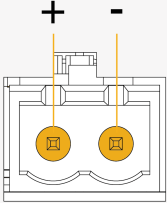
8.14 Digital signal output connection

Supports 4-channel relay output with a maximum signal voltage of 12 V. Recommended transmission distance ≤ 10 m.

No.	Port	Description
DO1	NO	NC/COM are normally closed contacts. NO/COM is a normally open contact.
	COM	
	NC	
DO2	NO	
	COM	
	NC	
DO3	NO	
	COM	
	NC	
DO4	NO	
	COM	
	NC	




8.15 24 V power supply connection

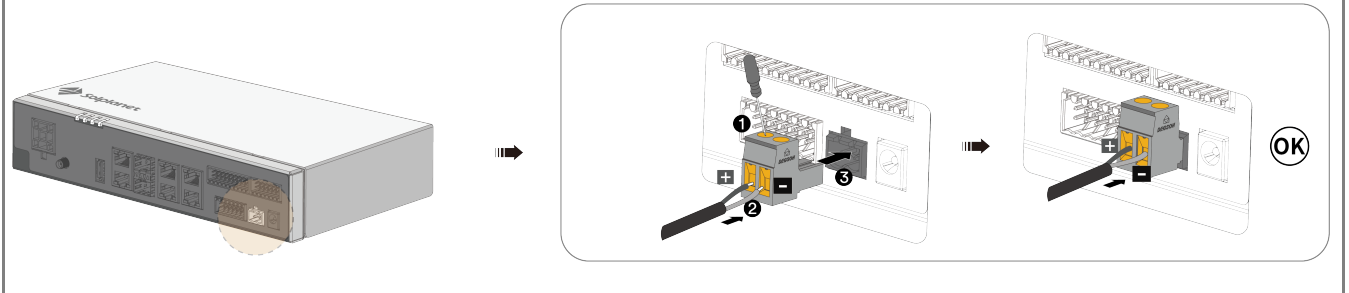


DCIN
24 V, 0.8 A


No.	Description
+	2 PIN cold press terminals, support 24 V DC power input. This port can be used as a 12 V power output port when the device is connected to a power source through the 12 V power input port.
-	



8-10 mm



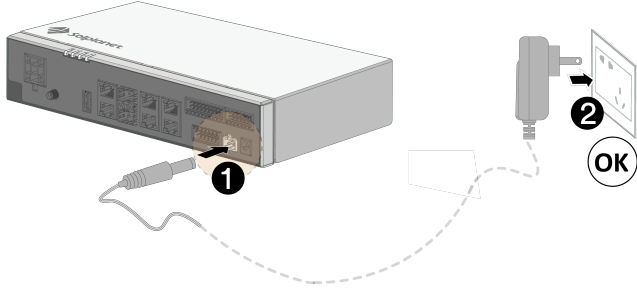
8.16 12 V power supply connection



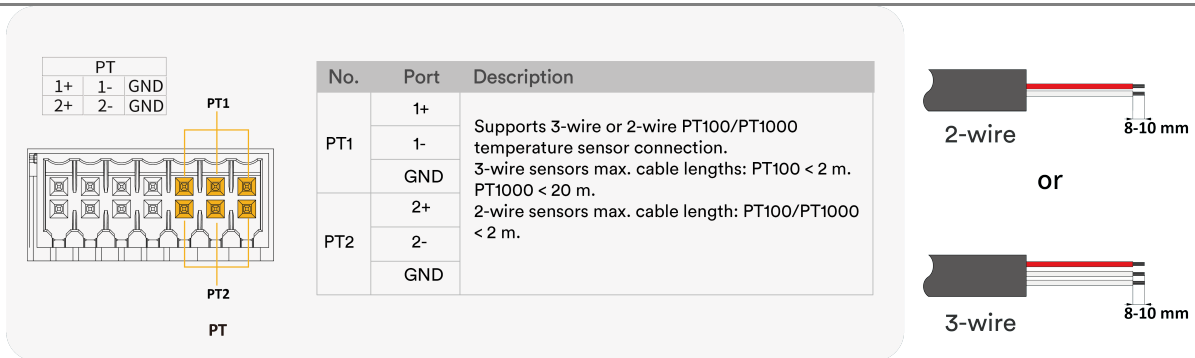
DCIN
12 V, 1 A

Description

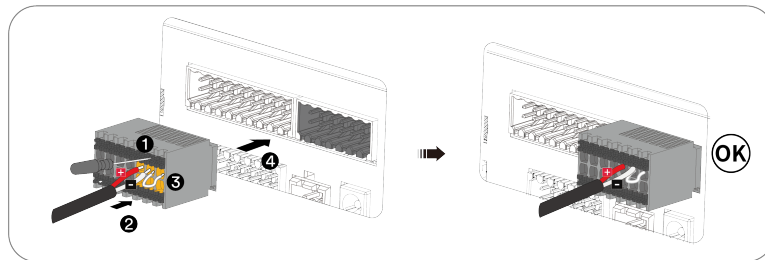
DC input port that supports 12 V DC power input for connecting a power adapter.



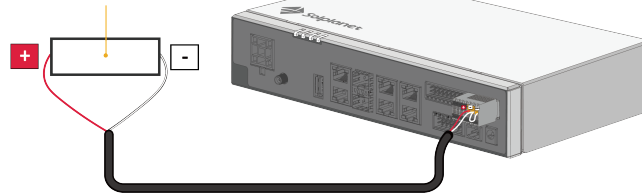
8.17 PT temperature sensor connection



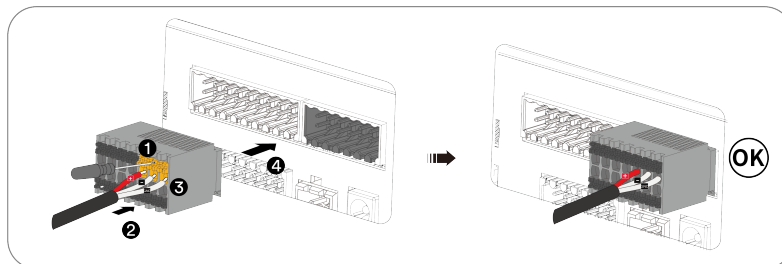
2-wire



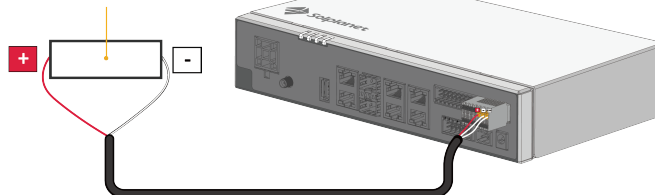
PT100/PT1000 Temperature Sensors



3-wire



PT100/PT1000 Temperature Sensors



NOTICE

- The Ai-Logger 2000 has two PT ports, supporting 3-wire or 2-wire PT100/PT1000 temperature sensors. When connecting a 2-wired PT100/PT1000 sensor to the PT port, use a shorting cable to connect "GND" and "-" on the corresponding port.

9 Contact

Please contact our Service Department if you have any technical questions about our products.

The following information is needed to provide necessary assistance:

- Product serial number
- Fault code
- Installation location
- Warranty card

EMEA

Service email: service.EMEA@solplanet.net

APAC

Service email: service.APAC@solplanet.net

LATAM

Service email: service.LATAM@solplanet.net

Aiswei Greater China

Service email: service.china@aiswei-tech.com

Hotline: +86 400 801 9996

Taiwan

Service email: service.taiwan@aiswei-tech.com

Hotline: +886 809089212

<https://solplanet.net/contact-us>





AISWEI Technology Co., Ltd.
Web: www.solplanet.net
Add: No. 18, Alley 600, Nanchezhan Road, Huangpu District,
Shanghai, China



PN: 540-500051-00