User Manual

AI Link

A-1000

In order to prevent improper operation before use, please read this manual carefully.

Table of Contents

1. Notes on This Manual

1.1 Scope of Validity

This manual describes the assembly, installation, commissioning, maintenance and troubleshooting of the following model(s) of Fox ESS products:

AI Link

1.2 Target Group

This manual is for qualified electricians. The tasks described in this manual only can be performed by qualified electricians.

1.3 Symbols Used

The following types of safety instructions and general information appear in this document as described below:

	**Danger!** "Danger" indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	**Warning!** "Warning" indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	**Caution!** "Caution" indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	**Note!** "Note" provides important tips and guidance.

1.4 Symbols Explanation

This section explains the symbols shown on the AI Link and on the label:

Symbols	Explanation
	CE mark. The Smart AI Link-A complies with the requirements of the applicable CE guidelines.
	Read the manual.
	Product should not be disposed as household waste.

RoHS	This mark indicates that the product meets EU environment protection certification requirements.

2. Safety Precautions

AI Link is designed and tested in accordance with international safety requirements. However, certain safety precautions must be taken into account when installing and operating the AI Link. The installer must read and follow all instructions, cautions, and warnings in this installation manual.

- In case of fire, evacuate from the building or product area and call the fire alarm. Re-entry into the burning area is strictly prohibited under any circumstances.
- All operations including transport, installation, start-up, and maintenance, must be carried out by qualified, trained personnel and shall comply with local wiring rules and regulations.
- Do not operate the product and cables (including but not limited to moving the product, installing the product, operating the product and cables, powering up the product, maintaining the product, and working at heights) in harsh weather conditions such as lightning, rain, snow, and level 6 or stronger wind.
- Before installation, check the unit to ensure it is free of any transport or handling damage, which could affect insulation integrity or safety clearances. Choose the installation location carefully and adhere to specified cooling requirements. Unauthorized removal of necessary protections, improper use, incorrect installation, and operation may lead to serious safety and shock hazards or equipment damage.
- Do not install the equipment in adverse environmental conditions such as in close proximity to flammable or explosive substances; in a corrosive environment; where there is exposure to extremely high or low temperatures; or where humidity is high.
- Do not use the equipment when the safety devices do not work or are disabled.
- Use personal protective equipment, including gloves and eye protection during the installation.
- Inform the manufacturer about non-standard installation conditions.
- Do not use the equipment if any operating anomalies are found.
- All repairs should be carried out using only approved spare parts, which must be installed in accordance with their intended use and by a licensed contractor or authorized Fox ESS service representative.

3. Introduction

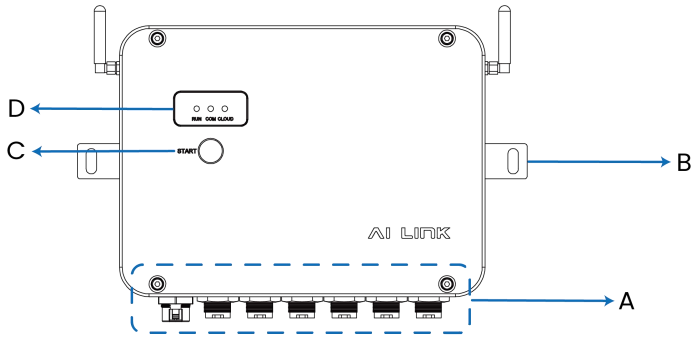
3.1 Product Introduction

AI Link supports collecting data, controlling power and converting protocol for inverters and other PV devices in the PV plant. The device is also integrated with communication gateway and plant operation & management function. The device featuring flexible networking and auxiliary maintenance is easy to operate.

3.2 Basic Features

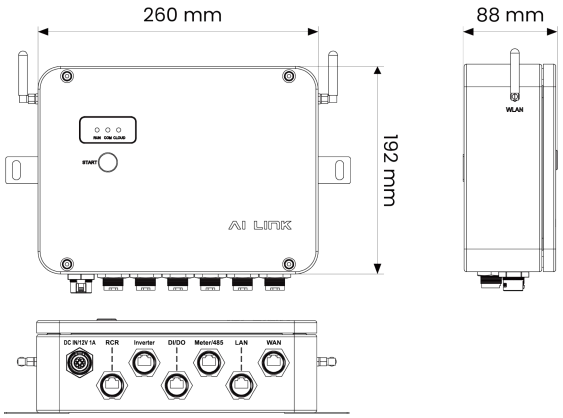
- Supports RS485, CAN, Ethernet and WLAN communication.
- Supports collecting data from smart energy meter, inverter and other devices.
- Supports setting batch inverter parameter and upgrading software.
- Supports remote desktop function, which reduces maintenance costs.
- Supports sending grid control instruction and controlling power factor.
- Supports local real-time monitoring, unnecessary to connect to the internet.
- Supports searching and allocating inverter address automatically.
- Embeds with web operation interface, supports setting the device via web (https://192.168.1.136) and FoxCloud (https://www.foxesscloud.com).

3.3 Appearance

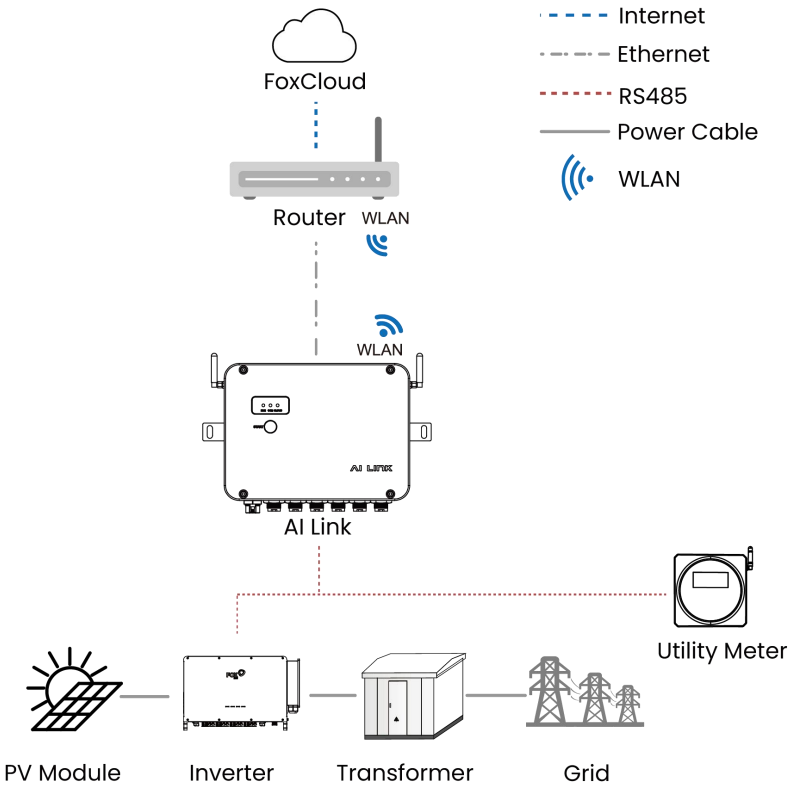


Item	Description
A	Waterproof Terminal
B	Mounting Ear
C	Start Button
D	Indicator

3.4 Dimensions



3.5 Application Scenario



- The AI Link can be connected to the FoxCloud via router or WLAN.
- The AI Link can be connected to smart energy meter (including utility meter) and inverter in the PV power generation system via RS485 bus.
- Users can set the AI Link via web and the FoxCloud where remote on-line upgrading can be performed.
- The AI Link can transmit data to the FoxCloud and forward background instructions to downstream devices.
- The AI Link is equipped with grid dispatching function, including active power control, reactive power regulation, etc.

4. Parameter

4.1 Technical Parameter

MODEL	AI Link
Communication	
Max.Number of Inverters	30 (The maximum quantity of inverters that can be paralleled differs according to the inverter model to which the AI Link is connected. For detailed information, please refer to "6.3.2 Connect to Inverters".)
RS485 Interface	4, Modbus RTU, Sunspec
Ethernet	2, RJ45, 10 M/100 M
Digital Input	6, 0–24 V DC
Digital Output	3, Relay, Normal Open
4G (Optional)	LTE-FDD: B1, B3, B7, B8, B20, B28A LTE-TDD: B38,B40,B41 WCDMA: B1,B8
WiFi	802.11 b/g/n/ac HT20/40 MHz 2.4 GHz
Indicator LED	
LED	3 LEDS
Button	Start
Power Supply	
DC Input	10 V to 27 V,
Power Consumption	Typ. 20 W, Max. 30 W
Ambient Conditions	
Operating Temperature	-30°C to +60°C
Storage Temperature	-40°C to +70°C
Relative Air Humidity	≤95% (non-condensing)
Elevation	≤4000 m
Protection Class	IP65
Mechanical Parameters	
Dimensions (W × H × D)	260 mm × 192 mm × 88 mm
Weight	2.5 kg
Mounting Type	Wall Mounted, Bracket Mounted, Outdoor or Indoor

4.2 Operation Parameter Description

Category	Name	Description
AC Output Control	DRM Enable (Mutually Exclusive)	Only one function can be enabled at the same time.
	Ripple Control Enable(Mutually Exclusive)	
	Ripple Control piecewise-1 Ripple Control piecewise-2 Ripple Control piecewise-3 Ripple Control piecewise-4	Four configurable contacts to define limiting function of the connected inverters.
Power Limit Control	Power Limit Enable	This is the enable switch for power control. The H3-Pro series inverters are not affected by this switch. It is turned on by default.
	Grid Export Limit	This is the limit value of the power fed into the power grid.
	Grid Import Limit	This is the limit value of the power drawn from the power grid. (Effective in Peak Shaving Mode)
	Export Peak Limit	When the grid feed-in power is less than this limit value, grid feeding power supply shall be given priority. When the grid feeding power exceeds this limit value, priority shall be given to charging the battery to Peak Shaving SOC (State of Charge). (Effective in Peak Shaving Mode)
	Peaks Shaving SOC	When the battery's SOC is lower than this limit value, charge the battery to Peak Shaving SOC without exceeding the Grid Import Limit; When the battery's SOC exceeds Peak Shaving SOC, execute the logic of self-consumption.
	AC Output Limit	The limit value of the system’s total inverter power.
	Zero Feed-in Mode	When implementing zero-power grid feeding, choose either the total active power not exceeding zero or none of the three single-phase powers exceeding

		zero as the judgment basis.
	Control Period	This is the period and reference value for power control (Unit: ms). The system will take this as a reference and determine the control period according to the number of devices.
	Grid Export Control-Delta	The allowable adjustment error for zero-power grid feeding.
Gen	GEN Enable	Set the diesel generator enable.
	Start SOC	Set the Min. Start SOC. If it is lower than this value, the diesel generator will be started. The default value is 20%.
	Stop SOC	Set the Stop SOC. If it is higher than this value, the diesel generator will be shut down. The default value is 90%.
	Maximum Gen Charge Power	The maximum charging power that allows the diesel generator to charge the battery. (The AI Link needs to allocate the charging power of each inverter according to the SOC. The default value is 10 kW.)
	Gen Timeout	Set the error reporting time for the diesel generator not starting. The default is 2 minutes.
	Minimum Rest Time	Set the minimum time interval between two starts of the diesel generator. The default is 10 minutes.
Basic Setting	Grid Code	Safety regulation code.
	Time Zone	Time zone, with UTC as the reference, plus for east and minus for west. For example, Beijing time is (+0800).
	Parallel Scene	0—On Grid and paralleled (default) 1—On Grid and paralleled, off grid (Single Inverter) 2—Off grid and paralleled

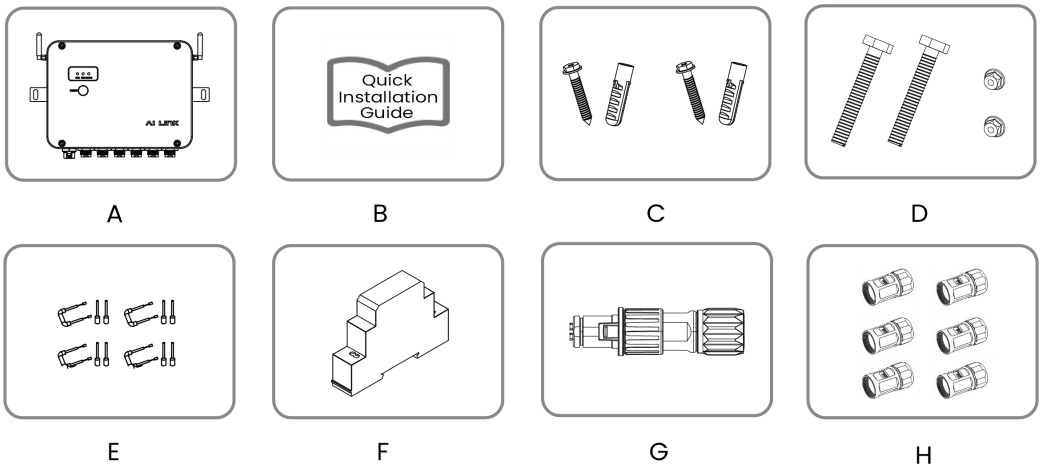
5. Installation

5.1 Check for Physical Damage

- Check all safety signs and warning labels on devices. The safety signs and warning labels must be clearly visible and cannot be removed or covered before the device is decommissioned.
- Ensure the device model is correct. Make sure the AI Link has not been damaged during transportation. If there is any visible damage, such as cracks, please contact your dealer immediately.

5.2 Packing List

Open the package and take out the product, please check the accessories first. The packing list is shown below:



Object	Quantity	Description	Object	Quantity	Description
A	1	AI Link	E	4	Terminal Resistor
B	1	Quick Installation Guide	F	1	Adapter
C	2, 2	Self-tapping Screw M6 × 40, Expansion Tube Φ8 × 40	G	1	DC Connector
D	2, 2	Hexagon Bolt M6 × 45, Flange Nut M6	H	6	RJ45 Connector Protector

5.3 Storage

If the device is not to be installed immediately after receiving, please store it properly according to the following requirements.

- The device should be stored in its original packing case and placed in a well-ventilated, dry and tidy room.

- The storage environment should be well ventilated, dry and without any accumulated water.
- Ambient temperature: -40°C to +70°C; relative humidity: 0–95%, no condensation.
- Take precautions to protect the device against damage due to harsh environment such as shock cooling, shock heating, and collision.
- After long-time storage, thoroughly check the device and ensure it is undamaged before installation. If necessary, install the device only after it has been tested by qualified personnel.

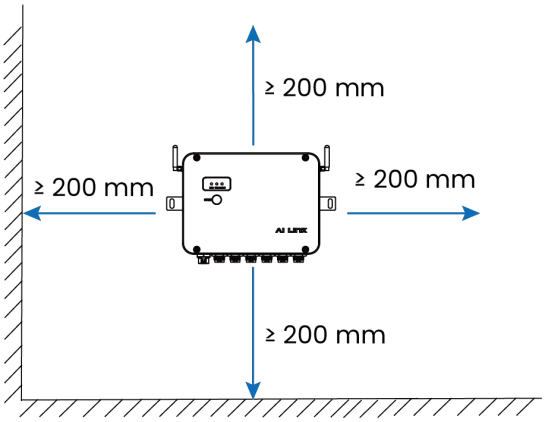
⚠	**Warning!** • The device must be packed during storage. • Never store the device outdoors or in an environment directly exposed to sunlight. • No tilting or stacking.

5.4 Mounting

5.4.1 Installation Precaution

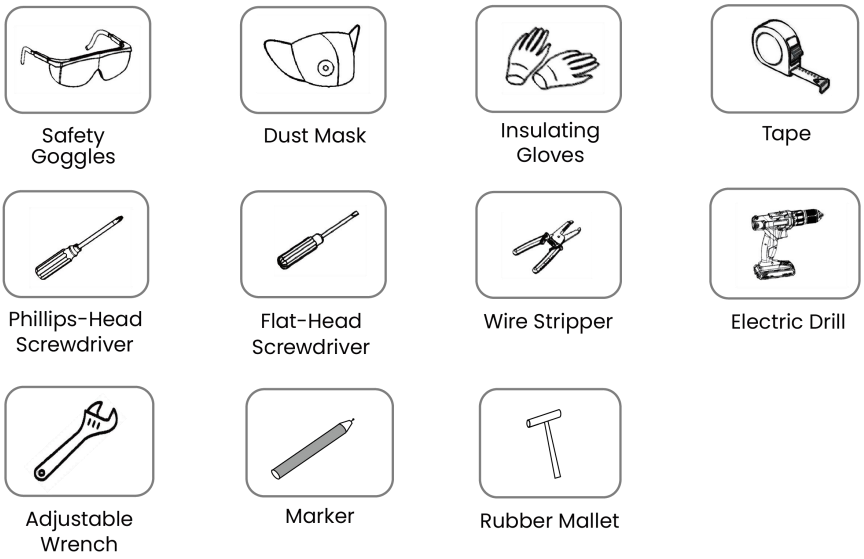
Make sure the installation location and processes comply with the following conditions:

- Not in direct sunlight.
- Not in areas where highly flammable materials are stored.
- Not in potential explosive areas.
- Not in the cool air directly.
- Not near the television antenna or antenna cable.
- Not higher than altitude of about 4000 m above sea level.
- Not in environment of precipitation or humidity (>95%).
- Take anti-moisture and anti-corrosion measures.
- Under good ventilation condition.
- The operating temperature in the range of -30°C to +60°C.
- The slope of the wall should be within ±5°.
- Avoid direct sunlight, rain exposure, snow laying up during installation and operation.
- Ensure that enough space is reserved around the AI Link. Allow at least 200 mm mounting distance around the device.
- Space Requirement:



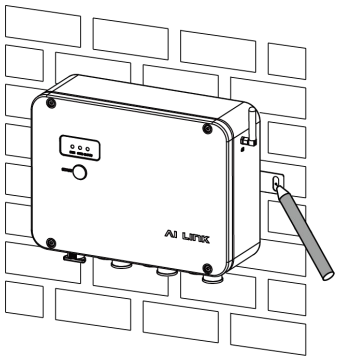
5.4.2 Installation Steps

Tools required for installation include, but not limited to, the following recommended tools. If necessary, use other auxiliary tools on the spot.

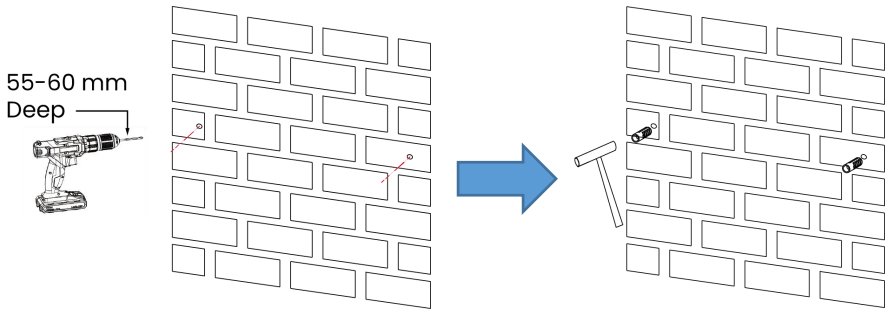


Wall Installation

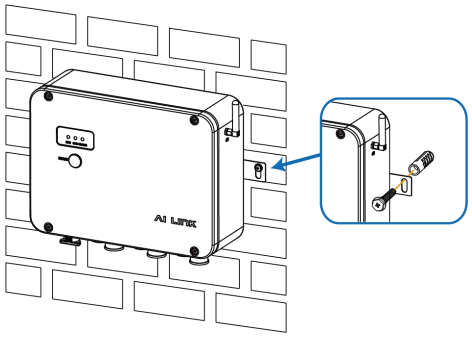
- Place the AI Link on the wall, adjust the angle and mark drilling positions with marker.



- Drill holes with an electric drill, clear holes and insert 2 expansion tubes into holes, and fix them with a rubber hammer.



- Fix the AI Link with 2 self-tapping screws.

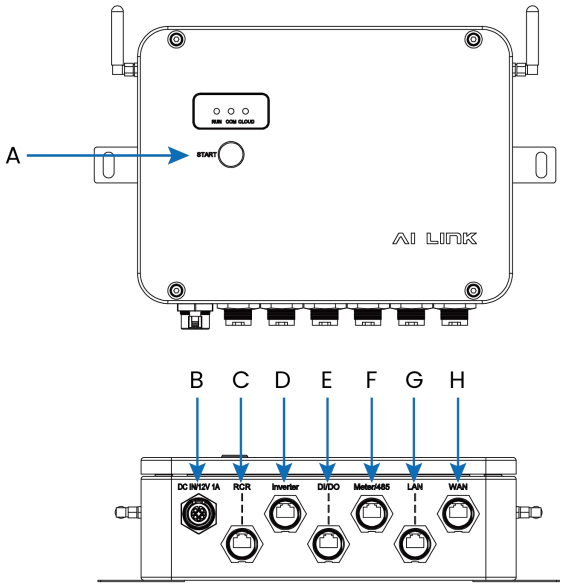


6. Electrical Connection

6.1 Safety Instructions

⚠	**Note!** • Before electrical connections, please make sure that the product is not damaged. Otherwise, it may cause danger! • Before electrical connections, please make sure that the product switch and all switches connected to the product are set to "OFF", otherwise electric shock may occur! • Incorrect cable connection may cause device damage or even personal injury. • All cables used shall comply with the requirements of local laws and regulations, and must be intact, well insulated, appropriately dimensioned and firmly connected.

6.2 Terminal, Switch and Indicator Introduction



6.2.1 Terminal & Switch Description

Object	Label	Description
A	START	Start Button: Short press 0.1–10 s to recognize the sub-devices. Long press more than 10 s to restore factory settings
B	DC IN/12V 1A	DC Input Waterproof Terminal
C	RCR	Ripple Control Receiver Terminal
D	Inverter	Inverter Waterproof Terminal
E	DI/DO	DI/DO Waterproof Terminal
F	Meter/485	Meter/485 Waterproof Terminal
G	LAN	Local Area Network Terminal
H	WAN	Wide Area Network Terminal

6.2.2 Terminal Pin Description

Cable Pin	1	2	3	4	5	6	7	8
DC IN/ 12V 1A	DC IN+	DC IN-						
RCR	1-	1+	2+	3+	4+	5+	4-	5-
Inverter			RS485 -A2	RS485 -B2	RS485- A2		GND	12V
DI/DO	8-	8+	DO1 COM	DO2 NO	DO2 COM	DO1 NO	DO3 COM	DO3 NO
Meter/ 485	RS485- B1	RS485 -A1	RS485 -B3	RS485 -A4	RS485- B4	RS485 -A3		

6.2.3 Indicator Description

Indicator	Status	Description
RUN (Operational Status)	Off	No Power Supply
	Steady on (Green)	Running Normally
	Slow Flash (Red)	Device Alarms
COM (Sub-device Communication Status)	Off	Sub-devices Communication Failure
	Steady on (Green)	Sub-devices Communication Normal
	Slow Flash (Green)	Part of the Sub-devices Communication Failure

CLOUD (Platform Communication Status)	Off	No WiFi/Ethernet or Fault
	Steady on (Green)	WiFi/Ethernet Running Normally
	Slow Flash (Green)	Connecting with WiFi/Ethernet

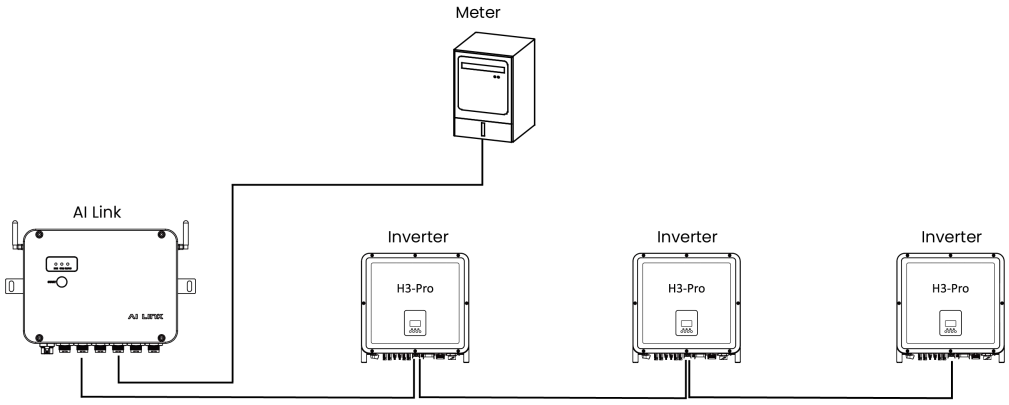
6.3 Connect to PV Devices

Devices in the PV system that can be connected to the AI Link include the inverter and Smart Energy Meter, etc.

6.3.1 Connect to Multiple Devices

Multiple devices (Fox ESS R-Series Inverter, H3-Pro Hybrid Inverter, Smart Energy Meter, etc.) can be connected to the AI Link in RS485 daisy chain manner as shown in the system diagram below.

If multiple R series inverters are connected to the AI Link, it is recommended to insert a 120 Ω terminal resistor into the inverter at the tail of the bus. (The H3-Pro inverter has a built-in terminal resistor, so there is no need for an external resistor.)



	Note! With an outdoor device connected to the AI Link, it is recommended to connect an SPD to protect the AI Link from lightning damage.

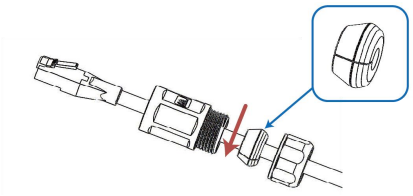
- The AI Link allows for 4 inputs of RS485 buses and maximums 30 devices.
- When the number of device types is less than or equal to the number of RJ45 terminals of the AI Link, it is recommended to connect different types of devices to different terminal separately.
- The addresses of devices on each RS485 bus must be different from one another and within the address range set for the AI Link. Otherwise, communication error will occur.
- Serial port parameters of each device on the RS485 bus should be consistent with those of the AI Link. The serial port parameters include baud rate, data bit, stop bit, and check bit.

6.3.2 Connect to Inverters

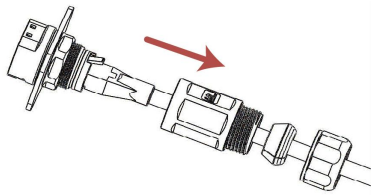
	Note! • This manual uses the R series inverters and H3-Pro inverters as examples to illustrate the connection between the AI Link and inverter. • Please refer to the inverter's user manual for inverter's RS485 connection information.

6.3.2.1 Preparation for RJ45 Connector

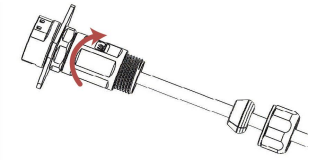
- Take the network cable and pass it through the lock nut, sealing plug, and main part in turn, and the sealing plug snaps in through the side seam.



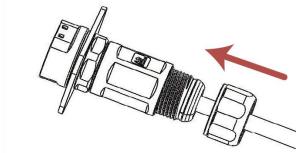
- Insert the network cable plug into RJ45 connector.



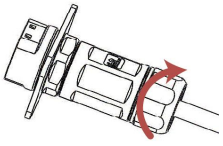
- Use a spanner to lock the main part onto the RJ45 connector.



- Install the sealing plug into main part.



- Use a spanner to lock the wire lock nut to the main part.



6.3.2.2 Parallel Inverters

Application Scenario 1: Parallel R or V Series Inverters

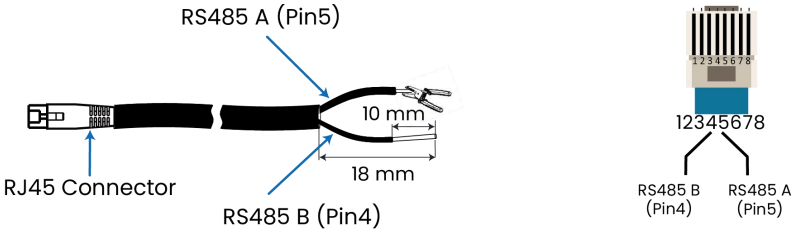
Communication cable specification:

Cable	Type
Communication Cable	Category 5E Cable (CAT5E)

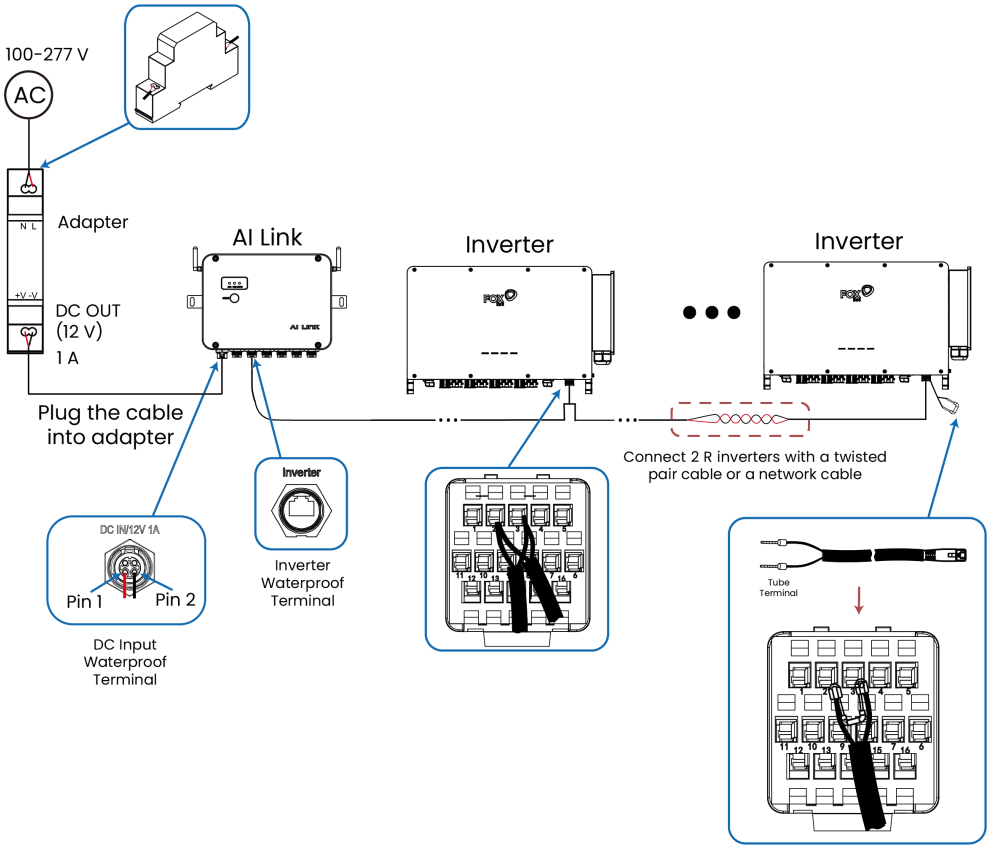
Pin Description:

Cable Pin	1	2	3	4	5	6	7	8
Inverter			RS485 -A2	RS485 -B2	RS485-A2		GND	12V

- Lead the communication cable from the inverter to the wiring area of the AI Link.
- Strip the cable jacket and insulation layer with a wire stripper by about 10 mm.



- Connect the striped cable to the Inverter Waterproof Terminal of the AI Link and connect the AI Link to the inverter via cable.



Wiring Table between the AI Link and the R Series Inverter

	AI Link	R Series
RS485A	Pin5 (Inverter, RS485-A2)	COM Pin2
RS485B	Pin4 (Inverter, RS485-B2)	COM Pin3

Note!

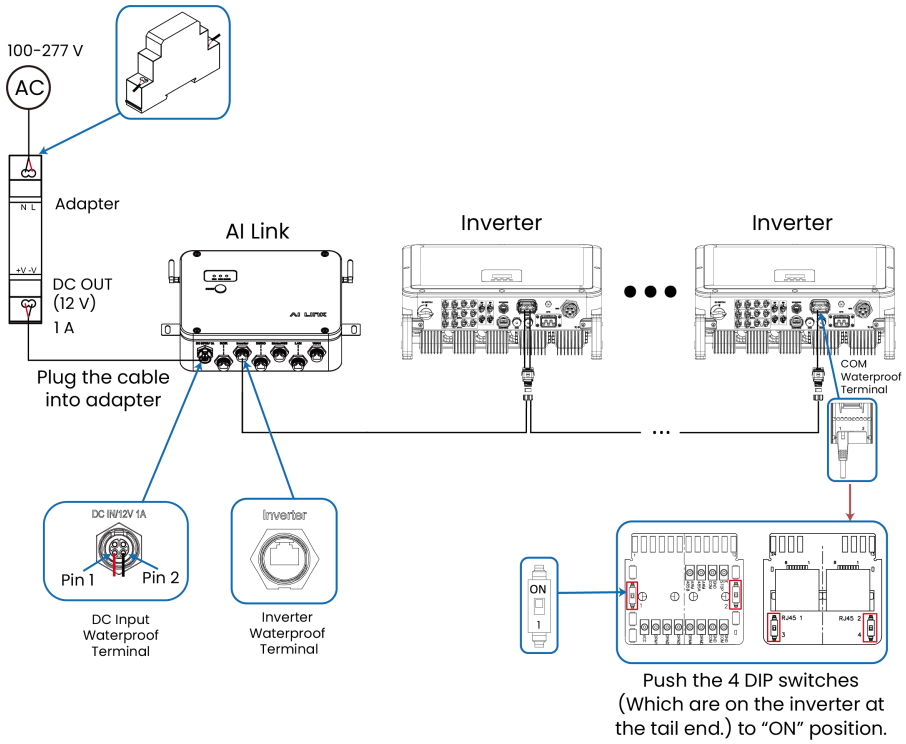
- Optimal: Connect the R series inverter to the AI Link's inverter waterproof terminal via cable.
- Optional: It is feasible to connect the R series inverter to the AI Link's Meter/485 waterproof terminal (RS485-A3 and RS485-B3 or RS485-A4 and RS485-B4) via cable.
- Please use a network cable to connect the R inverter and the AI Link. But it is feasible to use a network cable or a twisted pair cable to connect 2 R series inverters.
- The network cable shall be equipped with ENY 0510 tube terminals or other Euro terminals of the same size.
- No more than 30 R series inverters can be connected to the AI Link.
- A 120 Ω resistor should be inserted into the inverter at the tail end.
- The V series inverters parallel and wiring methods are the same as the R series inverters.

Application Scenario 2: Parallel H3-Pro Inverters

Communication cable specification:

Cable	Type
Communication Cable	Category 5E Cable (CAT5E)

- Lead the communication cable from the inverter to the wiring area of the AI Link.
- Connect the cable to the Inverter Waterproof Terminal of the AI Link and connect the AI Link to the inverter via cable. In the process of connecting AI Link to H3-Pro inverter, please plug the cable in the 1 or 2 RS485 terminal of the inverter at the tail end. And then push 4 white DIP switches to "ON" position (from down to up) by a suitable tweezer as shown in in the diagram below.



	Note! No more than 4 H3-Pro inverters can be connected to the AI Link in off grid state. No more than 10 H3-Pro inverters can be connected to the AI Link in on grid state.

6.3.3 Connect to Smart Energy Meter

It is recommended to use the CHNT meter DT(S)SU666 whose communication protocol complies with Modbus protocol. The AI Link can be connected to the meter through Meter/485 Waterproof Terminal .

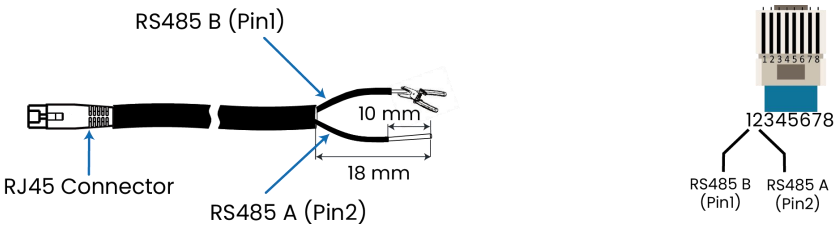
Communication cable specification:

Cable	Type
Communication Cable	Category 5E Cable (CAT5E)

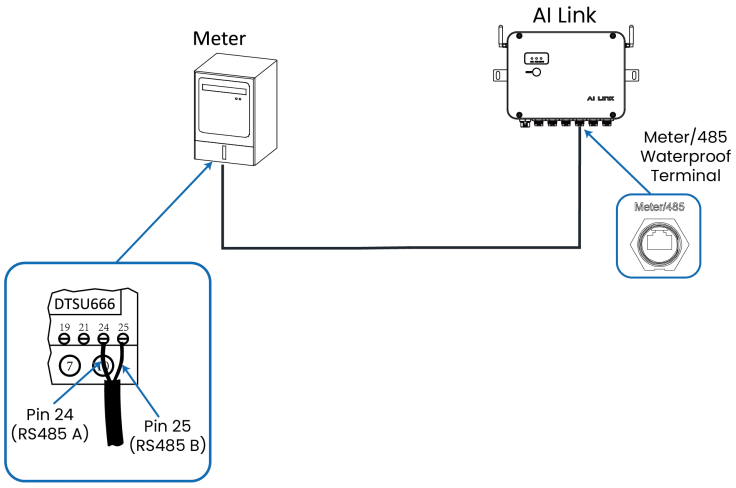
Pin Description:

Cable Pin	1	2	3	4	5	6	7	8
Meter/ 485	RS485 -B1	RS485- A1	RS485 -B3	RS485- A4	RS485- B4	RS485- A3		

- Lead the communication cable from the meter to the wiring area of the AI Link.
- Strip the cable jacket and insulation layer with a wire stripper by about 10 mm.



- Connect the striped cable to the Meter/485 Waterproof Terminal of the AI Link and connect the AI Link to the meter via cable.



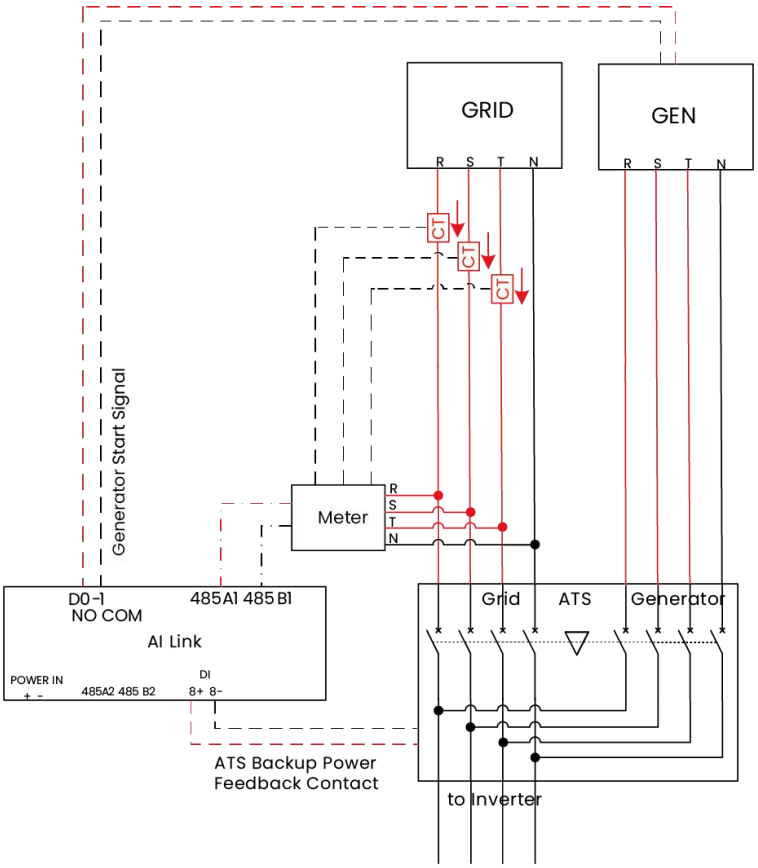
Wiring Table between the AI Link and the Meter

	AI Link	Meter
RS485A	Pin2 (Meter/485, RS485-A1)	Pin 24
RS485B	Pin1 (Meter/485, RS485-B1)	Pin 25

Note!
All devices on each RS485 bus support the same communication protocol.

6.4 Connect to Diesel Generator

When the AI Link is connected to the H3-Pro inverters, it can be connected to the diesel generator system. Please use DO1 to control the start and stop of the diesel generator, and use DI8 to collect the status of the Automatic Transfer Switch (ATS) to determine whether the diesel generator starts normally. The specific wiring is shown in the diagram below.



- When the power grid fails and the power grid Automatic Transfer Switch (ATS) is turned on, DI8 is in a non-conductive state. Meanwhile, the inverter is in off-grid state.
- When the AI Link detects that the equipment is in off-grid state, it will assess whether to turn on the diesel generator or not.
- When the battery's State of Charge (SOC) is lower than the Start SOC, turn on the diesel generator (DO1 pulls in).
- When the battery's SOC is higher than the Stop SOC, turn off the diesel generator (DO1 disconnects).
- After the diesel generator starts, the ATS will switch to the diesel generator side and DI8 becomes conductive.
- The inverter treats the diesel generator as the power grid and starts grid connection.
- If the power grid resumes power supply, the ATS will switch to the power grid side.
- When the AI Link detects that DI8 is non-conductive, it means that the grid side Automatic Transfer Switch (ATS) is turned off and the current load is powered by the power grid. And it will turn off the diesel generator.

	**Note!** • For gensets, when the dry contacts are closed, connect the signal cable to the NO and COM ports. • For genset, when the dry contacts are opened, connect the signal cable to the NC and COM ports .

6.5 Connect to FoxCloud

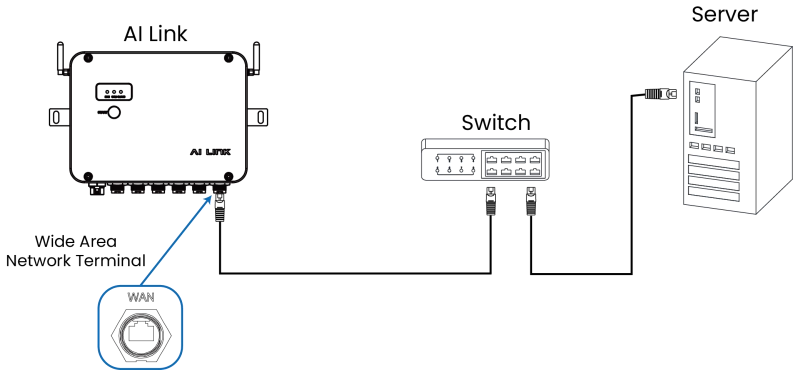
The AI Link can be connected to the back-end devices of the PV system via network port, and the communication protocol is standard Modbus TCP. As a salve device, the AI Link can be accessed by multiple back-end devices and communicated by using the standard protocol. The AI Link can be connected to multiple monitoring background systems via Ethernet switch or router, or it may be connected to a single monitoring background system via network cable.

For example, the AI Link is connected to a background system via the Ethernet switch, and the wiring steps are as follows:

Step 1: Prepare an Ethernet cable of suitable length.

Step 2: Insert one end of the cable into the port of the Ethernet switch and the other end to the Wide Area Network Terminal of the AI Link.

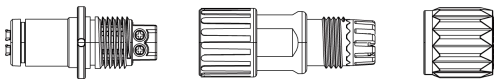
Step 3: By default, the AI Link obtains a dynamic IP address via DHCP in ETH configuration. However, if a static IP address is used onsite, configuring relevant parameters is necessary.



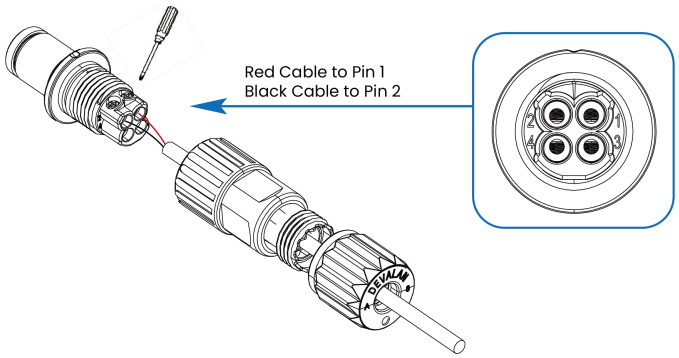
Note!
Insert the cable into the Wide Area Network Terminal of the AI Link.

6.6 Power Supply

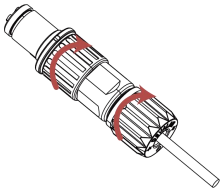
- Separate the DC Connector into 3 parts.



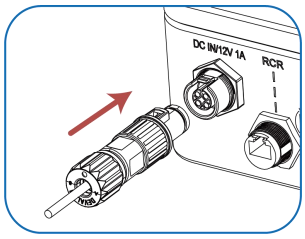
- Thread the cable through the nut and body. Insert it into the plug, and tighten it with a Phillips head screwdriver.



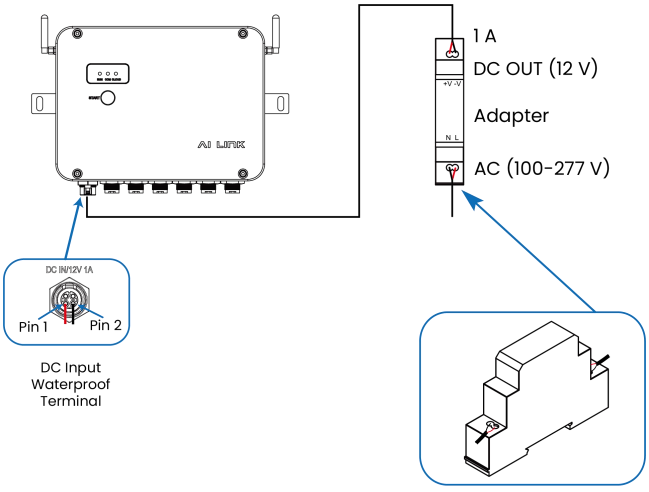
- Lock nuts manually.



- Plug the DC Connector into the DC Input Waterproof Terminal of the AI Link.



- Plug the cable into the adapter.

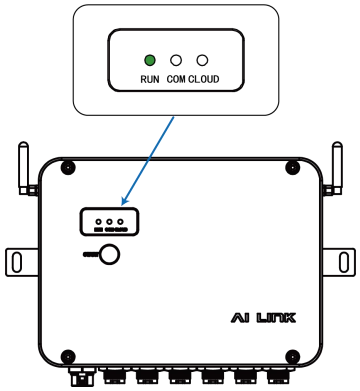


Wiring Table between the AI Link and the Adapter

AI Link	Adapter
Pin 1 (DC IN/12V 1A, DC IN+)	+V
Pin 2 (DC IN/12V 1A, DC IN-)	-V

	Note! The adapter can only be installed in a switch-gear cabinet.

- Check the wiring status. If the settings are correct, the RUN indicator will be steady on in green.



	Note! The AI Link can also get power from the H3-Pro inverter.

6.7 Cable Routing Requirements

- Cables used in the system generally include power cables and communication cables.
- The communication cable needs to be routed away from the power cable, and the cables need to form a right angle at the intersection. The communication cable needs to be as short as possible and to keep a distance from the power cable.
- Power cables and communication cables should be routed in different cable trenches to avoid long-distance parallel cable routing of power cables and other cables, thereby reducing electromagnetic interference due to output voltage transient.
- The distance between the power cable and communication cable should be greater than 200 mm. When the cables meet with each other, the cross angle should be 90°, and the distance can be reduced accordingly.

The following table shows the recommended minimum distances between parallel shielded communication cables and power cables.

Parallel Cable Length (m)	Min. distance (m) between parallel shielded communication cables and power cables
200	0.3
300	0.5
500	1.2

The communication cables should be routed as closely to the ground surface or carriers (such as support beam, steel channel) as possible.

7. Commissioning

7.1 Inspection before Commissioning

No.	Inspection Item	Result
1	All cables are appropriately dimensioned, intact, well-insulated, connected correctly and firmly.	
2	The polarity of the power supply cable is correct.	
3	The indicators of the AI Link flash normally.	

7.2 Commissioning Steps

No.	Step	Result
1	Turn on all the inverter.	
2	Power on the AI Link and short press the start button 0.1–10 s to recognize the sub-devices.	
3	Configurate internet via the FoxCloud APP 2.0 or Ethernet (WAN). (Bluetooth ID: EMS - 6XXXXXXXXXXXXXX)	
4	Create site via the FoxCloud APP 2.0. And check the communication status of each device. (If the settings are correct, AI Link's 3 indicators will be steady on in green.)	

Scan the QR code below to get the latest guidance of the FoxCloud APP 2.0.

7.3 Offline Configuration

Please refer to the Chapter 8 for details about local web interface configuration.

	**Note!** The Configuration using FoxCloud App 2.0 is recommended.

8. Local Web Interface

8.1 Running Requirements

Item	Parameter
Browser	IE 11 or above, Chrome 65 or above, Safari 11 or above
Min. Resolution	1024 × 768

8.2 Login Steps

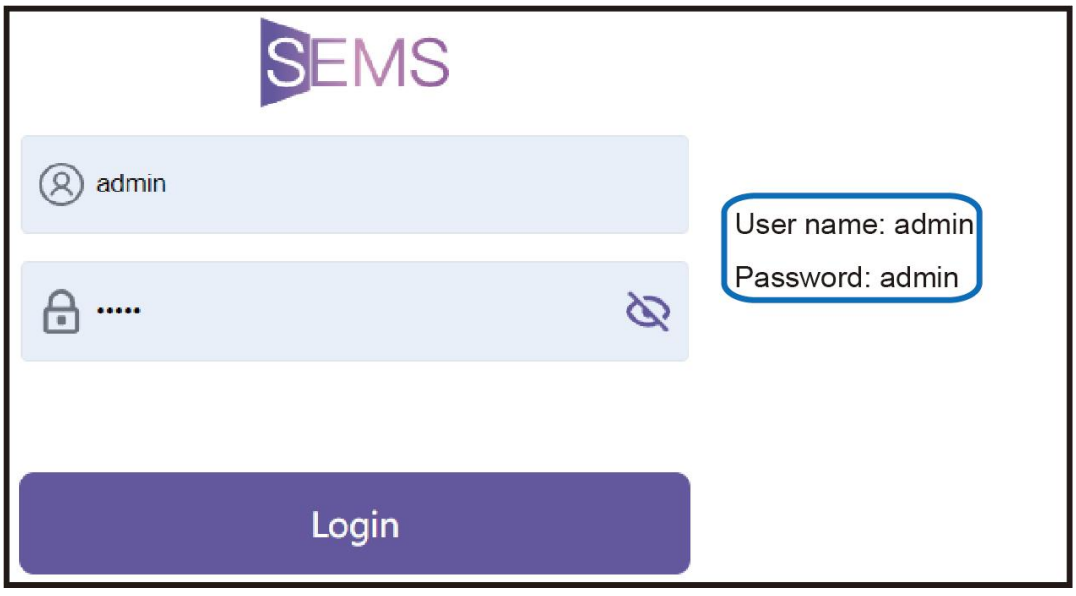
Users can log into the AI Link via WiFi.

Step 1: Connect the AI Link to the PC via WiFi.

☞	**Note!** Please select EMS–68BBHV100AME001 and enter password "12345678".

Step 2: Enter the IP address 192.168.1.136 in the PC address bar to enter the general user login interface.

Step 3: Enter the user name "admin" and password "admin" and click "Login".

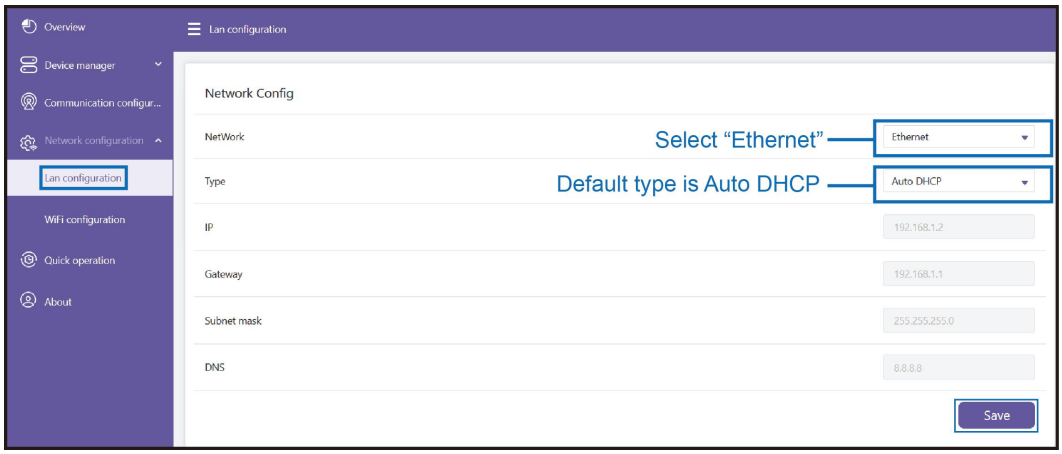


8.3 Configuration Steps

Users can configure the AI Link via the Ethernet or WiFi.

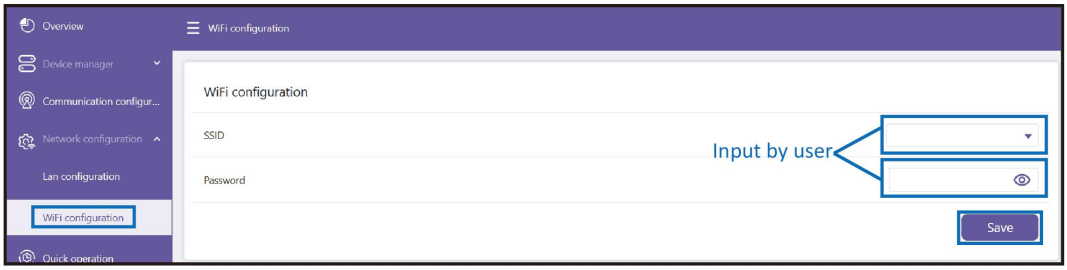
Method 1: Ethernet

Go to "Lan configuration", select "NetWork" as "Ethernet". Default "Type" is "DHCP".



Method 2: WiFi

Go to “WiFi configuration”, enter “SSID” and “Password”.

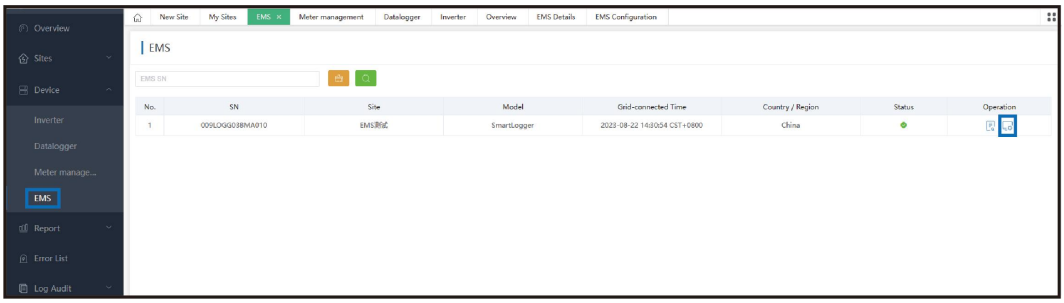


8.4 Create Site

Users can create site.

Step 1: Enter the IP address “www.foxesscloud.com” in the PC address bar to enter the general user login interface.

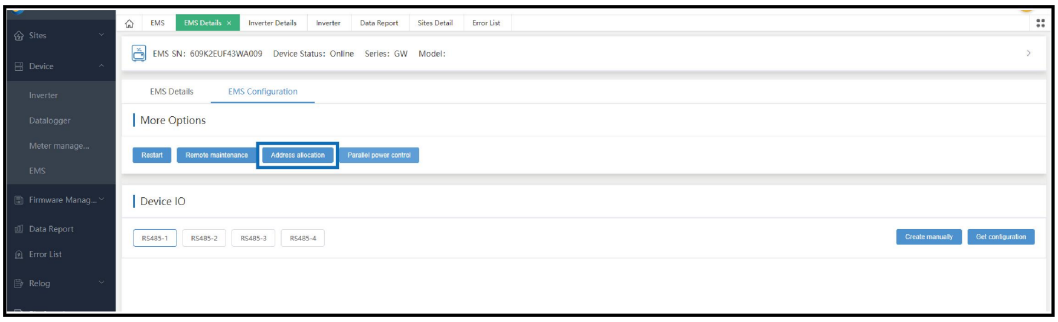
Step 2: Sign in with your installer/agent’s account. Go to “EMS” and click the “configuration” icon.



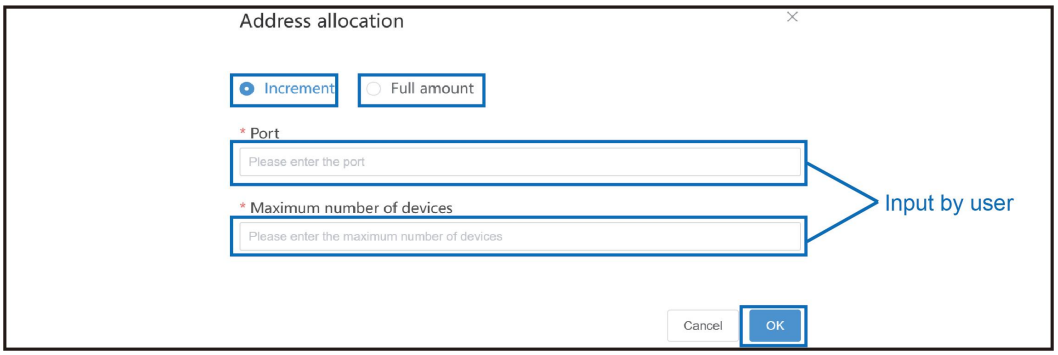
Step 3: Configurate sub-device's address.

Method 1: Configurate address automatically.

Go to "Address Allocation".



Select "Increment" mode or "Full amount" mode and enter information required.

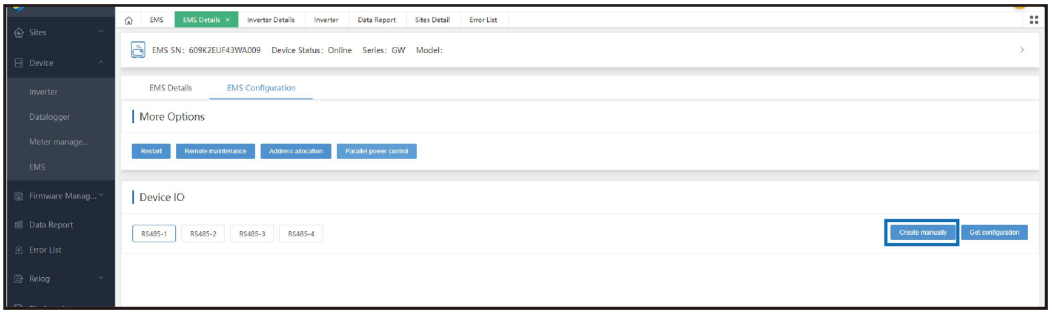


Note!

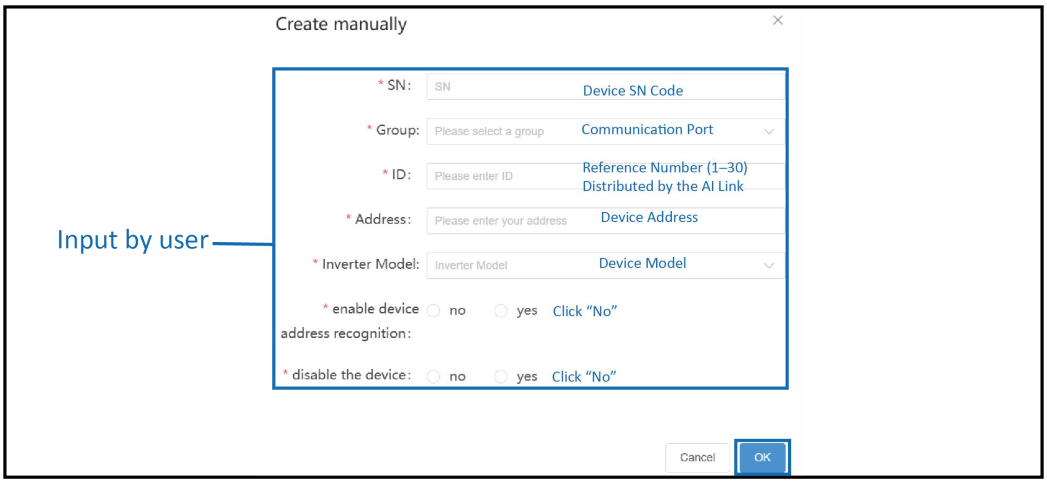
- R series inverters' addresses can be configurated automatically or manually, and H3-Pro inverters' addresses can be configurated manually.
- Increment: Distribute addresses to new sub devices.
- Full amount: Reset all sub devices' addresses and distribute addresses to new sub devices.

Method 2: Configurate address manually.

Go to "Create manually".

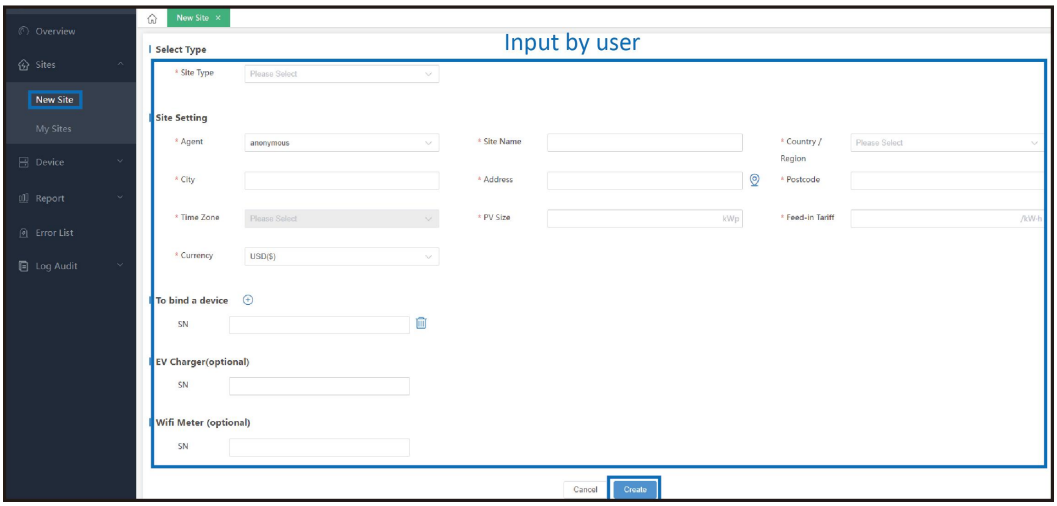


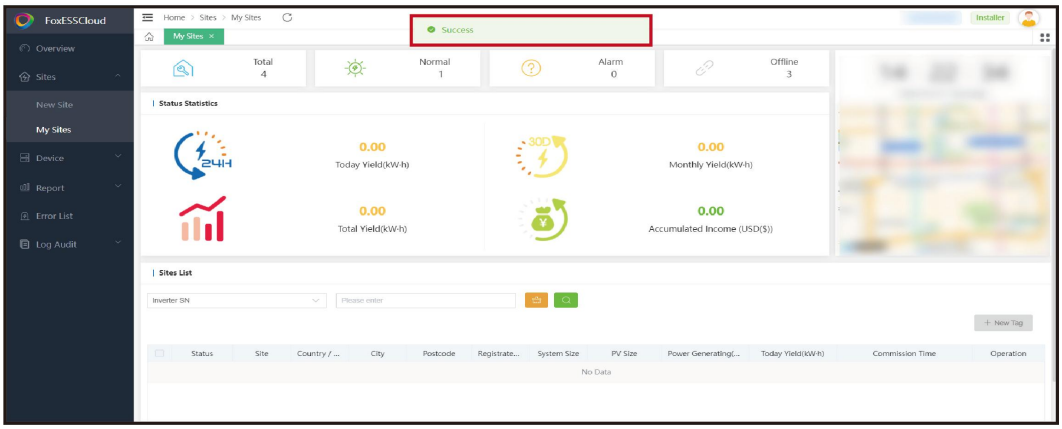
Enter information required.



Step 4: Create new site.

Go to "New Site" and enter information required.



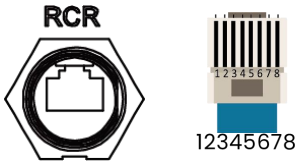


9. Grid Dispatch

	Note! Only installation personnel with professional expertise are permitted to perform operations in this chapter.

9.1 RCR Terminal

The AI Link not only serves as a communication management device of a single PV array/plant, but also has the power regulation function. The AI Link can regulate the power output of the inverter via ripple control function.

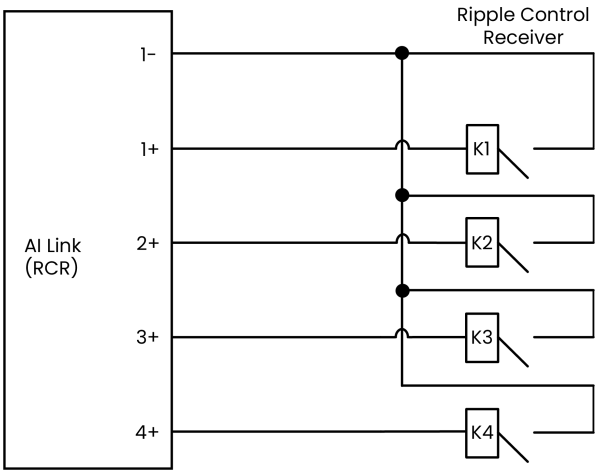


Pin Description:

Cable Pin	1	2	3	4	5	6	7	8
RCR	1-	1+	2+	3+	4+	5+	4-	5-

9.2 Wireless receiver controller (Ripple Control Receiver)

Wiring between the AI Link and the Ripple Control Receiver is as follows:



In some regions, the grid company uses the Ripple Control Receiver to convert the grid dispatching signal and send it in a dry contact manner. In this case, the plant needs to receive the grid dispatching signal in the dry contact communication way.

	Note! For details, please refer to the inverter user manual or consult the local retailers.

10. Maintenance

This section contains routine and periodic maintenance measures about the AI Link.

	**Note!** • Unauthorized modification or use of parts not sold or recommended by Fox ESS may result in fires and electric shocks. • To avoid the risk of electric shock, do not perform any other maintenance operations beyond this manual. If necessary, contact Fox ESS for maintenance. Otherwise, the losses caused are not covered by the warranty. • If a fault occurs, only restart the device after the fault is cleared. Otherwise, the fault may expand, and the device may be damaged.

10.1 Safety Instructions

Observe the following instructions through the maintenance or service process to ensure personnel safety.

- Disconnect the AI Link from all external connections and internal power supplies.
- Ensure the AI Link will not be inadvertently connected.
- Ensure the AI Link is voltage free with a multimeter.
- Connect necessary grounding cables.
- Cover the electrical components with insulation cloth during operation.

10.2 Routine Maintenance

10.2.1 Safety Check

A safety check should be performed at least every 12 months by a qualified technician who has adequate training, knowledge and practical experience to perform these tests. The data should be recorded in an equipment log. If the AI Link is not functioning properly or fails any of the tests, the AI Link has to be repaired. For safety check details, refer to Chapter 2 of this manual.

10.2.2 Maintenance Checking List

During the process of using the AI Link, the responsible person shall examine and maintain the machine regularly. The required actions are as follows:

Checking List	Checking Method	Maintenance Period
Electrical Connection	Check whether cables are loose. Check whether the cable is damaged, especially whether the part of the cable in contact with the metal shell is cut.	Once half a year to a year

Note: Only qualified individuals are permitted to perform these actions.

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