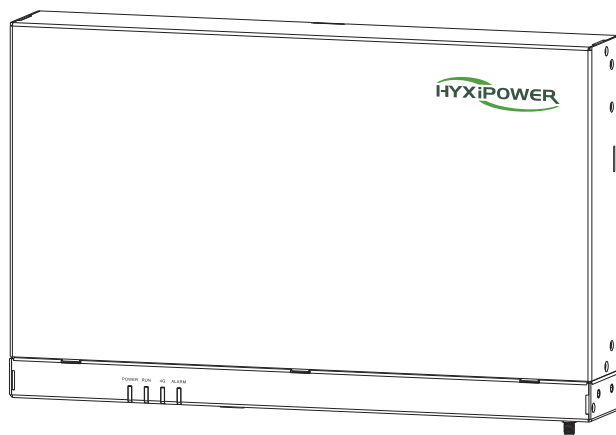


HYX-LOGGER **PV Data Collector**

HYX-Logger A / HYX-Logger B



Carefully read this user manual before using the product.
Read and save these instructions.

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About the Manual

Overview

This manual primarily provides information on the installation, electrical connections, system operation, maintenance, and troubleshooting of the HYX-Logger. Please read the safety information in this manual carefully before installing and using the HYX-Logger.

Scope of Application

- HYX-Logger A
- HYX-Logger B

For Readers

This manual is intended for professional technicians who need to install, operate and maintain the product and for users who need to check the product parameters.

All installation operations must be carried out by professional technicians and only by professional technicians.

Use of the Manual

Please read the manual carefully before using the product, the content of the manual will be updated and corrected, but it is inevitable that there is a slight discrepancy or error with the actual product. Users should refer to the actual product purchased and obtain the latest version of the manual by downloading from www.hyxipower.com or through sales channels.

The latest version of the manual is available for download at or through sales channels.

Use of Symbols

To ensure user safety and property protection during product use, relevant information is provided and highlighted with the following symbols.

DANGER

- Indicates a high potential hazard that, if not avoided, could result in death or serious injury.

WARNING

- Indicates a moderate potential hazard that could result in death or serious injury if not avoided.

CAUTION

- Indicates a low potential hazard which, if not avoided, could result in moderate or minor injury.

NOTICE

- Indicates a potential risk which, if not avoided, could result in the equipment not functioning properly or in property damage.

1 Safety Instructions

1.1 General Safety

For safety, all operations including transportation, storage, installation, usage and maintenance must comply with applicable laws, regulations, standards and specifications. Incorrect operation or use will endanger:

- Life and personal safety of operators or third parties.
- Other property of the operators or third parties.

To avoid the above hazards, please strictly follow the safety precautions in the manual.

HYXI is not responsible in the event of any of the following:

- It does not operate in the conditions of use described in this manual.
- The installation and use environment do not comply with the provisions of the relevant international or national or regional standards.
- Unauthorized disassembly, modification of the product or modification of the software code.
- Failure to follow the operating instructions and safety warnings in the product and documentation.
- Equipment damage caused by abnormal natural environment (force majeure, such as earthquake, fire, windstorm, flood, mudslide, etc.).
- Damage to equipment caused by abnormal natural environment (force majeure, such as earthquake, fire, storm, flood, mudslide, etc.)
- Transportation damage caused by the customer's own transportation.
- Damage caused by storage conditions that do not meet the requirements of the product documentation.
- Damage to the hardware or data of the equipment due to customer negligence, improper operation or intentional damage.
- Damage to the system caused by a third party or the customer, including damage caused by handling and installation that does not meet the requirements of this manual, and damage caused by adjustments, alterations, or removal of identification marks that do not meet the requirements of this manual.

** DANGER**

- It is strictly prohibited to operate the product during adverse weather conditions such as thunderstorms, rain, snow, or winds above level 6 (including, but not limited to, handling, installation, electrical connections, power-on, maintenance, and high-altitude operations). HYXI will not be liable for any damage caused by earthquakes, floods, volcanic eruptions, landslides, lightning strikes, fires, wars, armed conflicts, typhoons, hurricanes, tornadoes, extreme weather, or other force majeure events.
- In case of a fire, evacuate the building or product area and call the fire emergency number. Under no circumstances should you re-enter the fire-affected area.
- When using tools to tighten the product or terminals, please follow the specified torque requirements. Failing to do so may result in product damage, and such damage will not be covered by the warranty. Before using any tools, ensure you understand the correct operating procedures to avoid personal injury and equipment damage.

** NOTICE**

- The "Notice," "Caution," "Warning," and "Danger" items in this manual do not represent all the safety precautions that should be followed; they are supplementary to all safety measures. All tasks should be performed in accordance with the actual conditions at the site.
- This equipment should only be used in environments that meet the design specifications; otherwise, it may lead to equipment failure. Any resulting issues such as abnormal equipment functionality, component damage, personal safety accidents, or property loss are not covered by the warranty.
- The installation, operation, and maintenance of the equipment must comply with local laws, regulations, and standards. The safety precautions in this manual are only supplementary to the local laws and regulations.

1.2 Electrical Safety

DANGER

- Irregular or incorrect operations may lead to accidents such as fires or electric shocks.
- During operation, prevent foreign objects from entering the equipment, as this could cause short circuits, equipment failure, reduced load power supply, power loss, or personal injury.
- For equipment that requires grounding, the protective grounding cable must be installed first during installation, and must be removed last when dismantling the equipment.

General Requirements

- During installation, operation, and maintenance, follow the steps and sequence outlined in the manual. Do not modify, add, or change the equipment or installation process without authorization.
- Before installing or removing power cables, ensure the equipment and its upstream and downstream switches are turned off.
- If any liquid enters the equipment, immediately turn off the power and do not continue to use the device.
- Before operating the equipment, carefully check whether the tools used meet the requirements and are properly recorded. After use, collect the tools to prevent them from being left inside the equipment.
- Before installing power cables, ensure that the cable labels are correct and that the cable terminals are properly insulated.
- When installing the equipment, use a torque tool with the appropriate range to tighten the screws. When using a wrench, ensure that it is not tilted and that the torque value deviation does not exceed 10% of the specified value.
- Regularly check the screws of the equipment connection terminals to ensure they are tightened and not loose.
- If the cables are damaged, they must be replaced by professionals to avoid risks.
- It is strictly prohibited to alter, damage, or obscure any markings or nameplates on the equipment. Replace any markings that become unclear due to long-term use.
- Do not use water, alcohol, oil, or other solvents to clean the electrical components inside or outside the equipment.

Grounding Requirements

- The equipment's grounding impedance must meet local electrical standards.
- The equipment should be permanently grounded. Before operating the equipment, check the electrical connections to ensure the equipment is reliably grounded.
- Do not operate the equipment if the grounding conductor is not installed.
- The grounding conductor must not be damaged.
- For equipment using a three-pin socket, ensure that the grounding terminal in the socket is connected to the protective ground.
- For equipment with large contact currents, the protective grounding terminal of the equipment's casing must be grounded before connecting the input power supply to prevent electric shocks from contact current.

Wiring Requirements

- Cable selection, installation, and routing must comply with local laws, regulations, and standards.
- During the installation of power cables, it is strictly prohibited to form loops or twists. If the power cable is too short, it must be replaced with a longer one. It is forbidden to make joints or solder points in the power cable.
- All cables must be securely connected, well-insulated, and appropriately sized.
- Cable trays and cable passage holes should have no sharp edges. The cable path should be protected to avoid damage to the cables from sharp edges or burrs.
- Cables of the same type should be bundled together, appearing neat and straight, with no damage to the outer insulation. Cables of different types should be routed separately and must not be intertwined or crossed.

1.3 Environmental Requirements

DANGER

- Do not place the equipment in environments with flammable, explosive gases, or smoke. No operations should be carried out in such environments.
- The equipment must not be placed near heat sources or open flames, such as fireworks, candles, heaters, or other heating devices. Excessive heat may damage the equipment or cause a fire.

WARNING

- The equipment should be installed in areas away from liquids. Do not install it below water pipes, air vents, or other locations prone to condensation. Additionally, it must not be installed below air conditioning vents, ventilation openings, or windows where water may leak from the equipment room, to prevent liquid from entering the equipment and causing faults or short circuits.

General Requirements

- The temperature and humidity environment for storing the equipment should be appropriate, stored in a clean, dry, and well-ventilated area, and protected from dust and condensation.
- Do not install and operate the equipment beyond the specified technical parameters, as doing so may affect the performance and safety of the equipment.
- Do not install, use, and operate outdoor equipment and cables (including, but not limited to, handling equipment, operating cables, plugging and unplugging signal interfaces connected to outdoor devices, high-altitude operations, outdoor installations, and door openings) during adverse weather conditions such as thunderstorms, rain, snow, or winds above level 6.
- The equipment must not be installed in environments with direct sunlight, dust, smoke, volatile gases, corrosive gases, infrared radiation, organic solvents, or excessive salt content.
- The equipment must not be installed in environments with conductive metallic dust or magnetic dust.
- The equipment must not be installed in areas where fungi, mold, or other microorganisms are likely to grow.
- The equipment must not be installed in areas with strong vibration, loud noise, or strong electromagnetic interference.
- After installing the equipment, remove any empty packaging materials such as cardboard boxes, foam, plastic, and cable ties from the equipment area.

2 Product Overview

2.1 Product Description

The HYX-Logger has the following functions:

No.	Function	Description
1	Device Access Support	The Logger can connect to various devices in a photovoltaic power generation system via RS485 bus. It can also connect to string inverters with PLC communication functionality produced by HXYI. The device stores and processes equipment information and converts data communication protocols through protocol conversion.
2	Communication Equipment Management	The Logger allows centralized management of connected devices, including parameter configuration, firmware upgrades, etc., to facilitate on-site operation and maintenance.
3	Web Interface Configuration	The Logger can be configured through the embedded web interface, which allows settings for system time, network, serial ports, and the maintenance of protocol point tables.
4	Ethernet Port Configuration	The Logger integrates four Ethernet ports (LAN1-LAN4) with data exchange functionality, two Ethernet ports, and two SFP optical ports. The northbound direction can connect to the comprehensive automation system or station control system, while the southbound direction can connect to third-party devices.
5	Data Forwarding Service Support	The Logger can forward collected data to the comprehensive automation system, station control system, and HXYI cloud platform.
6	Protocol Conversion Service Support	The Logger supports protocol conversion services, including Modbus RTU to IEC 104, MQTT, Modbus-TCP, etc.
7	Grid Dispatch	The Logger can receive and perform dispatch commands from the power grid, including remote dispatch control commands, analog and digital dispatch control commands. It can also perform active power control and reactive power adjustment for connected inverters.
8	Local Dispatch	The Logger can accept and perform local dispatch commands, including issuing fixed values, electric meter closed-loop dispatch, etc.
9	IV Curve Online Diagnostics	The Logger supports online IV curve diagnostics for inverters developed by HXYI.

2.2 Networking Applications

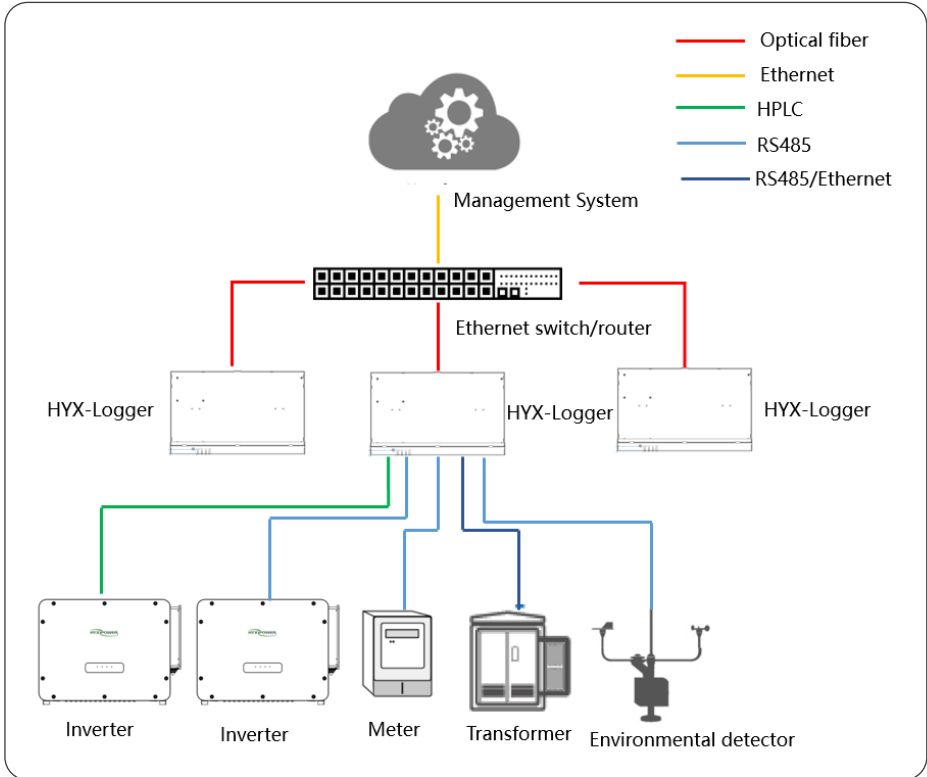
The HYX-Logger can participate in networking applications in various scenarios. It connects to inverters, box transformer, environmental monitoring instruments, electricity meters, etc., in the photovoltaic power generation system via RS485 bus. It can also connect to string inverters with HPLC functionality produced by HYXI via HPLC bus.

- Supports RS485 Networking:
 - » Connects to HYXI inverters, PID devices, and other equipment.
 - » Connects to third-party inverters, environmental monitoring instruments, and electricity meters using the standard Modbus-RTU protocol.
- Supports Ethernet Networking for connecting inverters.
- Supports HPLC Networking, connecting inverters from HYXI that support HPLC communication.
- Supports Dual-Plane Redundant Networking, providing reliable transmission.
- Supports Connection to Management Systems:
 - » Through wired or wireless network, it connects to management systems or third-party devices using the Modbus-TCP protocol.
 - » Through wired network, it connects to management systems or third-party devices using the IEC104 protocol within a local area network (LAN).
 - » HYX-Logger does not support networking via 4G/3G/2G or LTE private networks to connect to IEC104 protocol management systems.
- HYX-Logger does not support networking via 4G/3G/2G or LTE private networks to connect to IEC104 protocol management systems.
- The online electricity meter requires a dedicated RS485 connection and cannot be daisy-chained with other devices.

Networking Scenarios

The wired network topologies supported by HYX-Logger include fiber ring networking, fiber star networking, and Ethernet star networking.

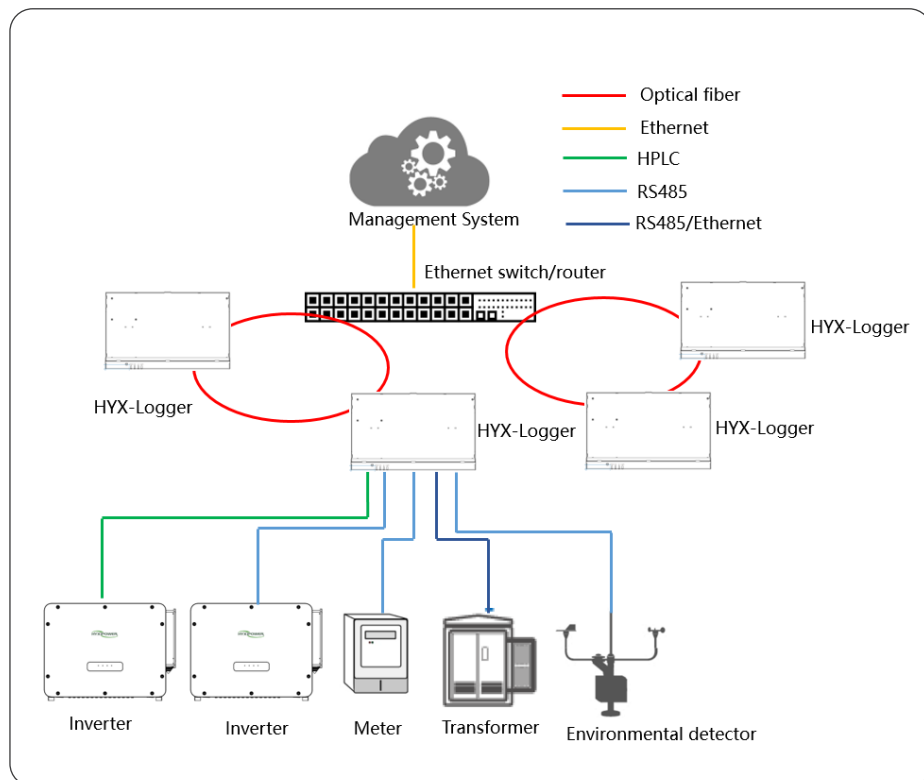
- Fiber or Ethernet Star Networking



NOTICE

- Multiple Logger can be aggregated through an Ethernet switch and then connected to the management system.
- When the Logger is connected to the Ethernet switch via optical fiber, the maximum communication distance is 15 km (with optional gigabit fiber module); when connected via Ethernet cable, the maximum communication distance is 100 meters.

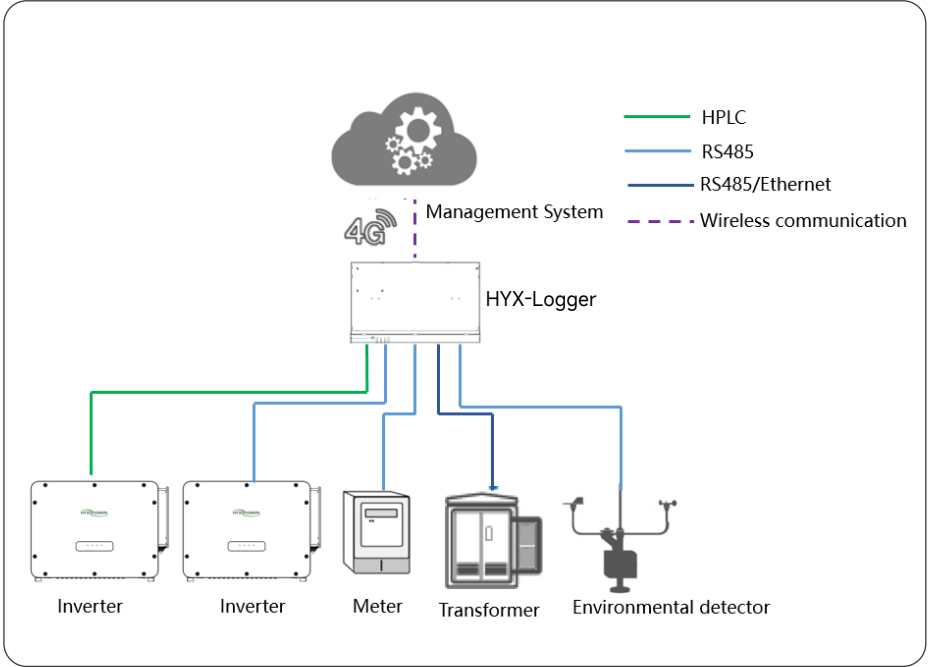
- Fiber Ring Networking



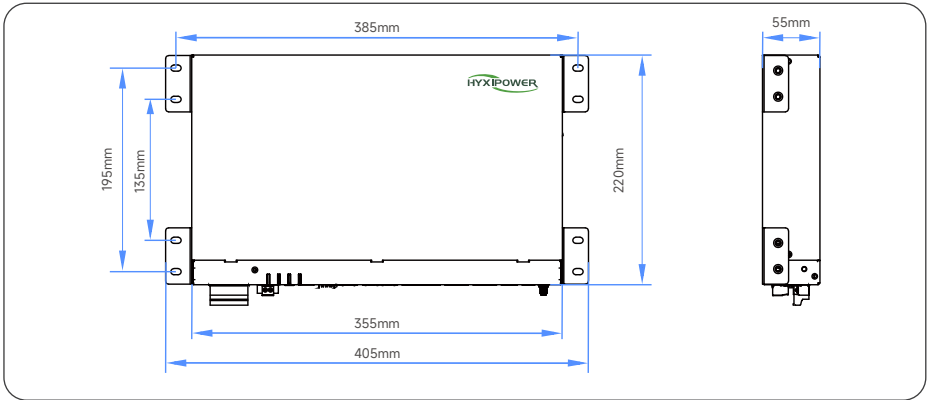
NOTICE

- The fiber optic switch must support the standard RSTP protocol and have it enabled. Set the switch's bridge priority to be higher than 0x8000 of the Logger (Recommendation: 0x7000, with smaller values indicating higher bridge priority). The configuration method for the switch's RSTP and bridge priority should be consulted with the relevant manufacturer. If the switch does not support the RSTP protocol, the fiber ring network must be changed to a daisy-chain or star topology.
- Multiple fiber ring networks can be aggregated through an Ethernet switch and then connected to the management system.

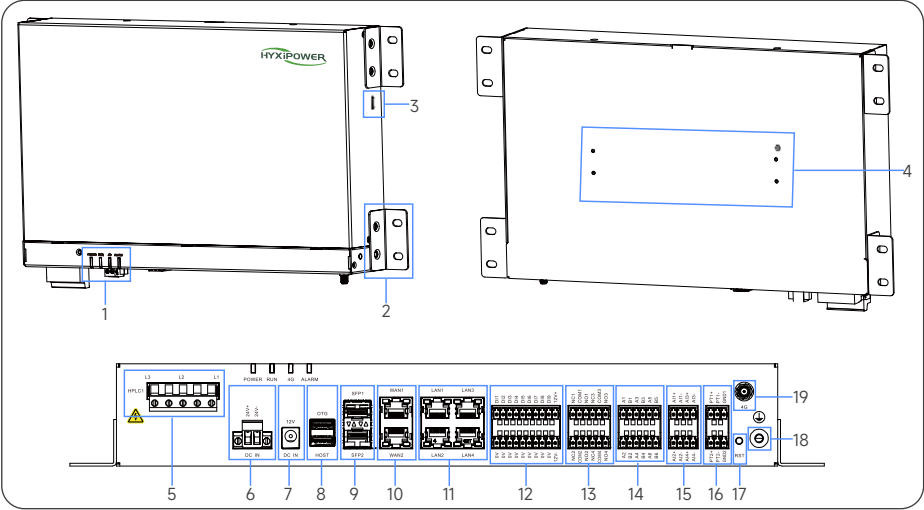
- 4G Networking



2.3 Product Dimension



2.4 Product Appearance



(1) Indicator light	(2) Mounting bracket	(3) SIM card installation slot (Applicable to HYX-Logger A)	(4) Din-rail mounting position
(5) HPLC port	(6) 24V DC Power	(7) Power adapter port	(8) OTG Upgrade port
(9) SFP port	(10) WNA port	(11) LAN port	(12) DI port
(13) DO port	(14) RS485 port	(15) AI port	(16) PT port
(17) RST	(18) Grounding point	(19) 4G Antenna (Applicable to HYX-Logger A)	

Operation Indicator Light

Indicator Light	Status	Description
POWER	Green light off	Not powered on
	Green light on	Powered on
RUN	Green light off	Management system not started
	Green light on	Management system started successfully
ALAM	Red light off	No alarm occurred
	Red light blinks slowly (1S on and 2S off)	Alarm warning
	Red light blinks fast (0.5S on, 0.5S off)	Minor alarm
	Red light steady on	Severe alarm
4G	Steady off	Not connected to the internet
	Green light blinks slowly (1S on, 1S off)	Connected to Cloud service successfully
	Steady on	Connected to the internet successfully

3 Pre-Installation Preparation

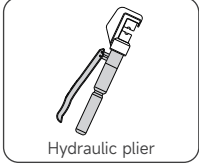
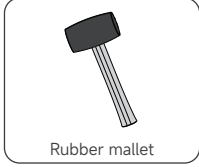
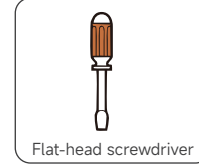
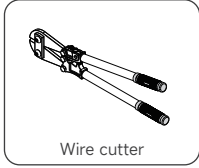
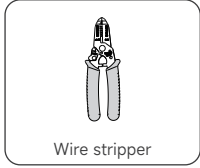
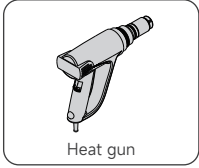
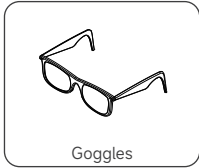
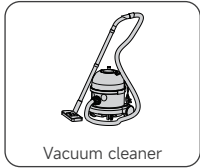
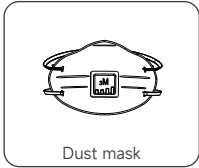
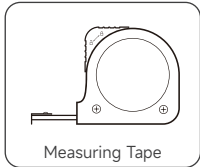
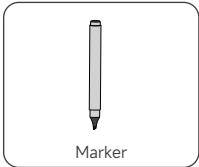
3.1 Pre-Installation Inspection

Inspection Items	Inspection standards
Packing	Checking the outer packaging is intact and clean. If there is any damage or abnormality, do not open it and contact HYXI Technology or the distributor.
Delivered items	Check the quantity of delivered items against the "Packing List" inside the packaging box. If any items are missing or damaged, please contact HYXI Technology or the distributor.

3.2 Installation Tools

Installation tools include, but are not limited to, the following recommended tools. And if necessary, other auxiliary tools can be used on site.

The following tools are not included in this package. Please make sure they are ready before installation and electrical connections.

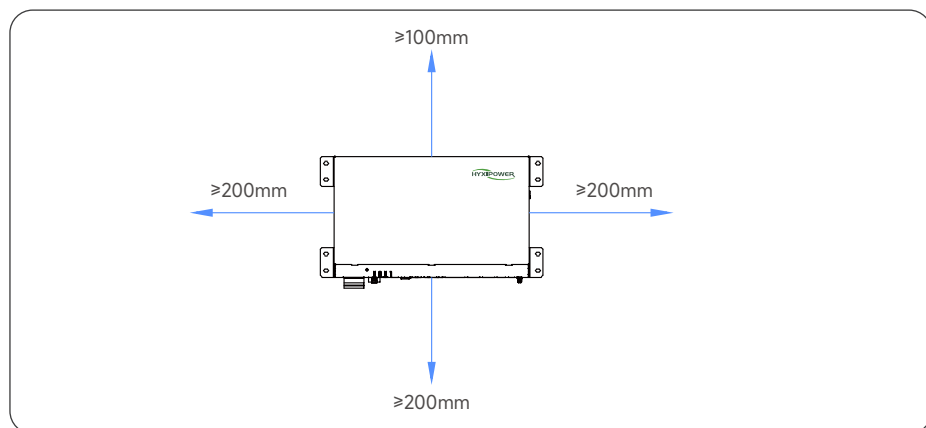


3.3 Installation Environment Requirements

- The Logger has a protection rating of IP20 and can only be installed indoors.
- During installation, ensure that the environment temperature is within the range of -30°C to $+60^{\circ}\text{C}$, and the relative humidity is between 0% and 95% (non-condensing). Excessive humidity may cause internal component damage.
- Take precautions against moisture and humidity, ensuring that the installation environment is free of flammable, explosive, and chemically corrosive substances.

Installation Space Requirements

- Before installing the Logger, ensure there is sufficient clearance around the installation site.
- Pay attention to the orientation of the Logger during installation; ensure the wiring terminals are positioned at the bottom to prevent airborne dust, particles, and other substances from entering the unit during prolonged use, which could affect its service life.
- The installation height should be 1500mm from the ground, and at least 500mm of maintenance space should be reserved. The minimum spacing requirements are shown in the following diagram.



4 Mechanical Installation

⚠ WARNING

- Before drilling, please avoid any electrical wiring or plumbing lines within the wall to prevent danger.

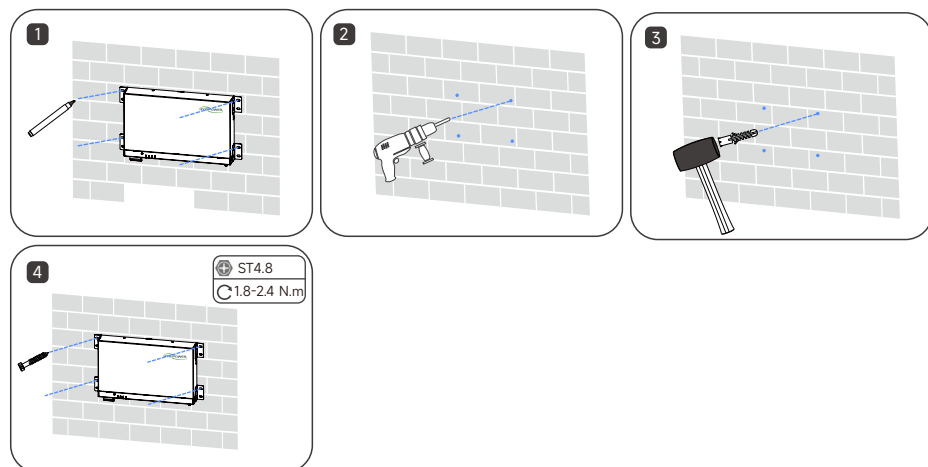
4.3.1 Wall-Mounting

Step 1: Mark holes on the brackets of the logger with a Marker.

Step 2: Drill the marked holes with a drill bit.

Step 3: Insert the M5*30 screws to the holes.

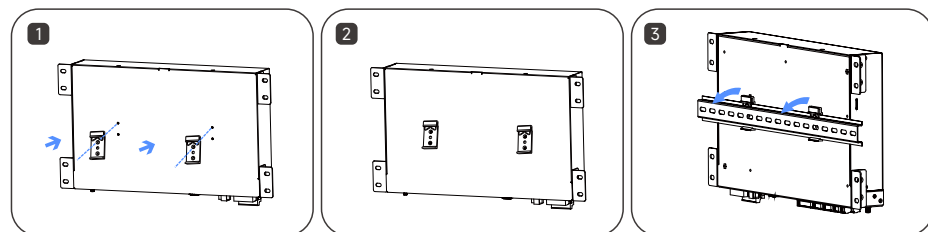
Step 4: Align the Logger to the wall, and then use the ST4.8 screws to secure the Logger. (Torque: 1.8-2.4N.m)



4.3.2 DIN-Rail Mounting

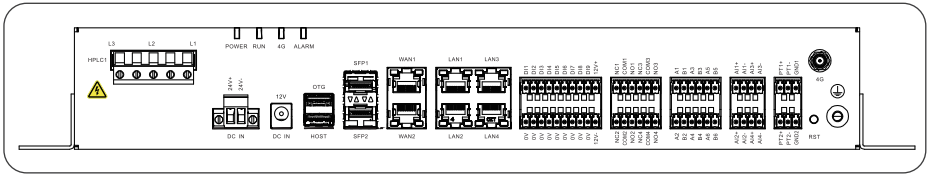
Users shall prepare a 350-mm standard rail by themselves. DIN rail requirements: Recommended effective length ≥ 360 mm; the rail must be securely fixed before installation.

Use the M3*6 screws from the packaging to secure the mounting clips and the Logger.



5 Electrical Connection

5.1 Cable Preparation



NOTICE

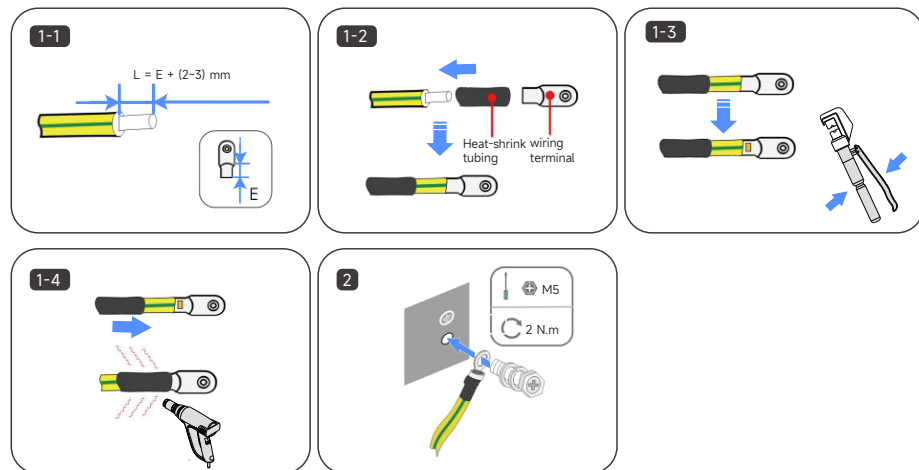
- Electrical connections must comply with local national or regional laws and regulations. To prevent poor connections caused by excessive tension on the cables, it is recommended to leave some slack in the cables before connecting them to the corresponding ports.

Cable Type	Recommended Specification
PE	Outdoor copper core wire Cross-sectional area: 4 ~ 6mm ² or 10 ~ 12AWG
RS485 cable	Outdoor shielded double-core or multi-core wire Cross-sectional area: 0.5 ~ 2.5mm ² or 14 ~ 24AWG
HPLC communication cable	Cross-sectional area: 0.5 ~ 2.5mm ² Cable voltage withstand requirement: cable-to-ground operating voltage ≥ 1000V.
DI signal cable	Double-core or multi-core wire Cross-sectional area: 0.5 ~ 1.5mm ² or 16 ~ 24AWG
DO signal cable	
AI signal cable	
Power output cable	
AC input cable	Outdoor UV-resistant copper wire Cross-sectional area: 1 ~ 1.5mm ² Connected to 100-277Vac (50/60Hz), current ≤ 0.48A
Ethernet cable	Cat5e or higher-specification ethernet cable and shielded RJ45 connector

5.2 Grounding Connection

Step 1: Make the cable and crimp the wiring terminal as shown below.

Step 2: Remove the ground screw from the grounding terminal, and use a screwdriver to secure the the cable.

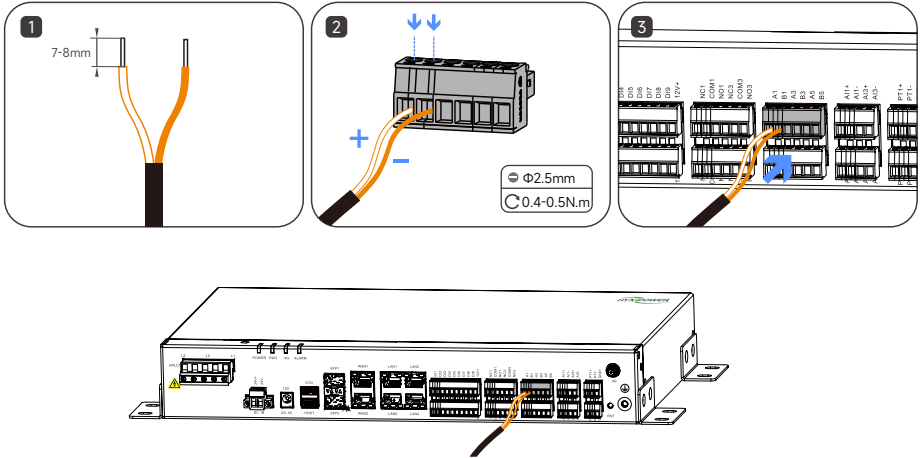


5.3 RS485 Connection

NOTICE

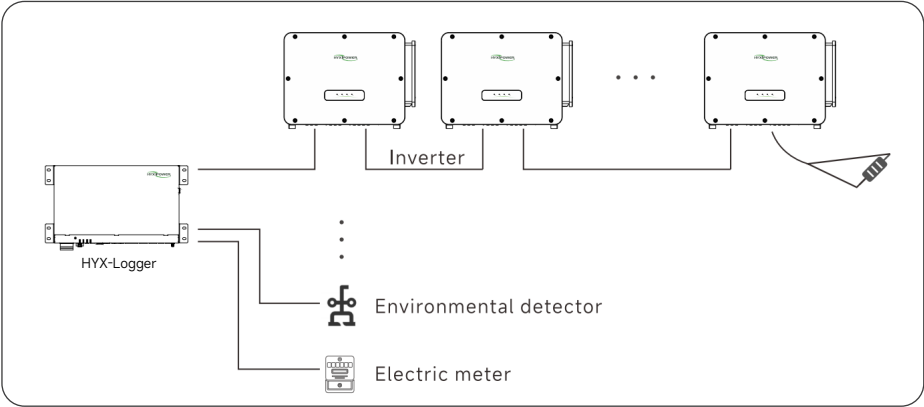
- Use outdoor RS485 twisted pair shielded cable to connect any RS485 port (A1B1–A6B6) of the Logger to the RS485 communication terminal of the inverter.
- The Logger can connect to RS485 communication devices such as inverters, environmental monitoring instruments, electricity meters, and PID devices through its RS485 port.
- When wiring, ensure that RS485+ is connected to A1 of the Logger and RS485– is connected to B1 of the Logger.
- The Logger supports a maximum of 6 RS485 buses, with up to 150 devices connected in total. Each RS485 bus can support up to 30 devices.
- It is recommended to install a 120 Ω termination resistor at the COM communication terminal of the last inverter on each RS485 communication bus to ensure proper RS485 communication.
- Different types of devices must be connected to different RS485 ports on the Logger. For example, box transformer and inverter should be connected to different RS485 communication ports on the Logger.
- The addresses of all devices on each RS485 bus must fall within the address range (1-246) set on the Logger and must not be duplicated, as duplicates will cause communication failure.
- The serial port parameters of all devices on each RS485 bus must be consistent with the serial port parameters of the Logger. These parameters include baud rate, data bits, stop bits, and parity.

Wiring Procedures:



Port	Diagram	On-device Marking	Description
RS485		A1 ~ A6	RS485A, RS485 differential signal +
		B1 ~ B6	RS485B, RS485 differential signal -

RS485 Connection Diagram:



NOTICE

- Each RS485 bus shall connect less than 30 devices.
- All devices on the RS485 daisy-chain shall share identical baud-rate, protocol and check-mode with the corresponding COM-port of Logger.

5.4 HPLC Connection

NOTICE

- Disconnect the transformer from the power grid before wiring; Disconnect the inverter from the DC side; Ensure that the system is within the safe operating range.
- When the inverter uses HPLC communication, RS485 cable wiring is not required.
- When using HPLC communication, the distance between the inverter and the Logger cannot exceed 1000m.

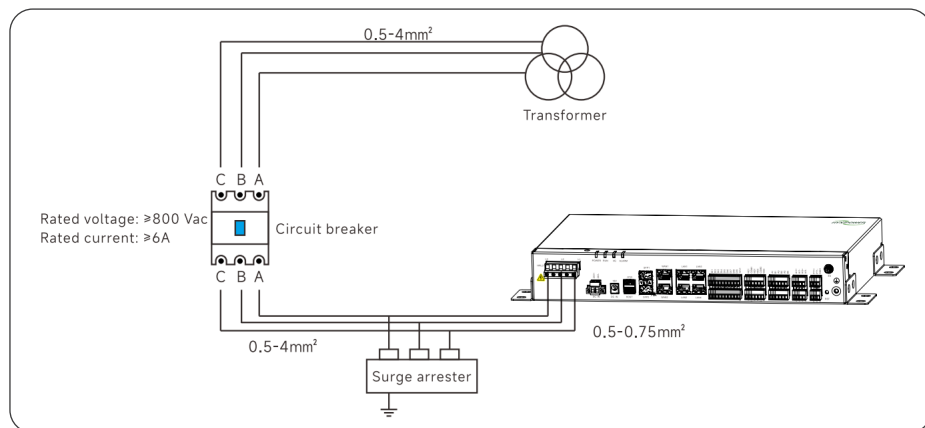
Wiring Preparation:

- Disconnect the transformer from the power grid.
- Disconnect the DC side connection of the inverter to ensure it is in a safe operating state.

Wiring Procedures:

Step 1: Connect one end of the HPLC power cable to the HPLC port of the Logger ("L1, L2, L3") and the other end to the three-phase port of the circuit breaker.

Step 2: The L1 port of the Logger should correspond to phase A of the circuit breaker, L2 should correspond to phase B, and L3 should correspond to phase C. The specific wiring is shown in the diagram below.



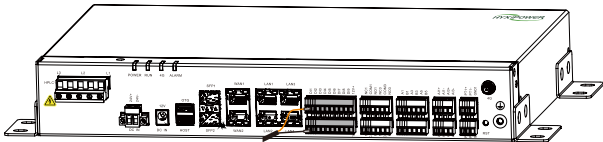
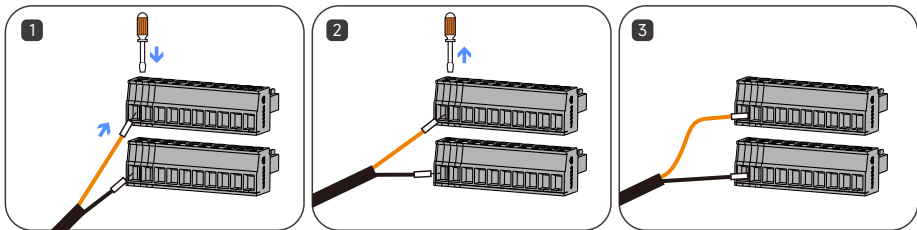
NOTICE

- The isolation voltage for HPLC cable connection must exceed 1000V. It is recommended that the cable specification be 0.5~0.75mm².
- The HPLC cable must be connected to a three-phase lightning arrester, otherwise, it may cause equipment damage.
- The Logger has a built-in HPLC module and can support AC voltage <1000V.

5.5 DI Signal Connection

NOTICE

- Remote power-grid dispatching commands, alarms and other DI-type signals can be accessed via the DI port. Only passive dry contact signal input is supported.



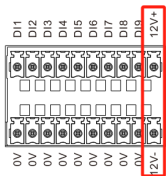
Port	Diagram	On-device Marking	Description
DI		DI1 ~ DI9	Support 9 channels of passive dry contact signal input
		0V	

5.6 12V Power Output Connection

In anti-reverse-power-flow and audible-visual alarm scenarios, the Logger can drive the coil of an intermediate relay through the 12V power output port.

NOTICE

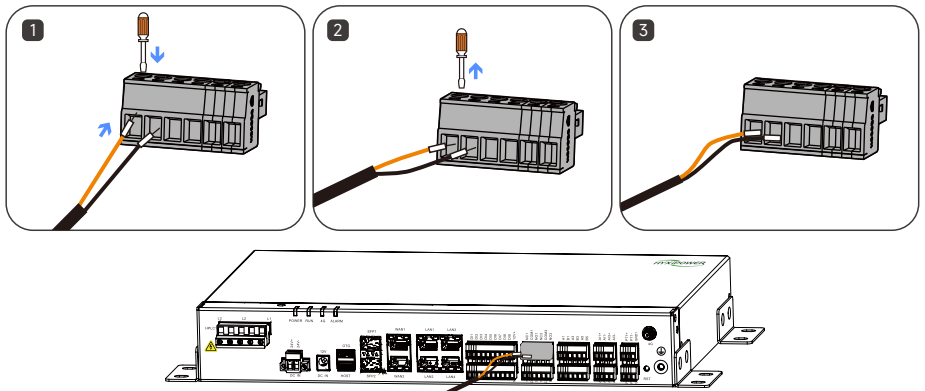
- The recommended transmission distance is less than 10 meters.

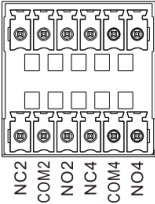
Port	Diagram	On-device Marking	Description
Power output		12V+	12V power output
		12V-	

5.7 DO Signal Connection

 **NOTICE**

- DO port supports a maximum signal voltage of 12V. NO/COM is the normally-open contact and NC/COM the normally-closed contact. Port 1 connects to NC1, Port 2 to COM1, Port 3 to NO1.
- The recommended transmission distance is less than 10 meters.



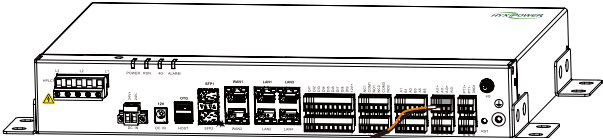
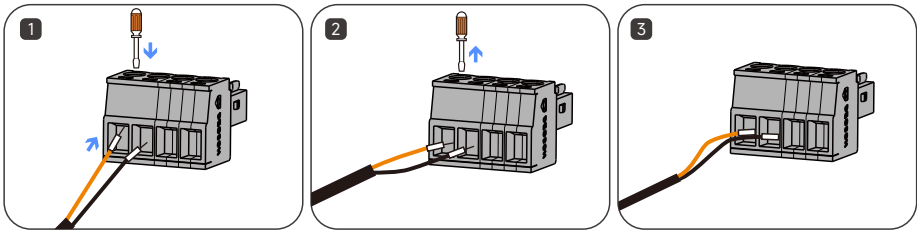
Port	Diagram	On-device Marking	Description
DO		NC1 ~ NC4	• NC/COM the normally-closed contact. • NO/COM is the normally-open contact. • DO port supports a maximum signal voltage of 12V.
		COM1 ~ COM4	
		NO1 ~ NO4	

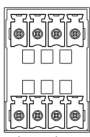
5.8 AI Signal Connection

The AI port can receive AI signals from devices such as environmental-monitoring sensors.

 **NOTICE**

- The recommended transmission distance is less than 10 meters.

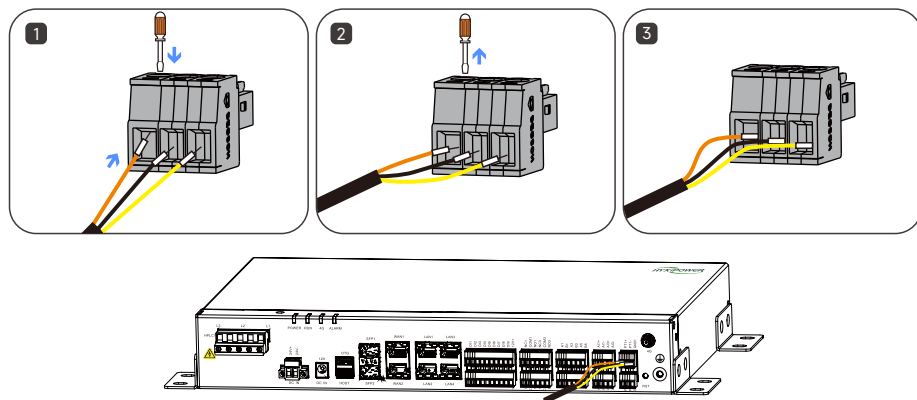


Port	Diagram	On-device Marking	Description
AI		AI1	- AI1 is a voltage input, supporting 0~10V voltage input. - AI2~AI4 are current inputs, supporting 0~20mA or 4~20mA current input.
		AI2 ~ AI4	

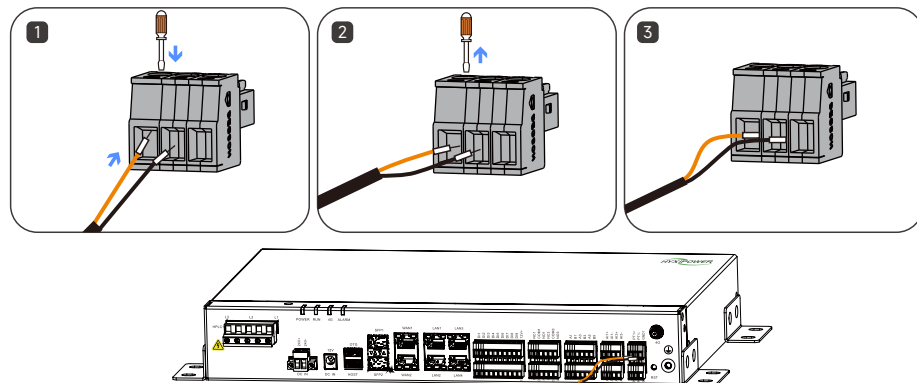
5.9 PT Signal Connection

The Logger has 2 PT ports, supporting connection of 3-wire or 2-wire PT100/PT1000 temperature sensors.

Connect 3-wire PT100/PT1000



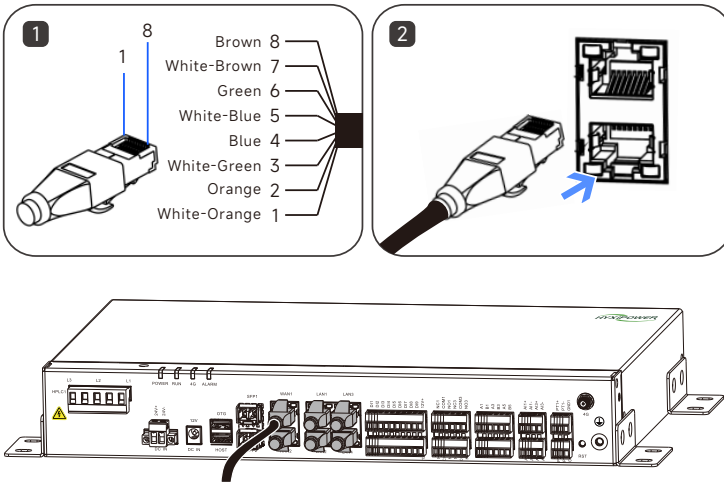
Connect the 2-wire PT100/PT1000



5.10 Network Connection

The Logger can connect to devices such as Ethernet switch, router, and computer via its WAN port.

The Logger can connect to other devices or computers via its LAN port.

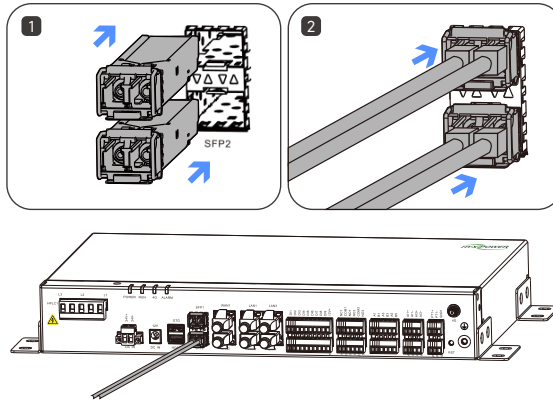


5.11 Fiber-Optic Patch Cord Connection

The Logger can connect to devices such as fiber optic termination boxes via fiber optic cables.

NOTICE

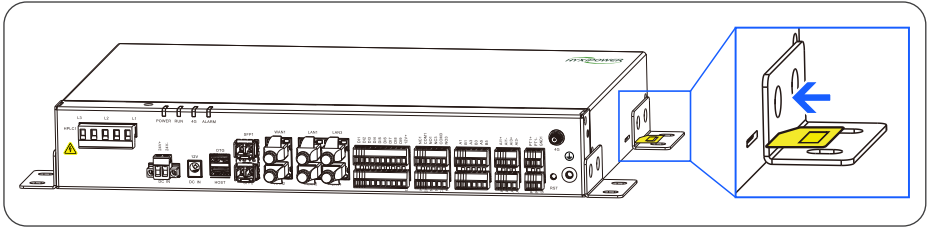
- The optical fiber modules are optional; if you are configuring them yourself, select fast ethernet (100 Mbps) or gigabit (1000 Mbps) optical modules based on the optical switch's interface ports. The modules must use the SFP or eSFP form factor, with fast ethernet modules supporting a transmission distance of ≥ 12 km and gigabit modules supporting a transmission distance of ≥ 10 km.
- When inserting the optical fiber module into the SFP1 port, please ensure that the labeled side is facing up. When inserting the optical fiber module into the SFP2 port, please ensure that the labeled side is facing down.



5.12 SIM Card Installation

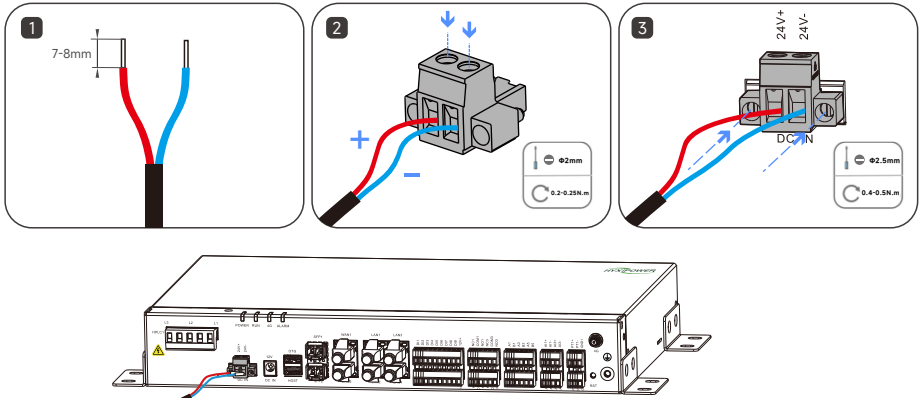
Prepare a standard SIM card (size:15mm×25mm, capacity ≥ 64KB). The monthly data traffic of the SIM card is ≥ the monthly data traffic of the inverter + the monthly data traffic of the environmental monitor. The installation direction of the SIM card can be determined by the silk-screen printing at the SIM card socket.

1. When the SIM card is pressed to the limit position, it locks into place, indicating that it is correctly installed.
2. To remove the SIM card, push it inward, and it will automatically pop out.



5.13 DC Input Connection (24V Power Supply Connection)

The Logger is powered by a 24V DC power supply and can serve as a backup power source.



6 System Commissioning

6.1 Checking before Power-On

No.	Checking Items
1	Verify that the Logger has been installed securely and properly.
2	Ensure that all cables are connected securely and reliably.
3	Confirm that the power cables and signal cables comply with the routing requirements for separation between power and signal wiring.

6.2 System Power-On

- Method 1: Power supply via the power adapter
 - » When powered by the power adapter, connect its cable and turn on the switch on the AC socket side.
 - » The rated input voltage of the power adapter is 100 V AC to 240 V AC, with a rated input frequency of 50 Hz/60 Hz.
 - » Select an AC socket compatible with the power adapter.
- Method 2: DC power supply
 - » When using a DC power supply, verify that the cables between the DC power supply and Logger are properly connected, then switch on the upstream power supply switch or breaker of the DC supply.

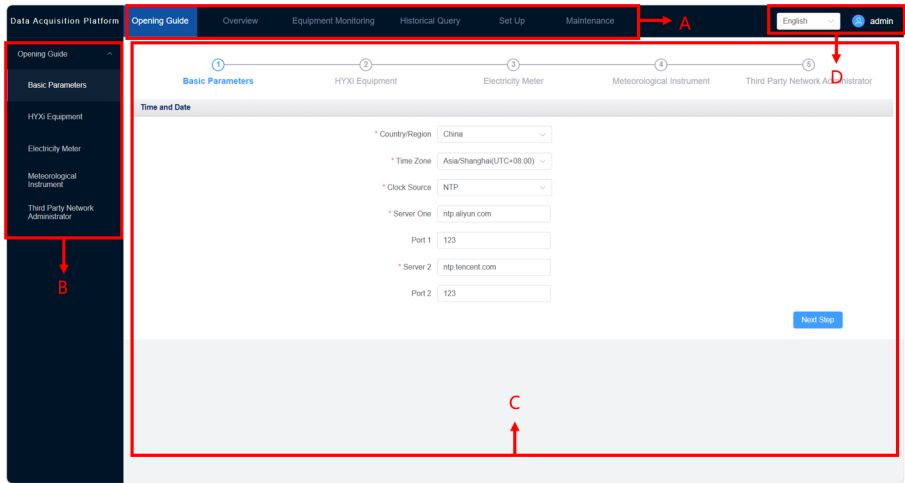
7 Web Interface Operation

7.1 Web Interface Introduction

NOTICE

- The Web interface screenshots provided in this document are for reference only. Please refer to the actual interface displayed on the device.
- Parameter names, ranges, and default values may be changed or adjusted in future versions. Please refer to the actual interface for the latest information.
- Issuing reset, shutdown, or upgrade commands to the inverter may cause the inverter to disconnect from the grid, which may affect energy generation.
- Grid parameters, protection parameters, characteristic parameters, and power regulation parameters of the inverter must be configured by qualified professionals. Incorrect settings for grid, protection, or characteristic parameters may cause the inverter to disconnect from the grid, while incorrect power regulation parameter settings may prevent the inverter from connecting to the grid in accordance with grid requirements, thereby affecting energy generation.
- The grid dispatch parameters of the Logger must be configured by qualified professionals. Incorrect settings may cause the power plant to fail to comply with grid connection requirements, thereby affecting energy generation.

7.1.1 Interface Overview



No.	Function	Description
A	Main menu	Select the main menu as needed.
B	Submenu	After selecting the main menu, use the submenu to select the device to query or the parameters to configure.
C	Interface Details	Display the detailed information inquiry or parameter setting interface.
D	User Information	Display detailed user information.

7.1.2 Interface Menu

Main Menu	Submenu	Level 3 menu	Function Description
Startup Wizard	-	-	Support the startup wizard function. Follow the wizard to complete initial parameter configuration, device access and management system integration.
Overview	Power plant operation information	-	Query the information of the power plant
	Active alarms	-	View sub-array alarm information
	Energy	-	Query the system's power generation, power consumption, purchased electricity and sold electricity data
	Performance data	-	View performance data of the inverter
	Device operation information	-	View real-time operating data of the device
	Mobile data	-	View mobile data
Device Monitoring	Logger	-	View real-time information of the Logger
	Inverter	-	View real-time information of the inverter
	Meter	-	View real-time information of the meter
Historical Query	Historical alarms	-	Query historical alarm information
	Operation logs	-	Query operation logs
	Energy query	-	Query historical energy generation data
	Grid dispatch	-	Query grid dispatch information
Settings	Communication settings	Wired network	Configure wired network parameters
		RS485	Configure RS485 parameters.
		Modbus-TCP	Configure Modbus-TCP parameters.
		IEC 104	Configure IEC 104 parameters
		MQTT	Configure MQTT parameters
	Power control	Active power control	Configure active power control parameters
		Reactive power control	Configure reactive power control parameters
		Feed-in overlimit protection shutdown	Configure shutdown protection parameters for feed-in power exceeding the limit
		Limited power grid connection	Configure limited power grid connection parameters
	Command delivery	-	Operate inverters by sending commands.
Maintenance	Software upgrade	-	Upgrade software for Logger, inverter, and PLC
	User management	-	Manage login users

7.2 Device Commissioning

Preparation

- The equipment installation and cable installation inspection have been completed in accordance with the standards and requirements of the PV power plant.
- The PV power plant and Logger are powered on and in operation.
- The IP address, web interface login username and password for the Logger have been obtained.

7.2.1 Web Preparation and Login

Preparation:

- Operating System: Windows 7 or later versions
- Web Browser: Chrome 52, Firefox 58, IE 9, or later versions are recommended.
- It is recommended that no more than two different users log in to the web interface simultaneously.

Procedure:

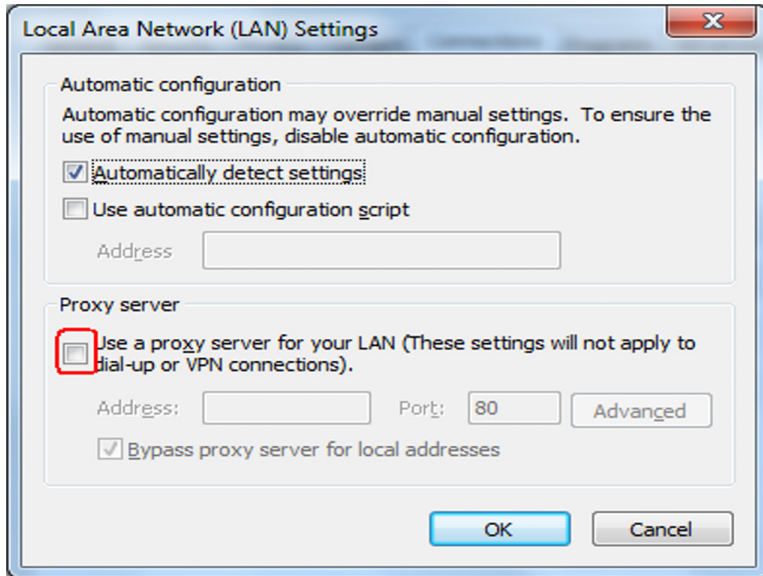
Step 1: Connect a computer to the LAN port of the Logger using an Ethernet cable.

Step 2: Assign the IP addresses of the computer and Logger on the same subnet.

Connection Port	IP Setting	Logger Default Value	Computer Setup Examples
LAN	IP Address	192.168.100.1	192.168.100.1
	Subnet Mask	255.255.255.0	255.255.255.0
	Default Gateway	192.168.100.1	192.168.100.1
WAN	IP Address	192.168.101.1	192.168.101.1
	Subnet Mask	255.255.255.0	255.255.255.0
	Default Gateway	192.168.101.1	192.168.101.1

Step 3: Configure LAN settings

1. Open Internet Explorer (IE).
2. Select **Tools > Internet**.
3. Click the **Connections** tab, and then click **LAN Settings**.
4. Uncheck **Use a proxy server for your LAN**.
5. Click **OK**.

**Step 4:** Log in to the Logger web interface.

1. Enter "https://XX.XX.XX.XX" (where XX.XX.XX.XX is the Logger IP address) into the browser address bar and press the "Enter" key to access the login page. A security risk warning will appear upon the first login. Click "Continue to this website" to proceed to the web interface.
2. Depending on the specific login interface, enter the username and password as instructed in the table below to log in.

Item	Default
Default Username	admin
Default Password	admin123

NOTICE

- After the first login, change the default username and password immediately, then log in again.

7.2.2 Commissioning with the Startup Wizard

Procedure:

- Step 1:** Log in to the WEB interface.
- Step 2:** Follow the instructions in the Startup Wizard to complete the configuration.

Date and Time Settings

The screenshot displays the 'Time and Date' configuration page within the HYX-Logger web interface. At the top, a navigation bar includes 'Data Acquisition Platform', 'Opening Guide', 'Overview', 'Equipment Monitoring', 'Historical Query', 'Set Up', and 'Maintenance'. A language dropdown is set to 'English', and the user is logged in as 'admin'. Below the navigation bar, a progress indicator shows five steps: 1. Basic Parameters (highlighted in blue), 2. HYX Equipment, 3. Electricity Meter, 4. Meteorological Instrument, and 5. Third Party Network Administrator. The left sidebar contains a menu with 'Opening Guide', 'Basic Parameters', 'HYX Equipment', 'Electricity Meter', 'Meteorological Instrument', and 'Third Party Network Administrator'. The main content area is titled 'Time and Date' and contains the following settings: 'Country/Region' set to 'China', 'Time Zone' set to 'Asia/Shanghai(UTC+08:00)', 'Clock Source' set to 'NTP', 'Server One' set to 'ntp.aliyun.com' with 'Port 1' set to '123', and 'Server 2' set to 'ntp.tencent.com' with 'Port 2' set to '123'. A 'Next Step' button is located at the bottom right of the form.

- Time Zone:** Select the time zone corresponding to your location.
 - Time Source:** Select the desired time source. Currently, only NTP (Network Time Protocol) time synchronization is supported.
 - Server:** Enter the NTP server address. By default, the system uses the Alibaba Cloud NTP server: ntp1.aliyun.com.
 - Port:** The default port is 123. If a different NTP server is used, enter the corresponding port number.
- After completing the settings, click **Next Step**.

Power Plant Settings

Data Acquisition Platform

Opening Guide

Overview

Equipment Monitoring

Historical Query

Set Up

Maintenance

English

admin

Opening Guide

Basic Parameters

HYXI Equipment

Electricity Meter

Meteorological Instrument

Third Party Network Administrator

1

2

3

4

5

Basic Parameters

HYXI Equipment

Electricity Meter

Meteorological Instrument

Third Party Network Administrator

Plant Information

* Plant name

Please enter the name of the plant

* Plant address

Please enter the address of the plant

Power plant owner

Address of the owner of the plant

Previous Step

Next Step

Configure Wired Network Parameters

Data Acquisition Platform

Opening Guide

Overview

Equipment Monitoring

Historical Query

Set Up

Maintenance

English

admin

Opening Guide

Basic Parameters

HYXI Equipment

Electricity Meter

Meteorological Instrument

Third Party Network Administrator

1

2

3

4

5

Basic Parameters

HYXI Equipment

Electricity Meter

Meteorological Instrument

Third Party Network Administrator

Wired network parameters

WAN

* IP Address 1

192 . 168 . 100 . 1

Manual assign

Subnet Mask 1

255 . 255 . 255 . 0

Automatic assign

Default gateway 1

write

LAN

* IP Address 2

192 . 168 . 100 . 1

* Subnet Mask 2

255 . 255 . 255 . 0

write

Previous Step

Next Step

NOTICE

- Configure the wired network parameters according to the actual network environment.

Add HYXI Devices

Data Acquisition Platform

Opening Guide

Basic Parameters

HYXI Equipment

Electricity Meter

Meteorological Instrument

Third Party Network Administrator

Overview

Equipment Monitoring

Historical Query

Set Up

Maintenance

Englishadmin

1Basic Parameters

2HYXI Equipment

3Electricity Meter

4Meteorological Instrument

5Third Party Network Administrator

HYXI Equipment

Port Settings

SN List

☐	Device Name	Port Number	Address	SN
☐	INV_20302253700016	COM1	6	20302253700016
☐	INV_20302253800093	COM1	11	20302253800093
☐	INV_20302253700001	COM1	3	20302253700001
☐	INV_20302253800083	COM1	8	20302253800083
☐	INV_20302253800091	COM1	9	20302253800091
☐	INV_20302253900058	COM1	16	20302253900058
☐	INV_20302253600129	COM1	2	20302253600129
☐	INV_20302253600047	COM1	15	20302253600047

Search For

Allocated

Previous Step

Next Step

Select the appropriate port according to the actual wiring configuration.

Port Settings

☐ COM3

☐ COM4

☐ COM5

☐ COM6

☐ HPLC

☒ COM1

Confirm

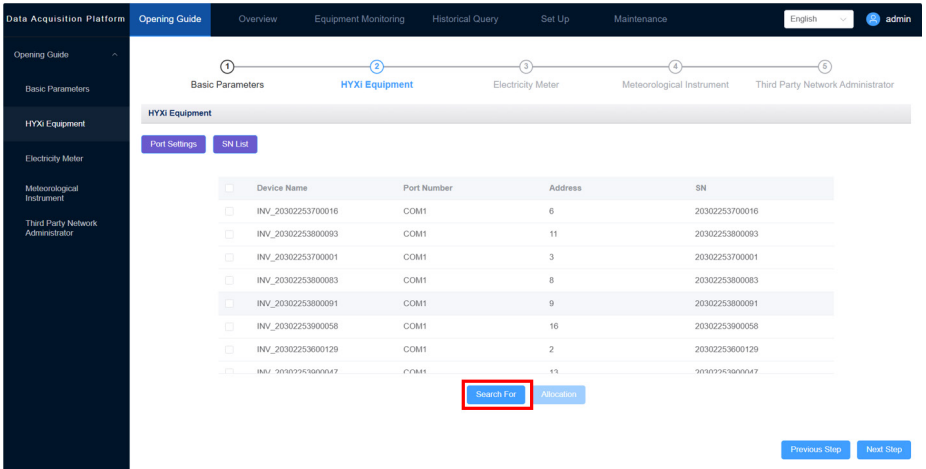
Cancel

Port Setting	COM1	COM2	COM3	COM4	COM5	COM6
Logger Port	A1 B1	A2 B2	A3 B3	A4 B4	A5 B5	A6 B6

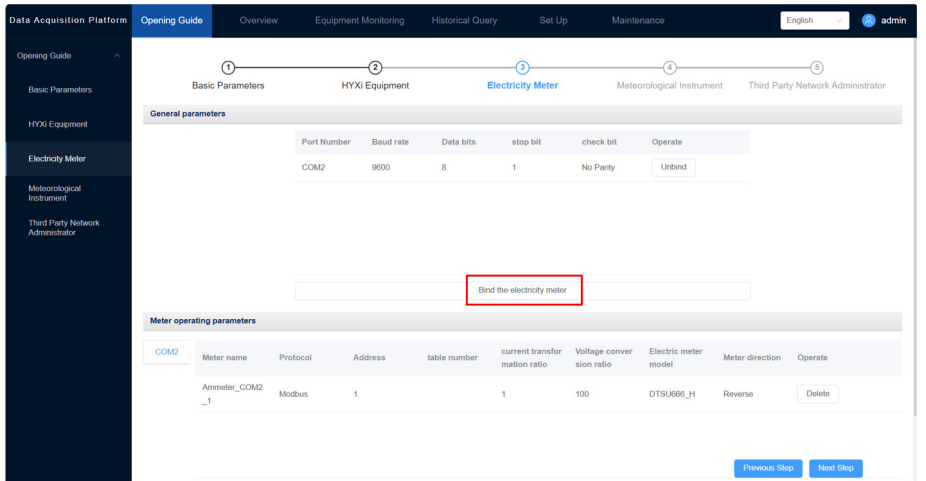
Click **Search For** to perform a broadcast search for HYXi devices connected to the configured communication port. After a short period, the detected HYXi devices will be displayed, as shown in the following figure.

After the search is complete, verify that the number of detected inverters and their serial numbers (SNs) match the actual connected devices.

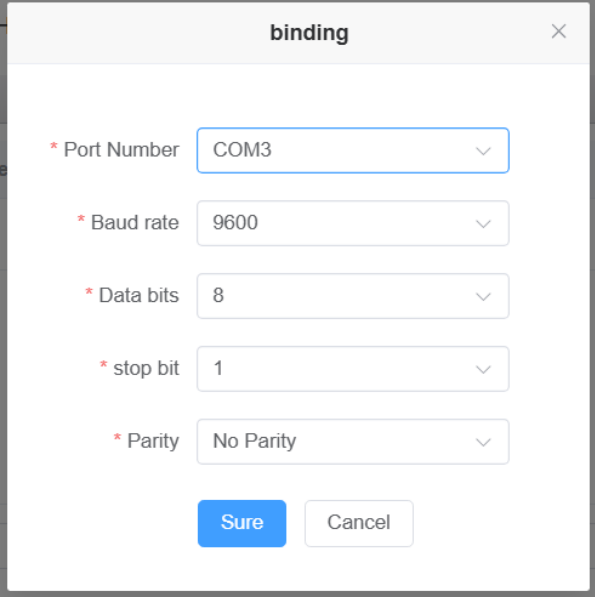
If the number of detected inverters is less than the number of connected inverters, perform the search again. If the detected results are still incorrect after multiple searches, check the communication wiring and connections.



Add Meter



Select **Bind Meter**. The Meter Binding dialog box will be displayed, as shown in the figure below.



The screenshot shows a dialog box titled "binding" with a close button (X) in the top right corner. The dialog contains five configuration items, each with a red asterisk label and a dropdown menu:

- * Port Number: COM3
- * Baud rate: 9600
- * Data bits: 8
- * stop bit: 1
- * Parity: No Parity

At the bottom of the dialog are two buttons: "Sure" (blue) and "Cancel" (grey).

Configure the following communication parameters according to the actual meter specifications:

Port: Select the communication port to which the meter is connected.

Baud Rate: Select the meter's actual communication baud rate.

Data Bits: Select the meter's actual communication data bits.

Stop Bits: Select the meter's actual communication stop bits.

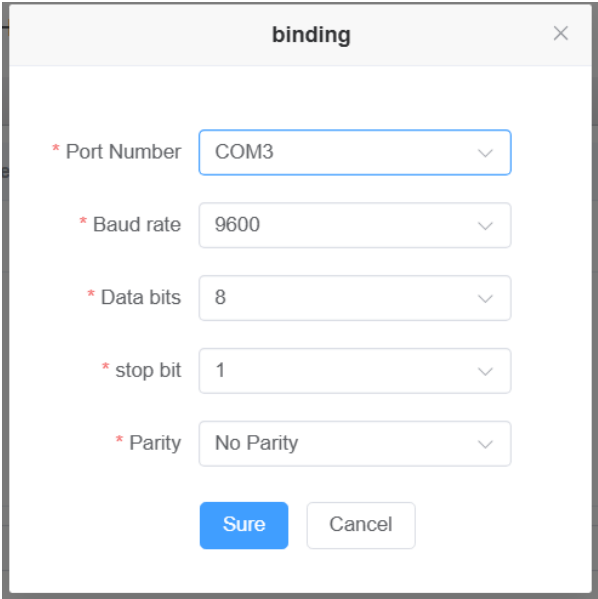
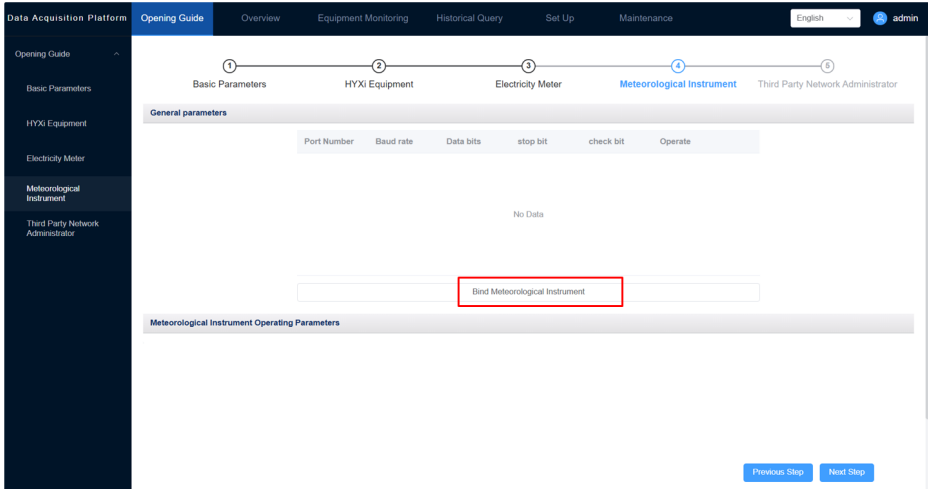
Parity: Select the meter's actual parity setting

NOTICE

- Configure the above communication parameters according to the actual communication settings of the meter.

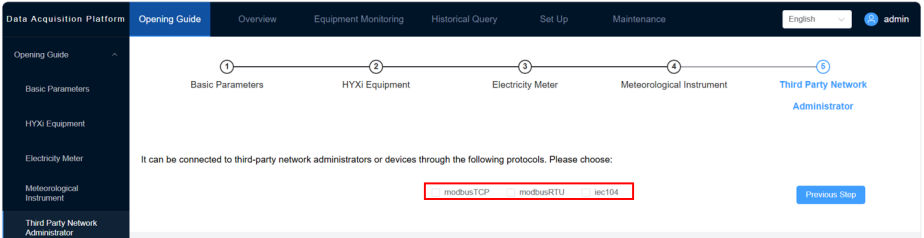
Add Meteorological Instrument

Select Bind Meteorological Instrument



Third Party Network Administrator

Select the appropriate communication protocol according to the third-party SCADA/EMS system deployed on site, and configure the corresponding communication parameters.



8 Routine Maintenance

Factors such as ambient temperature, humidity, dust, and vibration may cause aging and wear in the internal components of the Logger, potentially resulting in equipment faults. Therefore, routine and periodic maintenance is essential to ensure proper operation and extend service life of the Logger.

Maintenance Checklist

Inspection Item	Inspection Method
Operating Environment	• Ensure that no equipment generating strong electromagnetic interference is installed near the Logger. • Ensure that no heat sources are located near the Logger. • Ensure that no corrosive substances are present around the Logger.
Hardware Maintenance	• Verify that the power supply voltage is within the normal range. • Verify that all cable connections are secure. • Verify that the grounding cable is properly connected.
System Cleaning	• Check the cleanliness of the casing, circuit board, and components. • Check for dust and obstructions at the ventilation openings.
Terminal and Cable Connections	• Check whether the terminal screws are loose and tighten them with a screwdriver if necessary. • Check the copper busbars or screws for any discoloration. • Check the device terminals, cable connections, and cable routing.
Software Maintenance	• Log in to the web interface to check device communication status. • Log in to the web interface to check the parameter settings of the Logger. • Log in to the web interface to check the software version of the Logger.

9 Appendix

9.1 Technical Specifications

Product Model	HYX-Logger A	HYX-Logger B
Equipment Management		
Max. Number of Manageable Devices	150 PCS	
Communication Parameters		
WAN	WAN × 2, 10/100/1000 Mbps	
LAN	LAN × 4, 10/100/1000 Mbps	
Fiber	SFP × 2, 100/1000 Mbps	
4G	YES	NO
HPLC	PLC × 1, Max. AC voltage: 800V (±10%), 1000 m	
RS485	COM × 6	
Digital Analog Input/Output	DI × 9/DO × 4/AI × 4	
PT100/PT1000	2	
DC Output	× 1, 12V, 0.1A	
Communication Protocol		
Ethernet	Modbus-TCP, IEC 60870-5-104	
RS485	Modbus-RTU, IEC 60870-5-103 (Standard), DL/T645	
Power Supply		
AC Power Supply	100 ~ 240 Vac, 50/60 Hz	
DC Power Supply	24Vdc, 1.25A	
Power Consumption	Max. 18W	
Display		
LED	LED × 4	
Web	Embedded Web	
USB	USB 3.0 × 2	
General Data		
Operating Temperature Range	-35 ~ +60°C	
Relative Humidity (Non-Condensing)	5 ~ 95%RH	
Ingress Protection	IP20	
Max. Operating Altitude	4000m	
Dimensions (W × H × D)	60 × 380 × 240 mm (without mounting brackets and antenna)	
Weight	3kg	
Installation Method	Wall Mounting, DIN Rail Mounting, Tabletop Mounting Integrated inside HYX-ECS	

9.2 Contact Information

If you have any questions about this product, please contact us.

In order to provide you with faster and better after-sales service, we need your assistance in providing the following information.

- Equipment model : _____
- Serial number of the equipment: _____
- Fault code / name: _____
- A brief description of the fault phenomenon: _____

Version: UM_HYX-Logger_V1.0-202608_EN

The manual is subject to change without notice while the product is being improved.



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