

A-BOX(-U/4G/W)

Remote communication module

User manual

Wuxi Xinje Electric Co., Ltd.

Data No. MC12 20220505EN 2.2

Catalog

| 1. | INTRODUCTION | 1 |
|----|---|----|
| | 1-1. PRODUCT OVERVIEW | 1 |
| | 1-2. BOX MANAGER TUTORIAL | 5 |
| 2. | PERFORMANCE PARAMETERS | 14 |
| | 2-1. Structure | 14 |
| | 2-2. DIMENSION | 15 |
| | 2-3. STATUS LIGHT | 16 |
| | 2-4. FLASH DISK | 18 |
| | 2-4-1. USB transparent transmission (only A-BOX-U supports) | 18 |
| | 2-5. SIM CARD | 18 |
| | 2-6. ETHERNET PORT | 19 |
| | 2-7. POWER SUPPLY | 19 |
| | 2-8. COMMUNICATION PORT | 19 |
| | 2-9. Antenna | 21 |
| | 2-10. RESET BUTTON | 21 |
| | 2-11. GENERAL SPECIFICATION | 21 |
| | 2-12. PRODUCT FEATURES | 22 |
| 3. | CONFIGURATION ENVIRONMENT | 23 |
| | 3-1. PREPARATION | 23 |
| | 3-1-1. A-BOX cannot access Internet, LAN connection | 23 |
| | 3-1-2. A-BOX can access Internet, WAN connection | 25 |
| | 3-2. Setup wizard | 25 |
| | 3-2-1. Mode A (access to Internet via 4G) | 26 |
| | 3-2-2. Mode B (access to Internet via WIFI) | 28 |
| | 3-2-3. Mode C (access to Internet via Ethernet port) | 30 |
| | 3-3. ADVANCE SETTING | 32 |

| 3-4. DATA MONITORIN | iG | |
|-----------------------|--|----|
| 3-4-1. MQTT server | r setting | |
| 3-4-2. Add device | | |
| 3-4-3. Order total | | |
| 3-4-4. Serial port se | etting | |
| 3-4-5. Free monitor | r | |
| 3-4-6. System inform | mation | |
| 3-5. Remote transm | ISSION | 45 |
| 3-5-1. Virtual seria | l port | |
| 3-5-2. VPN | | |
| 3-5-3. USB transpa | rrent transmission (only supported by A-BOX-U) | |
| 3-6. System tools | | |
| 3-6-1. ABOX restar | <i>'t</i> | |
| 3-6-2. Initialization | 1 | |
| 3-6-3. Device upda | te | |
| 3-6-4. SIM card inf | formation | |
| 3-7. OPEN AND SAVE | | 54 |
| 4. TYPICAL FUNCTIO | ON APPLICATION | 56 |
| 4-1. VIRTUAL SERIAL F | PORT | 56 |
| 4-2. VPN | | |
| 4-3. USB TRANSPAREN | NT TRANSMISSION | |
| 4-4. DATA MONITORIN | G | 66 |
| 4-4-2. Write data of | rder | |
| 4-5. MODBUS TCP SEF | RVER FUNCTION | 79 |
| 5. TRANSPARENT TR | ANSMISSION CASE | 1 |
| 5-1. XINJE XC SERIES | S SERIAL PORT TRANSPARENT TRANSMISSION | 2 |
| 5-2. XINJE XD SERIES | S PLC SERIAL PORT TRANSPARENT TRANSMISSION | 5 |
| 5-3. XINJE PLC ETHE | ERNET PORT VPN | 7 |
| 5-4. USB TRANSPAREN | NT TRANSMISSION (TAKE XINJE HMI AS EXAMPLE) | |
| 5-5. SIEMENS S7-200 S | SERIAL PORT TRANSPARENT TRANSMISSION | |

| | 5-6. SIEMENS 200-SMART SERIES ETHERNET PORT VPN TRANSPARENT TRANSMISSION | 19 |
|----|---|-------|
| | 5-7. SIEMENS S7-1200/1500 SERIES PLC ETHERNET PORT VPN TRANSPARENT TRANSMISSION | 23 |
| | 5-8. MITSUBISHI FX3U SERIES PLC SERIAL PORT TRANSPARENT TRANSMISSION | 26 |
| | 5-9. MITSUBISHI Q SERIES PLC SERIAL PORT TRANSPARENT TRANSMISSION | 29 |
| | 5-10. MITSUBISHI Q/L SERIES PLC ETHERNET PORT VPN TRANSPARENT TRANSMISSION | 32 |
| | 5-11. DELTA DVP SERIES SERIAL PORT PLC | 36 |
| | 5-12. OMRON CP1E SERIES PLC SERIAL PORT TRANSPARENT TRANSMISSION | 38 |
| | 5-13. OMRON CP1H SERIES PLC ETHERNET VPN TRANSPARENT TRANSMISSION | 43 |
| | 5-14. ROCKWELL (AB) L32E SERIES VPN TRANSPARENT TRANSMISSION | 47 |
| | 5-15. WEINVIEW MT80711E HMI VPN TRANSPARENT TRANSMISSION | 49 |
| 6. | DATA MONITORING APPLICATION | 53 |
| | 6-1. SIEMENS S7-200 SERIES SERIAL PORT PLC (PPI) | 54 |
| | 6-2. SIEMENS S7-200SMART SERIES ETHERNET PORT PLC | 57 |
| | 6-3. SIEMENS S7-300/1200/1500 SERIES ETHERNET PORT PLC | 60 |
| | 6-4. OMRON CP1E SERIES SERIAL PORT PLC | 64 |
| | 6-5. OMRON CP1H SERIES ETHERNET PORT BD BOARD FINSTCP COMMUNICATION | 67 |
| | 6-6. MITSUBISHI FX SERIES SERIAL PORT PLC | 71 |
| | 6-7. MITSUBISHI FX3U/3G SERIES SERIAL PORT PLC | 75 |
| | 6-8. MITSUBISHI FX5U ETHERNET PLC | 80 |
| | 6-9. MITSUBISHI Q SERIES ETHERNET PLC | 83 |
| | 6-10. MITSUBISHI L SERIES ETHERNET PLC | 87 |
| | 6-11. XINJE XC SERIES SERIAL PORT PLC | 91 |
| | 6-12. XINJE XD SERIES SERIAL PORT PLC | 96 |
| | 6-13. XINJE ETHERNET PORT SERIES PLC | .100 |
| | 6-14. DELTA DVP SERIES (MODBUS ASC) | .103 |
| | 6-15. Delta DVP series (Modbus RTU) | .106 |
| | 6-16. MODBUS RTU DEVICE | .109 |
| | 6-17. MODBUS TCP DEVICE | . 112 |
| | 6-18. ETHERNET/IP DEVICE | . 115 |
| 7. | . DETAILS OF MQTT NEW VERSION PROTOCOL | .120 |

| 7-1. USER DATA | 120 |
|--|-----|
| 8. ALIBABA IOT PLATFORM | |
| 8-1. Overview | |
| 8-2. OPERATION STEPS | |
| 9. OPC DA FUNCTION | 136 |
| 9-1. VERSION EXPLANATION | 136 |
| 9-2. PREPARATION | |
| 9-3. OPC COMMUNICATION BETWEEN KINGVIEW SOFTWARE AND A-BOX | 139 |
| 10. Q&A | 146 |

1. Introduction

1-1. Product overview

In order to solve the problem of information isolation of automatic equipment, ABOX series of products can realize remote download program and device data monitoring of PLC, HMI, intelligent instrument lamp and other products. The network configuration of ABOX product is simple, no need for professional technology, and easy to use.

- Compatibility
- Rich network access: 4G/WiFi/RJ45, adaptive Internet access
- ▶ Up to 2 channels of RS232/485/422 serial port
- ▶ Up to 3 channels 10/100M adaptive RJ45 interface
- > Provide RJ45/WiFi network environment, allow varity of network equipments
- > Compatible with various mainstream controllers in the market
- Performance features
- ➢ 4G fits all kinds of network
- ➢ GPS function
- Serial port transparent transmission
- Ethernet VPN technology
- ▶ USB transparent transmission (only for A-BOX-U)
- Support bidirectional read/write function and Modbus TCP Server
- Support message cache and offline cache
- Support MQTT protocol
- Persistent online, redial and watchdog function

| Model | Explanation |
|----------|---|
| A-BOX | Basic version, no USB passthrough function |
| A-BOX-U | Add USB passthrough function on the basis of A-BOX function |
| A-BOX-4G | 4G/Ethernet Internet access is supported, without WIFI function, without GPS and USB passthrough function |
| A-BOX-W | Support WIFI/Ethernet Internet access, without 4G function, without GPS |

Model explanation

| and USB passthrough function |
|------------------------------|

Version explanation

A-BOX, A-BOX-U

| Hardware | Firmware | Config tool | Explanation |
|----------|----------|----------------------------|---|
| version | version | version | |
| H1 | V1.0.0 | XNetConfigTool V2.1.001 | A-BOX initial version |
| H1 | V1.0.23 | XNetConfigTool V2.1.010 | 1.Add Siemens S7-200 smart, S7-300, S7-1200, S7-1500 network port protocol |
| | | | 2. Add Omron Finstep protocol |
| | | | 3. Add serial port protocol of Mitsubishi FX series |
| | | | 4. Optimize login server and GPS acquisition program |
| | | | 5. WiFi Internet mode is added, WiFi light will flash quickly when WiFi is not connected |
| H1/H2 | V1.0.24 | XNetConfigTool | 1. The number of instructions increased to 500 |
| | | V2.2.024 | 2. Optimization of Modbus function code |
| | | | 3. New Xinje_XD5_Modbus Protocol |
| | | | 4. Optimize XDE data reading |
| | | | 5. Optimize the input and output of Xinje protocol and Mitsubishi FX protocol |
| | | | 6. Siemens 200smart protocol can read and write multiple bits at a time |
| H1/H2 | V1.0.25 | XNetConfigTool | 1. Improve Siemens 200 smart protocol |
| | | V2.2.040 | 2. New USB interface transparent transmission function |
| H2 | V2.1.0 | BOX Manager | 1. Add MQTT protocol |
| | | V1.1.0 and | 2. The config tool changed to BOX Manager |
| | | above | 3. Add Ali cloud MQTT protocol |
| | | | 4. Add write data function |
| | | | 5. Add Modbus-TCP Server function |
| | | | 6. Add FX5U, Mitsubishi Q/L, Omron serial port, Delta DVP |

| | | | protocol |
|----|--------|------------------|--|
| | | | 7. 4G status indicator optimization, add identification card or unable to access the Internet state |
| H2 | V2.1.1 | BOX Manager | 1. Optimize MQTT protocol |
| | | V1.1.1 and above | 2. When accessing Internet through WIFI, ESSID supports Chinese |
| H2 | V2.2.0 | BOX Manager | 1. New WIFI scanning and searching function |
| | | V1.2.0 and above | 2. The white list function is added. Only IP addresses in the white list can access the internet |
| | | | 3. New function of searching multiple ABOX within LAN (WAN/LAN) |
| | | | 4. Optimize the interaction between BOX Manager and ABOX configuration |
| | | | 5. Upgrade the MQTT protocol of ABOX to Json format |
| | | | 6. Adding batch instructions |
| | | | 7. Add Excel import, export and edit functions for configuration tables |
| | | | 8. Optimize the problem of slow download speed of virtual serial port "Mode 1" |
| | | | 9. Optimize the black pop-up window when VPN is enabled |
| | | | 10. Add COM1 as Modbus RTU slave |
| | | | 11. New message caching function, which allows you to customize whether to cache data |
| H2 | V2.2.1 | BOX Manager | 1. Fix the problem when data command is configured to report at a |
| | | V1.3.0 and | fixed time, it is not reported at a fixed time |
| | | above | 2. Fix the problem that fail to link server after MQTT ID password length greater than or equal to 32 bits |
| | | | 3. Optimize the table import and export function, and support point configuration |
| | | | 4. Optimize USB passthrough function (only A-BOX-U supports) |
| | | | 5. OPC DA communication function is added, which can communicate with Kingview and other software |
| | | | 6. New functions such as traffic query and phone charge recharging |

| | of IoT network card |
|--|-----------------------------------|
| | 7. New EIP communication protocol |

A-BOX-4G, A-BOX-W

| Hardware | Firmware | Config tool | Explanation |
|----------|----------|---------------------|--|
| version | version | version | |
| H1 | V2.0.10 | BOX Manager | 1. Add MQTT protocol |
| | | V1.0.0 and above | 2. The config tool changed to BOX Manager |
| H1/H2 | V2.1.1 | BOX Manager | 1. Add Ali cloud MQTT protocol |
| | | V1.1.0 and above | Add write data function Add Modbus-TCP Server function Add FX5U Mitsubishi Q/L Omron serial port Delta DVP |
| | | | protocol |
| | | | 5. 4G status indicator optimization, add identification card or unable to access the Internet state |
| | | | 6. When accessing Internet through WIFI, ESSID supports Chinese |
| H1/H2 | V2.2.0 | BOX Manager | 1. New WIFI scanning and searching function |
| | | V1.2.0 and above | 2. The white list function is added. Only IP addresses in the white list can access the internet |
| | | | 3. New function of searching multiple ABOX within LAN (WAN/LAN) |
| | | | 4. Optimize the interaction between BOX Manager and ABOX configuration |
| | | | 5. Upgrade the MQTT protocol of ABOX to Json format |
| | | | 6. Adding batch instructions |
| | | | 7. Add Excel import, export and edit functions for configuration tables |
| | | | 8. Optimize the problem of slow download speed of virtual serial port "Mode 1" |
| | | | 9. Optimize the black pop-up window when VPN is enabled |
| | | | 10. Add COM1 as Modbus RTU slave |

| | | | 11. New message caching function, which allows you to customize |
|----|--------|-------------|---|
| | | | whether to cache data |
| | | | |
| H2 | V2.2.1 | BOX Manager | 1. Fix the problem when data command is configured to report at a |
| | | V130 and | fixed time, it is not reported at a fixed time |
| | | v 1.5.0 and | |
| | | above | 2. Fix the problem that fail to link server after MQTT ID password |
| | | | length greater than or equal to 32 bits |
| | | | |
| | | | 3. Optimize the table import and export function, and support point |
| | | | configuration |
| | | | |
| | | | 4. OPC DA communication function is added, which can |
| | | | communicate with Kingview and other software |
| | | | 5 New functions such as traffic guery and phone charge recharging |
| | | | 5. New functions such as traffic query and phone charge recharging |
| | | | of IoT network card (ABOX-4G) |
| | | | 6 New FIP communication protocol |
| | | | o. New En communication protocol |

1-2. BOX Manager tutorial

Introduction: box manager provides Xinje cloud management, remote configuration and other services for Xinje A-BOX series products. It supports v2.0.0 or above, and is compatible with v1.0.23 and v1.0.25. Box manager also provides cloud management services for 4GBOX, WBOX, Ethernet PLC and other products.

1. Box manager is divided into cloud mode and single mode.



Cloud mode: users can register their accounts through their mobile phone numbers and log in to the management tools through account passwords.

| | × | < |
|------------------|----------------|---|
| Username : | | |
| Password : | | |
| Password again : | | |
| Telphone : | | |
| Company : | *Optional | |
| Name : | *Optional | |
| VerifyCode : | Get VerifyCode | |
| | Register | |
| | | |

Single mode: click "skip" to enter the single mode. You can directly access ABOX by directly entering the ID number and password.

| Remote Mode | Lan Mode | Ð | $- \times$ |
|---------------------------|-----------|--------|------------|
| | | | |
| | | | |
| Device ID : | | - | |
| | | | |
| Password : | | | |
| | | | |
| | Connected | Device | |
| | | | |
| Delete this device histor | ry | | |

- 2. The single mode is divided into "remote connection" and "LAN connection".
- (1) Remote connection

When ABOX logs on the server successfully, that is, the link light is always on, you can connect remotely through ABOX ID and password.

| Remote Mode | Lan Mode | 0 – X |
|---------------------------|-----------------------|-------|
| Device ID : | 466-072-200-489D-5536 | ; • |
| Password : | 12345678 | |
| | Connected Device | |
| Delete this device histor | у | |

(2) LAN connection

LAN connection means that ABOX is directly connected with computer by network cable, and ABOX is searched directly by binding Ethernet network card of computer.

LAN connection steps:

(1) Connect ABOX with the computer through Ethernet cable, and check the name of the network card of the computer in the network connection of the computer.



(2) Open the Box manager, click "skip" on the home page, enter "LAN connection", select the network card name in the above figure for the computer adapter, and click "setting".

| Remote Mode | Lan Mode | $X - \Theta$ |
|--------------------------|--------------|--------------|
| | | |
| Device ID : | | - |
| | |] |
| Password : | | |
| Laptop Adapter : Et | hernet | Setting |
| FG | ollow system | |
| Et | hernet 2 | |
| Delete this device histo | ory | |

(3) Click "query available", and the ABOX ID will be automatically filled into the "device ID" box if the query is successful.

| Remote Mode | Lan Mode | ť | $> - \times$ |
|--------------------------|-----------------|------------------|--------------|
| | | | |
| Device ID : | | | ~ |
| Password : | | | |
| Laptop Adapter : Eth | hernet | - | Setting |
| | Query Available | Connected Device | |
| Delete this device histo | ry | | |

(4) After entering the password, you can connect to the device. The default factory password of ABOX is 12345678.

| Remote Mode | Lan Mode | | $\circ - \times$ |
|------------------------|---------------------|------------------|------------------|
| | | | |
| Device ID : | 46-11 -222-2222-222 | 2 | ~ |
| Password : | 12345678 | | |
| Laptop Adapter : | Ethernet | - | Setting |
| [| Query Available | Connected Device | \triangleright |
| Delete this device his | tory | | |

3. Networking mode

(1) Login

After registration, users can enter box management tool through user name and password. The user name can fill in the registered mobile phone number.

| $\odot - 	imes$ Box Cloud Management tool | | | | | |
|--|-----------|---------------------|--|--|--|
| Lusername: | xinjetest | Register an account | | | |
| Password : | •••••• | Retrieve password | | | |
| | Login | | | | |
| | | Skip→ | | | |

(2) Homepage

| Username: vanessa | ତ – ଯ X |
|--|---|
| We have a series Image: Seri | Total: Device firmware version history: Device firmware version history: Device firmware version history: Device firmware version history: Vali 9. Orware adds USF transport transmission interface . Optimized the configuration information file Ular 9. Income Simens 200smart protocol . Chard the information of related flag registers Vali 9. Income Simens 200smart protocol . Chard the information of related flag registers Vali 9. Income Simens 200smart protocol . Chard the information of related flag registers Vali 9. Optime Simens 200smart protocol . Chard the information of related flag registers Vali 9. Optime Simens 200smart protocol . Chard the information of related flag registers Device Mark Mark (Stage medicated the Stage medicated the Stag |

(3) Add group

Right click "my device" to add the group.

| Username: vanessa | $\circ - \square \times$ |
|-------------------|--|
| | |
| My Device | |
| Add group | Total: Online: |
| Add device | |
| | Device firmware version history V2.0.10 1. Increase MQTT protocol 2. Software adds USB transparent transmission interface 3. Optimized the configuration information file V1.0.25 |
| | 1. Improve Stemens 200smart protocol 2. Enrich the information of related flag registers V1.0.24 1. The number of instructions increased to 500 2. Optimize modbus function code 3. Added XINEXDS, Modbus protocol 4. Optimize XDE data reading 5. Optimize XDE data reading 5. Optimize XDE data reading 5. Optimize Xinje-Download Center Service Hotline : 400-885-0136 |

(4) Add device

Right click the group to add device.

| ^ | | | | |
|---------|----|----------------------------------|-----------------|---|
| î | | * | Ð | ٩ |
| My Devi | ce | | | |
| group1 | | Add gro | up | |
| | (| Add dev Edit grou Delete g | up name roup | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

(5) Add the favorites

Add favorite devices, which can be quickly viewed in favorites list.

| Username: vanessa | | $\partial - \Box \times$ |
|-------------------|------------------------------|--------------------------|
| n II (* 0 0 | | |
| | Device Name : device_1 | |
| | Device ID : 1111121111111111 | |
| | Online status : OffLine | |
| | Networking : | |
| | Version Info : | |
| | Remarks : | |
| | | |
| | | |
| | | |
| | Delete Device Add collect | |
| | | |

(6) Import and export the project

Export the current project and save the device list of the current account as a file. It can be imported with other accounts.

| Username: vanessa | | 0 – 🛛 X |
|-------------------|---------------------|---------|
| A II ★ 0 (2) | | |
| | User Info | |
| | User name : vanessa | |
| | Telephone : 185 | |
| | User comments : | |
| | | |
| | | |
| | | |
| | | |
| | Import Export Sec | urity |

(7) Change password

Please change the password in user info --- security. Need to verify the original password and SMS.

| Usern | ame: vanes | sa | | | | | 0 - | - 🛛 X |
|-------|-----------------------------------|----------|---|------------------|---------------------|--------------|-----|-------|
| Â | | * | Ð | Change Password | Change Telphone | 2 × | | |
| My De | vice 1 device_1 11111211 | 11111111 | 1 | | Modify login passwo | rd | | |
| | | | | Old passwo | rd : | | | |
| | | | | New passwo | rd : | | | |
| | | | | New password aga | in : | | | |
| | | | | VerifyCo | de : Ge | t VerifyCode | | |
| | | | | | Reset Passwor | d | | |
| | | | | | | | | |

(8) change telephone

You can modify the mobile phone number of the current account in user info --- security. Need to verify the original password and SMS.

| Username: vanessa | | | 0 – 🛛 🗙 |
|-------------------|-----------------|-------------------------------|---------|
| A II \star 0 💽 | Change Password | Change Telphone 🛛 💂 | |
| My Device | | | |
| U device_1 | Step | one: TelPhoneInfo reset input | |
| | User password : | |] |
| | New telphone : | |] |
| | | | |
| | | Next |] |

(9) User logout

Log off all configuration information of current user, including login account.

| Username: vanessa | | <u> </u> |
|-------------------|-----------------|-----------------|
| A II ★ 0 | Change Password | Change Telphone |
| My Device | | |
| ⊿ group1 | | |
| O device_1 | | User logout |
| | | |
| | User password : | |
| | VerifyCode : | Get VerifyCode |
| | | |
| | | |
| | | Logout |
| | | |

(10) SIM card

Here, you can view the information of the corresponding card and its usage. You can view the detailed card information for the IoT card of Xinje, and you can only view the ID number of the card for the IoT card of not Xinje. The current version only supports card query, but does not support order query, invoice printing and renewal.

| 用户名 | | | | | | | | | | | | | | | | | | | | - O | |
|-------------------------|-----|-----|--------------|---|--------|---|-------------------|------|-----|----------------------|----------------|----|----------|------------|----------|------------|------|------------|------------|--------------|--------------|
| â | | * | <u> (17)</u> | ٩ | | | | | | | | | | | | | | | | | |
| 19906 A 12 | sem | #ID | - | 0 | SIM卡管理 | Đ | | | | | | | | | | | | | | | |
| 1010101 | 5 | | | ~ | | - | | | | | | | | | | | | | | | |
| 則武用 | - | | | | 基本信息 | | | | | 分组援索 | | | | | | | - | BOX序列号/S | iM-卡号/ICCI | D 搜索 | 8 |
| | | | | | | | 设备ID | 设备名称 | 偏接朱 | ICCID | # 7 | 状态 | 当月使用流量 | 著名忠泛重 | 著名已用充量 | 著名剩余流量 | 生命問題 | 激活日期 | 到期日期 | 研究状态 | |
| | | | | | 中始开照 | | 116126171C9FF4202 | 新建设备 | 5 | 89860120801585436436 | | | | | | | | | | | |
| | | | | | | | 02608500827C66742 | 新建设备 | 쥷 | 89861119045170037727 | | | | | | | | | | | |
| | | | | | 开票记录 | | 18725324568D15875 | 新建设备 | 5 | 898604A6102170490731 | 1441062680731 | 正常 | 0.00 M | 12288.00 M | 41.66 M | 12246.34 M | 正式期 | 2022-04-11 | 2028-04-05 | CMMTMUSXZ | 2 |
| | | | | | | | 046085173D2305858 | 新建设备 | | 89860035101450797122 | | | | | | | | | | | |
| | | | | | 返回 | | 51119614985747418 | 新建设量 | 5 | 898604A6102170490658 | 1441062680658 | 正常 | 174.00 M | 12288.00 M | 429.88 M | 11858.12 M | 正式明 | 2022-04-11 | 2023-04-05 | CMMTMJSXZ:E5 | # |
| | | | | | | ť | | | | | | | | | | | | | | 续营 | |

2. Performance parameters

2-1. Structure

(1) A-BOX, A-BOX-U







(2) A-BOX-4G



External RS485 of COM1

ò

reset button

Power supply

2-2. Dimension

LAN port

The overall dimension of A-BOX(-U) is 50.0mm×125.0mm×94.0mm (W×H×D). Please install on the DIN46277(width is 35mm) rail.



The overall dimension of A-BOX-4G and A-BOX-W is 43.0mm×110.0mm×75.0mm (W×H×D). Please install on the DIN46277(width is 35mm) rail.



Note:

(1) during screw hole processing and wiring, please do not let the chip and wire chip fall into the module.

(2) before connecting, please confirm the specification of module and connecting equipment to ensure there is no error.

(3) when the connection is made, please note whether the connection is firm or not. If the connection falls off, the wrong data and short circuit will be caused. Installation, wiring, etc. shall be performed after the power supply is cut off.

2-3. Status light

(1) A-BOX, A-BOX-U

After the module is powered, the indicator light will be lit according to the function. The meaning is as follows:

| PWR | 🗆 4 G |
|------|--------------|
| FN | |
| LINK | |

| Light | Description |
|-------|--|
| PWR | Power supply indicator, normally on when power is on |

| | Flashing fast when the flash disk is updating firmware |
|------|--|
| FN | Flashing slowly when exporting the historical data |
| | Always ON in factory mode |
| | Always lights when log on server succeeded |
| LINK | Flashing in Virtual serial port/VPN mode |
| | If the configuration table is wrong (flashing quickly), please press and |
| | hold the reset key for 10s to initialize (version v1.0.23 or above) |
| | Normally OFF when not in 4G mode |
| | When in 4G mode, normally ON if it can normally access the network |
| 4G | Fast flash (0.5s) if no card is detected in 4G mode (V2.1.0 or above) |
| | In 4G mode, the card is detected but cannot access the network |
| | normally. Slow flash (1.5s) |
| | Always lights in STA (station) mode |
| WIFI | Flashing quickly if not access WIFI (only for v1.0.23 and above) |
| | Flashing slowly in AP(hotspot) mode |
| GPS | Always lights when receiving the GPS information successfully |

(2) A-BOX-4G, A-BOX-W

| PWR 🗌 | PWR |
|-------------|---------|
| 🗌 FN 4G 🗌 🗌 | FN WIFI |
| | |

| Description |
|--|
| Power supply indicator, normally on when power is on |
| Always lights in factory mode |
| Always lights when log on server succeeded Flashing in Virtual serial port/VPN mode |
| |

| | If the configuration table is wrong (flashing quickly), please press and | | | | | | | |
|-----------------|--|------------------------------------|--|--|--|--|--|--|
| | hold the reset key for 10s to initialize (version v1.0.23 or above) | | | | | | | |
| | Normally OFF when not in 4G mod | e for A-BOX-4G | | | | | | |
| | When in 4G mode, normally ON if | it can normally access the network | | | | | | |
| | Fast flash (0.5s) if no card is detected | ed in 4G mode (V2.1.0 or above) | | | | | | |
| | In 4G mode, the card is detected but cannot access the network normally. Slow flash (1.5s) | | | | | | | |
| | Normally OFF in non WIFI mode for A-BOX-W module | | | | | | | |
| | Always ON when connected to specified WIFI network in WIFI mode | | | | | | | |
| Signal strength | Flash if not access to WIFI network in A-4G mode | | | | | | | |
| | A-BOX-4G signal strength | A-BOX-W signal strength | | | | | | |
| | <5: all OFF | <-80: all OFF | | | | | | |
| | 5-15: The first column is always | -80~-65: The first column is | | | | | | |
| | on | always on | | | | | | |
| | 16-22: The first and second | -65~-55: The first and second | | | | | | |
| | columns are always on | columns are always on | | | | | | |
| | 23-31: Three columns are always | -55~0: Three columns are always | | | | | | |
| | on | on | | | | | | |

2-4. Flash disk

A-BOX and A-BOX-U have USB port. To do the following operations, make sure the flash disk file system format is FAT32, otherwise it may fail.

2-4-1. USB transparent transmission (only A-BOX-U supports)

The A-BOX-U has USB transparent transmission function, which can realize remote download of Xinje HMI and other devices through USB download cable.

2-5. SIM card

- SIM card dimension is Nano SIM card
- Support all the telecom operators



2-6. Ethernet port



- > 10M/100M adaptive port
- > When the accessing Internet mode is 4G or WIFI, the first port is LAN port

Note: A-BOX-4G(-W) is equipped with two Ethernet ports as standard.

2-7. Power supply

| FG |
|-----|
| 0V |
| 24V |

The module power supply is 24V DC, the allowable range is DC 21.6V~26.4V.

2-8. Communication port

A-BOX and A-BOX-U have two serial communication ports, namely COM0 and COM1. COM0 and COM1 can be used at the same time. RS232 and RS485 / RS422 of the same serial port cannot be used at the same time.



A-BOX, A-BOX-U

A-BOX-4G and A-BOX-W have one serial port, namely COM1. COM1 supports RS232 / RS422 / RS485.



A-BOX-4G, A-BOX-W

COM0 port pin definition:

| | Pin no. | Name | Meaning |
|-----------|---------|------|--------------------|
| | 1 | NC | Empty |
| | 2 | RXD | RS232 receive data |
| 9876 | 3 | TXD | RS232 send data |
| | 4 | А | RS485+ |
| | 5 | GND | Signal ground |
| | 6 | NC | Empty |
| 5 4 3 2 1 | 7 | В | RS485- |
| | 8 | NC | Empty |
| | 9 | NC | Empty |

COM1 port pin definition:

| 9876 | Pin no. | Name | Meaning |
|-----------|---------|------|------------------------|
| | 1 | TD+ | RS422 send signal + |
| | 2 | RXD | RS232 receive data |
| | 3 | TXD | RS232 send data |
| 5 4 3 2 Ì | 4 | А | RS485+ |
| | 5 | GND | Signal ground |
| | 6 | TD- | RS422 send signal - |
| | 7 | В | RS485- |
| | 8 | RDD- | RS422 receive signal - |
| | 9 | RDD+ | RS422 receive signal + |

2-9. Antenna

ABOX(-U) has three antenna interfaces which are 4G, WIFI, GPS, they are all extension antenna.



Note:

- (1) A-BOX-4G only have a 4G antenna interface.
- (2) A-BOX-W only have a WIFI antenna interface.

2-10. Reset button

| Triggering mode | Function |
|-----------------|---------------------------------|
| 0-5s | Start historical data export |
| 5-15s | Restore factory initial setting |
| >30s | Factory mode |

2-11. General specification

| Item | Specification |
|------|---------------|
| | |

| Using environment | No corrosive gas |
|---------------------------------|--|
| Environment temperature | 0°C~60°C |
| Storage environment temperature | -20~70°C |
| Environment humidity | 5~95%RH |
| Storage environment humidity | 5~95%RH |
| Installation | Fix on the rail DIN46277 (width is 35mm) with M3 screw |

2-12. Product features

| Model | A-BOX | A-BOX-U | A-BOX-4G | A-BOX-W | | | | |
|----------------------|---|--|--|-------------------|--|--|--|--|
| СРИ | | MT7628 | | | | | | |
| FLASH | | 16MB S | PI FLASH | | | | | |
| RAM | | 12 | 8MB | | | | | |
| Ethernet port | 3 channels 10M/1 | 00M adaptive port | 2 channels 10M/1 | 00M adaptive port | | | | |
| Com port | COM0: RS | 232/RS485 | COM1: RS232 | /RS485/RS422 | | | | |
| | COM1: RS232 | /RS485/RS422 | | | | | | |
| USB port | USB H | ost port | No US | SB port | | | | |
| 4G module | EC20 (Ch | ina-India) | EC20-CN (China) | | | | | |
| 4G working band | GSM/GPRS: 900, 180 EDGE: 900, 1800MH UMTS: CDMA2000 (WCDMA (B1, B8) TD-SCDMA (B34, B3 LTE-FDD: (B1, B3, B LTE-TDD: (B38, B39 GNSS: GPS, GLONA | 0MHz z BC0) 9) 8) , B40, B41) SS | LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B 41 WCDMA: B1/B8 GSM: B3/B8 | | | | | |
| WIFI working band | 2.40 | GHz | | 2.4GHz | | | | |
| Max transmitting | | GSM/GPRS: 2W | EDGE: 0.5W | 1 | | | | |

| power | UMTS: 0.25W LTE: 0.25W | | | | | | |
|--|------------------------|--------------|--------------------------|--------------|--|--|--|
| Working temperature | | -10°C~60°C | | | | | |
| Average standby current | | <150m | A 4W | | | | |
| Internet access | 4G/WIFI/Eth | 4G/WIFI/Eth | 4G/Eth | WIFI/Eth | | | |
| Serial port transparent transmission | \checkmark | \checkmark | \checkmark | \checkmark | | | |
| Ethernet port transparent transmission | \checkmark | \checkmark | \checkmark | \checkmark | | | |
| USB port transparent transmission | | \checkmark | | | | | |
| GPS function | \checkmark | \checkmark | Base station positioning | | | | |
| Data monitoring | | | \checkmark | | | | |

3. Configuration environment

3-1. Preparation

ABOX has WAN and LAN configuration mode. LAN configuration uses Ethernet cable (CAT5e) connecting to any LAN port. WAN configuration needs the module log on the server successfully. The defaulted parameters can be used, user no need to set the parameters.

3-1-1. A-BOX cannot access Internet, LAN connection

When A-BOX cannot connect to the Ethernet, please use LAN connection.

LAN connection means that A-BOX is directly connected with computer by network cable, and A-BOX is searched directly by binding Ethernet network card of computer.

LAN connection steps:

1. Connect the ABOX to PC with Ethernet cable, find the corresponding network card in the PC.



2. open BOX manager, click "skip" on the home page to enter "LAN connection". Select the name of the network card in the above figure for the computer adapter, and click "setting".

| Remote Mode | Lan Mode | 1 | $\circ - \times$ |
|--------------------------|-----------------|------------------|------------------|
| | | | |
| Device ID : | | | ~ |
| Password : | | | |
| Laptop Adapter : | nernet | • | Setting |
| | Query Available | Connected Device | |
| Delete this device histo | ry | | |

3. Click "query available", and the A-BOX ID will be automatically filled into the "device ID" box if the query is successful.

| | | | | | X |
|--|------------|-----------------------------------|--|--|-------|
| LAN device list Double-click to select | | | | | |
| Device name | IP address | Device ID Model Version Custom in | | | |
| XinjeABox 192.168.1.1 499098207C1314081 ABox H2/V2.2.0 XINJE | | | | | XINJE |
| | | | | | |

4. After entering the password, it can connect to the device. The default factory password of A-BOX is 12345678.

| Remote Mode | Lan Mode | 4 | a - x |
|--------------------------|--------------------|------------------|---------|
| | | | |
| Device ID : 17 | 78-015-235-CA2B-69 | 938 | - |
| Password : 12 | 345678 | | |
| Laptop Adapter : Etl | nernet | • | Setting |
| | Query Available | Connected Device | > |
| Delete this device histo | ry | | |

3-1-2. A-BOX can access Internet, WAN connection

When A-BOX can connect to the Ethernet, pleas use WAN connection.

When A-BOX successfully logs on to the server, that is, when the LINK light is always on, you can connect remotely through A-BOX ID and password, or add devices after logging in with account and password.

| Remote Mode | Lan Mode | | 0 — O | Х |
|---------------------------|----------------|----------|-------|---|
| | | | | |
| | | | | |
| Device ID : | 178-015-235-CA | A2B-6938 | • | |
| | | | | |
| Password : | 12345678 | | | |
| | | | | |
| | Connected | Device | | |
| Delete this device histor | ry | | | |

3-2. Setup wizard

4G / WiFi / Ethernet mode is provided for network access, and the parameters are configured by using the wizard.

The default mode of A-BOX is 4G mode.

The factory default mode of A-BOX-4G is 4G mode.

The default mode of A-BOX-W is WiFi mode, and the default WiFi name is A_Box, password 12345678.

- 3-2-1. Mode A (access to Internet via 4G)
- 1. In working mode interface, choose work mode is 4G, click next.



2. Set the LAN port parameters. LAN port provides network access capability for other network devices, enabling wireless hotspot function, the defaulted WIFI name is XINJE ABOX, defaulted password is XINJEABOX. A-BOX is equivalent to wireless router, which can provide hotspot for other devices.

| A-Box ID:259076227BC6 | 5A8030(H2 / v1.0.2 | 5) | | | | | Q | 3 — 🖸 | \times |
|-----------------------|---------------------|-------------------|---------------|-----|------------------------|----------------|------|-----------------|----------|
| <u></u> | Base SetUp | <u>~~</u> | Data Monit | | $\widehat{\mathbf{A}}$ | Port Trans | | System SetUp | |
| | | | | | | | | | |
| | Lan Param | | | | | | | | |
| | | | |) [| Hotspot —— | | | | |
| | DHCP Service : | Open | ~ | | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 6 . | 1 | | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . | 0 | | Password : | XINJEABOX | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | Advance | | | | Ba | ack | Next | | |

Enabling the white list enables the devices in the gateway LAN to access the Internet (except for the directional traffic card).

| ABox ID:499098207C1314081(H2/V2 | 2.0) | | 🐵 — 🛛 🗙 |
|---------------------------------|----------------------------|---|---|
| Base SetUp | Data 局域例白名单 | Port Trans | System SetUp |
| Lan Par | am LAN w | hitelist configuration | |
| DHCP Sen | ice : Or | 192 168 1 | . 1 |
| IP(Gatew M | ay): 19 ask: <u>P</u> C | Tip: After disabling the whitelist devices are allowed to connect Internet. After enabling the whit the devices in the whitelist are a connect to the Internet. | all to the elist, only llowed to |
| Whitelie | | Cancel Sa | Neut |

3. Click next, restart A-BOX to make the settings effective.

| A-Box ID:259076227B | C6A8030(H2 / v1.0.25) | | | | | <u>ن</u> | – 🛛 🗙 |
|---------------------|-------------------------|-----------|------------------|----------|---------------|----------|-----------------|
| | Base SetUp | <u>~~</u> | Data Monit | \oplus | Port Trans | -cò | System SetUp |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | ABox restart tak | es effec | -t | | |
| | | | | tes enec | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Advance | | | Ba | ck | Restart |) |

4. When the power is cut off, power on after the module is insert with SIM card. Log on the server after the function is initialized. 4G light is always on, LINK light is always on, WIFI light is flashing.

- 3-2-2. Mode B (access to Internet via WIFI)
- 1. In working mode interface, choose work mode is WiFi, click next.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|--|--------------------|------------------------|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| WorkMode: Will WAN Protocol: DHCP IP Address: Gateway: | XNet Server domain | Wireless Wifi Scan: | an |
| Advanced Set | SSID: Xinje AP | . <u>5</u> | . 5 Next |

When some networks need to specify IP and DNS servers to access the Internet, you can select "Use static IP" and manually enter the DNS server.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🖸 — 🗇 | \times |
|---|--|----------|
| Base SetUp Data Monit | Port Trans System SetUp | |
| WorkMode: WiFi WAN Protocol: Use Static IP IP Address: 192 . 168 . 20 . 33 Subnet Mask: 255 . 255 . 255 . 0 Gateway: 192 . 168 . 20 . 1 | Wireless WiFi Scan: Channel: 11 Encryption: WPA2-PSK ESSID: A_BOX Password: 12345678 | |
| ONS ONS Auto DNS server | Static DNS 223 . 5 . 5 . 5 Next | |

2. Click next, set the LAN parameters. It is recommended to enable the DHCP service. WiFi mode cannot provide hot spots.

Note: The LAN gateway is different from the router gateway. Please check the router gateway parameters in advance.

| D:499098207C131 | 4081(H2/V2.2.0) | | | | | Ó | - 2 |
|-----------------|-------------------|-------------------|---------------|-----------------------|------------------------|--------------|-----------------|
| Ŷ | Base SetUp | <u>~~</u> | Data Monit | (j) | Port Trans | - To | System SetUp |
| | Lan Param | | | LAN IP(gateway) canno | ot be same to wireless | s rounter IP | |
| | | | | Hotspot | | | |
| | DHCP Service : | Open | - | AP : | Enable Hotspot | | |
| | IP(Gateway) : | 192 . 168 . 1 . | 1 | ESSID : | XINJE ABOX | | |
| | Mask : | 255 . 255 . 255 . | 0 | Password : | XINJEABOX | | |
| | | | | | | | |
| | | | | | | | |
| | WhiteList |] | | E | Back | Next | |

Enabling the white list enables the devices in the gateway LAN to access the Internet.

| ABox ID:499098207C1 | 1314081(H2/V2.2.0) | | | | <u>نې</u> | - 🖪 | \times |
|---------------------|----------------------|-----------------|---------------|---|---|-----------------|----------|
| <u></u> | Base SetUp | <u>~</u> | Data Monit | Port Trans | - 0 | System SetUp | |
| | | 局域网白名单 | | | \times | 1 | |
| | Lan Param | | LAN whitelist | configuration | | | |
| | LAN | Whitelist list: | | Enable whitel Disable whi | te | | |
| | DHCP Service : | | | 192 168 | 1.1 | | |
| | IP(Gateway): | | | Delete selection | Add | | |
| | Mask : | | | Tip: After disabling the wh devices are allowed to cor Internet. After enabling th the devices in the whitelis connect to the Internet. | itelist, all nnect to the e whitelist, only t are allowed to | | |
| | | | | Cancel | Save | | |
| | WhiteList | | | Back | Next | | |

3. Click next, restart the A-BOX to make the settings effective. After successfully logging in to the server, the LINK light is always on and the WIFI light is always on.

| | | | | | | | | ~ | _ | |
|-------------------|----------------------------|---|---------------|------------|---------|---------------|---|---------|-----------------|--------------|
| A-Box ID:25907622 | 27BC6A8030(H2 / v1.0.25) | | | | | | | (টু) | — 四 | \mathbf{X} |
| | Base SetUp | ~ | Data Monit | | (1) | Port Trans | | Ξ¢ | System SetUp | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | ABox re | estart tak | es effe | ct | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Advance | | | | Ba | ack | F | Restart |) | |
| | | | | | | | | | | |

3-2-3. Mode C (access to Internet via Ethernet port)

1. In the working interface, choose the work mode is wired, set wide area network (WAN port) parameters. You can select DHCP (automatic obtain) and Static (static allocation). DHCP is recommended. After setting, click Next.

| ABox ID:499098207C1 | 314081(H2/V2.2.0) | | | ණ | - 🖪 |
|---------------------|---------------------|---------------|----------------|------|-----------------|
| | Base SetUp | Data Monit | Port Trans | Ξò | System SetUp |
| | WorkMode: | Wired | | | |
| | | | Protocol: DHCP | | |
| | Advanced Set | | | Next | |

When some networks need to specify IP and DNS servers to access the Internet, you can select "use static IP" and manually enter the DNS server.

2. Set the WAN port parameters. It is recommended to enable the DHCP service on the LAN.

The network information of WAN and LAN ports shall not conflict. The LAN port provides network access capability for other network devices and enables the wireless hotspot function. The default WIFI name is "XINJE ABOX" and the default password is "XINJEABOX". ABOX is equivalent to the function of wireless router and can provide hot spots for other devices.

Note: The LAN gateway is different from the router gateway. Please check the router gateway parameters in advance.

| ABox ID:499098207C1314081(H2/V2 | 2.2.0) | | | | · ئ |
|---------------------------------|--------------------------|----------------|----------------|----------------|----------|
| Base SetUp | <u>~~</u> | Data Monit | | Port Trans | T |
| | | | | | |
| Lan Pa | aram | cannot same to | router gateway | / | |
| LAN | | | Hotspot —— | | |
| DHCP Ser | rvice : Open | _ | AP : | Enable Hotspot | |
| IP(Gate | way): 192 . 168 . 1 . | 1 | ESSID : | XINJE ABOX | |
| N | Mask : 255 . 255 . 255 . | 0 | Password : | XINJEABOX | |
| | | | | | |
| | | | | | |
| WhiteLis | st | | Ba | ack | Next |

Enabling the white list enables the devices in the gateway LAN to access the Internet.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|--|-----------------|--|--|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| | 局域网白名单 | | × |
| Lan Param | L | AN whitelist configuration | |
| | Whitelist list: | Enable whitel Disable v | vhite |
| DHCP Service : Open | | 192 . 168 . | 1.1 |
| IP(Gateway) : 192 . | | Delete selection | Add |
| Mask : 255 | | Tip: After disabling the devices are allowed to Internet. After enabling the devices in the white connect to the Internet. | whitelist, all connect to the the whitelist, only list are allowed to |
| | | Cancel | Save |
| WhiteList | | Back | Next |
3. Click Next and the settings will take effect after restart. Connect the network cable that can access the Internet at the WAN port. After successfully logging in to the server, the LINK light is always on and the WIFI light is flashing.

| A-Box ID:259076227BC6 | 6A8030(H2 / v1.0.25) | | | | | <u>نې</u> | - 2 | \times |
|-----------------------|------------------------|-----------|------------------|---------|---------------|-----------|-----------------|----------|
| | Base SetUp | <u>~~</u> | Data Monit | (1) | Port Trans | ∃ | System SetUp | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | ABox restart tak | es effe | ct | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | Advance | | | Ba | ck | Restart |) | |

3-3. Advance setting

In the advanced settings, the user can modify the password of the device, other parameters no need to modify. The parameters can take effect only after they are written and restarted.

| ABox ID:499098207C1314081(H | 2/V2.2.0) | | 🗇 — 🖾 🗙 |
|------------------------------|------------------------|-------------------|-------------------------------|
| Base SetU | Data 迈程参数 | Port | System |
| | | 远程参数设置 | |
| VVOrk | Open WatchDog: | \checkmark | |
| | Config server address: | www.x-net.info | |
| | Config server port: | 1800 (1000-60000) | |
| | Device Password: | 12345678 |] |
| | DefaultParam | Read Write | (Device restart takes effect) |
| Advance | ed Set | | Next |

| Parameter | Function |
|--------------------------|---|
| Open watchdog | The watchdog is enabled by default. If the module cannot detect the Internet access, restart the module two minutes later. If A-BOX is used as a switch, it is recommended to turn off the watchdog function. It takes effect after the device is restarted after confirmation. |
| Config server address | Default is <u>www.x-net.info</u> , Xinje server name. |
| Config server port | Default "1800", Xinje server port. |
| Device password | Password authentication as A-BOX connection. The factory setting is 12345678. After A-BOX is initialized, the password is also 12345678. It can be letters plus numbers and is case sensitive. It takes effect after the device is restarted after confirmation. |

3-4. Data Monitoring

By adding serial port or network port equipment and adding data points to be monitored, remote data monitoring of Xinje cloud can be realized, or docking with third-party platform through MQTT protocol.



3-4-1. MQTT server setting

The MQTT protocol is enabled by default, and the MQTT proxy server of Xinje is used by default. Users can directly change to their own proxy server. The cloud platform corresponding to the Xinje MQTT protocol is limited to cloud V4.1 and above. XNet protocol can be used.

| AB | ox ID:499098207C13140 | 81(H2/V2.2.0) | | | | 🐵 — 🖾 🗙 |
|----|---------------------------------------|---|---|--|---------------------|-----------------------|
| | | Base SetUp | Data Monit | (1) (1) | Port Trans | System SetUp |
| | Data Monit Right-click node add fy | nction | | | MQTT server | Start data monitoring |
| | СОМО | General MQTT | Alibaba IOT | | × | |
| | 📟 COM1 | | | | Batch Order | Add Order |
| | | 后用MQTT: | ✓ 后用XM | Net : | Abox's Object Addre | Order Note |
| | - 🗎 Order Tota | Server Address : [| nqtt.x-net.info | | | |
| | –🖌 Free Moni | QoS : | Exactly once delivery | ~ | | |
| | -i System Inf | UserName: | kinjeadmin | | | |
| | | Password: | | | | |
| | | Tip: ABox supports two other is Alibaba Clo please select one of Default | configuration modes, one is ordin. ud IoT server. The two modes can the modes according to your nee Read | ary MQTT server, and the not be run at the same time ds for configuration Write | e, | |

3-4-2. Add device

(1) Serial port device

Right click the COM port, choose protocol set.

| ABox ID:499098207C1314081(H2/V2.2.0 |) | | | | ⊘ − ⊠ × |
|--|--------------------|---------------------------------|-----------------|--------------|----------------------|
| Base SetUp | <u>~</u> | Data Monit | Port Trans | = | System SetUp |
| Data Monit Right-click node add function | | | MQTT serve | er S | tart data monitoring |
| - COM Add Device | omOrder WriteOrder | use the Delete key to Delete th | ne selected it | Batch Order | Add Order |
| - Ether 串口设置 | der Name De | evice Name Object Addre | Date Num Abox's | Object Addre | Order Note |
| - 📄 Order Total - ☆ Free Monit - ⑦ System Info | | | | | |

Choose the device brand and protocol.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖬 🗙 |
|---|----------------------------|--|------------------------|
| Base SetUp | <u>~</u> | Data Monit Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - COMO - COM1 - A Comment - | ComOrder WriteO Order Name | Protocol settings Device Brand : XINJE Protocol : XD/XL/XG Series Cancel OK | Add Order rder Note |

Right click the COM port to add device. Define the device name and station number. The function of the device template is to copy the configuration table when one A-BOX connects multiple devices of the same model and data point.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | $\otimes - \Box \times$ |
|---|-------------------|-----------------------|-------------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT serv | Start data monitoring |
| □ COM0 | ComOrder 通信口: | — Х | Batch Order Add Order |
| COM1 C | Order Nam 通信协议: > | KINJE-XD/XL/XG Series | Object Addre Order Note |
| - Ethernet | 设备名称: | 001 | |
| | 站点号: | 1 | |
| - 🏠 Free Monit | 设备模板: | ~ | |
| - i System Info | 数据顺序: | 高低字节交换 高低字交换 | |
| | 取消 | 确定 | |
| | | | 1 |
| | | | |
| | | | |
| | | | |
| | | | |

(2) Ethernet device

Right click Ethernet, click add device, choose device brand and model protocol. Input the PLC port, IP, station no., etc. The PLC IP must be in the same network segment with the LAN gateway of A-BOX.

| ABox ID:499098207C1314081(H2/V2.2.0) | |
|---|--|
| Base Data SetUp | Port Trans System SetUp |
| Data Monit Right-click node add function | MQTT server Start data monitoring |
| - COM0 - ComPort : Ethernet - ComPort : Ethernet Device Brand : XINJE - Ethernet Model Protocol : XD/XL/XG Series(ModbusTc 🔻 | Addition Item Port : 502 |
| -*** Free Monit -*** Free Monit -*** Template : | Station : 1 |
| Data Sequence : Data Swop Word Swop this IP must in the same D gateway device | Additional items should be filled in as required AN network segment of Cancel OK |
| | |

(3) Command setting

a. Add one order: right click the added device, choose the related device, click add order.

| Order Name : | | Data Format : | Bit | ~ |
|-------------------|------------------|---------------------|------------------|---|
| Data Object: | X | StartAdrr : | 1 | ~ |
| Adding Mode : | Add individually | ABox Mapped : | M 1000 | |
| - MQTT | | | | |
| Data Type: | BOOL Len : | Publish Mode : | High performance | - |
| Trigger mode : | Value changes 🔹 | Trigger condition : | | • |
| Min Value : | | Max Value : | | |
| Publish interval: | (5) | Note : | | |
| IsCache : | Disable 🔹 | | | |

| Parameter name | Function explanation |
|----------------|---|
| Order name | Remarks of the order |
| Data format | Types of data points, including Bit and Word |
| Data object | Specify the data point object of PLC, and automatically switch the digital value and data type according to the data specification |
| Start address | Specify the address of the PLC's data point |
| Adding mode | It is divided into add individually and batch addition. Data type and data quantity can be specified when adding in batches |
| ABOX mapped | Automatic assignment and manual setting can be selected. Cloud platform monitoring ABOX is actually monitoring the mapping address of ABOX. |

b. Batch order

| Device ——— | | | |
|-------------------|---------------|---------------------|--------------------|
| Order Name : | | Data Format : | Bit |
| Data Object: | X - | StartAdrr : | 1 |
| Adding Mode : | 2 | ABox Mapped : | 2 |
| MQTT | BOOL Len: | Publish Mode : | High performance 💌 |
| Trigger mode : | Value changes | Trigger condition : | |
| Min Value : | | Max Value : | |
| Publish interval: | (s) | Note : | |
| IsCache : | Disable 🔹 | | |

| Parameter name | Function explanation |
|----------------|--|
| Order name | Remarks of the order |
| Data format | Types of data points, including Bit and Word |

| Data object | Specify the data point object of PLC, and automatically switch the digital value and data type according to the data specification |
|---------------|--|
| Start address | Specify the address of the PLC's data point |
| Adding mode | Interval between each address |
| ABOX mapped | Number of addresses added |

c. MQTT parameters

| Order Name : | | Data Format : | Bit |
|--------------------|--------------|--------------------|--------------------|
| Data Object : | X | StartAdrr : | 1 |
| Adding Mode : | 2 | ABox Mapped : | 2 |
| Data Type: | BOOL Len: | Publish Mode : | High performance |
| Data Type : | BOOL V Len : | Publish Mode : | High performance 🔹 |
| ingger mode . | | ingger condition . | Ť |
| Min Value : | | Max Value : | |
| | (s) | Note : | |
| Publish interval : | | | |

| Parameter name | Function explanation |
|----------------|--|
| Data type | The data type include INT16U, INT16S, INT32U, INT32S, INT64S, Float, Double, Char[] |
| | It is divided into response mode and high performance. |
| Publish mode | Response mode: the platform releases a request and ABOX releases a piece of data. |
| | High performance: according to the data trigger conditions, if the conditions are met, the data will be published. |
| Trigger mode | It can be divided into trigger when the value changes, trigger when the condition is met, and trigger at a fixed time (high-performance mode). |

| Parameter name | Function explanation |
|----------------------|---|
| Trigger condition | When the trigger condition is "meet condition trigger", meet condition trigger can set the range of actual data and maximum minimum value as the condition, including less than, in range, greater than, not equal to, and out of range |
| Publish interval | When the trigger condition is "fixed time trigger", data can be published regularly according to the set publish interval |
| Info cache | When the device is disconnected (not powered off), the data can be saved in the gateway after the message cache is enabled. Up to 30000 node data can be cached. |

3-4-3. Order total

(1) Data monitor

In the order total, you can view the instructions added by all devices. Click the "Monitoring" button to view the real-time value of the added data. In order to save data traffic cost, Monitoring is not enabled by default and needs to be enabled manually. Here, data monitoring can be read and written.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🐵 — 🖪 🗙 |
|--|------------|---------------|----------------|---------------|------------|-----------------------|
| Base SetUp | <u>~</u> | Data Monit | | Port Trans | E | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | | Start data monitoring |
| □ □ □ □ □ | 监控表格 | 导入 表格导出 | ComPort : Orde | er Total | | ComOrder WriteOrder |
| | Order Name | Device Name | Object Addre | Data Type | AboxObject | Monitor Value |
| | A1 | 2 | M1 | BOOL | M1000 | |
| Ethernet | A3 | 1 | ¥1 | BOOL | M200 | |
| - 😭 Order Total - 🏠 Free Monit - 🕜 System Info | | | | | | |
| | | | | | | |

(2) Data table import and export

With the table export function, you can export the configured data points of the device locally, save them in Excel, edit them in Excel, and then import them into the device.

Note: Before importing the table, it is necessary to confirm that the "communication device" in the excel form exists in the gateway data monitoring configuration.

| ABox ID:499098207C1314081(H2/V2.2 | 2.0) | | | | | 🐵 — 🛛 🗙 |
|---|-------------|---------------|-------------------|---------------|------------|-----------------------|
| Base SetUp | <u>~</u> | Data Monit | | Port Trans | | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | | Start data monitoring |
| □ □ COM0 | 监控表格 | 导入 表格导出 | ComPort : Orde | er Total | | ComOrder WriteOrder |
| | Order Name | Device Name | Object Addre | Data Type | AboxObject | Monitor Value |
| | A1 | 2 | M1 | BOOL | M1000 | |
| □ Ethernet | A3 | 1 | ¥1 | BOOL | M200 | |
| - Tree Monit | | | | | | |
| 日 5 · C · · · · 文件 开始 插入 页面布局 | 公式 数据 审阅 视图 | 帮助 📿 操作说明搜索 | test.xlsx - Excel | | · (R) · | |
| <u>●</u> | | | 受扣 | | | |

| | | • | 11 • A A | | - ** č | 3 目动换行 | 常规 | - | i ≠ | I | |
|----|-------|------------------------|-----------|------|--------|--------|------------|----------------------|-------------|-----------------------|------------------|
| 粘 | B I | <u>u</u> • 🗄 • 🕭 • | A ~ wén ~ | === | | 合并后居中 | · 😵 · % | • €.0 .00 .00 →.0 | 条件格式 • 表 | 套用 单元格 格格式 · · · · | 縦式 插入 、 、 、 、 |
| 剪 | 贴板 🕟 | 字体 | | 5 | 对齐方式 | | ت <u>ع</u> | 饽 5 | 2 | 样式 | |
| H5 | • : | × ✓ f _x 单 | 个添加 | | | | | | | | |
| | А | В | С | D | E | F | G | н | 1 | J | K |
| 1 | 通信设备 | 指令名称 | 数据规格 | 数据对象 | 起始地址 | Abox地址 | 数据类型 | 添加方式 | 数据个数 | 发布模式 | 触发方式 |
| 2 | test1 | M1 | Bit | М | 1 | 10 | BOOL | 单个添加 | 1 | 高性能 | 值改变 |
| 3 | test1 | M2 | Bit | М | 2 | 11 | BOOL | 单个添加 | 1 | 高性能 | 值改变 |
| 4 | test1 | M3 | Bit | М | 3 | 12 | BOOL | 单个添加 | 1 | 高性能 | 值改变 |
| 5 | test1 | M4 | Bit | М | 4 | 13 | BOOL | 单个添加 | * 1 | 高性能 | 值改变 |
| 6 | test1 | D1 | Word | D | 1 | 10 | INT16U | 单个添加 | 1 | 高性能 | 值改变 |
| 7 | test1 | D2 | Word | D | 2 | 11 | INT16U | 单个添加 | 1 | 高性能 | 值改变 |
| 8 | test1 | D3 | Word | D | 3 | 12 | INT16U | 单个添加 | 1 | 高性能 | 值改变 |
| 9 | test1 | D4 | Word | D | 4 | 13 | INT16U | 单个添加 | 1 | 高性能 | 值改变 |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |

After the form is exported, it can be edited in the form, and the quick configuration of similar items can be achieved by copying the contents of the form.

| | A | В | С | D | E | F | G | Н | | J | K | L | M |
|----|-------------------|-------------|------|------|-----------|-----------------------|--------|------|------|------|------|------|-----|
| 1 | 通信设备 | 指令名称 | 数据规格 | 数据对象 | 起始地址 | Abox地址 | 数据类型 | 添加方式 | 数据个数 | 发布模式 | 触发方式 | 触发条件 | 最小值 |
| 2 | test1 | M1 | Bit | М | 1 | 10 | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 3 | test1manual build | M2 | Bit | М | 2 | 11 | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 4 | test1the | A3 pama can | Bit | М | The addre | ess is ¹ 2 | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 5 | test1communicat | repeat | it | М | omntv an | d will Bo | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 6 | test1device | D1 | Word | D | cinpty an | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 7 | test1 | D2 | Word | D | automati | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 8 | test1 | D3 | Word | D | assigned | 12 | INT16U | 一个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 9 | test1 | D4 | Word | D | 4 | 13 | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 10 | test2 | M11 | Bit | М | 1 | | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 11 | test2 | M21 | Bit | М | 2 | | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 12 | test2 | M31 | Bit | М | 3 | | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 13 | test2 | M41 | Bit | М | 4 | | BOOL | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 14 | test2 | D11 | Word | D | 1 | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 15 | test2 | D21 | Word | D | 2 | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 16 | test2 | D31 | Word | D | 3 | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 17 | test2 | D41 | Word | D | 4 | | INT16U | 单个添加 | 1 | 高性能 | 值改变 | 小于 | 0 |
| 18 | | i | | | _ | | ſ | | | | | | |

After copying the content, you need to modify the name of the communication device. The communication device here needs to be created manually in the BOX Manager. The order name cannot be the same as the name in the previous table, otherwise it cannot be written to the BOX Manager. The Abox address can be blank, which can be automatically assigned by the BOX Manager or set by the user himself. Please note that it cannot be duplicate with the previous address.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🕸 — 🛛 🗙 |
|---|------------|---------------|----------------|---------------|------------|-----------------------|
| Base SetUb | <u>~</u> | Data Monit | | Port Trans | | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | | Start data monitoring |
| E- COM0 | 监控表格 | 导入 表格导出 | ComPort : Orde | er Total | | ComOrder WriteOrder |
| | Order Name | Device Name | Object Addre | Data Type | AboxObject | Monitor Value |
| | A1 | 2 | M1 | BOOL | M1000 | |
| □ Ethernet | C50 | 2 | D1 | INT16U | D10 | |
| -1 | C51 | 2 | D6 | INT16U | D11 | |
| -📋 Order Total | A3 | 1 | Y1 | BOOL | M200 | |
| | B10 | 1 | X1 | BOOL | M1001 | |
| - Free Monit | B11 | 1 | X3 | BOOL | M1002 | |
| - G System Info | C30 | 1 | X1 | BOOL | M1003 | |
| | C31 | 1 | X6 | BOOL | M1004 | |
| | | | | | | |

3-4-4. Serial port setting

Right click the COM port, select serial port setting. Enable data monitoring to take effect after parameter writing.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🐵 — 🛛 🗙 |
|---|------------|---------------|----------------|---------------|------------|-----------------------|
| Base SetUp | <u>~</u> | Data Monit | | Port Trans | | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | | Start data monitoring |
| Add Device | 监控表格 | 导入 表格导出 | ComPort : Orde | er Total | | ComOrder WriteOrder |
| Protocol Set | Order Name | Device Name | Object Addre | Data Type | AboxObject | Monitor Value |
| 串口设置 | A1 | 2 | M1 | BOOL | M1000 | |
| ₽ [] Ethernet | C50 | 2 | D1 | INT16U | D10 | |
| -1 | C51 | 2 | D6 | INT16U | D11 | |
| - 📋 Order Total | A3 | 1 | Y1 | BOOL | M200 | |
| | B10 | 1 | X1 | BOOL | M1001 | |
| - Free Monit | B11 | 1 | X3 | BOOL | M1002 | |
| - G System Info | C30 | 1 | X1 | BOOL | M1003 | |
| | C31 | 1 | X6 | BOOL | M1004 | |
| | | | | | | |

| Serial p | ort parameter configuration |
|-------------|-----------------------------|
| Baud rate : | 19200 |
| Data bit : | 8 |
| Check bit : | EVEN |
| Stop bit : | 1 |
| L | Read Write |

3-4-5. Free monitor

Free monitoring monitors the internal objects of A-BOX. Free to add, view and modify data.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🗇 — 🖾 🗙 |
|---|----------------|---------------|------------------|---------------|-----------|-----------------------|
| Base SetUp | | Data Monit | (j) | Port Trans | | System SetUp |
| Data Monit Right-click node add function | | | | MQTT ser | ver | Start data monitoring |
| E COM0 | Monit Add mo | dify Delete | Del All Up | Down | Top Botto | m Write Save |
| | Monit Object | Mor | nit Value | Obj Type | NumFormat | Remarks |
| | M0 | | | Bit | Decimal | |
| COMI | M1 | | | Bit | Decimal | |
| ₽- 🛄 Ethernet | M2 | | | Bit | Decimal | |
| <u>-1</u> | \$ | Moni | tor object input | | × | |
| -📋 Order Total | | | | | | |
| - 🏠 Free Monit | MonitObject :M | ▼ 0 | MonitNum | : 6 | | |
| - 👔 System Info | Monitor Me | ode ——— | | de | | |
| | Bit | OWord | Decimal | Octal | | |
| | | Class | Dimen | | | |
| | word | Float | Binary | | | |
| | O DWord | Double | O Hex | | | |
| | | | Cano | el C | Ж | |
| | | | | | | |

Double click "Monitoring Value" to write the current data.

| ABox ID:32805811578467947(H2/V2.2.0 |) | | | | 🔅 — 🛛 🗙 |
|--------------------------------------|---------------------|--------------|------------|-------|---------|
| 「 基本 配置 | 火 | |) 远程 传输 | | 系统 设置 |
| 数据监控 ^{右键节点添加设备读写指令} | | | MQTT服务器 | 设置 | 启动数据监控 |
| | 监控 添加 修改 | 女 删除 删除全部 上移 | 下移 | 置顶 置底 | 写值 保存 |
| | 监控对象 | 监控值 | 字长 | 进制 | 备注 |
| - 设备01 - IIII COM1 | D1000 | 0 | 单字 | 10进制 | |
| | D1001 | 0 | 单字 | 10进制 | |
| | D1002 | 0 | 单字 | 10进制 | |
| | D1003 | 0 | 单字 | 10进制 | |
| - 目 指令汇总 | 😰 WriteReg | | × | | |
| 新自由监控 (7) 系统信息 | 寄存器值: 值类型: 取消 | 0 单字 10进制 | | | |

3-4-6. System information

The system information can view the operation status information of A-BOX, such as GPS coordinates, signal strength, equipment operation time, etc.

Note: the system information can only be read once when entering the current interface, not real-time information.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🕸 — 🖬 🗙 |
|---|-------------------------------------|-------------------------|------|---------------|------------------------------|
| Base SetUp | | ata Ionit | (1) | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to | o ABox's own system reg | ster | MQTT server | Start data monitoring |
| E- COM0 | System run | ning information | | Devic | e connection Flag |
| ∟2 | Describe | Reg | | Value | Remarks |
| - COM1 | GPS latitude | SD0 | | | float |
| □ Ethernet | GPS longitude | SD2 | | | float |
| L-1 | GPS latitude-Gaode | SD4 | | | float |
| - 📋 Order Total | GPS longitude-Gaode | SD6 | | | float |
| | GPS latitude-Baidu | SD8 | | | float |
| Cuntom Info | GPS longitude-Baidu | SD10 | | | float |
| - System Info | GPS signal strength | SD20 | | | Word,Decimal integer |
| | GPS success flag | SD21 | | | Word, 1 success, 0 fail |
| | Device Model | SD30 | | | Word,Decimal integer |
| | Networking mode | SD31 | | | Word Decimal,Mode1(A)/2(B)/3 |
| | Working state | SD32 | | | Word,Decimal integer |
| | 4G signal strength | SD33 | | | Word,Decimal integer |

You can also view the communication device connection flag. Connection flag bit 1 indicates successful communication of the device, and 0 indicates communication failure

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖬 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| EF COM0 | System running information | Device | e connection Flag |
| ∟2 | Device Name | Connection Flag | Value |
| - COM1 | 2 | SD1002 | 0 |
| Ethernet | 1 | SD1001 | 1 |
| | | | |
| - Order Total | | | |
| - 🎢 Free Monit | | | |
| - 🕧 System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

3-5. Remote transmission

3-5-1. Virtual serial port

That is, transparent transmission. The transmission network is only responsible for transmitting the services that need to be transmitted to the destination node, while ensuring the transmission quality. The virtual serial port function can enable the A-BOX serial port equipment to be completely taken over by remote computers and other equipment. The virtual serial port function supports LAN and WAN modes. Please refer to Section 4-1 for detailed usage. COM0 and COM1 can be used at the same time. RS232 and RS485/RS422 of the same serial port cannot be used at the same time.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🔅 — 🖾 🗙 |
|---|--|
| Base Data SetUp Data | Port Trans System SetUp |
| Serial port VPN USB | |
| Virtual Mode : Model 1 | Г сом1 ———————————————————————————————————— |
| Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 Virtual port : COM1 | Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 Virtual port : COM2 |
| Enabled status : 🗌 Enable Com0 | Enabled status : Enable Com 1 Start VCom |

The virtual serial port currently supports two modes: mode 1: digital signature free. Mode 2: Digital signature needs to be disabled.

Note: When using mode 1 to transparently download programs, if the download speed is too slow, please switch to mode 2.

3-5-2. VPN

VPN is virtual private network, which establishes a private network on public network for encrypted communication. Connect the network interface device to ABOX directly through the network cable, the remote PC can control the device with network interface through Ethernet network after VPN. Virtual gateway and virtual network segment need to be in the same network segment. Please refer to chapter 4-2 for details.

| ABox ID:4990982 | 07C1314081(H2, | √2.2.0) | | | | 🗇 — | $\mathbb{Z} \times$ |
|-----------------|----------------|---------------------|--------------------------|------------------------|-----------------|------------------|---------------------|
| (| Base SetUp | <u>~</u> | Data Monit | $\widehat{\mathbf{h}}$ | Port Trans | Syster SetU | im D |
| Serial port | VPN | USB | | | | | |
| | | VPN pa | arameter configu | iration | | | |
| | | VPN gateway: | 192 . 168 . 1 | . 1 | | | |
| | | Subnet mask : | 255 . 255 . 255 | . 0 | the fourth segm | ent keep default | |
| | | VPN segment : | 192 . 168 . 1 | . 252 | | | |
| | | ~ | 192 <u>168</u> 1 | . 254 | | | |
| | | the first three seg | ments must be same to PL | C IP | | Start VPN | |

After the VPN is started, the VPN startup information interface will appear. When the box displays "Initialization Sequence Completed", it indicates that the transparent transmission is successful.

| ABox 1D:499098207C1314081(H | 2/\2.2.0) | | | | — 🖂 🗙 |
|------------------------------|---------------|---------------|---|---|-------------------------------------|
| Base SetU | o | Data Monit | Port Trans | | System SetUp |
| Serial port VPN | USB | | | | |
| VPN p | arameter conf | iguration | | VPN device scan | |
| | | | IP address | Statu | Ping delay |
| VPN gateway : | 192 . 168 . | 1.1 | Thu Nov 11 17:13:22 2021 Notified TAP of 192.168.1.252/255.255.255.0 on inter C1E1-4933-98F7-6AC3698F5E2D) [DHC | -Windows driver to set a face (23167D4E- P-serv: 192.168.1.0, lease | DHCP IP/netmask |
| Subnet mask : | 255 . 255 . | 255 . 0 | Thu Nov 11 17:13:22 2021 Successful Al C1E1-4933-98F7-6AC3698F5E2D) Thu Nov 11 17:13:22 2021 do_ifconfig. t | RP Flush on interface [5] tt->did_ifconfig_ipv6_set | (23167D4E- |
| VPN segment : | 192 . 168 . | 1 . 252 | Thu Nov 11 17:13:27 2021 TEST ROUTE: Thu Nov 11 17:13:27 2021 WARNING: tl memory use the auth-nocache option | S: 0/0 succeeded len=0 re his configuration may cao n to prevent this | et=1 a=0 u/d=up che passwords in |
| ~ | 192 . 168 . | 1 . 254 | Thu Nov 11 17:13:27 2021 Initialization | Sequence Completed | |
| | | | | E | xit VPN |
| | | | | homenin | formation and |

After the VPN is successful, IP scanning can be performed under the VPN network segment through "VPN device scan".

| ABox ID:499098207C131408 | 81(H2/V2 | .2.0) | | | | | — 🛛 🗙 |
|--------------------------|---------------|-------------|-----------|---------------|---------------|-----------------|-----------------|
| 🔮 🔮 | Base SetUp | | <u>~~</u> | Data Monit | Port Trans | | System SetUp |
| Serial port V | PN | USB | | | | | |
| VPN | l para | ameter con | figurat | ion | | VPN device scan | |
| | | | | | IP address | Statu | Ping delay |
| VPN gateway | · : 1 | 92 168 | 1 | 1 | 192.168.1.200 | Alive | 2ms |
| vi i gateriaj | , . Ľ | | | | 192.168.1.252 | Alive | <1ms |
| Subnet mask | k : 2 | 255 . 255 . | 255 . | 0 | | | |
| VPN segment | t: 1 | 92 . 168 . | 1. | 252 | | | |
| | ~ 1 | 92 . 168 . | 1. | 254 | | | |
| | | | | | | | Exit VPN |

3-5-3. USB transparent transmission (only supported by A-BOX-U)

For USB port devices, such as HMI, remote upload and download programs can be realized through USB transparent transmission.

| ABox | ID:499098207C13 | 14081(H2/V2.2 | 2.0) | | | | | (¢) | - 2 | X |
|------|-----------------|----------------|-------|----------|---------------|------------------------|---------------|---------|-----------------|---|
| | O | Base SetUp | | ~~ | Data Monit | $\widehat{\mathbf{A}}$ | Port Trans | -o | System SetUp | |
| | Serial port | VPN | USB | | | | | | | |
| | | | | Dev | vice List | | | | | |
| | | | De | vice Nan | ne | | operation |] | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | Servi | ce test | |
| | | | | | | | | Davias | | |
| | | | | | | | | Device | authonze | |
| | | | | | | | | Authori | ize querv | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | Start | Service | |
| | | | | | | | | | | |
| | | | | | | | | | | |

1. Start the service: click to enable the USB passthrough function. After clicking, when the VPN indicator turns green, it indicates that the service is successfully started.

| ABox ID:499098207C1314081(| (H2/V2.2.0) | | | – 🛛 🗙 |
|----------------------------|-------------|---------------|-----------------|------------------|
| Bas Set | se 🛃 | Data Monit | Port Trans | System SetUp |
| Serial port VPN | USB | | | |
| VPN: | Dev | vice List | | |
| | Device Nan | ne | operation | |
| | | | \odot \odot | |
| | | | | Start Net Test |
| | | | | |
| | | | | Service test |
| | | | | Device authorize |
| | | | | |
| | | | | Authorize query |
| | | | | |
| | | | | Evit Service |
| | | | | CAR Service |
| | | | | |

2. Start network test: After starting the service, click Start Net Test to view the current network delay, which is generally within 150ms when the signal is good.

| Base SetUD Data Monit Port Trans Serial port VPN USB VPN: Device List Device Name operation Comm de Start | System SetUp | |
|--|--|--|
| Serial port VPN USB VPN: Device List Device Name Operation O Start | lay: 22 | |
| VPN: Device List Device Name Operation Comm de Start | lay: 22 | |
| Device Name operation Image: Comm definition Image: Comm definition | lay: 22 | |
| Ser Device Autho | vice test e authorize rize query t Service | |

| ABox ID:49 | 99098207C131 | 4081(H2/V2. | 2.0) | | | | | | | - 2 | X |
|------------|--------------|---------------|------|-----------------------------------|----------|---|---------------|-----------|---------|-----------------|---|
| | Ŷ | Base SetUp | | Data Monit | († |) | Port Trans | | | System SetUp | |
| Serial | port | VPN | US8 | | | | | | | | |
| VPN | 4: 🔴 | | | Device List | | | | | | | |
| | | | D | evice Name | | | opera | ation | Comm de | 1av: 22 | |
| 0> | x5740 (Al | BOX.111 |) | | X | | Ø | \otimes | | lay. 22 | |
| | | | | | | | | | Start | Net Test | |
| | | | | Background service installed succ | essfully | | | | | | |
| | | | | | | | | | Ser | vice test | |
| | | | | | OK | | | | Device | authorize | |
| | | | | | | 1 | | | | | |
| | | | | | | | | | Autho | rize query | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | EXI | Service | |
| | | | | | | | | | | | |

3. Service detection: check whether the transmission tool driver is installed.

4. Device authorization: check whether the connected device has the USB passthrough function. The display of "unlimited devices" indicates that the USB passthrough function has been enabled. If "devices" is displayed, the device is unauthorized and can be activated by purchasing "USB authorized passthrough function" separately.

| ABox ID:499098207C1314081(| H2/V2.2.0) | | | | – 🛛 🗙 |
|----------------------------|------------------|--|--------------|---------------|---|
| Ba: | se tUp | Data Monit | ↓ | Port Trans | System SetUp |
| Serial port VPN | USB | | | | |
| VPN: | | Device List | | | _ |
| | Dev | vice Name | | operation | Comm delay: 22 |
| 0x5740 (ABOX | 3.111) 2 3 | 論硬权码信息: SB Hub,s/n=68b9d38dc6bt,unlimited 输入设备授权码: | 人 devices | 00 | Start Net Test Service test Device authorize Authorize query Exit Service |

| System SetUp |
|------------------|
| |
| |
| |
| Comm delay: 22 |
| Start Nat Text |
| Statt ivet rest |
| Service test |
| |
| Device authorize |
| Authorize query |
| Exit Service |
| |

5. Authorization query: check whether authorization is successful.

Please refer to Section 4-3 for specific usage.

3-6. System tools

3-6-1. ABOX restart

Click restart to restart the ABOX, the configuration parameters in configuration tool will be effective.



3-6-2. Initialization

Click ABOX initialization, restore the ABOX parameters to factory default settings. This operation will not change the ABOX firmware version.

| ABox ID:4990982 | 207C1314081(H2/V2.2. | | | | | | (C) | - 2 | \times |
|-----------------|-----------------------|--------|-----------|---------------|-----|---------------|-------------|-----------------|----------|
| (| Base SetUp | | <u>~~</u> | Data Monit | (1) | Port Trans | E o | System SetUp | |
| Restart | linitialize | Update | SIM Info | | | | | | |
| ABo | ox linitia | alize | | 6 | | | | | |
| | | | | | | | linitialize | | |

3-6-3. Device update

1. click ABOX update, choose the update file folder, click open.

| ABox ID:49909820 |)7C1314081(H2/V2.2 | 2.0) | | | | | | 🗇 — 🗔 🗙 |
|------------------|--------------------|---------|---------------------|--------------------|------------------------|-----|---------------|-----------------|
| (| Base SetUp | | <u>~~</u> | Data Monit | | (1) | Port Trans | System SetUp |
| Restart | linitialize | Update | SIM Info | | | | | |
| ABc | ox firmv | vare up | odate | | | | | |
| | | | Device I ABox Ve | Name : ersion : | XinjeABox H2/V2.2.0 | | Modify | |
| | | | | | | | | Update |

Note: the device name can be changed.

| 17开 | | | | | | ; |
|---|------------|-------------------------|------------------------------|----------|-------------|-------------------|
| \leftrightarrow \rightarrow \checkmark \uparrow | - | 《 网关测试版本 > V2.2.0版本 > 1 | 1.05版本 > 2.2.0.11051 > 2.2.0 | .11051 ~ | C 搜索"2.2.0. | 11051" , P |
| 组织 ▼ 新建文件 | 牛 夹 | | | | | ≣ - □ 3 |
| 🖌 🛨 快速访问 | 1 | 名称 ^ | 修改日期 | 类型 | 大小 | |
| 画 桌面 | * | 🚞 Update | 2021-11-05 13:50 | 文件夹 | | |
| ↓ 下载 | * | 늘 updatefile | 2021-11-05 13:50 | 文件夹 | | |
| ■ 文档 | * | updatefile.abinm | 2021-11-05 12:49 | ABINM 文件 | 1,168 KB | |
| 图片 | * | | | | | |
| 📥 OneDrive - P | en | | | | | |
| 🐟 WPS网盘 | | | | | | |
| 🐟 华为云盘 | | | | | | |
| 📮 此电脑 | | | | | | |
| | 文件名(| N: updatefile.abinm | | | ✓ ABox升级: | 文件 (*.abinm) |
| | | | | | 打开(0) |) 取消 |

2. Click OK.

| ABox ID:499098207C1314081 | (H2/V2.2.0) | | | 3 |) – 🛛 🗙 |
|---------------------------|--|--|---|---|-----------------|
| Ba Se | se tUp | Data Monit | Port Trar | t 🛃 | System SetUp |
| Restart linitiali | ze Update | SIM Info | | | |
| ABox fir | mware up | odate | | | |
| | ABox Update | | | X | |
| | Make sure your n do not configure i | etwork is communicating t from this computer or | properly during the ABox any other computer during | upgrade and 9 the upgrade. Cancel | |
| | | | | | |
| | | | | | |
| | | | | Update | |

3. After updating, restart the ABOX to make the new firmware effective.

Note: please contact us to get the update files.

3-6-4. SIM card information

When ABOX inserts a 4G card, the corresponding 4G card information can be queried. If it is a Xinje supporting IoT network card, the card details can be queried, including ICCID, card use status, total package usage, package used amount, package remaining amount, and current month usage. Only ICCID can be queried if it is not the supporting IoT network card of Xinje. Card information query requires hardware factory version at or above V2.2.0 and software version at or above V1.2.0.



■ BOX, A-BOX-U

| Hardware version | Firmware version | Config tool version | Whether card query is supported | Solution |
|---------------------|------------------|---------------------|---------------------------------------|---|
| | V100 | XNetConfigTool | | |
| | | V2.1.001 | | |
| | V1 0 23 | XNetConfigTool | No | The H1 hardware version does not |
| H1 | | V2.1.010 | | support the card function, and the |
| | V1 0 24 | XNetConfigTool | No | H2 hardware version is required for the card checking function. |
| | | V2.2.024 | | |
| | V1 0 25 | XNetConfigTool | No | |
| | | V2.2.040 | | |
| H2 | V1.0.24 | XNetConfigTool | No | Send back to factory to update |

| | V2.2.024 | | |
|---------|------------------------------|-----|--|
| V1.0.25 | XNetConfigTool V2.2.040 | No | |
| V2.1.0 | BOX Manager V1.1.0 and up | No | |
| V2.1.1 | BOX Manager V1.1.1 and up | No | Upgrade with BOX Manager (V1.2.0) and above |
| V2.2.0 | BOX Manager V1.2.0 and up | Yes | - |

3-7. Open and save

When the configuration tool is closed, you will be prompted to save the configuration information to prevent loss.





All A-BOX configuration information can be saved as files, used as backups, and imported to other A-BOX.

| ABox | ID:49909820 | 7C1314081(H2/V2.: | 2.0) | | | | | | <u>نې</u> | $- \square \times$ |
|------|-------------|--------------------|--------|----------|--------|----------|-------|---|-----------|-----------------------|
| | Ć | Base | | ~ | Data | لم | Port | | | Refresh Communication |
| | | SetUp | | — | Monit | <u> </u> | Trans | 5 | | Import configuration |
| 1 | Restart | linitialize | Update | SIM Info | | | | | | |
| | | | | | | | | | | |
| | CI A | ⊢/二白 | | | | | | | | |
| | SIM | 卞信思 | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | IC | CID: 未检测 | 则到SIM卡 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

4. Typical function application

4-1. Virtual serial port

This application uses XINJE PLC XDH-30A16-E as an example.

1. Make sure the serial port parameters are consistent for PLC and ABOX. Select "enable com0".

| ABox ID:499098207C13140 | 81(H2/V2.2.0) | | | <u>ر</u> | $\rightarrow \square \times$ |
|-------------------------|-----------------------|---------------|---------------------------|-------------|------------------------------|
| | Base SetUp | Data Monit | Port Trans | | System SetUp |
| Serial port V | /PN USB | | | | |
| Virtual Mode : [| Model 1 | same to P | LC serial port parameters | | |
| Bauc | d rate : 19200 | ~ | Baud rate : | 19200 | - |
| Dat | ta bit : 8 | - | Data bit : | 8 | - |
| Che | ck bit : EVEN | - | Check bit : | EVEN | - |
| Sto | op bit : 1 | Ŧ | Stop bit : | 1 | ~ |
| Virtua | l port : COM1 | Ŧ | Virtual port : | COM2 | - |
| Enabled s | tatus : 🗹 Enable Com0 | | Enabled status : | Enable Com1 | |
| | | | | | |
| | | | | | |
| | | | | | Start VCom |

2. Click virtual serial port, choose the com port used by ABOX, choose the idle com port in my PC. Click "Start VCom".

| ABox ID:499098207C1314081(H2/V | 2.2.0) | | | () () | - 2 | X |
|---------------------------------|------------------------------|---------------|------------------|-------------|-----------------|---|
| Base SetUp | ~~ | Data Monit | Port Trans | | System SetUp | |
| Serial port VPN | USB | | | | | |
| | 1 - | | Г сом1 ———— | | | |
| Baud rate : | 19200 | - | Baud rate : | 19200 | * | |
| Data bit : | 8 | | Data bit : | 8 | ~ | |
| Check bit : | EVEN | | Check bit : | EVEN | * | |
| Stop bit : | 1 | • | Stop bit : | 1 | ~ | |
| Virtual port : | COM1 | ▲ | Virtual port : | COM2 | ~ | |
| Enabled status : | COM1 COM2 COM3 COM4 | ^ | Enabled status : | Enable Com1 | | |
| | COM5 COM6 COM7 | ~ | L | | Start VCom | |

3. After the process of statup virtual serial port is completed, it will show the message "virtual

serial port is running".

| 1 | \mathcal{O} | | | |
|----------------------|-------------------------|---------------|--|-----------------------|
| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | 🗇 — 🖾 🗙 |
| T | Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port | VPN USB | | | |
| | d status : 🖭 Enable Col | Progress:30% | Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 irtual port : COM2 cnacled status : Enable Con | ▼ ▼ ▼ ▼ 1 |

4. After creating the virtual serial port, open the PLC programming software, choose the virtual com port to build the connection, to realize the function of remote PLC program downloading, uploading and monitoring, debugging.

Note: please choose Bluetooth virtual serial port in the XC and XD series PLC software.

| | | | Xinje PLC Program Tool | |
|--|----------------------------------|--|---|---|
| File Edit Search View Online | e Configure Option | Window Help | | |
| 🗋 😅 📕 🔏 📬 📬 |) 🔷 🗼 AN 🖻 | 🗏 🖨 🔇 🐣 | 🐣 🕒 🗖 🔒 🔓 🛄 💆 • | m) |
| Ins sIns Del sDel F5 F6 | | - <s>-{s}-{_F8}</s> | 💥 🗉 🕅 🚺 • 👖 • 💽 • 🔂 🔜 🔍 | |
| Project 4 × | PLC1 - Ladder | | | |
| Sequence Block Comment Editor Comment Editor Data Monitor Set Reg Init Value Comme | 0 | | Communication configuration | × |
| PLC Config | | the second the | | |
| | Information Error List Output | New Edit Delete Mo Name USB_/Vriet_Defeult Ethernet_Modbus_Defeult | Communication configuration X Communication Name: COM_Modbus_1 Connection mode selection X Interface Type: COM Communication parameter configuration X Atomatic Detection Baudrate(B) Station No Baudrate(B) Image: Station No Image: Station No Station No Baudrate(B) Image: Station No Image: Station No Image: Station No I | Connect Info ch, Search mode: Device typ. vice IP address: 192.168.6. |
| - 🚱 Scan Cycle 🚡 Clock Details 🏷 Error Details 💽 Record | | | Comm-Test OK Cancel | |

5. After finishing the use of virtual serial port, right click the XINJE software icon on the right bottom of PC to exit the virtual serial port.



6. Some computers may show that the serial port is still occupied after it is released. At this time, please open the configuration tool, click tool/reset port to release the serial port.

| Box Cloud Management tool | Reset Port Remote Service LanguageSet Suggestion VersionInfo |
|--|--|
| Lusername: → Register an accord Password : → Retrieve password Keep Password delete userinfo | rd |
| Login | |
| | Skip→ |

4-2. VPN

VPN is virtual private network, which establishes private network on public network for encrypted communication. PLC is connected to ABOX through Ethernet port, the remote PC can download to PLC directly through the Ethernet network.

1. Connect the ABOX with configuration tool, and check the LAN parameters of ABOX. Confirm the ABOX LAN port gateway, the defaulted value is 192.168.1.1, the subnet mask is 255.255.255.0. VPN only can be used for remote logging on.

| Base Setto Data Monit Port Trans System System Lan Param IAN DHCP Service : Open P(Gateway) : 192, 168, 1, 1 Mask : 255, 255, 255, 0 White list Back Number | 99098207C1314081(H2/V2.2.0) | | | ق – R |
|--|-------------------------------|---------------------|-----------------------|-----------------|
| LAN DHCP Service: (pen) IP(Gateway): 192.168.1.1 Mask: 255.255.0 White list Must Password: XINJEABOX | Base SetUp | Data Monit | Port Trans | System SetUp |
| Lan Param LAN DHCP Service : Open IP(Gateway) : 192.168.1.1 Mask : 255.255.0 Hotspot ESSID : XINJE ABOX Password : XINJEABOX | | | | |
| LAN Hotspot DHCP Service : Open IP(Gateway) : 192 . 168 . 1 . 1 Mask : 255 . 255 . 0 Mask : 255 . 255 . 0 | Lan Param | | | |
| DHCP Service : Open IP(Gateway) : 192 . 168 . 1 . 1 Mask : 255 . 255 . 0 Password : XINJEABOX Password : Vubital int | | | Hotspot | |
| IP(Gateway): 192.168.1.1 Mask: 255.255.0 Password: XINJEABOX | DHCP Service : | Open 💌 | AP : 🗹 Enable Hotspot | |
| Mask : 255 . 255 . 0 Password : XINJEABOX Whitelict Back Novt | IP(Gateway) : | 192 . 168 . 1 . 1 | ESSID : XINJE ABOX | |
| | Mask : | 255 . 255 . 255 . 0 | Password : XINJEABOX | |
| Whitelict Rock Next | | | | |
| Whitelist Rock Next | | | | |
| Whitelist Rock Next | | | | |
| VVIIILELISL DACK INEXL | WhiteList | | Back | Next |

2. Fix the IP address of PLC Ethernet port which needs to VPN, the PLC IP address should be in the same gateway of ABOX, take the defaulted gateway as an example, PLC IP is 192.168.1.XX(XX range is 2~251). XINJE Ethernet series PLC settings are shown as below:

| PLC1 - ethernet Set |
|--|
| PLC Config Yo Password PLC Serial Port Pluse Wodule BD ED 4GBOX WBOX Image: Pluse Image: |
| Read From PLC Write To PLC OK Cancel |

3. After configuring the PLC IP, connect the Ethernet cable to the ABOX LAN port, open the configuration tool after logging on the server successfully, connect the present ABOX, click Port trans/VPN, click "start VPN".

| ABox ID:499098207C1 | 314081(H2/V2 | 2.2.0) | | | | | ্র | - 🖸 | \times |
|---------------------|---------------|---------------------|-------------------------|--------|-----|------------------|------------|-----------------|----------|
| Ŷ | Base SetUp | <u>~</u> | Data Monit | 4 | 6 | Port Trans | Ξò | System SetUp | |
| Serial port | VPN | USB | | | | | | | |
| | | VPN pa | arameter config | uratio | on | | | | |
| | | VPN gateway: | 192 . 168 . 1 | . | 1 | | | | |
| | | Subnet mask : | 255 . 255 . 25 | 5. | 0 | the fourth segme | nt keep de | fault | |
| | | VPN segment : | 192 . 168 . 1 | . 2 | 252 | | | | |
| | | ~ | 192 <u>168</u> 1 | . 2 | 254 | | | | |
| | | the first three seg | nents must be same to P | LC IP | | | Start VPN | | |

4. When it shows the following image "Initialization Sequence Completed", it means the connection is successful, it can make the transparent transmission.

| ax 10:499098207C13140810 Bas Set | н2/V2.20) е Јо | Data Monit | Port Trans | (| System SetUp |
|--|----------------------|---------------|---|---|--------------------|
| Serial port VPN | use parameter co | onfiguration | | VPN device scan | |
| | | | IP address | Statu | Ping delay |
| /PN gateway | 192 . 168 | . 1 . 1 | Thu Nov 11 17:13:22 2021 Notified TAP of 192.168.1.252/255.255.255.0 on inter C1E1-4933-98F7-6AC3698F5E2D} [DHCI | -Windows driver to set a face (23167D4E- P-serv: 192.168.1.0, lease | a DHCP IP/netmask |
| Subnet mask : | 255 . 255 | . 255 . 0 | Thu Nov 11 17:13:22 2021 Successful AF C1E1-4933-9BF7-6AC369BF5E2D) Thu Nov 11 17:13:22 2021 do_ifconfig, t Thu Nov 11 17:13:27 2021 TEST ROLLES | RP Flush on interface [5] t->did_ifconfig_ipv6_set | (23167D4E- up=0 |
| PN segment | 192 . 168 | . 1 . 252 | Thu Nov 11 17:13:27 2021 WARNING: th memory use the auth-nocache option Thu Nov 11 17:13:27 2021 Initialization | his configuration may ca n to prevent this Sequence Completed | che passwords in |
| 2 | 192 . 168 | . 1 . 254 | | | |
| | | | | | Exit VPN |

5. In the process of VPN transparent transmission, open the PLC software and directly connect to the IP address of the PLC to remotely download the PLC program.

| | | Communication configuration | | × |
|--------------------------|---|--|--------------------------------|--------------|
| New Edit Delete | love-Up Move-Down | | | |
| Name USB_Xnet_Default | Com | munication configuration | earch, Search mode: Device typ | Connect Info |
| Ethemet_Modbus_Default | Communication Name : Connection mode select Interface Type: CommProtocol: Communication paramet Scan IP Device IP: Local IP: | Ethemet_Modbus_1 tion Ethemet Modbus ter configuration 192.168.1.200 502 0.0.0.0 | device IP address: 192.168.6 | |
| | Comm-Test | Auto-connect on exit OK Cancel | | ОК |

6. VPN network device scanning, can automatically search the IP under the LAN, click "Exit VPN" to end this transparent transmission.

| ABox ID:499098207C13140 | 081(H2/A | /2.2.0) | | | | | | | - 2 | X |
|-------------------------|---------------|-------------|----------|---------------|---------------|-------------|-----------------|----------|-----------------|---|
| <u></u> | Base SetUp | | ~ | Data Monit | | ort rans | | Т¢ | System SetUp | |
| Serial port V | VPN | USB | | | | | | | | |
| VPN | V pai | rameter cor | ifigurat | ion | | v | /PN device scan | | | |
| | | | | | IP address | | Statu | P | ing delay | |
| VPN gateway | v • [| 192 168 | 1 | 1 | 192.168.1.200 | | Alive | | 2ms | |
| viii gutema | y • L | | | | 192.168.1.252 | | Alive | | <1ms | |
| Subnet mas | k : [| 255 . 255 . | 255 . | 0 | | | | | | |
| VPN segmen | nt : [| 192 . 168 . | 1. | 252 | | | | | | |
| | ~ [| 192 . 168 . | 1. | 254 | | | | | | |
| | | | | | | | | Exit VPN | | |

4-3. USB transparent transmission

This case takes the remote download of Xinje HMI with USB transparent transmission function as an example, and the specific use mode is as follows:

1. Open the configuration tool, connect remotely, click "USB ", click "Service test", and confirm that the passthrough tool driver installation is completed.

| ABox | ID:499098207C13 | 14081(H2/V2.2 | 2.0) | | | | 🐵 — 🛛 🗙 |
|------|-----------------|----------------|-------|---------------|------------|---------------|------------------|
| | G | Base SetUp | | Data Monit | (†) (†) | Port Trans | System SetUp |
| S | erial port | VPN | USB | | | | |
| | | | | Device List | | | |
| | | | De | evice Name | | operation |] |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | Service test |
| | | | | | | | Device authorize |
| | | | | | | | Authorize query |
| | | | | | | | Start Service |
| | | | | | | | Start Service |
| | | | | | | | |

2. Click "start service", start USB transparent transmission, click Start Net Test to view the current network delay, which is generally within 150ms when the signal is good.

| ABox ID:499098207C131 | 4081(H2/V2.2 | | | | | | — 🖂 🗙 |
|-----------------------|---------------|-----|---------------|---|---------------|--------|--|
| O | Base SetUp | | Data Monit | ф | Port Trans | | System SetUp |
| Serial port | VPN | USB | | | | | |
| VPN: | | | Device List | | | | |
| | | De | vice Name | | oper | ration | Comm delay: 22 |
| | | | | | Ø | 0 | comm delay. 22 |
| | | | | | | | Start Net Test |
| | | | | | | | |
| | | | | | | | Service test |
| | | | | | | | |
| | | | | | | | Device authorize |
| | | | | | | | Authorize guany |
| | | | | | | | Autionze query |
| | | | | | | | |
| | | | | | | | Exit Service |
| | | | | | | | Provide a second s |
| | | | | | | | |

3. Service test: check whether the transmission tool driver is installed.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | — 🗔 🗙 |
|--|-----------------------------------|------------|-------------------|------------------|
| Base SetUp | Data Monit | \bigcirc | Port Trans | System SetUp |
| Serial port VPN USB | | | | |
| VPN: 🔴 | Device List | | | |
| C | evice Name | | operation | Comm delay: 22 |
| 0x5740 (ABOX.111) | | X | \odot \otimes | |
| |] | Γ | • | Start Net Test |
| | Background service installed succ | essfully | | |
| | | | | Service test |
| | | OK | | Device authorize |
| | | | | Device outstance |
| | | | | Authorize query |
| | | | | |
| | | | | |
| | | | | Exit Service |
| | | | | |

4. Click "device authorize" or "authorize query", confirm that the module has USB authorization.

| ABox ID:499098207C1314 | 081(H2/V2.2.0) | | | | – 🛛 🗙 |
|------------------------|----------------|---|------------|------------|---|
| <u></u> | Base SetUp | Data Monit | | ort ans | System SetUp |
| Serial port | VPN U | SB | | | |
| VPN: | | Device List | | | |
| | | Device Name | (| operation | Comm delay: 22 |
| 0x5740 (AB | OX.111) | 设备接仅码信息: USB Hub.s/n=68b9d38dc6b unlimited devi 请输入设备按仅码: 写入 | Ces REW | | Start Net Test Service test Device authorize Authorize query Exit Service |

| Ć | Base SetUp | | Data Monit | ф | Port Trans | | System SetUp |
|------------|---------------|-----|---------------------------------|---------------|---------------|-----------|-------------------------------|
| erial port | VPN | USB | | | | | |
| VPN: 🔵 | | | Device List | | | | |
| | | C | evice Name | | oper | ation | Comm delay: 22 |
| 0x5740 | (ABOX.111) |) | | X | ⊘ | \otimes | |
| | | | successful authorized device de | etected OK | | | Service test Device authorize |
| | | | | | | | Authorize query |
| | | | | | | | Exit Service |

5. The USB cable is connected to the USB port and the HMI. The device detected by the USB port will pop up automatically in the device list. Click " $\sqrt{}$ " to enable the current USB device.

| ABox ID:499098207C1314081(H2/ | V2.2.0) | | | | – 🗔 🗙 |
|-------------------------------|-------------------------------|--------------------|-----|-------------------|-----------------|
| Base SetUp | | Data Monit | (j) | Port Trans | System SetUp |
| Serial port VPN | USB | | | | |
| | | Device List | | | |
| | De | evice Name | | operation |] |
| 0x5740 (ABOX.11 | 1) (In-use b | y you) | | $(\odot) \circ$ | 1 |
| | | | | Ý | Start Net Test |
| | | | × | | |
| | | | | enable | Service test |
| | Device encourt fills eachiled | | | | |
| | Device su | ccessiuity enabled | | | |
| | | | | | Authorize query |
| | | | ОК | | |
| | | | | | Exit Service |
| | | | | | |

6. In the device list, "In use by you" is displayed behind the device name, indicating that the device is being used. Open the HMI editing software directly, and click Download after creating a new screen.



7. After use, click "Exit service" to exit USB passthrough.

Note: Directly closing the configuration tool will not exit the USB passthrough. After clicking Close, the configuration tool will be minimized to the lower right corner of the computer to run. The icon can be found. Right click the mouse, click "Open USB passthrough" to call up the configuration interface, and click "Exit Service" to exit the USB passthrough.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | | | | | – 🛛 🗙 |
|-----------------------|--------------------|--------------|---------------|------------------------|---------------|--------|-----------------|
| <u></u> | Base SetUp | <u>~~</u> | Data Monit | $\widehat{\mathbf{h}}$ | Port Trans | - To | System SetUp |
| Serial port | VPN U | JSB | | | | | |
| | | Dev | vice List | | | | |
| | | Device Nan | ne | | operation | | |
| 0x5740 (At | BOX.111) (In | -use by you) | | | Ø Ø | | |
| | | | | | • | Start | Net Test |
| | | | | | | | |
| | | | | | | Serv | vice test |
| | | | | | | | |
| | | | | | | Device | authorize |
| | | | | | | | |
| | | | | | | Author | rize query |
| | | | | | | | |
| | | | | | | Exit | Service |
| | | | | | | | |
| | | | | | | | |

4-4. Data monitoring

4-4-1. Communication command

Data monitoring needs the XINJE Cloud platform. Map the device address to ABOX internal address to realize real-time monitoring of PLC data by cloud platform.

1. After connecting the ABOX, click data monitor, it supports serial port and Ethernet port devices. Take serial port COM0 connecting PLC as an example.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🖾 🗙 |
|---|---------------------------------|---|-----------------------|
| Base SetUp | Data Monit | System SetUp | |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| СОМ0 СОМ1 | ComOrder WriteOrder Use the Del | ete key to Delete the selected it Batch Order | Add Order |
| – 🛄 Ethernet | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |
| - 🔒 Order Total | | | |
| | | | |
| - 👔 System Info | | | |
| | | | |
| | | | |

2. Right click COM0, click protocol set.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖾 🗙 |
|---|--|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - CON Protocol Set | ComOrder WriteOrder Use the Delete rder Name Device Name | Key to Delete the selected it Batch Order Object Addre Date Num Abox's Object Addre | Add Order Order Note |
| - Order Total | | | |
| - Free Monit - i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |

3. Choose "XINJE XD/XL/XG series" protocol.

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | XINJE |
| Protocol : | XD/XL/XG Series |
| | Cancel OK |

4. Right click "COM0", click add device.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | | | | | ම | — 🛛 🗙 |
|---|--------------------|------------------|--------------------|---------------------|---------------|---------------------|----------|-----------------|
| <u></u> | Base SetUp | ~ | Data Monit | Port Trans | | | Ξò | System SetUp |
| Data Monit Right-click node add | function | | | | N | IQTT server | Start da | ata monitoring |
| | Add Device | ComOrder WriteOr | der Use the Delete | e key to Delete the | e selected it | Batch Order | | Add Order |
| – 🛄 Ethe | 串口设置 | rder Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Orde | r Note |
| - 🔒 Order To - ☆ Free Mo - 🕜 System I | otal nit nfo | | | | | | | |

5. Fill in the PLC station no., please note different PLC address cannot be conflict. The device template is used to copy the configuration table between devices of the same model.
| ABox ID:499098207C131 | 4081(H2/V2.2.0) Base SetUp | Data Monit | | | Po Tra | rt ans | © ح | System SetUp |
|------------------------------------|------------------------------------|----------------|---|------------------|---------------|---------------------|---------|-----------------|
| Data Monit Right-click node add | function | | | | Μ | IQTT server | Start d | lata monitoring |
| | 通信口: COM0 | _ | × | ey to Delete the | e selected it | Batch Order | | Add Order |
| – 🛄 Et | 通信协议: XINJE-X | D/XL/XG Series | | Object Addre | Date Num | Abox's Object Addre | Orde | r Note |
| - () | 设备名称: 01 | | | | | | | |
| - 🏹 Fr | 站点号: 1 | | | | | | | |
| –🚺 Sy | 设备模板: | Ŧ | | | | | | |
| | 数据顺序: 🗌 高低 | 字节交换 🗌 高低字交换 | | | | | | |
| | 取消 | 确定 | | | | | | |
| | | | | | | | | |

6. Right click the new device 01, click add order or batch order.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🗇 — 🖾 🗙 |
|---|------------------------------------|------------------------------|---------------------|-------------|---------------------|-----------------------|
| Base SetUp | ~ | Data Monit | (| | rt ans | System SetUp |
| Data Monit Right-click node add function | | | | М | QTT server | Start data monitoring |
| □ COM0 | ComPort: COM0 (C ComOrder Write | 01) eOrder Use the Delete | e key to Delete the | selected it | Batch Order | Add Order |
| COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - 🛄 Ethernet | | | | | | |
| - 📋 Order Total | | | | | | |
| | | | | | | |
| - | | | | | | |

7. Communication order setting:

(1) Single order setting

| | Communie | cation Order setting | Auto Allot | Manually |
|-------------------|------------------|----------------------|------------------|----------|
| - Device | | g | | |
| Order Name : | Data00 | Data Format : | Word | - |
| Data Object : | D | StartAdrr : | 0 | ~ |
| Adding Mode : | Add individually | ABox Mapped : | D 1000 | |
| — MQTT ——— | | | | |
| Data Type: | INT16U 💌 Len : | Publish Mode : | High performance | ~ |
| Trigger mode : | Value changes 🔹 | Trigger condition : | | - |
| Min Value : | | Max Value : | | |
| Publish interval: | (s) | Note : | | |
| IsCache : | Disable 💌 | | | |
| | | | | |
| | | | Carriel | 01/ |

| Parameter | Function | | |
|--|---|--|--|
| Order name | Name the current order | | |
| Auto allot/manually | ABOX mapping address allocation method | | |
| Data format Select Bit (coil) or Word (register) | | | |
| Data object | Data object PLC internal address | | |
| Start address | ress Specify the starting address of the PLC | | |
| Adding mode | Add individually: One order maps one address | | |
| rading mode | Batch add: One order maps multiple addresses (same data type) | | |
| Abox mapped Content address of ABOX, including D, M and SD | | | |
| Data type | Data types of PLC objects, including INT16U, INT16S, INT32U, INT32S, INT64S, Float, Double, Char [] | | |

(2) Batch order setting

| Order Name : | Data | Data Format : | Word |
|-------------------|------------------|---------------------|--------------------|
| Data Object: | D | StartAdrr : | 1 |
| Adding Mode : | 2 | ABox Mapped : | 2 |
| Data Type: | INT16U Then : | Publish Mode : | High performance 🔻 |
| Data Type : | IN I 160 V Len : | Publish Mode : | High performance 🔹 |
| Trigger mode : | Value changes 🔍 | Trigger condition : | • |
| Min Value : | | Max Value : | |
| | | Note · | |
| Publish interval: | (s) | | |

| Parameter name | Function |
|----------------|--|
| Order name | Name the current order |
| Data format | Data point types include Bit and Word |
| Data object | Specify the data point object of PLC, and automatically switch the digital value and data type according to the data specification |
| Start address | Specify the address of the PLC's data point |
| Adding mode | Interval between each address |
| Abox mapped | Number of addresses added |

(3) MQTT setting

The MQTT is enabled by default. The MQTT communication adopted by Xinje Cloud will be updated in Cloud V4.1, with XNet as the optional protocol.

| General MQTT | Alibaba IOT | X | | | | |
|---|---|-------|--|--|--|--|
| 启用MQTT: [Server Address: [r | ✓ 启用XI nqtt.x-net.info | Net : | | | | |
| QoS : [E | xactly once delivery | - | | | | |
| UserName: 🛛 | injeadmin | | | | | |
| Password: | ••••• | | | | | |
| Tip: ABox supports two configuration modes, one is ordinary MQTT server, and the other is Alibaba Cloud IoT server. The two modes cannot be run at the same time, please select one of the modes according to your needs for configuration | | | | | | |
| 启用MQTT: Server Address: QoS: UserName: Password: Tip: ABox supports two of other is Alibaba Clouplease select one of Default | ✓ 后用Xt nqtt.x-net.info xactly once delivery injeadmin onfiguration modes, one is ordin id IoT server. The two modes can the modes according to your need Read | Net : | | | | |

| Parameter name | Function |
|--------------------------|---|
| Server address | The domain name of the MQTT proxy server. You can fill in the client's own MQTT server address. The default address is "mqtt. x-net. info". |
| Service quality (QOS) | Publish only once Publish successfully at least once (possibly multiple times) Ensure successful publishing once (once and only once) |
| User name, password | The user name and password for logging into the proxy server. The default is the user name and password of the Xinje server |

| | | Data Format : | Dit - |
|-------------------|------------|----------------|------------------|
| order Hame . | | Data Format . | bit + |
| Data Object : | M | StartAdrr : | 1 |
| Adding Mode : | 2 | ABox Mapped : | 2 |
| Data Type : | BOOL Len: | Publish Mode : | High performance |
| Min Value : | 0 | Max Value : | 99999999999 |
| | 5 (s) | Note : | |
| Publish interval: | 5 | | |

| Parameter name | Function |
|-------------------|--|
| Publish mode | Answer mode: the platform requests data once and ABOX replies once; High performance: ABOX judges the release conditions by itself, and releases data when the conditions are met. |
| Trigger mode | Triggering forms include: trigger when the value changes, trigger when the condition is met, and trigger at a fixed time (high performance) |
| Trigger condition | Triggering conditions include: less than, in range, greater than, not equal to, and out of range |
| Publish interval | Time interval for publishing data, in seconds |

8. After adding, the instructions are as shown in the figure. Please note that the object addresses of A-BOX cannot conflict. After the data command is completed, click "Start Data Monitoring" to apply the settings.

| ADov. ID-400009207/1214091/ LI2A/2.2.0.) | | | | | | ~ _ a v |
|---|--------------|---------------------------|--------------------|---------------|---------------------|-----------------------|
| Base SetUp | (| Data Monit | | Po Tra | rt ans | System SetUp |
| Data Monit Right-click node add function | | | | M | IQTT server | Start data monitoring |
| E- 555 COM0 | ComPort: COM | NriteOrder Use the Delete | e key to Delete th | e selected it | Batch Order | Add Order |
| - COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - Ethernet | Data00 | 01 | D0 | 1 (INT16U) | D1000-D1000 | - |
| | Test00 | 01 | D1 | 1 (INT16U) | D1001-D1001 | - |
| - Order Total | Test01 | 01 | D8 | 1 (INT16U) | D1002-D1002 | - |
| -☆ Free Monit -⑦ System Info | | | | | | |

9. Open the Cloud platform in IE (https://cloud.xinje.net), fill in the user name and password.

| C 云智造 - Login × + | ↓ – □ × |
|--|--|
| ← → C | 🖻 🖈 🔲 😩 🗄 |
| 10 无锡倍捷电气股份 The Economist - W 😏 中国原创音乐基地 🔇 无锡激辉国际旅行 🔇 无锡市中医医 | 医院 📀 曾理员登录 🕺 【无锡团购】-无锡团 👂 搜狐 🧕 Kindle电子书-亚马 » |
| | |
| | |
| | |
| | |
| | |
| | User login |
| \frown | |
| $\langle \cdot \rangle$ | 1 Username |
| | Password |
| 「「「」」「「」」「」」「」」「」」「」」「」」「」」「」」「」」「」」「」」 | |
| | Remember password Auto login |
| | Login |
| | Designed - Freedom Will Will Describerto - Linea |
| | Register Forget AUMPPV Demotogin Lang V |
| | |
| | |
| 苏ICP备10072791号-6 | |
| | |

10. Create new device in configure.

| 云智造 | 🗮 🔒 Home / 🏶 Configure / 🏶 | Configure | ? 🚅 |
|------------------------|--|--------------------|--------------------------------|
| 🕈 Home | ✓ ● Home ● Item × ● Config | gure × | |
| III Item | Search by keyword Q | earch by keyword Q | îC |
| Configure ^ | □ 未分组 | VDEE | abs001 |
| Configure | | | |
| Set data collection | | | |
| Multifunctional Report | | | Total 2 items < 1 > 10 /page ~ |
| SCADA screen Y | | | |
| 🗈 Data analysis 🛛 🗸 | | | |

11. click add device in device configure. Select the ABOX, input ABOX ID and password.

| 云智造 | | Add device | | × | ? vanessa ▼ |
|-----|---|-------------------------------|---|---|----------------|
| | | * Device name: | A_BOX test | | ■ 您有系统消息尚未确认 × |
| | | | | | Add device |
| | ^ | * Communication device: | ABOX-MQTT | ~ | |
| | | Devil | | | |
| | | BOXID. | [| | |
| | t | Boxname/passw | | | |
| | ~ | 应答模式: | ○ 开启 ● 关闭 | | |
| | × | GPS: | Automatic positioning Manually positioning | | |
| | ~ | Longitude : | Select | ~ | |
| | ~ | Latitude: | Select | ~ | |

12. Synchronize the ABOX mapped address.

| C 云壁道 · 项目配置 · ABO) | x × | + | | | | | | | ο – σ × |
|--|------------------|------------------|---|--------------------|------------------|---------------------|-----------|---------------------------------------|-----------------------|
| \leftrightarrow \rightarrow C \cong cloud. | l.xinje.net/pc.h | html#/configure | /configure_item_query?itemId=Ib2de | 25fd363a0bc28&iter | mName=ABOX | | | | 🐁 🕶 🖈 🐨 📭 🎆 🔤 📾 🗯 🚳 🗄 |
| 前 定用 | 信徳网址 📙 | <u>Toā</u> t 📙 9 | 《习技能 🔜 國產网站 🧧 无蠕击败 📑 | 快速工具 📒 工经线 | 17 II 2000 II 10 | 教道書 〇 (CC物液) | 8乐库 🏧 最新4 | K登纸 最新4 🔇 在线 & 免费均将 🔡 HelloWindows.cn | 日 肉油油单 |
| 云智造 | | = • : | 単页 / 金 配置 | | | | | | 💭 XINJE006 - |
| ★ 首页 | | < 0 8 0 | 项目配置 × ● 项目配置 - ABO. | κ × | | | | | 🖬 悠有系統符88尚未職以 🗙 🛞 |
| ■ 项目 | | ~ 设备配 | <u></u> | | | | | | ✓ 新規設備 |
| • RE | ^ | ~ 设备01 | | | | | | | |
| ● 项目配置 | | | 名称 | 2 是吉可写 | 数据类型 | 数据长度 | 单位 | 操作 | |
| • X:::::::::::::::::::::::::::::::::::: | | | XDH00-M2 | | bool | | | 0 | |
| XDATA | | | XDH01-M1 | | bool | | | 0 | |
| □ 组态大屏 | ~ | | <localhost>-GPS经度-高德</localhost> | | float | 0 | | 0 | |
| ▲ 数据分析 | ~ | | <localhost>-GPS纬度-高德</localhost> | | float | 0 | | 0 | |
| ▲ 报答 | ~ | | <localhost>-4G倍号强度</localhost> | | short | 0 | | 0 | |
| ▲ 緯保 | ~ | | <localhost>-WFI信号强度</localhost> | | short | 0 | | 0 | |
| ※ 配方 | | | <localhost>-设备系统时间[0]</localhost> | | short | 0 | | 0 | |
| ◎ 用户及展权 | ~ | | <localhost>-设备系统时间[1]</localhost> | | short | 0 | | 0 | |
| 田 日志 | ~ | | <localhost>-设备系统时间[2]</localhost> | | short | 0 | | 0 | |
| | | | | | | | | - | • |
| | | > 数据快 | 這預览 | | | | | | |
| | | > 报警源 | 9 2 | | | | | | |
| | | > 设备状 | 态统计 | | | | | | |
| | | > 条件框 | æ | | | | | | |
| | | 、 将 未 | | | | | | | |

13. Edit the Synchronous data points.

| C 云壁道·项目配置·ARO | × × + | • | | | | | | | 0 – σ × |
|--|------------------|--------------------------|-----------------------------------|--------------------|--------------|---|----------|---------------------------------------|---------------------|
| \leftrightarrow \rightarrow C \oplus cloud | l.xinje.net/pc.h | tml#/configure/ | /configure_item_query?itemId=Ib2d | e5fd363a0bc28&iter | nName=ABOX | | | | 🐁 🖙 🚖 🐨 💏 👪 🛸 🌲 🚳 🗄 |
| 🔛 应用 📒 信徒智联 📒 | 信徳网址 📙 | 工业互联 📙 学 | 均技能 🛄 國岸网站 🛄 无锡市政 📒 | | 木 🛄 別資補件 🛄 南 | ● ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | 配乐库 🏧 最新 | K醫經,最新4 🔇 在线 & 免费均将 📕 HelloWindows.cn | 日 内法清单 |
| 云智造 | | = * = | (○) (○) 配置 | | | | | | 💭 XINJE006 🕶 |
| ★ 首页 | < | ● #\(\pi\) | ◎ 项目配置 × ● 项目配置 - ABO | X × | | | | | 🖬 怎有系统符息尚未确认 × ⊗ |
| ■ 项目 | | 设备配款 | 8 | | | | | | ✓ 新用设备 |
| RH | ^ | ~ 设备01 | | | | | | | |
| ● 项目配置 | | | 名称 | 17 是古可写 | 数据类型 | 数据长度 | 单位 | 操作 | |
| 数据采集配置 | | | XDH00-M2 | | bool | | | 0 | |
| XDATA | | | XDH01-M1 | | bool | - | | 0 | |
| □ 组态大屏 | ~ | | <localhost>-GPS经度-高德</localhost> | | float | 0 | | 0 | |
| 山、 数据分析 | ~ | | <localhost>-GPS纬度-高德</localhost> | | float | 0 | | 0 | |
| ▲ 报答 | ~ | | <localhost>-4G倍号强度</localhost> | | short | 0 | | 0 | |
| ▲ 徐弼 | ~ | | <localhost>-WiFi信号强度</localhost> | | short | 0 | | 0 | |
| ⇒ 配方 | | | <localhost>-设备系统时间[0]</localhost> | | short | 0 | | 0 | |
| \$ 用户及援权 | ~ | | <localhost>-设备系统时间[1]</localhost> | | short | 0 | | 0 | |
| 四 日志 | ~ | | <localhost>-设备系统时间[2]</localhost> | | short | 0 | | 0 | |
| | | | | | | | | • | |
| | | > 数据快道 | 医预览 | | | | | | |
| | | > 报警察: | Q. | | | | | | |
| | | > 设备状: | 53901+ | | | | | | |
| | | > 条件廠) | R | | | | | | |
| | | > 18.5 | | | | | | | |

14. Check the device data in Item.

| C 云智道 - 项目 - ABOX | x - 1012211 × | + | | | • - • × |
|-------------------|-------------------|---|---|----------|-----------------------|
| ← → C (ii clo | oud.xinje.net/pc. | html#/item/item_query/view_query?itemId=Ib2de5fd363a0bc | 288/itemName=ABOX8/platform=pc8/viewId=08/viewName= | R.R.C.S. | 🐇 🖙 🏠 🐨 📆 🚮 💺 🏩 🗯 👩 🗄 |
| | C (研究系统) | - Tuga時 - 学习技術 - 西东网站 - 天開市政 - 快速工具 | - 工作技术 - 深辺海洋 - 東坂清吉 Ci (COM2) 副乐店 | | |
| 云智遗 | ŧ | = ★ 詳页 | | | TINJE006 - |
| ♠ 当页 | | < ● 首页 ● 项目配置 × ● 项目配置 - ABOX × | ● 項目 × ● 项目 - ABOX - 数梁正地 × | | ■ 您有系统消息尚未考认 × ※ |
| ■ 項目 | | iद#01 | | | 8 |
| ● 配置 | ~ | 数据名称 | 值/状态 | 单位/器注 | 操作 |
| | | XDH00-M2 | off | | |
| S ADAIA | | XDH01-M1 | off | | |
| 日 組志大扉 | ~ | <localhost>-GPS经度-高德</localhost> | 0 | | |
| | | <localhost>-GPS违度-高德</localhost> | 0 | | |
| ▲ 数据分析 | ~ | <localhost>-4G信号强度</localhost> | 0 | | |
| | | <localhost>-WFI信号强度</localhost> | 0 | | |
| ♠ 1822 | ~ | <localhost>-设备系统时间[0]</localhost> | 0 | | |
| a (60) | | <localhost>-设备系统时间[1]</localhost> | 0 | | |
| - unix | × . | <localhost>-设备系统时间[2]</localhost> | 0 | | |
| ※ 配方 | | <localhost>-设备系统时间[3]</localhost> | 0 | | |
| | | <localhost>-设备系统时间[4]</localhost> | 0 | | |
| 用户及接权 | ~ | <localhost>-设督系统时间[5]</localhost> | 0 | | |
| | | <l.ocalhost>-设备这行时间(0)</l.ocalhost> | 0 | | |
| 田 日志 | ~ | <localhost>-设备运行时间[1]</localhost> | 8 | | |
| | | <localhost>-设备运行时间[2]</localhost> | 0 | | |
| | | <localhost>-设解进行时间[3]</localhost> | 0 | | |
| | | <localitosi>-szszes-sekitos</localitosi> | 0 | | |
| | | d contracts MOTTERSET | 0 | | |
| | | clocalitost>用语网络编辑字 | 0 | | |
| | | contracts_conttacts_contracts_contracts_contracts_contracts_contracts_co | 0 | | |
| | | Cosiliost>-XDH00次接程束 | ů | | |
| | | <localhost>-XDH01连接标志</localhost> | 0 | | |
| | | | 2 | 1 | |
| | | | | | |

15. If it is an Ethernet device, confirm that the ABOX LAN gateway and PLC are in the same network segment.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | | | ୍ର | - 🖪 | \times |
|-----------------------|--------------------|---------------------|-------------------------|----------------|------|-----------------|----------|
| <u></u> | Base SetUp | Data Monit | 4 | Port Trans | Ξò | System SetUp | |
| | Lan Param | the | three segments are same | to PLC IP | | | |
| | _ LAN | | Hotspot — | | | | |
| | DHCP Service : | Open 🔹 | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 1 . 1 | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | | | | | |
| | | | | | | | |
| | WhiteList |] | В | ack | Next | | |

16. Confirm the IP address and port of PLC or other network interface devices. Generally, the port number of Modbus TCP is 502. The PLC port of Xinje XDE series is 531, and the communication port of Siemens network port is 102. The same ABOX network interface supports the simultaneous use of multiple protocols.

| ABox ID:499098207C13 | 4081(H2/V2.2.0) | | | 🕸 — 🖬 🗙 |
|---|---|-----------------------|--|-----------------------|
| G | Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add | function | | MQTT server | Start data monitoring |
| COM0 -01 -COM1 -C -C -C -C -C -C -C -C -C -C | ComPort : Ethernet Device Brand : XINJE Model Protocol : XD/XL/X Device Name : XDH01 Data Sequence : Byte Additional items should be | G Series(ModbusTcpEx) | Addition Item Port : 502 IP : 192 . 168 . 1 . Station : 1 PLC IP Cancel | Add Order |
| | | | | |

4-4-2. Write data order

"Write Data order": the source address is the A-BOX internal address (M, D, SD), and the destination address is the PLC address. The following functions can be used for reference. (Note: at least one communication command must be added)

Note: When serial port transparent transmission and VPN are used, the write data function is invalid!

Function 1: Realize the machine locking function, and detect whether A-BOX is connected to PLC.

1. Read the special register of A-BOX to determine whether to disassemble the machine, such as SD100.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🗇 — 🖬 🗙 |
|---|-------------------------------------|--------------------------|------------------------|---------------|-------------------------------|
| Base SetUp | | ata Ionit | $\widehat{\mathbf{T}}$ | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to |) ABox's own system regi | ister | MQTT server | Start data monitoring |
| E+ COM0 | System run | ning information | | Devie | ce connection Flag |
| L_01 | Describe | Reg | | Value | Remarks |
| - COM1 | GPS latitude | SD0 | | | float |
| 🕀 🛄 Ethernet | GPS longitude | SD2 | | | float |
| -XDH01 | GPS latitude-Gaode | SD4 | | | float |
| - 📋 Order Total | GPS longitude-Gaode | SD6 | | | float |
| -X Free Monit | GPS latitude-Baidu | SD8 | | | float |
| Curtan lafa | GPS longitude-Baidu | SD10 | | | float |
| - System Info | GPS signal strength | SD20 | | | Word,Decimal integer |
| | GPS success flag | SD21 | | | Word, 1 success, 0 fail |
| | Device Model | SD30 | | | Word,Decimal integer |
| | Networking mode | SD31 | | | Word Decimal, Mode1(A)/2(B)/3 |
| | Working state | SD32 | | | Word, Decimal integer |
| | 4G signal strength | SD33 | | | Word,Decimal integer |

2. Add "Write data order" to map SD100 to D100 of PLC. Refresh cycle 5s, ABOX writes the value of SD100 to D100 of PLC every 5s.

| ABox source ad | ddress | | |
|------------------------------------|-------------|----------------------|-----|
| Order Name : | SD1002 | Write Cycle : 5 | (s) |
| ABox Object : | SD 💌 | ABox Address : 100 | |
| Data Type : | ushort () 💌 | Object Num : 1 | |
| - Target Device a | ddress | | |
| Device Object : | (Word)-D 👻 | Device Address : 100 | |

3. After the D100 value in the PLC is cleared regularly, it is judged whether the D100 value is still equal to "1", so as to use the "heartbeat detection" mechanism to judge whether the machine is disassembled.

| 0 | SM13 ↑↑ 1s时钟脉 冲:0.5s ON0.5sOFF | | | 1. | Timed res | et D100 | | | | MOV K | D100 1 |
|---|--|-------|------|-----------|------------|------------|-------------|-------------|---------|-------|------------------|
| | D100 | ко ко | | 2. ju | idge D100 |)=0 and la | ist for 5 m | nin | | | к5000 к100 го |
| | | | | 3. re | eceive AB | OX conne | ction, res | et it | | | 70 Y7 |
| | 111 | | | 4. c | onfirm the | e connect | ion is cut | off, stop r | machine | | OFF OFF |

Function 2: Realize data interaction between PLC and PLC.

1. The PLC of COM0 adds order address M100, and maps to ABOX address M1000.

| Order Name : | 123 | Data Format : | Bit | - |
|--------------------|------------------|---------------------|------------------|---|
| Data Object : | M | StartAdrr : | 100 | Ŧ |
| Adding Mode : | Add individually | ABox Mapped : | M 1000 | |
| MQTT | | | | |
| Data Type | BOOL V Len : | Publish Mode : | High performance | Ŧ |
| Trigger mode : | Value changes | Trigger condition : | | T |
| Min Value | | Max Value : | | |
| Publish interval : | (s) | Note : | | |
| IsCache | Disable | | | |

2. The PLC of COM1 adds write data order, maps the ABOX address M1000 to PLC2 M100.

| - ABox source address | | | | |
|------------------------------|---|------------------|-------|-----|
| Order Name : M100 | | Write Cycle : | 5 | (s) |
| ABox Object : M | ▼ | ABox Address : | 1000 | |
| Data Type : bit (Bit object) | ~ | Object Num: | 1 | |
| - Target Device address | | | | |
| Device Object : (Bit)-M | - | Device Address : | 100 . | ~ |

4-5. Modbus TCP server function

A-BOX supports 5 ModbusTCP Client connections at most.

| 1. A-BOX ModbusTCP address | list |
|----------------------------|------|
|----------------------------|------|

| A-BOX address type | A-BOX address | Modbus address |
|--------------------|---------------|----------------|
| М | 0-65535 | 0x (0-65535) |
| D | 0-65535 | 4x (0-65535) |
| SD | 0-65535 | 3x (0-65535) |

2. ModbusTCP Client access method: The target IP can be the LAN gateway of ABOX, or the IP assigned by the router when A-BOX is in WIFI mode or Ethernet Internet access mode. The port number is 502.

3. When using the LAN, the "watchdog" must be turned off. The role of "watchdog" is to ensure the stability of remote connection.

| 远程参数 | X |
|------------------------|--|
| | 远程参数设置 |
| Open WatchDog: | |
| Config server address: | www.x-net.info |
| Config server port: | 1800 (1000-60000) |
| Device Password: | 12345678 |
| DefaultParam | Read Write (Device restart takes effect) |

4-6. ModbusRTU slave station function

Only COM1 port of ABOX series products supports Modbus RTU slave function. Here, take Xinje XDH-30A16-E PLC and TG765-UT (P) as an example.

Connect TG765-UT (P) to COM1 port of A-BOX, set PLC of HMI as Modbus RTU (panel is master), and set communication parameters consistent with COM1 parameters of A-BOX.

| Device - COM Device - PLC Port - DownLoad Port - Net Device | Osingle mode Osingle mode Osingle mode | Vet | | |
|---|--|-----|--|--|
| | PLC Port | | | |
| | Siemens S7-200 Series Siemens S7-300/400 Omron CPM/CQM Series Omron CP/CJ/CS Series | | | |
| | Modbus RTU (Panel is Master, start address is 0) Modbus ASCII (Panel is Master) Modbus SI (Panel is Master) Modbus Slave (Panel is Slave) | ~ | | |

Configure the Ethernet port (or COM0 port) in the BOX Manager management tool. Add the corresponding PLC address corresponding to the ABOX mapping address in the write data command to control it. Add the command in the communication command to establish communication between the ABOX and the device of the Ethernet port.

| ABox ID:499098207C1314081(H2/V2.2.0) |) | | | | | 🕸 — 🛛 🗙 |
|---|----------------|---|--------------------|---------------|---------------------|-----------------------|
| Base SetUp | (| Data Monit | | | ans | System SetUp |
| Data Monit Right-click node add function | connect via ha | rdware | | N | IQTT server | Start data monitoring |
| | ComPort: Ethe | rnet (masterA) WriteOrder Use the Delete | e key to Delete th | e selected it | Batch Order | Add Order |
| | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| Ethernet | test123 | masterA | M100 | 1 (BOOL) | M1000-M1000 | - |
| - Source Free Monit | A-BOX co | ed master devices | | | | |

In the communication command configured in the slave station, the object address and the ABox object address are in the same storage area, so two addresses cannot be placed in the same storage area.



5. Transparent transmission case

ABOX transparent transmission is compatible with all brands of PLC, HMI and other serial port or Ethernet port devices, please refer to chapter 4 for details. The tested brands are shown as below:

| Brand | Series/ model | Serial port | VPN transparent | USB |
|------------|----------------------|--------------|---------------------|--------------|
| | | transparent | transmission | transparent |
| | | transmission | | transmission |
| | XC series | Support | - | - |
| Vinio | XD/XL/XG series | Support | - | - |
| Allije | XD5E series | Support | Support (ModbusTCP) | - |
| | HMI (except TGM) | - | - | Support |
| | FX series | Support | - | - |
| | FX3U/G series | Support | Support | - |
| Mitsubishi | FX5U series | Support | Support | - |
| | L series | - | Support | - |
| | Q series | - | Support | - |
| | CP1E | Support | - | Support |
| | СР1Н | Support | Support | Not support |
| Omron | CJ-CS | Support | - | - |
| | CJ series (Ethernet) | - | Support | - |
| | CPM/CQM series | Support | - | - |
| | S7-200 | Support | - | - |
| | S7-300 | Support | Support | - |
| Siemens | S7-200 SMSRT | Support | Support | - |
| | S7-1200 | - | Support | - |
| | S7-1500 | - | Support | - |
| Rockwell | L32E | - | Support | - |
| (AB) | | | | |
| Weinview | MT8071iE | - | Support | - |
| | DVP series | Support | Support | - |
| Delta | AH series | Support | Support | - |
| | AS series | Support | Support | - |
| | Modicon Micor series | Support | - | - |
| Schneider | Modicon M218 series | - | Support | Support |
| | Modicon Twido series | Support | - | - |
| ABB | AC500 series | - | Support | - |

| Yaskawa | MP series | - | Support | - |
|---------|---------------|---------|---------|---------|
| Keyence | KV5000/KV7500 | - | Support | - |
| V | S series | Support | - | - |
| Коуо | DL series | Support | - | - |
| Kinco | HMI | - | Support | Support |

Note: Since Xinje XNET protocol cannot set the timeout, any PLC or HMI involving XNET protocol cannot transparently transmit the upload and download programs through XNET protocol. Please use modbus or Modbus TCP protocol.

5-1. XINJE XC series serial port transparent transmission

1. XINJE XC series serial port transparent transmission supports RS232 and RS485. XC series PLC defaulted serial port parameters are 19200, 8, 1, E.

| PLC1 - Serial Port Set | | | | |
|--|--|---|--|--|
| PLC Config Password PLC Senal Port PLC Senal Port PLC Senal Port PLC Senal Port CAN CAN CAN CAN CAN CAN CAN CAN | Serial Port 1 Communication Mode Modbus Num User Protocol Overtime Set (ms) Char: 3 Reply: 300 Serial Port User Protocol Baudrate: 19200 BPS Databits: 8Bit V Stopbits: 1Bit V Parity: Even V Notice coefficient offective report PLC | > | | |
| Read From PLC | ite To PLC OK Cancel | | | |
| Mead Hom FLC | on Cancer | | | |

2. ABOX module COM0 and COM1 defaulted parameters are 19200, 8, 1, E. It only needs to connect ABOX and XC through RS232 or RS485.

| ABox ID:499098207C1314081(H2/V2.2.0 |) | | | | | ୍ର | - 2 | \times |
|-------------------------------------|-------------|---------------|---|------------------|-------------|----|-----------------|----------|
| Base SetUp | <u>~~</u> | Data Monit | | Port Trans | | Ξò | System SetUp | |
| Serial port VPN | USB | | | | | | | |
| Virtual Mode : Model 1 | Ŧ | | | | | | | |
| | | | [| - COM1 | | | | 7 |
| Baud rate : 19 | 200 | - | | Baud rate : | 19200 | - | - | |
| Data bit: 8 | | - | | Data bit : | 8 | | - | |
| Check bit : EV | /EN 🔹 | - | | Check bit : | EVEN | ~ | - | |
| Stop bit : 1 | 7 | - | | Stop bit : | 1 | - | - | |
| Virtual port : CC | DM2 | - | | Virtual port : | COM2 | - | - | |
| Enabled status : | Enable Com0 | | | Enabled status : | Enable Com1 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | S | tart VCom | |

3. Link the ABOX with the configuration tool, click virtual serial port, choose the com port of ABOX, choose the idle com port in my PC, click Start VCom.

| ABox ID:499098207C1314081(H2/V | 2.2.0) | | | ල | - 🖂 | X |
|--------------------------------|--------------------------------------|---------------|------------------|-------------|-----------------|---|
| Base SetUp | | Data Monit | Port Trans | ₹ ŏ | System SetUp | |
| Serial port VPN | USB | | | | | |
| | I v | | | | | _ |
| | | | | | _ | |
| Baud rate : | 19200 | - | Baud rate : | 19200 | , | |
| Data bit : | 8 | • | Data bit : | 8 | , | |
| Check bit : | EVEN | - | Check bit : | EVEN | , | |
| Stop bit : | 1 | • | Stop bit : | 1 | , | |
| Virtual port : | COM2 | | Virtual port : | COM2 | <i>,</i> | |
| Enabled status : | COM2 COM3 COM4 COM5 COM6 | ^ | Enabled status : | Enable Com1 | | |
| | COM7 COM8 | ~ | | S | tart VCom | |

4. When the virtual serial port process is completed, it will show "virtual serial port is running".

| ABox ID:499098207C13 | 314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|----------------------|----------------------|---------------|---|-----------------------|
| | Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port | VPN USB | | | |
| Virtual Mode | | Progress:30% | Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 irtual port : COM2 | ▼ ▼ ▼ ▼ ▼ |
| Enab | ed status : 💌 Enable | Comu | Enabled status : Enable Com | 1 |

5. after creating the virtual serial port, open the PLC software, choose this virtual serial port to connect. It can realize remote PLC program downloading uploading and monitoring, debugging.

Note: for XC series software, please choose blue tooth serial port when using virtual serial port.



5-2. XINJE XD series PLC serial port transparent transmission

1. The configuration method is same to chapter 5-1. Make sure the PLC and ABOX serial port parameters are consistent.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🛛 — 🖾 🗙 |
|---|---------------------------------|
| Base SetUp Data Monit | Port Trans System SetUp |
| Serial port VPN USB | |
| Virtual Mode : Model 1 the parameters mus | st be same to PLC serial port |
| Baud rate : 19200 | Baud rate : 19200 💌 |
| Data bit : 8 | Data bit : 8 |
| Check bit : EVEN | Check bit : EVEN |
| Stop bit : 1 | Stop bit : 1 |
| Virtual port : COM2 | Virtual port : COM2 |
| Enabled status : ☑ Enable Com0 | Enabled status : 🗌 Enable Com 1 |
| | |
| | Start VCom |

2. Click the virtual serial port, choose the com port of ABOX, choose idle com port in my PC. Click Start VCom.

| ABox ID:499098207C1314081(H2/V2 | 2.2.0) | | | <u>ن</u> | - 🛛 X |
|---------------------------------|------------------------------|---------------|------------------|-------------|-----------------|
| Base SetUp | <u>~</u> | Data Monit | Port Trans | E S | System SetUp |
| Serial port VPN | USB | | | | |
| | Ŧ |] | Г сом1 ———— | | |
| Baud rate : | 19200 | ~ | Baud rate : | 19200 | - |
| Data bit : | 8 | * | Data bit : | 8 | ~ |
| Check bit : | EVEN | • | Check bit : | EVEN | - |
| Stop bit : | 1 | v | Stop bit : | 1 | - |
| Virtual port : | COM2 | ▲ | Virtual port : | COM2 | ~ |
| Enabled status : | COM2 COM3 COM4 | | Enabled status : | Enable Com1 | |
| | COM5 COM6 COM7 COM8 | | | | Start VCom |
| | 20110 | | | | Start VCOIII |

3. When the virtual serial port process is completed, it will show "virtual serial port is running".

| ABox ID:499098207C13140 | 181(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|-------------------------|------------------------|---------------|--|------------------|
| | Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port V | /PN USB | | | |
| Virtual Mode | status : 💌 Enable Comu | Progress:30% | Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 irtual port : COM2 Ernacled status : Enable Com1 | * * * * |

4. After creating the virtual serial port, open the PLC software, choose this virtual serial port to connect. It can realize remote PLC program downloading uploading and monitoring, debugging.

Note: for XD series software, please choose blue tooth serial port when using virtual serial port.

| (83) | | Xinje PLC Program Tool | |
|---|--|--|----------------|
| <u>F</u> ile <u>E</u> dit <u>S</u> earch <u>V</u> iew O <u>n</u> line | <u>e C</u> onfigure <u>O</u> ption <u>W</u> indow <u>H</u> elp | | |
| 🗋 🗳 🛃 🗶 🖻 🗂 |) 💠 🖒 🖍 🖨 🔁 🔗 🔇 | 🖶 🏶 🔓 🗖 🚨 🔒 🛤 🔯 🗟 · 🥯 |) |
| HH HH HH HH HH -/- Ins sIns Del sDel F5 F6 | · - 1] ↓](> -(R)(S)- {] | 〒 米 町 武 🚺 • 丁 • 🚺 • 🛐 🥥 🔍 | |
| Project 🛛 🗘 🗙 | PLC1 - Ladder | | |
| S Sequence Block | | Communication configuration 🖊 | × |
| Comment Editor | New Edit Delete Move-II | n Move-Down | |
| Free Monitor | 0 New Edit Delete Move-0 | Communication configuration | |
| Set Bee lat Value | Name Co | onnection | Connect Info |
| PIC Confin | USB_Xnet_Default | Not con Communication Name: COM_Modbus_1 | de: Device typ |
| | Ethemet_Modbus_Default | Not con | ss: 192.168.6 |
| Password | | Connection mode selection | |
| - (E) PLC Serial Port | | Interface Type: COM V | |
| | | CommProtocol: Modbus V | |
| | | | |
| Module | | Communication parameter configuration | |
| 📻 BD | | Automatic Detection | |
| 📴 ED | | Station No Baudrate(B) | |
| | | | |
| Canopen | | 4800BPS 0 9600BPS | |
| | | Senal Port() | |
| SystemConfin | | ♥ ○ 115200BPS | |
| Motion control(H movement) | | ✓ Blue Tooth Serial Port | |
| Axis configuration | | Parity(P) Other set | ОК |
| Axis monitoring and debu | | None Odd Even Databits:8 ,Stopbits:1 | |
| Axis group configuration | | | |
| CAM | | | |
| PLC Status | Information | Auto-connect on exit | |
| CPU Detail | Error List Output | Comm.Text OK Cancel | |
| PLC Project Message | Description | Comminiest On Califer | |
| Fynancian Dataile | Description | | |

5-3. XINJE PLC Ethernet port VPN

1. Use the configuration tool to connect A-BOX, check the LAN parameters of A-BOX, and confirm the LAN gateway of A-BOX. The default is 192.168.1.1, and the subnet mask is 255.255.255.0. VPN can only be used for remote login.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | | | | ම | $- \square \times$ |
|-----------------------|---|--|---|--|--|---------|--------------------|
| <u></u> | Base SetUp | Data Moni | t | | Port Trans | - To | System SetUp |
| | Lan Param LAN DHCP Service : IP(Gateway) : Mask : | Open • 192 . 168 . 1 . 1 255 . 255 . 255 . 0 | | - Hotspot AP : ESSID : Password : | ITANS ITANS IEnable Hotspot XINJE ABOX XINJEABOX | | Setup |
| | WhiteList |] | | Ва | ack | Next | |

2. Fix the IP address of the Ethernet port of the PLC that needs VPN. The IP address of the PLC needs to be in the same gateway as A-BOX. Take the default gateway as an example. The IP address of the PLC is set to 192.168.1.XX (the range of XX is 2~251). The settings of Xinje XDE series are shown in the figure below:

| | PLC1 - ethernet Set | x |
|------------|---|---|
| PLC Config | general remote communication ethemet port: 9 Automatically obtain IP address Image: Use the following IP address IP: 192.168.1.20 subnet mask: 255.255.255.0 Default gateway: 192.168.1.1 | |
| | Read From PLC Write To PLC OK Cancel | |

3. After configuring the IP address of the PLC, plug the network cable into the LAN port of A-BOX. After A-BOX logs in to the server successfully, open the configuration tool, connect the current A-BOX, open "VPN", and click "Start VPN".

| ABox ID:499098207C131 | 4081(H2/V2 | .2.0) | | | | 🕸 — 🖾 🗙 |
|-----------------------|---------------|---|--|---|-----------------|-------------------|
| \bigcirc | Base SetUp | <u>~</u> | Data Monit | | Port Trans | System SetUp |
| Serial port | VPN | USB | | | | |
| | | VPN pa VPN gateway : Subnet mask : VPN segment : | 192 168 255 255 25 192 168 1 | guration 1 . 1 55 . 0 1 . 252 1 . 252 | the fourth segn | nent keep default |
| | | ~ | 192 . 108 . | 1 . 254 | | |
| | | the first three seg | ments must be same to | PLC IP | | Start VPN |

4. When it shows the following image "Initialization Sequence Completed", it means the connection is successful, it can make the transparent transmission.

| Serial port | Base SetUp VPN | USB | | 4 | 1 | Data Monit | CID Port Trans | | System SetUp |
|-------------|----------------------|--------|--------|-------|------|---------------|---|---|-------------------------------------|
| VF | PN pa | ramete | er cor | nfigu | rati | ion | | VPN device scan | |
| | | | | | | | IP address | Statu | Ping delay |
| VPN gatew | ay : | 192 . | 168 | 1 | | 1 | Thu Nov 11 17:13:22 2021 Notified T/ of 192.168.1.252/255.255.255.0 on int C1E1-4933-98F7-6AC3698F5E2D] [DF | AP-Windows driver to set a terface (23167D4E- ICP-serv: 192.168.1.0, lease | DHCP IP/netmask -time: 31536000] |
| Subnet ma | ask : | 255 . | 255 | 255 | | 0 | Thu Nov 11 17:13:22 2021 Successful C1E1-4933-9BF7-6AC369BF5E2D) Thu Nov 11 17:13:22 2021 do_ifconfig | ARP Flush on interface [5] 9. tt-≻did_ifconfig_ipv6_setu | (23167D4E- |
| VPN segme | ent : | 192 . | 168 | 1 | | 252 | Thu Nov 11 17:13:27 2021 TEST ROUT Thu Nov 11 17:13:27 2021 WARNING memory use the auth-nocache opt Thu Nov 11 17:13:27 2021 Initializatio | ItS: 0/0 succeeded len=0 ro this configuration may car ion to prevent this in Sequence Completed | et=1 a=0 u/d=up che passwords in |
| | 1 | 192 | 168 | 1 | | 254 | | | |

5. During VPN transparent transmission, you can also use "Windows+R" to open the "cmd" program. The ping command can test whether the connection is normal.



6. Open the XDPpro programming software. Version V3.7.0 or above is required. Select Ethernet Modbus when connecting. Do not select XNET for connection download!

| | Communication configuration | × |
|--|--|--|
| New Edit Delete Move- | Communication configuration | |
| Name (USB_Xnet_Default Ethemet_Modbus_Default | Communication Name: Ethemet_Modbus_Default Connection mode selection Interface Type: Interface Type: Ethemet /// CommProtocol: Modbus /// Communication parameter configuration //> Scan IP Device IP: 192.168.1.200 502 Local IP: 0 . 0 . 0 . 0 //> | Connect Info Search mode: Device typ e IP address: 192.168.6 |
| | Auto-connect on exit Comm-Test OK Cancel | ОК |

7. Connection succeeded.



5-4. USB transparent transmission (take Xinje HMI as example)

1. Open the configuration tool, connect remotely, click "USB ", click "Service test", and confirm that the passthrough tool driver installation is completed.

| ABox ID:499098207C13* | 4081(H2/V2.2 | .0) | | | | | ି | - 2 | X |
|-----------------------|---------------|------|-----------|---------------|------------------------|---------------|------------|-----------------|---|
| \bigcirc | Base SetUp | | ~~ | Data Monit | $\widehat{\mathbf{T}}$ | Port Trans | - 0 | System SetUp | |
| Serial port | VPN | USB | | | | | | | |
| | | | Dev | rice List | | | | | |
| | | De | evice Nam | ne | | operation |] | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Serv | ice test | |
| | | | | | | | | | |
| | | | | | | | Device | authorize | |
| | | | | | | | | | |
| | | | | | | | Author | ize query | |
| | | | | | | | | | |
| | | | | | | | Start | Service | |
| | | | | | | | | | |

2. Click "Start Service" to start USB transparent transmission, and click "start net test" to view the current network delay, which is generally within 150ms when the signal is good.

| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | — 🗔 🗙 |
|----------------------|--------------------|---------------|---------------|------------------|
| <u></u> | Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port | VPN USB | | | |
| VPN: | | Device List | | _ |
| | | Device Name | operation | Comm delay: 22 |
| | | | 0 0 | Comm delay. 22 |
| | | | | Start Net Test |
| | | | | |
| | | | | Service test |
| | | | | Device authorize |
| | | | | Authorize query |
| | | | | |
| | | | | Exit Service |
| | | | | |

3. Service test: check whether the transmission tool driver is installed.

| ABo | x ID:499098207C13 | 314081(H2/V2 | .2.0) | | | | | — 🗔 🗙 |
|-----|-------------------|---------------|--------|------------------------------------|-------------|---------------|-------|------------------|
| | Ŷ | Base SetUp | | Data Monit | (†) (†) | Port Trans | | System SetUp |
| | Serial port | VPN | USB | | | | | |
| | VPN: 🔴 | | | Device List | | | | |
| | | | D | evice Name | | opera | ation | Comm delay: 22 |
| | 0x5740 (A | BOX.111 |) | | X | ⊘ | 0 | |
| | | | | | | | | Start Net Test |
| | | | | Background service installed succe | ssfully | | | |
| | | | | | | | | Service test |
| | | | | | ОК | | | |
| | | | | | Banancessee | | | Device authorize |
| | | | | | | | | |
| | | | | | | | | Authorize query |
| | | | | | | | | |
| | | | | | | | | Exit Service |
| | | | | | | | | |
| | | | | | | | | |

4. Click "Device Authorize" or "Authorization Query" to confirm that the module has USB authorization.

| ABox ID:499098207C13 | 14081(H2/V2.2 | .0) | | | | – 🛛 🗙 |
|----------------------|----------------|-----|--|------------------------|---------------|--|
| <u></u> | Base SetUp | | Data Monit | $\widehat{\mathbf{A}}$ | Port Trans | System SetUp |
| Serial port | VPN | USB | | | | |
| VPN: | | | Device List | | | |
| | | C | Device Name | | operation | Comm delay: 22 |
| 0x5740 (A | BOX.111) | | 设备进权研信意: USB Hub,s/n=68b9d38dc6b <mark>Lunlimited d</mark> 请输入设备授权码: 写, | evices | 00 | Start Net Test Service test Device authorize Authorize query |
| | | | | | | Exit Service |

| ABo | k ID:499098207C1 | 314081(H2/V2 | 2.2.0) | | | | — 🗔 X |
|-----|------------------|---------------|--------|---------------------------------|----------|-------------------|------------------|
| | Ŷ | Base SetUp | | Data Monit | 4 | Port Trans | System SetUp |
| | Serial port | VPN | USB | | | | |
| | VPN: 🔴 | | | Device List | | | |
| | | | D | evice Name | | operatio | Comm delay: 22 |
| | 0x5740 (A | ABOX.111 |) | | Х | \odot \otimes | comm actuy: 22 |
| | | | |] | | | Start Net Test |
| | | | | successful authorized device of | detected | | |
| | | | | | | | Service test |
| | | | | | ОК | | Device authorize |
| | | | | | | | Authorize query |
| | | | | | | | Exit Service |
| | | | | | | | 5 |
| | | | | | | | |

5. The USB cable is connected to the USB port and the HMI. The device detected by the USB port will pop up automatically in the device list. Click " $\sqrt{}$ " to enable the current USB device.

| ABox | ID:499098207C13 | 14081(H2/V | 2.2.0) | | | | | | | - 2 | X |
|------|-----------------|---------------|-----------|----------------|---------------|-----|-----------------|--------|----------|-----------------|---|
| | Ŷ | Base SetUp | | ~ | Data Monit | 4 | D Port Trans | | - | System SetUp | |
| | Serial port | VPN | USB | | | | | | | | |
| | | | | Dev | vice List | | | | | | |
| | | | D | evice Nam | ne | | ope | ration | | | |
| | 0x5740 (A | BOX.111 |) (In-use | by you) | | | 0 | 0 | | | |
| | | | | | | | Ų, | | Start | Net Test | |
| | | | | | | X | | | | | |
| | | | | | | ~ ~ | en | able | Serv | rice test | |
| | | | | | | | | | Device | authorize | |
| | | | Device s | uccessfully er | nabled | | | | | | |
| | | | | | | | | | Author | rize query | |
| | | | | | | ОК | | | | | |
| | | | | | | | _ | | Exit | Service | |
| | | | | | | | | | | | |

6. In the device list, "In use by you" is displayed behind the device name, indicating that the device is being used. Open the HMI editing software directly, and click Download after creating a new screen.

| @ TouchWin 编辑工具 - US8迭代文件 - [00001]开料周期 | 1 | | | - a × |
|---|---|--|--|---------------------------|
| (文件の) 環境(の) 亚面(の) 単件(の) 工具(の) 初 | (H) (H) (H) (H) | | | |
| 1 D 📾 🖬 🕉 Pa 🖻 🖷 🖉 🔡 A 🕮 🖧 | ************************************** | 3 🖉 🖓 🖬 🗞 🗞 🖬 🕾 🗽 🖬 🗽 🖿 | | |
| N N D D D D D D D D D D D D D D D D D D | N * AA RO4 * 40 7-225 | ₩ 8 - ×××××××××××××××××××××××××××××××××× | | |
| (禁田석 유민석) 국민원(美) 국민 | H DH HI 🕒 DON * 🕀 🏭 🔥 0 🔹 🗺 🔹 🖷 | 0.001212111911010000 | | |
| 恒升 A 四回回啊?77 坊CN· | · 西西省 · · · · · · · · · · · · · · · · · | CT ~~ of @ S IC us !~ | | |
| / 🍌 [🔁 ~ 🎹 💆 🗶 🗃 🕷 🛞 🖄 án | 山田太生 多大学の治外回想課が日 国国 | R. R. R. | | |
| 18 0 × | (00001)开彩L明新 × | | | - |
| | | | | |
| | | | | |
| - 🔣 [00002]盤用 | | | | |
| 100100(曲动词)国 | 功能考 | | | |
| - 100200] 9 (0) 10 August 1002001 | 功能域 | 动物味 | | |
| 1002021年初初73 | 5)42×1 | 纷散 域 | | |
| - 🛃 [00203]手助(治科 | 功能增 | | | |
| | 功能械 | | | |
| | 1 注土 | | | |
| - 🔛 [00402]运業3)用机参数 | | / | | |
| 【100403]没营4电机参数 | | T-0 128 | | |
| | | | | |
| - 🔛 (10010)自由益符 | | 本次下數不去接上數均能,工程錄號最小,且下數計劃指数, | | |
| | | | | |
| 6-100 ACT | | RM | | |
| | | | | |
| | | | | |
| E Store Report | | | | |
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| 216 | | news is nervar ar an ar | 10月1日に発行したので、工業月二日の市内に対し、原告等20日から対応日、一次大は対応日 | 1 508 2 - 11 000 800 9000 |

7. After use, click "Exit service" to exit USB passthrough.

Note: Closing the configuration tool directly will not exit USB passthrough. After clicking Close, the configuration tool will be minimized to the lower right corner of the computer to run. You can find the icon, right-click the mouse, click "Open USB passthrough" to call up the configuration interface, and click "Exit Service" to exit USB passthrough.

5-5. Siemens S7-200 serial port transparent transmission

1. The port 0 serial port parameters of Siemens S7-200 are 9600, 8, 1, E by default. The communication between A-BOX and S7-200 adopts RS485 wiring mode:



2. Use the configuration tool to remotely connect A-BOX, modify the serial port parameters of COM0 or COM1. In this case, connect COM0, change the serial port parameters of COM0 to 9600, 8, 1, E, and click "Write and take effect".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|--|---------------|---------------------------------|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port VPN USB | | | |
| Virtual Mode : Model 1 | same | e to PLC serial port parameters | |
| Сомо | | Сом1 — | |
| Baud rate : 19200 | ~ | Baud rate : | 19200 💌 |
| Data bit : 8 | - | Data bit : | 8 💌 |
| Check bit : EVEN | - | Check bit : | EVEN |
| Stop bit : 1 | v | Stop bit : | 1 |
| Virtual port : COM1 | Ŧ | Virtual port : | COM2 💌 |
| Enabled status : 🗹 Enable Com0 | | Enabled status : | Enable Com1 |
| | | | |
| | | | |
| | | | Start VCom |
| | | | |

3. Select COM0, virtual to local COM4 port. Click Start Vcom.

| ABox ID:499098207C1314081(H2/V2 | 2.2.0) | | | |
|---------------------------------|--------------|---------------|------------------|-----------------|
| Base SetUp | | Data Monit | Port Trans | System SetUp |
| Serial port VPN | USB | | | |
| Virtual Mode : Model 1 | | | | |
| | | | | |
| Baud rate : | 19200 | ~ | Baud rate : | 19200 👻 |
| Data bit : | 8 | ~ | Data bit : | 8 |
| Check bit : | EVEN | ~ | Check bit : | EVEN |
| Stop bit : | 1 | • | Stop bit : | 1 |
| Virtual port : | COM1 | | Virtual port : | COM2 🔻 |
| Enabled status : | COM1 COM2 | <u>^</u> | Enabled status : | Enable Com1 |
| | COM4 | _ | | |
| L | COM5 | | | |
| | COM7 | ~ | | Start VCom |
| | | | | |

4. Open STEP7 software. Open communication port, set the retry times to 8.

| 文化行 等級数: 査通い PLC(P) 感点の 工具(T) 空口(M) 将数H1 ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● | ng STEP 7-Micro/WIN - 项目1 | | | | | | | |
|---|--|---|--|--|--|--|--|--|
| Image: Source and Source | 文件(F) 编辑(E) 查看(V) PLC(P) 调试(D) 工具(T) 窗口(W) 帮助(H) | | | | | | | |
| With With With With With With With With | | | | | | | | |
| 至春 ● |]] ¹ 10 ¹ 10 12 130 21 14 14 14 17 17 18 120 12 | | | | | | | |
| With Mark W ● 3 系统W ● 1 代表W ● 1 代表W </td <td>董賓</td> <td>SIMATIC LAD 2 繁焼 通館端口 連信端口设置允许您调整 STEP 7 Micro/WIN 与指定 PLC 之间的通信参数。 正</td> <td></td> | 董賓 | SIMATIC LAD 2 繁焼 通館端口 連信端口设置允许您调整 STEP 7 Micro/WIN 与指定 PLC 之间的通信参数。 正 | | | | | | |
| ● ● 通信 ● ● 通信 ● ● 通信 ● ● 通信 ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● | 符号表 田田 系現状 port | 回 系统块 通信端口 | | | | | | |
| 新秋 ● 個 比按 ● 個 比按 ● 価 按續 ● 価 计数器 ● 価 计数器 ● 価 評估 ● 価 空間注算 ● 価 理解2時 ● 価 要報 ● 価 理解2時 ● 価 要報 ● 価 理解2時 ● 価 要報 ● 価 要報 ● 価 要報 | | | | | | | | |
| | 新發快 田園 比較 中國 比較 田園 北較 中國 转換 田園 北較 文叉引用 田園 整計计算 中國 整計计算 田園 整計计算 中国 整計计算 田園 聖歌计算 | □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ | | | | | | |
| | | 系统块设置参数必须下载才能生效。 ④ 单击获取帮助和支持 确认 | | | | | | |

5. Click "Set PG/PC Interface", select "PC/PPI cable (PPI)", and click "Attribute".



6. Select the virtual COM port and tick "Modem Connection".

| 属性 - PC/PPI cable(PPI) ■ | | | | | | | |
|--------------------------|------------|------|----|--|--|--|--|
| PPI 本地i | 车 接 | | | | | | |
| | | | | | | | |
| | | COM4 | · | | | | |
| ☑ 调制解训 | 鄂法连接 (2) | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 确定 | 默认(2) | 取消 | 帮助 | | | | |

7. Click communication, double click connect.



8. Click set, click add.

| 周制解调器连接 | | 调制解调器连接设置 | × |
|-------------------|---|------------------------|------------|
| □选择一个与远程站的连接。 | | 常规 | 2 |
| | 1 | 连接 | 添加(A) |
| 电话号码 (2): | | | 删除 (3) |
| 连接超时 (I): 秒 | | | 设置 (S) |
| | | 当前: 无当前连接 默认: 无默认连接 | 设为默认连接 (2) |
| | | - 拔叫自 | 一般町屋桃でい |
| | | | 1段叫周注 (1) |
| | ~ | | 关闭 |

9. Select Radio/RF Modem and click Configure. Fill in the COM port created by A-BOX. In this case, the COM port is COM4, the baud rate is 9600, and the parity is even.

| 添加调制解调器连接向导 🛛 🔀 |
|--|
| 本地连接 为连接命名,选择一台本地调制解调器,如果您使用移动电话调制解调器连接,则请选择该复选框。 |
| 请输入您希望此连接做 的名称 (T): 2 S7200 选择本地调制解调器 (S)。 无线电/射频调制解调器 或 置 (C) C. 过会调电输送回答这位用俚结点 (11位组本)(P)。 或 置 (C) 无线电/射频调制解调器 3 fill in virtual COM port |
| 属性 确认 应M 端口 (C): 如消 波特率 (D): 9600 校验 (D): 周 使用 DCD (D) 一 使用 RTS/CTS (D) 4 even parity |
| < 上一步 下一步 >] 取消 |

10. Click Connect in Modem Connection

| 调制解调器连接 | | |
|------------|-----------|----|
| 选择— | 个与远程站的连接。 | |
| 连接至(C): | S7200 | • |
| 电话号码(P): | | |
| 连接超时(T): | 90 秒 | |
| 连接(0) | 设置(S) | 取消 |
| 正在与无线电/射频调 | 制解调器连接 | * |
| | | |

11. Click "Double click to refresh".

| 通信 | | — |
|--|---------------------|--|
| 地址 本地: 远程: PLC 类型: ▽ 随项目保存设置 | 0 2 • | PC/PPI cable(PPI) 无线电/射频调制解调器 断开: 57200 电话亏码: - → |
| 网络参数———— | | 1 |
| 接口: | PC/PPI cable(COM 4) | |

12. "UNKNOWN" will be displayed during refreshing, indicating that the PLC has been found successfully.

| 通信 | | | | 8 |
|--|--|--------------|--|----|
| 地址 本地: 远程: PLC类型: ☑ 随项目保存设置 网络参数 接口: 协议: 模式: 最高站地址(HSA): □ 支持多主站 | 0 ▼ 正在 9.6 kbps 搜索 地址 10 共 126 取消 | PC/PP 无线电 | I cable(PPI) ./射频调制解调器 开: 57200 舌亏问: JNKNOWN 也址: 3 | |
| 设置 PG/PC 接口 |] | | 确认 | 取消 |

13. Download to the PLC.

| STEP 7-Micro/WIN - 项目1 | | |
|--|--|---|
| 2件(F) 编辑(E) 查看(V) PLC(P) 调试(D) 工具(T) 窗口(W) 帮助(H) | | |
| "C 🛎 🕼 🕼 🕼 🕼 🗠 🗹 🔯 📥 🖳 🖳 | ● 🖉 76 🖏 🖾 🙀 💻 🗸 📕 | á 🗳 á* |
| ‱ ‱ 😥 🥁 🌾 💸 🕉 🕷 🐭 🔹 🚺 click download 🕞 → → 🕂 | -0 1 | |
| | ■ ■ 図 通信 ・地址 本地: 0 辺程: 2 ■ PC皮型: 2 ②click communication F 随项目保存设置 一 四络 参数 溜口: PC/PFI cable(COM 4) 协议: PFI 模式: 11位 最高站地址(MSA): 126 「 支持多主站 ④ 受賞 PGPC 独口 | ● PC/PPI cobe(PPI) 无规思 相终规制算的调整 中 第 57200 电话专句T 电话专句T ● ● ● ● ● ● ● ● ● ● ● ● ● |
| ♥■ 250年 ● ● 表 | ₩ 拉小水 5101 土 108 模式海损 | |

14. Download is successful.

| 下载 | × |
|---|--|
| 调制解调器连接 使用"选项"按钮选择需要下载的块。 | |
| 远程地址: 2 | |
| 〔〕 正在下载系统块 100% | |
| 选项 ★ | |
| 送项 ✓ 程序块 ✓ 数据块 ✓ 系统块 □ 配方 □ 数据记录配置 | 至: PLC 至: PLC 至: PLC |
| ② 单击获取帮助和支持 | ✓ 成功后关闭对话框 ✓ 提示从 RUM 到 STOP 模式转换 ✓ 提示从 STOP 到 RUM 模式转换 |

5-6. Siemens 200-SMART series Ethernet port VPN transparent transmission

1. The default IP address of Siemens S7200-SMART series PLC network port is 192.168.2.1. First, connect the PLC to the computer with a network cable, and fix the IP address of the computer as 192.168.2.xxx (for example, 192.168.2.200).

2. Open Siemens 200-SMART software, connect to the PLC.

| · 通信 | × |
|---|---|
| 通信接口 Intel(R) Ethernet Connection (3) I218-V.TCPIP.Auto.1 ▼ 浅到 CPU 添加 CPU □ 添加 CPU | 接下 *编辑 [*] 按钮以更改所选 CPU 的 IP 数据和站名称。按下 *闪 烁指示灯 * 按钮使 CPU 的 LED 持续闪烁,以便目则找到连接的 CPU. MAC 地址 00:00:00:00:00000 闪烁指示灯 P 地址 192 · 168 · 2 · 1 编辑 子 对掩码 0 · 0 · 0 · 0 · 0 默认网关 0 · 0 · 0 · 0 |
| 查找 CPU 添加 CPU / 编辑 CPU / 删除 CPU | |
| | 确定取消 |

3. The default gateway of A-BOX is 192.168.1.1. Modify the IP address of Siemens PLC to 192.168.1.xxx.

| 系统块 | | | | | | × |
|--|---|--|---|---|---------------------|----|
| 模块 | _ | 版本 | 输入 | 输出 | 订货号 | |
| CPU CPU ST20 (DC/DC/I | DC) | V02.03.01_00.00 | 10.0 | Q0.0 | 6ES7 288-1ST20-0AA0 |) |
| SB | | | | | | |
| EM 0 | | | | | | |
| EM 1 | | | | | | |
| EM 2 | | | | | | |
| EM 3 | | | | | | |
| EM 4 | | | | | | |
| EM 5 | | | | | | |
| ■ 週信 □ 数字里輸入 □ 10.0 - 10.7 □ 11.0 - 11.7 □ 数字里輸出 □ 保持范围 □ 安全 □ 启动 | 貸景时间 送择通 10 BS485 端 [| • 址數据固定为下面 IP 地址: 子网摘码: 默认网关: 站名称: 1 5485 设置可调整 PL 地址: 波特率: | 的值,不能道 192 . 168 255 . 255 192 . 168 %) C和HMI设备 2 9.6 Kbps | 通过其它方式 . 1 . 15 . 255 . 0 . 1 . 1 . 1 . 1 | 連改 0 | 取消 |

4. Download the parameters to the PLC.

| 下载 | | \times |
|------------------------------|----------------------|----------|
| 将块下载到 CPU 选择要下载的块。 | | |
| ① 下载已成功完成!! | | |
| 块 | 选项 | |
| ▶ 程序块 | ☑ 从 RUN 切换到 STOP 时提示 | |
| ☑ 数据块 | ☑ 从 STOP 切换到 RUN 时提示 | |
| ▼ 系统块 | 🔲 成功后关闭对话框 | |
| 2 单击获取帮助和支持 | 下载 关闭 | |

5. After downloading the parameters, connect the PLC to the LAN port of A-BOX with a network

cable. After A-BOX logs in to the server, use the configuration tool to connect to the current A-BOX. In "User Functions" ->"VPN", click "Start VPN".

| ABox ID:499098207C131 | 4081(H2/V2 | 2.2.0) | | | | 🐵 — 🖾 🗙 |
|-----------------------|---------------|---------------------|---------------------------|--------|------------------|------------------|
| | Base SetUp | ~~ | Data Monit | 4 | Port Trans | System SetUp |
| Serial port | VPN | USB | | | | |
| | | VPN pa | arameter configu | ration | | |
| | | VPN gateway : | 192 . 168 . 1 | . 1 | | |
| | | Subnet mask : | 255 . 255 . 255 | . 0 | the fourth segme | ent keep default |
| | | VPN segment : | 192 . 168 . 1 | . 252 | | |
| | | ~ | 192 <u>168</u> 1 | . 254 | | |
| | | the first three seg | ments must be same to PLC | CIP | | Start VPN |

6. When it shows the following image "Initialization Sequence Completed", it means the connection is successful, it can make the transparent transmission.

| Box 1D:499098207C1314081 Box Ba | H2/V2.2.0) se | | ~ | 2 | Data Monit | Port Trans | | System |
|------------------------------------|------------------|---------|--------|-------|---------------|--|---|-------------------------------------|
| Serial port VPN | U | ISB | - | - | monit | 4 | | |
| VPN | param | eter co | onfigu | irati | ion | | VPN device scan | |
| | | | | | | IP address | Statu | Ping delay |
| VPN gateway | : 192 | . 168 | . 1 | | 1 | Thu Nov 11 17:13:22 2021 Notified T. of 192.168.1.252/255.255.255.0 on in C1E1-4933-98F7-6AC3698F5E2D} (D) | AP-Windows driver to set a terface (23167D4E- HCP-serv: 192.168.1.0, lease | DHCP IP/netmask -time: 31536000] |
| Subnet mask | : 255 | . 255 | . 255 | | 0 | Thu Nov 11 17:13:22 2021 Successful C1E1-4933-98F7-6AC3698F5E2D) Thu Nov 11 17:13:22 2021 do_ifconfi | I ARP Flush on interface [5] g. tt->did_ifconfig_ipv6_set | (23167D4E- up=0 |
| /PN segment | : 192 | , 168 | . 1 | | 252 | Thu Nov 11 17:13:27 2021 TEST ROU Thu Nov 11 17:13:27 2021 WARNING memory use the auth-nocache opt | TES: 0/0 succeeded len=0 m i: this configuration may can tion to prevent this | et=1 a=0 u/d=up the passwords in |
| ~ | 192 | . 168 | . 1 | | 254 | Thu Nov 11 17(13:27 2021 Initialization | on Sequence Completed | |
| | | | | | | L | , | |

7. During VPN transparent transmission, you can also use ping command to test whether the connection is normal, and then open Siemens PLC software. In "PLC" ->"Setting", click Add CPU, and manually fill in the IP address 192.168.1.150 of PLC.

| 通信 | × |
|--|--|
| 通信接口 Intel(R) Ethernet Connection (3) I218-V.TCPIP.Auto.1 ▼ 認 找到 CPU 添加 CPU 192.168.1.150 編編 CPU IP 地址 192.168.1 .150 符号名称(可选) | 按下 "编辑" 按钮以更改所选 CPU 的 IP 数据和站名称。按下 "闪 烁指示灯" 按钮使 CPU 的 LED 持续闪烁,以便目测找到连接的 CPU. MAC 地址 00:00:00:00:00:00 闪烁指示灯 量 |
| 査找 CPU 添加 CPU 编辑 CPU 删除 CPU | 确定 取消 站名称(ASCII 字符 a-z 、 0-9 、 - 和 .) |

8. click ok to connect the PLC.

| ○ | PLC 调试 工具 帮助 | | - 🗆 × |
|--|---|--|-------|
| D D I RUN STOP 編译 操作 传送 | ▶ 2 | 暖台动 设置対称 透过And 创建 DB 存在 | |
| | ○ ○ 凶 合上传 · ♣ 下载 · | │││││││││││││││││││││││││││││││││││││ | |
| 日·杨 项目1 | | | |
| | 1 程序规注释 | 程序存储卡 X | |
| □ 符号表 □ 行 考選表 □ 計 数据块 □ 新規块 □ 新規块 □ ① 数据 | K | 对 CPU 中的存储卡进行编程 选择 CPU 中更编程到存储卡的块。 | |
| | 2 輸入注释 ———————————————————————————————————— | 单击 "道师"开始 | |
| 日子 位逻辑 | | | |
| □□□ □□ □ □<!--</th--><td>3 输入注释</td><td>反 程序块 □ 「 成功后关闭对话程 反 数线块 □ 系统块</td><td></td> | 3 输入注释 | 反 程序块 □ 「 成功后关闭对话程 反 数线块 □ 系统块 | |
| 17 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 143347 | ● 申击获取帮助和文持 | |
| | * ***** | | > |
| 田 📾 字符串 田 📾 表格 | 数据块 | 4 × 交星表 | ġ. |
| 田 🕢 定时器 田 👜 库 | N | | 2 |
| 由 □□ 调用子例程 □ ΔD 程序段 1 行 1 列 1 | □ 符号表 ■ 状态图表 ■ 数据块 | 回 变星表 画 交叉引用 III 输出窗口 | |
5-7. Siemens S7-1200/1500 series PLC Ethernet port VPN transparent transmission

1. This case uses Siemens S7-1200 series PLC with IP address 192.168.11.11. First, use the configuration tool to remotely login to A-BOX. Change the LAN gateway of ABOX to 192.168.11.1.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | (C) | - 🛛 🗙 |
|-----------------------|---|---------------|--|-----------------|
| | Base SetUp | Data Monit | Port Trans | System SetUp |
| | Lan Param LAN DHCP Service : IP(Gateway) : Mask : | Open | in the same network segment with PLC IP 192.168.11.11 Hotspot AP : Enable Hotspot ESSID : XINJE ABOX Password : XINJEABOX | |
| | WhiteList | | Back Next | |

2. Set VPN parameters, click "start VPN".

| ABox ID:499098207C13 | 14081(H2/V2 | 2.2.0) | | | | $\odot - \Box \times$ |
|----------------------|---------------|---------------|------------------|---------|--------------------|----------------------------|
| \bigcirc | Base SetUp | ~~ | Data Monit | | Port Trans | System SetUp |
| Serial port | VPN | USB | | | | |
| | | VPN pa | arameter configu | iration | the first three se | egments are same to PLC IP |
| | | VPN gateway : | 192 . 168 . 11 | . 1 | | |
| | | Subnet mask: | 255 . 255 . 255 | 5.0 | the fourth | h segment keep default |
| | | VPN segment : | 192 . 168 . 11 | . 252 | | |
| | | ~ | 192 . 168 . 11 | . 254 | | |
| | | | | | | Start VPN |

3. After the VPN is started, the VPN startup information interface will appear. When the box displays "Initialization Sequence Completed", it indicates that the transparent transmission is successful.

| H2/V2.2.0) | | | | — 🛛 🗙 |
|----------------|---|--|--|---|
| e Uo | Data Monit | Port Trans | | System SetUp |
| USB | | | | |
| parameter conf | iguration | | VPN device scan |] |
| | | IP address | Statu | Ping delay |
| 192 . 168 . | 11 . 1 | Thu Nov 11 17:13:22 2021 Notified TAP- of 192.168.1.252/255.255.255.0 on interfu C1E1-4933-98F7-6AC3698F5E2D] [DHCP | Windows driver to set a ace (23167D4E- -serv: 192.168.1.0, lease- | DHCP IP/netmask -time: 31536000] |
| 255 . 255 . | 255 . 0 | Thu Nov 11 17:13:22 2021 Successful AR C1E1-4933-98F7-6AC3698F5E2D) Thu Nov 11 17:13:22 2021 do_ifconfig, tt | P Flush on interface [5] (->did_ifconfig_ipv6_setu | 23167D4E- 1p=0 |
| 192 . 168 . | 11 . 252 | Thu Nov 11 17:13:27 2021 TEST ROUTES: Thu Nov 11 17:13:27 2021 WARNING: thi memory use the auth-nocache option | : 0/0 succeeded len=0 re is configuration may cac to prevent this | it≃1 a≃0 u/d≃up the passwords in |
| 192 . 168 . | 11 . 254 | Thu Nov (1 17:15:27 2021 Initialization 5 | equence completed | |
| | | - | Đ | kit VPN |
| | H2XP220) e USB Darameter conf : 192 . 168 . : 255 . 255 . : 192 . 168 . | H2/V220) e Data Monit USB Data Monit Data Monit | Image: Part and the second | Image: Process of the second secon |

4. You can also use the ping command to test whether the connection is normal, then open the TIA portal software, select the corresponding PLC, set the IP address, and click Download.

| N) 工具(1)1 窗口(W) 🗄 | 帮助(日) | | | | | | | |
|--------------------|-----------|---------|-----------|----------------|-------|------------|------------|-----|
| (4 🖥 🛄 🖬 🖳 🖬 | 💋 在线 🧯 | 🛚 离线 🛔 | ? I 🛛 🗖 | × 🗆 🛙 | | | | |
| 1200 > PLC_1 [CPU | 1212C AC/ | OC/RIv] | | | | | | |
| | | | | | | 17 | 北涧网 | |
| De I Casa de | | BRHE | | | | 1º11: | 11-126 851 | |
| Mr PLC_1 | - | | - · · · · | ų ± | | | | 4 |
| | | | | | | | | 2 |
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| | | | A.C. | | | | | |
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| Back 0 | 105 102 | | | | - | - | | |
| Nack_0 | | | SIEMENS | 2014/7C 21-100 | | | | |
| | | _ | | | | | | |
| | | | 11 | CPU OR | | | | |
| | | | • | 4565Aly | | | | |
| | | | | | | | | |
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| | | _ | | | _ | | | 6 |
| < . | | | > | 100% | | - | | |
| PLC_1 [CPU 1212C A | C/DC/Rly] | | | | | <u>Q</u> , | 属性 | 包信息 |
| 常规 10 变量 | 系统常 | 数 文本 | 本 | | | _ | | 7 |
| ▼ 常规 | | | 2 | IP 地址: | 192 . | 168 . 11 | 1 . 11 | |
| 项目信息 | | | | 子网撞码: | 255 | 255 . 24 | 55 0 | - |
| 目录信息 | = | | | 11-116-00 | 一使田 | IP 路中哭 | 1 | |
| ▼ PROFINET接口 | | | 0 | · Julius - | | с са ща | | |
| 常规 | | | 12 | 日田福祉加工。 | 0. | | . 0 | |

5. Select PN/IE as the PG/PC interface type, VPN transparent private network card "TAP-Win32 Adapter V9" as the PG/PC interface type, and manually enter the IP address of the PLC.

| ħ | 医的下载到设备 | | | | | | | | | > |
|---|----------|----------------|------------|-----------------|-------|-----------|---------------|---|------|-----|
| | | 组态访问节点属于 "PLC_ | 1* | | | | | 地址 192.168.11.11 Jal network card *dapter V9 下 で で で で で で で で で で で で で | | |
| | | 设备 | <u>设</u> 읍 | 类型 | 插槽 | 类型 | 地址 | | 子网 | |
| | | PLC_1 | CPU | 1212C AC/D | 1 X1 | PN/IE | 192.168 | 3.11.11 | | |
| | | | | select A | BOX | VPN vi | rtual netv | work card | ł | |
| | | | | | | | | | | |
| | | | | name literation | ed . | | | | | |
| | | | 1 | PG/PC 接口的资 | | PN/IE | | | * | |
| | | | | PG/PC 招 | £□ : | TAP-Win | 32 Adapter V9 | | - | |
| | | | | 接口/子网的道 | E接: | 插槽"1 X1"刻 | 他的方向 | | Ŧ |) 💎 |
| | | | | 第一个网 | 送: | | | | - |) 🕐 |
| | | | | | | | | | | |
| | | 目标子网中的兼容设备: | | | | 2 | ✓ 显示所 | 与兼容的设备 | | |
| | | 设备 | 设计 | 备类型 | 类型 | | 地址 | | 目标设备 | |
| | | - | - | | PN/IE | | 192 . 168 . | 11 . 11 | - | |
| | · | | | | | | | | | |
| | 1 | | | | | 📕 f | ill in PLC | IP addres | ss | |

6. Connect successfully, click download.

| | | 目标子网中的美容设备。 | | | 🔽 显示所有兼容的设备 | | |
|-----------------------------|-------------|-------------------|----------------|-------------|---------------------------------------|-------|------|
| | | 设备 | 设备类型 | 类型 | 地址 | 目标设备 | |
| - | | PLC_1 | CPU 1212C AC/D | PN/IE | 192.168.11.11 | PLC_1 | |
| . | <u></u> | - | - | PN/IE 1 | 访问地址 | - | |
| ar i | | | | - | | | |
| | | | | | | | |
| □ 闪烁 LE | D | | | | | | |
| | | | c | onnect succ | essfully | | |
| | | | | | , | 开始搜 | 索(5) |
| 在线状态信 | 息: | | | | aliak daymlaa | | |
| : ¹? 正在尝讨 | 【连接地址 19 | 2.168.11.11 处的设备。 | 1 | | CIICK GOWIIOa | a | ^ |
| 🚽 已地址 1 | 92.168.11.1 | 1 处的设备建立连接。 | | | · · · · · · · · · · · · · · · · · · · | | |
| 子 已地址 1 | 92.168.11.1 | 1 处的设备建立连接。 | | | | | ¥ |
| □ 仅显示键 | 誤消息 | | | | 2 | | |
| | | | | | 下载① | 取洋 | 4© |

5-8. Mitsubishi Fx3U series PLC serial port transparent transmission

1. Use the FX programming cable to connect the A-BOX to the RS422 port of the FX3U, and set the COM1 serial port parameters of the A-BOX to 9600, 7, 1, E. COM0 does not support RS422, so COM1 is used.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🛛 🗙 |
|--------------------------------------|---------------|--------------------------------|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port VPN USB | | | |
| Virtual Mode : Model 1 | | COM1 supports RS422 | |
| Baud rate : 19200 | | Baud rate : [9600 | ~ |
| Data bit : 8 | T | Data bit : 7 | v |
| Check bit : EVEN | Ŧ | Check bit : EVEN | ~ |
| Stop bit : 1 | Ŧ | Stop bit : 1 | ~ |
| Virtual port : COM1 | | Virtual port : COM9 | T |
| Enabled status : 🗌 Enable Com0 | | Enabled status : 🗌 Enable Com1 | |
| | | | |
| | | | Start VCom |

2. After writing and taking effect, click the virtual serial port to virtual COM1 to the local port, such as COM9.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖾 🗡 | < |
|--|---------------|------------------|-----------------|---|
| Base SetUp | Data Monit | Port Trans | System SetUp | |
| Serial port VPN USB | | | | |
| Virtual Mode : Model 1 | | г сом1 — | | |
| | _ | | | |
| Baud rate : 19200 | v | Baud rate : | 9600 👻 | |
| Data bit : 8 | - | Data bit : | 7 | |
| Check bit : EVEN | - | Check bit : | EVEN | |
| Stop bit : 1 | - | Stop bit : | 1 | |
| Virtual port : COM1 | v | Virtual port : | СОМ9 | |
| Enabled status : 🗌 Enable Com0 | | Enabled status : | COM10 | |
| | | | COM11 | |
| | | | COM12 | |
| | | | COM14 | |
| | | | COM15 | |
| | | | | |

3. Start the virtual serial port.

| ABox ID:32805811578467947(H | 2/V2.2.0) | | | | | | © — 🖸 🕽 | X |
|-----------------------------|-----------|----|----------|---------|------------------------|----------|---------------------------------------|---|
| ▲本 配置 | | ~~ | 数据 监控 | | $\widehat{\mathbf{a}}$ | 远程 传输 | 系统设置 | |
| 虚拟串口 VPN | USB透传 | | | | | | | |
| 虚拟串口: 横式 1 | | | | | | | |] |
| 波特率: | 19200 | | | 完成进度:50 | 0% | | · · · · · · · · · · · · · · · · · · · | |
| 数据位: | 8 | | | | | | | |
| 校验位: | EVEN | | | | | | . | |
| 停止位: | 1 | | | | | | ~ | |
| 虚拟端口: | COM1 | | | | | | ~ | |
| 启用状态: | □ 启用 | | | | | | Com1 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 启动虚拟串口 | |
| | | | | | | | | |

4. Open the Mitsubishi software GX Works2, create a new project.

| 新建 | | | × |
|--------------|------------|-------|---------------------|
| 系列(S): | FXCPU | | • |
| 机型田: | FX3U/FX3UC | | <u>•</u> |
| 工程类型(D): | 简单工程 | | • |
| | | □ 使用; | 标签 <mark>(L)</mark> |
| 程序语言(G): | 梯形图 | | • |
| | | 确定 | 取消 |

5. Click the connection target, select the current connection target.



6. Click serial USB, configure the parameters.



7. Select RS232C, COM port, A-BOX virtual local port COM9, the transmission rate is 9600, and modify the parity, data bit, and stop bit in the detailed settings.

| 计算机侧 I/F 串行详细设置 | × | 计算机侧 I/F 串行 | 详细设置 | × |
|---|-------|-------------|------|---|
| ● RS-232C (包含FX-USB-AW/FX3U-USB-BD) ○ USB | 确定 取消 | 奇偶校验 | 偶数 💌 | |
| СОМ端口 СОМ 9 - | 详细设置 | 数据位 | 7 | |
| 传送速度 | | 停止位 | 1 💌 | |

8. Click communication test, it will show connection finished.



5-9. Mitsubishi Q series PLC serial port transparent transmission

1. This case takes Mitsubishi Q02H as an example. The serial port on the Q02H body is RS232, which is connected to COM0 of A-BOX (not COM1). The wiring diagram is as follows:



2. Connect A-BOX remotely. Set the serial port parameters of COM0 to 9600, 8, 1, odd. (Remember not to use 115200 bps).

| ABox ID:499098207C1314081(H2/V2.2.0) | | | <u>ن</u> | — 🛛 🗙 |
|--|---------------|------------------|--------------|-----------------|
| Base SetUp | Data Monit | Port Trans | E 0 | System SetUp |
| Serial port VPN USB | | | | |
| Virtual Mode : Model 1 | please use CC | OMO | | |
| | | | | |
| Baud rate : 9600 | ~ | Baud rate : | 19200 | ٣ |
| Data bit : 8 | - | Data bit : | 8 | r |
| Check bit : ODD | | Check bit : | EVEN | r |
| Stop bit : 1 | Ŧ | Stop bit : | 1 | r . |
| Virtual port : COM1 | ~ | Virtual port : | COM2 | r |
| Enabled status : 🗹 Enable Com0 | | Enabled status : | Enable Com 1 | |
| | | | | |
| | | | | |
| | | | | Start VCom |
| | | | | |

3. Set the COM0 to virtual serial port.

| ABox ID:499098207C1314081(H2/V | 2.2.0) | | | (<u></u> |) — 🛛 | X |
|--------------------------------|--------------|---------------|------------------|-------------|-----------------|---|
| Base SetUp | <u>~~</u> | Data Monit | Port Trans | | System SetUp | |
| Serial port VPN | USB | | | | | |
| | 1 👻 | | Г сом1 | | | 1 |
| Baud rate : | 9600 | - | Baud rate : | 19200 | ~ | |
| Data bit : | 8 | ~ | Data bit : | 8 | - | |
| Check bit : | ODD | - | Check bit : | EVEN | T | |
| Stop bit : | 1 | - | Stop bit : | 1 | ~ | |
| Virtual port : | COM1 | ▲ | Virtual port : | COM2 | • | |
| Enabled status : | COM2 COM3 | | Enabled status : | Enable Com1 | | |
| Г Г | COM5 | | | | | |
| L | COM7 | ~ | | | Start VCom | |

4. Open Mitsubishi GX Works2 software, set the serial port parameters.



5. Click communication test, connecting successfully.



5-10. Mitsubishi Q/L series PLC Ethernet port VPN transparent transmission

1. First, use the computer to connect to the PLC and check the IP address of the PLC.

| 醋 MELSOFT系列 GX Works2 (| 工程未设置) - [[PRG] ³ | 写入 MAIN 1步] | |
|-------------------------|------------------------------|---|---------------------|
| · 工程(P) 编辑(E) 搜索/替换 | (D 转换/编译(C) | 视图心在线(2) 调试(3)诊断(12) 工具(1) 窗口(12) 帮助(14) | |
| 🗈 🖻 💾 🗁 🔍 | - . % 🖻 | 予防查 [編編] 22 22 22 23 23 23 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24 | - |
| 1 🔁 🔁 🔛 🖼 🖼 | 8- 1a- 🔍 📶 🕯 | L 多数设置 | 📥 🖡 ats ats ats 🖬 🗐 |
| 导航 9 × | | PLC名设置 PLC系统设置 PLC系统设置 PLC系统设置 PLC系统设置 可用文件设置 FC设置 軟元件设置 FLC系统设置 中国文件设置 FLC系统设置 FLC系统设置 FLC系统设置 FLC系统设置 FLC系统设置 | |
| 工程 | | | |
| 📑 📭 🖄 🧐 🕲 🗍 | 0_ | | |
| | + | 11日 | |
| 中心。同時未改 | | 輸入格式 10进制数 ▼ | |
| - 1 → 远程口令 | | 192 168 3 39 | |
| - 🙆 智能功能模块 | | FIP客户编设置 | |
| | | 子內摘勒类型 | |
| 日 🚰 程序部件 | | 默认路由器评地址 电子邮件设置 | |
| | | DNSi97 | |
| ▲ 局部软元件注释 | | 通信数据代码设置 | |
| 8 🙆 软元件存储器 | | ⑦ 二进制码通信 时间设置 | |
| | | C ASCITIA通信 | |
| | | CC-CIRCLEP BRICK | |
| | | 「 允许RUN中写入(FTP与MC协议) | |
| | | 「 禁止与vel.soft曹接连接 | |
| | | | |
| | | 1 个叫他的路上的以大时的置型CPU的搜索 | |
| | | 算単GU通信设置 算単GU通信设置 算単GU通信设置 | |
| | | 必要时设置(<u>默认</u> /有更改) | |
| 🖳 用户库 | | | |
| 🤩 连接目标 | | | <u></u> |
| * | | | |

2. Open ABOX configuration interface, click VPN, click Start VPN.

| ABox | ID:499098207C131 | 4081(H2/V2 | 2.2.0) | | | | | | ු | - 2 | $ \times$ |
|------|------------------|---------------|---------------|---------------|--------|------|-----|-----------------------|--------------|-----------------|------------|
| | G | Base SetUp | <u>~</u> | Data Monit | | Ć | 1 | Port Trans | Ξ¢ | System SetUp | |
| | Serial port | VPN | USB | | | | | | | | |
| | | | VPN pa | arameter cor | nfigui | rati | ion | the first three segme | ents are sar | ne to PLC | |
| | | | VPN gateway: | 192 . 168 | . 3 | | 1 | | | | |
| | | | Subnet mask: | 255 . 255 | . 255 | | 0 | | | | |
| | | | VPN segment : | 192 . 168 | . 3 | | 252 | the fourth segme | ent keep de | efault | |
| | | | ~ | 192 . 168 | . 3 | | 254 | | | | |
| | | | | | | | | | Start VPN | | |

3. After the VPN is started, the VPN startup information interface will appear. When the box displays "Initialization Sequence Completed", it indicates that the transparent transmission is successful.

| ABox ID:499098207C1314081(Hz | 2/V2.2.0) | | | | — 🖂 🗙 | |
|--|------------------|---------------|---|--|---------------------------|--|
| Base SetU | . 4 | Data Monit | Port Trans | | System SetUp | |
| Serial port VPN | USB | | | | | |
| VPN pa | arameter configu | uration | , | VPN device scan | | |
| | | | IP address | Statu | Ping delay | |
| VPN gateway: 192 168 3 1 Mon Nov 15 15:15:31 2021 TAP-Windows Driver Version 9:21 Mon Nov 15 15:15:31 2021 TAP-Windows Driver Version 9:21 Mon Nov 15 15:15:31 2021 Notified TAP-Windows Driver to set a DHCP IP/n of 192.168.3:252/255.255.255.255.00 on interface (97780C56-6647-455D- | | | | | | |
| Subnet mask : | 255 . 255 . 255 | 5.0 | B2AB-1FF09CDF6803} [DHCP-serv: 192.168 Mon Nov 15 15:15:31 2021 Successful ARP (977BCC56-6647-455D-B2AB-1FF09CDF68 Mon Nov 15 15:15:31 2021 do ifconfig. tt- | 3.3.0, lease-time: 31536 Flush on interface [16] 03} ≻did ifconfig ipv6 set | 000]] up=0 | |
| VPN segment : | 192 . 168 . 3 | . 252 | Mon Nov 15 15:15:36 2021 TEST ROUTES: (Mon Nov 15 15:15:36 2021 WARNING: this memory use the auth-nocache option to | 0/0 succeeded len=0 m configuration may car prevent this | et=1 a=0 u, che passwo | |
| ~ | 192 . 168 . 3 | . 254 | Mon Nov 15 15:15:30 2021 Initialization Se | quence Completed | | |
| | | | | | Exit VPN | |

4. You can also use the ping command to test whether the connection is normal, then open the GX Works2 programming software, create a new project, and select the corresponding series and models.

| 新建 | | | \times |
|----------|-----------|------|------------|
| 系列(S): | LCPU | | • |
| 机型(T): | L06/L06-P | | • |
| 工程类型(P): | 简单工程 | □ 使用 | ▼ 示笠(L) |
| 程序语言(G): | 梯形图 | | • |
| | | 确定 | 取消 |

5. Select the connection mode is Ethernet.

| : 工程(2) | 编辑(<u>E</u>) | 搜索/替换 | (E) 转换/编译(C) | 视图(V) | 在线(0) | 调试(B) | 诊断(D) | 工具① | 窗口(W) | 報助(<u>H</u>) | | | | | | | |
|------------------------------------|-----------------------|----------|---------------|-----------------------|----------|---------------|-----------------------|-----------|---------|--------------------|--------|------------|-------|------------------------|----------------|-----|-------------------------------|
| i 🗅 🖻 🖁 | | | | ┣ <mark>[连接</mark> 目 | 标设置 C | onnection1 | | | | | | | | | | × | |
| | = 🛒 | n 19 1 | * far 😨 🏦 | 参数 计算机 I/F | 创 |)(D- | | | link | | | 0 Ser | | NET (II) | PLC | | 화는 44년 431년 1915 1916 1917 |
| 导机 | | * * | i [PRG]⊑ | X M | - | USB | NET/10(H Board | <u>Bo</u> | ard | Board | Board | Bus | | Board | Board | < F | _ |
| 连接目标 | B O | | | | | | | | 网络号 | - 站4 | 寻 - 协议 | UDP | | | | | |
| ゴー 当前连接目 L ² Coni | ·0 2 标 nection1 | | | 可编程 發例: | 控制 /F | PLC Module | CC IE Cor NET/10(H | nt CC- | Link | Ethernet Module | C24 | <u>601</u> | E CC | IE Field ster/Local | Head Module | राम | |
| 所有连接日 | 标 | - | | | | | - Intarro | | LA. | 4 |) | CPU模式 | LCPU | AUGULE | | | |
| Coni Coni | nection1 | | | 基他站 | 指 | 编程控制器 | 直接连接认 | 受置 | | | | | | 這接路径一步 | <u>د (L)</u> 3 | Ļ | |
| (| 2) | _ | | Ĩ | | 请选择 C υ | 与CPU模块 SB(V) | 直接连接的 | 防法。 | | | | 可编 | 隆控制器直接 | 後连接设置(D) | ĺ | |
| | | | | | | c P | (天岡(家) | | | | | | | 通信测试 | (T) |] | |
| | | | | 网络 | | | 00002080 | | | | | | CPU | 1147 E | | | |
| | | | | 速信路 | 径 | 选择新项 | 随时,当 | 前的设置将 | ·会丢失, G | 俞定吗? | | | UF\$B | | | 1 | |
| | | | | | | | =(| (v) | ক (ছ) | | | L. | | 系統图像(| G) | | |
| | | | | | Ļ | | AEV | w | | | | | 电计 | 舌线路连接(c | :24) (C) | | |
| | | | | 不同网通信路 | 络径 | | | | | | | | | 确定 | : | | |
| | | | | | CC N | ET/10(H) | CC IE Field | Ether | net CC |)-Link | C24 | जन्म | | 取消 | | | |
| | | | | | | 本站访问中。 | | | | | | | | | | | |
| 🥼 工程 | | | | | | 多CPU指定— | | | | 「冗余CPU | 情定 | | | | | | |
| الع محمد 1951 | (| ע | | য়া%ণ হ | <u>.</u> | | | 对象CPU | | | - | | | | | | |
| 101 1 | | | | | ~ | 1 2 | 3 4 | | | , | | | | | | | |
| 连接目 连接目 | 标 | | | | | | | | 245 | | | | | | | | |
| | | <u>*</u> | | | | | | | | _ | | | | | | | |

6. Click PLC module.

| 连接目标设置 | 置 Connection1 | | | | | | | | × |
|-----------------|---------------|-------------------------|-------------------------------------|------------------------|---------------------------|----------|-----------------------------|-------------------|-------|
| 计算机侧 I/F | Serial (| CC IE Cont | <u>CC-Link</u> | Ethernet Board | CC IE Field | Q Series | NET (II) Board | PLC | |
| | | Board | <u>board</u> 网络 | <u>50ard</u> 好 - 站名 | | UDP | board | board | |
| 可编程控制 器例 I/F | PLC Module | CC IE Cont NET/10(H) | CC-Link Module | Ethernet Module | C24 | GOT | CC IE Field Master/Local | Head Module | ्रान् |
| | | Module | | | | CPU模式 LO | Module | | |
| | IP地址/主机名 | 以太网端口] | 直接连接 | | | | | | |
| 其他站指 定 | | l l | -100) 601-600 | | | | 连接路径一览 | <u>t (L</u>) | |
| | No Specificat | ion <u>Oth</u> | <u>ier Station</u> ingle Network |) <u>(Co-e</u> | Station xistence Netwo | ork) | 可编程控制器直接 | 连接设置 (<u>p</u>) | |
| | 时间检查(利 | 妙) 30 | 重试次数 🚺 |) | | | 通信测试 | ; (<u>T</u>) | |
| | | | | | | | CPU캔목 | | |

7. Select Connect via Hub and enter the IP address of the PLC.



8. Double click Ethernet board, select TCP protocol.



9. Click communication test, connected successfully.

| Module | // source | aouure | | | Module | uai | |
|------------|---------------------|--------------------------|-------|----|-------------------|---------------------|---|
| 192.16 | 58. 3. 39 | | CPU模式 | đ, | LCPU | | |
| | (IIII) MELSOET成日 | | ~ | | 连接路径 | 一览(<u>L</u>) | |
| <u>.on</u> | MEESOF 1 <u>M</u> A | 14±/ 7 | ^ | | 可编程控制器 | 直接连接设置 (<u>p</u>) | |
| 0 30 | <u> </u> | ᄚᄮᆮᄵᇊᇞᄵᇊᇞᄧᆂᅓ | | | 通信测试 (<u>T</u>) | | |
| - 1 | | 成功与1000007071000000-7年度。 | | | CPU型号 | L06/L06-P | |
| CC IF | | | _ | | 山羊名田 | | |
| Field | | 确定 | | | 系统图 | 像 (<u>c</u>) | |
| l | | | | | 电话线路连挂 | 麥(C24) (<u>C</u>) | |
| | | | | | , | ** | 1 |

5-11. Delta DVP series serial port PLC

1. The PLC model in this case is DVP-60ES. First, you need to know the PLC serial port parameters. In this case, the PLC serial port parameters are 9600,7,1, E. Set A-BOX serial port parameters consistent with PLC.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🛛 — 🖾 🗙 |
|--|---------------|----------------------|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Serial port VPN U | USB | | |
| Virtual Mode : Model 1 | Ŧ | <i>c</i> 0 <i>14</i> | |
| | | | |
| Baud rate : 960 | • • • • • | Baud rate : | 19200 👻 |
| Data bit : 8 | ~ | Data bit : | 8 |
| Check bit : EVE | EN 🗸 | Check bit : | EVEN |
| Stop bit : 1 | | Stop bit : | 1 |
| Virtual port : CO | M7 | Virtual port : | COM2 🔻 |
| Enabled status : 🗹 E | Enable Com0 | Enabled status : | Enable Com1 |
| | | | |
| L | | | |
| | | | Start VCom |

2. Use DVP cable to connect PLC to A-BOX. Start the virtual serial port. This case is virtual to local COM7. Check whether the driver is normal in the Device Manager.

| | × |
|---|---|
| 文件(E) 操作(A) 查看(V) 帮助(H) | |
| 🗢 🔿 📶 🔛 💷 | |
| ・ ・ ・ | • |

3. Open WPLSoft, click communication setting.

| 參 Dvp1 - Delta WPLSoft - [梯形图模式] | |
|---|---|
| 🧱 文件(E) 编程(E) 编译(E) 批注(M) 查找(S) 视图(V) 通信(C) | 18月10日 南 日(11) 帮助任) |
| 🗋 🖨 🖩 🖀 💿 💿 🗴 🐚 🛍 🍠 🕞 🔍 🔍 🍳 | |
| 💹 🖫 🕸 🔮 🖉 😫 🗐 🐸 🍠 👎 🗐 🕈 📕 🔤 🔿 | T PLC机种设置(P) Ctrl+Alt+M 古 國 Q Q 県 在 |
| 業置型态 計能常常常常に示す。 市 能 市 | 権序设置(3) 🔶 👘 🖂 📙 📳 🎦 |
| | 编程设置(4) ■ 稀积透明文学设置(2) → 大学所设置(2) → 大学所受置(2) → 大学研究(2) → 大学所受置(2) → 大学の学 |
| 项目通信 | |

4. Select the virtual COM7 and click Auto Detect. Successfully connected PLC.



- 5-12. Omron CP1E series PLC serial port transparent transmission
- 1. Connect CX programmer to PLC with USB cable.

| 直接在线 | × |
|--|-----|
| 执行自动在线。 选择一个连接类型并单击[连接]按钮。 | |
| 注接类型 ・ 串口连接 ・ (包括使用USB串口转换线时) PC串口 「 「DLE0 」 「在波特率115,200bps连接 ・ ・ 匹防连接 ・ 匹防连接 ・ 回防连接 ・ 回防直接 ・ 回防直接 ・ 回防直接 ・ 回防直接 ・ 回防直接 ・ ● ・ ● ・ ● ・ ● ・ ● ・ ● | USB |
| | |

2. Set Omron PLC to programming mode.

| [] ^[] 文件(F) 编辑(E) 视图 | V) 插入(I) PL | C 编程(P) | 模拟(S) | 工具(T) | 窗口(W) | 帮助(H) |
|---------------------------------|--|------------------|-----------------------|--------------|-------|--------------|
| 0 🛩 🖬 🏤 🎑 | X 🖻 💼 | a 22 | A # | 58 A.8 58 | 1 ? | N? 🛛 🙆 🍰 🍇 🛛 |
| < X Q C S | in i | | 3 - 1 - 1/ | 4 P 4 P | - c | >必由身近口 |
| 🖪 🗖 🐺 🖓 💭 😭 | 16 9 P 🗉 I | II 10 19 | 16 | 计 题 | 89 | 1 🖬 🕼 🗞 🕨 |
| 幸幸 国 惶 14 % | % % | | | | | |
| | | | | 程序名: | 新程序1] | |
| □ 索 新工程 | | | | 段名称: | 段1] | |
| 白· 🚍 新PLC1[CP1H] 运 | 修改(G) | | | | | |
| | 插入程序(1) | | • | | | |
| ● 10表相単元设計 | | | | | | |
| | ▲ 在线上作(W) | | | | | |
| | に 信 に の PLC-PT の PLC-PT の の の の の の の の の の の の の | 登体模拟(<u>L</u>) | | | | |
| | 11111111111111111111111111111111111111 | 以語(1) | | | | |
| | いい PLC错误模拟 | (<u>P</u>) | _ | | | |
| □ | 撮作模式(M) | | | ■ □□ 编程() | P) | |
| | ▲ 监视(N) | | | | | |
| | 1000 mm 100 (11) | | | □□ 监视(| M) | |
| END | 内存分配(Y) | | • | | R) | |
| | 🏥 编译所有的P | LC程序(A) | | (| | |
| | 🏈 验证符号(全部 | 部)(⊻) | | | | |
| | 传送(F) | | • | | | |
| | □ 比较程序(R). | | | | | |
| | X 剪切(I) | | | | | |

3. Open the setting interface.



4. Modify the serial port parameters of RS232C of PLC to 19200, 8, 1, E, and the protocol is Host Link.

| 👼 PLC 设定 - 新PLC1 | | | | – 🗆 🗙 |
|---|----------------------|-----------------|-------------|----------------|
| 文件(F) 选项(O) 帮助(H) | | | | |
| 启动 设置 时序 輸入常数 | 串口1 串口2 | 外部服务 内置输入 | | 泳中輸出1 脉冲输: ◀ ▶ |
| □ 通信设直 ○ 标准(9600 ; 1,7,2,E) | | | 世技子 | |
| ○ 定制 波特率 19200 ▼ | 格式 8,1,E | 模式 Host Link | ▼ 10(默 | <i>W</i> |
| ─ 起始码 ● 禁止 | 结束码 ⑥ 接收字节 | 256 | | PC链接模式 |
| C 设置 0x0000 📩 | C CR,LF C 设定结束码 | 0x0000 - | | C 主体 |
| | - Ju | 迟 | -NT/PC链接最大- | PC链接单元号 |
| 0 *100 ms 0 | • | 0 ^ *10 | 0 _ | |
| (缺省 5000ms) | | | | |

5. Write the parameters into PLC.

| 👼 PLC 🖗 | 定 - 新PLC1 | | - 0 |
|-----------|---------------------|-------------------------|---|
| 文件(E) | 选项(O) 帮助(H) | | |
| 启动 ┌通信 | 一直在前面(T) 设定缺省(S) | 串□1 串□2 外部服务 内置輸入 | 、设置 脉冲输出0 脉冲输出1 脉冲输出 |
| 01 | 传送到PLC(P) | | |
| • | 从PLC传送(F) | 格式模式 | |
| | 校验(V) | 1 E V Host Link | ▼ 10(默认) ▼ |
| 一起始 | 写保护(W) | | 」 _ · · · · · · · · _ ·] _ · · · · · · · |
| ⊙ 禁 | 双工设定(D) | ⓒ 接收字节 256 ÷ | € 全部 |
| の没調 | ≝ 0x0000 <u>*</u> | O CR,LF | C 主体 |
| | , | C 设定结束码 0x0000 🕂 | |

6. Use CPM cable to connect OMRON PLC with COM0/COM1 of ABOX, and change the serial port parameters of COM0/COM1 to 19200, 8, 1, E.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | (i) (i) | — 🛛 🗡 | < |
|--|---------------|--|---|-----------------|---|
| Base SetUp | Data Monit | Port Trans | | System SetUp | |
| Serial port VPN USB | | | | | |
| Virtual Mode : Model 1 | | Г сом1 ———— | | | |
| Baud rate : 19200 Data bit : 8 Check bit : EVEN Stop bit : 1 Virtual port : COM13 Enabled status : Enable Com0 | | Baud rate : Data bit : Check bit : Stop bit : Virtual port : Enabled status : | 19200 1 8 1 EVEN 1 COM2 1 Enable Com1 | | |
| | | | | Start VCom | |

7. After writing, the COM0 virtual serial port is virtualized to the local COM13.

| ABox ID:499098207C1314081(H2/V2. | 2.0) | | | Ó | - 2 | \times |
|-----------------------------------|-------------------------|---------------|------------------|-------------|-----------------|----------|
| Base SetUp | <u>~~</u> | Data Monit | Port Trans | С. | System SetUp | |
| Serial port VPN | USB | | | | | |
| Virtual Mode : Model 1 | Ŧ | | | | | |
| Сомо — | | | Г СОМ1 — | | | |
| Baud rate : | 19200 | - | Baud rate : | 19200 | <i>v</i> | |
| Data bit : | 8 | - | Data bit : | 8 | | |
| Check bit : | EVEN | • | Check bit : | EVEN | <i>v</i> | |
| Stop bit : [| 1 | • | Stop bit : | 1 | * | |
| Virtual port: | COM13 | | Virtual port : | COM2 | ~ | |
| Enabled status : | COM10 COM11 COM12 | | Enabled status : | Enable Com1 | | |
| | COM13 COM14 COM15 | | | | | |
| | COM16 | ~ | | | Start VCom | |
| | | | | | | <u> </u> |

8. Start the virtual serial port.

| ABox ID:32805811578467947(H | 12/V2.2.0) | | | 🛛 — 🖾 🗙 |
|-----------------------------|------------|-----------|-------|----------|
| ● 基本 配置 | <u>~</u> | 数据 监控 | 运程 传输 | 系統 设置 |
| 虚拟串口 VPN | USB透传 | | | |
| 虚拟串口: 【 _{模式 1} | | | |] |
| 波特率: | 19200 | 完成进度: 30% | | |
| 数据位: | 8 | | | |
| 校验位: | EVEN | | | |
| 停止位: | 1 | | | |
| 虚拟端口: | COM1 | | | · · · |
| 启用状态: | ☑ 启用 | 1 1 | | Com1 |
| | | | | |
| | | | | 启动走拟串口 |

9. Serial port connection, select virtual COM port.

| 1 接在线 | × |
|--|--------|
| 执行自动在线。 选择一个连接类型并单击[连接]按钮。 | |
| 连接类型 ○ 串口连接 (包括使用VSB串口转换线时) PC串口 COM13 ▼ □ 在波特率115,200bps连接 | Serial |
| C USB连接 通过串口电缆PLC将自动与PC进行直接连接。 自动连接到CompoWay/F的组件是不可行的。 | |
| 正接 取消 | |

10. Connected successfully.

| ■ 无标题 - CX-Programmer - [新PLC1.新程序1.段1 [| 端形型]] P) 増払(S) 工具(T) 粉口(M) 参助(H) | | - 0 |
|---|---|---------------------------------|-----|
| | ····································· | 〃 ▲★★ ┺ ᅑ □ ┗ ₽ ♂ ≋ ₽ ♂ ■ | |
| <u><u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> </u> | B + + + + + + + + + + − → Ø € | | |
| · ▶ ₽ ₽ ₽ 6 ↑ ₽ ■ 19 | ····································· | ○ 金 ● ■ ■ ■ ■ 単 準 整 ● > | |
| | | □ □ □ ↓ ¥ 共 法 法 平 - | |
| ● 後 新工程 ● 後 新工程 ● 例 新工程 ● 例 新工程(CICHH 等///程序模式) ● 第 約5C1(CPH 等//程序模式) ■ 第 10年前時元定量 ■ 10年前時元定量 ■ 10年前時元定量 ■ 20 新授手(100) ■ 第 符号 ■ 7 章 新授手(100) ■ 7 章 新授 ■ 7 章 新 ■ 7 章 新 | 0 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 | 下紙 程序下紙刻 fu 新u 下紙成功 減定 | |
| \工程/ | 최희 名称: | 地址值: 注释: | |
| ■ 符号: 237/65024, 1% 上 注释: 132/65024, 1% 程序索引: 183/65024, 1% | | | |
| ▲ ▲ ▶ ▶ \/编译人编译错误入查找报表入传送/ | | | |

5-13. Omron CP1H series PLC Ethernet VPN transparent transmission

1. In this case, the PLC model is CP1H-X40DT-D-SC, and the network port BD board model is CP1W-C1F41. The default IP address is 192.168.250.1.

| 欧姆龙以太网 浩面板 | 系统设置 | | | | | | | |
|---|------------|---|--|--|--|--|--|--|
| 2 - XIX | 参数 | 设定值 | | | | | | |
| [设置] | IP地址 | 192 . 168 . 250 . 1 | | | | | | |
| 芬 田 | 子网掩码 | 255 . 255 . 255 . 0 | | | | | | |
| <u>米里</u> | FINS节点地址 | 1 [0: 默认(1)] | | | | | | |
| 1. IP地址与协议 。 系统设置 | FINS/UDP端口 | 0 ● 使用用户输入的端口号 [默认(9600)] | | | | | | |
| • HTTP | FINS/TCP端口 | 0 ● 使用用户输入的端口号 [默认(9600)] | | | | | | |
| 2. IP地址表/路由表 。 <u>IP地址表</u> 。 IP路中丰 | 地址转换模式 | ● 自动(动态) ● 自动(静态) ● IP地址表方式 ● 并用方式 | | | | | | |
| 3. FINS/TCP 。 <u>连接</u> | FINS/UDP选项 | ●目标IP地址动态改变。 ●目标IP地址不会动态改变。 | | | | | | |
| | 广播选项 | ● 全 ' 1' (4.3BSD) ○ 全 ' 0' (4.2BSD) | | | | | | |
| | FINS/TCP保护 | □使用FINS/TCP保护功能 | | | | | | |
| | 传送 取消 重启 | | | | | | | |

2. First, use the configuration tool to remotely login to A-BOX.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | ල <u>ා</u> - | – 🛛 🗙 |
|--------------------------------------|---------------|----------------|--------------|-----------------|
| Base SetUp | Data Monit | Port Trans | | System SetUp |
| WorkMode: | Wired 👻 | ┌ WAN | | |
| | | Protocol: DHCP | | |
| Advanced Set | | | Next | |

3. Set the VPN parameters, click Start VPN.

| ABox I | D:499098207C131 | 4081(H2/V2 | .2.0) | | | | | 💿 — 🖂 🗙 |
|--------|-----------------|---------------|---------------|---------------|---------|------------------------|--------------------------|----------------------|
| | G | Base SetUp | <u>~~</u> | Data Monit | | $\widehat{\mathbf{T}}$ | Port Trans | System SetUp |
| Se | rial port | VPN | USB | | | | | |
| | | | VPN pa | arameter cor | nfigura | ation | the first three segments | s are same to PLC IP |
| | | | VPN gateway : | 192 . 168 . | 250 | . 1 | the fourth segm | ent keep default |
| | | | Subnet mask : | 255 . 255 . | 255 | . 0 | | |
| | | | VPN segment : | 192 . 168 . | 250 | . 252 | | |
| | | | ~ | 192 . 168 . | 250 | 254 | | |
| | | | | | | | | Start VPN |

4. After the VPN is successful, the display is as follows:

| ABox ID:499098207C131408 | 81(H2/ | /2.2.0) | | | | | | and the second | | | - 2 | X |
|--------------------------|---------------|---------|------|-----|-------|------|---------------|---|--|-----------------------------------|-----------------|---|
| | Base SetUp | | | | ~ | | Data Monit | Port Trans | | Т° | System SetUp | |
| Serial port VI | PN | U | ISB | | | | | | | | | |
| VPN | l pa | ramo | eter | con | ifigu | rati | ion | | VPN device scan | | | |
| | | | | | | | | IP address | Statu | P | ing delay | |
| VPN gateway | /:[| 192 | . 16 | 58. | 250 | | 1 | Mon Nov 15 15:15:31 2021 TAP-Wind Mon Nov 15 15:15:31 2021 Notified T of 192.168.3.252/255.255.255.0 on int | tows Driver Version 9.21 AP-Windows driver to set a terface (977BCC56-6647-455 | DHCP IP/n | | |
| Subnet mask | < : [| 255 | . 25 | 55. | 255 | | 0 | B2AB-1FF09CDF6803} [DHCP-serv: 19 Mon Nov 15 15:15:31 2021 Successfu (9778CC56-6647-455D-82A8-1FF09C | (2.168.3.0, lease-time: 31536 I ARP Flush on interface [16] DF6803} | 000] | | |
| VPN segment | t : [| 192 | . 16 | 58. | 250 | | 252 | Mon Nov 15 15:15:36 2021 TEST ROU Mon Nov 15 15:15:36 2021 TEST ROU Mon Nov 15 15:15:36 2021 WARNING memory use the auth-nocache opt | g, to succeeded len=0 re G: this configuration may cac ion to prevent this | rp=0 et=1 a=0 u, :he passwo | | |
| . | ~ [| 192 | . 16 | 68. | 250 | | 254 | Mon Nov 15 15:15:36 2021 Initializati | on Sequence Completed | | | |
| | | | | | | | | | | Exit VPN | | |

5. You can also use the ping command to test whether the connection is normal, then open the programming software, create a new PLC, and select "Ethernet" as the network type.

| 变更PLC | × |
|---------------------------------|-------------------------|
| - 设备名称 | |
| 新PLC1 | |
| - 设备类型 | |
| СР1Н | → → → |
| | |
| Ethernet | ▼ 设定(匠) |
| | |
| └└───────────────────────────── | |
| | ~ |
| | |
|] | × |
| 确定 取消 | 帮助(近) |

6. Click "Set" and enter the IP address of PLC in the drive.

| 网络设置 [Ethernet] X |
|------------------------------|
| 网络 驱动 「工作场所节点号 |
| 210 <u>-</u> 自动检测(A) |
| P地址 192 . 168 . 250 . 1 |
| |
| |
| |
| 确定 取消 帮助 |

7. Right click "New PLC1" and click "Online Work".

| 📕 | - [新PLC1.新程序1.段1 [碑形图]] |
|--------------------------------------|--|
| ア 文件(F) 编辑(E) 视图(V |) 插入(I) PLC 编程(P) 模拟(S) 工具(T) 窗口(W) 帮助(H) |
| D 🛎 🖬 🗟 🎒 🙆 . | 👗 🖻 🖻 🗟 🖄 요 🏘 🛱 🖏 🎲 🗍 🛛 🎖 🕅 🗍 🕭 🚴 🍓 🕰 |
| | |
| 🔽 🔉 🐺 🖓 🖓 👔 | 1 男 [[] 圖 圖 12 お 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 毎年 三生 本%) | 34 X4 |
| | |
| ⊡ · 露 新 <mark>正程</mark> | [船安称 : 船] |
| 白 🚍 新PLC1[CP1H] 离线 | |
| <u>, 符号</u> | 修改(<u>G</u>) |
| ···································· | 插入程序(1) |
| | |
| | |
| □ 🎇 程序 | |
| □ 😡 新程序1 (00 | · 19. 工作住我候拟疏山 |
| · 🔐 符号 | E3 PLC错误模拟(P) |
| | 握作模式(M) ▶ |
| 🛱 END | 急, 监视(N) |
| | |

8. PLC successfully connected.



5-14. Rockwell (AB) L32E series VPN transparent transmission

1. The PLC model in this case is L32E series. Open the configuration interface of ABOX, click "User Functions" -->"VPN", and directly click "Start VPN".

| ABox | ID:499098207C131 | 4081(H2/V2 | 2.2.0) | | | | | 🗇 — 🖾 🗙 |
|------|------------------|---------------|---------------|---------------|---------|--------|---------------|--------------------------------|
| | G | Base SetUp | <u>~</u> | Data Monit | | (1) | Port Trans | System SetUp |
| : | Serial port | VPN | USB | | | | | |
| | | | VPN p | arameter co | onfigur | ration | the first | three segments are same to PLC |
| | | | VPN gateway : | 192 . 168 | . 1 | . 1 | the fo | urth segment keep default |
| | | | Subnet mask : | 255 . 255 | . 255 | . 0 | | |
| | | | VPN segment : | 192 . 168 | . 1 | . 252 | | |
| | | | ~ | 192 _ 168 | . 1 | . 254 | | |
| | | | | | | | | Start VPN |

2. After the VPN is successful, the display is as follows:

| ABox 1D:499098207C13 | 14081(H2) | V220) | | | | | | | — 🖂 🗙 |
|----------------------|---------------|-------|--------|-------|--------|----------|--|--|--|
| O | Base SetUp | í | | Ľ | ~ | Da Mo | | ort rans | System SetUp |
| Serial port | VPN | USB | 8 | | | | | | |
| VI | PN pa | ramet | ter co | onfic | gura | atior | | VPN device scan | |
| | | | | | 50.535 | | IP address | Statu | Ping delay |
| VPN gatew | vay : | 192 . | 168 | | 1 | . 1 | Thu Nov 11 17:13:22 2021 Not of 192.168.1.252/255.255.255. C1E1-4933-98F7-6AC3698F5E | ified TAP-Windows driver to set 0 on interface (23167D4E- 2D) (DHCP-serv: 192.168.1.0, lea | t a DHCP IP/netmask |
| Subnet ma | ask : | 255 . | 255 | . 2 | 55 | . 0 | Thu Nov 11 17:13:22 2021 Suc C1E1-4933-98F7-6AC3698F5E Thu Nov 11 17:13:22 2021 do | cessful ARP Flush on interface (2D) ifconfia tt->did ifconfia inv6 s | 5] (23167D4E- |
| VPN segme | ent : | 192 . | 168 | | 1 | . 25 | Thu Nov 11 17:13:27 2021 TES Thu Nov 11 17:13:27 2021 WA memory use the auth-nocad | T ROUTES: 0/0 succeeded len=0 RNING: this configuration may he option to prevent this |) ret≃1 a=0 u/d≊up cache passwords in |
| | ~ | 192 . | 168 | | 1 | . 25 | The New TT TYTISLEY EVEL THE | alcarun sequence complexeu | Ly. |

3. You can also use the ping command to test whether the connection is normal, and then open the programming software to create a new project.

| 🖻 EasyBuilder P | ro : EBProject1 - | [10 - W | INDOW_010] | | | | | | | | | | | | - | ø × |
|-------------------|-------------------|-------------|-------------------------|---------------------|--|----|----|------|-----------------|------------------|--------------|-----------------------------|--------------|-------|---------------------------------------|----------|
| 文件 🗄 🛙 | 🛛 🔦 🏕 🗧 第用 | It | 这件 元件 | 资料/历史 | lloT/能源管理 | 检视 | 工具 | | | | | | | | | - 8 × 4 |
| ■ 2 第初 粘贴 日 复利 | 系统参数 选 | | 查找/替换地址 多重复制 窗口复制 | | · :∎ := :::::::::::::::::::::::::::::::: | | | | 이 네 문 88 & 9 | 8日 日志> 6-日-早- | ¢ [≥ - 1 | aigdt îA Ai I <u>A</u> - | • <u>5</u> • | Ap | so si si si o Li li li li li li li | A V V |
| 鲍贴簿 | | | 编辑 | | 元件 | | | | 排列 | | | | 字体 | | 状态/语言 | |
| 网页 | • | × 4 | 10 - WING | 00W_010 × | | | | | | | | | | ▶ 图片. | 库 | • > |
| 4 / Kit | E | koo boo boo | <u> </u> ,' | E. | | В | | BL (| _ | B | | B | | | | |
| 地址 网页 | | | < | | | | | | | | | | > | 向盘 | 國库 图片库 声音 | ŧ |
| MT8071iE/MT81 | 01iE (800 x 480) | | | | | | | | | | | | | | X = 60 | Y = 8 |

4. Click "Download (PC ->HMI)" in "Project File".

| 🗷 EasyBuilder Pro : EBProject1 - [10 - WINDOW_010] | | | | | | | | | | | |
|---|----------------|------------|------------|----------|-----------|--------------|-----|--|--|--|--|
| 文件 🗄 🖂 🗸 | × ≁ ∓ | 常用 | 工程文件 | 元件 | 资料/历 | 史 IIoT/能源 | 管理 | | | | |
| 系统信息 语言 & | 父 编译 | 石线模拟 | - - |) 唐不 | ال | SD 建立下载数据 | | | | | |
| 字体 设置 | | | | >⊦ 建立 | HMI) | | HMI | | | | |
| 网页 | | ▼ × | 4 10 | - WIND | ow_010 | × | | | | | |

5. After the compilation, change the IP address to the HMI IP, i.e. 192.168.1.200.

| 下载 (PC->HMI) | | | × |
|---|---|---|---------|
| | | | |
| ◎ 以太网 | | 上传/下载密码/端口号: 设置. | |
| 4 IP HM-485 P: 192.168.1.200 | ~ | | 4 |
| ☑ 字体 □ 诊断工具 ☑ Runtime *第一次下载程序或更新软件 | □ 使用 E 時, 才需要更新韧体. | EasyAccess 2.0 当前 PC 自 | 内 IP 信息 |
| □用户自定义开机画面 | | | |
| □ 启用系统设置文件 □ 启用分期付款 | | | |
| □ 同步 PC 时间至 HMI | | | |
| □ 删除开机画面 ☑ 清除配方数据 (RW, RW_A) ☑ 清除配方数据库 | ☑ 清除事件记录☑ 清除操作记录 | ☑ 清除资料取样记录☑ 清除字符串表 | |
| ✓ 下载后启动工程画面 □编译后自动使用当前设置进行下载 | | | |
| 下载 停止 | | 关闭 |] |

6. Click download.

| 病因为银行起来 涂操作记录 流初给化中 | | |
|----------------------------------|--------------|-----|
| ¢t, F≥ ⊈≣pro ytraware (com.e.30- | | 694 |
| ● 以太网 | 上传/下载密码/端口号: | ·운품 |
| IP HMI SIF | | Þ |
| IP 192.168.1.200 😪 | | |

7. The downloading is finished.

| 下號 (PC->HMI) | × |
|---|---|
| 下载F:/EBpro/font/EBProject1\$1.ttf 下载F:/EBpro/font/EBProject1\$2.ttf 下载F:/EBpro/font/EBProject1\$3.ttf 载入字体成功 | ^ |
| ·封使犀垂启 | ~ |

5-15. Weinview MT8071iE HMI VPN transparent transmission

1. First set the IP address of the HMI, click the arrow at the bottom right corner.



2. Click the setting key and enter the password to enter the IP address setting interface.



3. Set the IP address of the HMI, and put the IP address of the HMI and A-BOX in the same network segment.

| Pieters ar Pro | And and Actionationally Address Automatically Attract below 168 1 200 255 255 0 102 168 1 1 102 168 1 1 Cancel Anny Occ | | * * * * * * * * * * | 2 8 9 | | |
|----------------|--|--|---------------------------------|--------------|--|--|
|----------------|--|--|---------------------------------|--------------|--|--|

4. Open the configuration interface of ABOX, click "User Functions" -->"VPN", and directly click "Start VPN".

| ABox ID:499098207C1 | 314081(H2/V2 | .2.0) | | | | | 🐵 — 🛛 🗙 |
|---------------------|---------------|---|--|------------------|-----------------------|---------------|---|
| Ŷ | Base SetUp | <u>~~</u> | Data Monit | (| | Port Trans | System SetUp |
| Serial port | VPN | USB | | | | | |
| Senai port | VPN | VPN pa VPN gateway : Subnet mask : VPN segment : | arameter co 192 . 168 255 . 255 192 . 168 | . 1 . . 255 . | tion 1 0 252 | the first | three segments are same to PLC urth segment keep default |
| | | ~ | 192 . 168 | . 1 . | 254 | | Start VPN |

5. After the VPN is successful, the display is as follows:

| ABox ID:499096207C1314081(H2 | 2//2.2.0) | | | | – 🛛 🗙 |
|-------------------------------|-----------------------------|---------------|--|--|-------------------------------------|
| Base SetU | D | Data Monit | Port Trans | | System SetUp |
| Serial port VPN | USB | | | | |
| VPN pa | aramete <mark>r co</mark> l | nfiguration | | VPN device scan | |
| | | | IP address | Statu | Ping delay |
| VPN gateway : | 192 . 168 | . 1 . 1 | Thu Nov 11 17:13:22 2021 Notified TAP of 192.168.1.252/255.255.255.255.0 on inter C1E1-4933-98F7-6AC3698F5E2D) [DHC | -Windows driver to set a rface (23167D4E- P-serv: 192.168.1.0, lease | DHCP IP/netmask |
| Subnet mask : | 255 . 255 | . 255 . 0 | Thu Nov 11 17:13:22 2021 Successful ARP Flush on interface [5] (23167D4E- C1E1-4933-98F7-6AC3698F5E2D) Thu Nov 11 17:13:22 2021 do ifconfig. tt->did_ifconfig_ipv6_setup=0 | | |
| VPN segment : | 192 . 168 | . 1 . 252 | Thu Nov 11 17:13:27 2021 TEST ROUTE Thu Nov 11 17:13:27 2021 WARNING: t memory use the auth-nocache optio | S: 0/0 succeeded len=0 n his configuration may ca n to prevent this | et=1 a=0 u/d=up che passwords in |
| ~ | 192 . 168 | . 1 . 254 | Thu Nov 11 17:13:27 2021 Initialization | Sequence Completed | |
| | | | | E | xit VPN |
| | | | | - Britanian | |

6. You can also use the ping command to test whether the connection is normal, and then open the Weinview editing software to create a new project.

| 🖪 EasyBuilder Pro | : EBProject1 - [10 | - WINDOW_010] | | | | | | | | - | 3 X |
|--------------------|--|---|----------|---------------------|------|------------------------|---------------------|-------|------------------------------------|---|-------|
| 文件 🗄 🖾 | 🖴 🏕 🗧 第用 | 工程文件 元件 | 资料/历史 II | loT/能源管理 检锁 |] [具 | | | | | - | 8 × ^ |
| によう 第50 本路 日 复制 | ● 法 <th> ∞ 查找/替换地址 ◎ 多重复制 □ 審口复制 </th> <th></th> <th>: / ~ .⊾ / O </th> <th></th> <th>의 파 아 고 왕 다 한 다 왕 3</th> <th> 田田 田市メ 玉・田・平・戸</th> <th>AIGDT</th> <th>• <u>5</u> • <u>U</u> ≡ ≡ ≡ /</th> <th>S0 S1 S2 S3 0 L1 L2 L3 L4 1</th> <th>*</th> | ∞ 查找/替换地址 ◎ 多重复制 □ 審口复制 | | : / ~ .⊾ / O | | 의 파 아 고 왕 다 한 다 왕 3 | 田田 田市メ 玉・田・平・戸 | AIGDT | • <u>5</u> • <u>U</u> ≡ ≡ ≡ / | S0 S1 S2 S3 0 L1 L2 L3 L4 1 | * |
| 鲍贴簿 | | 编辑 | | 元件 | | 1 | 顺列 | | 字体 | 状态/语言 | |
| 网页 | ▼ × | 4 10 - WIND | ow_010 × | | | | | | Þ | 图片库 | ¥ × |
| 4 (###1] | | | | | | B | | | | | |
| MT8071iE/MT8101i | iE (800 x 480) | | | | | | | | | X = 60 | Y = 8 |

7. Click "Download (PC ->HMI)" in "Project File".

| 🖪 EasyBuilder Pro : EBProject1 - [10 - WINDOW_010] | | | | | | | |
|---|----------------|------------|------------|----------|-----------|--------------|-----|
| 文件 🗄 🖂 🗸 | × ≁ ∓ | 常用 | 工程文件 | 元件 | 资料/历 | 史 IIoT/能源 | 管理 |
| 系统信息 语言 & | 父 编译 | 石线模拟 | - - |) 唐不 | ال | SD 建立下载数据 | |
| 字体 设置 | | | | >⊦ 建立 | HMI) | | HMI |
| 网页 | | ▼ × | 4 10 | - WIND | ow_010 | × | |

8. After the compilation, change the IP address to HMI IP, i.e. 192.168.1.200.

| 下载 (PC->HMI) | | | × |
|--|---|--|-----|
| | | | |
| ● 以太网 | | 上传/下载密码/端口号: 设 | 置 |
| 4 IP HM-280 P: 192.168.1.200 | | | 4 |
| ☑ 字体 □诊断工具 ☑ Runtime *第一次下载程序或更新软件 | □使月 时时, 才需要更新韧体. | 用 EasyAccess 2.0 当前 PC | 的卫信 |
| □用户自定义开机画面 | | | |
| □ 启用系统设置文件 □ 启用分期付款 | | | |
| □ 同步 PC 时间至 HMI | | | |
| □删除开机画面 ☑ 清除配方数据 (RW, RW_A) ☑ 清除配方数据库 | ☑ 清除事件记录☑ 清除操作记录 | 「清除资料取样记录 「清除字符串表 | |
| ☑ 下载后启动工程画面 □编译后自动使用当前设置进行下载 | | | |
| 下载 停止 | | ÷, | 闭 |

9. Click download.

| | 69% |
|--------------|--------------|
| 上传/下载密码/端口号: | 设置 |
| | Þ |
| | 上後/下载密码/端口号: |

10. The downloading is finished.

| 下载 (PC->HMI) | × |
|---|---|
| 下载F:/EBpro/font/EBProject1\$1.ttf 下载F:/EBpro/font/EBProject1\$2.ttf 下载F:/EBpro/font/EBProject1\$3.ttf 载入字体成功 | ^ |
| 解摸摩垂自 | v |

6. Data monitoring application

Data monitoring requires the use of the "Xinje Cloud" platform. The address of the device is mapped to the internal address of ABOX to achieve real-time monitoring of PLC data by the cloud platform.

The completed protocols are as follows (based on V1.0.25):

| Communication | Protocol/brand |
|---------------|-----------------------|
| type | |
| | Xinje XC series |
| | Xinje XD/XL/XG series |
| Serial port | ModbusRTU |
| Senai port | Siemens S7-200 PPI |
| | Mitsubishi FX series |
| | Mitsubishi FX3U/3G |
| | Omron CP/CJ.CS series |
| | Delta DVP series |

| | ModbusTCP |
|---------------|--|
| | Xinje XDE_XNET |
| | Xinje XD_ModbusTCP |
| | Siemens S7200-smart |
| Ethernet port | Siemens S7-300 series (Only the Ethernet port of the main body is supported) |
| | Siemens S7-1200 series |
| | Siemens S7-1500 series |
| | Omron FinsTCP |
| | Mitsubishi FX5U |
| | Mitsubishi L series |
| | Mitsubishi Q series |
| | Support EIP protocol devices |

6-1. Siemens S7-200 series serial port PLC (PPI)

1. The serial port parameters of PLC in this case are 9600,8,1, E. Pins 3 and 8 of Siemens S7-200 correspond to A and B of A-BOX respectively. First, set the serial port parameters of A-BOX to be consistent with the PLC.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🕸 — 🖾 🗙 |
|--|--|
| Base SetUp Dat | ta port Irrans Port System SetUp |
| Data Monit Right-click node add function right click, then click serial port s The COM0 - The COM1 - The COM1 - The Ethernet - The Monit - The Monit - The Monit - The Monit - The Monit | MQTT server Start data monitoring Serial port parameter configuration Add Order Add Order der Note Data bit : 8 Check bit : EVEN Stop bit : Read Write |

2. In the data monitor tab, right click COM0, click protocol set.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|--|---------------------------------------|--|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - CON Add Device | ComOrder WriteOrder Use the Delete ke | ey to Delete the selected it Batch Order | Add Order |
| - Ethe 串口设置 | rder Name Device Name O | bject Addre Date Num Abox's Object Addre | Order Note |
| - 📄 Order Total - ☆ Free Monit - ĵ System Info | | | |

3. Select Siemens S7_200PLC for the communication protocol.

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | SIEMENS |
| Protocol : | S7_200PLC |
| | Cancel OK |

4. Right click COM0, click add device, the default station no. is 2.

| | $- \times$ |
|---|-------------------|
| 通信口: | COM0 |
| 通信协议: | SIEMENS-S7_200PLC |
| ↓ ──────────────────────────────────── | siemens200 |
| 站点号 : | 2 |
| 设备模板: | |
| 数据顺序: | 🗌 高低字节交换 🗌 高低字交换 |
| 取消 | 确定 |

5. Select "Siemens 200" and click "Add order" or "Batch order". For Word and DWord, the number of objects must not exceed 50. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| ABox ID:499098207C13 | 314081(H2/V2.2.0) | | | | | | 🕸 — 🖬 🗙 |
|-----------------------------------|---------------------|---------------|---|---------------------|---------------|---------------------|-----------------------|
| Ŷ | Base SetUp | Ľ | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node ad | ld function | | | | N | IQTT server | Start data monitoring |
| □ = === COM0 | | ComPort: COMC |) (siemens200) /riteOrder Use the Delete | e key to Delete the | selected it | Batch Order | Add Order |
| - COM1 | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| Communication Order Batch Create | | | | | | | X |
| - i s | Order N | ame : | | I | Data Format : | Bit | ▼ |
| | Data Ob | oject : V | * | | StartAdrr : | 1.0 | · |
| | Adding M | ode : 2 | | AE | ox Mapped : | 2 | |
| | MQTT Data 1 | Type: BOOL | ▼ Len : | Ρι | blish Mode : | High performance | |

6. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 | | |
|---|--|-----------------|-----------------------|--|--|
| Base SetUp | Data Monit | Port Trans | System SetUp | | |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system register | | Start data monitoring | | |
| E-COM0 | System running information | connection Flag | | | |
| └-siemens200 | Device Name | Connection Flag | Value | | |
| - 📟 COM1 | siemens200 | SD1001 | 1 | | |
| – 🛄 Ethernet | | | | | |
| - 📋 Order Total | | | | | |
| - 🏠 Free Monit | | | | | |
| - i System Info | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

6-2. Siemens S7-200SMART series Ethernet port PLC

1. The IP address of the PLC in this case is 192.168.1.105. First, the LAN parameters of A-BOX should be on the same network as the IP address of the PLC.

| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | | <u>نې</u> | - 2 | \times |
|----------------------|--------------------|---------------------|----------------------------|----------------|-----------|-----------------|----------|
| Ŷ | Base SetUp | Data Monit | | Port Trans | Ę | System SetUp | |
| | Lan Param | the first three se | gments are same to PLC IP | | | | |
| | _ LAN | | Hotspot | | | | |
| | DHCP Service : | Open 💌 | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 1 . 1 | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | the gateway is generally 1 | | | | |
| | | | | | | | |
| | WhiteList | | Ba | ack | Next | | |

2. In "Data Monitoring", right-click "Ethernet" and click "Add Device".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🕸 — 🖬 🗙 |
|---|------------|---------------------------|---------------------|-------------|---------------------|-----------------------|
| Base SetUp | | Data Monit | (| | ort ans | System SetUp |
| Data Monit Right-click node add function | | | | N | 1QTT server | Start data monitoring |
| □ | ComOrder | WriteOrder Use the Delete | e key to Delete the | selected it | Batch Order | Add Order |
| - COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - Free Monit - System Info | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

3. The protocol please select S7_200smart, fill in the PLC IP, the port number is 102.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖂 🗙 |
|---|---|--|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| | ComPort: Ethernet (siemens200smart) | | - |
| ComPort : Ethernet Device Brand : Lisi Device Name : Device Name : Data Sequence : | SIEMENS S7_200Smart siemens200smart Byte Swop Word Swop | - Addition Item Port : 102 IP : $192 \cdot 168 \cdot 1 \cdot 1$ Station : 1 | Add Order Order Note |
| -() Additional item | is should be filled in as required | Cancel OK | |
| | | | |

4. Select Siemens200smart, click Add order or Batch order.
| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🗇 — 🛛 🗙 |
|---|-------------------------------|--|-------------------------------|---------------------|-----------------------|
| Base SetUp | 4 | Data Monit | | Port Trans | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | Start data monitoring |
| □= ==== COM0 | ComPort: Ethern ComOrder W | net (siemens200smart) /riteOrder Use the Delete | key to Delete the selected it | Batch Order | Add Order |
| - COM1 | Order Name | Device Name | Object Addre Date Num | Abox's Object Addre | Order Note |
| E+ | | | | | |

5. For Word and DWord, the number of objects must not exceed 50. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| | - · | | | |
|-------------------|------------------|----------------------|------------------|----------|
| Device | Communic | cation Order setting | Auto Allot | Manually |
| Order Name : | data001 | Data Format : | Word | - |
| Data Object: | - | StartAdrr : | 1 | ~ |
| Adding Mode : | Add individually | | | |
| MQTT | | | | |
| Data Type: | INT16U 💌 Len : | Publish Mode : | High performance | ~ |
| Trigger mode : | Value changes 💌 | Trigger condition : | | - |
| Min Value : | | Max Value : | | |
| Publish interval: | (s) | Note : | | |
| IsCache : | Disable 🔹 | | | |
| | | | | |
| | | | Cancel | OK |

6. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| СОМО | System running information | Devi | ce connection Flag |
| -sse com1 | Device Name | Connection Flag | Value |
| □- Ethernet | siemens200smart | SD1002 | 1 |
| -siemens200smart | | | |
| -📋 Order Total | | | |
| | | | |
| - 👔 System Info | | | |
| | | | |

6-3. Siemens S7-300/1200/1500 series Ethernet port PLC

1. Before using Siemens S7-300/1200/1500 series PLC for data monitoring, the following two points need to be set in advance. After setting, download to PLC.

Note: S7-300 only supports the Ethernet port on the main body.

|]项目1远程 ■ 添加新设备 ▲ 设备和网络 ■ PLC_1 [CPU 1211C DO]) 设备组态 | /0C/DC] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 決定日 - 団 い - ゴ 4: | |
|---|--|---|--------------------|
| 3 在线和诊断 | PLC_1 [CPU 1211C DC/DC/DC] | | × |
| ■ 程序块 ■ 添加新块 | ★損 10 恋器 系统常 | (物) 立本 | |
| ▲ Main [OB1] ● data_1 [DB1] ● 工艺对象 > 每 外部原文件 > 二 PLC 安置 ● PLC 数据类型 > 通 比互复撮射表 > 查 在线备份 > Conserved | 市政 10 安全庫 示次目 第80 FINET接口 [X1] へ > Di 6 l00 4 > > A12 高速计数器 (HSC) > 脉中发生器 (PTO/PWM) 启动 高速 | AK 大中 连接机制 3. | |
| ○ 设备代理数据 ○ 设备代理数据 ○ 理尔信息 ○ nc 报警文本列表 ○ 本地模块 > 未分组的设备 > 公共数据 | 通信负载 系统和1排存储器 > Web 服务器 用户界面语言 时间 保护 (400120) 2. | ● 先详从选择伙伴(PLC、HM、C 1. 右击设备属性 2. 点击保护 3. 选种允许从远程伙伴。。。 | >PC、」)使用 PUTIGET通(|
| ▶ 100 文档设置 ● 200 语言和资源 ● 在线访问 | 连接资源 地址总览 ~ | (m) | * > |

| ■ 设备组态 3 在线和诊断 | | 注释 |
|---|-------------|---|
| ✓ 22 程序块 ● 添加新块 25 Main [OB1] | = | ADD Auto (Real) EN ENO |
| Gata_1[DB1] Gata_1[DB1] Gata_1[DB1] Gata_1[DB1] Gata_1[DB1] | nta 1 [DB1] | %DB1.DBD8 %DB1.DBD8 *data_1*.tag3 IN1 OUT *data_1*.tag3 |
| ▶ 📮 PLC 变量 ▶ 💽 PLC 数据类型 | 常規 | |
| この この この この この この この この この この この この この この この この この この この この この <!--</td--><td>常规信息</td><td>I. 右击DB块 星性 2. 点击属性</td> | 常规信息 | I. 右击DB块 星性 2. 点击属性 |
| ▶ □ 设备代理数据 □ 程序信息 | 时间戳 编译 | 3. 去掉优化的块访问 |
| ■ PLC 报警文本列表 ▶ ■ 本地模块 | 属性 | 在设备中写保护数据块 优化的块访问 |
| ▶ 陽 未分组的设备 ▶ ● ☆ 公共数据 | | |

2. The IP address of the PLC in this case is 192.168.1.100. First, the LAN parameters of A-BOX should be on the same network as the IP address of the PLC.

| ABox ID:499098207C13* | 14081(H2/V2.2.0) | | | | | ঠ | - 2 | \times |
|-----------------------|--------------------|---------------------|-------------------|------------------|----------------|--------|-----------------|----------|
| | Base SetUp | Dat Mo | ta onit | | Port Trans | - C | System SetUp | |
| | Lan Param | the first thr | iree segments are | same to PLC IP | | | | |
| | LAN | _/ | | — Hotspot —— | | | | |
| | DHCP Service : | Open - | r | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 1 . 1 | | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | | Password : | XINJEABOX | | | |
| | | | the gateway | vis generally 1 | | | | |
| | | | the gateway | y is generally 1 | | | | |
| | WhiteList | | | Ba | ack | Next | | |

3. Right click the Ethernet, click add device.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🖬 🗙 |
|--|------------------------------------|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| □ = === COM0 | ComOrder WriteOrder Use the Delete | key to Delete the selected it Batch Order | Add Order |
| - COM1 | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |
| - C Ethesset Add Device - Order Total - M Free Monit - M System Info | right click, select add devic | ce | |

4. The protocol please select S7_1200PLC, fill in the PLC IP, the port number is 102 or 1.

| ABox ID:499098207C1314081(H2/V2.2.0) | | 🗇 — 🖾 🗙 |
|--|---|---|
| Base SetUp | Data Monit P | ort System SetUp |
| Data Monit Right-click node add function | | MQTT server Start data monitoring |
| - COM0 - COM1 E Com1 E Com1 E Com1 E Com1 Com2 | ComPort : Ethernet Device Brand : SIEMENS Model Protocol : 57_1200PLC Device Name : siemens1200 Data Sequence : Byte Swop Word Swop | $- \times$ idition Item Port : 102 IP : 192 . 168 . 1 . 1 Station : 1 |
| − 🕖 System Info | Additional items should be filled in as required | Cancel OK |
| | | |

5. Select siemens1200, click add order or batch order.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🗇 — 🛛 🗙 |
|---|-------------------|---|-------------------------------|---------------------|-----------------------|
| Base SetUp | ~ | Data Monit | | ort rans | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | Start data monitoring |
| СОМ0 СОМ1 | ComPort: Ethernet | t (siemens1200) teOrder Use the Delete | key to Delete the selected it | Batch Order | Add Order |
| Ethernet | Order Name | Device Name | Object Addre Date Num | Abox's Object Addre | Order Note |
| - Tree Monit | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

6. For "bit", the number of objects can only be "1" temporarily. For Word and DWord, the number of objects must not exceed 50. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| | | | | | × |
|-------------------|------------------|-----------------------|------------------|----------|---|
| Device | Commun | ication Order setting | Auto Allot | Manually | |
| Order Name : | data001 | Data Format : | Word | ~ | |
| Data Object: | | StartAdrr : | 1 | • | |
| Adding Mode : | Add individually | | | | |
| | | | | | 1 |
| Data Type: | INT16U 🔻 Len : | Publish Mode : | High performance | * | |
| Trigger mode : | Value changes 🔹 | Trigger condition : | | • | |
| Min Value : | | Max Value : | | | |
| Publish interval: | (s) | Note : | | | |
| IsCache : | Disable 🔹 |] | | | |
| | | | | | 1 |
| | | | Cancel | ОК | |

7. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| СОМО | System running information | Device | connection Flag |
| -www com1 | Device Name | Connection Flag | Value |
| ■ Ethernet □ siemens1200 - Order Total - Free Monit - System Info | siemens1200 | SD1001 | 1 |

6-4. Omron CP1E series serial port PLC

1. In this case, the PLC model is CP1E-N30SDR-A, and the serial port parameters are 19200,8,1, E. First set A-BOX serial port parameters consistent with PLC.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🗇 — 🖾 🗙 |
|---|--|
| Base Da SetUp | ata Ionit Port Trans System SetUp |
| Data Monit Right-click node add function right click, select serial port set | MQTT server Start data monitoring |
| ComPort: COM0 (comOrder Writ | Serial port parameter configuration |
| - COM1 Order Name | Baud rate : 19200 |
| - 🗎 Order Total | Data bit : 8 |
| - Tree Monit | Check bit : EVEN |
| | Stop bit : 1 |
| | Read Write |
| | |
| | |

2. Right click COM0, select protocol set, select Omron CP_CJ_CS series.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🐵 – 🛛 🗙 |
|---|--|----------------|----------------|---------------|------------|-----------------------|
| Base SetUp | <u>~</u> | Data Monit | | Port Trans | ਵ | System SetUp |
| Data Monit Right-click node add function | | | | MQTT server | | Start data monitoring |
| - COM0 - COM1 | ComPort: COM0 (omron) ComOrder Writ | | | | $- \times$ | Add Order |
| - Ethernet | Order Name | | Protocol setti | ings | - | Order Note |
| - Free Monit | | Device Brand : | OMRON | | r | |
| - 🥡 System Info | | Protocol : | CP_CJ_CS系列 | 4 | r | |
| | | | | Cancel | ОК | |
| | | | | | | |
| | | | | | | |

3. Right click COM0 to add device, set the station no. to 0.

| | - X |
|----------------|------------------|
| 通信口: | COM0 |
| 通信协议: | OMRON-CP_CJ_CS系列 |
| 设备 名 称: | omron |
| 站点号: | 0 |
| 设备模板: | - |
| 数据顺序: | 🗌 高低字节交换 🔛 高低字交换 |
| 取消 | 确定 |

4. Select Omron, click add order or batch order. Map to A-BOX address.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | () | - 🛛 🗡 | < |
|---|-------------------------------------|----------------------|---------------------|----------------|---------------------|------------|-----------------|---|
| Base SetUp | <u>~</u> | Data Monit | | | ort ans | T | System SetUp | |
| Data Monit Right-click node add function | | | | N | 1QTT server | Start da | ata monitoring | |
| □ COM0 | ComPort: COM0 (or ComOrder Write | Order Use the Delete | e key to Delete the | selected it | Batch Order | | Add Order |] |
| COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order | Note | |
| - 🔂 | | Communica | tion Order s | etting | Auto Allot | Manually | × | |
| -i Order Nar | me : data000 | | Da | ata Format : [| Bit | • | | |
| Data Obj | ect : CIO | ~ | | StartAdrr : | 1.0 | - | | |
| Adding Mo | de : Add individual | ly 🔻 | | | | | | |
| MQTT | | | | | | | | |
| Data Ty | rpe: BOOL - | Len : | Pub | lish Mode: | High performance | Ŧ | | |

5. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| EFeee COM0 | System running information | Devic | ce connection Flag |
| └─omron | Device Name | Connection Flag | Value |
| - COM1 | omron | SD1001 | 1 |
| – 🛄 Ethernet | | | |
| - 📋 Order Total | | | |
| | | | |
| -i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-5. Omron CP1H series Ethernet port BD board FinsTCP communication

1. In this case, the PLC model is CP1H-X40DT-D-SC, and the network port BD board model is CP1W-C1F41. The default IP address is 192.168.250.1.

| 参数 | 设定值 | | | | |
|------------|---|--|--|--|--|
| IP地址 | 192 . 168 . 250 . 1 | | | | |
| 子网掩码 | 255 . 255 . 255 . 0 | | | | |
| FINS节点地址 | 1 [0: 默认(1)] | | | | |
| FINS/UDP端口 | 0 ●使用用户输入的端口号 [默认(9600)] | | | | |
| FINS/TCP端口 | 0 | | | | |
| 地址转换模式 | ● 自动(动态) 目动(静态) ■ IP地址表方式 単并用方式 | | | | |
| FINS/UDP选项 | ●目标IP地址动态改变。 ●目标IP地址不会动态改变。 | | | | |
| 广播选项 | ●全'1'(4.3BSD) ●全'0'(4.2BSD) | | | | |
| FINS/TCP保护 | □ 使用FINS/TCP保护功能 | | | | |
| | 参数 IP地址 子网掩码 FINS节点地址 FINS/UDP端口 PINS/TCP端口 地址转换模式 FINS/UDP选项 广播选项 FINS/TCP保护 | | | | |

2. Connect A-BOX remotely through the configuration tool.

| ABox ID:4990982070 | C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|--------------------|-----------------------|---------------|----------------|-----------------|
| C | Base SetUp | Data Monit | Port Trans | System SetUp |
| | WorkMode: | Wired 💌 | C WAN | |
| | | | Protocol: DHCP | |
| [| Advanced Set | | 1 | Vext |

3. In the setup wizard, change the default gateway of the LAN parameters to be on the same network segment as the PLC, but it cannot conflict with the IP address of the PLC. For example, it is modified to 192.168.250.10.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | <u>نې</u> | - 2 | \times |
|--------------------------------------|---------------------|--------------------|----------------|----------------|-----------|-----------------|----------|
| Base SetUp | | ata Ionit | (1) | Port Trans | - C | System SetUp | |
| Lan Paran | 1 | the first three se | gments are sa | me to PLC IP | | | |
| | / | | – Hotspot –––– | | | | |
| DHCP Service : | Open | - | AP : | Enable Hotspot | | | |
| IP(Gateway) : | 192 . 168 . 250 . 1 | | ESSID : | XINJE ABOX | | | |
| Mask : | 255 . 255 . 255 . 0 | | Password : | XINJEABOX | | | |
| | | | | | | | |
| | | gateway is ger | nerally 1 | | | | |
| WhiteList | | | Ba | ack | Next | | |

4. Right click Ethernet, click add device.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🖬 🗙 |
|--|------------------------------------|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| □ COM0 | ComOrder WriteOrder Use the Delete | key to Delete the selected it Batch Order | Add Order |
| - COM1 | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |
| - Add Device - Order Total - M Free Monit - System Info | right click, select add devic | e | |

5. Select "Omron" - "FinsTCP" for communication protocol, fill in the IP address of PLC, and fill in "1 or 9600" for port number.

| ABox ID:499098207C1314081(H. | 2/V2.2.0) | | 🗇 — 🖾 🗙 |
|--|--|---|-----------------------|
| Base SetU | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add functior | 1 | MQTT server | Start data monitoring |
| - COM0 - COM1 - COM1 - Comron - Comron - Comron - Corder Total - Corder Total - Corder Total - Corder Total - Corder Total - Corder Total | ComPort : Ethernet Device Brand : OMRON Model Protocol : FinsTCP Device Name : omron Data Sequence : Byte Swop UWord Swop Additional items should be filled in as required | Addition Item Port : 9600 IP : 192 . 168 . 250 . Station : 1 | |
| | | Cancel | OK |

6. Select omron, click Add order or Batch order.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | 🕲 — 🖾 🗙 |
|---|------------------------|---|--|---------------------|-----------------------------------|-----------------------|-----------------------|
| Ŷ | Base SetUp | l. | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add | function | | | | N | IQTT server | Start data monitoring |
| Сомо Сомо | | ComPort: Ether | NriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| Ethernet | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - 😭 Order - - 🏠 Free M - 👔 System | Device O E Ad | rder Name: da Data Object: CI ding Mode: Ac | Comr tta000 0 Id individually | nunication (| Drder settin Data Foi Start | g A | uto Allot Manually |
| | MQTT | Data Type : BC | DOL 💌 Len : | | Publish M | lode : High performar | nce 💌 |

7. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| ABox ID:499098207C1314081 | (H2/V2.2.0) | | | | | 🗇 — 🛛 🗙 |
|--|--------------|--|---------------------|---------------|---------------------|-----------------------|
| Ba Se | ase etUp | Data Monit | | | rt ans | System SetUp |
| Data Monit Right-click node add funct | tion | | | N | IQTT server | Start data monitoring |
| | ComPort: Eth | ernet (omron) WriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| Ethorpot | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| | data000 | omron | CIO1.0 | 1 (BOOL) | M10-M10 | - |
| - 😭 Order Total - 🏠 Free Monit - 🕧 System Info | | | | | | |

8. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| СОМ0 | System running information | Devid | ce connection Flag |
| - COM1 | Device Name | Connection Flag | Value |
| ₽ 🛄 Ethernet | omron | SD1001 | 1 |
| omron | | | |
| -🗎 Order Total | | | |
| | | | |
| - System Info | | | |
| Jystelli illo | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-6. Mitsubishi FX series serial port PLC

1. In this case, Mitsubishi FX1N-24MT is taken as an example. Serial port parameters are 9600, 7, 1 and E, and FX programming cable is used to connect to COM1 port of A-BOX. COM1 port supports RS422. First, connect A-BOX remotely with the configuration tool.

| ABox ID:499098207C1314 | 4081(H2/V2.2.0) | | | ණ | $- \square \times$ |
|------------------------|-------------------|---------------|--|------|--------------------|
| | Base SetUp | Data Monit | Port Trans | - | System SetUp |
| | WorkMode: | Wired | | | |
| | | | WAN Protocol: DHCP IP address: Subnet Mask: Gateway: DNS Ø Auto DNS server Static DNS 223 . 5 . 5 . 5 | | |
| Ac | dvanced Set | | | Next | |

2. Modify the serial port parameters of COM1 port of A-BOX to be consistent with the PLC, and click "write" after configuration.

| ABox ID:499098207C1314081(H2/V2.2.0) | 🗇 — 🖾 🗙 |
|---|-------------------------------------|
| Base SetUp Data Monit | Port Trans Esstem SetUp |
| Data Monit Right-click node add function | MQTT server Start data monitoring |
| - COM0 - ComOrder WriteOrder Us | Serial port parameter configuration |
| | Baud rate : 19200 |
| - Free Monit | Data bit : 🛛 🖉 🐨 |
| - i System Info | Check bit : EVEN 💌 |
| | Stop bit : 1 |
| | Read Write |
| | |
| | |

3. Right click COM1, click protocol set.

| ABox ID:499098207C131 | 14081(H2/V2.2.0) | | | | | | 🐵 — 🖬 🗙 |
|------------------------------------|--------------------|------------|--------------------------|-------------------|-------------|---------------------|-----------------------|
| <u></u> | Base SetUp | 4 | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add | function | | | | N | IQTT server | Start data monitoring |
| сомо | | ComOrder W | riteOrder Use the Delete | key to Delete the | selected it | Batch Order | Add Order |
| Eth | Add Device | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| | Protocol Set | | | | | | |
| -☆ Free Mo -⑦ System I | nit | _ | | | | | |

4. Select "Mitsubishi" - "FX series" for communication protocol.

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | MITSUBISHI |
| Protocol : | FX系列 |
| | Cancel OK |

5. Right click COM1 to add device.

| ABox ID:499098207C13140 | 81(H2/V2.2.0) | | | | | | <u>نې</u> | – 🛛 🗙 |
|---------------------------------------|-----------------|-----------------|--------------------|---------------------|-------------|---------------------|-----------|-----------------|
| | Base SetUp | ~~ | Data Monit | | | ort ans | Ę | System SetUp |
| Data Monit Right-click node add fu | nction | | | | M | 1QTT server | Start d | ata monitoring |
| | | ComOrder WriteC | rder Use the Delet | e key to Delete the | selected it | Batch Order | | Add Order |
| Ethe P | add Device | rder Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Orde | r Note |
| - 🔒 Ord | 印记记者 | | | | | | | |
| - 🎸 Free Monit | t | | | | | | | |
| - | 0 | | | | | | | |

6. Specify the name of the device. The station number is 1 by default.

| | | | | | \times |
|---|-------|----------------|--------|---|----------|
| | 通信口: | COM1 | | | |
| : | 通信协议: | MITSUBISHI-FX系 | 列 | | |
| | 设备名称: | mitsubishifx | | _ | |
| | 站点号: | 1 | | | |
| | 设备模板: | | | | |
| | 数据顺序: | 🗌 高低字节交换 | 🗌 高低字交 | 换 | |
| | 取消 |] | 确定 | | |

7. Select mitsubishifx, click Add order or Batch order. For Word, the number of objects cannot exceed 30.

| ABox ID:499098207C1314 | 4081(H2/V2.2.0) | | | | | | | X |
|---|-----------------------------------|--|--|---------------------|-------------------------------------|-----------------------|------------------|-------|
| O | Base SetUp | (| Data Monit | | | rt ans | System SetUp | n |
| Data Monit | function | | | | N | IQTT server | Start data monit | oring |
| сомо сом1 | | ComPort: COM | 11 (mitsubishifx) WriteOrder Use the Delete | e key to Delete the | selected it | Batch Order | Add Ord | er |
| mitsubishif | fx | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| ■ Ether - Orde - Free - Syste | Device — Orde Data Addin | r Name : I Object : X g Mode : Add | Commi | unication Or | der setting Data Form StartAc | Aut | o Allot Manually | X |
| | MQTT — Da | ata Type:BOC | DL 💌 Len : | | Publish Mod | de : High performance | e 💌 | |

8. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🐵 — 🖾 🗙 |
|--|---|---|----------------|---------------------|-----------------------|
| Base SetUp | ~ | Data Monit | Port Trans | S | System SetUp |
| Data Monit Right-click node add function | | | MQ | TT server | Start data monitoring |
| COM0 | ComPort: COM1 (mitsubish ComOrder WriteOrder | ifx) Use the Delete key to Delete th | ne selected it | Batch Order | Add Order |
| mitsubishifx | Order Name Devic | e Name Object Addre | Date Num | Abox's Object Addre | Order Note |
| | data000 mitsu | ubishifx C161 | 1 (INT16U) | D10-D10 | - |
| - 📄 Order Total - 🏠 Free Monit - 🕜 System Info | | | | | |

9. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| СОМО | System running information | Devi | ce connection Flag |
| ⊡ COM1 | Device Name | Connection Flag | Value |
| mitsubishifx | mitsubishifx | SD1002 | 1 |
| - Ethernet | | | |
| - 📋 Order Total | | | |
| - 🆌 Free Monit | | | |
| - i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-7. Mitsubishi FX3U/3G series serial port PLC

This case takes Mitsubishi FX3G-60M as an example. The serial port parameters are 9600, 7, 1,
 E. Connect the PLC and ABOX COM1 port with FX cable. The COM1 port of A-BOX supports
 RS422. First, connect A-BOX remotely with the configuration tool.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|--|---------------|---|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| WorkMode: | Wired | | |
| | | WAN Protocol: DHCP IP address: Subnet Mask: Gateway: DNS Auto DNS server Static DNS 223 . 5 . 5 . 5 | |
| Advanced Set | | | Next |

2. Modify the serial port parameters of COM1 port of A-BOX to be consistent with the PLC, and click "write" after configuration.

| ABox ID:499098207C1314081(H2/V2.2.0) | 5 — © | X |
|--|-------------------------------------|----|
| Base SetUp Data Monit | Port Trans System SetUp | |
| Data Monit Right-click node add function | MQTT server Start data monitori | ng |
| regint-click node add function - ○ COM0 - ○ COM1 - ○ COM1 - ○ Order Total - ○ Free Monit - ○ System Info | Serial port parameter configuration | |
| | | |

3. In "Data Monitoring", right-click "COM1" and click "Protocol Set".

| ABox ID:499098207C1314081 | I (H2/V2.2.0) | | | | | | 🗇 — 🖂 🗙 | < |
|-----------------------------------|-----------------|------------|---------------------------|---------------------|-------------|---------------------|-----------------------|---|
| Ba Se | ase etUp | Ŀ | Data Monit | | | ort ans | System SetUp | |
| Data Monit | ction | | | | Ν | IQTT server | Start data monitoring | |
| – 📟 сомо – 📟 сом1 | | ComOrder V | VriteOrder Use the Delete | e key to Delete the | selected it | Batch Order | Add Order | |
| H Eth | Device | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| Prot | tocol Set | | | | | | | |
| - 👬 Free Monit - 👔 System Info | | 1 | | | | | | |

4. The protocol please select Mitsubushi – FX3U/3G series.

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | MITSUBISHI |
| Protocol : | FX3U/3G Series |
| | Cancel OK |

5. Right click COM1, click add device.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | <u>نې</u> | - 2) | \times |
|------------------------------------|-------------------|------------|---------------------------|-----------------------|------------|---------------------|-----------|-----------------|----------|
| <u></u> | Base SetUp | ļ | Data Monit | C | | rt ans | Ξò | System SetUp | |
| Data Monit Right-click node add | function | | | | M | IQTT server | Start d | ata monitoring | |
| | | ComOrder V | VriteOrder Use the Delete | e key to Delete the s | elected it | Batch Order | | Add Order | |
| ₽ Ethe | Add Device | rder Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Orde | r Note | |
| - 🗎 Ord | 串口设置 | | | | | | | | |
| -X Free Mo | nit | | | | | | | | |
| – i System I | nfo | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

6. Fill in the device name, the station no. is 1 by default.

| | $- \times$ |
|---|---------------------------|
| 通信口: | COM1 |
| 通信协议: | MITSUBISHI-FX3U/3G Series |
| ↓ ──────────────────────────────────── | mitsubishifx3u3g |
| 站点号: | 1 |
| 设备模板: | |
| 数据顺序: | 🗌 高低字节交换 🔛 高低字交换 |
| 取消 | 确定 |

7. Select "Mitsubishi FX3U3G" and click "Add order" or "Batch order". For Word, the number of objects cannot exceed 30.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | 🔅 — 🛛 🔪 | X |
|-------------------------------------|-------------------|-----------------|--|---------------------|---------------|----------------------|-----------------------|---|
| (| Base SetUp | l. | Data Monit | | | ort ans | System SetUp | |
| Data Monit Right-click node add | function | | | | N | IQTT server | Start data monitoring | |
| ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | | ComPort: COM | I1 (mitsubishifx3u3g) NriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order | |
| mitsubishi | fx3u3g | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| - Ether | | | | | | | × | |
| - 🗎 Order | Device | | Comm | unication O | rder setting | Aut | to Allot Manually | |
| - i Syste | Ore | der Name : | | | Data Form | nat : Bit | - | |
| | Da | ta Object: X | | - | StartA | drr: 1 | | |
| | Addi | ing Mode: Add | l individually | Ŧ | | | | |
| | | | | | | | | |
| | | Data Type : BOC | DL 🔻 Len : | | Publish Mo | de : High performanc | e 🔻 | |

8. After adding instructions, please monitor the corresponding A-BOX address in the Xinje Cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|--|---|--|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - 📟 COM0 ➡ 📟 COM1 | ComPort: COM1 (mitsubishifx3u3g) ComOrder WriteOrder Use the Dele | te key to Delete the selected it Batch Ord | er Add Order |
| mitsubishifx3u3q | Order Name Device Name | Object Addre Date Num Abox's Object Add | Ire Order Note |
| - Ethernet | data000 mitsubishifx3u3g | D1 1 (INT16U) D10-D10 | - |
| - 🗎 Order Total - 👬 Free Monit - 🕜 System Info | | | |

9. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| СОМО | System running information | Devi | ce connection Flag |
| EF COM1 | Device Name | Connection Flag | Value |
| mitsubishifx3u3g | mitsubishifx3u3g | SD1001 | 1 |
| - Ethernet | | | |
| - 📋 Order Total | | | |
| | | | |
| -i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-8. Mitsubishi FX5U Ethernet PLC

1. In this case, the PLC model is FX5U-32M. First, use the programming software to obtain the IP address of the PLC. The IP of the test PLC is 192.168.3.251. Select SLMP connection, and the port number is 4999 in this case.



2. Use the BOX Manager to connect A-BOX. First, modify the LAN gateway of A-BOX. Make the LAN gateway of A-BOX and the IP address of PLC in the same network segment. In this case, the IP of PLC is 192.168.3.251, so the LAN gateway of A-BOX is set to 192.168.3.1.

| ABox ID:499098207C13 | 314081(H2/V2.2.0) | | | | (۵) | - 2 | \times |
|----------------------|---------------------|---------------------|--------------------------|-----------------|-------|-----------------|----------|
| Ŷ | Base SetUp | Data Monit | | Port Trans | Ę | System SetUp | |
| | Lan Param | | n the same network segme | ent with PLC IP | | | |
| | _ LAN | | Hotspot | | | | |
| | DHCP Service : | Open 💌 | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 3 . 1 | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | | | | | |
| | WhiteList | | P | ack | Novt | | |
| | vvniteList | | D | dCK | INEXL | | |

3. After setting the LAN gateway, restart the module at the last step.

| ABox ID:499098207 | C1314 | 4081(H2/V2.2.0) | | | | | (۵) | – 🛛 🗙 |
|-------------------|-------|-------------------|-----------|------------------|------------|---------------|---------|-----------------|
| | 2 | Base SetUp | <u>~~</u> | Data Monit | | Port Trans | Ę | System SetUp |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | ABox restart tak | res effect | | | |
| | | | | | es enece | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | 返回 | | Restart | |

4. In "Data Monitoring", right-click "Ethernet" to add a device, select FX5U series as the model, 4999 as the port number of the PLC, and fill in the IP address of the PLC.

| ABox ID:499098207C1314081(H | 42/V2.2.0) | | 🕸 — 🛛 🗙 |
|--|--|--|--|
| Base Setu | Data Do Data | Port Trans | System SetUp |
| Data Monit Right-click node add functio COM0 COM1 Ethernet fx5u Order Total free Monit System Info | ComPort : Ethernet Device Brand : MITSUBISHI Model Protocol : FXSU Series Device Name : fxSu Data Sequence : Byte Swop Word Swop Additional items should be filled in as required | MQTT server Addition Item Port : 4999 IP : 192 . 168 . 3 Station : 1 Cancel | Start data monitoring er 3 . 251 |
| | | | |

5. Select "FX5U" and click "Add order" or "Batch order". Configure the mapping relationship between PLC address and A-BOX address. Click "Start Data Monitoring" after adding.

| ABox ID:499098207C1314081(| H2/V2.2.0) | | | | | 🖾 — 🖾 🗙 |
|--|----------------------|--|-------------------|--|----------------------------|-----------------------|
| Bas Set | se tUp | Data Monit | | Por Tra | t ns | System SetUp |
| Data Monit Right-click node add functi | ion | | | M | QTT server | Start data monitoring |
| - 📟 сомо | ComPort: E | thernet (fx5u) WriteOrder Use the Delete | key to Delete the | e selected it | Batch Order | Add Order |
| ₽ 🛄 Ethernet | Order Nan | ne Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| ⊢fx5u - 😭 Order - 🏠 Free N - 🝞 Syster | Device | Comm x Add individually | unication C | r der setting Data Form StartAd | Au nat : Bit drr : 1 | to Allot Manually |
| | — MQTT — Data Type : | BOOL 💌 Len : | | Publish Mo | de : High performan | ce 💌 |

6. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system n | egister MQTT server | Start data monitoring |
| - COM0 | System running information | Devid | ce connection Flag |
| - COM1 | Device Name | Connection Flag | Value |
| Ethernet | fx5u | SD1001 | 1 |
| - 🔒 Order Total | | | |
| - 🎢 Free Monit | | | |
| -i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-9. Mitsubishi Q series Ethernet PLC

1. The PLC model in this case is Q03UDVCPU. First, use GX Works2 to connect to the PLC. The IP address of the PLC is 192.168.3.39.

| 连接目标设置 | E Connection1 | | \times |
|-----------------|---|---|----------|
| 计算机例 [/F | Serial <u>CC-E Cont</u> <u>CC-Link</u> <u>Ethernet</u> <u>CC E Field</u> Q Serie <u>USB</u> <u>NET/10(H)</u> <u>Board</u> <u>Board</u> Q Serie <u>Board</u> | s NET(II) PLC Board Board | |
| 可编程控制 器例 I/F | IP地址 网络号 - 站号 - 协议 TCP LC C IE Cont CC-Link <u>Ethernet</u> C24 <u>501</u> Module Module | CC IE Field Head Module Master/Local Module | |
| 英他站指 定 | IP地址/主机名 [192.168.3.39] IP地址/主机名 [192.168.3.39] Image: Comparison of the MELSOFT应用程序 X | LCPU 连接路径一览(L) 可编程控制器直接连接设置(D) | |
| 网络 通信路径 | 时间检查(制) 30 C IS Cont CC IS St NBT/10(H) Field St 確定 | 通信测试(T) CPU型号 [L06/L06-P I//创 系統图像(G) | |
| 不同网络 通信路径 | CC IE Cont CC IE Ethernet CC-Link C24 | 电读越路连接(C24)(C) 确定 取消 | |
| 对象系统 | 多CFU檔定 冗余CFU檔定 1 2 3 4 | | |

2. Find "Built in Ethernet Settings" in "PLC Parameters" and click "Open Settings".

| MELSOFT系列 GX Works2 (工程未设置) - | L参数设置 | | | | | × | - 0 | \times |
|---|--|---|--|-------------|---------------------|---|-------------|----------|
| 1程(P) 編編(E) 搜索/普换(E) 转换/编辑 □ 🔁 🎮 🚭 🔍 🔹 | PLC名设置 PLC系统设置 1/0分配设置 | <u>PLC文件设置</u> PLC P4-S设置 内置以太网講口设置 | 引导文件设置 内置1/0功能设置 | 程序设置 SF | C设置 】 軟元件设置 歸行设置 | | | - 8 |
| 3 0 | ■地址设置 ■地址 子内後码类型 累以器由器甲地址 - 適信数据代码设置 - 二混制防造信 - 「ASCI印通信 | ▲ 1982 1983 30 1983 1983 1983 1983 1983 1983 1983 1983 | 打开设置 打开设置 ITP協定 IPP協定置 电子邮件设置 IPI協会型 BI開設置 CC4rk IP Beek设置 | - 在以太两酸蛋蛋白中 | 峻置打开设置 | | 210 0 01 77 | |
| | 「 先計Run4号入(FP与) 「 禁止与wELSoFT言語達 「 不明位所第上的以大序 「 不明位所第上的以大序 「 不明位所第上的以大序 「 不明位所第上的以大序 「 不明位所第上的以大序 | (生物) (株) (日本) (日 | <u>a</u> | 必要时设置 | (默认 / 有更改) | | | |
| • | 显示画面打印 显示画面 | 接览 : | x/Y分配确认 默认 | 检查 | 设置结束 取: | ä | | |

3. Select TCP for "Protocol", select MC for "Opening Method", and fill in 1025 for "Local Port Number". The port number can be set arbitrarily. After setting, download the parameters to PLC. Power off and restart PLC to take effect.

| 内 | 置以太 | 、网端口 打开设置 | ł | | | | | | | | | × |
|---|--------------------------|--|-----------|----------------|------|------------|-------------|--------------|-------------|------------|----------------|---|
| | | | | | | | | I | ▶地址/端口号 | 输入格式 | 10进制数 💌 | |
| | | また あい かい しょう | 6 | 打开方式 | ť | TCP连接方式 | - 本計 端口号 | 通信对象 IP地址 | 通信对象 端口号 | 通信协议 用起 | 运行状态存储 始软元件 | |
| | 1 | TCP | | MC协议 | - | - | 1025 | | | | | |
| | 2 | ТСР | ч | MELCOFT)连拉 | - | - | | | | | | |
| | 3 | TCP | • | MELSOFT连接 | - | - | | | | | | |
| | 4 | TCP | • | MELSOFT连接 | - | - | | | | | | |
| | 5 | TCP | • | MELSOFT连接 | - | - | | | | | | |
| | 6 | TCP | ٠ | MELSOFT连接 | - | - | | | | | | |
| | 7 | TCP | 4 | MELSOFT连接 | - | - | | | | | | |
| | 8 | TCP | ۲ | MELSOFT连接 | - | • | | | | | | |
| | 9 | TCP | • | MELSOFT连接 | - | • | | | | | | |
| | 10 | TCP | Ŧ | MELSOFT连接 | - | • | | | | | | |
| 1 | 11 | TCP | ٠ | MELSOFT连接 | - | • | | | | | | |
| | 12 | TCP | 4 | MELSOFT连接 | - | • | | | | | | |
| | 13 | TCP | • | MELSOFT连接 | - | • | | | | | | |
| | 14 | TCP | • | MELSOFT连接 | - | - | | | | | | |
| | 15 | TCP | • | MELSOFT连接 | • | • | | | | | | |
| | 16 | TCP | • | MELSOFT连接 | • | - | | | | | | |
| | <mark>(*)</mark> ! 请以 | 以IP地址/端口号转 人选择的进制数格 | 腧) (式) | \格式中选择的 输入。 | 的进制数 | 格式显示IP地址与新 | 惴□号。 | | | | | |
| Ē | | | | | | 设置结束 | 取消 | | | | | |

4. Use the BOX Manager to connect A-BOX. First, modify the LAN gateway of A-BOX. Make the LAN gateway of A-BOX and the IP address of PLC in the same network segment. In this case, the IP of PLC is 192.168.3.39, so the LAN gateway of A-BOX is set to 192.168.3.1.

| ABox ID:499098207C13 | 314081(H2/V2.2.0) | | | | (۵) | - 2 | \times |
|----------------------|---------------------|---------------------|--------------------------|-----------------|-------|-----------------|----------|
| Ŷ | Base SetUp | Data Monit | | Port Trans | Ę | System SetUp | |
| | Lan Param | | n the same network segme | ent with PLC IP | | | |
| | _ LAN | | Hotspot | | | | |
| | DHCP Service : | Open 💌 | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 3 . 1 | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | | | | | |
| | WhiteList | | P | ack | Novt | | |
| | vvniteList | | D | dCK | INEXL | | |

5. After setting the LAN gateway, restart the module at the last step.

| ABox ID:49909820 | 7C1314 | 4081(H2/V2.2.0) | | | | | () | - 2 | \times |
|------------------|--------|-------------------|-----------|-------------------|----------|---------------|------------|-----------------|----------|
| S | | Base SetUp | <u>~~</u> | Data Monit | 2 | Port Trans | - | System SetUp | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | A Dov rootort tol | oc offer | -+ | | | |
| | | | | Abox restart tak | les eneo | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | 返 | | Restart |] | |

6. In "Data Monitoring", right-click "Ethernet" to add a device, select Q series as the model, fill in the port number set in GX Works2 for the port number, and fill in the IP address of the PLC.

| ComPort : Ethernet | | $- \times$ |
|------------------------------|--|------------|
| Device Brand : MITSUBISHI | Addition Item | |
| Model Protocol: Q系列 | IP: 192.168.3.39 | |
| Device Name : | Station : 1 | |
| Template : | · | |
| Data Sequence: 🗌 Byte Swop 🛛 |] Word Swop Additional items should be filled in as required | |
| | Cancel | OK |

7. Select "Mitsubishiq" and click "Add order" or "Batch order". Configure the mapping relationship between PLC address and A-BOX address. Click "Start Data Monitoring" after adding.

| ABox ID:499098207C1314 | 1081(H2/V2.2.0) | | | | | | | |
|--------------------------------------|-------------------|---------------------------|--|---------------------|---------------|----------------------|------------------|--------|
| | Base SetUp | Ę | Data Monit | | | ort ans | Syster SetUp | n |
| Data Monit Right-click node add f | function | | | | M | IQTT server | Start data monit | toring |
| - 🐨 сомо - 🐨 сом1 | | ComPort: Ether ComOrder V | net (mitsubishiq) VriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Ord | er |
| E Ethernet | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| mitsubishic | 9 | | | | | | | |
| - 🗎 Ord | | | | | | | | X |
| - 🏠 Free | Device | | Commu | nication Ord | er setting | Auto | Allot Manually | |
| - i Syst | Orde | r Name:data00 | 00 | | Data Forma | t : Word | - | |
| | Data | Object : D | - | | StartAdr | r: 1 | - | |
| | Adding | g Mode: Add in | ndividually | | | | | |
| r L | — MQTT — | | | | | | | |
| | Da | ita Type: INT16 | U 🔻 Len : | | Publish Mode | e : High performance | ~ | |

8. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| | System running information | Devi | ce connection Flag |
| - COM1 | Device Name | Connection Flag | Value |
| 🕀 🛄 Ethernet | mitsubishiq | SD1001 | 1 |
| mitsubishiq | | | |
| - 📄 Order Total | | | |
| | | | |
| - 🥡 System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-10. Mitsubishi L series Ethernet PLC

1. The PLC model in this case is L06CPU-CM. First, use GX Works2 to connect to the PLC. The IP address of the PLC is 192.168.3.39.

| 生按日你收到 | E Connection I | | |
|----------------------|--|---|----------|
| 计算机侧 I/F | Serial CC-IR Cont CC-Link Ethernet CC-IR Field Q Seria USE Board Board Dus | s NET(II) PLC Board Board | . |
| 可法律法制 | | | J |
| Nama (全社中) 諸例 I/F | PLC CC IE Cont CC-Link Ethernet C24 50T Module NBT/10(H) Module Module | CC IE Field Head Module Master/Local Module | < • |
| | CPU模式 IP地址/主机名 192.168.3.39 | LCPU | |
| 其他站指 它 | | 连接路径一览(L) | 1 |
| ~~ | No Specification Other MELSOFT应用程序 X | 可编程控制器直接连接设置(D) | i i |
| | 时间检查(秒) 30 : | 通信测试(T) | ĺ |
| 网络 通信路径 | Lift版为与L06CPU/L06CPU-Pi坐接。 | CPU型号 L06/L06-P 详细 | |
| | CC IE Cont CC IE Et NET/10(H) Field | , 系統图像(G) | 1 |
| | | 电话线路连接(C24)(C) | j |
| 不同网络 通信路径 | | 确定 | |
| | CC IE Cont CC IE Ethernet CC-Link C24 NET/10(H) Field | 取消 | İ |
| | 本站访问中。 | | 1 |
| 对象系统 | 「タビロ指定 対象CFU 「元余CFU指定」 1 2 3 4 | | |
| | | | |

2. Find "Built in Ethernet Settings" in "PLC Parameters" and click "Open Settings".

| I MELSOFT系列 GX Works2 (丁程 | ま行動) II · · · · · · · · · · · · | | | _ | o × |
|---------------------------|--|----------|---|-----|--------|
| 工程(2)编辑(2) 搜索/替换(2) | - PPARE 執機/論 和の方法書 Lange Attent Lange | î | | | - 8 |
| 🗅 🖻 💾 🎯 🔍 | 「「「「「「「「「」」」」「「「」」」」」「「「」」」」」「「「」」」」」「「「」」」」 | | | | |
| 📴 🗉 🚍 🚟 🚟 🐨 🕯 | er @ | 8 | ::::::::::::::::::::::::::::::::::::::: | 66 | ÷: 🛃 🖗 |
| 导航 🕈 🗙 📝 | | | | | 4 Þ |
| 162 | \$1770日 10进制旗 ▼ 10进制旗 ▼ | | | | _ |
| 🥈 📭 🖄 🖗 🕲 l 🦚 | | | | END | Ł |
| ● <u>● PLC参数</u> | P78011 192 199 3 39 | | | | |
| C Disem | 子阿擁玛类型 | | | | |
| - 🤮 以太网 / CC IE Fie | 對认路由器严地址 | | | | |
| | The state of the s | | | | |
| - 3 智能功能模块 | 通信教授代码设置 | | | | |
| | で 二进制明通信 財務後置 | | | | |
| 3 🙆 程序部件 | C ASTIRATION AND A STREAM | | | | |
| 日 🏥 程序 一副 MAIN | CC-UNK 10- BARCHOT | | | | |
| - 🛅 局部款元件注释 | 厂 允许RUN中写入(FTP与MC协议) | | | | |
| - (図 软元件存储器 | □ 其止無限 som 直接连接 | | | | |
| SC/CITEDNILL | | | | | |
| | 「 不响应网络上的以太网内置型CPU的微索 | | | | |
| | | | | | |
| | 简单CPU通信设置 P数据包中继设置 | | | | |
| AL TR | 简单CPU通信设置 Pt数据包中维设置 | | | | |
| | 公要时设置(野认 / 有更改) | | | | |
| 连接目标 | | | | | |
| » | | | | | |
| | 12.7 million 17.7 million 20.0 01.7 million 20.0 01.7 million 20.0 mi | | | | |

3. Select TCP for "Protocol", select MC for "Opening Method", and fill in 1025 for "Local Port Number". The port number can be set arbitrarily. After setting, download the parameters to PLC. Power off and restart PLC to take effect.

| | 博家 | _ | 打开方 | đ | TCP连接方式 | 本語 | 通信对象 | 通信对象 | 通信协议运行状态存储 |
|----|-----|---|------------|---|---------|--------|--------|------|---------------|
| 1 | TCP | | MC协议 | • | | · 1025 | T JEAL | | 73/23/14/7/01 |
| 2 | TCP | T | MELCOFT 连接 | - | - | · | | | |
| 3 | TCP | - | MELSOFT连接 | - | - | · | | | |
| 4 | TCP | - | MELSOFT连接 | - | - | | | | |
| 5 | TCP | - | MELSOFT连接 | - | - | | | | |
| 6 | TCP | - | MELSOFT连接 | - | - | · | | | |
| 7 | TCP | - | MELSOFT连接 | - | - | • | | | |
| 8 | TCP | - | MELSOFT连接 | - | - | | | | |
| 9 | TCP | - | MELSOFT连接 | - | - | | | | |
| 10 | TCP | - | MELSOFT连接 | - | - | | | | |
| 11 | TCP | - | MELSOFT连接 | - | - | | | | |
| 12 | TCP | - | MELSOFT连接 | - | - | | | | |
| 13 | TCP | - | MELSOFT连接 | - | - | | | | |
| 14 | TCP | - | MELSOFT连接 | - | - | | | | |
| 15 | TCP | - | MELSOFT连接 | - | - | | | | |
| 16 | TCP | - | MELSOFT连接 | - | - | • | | | |

4. Use the BOX Manager to connect A-BOX. First, modify the LAN gateway of A-BOX. Make the LAN gateway of A-BOX and the IP address of PLC in the same network segment. In this case, the IP of PLC is 192.168.3.39, so the LAN gateway of A-BOX is set to 192.168.3.1.

| ABox ID:499098207C13 | 314081(H2/V2.2.0) | | | | (۵) | - 2 | \times |
|----------------------|---------------------|---------------------|--------------------------|-----------------|-------|-----------------|----------|
| Ŷ | Base SetUp | Data Monit | | Port Trans | Ę | System SetUp | |
| | Lan Param | | n the same network segme | ent with PLC IP | | | |
| | _ LAN | | Hotspot | | | | |
| | DHCP Service : | Open 💌 | AP : | Enable Hotspot | | | |
| | IP(Gateway) : | 192 . 168 . 3 . 1 | ESSID : | XINJE ABOX | | | |
| | Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | | | | | |
| | WhiteList | | P | ack | Novt | | |
| | vvniteList | | D | dCK | INEXL | | |

5. After setting the LAN gateway, restart the module at the last step.

| ABox ID:499098207 | C1314 | 1081(H2/V2.2.0) | | | | | () | – 🛛 🗙 |
|-------------------|-------|-------------------|-----------|------------------|----------|---------------|------------|-----------------|
| | 2 | Base SetUp | <u>~~</u> | Data Monit | \oplus | Port Trans | | System SetUb |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | ABox restart tak | es effe | ct | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 7 |
| | | | | | 返 | | Restart |] |

6. In "Data Monitoring", right-click "Ethernet" to add a device, select L series as the model, fill in the port number set in GX Works2 for the port number, and fill in the IP address of the PLC.

| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | | | <u>نې</u> | – 🛛 🗙 |
|---|---|---|--|--|--|-----------------------|--------------------------------------|
| C | Base SetUp | | ata Ionit | € T | Port Trans | - | System SetUp |
| Data Monit Right-click node ad - COM0 - COM1 - COM1 | SetUb ComPort : Ethernet Device Brand : Model Protocol : Device Name : Template : Data Sequence : | MITSUBISHI 上系列 mitsubishiL Byte Swop W | In the second se | Addition Item - Port : IP : Station : | Trans MOTT server 1025 192 . 168 . 3 . 1 uld be filled in as required Cancel | Со - Х 39 ОК | SetUp Ita monitoring Add Order |
| | | | | | | | |

7. Select the added device, click Add order, and configure the mapping relationship between PLC address and A-BOX address. Click "Start Data Monitoring" after adding.

| ABox ID:499098207C1314081(H2/V | 2.2.0) | | | 🐵 — 🖾 🗙 |
|---|---|-------------------------------|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | 5 | System SetUp |
| Data Monit Right-click node add function | | MQT | T server | Start data monitoring |
| сомо | ComPort: Ethernet (mitsubishil.) ComOrder WriteOrder Use the Delete | key to Delete the selected it | Batch Order | Add Order |
| 🕀 🛄 Ethernet | Order Name Device Name | Object Addre Date Num A | Abox's Object Addre | Order Note |
| umitsubishiL − 😭 Order Total − 🏠 Free Monit | C | Communication Order set | tting | Auto Allot Manually |
| -i System Info | Order Name : | Data | a Format : Bit | ~ |
| | Data Object: X Adding Mode: Add individually | • S | StartAdrr : 1 | |
| | MQTT | n : Publis | h Mode: High perf | ormance 🔻 |

8. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| - COM0 | System running information | Devi | ice connection Flag |
| COM1 | Device Name | Connection Flag | Value |
| ₽ [] Ethernet | mitsubishiL | SD1001 | 1 |
| mitsubishiL | | | |
| - Order Total | | | |
| - 🎢 Free Monit | | | |
| -i System Info | | | |
| | | | |
| | | | |
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6-11. Xinje XC series serial port PLC

1. In this case, Xinje XC3-24R-E is taken as an example. Serial port parameters are 19200,8,1, E. DVP programming cables are used to connect to COM0 or COM1 port of A-BOX (here COM0 port is taken as an example). COM0 and COM1 ports support RS232 and RS485. First, connect A-BOX remotely with the configuration tool.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|--|---------------|--|-----------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| WorkMode | : Wired | | |
| | | WAN Protocol: DHCP IP address: . Subnet Mask: . Gateway: . DNS | |
| | | Auto DNS server Static DNS 223 . 5 . 5 . 5 | |
| Advanced Set | | | Next |

2. Modify the serial port parameters of COM0 port of A-BOX, which are consistent with the parameters of the connected PLC serial port. Click "Write" after the configuration is completed.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖬 🗙 |
|---|--|---------------|-------------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit right cl Right-click node add function | ick and select serial port setting Serial port parameter cor | nfiguration | Start data monitoring |
| | Baud rate : 19200 | Batch Order | Add Order Order Note |
| ➡ ▲ Ethernet → ▲ Order Total | Data bit : 8 | | |
| - Free Monit | Check bit : EVEN | · | |
| -1 System Info | Stop bit : 1 | Ŧ | |
| | Read | 1 Write | |
| | | | |

3. In "Data Monitoring", right-click "COM0" and click "Protocol Set".

| ABox ID:499098207C13140 | 081(H2/V2.2.0) | | | | | | | X |
|---|----------------------------|---------------|---------------------|---------------------|-------------|---------------------|----------------------|----|
| <u></u> | Base SetUp | <u>~</u> | Data Monit | | | rt ans | System SetUp | |
| Data Monit Right-click node add fu | unction | | | | M | IQTT server | Start data monitorin | ng |
| - 🐨 сом- | Add Device Protocol Set | omOrder Write | Order Use the Delet | e key to Delete the | selected it | Batch Order | Add Order | |
| ⊞ 🛄 Ether | 串口设置 | der Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| - 😭 Order Tot - 🎲 Free Moni - 🕧 System In | al it fo | | | | | | | |

4. Communication protocol please select "Xinje" - "XC_Modbus series".

| | | $- \times$ |
|----------------|-------------------|------------|
| | Protocol settings | |
| Device Brand : | XINJE | * |
| Protocol : | XC_Modbus Series | Ţ |
| | Cancel | ОК |

5. Right click COM0, click add device.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | ණ | — 🛛 🗙 |
|------------------------------------|------------------------------------|-------------------|---------------|----------------------|----------|---------------------|---------|-----------------|
| <u></u> | Base SetUb | ~ | Data Monit | | | ort ans | -¢ | System SetUp |
| Data Monit Right-click node add | function | 1 | | | M | IQTT server | Start d | lata monitoring |
| - CON | Add Device Protocol Set 串口设置 | ComOrder WriteOrd | Use the Dele | te key to Delete the | Date Num | Abox's Object Addre | Orde | er Note |
| - 🗎 Order To | nit | | | | | | | |
| – i System I | nfo | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

6. Specify the name, station number and connection flag of the equipment, and the station number shall be consistent with that of the PLC serial port.

| | $- \times$ |
|-------|------------------------|
| 通信口: | COM0 |
| 通信协议: | XINJE-XC_Modbus Series |
| 设备名称: | xinjeXC |
| 站点号: | 1 |
| 设备模板: | |
| 数据顺序: | 🗌 高低字节交换 🔛 高低字交换 |
| 取消 | 确定 |

7. Select "XinjeXC" and click "Add order" or "Batch order". For "bit", the number of objects cannot exceed 100. For "word", the number of objects cannot exceed 50.

| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | | | | | \mathbf{X} |
|------------------------------------|------------------------|---|--|-------------------|--|--------------------------|------------------|--------------|
| Ŷ | Base SetUp | l. | Data Monit | | | ort ans | Syster SetUp | n |
| Data Monit Right-click node add | d function | | | | N | AQTT server | Start data monit | oring |
| □= COM0 | | ComPort: COM | 0 (xinjeXC) VriteOrder Use the Delete | key to Delete the | e selected it | Batch Order | Add Ord | er |
| - COM1 | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| ➡ Ethe — Ord — ∴ Free — ∂ Syst | Orde Data Adding | r Name : Object : _M g Mode : _Add ir | Commur • ndividually | nication Orc | ler setting Data Forma StartAdr | Auto t : Bit r : 1 | Allot Manually | × |
| | MQTT — Da | ta Type : BOOL | ▼ Len : |] | Publish Mode | e : High performance | * | |

8. After adding instructions, please monitor the corresponding A-BOX address on the Xinje Cloud.
| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|--|--|---|------------|
| Base SetUp | Data Monit | System SetUp | |
| Data Monit Right-click node add function | | Start data monitoring | |
| □ · · · · · · · · · · · · · · · · · · · | ComPort: COM0 (xinjeXC) ComOrder WriteOrder Use the Delete | Add Order | |
| - COM1 | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |
| œ- 🛄 Ethernet | data000 xinjeXC | M1 1 (BOOL) M10-M10 | - |
| - 🗎 Order Total - 🏠 Free Monit - 🕜 System Info | | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖾 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| EFeeee COM0 | System running information | Devi | ce connection Flag |
| ixinjeXC | Device Name | Connection Flag | Value |
| - COM1 | xinjeXC | SD1002 | 1 |
| – 🛄 Ethernet | | | |
| -盲 Order Total | | | |
| | | | |
| - System Info | | | |
| | | | |
| | | | |
| | | | |
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| | | | |
| | | | |

6-12. Xinje XD series serial port PLC

In this case, Xinje XDH-30A16-E is taken as an example. Serial port parameters are 19200,8,1,
 E. DVP programming cables are used to connect to COM0 or COM1 port of A-BOX (here COM0 port is taken as an example). COM0 and COM1 ports support RS232 and RS485. First, connect A-BOX remotely with the configuration tool.

| ABox ID:49909820 | 07C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|------------------|-------------------------|---------------|--|-----------------|
| 9 | Base SetUp | Data Monit | Port Trans | System SetUp |
| | WorkMode: | Wired | | |
| | | | WAN Protocol: DHCP IP address: Subnet Mask: Gateway: DNS • Auto DNS server Static DNS 223 5 5 | |
| | Advanced Set | | | Next |

2. Modify the serial port parameters of COM0 port of A-BOX, which are consistent with the parameters of the connected PLC serial port. Click "Write" after the configuration is completed.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|--|--|---------------|-------------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit right clic Right-click node add function | ck and select serial port setting Serial port parameter conf | figuration | Start data monitoring |
| - 📟 COM0 - 📟 COM1 | Baud rate : 19200 | Batch Order | Add Order Order Note |
| ➡ Lthernet → Order Total | Data bit : 8 | | |
| - 🎢 Free Monit | Check bit : EVEN | T | |
| - 🕡 System Info | Stop bit : 1 | | |
| | Read | Write | |
| | | | |

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | ් | - 🛛 🗙 |
|---|----------------------------|---------------|---------------------|---------------------|---------------|---------------------|---------|-----------------|
| | Base SetUp | ~ | Data Monit | | | rt ans | -0 | System SetUp |
| Data Monit Right-click node add | function | | | | N | IQTT server | Start o | lata monitoring |
| - сом- | Add Device Protocol Set | omOrder Write | Order Use the Delet | e key to Delete the | e selected it | Batch Order | | Add Order |
| ⊞- 🛄 Ether | 串口设置 | der Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Orde | er Note |
| - 🗎 Order To - 🏠 Free Mor - 🕧 System In | ntal | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

3. In "Data Monitoring", right-click "COM0" and click "Protocol Set".

4. Communication protocol please select "Xinje" - "XD/XL/XG series (Modbus)".

| | | $- \times$ |
|----------------|-------------------|------------|
| | Protocol settings | |
| Device Brand : | XINJE | ~ |
| Protocol : | XD/XL/XG Series | * |
| | Cancel | ОК |

5. Right click COM0, click add device.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | 🐵 — 🛛 🗙 |
|------------------------------------|----------------------------|-----------|---------------------------|---------------------------------|---------------------|-----------------------|
| <u></u> | Base SetUp | | Data Monit | | Port Trans | System SetUp |
| Data Monit Right-click node add | function | | | | MQTT server | Start data monitoring |
| | Add Device Protocol Set | ComOrder | WriteOrder Use the Delete | e key to Delete the selected it | Batch Order | Add Order |
| 🕀 🛄 Ethe | 串口设置 | rder Name | Device Name | Object Addre Date Nun | Abox's Object Addre | Order Note |
| - 🔒 Order To | nit | | | | | |
| – i System I | nfo | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

6. Specify the name, station number and connection flag of the equipment, and the station number shall be consistent with that of the PLC serial port.

| $- \times$ |
|-----------------------------|
| 通信口: COM0 |
| 通信协议: XINJE-XD/XL/XG Series |
| 设备名称: xinjeXD |
| 站点号: 1 |
| 设备模板: |
| 数据顺序: 🗌 高低字节交换 🗌 高低字交换 |
| 取消 确定 |

7. Select "Xinje XD" and click "Add order" or "Batch order". For "bit", the number of objects cannot exceed 100. For "word", the number of objects cannot exceed 50.

| ABox ID:499098207C1314 | 4081(H2/V2.2.0) | | | | | | | $\mathbb{Z} \times$ |
|---|------------------------|--|---------------------------|-------------------|--|----------------------------|----------------|---------------------|
| | Base SetUp | l. | Data Monit | | | rt ans | Syste SetUr | m D |
| Data Monit Right-click node add | function | | | | М | IQTT server | Start data mon | itoring |
| □- com0 | | ComPort: COM | NriteOrder Use the Delete | key to Delete the | e selected it | Batch Order | Add Ord | ier |
| COM1 | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| - 📄 Ethe - 😭 Ordé - 🎲 Free - 🚺 Systé | Device – Ord Dat | er Name : a Object : _M ng Mode : _Add | Commu | nication Or | der setting Data Form StartAd | Auto at : Bit rr : 1 | Allot Manually | × |
| | MQTT - | ata Type : BOO | Len: | | Publish Mod | le : High performance | 2 | |

8. After adding instructions, please monitor the corresponding A-BOX address on the Xinje Cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🕸 — 🖾 🗙 | |
|---|--|-----------------------|--------------|----------|---------------------|-----------------|--|
| Base SetUp | Ľ | Data Monit | | | ort ans | System SetUp | |
| Data Monit Right-click node add function | | Start data monitoring | | | | | |
| □- | ComPort: COM0 (xinjeXD) ComOrder WriteOrder Use the Delete key to Delete the selected it Batch Order Add Order | | | | | | |
| - COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| - Ethernet | data000 | xinjeXD | M1 | 1 (BOOL) | M10-M10 | - | |
| | data001 | xinjeXD | M51 | 1 (BOOL) | M11-M11 | - | |
| - Order Total | | | | | | | |
| -X Free Monit | | | | | | | |
| - i System Info | | | | | | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖾 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system n | egister MQTT server | Start data monitoring |
| EFeee COM0 | System running information | Device o | connection Flag |
| xinjeXD | Device Name | Connection Flag | Value |
| - COM1 | xinjeXD | SD1001 | 1 |
| - Ethernet | | | |
| - Order Total | | | |
| - 🏠 Free Monit | | | |
| - 🥡 System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-13. Xinje Ethernet port series PLC

1. This case takes Xinje XDH-30A16-E as an example. First, set the Ethernet port of the PLC as a fixed IP, and the IP address of the PLC network port here is 192.168.1.100.

| ABox ID:499098207C131408 | B1(H2/V2.2.0) | | | | | | | <u>ک</u> | - 2 | \times |
|--------------------------|-----------------|-------------------|---------------|-------------|-----------------|------------------|------|----------|-----------------|----------|
| B S | Base SetUp | <u>~~</u> | Data Monit | | (1) | Port Trans | - | } | System SetUp | |
| La | an Param | | the | three segme | ents are same t | to PLC IP | | | | |
| | LAN | | | I F | – Hotspot –––– | | | | | |
| D | DHCP Service : | Open | - | | AP : | ✓ Enable Hotspot | | | | |
| | IP(Gateway): | 192 . 168 . 1 . | 1 | | ESSID : | XINJE ABOX | | | | |
| | Mask : | 255 . 255 . 255 . | 0 | | Password : | XINJEABOX | | | | |
| | | | | l L | | | | | | |
| | | | | | | | | | | |
| W | VhiteList | | | | Ba | ack | Next | | | |

2. Set the A-BOX LAN port IP to the same network segment as the PLC.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🐵 — 🖂 🗙 |
|---|---------------------------------------|--------------------------------|---------------------|-------------|---------------------|-----------------------|
| Base SetUp | ~ | Data Monit | (| | ort ans | System SetUp |
| Data Monit Right-click node add function | | | | Ν | IQTT server | Start data monitoring |
| - 🐨 СОМ0 | ComPort: COM0 (xin ComOrder Writed | njeXD) Order Use the Delete | e key to Delete the | selected it | Batch Order | Add Order |
| - Ethannat | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - Contraction Add Device | | | | | | |
| - 🏹 Free Monit | | | | | | |
| - i System Info | | | | | | |

3. Use the configuration tool to remotely connect A-BOX, click Data Monitoring, right-click Ethernet, click Add Device.

| ABox ID:499098207C13 | 14081(H2/V2.2.0) | | | | ් | — 🛛 🗙 |
|-----------------------------------|---------------------------|-------------------|---------------------------|-------------------------|---------|-----------------|
| Ŷ | Base SetUp | Data Monit | (j) | Port Trans | Ęò | System SetUp |
| Data Monit Right-click node ad | 1 function | | | MQTT server | Start d | ata monitoring |
| СОМ0 | ComPort : Ethernet | | - Addition Item | | X | Add Order |
| | Device Brand : XINJE | ~ | Port : 5 | 02 | | r Note |
| – 🛄 Etherne | Model Protocol : XD/XL/XG | Series(ModbusTc 🔻 | IP : 1 | 92 . 168 . 1 . 20 | 5 | |
| - Order | Device Name : xinjeXD | | Station : 1 | | | |
| - System | Template : | ~ | | | | |
| Jystem | Data Sequence : 🗌 Byte Sw | vop 🗌 Word Swop | Additional items should b | e filled in as required | | |
| | | | | Cancel | ОК | |
| | | | | | | |

4. Select "Xinje" - "XD/XL/XG series (ModbusTcp)" as the communication protocol, port 502, specify the device name, and IP is the IP address of PLC.

| ABox ID:499098207C1314 | 1081(H2/V2.2.0) | | | | | | | | Ó | - 2 | \times |
|---|-------------------|----------------|-------------------------------|---------------|---------------------|---------------|---------------|----------------|------------|-----------------|----------|
| | Base SetUb | l. | Da M | ita onit | | (| Port Trans | | -0 | System SetUp | |
| Data Monit Right-click node add f | function | | | | | | MQTT serv | /er | Start o | lata monitorii | ng |
| - 🐨 сомо - 🐨 сом1 | | ComPort: Ether | net (xinjeXD) VriteOrder U | se the Delete | e key to Delete the | e selected it | | Batch Order | | Add Order | |
| ₽ | | Order Name | Device | Name | Object Addre | Date Num | Abox' | s Object Addre | Orde | er Note | |
| - Contraction - | | | | Com | munication | Order set | ting | | Auto Allot | Manually | × |
| - i System | C |)rder Name : | | | | Data | Format : | Bit | | - | |
| | | Data Object: X | | | T | St | tartAdrr : | 1 | | • | |
| | Ad | ding Mode : A | dd individua | ly | * | | | | | | |
| | MQTT | Data Type : B | ool 🔹 | Len : | | Publisł | n Mode : | High performa | ance | T | |

5. Select "Xinje XD" and click "Add order" or "Batch order". For "bit", the number of objects cannot exceed 100. For "word", the number of objects cannot exceed 100.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🕲 — 🖾 🗙 |
|--|----------------|---|---------------------|---------------|---------------------|-----------------------|
| Base SetUp | (| Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add function | | | | N | IQTT server | Start data monitoring |
| – 📟 сомо – 📟 сом1 | ComPort: Ether | rnet (xinjeXD) WriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| Ethornot | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| | data00 | xinjeXD | M0 | 1 (BOOL) | M60-M60 | - |
| - 🗎 Order Total - 🏠 Free Monit - 🕧 System Info | | | | | | |

6. After adding instructions, please monitor the corresponding A-BOX address on the Xinje Cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🖾 🗙 |
|--|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| | System running information | Devi | ce connection Flag |
| - COM1 | Device Name | Connection Flag | Value |
| □ Ethernet | xinjeXD | SD1001 | 1 |
| Image: window windo | | | |

7. In "System information", check "Communication equipment connection flag" to see whether the communication between PLC and A-BOX is normal. The value is "1" when communication is normal, and the value of communication failure is "0".

6-14. Delta DVP series (Modbus ASC)

1. In this case, the PLC model is Delta DVP-60ES. The default serial port parameters of the RS232 port of the PLC are 9600, 7,1, even, and the default protocol is ModbusASC. Use DVP cable to connect PLC to A-BOX. This case connects COM0 of A-BOX. First, set the serial port parameters of A-BOX to be consistent with those of PLC.

| ABox ID:499098207C1314081(H2/V2.2 | 20) | 🕸 — 🖾 🗙 |
|---|---|-----------------------|
| Base SetUp | Data Monit Port Trans | System SetUp |
| Data Monit Right-click node add function | Serial port parameter configuration | Start data monitoring |
| COM0 right clic | and select serial port setting Batch Orde | er Add Order |
| - COM1 | Baud rate : 9600 💌 | |
| - ☐ Ethernet - | Data bit : [7] | re Order Note |
| - 👬 Free Monit | Check bit : EVEN 💌 | |
| - i System Info | Stop bit : 1 | |
| | Read Write | |
| | | |

2. Right click COM0, click protocol set, select Delta-DVP_ModbusASC.

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | Delta |
| Protocol : | DVP_ModbusASC |
| | Cancel OK |

3. Right click COM0, click add device. The station no. is 1 by default.

| | $- \times$ |
|-------|---------------------|
| 通信口: | COM0 |
| 通信协议: | Delta-DVP_ModbusASC |
| 设备名称: | deltaasc |
| 站点号 : | 1 |
| 设备模板: | |
| 数据顺序: | 🗌 高低字节交换 🔛 高低字交换 |
| 取消 | 确定 |

4. Click Add order to configure the mapping relationship between PLC address and A-BOX address. Click "Start Data Monitoring" after adding. At present, 25 "WORD" types and 12 "DWORD" types have been added in batches.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | | | | 🐵 — 🖾 🗙 |
|------------------------------------|-------------------|----------------|--|---------------------|---------------|-----------------------|-----------------------|
| <u></u> | Base SetUp | l l | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add | function | | | | M | IQTT server | Start data monitoring |
| □- COM0 | | ComPort: COM | 10 (deltaasc) WriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| COM1 | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| - 🔝 Etherr - 📋 Order | Device · | | Comm | unication O | order setting | Au | to Allot Manually |
| - i Syster | Orc | der Name : | | | Data Forr | nat : Bit | ~ |
| | Da | ta Object: S | | ~ | StartA | Adrr : 1 | |
| | Addi | ing Mode : Add | d individually | • | ABox Mapp | ped : M 1000 | |
| | MQTT - | Data Type : BO | OL 🔻 Len : | | Publish Mo | ode : High performanc | ce 🔻 |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUb | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| E- COM0 | System running information | Devic | ce connection Flag |
| deltaasc | Device Name | Connection Flag | Value |
| - COM1 | deltaasc | SD1001 | 1 |
| - 🛄 Ethernet | | | |
| - 📋 Order Total | | | |
| | | | |
| - i System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-15. Delta DVP series (Modbus RTU)

1. In this case, the PLC model is Delta DVP-60ES. First, connect the PLC. Write a ladder diagram to set the RS485 parameter to ModbusRTU. In this case, set the serial port parameter to 19200, 8,1, E.



2. Use RS485 to connect PLC with A-BOX. This case connects COM0 of A-BOX. First, set the serial port parameters of A-BOX to be consistent with those of PLC.

| ABox ID:499098207C1314 | 1081(H2/V2.2.0) | | | | 🕸 — 🖾 🗙 |
|------------------------------------|-------------------------------|---|--------------|-----------------------|-----------------------|
| | Base SetUp | Data Monit | <pre>↔</pre> | Port Trans | System SetUp |
| Data Monit Right-click node add | ç | | | MQTT server | Start data monitoring |
| - COM0 - | right click and select serial | ort parameter configuratior port setting | , X | Batch Order | Add Order |
| – COM1 – 🛄 Ethernet | Baud rate : | 19200 | ~ | n Abox's Object Addre | Order Note |
| - 🗎 Order To | Data bit : | 8 | ~ | | |
| -i System Ir | Check bit : | EVEN | ~ | | |
| | Stop bit : | 1 | • | | |
| | | Read | Write | | |
| | | | | | |

3. Right click COM0, click Protocol Set, and select "Delta" - "DVP_ModbusRTU".

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | Delta |
| Protocol : | DVP_ModbusRtu |
| | Cancel OK |

4. Right click COM0 and click Add Device. The default site number is "1".

| | $- \times$ |
|-------------|----------------|
| 通信口: COM | 10 |
| 通信协议: Delta | -DVP_ModbusRtu |
| 设备名称: delta | RTU |
| 站点号: 1 | |
| 设备模板: | ~ |
| 数据顺序: 🗌 高 | 低字节交换 🗌 高低字交换 |
| 取消 | 确定 |

5. Click Add order to configure the mapping relationship between PLC address and A-BOX address. Click "Start Data Monitoring" after adding. At present, 25 "WORD" types and 12 "DWORD" types are added in batches.

| ABox ID:499098207C1314 | 1081(H2/V2.2.0) | | | | | | 🐵 — 🖬 🗙 |
|--------------------------------------|-------------------|-----------------|--|---------------------|---------------|---------------------|-----------------------|
| | Base SetUp | l l | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add f | function | | | | N | IQTT server | Start data monitoring |
| □ COM0 | | ComPort: COM | IO (deltaRTU) WriteOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| - COM1 | | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| – 🛄 Ether | | | | | | | × |
| -📋 Orde | | | Comm | unication O | rder setting | Aut | o Allot Manually |
| - 🏠 Free I - 🚺 Syste | Device · Orc | der Name : | | | Data Form | nat : Bit | ▼ |
| | Da | ita Object: S | , | * | StartAd | drr: 1 | · · |
| | Addi | ing Mode : Add | individually | • | ABox Mapp | ed : M 1000 | |
| | MQTT - | | | | | | |
| | 1 | Data Type : BOC | Len : | | Publish Mo | de: High performanc | e 🔻 |
| | · | | | _ , | n | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🛙 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| E- COM0 | System running information | Devic | e connection Flag |
| deltaRTU | Device Name | Connection Flag | Value |
| - COM1 | deltaRTU | SD1001 | 1 |
| - 🛄 Ethernet | | | |
| - 📋 Order Total | | | |
| Free Monit | | | |
| - i System Info | | | |
| | | | |
| | | | |
| | | | |
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| | | | |

6-16. Modbus Rtu device

1. First, confirm that the device supports standard Modbus Rtu, COM0 port of Xinje A-BOX supports RS232 and RS485, COM1 port supports RS232, RS485 and RS422, correctly connect the A-BOX serial port with the corresponding device, confirm the serial port parameters of the device, modify the A-BOX serial port parameters to be consistent with the device serial port, write and take effect.

| ABox ID:499098207C1314081(H2/ | V2.2.0) | | 🛛 — 🖾 🗙 |
|---|-------------------------------------|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| | Serial port parameter configuration | Batch Order | Add Order |
| – 🛄 Ethernet | Baud rate : 19200 💌 | Abox's Object Addre | Order Note |
| - 🗎 Order Total | Data bit : 8 | | |
| - i Free Monit | Check bit : EVEN | | |
| | Stop bit : 1 | | |
| | Read | Write | |
| | | | |
| | | | |

2. Click "Data Monitoring", right-click the corresponding COM port, click "Protocol Set", and select "ModbusRtu".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🕸 — 🖾 🗙 |
|--|-------------------------------------|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - COM Add Device | omOrder WriteOrder Use the Delete k | key to Delete the selected it Batch Order | Add Order |
| 田 Ether 串口设置 | der Name Device Name (| Object Addre Date Num Abox's Object Addre | Order Note |
| - 😭 Order Total - ဢ Free Monit - ⑦ System Info | | | |

| | $- \times$ |
|----------------|-------------------|
| | Protocol settings |
| Device Brand : | MODBUS |
| Protocol : | ModbusRtu |
| | Cancel OK |

3. Right click the corresponding COM port, click Add Device, and specify the device name, station number, and connection flag.

| | $- \times$ |
|-------|------------------|
| 通信口: | СОМО |
| 通信协议: | MODBUS-ModbusRtu |
| 设备名称: | modbusRTU |
| 站点号: | 1 |
| 设备模板: | |
| 数据顺序: | 🗌 高低字节交换 🔛 高低字交换 |
| 取消 | 确定 |

4. Select "ModbusRtu" and click "Add order" or "Batch order". For "bit", the number of objects cannot exceed 100. For "word", it is recommended that the number of objects should not exceed 50.

| ABox ID:499098207C1314081 | I (H2/V2.2.0) | | | | | | © — ۵ | 2 X |
|---|------------------------|---------------|--|-------------------|---------------|----------------------|-------------------|------|
| Ba Se | ase etUp | Ľ | Data Monit | | Po Tra | rt ans | System SetUp | |
| Data Monit Right-click node add func | ction | | | | М | QTT server | Start data monito | ring |
| □ COM0 | | ComPort: COMC | 0 (modbusRTU) /riteOrder Use the Delete | key to Delete the | e selected it | Batch Order | Add Orde | r |
| COM1 | 0 | rder Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note | |
| - 🛄 Ether | | | | | | | | X |
| -📋 Orde | | | Commi | unication Or | der setting | Aut | o Allot Manually | |
| - 🎲 Free I - 🕡 Syste | — Device —— Order N | ame : | | | Data Form | at : Bit | - | |
| | Data Ob | oject : _0x | | ~ | StartAc | drr: 1 | - | |
| | Adding M | lode : Add | individually | · | ABox Mappe | ed : M 1000 | | |
| | — MQTT —— | | | | | | | |
| | Data 1 | Гуре : ВОО | Len : | | Publish Moo | de : High performanc | e 🔻 | |
| | - · | | | Γ. | | | | |

5. After adding instructions, please monitor the corresponding A-BOX address on the Xinje Cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | | 🗇 — 🛛 🗙 |
|---|--------------|---|--------------------|---------------|------------------|------|-----------------------|
| Base SetUp | (| Data Monit | | | ort ans | | System SetUp |
| Data Monit Right-click node add function | | | | Ν | 1QTT server | | Start data monitoring |
| □- … COM0 | ComPort: COM | 40 (modbusRTU) WriteOrder Use the Delete | e key to Delete th | e selected it | Batch Or | der | Add Order |
| - COM1 | Order Name | Device Name | Object Addre | Date Num | Abox's Object Ac | ldre | Order Note |
| - 🛄 Ethernet | data01 | modbusRTU | _4x1 | 1 (INT16U) | D10-D10 | | - |
| - 🔒 Order Total | | | | | | | |
| | | | | | | | |
| - | | | | | | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🗔 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| EFeeee COM0 | System running information | Device | e connection Flag |
| modbusRTU | Device Name | Connection Flag | Value |
| COM1 | modbusRTU | SD1001 | 1 |
| - Ethernet | | | |
| - 📋 Order Total | | | |
| - 🖌 Free Monit | | | |
| - 🥡 System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-17. Modbus TCP device

1. First, confirm that the device supports the standard Modbus TCP, and connect the A-BOX and the corresponding device with the network cable. The LAN port IP is set to be in the same network segment as the device IP.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | ୍ର | - 2 | \times |
|--|---------------------|---------------------------|------------------|------|-----------------|----------|
| Base SetUp | Data Monit | (†) (†) | Port Trans | Ę | System SetUp | |
| Lan Param | the three | e segments are same to PL | C IP | | | |
| | | Hotspot | | | | |
| DHCP Service : | Open 💌 | AP : | ✓ Enable Hotspot | | | |
| IP(Gateway) : | 192 . 168 . 1 . 1 | ESSID : | XINJE ABOX | | | |
| Mask : | 255 . 255 . 255 . 0 | Password : | XINJEABOX | | | |
| | | | | | | |
| | | | | | | |
| WhiteList | | В | ack | Next | | |

2. Use the configuration tool to remotely connect A-BOX, click "Data Monitoring", right-click "Ethernet", and click "Add Device".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | 🐵 — 🖾 🗙 |
|---|------------|---------------------------|---------------------------------|---------------------|-----------------------|
| Base SetUp | (| Data Monit | | ort ans | System SetUp |
| Data Monit Right-click node add function | | | Ν | IQTT server | Start data monitoring |
| сомо | ComOrder | WriteOrder Use the Delete | e key to Delete the selected it | Batch Order | Add Order |
| - Ethernet Add Device | Order Name | Device Name | Object Addre Date Num | Abox's Object Addre | Order Note |
| - 🏠 Free Monit - 🕧 System Info | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

3. Select "Modbus Tcp" as the communication protocol, port number 502, and specify the device IP, name and connection flag.

| ABox ID:499098207C131 | 4081(H2/V2.2.0) | | | <u>نې</u> | - 🛛 | × |
|---|---|---------------|--|-----------|-------------------|---|
| Optimized in the second sec | Base SetUp | Data Monit | Port Trans | -¢ | System SetUp | |
| Data Monit Right-click node add | function | | MQTT server | Start dat | a monitoring |] |
| - COMU - COMU - COM1 - COM1 - COM1 - COM1 - COM1 - COM1 | ComPort : Ethernet Device Brand : MODBUS Model Protocol : ModbusTcp | ¥ ¥ | Addition Item Port : 502 IP : 192 . 168 . 1 . 20 | | .dd Order Note |] |
| - 👬 Free Mo | Device Name : modbusTCP Template : Data Sequence : Byte Swop | Word Swop | Station : 1 | | | |
| | | | Cancel | OK | | |

4. Select "ModbusTcp" and click "Add order" or "Batch order". For "bit", the number of objects cannot exceed 100. For "word", the number of objects cannot exceed 100.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖬 🗙 |
|---|--|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| СОМ0 | ComPort: Ethernet (modbusTCP) ComOrder WriteOrder Use the Delete | e key to Delete the selected it Batch Order | Add Order |
| □ Ethernet | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |
| - 🔒 Order | Comm | unication Order setting Aut | o Allot Manually |
| -i Syster Orc | der Name : | Data Format : Bit | · |
| Da | ta Object :0x | StartAdrr : 1 | - |
| Addi | ng Mode : Add individually | ABox Mapped : M 1000 | |
| MQTT - | Data Type : BOOL 💌 Len : | Publish Mode : High performance | e 💌 |

5. After adding instructions, please monitor the corresponding A-BOX address on the Xinje cloud.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | ٤ | ≫ — 🛛 🗙 |
|---|---------------|---|---------------------|---------------|------------------|-------|--------------------|
| Base SetUp | | Data Monit | | | rt ans | | System SetUp |
| Data Monit Right-click node add function | | | | Μ | IQTT server | Sta | rt data monitoring |
| – 📟 СОМ0 – 📟 СОМ1 | ComPort: Ethe | rnet (modbusTCP) WriteOrder Use the Delete | e key to Delete the | e selected it | Batch Or | der | Add Order |
| Ethernet | Order Name | Device Name | Object Addre | Date Num | Abox's Object Ac | dre O | rder Note |
| | data09 | modbusTCP | _0x1 | 1 (BOOL) | M10-M10 | | - |
| - 🗎 Order Total | | | | | | | |
| | | | | | | | |
| -(i) System Info | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| - COM0 | System running information | Dev | ice connection Flag |
| - COM1 | Device Name | Connection Flag | Value |
| 🕀 🛄 Ethernet | modbusTCP | SD1001 | 1 |
| modbusTCP | | | |
| - 📄 Order Total | | | |
| - 🆌 Free Monit | | | |
| - 🥡 System Info | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6-18. Ethernet/IP device

EIP communication requires Abox firmware version 2.2.1 or above and BOX Manager software version 1.3 or above. Here is an example of AllenBrandly's 1769-L32E.

1. The IP address of the PLC in this case is 192.168.1.10. First, set the LAN parameters of A-BOX and the IP address of the PLC on the same network segment.

| ABox ID:4990982070 | (1314081(H2/V2.2.0) | | | | | (ک) | - 2 | \times |
|--------------------|---|---|---------------|------------------------|-------------------------------------|------|-----------------|----------|
| C | Base SetUp | Data Mon | a nit | $\widehat{\mathbf{A}}$ | Port Trans | Ξò | System SetUp | |
| | Lan Param same to PL LAN DHCP Service : [IP(Gateway) : [Mask : [| C Open 192 . 168 . 1 . 1 255 . 255 . 0 | cannot repeat | Aotspot | Enable Hotspot XINJE ABOX XINJEABOX | | | |
| | WhiteList | | | Ba | ack | Next | | |

2. Use the network cable to connect PLC and A-BOX. In "Data Monitoring", right-click "Ethernet" and click "Add device".

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🛛 🗙 |
|---|------------------------------------|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| Сомо | ComOrder WriteOrder Use the Delete | key to Delete the selected it Batch Order | Add Order |
| - Ethernat Add Device - Order Total - Free Monit - System Info | Order Name Device Name | Object Addre Date Num Abox's Object Addre | Order Note |

3. Select "AllenBrandly" as the device brand, "AB_CIP" as the model protocol, and "44818" as the port number.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🗇 — 🖾 🗙 |
|---|----------------------|---|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| - COMC ComPort : Ethernet | | | |
| - COM1 Device Brand : Allen | Brandly | Addition Item | ler Note |
| - 🛄 Etherr Model Protocol : 🗛_C | JP 💌 | IP: 192.168.1.10 | |
| Device Name : EIPte | est | Station : 1 | |
| -i Syster Template : | * | | |
| Data Sequence : 🗌 By | yte Swop 🗌 Word Swop | Additional items should be filled in as required Cancel | OK |
| | | | |

4. Select EIPtest, click Add order or Batch order.

| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🕸 — 🖾 🗙 |
|---|-------------------|-----------------------|---------------------|---------------|---------------------|-----------------------|
| Base SetUp | ~ | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add function | | | | М | IQTT server | Start data monitoring |
| 🐨 СОМ0 🐨 СОМ1 | ComPort: Ethernet | eOrder Use the Delete | e key to Delete the | e selected it | Batch Order | Add Order |
| ElPtest | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |

5. Open the rslogix500 programming software, select Go Online, and create a new Tag.

| Pile Edit View Search Logic Communications Tools Window Help Image: Search Logic Communications No Forces Image: Search Logic Communications | 👸 F | RSLogix 5000 - I32 [1769-L32E 20.11]* - [Controller Tags - I32(controller)] | | | | | | | | |
|--|-------|---|--------------------------|----|------------|------------|----------|-------------|----------------|--------|
| Image: Controller Or Program Mode Program Mode Run Mode Image: Controller Or Program Mode Image: Controller Or Program Mode Image: Controller Or Image: Controller Or <td>Ø</td> <td colspan="8">🌶 File Edit View Search Logic Communications Tools Window Help</td> | Ø | 🌶 File Edit View Search Logic Communications Tools Window Help | | | | | | | | |
| Offline Path AB_ETHIP:1\132.168.1.5\Backplane No Forces Go Online Image: Controller Or Program Mode Program Mode Program Mode Program Mode Run Mode Image: Controller Or Controller Or Controller Or Cear Faults Scope: Image: Controller Or Cear Faults Image: Controller Or Programs / Phases Image: Controller Properties Image: Controller Properties Image: Controller Or Programs / Phases Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties Image: Controller Properties | ð | | | | | | | | | |
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| No Edits Upload Download Program Mode Program Mode Run Mode Image: Scope Image: Scope Image: Scope Image: Scope Image: Scope Image: Scope Image: Scope Image: Scope Ima | No F | Forces | <u>G</u> o Online | | | | | | | |
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| Controller Or Program Mode Run Mode Iest Mode <td></td> <td></td> <td><u>D</u>ownload</td> <td></td> <td>< ▶</td> <td>Favorite</td> <td>s 🖌 Ad</td> <td>d-On 🔏 Sa</td> <td>afety 人</td> <td>Alar</td> | | | <u>D</u> ownload | | < ▶ | Favorite | s 🖌 Ad | d-On 🔏 Sa | afety 人 | Alar |
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| Image: Construction of composition | tart | ⊡ | <u>R</u> un Mode | | | Name | 그림 스 | Value | + | For |
| Clear Faults -A1.0 1 Po Clear Faults -A1.1 1 Controller Properties -A1.2 1 Unscheduled Programs / Phases -A1.3 1 Motion Groups -A1.6 1 Add-On Instructions -A1.8 1 Add-On Instructions -A1.9 1 Add-On-Defined -A1.1 1 Add-On-Defined -A1.1 1 Module-Defined -A1.1 1 | Pa | | <u>T</u> est Mode | | | ⊡-A1 | | | 65535 | |
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| □ | | 🖶 🔄 Motion G | roups | | | — A1.6 | i | | 1 | |
| Add-On Instructions → → Data Types → → User-Defined → → Strings → → Add-On-Defined → → Add-On-Defined → → Module-Defined → → Module-Defined → → → → → → → → → → → → → → → → → → → | | 📃 🛄 Ungro | uped Axes | | | —A1.7 | · | | 1 | |
| → → □ → ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | | 🛁 Add-On Ir | nstructions | | | —A1.8 | | | 1 | |
| ↓ −A1.10 1 ↓ ↓ ↓ ↓ ↓ ↓ ↓ </td <td></td> <td>🗄 🗁 🔂 Data Type</td> <td>s</td> <td></td> <td></td> <td>—A1.9</td> <td> </td> <td></td> <td>1</td> <td></td> | | 🗄 🗁 🔂 Data Type | s | | | —A1.9 | | | 1 | |
| • • • • • • • • • • • • • • • | | 🖳 🛄 User-D | efined | | | —A1.1 | 0 | | 1 | |
| Add-On-Defined | 🕀 🗔 Strings | | | | —A1.1 | 1 | | 1 | |
| Image: Predefined —A1.13 1 Image: Module-Defined Image: A1.14 Image: A1.15 Image: A1.15 | | Add-O | n-Defined | | | —A1.1 | 2 | | 1 | |
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| - A1.15 1 | | Modul | e-Defined | | | —A1.1 | 4 | | 1 | |
| | | | e benned | - | | —A1.1 | 5 | | 1 | |



6. Set the point to be monitored in Tag.

| New Tag | - | × |
|------------------------------|-------------------|----------|
| <u>N</u> ame: | B1 | Create 🔻 |
| <u>D</u> escription: | | Cancel |
| | | Help |
| | Ψ | |
| <u>U</u> sage: | <normal></normal> | |
| Тур <u>е</u> : | Base | |
| Alias <u>F</u> or: | • | |
| Data <u>T</u> ype: | BOOL | |
| <u>S</u> cope: | 🔁 132 🗸 | |
| E <u>x</u> ternal Access: | Read/Write | |
| Style: | Decimal 👻 | |
| Constant | | |
| Dpen Conf | iguration | |

7. Add corresponding instructions in A-BOX, INT in PLC corresponds to INT16S of ABOX, DINT corresponds to INT32S of ABOX, LINT corresponds to INT64S of ABOX, REAL corresponds to float of ABOX, LREAL corresponds to double of ABOX.

| Order Name : | B1 | Data Format: | Bit | - |
|-------------------|------------------|---------------------|------------------|---|
| Data Object : | Coil | StartAdrr : [| 1 | ~ |
| Adding Mode : | Add individually | ABox Mapped : M | M 1000 | |
| - MQTT | | | | |
| Data Type: | BOOL Len: | Publish Mode: | High performance | * |
| Trigger mode : | Value changes | Trigger condition : | | • |
| Min Value : | | Max Value : | | |
| Publish interval: | (s) | Note : | | |
| IsCache : | Disable 💌 | | | |

| ABox ID:499098207C1314081(H2/V2.2.0) | | | 🐵 — 🖬 🗙 |
|---|---|---------------------|-----------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | Tip: the "SD" in the list refers to ABox's own system r | egister MQTT server | Start data monitoring |
| - COM0 | System running information | Devic | e connection Flag |
| -www.com1 | Device Name | Connection Flag | Value |
| □ Ethernet | EIPtest | SD1001 | 1 |
| -EIPtest - 🔒 Order Total | | | |
| - Tree Monit | | | |
| System mo | | | |
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| | | | |

7. Details of MQTT new version protocol

- 7-1. User data
- (1) Client ID naming: IDPWDUserdata
- (2) TOPIC

| Function | Туре | Торіс | Explanation |
|------------------------------|-----------|-----------------------|--|
| Report configuration list | release | ID+PWD/pub_configlist | Retain type, click "Start Data Monitoring" to publish once |
| Report data | release | ID+PWD/pub_data | The device side actively reports real-time data |
| Data control request | subscribe | ID+PWD/write_data | Platform side sends data point control request |
| Data control reply | release | ID+PWD/write_reply | Data control result replied by the device side |
| Actively acquire data | subscribe | ID+PWD/access_data | Obtain the data |

(3) Report configuration list

Title: ID+PWD/pub_configlist

Publishing conditions: the client clicks Start Data Monitoring once to publish once. Retain type. The system data table is added by default.

Payload example:

{ "Unix": "1614576888000", "Version": "V1.0", "Configlist": { "device 1": [{ "Order_name": "temperature", "Order_ID": "43912342299231234+0", "Order_type": "INT8S"

}, {

"Order_name": "length",

"Order_ID": "43912342299231234+1",

"Order_type": "Float"

}, {

"Order_name": "yield[6]",

"Order_ID": "43912342299231234+2",

"Order_type": "Float"

}],

"device 2": [{

"Order_name": "temperature",

"Order_ID": "43912342299231234+3",

"Order_type": "INT8U"

}, {

"Order_name": "length",

"Order_ID": "43912342299231234+4",

"Order_type": "Float"

}, {

"Order_name": "yield[6]",

"Order_ID": "43912342299231234+5",

"Order_type": "Float"

}],

"Localghost": [{ // System information list

"Order_name": "GPS latitude",

"Order_ID": "43912342299231234+6",

"Order_type": "Float"

}, {

"Order_name": "GPS longitude",

"Order_ID": "43912342299231234+7",

"Order_type": "Float"

}, {

"Order_name": "system operation time[4]", "Order_ID": "43912342299231234+8",

```
"Order_type": "INT8S"
```

```
}]
}
```

Parameters

| Name | Explanation |
|-----------------------|--|
| Unix | Time of publication, UNIX timestamp in millisecond format |
| Version | Protocol version number. The current protocol version is fixed to "V1.0" |
| Configlist | Device List Root Node |
| Device 1, device 2 | Device name added in Box Manager |
| Order_name | Instruction name. If the instruction name is followed by "[6]", it means that the instruction is added in batches, and the length is the number of batches |
| Order_ID | The instruction ID, unique, is the unique identifier used for the Xinje cloud platform binding data |
| Order_type | Data type (case sensitive) Bool/INT8U/INT8S/INT16U/INT16S/INT32U/INT32S/INT64S/Float/Double/Char[] |

(4) Data report

```
Title: ID+PWD/pub_data
```

Report real-time data:

{

"Variant": [{

"Unix": "1614576888000",

```
"Version": "V1.0",
```

"Pub_Data": {

"device1": {

"temperature": 23,

"humidity": 50.23,

"yield[6]": [12, 32, 43, 53, 15, 53]

} }] }

Parameters

| Name | Explanation |
|------------------------|---|
| Variant | Root node, array format |
| Unix | Time of publication, UNIX timestamp in millisecond format |
| Version | Protocol version number. The current protocol version is fixed to "V1.0" |
| Pub_data | Data root node |
| Device 1, device 2 | Device name added in Box Manager. |
| Command key value pair | If the instruction name is followed by "[6]", it means that the instruction is batch adding, and the data value is the actual value of batch adding data |

Report message cache data:

{

"Variant": [{

```
"Unix": "1614576768000", // The closer time one is on the top

"Version": "V1.0",

"Pub_Data": {

    "Device 1": {

    "temperature": 23,

    "length": 50,

    "yield[6]": [12, 32, 43, 53, 15, 53]

    },

    "device 2": {

        "temperature": 23,

        "length": 50,

        "yield[6]": [12, 32, 43, 53, 15, 53]

    }
```

```
}
     },
     {
          "Unix": "1614576400000",
          "Version": "V1.0",
          "Pub_Data": {
              "device 1": {
                    "temperature": 44,
                    "length": 50,
                    "yield[6]": [12, 32, 43, 33, 15, 53]
              },
              "device 2": {
                    "temperature": 13,
                   "length": 60,
                   "yield[6]": [12, 32, 123, 53, 15, 53]
               }
          }
     }
]
}
(5) Data Control Request
Title: ID+PWD/write_data
Payload instance:
Write single or multiple pieces of data:
{
"Unix": "1614576888000",
"Version": "V1.0",
"Write_Data": {
     "device 1": {
```

```
"temperature": 20,
"length": 16,
"yield[2]": 55,
"yield[4]": 22
```

},

```
"device 2": {
```

```
"temperature": 20,
"length": 16,
"yield[2]": 55,
"yield[4]": 22
}
```

Parameters

}

}

| Name | Explanation |
|---------------------------|--|
| Unix | Time of publication, UNIX timestamp in millisecond format |
| Version | Protocol version number. The current protocol version is fixed to "V1.0" |
| Write_data | Root node |
| Device 1, device 2 | Device name added in Box Manager |
| Command key value pair | If the instruction name is followed by "[]", it means that the instruction is added in batches, and "[2]" 2 is offset, which refers to the third output data |

(6) Data Control Request Reply

```
Title: ID+PWD/write_reply
```

{

"Unix": "1614576888000",

"Version": "V1.0",

```
"Write_Reply": {
    "device 1": {
        "temperature": "OK",
        "length": "OK",
        "yield[2]": "OK",
        "yield[4]": "OK"
    },
    "device 2": {
        "temperature": "ERROR0",
        "": "ERROR1",
        "yield[2]": "ERROR2",
        "yield[4]": "ERROR0"
    }
}
```

Parameters

| Name | Explanation |
|---------------------------|--|
| Unix | Time of publication, UNIX timestamp in millisecond format |
| Version | Protocol version number. The current protocol version is fixed to "V1.0" |
| Write_data | Root node |
| Device 1, device 2 | Device name added in Box Manager |
| | If the instruction name is followed by "[]", it means that the instruction is added in batches, and "[2]" 2 is offset, which refers to the third output data |
| Command key value pair | Execution result: OK: successful execution |
| | ERROR0: Write value failed |
| | ERROR1: The instruction was not found |
| | ERROR2: Other errors |

(7) Obtained data

Title: ID+PWD/access_data

{

"Unix": "1614576888000",

"Version": "V1.0",

"Content": "savedata"

}

Parameters

| Name | Explanation |
|---------|--|
| Unix | Time of publication, UNIX timestamp in millisecond format |
| Version | Protocol version number. The current protocol version is fixed to "V1.0" |
| | "Savedata": data of traffic saving mode |
| Content | "Alldata": all data |
| | "Systemdata": system data |

After ABOX subscribes to the message, the returned data is published through "ID+PWD/pub_data".

8. Alibaba IoT platform

8-1. Overview

Alibaba Cloud Internet of Things platform provides secure and reliable connection and communication capabilities for devices, connecting massive devices downward, and supporting device data collection to the cloud. The cloud API is provided upward, and the server sends instructions to the device by calling the cloud API to achieve remote control.

The IoT platform also provides other value-added capabilities, such as device management, rule engine, etc., enabling various IoT scenarios and industry developers. Xinje A-BOX series connects PLC data with Alibaba Cloud Internet of Things platform.

8-2. Operation steps

1. Log in to Alibaba Cloud account and find "IoT" in the product.



2. Find "Console" in "IoT".



3. After entering the Console, click Public Instance



4. Create a product in the "Product" column of "Equipment Management" and confirm to save.

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5. In "Device", click "Add Device" to set a "DeviceName" for the device.



6. Click to enter the device and click "DeviceSecret" to view. "One click copy" the device certificate. Check that the "region" is "East China 2 (Shanghai)".
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| | 设备扩展位展 | | | | | | | | | | | | |
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7. Connect A-BOX, select "Alibaba IoT" in "MQTT Server", paste the device certificate copied with one click into the input box, and select "East China 2" for regional information.

| ABox ID:499098207C1314081(H2/V2.2.0) | | 🐵 — 🗗 🗙 |
|---|---|-----------------------|
| Base SetUp | Data Monit Port Trans | System SetUp |
| Data Monit Right-click node add function | he "SD" in the list refers to ABox's own system register MQTT server | Start data monitoring |
| - COM0 - COM1 E Ethernet - ElPtest - Order Total - M Free Monit - System Info | General MQTT Alibaba IOT Device Certificate : <pre></pre> | tion Flag |

8. On the Alibaba Cloud Internet of Things platform, click "Function Definition" in the product and click "Edit Draft".

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| 发伊德 | | 信联网平台 / | (24월월 / 718) (1778년 - 1718) | / 产品详情 | | | | | | | | | | | | | | | | | - |
| 设备管理 | ^ | ← 信捷 | 网天 | | | | | | Part. | | | æ | | | | | | | | | 20 |
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| 任务 | | 0 HØR. | 的是已没非到晚上的 | 功能起义,如常终 | 改, 寿亦申 病後 3 | 218 | | | | | | | | | | | | | | | |
| 数字孪生 New | | 物模型 TSL | | | | | | | | | | | | | | | | | | | |
| 规规则参 | ~ | 清晰入模块名 | 27 Q | 默认模块 | | | | | | | | | | | | | | | | | |
| 記録記録 | Č. | 、默认惯块 | | 12468421 | | 动舰兵称 (金用 | 0 2 | 1 | 5075 1k | 5 | | | 数据語 | DR. | | | 费作 | | | | |
| 安全中心 仿真实验 New | ~ | | | 層性 | | 20%8 (B) | EX) | | RunningState | ь | iool (제3 <u>17전)</u>) | | 0-3 1-7 | 693. 643. | | | 9.W | | | | |
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| C WARD | | | | | | | | | | | | | | | | | | | | | |

9. Click "Add User defined Function" to define data name, type, company, etc. After adding data, click Publish Online.

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| 分類 | 快速导入 物模型 TSL 历史版本 > | | 284/2015/m144 | | | | | ? |
| 任务 | G + 默认模块 | | 14432 | ~ | | | | |
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| | | | 描述 | | | | | |
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10. Click "Things Model TSL", in the perfect things model, select all and copy.



11. In the A-BOX configuration tool, paste in "Complete model Json text" of "Alibaba IoT". Click "Import Json text" after pasting.

| ABox ID:499098207C1314081(H2/V2.2.0) | | 2000 | | 🛛 – 🖾 🗙 |
|---|---|-------------------------|-------------------|-----------------------|
| Base SetUp | Data Monit | (j) | Port Trans | System SetUp |
| Data Monit Right-click node add function | | | MQTT server | Start data monitoring |
| - (-) ALi IOT | Complete model Json text | Alibaba product model i | nformation import | |
| Ethernet LEIPtest Corder Total Corder Total Corder Total System Info | <pre>} } { 'identifier': 'te 'name': 'iBgt', 'dataType': { 'type': 'float' 'specs': { 'mm': '0', 'mmx': 100' 'unit': "C', 'unit': "C', 'unit': "C', 'step': '0.1' } }</pre> | 导入成功,共有2条属性信息 | 皮成功导入 | Import Json file |
| |))) | | | Import Json text |

12. Configure the PLC connected with ABOX. In this case, the PLC connected is XDH. Select COM0, click add device.

| ABox ID:499098207C1314081(H2/V2.2.0 |) | | 🐵 — 🖂 🗙 |
|---|--|---------------|-------------------------|
| Base SetUp | Data Monit | Port Trans | System SetUp |
| Data Monit Right-click node add function | | MQTT server | Start data monitoring |
| -C-) ALi IOT -COM0 Lalidevice -COM1 -COM1 -CIPtest | ComPort: COM0 (alidevice) Cor Orde ComPort : COM0 Protocol : XINJE-XD/X Device Name : alidevice Station : 1 Data Sequence : Byte Swop Cancel | L/XG Series | Add Order Order Note |

13. When adding instructions, it will automatically display the things model list added by the IoT platform, configure the address corresponding to PLC, and configure the triggering form of MQTT.

| ABox ID:499098207C13140 | 081(H2/V2.2.0) | | | Ę |) – 🛛 X |
|-------------------------|---------------------------------|--------------|-----------------------------------|--------------------|----------|
| | | Data | | | X |
| Data Monit | Davias | Communicatio | on Order setting | Auto Allot | Manually |
| Right-click node a | Order Name | | Identifier : | | |
| E- COM0 | Data Format : Bit | - | Data Object: 🛚 | 1 | ~ |
| - COM1 | StartAdrr : 1 | 💌 🕇 | ABox Mapped: M ings model list | 1000 | |
| ElPtost | | | | | |
| - Order | Data Type : BOOL | • | Trigger mode : | onditional trigger | ~ |
| -X Free M | Trigger condition : Come within | • | Publish interval:5 | | (s) |
| -i System | Min Value: 0 | | Max Value: 9 | 99999999 | |
| | Note : | | | | |
| | | | | Cancel | ОК |

14. After data configuration, click "Start Data Monitoring".

| ABox ID:499098207C1314081(H2/V | 2.2.0) | | | | | 🗇 — 🖾 🗙 |
|---|--------------------------|--|--------------------|---------------|---------------------|-----------------------|
| Base SetUp | (| Data Monit | | | rt ans | System SetUp |
| Data Monit Right-click node add function | | | | N | IQTT server | Start data monitoring |
| - (-) ALi IOT ₽- COM0 | ComPort: CON ComOrder | 40 (alidevice) WriteOrder Use the Delete | e key to Delete th | e selected it | | Add Order |
| alidevice | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| COM1 | temperature | alidevice | D1 | 1 (INT32S) | D10-D11 | - |
| ➡ ■ Ethernet | | | | | | |

15. On the Alibaba Cloud IoT platform, you can see that the device is online.

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| 5M | | | | | | device is a | online | | | | | | |
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16. Click the device to view the data status in "Things Model Data".

| | | _ | | _ | | | | | | | | | | | | | | | | | | - | - | |
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| 设备管理 | ~ | ← xinji | etest 🛛 | EHK | | | | | | | | | | | | | | | | | | | | |
| 产品 | | 产品 | 信律风关 | 2¥ | | | | | | | DeviceSer | ret ** | ····· 22 | | | | | | | | | | | |
| 设备 | | ProductKey | gh8swiCn8 | 의 코릭 | - | | | | | | | | | | | | | | | | | | | |
| ନାମ | | 设备信息 | Topic 列表 | 物模型数据 | 设备积子 | 文件管理 | 日志服务 | 在线病试 | 子设备物 | 理分组 | 1 | | | | | | | | | | | | | |
| 6.% | [| 运行状态 | 專件管理 | 服务调用 | | | | | | | | | | | | | | | | | | | | |
| 数字孪生 New | | 请输入模块名1 | RF Q | 资格入居住 | SARAN | | Q | | | | | | | | | | | | | ŝ | 时期折 | | : ≡ | ? |
| 规契约1柳 | ~ | 默认模块 | | 湿度 | | | | 22 | | 蔵 | | | | 2 2 20 | | | | | | | | | | |
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| 设备划归 | ~ 1 | | | 2021/11/ | 17 17:48:29.82 | | | | | 021/11/17 1 | 7:48:29.824 | | | | | | | | | | | | | |
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| E) 新派反馈 | | | | | | | | | | | | | | | | | | | | | | | | |

9. OPC DA function

9-1. Version explanation

| Hardware version | Firmware version | Config tool version | Support OPC DA function | Solution |
|------------------|------------------|----------------------------|----------------------------|---|
| | V1.0.0 | XNetConfigTool | No | |
| | V1.0.22 | XNetConfigTool | No | The U1 hardware version does not |
| H1 | V1.0.23 | V2.1.010 | NO | support the OPC DA function, and |
| | V1.0.24 | XNetConfigTool | No | the H2 hardware version is required to use this function. |
| | | V2.2.024 XNetConfigTool | | |
| | V1.0.25 | V2.2.040 | No | |
| | V1.0.24 | XNetConfigTool | No | |
| | | V2.2.024 | | |
| H2 | V1.0.25 | XNetConfigTool | No | Return to factory to update the |
| | | V2.2.040 | | IIIIIware |
| | V2.1.0 | BOX Manager | No | |
| | V 2.1.0 | V1.1.0 and up | | |

| V2.1.1 | BOX Manager V1.1.1 and up | No | Upgrade with BOX Manager |
|--------|------------------------------|-----|--------------------------|
| V2.2.0 | BOX Manager V1.2.0 and up | No | (V1.3.0) and above |
| V2.2.0 | BOX Manager V1.3.0 and up | Yes | - |

Note: At present, the OPC function is only for remote use in the WAN. LAN is not supported temporarily.

9-2. Preparation

OPC DA function has been added to BOX Manager V1.3, which can realize data communication between configuration software such as Kingview, Force Control, WINCC and A-BOX equipment. This paper introduces the simple application of OPC DA function with the Kingview software.

(1) First, the BOX Manager needs to use the account login mode, and log in after the account is registered.

| | | \times |
|------------------|----------------|-----------|
| | | 1 |
| Username : | |] |
| Password : | | |
| Password again : | |] |
| Telphone : | |] |
| Company : | | *Optional |
| Name : | | *Optional |
| VerifyCode : | Get VerifyCode |] |
| | | |
| | Register | |
| | | |

(2) Add device

| Please enter the device name or ID 公 我的设备 group1 Enter device name Letter de | Username: vanessa | | | | 0 — G |
|--|---|---|----|---------------------|------------|
| Please enter the device name or ID Q 我的设备 group1 Enter device name device1 Enter device ID Enter device password 12345678 Select device group group1 | A B A A A | | | | |
| 数約设备 group1 Enter device name device1 Enter device ID Enter device ID Enter device group group1 | Please enter the device name or ID | Q | | | |
| group1 Enter device name device1 Enter device ID Enter device password 12345678 Select device group group1 | 我的设备 | | | | |
| Enter device ID Enter device password 12345678 Select device group group1 | group1 | | | Enter device name | device1 |
| Enter device password 12345678 Select device group group1 | | | | Enter device ID | |
| Select device group group1 | | | En | ter device password | 12345678 |
| | | | | Select device group | group1 |
| Add Device | | | | | Add Device |
| | | | | | |

(3) Enter A-BOX to configure data monitoring. For data to be converted to OPC DA protocol, please check "Enable MQTT" when configuring data, and change the "publish mode" of the configured data to "high performance" mode.

| General MQTT | A | libaba IOT | | \times | | | | |
|---|---|------------|-------|----------|--|--|--|--|
| 「「「「「「」」」「「「」」」「「」」「「」」「「」」「「」」「「」」「」」「 | | | | | | | | |
| QoS : Exactly once delivery | | | | | | | | |
| UserName: xinjeadmin | | | | | | | | |
| Password: | | | | | | | | |
| Tip: ABox supports two configuration modes, one is ordinary MQTT server, and the other is Alibaba Cloud IoT server. The two modes cannot be run at the same time, please select one of the modes according to your needs for configuration | | | | | | | | |
| Default | | Read | Write | | | | | |

| | Communicati | on Order setting | Auto Allot 🛛 🛛 | lanuallv |
|-------------------|------------------|-----------------------|----------------|----------|
| Device | | y | | |
| Order Name : | | Data Format: Bit | | F |
| Data Object : | x | StartAdrr : 1 | | F |
| Adding Mode : | Add individually | ABox Mapped : M 100 | 0 | |
| - MQTT | | | | |
| Data Type: | BOOL Len : | Publish Mode : High p | erformance | ٣ |
| Trigger mode : | Value changes 💌 | Trigger condition : | | ٣ |
| Min Value : | | Max Value : | | |
| Publish interval: | (s) | Note : | | |
| IsCache : | Disable 💌 | | | |
| | | | | |

9-3. OPC communication between Kingview software and A-BOX

(1) Log in to the BOX Manager using the account login mode.

| Box Cloud Managemen | ⊚ − × t tool |
|--|--|
| ▲ Username: xinje ▲ Password : ▲ Keep Password delete user | Register an account Retrieve password info |
| Login | Skip→ |

(2) Add device

| Username: vanessa | | 0 — | 2 |
|------------------------------------|---|--------------------------------|---|
| â 👪 🖈 🕮 | ٢ | | |
| Please enter the device name or Il | Q | | |
| 我的设备 | | | |
| group1 | | Enter device name device1 | |
| | | Enter device ID | |
| | | Enter device password 12345678 | |
| | | Select device group group1 | • |
| | | Add Device | |

(3) Enter A-BOX to configure data monitoring. First, check "Enable MQTT" in "MQTT Server Settings", and other configuration information keep default.

| General MQTT | Alibaba IOT | \times | | | | | | | |
|---|-------------|----------|--|--|--|--|--|--|--|
| | | | | | | | | | |
| QoS : Exactly once delivery | | | | | | | | | |
| UserName: xinjeadmin | | | | | | | | | |
| Password: | ••••• | | | | | | | | |
| Tip: ABox supports two configuration modes, one is ordinary MQTT server, and the other is Alibaba Cloud IoT server. The two modes cannot be run at the same time, please select one of the modes according to your needs for configuration | | | | | | | | | |
| Default | Read Write | | | | | | | | |

(4) According to the connected PLC, select the corresponding serial port or network port to create a new device, add the "communication command", and change the "publish mode" of the data to the "high-performance" mode. After configuring the data to be monitored, click "Start Data Monitoring".

| Order Name : | temperature | Data Format: | Word | - |
|-------------------|------------------|---------------------|------------------|---|
| | | l. | | |
| Data Object : | D - | StartAdrr : | 100 . | ~ |
| Adding Mode : | Add individually | ABox Mapped : | D 1000 | |
| - MQTT | | | | |
| Data Type: | INT16U 👻 Len : | Publish Mode: | High performance | - |
| Trigger mode : | Value changes | Trigger condition : | | • |
| Min Value : | | Max Value : | | |
| Publish interval: | (s) | Note : [| | |
| IsCache : | Disable 🔻 | | | |

(5) Exit the current ABOX configuration. In the main screen, "Enable OPC" will be displayed, which will be enabled after clicking.

| Username: vanessa | 0 – 🛛 🗙 |
|---|--------------------------------------|
| A A A A | |
| Please enter the device name or ID Q 4 我的设备 | Device Name : test111 |
| U test111 499098207C1314081 | Device ID : 499098207C1314081 |
| group1 | Online status : Online |
| | Networking: WiFi |
| | Version Info: H2 / v2.1.1 (A-BOX) |
| | Remarks : |
| | |
| | |
| | |
| | Delete Device Add collect Enable OPC |
| | |

(6) In the menu bar, click OPC function option. Click "Enable Service" to start OPC Server function. In advanced settings, you can set whether to start automatically after power on, as well as server address and server port.

| 用白夕、VINIEtect | | | |
|---|--------------------------|---|--------------------|
| | | | $- \odot - \Box X$ |
| 新建设备 か 新建设备 46085173D2305858 《 | 用户信息: | OPC服务信息 | OP ₹ ° |
| | 运行状态: | 盒子数量: | Opc 客户端: |
| | | OPC服务运行 | 信息 |
| | 数据服务 • 连接状态 • 高级设置 | 04-20 15:19:45 :程序开始启动,初始化相关功能 04-20 15:19:47 或建築务器佳程成功 04-20 15:19:48 :程序初始化成功 04-20 15:19:51 : OpcServer都开注读 | 模块. |
| | | | |
| 用户名: subocynic Opc | 高级设置 | | × छ − छ × |
| ★ 新建设备 51119614985747418 | OPC | 参数设置 | D₽₹° |

| | Opc高级设置 | |
|----------------------------|----------------------------|------------|
| 新建设备 51119614985747418 | OPC参数设置 开机自动启动: |)₽₹° |
| | 数据服务器地址: mqtt.x-net.info |)pc 客 户 端: |
| | 数据服务器端口: 1883 (1000-60000) | |
| | 服务通信端口: 4545 (1000-60000) | |
| | 服务日志端口: 4546 (1000-60000) | |
| | 武以参数 读取 写入 | |
| | | |

The status indicator turns green after successful startup.

| 用户 | 名: XINJE | | | | | | 0 – 🛙 🗙 | |
|----------|--------------------------|---------------------|---|---|----------------|---|-----------------|--|
| î | 新建设备 046085173 | * D230585 | B | ٢ | 用户信息:XINJEtest | OPC服务信息 | OP ₹ ° | |
| | | | | | 运行状态: | 盘子数量: | Opc 客户端: 经 0 | |
| | | | | | 数据服务• 连接状态• | OPC服务运行信息 04-20 15:20:40 程序开始启动、初始化得关动器模块。 04-20 15:20:41 盒子: 046085173D2305858先成指令数量初始化。 04-20 15:20:41 盒子: 046085173D2305858先成指令数量初始化。 | | |
| | | | | | | | | |

(7) After successful startup, open KingView software. Create a new project, after entering the project, click "OPC Server", create a new OPC Server, and select "XINJE OPC Server".

| ▲ 工程规法器····删试OPC | - 0 × |
|--|----------|
| L 地図 (加固) 3 音 (M) L 単 (II) 単和(II) Te (II) Te (III) Te (III) Te (III) Te (III) Te (IIII) Te (IIII) Te (IIIII) Te (IIIIII) Te (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | |
| Note 回回 ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● | □ °, 半 ¥ |

(8) Click "Data Dictionary" to create new data and variable type, and select "I/O Discrete", "I/O Integer" or "I/O Real" according to the variable type of PLC. Select "Local XINJE OPC Server" for "Connection Device". Select by OPC level in "Register" to determine the last data point. You can modify the read/write properties of data points on this page.

| 定义变量 | | > |
|-----------------------------------|-------------------------------------|--------------|
| 基本属性报警定 | 2 记录和安全区 | |
| 变量名: 变 量类 型: 描述: | //0整数 | |
| 结构成员: | | _ 成员类型: |
| 成员描述: | | |
| 变化灵敏度 | 0 初始值 | 0.000000 |
| 最小值 | 0 最大值 | 9999999999 |
| 最小原始值 | 0 最大原始值 | 9999999999 |
| 连接设备 | 本机\XINJE OPC Server 🔻 | 采集频率 1000 毫秒 |
| 寄存器 | | 转换方式 |
| 数据类型: | Server | ◎ 线性 ◎ 开方高级 |
| 读写属性: | 设备 1的设备,新建设备 3- 我的设备,新建设备,设备1 | |
| | | |
| | | 确定 取消 |
| | < > | |

(9) Create a new screen, bind data, and set corresponding input/output attributes according to the attributes of data points.



Configured data dictionary before selecting:

| ■ 选择变量名 | | | | | | × |
|---------|--|-------------|-----|-----------|----------|---|
| 🔟 🏥 🏛 🖺 | 变 重域: 〈无〉 | – iz | 滤器: | 〈无〉 | • | |
| | 变量名称 | 变量类型 | 报警组 | 安全区 | 连接设备 | ^ |
| | | 内存实型 | | | | |
| | 33 \$日 | 内存实型 | | | | |
| | 33 \$8寸 | 内存实型 | | | | |
| | 22 \$分 | 内存实型 | | | | |
| | 22 \$秒 | 内存实型 | | | | |
| | ₩\$日期 | 内存字符串 | | | | |
| | 叠\$时间 | 内存字符串 | | | | |
| | ₩\$用户名 | 内存字符串 | | | | |
| | \$ | 内存实型 | | | | |
| | 10\$启动历史记录 | 内存离散 | | | | |
| | 10\$启动报警记录 | 内存离散 | | | | |
| | 10\$启动后台命令语言 | 内存离散 | | | | |
| | 10\$新报整 | 内存离散 | | | | |
| | 8双机执备状态 | 内存整型 | | | | |
| | 器 \$ 春秋 | 内存实型 | | | | |
| | 8 \$ 网络状态 | 内存整型 | | | | |
| | ····································· | то寧對 | | Ŧ | ★机\XINTE | |
| | 帰温度 | IO整型 | | 无 | 本机\XINTE | |
| | · · · · · · · · · · · · · · · · · · · | | | 74 | | ~ |
| | < | | | | > | |
| | | | | | - | |
| /本站点\温度 | | | | <u>确定</u> | | |
| | | | | | | |

(10) After saving, the operation screen can be seen that the screen in the operation system corresponds to the ABOX register and the data in the PLC.



| ABox ID:499098207C1314081(H2/V2.2.0) | | | | | | 🐵 — 🖾 🗙 |
|---|----------------|---------------------------------------|--------------------|---------------|---------------------|-----------------------|
| Base SetUp | Ę | Data Monit | | | ort ans | System SetUp |
| Data Monit Right-click node add function | | | | N | IQTT server | Start data monitoring |
| СОМ0 | ComPort: Ether | net (111) VriteOrder Use the Delet | e key to Delete th | e selected it | Batch Order | Add Order |
| | Order Name | Device Name | Object Addre | Date Num | Abox's Object Addre | Order Note |
| | switch | 111 | M90 | 1 (BOOL) | M10-M10 | OFF |
| -111 | temperature | 111 | D1000 | 1 (INT16U) | D10-D10 | 13 |
| - Tree Monit | | | | | | |

10. Q&A

Q1: The A-BOX you just got is directly connected to the computer with the network cable, and the LAN is not connected.

A: There are several steps to solve the problem:

(1) Connect the network cable directly to the computer and check the IP address automatically obtained by the computer. The factory default assigned IP address of A-BOX series is 192.168.1.xxx. And use the "ping" command to ping whether 192.168.1.1 is pinged.

(2) If two IPV4 addresses appear in the computer network card details center, you need to uninstall the corresponding network card driver in the Device Manager, and then scan and install again.

(3) Open the BOX Manager and confirm the LAN connection interface. The "Laptop Adapter" selects the Ethernet network card connecting A-BOX, click setting.

| Remote Mode | Lan N | Лode | | 0 — X |
|----------------------|---------------|-----------|------------------|---------|
| | | | | |
| Device ID : | 499-098-207 | 7-C131-40 | 81 | • |
| Password : | 12345678 | | | |
| Laptop Adapter : | Ethernet 2 | | ~ | Setting |
| | Query Availat | ole | Connected Device | |
| Delete this device h | istory | | | |

Q2: Why does the black box flash back or the VPN startup information gets stuck during VPN?A: Check whether the TAP-Windows Adapter V9 driver is available in Network Connection.



If not, please reinstall "XNetConfigTool". Recheck the above drive after installation.

| > XNetConfigTool v 🕐 搜索"XNetConfigTool" | | | | |
|---|--|------------------|------------|--|
| ^ | 名称 ^ | 修改日期 | 类型 | |
| | 3 XNetSetup_2020_03_24_v2.2.070_Beta.exe | 2020/8/15 10:01 | 应用程序 | |
| | XNetSetup配置工具安装说明.pdf | 2018/12/26 10:46 | WPS PDF 文档 | |
| | | | | |

Q3: No authorization information is detected during USB passthrough.

A: In the computer "Control Panel", find "Bonjour" in the "Uninstall Program", and right-click to uninstall. Then install the Xnetconfig tool again.

| XNetConfigTool | ~ | Ū | Q | 搜索"XN | etConfigToc |
|--|---|---|---|-------|-------------|
| 名称 | | | , | ^ | |
| TNetSetup_2020_03_24_v2.2.070_Beta.exe | | | | | |
| XNetSetup配置工具安装说明.pdf | | | | | |





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