

W-BOX Wireless communication module

User manual

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1. Introduction

1-1. Product overview

WBOX is wireless communication module based on wifi, it supports X-NET and Modbus-RTU protocol. It is widely used in automation system with XC, XD series PLC, to wireless mointor the automation system.

WBOX has two models: WBOX and XD-WBOX-ED. Some model include "L" means installing 3 meters extension antenna. The standard model appearance is as below diagram:



- Performance features
- Support 2.4GHz wireless WLAN technology
- Support AP mode (wireless hotspot) and STA mode
- ➢ W-BOX has RS232, RS485 port
- > XD-WBOX-ED is left extension TTL access
- Support wireless hotspot (same SSID) roaming technology
- Compatibility
- > XD series PLC provides data support for XD-WBOX-ED and W-BOX
- > XC series PLC provides data support for W-BOX
- Modbus RTU equipment provides data support for W-BOX
- Support RS232, RS485, TTL serial port
- Support Modbus-TCP protocol (not over 4 devices connection);
- Support X-NET protocol, support XINJE Cloud.

Sarias		W-BOX	XD-WBOX-ED		
Selles	Support	Version	Support	Version	
XD $$		Firmware V3.4.5 and up XDPPro V3.5.1 and up	\checkmark	Firmware V3.4.5 and up XDPPro V3.5.1 and up	

Suitable PLC version

XC	XC√XC2 series and up models XCPPro V3.3r and up		×	-
ModbusRTU	dbusRTU $$ Support 0/1/3/4 type address		×	-

Note:

- (1) It needs to switch working mode by DIP switch 2 for W-BOX connecting XC/XD series PLC.
- (2) W-BOX can be used to integrated PLC&HMI controller.
- Application functions

The data collection module can perform online program, real-time monitor, data upload and download in LAN working mode by using the PLC software XCPpro and XDPpro. It also supports other software monitoring the PLC such as WINCC, OPC.



The data collection module can perform online program, real-time monitor, data upload and download in WAN working mode by using the PLC software XCPpro and XDPpro. XINJE Cloud supports remote equipment management.



- Application fields
- Workshop production process monitoring
- > Warehouse logistics system wireless scheduling
- Remote diagnosis, online programming
- Intelligent household, saloon car
- Production and processing
- Digital workshop reconstruction
- Digital signage

2. Performance

2-1. Product structure

■ XD-WBOX-ED



W-BOX



Antenna



L type extension antenna

standard antenna

- 2-2. Dimension and installation
 - XD-WBOX-ED

The dimension is 25.0 mm ×100.0 mm ×90.0 mm. It can install on the rail DIN46277(width 35 mm) with M3 screw.



■ W-BOX

Dimension is 71.0mm×92mm×66.7mm. It can install on the rail DIN46277(width 35mm) with M3 screw.



Note:

- (1) Please do not let the chip and wire cutting fall into the module when operating the screw hole and wiring project.
- (2) Make sure the specification of module and equipment before wiring.
- (3) Please check whether the connection is fixed when wiring. The disconnection of wire will cause data incorrect, short circuit and so on. please cut the power supply before installation and wiring.

2-3. Power supply

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

2-4. Communication port

■ RS232 port (fit for W-BOX)

RS232 is 9-pin hole, the terminal is as below:

(1 2 3 4 5)	2	RXD
$\langle \cdot \cdot \cdot \cdot \cdot \cdot \rangle$	3	TXD
6789	5	GND

DB 9-pin

The wiring diagram of PC and W-BOX:



The wiring diagram of XC/D series PLC and W-BOX:

XC-PLC

W-BOX



■ RS485 port (fit for W-BOX)

B A	0V	+24V
-----	----	------

W-BOX has one RS485 port (terminal A, B), as above diagram showing. Terminal A is RS485+, terminal B is RS485-.

Note: it cannot support RS485 when W-BOX is set to X-NET communication.

Module name	Protocol	Suitable model	Default serial port information
W-BOX(S2: OFF)	Modbus	XC2 and higher	19200,8,1,E
	RTU		
W-BOX(S2: ON)	X-NET	XD series integrated	XNET-PPFD-RS232/TTL, 115200,
		PLC&HMI controller	network number and station
			number can be set freely
			XNET-PPFD-TTL, 1000000,
XD-WBOX-ED	ED X-NET	XD series	network number and station
			number can be set freely

■ Serial port information

2-5. Status indicator

PWR
COM
WIFI
LINK

The status light will light according to the function after the module is energized.

Light	Function					
PWR	The light is on when the module is energized.					
COM	The light is flashing when the serial port parameters of XD series PLC and module					
	are same and the module serial port has communication data when connecting					
	XC/Modbus RTU devices.					
WIFI	The light is always on when AP mode module is connected.					
	The light is always on when STA mode accessing AP.					
	The light is flashing when SSID or password is error.					
	The light is off when AP mode or cannot find specified SSID.					
LINK	The light is on when W-BOX successfully logs in the server.					

Note: WIFI and LINK light will flash every 1 second in configuration mode.

2-6. Signal intensity

	L2
	L1
\mathbf{k}	L0

The signal intensity attenuation changes from negative value to 0, the larger the negative number, the weaker the signal, the stronger the vice versa. The signal intensity can be stored in single word register, the signal intensity cannot lower than -65dBm.

Mode	L2	L1	L0	Notes (Unit: dBm)	
STA	\checkmark	\checkmark	\checkmark	Signal intensity 0~-55	
	×	\checkmark	\checkmark	Signal intensity -56~-65	
	×	×	\checkmark	Signal intensity -66~-80	
	×	×	×	Signal intensity <-80	
AP	\checkmark	\checkmark	\checkmark	The exsited terminal connected with wifi	
				hotspot of WBOX	
	O	O	O	Not exsited or terminal disconnected with wi	
				hotspot of WBOX	

Note: " $\sqrt{}$ " means always on, " \times " means always off, " \bigcirc " means flashing.

2-7. DIP switch



XD-WBOX-ED

S1	S2	S3	S4	Function
OFF	-	-	OFF	Running mode
ON	-	-	OFF	Configuration mode (needs to restart)
-	-	-	ON	Factory mode
Others				No definition

Note: serial port parameters and configuration parameters only can be written in in configuration mode. The running mode can only read these parameters.

■ W-BOX

S1	S2	S3	S4	Function
OFF	-	-	-	Running mode
ON	-	-	-	Configuration mode (needs to restart)
-	OFF	-	-	Modbus RTU mode
-	ON	-	-	X-NET mode
Others			No definition	

Note: serial port parameters and configuration parameters only can be written in in configuration mode. The running mode can only read these parameters.

■ Configuration notes

Please re-power on the module after setting the DIP switch.

Module name	Communication	Suitable model	Default serial port information	
	protocol			
W-BOX(S2:	Modbus RTU	XC2 or higher	19200,8,1,E	
OFF)				
W-BOX(S2: ON)	X-NET	XD integrated	XNET-PPFD-RS232/TTL, 115200,	
		PLC&HMI	network number and station number	
		controller	can be set freely	
XD-WBOX-ED	X-NET	XD series	XNET-PPFD-TTL, 1000000,	
			network number and station number	
			can be set freely	

2-8. Product features

Parameter	Description
Working frequency	2.4GHz
Environment	-40 C~85 C
temperature	
Signal sensitivity	Tx power
	18.0 dBm @ 1 DSSS
	14.5 dBm @ 54 OFDM
	RX sensitivity
	-95.7 dBm @ 1 DSSS
	-74.0 dBm @ 54 OFDM
Working mode	Base station, access point(AP) and Wi-Fi Direct mode
Power consumption	Support RTC dormancy: 4 µA
mode	Low power deep sleep(LPDS): 120 µA
	RX flow(MCU activation): 59 mA@54 orthogonal frequency division
	multiplexing(OFDM)
	TX flow(MCU activation): 229 mA@54OFDM, max power
	Free connection(MCU in LPDS): 695 μ A @ DTIM = 1
The encryption	256 bits AES encryption fast and safe Internet connection for TLS and
engin	SSL

3. Configuration parameters

First turn on DIP switch S1 before configuration, then re-power on the module. The WIFI light and LINK light will flash every 1 second. Click the WBOX item in the left side of PLC software to enter the configuration window.

	Xinje XD/E Series PLC Program Tool
File Edit Search View Online	Configure Option Window Help
📄 😅 🛃 🔏 🛍	🗇 💠 🎢 🖮 🚍 🚑 🚱 🐥 🐥 🏠 💶 🔒 🝰 🛤 🛄 🔯 📾
TIL SINS Del SDel F5 F6	- 11 ⁺ - 1 ⁺ / ₁ - ζ> - ⟨R> - ⟨S> {_}} K + I = K +
Project # × PL	C1 - Ladder
Project ^	
PLC1	
Code	0
Ladder	DLC1_WROV_Set
Euro Block	PLCT - WDOX Set
Config Block	B-B-PLC Config geneal remote communication Special
S Sequence Block	
Comment Editor	Meassword Meassword Meassword
Free Monitor	ethemet ethemet port: 3 V Mode: Station V
Data Monitor	AP Mode: WBox provides a hot
IO Monitor	Bool Module O Automatically obtain IP address with device.
Set Reg Init Value	BD Use the following IP address
Password	WBOX SSID:
PLC Serial Port	subnet mask: . Password:
🖳 🖳 ethernet	
Pulse	Denduli gateway.
	i i edu into
BD BD	
ED ET	
D. 4GBOX	
WBOX	Read From Write To OK Cancel
CPU Detail	
BOD Expansion Details	
980 BD Details	

3-1. Device information

The software can read the module version and ID which also exsit on the module label.

		PLC	1 - WBOX	Set		×
PLC Config	geneal	remote communic	ation Speci	al		
···· I/O ···· I/O ···· I/O Password ···· I/O ···· I/O ····· I/O ····· I/O ····· I/O ····· I/O ····· I/O ····· I/O ····· I/O ····· I/O ····· I/O ······ I/O ······ I/O ········ I/O ······ I/O ······· I/O ····································	el • IP: subi	hemet port: Automatically obt Use Info Use Info Ve ID	3 ain IP address ersion: 1 .1 .1 9: 020 002 002	s e080 0001	Mode: APMode:W spot. PC link with device. SSID: Password:	/Box provides a hot it and communicate
	Def	ault g	d From	确定 Write To		Read Info

3-2. Network mode

Choose AP working mode in the general tab. The default mode is station which is STA mode.

	PLC1 - WBOX Set	×
PLC Config	geneal remote communication Special	
Password Password PLC Serial Port Public Se	ethemet port: 3 v a Automatically obtain IP address Use the following IP address IP: .	Mode: APMode:WBox provides a hot spot. PC link it and communicate with device.
	subnet mask: . Default gateway: .	Password: Read Info
	Read From Write To	OK Cancel

■ AP mode

AP is wifi access point, the creator of wireless network, the central node of network. When WBOX is set to AP mode, it will not access other wireless network, the wireless receiving terminal can search the module SSID.

WBOX uses wireless WLAN technology, works at 2.4GHz. it uses hidden SSID which needs user input SSID by manual.

Module name	Hidden SSID name	
XD-WBOX-ED	WBOX_ED	
W-BOX	WBOX	

When the three lights on the module is flashing, it means allow user can wireless connection. Always ON means the connection is successful or user already accessed the module.



The module built-in DHCP server will automatic allocate IP, gateway, subnet mask for wireless receiving terminal which supports DHCP Client in AP mode. Some devices cannot support it. Please refer to below table to configure the terminal device information.

Parameter	Value
IP address	192.168.1.2
Subnet mask	255.255.255.0
Default gateway	192.168.1.1
DHCP server	192.168.1.1
DNS	192.168.1.1

In AP mode, the upper device can online debug PLC program, upload and download program and monitor the program through the LAN. WBOX supports Modbus TCP protocol and X-NET fieldbus protocol.

■ STA mode

STA station cannot accept wireless access but it can connect to AP, the general wireless network card works in this mode. It needs to appoint the correct SSID and password of accessing target AP in this mode.

	PLC1 - WBOX Set	×
PLC Config	geneal remote communication Special	
···· <u>I</u> vo I/O ····w Password ····∰ PLC Serial Port ····∰ ethemet ·····∰ Pulse ····⊡ Module ····BD BD	ethemet port: 3 Mode: St APMode:WBox spot. PC link it and with device.	ation v provides a hot d communicate
GED ED GED 4GBOX WBOX	IP: SSID: xinji subnet mask: . Password: test	etest 12345
	Default gateway: .	ad Info
	Read From Write To OK	Cancel

Make sure to restart the module after setting the SSID and password, otherwise the settings cannot be effective.

Light	Status description
WIFI	Light is always on when module is connected in AP mode.
	Light is always on when accessing AP module in STA mode.
	Light is flashing when SSID or password is error.
	Light is always off when AP mode or cannot find setting SSID.
LINK	Log in target server successfully, it means WBOX successfully
	log in the server.

In STA mode, the upper device can online debug PLC program, upload and download program and monitor the program by XINJE Cloud SCADA through the LAN or WAN. WBOX supports Modbus TCP protocol and X-NET fieldbus protocol.

3-3. IP address

PLC1 - WBOX Set	×
PLC Config Image: PLC Config Image: PLC Serial Port Image: PLC Serial Port <td>hot cate</td>	hot cate
Read From Write To OK	ancel

The module can automatic obtain the IP address and set the static IP in STA mode. The recommended application mode is shown as below:

Typical application	Configuration	Communication	Others
	mode	mode	
HMI, OPC, SCADA(WINCC)	Static setting	Modbus TCP	
XCPPro, XDPPro online	Automatic	X-NET	Id automatic searching
programming, XINJE Cloud	obtain		communication
monitoring			
PLC fieldbus communication	Static setting	X-NET	specified IP
			communication

3-4. Remote parameters

It needs to set the parameters for remote monitoring function such as remote debugging, upload and download PLC program, XINJE Cloud monitoring.

	PLC1 - WBOX Set	×
PLC Config I/O Plassword PLC Senal Port ethemet OTM Module BD ED ED J 4GBDX WBOX	geneal remote communication Special enable remote: Image: Communication Special comm port: 3 Image: Communication safe mode: safe mode 1 Image: Communication domain name: Image: Www.x.net.info Image: Communication ip address: 61 160 67 86 dev password: 12345678 Image: Communication Image: Communication	
	Read From Write To OK	Cancel

■ Enable remote communication

After enabling the remote communication, the module will log in targert server according to user setting information(the server needs to install XINJE server).

Note: if enabling the function in the network which cannot support accessing external network, the reliability of module sign bit and wireless roaming function.

Safe mode

Only support safe mode 1 by now.

■ Server info

Server info includes server domain name and IP address. When the module is connecting server, it will resolve the domain name server, if log in server is failed, it will connect with setting server IP. If both is error, the log in is failed.

Device password

The device password is to improve the security of device remote access. User can set the password as needs.

3-5. Module mark bit

	PLC1 - WBOX S	Set	×
PLC Config 	geneal remote communication Special User Image: Communication Special Image: Communication Image: Communication Special Image: Communication Image: Communication Special Image: Communication Image: Communication Image: Communication Image: Communication Image: Communication	Function Enable Roam critical value: -60 -	
	Read From	Write To OK Cancel]

■ Log in flag

The log in flag can show the status of module log in the remote server. The module will write the status to target address every 5000ms. 1 means log in succeed, otherwise it is 0.

	PLC1 - WBOX S	Set ×
PLC Config To Password PLC Serial Port Pulse Pulse Pulse Pulse Pulse Pulse Pulse Pulse Pulse WBOX WBOX	geneal remote communication Special User Enable Logon Flag M v 0 Image: Comparison of the second seco	Function Enable Roam critical value: 60
	Read From	Write To OK Cancel

■ Link flag

The link flag is the connection status between module and AP. The status will be written to target address every 5000ms. 1 means connecting wifi succeed, otherwise it is 0.

	PLC1 - WBOX Set		×
PLC Config IVO Password PLC Serial Pot ethemet Pulse IVO Pulse IVO Pulse IVO Pulse VIO BD ED IVO VIO BD ED VIO WBOX	geneal remote communication Special User Enable Logon Rag M v 0 v Enable Link Rag M v 0 v Enable Signal Rag V 0 v	Function Enable Roam critical value: -60 -	
	Read From	Write To OK Cancel	

■ Signal flag

The signal intensity is attenuation changing, from negative number to 0, the greater the negative value, the weaker the signal, and vice versa. The signal intensity can be stored in single word register, the value cannot be lower than -65dBm. The module has signal intensity light. Please refer to performance parameter—signal intensity.

3-6. Wireless roaming

The wireless device is moving in the wifi covering area, the module will automatic detect the SSID signal intensity allowed to access in all the AP, and automatic switch in a short period of time according to user setting signal intensity threshold.

The typical switching time of wireless roaming is 1000-5000ms, it can perform by the networking scheme AP+AC+router.

	PLC1 - WBOX Se	et 🛛 🗙
PLC Config I/O Password PLC Serial Port ethernet Pulse 000 Module ED ED I 4GBOX WBOX	geneal remote communication Special User Enable Logon Flag Enable Link Flag Enable Signal Flag Enable Signal Flag 	Function Functi
	Read From	Write To OK Cancel

Note: if enabling this function in the network which cannot support accessing external network, the reliability of module flag bit and wireless roaming function will be changed.

3-7. Intialization

	PLC1 - WBOX Se	et ×
PLC Config	geneal remote communication Special User Enable Logon Flag ① Enable Link Flag M O © C Enable Signal Flag O © O © O © O O	Function Functi
	Read From	Write To OK Cancel

The intialization function can set all the parameter to out of factory status, the default parameters are shown as below:

Parameter	status
Serial port info	XNET—PPFD—TTL—1M/115200
	Modbus RTU-19200-8-1-E

Network mode	STA mode, no SSID, password
IP address	Automatic obtain
Remote parameters	disable
Module flag bit	disable
Wireless roaming	disable

4. Using steps (XD series)

- 4-1. Preparing tasks
 - ► XD-WBOX-ED V1.1.2 and up
 - ▶ W-BOX V1.1.2 and up, DIP switch 2 is ON
 - > XD series PLC firmware V3.4.5 and up
 - > XDPPro software V3.5.1 and up
 - ➤ XINJEConfig tool V1.6.375 and up
 - > XD series PLC programming cable
 - > PC which can access Internet

4-2. Hardware configuration

XD-WBOX-ED: make sure the PLC firmware, programming software and XINJEConfig version meet the above requirements. The connection method is shown as below for ED module configuration.



W-BOX: make sure the PLC firmware, programming software and XINJEConfig version meet the above requirements, and DIP switch 2 is ON. W-BOX and XD series PLC only supports RS232, but cannot support RS485, the connection method is shown as below:



4-3. Serial port configuration

XD series PLC serial port can set to Modbus, XNET(OMMS/TBN/PPFD), free communication protocol. Make sure to match below parameters when connecting WBOX. The network number and station no. is recommended to use default parameters.

	XD-WBOX-ED	W-BOX
Communication protocol	XNET-PPFD	XNET-PPFD
Serial port speed	1000000bps	115200bps
Physical layer	TTL	RS232
Network number	32768	32768
Station number	1	1
DIP switch S2	-	ON

Please re-power on the module as the following DIP switching settings when user needs to configure the serial port information.

S1	S2	S3	S4	Function
ON	-	-	OFF	Configuration mode
OFF	-	-	OFF	Running mode

Please turn on DIP switch S1 for configuration. After re-powering on the module, WIFI and LINK light will flash every 1 second in configuration mode, and the related PLC serial port parameters are set to default parameters. The write-in parameters will be effective after re-power on. When the serial port parameters are consistent, the module COM light will periodically flash in XNET mode. Note: the default serial port speed can fit for most applications, if the local electromagnetic interference is very serious, please reduce the speed.



4-4. AP mode

1. when the serial port parameters are consistent, the module COM light will periodically flash in XNET mode. Please enter configuration mode by clicking the WBOX tab on PLC software left side.

E		Xinje XD/E Series PLC Prog	ram Tool
File Edit Search View Online	Configure Option Window Help		
📄 😅 🗟 👗 🗈 🖺	🔶 🔶 🏔 🗎 🖬 🍊 🤇	🔉 🐣 🌺 🍙 🗖 🔒 🔒	調 🚉 🔍 🕰 🚥
Ins sIns Del sDel F5 F6	$\begin{array}{c c} +\uparrow + & +\downarrow + & -\langle \ + & -\langle \ R\rangle & -\langle \ S\rangle & \{ \ \} & -\\ sF5 & sF6 & F7 & sF8 & sF7 & F8 & F \end{array}$		HM T-C-S 🔜 🔍 🍳
Project # × PLC	.C1 - Ladder		
Project ^			
E PLC1			
E Code	0		
d Instruction List		PLC1 - WBOX Set	×
Func Block	PLC Config	geneal remote communication Special	
Comment Editor	₩ Password ₩ PLC Serial Port ♥ ethemet	ethemet port: 3 v	Mode: Station v
IO Monitor		Automatically obtain IP address	spot. PC link it and communicate with device.
Set Reg Init Value	BD BD	O Use the following IP address	
<u>I/0</u> I/O	- B 4GBOX	IP:	SSID:
Password	E WBOX	a de standa	Paseword
ethernet		Subrici masic.	
		Default gateway: .	
			Read Info
BD BD	ormation		
ED ED Erro	or List Outpu		
WBOX	Descript		
PLC Status		Read From Write To	OK Cancel
- 🔁 CPU Detail			

2. choose AP mode in general tab.

PLC Config	remote communication Special	
Password PLC Serial Port ethemet Pulse Wodule ED BD	ethemet port: 3 Automatically obtain IP address Automatically obtain IP address Use the following IP address	hot cate
ED 4GBOX WBOX	IP: . SSID: subnet mask: . Password: Default gateway: . Read Info	
	Read From Write To OK Ca	ancel

3. the module uses wireless WLAN technology, works at the frequency range of 2.4GHz, hidden SSID, user needs to input SSID info in the hidden network.

Module name	Hidden SSID name
XD-WBOX-ED	WBOX_ED
W-BOX	WBOX

The three lights on the module flashing at the same time means allow user wireless connection. Light always on means connection succeeful or exsited user connected to the module.



In AP mode, the module built-in DHCP server will automatic distribute access IP, gateway and subnet mask for wireless receiving terminal which supports DHCP Client technology. Some equipment cannot support it, user can refer to terminal device information.

	Ethernet Status ×	Network	Connection Details
General		Network Connection Details	:
Connection IPv4 Connectivity IPv6 Connectivity Media State: Duration: Speed: Details Activity Bytes:	: Internet : No Internet access Enabled 06:50:20 100.0 Mbps Sent — Received 80,229,223 159,628,762 Wight Diagnose	Property Connection-specific DN Description Physical Address DHCP Enabled IPv4 Address IPv4 Subnet Mask Lease Obtained Lease Expires IPv4 Default Gateway IPv4 DNS Server IPv4 WINS Server NetBIOS over Tcpip En Link-local IPv6 Address IPv6 DNS Server	Value Realtek PCIe GBE Family Controller #2 74-D4-35-3D-41-EA Yes 192:168.0.148 255:255:254.0 Monday, January 22, 2018 8:14:21 AM Tuesday, January 23, 2018 8:14:21 AM 192:168.0.1 192:168.0.1 192:168.0.1 221:228:255.1 218:2:135.1 Yes fe80::c1a1:975f:348e:86a6%4
	Close		Close

4. when using WBOX to connect XDPPro for online debugging, the connection methods is as below: open XD programming software v3.4.2, choose XNET protocol for serial port setting, choose Ethernet for port, not choose find by ID option, click OK to connect PLC successfully.

XNet Communication Config		
config Service		
connect mode:	find device V	
port:	ethemet v	
🗌 find by id	000-000-0000-0000	
service is stopped v1.6.381		
Modbus	OK Cancel	

5. for PLC version v3.5 and up, the PLC device ID is shown in PLC CPU detail.



See below diagram, click serial port config/find device/Ethernet port/find by ID. Please refer to application for Modbus TCP mode.

Ē	Xinje XD/E Series PLC Program Tool
File Edit Search View Online Configure Option Window	Help
📄 😅 🗦 🔏 🛍 🛍 🏟 🔶 🗥 🖻 📑 e	i 🚱 🚱 🐥 🌺 🍙 💶 🔒 🝰 🖼 🧱 🗟 📼
Image: Sins Del sDel F5 F6 sF5 sF6 F7 sF8 sF7	{ _₽ } <u></u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u>
Project 4 × PLC1 - Ladder	
Project	
Code 0 Code 0	XNet Communication Config
Comment Editor Comme	connect mode: Ind device ▼ port: ethemet ▼ ✓ find by id 000-000-0000-0000
Image:	service is stopped v1.6.381 Modbus OK Cancel

4-5. STA mode

1. when the serial port parameters are consistent, the module COM light will periodically flash. Please enter configuration mode by clicking the WBOX tab on PLC software left side. Please turn on DIP switch S1 when configuring the module. And turn off the S1



switch after writing in successfully. Then restart the module again.

 when using WBOX connect XDPPro to online debugging in LAN, the module supports XD series PLC v3.5.1 and up.

Note: when using XNET communication protocol, multi-PLC can be accessed at the same time with one public WBOX in the LAN through XDPPro or XNET interface. It only supports one PLC accessing by upper device with one WBOX in WAN(XNET) or in modbus tcp mode.



3. the module uses wireless WLAN technology, works at the frequency range of 2.4GHz, not supports 5GHz frequency range. It needs to appoint the SSID, password when module is in STA mode. Confirm the write in configuration information and do the next step as the hint.

PLC Config	geneal remote communication Special	
Password PLC Serial Port ethemet Pulse Module BD	ethemet port: 3 ~ ~	Mode : Station APMode:WBox provides a hot spot. PC link it and communicate with device.
BD ED ED 4GBOX WBOX	Use the following IP address IP:	SSID: xinje 1234 Password: xinje 1234567 Read Info

Choose station for mode in general tab, the default setting is station mode, which is running in STA mode.

Note: WIFI light is always on when STA mode accessing AP. The light will flash when SSID or password is error. Refer to performance parameter—signal intensity for details of signal intensity.

It can automatic obtain the IP on the router which supported DHCP function or set static IP when the module accessing the wireless router.

Monitoring mode	Communication protocol	IP obtain mode
Online debugging	XNET	Automatic obtain
SCADA monitoring	Modbus TCP	Static IP setting
Remote monitoring	XNET	Automatic obtain

It needs to appoint the device IP and port when using Modbus TCP monitoring device. In order to ensure the device IP is fixed in the network every time, the device is set to static IP.

4. in STA mode, the flag bit function is enabled, the module writes in PLC internal address every 5000ms according to actual running status and user configuration information. The configuration mode, function meaning please refer to configuration parameters—module mark bit.

5. the PC accesses the network to build the LAN.

xinjexmb	PLC1 - WBOX Set		
114 已连接,安全	E- 📴 PLC Config	geneal remote communication Special	
♥ WBOX_ED _{开放}	I/0 I/O Password		
∉ xinjexmb 5G	PLC Serial Port	ethemet port: 3 V	Mode: Station V
// _{安全}	Pulse	Automatically obtain IP address	APMode:WBox provides a hot spot. PC link it and communicate
♥ WBOX_ED 3 _{开放}	BD BD	Use the following IP address	with device.
WBOX_ED 2	GBOX	IP: .	SSID: xinjexmb
¹¹⁷⁶ 开放 ⁻	WBOX	subnet mask:	Password: xj12332xj1234
<i>而</i> 123 _{安全}		Default gateway:	
G Office1_2.4GHz			Read Info
···· 安全 ·······························			
<u>网络设置</u>			
<i>(iii.)</i> = = = = = = = = = = = = = = = = = = =		Read From Write To	OK Cancel
WLAN 飞行模式			

6. the PLC hardware version must be v3.5 and up for LAN mode. User can search as PLC device ID, which can be found in PLC CPU details.

PLC Details			×
PLC Status CPU Detail BD Details ED Details Scan Cycle Clock Details Fror Details	Serial: XD5 Model: XD5-60T6 PLC HW Version: Suitable Software Version: device id:	V3.4.5 V3.4	or higher OK

When the module is in STA mode, it only supports XDPPro find device---ethernet port-find by

id. Please refer to application for Modbus TCP mode.

•		Xinje XD/E Series PLC Program Tool
File Edit Search View O	nline Configure Option Window	v Help
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대 SINS Del SDel F5	-	{_}} <u></u> + *12
Project 4 ×	PLC1 - Ladder	
Project		
Code	0	XNet Communication Config
Func Block		config Service
Sequence Block		connect mode: find device v
		port: ethernet V
		✓ find by id 000-000-0000-0000
PLC Config		service is stopped v1.6.381
PLC Serial Port		Modbus OK Cancel
Pulse		

4-6. WAN

- Module configuration
- (1) the module must work in STA mode, the configuration method please refer to LAN—STA mode.
- (2) The hotspot to be accessed must be with WAN(wide area network) access ability in STA mode.
- (3) Make sure the remote function is enabled, please refer to configure parameters---remote parameters.

PLC1 - WBOX Set			
PLC Config	geneal remote communication Special enable remote: Image: Comm port: 3 Image: Comm port: 3 safe mode: safe mode 1 Image: Comm port: <		
	Read From Write To OK Cancel		

Note: after the module accessed server successfully, the LINK light is ON, if there is connecting server successful flag, it will be written in PLC address every 5000ms, the address status is ON.

■ Remote monitoring

Make sure the PC connected to Internet successfully, XD series PLC version is v3.4.5 and up. XDPPro can access the device such as PLC, HMI in the Internet by verifying the WBOX device ID and password.

	PLC1 - WBOX Set	×
PLC Config PLC Config PLC Serial Port PLC Serial Port PLC Serial Port PLC Serial Port PLS PLC Serial Port PLS PLC Serial Port PLS PLS PLS PLS PLS PLS PLS PLS	geneal remote communication Special ethemet port: 3 Mode: Station Image: Automatically obtain IP address APMode:WBox provides a hot spot. PC link it and communicate with device. Use the following IP address Image: SSID: IP: Image: SSID: subnet mask: Image: Version: 1.1.1.1 ID: 020 002 002 e080 0001 Default gateway Image: Read Info	
	Read From Write To OK Cancel	

Different from LAN mode, in WAN mode, XD series PLC only supports the remote visiting of PLC which directly connected to the Ethernet module.



5. Using steps (XC series /Modbus RTU)

5-1. Preparation

- ▶ W-BOX V1.1.2 and up, DIP switch S2 is OFF
- XC2 series or higher series PLC
- Devices which supports Modbus RTU protocol
- XCPPro software V3.3r and up
- > XINJEConfig tool V1.6.375 and up
- > XC series PLC programming cable (XVP/DVP cable)
- ➢ RS232C cable (OP cable)

5-2. Hardware configuration

When the XC series PLC and integrated PLC&HMI controller use WBOX(Modbus mode), make sure the PLC hardware version and software version and XINJEConfig tool version accord to above requirements, and turn OFF DIP switch 2. The wiring method is as below:



5-3. Serial port configuration

XC series PLC serial port can be set to Modbus or free format protocol. When it is connecting WBOX, make sure to match below parameters. It is recommended to use default parameters.

Communication protocol	Modbus RTU
Serial port speed	19200bps
Data bit	8
Stop bit	1
Parity	even
Over time	300ms
Retry times	3
Sending delay	3ms

Please turn OFF DIP switch 2 and set to Modbus mode when configuring the module serial port. Please turn ON DIP switch 1 when configuring and re-power on the module. WIFI and LINK light will flash every 1 second in configuration mode, and change the PLC serial port parameters to default. The parameters will be effective after re-power on the module.

S 1	S2	S 3	S4	Function
ON	OFF	-	OFF	Configuration mode
OFF	OFF	-	OFF	Running mode

Note: the default serial port speed can meet most applications. If the electromagnetic environment is very bad, the speed can be reduced to reduce the impact of interference.

XC series serial port setting

ig Sof Serial Port(C) Baudrate(B) ○ 4800BPS ○ 9600BPS ¥ I9200BPS 38400BPS Blue Tooth Serial Port 115200BPS Parity(P) Other set Databits:8 ,Stopbits:1 This COM Port Not Exist XNet Protocol ? Automatic Detection OK Cancel Project Code Louden Comment Editor Comment Editor Free Monitor Data Monitor Set Reg Init Value PLC Config - BD BD PLC1 -PLC Config Password PLC Serial Port PLC Serial PLC Serial PLC Serial PORT PLC Serial PORT PLC Serial PL Serial Port 1 Communication Mode Modbus Num 1 User Protocol Overtime Set (ms) Char : 3 Reply : 300 1/0 I/O MA Module Serial Port User Protocol MA Motion 4GBOX Baudrate: 19200 BPS v Databits 8Bit ¥ Stopbits: 1Bit ¥ Eve ¥ Parity nfiguration effective.reboot PLC < Notice > Cancel Read From PLC Write To PLC ОК

WBOX serial port setting

•		Welc	ome to u	se this Config Tool
File (Config Help			
	AppointDevice			
	FindDevice	•	XNet Find	
	SingleDevice		ModBus Fin	4
	LocalMachine		Woubus Tim	4
	Localitacian			
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a	hooseComport	AutoTry	¥	DSearch
D	eviceType	WBox	¥	
D	eviceID		-	
		确定		Cancel
			,	
•••	(ComportCo	onfig	×
Com	portNo 1≑	1	MODBUS	
Choos	eNet	-	StationID	1 ≑
OX	_Net		BaudRate	19200 🗸
• M	lodbus		DataBits	8 🗸
□ O Fi	ree		Parity	Even 🗸
O P	C		Stop Bits	1 ~
O P Choo	C DSePHY RS232	¥	Stop Bits Reply Time	1 v 2000 ms
O P Choo	c ssePHY RS232		StopBits ReplyTime RetryTimes	1 v 2000 ms 3
Choo Rei	C sePHY RS232 adConfig WriteCom		StopBits ReplyTime RetryTimes SendDelay	1 v 2000 ms 3 ms

5-4. AP mode

1. COM light will flash when there is communication data in Modbus mode. Please confirm WBOX connection successfully through serial port configuration.

=		Vinio VD/E Spring	
		Xinje XD/E Series i	PLC Program Tool
<u>File Edit Search View On</u>	line <u>C</u> onfigure <u>O</u> ption <u>W</u> indow	<u>H</u> elp	
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Project 🛛 🗘 🗙	PLC1 - Ladder		
Project 🔨]		
- PLC1			
Code	0	Config Software	ComPort
	L	Serial Port(C)	Baudrate(B)
Data Monitor IO Monitor IO Monitor IO Set Reg Init Value PLC Config I/O I/O PLC Serial Port		Parity(P) None Odd Even Connect WBOX success XNet Protocol ? Automatic Detection	Other set Databits:8,Stopbits:1 n OK Cancel

2. Click WBOX in PLC software left side.

Ē	XCPPro
File Edit Search View Online Cor	figure Option Window Help
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TINS SINS Del SDel F5 F6 SF5	+₩ < > +₩ < > <
Project	PLC1 - Ladder
E-PLC1	
ie	
	PLCT - WBOX Set
Config Block	□ □ PLC Config □ □ Password □ ⊕ PLC Serial Port □ ⊕ D
	APMode: Station v -APM Save Hold Memo -BED Module -BED
Password	GOD MA Module Get IP By DHCP
BD BD	M Motion G Use Static IP WB0X SSID:
A Save Hold Memory	
- 000 Module	Mask: Password:
	Gate: . Read Info
Motion	
WBOX	< >>
PLC Status	
CPU Detail	Read From Write To OK Cancel
BD Details	

3. choose AP working mode in general tab, write to the module, and turn OFF switch 1, then

re-power on the module.

	PLC1 - WBOX Set	×
PLC Config Password PLC Serial Port BD BD Can CAN M Save Hold Memo DD Module To I/O DD MA Module M Motion J 4GBOX WBOX	General Remote Special Ethemet Port: 3 Mode: Image: Special APMode: Spot. Image: Spot. PC link if with device. SSID: Image: SSID: Image: SSID: Image: SSID:	WBox provides a hot t and communicate
< >>		
	Read From Write To O	K Cancel

4. the module uses WLAN technology, works at 2.4GHz frequency range, hidden SSID, it needs to input SSID information by manual in hidden network.

Module type	Hidden SSID name
W-BOX	WBOX

When three indicator lights are flashing at the same time, it allows user to wireless access. Light always ON means the connection is successful or exsited user connecting to the module.

×±	。	% WBOX
	资全	已连接,开放
×±	C XINJEYILOU5G	♥// WBOX
	安全	开放
×±	(XJ_4000525	♥// WBOX_ED
<i>ん</i> あなたのことが大好き	安全	开放
v±	(大米	<i>備</i> xinjexmb_5G
¶ Guest_2.4GHz	_{安全}	安全
7.02	9 Guest_2.4GHz	派 xinjexmb
% 隐藏的网络	开放	安全
から 輸入网络的名称(SSID) WBOX ×	院職前の内容 开放	♥// WBOX_ED 3 开放
下一步取消	取消	₩BOX_ED 2 开放
<u>网络设置</u>	— <u>网络设置</u>	网络设置
the the	li, th	<i>(</i> а. Ъ
WLAN 飞行模式	WLAN 飞行模式	wLAN 飞行模式

In AP mode, the module built-in DHCP server will automatic distribute access IP, gateway and subnet mask for wireless receiving terminal which supports DHCP Client technology. Some equipment cannot support it, user can refer to terminal device information.

eral	Network Connection Detai	s:
nnection	Property	Value
IPv4 Connectivity: Int IPv6 Connectivity: No Internet a Media State: En Duration: 06:: Speed: 100.0 Details	ternet Connection-specific DN access Physical Address Physical Address DHCP Enabled IPv4 Address IPv4 Subnet Mask Lease Obtained Lease Expires IPv4 Default Gateway	Realtek PCIe GBE Family Controller # 74-D4-35-3D-41-EA Yes 192.168.0.148 255.255.254.0 Monday, January 22, 2018 8:14:21 A Tuesday, January 23, 2018 8:14:21 A 192.168.0.1
tivity — Sent — 🙀 _ — Reco	IPv4 DNC Servers	221.228.255.1 218.2.135.1
ytes: 80,229,223 159,620	28,762 NetBIOS over Tcpip En Link-local IPv6 Address IPv6 Default Gateway IPv6 DNS Server	. Yes fe80::c1a1:975f:348e:86a6%4

5. the module supports specified address and LAN Ethernet port communication mode in AP mode. Please refer to application for Modbus TCP mode.

Specified address

Choose the specified IP WBOX which connecting PLC to monitor the PLC in LAN.

	XCPPro
File Edit Search View Online Configure O	ption Window Help
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Project 🕂	× PIC1 - Ladder
	^
🖕 🖳 Code	
Ladder	
	XNet Communication Config
Func Block	
	4G config WBOX Config Service
Sequence Block	
Comment Editor	通信模式: 指定地址 ∨
	网络号:
Set Reg Init Value	*****
E- PLC Config	如果亏
Password	
BD BD	
An Countral Manager	
Save Hold Memory	
IN MODULE	
DRI MA Medule	anning is standed v1 6 201
M Motion	
ACROY	Information Modbus OK Cancel
- WBOX	Error List Outp
PIC Status	Description Project Row

LAN port

Choose the specified ID WBOX which connecting PLC to monitor the PLC in LAN.

File Edit Search View Online Configure Option Window Help Image: Search Image			
File Edit Search View Online Configure Option Window Help			XCPPro
Project Project Project Project Pro	File Edit Search View Online Configure	Option Window Help	
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Project 4 × → PC1 Code → Code ✓ → Listuction List ✓ → Pact Block ✓ ⑤ Sequence Block ✓ ⑦ Config Block ✓ ⑤ Sequence Block ✓ ⑦ Price Monitor ✓ ⑦ PLC Config ✓ ● PLC Scale Monitor ✓ ⑧ BD ✓ ● PLC Status ✓ ● WBOX ✓ ● PLC Status ✓	[] [] [] [] [] [] [] [] [] [] [] [] [] [[> - <r> -<s> { } - F7 sF8 sF7 F8 F11</s></r>	[★] _{sF11} [↓] _{F12} [★] _{F12} [₩] _{PD} [₩] _W ⁺ [₩] _W ^T ⁻ ^C ⁻ ^S [↓] _{F12} [∞] ^Q ^Q
PLC1 Code Code Code Config Block Config Block Config Block Config Block Config Block Config Service Config MBOX Config Service Config WBOX Config Service Co	Project 4	× PLC1 - Ladder	
□ WBOX □ Output □ PLC Status □ Description Project Row Coll	PLC1 Code Ladder Ladder Ladder Ladder Ladder Ladder Ladder Ladder Ladder Ladder Ladder Ladder Compet Elock Sequence Block Comment Editor E Free Monitor Data Monitor Data Monitor PLC Config PLC Config PLC Serial Port DC Serial Port DC Serial Port DC Serial Port DC Serial Port DC Serial Port DC Serial Module DD Module Module Module Module Module Module Module		XNet Communication Config × 4G config WBOX Config Service 通信模式: 局域网 V 设备ID查找 · · · · · · · · · · · · · · · · · · ·
	En Citatus	Description	Project Row Col

5-5. STA mode

1. The COM light will flash when there is communication data in Modbus mode. Confirm the software connecting WBOX successfully throug the serial port setting.

e													Xinje X	D/E Se	ries PL	C Prog	ram To	loc			
<u>F</u> ile	<u>E</u> dit <u>S</u>	earch	<u>V</u> iew C	0 <u>n</u> line	<u>C</u> on	figure	Option	n <u>W</u> ind	low <u>I</u>	<u>l</u> elp											_
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	PLC1																		_		
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	Lac	ider									_		_	_		_	_		_		
	d Ins	struction Lis	st							Ser	al Port(C)					Baudra	te(B)			n	
		nc Block											,			04	1800BPS	0.96	500BPS		
		ntig Block															0200000	\sim	400000		
	Sei	quence Bio	СК							l r	Blue T	ooth Ser	ial Port				19200BP3	5 30	5400BPS		
	Comme	ent Editor									_					01	15200BP	rs			
	Data M	onitor								Dee	- (D)					Others	-				
		ionitor								Fai	UV(E)	_	_			Others	el				
	Cot Do	a Tait Value) None	Odd 🔿	Eve	n		Data	bits:8,Sto	opbits:1	1		
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6.		,								COI	neut we	ON SUC						_			
	and I/C	' ssword								XN	et Protoc	ol ?	Auto	omatic De	tection		ок	(Cancel		
		C Serial Por	+									-	_	_	_			_			
		s sendi Pul	•																		

2. the module uses wireless WLAN technology, works at the frequency range of 2.4GHz, not supports 5GHz frequency range. It needs to appoint the SSID, password when module is in STA mode. Confirm the write in configuration information and do the next step as the hint.

	PLC1 - WBOX Set	×
PLC Config Password PLC Serial Port BD CM CAN CAN Save Hold Memo Module Motion GM Module Motion GM Module Motion WBOX	General Remote Special Ethernet Port: 3 ✓ Image: Special Image: Special Image: Special Image: Special Image: Special Image: Special	Mode: Station v APMode: WBox provides a hot spot. PC link it and communicate with device. SSID: xinjexmb Password: XJ12332g1234 Read Info
< >>	Read From Write To	OK Cancel

Choose station mode in general tab, the default setting is station mode, and run in STA mode.

	PLC1 - WBOX Set	<u>^</u>
PLC Config	General Remote Special	
PLC Serial Port BD BD CAN AN CAN CAN CAN CAN CAN CO Module CO MA Module M Motion	Ethernet Port: 3 V	Mode: Station V APMode: WBox provides a hot spot. PC link it and communicate with device.
U 4GBOX	Use Static IP	SSID: xinjexmb
	Mask:	Password: XJ12332xj1234
	Gate: .	Read Info
< >		
	Read From Write To	OK Cancel

Note: the WIFI light is always ON when connect to AP in STA mode. The light will flash when the SSID or password is wrong. Please refer to performance parameter—signal intensity for details of signal intensity.

The module can automatic obtain IP from router which supported DHCP or use static IP when accessing wireless router.

Monitoring mode	Communication protocol	IP obtain method
Online debug	XNET	Automatic obtain
Scada monitoring	Modbus TCP	Set static IP
Remote monitoring	XNET	Automatic obtain

It needs to specify the device IP when using Modbus TCP protocol or XNET specified address to monitor device. In order to ensure the device IP is fixed in the network everytime, the IP is set to static IP generally.

If the PC connects the network which the module is in it, it can refer to PC network setting, it only needs to change the IP address generally.

	Network Connection Details	
Net	work Connection Details:	
Pr	roperty Value	
Cc Dr Pi	onnection-specific DN escription Realtek PCIe GBE Family Controller #2 hysical Address 74-D4-35-3D-41-EA HCP Enabled Yes	
IP IP Le	Vv4 Address 192.168.0.72 Vv4 Subnet Mask 255.255.254.0 ease Obtained Thursday, February 1, 2018 8:15:03 AM ease Expires Thursday, February 1, 2018 4:15:03 PM	
۳۱ ۹۲ ۹۱	vv4 Derault Gateway 192.168.0.1 vv4 DHCP Server 192.168.0.1 vv4 DNS Servers 192.168.0.1 221.228.255.1 221.228.255.1	
N Ni Li IP IP	etBIOS over Topip En Yes nk-local IPv6 Address fe80::c1a1:975f:348e:86a6%4 2v6 Default Gateway 2v6 DNS Server	
	Close	
		٦
PLC conng Plc Serial Port BD CAN CAN CAN CAN CAN CAN Module CAN Module CAN CAN CAN CAN CAN CAN CAN CAN	General Remote Special Ethemet Port: 3 Mode: Station C Get IP By DHCP APMode: WBox provides a hot spot. O Get IP By DHCP SSID: xinje 123456 IP: 192 · 168 0 120 SSID: xinje 123456 Mask: 255 · 255 254 0 Password: xinje 123456789	
	Gate: 192 · 168 0 1 Read Info	
	Read From Write To OK Cancel	

The mark bit is enabled in STA mode. The module will write the mark bit status to PLC address every 5000ms according to actual running status and user configuration.

Please refer to configuration parameter—module mark bit for the details of configuration mode and function meaning.

3. The PC connected to the network to form the LAN.

	PLC1 - WBOX Set	×
PLC Config	General Remote Special	
PLC Serial Port BD BD CAN AN Adule Tro I/O BU MAdule M Motion M AGBOX	Ethemet Port: 3 V APMode : WBox provides a hot spot. PC link it and communicate with device. Get IP By DHCP Use Static IP]
WBOX	IP:	
	Gate: . Read Info	J
< >		
	Read From Write To OK Cancel	



The module supports specified address, LAN port communication mode in STA mode. All the IP, device ID means WBOX module information when WBOX connected to XC series PLC. Please refer to application for Modbus TCP application mode.

Specified address

To monitor the PLC in LAN by specify the WBOX IP address which connects the PLC.

	ХСРРго
<u>File Edit Search View Online Configure Opt</u>	tion <u>W</u> indow <u>H</u> elp
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[] [] [] [] [] [] [] [] [] [] [] [] [] [<pre>-{R> -{S> {</pre>
Project 🛛 🕂 🗙	PLC1 - Ladder
- PLC1 ^	
🖃 🗋 Code	
Ladder	XNet Communication Config
Id Instruction List	
Func Block	4G config WBOX Config Service
Config Block	
Sequence Block	通信模式: 指定地址 ▼
Comment Editor	
	网络号:
Data Monitor	
Set Reg Init Value	「「「「」」「」」「」」「」」」」」」」」」」」」」」
PLC Config	
Password	
An Court Held Menore	
D0 Module	
100 MA Module	service is stopped v1.6.381
M Motion	Modbus OK Cancel
1 4GBOX	Information
WBOX	Error List Output
PLC Status	Description Project Row Col

■ LAN

To monitor the PLC in LAN by specify the WBOX ID which connects the PLC.

	ХСРРго
<u>File Edit Search View Online Configure Op</u>	tion <u>W</u> indow <u>H</u> elp
🗋 😅 📕 👗 🖻 🖺 🗇 🖒 🕅	🖻 🖻 🦪 🔇 🐥 🔒 🗖 🚨 🔒 🛤 🛄 🔍 🛑
	$\begin{array}{c} \langle R \rangle \cdot \langle S \rangle \cdot \left[\begin{array}{c} \\ S \\ F8 \end{array} \right] \xrightarrow{F1} F1 \xrightarrow{F1} F1 \xrightarrow{F1} F1 \xrightarrow{F1} F12 \xrightarrow{F12} PID \mathbb{M} \cdot HON \xrightarrow{I} \operatorname{I} \cdot \operatorname{I} \xrightarrow{C} \cdot \operatorname{I} \xrightarrow{C} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \overset{C}{\overset{C} \xrightarrow{C}} \overset{C}{\overset{C} \xrightarrow{C}} \mathfrak{Q} \xrightarrow{C} \overset{C}{\overset{C} \xrightarrow{C}} \overset{C}{\overset{C} \overset{C}} \overset{C}{\overset{C} \xrightarrow{C}} \overset{C}{\overset{C} \overset{C} \mathsf{$
Project 4 ×	PLC1 - Ladder
PLC1 ^	
🖮 🗋 Code	
Ladder	XNet Communication Config
	Arter communication coming
E Func Block	4G config WBOX Config Service
Sequence Block	
	通信模式: 局域网 ✓
Free Monitor	
Data Monitor	☑ 设备ID查班 ····
PLC Config	
PLC Serial Port	
BD BD	
CAN AN A	
Save Hold Memory	
100 MA Module	service is running v1.6.381
M Motion	
- B. 4GBOX	Information Modbus OK Cancel
WBOX	crror List Output
DIC Status	Description Broject Daw Cal

5-6. WAN

- Module configuration
- (1) the module should work in STA mode, the configuration mode please refer to LAN—STA mode.
- (2) The accessed hotspot in STA mode supports WAN access function.
- (3) Make sure the remote function is enabled, refer to configuration parameter—remote parameters.

	PLC1 - WBOX Set	٢.
PLC Config Password PLC Serial Port BD CAN CAN CAN CAN CAN Module CAN Module Motion GBDX WBOX	General Remote Special enable remote: Image: Comm port: 3 comm port: 3 Image: Comm port: 3 safe mode: safe mode 1 Image: Comm port: Image: Comm port: domain name: Image: WWW x-net info Image: Comm port: Image: Comm port: ip address: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: dev password: 12345678 Image: Comm port: Image: Comm port: Image: Comm port: Defait Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: Image: Comm port: <t< th=""><th></th></t<>	
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	Read From Write To OK Cancel	

Note: the LINK light is always ON after module connected server successfully. If there is link flag, it will write in PLC address every 5000ms.

■ Remote monitoring

Make sure the PC connects Internet successfully, XCPPro software will verify wbox device ID and password and visit the PLC and HMI in the Internet.

		XCPPro
<u>File Edit Search View Online Configure</u>	<u>O</u> ption <u>W</u> indow <u>H</u> elp	
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Project	PLC1 - Ladder	
PLC 1 Code Ladder Ladder Ladder Ladder Ladder Ladder Long Block Sequence Block Comment Editor Free Monitor Data Monitor Expert Monitor Data Monitor PLC Config PLC Config PLC Config PLC Serial Port BD CAN CAN CAN CAN CAN CAN CAN CAN	A The function The function of the function	nmunication Config × Service • 000-000-0000 • mode 1 × ixnet info • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • •
PLC Status	Description	Project Row Col

6. Application

6-1. Modbus TCP monitoring

In this application example, we use XD3 series PLC as the controller, the HMI model is TG765-ET. The network structure is as below:



- Ethernet HMI
- 1. Build a project, configure the Ethernet communication for HMI. Please configure the module, HMI in the same network segment to improve the setting efficiency.

Network	Connection Details
Network Connection Details:	
Property	Value
Connection-specific DN	
Description	Realtek PCIe GBE Family Controller #2
Physical Address	74-D4-35-3D-41-EA
DHCP Enabled	Yes
IPv4 Address	192.168.0.72
IPv4 Subnet Mask	255.255.254.0
Lease Obtained	Thursday, February 1, 2018 8:15:03 AM
Lease Expires	Thursday, February 1, 2018 4:15:03 PM
IPv4 Default Gateway	192.168.0.1
IPv4 DHCP Server	192.168.0.1
IPv4 DNS Servers	192.168.0.1
	221.228.255.1
IPv4 WINS Server	
NetBIOS over Tcpip En	Yes
Link-local IPv6 Address	fe80::c1a1:975f:348e:86a6%4
IPv6 Default Gateway	
IPv6 DNS Server	
	Close

	PLC1 - WBOX Set	×
PLC Config PLC Serial Port PLC Serial Port BD CAN CAN Module VO WBOX WBOX	PLC1 - WBOX Set General Remote Special Ethemet Port: 3 O Get IP By DHCP IP: 192 · 168 0 120 Mask: 255 · 255 254 0 Gate: 192 · 168 0 1	Mode: Station APMode: WBox provides a hot spot. PC link it and communicate with device. SSID: xinje 123456 Password: xinje 123456789 Read Info
< >	Pood From Write Tr	
File Edit View Part Tool View Help 	Image: Second	TouchWin Edit Tool

2. right click the net device, choose Modbus TCP. Please fill in the module IP, other

parameters please keep as default value. Click next to finish the building.

Note: each HMI can add 8 Ethernet devices.

Device COM Device PLC Port DownLoad Port Net Device Device 1	Modbus_TCP Siemens S7-1200 Series Siemens S7-200 Smart Series Mitsubishi Melsec Series Keyence (KV5000) Siemens S7-300 Series LG XGT Series
	IP 192.168.0.1 Port 502 Protocol Image: Communicate Parameters Image: Waiting time 0 ms Retries 3
	Timeout 1500 ms Communicate status register PSV 256 Communication status information is not exported!

3. this application uses lamp button and data display button as an example, it needs to set the Modbus address of Modbus TCP device. Please refer to XC/XD series PLC manual----Modbus communication.



4. The HMI can monitor the PLC through the wifi network after downloading the program in the HMI.

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	3.14 float number D100	
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	МО	MO YO 30000 single word D0 65536 double words D10 3.14 float number D100

6-2. XINJE Cloud Website: www.xinje.net:910 User name: xinje

Password: 85134136





WE CHAT ID

4th Floor Building 7, Originality Industry park, Liyuan Development Zone, Wuxi City, Jiangsu Province 214072 Tel: (510) 85134136 Fax: (510) 85111290