

HMI connection manual

WUXI XINJE ELECTRIC CO., LTD.

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1 Description

This chapter will introduce the serial port of HMI.

1.1 Serial port of HMI

Series	De	ownload p	ort		PLC port		Expand	Ethernet
							port	port ^{**1}
	RS232	RS485	RS422	RS232	RS485	RS422	RS485	RJ45
TP Series	\checkmark	\checkmark		\checkmark		\checkmark		
TH Series	√*2	√*2		\checkmark		\checkmark	√*3	
TG Series	$\sqrt{*4}$	$\sqrt{*4}$		√ <mark>*</mark> 5	√* 5	$\sqrt{*5}$		
TE Series ^{**6}		\checkmark				\checkmark		
TN Series ^{*7}		\checkmark	\checkmark					

%1:ET and NT models of TG/TE/TN series are equipped with Ethernet port.

%2:TH465-MT/UT have no such communication port.TH465-MT2/UT2 only support RS232.

%3:only TH765-N3/NU3 have expand port(discontinued).

%4:TG465-MT/UT/XT and TG765-XT/XT-C have no such communication.TG765S-XT only supports RS232.

*5:TG465-XT and TG465-MT/UT with hardware version below V3.0 only support RS232/RS485. TG765-XT-C and TG765S-XT only support RS232.

%6:The model of TE series is only TE765-MT/UT/ET.

%7:The ET model of TN series (special for X-NET bus) has been renamed as -NT model corresponding to TG series, and other models have been discontinued.

Take the communication interface of TG765-ET as an example:



1.1.1 Download port

Download port:

5



Only TN series download port supports RS422 (refer to chapter 1.1.2 for pin definition). Other types of HMI cannot directly communicate with Mitsubishi FX/FX3U/FX3G Series CPU port and other RS422 devices. If you need to communicate with Mitsubishi FX/FX3U/FX3G series PLC, you can add 232 / 485 BD board to PLC or use Mitsubishi original programming cable.

1. Choose the device to communicate with download port

(a) Build a new project in Touchwin software, choose download port device.



(b) For current project, please set it in the Touchwin software:

click "file/Setting/Device/Serial port equipment/Download port" to view or modify the PLC communication parameters. It is recommended not to directly switch the PLC type. If the PLC type has been switched, please



check the address and station number of each component again.

2. Mode switching for download port

The default mode of TH/TG/TE/TN series download port is communication. But it is download mode for TP series. If the download port of TP series needs to switch to communication mode, two pins of the download port must be shorted. Please see the following diagram.

(1)Cut off the power of TP series HMI, connect pin5 and pin6 of TP download port.

(2)Power on the HMI, take away the connection cable, the download port will be in communication mode.

pin	name	
1	NC	
2	RXD	
3	TXD	
4	A	
5	GND	
6	BUSY	
7	В	
8	NC	
9	NC	

Note:

- 1. If the HMI needs to download program, please restart the HMI.
- 2. Please connect the pin 5 and 6 directly.

1.1.2 PLC port

PLC port:



Note:

TG465-MT/ UT (version below V3.0) PLC port only supports RS232/RS485,TG765-XT/XT-C and TG765S-XT PLC ports only support RS232, and TN series PLC port only supports RS485.

In practical application, please refer to Chapter 2 for the production of communication cable, and refer to section 1.1.1 download port for the selection and modification of communication equipment.

1.1.3 Expand port

Expand port:



Note: only TH765-NT3/NU3 has this expand port.

1.choose expand port device

(1) Build a new project, click expand port, and choose the device

Device COM Device PLC Pot DownLoad Port Expand Port	Expand Port Do not useExpand Port Thinget XC Series Mitsubishi FX BD(232/485) Siemens S7-200 Series Siemens S7-300/400 Omron CPM/CQM Series Omron CP/CJ/CS Series Modbus RTU (Panel is Master) Modbus ASCII (Panel is Master) Modbus Slave (Panel is Slave) Schneider (Mitco/Netz-Titudo) AB Micrologix, SLC Series Crouzet Serials OPTO 22 Bosch Rexroth IndraControl L40 Matsushita (FP0/FP1) Keyence (KV) Fiii SPB Series	22
	Parameters 19200, 8, Even, 1	

(2) For existed project, click File/setting/device/expand port to set the PLC model.

Para Interactive Panel	Device Project Clock Font	
Device - COM Device PLC Port DownLoad Port Spand Port	Expand Port Do not useExpand Port Thinget XC Series Mitsubishi FX Series Mitsubishi FX Series Mitsubishi FX BD(232/485) Siemens S7-200 Series Siemens S7-300/400 Omron CP//CQ/M Series Modbus RTU (Panel is Master) Modbus Slave (Panel is Slave) Schneider (Micro/Neza/Twido) AB Micrologix,SLC Series Emerson (EC20) SAIA-Burges PCD Series Crouzet Serials OPTO 22 Bosch Rewroth IndraControl L40 Matsushita (FP0/FP1) Keynec (KV) Fuil SPR Series	
	Falameters	

1.1.4 Ethernet port

RJ45 Ethernet port:

	Pin	Color	Definition	Explanation
	1	Orange white	TXD+	Data send+
	2	Orange	TXD-	Data send-
	3	Green white	RXD+	Data receive+
	4	Blue	-	-
	5	Blue white	-	-
	6	Green	RXD-	Data receive-
	7	Brown white	-	-
	8	Brown	_	-

Note: only TG(-ET/NT), TE(-ET) and TN(-ET) have Ethernet port.

1.Build a new project, choose TG model in the list.



2. Click next, choose net device. Set the IP address of TG series HMI.

Device			
Device COM Device PLC Port	O Auto IP Add	lress	
Net Device	IP Address	192 . 168 . 0	. 1
	Subnet Mask	255 . 255 . 255	. 0
	Gateway	192 . 168 . 0	. 1
	Port		502
		Remote (Commu

3.Right click net device, build a new Ethernet device.

	Device	
	Device COM Device PLC Port DownLoad Port	xinje XD/XG serials xinje XS serials(Modbus TCP) Modbus_TCP Modbus RTU Over TCP(Panel is Master,start address is 0) Thinget XNet Series Siemens S7-1200 Series Siemens S7-1200 (1500 new Series
	⊡- Net Device □ Device1	Siemens 57-200 Smart Series Siemens 57-200 Smart Neries Siemens S7-200 Smart Neries Mitsubishi Melsec Series(1E) IP 192 . 168 . 6 . 6 Protocol IP TCP UDP Word exchange
Device		Communicate Parameters
COM Device		Waiting time 0 ms Retries 3
PLC Port		Timeout 1500 ms
New		Communicate status register PSV 256 Communication status information is not exported!

Note:

(1)this function support local area network, but not support wide area network.

(2)The Ethernet protocol only supports the protocols listed above, and other protocols are under continuous development.

1.2 Communication precautions

System Settings

1.2.1 Selection of communication driver (protocol)

Select the corresponding driver (protocol) before communication, programming, and then program. Refer to the following instructions to select the driver (protocol):

1. Whether the device can be directly selected in the software device list.

2. If this device is not available in the list, check whether the device supports Modbus RTU protocol or Modbus ASCII protocol.

Para	Interactive	Panel	Device Project Clock Font	
Devi	ce COM Device PLC Port DownLoad Net Device	Port	Device mode Single mode Host Net Slave Net PLC Port Modbus RTU (Panel is Master, start address is 0) Modbus RTU (Panel is Master, start address is 1) Modbus SIQU (Panel is Slave) Schneider (Micro/Neza/Twido) AB Micrologix, SLC Series (DF1 Full-duplex Protocol) ABB AC500 Series Emerson (EC20) Parameters 9600, 7, Even, 1	

3. If neither of the above two conditions is met, choose to communicate freely through the C script function in the software.

Note: when communicating with the lower machine through the C script, the PLC port, the download port, the expansion port, the Modbus slave (slave display) and the free model (slave display) are not available. Other protocols can be selected at will as long as the communication parameters are consistent.

1.2.2 Communication parameter description

1. Baud rate, data bit, stop bit and check sum shall be consistent with PLC.

2. Delay time is used for one screen with multiple computers (that is, one communication port of a touch screen is connected to multiple PLCs through RS485). There is no fixed value. Generally, it is about 20 for two devices. The appropriate delay time is gradually adjusted according to the number of devices added.

3. Retry time: the default value is 3. When the command is sent three times in a row, and the slave does not respond, the touch screen considers the communication failure and continues to access the next parameter.

4. Word exchange: when the dual word monitoring is inconsistent with the PLC, observe whether the high and low words are reversed. If so, check this option to realize the high and low word exchange of dual words.

2 The connection of PLC and HMI

This chapter will introduce the connection between PLC and HMI.

Please don't pull out or plug the cable when power on, the serial port may be damaged.

When the software version of the touch screen is upgraded, the address range of the communication protocol equipment will be partially changed, and the address range of the equipment in the software shall prevail.

2.1 XINJE FC series PLC

2.1.1 Device type

Series	CPU	Connected module	Port	Cable making	PLC model in Touchwin software
EC	EC 14/16/04/20D/T E/C	CPU direct	RS232	Fig1	Vinia EC corrigo
FC	FC-14/16/24/32R/1-E/C	connection	RS485	Fig2	Ange FC series

2.1.2 Parameters

HMI parameters:

Parameters	Settings	Choices for settings	Item
PLC type	FC series		
Port	RS232	RS232or RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Odd parity	Odd/even/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station No.	0	0~255	

The default communication parameters of FC: 9600, 8, 1, odd parity, station No.0.

2.1.3 Cable making

(a) Connect to FC series CPU (RS232 port)



(b) Connect to FC series PLC CPU (RS485 port)



2.1.4 Device address

PLC address	Range	Data type	Explanation
Х	0~337	Bit	External input coil
Y	0~337	Bit	External output coil
М	0~383	Bit	Internal coil
SM	0~96	Bit	Special coil
Т	0~128	Bit	Timer
С	0~128	Bit	Counter
W	0~2047	Word/DWord	Data register
FW	0~191	Word/DWord	FlashROM register
TW	0~127	Word/	Timer register
CW	0~127	Word/	Counter register
SW	0~111	Word//DWord	Special register
WX	0~13	Word//DWord	Input coil register
WY	0~13	Word//DWord	Output coil register
WM	0~23	Word//DWord	Interla coil register

2.2 XINJE XC series PLC

2.2.1 Device type

Series	CPU	Connected module	Port	Cable making	PLC model in Touchwin software
	XC1/XC2/	CPU direct connection	RS232 RS485	Fig1 or Fig2 Fig 3	Vinia VC
XC XC3/XC5/	XC-COM-BD	RS232	Fig 4	series	
	ACC/ACM	extension board)	RS485	Fig 5	

2.2.2 Parameters

HMI parameters:

Parameter	Recommend settings	Choices of settings	Item
PLC type	XC series	FC/XC series	
Port	RS232	RS232 or RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station No.	1	0~255	

The default communication parameters of XC: 19200, 8, 1, even, station No.1.

PLC settings:

Open XCPpro software:

PLC1 - Serial Port Set		
PLC Config	Serial Port 1	
Password PLC Serial Port BD CAN Save Hold Memory WOdule VO MA Module M Motion	Communication Modbus N Overtime Set Char : 3 Serial Port Us Baudrate: Databits: Stopbits: Parity:	Ium 1 ÷ C User Protocol (ms) Reply : 300 ser Protocol 19200 BPS 8Bit 1Bit Even Vertical vertical ve
	Notice:configu	ration effective, reboot PLC

2.2.3 Cable making

(a) Connect to XC series PLC CPU (RS232 port)

HMI 9-pin port			XC series PLC port1			
			or port2			
	Pin	Name		Pin	Name	
	2	RXD		5	TXD	4030
0 0	3	TXD		4	RXD	07060
	5	GND		8	GND	H





Fig 2

Note: XP3-16 must use the communication line shown in Fig2 (XVP line) when downloading program.

(b) Connect to XC series PLC CPU (RS485 port)

	XC series PLC				
				port2	
	Pin	Name		Pin	Name
	4	A.		А	RS485+
	7	В		В	RS485-

Fig 3

(c) Connect via XC-COM-BD (RS232)

HMI 9-pin port

the port of XC-RS485-BD

pin	name		pin	name
2	RXD	-3	1	TXD
3	TXD		2	RXD
5	GND		3	GND

Fig 4

(d) Connect via XC-COM-BD (RS485)



Fig 5

2.2.4 Device address

PLC address	Range	Data type	Explanation
Х	0~543	Bit	External input coil
Y	0~543	Bit	External input coil
М	0~7999	Bit	Internal coil
S	0~1023	Bit	Internal coil
M8XXX	0~511	Bit	Internal special register
Т	0~639	Bit	Timer
С	0~639	Bit	Counter
D	0~7999	Word//DWord	Data register
TD	0~639	Word//DWord	Timer register
CD	0~639	Word//DWord	Counter register
D8XXX	0~511	Word//DWord	Special register
FD	0~1535	Word//DWord	FlashROM register
FD8XXX	0~511	Word//DWord	Output register
ED	0~36862	Word//DWord	Extend register
DM	7984	Word	Data register
DX	0~52	Word	Data register
DY	0~52	Word	Data register
DS	0~1008	Word	Data register
DM8XXX	0~496	Word	Data register
DT	0~603	Word	Data register
DC	0~619	Word	Data register
ID	0~9999	Word//DWord	Analog input
QD	0~9999	Word//DWord	Analog output

2.3 XINJE XD/XL/XG series PLC

2.3.1 Device type

Series	CPU	Connected module	Port	Cable making	PLC model in Touchwin software
XD/XL/XG	XD/XDM/XDH/ XDC/XL/XG	CPU direct connection	RS232 RS485	Fig1orFig2Fig 3	Xinje XD/XL/XE/XG series

2.3.2 Parameters

HMI parameters:

Parameter	Recommend settings	Choices of settings	Item
PLC type	XD/XL/XE/XG series	Xinje XD/XL/XE/XG Series /	
		Modbus RTU(Panel is Master)/	
		Modbus ASC II (Panel is Master)	
Port	RS232	RS232 or RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station No.	1	0~255	

PLC settings:

(1) PLC protocol type selecting: XINJE XD/XL/XE/XG series or Modbus RTU(panel is master) PLC1 - Serial Port Set

 \times

🖃 📴 PLC Config 🛛 🔺	Add - Remove	-Modbus Commu	nication Par	ams	
I/O	COM1	Comport:	$\operatorname{COM1}$ \sim	Station Num:	1
PLC Serial		Baudrate:	19200bj \sim	Mode:	rtu 🗸
ethernet I Pulse		Databits:	8 ~	Send Delay Time(ms):	3
		Checkbits:	Even \sim	Response timeout(ms):	300
ED		Stopbits:	1 ~	Retry Times:	3
4GBOX		Frame TimeOut(an)	0		
EtherCAT		TimeOut (ms)			
WBOX		notice:Config	; effictive	need to reboot PL	C
 SystemConfi 		XNET is confi	gured by th	e configuration t	ool
	· · · · · · · · · · · · · · · · · · ·				
	Read	From PLC Wr	ite To PLC	OK	Cancel

(2) PLC protocol type selecting: Modbus ASC II (panel is master)

PLC1 - Serial Port Set

🖃 🛅 PLC Config 🛛 🔺	Add - Remove	-Modbus Commu	nication Par	ams	
I/O Password	COM1	Comport:	$\operatorname{COM1}$ \sim	Station Num:	1
PLC Serial		Baudrate:	19200bg \sim	Mode:	ASCII \sim
ethernet I Pulse		Databits:	7 ~	Send Delay Time(ms):	3
Module 		Checkbits:	Even \sim	Response timeout(ms):	300
ED		Stopbits:	1 ~	Retry Times:	3
4GBOX		Frame	0		
CHN Canopen		TimeUut(ms)			
WBOX		notice:Config	g effictive	need to reboot PL	c
SvstemConfi *		XNET is confi	gured by th	e configuration t	ool
< >					
	Read	l From PLC Wr	rite To PLC	OK	Cancel

 \times

2.3.3 Cable making

(a)Connect to XD/XE series PLC CPU (RS232 port)

HMI 9-pin port			port1 or port2			
•	Pin 2 3 5	Name RXD TXD GND		Pin 5 4 8	Name TXD RXD GND	

XD/XE series PLC







Note: XP3-16 must use the communication line shown in Figure 2 (XVP line) when downloading program.

(b)Connect to XD/XE series PLC CPU (RS485 port)

HMI 9-pin port



port 2

•	Pin	Name	Pin	Name
	4	A.	А	RS485+
	7	В	В	RS485-

Fig 3

2.3.4 Device address

PLC address type	Range	Object type	Explanation
X	0~77	Bit	Input relay
X1 xxxx	0~1777	Bit	Extended module input relay
X2 xxxx	0~477	Bit	Extended BD input relay
Y	0~77	Bit	Output relay
Y1 xxxx	0~1777	Bit	Extended module output relay
Y2 xxxx	0~477	Bit	Extended BD output relay
М	0~7999	Bit	Internal relay
S	0~1023	Bit	Flow
SM	0~2047	Bit	Internal relay, special using
Т	0~575	Bit	Timer
С	0~575	Bit	Counter
ET	0~31	Bit	Timer, precise timer
SE	0~31	Bit	Sequence block wait instruction special coil
HM	0~959	Bit	Internal relay, power-off retentive
HS	0~127	Bit	Flow, power-off retentive
HT	0~95	Bit	Auxiliary relay, power-off retentive
НС	0~95	Bit	Counter, power-off retentive
HSC	0~31	Bit	Counter, high speed counter
D	0~7999	Word//DWord	Data register
ID	0~99	Word//DWord	Analog input
ID1xxxx	0~1599	Word//DWord	Extended module analog input
ID2xxxx	0~499	Word//DWord	Extended BD analog input
QD	0~99	Word//DWord	Analog output
QD1xxxx	0~1599	Word//DWord	Extended module analog output
QD2xxxx	0~499	Word//DWord	Extended BD analog output
SD	0~2047	Word//DWord	Data register, special using
TD	0~575	Word//DWord	Timer value
CD	0~575	Word//DWord	Counter value

ETD	0~31	Word//DWord	Timer value, precise timer
HD	0~999	Word//DWord	Data register
HSD	0~499	Word//DWord	Data register, power-off retentive
HTD	0~95	Word//DWord	Timer value, power-off retentive
HCD	0~95	Word//DWord	Counter value, power-off retentive
HSCD	0~31	Word//DWord	Counter value, high speed counter
FD	0~6143	Word//DWord	FlashROM reigster
SFD	0~1999	Word//DWord	FlashROM register, special using
FS	0~47	Word//DWord	Special security register
DM	0~7984	Word	For data register
DX	0~60	Word	For data register
DX1xxxx	0~1760	Word	For data register, extended module
DX2xxxx	0~460	Word	For data register, extended BD
DY	0~60	Word	For data register
DY1xxxx	0~1760	Word	For data register, extended module
DY2xxxx	0~460	Word	For data register, extended BD
DS	0~1008	Word	For data register
DSM	0~2032	Word	For data register, special function using
DT	0~560	Word	For data register
DC	0~560	Word	For data register
DET	0~16	Word	For data register, precise timer
DSE	0~16	Word	For data register, WAIT instruction
DHM	0~944	Word	For data register, power-off retentive
DHS	0~112	Word	For data register, power-off retentive
DHT	0~80	Word	For data register, power-off retentive
DHC	0~80	Word	For data register, power-off retentive
DHSC	0~16	Word	For data register, high speed counter

2.4 XINJE X-NET communication

X-NET bus is the bus protocol between TG/TE series HMI and XD series PLC. The TG series -NT model is a dedicated screen for bus communication, which has faster communication speed and better networking performance. It is recommended to choose -NT model when bus communication.

Note:

(1)The bus communication of the orginal TN series is the same as that set here.

(2)TP/TH series and TG765G-ZT do not support X-NET protocol.

2.4.1 Device type

Series name	CPU unit	Connection module	Communication type	Cable making	PLC model in Touchwin software
XD/XL/	XD/XDM/XDC/	CPU direct connect	RS485	Fig 1 or 2	Xinje XNet
XG	XDH/XL/XG	extension BD module	RS232	Fig 3	series

2.4.2 HMI setting

Parameters	Recommended setting	Optional setting	Notes
PLC type	Xinje Xnet series		1. PLC station no. must be
Communication	RS485	RS485/RS232	2 and baud rate must be
port			57600 for auto matching
Data bit	8		2. –NT model has no
Stop bit	1		RS232 for PLC port
Parity	Even parity		3. Only -NT PLC port has
Auto match baud	57600	57600	a maximum baud rate of
rate			3M. For other models,
Set baud rate	57600	9600~3M	the baud rate of serial
manually			port is up to 115200.
Stataion no.	1	1~100	

X-NET bus includes two connection modes: OMMS mode and TBN mode.

OMMS mode is supported by TG/TE series(single HMI mode including one HMI one device, one HMI multi-device). TBN mode is supported by NT model(multi-HMI mode including multi-HMI one device, multi-HMI multi-device). The XD series PLC must be hardware V3.2.2 and later. The download port and PLC port is separate for TG/TE series HMI.

2.4.2.1 OMMS mode

OMMS mode includes auto match and manual setting.

If auto match is selected, there is no need to set the parameters, this mode is fit for one HMI one device communication, and the PLC station no. should be no.2, baud rate must be 57600 bps. (Note:The default network number is 32769.)

The default is manual setting mode if auto match is not selected. In this case, it needs to use xinje config tool to set the HMI parameters, PLC station no. and baud rate are not limited, please choose them as you need.

1. Auto match

Touchwin software can automatic set the communication parameters in auto match mode, only TG/TE series HMI PLC port OMMS mode support auto match mode.

(a) When building the HMI program, PLC port please choose xinje Xnet series, PLC port device please choose auto match, other no needs to set.

(b)PLC serial port needs to set corresponding parameters

J PLCConfig	×
CommPort Route Ethernet	
COM No 1 🗼 Net type X_Net Modbus	X_NET Net 32769 Station 2 Net 00MMS ~ Baud rate 57600 ~
Physical Type RS232 V Restart PLC to enable!	OMMXS OMMXS Slaves cycle 2 Read Write

(c)After writing the configuration, the PLC needs to be restarted before all configurations take effect.

2. Manual set

(1) make a new HMI program, the download port please set to xinje Xnet series, PLC port please set to xinje Xnet series, the screen contents can be anything, and download the program in the HMI.

(2) connect the download port of HMI with PC, power on the HMI.

(3) open xinje config tool, click "find device".

(4) choose the com port, which is the PC serial port, it will show the config tool main interface after the connection is normal.

📡 PLCLinkF	orm		_			×
FindDevice	AddrLink					
Prot	ocol:	Modbus		\sim		
Link	Port:	COM3		\sim		
F	ind with]	D				
Devi	ce ID:		-	-		
				Find	d devia	ce -

If the connection fails, a connection failure window will pop up. Please check whether the RS232 serial port line is wrong and close other software that occupies the serial port. The bus can be initialized if cannot connecting, set ON switch 4 on the back of the touch screen, restart the touch screen, and download the newly created program again. After the download, set OFF switch 4, and then repeat the connection operation.

(5)After the connection is successful, click net type:X_Net

(6) set the serial port parameters and net id, click write config and close the window.

🐺 TouchWinConfig		\times
CommPort Route Ethernet		
СОМ No: 2 🚽	X_NET Net 2	
Net type	Station 1	
• X_Net	Net OMMS ~	
() Modbus	Baud rate 57600 🗸	
	Send delay 0 🖨	
Physical Type RS485 🗸	OMMAS oyole 2	
	Read	

Com port no.: 1 means HMI download port, 2 means HMI PLC port.

Choose Net: please choose X-NET.

Choose PHY(physical layer): RS232 communication (-NT model PLC port not support), RS485 communication.

Net ID: the communication network no., all the devices in the same network should have the same network no., the range is 1 to 32767.

Station no.: it must be 1 for OMMD mode HMI station no.

Net type: please choose OMMS mode (which is single HMI mode)

Baud rate: the max baud rate is 115200 for TG/TE series PLC port, download port, and -NT model download port, the max baud rate is 3M for –NT model PLC port.

Cycle: please choose this when PLC supports motion bus.

OMMS_slaver list: all the slave station no. connecting the HMI. For example, one HMI connects two PLCs, the station no. of the two PLCs are 2 and 3, it must set 0,2,3 here. Otherwise it will not communicate.

(7) click "Route".

(8) First please read the HMI setting, then choose add item, set the parameters, then click write.

PLCConfig >						
CommPort Route Ethernet						
Route config						
RouteList	Net	COM_No	Gateway			
Add Del		Rea	d Write			

Net: the net id in the serial port setting.

Com no.: com port no. in the serial port setting.

Gateway: it is 0 in the same network. For cross network communication, it is the station no. that the cross network transfer equipment signal accesses the serial port.

(note: cross network communication must be PLC hardware v3.3 and up)

After setting, please restart the HMI to make the setting effective.

2.4.2.2 TBN mode

Only –NT model supports this mode. Repeat OMMS mode manual step 1 to 5. (6) set the serial port parameters and net id, click write config and close the window.

🍒 TouchWinConfig	
CommPort Route Ethernet	
СОМ №: 2÷	X_NET Net 2
Net tune	Station 1 🖨
• X Not	Net TBN 🗸
O Modbus	Baud rate 57600 🗸
0	Send delay 0 🖨
	TBN
Physical Type RS485	TokenCycleTime 1000 🚖
Inglical Type	MaxStationNum 32 🚔
Restart PLC to enable!	
	Read Write

Com port no.: 1 means HMI download port, 2 means HMI PLC port.

Choose Net: please choose X-NET.

Choose PHY(physical layer): RS232 communication (-NT model PLC port not support), RS485 communication.

Net ID: the communication network no., all the devices in the same network should have the same network no., the range is 1 to 32767.

Station no.: set any station no. for the PLC and HMI in the network.

Net type: please choose TBN mode (which is multi-HMI mode)

Baud rate: the max baud rate is 115200 for-NT model, the max baud rate is 3M for -NT model PLC port.

Token cycle time: the longest time the token passes one circle. The default time is 1000ms.

Max station no.: It refers to the largest station number in a network, and the communication token will be searched from station 1 to the largest station number. Considering the communication speed, it is suggested that the customers choose the continuous station number when assigning station number, and the largest station number cannot exceed 100.

(7) click route

(8) first please read the HMI setting, then choose add item, set the parameters, then click write.

🐺 TouchWinConfig 🛛 🕹				
CommPort Route Et	thernet			
Route config				
- RouteList	Net	COM_No	Gateway	
routeU	▶ 2	2	0	
Add Del			Read Write	

After setting, please restart the HMI to make the setting effective.

Data Input	×
Object Display Convert Inputs Font Color Position	
Oracete Okiant	
Station	
Device PLC Port	
Net ID 2 Station 3	
Obj lype D V U	
Value	
Data Type Word 🗸	
Monitoring object	
Device PLC Port	
Net ID I Station I	
Object	
ObjType D v 0	
indirect	
OK Cancel Apply Help	

Note: in the HMI program, the Net ID corresponds to the net numer in the serial port configuration, station corresponds to the station number in the serial port configuration.

2.4.3 XD series PLC setting (PLC hardware V3.2.2 and up)

Connect the PLC to the computer through USB cable or port1, power the PLC, and repeat the OMMS manual configuration step 3-5. If PLC and computer communication is not normal, the corresponding error message will appear. At this time, you need to restart Config software and start the configuration again until the error message below appears.

There some errors when communicating to XnetServer!	
确定]

(6)Set the serial port parameters, net id, then click write config and close the window.

Juch WinConfig	-	×
CommPort Route Ethernet		
COM No: 2	X_NET Net 2 Station 1	
 X_Net Modbus 	Baud rate 57600	
Physical Type RS485 🗸	Send delay 0	
	Read Write	

Fig1 OMMS mode

>

🐺 TouchWinConfig

CommPort Route Ethernet	
COM No: 2 🛫	X_NET Net 2
Net type	Station 1
X_Net	Net TBN ~
() Modbus	Baud rate 57600 🗸
0	Send delay 0 🖨
Physical Type RS485 🗸	TBN TokenCycleTime 1000 🜩 MaxStationNum 32 🜩
	Read Write

Fig2 TBN mode

Serial port: PLC port no., please set as actual connection port no.

Port	Appearance	Port definition	Serial port no.
Port1	Сомо	RS232 port	1
Port2	A, B	RS485 port	2
USB		USB port	
Port3		Left extension ED port	3
Port4 Port5	A B SG • Up extension BD (left Port4, right Port5)	RS232 port/RS485 port/optical fiber port	4, 5

XD series **PLC** port definition and functions:

Station no.: the PLC station no. in the network, the range is 1 to 100. The operate object station no. in the HMI corresponds to this station no. note: the PLC station no. must be 2 in OMMS auto match mode.

Net type: OMMS: one HMI one device, one HMI multi-device (fig. 3-1), multi-HMI multi-device (fig. 3-2). Please choose it as the actual needs.

Baud rate: set the same baud rate for HMI and PLC.

Other settings please refer to the above HMI setting.

(7) click route:

(8)First read the settings, then click add item, set the parameters, then click write.



After finishing the configuration, restart the PLC to make the settings effective.

Model	Hardware	Communication	PLC port cable	Download port cable	
	version	type	making	making	
TG/TE		RS485	Fig 1	Fig 1	
		RS232	Fig 3		
TG765-NT	V1.0	RS485	Fig 1	Fig 1	
(TN765-ET)		RS232	١	Fig 3	
	V1.1 and up	RS485	Fig 2	Fig 1	
		RS232	1	Fig 3	
TG865-NT	V1.0 and up	RS485	Fig 2	Fig 1	
(TN865-ET)		RS232	1	Fig 3	
TGA63-NT	V1.0 and up	RS485	Fig 2	Fig 1	
(TNA63-ET)		RS232	/	Fig 3	

2.4.4 Cable making

2.4.4.1 Cable

1. TE/TG and TG765-NT (V1.0) (RS485 mode)

HMI 9-pin D type female port

XD series PLC CPU unit RS485 terminal (port2)

•	pin	name	pin	name
	4	A	 A	RS485+
	7	В	 В	RS485-

Fig 1

2. -NT model (V1.1) PLC port RS485 mode

· · · · · · · · · · ·	HMI 9-pin D type female port		XD series PLC terminal AB		
	pin	name		pin	name
1	2	A 1		Α	RS485+
11 71 (0 70	3	B 1		В	RS485-
	4	A 2 ·		Α	RS485+
TA-NE-T	5	B 2]	В	RS485-
JH NE I			-		



Note: use together with JA-NE-I, which is easy to wiring. 3.TE/TG (dowload port) series RS232 mode
HMI 9-pin D type female port XD series PLC CPU unit RS232 port(port 1 and 2) 8-pin circle male port

	pin	name	[pin	name	
	2	RXD		5	TXD	4030
0	3	TXD	<u></u>	4	RXD	
	5	GND		8	GND	



2.4.4.2 OMMS wiring mode (-NT model PLC port no RS232)



2.4.4.3 TBN wiring mode



2.4.5 Device address

PLC address	Range	Object type	Notes
X	0~77777777	Bit	Input relay
X1 xxxx	0~77777777	Bit	Extended module input relay
X2 xxxx	0~77777777	Bit	Extended BD input relay
X3XXXX	0~77	Bit	Extended ED input relay
Y	0~77777777	Bit	Output relay
Y1 xxxx	0~77777777	Bit	Extended module output relay
Y2 xxxx	0~77777777	Bit	Extended BD output relay
Y3XXXX	0~77	Bit	Extended ED output relay
М	0~99999999	Bit	Internal relay
S	0~99999999	Bit	Flow
SM	0~99999999	Bit	Internal relay, special using
Т	0~99999999	Bit	Timer
С	0~99999999	Bit	Counter
ET	0~99999999	Bit	Timer, precise timer
SE	0~99999999	Bit	Sequence block wait instruction special
			coil
HM	0~999999999	Bit	Internal relay, power-off retentive
HS	0~999999999	Bit	Flow, power-off retentive
HT	0~999999999	Bit	Auxiliary relay, power-off retentive
НС	0~999999999	Bit	Counter, power-off retentive
HSC	0~999999999	Bit	Counter, high speed counter
D	0~999999999	Word//DWord	Data register
ID	0~999999999	Word//DWord	Analog input
ID1xxxx	0~999999999	Word//DWord	Extended module analog input
ID2xxxx	0~999999999	Word//DWord	Extended BD analog input
ID3XXXX	0~99	Word//DWord	Extended ED analog input
QD	0~999999999	Word//DWord	Analog output
QD1xxxx	0~999999999	Word//DWord	Extended module analog output
QD2xxxx	0~999999999	Word//DWord	Extended BD analog output
QD3XXXX	0~99	Word//DWord	Extended ED analog output
SD	0~999999999	Word//DWord	Data register, special using
TD	0~999999999	Word//DWord	Timer value
CD	0~999999999	Word//DWord	Counter value
ETD	0~999999999	Word//DWord	Timer value, precise timer
HD	0~999999999	Word//DWord	Data register
HSD	0~999999999	Word//DWord	Data register, power-off retentive
HTD	0~99999999	Word//DWord	Timer value, power-off retentive
HCD	0~99999999	Word//DWord	Counter value, power-off retentive
HSCD	0~99999999	Word//DWord	Counter value, high speed counter

PLC address	Range	Object type	Notes
FD	0~99999999	Word//DWord	FlashROM reigster
SFD	0~99999999	Word//DWord	FlashROM register, special using
FS	0~99999999	Word//DWord	Special security register
DM	0~99999999	Word	For data register
DX	0~77777777	Word	For data register
DX1xxxx	0~77777777	Word	For data register, extended module
DX2xxxx	0~77777777	Word	For data register, extended BD
DX3XXXX	0~77777777	Word	For data register, extended ED
DY	0~77777777	Word	For data register
DY1xxxx	0~77777777	Word	For data register, extended module
DY2xxxx	0~77777777	Word	For data register, extended BD
DY3XXXX	0~77777777	Word	For data register, extended ED
DS	0~99999999	Word	For data register
DSM	0~99999999	Word	For data register, special function using
DT	0~99999999	Word	For data register
DC	0~99999999	Word	For data register
DET	0~99999999	Word	For data register, precise timer
DSE	0~99999999	Word	For data register, WAIT instruction
DHM	0~99999999	Word	For data register, power-off retentive
DHS	0~999999999	Word	For data register, power-off retentive
DHT	0~99999999	Word	For data register, power-off retentive
DHC	0~99999999	Word	For data register, power-off retentive
DHSC	0~99999999	Word	For data register, high speed counter

2.5 Xinje V5 series inverter

2.5.1 Device type

Series	Connected module	Port	Cable	PLC model in Touchwin software
V5	CPU RS485 port	RS485	Fig 1	Xinje V5 series inverter

2.5.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Xinje V5 series inverter		
Port	RS485	RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

Note: please set the communication wait time if the connection is error.

Communicate parameters	×
Baud Rate	Data bit
○ 4800 ○ 56000	○7位 ⑧3位
○ 9600 ○ 57600	
● 19200 ○ 115200	Stop bit
38400 187500	◉1位 ○2位
Checksum	
◯ No parity ◯ O	dd 💿 Even
Delay	
Send delay time	ms
Send data	irtual Station
Word exchange Retry	Tim 3
ОК	Cancel

Inverter:

Function code	Name	Range	Meaning
P0.01	Frequency setting channel	4	Serial port setting
P0.03	Run command channel	2	Run via serial port
P3.09	Communication settings	054	The unit:19200
			Decade: 1-8-1, even parity
			Hundred: no definition

2.5.3 Cable making

RS485:

HMI 9-Pin port

Xinje inverter V5



Fig 1

2.5.4 Device address

PLC address	Range	Modbus address (hex)	Object type	Explanation
Forward/stop	0	2000	Bit(only write)	
Reverse/stop	0	2000	Bit(only write)	
Jog forward	0	2000	Bit(only write)	
command/stop				
Jog reverse/stop	0	2000	Bit(only write)	
Emergency stop	0	2000	Bit(only write)	Write 08H
Fault reset	0	2000	Bit(only write)	Write 0AH
Running state	0	2101.0	Bit(only read)	
Forward/reverse	0	2101.2	Bit(only read)	
sign				
Under-voltage	0	2101.1	Bit(only read)	
state				
Alarm code	0	2100	Word(only read)	
Read setting	0	2102	Word	
frequency				
Set frequency	0	2001	Word(only write)	
via serial port				
Output	0	2103	Word	
frequency				
Output current	0	2104	Word	
Output voltage	0	2106	Word	
Parameters	0~FFFF	0000~0FFF	Word	GGmmH,GG:Group No.
				of function code
				mm:function code No.
				For example, the modbus
				address of function code

				P2.11 is 020BH.
Bus voltage	0	2105	Word	
Motor speed	0	2107	Word	
Module	0	2108	Word	
temperature				
VI analog input	0	2109	Word	
CI analog input	0	210A	Word	

2.6 XINJE XD/XG (Ethernet) series PLC

2.6.1 Device type

Sarias	CDU	Connected module	Dort	Cable	PLC model in	
Series	CPU Connected modul		Polt	making	Touchwin software	
XD XG	XD5E XDE XGE	CPU direct connection Communication module T-BOX	RJ45	Fig 1 or Fig 2	Xinje XD/XG series	

2.6.2 Parameters

Taking XDE series PLC as an example, this paper explains the communication setting of Xinje XD/XG series protocol.

PLC settings

There are two methods to configure PLC Ethernet parameters: direct configuration through PLC software and configuration using config tool. The two configurations are interrelated. Just use one of them..

Method 1: connect the PLC to the computer, open the PLC programming software, open the PLC configuration in the engineering column on the left side of the software, double-click the "Ethernet port" below, manually set the Ethernet parameters of PLC in the pop-up configuration window, and click "write to PLC" after setting:



Note: After the parameter is written, the PLC needs to be restarted to take effect.

Method 2: Connect the PLC to the computer, first connect the PLC with the config tool, open the config

tool, then click PLC - find device- XNET:

🐺 Welcome to us	e config tool			_	×
File(F) Tool(T)	Environment(<u>E</u>)	Help(<u>H</u>)			
N PC	🔘 PLC	TouchWin	🍥 4GBox		
I WBox	la ABox	🍩 COBox			
On line					.:

Set the port number of the computer in the pop-up window (you can view it in computer device manager - port)

🐺 PLCLinkForm		—		\times
FindDevice AddrLink				
Protocol:	XNet		~	
LinkPort:	COM6		\sim	
☐ Find with 3	ED			
Device ID:		-	-	
			Find de	vice

After the PLC is successfully connected, click Ethernet:

Set the Ethernet parameters (IP address, mask and gate) of PLC in the pop-up window. The Ethernet port here defaults 9 and should not be modified. Click "write"after setting.

💀 PLCConfig	×
CommPort Route E	thernet
General Remote Standby	
Ethernet Port 9	×
You can set differen Port.	t ip for each Ethernet
◯ Get IP By DHCP	
🖲 Use Static IP	
IP address:	192 - 168 - 6 - 31
Mask:	255 - 255 - 255 - 0
Gate:	
	Read Write

Note: After the parameter is written, the PLC needs to be restarted to take effect.

HMI settings:

After selecting the human-machine interface model as TG(-ET), click next, and select "Net device" in the device list. In Local IP address: the IP address ,as long as it does not conflict with other IP address in the network. In this example, the IP of PLC is 192.168.6.6, and it can be set to 192.168.6.10.

Device	O Auto IP Ado	lress
PLC Port	Local IP Add	tress
Net Device	IP Address	192 . 168 . 6 . 10
	Subnet Mask	255 . 255 . 255 . 0
	Gateway	192 . 168 . 6 . 1
	Port	502

Right click net device, build a new Ethernet device.

Device		
Device		C
COM Dev	vice	
PLC Po	ort	
Down	Load Port	
Net Devi		TF
	New	
		G

Select "Xinje XD/XG series" in the equipment list. This IP address is the IP address of Xinje PLC, and the

port number is 502 by default. It cannot be modified:

Device	
Device COM Device PLC Port DownLoad Port Net Device XD series	kinje XD/XG serials xinje XS serials(Modbus TCP) Modbus_TCP Modbus RTU Over TCP(Panel is Master,start address is 0) Thinget XNet Series Siemens S7-1200 Series Siemens S7-1200/1500 new Series Siemens S7-200 Smart Series Siemens S7-200 Smart Series Mitsubishi Melsec Series(1E)
	IP 192 168 6 6 Port 502 Protocol TSD UDD TSD UDD TSD TSD
	Gammericate Browneter
	Waiting time 0 ms Retries 3 Timeout 1500 ms
	Communicate status register PSV 256

For the setting of communication parameters, the communication status can be output by default: check "output communication status", set PSW to 256, and select PSW256 ~ PSW259 as the number of communication successes, communication failures, communication timeouts and communication errors respectively. The output communication status address can be set by customers.

Com	municate status register	
PSW	256	
Communic PSW/1259	ation state occupies address PSW[256] ~ "	

After setting, click "next" to end the setting and enter the screen editing interface. Place data input part on the screen and select the corresponding equipment "XD series" in the equipment drop-down bar:

011				_		
Object	Display	Convert	Inputs	Font	Color	Position
Ope Sta	rate Objec ation	t				
De	evice >	(D series			~	
Vir	rStaNO L F	ocal registers LC Port	S			
Ob	ject 🛛	D series				
Oł	ojType [) ~		0		
			indire	ect		

2.6.3 Cable making

RJ45 straight through cable (connected to hub) or RJ45 crossover cable:

Data Input

pin	colour	pin	colour
1	white orange	1	white orange
2	orange	2	orange
3	white green	3	white green
4	blue	4	blue
5	white blue	5	white blue
6	green	6	green
7	white brown	7	white brown
8	brown	8	brown

T .	4
F19	
0	-

2.6.4 Device address

PLC address	Range	Object type	Notes
Х	0~77777777	Bit	Input relay
X1 xxxx	0~77777777	Bit	Extended module input relay
X2 xxxx	0~77777777	Bit	Extended BD input relay
X3XXXX	0~77	Bit	Extended ED input relay
Y	0~77777777	Bit	Output relay
Y1 xxxx	0~77777777	Bit	Extended module output relay
Y2 xxxx	0~77777777	Bit	Extended BD output relay
Y3XXXX	0~77	Bit	Extended ED output relay
М	0~99999999	Bit	Internal relay
S	0~99999999	Bit	Flow
SM	0~99999999	Bit	Internal relay, special using
Т	0~99999999	Bit	Timer
С	0~99999999	Bit	Counter
ET	0~99999999	Bit	Timer, precise timer
SE	0~99999999	Bit	Sequence block wait instruction special coil
HM	0~99999999	Bit	Internal relay, power-off retentive
HS	0~99999999	Bit	Flow, power-off retentive
HT	0~99999999	Bit	Auxiliary relay, power-off retentive
НС	0~99999999	Bit	Counter, power-off retentive
HSC	0~99999999	Bit	Counter, high speed counter
D	0~99999999	Word//DWord	Data register
ID	0~99999999	Word//DWord	Analog input
ID1xxxx	0~99999999	Word//DWord	Extended module analog input
ID2xxxx	0~99999999	Word//DWord	Extended BD analog input
ID3XXXX	0~99	Word//DWord	Extended ED analog input
QD	0~99999999	Word//DWord	Analog output
QD1xxxx	0~99999999	Word//DWord	Extended module analog output
QD2xxxx	0~99999999	Word//DWord	Extended BD analog output

PLC address	Range	Object type	Notes
QD3XXXX	0~99	Word//DWord	Extended ED analog output
SD	0~99999999	Word//DWord	Data register, special using
TD	0~99999999	Word//DWord	Timer value
CD	0~99999999	Word//DWord	Counter value
ETD	0~99999999	Word//DWord	Timer value, precise timer
HD	0~99999999	Word//DWord	Data register
HSD	0~99999999	Word//DWord	Data register, power-off retentive
HTD	0~99999999	Word//DWord	Timer value, power-off retentive
HCD	0~99999999	Word//DWord	Counter value, power-off retentive
HSCD	0~99999999	Word//DWord	Counter value, high speed counter
FD	0~99999999	Word//DWord	FlashROM reigster
SFD	0~99999999	Word//DWord	FlashROM register, special using
FS	0~99999999	Word//DWord	Special security register
DM	0~99999999	Word	For data register
DX	0~77777777	Word	For data register
DX1xxxx	0~77777777	Word	For data register, extended module
DX2xxxx	0~77777777	Word	For data register, extended BD
DX3XXXX	0~77777777	Word	For data register, extended ED
DY	0~77777777	Word	For data register
DY1xxxx	0~77777777	Word	For data register, extended module
DY2xxxx	0~77777777	Word	For data register, extended BD
DY3XXXX	0~77777777	Word	For data register, extended ED
DS	0~99999999	Word	For data register
DSM	0~99999999	Word	For data register, special function using
DT	0~99999999	Word	For data register
DC	0~99999999	Word	For data register
DET	0~99999999	Word	For data register, precise timer
DSE	0~99999999	Word	For data register, WAIT instruction
DHM	0~99999999	Word	For data register, power-off retentive
DHS	0~99999999	Word	For data register, power-off retentive
DHT	0~99999999	Word	For data register, power-off retentive
DHC	0~99999999	Word	For data register, power-off retentive
DHSC	0~99999999	Word	For data register, high speed counter

2.7 XINJE X-NET(Ethernet) series PLC

The configuration and use of Xinje XNET protocol are the same as that of Xinje XD / XG protocol. The PLC configuration under the two kinds of communication is exactly the same, and different protocols need to be selected on the touch screen. The difference between the two protocols lies in the different address range. Part of XD / XG series PLC has a large address range, while only a few are used for Modbus communication. If all addresses can be accessed, xnet protocol needs to be used.

2.7.1 Device type

Sorias	CDU	Composted module	Dort	Cable	PLC model in		
Series	Cr O Connected module		CPU Connected module Port		POIL	making	Touchwin software
XD XG	XD5E XDE XGE	CPU direct connection Communication module T-BOX	RJ45	Fig 1 or Fig 2	Xinje XD/XG series		

2.7.2 Parameters

Taking XDE series PLC as an example, this paper explains the communication settings of Xinje XNET series protocol equipment.

PLC settings

Method 1: connect the PLC to the computer, open the PLC programming software, open the PLC Config in the engineering column on the left side of the software, double-click the "Ethernet port" below, manually set the Ethernet parameters of PLC in the pop-up configuration window, and click "write to PLC" after setting:



Note: After the parameter is written, the PLC needs to be restarted to take effect.

Method 2:

Connect the PLC to the computer, first connect the PLC with the config tool, open the config tool, then click PLC - find device- XNET:

😺 We	😹 Welcome to use config tool							×
File(<u>F</u>) Tool(<u>T</u>)	Envi	ronment(<u>E</u>)	Help(<u>H</u>)				
1	PC	9	PLC	📰 Touch Wir	n 👒	4GBox		
<u>ا</u>	WBox	9	ABox	🎯 COBox				
On lir	ne							.:

Set the port number of the computer in the pop-up window (you can view it in computer device manager - port)

💀 PLCLinkForm		—		×
FindDevice AddrLink				
Protocol:	XNet	```	~	
LinkPort:	COM6	`	~	
🗌 Find with]	ED			
Device ID:		-	-	
]	Find dev	vice

After the PLC is successfully connected, click Ethernet:

Set the Ethernet parameters (IP address, mask and gate) of PLC in the pop-up window. The Ethernet port here defaults 9 and should not be modified. Click "write" after setting.

🐺 PLCConfig	×				
CommPort Route Et	hernet				
General Remote Standby					
Ethernet Port 9					
You can set different Port.	t ip for each Ethernet				
◯ Get IP By DHCP					
🔘 Use Static IP					
IP address:	192 - 168 - 6 - 31				
Mask:	255 - 255 - 255 - 0				
Gate:					
	Read Write				

Note: After the parameter is written, the PLC needs to be restarted to take effect.

If the communication fails, check whether the routing table configuration is correct. Click read:

🙀 PLCConfig			\times
CommPort Route	Ethernet		
Route config	z		
🕀 RouteList	Net	COM_No	Gateway
	49320	9	0
	へ Success. 確定		
Add Del]		Read Write

Note: if the IP address used is A.B.C.D. Net column data is A* 256 + B.

HMI settings

After selecting the human-machine interface model as TG(-ET), click next, and select "Net device" in the device list. In Local IP address: the IP address ,as long as it does not conflict with other IP address in the network. In this example, the IP of PLC is 192.168.6.6, and it can be set to 192.168.6.10.

Device			×
Device COM Device PLC Port	O Auto IP Ad	dress dress	
Net Device	IP Address	192 . 168 . 6 . 10	
	Subnet Mask	255 . 255 . 255 . 0	
	Gateway	192 . 168 . 0 . 1	
	Port	502	
		Remote Commu	

Right click net device, build a new Ethernet device.

Device		
Device		
COM Dev	vice	
PLC P	ort	-0
Down	Load Port	
Net Devi		IF
	New	
		G

Select "Xinje xnet series" in the equipment list. This IP address is the IP address of Xinje PLC, and the port number is 502 by default. It cannot be modified:

System Settings

Para	Interactive	Panel	Device	Project	Clock	Font		
Devi	ce COM Device 	Port	xinje) xinje) Modb Modb Thing Sieme Sieme Sieme Sieme Sieme Mitsub IP Proto	KD/XG serials(N us_TCP us_RTU 0) et XNet Se ins S7-1200 ins S7-1200 ins S7-200 ins S7-20	als lodbus TC ries D Series D/1500 ne Smart Series (11 168 . 6 arameters	P) anel is Mas v Series v Series <u>)</u> . 6 UDP 0 ms 500 ms	Port Port Auto Fi Word e Retries	ess is 0) 502 nd exchange

For the setting of communication parameters, the communication status can be output by default: check

"output communication status", set PSW to 256, and select PSW256 ~ PSW259 as the number of communication successes, communication failures, communication timeouts and communication errors respectively. The output communication status address can be set by customers.

Com	municate status register				
PSW	256				
Communication state occupies address PSW[256] ~ PSW/2591					

After setting, click "next" to end the setting and enter the screen editing interface. Place data input part on the screen and select the corresponding equipment "XD series" in the equipment drop-down bar:

D	ata Inpu	t						
	Object	Display	Convert	Inputs	Font	Color	Position	
	Ope Sta	rate Object ation evice				~		
	Ne Ob	Net ID Local registers PLC Port Object XNET						
	Ot	ojType [) ~	indire	0 ect			

2.7.3 Cable making

RJ45 straight through cable (connected to hub) or RJ45 crossover cable:

pin	colour	pin	colour
1	white orange	1	white orange
2	orange	2	orange
3	white green	3	white green
4	blue	4	blue
5	white blue	5	white blue
6	green	6	green
7	white brown	7	white brown
8	brown	8	brown

Fig 1

pin	colour	pin	colour
1	white orange	1	white green
2	orange	2	green
3	white green	3	white orange
4	blue	4	blue
5	white blue	5	white blue
6	green	6	orange
7	white brown	7	white brown
8	brown	8	brown

Fig	2
1 15	-

2.7.4 Device address

PLC address	Range	Object type	Notes
Х	0~77777777	Bit	Input relay
X1 xxxx	0~77777777	Bit	Extended module input relay
X2 xxxx	0~77777777	Bit	Extended BD input relay
X3XXXX	0~77	Bit	Extended ED input relay
Y	0~77777777	Bit	Output relay
Y1 xxxx	0~77777777	Bit	Extended module output relay
Y2 xxxx	0~77777777	Bit	Extended BD output relay
Y3XXXX	0~77	Bit	Extended ED output relay
М	0~99999999	Bit	Internal relay
S	0~99999999	Bit	Flow
SM	0~99999999	Bit	Internal relay, special using
Т	0~99999999	Bit	Timer
С	0~99999999	Bit	Counter
ET	0~99999999	Bit	Timer, precise timer
SE	0~99999999	Bit	Sequence block wait instruction special coil
HM	0~99999999	Bit	Internal relay, power-off retentive
HS	0~99999999	Bit	Flow, power-off retentive
HT	0~99999999	Bit	Auxiliary relay, power-off retentive
НС	0~99999999	Bit	Counter, power-off retentive
HSC	0~99999999	Bit	Counter, high speed counter
D	0~99999999	Word//DWord	Data register
ID	0~99999999	Word//DWord	Analog input
ID1xxxx	0~99999999	Word//DWord	Extended module analog input
ID2xxxx	0~99999999	Word//DWord	Extended BD analog input
ID3XXXX	0~99	Word//DWord	Extended ED analog input
QD	0~99999999	Word//DWord	Analog output
QD1xxxx	0~99999999	Word//DWord	Extended module analog output
QD2xxxx	0~99999999	Word//DWord	Extended BD analog output

PLC address	Range	Object type	Notes
QD3XXXX	0~99	Word//DWord	Extended ED analog output
SD	0~99999999	Word//DWord	Data register, special using
TD	0~99999999	Word//DWord	Timer value
CD	0~99999999	Word//DWord	Counter value
ETD	0~99999999	Word//DWord	Timer value, precise timer
HD	0~99999999	Word//DWord	Data register
HSD	0~99999999	Word//DWord	Data register, power-off retentive
HTD	0~99999999	Word//DWord	Timer value, power-off retentive
HCD	0~99999999	Word//DWord	Counter value, power-off retentive
HSCD	0~99999999	Word//DWord	Counter value, high speed counter
FD	0~99999999	Word//DWord	FlashROM reigster
SFD	0~99999999	Word//DWord	FlashROM register, special using
FS	0~99999999	Word//DWord	Special security register
DM	0~99999999	Word	For data register
DX	0~77777777	Word	For data register
DX1xxxx	0~77777777	Word	For data register, extended module
DX2xxxx	0~77777777	Word	For data register, extended BD
DX3XXXX	0~77777777	Word	For data register, extended ED
DY	0~77777777	Word	For data register
DY1xxxx	0~77777777	Word	For data register, extended module
DY2xxxx	0~77777777	Word	For data register, extended BD
DY3XXXX	0~77777777	Word	For data register, extended ED
DS	0~99999999	Word	For data register
DSM	0~99999999	Word	For data register, special function using
DT	0~99999999	Word	For data register
DC	0~99999999	Word	For data register
DET	0~99999999	Word	For data register, precise timer
DSE	0~99999999	Word	For data register, WAIT instruction
DHM	0~99999999	Word	For data register, power-off retentive
DHS	0~99999999	Word	For data register, power-off retentive
DHT	0~99999999	Word	For data register, power-off retentive
DHC	0~99999999	Word	For data register, power-off retentive
DHSC	0~99999999	Word	For data register, high speed counter

2.8 ABB PLC

2.8.1 Device type

ABB PLC can communicate with Touchwin HMI by Modbus protocol.

Series	Port	Cable	PLC model in Touchwin software
AC500	PM564-T-ETH	Fig 1	ABB (AC500) Series

2.8.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	ABB AC500		
Port	RS485	RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

PLC settings:



1. Choose Modbus in ABB AC500 PLC serial port:

名称: COM1_Online_Access 行为: C 添加设备 C 插设备 C 拔设备 ●更新设备 Update device 设备: 供应商: <全部供应商> 名称 供应商 版本 G COM1 - ASCII ABB STOTZ-KONTAKT GmbH 2.0.0.0 G COM1 - MODBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 G COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0					Jpdate devic	f设备	更新
行力: 透加设备					_Online_Access	COM1	名称:
 透加设备 值设备 齿设备 更新设备 Update device 设备: 供应商: <全部供应商> 名称 供应商 版本 ○ 公M1 - ASCII ABB STOTZ-KONTAKT GmbH 2.0.0.0 ○ COM1 - MOBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 ○ COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0 						r:	一行为
设备: 供应商: <全部供应商> 名称 供应商 版本 ● ① 杂項 ○ COM1 - ASCII ABB STOTZ-KONTAKT GmbH 2.0.0.0 ○ COM1 - MODBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 ○ COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0		te device	^{没备} Upda	○ <u>拔</u> 设备 ○ 更新i	○ <u>插</u> 设备	加设备	○添
供应商: <全部供应商> 名称 供应商 版本 ○ ① 余項 ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○		/	oput				设备
(供应商 版本 (共应商 版本 (小面) (小面)							
名称 供应商 版本 ・ </td <td>-</td> <td></td> <td></td> <td></td> <td>全部供应商></td> <td>間: <</td> <td>供应權</td>	-				全部供应商>	間: <	供应權
COM1 - ASCII ABB STOTZ-KONTAKT GmbH 2.0.0.0 COM1 - MODBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0			版本	供应商		尔	名称
COM1 - ASCII ABB STOTZ-KONTAKT GmbH 2.0.0.0 COM1 - MODBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0						🕤 杂項	8-6
COM1 - MODBUS ABB STOTZ-KONTAKT GmbH 2.0.0.0 COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0			2.0.0.0 🚩	ABB STOTZ-KONTAKT GmbH	OM1 - ASCII	(
COM1 - Multi ABB STOTZ-KONTAKT GmbH 2.0.0.0			2.0.0.0	ABB STOTZ-KONTAKT GmbH	OM1 - MODBUS	(
			2.0.0.0	ABB STOTZ-KONTAKT GmbH	OM1 - Multi	(
💭 💭 COM1 - Online Access ABB STOTZ-KONTAKT GmbH 2.0.0.0			2.0.0.0	ABB STOTZ-KONTAKT GmbH	OM1 - Online Access	- 🗖 🤇	
COM1 - SysLibCom ABB STOTZ-KONTAKT GmbH 2.0.0.0			2.0.0.0	ABB STOTZ-KONTAKT GmbH	OM1 - SysLibCom	(

2. Choose COM1 MODBUS, then set the operation mode to slave. Other parameters should be the

same	to	HMI.
------	----	------

COM1	OM1 - MODBUS 配置 Modbus设置				
参数		类型	值	缺省值	单位
- en 📢	Enable login	Enumeration of BYTE	Disabled	Disabled	
	RTS control	Enumeration of BYTE	Telegram	None	
(Telegram ending value	WORD(065535)	3	3	
(👂 Baudrate	Enumeration of DWORD	19200	19200	bits/s
(👂 Parity	Enumeration of BYTE	even	even	
(👂 Data bits	Enumeration of BYTE	8	8	bits/character
(Stop bits	Enumeration of BYTE	1	1	
(Run on config fault	Enumeration of BYTE	No	No	
	Operation mode	Enumeration of BYTE	Slave	None	
· · · · · •	Address	BYTE(0255)	1	0	

2.8.3 Cable making

ABB COM1 (RS-485):





2.8.4 Device address

PLC address	Range	Data type	Explanation
MX0	0.0.0~0.65535.7	Bit External I/O/internal coil	
MX1	0.0.0~0.65535.7	Bit External I/O/internal coil	
MW0	0~32767	Word//DWord	Data register
MW1	0~32767	Word//DWord Data register	
MD0	0~32767	Word//DWord	Data register
MD1	0~32767	Word//DWord	Data register

2.9 Allen-Bradley series PLC

2.9.1 Device type

Series	CPU	Connected	Port	Cable	PLC model in	
		module			Touchwin software	
Micrologix	Micrologix1000				AB Mircrologix,	
	Micrologix1200				SLC series (DF1	
	Micrologix1500				Full duplex protocol)	
	(1762-L40BWA)	CDU				
	(1764-LSP,1764-LRP)	RS232 RS23	RS232	RS232 Fig	2 Fig 1	
	Micrologix1400					
	(1766-L32BWAA)					
	Micrologix1500					
	(1764-LRP)					
SLC 500	SLC5/03	CPU	RS232			
	SLC5/04	RS232		Fig 2		
	SLC5/05					
Mciro830	2080-LC30	CPU			Modbus RTU (panel	
		RS232	RS232	Fig l	is master)	

2.9.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	AB Mircrologix,	AB Mircrologix,	
	SLC series (DF1	SLC series (DF1 full-duplex)/Modbus	
	full-duplex)	RTU(panel is master)	
Port	RS232	RS232	
Data bit	8		
Stop bit	1		
Parity	No parity		
Baud rate	9600	9600/19200/38400	
Station no.	1	0~255	

The default parameters of AB Mircrologix SLC series (DF1 full-duplex): 9600, 8, 1, no parity, station no.0.

		Communica	te parameters
Device - COM Device - PLC Port - DownLoad Port	Device mode Single mode Host Net Slave Net	Baud Rate 4800 56000 9600 57600 19200 115200	Data bit 〇 7位 ④ 8位 Stop bit
Net Device	PLC Port Modbus RTU (Panel is Master) Modbus Slave (Panel is Slave) Schneider (Micro/Neza/Twido) AB Micrologic,SLC, Series (DF1 Full-duplex Protocol) ABB AC500 Series Emerson (EC20) SAIA-Burgess PCD Series	38400 187500 Checksum No parity Cleay Send delay time	● 11☆ ○ 21☆ Odd ○ Even
	Parameters 9600, 8, None, 1 Station 0	Send data Word exchange K	Virtual Station y Tim 3 Cancel

PLC setting:

Condition A: in touchwin software, the PLC protocol is AB Mircrologix, SLC series:

E→ 控制器 controller 二常规	*	控制器 - 串行端口 通用设置	CIP serial
- 内存 - 串行舞口 serial port		driver驱动程序(R): 法结本(L):	CIP 串行 •
	Е	奇偶校验(P):	无 •
中断 启动/故障		站地址(A):	1 🗘
Modbus 映射 嵌入式 I/O		协议控制	DEL AUT
━-运动		DFI 模式: 控制行:	DFI 至双上 没有握手信号
□ 插件模块	-	错误检测(O):	CRC -

Condition B: in touchwin software, the PLC protocol is Modbus RTU (panel is master):

□ 控制器 controller	▲ 控制器 - 串行端口	
一常规 一内存	通用设置 driver 驱动程序(R):	Modbus RTU 💌
	波特率(U):	19200 •
— 日期和时间 — 中断	E 奇偶校验(P): Modbus Modbus 角色(L):	无 · 从 slave ·
— 启动/故障 — Modbus 映射	role ^{单位地址(A):}	1
	协议控制 RS	232 no handshake
└──< 新轴 > □· 插件模块	Media 媒介(M): sig	nal RS232 没有握手信号 ▼

Note: for Modbus RTU communication, the address must set the mapping, PLC address 1 corresponds to Modbus address 0, PLC address 2 corresponds to Modbus address 1...

□ 控制器 controller	2812	출 - Modbus 映射			
- 常規		变量名	数据类型	地址	已用地址
- 内存		M1	Bool	000001	000001
	*				
- 日期和时间					
- 中断					
- 启动/故障					
	9				
- 2000,000 ⊕ 运动					
- < 新轴 >					
□ 插件模块 ~	_				

2.9.3 Cable making

(a) AB Mircrologix series RS232:

 HMI 9-pin port
 RS232 8-pin port

 3 TX
 4 RXD

 2 RX
 7 TXD

 5 GND
 2 GND



AB Micrologix CPU

8-pin Din male port

Fig1

(b) SLC500 RJ8 modular plug:

HMI 9-pin port	R	U8 modular plug
2 RXD		2 SDB
3 TXD		1 SDA
5 GND		7 GND



2.9.4 Device address

Device address type	Range	Object type	Explanation	
T4DN	0~999	Bit	Timer	
C5DN	0~999	Bit	Counter	
0	0.00~999.15	Bit	Output	
Ι	0.00~999.15	Bit	Input	
S	0.00~999.15	Bit		
B3	0.00~999.15	Bit		
R6	0.00~999.15	Bit		
N7	0.00~999.15	Bit		
0	0~999	Word	Used as register	
Ι	0~999	Word	Used as register	
S	0~999	Word	Used as register	
B3	0~999	Word	Used as register	
T4PRE	0~999	Word	Timer preset value	
T4ACC	0~999	Word	Timer actual value	
C5PRE	0~999	Word	Counter preset value	
C5ACC	0~999	Word	Counter preset value	
R6	0~999	Word	Data register	
N7	0~999	Word/Dword	Data register	
F8	0~999	Dword	Floating number	
			register	
R6LEN	0~999	Word		
P6POS	0~999	Word		

2.10 Bosch Rexroth series PLC

2.10.1 Device type

Bosch Rexroth IndraControl L series PLC can communicate with Xinje HMI via COM0 and COM1.

CPU	Connected module	Port	Cable	PLC model in Touchwin software
1.20				Bosch Rexroth
L20 L40	Direct connect to CPU	RS232	Fig 1	IndraControl L40
				Series PLC

2.10.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	IndraControl L40 series PLC		
Port	RS232	RS232	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
David mete	28400	4800/38400/9600/115200	
Baud rate	38400	/19200/187500	
Station no.	2	0~255	

The default parameters of IndraControl L40 series PLC: 38400, 8, 1, no parity, station no.2

Note: To communicate with the touch screen, you need to declare the corresponding variables in Rexroth software first.

Communicate parameters			
Baud Rate	Data bit		
○ 4800 ○ 56000	○7位 ●8位		
○ 9600 ○ 57600			
○ 19200 ○ 11520	0 Stop bit		
38400	0 ●1位 ○2位		
Checksum			
No parity	Odd O Even		
Delay			
Send delay time	0 ms		
Send data	Virtual Station		
Word exchange Retry Tim 3			
ОК	Cancel		

PLC settings

(1) L40 hardware connection



power supply terminal

1.1 and 2.1 short circut1.2 connect to +24V1.3 connect to -24V

Inline I/O Extension with Rexroth-Inline-Modules max.64 Modules max.32Byte I and O

(2) L40 software setting

The Rexroth software indralogic on PC communicates with Rexroth indracontrol L40 through network port (IP of PLC during test: 192.168.100.103), open Rexroth software indralogic and create a new project:

Target Settings				
<u>D</u> onfiguration:	None	-	ОК	Cancel
	None HOLLIAS LEC G3 CPU	^		
	HOLLAS-LEC G3 CPU Extend IndiaLogic L40 DPM 02VRS	-		
	SYNAX200-MotionLogic 11VRS (PPC-P) SYNAX200-MotionLogic 11VRS (PPC-R) SYNAX200-MotionLogic 12VRS (PPC-P)	μç		

Click OK, as shown in the figure below

Tårget Sett	ings	×
<u>D</u> onfiguration:	IndraLogic L40 DPM 02VFIS	
Target Platform	Memory Leyout General Network functionality Visuelization	
<u>∃</u> ations:	Intel 386 compatible	
Floating p	oint processor	
🔽 <u>D</u> ebugging	g in multitasking environment	
-		
Ugtimized	operations with constants	
C Optimized	load operations	
	Default OK Cancel	1

guration: InchaLogic L40 DPM C2	VRS	•
get Platform Memory Layout Genera	al Network functionality Visualization	
1/0 Configuration		
🔽 Conjigurable		
	Vo address check	
	-	
	-	
Support preemptive multitasking	✓ Download symbol file	☑ YAR_IN_OUT as reference
	📃 Symbol canfig from INI file	🔽 Initiajize inpute
Byte addressing mode	ELC Browser	Load bootproject automatically
🔽 Initialize zero	Trace	

Click OK, as shown in the figure below.

New POU		X
Name of the new PDU:	PLC_PRG	OK
Type of POU	Language of the POU	Cancel
Erogram	Cir	
C Function <u>B</u> lock	ទល	
C Function	C FB <u>D</u>	
<u>H</u> eturn Type:	© <u>s</u> fc	
BDOL	CSI	
	C _FC	

Build program :

Ten PLC	PRG (PRG-	LD)		
IOOO1 PR	OGRAM PLC	PRG		
0002 VA	R			
0003EN	D VAR			
0004	-			
<	<u> </u>			
0001				
				[
		Cu <u>t</u>	Ctrl+X	
		<u>C</u> opy	Ctrl+C	
		<u>P</u> azie	Ctrl+V	
		<u>D</u> elete	lel	
		Hatmark (hafana)		
		Wetholk (Derote)		
		Network LatterJ	Utr1+7	
		Contest	Ctrl+K	
		Parallel Contact	Ctrl+R	
		<u>F</u> unction Block	Ctrl+B	

After inputting B0, a dialog box will pop up. The settings are as follows, and click OK:

80	

Declare Variable			×
Commont	Name 80 nitialYolue	Lype BOOL Address	OK Cancel

Build a coil:

B0	6			в1 ()
	Declaro Variable Class MAR GLOHAL • Symbol ist Global_Variables • Comment	Name 81 nhialValue	Iype BOOL Address	Canos Canos

At the same time, you will find that two variables are automatically generated on the global variables:

🚮 IndraLogic - (Untitled)*	
Eile Edit Eroject Insert Extras Online Yindow	Help
<u>, 2 ≤ 9 2 8 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</u>	🙀 🙀
Presources Gitcle Variables Subdet Var	GLobal, Yariables D1 WAR_GLOBAL D2 BO. BOOL D3 BD. BOOL D3 BD. BOOL D4 END_VAR D5 D7 D8 D9 D1 D2 D3 D1 D2 D3 D4 D5 D7 D8 D9 D1 D1 D2 D3 D4 D5 D6 D7 D8 D9 D1 D2 D3 D4 D5 D7 D2 D3 D4
📄 POUs 🃲 Data types 📰 Visualizations 🕮 Resources	1

Then set the communication parameters:





Note: the PLC panel needs to be set. Press enter, then \triangle , until RS232 is displayed, and then press enter to enter the com SERV interface (if it is not SERV, it should be changed to SERV).



After setting, the serial communication between touch screen and PLC can be realized.

2.10.3 Cable making

IndraControl L40 PLC RS232:





2.10.4 Device address

IndraControl L40 series PLC

PLC address	Range	Data type	Explanation
Х	0~9999	Bit	External I/O coil
В	0~9999	Byte	Used as register
W	0~9999	Word	Used as register
D	0~9999	DWord	Used as register
R	0~9999	DWord	Used as register
SB	0~9999	Byte	Used as register
SW	0~9999	Word	Used as register
SD	0~9999	DWord	Used as register

2.11 Delta AS series PLC

2.11.1 Device type

S	eries	CPU	PU Connection Port Cable	Cable	PLC model in	
			module			Touchwin software
		AS332T/P-A				
20	300 series	AS324MT-A	Direct	RS485	Fig 1	Delta
50		AS320T/P-B	Direct			ModbusRTU(AS)
		AS300N-A	CDU			
20	0 corrigo	AS228T/P/R-A	CPU	D145	Ei~2	Delta (AS series
20	200 series	AS218TX/PX/RX-A		KJ43	FIg2	Ethernet)

2.11.2 Parameter

1. RS485 communication

HMI

Parameters	Recommend settings	Choices of settings	Notes
PLC type	Delta ModbusRTU(AS)		
Port	RS485	RS232 or RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

2. RJ45 communication

PLC settings

(a)Open the PLC programming software, as shown in Figure 1. Double click in the project management area to open HWCONFI.

「项目管理区	$\mathbf{u} \times $
项目官理区 项目 [C: \ProgramData\Delta Industrial A ※ 法置注释表 ④ 法置注释表 ④ 法定任 ● CARD Utility ■ CARD Utility ■ CARD Utility ■ CARD Utility ■ CARD Utilita ● 目定义数据类型 ● 全局符号 ● ● 全局符号 ● ● ProgO [PRG, LD] ● 数置监控表 ● ● 数置监控表	utom
1	



(b)Pop up the interface, double-click

借 Untitled1 - HWCONFIG		_
文件(E) 编辑(E) 设置(Q) 帮助(H)	
🛛 🖪 🛛 X 🖻 🛍 🖉 🖉 😨 🗊	1 🎇 1 📆 🛷	
产品列表		
 □ AS Series □ 数字 I/0 模块 □ 模块 □ 模块 □ 网络模块 □ 运动控制模块 □ 电源 		

Fig 2

(c)General settings-Ethernet basic settings-IP address

装置设定 General settings 一般设定 数据交换 -COMI 数据	交换 -COM2 数据交换 -Ethernet 数	据交换 -FEN02 数据交换	-功能	と 卡1 数据交换 −功	能卡2	
□-AS332T-A 由-系统设定	以太网基本设定	· · · · · · · ·				
COM1通讯埠设定	参数名称	设定值	- 1	位 默认值	最小值	最大值
COMA通讯埠设定	_ IP 地址	192.168.1.5		192.168.1.5	1.1.1.1	223.255.255.
- 以太网基本设定	子网掩码	255.255.255.0		255.255.255	. 0.0.0.0	255.255.255.
田 以太四世前定 市能上105年 Linet	网关地址	192.168.1.1		192.168.1.1	1.1.1.1	223.255.255.
□ □ ···· ·····························	TCP联机保持时间	30	秒	30	1	65535
E Sile NZ REBUSIC Sector	IP 地址模式	静态 ▼		静态	-	-

HMI settings

(a)After selecting the HMI model as TN (- ET), TG (- ET) or TE(- ET), click next, and select "Net device" in the device list. In local device, IP address: the IP address of the HMI, as long as it does not conflict with other IPS in the network. In this example, the PLC station number is 192.168.1.5, and its own device can be set to 192.168.1.11.



(b)Right click net device, build a new Ethernet device.

	System S	Settings						
Device	Para	Interactive	Panel	Device	Project	Clock	Font	
COM Device PLC Port DownLoad Port Net Povice New		ice COM Device PLC Port DownLoad Net Device Delta AS se	Port	Mitsul Keyer Sieme LG X0 Haiwe Omroi Delta Inova Omroi BoffA	bishi Melse hoce (KV500 ens S7-300 GT Series ellbus TCP h(FinsTCP) (AS) Series noce AM60(h(FinsUDP) ds (CX5120	c Series(fx 10/5500/7 Series Series Series Series Series Series Series	:5u) /500)	~

(c)Select "Delta AS series" in the equipment list. This IP address is the IP address of Delta PLC, and the port number is the "local port number" (decimal) set in PLC software

Para	Interactive	Panel	Device	Project	Clock	Font			
	ice COM Device PLC Port DownLoad Net Device Delta AS s	Port	Sieme Mitsub Mitsub Keyer Sieme LG XO Haiwe Omror Delta(Delta(Proto © Comr Wait	ns S7-200 isishi Melsec isishi Melsec isishi Melsec isishi Melsec isishi Melsec Note:: Note: Note:: Note: Note:: Note: Note:: Note:: Note:: N	Smart nev c Series(11 c Series(sa) c Series(sa) c Series(sa) Series Series Series 168 . 1 arameters 11	v Series =) =) 500) UDP 0 ms 500 ms	Port	502 exchange	
			PS Co	Commur V	nicate stat 256 n state oc	us register	Iress PSW[2	256] ~	

(d)For the setting of communication parameters, the communication status can be output by default: check "output communication status", set PSW to 256, and select PSW256 ~ PSW259 as the number of communication successes, communication failures, communication timeouts and communication errors respectively. The output communication status address can be set by customers.

Con	municate status register	
PSW	256	
Communic PSW/259	ation state occupies address PSW[256] ~ II	

(e)After setting, click "next" to end the setting and enter the screen editing interface. Place data input part on the screen and select the corresponding equipment "XD series" in the equipment drop-down bar:

Operate Obj Station	ect
Device	Delta AS series 🗸 🗸
VirStaNO	0 Station 0
Object	
ObjType	x ~ 0
	indirect

2.11.3 Cable making

(1)Delta AS series CPU(RS485 port)

HMI 9-pin port

A В

Pin
4
7

Name	

Delta AS series
RS485 2-wire port

Pin	Name	1000	1	7
.+	RS485+		80 +	COM 2
-	RS485-			
			R5-46	5

()

Fig 1

(2)RJ45 straight through cable (connected to hub) or RJ45 crossover cable:

pin	colour	pin	colour
1	white orange	1	white green
2	orange	2	green
3	white green	3	white orange
4	blue	4	blue
5	white blue	5	white blue
6	green	6	orange
7	white brown	7	white brown
8	brown	8	brown

Fig 2

2.11.4 Device address

PLC address	Range	Data type	Explanation
X	0.0~63.15	Bit	Input
Y	0.0~63.15	Bit	Output
М	0~8191	Bit	Internal relay
S	0~2047	Bit	Step relay
Т	0~511	Bit	Timer
C	0~511	Bit	Counter
----	---------	--------------------	-----------------------
НС	0~255	Bit 32-bit counter	
D	0~29999	Word	Data register
Е	0~9	Word	Data register
SR	0~2047	Word	Special data register

2.12 Delta DVP series PLC

2.12.1 Device type

Delta DVP series	Connected module	Port	Cable	PLC model in Touchwin
CPU				software
DVD EC/EU/EV		RS232	Fig 1	
DVP-ES/EH/EX	Direct connect to the	RS485	Fig 2	
	CPU	RS232	Fig 1	Delta DVP series
DVP-55/5A/5C/5A		RS485	Fig 2	

2.12.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Notes
PLC type	Delta DVP series		
Port	RS232	RS232 or RS485	
Data bit	7	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

The default communication parameters of Delta DVP series PLC: 9600, 7, 1, even parity, station no.1.

2.12.3 Cable making

(a) The RS232 port on CPU:

HMI 9-pin port

Delta DVP series RS232 8-pin port

	Pin	Name	Pin	Name	
	2	RXD	5	TXD	40.30
0	3	TXD	 4	RXD	07069
	5	GND	 8	GND	E

(b) RS485 port on CPU:

HMI 9-pin port

Delta DVP series

RS232 8-pin port

Pin	Name	Pin	Name
 4	A.	А	RS485+
7	В	В	RS485-

Fig2

2.12.4 Device address

PLC address	Range	Data type	Explanation
X	0~377	Bit	External input coil
Y	0~377	Bit	External output coil
М	0~1279	Bit	Internal auxiliary relay
S	0~1023	Bit	Stepper coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
D	0~1279	Word/DWord	Data register
TD	0~255	Word/DWord	Current value of timer
CD	0~255	Word/DWord	Current value of counter
S	0~1023	Word/DWord	Data register
Х	0~377	Word/DWord	Data register
Y	0~377	Word/DWord	Data register
М	0~127	Word/DWord	Data register

2.13 Delta (temperature controller)

2.13.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
DTA DTC	DTA4848 DTA9696VR DTC1000 DTC2000	CPU	RS485	Fig 1	Modbus RTU (panel is master)

2.13.2 Parameters

HMI settings:

Parameters		Choices of settings	Notes
PLC type	Modbus RTU	-	-
	(panel is master)		
Data bit	7	-	
Stop bit	1	-	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/9600/19200/38400/56000/57600/	
		115200/187500	
Station no.	1	-	

Delta (temperature controller) default parameters: 9600, 7, 1, even parity, station no.1

2.13.3 Cable making

DTA/DTC RS485

HMI 9-pin D-type female port

RS485 terminals



Fig1

2.13.4 Device address

Please refer to Delta temperature controller Modbus address list.

The address is decimal in HMI.

0x: read/write coil 1x: only read coil 4x: read/write register 3x: only read register

2.14 Emerson EC20 series PLC

2.14.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
		COM0 port	RS232	Fig 1	Emanuel EC20
EC20) EC20	EC20 COM1 port	RS485	Fig 2	Emerson EC20
			RS232	Fig 3	Series PLC

2.14.2 Parameters

HMI:

Parameters	recommend settings	Choices of settings	Note
PLC type	Emerson EC20 series PLC		
Port	RS232	RS232/RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200	
		/19200/187500	
Station no.	1	0~255	

The default parameters of Emerson EC20 series PLC: 19200, 8, 1, even parity, station no.1

PLC settings: (1) COM0 port setting

系统块				X
保存范围 高级设置 PLC通讯口	輸出表 没 通讯口 特殊相 の一一 特殊相 の一 参数设置	置时间 與祝配置 <mark>t</mark>	输入过滤器 中断优先级	输入点 通信模块
○ (編 (○) 自)程口协议 由口协议	自由	口设置	
⊚ M « ◯ EC	odbus协议 Dus协议	Hodb	us设置 1s设置	
Lodbus协议				×
PLC ser PLC串口设置 - 波特率 数据位	19200 V	setting 奇偶校歌 停止位	2 【信校验 1	
主/从方式 站号 传送模式 主模式的超	时时间	// 1 R(站 20模式 000	V V NS
重 (元(天梁)	确定		取消	

(2)COM1 port setting

系統块	X
保存范围 輸出表 輸入点 高	设置时间 输入过滤器
_FLL通讯口(0)参数设置——	Comm port
○编程口协议	
○自由口协议	自由口设置
⊙Modbus协议	Modbus设置
OEChus协议	DCbus设置
PLC通讯口(1)参数设置	Parameter
○无协议	setting
○自由口协议	日由口设置
⊙ Mo dbus协议	Modbus设置
Loubusirik	
	野认值
PLC串口设置	IP VOTILA
波特率 19200 🗸	奇偶校验 偶校验 💙
数据位 8 🚩	停止位 1 💌
主/从方式	从站
站号	1
传送模式	XTU模式, 🔽
主模式的超时时间	1000 🗢 ms
重试次数	0
前定	取消

2.14.3 Cable making

(a) Emerson EC20 PLC COM0 (RS232):

HMI 9-pin port

Emerson-EC20 CPU COM0 RS232 8-pin port

2	RXD	 3	TXD
3	TXD	 4	RXD
5	GND	5	GND

Fig1

(b) Emerson EC20 PLC COM1 (RS232):

Emerson EC20 CPU

HMI 9-pin port

wire port

COM1 RS232 5-

	Pin	Name	Pin	Name
	2	RXD	 2	TXD
· · · · · · · · · · · · · · · · · · ·	3	TXD	1	RXD
L	5	GND	 3	GND

Fig2

(c) Emerson EC20 PLC COM1 (RS485):

Emerson EC20 port CPU COM1 RS485

HMI 9-pin port

5-wire port

	Pin	Name	Pin	Name
•	4	Α	4	RS485+
	7	В	5	RS485-
	5	GND	3	GND

Fig3

Note: Emerson EC20 PLC COM1 supports RS232 and RS485.

2.14.4 Device address

PLC address	Range	Data type	Explanation
X	0~377	Bit	Input
Y	0~377	Bit	Output
М	0~2047	Bit	Internal coil
S	0~1023	Bit	Special coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
SM	0~255	Bit	Special internal auxiliary relay
D	0~7999	Word/DWord	Data register
SD	0~255	Word/DWord	Used as register
Z	0~15	Word	Used as register
Т	0~255	Word/DWord	Used as register
C16	0~199	Word	16-bit counter
C32	200~255	DWord	32-bit counter

2.15 Fatek FB series PLC

2.15.1 Device type

Series	CPU	Connected module	Port	Cabl	PLC model in Touchwin
				e	software
	FBs -20MN		RS232	Fig 1	
FBs	FBs -32MN			0	
B1	FBs -44MN		RS485	Fig 2	
	B1-10/14/20/24M	Direct correct to	100 100	1152	
	20MC	CPU	RS232	Fig 1	Fatek MU/MA series
	28MC	CrU			
	40MC				
FB-MC	19MCT		RS485	Fig 2	
	26MCT				
	36MCT				
	20MA		RS232	Fig 3	
FB-MA	28MA	FB-DIBK/DIBK-E	RS232	Fig 4	
	40MA	module	RS485	Fig 5	

Note: MA series PLC needs to configure FB-DTBR or FB-DTBR-E module, uses RS232 or RS485 connection.

2.15.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Fatek (MU/MA) series PLC		
Port	RS232	RS232 or RS485	
Data bit	7	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200	
		/19200/187500	
Station no.	1	0~255	

The default parameters of Fatek MC/MA/MU series PLC: 9600, 7, 1, even parity, station no.1.

2.15.3 Cable making

(a) FBs Port0 RS232:

			Fatek se	eries Por	rt0
	HMI 9-p	oin port	4-pin ro	ound	
	Pin	Name	Pin	Name	
	2	RXD	4	TXD	2 1
0	3	TXD	2	RXD	4_3
9	5	GND	1	GND	N.

CPU port:



Fig1

(b)CPU RS485:

HMI 9-pin port





Fig2

(c)FB-DTBR/DTBR-E module RS232:

20MA/28MA/40MA series FB-DTBR/DTBR-E module

HMI 9-pin port

RS232 15-pin port



(d)FB-DTBR/DTBR-E module RS232:

	HMI 9-p	in port	FB-DTBR	/DTBR-E	module
			RS232 9-	pin port	
	Pin	Name	Pin	Name	
	2	RXD	2	TXD	1
•	3	TXD	 3	RXD	•
	5	GND	 7	GND	

Fig4

(e) FB-DTBR/DTBR-E module RS485:

HMI 9-pin port

FB-DTBR/DTBR-E module

RS485 3-pin port

20MA,28MA,40MA series

	Pin	Name	Name
· ····································	4	A	D+
	7	В	D-

Fig5

2.15.4 Device address

FATEK-FB series PLC

PLC address	Range	Data type	Explanation
М	0~2001	Bit	Internal auxiliary coil
Х	0~255	Bit	External input coil
Y	0~255	Bit	External output coil
S	0~999	Bit	Sequence control coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
R	0~9000	Word/Dword	Register
Х	0~255	Word/Dword	Used as register
Y	0~255	Word/Dword	Used as register
М	0~2001	Word/Dword	Used as register
S	0~999	Word/Dword	Used as register
D	0~3071	Word/Dword	Used as register
TD	0~255	Word/Dword	Used as register
C16	0~199	Word/Dword	16-bit counter
C32	200~255	Word/Dword	32-bit counter

2.16 Fuji SPB series PLC

2.16.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin
					software
	NW0P20	Communication adapter NW0LA-RS2	RS232	Fig 1	
SPB	NW0P30 NW0P40	Communication adapter NW0LA-RS4	RS485	Fig 2	Fuji SPB series PLC
		Direct connect to the CPU	RS422	Fig 3	
NB	NB2U24R-11	Direct connect to the CPU	RS422	Fig 3	

Fuji MICREX-SX SPB series PLC

2.16.2 Parameters

HMI:

Parameter	Recommend settings	Choices of settings	Note
PLC type	Fuji SPB series PLC		
Port	RS422	RS232/RS485/RS422	
Data bit	8	7 / 8	
Stop bit	1	1/2	
Parity	Odd parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	0	0~255	1

2.16.3 Cable making

(a) NW0LA-RS2 module RS232:

HMI 9-pin port

MICREX-SX-SPB VB series NWOP20, NWOP30, NWOP40...series CPU NWOLA-RS232 communication adapter 9-pin port

2	RXD		3	SD
3	TXD	–	2	RD
5	GND		5	SG

(b) NW0LA-RS4 module RS485:

HMI 9-pin port

MICREX-SX-SPB VB series NWOP20, NWOP30, NWOP40...series CPU NWOLA-RS 485 communication adapter 5-wire port

NB/SPB series CPU



Fig2

(c) RJ-45 RS422:

	HMI 9-	pin port	8-Pin RJ	45	
	Pin	Name	Pin	Name	12345678
	1	TD+	2	KD+	11771
	6	TD-	6	RD-	(SIN
0 0	8	RD-	4	TD-	
	9	RD+	3	TD+	

Fig3

2.16.4 Device address

PLC address	Range	Data type	Explanation
X	0~15	Bit	External input coil
Y	0~15	Bit	External output coil
М	0~15	Bit	Internal auxiliary coil
L	0~15	Bit	Special auxiliary coil
Т	0~511	Bit	Timer
С	0~255	Bit	Counter
SM	0~15	Bit	Special auxiliary coil
WX	0~63	Word/DWord	Used as register
WY	0~63	Word/DWord	Used as register
WM	0~63	Word/DWord	Used as register
WL	0~255	Word/DWord	Used as register
WSM	32768~33023	Word/DWord	Used as register
D	0~8191	Word/DWord	Data register
TW	0~511	Word/DWord	Used as register
CW	0~255	Word/DWord	Used as register
LD	0~10000	Word/DWord	Used as register
SD	32768~33023	Word/DWord	Used as register

2.17 HaiWell PLC

2.17.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
E/S	UW \$167D220D	CDU	RS232	Fig 1	Modbus RTU
E/3	пw-310ZK220K	CrU	RS485	Fig 2	(Panel is Master)

2.17.2 Parameters

HMI settings:

Parameter	Recomme	nd setti	ngs		Choices of settings	Notes
PLC type	Modbus master)	RTU	(panel	is	-	-
Data bit	8				-	
Stop bit	2				-	
Parity	No parity				Even/odd/no parity	
Baud rate	9600				4800/9600/19200/38400/	
					56000/	
					57600/115200/187500	
Station no.	1				-	

Haiwell E/S series default communication parameters: 9600, 8, 2, no parity, station no.1

PLC settings:

Communication protocol: Modbus RTU.

2.17.3 Cable making

(a) E/S series PLC RS232:

Haiwell PLC port	RS232 connection	HMI port
4-pin S-type male port (same to programming cable)	TX 2 RXD RX 1 3 TXD GND 3 5 GND	9-pin D-type female port

(b)E/S series PLC RS485:

Haiwell PLC port	RS485 connection	HMI port
A+ B-	A+ 4 AI	
	B- 7 BI	9-pin D-type female port

Fig 2

2.17.4 Device address

g and
og
alog

2.18 Haiwell bus TCP

2.18.1 Device type

Series name	Communication type	Cable making	PLC model in Touchwin software
Haiwell PLC	RJ45	Fig 1 or 2	Haiwellbus TCP protocol

2.18.2 Parameters

Take Haiwell PLC as an example to explain the communication settings.

PLC settings:

Open the PLC software, set the PLC IP to 192.168.1.111 for example.

HMI settings:

1.choose HMI model TN(-ET), TG(-ET) or TE(-ET), click next, then choose net device, fill in the IP address of HMI. The HMI IP cannot be conflict with other devices in the network. For example, the HMI IP is set to 192.168.1.11.

evice								
Device - COM Device - PLC Port - DownLoad Port	O Auto IP Ada	dress						
Net Device	IP Address	192	. 16	8	•	1	•	11
	Subnet Mask	255	. 25	5	. 2	255		0
	Gateway	192	. 16	8		1		1
	Port							502

2.right click the net device, build a new project, and name it as Haiwellbus TCP.

Device

3.choose Haiwellbus TCP protocol in the list, and fill in the PLC IP address, the port is PLC port no. set in the PLC software.

naiweilous ree	IP 192 . 168 . 1 . 111 Port	502
Net Device Haiwellburg TCD	LG XGT Series Haiwellbus TCP Series Omron(FinsTCP) Series Det z(AS) Series	
COM Device	Mitsubishi Melsec Series(3E) Mitsubishi Melsec Series(#x5u) Keyence (KV5000/5500/7500) Siemens S7-300 Series	

4. Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

Com	municate status register	
PSW	256	
Communic PSW/259	ation state occupies address PSW[256] ~ 11	

5. click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the Haiwellbus tcp in the device list.

	Data Input					×		
Object	Display	Convert	Inputs	Font	Color	Position		
-Op	erate Obje Station	ect						
(Device	Haiwellbu	us top			~		
N N	VirStaNO		0 9	tation		1		
-0	Object ObjType	CR	¥	indirect	0			

2.18.3 Cable making

RJ45 Straight Through Cable (connect HUB) or RJ45 Crossover Cable:

Pin no.	Color	Pin no.	Color
1	White orange	1	White orange
2	orange	2	orange
3	White green	3	White green
4	blue	4	blue
5	White blue	5	White blue
6	Green	6	Green
7	White brown	7	White brown
8	Brown	8	Brown

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	orange
7	White brown	1	7	White brown
8	Brown	1	8	Brown

Fig 2

2.18.4 Device address

PLC address	Range	Object type	Notes
Х	0~1023	Bit	Digital input
Y	0~1023	Bit	Digital output
М	0~12287	Bit	Internal relay
Т	0~1023	Bit	Timer
С	0~255	Bit	Counter
SM	0~215	Bit	System status bit
S	0~2047	Bit	Step relay
CR	0~255	Word/DWord	Extended module parameter
AI	0~255	Word/DWord	Analog input
AQ	0~255	Word/DWord	Analog output
V	0~14847	Word/DWord	Internal register
TV	0~1023	Word/DWord	Timer
CV	0~255	Word/DWord	Timer
SV	0~900	Word/DWord	Step driver

2.19 Hollsys PLC

2.19.1 Device type

Series	CPU	Connected module	Port	Cable making	PLC model in Touchwin software
IM	LM3109	CPU	RS232	Fig 1	Modbus RTU
LM	LM3107	LM3107 CPU		Fig 2	(panel is master)

2.19.2 Parameters

HMI settings:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Modbus RTU (panel is master)	-	-
Data bit	8	-	
Stop bit	1	-	
Parity	No parity	Even/odd/no parity	
Baud rate	38400	4800/9600/19200/38400/56000/	
		57600/115200/187500	
Station no.	51	-	1

Hollsys LM series PLC default parameters: 38400, 8, 1, no parity, station no.51

2.19.3 Cable making

(a) LM series PLC RS232:

HMI 9-pin D-type female port

Controller RS232 9-pin D-type male port

2	RXD1		2	RXD
3	TXD1		3	TXD
5	GND	}	5	GND

Fig1

(b) LM series PLC RS485:



LM series CPU RS485 9-pin port



2.19.4 Device address

Please refer to Hollias PLC Modbus address list.The address is decimal value in HMI.0x: read/write coil1x: only read coil4x: read/write register3x: only read register

2.20 IDEC

2.20.1 Device type

Series	Connected module	Port	Cable	PLC model in
				Touchwin software
Micro3	Direct connect to CPU	RS485	Fig 1	
Micro3C	Direct connect to CPU	RS232	Fig 2	
	RS485	RS485	Fig 3	
MicroSmart	MicroSmart Direct connect to CPU		Fig 2	
	Communication adapter RS		Fig 1	
	FC4A-PC2 RS485		Fig I	IDEC MicroSmart
	Communication adapter	RS485	Fig 2	
	FC4A-PC3 RS485		Fig 5	
Open Net	Direct connect to CPU	RS232	Fig 2	
	RS485	RS485	Fig 3	

2.20.2 Parameters

HMI settings:

Parameters	Recommend	Choices of settings	Note
	settings		
PLC type	IDEC MicroSmart		
Port	RS232	RS232	
Data bit	7	7/8	
Stop bit	1	1/2	
Parity	Even parity	Even /odd /no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	0		

2.20.3 Cable making

(a)RS485 connection:



Fig 1

(b)RS232 connection



Fig 2

(c)RS485 terminal block wiring mode

Idec PLC Micro3C series



2.20.4 Device address

Device address	Range	Data type	Explanation
D	0~8199	Word/DWord	Data register
W	0~6	Word	Data register
Т	0~99	Word	Timer
t	0~99	Word	Timer
С	0~99	Word	Counter
с	0~99	Word	Counter
R	0~127	Word	Data register
X	0.0~30.7	Bit	Input
у	0.0~30.7	Bit	Output
m	0.0~807.7	Bit	Auxiliary relay
r	127	Bit	Auxiliary relay

2.21 Inovance AM600 PLC

2.21.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
AM600	AM600	CPU	RS485	Fig 1	Inovance AM600 series PLC

2.21.2 Parameters

HMI settings:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Inovance AM600 series PLC		
Data bit	8	7/8	
Stop bit	1	1/2	
Parity	Even parity	Even /odd /no parity	
Baud rate	19200	4800/38400/9600/115200/19	
		200/187500	
Station no.	1		

PLC settings:

(a)Serial port protocol settings



(b)Communication parameters

д * b X	Device 🔂 HIGH	speed_10 网络新聞	MainTat	k 🛃	Hardware Configuratio	n	Device Diagnos
Untried I Orice (AM600-CPU 1608TP)	Modbus从站取置						
Device Diagnoss Wetwork Configuration DecaBus Config Dig PLC 358 Dig PLC 358	设备诊断 状态 信愿	串口配置	19200	¢	Modbus 从站配置 站号[1247] 帧间隔(ms)	1	•
● 床管理器 ■ PLC_PRG (PRG) ■ 愛 任务配置 ■ 愛 MainTask: ④ PLC_PRG → SoftMotion General Avis Pool ■ HIGH SPEED 10 (High Speed 10 Module) ■ MODBLS_COM0 (Modbus Device)		奇偶校验 新抓位 停止位 传输模式	「現代知識 P 1 ● RTU	÷ € SCII			

2.21.3 Cable making

RS485 connection

 Inovance H1U/2U series PLC COM0/COM1 RS485

 Pin
 Name

 4
 A

 7
 B

Fig 1

Note: For example, the serial port 0 is used for 485 communication, connect pin 1 and 2, and connect pin 6 and 9 when using serial 1.

2.21.4 Device address

PLC address	Range	Object	Explanation
Ι	0~8191	Bit	input
Q	0~8191	Bit	output
М	0~65535	Word/DWord	Data register
SM	0~7999	BIT	System variable
SD	0~7999	Word/DWord	Register variable

2.22 Inovance AM600(Ethernet) PLC

2.22.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
AM600	AM600	CPU	RJ45	Fig 1	Inovance AM600 series PLC

2.22.2 Parameters

PLC settings

```
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设备
                           🗸 井 🗙 📝 Network Configuration 🗙 🗃 Device 🏻 🗃 HIGH_SPEED_IO 🛛 🥁 任务配置 🛛 & MainTask 🛛 🐌 Hardware Configuration
                                  · 信 复制 信 粘贴 🗄 删除 🖄 撤销 🗹 恢复 📓 导入EDS文件 🐻 导入GSD文件 📓 导入ECT文件 🔍 放大 🔍 缩小 80
 👌 Untitled 1
                               •
                                                                                                                  - %
  Device (AM600-CPU1608TP)
                                                      Q Device Diagnosis
                                                              □ Modbus 主站
                                                                             □ Modbus 从站
                                                                                          □自由协议
    Network Configuration
                                                        (学串ロ)
                                                              □ Modbus 主站
                                                                             □ Modbus 从站
                                                                                          □自由协议
       - 🗐 LocalBus Config
                                                  ■ 🗐 PLC 逻辑
                                                        CANO
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                                                                             □ CANlink 主站
                                                                                           □CANlink 从站
      Application
                                                        VEthe
         🎁 库管理器
                                                              et
□ModbusTCP 主站
                                                                             ☑ IodbusTCP 从站
          PLC PRG (PRG)
                                                        JEtherCA
         🚽 💹 任务配置
                                                              ...

____EtherCAT 主站
          🖹 🍪 MainTask
             🍐 SoftMotion General Axis Pool
      HIGH_SPEED_IO (High Speed IO Module)
     MODBUS_TCP (ModbusTCP Device)
```

```
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🛍 📽 🔜 🕼 이 이 강 🕸 🕲 🗙 🛤 🕼 🛍 • 압 🕮 💖 🔖 📲 📽 💷 맨 법 양 (히 ) 🛒
                                                                                                                                2
设备
                              7 X Network Configuration
                                                          🗑 Device 🗙 💮 HIGH_SPEED_IO 🛛 🛞 任务配置 🛛 🤣 MainTask 🛛 🐌 Hardware Configuration

Untitled1

Untitled1

Device (AM600-CPU1608TP)
                                                              错误时的运行模式
                                      通讯设置
                                                                                                   □ 系统错误时停机
                                                                □ 组态错误时停机
      Cevice Diagnosis
                                      应用
    🗏 💥 Network Configuration
                                                                🗌 Flash错误时停机
                                                                                                   🗌 SD卡错误时停机
                                      备份与还原
       LocalBus Config
     III PLC 逻辑
                                                              掉电保存
                                      文件
       Application
                                                                保存位置:
                                                                         本地存储器
          🎁 库管理器
                                      PLC 设罟
          PLC_PRG (PRG)
                                                              网络
         😑 👿 任务配置
                                      PLC外壳
                                                                🗄 🍪 MainTask
                                      用户和组
             PLC_PRG
                                                                ● 手动分配 IP
                                                                                                              读取
      SoftMotion General Axis Pool
                                      日志
                                                                         192 . 168 . 6
                                                                IP地址:
                                                                                            . 6
      HIGH_SPEED_IO (High Speed IO Module)
                                                                                                             写入
                                      系统设置
                                                                                    . 255
      MODBUS_TCP (ModbusTCP Device)
                                                                子阿掩码:
                                                                         255
                                                                              . 255
                                                                                            . 0
                                                                                                            识别设备
                                      升级
                                                              RTC配置
                                      任务配置
                                                                PLC时间:
                                                                                                             读取
                                      状态
                                                               写入时间
```

HMI settings

After selecting the human-machine interface model as TG(-ET), click next, and select "Net device" in the device list. In Local IP address: the IP address ,as long as it does not conflict with other IP address in the network. In this example, the IP of PLC is 192.168.6.6, and it can be set to 192.168.6.10.

Device	O Auto IP Ad	dress								
DownLoad Port	IP Address	192		168		6		10		
	Subnet Mask	255		255	•	255	•	0		
	Port	192	•	100	•	0	•	502		
				F	Ren	note (Com	mu		

Right click net device, build a new Ethernet device.



Select "Inovance AM600 series" in the equipment list.

System Settings		
Para Interactive Panel	Device Project Clock Font	
Device COM Device PLC Port DownLoad Port Net Device Inovance AM600	Mitsubishi Melsec Series(fx5u) Keyence (KV5000/5500/7500) Siemens S7-300 Series LG XGT Series Haiwellbus TCP Series Omron(Fins TCP) Series Dolto(XS) Series Dolto(XS) Series Omron(FinsUDP) Series BoffAds (CX5120) Series ✓	
	IP 192 . 168 . 1 . 88 Port 502	
	Protocol TCP UDP Word exchange	

For the setting of communication parameters, the communication status can be output by default: check "output communication status", set PSW to 256, and select PSW256 ~ PSW259 as the number of

communication successes, communication failures, communication timeouts and communication errors respectively. The output communication status address can be set by customers.

Cor	nmunicate status register
PSW	256
Communi PSW/1250	cation state occupies address PSW[256] ~ חוו

2.22.3 Cable making

AS200/300 series PLC RS485:

pin	colour	pin	colour
1	white orange	1	white green
2	orange	2	green
3	white green	3	white orange
4	blue	4	blue
5	white blue	5	white blue
6	green	6	orange
7	white brown	7	white brown
8	brown	8	brown

Fig 1

2.22.4 Device address

PLC address	Range	Object	Explanation
Ι	0~8191	Bit	input
Q	0~8191	Bit	output
М	0~65535	Word/DWord	Data register
SM	0~255	BIT	System variable
SD	0~7999	Word/DWord	Register variable

2.23 Inovance H2U/H1U PLC

2.23.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
TTTT	H1U-0806MR/T		RS422	Fig 1	
ніс	H1U-1410MR/T H1U-1614MR/T	CPU -	RS485	Fig 2	Mitsubishi FX
	H2U-1616MR/T		RS422	Fig 1	series PLC
H2U	H2U-2416MR/T H2U-3624MR/T		RS485	Fig 2	

2.23.2 Parameter

HMI settings

Parameter	Recommended settings	Choices of settings	Notes
PLC type	FX series	-	-
Data bit	7	-	
Stop bit	1	-	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/9600/19200/38400/56000/	
		57600/	
		115200/187500	
Station no.	0	-	

Inovance H1U/H2U series default communication parameters: 9600, 7, 1, even, statio no.0.

PLC settings:

(1) COM0:

內存容重设置 掉电保存范围 系	统 COMO设置 COM1设置
协议选择	-H/W类型
下载/HMI监控协议 ▼	RS232C/RS422 v
<mark>协议配置</mark> 通讯速室 protocol	ad /HMI monitor 站号: 1 (1 [~] 255)
数据长度: 7位 ▼	通讯超时: 10 ×10ms (1~255)
奇偶校验位: 📕 👻	
	-

Note: Short circuit JP0, representing COM0 RS422 (Mini DIN8 female). Short circuit JP0, set D8116 as H01 in the program, download the program, disconnect JP0 and power on again, which means COM0 RS485 (screw terminal) is used.

(2)COM1:

系统参	数			X
内存	容重设置 掉电	保存范围系统	を COMO设置 COM1设置	
	☑ 通信设置操 协议选择 HMI监控协议	作 2	H/₩类型 RS485 ▼	
	协议配置 通讯速率:	HMI n 9600 -	nonitor protocol 站号: 1 1~255	
	数据长度: 奇偶校验位: 停止位: □ 起始符:	7位 ▼ 偶 ▼ 1位 ▼ 2	通讯超时: 10 ×10ms (1 [~] 255) 传送顺序: 格式1 ▼ □和数检查 □结束符: 3)

Note:Short circuit jp0, set D8126 to 1 in the PLC program, download the program, and use COM1 RS485 (screw terminal).

2.23.3 Cable making

(a) H1U/2U series PLC RS422 port:



Fig1

(b) H1U/2U series PLC RS485 port:

HMI 9-pin port

Inovance H1U/H2U series PLC COM0/COM1 RS485



2.23.4 Device address

PLC address	Range	Object	Explanation
X	0~177	Bit	External input terminal
Y	0~177	Bit	External output terminal
М	0~8255	Bit	Internal auxiliary coil
S	0~999	Bit	Stepper coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
C16	0~199	Word/DWord	16-bit counter
C32	200~255	DWord	32-bit counter
D	0~8255	Word/DWord	Data register
Т	0~255	Word/DWord	Current value
Х	0~177	Word/DWord	Used as data register
Y	0~177	Word/DWord	Used as data register
М	0~8255	Word/DWord	Used as data register
S	0~999	Word/DWord	Used as data register

2.24 Keyence KV series PLC

2.24.1 Device type

CPU	Connected module	Port	Cable	PLC model in Touchwin software
KV-10DR				
KV-24				
KV-16				
KV-40	Direct connect to the CPU	RS232	Fig 1	Keyence KV series
KV-1000				
KV-3000				
KV-5000				
K7 200	Sorial port module K7 L2	RS232	Fig 2, fig 3	
KZ-300	Senar port module KZ-L2	RS422	Fig 4	
XXI 700		RS232	Fig 5, fig 6	
Kv-700	Serial port module KZ-L20	RS422	Fig 7	1

2.24.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Keyence KV series		
Port	RS232 port	RS232/RS422	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

The default parameters of Keyence KV series PLC: 9600, 8, 1, even parity, station no.1

2.24.3 Cable making

(a) CPU RS232 RJ-11:

Keyence KV-10/16/24/40 series PLC

HMI 9-pin port

CPU RS232 6-pin RJ11 port

	Pin	Name	Pin	Name	
	2	RXD	 2	TXD	1 6
0	3	TXD	 4	RXD	llinnill
9	5	GND	 3	GND	

(b) Serial port module KZ-L2(Port1, RS232)connects to Keyence KZ-300 PLC:

				Keyence	e KZ-300	0 PLC serial port
				module	KZ-L2(p	oort1)
HMI 9-pin port			RS232 25-pin port			
	Pin	Name		Pin	Name	
	2	RXD	-	2	SD	
	3	TXD		3	RD	0
	5	GND		7	SG	25

Fig2

(c) Serial port module KZ-L2(Port2, RS232)connects to Keyence KZ-300 PLC:

HMI 9-pin port			serial port module KZ-L2 (Port2) RS232 port			
	Pin	name		Pin	name	
	2	RXD ·	-	3	SD	
· ······	3	TXD		5	RD	
	5	GND		1	SG	

Fig3

(d) Serial port module KZ-L2(Port2, RS422)connects to Keyence KZ-300 PLC:

HMI 9-	pin port	se RS	rial port r 422 port	nodule K	Z-L2 (port2)
1	TD+	–	5	RDA	
6	TD-		4	RDB	
5	GND		1	SG	
8	RDD-	}-	2	SDB]
9	RDD+		3	SDA	

Fig4

(e) Serial port module KV-L20(Port1, RS232)connects to Keyence KV-700 PLC:

Keyence KV-700 PLC

Keyence KZ-300 PLC

serial port module KV-L20 (port2)

Keyence KZ-300 PLC

HMI 9-pin port	
----------------	--

	111011 3-	pinport	RS232 p	port	
	Pin	Name	Pin	Name	
	2	RXD	3	SD	
· · · · · · · · · · · · · · · · · · ·	3	TXD	2	RD	0 000000
_	5	GND	5	SG	

(f) Serial port module KV-L20(Port2, RS232)connects to Keyence KV-700 PLC:

HMI 9-p	oin port		Keyence KV-L20(p	KV-700 F oort2) RS	PLC serial module 232 [°] port
Pin	Name		Pin	Name	
2	RXD	-	3	SD	
 3	TXD		5	RD	
5	GND		1	SG	

Fig6

(g) Serial port module KV-L20(Port2, RS422)connects to Keyence KV-700 PLC:

			neyence i	
	HMI 9-pi	n port	KV-L20(p	ort2)RS4
	Pin	Name	Pin	Name
	1	TD+	 2	RDA
	6	TD-	 4	RDB
	5	GND	 1	SG
· ······	8	RD-	 5	SDB
	9	RD+	 3	SDA

keyence KV-700 PLC serial port module KV-L20(port2)RS422 port

Fig7

2.24.4 Device address

PLC address	Range	Data type	Explanation
D	0.00~999.15	Bit	Input relay
ĸ	5.0~999.15	Bit	Output ralay
MR	0.00~999.15	Bit	Internal relay
LR	0.00~999.15	Bit	
CR	0.00~39.15	Bit	
Т	0~3999	Bit	Timer
С	0~3999	Bit	Counter
DM	0~65534	Word/DWord	Data register
ТМ	0~11998	Word	Temporary data storage
EM	0~511	Word	Extended data storage
FM	0~65534	Word	Flash data storage
СМ	0~32766	Word	
TDC	0~3999	Word	
CDC	0~3999	Word	
TS	0~3999	Word	Timer
CS	0~3999	Word	counter

2.25 Keyence KV5000/5500/7500 (Ethernet) series PLC

2.25.1 Device type

Series	Port	Cable	PLC model in Touchwin software
Keyence KV5000			
KV5500	RJ45	Fig 1 or 2	Keyence KV5000/5500/7500
KV7500			

2.25.2 Parameter setting

Take Keyence KV5000 PLC as an example to explain the settings of communication device.

PLC software settings:

Startup KV STUDIO, click the unit edit, choose KV 5000, set the label in the unit, execute the Ethernet settings of KV5000, shown as below figure:

KV STUDIO -[Editor: KV-5000	0] - [KV *]											J X
File(F) Edit(E) View(V) Pro	gram(M) Script(S	Convert(A)	Monitor/Simulator(N	Debug(D) Tool((T) Window(W)	Help(H)						
i 🗅 🤒 🔛 📾 👘 🕵 🗑	🕯 🗟 🕜 🗄 🚮 Us	В	- 🗈 💕 📲	🗈 😥 🗾 🖏 🖬	🕻 💷 🔛 🖽	다 많 많 뭐	7 F0 SF0 F0 SF0					
1 🖉 🗄 🗄 🐹 📾 🖏 🎝	i 💀 🗈 冕 🌒 🌒	● ► Ⅲ Ⅰ ₩		>03501	Editor		Comments Comme	nt 1 -				
Project 🛛 🗘 🗙	Main 🗙											
Unit configuration		1	2	3	4	5	6	7	8	9	10	÷
Duit configuratio												^
Tevice comment				Comm sottings			× I					
Label	00001			commactinga								
🔳 🚔 Program: KV				PC comm port								
Every-scan execut				O USB(U)	O Serial(5)						
Initialize module				Ethernet(E)	OBluetos	th(H)	(Modem(M)					
Standby module	00002											
Fixed-period modu				Ethernet settings								
- 🛃 Subroutine macro				P address(I)	192 . 168 . 0	. 10 See	rch deet (E)					
Self-hold macro												
File register settir	00003			Port No.(P)	5000	Co	nn. test(T)					
	00003											
				Routing setting	a(R)							
	00004			PC comm port : U via VT/DT : No	JSB							
				via network : No Connected mode	i N -							
							Detai(A)					
	00005			Destinations(L)		ОК	Cancel					
	00006											
	00006											
< >												
Project Library												~
Ready												🖶 USB

Comm settings		×
PC comm port		
O USB(U)	◯ Serial(S)	
Ethernet(E)	O Bluetooth(H)	O Modem(M)
Ethernet settings		
IP address(I)	192 . 168 . 0 . 10	Search dest.(F)
Port No.(P)	5000	Conn. test(T)
Routing setting(PC comm port : US via VT/DT : No via network : No Connected model	R)	
Destinations(L)	ок	Detail(A)
Doomano(2)	U.	

HMI settings:

- 1. choose HMI model TN(-ET), TG(-ET) or TE(-ET), click next, then choose net device, fill in the IP address of HMI. The HMI IP cannot be conflict with other devices in the network.
- 2. right click the net device, build a new project, and name it as Keyence KV5000.

vstem Settings				Device	
Para Interactive Panel	Device Project	Clock Font			
Device COM Device PLC Port DownLoad Port	Auto IP Add	dress	1	Device COM Device PLC Port DownLoad Port	
E Keyence KV5000	Subnet Mask Gateway Port	255 . 255 . 255 . 192 . 168 . 0 .	0 1 502	Net Device New	

3. choose Keyence (KV5000/5500/7500) protocol in the list, and fill in the PLC IP address, the port is PLC port no. set in the PLC software.

System Setting	s								
Para Inter	active	Panel	Device	Project	Clock	Font			
Device COM I PLC Dov Net De Key	Device Port vnLoad F vice ence KV	Port	Modbu Thinge Sieme Sieme Sieme Mitsub Mitsub Mitsub IP Proto Proto Om Wait Time	us RTU Ov et XNet Ser ns S7-1200 ns S7-1200 ns S7-200 isshi Melsec isshi Melsec isshi Melsec ce (KV500 192 . col TCP nunicate Pr ing time [cout [Commur /	er TCP(Pa ies) Series Smart Seri Smart Seri Smart new Series(1E Series(3E Series(3E Series(4) 0/5500/7 168 0 arameters 100 nicate statu 256 n status in	anel is Mas w Series es / Series =) 500) . 10 UDP 0 ms 000 ms us register	Port Port Retries s not export	dress is 0) 500 exchange	20

4. Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

✓	Communicate status register					
PSV		256				
Communication state occupies address PSW[256] ~ PSW[256]						

5. click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the keyence KV5000 in the device list.

Object	Display	Convert	Inputs	Font	Color	Position	
- Op	erate Obi	ect					
S	itation						
[Device	PLC Port				~	
١	/irStaNO	Local reg DownLoa	isters ad Port				
-0)bject)bjType	PLC Fort Keyence D	KV5000	indirect	0		
-V	/alue						

2.25.3 Cable making

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	Green
7	White brown		7	White brown
8	Brown	1	8	Brown

RJ45 Straight Through Cable (connect HUB) or RJ45 Crossover Cable:

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	orange
7	White brown		7	White brown
8	Brown	1	8	Brown

Fig 2

2.25.4 Device address

PLC address	Range	Object type	Notes
R	0.0~0.15	Bit	Input relay
R	5.0~5.07	Bit	Output relay
R	5.08~9.15	Bit	Internal relay
	100.0~994.15		
MR	0.00~999.15	Bit	Internal relay
LR	0.00~999.15	Bit	Latch register
CR	0.00~39.15	Bit	Control register
TS	0~3999	Bit(only read)	Timer
CS	0~3999	Bit(only read)	Counter
В	0~16383	Bit	Link relay
DM	0~32767	Word/DWord	Data register
EM	0~32767	Word	Expanded data memory
PLC address	Range	Object type	Notes
-------------	---------	-------------	---------------------
W	0~16383	Word	Link register
СМ	0~15999	Word	Control memory
TN	0~3999	Word	Timer
CN	0~3999	Word	Counter
ZF	0~32767	Word	Flash data register
FM	0~32767	Word	Flash data register

2.26 Koyo Click series PLC

2.26.1 Device type

Koyo Direct Logic series DL05, DL250	. (connect to CPU unit directly)
--------------------------------------	----------------------------------

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
Click		Connect to CPU RJ-11 port (RS232 port)	RS232	Fig 1	Koyo Click series

2.26.2 Parameter setting

1. HMI setting

Parameter	Recommended setting	Optional settings	Notes
PLC type	Koyo Click series		
Port type	RS232	RS232/RS422	
Data bit	8		
Stop bit	1		
Parity	Odd parity		
Baud rate	38400	9600/19200/38400	
Station no.	1	1~247	

Koyo Click series default communication parameters:

Baud Rate Data bit	
 ○ 4800 ○ 56000 ○ 9600 ○ 57600 ○ 19200 ○ 115200 Stop bit ○ 20402 ○ 197502 ● 11位 ○ 20位 	
State S	
Delay 0 ms Send delay time 0 ms ✓ Send data Virtual Station Word exchange Retry Tim 3 OK Cancel	

2. PLC setting Please refer to Koyo S series PLC settings.

2.26.3 Cable making

RS232 wiring:



Fig1

2.26.4 Device address

Device type	Range	Object type	Explanation
X0	1~16	Bit	Input
X1	1~16	Bit	I/O module 1 input
X2	1~16	Bit	I/O module 2 input
Y0	1~16	Bit	Output
Y1	1~16	Bit	I/O module 1 output
Y2	1~16	Bit	I/O module 2 output
С	1~2000	Bit	Control bit
Т	1~500	Bit	Timer
СТ	1~250	Bit	Counter
SC	1~1000	Bit	System control bit
DS	1~4500	Word	Data temporary storage register, support
			double words
DD	1~1000	Word/DWord	Data temporary storage register, support
			double words
TD	1~500	Word	Timer present value
CTD	1~250	Word/DWord	Counter present value, support double
			words
SD	1~1000	Word	System data temporary storage register
DH	1~500	Word/DWord	Data temporary storage register
DF	1~500	DWord	Data temporary storage register (double
			words)
XD	0	Word/DWord	Input state temporary storage register
YD	0	Word/DWord	Input state temporary storage register
ТХТ	1~1000	Word/DWord	texts temporary storage register

2.27 Koyo Direct Logic (DL) series PLC

2.27.1 Device type

Series	CPU	Connected	Port	Cable	PLC model in Touchwin	
		module			software	
	DL05 DL105 DL230 DL240	Connect to CPU RJ-11 port	RS232	Fig 1		
Direct Logic	DL250				Koyo DL series	
-8-	DL350					
	DL430	Connect to CPU	DC 400	Fig 2		
	DL440	com port	N3422	rig Z		
	DL450					

Koyo Direct Logic series DL05, DL250 PLC (direct connect to CPU)

Note: the port2 of DL250 has RS232 and RS422, please indentify the cable connection for them.

2.27.2 Parameters

HMI settings:

Parameters	Recommend	Choices of settings	Note
	settings		
PLC type	Koyo DL series		
Port	RS232	RS232/RS422	
Data bit	8	7/8	
Stop bit	1	1/2	
Parity	Odd parity	Even /odd /no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	0	0-255	

PLC settings:

Please refer to Koyo S series PLC .

2.27.3 Cable making

RS232 Connection:

DL05/105/230/250 6-pin RJ-11 male port



HMI 9-pin female port

2	RXD1	 4	TX
3	TXD1	 3	RX
5	GND	 1	GND
		6	GND



RS422 connection:

DL250 RS422 15-pin SVGA male port

8	RD-		10	TX-
9	RD+		9	TX+
5	GND		7	GND
6	TD-		6	RX-
1	TD+	} _	13	RX+
			11	RTS+
			12	RTS-
		L	14	CTS+
			15	CTS-

Fig2

2.27.4 Device address

Device address	Range	Data type	Explanation
V	0~41200	Word/DWord	Data register
С	0~777	Bit	Counter
Х	0~777	Bit	Input
Y	0~777	Bit	Output
SP	0~777	Bit	Auxiliary relay
Т	0~777	Bit	Timer
СТ	0~777	Bit	Counter
S	0~777	Bit	Auxiliary relay
V	0.0~41200.15	Bit	Auxiliary relay

2.28 Koyo S series PLC

Koyo KOSTA-S and Direct-Logic series PLC

2.28.1 Device type

(a)	Kostac	S	series	SH/SN	1/SN F	PLC	(direct	connect	to th	e CPU	module)
(u)	rostac	0,	501105	011/01		LC	uncer	connect	to th		module

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
SH series	SH-48RS				
SM series	SM24-T SM-16R SM1	CPU	RS232	Fig1	Koyo S series
SN series					

Note: Koyo SH-48RS doesn't have Run, Stop switch, but only have one AMP port.

(b) Koyo Kostac S series SG-8, SU-5, SU-6, SR-21, SR-22... PLC (use communication module)

Series	CPU	Connected module	Port	Cable	Device
SG series	SC 8	G01-DM communication	RS232	Fig 2	
SU series	50-6	unit	RS422	Fig 3	
SU series	SU-5	U01-DM communication			
		unit	DGOOO	T : 0	V G ·
	SU-6	U01-DM communication	RS232	F1g 2	Koyo S series
	SU-6B	unit			
SR series	SR-21	E-02DM-R1	RS422	Fig 3	
		communication unit	10422	11g J	

2.28.2 Parameters

HMI:

Parameter	Recommend settings	Choices of settings	Notes
PLC	Koyo S series PLC		
Port	RS232	RS232 or RS422	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Odd parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	0	0~255	

The default communication parameters of Koyo S series PLC: 9600, 8, 1, odd parity, station no.0. PLC:

连接向导	X	
DirectNET	选择使用的通信协议. 如果选择了一个PLC家族,需要选择一个通信协议. 如果选择的通信协议支持节点地址,输入局号.如果不 确定,保持默认选项.	
K- Sequence	通信协议 (ᢧ): CCM <u>K protocol</u> 局号 (<u>k</u>): 1 ●	station no.1
连接编辑器	< 上一个 下一个 (Q) > 取消 取消	ļ



Note: 1. Koyo K protocol cannot modify station no., the station no. is 0 in the HMI.

2. The register address starts from R2000.

3. The security password function must be cancelled.

4.CPU unit with working mode setting switch must set the switch to term state.

2.28.3 Cable making

(a) RS232 25-pin port on CPU or communication unit:



Fig1

RJ-11 6-pin RS232 female port on the CPU:

HMI 9-pin port

SZ-4, DL05/105/230/250 RS232 6-pin RJ-11 male port

2	RXD1		4	TX
3	TXD1		3	RX
5	GND	+	1	GND
			6	GND

(354321
	┞┸┸┸┸╀┘

Fig2

RS422 connection:

SU-6B, SG-8(G01-DM), SR-21/SR-22(E-02DM-R1),DL250 RS422 15-pin SVGA port

HMI 9-pin female port

8	RD-		10	TX-
9	RD+		9	TX+
5	GND	}	7	GND
6	TD-		6	RX-
1	TD+]	13	RX+
		-	11	RTS+
			12	RTS-
			14	CTS+
			15	CTS-

Fig3

2.28.4 Device address

PLC address	Range	Data type	Explanation
М	0~777	Bit	Internal auxiliary coil
Ι	0~777	Bit	External input coil
Q	0~777	Bit	External output coil
SP	0~777	Bit	Internal auxiliary coil
Т	0~777	Bit	Timer
С	0~777	Bit	Counter
S	0~777	Bit	Stepper coil
R	0~41200	Word/DWord	Data register

2.29 LG Master-K series PLC

LG Master-K series PLC support CPU(RS232) and CNet module communication mode. This chapter will introduce CPU mode.

2.29.1 Device type

Series	Connected module	Port	Cable	PLC model in Touchwin software
K80	CPU RS232 port	RS232	Fig 1	LS Master-K CPU Direct
K120 K200-K3P-07AS	CNat communication module	RS232	Fig 2	L C Magtar V CNat
	Civet communication module	RS485	Fig 3	LS Master-K CNet

2.29.2 Parameters

1. Programming port communication

HMI:

Parameters	Recommend settings	Choices of settings	Notes
PLC type	LG Master-K80/120 series PLC		
Port	RS232	RS232	
Dat bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	38400	4800/38400/9600/115200/19200/187500	
Station no.	0	0~255	

The default communication parameters of LG Master K: 38400, 8, 1, no parity, station no.0.

PLC:



	Com	munication		
Communication:	基本 中断 通讯 PID整定 PII 通信: 允许 ✓ 通信方式 站号: 0 ✓ 波特容: 100 ✓ 数据位: 8 ✓	D运算 脉冲输出 模拟量 block与模式 生站模式时起时: 专用 C 上 □ 读取从站台	500 ns	dedicated:
station no.0	校验位: 无校验 ▼ 停止位: 1 ▼			slave
baud rate: 38400	通信通道 G 192220 天语电输动 192422/405	■odbus ○ 主 ○ 川 传送方式:	ASCII	
	(* h52520)_0445447098 (# H48)			
stop bit: 1		に主 こ.人	列衷	
		总线 ○ 主 ○ 从	列表	

Note:

before communicating, please write "END" instruction to the PLC. Otherwise, the PLC will report an error and the ERR LED will light.

2.CNET port communication

HMI:

Parameters	Recommend settings	Choices of settings	Notes
PLC type	LG Master-K80/120 series PLC(CNet)		
Port	RS232	RS232	
Dat bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	9600/19200/38400	1
Station no.	1	0~31	

PLC:

(a) RS232

Communication 0



(b) RS485

Communication 1							
	基本 中断 通讯0 通讯1 PID整定 PID运算 位控	模拟量 HSC 0 HSC 1 HSC 2 HSC 3					
	通信: 九许 ▼ 协议与移	试					
- 🗐 参数 Parame	ters Communication: permit	主站模式时超时: 500 ms					
□ 变量/注释 □ □ 监控	站号: 1 ▼ 決昧家: 0000 ▼ 数据位: 2 ▼	● 主 「读取从站PLC状态 列表					
	校验位: 偶校验 ▼ 停止位: 1 ▼	・从 Dedicated: slave					
	通信通道 Modbus	2 ±					
		エ 传送方式: ASCII I					
	○ RS485						
		<u></u>					
		元即以					

Notes:

(1) Set the build-in CNET switch of PLC body to the on state.

(2) Select the correct channel and set the correct communication channel, protocol and mode.

(3) Before PLC communication, write an end command to PLC, otherwise PLC will give an error and err will be on.



2.29.3 Cable making

Master-K 80/120 RS232:



Fig1

Master K-CNet RS232:

LG Master K80/120 series



Fig 2

LG Master K80/K120 series



Fig 3

2.29.4 Device address

LGMaster-K80/120 series PLC

PLC address	Range	Data type	Explanation
М	0~9999F	Bit	Internal auxiliary relay
L	0~9999F	Bit	Link relay
K	0~9999F	Bit	Holding relay
Т	0~9999	Bit	Timer
С	0~9999	Bit	Counter
Р	0~9999F	Bit	I/O coil
D	0~9999	Word/DWord	Data register
TD/T	0~9999	Word/DWord	Timer
CD/C	0~9999	Word/DWord	Counter
S	0~9999	Word/DWord	Used as register
K	0~9999	Word/DWord	Used as register
М	0~9999	Word/DWord	Used as register
L	0~9999	Word/DWord	Used as register
F	0~9999	Word/DWord	Used as register
Р	0~9999	Word/DWord	Used as register

2.30 LG Glofa(Cnet) series PLC

2.30.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
Glofa	G7M-DR20A	CPU RS232	RS232	Fig 1	LS Glofa(Cnet)series

Note: please turn on DIP switch2 and turn off switch1 for LG Glofa -cnet communication.

2.30.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	LG Glofa (cnet)		
Port	RS232	RS232	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	0	0~255	

The default parameters of LG Glofa -Cnet: 19200, 8, 1, no parity, station no.0.

PLC:

Note:

- 1. Turn on the switch BUILT-IN CNET on the PLC.
- 2. "Dedicated-slave" must be choosed in the PLC programming software.
- 3. The communication area of M must be set in the PLC programming software.

M area size:

- Cot %M area cizo					
Det Jom area size					
%M area size:					
8 💌 KByte					
4					
as Retain					

Protocol and mode settings:

[Project Pro	gram <u>E</u> dit	<u>V</u> iew	<u>C</u> ompile	<u>O</u> nline	Debug I	00]
[문] 🔛 🐼 🚯	· 🕮 🛞	2	X 4	n 🕼 🏅	۵.	đ
						×
🖃 🕞 PARAMETI	RS					1
BAS	SIC PARAMET	TERS	_			
Comr	nunication	parame	ter			
Project 🔹	🖏 Parame	eter 📱	/ Librar	У		

C	ommunication Par	ameter					
1	-Communication meth	od					
	Station No.:	0 🔽					
	Baud rate:	19200 💌 Data bit: 8 💌					
	Parity bit:	None 💌 Stop bit: 1 💌					
	Communication ch	annel					
		odem or RS422/485					
	C RS232C Mode	n (Dedicated Line) Initial command:	_				
	C RS232C Dial-u	p Modem ATZ					
	Protocol and mode						
		Timeout in master mode: 500 ms					
	Dedicated						
	🔿 Master	E Read Status of Slave PLC List					
	Slave						
	Modbus		_				
	C Master Transmission mode: ASCII						
	C Slave						

2.30.3 Cable making

LG Glofa –Cnet RS232:

HMI 9-pin female port



Fig 1

2.30.4 Device address

PLC type	Range	Data type	Explanation
М	0~16383	Bit	Internal auxiliary relay
IX	0.0.00.0.11	Bit	External input coil
	0.0.12~0.0.63	Bit	Internal auxiliary input coil
	0.1.0~0.1.63	Bit	Internal auxiliary input coil
	0.2.0~0.2.63	Bit	Internal auxiliary input coil
	0.3.0~0.3.63	Bit	Internal auxiliary input coil
	0.4.0~0.4.63	Bit	Internal auxiliary input coil
	0.5.0~0.5.63	Bit	Internal auxiliary input coil
	0.6.0~0.6.63	Bit	Internal auxiliary input coil
	0.7.0~0.7.63	Bit	Internal auxiliary input coil
QX	0.0.0~0.0.11	Bit	External output coil
	0.0.12~0.0.63	Bit	Internal auxiliary output coil
	0.1.0~0.1.63	Bit	Internal auxiliary output coil
	0.2.0~0.2.63	Bit	Internal auxiliary output coil
	0.3.0~0.3.63	Bit	Internal auxiliary output coil
	0.4.0~0.4.63	Bit	Internal auxiliary output coil
	0.5.0~0.5.63	Bit	Internal auxiliary output coil
	0.6.0~0.6.63	Bit	Internal auxiliary output coil
	0.7.0~0.7.63	Bit	Internal auxiliary output coil
IW	0.0.0~0.0.3	Word/DWord	Data register
	0.1.0~0.1.3	Word/DWord	Data register
	0.2.0~0.2.3	Word/DWord	Data register
	0.3.0~0.3.3	Word/DWord	Data register
	0.4.0~0.4.3	Word/DWord	Data register
	0.5.0~0.5.3	Word/DWord	Data register
	0.6.0~0.6.3	Word/DWord	Data register
	0.7.0~0.7.3	Word/DWord	Data register

QW	0.0.0~0.0.3	Word/DWord	Data register
	0.1.0~0.1.3	Word/DWord	Data register
	0.2.0~0.2.3	Word/DWord	Data register
	0.3.0~0.3.3	Word/DWord	Data register
	0.4.0~0.4.3	Word/DWord	Data register
	0.5.0~0.5.3	Word/DWord	Data register
	0.6.0~0.6.3	Word/DWord	Data register
	0.7.0~0.7.3	Word/DWord	Data register
MW	0~4095	Word	Data register
	0~4095	Regs	Data register
MD	0~2047	DWord	Data register
	0~2038	Regs	Data register

2.31 LG XGB(CPU Direct) series PLC

2.31.1 Device type

Series	CPU	Connected	Port	Cable	PLC model in Touchwin
		module			software
		Programming	D \$232	Fig1	LG XGT/XGK/XGB
XGB	XBC-DR20E XBC-DR30E	port	K3232	rigi	CPU Direct
		CN at most	RS232	Fig2	LG Master-K
		Civet port	RS485	Fig3	CNet

2.31.2 Parameters

1.Programming port communication HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	LG XGT/XGK series(CPU Direct)		
Port	RS232		
Data bit	8		
Stop bit	1		
Parity	No parity		
Baud rate	115200		
Station no.	0		

Note:XGB series (CPU direct) only supports 115200 baud rate, and the station number cannot be modified.

2.CNET port communication

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	LG Master-K80/120 series(CNet)		
Port	RS232	RS232/RS485	
Data bit	8		
Stop bit	1		
Parity	No parity		
Baud rate	9600	9600/19200/38400	
Station no.	1	0~31	

PLC settings:

(a) RS232

Tools network manager set communication parameters:



	Sta	andard Settings	- Cnet			X
	l r	Communication se	ettings		-	
Eile Edit View Online EDS Tools Window	1		Channel 1		Channel 2	
		Туре:	RS232C	•	RS485	-
Project window v x		Speed:	9600	•	9600	-
Wer 222 MomPLC(XGB-XBCE) MomPLC(XGB-XBCE)		Data bit:	8	•	8	T
이야 Embedded Cnet		Stop bit:	1	•	1	-
		Parity bit:	NONE	•	NONE	-
		Modem type:	Null Modem	•	Null Modem	-
		Modem Initialization:				
		Station Number:	0		0	
		Time settings				
		Time out:	1		1	
		(0-50)(*100ms)	L			
		Delay time:	0		0	
Standa		(U-255)[*1Ums]				
×		Waiting time: (0-255)(*10ms)	1		1	
ae Mil	ſ	Active mode			_	
Messa		Channel 1:	XGT server		 Modbus Se 	ttings
		Channel 2:	XGT server		 Modbus Se 	ttings
Ready						
<u></u>	1				OK (Cancel

(b) RS485

Tools network manager set communication parameters:



222 - XG-PD	Standard Settings	- Cnet	X
D 📽 🛛 🕾 ⊇ ⊆ 🐰 🖻 🖻 🗙	Communication se	attings	
Eile Edit View Online EDS Tools Window		Channel 1	Channel 2
	Туре:	RS485 🗸	RS485 💌
Project window	Speed:	9600	9600 💌
▲ 🔮 222 ▲ 🗃 NewPLC(XGB-XBCE)	Data bit:	8 💌	8
Builded Cnet	Stop bit:	1 -	1
	Parity bit:	NONE	NONE
	Modem type:	Null Modem 💌	Null Modem 💌
	Modem		
	Station Number:	0	
		-	
	Time settings		
	Time out:	1	1
	(U-5U)(^1UUms) Delau time:		
🔲 Standa 🔟 High-sp 🗐 P2P(EIP)	(0-255)(*10ms)	0	0
×	Waiting time: (0.255)(*10ms)	1	1
	(0-200)(roms)		
121 121 121	Channel 1:		
₩ - 0		Xul server	Modbus Settings
	Channel 2:	XGT server	Modbus Settings
Ready			
			OK Cancel

2.31.3 Cable making

RS232 port

HMI 9-pin female port

	Pin	Name	
	2	RXD	
· · · · · · · · · · · · · · · · · · ·	3	TXD	
	5	GND	

LG XGT/XGK series

RS232 6-pin port

Pin	Name	
 6	TXD	
 2	RXD	6 59
 3	GND	

Cnet RS232 port

HMI 9-pin female port

LG XGT/XGK series

F	HMI 9-pin female port				
	Pin	Name		Name	
	2	RXD		TX	
0	3	TXD		RX	
9	5	GND		SG	



Fig 1

HMI 9-pin port

LG XGT/XGK series



Fig3

2.31.4 Device address

PLC address	Range	Data type	Explanation
Р	0.0~65535.F	Bit	External I/O coil
	65535	Word/DWord	Data register
М	0.0~65535.F	Bit	Internal auxiliary output coil
	65535	Word/DWord	Data register
L	0.0~65535.F	Bit	External output coil
	65535	Word/DWord	Data register
F	0.0~65535.F	Bit	Data register
	65535	Word/DWord	Data register
Т	65535	Word/DWord	Data register
	65535	Bit	Counter
С	65535	Word/DWord	Data register
	65535	Bit	Counter
D	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
S	65535	Bit	Relay
K	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
Z	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
Ν	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
R	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
ZR	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
TS	65535	Word	Data register
CS	65535	DWord	Data register

2.32 LG XGT/XGK(CPU Direct) series PLC

2.32.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
XGT			DG222	D : - 1	
XGK	XGK-CPUS	CPU K5252	K3232	rig I	LG AG1/AGK/AGB CPU Direct

2.32.2 Parameters

HMI:

Parameter	Recommend settings	Choices of settings	Note
PLC type	LG XGT/XGK/XGB series(CPU		
	Direct)		
Port	RS232	RS232	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	115200	4800/38400/9600/115200/19200/187500	
Station	1	0~255	
no.			

The default parameters of LG XGT series PLC(CPU Direct): 115200, 8, 1, no parity, station no.1

Note: XGT series(CPU Direct)only supports the baud rate 115200 and cannot modify the station no.

2.32.3 Cable making



HMI 9-pin female port



Fig1

2.32.4 Device address

PLC address	Range	Data type	Explanation
Р	0.0~65535.F	Bit	External I/O coil
	65535	Word/DWord	Data register
М	0.0~65535.F	Bit	Internal auxiliary output coil
	65535	Word/DWord	Data register
L	0.0~65535.F	Bit	External output coil
	65535	Word/DWord	Data register
F	0.0~65535.F	Bit	Data register
	65535	Word/DWord	Data register
Т	65535	Word/DWord	Data register
	65535	Bit	Counter
С	65535	Word/DWord	Data register
	65535	Bit	Counter
D	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
S	65535	Bit	Relay
K	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
Z	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
Ν	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
R	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
ZR	65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
TS	65535	Word	Data register
CS	65535	DWord	Data register

2.33 LG XGT(Ethernet) series PLC

2.33.1 Device type

Series name	Communication type	Cable making	PLC model in Touchwin software
LG XGT series	RJ45	Fig 1 or 2	LG XGT protocol

2.33.2 Parameter setting

Take LG XGT series PLC as an example to explain the communication settings.

PLC settings:

Open the PLC software, set the PLC IP to 192.168.6.10 for example.

HMI settings:

1.choose HMI model TN(-ET), TG(-ET) or TE(-ET), click next, then choose net device, fill in the IP address of HMI. The HMI IP cannot be conflict with other devices in the network. The HMI IP is set to 192.168.6.11 for example.

	De	evice	×
Device COM Device PLC Port DownLoad Port Net Device	 Auto IP Add Local IP Add IP Address Subnet Mask Gateway Port 	dress dress 192 . 168 . 6 . 11 255 . 255 . 255 . 0 192 . 168 . 6 . 1 502	

2.right click the net device, build a new project, and name it as LG XGT.



3. choose LG XGT series protocol in the list, and fill in the PLC IP address, the port is PLC port no. set in the

PLC software.

Device	×
Device Modbus_TCP PLC Port DownLoad Port Image: Net Device Stemens S7-1200 Series Image: Net Device Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Modbus_TCP Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Mitsubishi Melsec Series Omron(Fins TCP) Series Mitsubishi TCP Series Omron(Fins TCP) Outp Word exchange Communicate Parameters Waiting time 0 ms Matting time 0 ms Retries 3 Theout 1500 ms Theout Series Communicate status register PSV 256 Communication is not exported	
< Back Next > Finish Cancel Help	

4. Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

✓ Com	Communicate status register					
PSV	256					
Communic PSW/[259]	ation state occupie	s address PSW[256] ~				

5. click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the LG XGT in the device list.

			[Data In	put		
Object	Display	Convert	Inputs	Font	Color	Positio	on
Op	perate Obje	ect					
	Device	PLC Port				*	
	VirStaNO	Local reg DownLoa	isters ad Port				
		LG XGT	\supset				
	ObjType	D	· ·	indirect	0		
-	Value						
	Data Tuno	Mand					

2.33.3 Cable making

RJ45 Straight Through Cable (connect HUB) or RJ45 Crossover Cable:

Pin no.	Color	Pin no.	Color
1	White orange	1	White orange
2	orange	2	orange
3	White green	3	White green
4	blue	4	blue
5	White blue	5	White blue
6	Green	 6	Green
7	White brown	7	White brown
8	Brown	8	Brown

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.33.4 Device address

PLC address	Range	Object type	Notes
Р	0.0~65535.F	Bit	Input/output
	0~65535	Word/DWord	Data register
М	0.0~65535.F	Bit	Internal auxiliary relay
	0~65535	Word/DWord	Data register
L	0.0~65535.F	Bit	Communication output
	0~65535	Word/DWord	Communication register
F	0.0~65535.F	Bit	Internal special relay
	0~65535	Word/DWord	Internal special data register
Т	0~65535	Word/DWord	Timer present value
	0~65535	Bit	Timer
С	0~65535	Word/DWord	Counter present value
	0~65535	Bit	Counter
D	0~65535	Word/DWord	Data register
	0.0~65535.F	Bit	Bit of Data register
S	0~65535	Bit	Step relay
К	0~65535	Word/DWord	Retentive data register
	0.0~65535.F	Bit	Retentive relay
Ζ	0~65535	Word/DWord	Index data register
	0.0~65535.F	Bit	Index relay
Ν	0~65535	Word/DWord	Communication register
	0.0~65535.F	Bit	Communication relay
R	0~65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
ZR	0~65535	Word/DWord	Data register
	0.0~65535.F	Bit	Relay
TS	0~65535	Word/DWord	Timer set value
CS	0~65535	Word/DWord	Counter set value

2.34 Mitsubishi FX series PLC

2.34.1 Device type

Series	CPU	Connected module	Port	Cable	PLC type in touchwin software
FX	FX0 FX1 FX1S/3S FX0N/1N/2N FX3SA-14MR-CM	CPU direct connection	RS422	Fig1	Mitsubishi FX series PLC
	FX2	CPU direct connection	RS422	Fig2	

2.34.2 Parameters

HMI settings:

Parameter	Recommend	Choices of settings	Item
	settings		
PLC type	FX series		
Dat bit	7	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/9600/19200/38400/56000/57600/115200	
		/187500	
Station No.	0	0~255	

The default parameters of Mitsubishi FX series PLC: 9600, 7, 1, even, station No.0.

PLC settings:

	FX parameter
	Memory capacity PLC name I/O assignment PLC system(1) PLC system(2) Operate Operate If the box is not checked, the parameters will be cleared. Image: Setting Operate Operate Operate
 Image: Parameter Image: Place parameter	Protocol Non-procedural Control line
	Data length 7bit Image: Constraint of the second s

Note: Mitsubishi software parity is odd by default. However, when communicating with the Xinje HMI, the parity should choose even parity. Otherwise,the communication will not be available. After the communication parameters are written into the PLC, power off and then power on to take effect.

2.34.3 Cable making

(a) FX0/FX1/FX1S/FX0N/FX1N/FX2N series PLC, RS422 port:



Fig1

(b) FX2 series PLC:



Fig2

2.34.4 Device address

PLC address	Range	Data type	Explanation	
Х	0~177	Bit	External input coil	
Y	0~177	Bit	External output coil	
М	0~8255	Bit	Internal coil	
S	0~999	Bit	Stepper coil	
Т	0~255	Bit	Timer	
С	0~255	Bit	Counter	
C16	0~199	Word/DWord	16-bit counter	
C32	200~255	DWord	32-bit counter	
D	0~8255	Word/DWord	Data register	
Т	0~255	Word/DWord	Current value	

Х	0~177	Word/DWord	Data register
Y	0~177	Word/DWord	Data register
М	0~8255	Word/DWord	Data register
S	0~999	Word/DWord	Data register

2.35 Mitsubishi FX BD series PLC (RS232/485)

2.35.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
EV	FX0N/1N/2N	232-BD	RS232	Fig1	Mitsubishi FX
ГА	FX3U/3G	485-BD	RS485	Fig2	BD(232/485)

Note:

- 1. Do not hot plug the device!
- 2. The driver of 485-BD supports multi-station.

2.35.2 Parameters

HMI settings:

Parameters	Recommend settings	Choices of settings	Notes
PLC type	Mitsubishi FX BD(232/485)		
Data bit	7		
Stop bit	1		
Parity	Even parity		-
Baud rate	9600	9600/19200/38400/56000/57600/	
		115200/187500	
Station no.	0	0~255	-

The default parameters of Mitsubishi FX BD (232/485): 9600, 7, 1, even parity, station no.0

Communicate parameters	×				
Baud Rate	Data bit				
○ 4800 ○ 56000	● 7位 ○ 8位				
● 9600 ○ 57600	0. J.				
○ 19200 ○ 115200	Stop bit				
○ 38400 ○ 187500	● 1位 ○ 2位				
Checksum					
◯ No parity ◯ Oc	id 💿 Even				
Delay					
Send delay time	0 ms				
Send data	tual Station				
Word exchange Retry Tim 3					
ОК	Cancel				

PLC settings:



Note:

- 1. Please choose RS232 as H/W type when using 232-BD.
- 2. Please re-power on the PLC after changing the parameters.

2.35.3 Cable making

(a) FX series PLC RS232-BD:

HMI 9-pin D-type female port Mitsubishi PLC FX RS232-BD module 9-pin D-type male port

2	RXD	 2	RX
3	TXD	 3	TX
5	GND	5	GND

Fig1

(b) FX series PLC RS485-BD:

HMI 9-pin D-type female port

Mitsubishi PLC FX series RS485-BD RS485 5-wire port

3	TXD		1	SDA
4	AI		2	SDB
5	GND		3	RDA
6	TD-	↓	4	RDB
7	BI		5	SG

Fig2

2.35.4 Device address

PLC address	Range	Data type	Explanation
Х	0~177	Bit	External input terminal
Y	0~177	Bit	External output terminal
М	0~8255	Bit	Internal auxiliary coil
S	0~999	Bi	Stepper coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
C16	0~199	Word/DWord	16-bit counter
C32	200~255	DWord	32-bit counter
D	0~8255	Word/DWord	Data register
Т	0~255	Word/DWord	Current value
Х	0~177	Word/DWord	Used as data register
Y	0~177	Word/DWord	Used as data register
М	0~8255	Word/DWord	Used as data register
S	0~999	Word/DWord	Used as data register

2.36 Mitsubishi FX3U/G/GA series PLC

2.36.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
FX	FX3U FX3G FX3GA	CPU	RS422	Fig 1	Mitsubishi FX3U/G

2.36.2 Parameters

HMI settings:

Parameter	Recommended settings	Choices of settings	Notes
PLC type	Mitsubishi FX3U/G		
	series		
Data bit	7		
Stop bit	1		-
Parity	Even parity		
Baud rate	9600	4800/9600/19200/38400/56000/57600/115200/187500	
Station no.	0		_

The default parameters of Mitsubishi FX3U/G series PLC: 9600, 7, 1, even parity, station no.0

PLC settings:

*李费戊重	Parameter	La marco an m	Luci de protocomo de com	
特殊視块设置 存储器容量设	置 軟元件	内貴定位设置 受置 PLC名i	以太阿瑞口设置 發置 PLC系统设置(1)	PLC系统设置(2)
이 되 prote	H1 可 取 进行通信设置 (使 通(DCOI: non-pro	肖选中时,将清除设置 用FX用的选配插板等, 言时,在不选中状态下 Cedural	內容。 并通过可编程控制器与GX Works2和GOT等 将可编程控制器例的特殊寄存器O8120清零	进行 •)
	一协议	•	□ 控制线	
	数据长度 7bit	•	-H/W类型 曾通/RS-232C ▼	regular /RS-232C
	-奇偶校验 偶数 even	par <u>it</u> y	控制模式	
	停止位 1bit	•	☑ 和校验 sum check	
	传送速度 9600	• (bps)		
	□ 帧头		站号设置 00 H (00H~0FH)	
	□ 结束符		超时判定时间 1 ×10ms (1~255)	

2.36.3 Cable making

FX3U/3G series PLC RS422:



Mitsubishi PLC FX series CPU

Fig 1

2.36.4 Device address

PLC address	Range	Туре	Explanation
X	0~177	Bit	External input terminal
Y	0~177	Bit	External output terminal
М	0~8255	Bit	Internal auxiliary coil
S	0~999	Bit	Stepper coil
Т	0~255	Bit	Timer
С	0~255	Bit	Counter
C16	0~199	Word/DWord	16-bit counter
C32	200~255	DWord	32-bit counter
D	0~8255	Word/DWord	Data register
SD	8000~9999	Word/DWord	Special data register
TD	0~511	Word/DWord	Timer
R	0~32767	Word/DWord	Extended data register

2.37 Mitsubishi FX5U series PLC

2.37.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
FX5U series		CPU unit connect directly	RS485	Fig 1	Mitsubishi FX5U series

2.37.2 Parameter setting

HMI setting

Parameter	Recommended setting	Optional setting	Notes
PLC type	Mitsubishi FX5U	Mitsubishi FX5U series/	When choose Q series,
	series	Mitsubishi Q series	the I/O is decimal
			format
Port type	RS485		
Data bit	8		
Stop bit	1		
Parity	Odd		
Baud rate	19200		
Station no.	0		Please use the
			recommended settings

Mitsubishi FX5U series communication parameter setting

	Device	Communicate parameters
Device - COM Device - PLC Port - Download Port	Device mode Single mode Host Net Slave Net	Baud Rate ○ 4800 ○ 56000 ○ 7(☆ ● 8(☆
Download i for	PLC Port Thinget XNet Series Thinget FC Series Mtsubilis FX Series	○ 9600 ○ 57600 ● 19200 ○ 115200 Stop bit
	Mtsubish FX3U/G Series Mtsubish I XSU/G Series Mtsubish Q Series Mtsubish I X BD(232/485) Siemens S7-200 Series	○ 38400 ○ 187500 ● 1位 ○ 2位
	Parameters 19200, 8, Odd, 1	○ No parity
	Station 0	Delay Send delay time 0 ms
		✓ Send data Virtual Station
< Back	Next > Finish Cancel Help	OK Cancel

Note: the HMI station no. is 0, it cannot change

PLC setting

(1)MC protocol communication

Please set the protocol format to MC protocol in RS485 serial port. The trasfer mode is set to mode 5.




(2)Modbus RTU communication

The HMI please choose "Modbus RTU" protocol.

Please set the protocol format to Modbus RTU in RS485 serial port, and set the Modbus station no. to non-zero number, the HMI parameters must be same to PLC settings.





Notes: PLC has fixed Modbus address in Modbus communication, it will read and write as the address.

🚟 MODBUS(R)软元件分配参数

項目	线圈	输入	输入寄存器	保持寄存器	
NDBUSR教元件分配参数	将可编程控制器CPU 可编程控制器CPU的	(内置、扩展插板、扩展扩 数元件存储器的参数。	碱()作为从站,设置用于将	ODBUSR软元件关联至	
▲ 分配1					
款元件	YO	xo		D0	
	0	0	0	0	
分配点数	1024	1024	0	8000	
▲ 分配2					
軟元件	MO			SD0	
起始MODBUSE 软元件号	8192	0	0	20480	
分配点数	7680	0	0	10000	
▲ 分配3					
軟元件	580			NO	
起始MODBUSE软元件号	20480	0	0	30720	
分配点数	2048	0	0	512	
▲ 分配4					
	LO			SWO	
起始MODBUSE软元件号	22528	0	0	40960	
分配点数	7680	0	0	512	
✓ 分配5					
软元件	BO			TEO	
	30720	0	0	53248	
分配点数	256	0	0	512	
. (1)#7e					
「编程控制器CPU(内置、扩展排 線を制器CPU的放売住存储器	插板、扩展插板)作为从: 的参数。	站,设置用于将MODBUSB软分	元件关联至		

2.37.3 Cable making

Please use the RS485 port on FX5U CPU unit.





2.37.4 Device address

PLC addres	s Range	Object type	Explanation
type			
X	0~8191	Bit	Input
Y	0~8191	Bit	Output
М	0~8191	Bit	Internal auxiliary relay
В	0~8191	Bit	Linkage relay
SB	0~2047	Bit	Internal special linkage relay
DX	0~8191	Bit	Direct input
DY	0~8191	Bit	Direct output
S	0~8191	Bit	Step relay
SM	0~2047	Bit	Internal special step relay
L	0~8191	Bit	Locking relay
F	0~2047	Bit	Alarm
V	0~2047	Bit	Variable address relay
TS	0~2047	Bit	Timer contactor
TC	0~2047	Bit	Timer coil
SS	0~2047	Bit	Accumulated timer contactor
SC	0~2047	Bit	Accumulated timer coil
CS	0~1023	Bit	Counter contactor
CC	0~1023	Bit	Counter coil
D	0~12287	Word/DWord	Data register
W	0~8191	Word/DWord	Linkage register
SW	0~2047	Word/DWord	Internal special linkage register
ZR	0~1042431	Word/DWord	File register
SD	0~2047	Word/DWord	Internal special register

TN	0~2047	Word/DWord	Timer
SN	0~2047	Word/DWord	Accumulated timer
CN	0~1023	Word/DWord	Counter
Z	0~15	Word/DWord	Variable register
R	0~32767	Word/DWord	File register

2.38 Mitsubishi Q series PLC

2.38.1 Device type

MELSEC-Q series include the CPU unit of Q00, Q01, Q00U and so on. They can connect to the HMI via programmable port or communication module (QJ71C24N).

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
	Q00 Q01 Q00U Q00UJ	CPU direct connection	RS232	Fig 1	
	Q01U	CPU direct connection	RS232	Fig 1	
Q	Q00J Q02 Q03 Q02H	Serial communication	RS232	Fig 2	Mitsubishi Q series
	Q06H Q12H Q25H Q12PH Q25PH	module QJ71C24 QJ71C24N	RS422	Fig 3	
L	L02CPU L02SCPU-CM	CPU direct connection	RS422	Fig 3	

2.38.2 Parameters

HMI settings:

Parameter	Recommend	Choices of settings	Item
	setting		
PLC type	Q series		
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Odd parity	Even/odd/no parity	
Baud rate	19200	4800/9600/19200/38400/56000/57600/115200/187500	
Station	0	0~255	
No.			

The default parameter of Q series PLC: 19200, 8, 1, odd parity, station No.0.

PLC settings:

1.Q01/Q00/Q00U/Q00UJ PLC:

paran	neter setting							
PLC na	ame PLC system	n PLC file	PLC RAS	Device	Program	Bootfile SFC	l/O assignment	Serial
v	Use serial comm	nunication						
	Transmission s	peed]					
	Sum check							
	Transmission w	vait time g time 💌]					
	- RUN write settin I Permit	ng						

2.QJ71C24N serial port module

QJ71C24N can connect to CPU and communicate with other devices. Such as Q02CPU, the settings are as the following:

PLC software version v8.26

(a)Double click PLC parameter, choose I/O assignment:

	0	paran	neter settin	a							
🖃 🙆 (Unset project)				<u> </u>							
🖻 🔤 Program		PLC na	ame PLC sy	/stem PLC	file	PLC RAS Device Prog	ram Boot	ile	SFC	/O assignment	L
MAIN									· •		•
🖻 🐮 Device comment	ſ	-I/O A	ssignment(*)								
			Slot	Type		Model name	Points		StartXY		
🖻 🖉 Parameter		0	PLC	PLC	•			•			
PLC parameter		1	0(*-0)		-	Ì		•			
🛛 🔊 Network param		2	1(*-1)		•			•			1
🔄 🔊 Remote pass		3	2(*-2)		•			•			1
Device memory		4	3(*-3)		-			-			

(b)Change the type of item1 to intelli.

Q	parameter setting													
	PLC name PLC system PLC file PLC RAS Device Program Boot file SFC I/O assignment													
	_ I/O Assignment(*)													
Slot Type Model name Points StartXY														
	0	PLC _	PLC	-		-								
	1	0(*-0)	Intelli.	-		32points 🛛 👻		Select						
	2	1(*-1)		-		-								
	3	2(*-2)		-		-								
	4	204 23												

(c)Click "switch setting" :

Q parameter setting

1	PLC na	ame PLC sy	stem PLC f	ile	PLC RAS Device Prog	gram Bootfil	le	SFC	I/O assignment		
Γ	- I/O A	ssignment(*)			•		_		•		
		Slot	Туре		Model name	Points		StartXY		٠	
	0	PLC	PLC	•			•				Switch setting
	1	0(*-0)	Intelli.	•		32points	•		Select		
	2	1(*-1)		•			•				Detailed setting
	2	0.04 01					_				

(d)Set the parameter as the following window:

Swit	ch setting f	for I/O and i	ntelligent function m	odule								
	Input format HEX.											
	Slot	Туре	Model name	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	•			
0	PLC	PLC										
1	0(*-0)	Intelli.		07E6	0004			0000				
2	1(*-1)											

(e)Click End button to finish the settings, then repower on the PLC.

Note: the set value combination of switch 1 to switch 5 is 16 bit binary data, and the transmission specification and communication protocol of each interface can be set.

Switch 1: communication speed and transmission setting of CH1. 07E6 represents that the communication parameters are 19200 baud rate, 8 data bits, 1 stop bit, odd check, writing and setting are allowed during operation, and there is sum check.

Switch 2: communication protocol setting of ch1, 0004 represents MC protocol format 4.

Switch 3: the communication speed and transmission setting of CH2 should be set when RS232 of QJ71C24 (N) module is used.

Switch 4: communication protocol setting of CH2. This item shall be set when RS232 of QJ71C24 (N) module is used.

Switch 5: CH1 and CH2 are shared for station number setting of MC protocol communication, and 0000 represents station number 0.

Q parameter setting PLC name PLC system PLC file PLC RAS Device Program Boot file SFC I/O assignment I/O Assignment(*) Model name StartXY Slot Туре Points . PLC Π IPLC -Switch setting • ▼ QJ71C24N 0(*-0) Intelli. 32points Select Ŧ 1 Detailed setting 1(*-1) -Ŧ 2(*-2) Switch SettingNo set:QJ71C24N × 3(*-3) 4(*-4) 5(*-5) ltem CH1 CH2 6(*-6) Operation setting Independence Independence Data Bit 8 8 Assigning the I/O a Parity Bit Exist Exist Leaving this setting Odd Odd|Even Parity Odd Transmission Base setting(*) Settina Stop Bit 1 1 Sum Check Code Exist Exist Base mod **Online Change** Enable Enable Main Change Enable Enable Ext.Base1 Communication rate setting 19200bps 19200bps Ext.Base2 MC protocol (Type4) MC protocol (Type4) Communication protocol setting Ext.Base3 Station number setting (0 to 31) 0 Ext.Base4

PLC software version v8.8:

For QJ71C24 module RS232, please set the parameter of CH1:

) para	meter settin	g											
PLC	ame Í PLC sv	/stem IF		S Device Progr	ram Ìl	Boot file	ISEC	I/O assignmer	t l				
_ I/O Assignment(*)													
Slot Type Model name Points StartXY													
0	PLC	PLC	•			-				Switch s	etting		
1	0(*-0)	Intelli.	👻 QJ71C2	4N 3	32poir	nts 💌		Select					
2	1(*-1)		-			•				Detailed :	setting		
3	2(*-2)	Sv	vitch SettingNo	set:0J71C24N							×		
4	 												
6	5(*-5)			Item			CH1			CH2			
7	6(*-6)			Operation setti	ing	Independence			Ind	lependence			
	Assianing the l	/0 a		Data Bit		8			8				
í	eaving this se	etting		Parity Bit			Exist		Exist				
- Per	+in - (*)		Transmission	Odd Even Pari	ity		Odd			Odd			
- bas	e seung()-		Setting	Stop Bit			1			1			
	Base	mod		Sum Check Co	de		Exist			Exist			
	lain	_		Online Change	e		Enable	9		Enable	_		
Evt	Baco1	_		Change			Enable	9		Enable	_		
Ext	ExtBase? Commu			ation rate setting	_		19200bj	ps T ()		19200bps			
Ext	Ext Base3			on protocol settin	ng i	MC p	protocol (Type4)	MC pr	otocol (Type4)			
Ext.	Base4	_	Station numb	er setting (0 to 3	1)		0						

For QJ71C24 module RS422, please set the parameter of CH2:

2.38.3 Cable making

(a) Q series PLC CPU unit, RS232 port:





(b) Q series PLC uses QJ71C24(N) module RS232:



(c) Q series PLC uses QJ71C24(N) module RS422:

Mitsubishi PLC Q series QJ71C24 CH.2 RS422 port

	HMI 9-j	oin port	C	J71C24 CH
	Pin	Name]	Name
	1	TD+	-	RDA
•	5	GND		GND
	6	TD-		RDB
	8	RD-	-	SDB
	9	RD+	-	SDA

Fig3

2.38.4 Device address

PLC address	Range	Data type	Explanation		
Х	0~8191	Bit	External input coil		
Y	0~8191	Bit	External output coil		
М	0~8191	Bit	Internal coil		
В	0~8191	Bit	Link Relay		
SB	0~2047	Bit	Internal special link		
			Relay		
DX	0~8191	Bit	Direct input		
DY	0~8191	Bit	Direct output		
S	0~8191	Bit	Step relay		
SM	0~2047	Bit	Internal special step		
			relay		
L	0~8191	Bit	Latching relay		
F	0~2047	Bit	Alarm		
V	0~2047	Bit	Variable address relay		
TS	0~2047	Bit	Timer contactor		
TC	0~2047	Bit	Timer coil		
SS	0~2047	Bit	Accumulated timer		
			contactor		
SC	0~2047	Bit	Accumulated timer coil		
CS	0~1023	Bit	Counter contactor		
CC	0~1023	Bit	Counter coil		
D	0~12287	Word/DWord	Data register		
W	0~8191	Word/DWord	Linkage register		
SW	0~2047	Word/DWord	Internal special linkage		
			register		

PLC address	Range	Data type	Explanation
ZR	0~1042431	Word/DWord	File register
SD	0~2047	Word/DWord	Internal special register
TN	0~2047	Word/DWord	Timer
SN	0~2047	Word/DWord	Accumulated timer
CN	0~1023	Word/DWord	Counter
Ζ	0~15	Word/DWord	Variable register
R	0~32767	Word/DWord	File register

2.39 Mitsubishi Q02H series

2.39.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
Q	Q02 Q02H	CPU direct connection	RS232	Fig 1	Mitaukiaki 002U
т	L02	L 171C24 CM	RS232	Fig 2	Mitsudishi Q02H
L	L06CPU-CM	LJ / 1C24-CIVI	RS422	Fig 3	

2.39.2 Parameters

HMI settings

Parameter	Recommended setting	Optional setting	Notes
PLC type	Q02H series		
Data bit	8		
Stop bit	1		
Parity	Odd parity		
Baud rate	115200	9600/19200/38400/57600/115200	
Station no.	0	0~255	

PLC settings:

1) Mitsubishi Q02 series PLC default communication parameters: 115200, 8, 1, odd, station No.: 0, no need to modify.

2) L series LJ71C24 module communication, serial port settings are as follows (PLC software version is GX works 2 version 1.555D):

		Communicate parameters	×
		Baud Rate Data bit ○ 4800 ○ 56000 ○ 71☆ ● 81☆	
PLC Port		○ 9600 ○ 57600 ○ 19200 ● 115200 Stop bit	
Mitsubishi FX3U/G Series Mitsubishi FX5U Series Mitsubishi Q Series	^	○ 38400 ○ 187500 ● 1位 ○ 2位	
Mitsubishi Q02H Mitsubishi FX BD(232/485) Siemens S7-200 Series		Checksum O No parity O Odd O Even	
Omron CPM/CQM Series	~	Delay Send delay time 0 ms	
		Send data	
Parameters 115200, 8, Odd, 1		Word exchange Retry Tim 3	
Station	0	OK Cancel	

Add module information to PLC software:

<mark>]]]</mark> IELSOFT系列 GX Works2	2 C:\)	Documents and	Settings\Ad	lministrator\桌	面\1\2 - [[PR	G]写入 TAIN 1771
: 工程(P) 编辑(E) 搜索/替挑	4 (E)	转换/编译(C) 视	图(V) 在线(Q)	调试 @) 诊断 @)	工具(T) 窗口(测 帮助(H)
i 🗅 🖻 💾 🚭 I 🕐		. X B B I	o 🗠 🕎 🔄 E	🙀 📪 🐙 👧	R R R R R R	a 🕸 🚚 🖳 🗒
1 🔁 🖃 🖃 🔡 📲	- 1a-	😲 🚻 参数		•		₩ = F5 SF5 F6
导航 平 ×][PRG]写入 ∎AI	■ 1步 ×			
工程		_				
📌 🖬 🖪 🖥 🗿 🦄		o				
□ 🚯 参数						
正 🚱 网络参数 Intelligent	uncti	on module				
远程口令 right cli	ck	添加新模块				
		模块选择——				
● 🚰 程序设置		模块类型(K)	串行通信模場	央 Serial commur	nication module	-
□ 🚰 程序部件		植 中刑号(T)	171024		-1	
		1465 - 5(1)	JE57 162 1		J	
□		安装位置				
· · · · · · · · · · · · · · · · · · ·		基板号(B)	-	✓ 安装插槽号(S)	0	I/O分配确认(A)
		☑ 指定起始x	Y地址(X) 0010	(出) 占用1模块[3	32点]	
		标题设置				
		标题(Y)				
						TT No.

There are two methods to configure module parameters: in module parameters and in PLC parameters. The two parts are related to each other. For example, if the parameter is modified in the module parameter, the corresponding parameter in the PLC parameter will be modified automatically.

Method 1:Configure in module parameters:

导航 Navigate 中× 🔒 [PRG] 写入 MAIN 1步 🗙						
工程		开关设置 00	10:LJ71C24			
📑 da da 🍋 🗿 👫			项目	CH1	CH2	
🖃 🛃 参数			动作设置	独立・	独立	
PLC参数			数据位	8	8	
⊡ 🚯 网络参数			奇偶校验位	有	有	
		在迷边界	奇数/偶数校验	奇数 odd	奇数 odd	
E 🚳 智能功能模块 double and			停止位	1	1	
□ 10010:LJ71C24			和校验代码	有	有	
── <u>▲</u> 开关设置 Switch s	ettin	gs	RUN中写入	允许	允许	
· 谷种控制指定			设置更改	允许	允许	
→ ディング 可编程控制器CPU监		通信	速度设置	19200bps	19200bps	
🧊 调制解调器功能		通信	协议设置	MC协议(格式5)	MC协议(格式5)	
·····································		站号设置 <mark>(</mark> O	H1,2通用:0~31)	0		
12 用尸登录框指定						
1 全局软元件注释						
日 🎦 程序改直						
日 101 柱序部件		※PIC券数的共力	白滑器片术对连框沿船	昱 庄 联 升		
		WPLC参数的开关设置中设置了超出范围的值时, PLC参数的开关设置中设置了超出范围的值时, 本对话框显示默认值。				
◎ / 同部状元1年注释						
出 🥘 软元计存储器					朋友	

Note:CH1 is the 232 channel of LJ71C24-CM module, and CH2 is the 422 channel of LJ71C24-CMmodule.

Method 2:Configure in PLC parameters.

(a)Click "I/O assignment" in the upper right corner of the "I/O allocation" panel to open the following dialog box:

·导航 · · · ×	L参数设置			X
工程 1 2 2 2 2 2 4	<u>PLC名设置 和C名设置 同一名統设置</u> 内型以大射 「I/O allocation 「I/O 分配	#设置 PLC RAS设置 31등 9端口设置 内置I/0功	內洋设置 程序设置 均能设置 道師	SFC设置 软元件设置 IS器串行设置 switch settings click
(四) 网络参数 (加) 法规 法程口令 (加) 法规 法程口令 (加) 法规 法程口令 (加) 法规 计正式 (加) 计划 计 正式 (加) 新闻 新闻 建立动 加) (加) 新闻 新闻 新加 (加) 新闻 新闻 新加 (加) 新闻 新闻 新加 (加) 新闻 新闻 (加) 并示 社 (加) 新闻 (加) 并示 社 (加) 并示 社 (加) 新闻 (加) 并示 社 (加) 并示 (加) (No. 抽槽 类型 0 CPU CPU 1 CPU 内型//O功能 2 0(~-0) 智能 intelliger 3 1(~-1) 4 4 2(~-2) 5 5 3(~-3) 6 6 4(~-4) 7 7 5(~-5) 5 起始\v;+输入时可能检查不出错误。 基版型号	型号 ▼ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	点数 起始vv 16点 ▼ 32点32 point (・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	● 并关设置 单击 详细设置 PLC类型选择 很快添加
● RALB ● 局部软元件注释 ● 國 软元件存储器 ● 愛 软元件初始值	基本 2.02.5 扩展1 扩展2 扩展3 5 扩展5 5 扩展6 5 扩展7 5			 ● 目动 ● 详细 ○ 详细 □は共固定 □2块固定 型号选择
< 1 1 日 2 年 1 1 1 1 1 1 1 1 1 1 1 1 1		CSV文件输出		PLC数据请取
🤩 连接目标	显示画面打印 显示画面预览	X/Y分配确认	默认 检查	设置结束 取消

(b)Click "I/O allocation"-"switch settings", open the following dialog box.

1/0	I/0模块、智能功能模块开关设置								
	输入格式 16进制数 ▼								
	插槽	类型	型号	开关1	开关2	开关3	开关4	开关5 4	•
0	CPU	CPU							
1	CPU	内置I/O功能							
2	0(*-0)	智能 intelligent	LJ71C24	07E6	0005	07E6	0005	0000	
3	1(*-1)								
4	2(*-2)								
5	3(*-3)								
6	4(~-4) E(* E)								
-	5(*-5)								
0	7(*-7)							_	
10	8(*-8)								
11	9(*-9)								
12	10(*-10)								
13	11(*-11)								
14	12(*-12)								
15	13(*-13)							•	-
	类型为智能时 ·工程树状结构	,在以下功能中各模块: 的智能功能模块开关设	按照下拉式格式可进行简单设置 置设置结束	• 取消					

Set the parameters in the "smart" line:

The set values of switch 1 to switch 5 are combined into 16 bit binary data, and the transmission

specifications and communication protocols of each interface can be set:

Switch 1:set communication speed and transmission of CH1. 07E6 represents 19200 baud rate, 8 data bit, 1 stop bit, odd check, writing and setting are allowed during operation, and sum check. Switch 2:set communication protocol of CH1, 0005 represents MC protocol format 5.

Switch 3: the communication speed and transmission setting of CH2 should be set when RS422 of LJ71C24 module is used.

Switch 4: communication protocol setting of CH2. This item should be set when RS422 of LJ71C24 module is used.

Switch 5: CH1 and CH2 are shared for station number setting of MC protocol communication, and 0000 represents station number 0.

Please refer to relevant descriptions of Mitsubishi L series serial communication module for details.

Note:CH1 is the 232 channel of LJ71C24-CM module, and CH2 is the 422 channel of LJ71C24-CMmodule.

(c)Click the "end of setting" button to download the parameters to the PLC, and then power on the PLC again.

2.39.3 Cable making

(a) Q series PLC CPU unit, RS232 port:





(b) L series PLC uses LJ71C24 module RS232:



(c) L series PLC uses LJ71C24 module RS422:

Mitsubishi PLC L series LJ71C24 CH.2 RS422 port



T .	\mathbf{a}
HIO	- 1
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2.39.4 Device address

PLC address	Range	Data type	Explanation
X	0~8191	Bit	External input coil
Y	0~8191	Bit	External output coil
М	0~8191	Bit	Internal coil
В	0~8191	Bit	Link Relay
SB	0~2047	Bit	Internal special link Relay
DX	0~8191	Bit	Direct input
DY	0~8191	Bit	Direct output
S	0~8191	Bit	Step relay
SM	0~2047	Bit	Internal special step relay
L	0~8191	Bit	Latching relay
F	0~2047	Bit	Alarm
V	0~2047	Bit	Variable address relay
TS	0~2047	Bit	Timer contactor
TC	0~2047	Bit	Timer coil
SS	0~2047	Bit	Accumulated timer contactor
SC	0~2047	Bit	Accumulated timer coil
CS	0~1023	Bit	Counter contactor
CC	0~1023	Bit	Counter coil
D	0~12287	Word/DWord	Data register
W	0~8191	Word/DWord	Linkage register
SW	0~2047	Word/DWord	Internal special linkage register
ZR	0~1042431	Word/DWord	File register
SD	0~2047	Word/DWord	Internal special register
TN	0~2047	Word/DWord	Timer
SN	0~2047	Word/DWord	Accumulated timer
CN	0~1023	Word/DWord	Counter
Z	0~15	Word/DWord	Variable register
R	0~32767	Word/DWord	File register

2.40 Mitsubishi FR series inverter

2.40.1 Device type

Series	Connected module	Port	Cable	PLC model in Touchwin software
ED	RS485 port on	DC 495	Ein 1	Mitsubishi FR series inverter
ГК	CPU unit	K3483	Fig I	Modbus RTU (panel is Master)

2.40.2 Parameters

1.Select Mitsubishi FR series drive protocol:

HMI:

Parameters	Recommended	Choices of settings	Notes
	setting		
PLC type	Mitsubishi FR series	-	-
Port type	RS485	RS485	
Data bit	8	-	
Stop bit	2	-	
Parity	Even parity	-	
Baud rate	19200	9600/115200/19200/187500	
Station no.	0	0~31	

Inverter parameters:

Function	Name	Default	Range	Debug parameters
(FR)		value		
P117	Station no.	0	0~31, 0~247	0
P118	Baud rate	19.2kbps	4800bps,9600bps,38400bps	19200
P119	Stop bit,	1	0: 1 stop bit, 8 data bit	1: 2 stop bit, 8 data bit
	data bit		1: 2 stop bit, 8 data bit	
			10: 1 stop bit, 7 data bit	
			11: 2 stop bit, 7 data bit	
P120	Parity	2	0: no parity	2: even parity
			1: odd parity	
			2: even parity	
P121	Retry times	9999		9999
P122	Test time	0	0: RS485	0
			9999: no communication test	
P123	Wait time	150ms		125
P124	R/LF	0	0: without CR, LF	0
			1: with CR	
			2: with R, LF	

P549	Protocol	0	0:Mitsubishi Inverter	Effective after restarting
	selection		protocol	the frequency converter
			1: Modbus RTU protocol	
P79	Mode selection	0	0~7	Set to 2, external
				communication mode,
				please cut off the power
				of inverter after setting
				the parameters
P340	Communication	0	0, 1, 10	Set to 1, start in network
	start mode			running mode

2.Select Modbus RTU (Panel is Master):

HMI:

Parameter	Recommended settings	Choices of settings	Note
PLC type	Modbus Rtu (Panel is Master)	-	-
Port type	RS485	RS485	
Data bit	8	-	
Stop bit	2	-	
Parity	Even parity	-	
Baud rate	19200	9600/115200/19200/187500	
Station no.	1	0~31	

Communicatio	n Parameter	-	X
Baudrate C 4800 C 9600 C 19200	 56000 57600 115200 	Data Bit	© 8Bits
C 38400	C 187500	Odd	• 2bits
Wait Communica	ation Time	0	MSEL
Send Dat	a	on Retry time	s 3
	UN	Can	

Inverter parameters:

Function	Name	Default	Range	Debug parameters
(FR)		value		
P117	Station no.	1	0~31, 0~247	1 (Modbus station no.
				can not be 0)
P118	Baud rate	19.2kbps	4800bps,9600bps,38400	19200

			bps	
P119	Stop bit	1	0: 1 stop bit, 8 data bit	1: 2 stop bit, 8 data bit
			1: 2 stop bit, 8 data bit	
			10: 1 stop bit, 7 data bit	
			11: 2 stop bit, 7 data bit	
P120	Parity	Even	0: no parity	2: even parity
			1: odd parity	
			2: even parity	
P121	Retry times	9999		9999
P122	Communication	0	0: RS485	0
	test		9999: no communication	
			test	
P123	Waiting time	150ms		125
P124	CR/LF selection	0	0: without CR, LF	0
			0: with CR	
			0: with R, LF	
P549	Protocol	1	Modbus-RTU	Be valid after restarting
	selection			the inverter
P79	Mode selection	0	0~7	Set to 2, external
				communication mode,
				please cut off the power
				of inverter after setting
				the parameters
P340	Communication	0	0, 1, 10	Set to 1, start in network
	start mode			running mode

2.40.3 Cable making

RS485 cable:



2.41 Mitsubishi Melsec 1E(Ethernet) series PLC

2.41.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
FX	FX3U	FX3U-ENET-L	RJ45	Fig1or Fig2	Mitsubishi Melsec(1E)

2.41.2 Parameters

Take Mitsubishi FX3U series module FX3U-ENET-L as an example to explain the communication settings of Mitsubishi MELSEC (1E) protocol equipment.

PLC software settings

1.Open the FX3U-ENET-L configuration software, and select the module number to be configured in the software, as shown in the following figure:

FX3U-ENET-L Configura	tion Tool (Unset file) - [Et	hernet settings]	
Ele View Help			
D 📽 🖬 🖨			
Ethernet Mo	odule settings		
	Module 0	•	
	Operational settings		
	Initial settings		
	Open settings		
	Router relay parameter		
	E-mail settings		
Set if it is needed(No set	ting / Already set)	Check	
Transfer setup	PLC remote operation	Diagnostics	
Write	Read	Verify	
Ready			FX3U-ENET-L NUM

2.Select "operational settings" and double click the left mouse button to open the following window to add the IP address of the station. Other parameters are set as shown in the following figure:

FX3U-ENET-L Configuration Tool (Unset file) - [Ethernet operational settings]		
<u>File V</u> iew <u>H</u> elp		
Communication data code C Binary code C ASCII code C AS		
P address Send frame setting		
Input format DEC.		
IP address 192 168 1 10 C IEEE802.3		
TCP Existence confirmation setting © Use the KeepAlive © Use the Ping End Cancel		
Ready	FX3U-ENET-L NU	M

3.Select "open Settings", double click the left mouse button to open the window as shown below, select "TCP" as the protocol, select "MC Protocol" as the opening method, and set the port number of this site:



4.Select "Router relay parameter" and double click the left mouse button to open the following window to set the subnet mask and default gateway of the site:

FX3U-ENET-L Configuration Tool (Unset file) - [Ethernet router relay parameter]	
Ele View Help	
Router relay function	
Sub-net mask pattern & DEC.	
Sub-net mask pattern 255 255 0	
Router IP address 192 168 1 1	
End Cancel	
Ready	FX3U-ENET-L NUM

HMI settings

(a)Choose the HMI type TN(-ET), TG(-ET) or TE(-ET), click next, choose Net device in the list, please input the HMI IP address in the own devices.

System Settings

Para	Interactive	Panel	Device	Project	Clock	Fon	t		
Devi	COM Device PLC Port DownLoad	Port		Auto IP Ad	dress				
	Net Device		IP A	ddress	192	. 168		1	1
	Mitsubishi	Melsec	Sub	net Mask	255	. 255		255	0
			Gat	eway	192	. 168		0	1
			Por	t					502

(b)Choose the net device, right click it, choose new, and name it as Mitsubishi Melsec(1E).



(c)Set the local IP address of HMI and set the touch screen address to the same network segment as the PLC and cannot be the same as the PLC IP address, such as 192.168.1.11.

Device	O Auto IP Add	dress				
- PLC Port	Local IP Ad	dress				
- DownLoad Port						
	IP Address	192	•	168	1	11
Mitsubishi Melsec	Subnet Mask	255		255	255	0
	Gateway	192		168	1	1
	Port					502

(d)Select "Mitsubishi MELSEC (1E) protocol" in the equipment list. This IP address is the IP address of Mitsubishi PLC, and the port number is the "local port number" (decimal) set in PLC software:

Para	Interactive	Panel	Device	Project	Clock	Font		
Dev	ice COM Device PLC Port DownLoad Net Device Mitsubishi	Port Melsec	xinje X Modbu Modbu Sieme Sieme Sieme Mitsub Mitsub IP Proto © Comr Wait Time PS'	(S serials(M us_TCP us RTU Ov et XNet Se ns S7-1200 ns S7-200 ns S	Iodbus TC rer TCP(Pa ries D Series D/1500 ner Smart Seri Smart new Series(3E Series(3E 168 . 1 168 . 1 168 . 1 168 . 1 11 arameters 15 nicate statu 256	P) anel is Mas w Series s / Series)))))))))))))))))))	ster,start add	ress is 0)

(e)Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

✓ Con	municate status register	
PSV	256	
Communic PSW/259	ation state occupies address PSW[256] ~ I	

(f)Click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the Mitsubishi melsec(1E)in the device list.

Station			
Device	Mitsubishi Mels	ec Series(1E	E) ~
VirStaNO	0	Station	1

2.41.3 Cable making

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	Green
7	White brown	1	7	White brown
8	Brown	1	8	Brown

Fig 1

Pin no.	Color	Pin no.	Color
1	White orange	1	White green
2	orange	2	Green
3	White green	3	White orange
4	blue	4	blue
5	White blue	5	White blue
6	Green	6	orange
7	White brown	7	White brown
8	Brown	8	Brown

2.41.4 Device address

PLC address	Range	Object type	Explanation
X	0~377	Bit	Input
Y	0~377	Bit	Output
М	0~8511	Bit	Internal auxiliary relay
CS	0~255	Bit	Counter relay
TS	0~511	Bit	Timer relay
S	0~4095	Bit	Status relay
D	0~8511	Bit	Data register
R	0~32767	Bit	Extended register
TN	0~511	Bit	Timer present value
CN	0~199	Bit	16-bit counter
LCN	200~255	Bit	32-bit counter

2.42 Mitsubishi Melsec 3E(Ethernet) series PLC

2.42.1 Device type

Series	Port	Cable	PLC model in Touchwin software
Mitsubishi L series	D145	Eig 1 og 2	Mitayhishi Malaaa aariag(2E)
Mitsubishi Q series	KJ43	Fig 1 of 2	Mitsubishi Meisec series(3E)

2.42.2 Parameter settings

Take Mitsubishi L series PLC as an example to explain the Melsec(3E) protocol device parameter settings.

1.PLC software settings

Select project area-PLC parameter-Ethernet terminal setting, set the PLC IP address. The communication data code please set to binary code communication. Select "permit write (FTP & MC protocol) when running.

L参数设置			
PLC名设置 PLC系统设置 PLC文件设置 PLC RAS设置 1/0分配设置 内置以太网端口设置	引导文件设置	│程序设置	C设置 软元件设置
正地址设置 三菱L系列PLC _{輸入格式} 10进制数 」 IP地址 192 168 3 2	打开设置 FTP设置 时间设置	F 在以太阿配置窗口中	设置打开设置
第代込む由器中地址 通信数据代码设置 で 二进制印題信 C ASCII印通信			
✓ 允许RUN中写入(FTP与MC协议) 「禁止与MELSOFT直接连接 「不响应网络上的以太网内置型CPU的搜索			
简单CPU通信设置		必要时设置	(默认 / 有更改)
显示画面打印 显示画面预览 X,	Y分配确认 默	ひんしん しん	设置结束 取消

click "open the setting", select 'TCP" protocol and "MC" open mode, and set the station port no. (range is 0401H~1387H, 1392H~FFFEH).

	协议		打开方式		TCP连接方式		本站 岩口岩	通信对象 IP地址	通信对露 端口号
1	TCP	-	MCHIN	-		•	0401		
2	UDP		MC协议			-			
3	TCP	-	MELSOFT连接			-			1
4	TCP	-	MELSOF 1注按	-		-			1
5	TCP	-	MELSOFT连接	-	1	-			
6	TCP	-	MELSOFT连接	-		-			
7	TCP	-	MELSOFT连接	-		-			00
8	TCP	+	MELSOFT连接	-		-		3	
9	TCP	-	MELSOFT连接	-		-			
10	TCP	-	MELSOFT连接	-		-			
11	TCP	-	MELSOFT连接	-		-			1
12	TCP	-	MELSOFT连接	-		-			1
13	TCP	-	MELSOFT连接	-	1	-			
14	TCP	-	MELSOFT连接	-		-			
15	TCP	-	MELSOFT连接	-		-			
16	TCP	-	MELSOFT连接	-	U	-			

Note:In the network parameter setting of L series network module, the initial time shall be always open wait.

				L. Math	₽ K K .		
🔁 B 🗖 🗱 🖀 🖉 😵 🗛	2 M =	-	-	3.			
导航	(PRG)读取 MAIN (只)	刻 3步 🔛 软元件/重中存	储器批量监视-1 段 网络	参数 以太阿/CC IE/ME	×		
16	C CC IE Field配示窗口中设备	网络配置设置					
📬 🕰 🖄 🔁 🔊 🕅 🕸 -		(B12)1		續持2	(長)(本3)	i音:0-4	
日 🔮 参数	网络类型	以太网	• 无	• 无		无	
PLC参数	起始1/0号		0010				
回 4 网络参数	网络号		1				
- 段 以太网 / CC IE Field	总(从)站数		以太网 运行设置		×		
CC-Link	組号		通信數据代码设置	初始时间设置		1	
		trif	• 二进制码通信	C 不进行OPEN等待(S	TOP状态下不可通信)		
·····································		法行设置	C ASCII码通信	● 始终OPEN等待(STO)	P状态下可通信)		
日 4回 程序沿着		30Mbii(28		always op	en wait		
日 《 程序部件		打开设置	即地址设置		发送帧设置		
白白程序		路由書中继續	输入格式 10进制	tt <u>-</u>	◎ 以太网(v2.0)		
MAIN		站号<->即相约	IPH01/	92 168 3	2 C 1666802.3	-	
📄 局部软元件注释		中国政策					
田 👼 软元件存储器	-	中断设置			TCP生存确认设置一	1	
一 微			1. Manual 2)		④ 使用KeenAlive		
	•		-		DChillopethane		1
					○ 使用Ping		
				and the second			
				设置结束 取消			
		必须设置(未设置/已设	一 必要时设	昱(未设置/已设置)			
	「日本語目の注: 「記録い	0号:		其他站访问时的有	自效模块 第1块 🗾		
	请以14	6点为单位(16进制数)输入安排	装了模块的起始1/0号。				
	X/Y分配确认 路由	分費問題	组设置	检查 设置结束	取消		
16		manin					
Row	至小咖啡们印 近小咖	Deprint of the second s					

2.HMI setting

Please select the HMI type, click next.



Select Net device. The IP address in own devices is HMI IP address.

Own devices							
IP Address	192		168		0		100
Subnet Mask	255		255		255		0
Gateway	192		168		0		1
Port							502
	Own devices IP Address Subnet Mask Gateway Port	Own devices IP Address 192 Subnet Mask 255 Gateway 192 Port	Own devices IP Address 192 . Subnet Mask 255 . Gateway 192 . Port	Own devices IP Address 192 . 168 Subnet Mask 255 . 255 Gateway 192 . 168 Port	Own devices IP Address 192 . 168 . Subnet Mask 255 . 255 . Gateway 192 . 168 . Port	Own devices IP Address 192 168 0 Subnet Mask 255 255 255 Gateway 192 168 0 Port	Own devices IP Address 192 168 0 . Subnet Mask 255 255 255 . Gateway 192 168 0 . Port

Right click Net device, click New. Then input the project name.

Device								
Device COM Device PLC Port DownLoad Port Net Device New	Own devices IP Address Subnet Mask Cateway	192 255 192		168 255 168	•	0 255 0	•	1 0 1 502
Name		×						
Name Mitsubishi Melsec Se	eries(3E)							
OK Cancel								

Select Mitsubishi Melsec series(3E) in the device list. The IP address is Mitsubishi PLC IP address, the port 1025 is the station port no. setting in the Mitsubishi PLC.

-		
υ	evi	ce

Device COM Device PLC Port	Siemens S7-1200 Series Siemens S7-1200/1500 new Series Siemens S7-200 Smart Series Siemens S7-200 Smart new Series Mitsubishi Melsec Series(1E)
···· DownLoad Port -· Net Device Mitsubishi Melsec	Mitsubishi Melsec Series(3E) Mitsubishi Melsec Series(fx5u) Keyence (KV5000/5500/7500) Siemens S7-300 Series LG XGT Series
	IP 192 . 168 . 3 . 2 Port 1025
	TCP UDP Word exchange
	Communicate Parameters Waiting time 0 ms Retries 3
	Timeout 1500 ms
	Communicate status register PSV 256

Communication parameters: please use the default parameters. Communication status register: if select this item, the status will occupy 4 registers. The register address can be set by user. If set the address to PSW256, the register meanings are shown as the following.

PSW256: communication succeeded times

PSW257: communication failed times

PSW258: timeout times

PSW259: communication error times.

V	Communicate status r	egister
PSV	256	
Comm	unication state occup วรจาเ	ies address PSW[256] ~

Then click next to finish the project setup.

In the editing screen, when user defines the button object, please select Mitsubishi Melsec Series(3E).

Station		
Device	Mitsubishi Melsec Series(3E) ~	
VirStaNO	Local registers PLC Port	
Object	Mitsubishi Melsec Series(3E)	
ObjType	D ~ 0	
	indirect	

2.42.3 Cable making

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue	·	4	blue
5	White blue		5	White blue
6	Green		6	Green
7	White brown		7	White brown
8	Brown		8	Brown

RJ45 straight through cable (connect HUB) or RJ45 crossover cable:

Fig 1

Pin no.	Color	Pin no.	Color
1	White orange	1	White green
2	orange	2	Green
3	White green	3	White orange
4	blue	4	blue
5	White blue	5	White blue
6	Green	6	orange
7	White brown	7	White brown
8	Brown	8	Brown

Fig 2

2.42.4 Device address

PLC address	Range	Object type	Explanation
Х	0~1fff	Bit	Input
Y	0~1fff	Bit	Output
М	0~8191	Bit	Internal auxiliary relay
L	0~8191	Bit	Lock relay
F	0~2047	Bit	Alarm relay
V	0~2047	Bit	Variable address relay
В	0~1fff	Bit	Link relay
TS	0~2047	Bit Timer relay	

SS	0~2047	Bit	Holding delay timer relay	
CS	0~1023	Bit	Counter relay	
SB	0~7ff	Bit	Special link relay	
S	0~2047	Bit	Stepper relay	
SM	0~2047	Bit	Special relay	
D	0~65535	Word/DWord	Data register	
W	0~1fff	Word/DWord	Link register	
TC	0~2047	Word/DWord	Timer coil	
TN	0~2047	Word/DWord	Timer present value	
SC	0~2047	Word/DWord	Holding delay timer coil	
SN	0~2047	Word/DWord	Holding delay timer present value	
CC	0~1023	Word/DWord	Counter coil	
CN	0~1023	Word/DWord	Counter coil	
SW	0~7ff	Word/DWord	Special link register	
SD	0~2047	Word/DWord	Special register	
Z	0~19	Word/DWord	Variable address register	

2.43 Mitsubishi SLMP FX5U(Ethernet) series PLC

2.43.1 Device type

Series	Communication type	Cable	PLC model in Touchwin software
Mitsubishi FX5U series	RJ45	Fig1 or Fig2	Mitsubishi FX5U series

2.43.2 Parameters

PLC software settings

1.Open the engineering area parameters---PLC parameters---built-in Ethernet port setting interface, set the PLC IP address, set the communication data code to "binary code communication", and check "write in run (FTP and MC protocol)", as shown in the following figure:

2.Select "open setting" and click the left mouse button to open the window as shown below. Select "TCP" as the protocol, select "MC Protocol" as the opening method, and set the port number of the station (setting range: 0401H~1387H, 1392H~FFFEH):

FX5U series

(a)Click: Navigate - Parameters - FX5UCPU - Module - Ethernet port, set the IP address of the PLC and the gateway. In this case, set the IP address of the PLC to 192.168.3.251

<mark>釂</mark> MELSOFT GX Works3 (工程未设	置)- [模块参数 以太网端口]			
: 工程 (E) 编辑 (E) 搜索/替换 (E) 料	9换℃) 视图 (Y) 在线 (Q) 调试 (B) 诊断 (D) 工	具(E) 智口(W) 帮助(H)		
i 🗅 📂 💾 🎒 😐 🔹	. 🗄 🗈 🖺 🗠 🛥 🔤 🖼 🖼 🖉 🖉	🛤 🔜 🐘 🐘 🔎 🥔 🖗	l R № ⊕ Θ 🔤	- 📲 🐨 🖬 🖉 🖉 最大:
12 3 🗆 🖬 🦍 🖛 🚟 🗄	2 🖓 🌮 🐨 🛊			
导航 早×	💼 ProgPou [PRG] [局部标签设置] 👘 ProgPou	[PRG] [LD] 1步 🛛 🤮 模块参数	以太网端口 ×	
	设置项目一览	设置项目		
	広止絵入画物を防辺器項目	项目		设置
■ 保決配直回 ■ 🚛 程序		3 自节点说置		ant the ID
創初始		□ IP地址设置		set the IP
	· · · · · · · · · · · · · · · · · · ·	工 IP地址 子 网络私	192 . 168 . 3 . 251 DEE DEE DEE D	address of the
🖬 🚰 ProgPou		默认网关	192.168.3.1	PLC to
■ 局部标查	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	通信数据代码	二进制	FLC IO
▲ 恒定周期	安全性	□ 对象设备连接配置设置		192.168.3.251
●[1] 争注 ●]) 待机		动象设备连接配置设置	〈洋细设置〉	
▲ 无执行类型指定				
🔛 未全求柱序 🚰 FB/FUN				
■「「「「「「」」」				
■ (冊 至向你亟 ● Global				
a Hill ob al.				
🗈 🤮 结构体 🖬 🌌 教元件		说明		
■ 🔂 参数		设置与自节点相关的IP地址等。		
 ・ ・				
🔮 CPU参数				
	arnet port			
485串口	enerport			_
書 高速I/0 ■ 輸入協会時間	項目一览 搜索结果	检查(K)	恢复为默认 (1)	
· 模拟输入				_

(b)Click Detailed Settings, select Ethernet Devices (General) -SLMP connected devices in the right window,

and drag and drop directly to the network configuration interface. The IP address is the respective address of PLC, and the default port number is 4999. Save it and download it to PLC. Select PLC parameters when downloading.

		コ 対	象设备	Y 连接配	置设	置				
			对象设	备连接醒	记置过	置到	〈详约	田设置)	>	
							Det	ailed	Sett	tings
101 0										
ALA V	大同記書の	(内面以) 信号(7)	<u>新聞新日)</u> 細関の) 取過	·迟果并关闭(4) 反射	设器并关闭	(a)				
: 64	(U) 100000 (U)	्याचनम् (<u>म</u>)	0.00 (V) 4K/19	100 EFF-FAI (6) 200	0.87770	i w				· 桓坤一覧 ×
										以太网选择 操索模块 收藏夹
				100 100 100	14.345	固定缓冲发	可编程	控制器	传感器·设备	
	No.		초号	通信手段	协议	送援收设置	IP地址	端口号	MAC地址	回 以太网设备(通用) 画 MELSOFT ²
Ţ		本站					192.168.3.251			SLMP连接社
	<		-11						2	▲ Active连接 - Unpassive社 - 結 Fulpassive社 - 目 以太阿设备(COGNEX) □ COGNEX Vision System □ 以太阿设备(Panasonic Industrial Devi □ 激光位移传感器
本達	站 接台数:1	连接 No.1 SLMF SLMF连捂 备	E设							[概要] [概要] [3 [林中国] [3] 将打开方式指定为SLMP连接时使用

HMI setting

(a)set the HMI model to TN (-ET), TG (-ET), or TE (-ET), and click Next. In the Device list, select Net Device. In 'Local IP Address', set the IP address of the HMI, as long as it does not conflict with other IP addresses on the network.

Dev	ice	
	Device	
	COM Device	
	PLC Port	
	DownLoad Port	
	Net Device]
	New	

Device	
Device COM Device PLC Port DownLoad Port Net Device Device1	Auto IP Address IP Address IP Address Subnet Mask 255 255 Gateway 192 168 Port
	Remote Commu

(b)Select "Mitsubishi SLMP (FX5U) " from the equipment list. This IP address is the IP address of Mitsubishi PLC, and the port number is the "Port number of this site" set in PLC software (decimal).

Siemens S7-1200 Siemens S7-1200 Siemens S7-200 Siemens S7-200 Mitsubishi Melsec Mitsubishi Melsec Mitsubishi Melsec Keyence (KV5000 Siemens S7-300 LG XGT Series	Series /1500 new Series Smart Series Series(1E) Series(3E) Series(x 5u) 2/5500/7500) Series		
IP 192 .	168 . 3 . <mark>2</mark> 51	Port	4999
O TCP		Word e	xchange
Communicate Pa	arameters		
Waiting time	0 ms	Retries	3
Timeout	1500 ms		
Commun	icate status register		
PSV	256		
Communication	n status information	is not exporte	d!

(c)Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

✓ Con	Communicate status register					
PSV	256					
Communication state occupies address PSW[256] ~ PSW(259)						

(d)Click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the Mitsubishi melsec series(fx5u)in the device list.

2.43.3 Cable making

RJ45 Straight Through Cable (HUB) or Crossover Cable (Crossover Cable)

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	Green
7	White brown		7	White brown
8	Brown	1	8	Brown

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	·	6	orange
7	White brown		7	White brown
8	Brown		8	Brown

Fig 2

2.43.4 Device address

PLC address	Range	Object type	Explanation
type			
X	0~1fff	Bit	Input
Y	0~1fff	Bit	Output
Μ	0~8191	Bit	Internal auxiliary relay
L	0~8191	Bit	Locking relay
F	0~2047	Bit	Alarm
V	0~2047	Bit	Variable address relay
В	0~1fff	Bit	Linkage relay
TS	0~2047	Bit	Timer contactor
SS	0~2047	Bit	Accumulated timer contactor
CS	0~1023	Bit	Counter contactor
SB	0~7fff	Bit	Internal special linkage relay
S	0~2047	Bit	Step relay
SM	0~2047	Bit	Internal special step relay
D	0~65535	Word/DWord	Data register
W	0~1fff	Word/DWord	Linkage register
TC	0~2047	Bit	Timer coil
TN	0~2047	Word/DWord	Timer
SC	0~2047	Bit	Accumulated timer coil
SN	0~2047	Word/DWord	Accumulated timer
CC	0~1023	Bit	Counter coil
CN	0~1023	Word/DWord	Counter
SW	0~7fff	Word/DWord	Internal special linkage register
SD	0~2047	Word/DWord	Internal special register
Z	0~19	Word/DWord	Variable register

2.44 Modbus ASCII (Panel is Master)

2.44.1 Device type

Series	Port	Cable	PLC model in Touchwin software
The device support	RS485	Fig 1	Modbus ASCII (Panel is Master)
Modbus ASCII	RS232	Fig 2	
protocol	RS422	Fig 3	

2.44.2 Parameters

HMI

Parameters	Recommend settings	Choices of settings	Note
PLC type	Modbus ASCII		
	(panel is Master)		
Port	RS485	RS485/RS232/RS422	
Data bit	7	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

PLC:

Please choose Modbus ASCII (Slave) protocol in the software.

2.44.3 Cable making

Modbus RS485:

HMI 9-Pin port

Modbus ASCII

RS485

•	Pin	Name	Name
	4	A.	А
	7	В	В

Fig1

Modbus RS232:
Mod	bus	ASCII

HMI 9-Pi	n port		RS232
Pin	Name] [Name
2	RXD	-	TXD
 3	TXD		RXD
5	GND]	GND

Fig2

Modbus RS422:



	HMI 9-	Pin Port	I	RS422
	Pin	Name		Name
	8	RD-	-	TX-
	9	RD+		TX+
	5	GND		GND
· ····································	6	TD-		RX-
	1	TD+	_	RX+

Fig3

2.44.4 Device address

Device address	Range	Data type	Explanation
0x	0~65535	Bit	External I/O/internal coil
1x	0~65535	Bit	External I/O/internal coil
4x	0~65535	Word/Dword	Used as data register
3x	0~65535	Word/Dword	Used as data register

2.45 Modbus RTU (Panel is Master)

2.45.1 Device type

Series	Port	Cable	PLC model in Touchwin
			software
Devices support	RS485	Fig 1	Modbus RTU (Panel is Master)
Modbus RTU	RS232	Fig 2	
protocol	RS422	Fig 3	

2.45.2 Parameters

HMI:

Parameters	Recommend settings	d settings Choices of settings	
PLC type	Modbus RTU		
	(panel is Master)		
Port	RS485	RS485/RS232/RS422	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

Note:

1. Modbus RTU protocol supports broadcast function, station no is 0.

2. Using the broadcast function in the touch screen: the broadcast function only sends command but not receives. It sends command by "function field", "function button" or "function block" in Touchwin software. The operand must has no feedback command, such as "set on coil", "setting data", "reset coil".

PLC:

Please choose Modbus RTU (Slave) in the software.

2.45.3 Cable making

(a) Modbus RS485:

HMI 9-Pin port			Modbus A RS485	SCII
(1)	Pin 4	Name A	Name A	
	7	В	В	

(b) Modbus RS232:



Fig2

(c) Modbus RS422:



Fig3

2.45.4 Device address

Device address	Range	Data type	Feature	Explanation
Ox	0~65535	Bit	R/W	External I/O /internal coil
1x	0~65535	Bit	R	External I/O /internal coil
4x	0~65535(0~15)	Bit	R/W	External I/O /internal coil
4x	0~65535	Word/Dword	R/W	Used as data register
3x	0~65535	Word/Dword	R	Used as data register

2.46 Modbus RTU (Panel is Slave)

2.46.1 Device type

Series	Port	Cable	PLC model in Touchwin software
The device support	RS485	Fig 1	Modbus slave (Panel is Slave)
Modbus protocol	RS232	Fig 2	
	RS422	Fig 3	

2.46.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Modbus slave		
	(panel is slave)		
Port	RS485	RS485/RS232/RS422	
Data bit	8	7 / 8	
Stop bit	1	1 / 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

2.46.3 Cable making

Modbus RS485:

HMI 9-Pin port			Modbus ASCI RS485	I
•	Pin 4 7	Name A B	Name A B	

Fig1

Modbus RS232:

Modbus ASCII

HMI 9-Pi	n port		RS232
Pin	Name]	Name
2	RXD	-	TXD
 3	TXD		RXD
5	GND]	GND

Fig2

Modbus RS422:

				Modbus A	\SCⅡ
	HMI 9-	Pin Port		RS422	
	Pin	Name		Name	
	8	RD-	-	TX-	
	9	RD+		TX+	
	5	GND		GND	
	6	TD-		RX-	
9	1	TD+		RX+	



2.46.4 Device address

Device address	Range	Data type	Features	Explanation
PSB	256~1023	Bit	R/W	256~1023
PSW	256.00~8191.15	Bit	R/W	256.00~8191.15
PFW	256.00~64535.15	Bit	R/W	10256.00~64535.15
PSW	256~8191	Word/Dword	R/W	256~8191
PFW	256~55535	Word/Dword	R/W	10256~65535
PSB	256~1023	Bit	R/W	256~1023

a. The internal objects of the touchwin screen include PSB, PSW and PFW:

objects	Explanation
PSB	Represent bit object
PSW	Represent non outage hold word object
PFW	Represent power failure hold word object

b. Range of internal objects available for each model:

model object	TH465	TH series	TG/TN series		
PSB	256~1023				
PSW	256~8191				
PFW	8M-Picture occupation,	256~246015	256~400000		
F1 W	System occupancy	250*240015	230~400000		

c. Use of special address inside the touch screen

The address range 0~255 of internal objects of PSW, PFW and PSB is used as a special function of the system.

2.47 Modbus-TCP device

2.47.1 Device type

Series	Port	Cable making	PLC model in Touchwin software	
Ethernet device supporting	RJ45	Fig1 or Fig 2	Modbus TCP	
Modbus TCP protocol		Fig1 of Fig 2	Modbus TCF	

2.47.2 Parameter setting

Take Xinje XD5E as an example to explain the Modbus TCP parameter setting.

PLC settings

connect the PLC to the computer, open the PLC programming software, open the PLC configuration in the engineering column on the left side of the software, double-click the "Ethernet port" below, manually set the Ethernet parameters of PLC in the pop-up configuration window, and click "write to PLC" after setting:



Note: After the parameter is written, the PLC needs to be restarted to take effect.

HMI settings

After selecting the human-machine interface model as TN(-ET),TG(-ET) or TE(ET), click next, and select "Net device" in the device list. In Local IP address: the IP address ,as long as it does not conflict with other IP address in the network.

Local IP Address						
IP Address	192	. 168	. 6		1	
Subnet Mask	255	. 255	. 255		0	
Gateway	192	. 168	. 6		1	
Port					502	

Right click net device, build a new Ethernet device.

Dev	vice		
	Device		0
	🖶 COM Dev	ice	
	- PLC Po	ort	
	Downl	Load Port	
	Net Devi		TF
		New	
			G

Select "Modbus_TCP" in the equipment list. This IP address is the IP address of XD5E, and the port number is 502 by default. It cannot be modified:

xinje XD/XG serials xinje XS serials(Modbus TCP) Modbus TCP Modbus RTU Over TCP(Panel is Master,start address is 0) Thinget XNet Series Siemens S7-1200 Series Siemens S7-1200 /1500 new Series Siemens S7-200 Smart Series Siemens S7-200 Smart New Series						
IP 192.168.0.1 Port 502	2					
Protocol O UDP Word exchange						
Communicate Parameters	_					
Waiting time 0 ^{ms} Retries	3					
Timeout 1500 ms						
Communicate status register						
PSV 256						
Communication status information is not exported!						

The communication parameters please keep defaulted. If selecting communicate status register, the PSW256~PSW259 represents communicate successful times, communication failure times, communication overtime times, communication error times. User can change the PSW address.

Communicate Parameters							
Waiting time	() ms	Retries	3				
Timeout	1500 ms						
Commu	nicate status register						
PSV 256							
Communication state occupies address PSW[256] ~ PSW/25911							

Click next to finish the setting. Then enter the editing screen, put a data input button on the screen, select "device 1", the object type includes 4x(read and write, word object), 3x(read only, word object), 0x(bit object, read and write), 1x(read only, bit object).

Data I	Input							
Obj	ect D	isplay	Convert	Inputs	Font	Color	Position	
	Operate Statio	e Object n						
	Devic	e D	evice 1			~		
	VirSta	NO	0	Station		1		
	Objec ObjTy	t /pe 4)	(~	indire	0 ect			
	- Value Data	Type W	/ord ∨]				

Download the program in the HMI. Then the touch screen can control remote PLC and other equipment through Ethernet.

2.47.3 Cable making

RJ45 straight through cable (connect HUB) or RJ45 crossover cable:

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	Green
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.47.4 Device address

Address	Range	Object type	property	Notes
0x	0~65535	Bit	R/W	I/O internal coil
1x	0~65535	Bit	R	I/O internal coil
4x	0.00~65535.15	Bit	R/W	I/O internal coil
4x	0~65535	Word/Dword	R/W	Data register
3x	0~65535	Word/Dword	R	Data register

2.48 OEMax NX7 series PLC

2.48.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
			RS232	Fig 1	
	COMO por	RS232	Fig 2	OEMax NX7	
INA /	NX/	COM1 port	RS485	Fig 3	Series PLC
			RS232	Fig 4	

2.48.2 Device address

HMI:

Parameter	Recommend settings	Choices of settings	Note
PLC type	OEMax NX70 series PLC		
Port	RS232	RS232/RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200	
		/19200/187500	
Staion no.	1	0~255	

The default parameters of OEMax NX7 PLC: 9600, 8, 1, no parity, station no.1.

2.48.3 Cable making

(a) OEMax NX7 PLC COM1 (RS232):

HMI 9-pin port

OEMax NX7 series CPU COM1 RS232 9-pin port

2	RXD		2	TXD
3	TXD		3	RXD
5	GND		5	GND

Fig1

(b) OEMax NX7 PLC COM1 (RS485):

HMI 9-pin port

OEMax NX7 series CPU COM1 RS485 9-pin port

4	AI	6	485+
7	BI	7	485-
5	GND	5	GND

Fig2

(c) OEMax NX7 PLC COM2 RJ-45 (RS232):



HMI 9-pin port

OEMax NX7 series CPU COM2 RS232 RJ45 8-pin port

2	RXD		7	232C/RXD
3	TXD		8	232C/TXD
5	GND		6	GND

Fig3

(d) OEMax NX7 PLC COM2 is RJ-45 8-pin port, short pin1 and 3 means RS485+, short pin2 and 4 means RS485- :

HMI 9-pin port

OEMax NX7 series CPU COM2 RS485 RJ45 8-pin port

4	AI	1	485+
7	BI	2	485-
5	GND	6	GND

Fig4

HMI 9-pin port

OEMax NX7 series CPU COM2 RS485 RJ45 8-pin port

4	AI	3	485+
7	BI	4	485-
5	GND	6	GND

Fig5

2.48.4 Device address

PLC address	Range	Data type	Explanation
R	R000.00~R31.15	Bit	External I/O coil
	R32.00~R127.15	Bit	Special coil
L	L000.00~L063.15	Bit	Internal coil
М	M000.00~M127.15	Bit	Internal auxiliary coil
K	K000.00~K127.15	Bit	Internal holding coil
F	F000.00~F015.15	Bit	Special coil
TC	TC0~TC255	Bit	Timer /counter coil

W	0~6000	Word/DWord	Data register
R	0~127	Word/DWord	Used as register
L	0~63	Word/DWord	Used as register
М	0~127	Word/DWord	Used as register
K	0~127	Word/DWord	Used as register
F	0~15	Word/DWord	Used as register
SV	0~255	Word/DWord	Timer/counter settings
PV	0~255	Word/DWord	Timer/counter current value
SR	0~511	Word/DWord	Special register

2.49 OMRON SYSMAC CP series PLC

OMRON CPM1A, CQM1-CPU series CPU cannot support RS232. It can connect to the Touchwin HMI via CPM1-CIF01 adapter and modules including C500-LK203, C120-LK201-V1, C500-LK201-V1. The PLC uses Hostlink protocol when communicating. Please change the PLC startup choice to MONITOR RUN.

2.49.1 Device type

1.OMRON	CP/CJ/CS	series

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
СР	CP1E-30N	CPU direct connection	RS232	Fig 1	
	CP1H CP1I	Module CP1W-CIF11	RS485	Fig 2	
		Module CP1W-CIF11	RS422	Fig 3	
CJ	CJ1 CJ1G-CPU44 CJ1G-CPU45 CJ2M-CPU11	CPU direct connection	RS232	Fig 1	
CS1	CS1H-CPU63/64/65/66/67 CS1G-CPU42/43/44/45 CS1G-CPU42H CS1G-CPU43H CS1G-CPU44H CS1G-CPU45H CS1H-CPU63H CS1H-CPU64H CS1H-CPU65H CS1H-CPU66H CS1H-CPU67H	CPU direct connection	RS232	Fig 1	Omron CP/CJ/CS

2.OMORN CPM/CQM series

Series	CPU	Connected module	Port	Cable	The PLC device in TouchWin
С	C200HE C200HX	CPU direct connection			_
	C1000HF	C500-LK203 (communication module)	RS232	Fig 1	CPM/CQM
	C2000	C120-LK201-V1(communicatio n module)			

		C500-LK201-V1(communicatio n module)			
		C500-LK203(communication	-		
		module)			
СРМ	CPM2A CPM2AE CPM2AH-40CDR-A CPM1H	CPU direct connection			
	CPM1A	OMRON CIF01 (RS232) Communication adapter	RS232	Fig 1	
CQM	CQM1H-CPU21	CPU direct connection			
	CQM1-CPU	OMRON CIF01 (RS232) Communication adapter			

Note:Omron CPMIA and CQM1-CPU series units do not support RS232 serial port communication. They can communicate by configuring CPM1-CIF01 adapter (supplied by OMRON) or by using communication modules C500-LK203, C120-LK201-V1 and C500-LK201-V1.

2.49.2 Parameters

HMI:

The default parameters of OMRON CP/CJ/CS series PLC: 9600, 7, 2, even parity, station no.0. The default parameters of OMRON CPM/CQM series PLC: 9600, 7, 2, even parity, station no.0.

Parameter	Recommended settings	Choices of settings	Notes
PLC type	OMRON CPM/CQM series	OMRON CP/CJ/CS series	
	OMRON CP/CJ/CS series	OMRON CPM/CQM series	
Port	RS232	RS232/RS485	
Data bit	7	7 or 8	
Stop bit	2	1 or 2	
Parity	Even parity	Even/odd/ no parity	
Baud rate	9600	4800/38400/9600/115200	
		/19200/187500	
Station no.	0	0~255	

PLC:

文件(E) 选项(Q) 帮助(H)	
[启动]] 设置 时序 输入常数 串口1 串口2 外部服务 内置输入设置 脉:	▶ ● ● ● ● ● ● ●
fable## <t< td=""><td></td></t<>	
1 PLC 设定 - 新PLC1	
文件(F) 选项(O) 帮助(H)	
自动 设置 时序 输入常数 串口1 串口2 外部服务 内置输入设置 通信设置 「 新准 (9600 : 1,7,2,E)] Standard(9600,1,7,2,E) 「 新推 (9600 : 1,7,2,E)] 私式	k中輸出0 脉中 ↓ ↓ A) _ 」 PC链接模式 C 全部 C 主体 _ PC链接单元号
(读省 5000ms) (读省 5000ms) (本) (本)	
	CP1H-XA 產线

Note:

(1) The PLC startup mode in the startup item is set as monitor.

(2) Set host link in the setting of serial port 1. Do not power off when changing this setting.

(3) The default station number of OMRON is 0, not 1 when making the picture.

(4) Select the DIP4 switch as off on the PLC body, so that the serial port 1 is in the setup state.

2.49.3 Cable making

(a) CPU RS232 port:



(b) Through module CP1W-CIF11 RS485:





Note: If OMRON PLC uses communication module CP1W-CIF11 RS485 for communication, turn OFF the SW1 switch on the module, turn ON SW2, 3, 5, 6 and SW4 is selectable.

(c) Through the module CP1W-CIF11 RS422:



Fig3

Note: If OMRON module CP1W-CIF11 uses RS422 connection mode, turn OFF the SW1~6 on the module.

2.49.4 Device address

(a) SYSMAC CPM/CQM series

PLC address	Range	Data type	Explanation
IR	0~65535.15	Bit	I/O and internal relay
SR	244~65535.15	Bit	Relay
HR	0~65535.15	Bit	Holding relay
AR	0~65535.15	Bit	Auxiliary relay
LR	0~65535.15	Bit	Link relay
PV	0~65535.15	Bit	Current value of timer and counter
TC	0~65535	Bit	Timer and counter
IR	0~65535	Word/DWord	Register
SR	244~65535	Word/DWord	Register
HR	0~65535	Word/DWord	Register
AR	0~65535	Word/DWord	Register

LR	0~65535	Word/DWord	Register
PV	0~65535	Word/DWord	Register
TC	0~65535	Word/DWord	Register
DM	0~65535	Word/DWord	Data register (single/double words)

(b) SYSMAC CP/CJ/CS series

PLC address	Range	Data type	Explanation
CIO	0~9999.15	Bit	Input / output, CIO 100.00 as output
D	0~99999.15	Bit	Intermediate relay
Н	0~9999.15	Bit	Power off hold relay
W	0~9999.15	Bit	Work area relay
А	0~9999.15	Bit	Auxiliary relay
Т	0~9999	Bit	Timer
С	0~9999	Bit	Counter
CIO	0~9999	Word/DWord	Register
D	0~99999	Word/DWord	Register
Н	0~9999	Word/DWord	Register
W	0~9999	Word/DWord	Register
А	0~9999	Word/DWord	Register
Т	0~9999	Word/DWord	Register
С	0~9999	Word/DWord	Register

2.50 OMRON FinsTCP(Ethernet) CP series PLC

Series	CPU	Connected	Port	Cable	PLC model in Touchwin
		module			software
	СР1Н	Communication		Fig1 or Fig2	Omron(FinsTCP)series
		module			
CP系列		CP1W-CIF41	RJ45		
		Direct connect to			
	CFIL-E	CPU			

2.50.1 Device type

2.50.2 Parameters

Take CP1L-E series PLC as an example to illustrate the communication settings of Omron (FinsTCP) protocol.

PLC settings

Open the PLC software and configure the network module. The default IP address for communication is 192.168.250.1, and the default port number is 9600. This example sets default parameters for communication

PHEN IP addres			
IP地址 192.16	8.250.1	, mark	Ins
子网掩码 255.25	5.255.0		Del
node n	umber ,	-18	
<u> </u>		☞ 所有1(4.3BSD)	○ 所有0(4.2BSD)
节点号	鉄认值(120)]	④ 所有1(4.3BSD)	○ 所有0(4.2BSD)

Note: if the IP address is modified in the PLC, the "fins node number" should also be changed, otherwise the communication will fail.

HMI settings

(a)set the HMI model to TG (-ET) and click Next. In the Device list, select Net Device. In "Local IP Address", set the IP address of the HMI, as long as it does not conflict with other IP addresses on the network.

Device		
	evice COM Device PLC Port DownLoad Port Net Device	
Device		
Device COM Device PLC Port DownLoad Port	Auto IP Address Local IP Address	
	IP Address 192 . 168 . 250 . 10	
	Subnet Mask 255 . 255 . 255 . 0	
	Gateway 192 . 168 . 250 . 1	
	Port 50	2
	Remote Commu	

(b)Select "Omron(Fins TCP) Series" from the equipment list. This IP address is the IP address of Omron PLC, and the port number is the "Port number of this site" set in PLC software (decimal).

Device

Device COM Device PLC Port DownLoad Port Net Device Omron (finsTCP)	Mitsubishi Melsec Series(fx5u) Keyence (KV5000/5500/7500) Siemens S7-300 Series LG XGT Series Haiweilbus TCP Series Omron(FinsTCP) Series Delta(AS) Series Inovance AM600 Series Omron(FinsUDP) Series BoffAds (CX5120) Series	~
	IP 192 . 168 . 250 . 1 Port	9600
	Protocol TCP UDP Word ex Communicate Parameters Waiting time Timeout 3000 ms	xchange

(c)Please keep the communication parameters as default, if the communicate status regsiter is selected, PSW256~PSW259 respectively indicate communication successful times, failed times, overtime times, error times. User can set the register address as needs.

Com	municate status register	
PSV	256	
Communic	ation state occupies address PSW[256] \sim	

(d)Click next to finish the settings and enter screen edit interface. Put a data input button on the screen, and choose the Omron(fins TCP) in the device list.

Station	
Device	Omron (finsTCP)
VirStaNO	Local registers PLC Port
Object	Omron (finsTCP)
ObjType	CIO ~ 0 ~ ~

2.50.3 Cable making

RJ45 straight through cable (connect HUB) or RJ45 crossover cable:

Pin no.	Color		Pin no.	Color
1	White orange		1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	Green
7	White brown		7	White brown
8	Brown]	8	Brown

T .	1
F19	
0	-

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.50.4 Device address

PLC address	Range	Data type	Explanation
CIO	0~9999.15	Bit	Input / output, CIO 100.00 as output
D	0~99999.15	Bit	Intermediate relay
Н	0~9999.15	Bit	Power off hold relay
W	0~9999.15	Bit	Work area relay
А	0~9999.15	Bit	Auxiliary relay
Т	0~9999	Bit	Timer
С	0~9999	Bit	Counter
CIO	0~9999	Word/DWord	Register
D	0~99999	Word/DWord	Register
Н	0~9999	Word/DWord	Register
W	0~9999	Word/DWord	Register
А	0~9999	Word/DWord	Register
Т	0~9999	Word/DWord	Register
С	0~9999	Word/DWord	Register

2.51 OPTO 22 SNAP series PLC

2.51.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
	CNAD	Direct correct to CDU	RS232	Fig 1, fig 2	ODTO 22 sories
OP10 22	SNAP	Direct connect to CPU	RS485	Fig 3	OPTO 22 series

2.51.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	OPTO 22 series PLC		
Port	RS232	RS232/RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	115200	4800/38400/9600/115200/19200/187500	1
Station no.	1	0~255	1

The default parameters of OPTO 22 series PLC: 115200, 8, 1, no parity, station no.1

2.51.3 Cable making

(a) RS232 connection:

HMI 9-pin port

OPTO 22 SNAP series PLC CPU RS232 9-pin port

2	RXD	• • •	2	RX
3	TXD		3	TX
5	GND		5	COM

Fig1

(b) RS485 connection:

OPTO 22 SNAP PLC CPU RS232 or RS485 9-pin port



Fig2

(c) RS232 connection:

HMI 9-pin port

HMI 9-pin port

OPTO 22 SNAP PLC CPU RS232 or RS485 9-pin port

1	TD+	
2	RXD1	-•
3	TXD1	
4	AI	
5	GND	
6	TD-	
7	BI	
8	RDD-	
9	RDD+	

	1	TX/RX+	
٦	2	TX/RX-	2-Wire RS-485
	3	SIG COM	Port 7
	4	NOT USED	1011.2
	Б	NOT USED	1
	J		
	6	TX	
	6 7	TX RX	R2-737
•	6 7 8	TX TX GND	RS-232
e	6 7 8 9	TX TX GND RTS	RS-232 Port 1

Fig3

2.51.4 Device address

PLC address	Range	Data type	Explanation
DI	0~9999	Bit	External input coil
DO	0~9999	Bit	External output coil
PID000~PID031	0~6	Bit	
Ι	0~9999	DWord	Used as register
F	0~9999	DWord	Used as register
AI	0~9999	DWord	Used as register
AO	0~9999	DWord	Used as register
PID000~PID031	0~5	DWord	PID parameters

2.52 Panasonic FP series PLC

2.52.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in
					Touchwin
					software
	$FP\Sigma$				
	FP0				
	FP0R-C32CT				
	FPG	Direct connect to CPU	RS232	Fig 1	
	FP-X				
	FP-M				
	FP-E				
ED	FP2	Direct connect to CPU	RS232	Fig 1	Matsushita
FP	FP2SH	CPU RS232 port	RS232	Fig 2	(FP0/FP1)
		CPU RS232 port	RS232	Fig 2	
	FP1	CPU RS422	RS422	Fig 3	
		programming port		115 5	
	FP3	CPU RS422	RS422	Fig 4	
_		programming port		115 7	
	FP10SH	CPU RS232 port	RS232	Fig 2	
	FPI05				

Note: FP-XH protocol is different from FP-X. If the PLC model is FP-XH, only Modbus RTU (Panel is Master) can be selected.

2.52.2 Parameters

HMI settings

Parameters	Recommend settings	Choices of settings	Note
PLC type	Matsushita (FP0/FP1)		
Port	RS232	RS232/RS422	
Data bit	8		
Stop bit	1		
Parity	Odd parity		
Baud rate	9600	9600/19200/38400/57600/115200	
Station no.	1	0~255	

PLC settings



Note:

(1)PLC soft element input mode:

LC	screen
R45	R 💌 45 💌
Y1	Y • 01 •

(2)When writing the PLC program, turn the dial switch to the PPOG status. During communication, the dial switch should be set to RUN status.

(3) Set the PLC station number and communication parameters, and do not select < general communication mode >, otherwise the communication will be abnormal.

(4) The default station number of FP series PLC is 1, but the FP3 model must be set to 0.

2.52.3 Cable making

(a)CPU 5-pin port:

Matsushita mewnet-FP series CPU







HMI 9-Pin port

RXD

TXD

GND





(c)CPU RS422 8-pin port

Matsushita mewnet-FP series CPU

Matsushita mewnet-FP series

	HMI 9-Pin port		RS422 8-pin port			
	Pin	Name		Pin	Name	
	1	TD+		6	RXD+	
	6	TD-		3	RXD-	
	5	GND		1	GND	
	8	RD-	-	2	TXD-	
9	9	RD+	-	5	TXD+	

Fig 3



2.52.4 Device address

PLC address	Range	Data type	Explanation		
X	0.0~12.F	Bit	Input (bit operation)		
Y	0.0~12.F	Bit	Output (bit operation)		
R	0.0~65535.F	Bit	Internal auxiliary relay (bit		
			operation)		
Т	0~99	Bit	timer		
L	0.0~65535.F	Bit	Connecting the control relay		
С	100~143	Bit	Counter		
WX	0~12	Word/DWord	Single word/double word register		
WY	0~12	Word/DWord	Single word/double word register		
WR	0~65535	Word/DWord	Single word/double word register		
FL	0~65535	Word/DWord	Connection control register		
SV	0~143	Word/DWord	Timer or counter set value register		
EV	0~143	Word/DWord	Timer or counter actual value		
			register		
DT	0~65535	Word/DWord	Single word/double word data		
			register		

2.53 SAIA-Burgess PCD series PLC

2.53.1 Device type

SAIA—Burgess PCD series PLC communicates with Xinje HMI via socket A or socket B port.

CPU	Connected module	Port	Cable	PLC model in Touchwin software
PCD1.M110				
PCD1.M125	CPU PORT #0	RS232	Fig 1	
PCD1.M135				
PCD2.M120				SAIA—Burgess PCD
PCD2.M150	CPU PORT #0			series
PCD2.M170		RS485	Fig 2	
PCD2.M480	CPU PORT #6			

(a) Direct connect to CPU

(b) Through serial port

CPU	J	Connected	Port	Cable	PLC model in Touchwin
		module			software
PCD1.M125			DC105	Fig 4	
PCD1.M	M135	PCD7 E110	К5465	Fig 4	
PCD1.N	M110	PCD/.FII0	DC422	Eig 5	
PCD1.N	M120		K5422	Fig 5	
PCD2.N	M 480				
PCD2.N	M 170	PCD7 E120	B \$737	Fig 3	
PCD2.N	M150	1 CD7.1120	K5252	11g 5	
Socke	et A				
	Socket	PCD2 F520	RS232	Fig 6	SALA Dungage DCD series
	B1	PCD7.F772/F802	RS485	Fig 7	SAIA—burgess r CD series
			RS422	Fig 10	
PCD2.M170	Socket	DCD2 E520/E530	RS232	Fig 6	
	B2	TCD2.1'520/1'550	RS485	Fig 7	
		PCD7.F772/F802	RS485	Fig 8	
PCD2.M480	Socket A		D \$737	Fig 9 or fig	
	SUCKELA	PCD2.F520/F522	K3232	11	
	Socket B		RS422	Fig 10	

2.53.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
DL C turns	SAIA—Burgess PCD		
PLC type	Series PLC		
Port	RS232	RS232/RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	0	0~255	

SAIA—Burgess PCD series PLC: 19200, 8, 1, no parity, station no.0

2.53.3 Cable making

(a) Direct connect to PGU RS232:



Fig1

(b) Direct PGU RS485:



Fig2

(c) Socket A port (PCD7.F120):

HMI 9-pin port

SAIA-Bugress PCD PLC (PCD7.F120) Socket A RS232 screw terminal



Fig3

(d) Through Socket A port (PCD7.F110):

HMI 9-pin port

SAIA-Bugress PCD PLC (PCD7.F110) Socket A RS485 screw terminal

4	AI		10	PGND
7	BI	L	11	RX-TX
5	GND		12	/RX-/TX

Fig4

(e) Socket A port (PCD7.F110):

HMI 9-pin port

SAIA-Bugress PCD PLC (PCD7.F110) Socket A RS422 screw terminal

1	TD+	13	RX
6	TD-	14	/RX
5	GND	10	PGND
8	RDD-	11	ТХ
9	RDD+	12	/TX
		15	PGND
		16	DTR
		17	DSR
		18	RSV
		19	DCD

Fig5

(f) Socket B/B1 and B2 port (PCD2.F520/F530):

SAIA-Bugress PCD PLC (PCD2.F520/F530) Socket B/B1 and B2 RS232 screw terminal



Fig6

(g) Socket B/B1 and B2 port (PCD2.F520/F530):

SAIA-Bugress PCD PLC (PCD2.F520/F530) Socket B/B1 and B2 RS485 screw terminals



(h) Socket B/B1&B2 port (PCD7.F772/F802):

SAIA-Bugress PCD PLC (PCD7.F772/F802) Socket B/B1&B2 RS485 screw terminals

HMI 9-	pin port	B/B1	B2	name
4	AI	31	41	RX-T X
7	BI	32	42	/RX-/TX
5	GND	30	40	PGND

Fig8

(i) Socket B/B1&B2 port (PCD2.520/F530):

SAIA-Bugress PCD PLC (PCD2.F520/F530) Socket B/B1&B2 RS232 screw terminals



Fig9

(j) Socket B/B1&B2 port (PCD2.F520/F530):

HMI 9-pin port

SAIA-Bugress PCD PLC (PCD2.F520/F530) Socket B/B1&B2 RS422 screw terminals

1	TD+	<u> </u>	B/B1	B2	name
2	RXD1		30	40	PGND
3	TXD1		31	41	TXD
4	AI		32	42	RXD
5	GND		33	43	RTS
6	TD-		34	44	CTS
7	BI		35	45	PGND
8	RDD-	\vdash	36	46	TX
9	RDD+	\vdash	37	47	/TX
			- 38	48	RX
			39	49	/RX

Fig10

(k) Socket B/B1&B2 port (PCD2.F520/F530):

HMI 9-pin port

SAIA-Bugress PCD PLC (PCD2.F520/F530) Socket B/B1&B2 2*RS232 screw terminals

		_	R/R1	B2	name
1	TD+		0/01	02	name
2	RXD1	-	30	40	PGND
3	TXD1	╞╍╍╍╍╍╺╺╺╺┥┙└┙	31	41	TXD
4	AI		32	42	RXD
5	GND		33	43	RTS
6	TD-		34	44	CTS
7	BI		35	45	PGND
8	RDD-] '	36	46	TXD
9	RDD+]	37	47	RXD
		-	38	48	RTS
			39	49	CTS



2.53.4 Device address

PLC address	Range	Data type	Explanation
R	0~4095	DWord	Used as register
Т	0~1599	DWord	Used as register
С	0~1599	DWord	Used as register
F	0~8000	Bit Auxiliary coil	
Ι	0~1023	Bit External input coil	
0	0~1023	Bit	External output coil

2.54 Sanken VM06 inverter

2.54.1 Device type

Series	Port type	Cable making	PLC model in Touchwin software	
VM06	RS485	Fig 1	Sanken VM06 Inverter	
			Modbus RTU (Panel is Master)	

2.54.2 Parameters

Select Sanken VM06 inverter:

HMI:

Parameter	Recommended setting	Choices of setting	Note
PLC type	Sanken VM06 inverter	-	-
Port type	RS485	RS485	
Data bit	8	-	
Stop bit	1	-	
Parity	Even parity	-	
Baud rate	9600	9600/115200/19200/187500	
Station no.	1	0~31	

Select Modbus RTU (Panel is master)

HMI:

Parameter	Recommended setting	Choices of setting	Note
PLC type	Modbus Rtu (Panel is master)	-	-
Port type	RS485	RS485	
Data bit	8	-	
Stop bit	1	-	
Parity	Even parity	-	
Baud rate	9600	9600/115200/19200/187500	
Station no.	1	0~31	

Communication Parameter	23				
Baudrate C 4800 C 56000 C 9600 C 57600 C 19200 C 115200 C 38400 C 187500	Data Bit C 7Bits © 8Bits Stop Bit (© 1Bit C 2Bits				
Parity check O None O	Odd (* Even				
Communication Time 0 MSEL					
Send Data Vir Station Retry times 3					
Exchange WORD					
OK Cancel					

Inverter:

Function	Name	Content	Debug
			parameters
F1002	Frequency setting	1: operate panel	22
		2: external analog voltage VIF1 (0~5V)	
		21: terminal stepper	
		22: communication	
F1101	Running command	1. Operate panel 2. External terminals	3
	selection	3. communication	
F4002	RS232C/RS485	1: RS232C (default setting)	Choose
		2: RS485	according to
			wiring
			method
F4005	Serial communication	0: no function (default setting)	2
	function	1: special protocol communication	
		2: Modbus communication	
F4006	Inverter station no.	0~254: ModBus station no.	1
		(1~32: RS485 communication)	
		1~32 is valid in special protocol	
		communication	
F4007	Baud rate	1: 1200bps 2: 2400bps	4
		3: 4800bps 4: 9600bps	
		5: 19200bps 6: 38400bps	
		7: 57600bps	
F4008	Parity	0: no 1: odd (default setting) 2: even	2
F4009	Stop bit	1: 1 bit (default setting)	1
		2: 2 bit	
F4010	Stop code	0: CR+LF (default setting)	0

	1: CR	
	BINARY and Modbus without stop code	

2.54.3 Cable making

RS485:



Fig 1

2.54.4 Device address

Inverter Modbus address

Function code	Upper limit frequency	33775	Data input/display
	Setting frequency	34869	Function button-set data
Register	Forward running	1001	Function button (2)
	Reverse running	1001	Function button (8)
	Setting frequency	1000	Function button
2.55 Schneider PLC

2.55.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin software
Micro	TSX 37-05	Direct connect to CPU	RS485	Fig 1	
	TSX 37-08				
	TSX 37-10				
	TSX 37-21/22				
Twido	Twido series	Direct connect to CPU	RS485	Fig 1	Schneider Micro/
	CPU				Neza/Twido
М	M218	Direct connect to CPU	RS485	Fig 2	Series PLC
	M238				
	M258				
NEZA	TSX07 series	Direct connect to CPU	RS485	Fig 1	
NEZA	CPU				

2.55.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Schneider Micro/Neza		
	/Twido series PLC		
Port	RS485		
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	No parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

The default parameters of Schneider Micro/NEZA/ Twido series PLC: 19200, 8, 1, even parity, station no.1

Communicate parameters							
Baud Rate	Data bit						
○ 4800 ○ 56000	○7位 ●8位						
9600 0 57600							
19200 0 115200	Stop bit						
○ 38400 ○ 187500	◉1位 ○2位						
Checksum							
No parity O	dd 🔿 Even						
Delay							
Send delay time	0 ms						
Send data Virtual Station							
Word exchange Retry Tim 3							
ОК	Cancel						

PLC:



Controller Communications Setup 🛛 🗙						
Port 1		OK				
Protocol		Cancel				
<u>Т</u> уре :	Modbus	Help				
<u>A</u> ddress:	1 •					
Parameters						
<u>B</u> audrate:	19200 💌					
<u>D</u> ata Bits:	8 (RTU) 💌					
Parity:	None					
<u>S</u> top Bits:	1 💌					
<u>R</u> esponse Timeout:	10 x 100 ms					
Inter-fra <u>m</u> e delay :	10 ms					
		Ad <u>v</u> anced				

Note:

The object address of Twido PLC is dynamic and can be enlarged in the PLC programming software. Please release the max coil address in the program. For example: the max coil address is M127, please output M127 in the program.



2.55.3 Cable making

(a) Direct connect to CPU:

HMI 9-pin port

Schneider Micro/NEZA/Twido series
TSX-37, TSX-07, CPU 8-pin port

4	AI	1	A
7	BI	2	В
5	GND	5	DPT
		7	GND

Fig1

(b) M238 RJ-45 RS485:

HMI 9-pin port		in port	Schneider Micro seri CPU RJ-45 port		es
ſ	4	AI	4	A	
	7	BI	5	В	

Fig2

2.55.4 Device address

PLC address	Range	Data type	Explanation
Μ	0~2047	Bit	Internal coil
MW	0.00~65535.15	Bit	Internal coil
MW	0~2047	Word/DWord	Register

2.56 SHIMADEN

2.56.1 Device type

Series	Connected module	Port	Cable	PLC model in
				Touchwin software
SRS10(SRS11/SRS13/SRS14)	RS485 on the CPU	RS485	Eig 1	Modbus RTU
Digital adjustor	unit		Fig I	(Panel is Master)

Note: all the devices support Modbus protocol can communicate with Touchwin HMI.

2.56.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Note
PLC type	Modbus RTU		
	(Panel is Master)		
Port	RS485	RS485	
Data bit	8	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	1	0~255	

Note:

1. The parameters of device and HMI must be same.

2. Some devices need to add terminal resistor (such as SRS10 digital adjustor)

3. Meter parameter 018C must set to 1 (COM LED is ON), please use the "function filed"(the button in the Touchwin software) to set the value of 018C(4x396=1).

2.56.3 Cable making

RS485 connection:



2.56.4 Device address

PLC address (Hex)	Parameters	Read/write	Meaning
0100	PV	Read	Measured value
0101	SV	Read	Setting value
0102	OUT1	Read	Output 1
0103	OUT2	Read	Output 2
0104	EXE_FLG	Read	Status sign
0105	EV_FLG	Read	event output sign
0300	FIX SV1	Read/write	Fixed value 1
0301	FIX SV2	Read/write	Fixed value 2
0302	FIX SV3	Read/write	Fixed value 3
030A	SV_L	Read/write	Lower limit of settings
030B	SV_H	Read/write	Upper limit of settings

2.57 Siemens S7-200 series PLC

2.57.1 Device type

Seris	CPU	Connected module	Port	Cable	PLC model Touchwin software	in
S7-200	CPU212 CPU221 CPU222 CPU224 CPU226	Connect CPU RS485 port directly	RS485	Fig 1	Siemens S7-200	
S7-200 smart	Smart series					

2.57.2 Parameters

HMI:

Parameters	Recommend settings	Choices of settings	Item
PLC type	S7-200		
Port	RS485		
Data bit	8		
Stop	1		
Parity	Even parity		
Baud rate	9600	9600/19200/187500	
Station no.	2		Must use recommend settings

The default communication parameters of Siemens S7-200 series PLC: 9600, 8, even parity, station No.2.

PLC settings:

^{系统块} System Blog		
通信端口 通信端口设置允许您调整 STEF	97-Micro/WIN 与指定 PLC之间的通信参数。	E,
 ■ 系統は ● 新田道信諾■ COMMU ● 新田道携保持 ● 部 ● 部 ● 新出表 ● 輸出表 ● 輸出表 ● 輸入規模 ● 輸入規模 ● 「青泉时间 ● 四 配置 ● 四 配置 ● 加 配置 	正信端口 mication port 端口 Port 0 端口 0 端口 1 PLC address PLC 出址: 2	默认值 (范围 1 126) (范围 1 126) (范围 0 6) (范围 1 100)
④ 单击获取帮助和支	を持 確认 1	取消 全部还原

Notes:

1. Siemens PLC has 3 kinds of registers: 8-bitVB, 16-bit VW and 32-bit VD.

2. The space of registers are overlapped, the address of VW must be even numbers, for example: VW0,VW2...., the address of VD must be the multiple of 4, such as VD0,VD4,VD8.....

3. For Data block PSW single word \rightarrow VW single word: as the high byte and low byte problem, the received data maybe dislocated, please use register copy function.

4. For data block PSW single word \rightarrow VD double words: as the unit is different, cannot transfer the data like this, please use register copy function.

2.57.3 Cable making

HMI connects to S7-200 via RS485:

Н	MI 9-pin	female p	ort	Siemens 9-pin ma	S7-200 P ale port	PI
	4	AI		3	A	
	5	GND		. 8	В	
	7	BI		5	GND	

Fig1

2.57.4 Device address

SIMATIC S7-200 series

PLC address	Range	Data type	Explanation	
VB	0~4095	Byte	variable byte data register	
VW	0~4095	Word	variable word data register	
VD	0~4095	DWord	variable double word data register	
IB	0~15	Byte	External input byte reflection register	
IW	0~15	Word	External input word reflection register	
ID	0~15	DWord	External input double words reflection	
			register	
QB	0~15	Byte	External output byte reflection register	
QW	0~15	Word	External output word reflection register	
QD	0~15	DWord	External output double words reflection	
			register	
MB	0~31	Byte	Internal auxiliary byte register	
MW	0~31	Word	Internal auxiliary word register	
MD	0~31	DWord	Internal auxiliary double words register	
SMB	0~299	Byte	Internal special auxiliary byte register	
SMW	0~299	Word	Internal special auxiliary word register	
SMD	0~299	DWord	Internal special auxiliary double words	
			register	
SB	0~31	Byte	Special auxiliary byte register	
SW	0~31	Word	Special auxiliary word register	
SD	0~31	DWord	Special auxiliary double words register	
Т	0~255	Word	Register	
С	0~255	Word	Register	
М	0~31	Bit	Bit register	
V	0~4095	Bit	Variable register	
Ι	0~15	Bit	External input coil	
Q	0~15	Bit	External output coil	
SM	0~299	Bit	Special relay	
S	0~31	Bit	Sequence relay	
Т	0~255	Bit	Timer	
С	0~255	Bit	Counter	

2.58 Siemens S7-300/400 series PLC

2.58.1 Device type

Series	CPU	Conr mo	nected dule		Port	Cable	PLC model in Touchwin software
S7-300	CPU312						
	CPU314	DC 405	mont	.f			Sigmons SIMATIC
	CPU315	KS485	port c	л	DC105	Ei a 1	Siemens SiwiALIC
S7-400	CPU412-1	CPU			K5405	Figi	S7-300/400
	CPU412-2						FLC
	CPU414-2						

SIMATIC S7-300/400 PLC (connect to CPU directly)

2.58.2 Parameters

Parameter	Recommend	Choice of settings	Note	
	settings			
PLC type	S7-300/400			
Port	RS485			
Data bit	8	7 or 8		
Stop bit	1	1 or 2		
Parity	Even parity	Even/odd/no parity		
Baud rate	19200	4800/38400/9600/115200/19200/187500		
Station	2		Please	use
no.			recommend	
			settings	

The default parameters of Siemens S7-300/400: 19200, 8, even parity, station No.2.

DLC D-4			Communicate parameters	;
PLC Port Mitsubishi Q0 Mitsubishi FX Siemens S7-2 Siemens S7-3	2H BD(232/485) 200 Series 200/400	^	Baud Rate	Data bit 〇 7位
Omron CPM/ Omron CP/CJ Modbus RTU Modbus RTU	CQM Series I/CS Series I (Panel is Master,start address is 0) I (Panel isMaster,start address is 1)	~	 ○ 38400 ○ 187500 Checksum ○ No parity ○ C 	● 1位 ○ 2位 Odd ● Even
			Delay Send delay time	0 ms
Parameters	19200, 8, Even, 1		Send data	/irtual Station y Tim 3
Station		0	ОК	Cancel

PLC settings:

🚍 (D) VR	
1 2 CPV 314	
3	
4	
Froperties - CPU 314 - (RO/S2)	>
Time-of-Day Interrupts Cyclic Interrupts Diagnostics/Clos	.k
General Startup Cycle/Clock Memory Retentive Memory Interru	ıpts
Short CPU 314	
24 KB work memory; 0.3 ms/1000 instructions; MPI connection; multi-tier configuration up to 32 modules	~
Order No.: 6ES7 314-1AE01-0AB0	
Mame: CPU 314	
Interface	
Type: MPI	
Address: 2	
Networked: No Properties	
<u>Comment:</u>	
Properties - MPI interface CPU 314 (R0/S2)	
General Parameters	
Address: 2 If a subnet is selected, the next available address is Highest address: 31	
Transmission rate: 19.2 Kbps	
<u>S</u> ubnet:	
NPT (1) 19.2 Kbpr	
Properties	
recommended	
DeTece	

Communication notes for S7-300:

- 1. Siemens baud rate must set to 19200 kbps.Don't set the parameters of PG/PC adapter.
- 2. Don't modify the "station no.:0" in the Touchwin software.
- 3. Cable: no need PG/PC adapter.
- 4. Please define the DB register in the PLC when testing the communication.
- 5. Please note that the port will be operated in PLC program by accident.

6. The default station No. of S7-300 is 2, please don't modify it.

Example: MPI port of S7-300 connects to HMI, the PLC connects to SCADA software via Ethernet module, PLC station no. is 8, module station no. is 3, HMI station no. is 0. The result is

that communication between SCADA and PLC will be cut off. Because the HMI cannot find other devices and modules cannot be inserted in. please change the PLC station no. to 2. These devices can form a loop:



2.58.3 Cable making

HMI connects to S7-300/400 via RS485:



Fig1

2.58.4 Device address

SIMATIC S7-300/400

PLC type	Range	Data type	Explanation
Ι	0~9999	Byte/Word/DWord	External input register
Q	0~9999	Byte/Word/DWord	External output register
М	0~9999	Byte/Word/DWord	Internal auxiliary register
DB0~DB20	0~9999	Byte/Word/DWord	Data register
Ι	0~9999	Bit	External input coil
Q	0~9999	Bit	External output coil
М	0~9999	Bit	Internal auxiliary relay
DB0~DB20	0~9999	Bit	Internal auxiliary relay

2.59 Simens S7-200 smart (Ethernet) series PLC

2.59.1 Device type

Series	Port	Cable	PLC model in Touchwin software
S7-200 smart	RJ45		Simens S7-200 Smart Series/Simens S7-200
		Fig 1or fig 2	Smart new Series(It is recommended to select
			this protocol when creating a new program)

2.59.2 Parameters

PLC settings

PU CPU SR60 (AC/D B M 0	(C/Relay)	V02.01.00_00.00	10.0	000	0507,000 400,00 0440
B M 0			10.0	40.0	6ES7 288-15H60-0AAU
MO					
M 1					1
M 2				_	
MJ				-	
M 5				-	
				_	1
 □ 12.0 - 12.7 □ 13.0 - 13.7 □ 14.0 - 14.7 □ 数字里輸出 □ 保持范围 □ 安全 □ 启动 	背景时间 选择通 10 RS485 端 [通过 RS	子阿撞码: 默认网关: 站名称: 1 485 端口设置可调 地址: 波特室:	255 . 25 192 . 16 %) 整 HMI 用来 2 9.6 kbps	5 . 255 . 0 8 . 0 . 通信的通信者	0 1 参数。

HMI settings

1.Choose the HMI type TN(-ET), TG(-ET) or TE(-ET), click next, choose Net device in the list, please input the HMI IP address in the own devices.

Device	O Auto IP Add	dress			
PLC Port	Occal IP Ad	dress			
Net Device	IP Address	192	168	0	10
	Subnet Mask	255	255	255	0
	Gateway	192	168	0	1
	Port				502

2. Choose the net device, right click it, choose new, and name it as S7-200 smart.

Device	Own			
	IP A		Name	х
PLC Port DownLoad Port	Sub	Name	S7-200 smart	
New	Por		OK Cancel	

3.Choose Siemens S7-200 smart series in the device list, in this example, the PLC IP address is 192.168.0.1, the port is 102 which cannot be changed.

.

Device COM Device PLC Port DownLoad Port Net Device S7-200 smart	xinje XD/XG serials xinje XS serials(Modbus TCP) Modbus_TCP Modbus RTU Over TCP(Panel is Master,start address is 0) Thinget XNet Series Siemens S7-1200 Series Siemens S7-1200 /1500 new Series Siemens S7-200 Smart new Series Siemens S7-200 Smart new Series Mitsubishi Melsec Series(TE)
	IP 192 168 0 1 Port 102 Protocol Image: Construction of the second of the se
	Communicate Parameters Waiting time 0 ms Retries Timeout 3000

4.The communication parameters please use default settings. If communication status register is choosen, and set to PSW256, then PSW256~PSW259 means communication succeeded times, failed times, overtime times, error times. The register address can be set by user.

✓ Com	municate status register
PSV	256
Communic	ation state occupies address PSW[256] \sim

5.Click next to finish the settings. Then enter the screen, for example, put a data input button in the screen, choose the device S7-200 smart.

Operate Obj	ect
Station	
Device	S7-200 smart V
VirStaNO	Local registers PLC Port
Object	S7-200 smart
ObjType	V ~ 0 0 ~
	indirect indirect

There is no station no. for Siemens S7-200 smart, set the correct IP address is ok. It can make the networks of multi-HMI-one-PLC, one-HMI-multi-PLC, multi-HMI-multi-PLC.

2.59.3 Cable making

Pin no.	Color	Pin no.	Color
1	White orange	1	White orange
2	orange	2	orange
3	White green	3	White green
4	blue	4	blue
5	White blue	5	White blue
6	Green	6	Green
7	White brown	7	White brown
8	Brown	8	Brown

RJ45 Straight Through Cable (connect HUB) or RJ45 Crossover Cable:

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.59.4 Device address

PLC address	Range	Data type	Explanation
VB	0~9999	Byte	variable byte data register
VW	0~9999	Word	variable word data register
VD	0~9999	DWord	variable double word data register
IB	0~15	Byte	External input byte reflection register
IW	0~15	Word	External input word reflection register
ID	0~15	DWord	External input double words reflection register
QB	0~15	Byte	External output byte reflection register
QW	0~15	Word	External output word reflection register
QD	0~15	DWord	External output double words reflection
			register
MB	0~31	Byte	Internal auxiliary byte register
MW	0~31	Word	Internal auxiliary word register
MD	0~31	DWord	Internal auxiliary double words register
SMB	0~299	Byte	Internal special auxiliary byte register
SMW	0~299	Word	Internal special auxiliary word register
SMD	0~299	DWord	Internal special auxiliary double words register
SB	0~31	Byte	Special auxiliary byte register
SW	0~31	Word	Special auxiliary word register
SD	0~31	DWord	Special auxiliary double words register
Т	0~255	Word	Register
С	0~255	Word	Register
М	0.0~31.7	Bit	Bit register
V	0.0~99999.7	Bit	Variable register

Ι	0.0~15.7	Bit	External input coil
Q	0.0~15.7	Bit	External output coil
SM	0.0~299.7	Bit	Special relay
S	0.0~31.7	Bit	Sequence relay
Т	0~255	Bit	Timer
С	0~255	Bit	Counter

2.60 Siemens S7-300 (Ethernet) series PLC

2.60.1 Device type

Series	Port	Cable	PLC model in touchwin
			software
S7-300	RJ45	Fig 1 or fig 2	Siemens S7-300 series

2.60.2 Parameter setting

PLC setting

Conceral Parameters		
Ventri al		ß
IP address: 192.168.0.5 Su <u>b</u> net mask: 255.255.255.0	Gateway © Do not use router © Use router <u>A</u> ddress:	
Subnet:		N
not networked Ethernet(1)		<u>M</u> ew
		<u>r</u> operties De <u>l</u> ete

HMI setting

1. Choose the HMI type TN(-ET), TG(-ET) or TE(-ET), click next, choose Net device in the list, please inputthe HMI IP address in the own devices.

-	
υ	evice

Device

Device	O Auto IP Ad	dress						
- PLC Port	Local IP Ad	dress						
DownLoad Port								
Net Device	IP Address	192	•	168	•	0	•	10
	Subnet Mask	255		255		255		0
	Gateway	192		168		0		1
	Port							502
					Rer	note (Com	mu

2. Choose the net device, right click it, choose new, and name it as Siemens S7-300.

ſ	Device	Own
	E COM Device	IP A
	PLC Port	Sub
	New New	ati
		Por

3. Choose Siemens S7-300 series in the device list, in this example, the PLC IP address is 192.168.0.5, the port is 102 which cannot be changed.

Device ⊨ COM Device	Mitsubishi Melsec Series(fx5u) Keyence (KV5000/5500/7500) Siemens S7-300 Series	
- PLC Port	LG XGT Series Haiwellbus TCP Series	
DownLoad Port	Omron(FinsTCP) Series	- 1
Net Device	Inovance AM600 Series	
Siemens S7-300	Omron(FinsUDP) Series BoffAds (CX5120) Series	
	IP 192.168.0.1 Port	102
	Protocol	
	TCP UDP Word exchange	ge
	Communicate Parameters	
	Waiting time 0 ^{ms} Retries	1
	Timeout 3000 ms	
	Communicate status register	
	PSV 256	
	PSV 256	

4.The communication parameters please use default settings. If communication status register is choosen, and set to PSW256, then PSW256~PSW259 means communication succeeded times, failed times, overtime times, error times. The register address can be set by user.

Com	Communicate status register						
PSV	256						
Communication state occupies address PSW[256] ~ PSW[259]							

5.Click next to finish the settings. Then enter the screen, for example, put a data input button in the screen, choose the device S7-300.

Operate Obj Station	ect		
Device	Siemens S7-30)0	~
VirStaNO	0	Station	0
Object ObjType	I ~	indirect	0 0 ~ indirect

There is no station no. for Siemens S7-300, set the correct IP address is ok. It can make the networks of multi-HMI-one-PLC, one-HMI-multi-PLC, multi-HMI-multi-PLC.

2.60.3 Cable making

Pin no.	Color		Pin no.	Color
1	White orange	·	1	White orange
2	orange		2	orange
3	White green		3	White green
4	blue		4	blue
5	White blue		5	White blue
6	Green	·	6	Green
7	White brown		7	White brown
8	Brown		8	Brown

RJ45 Straight Through Cable (connect HUB) or RJ45 Crossover Cable:

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green		6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.60.4 Device address

Siemens S7-300 series

PLC address	Range	Data type	Explanation	
VB	0~9999	Byte	variable byte data register	
VW	0~9999	Word	variable word data register	
VD	0~9999	DWord	variable double word data register	
IB	0~15	Byte	External input byte reflection register	
IW	0~15	Word	External input word reflection register	
ID	0~15	DWord	External input double words reflection	
			register	
QB	0~15	Byte	External output byte reflection register	
QW	0~15	Word	External output word reflection register	
QD	0~15	DWord	External output double words reflection	
			register	
MB	0~31	Byte	Internal auxiliary byte register	
MW	0~31	Word	Internal auxiliary word register	
MD	0~31	DWord	Internal auxiliary double words register	
SMB	0~299	Byte	Internal special auxiliary byte register	
SMW	0~299	Word	Internal special auxiliary word register	
SMD	0~299	DWord	Internal special auxiliary double words	
			register	
SB	0~31	Byte	Special auxiliary byte register	
SW	0~31	Word	Special auxiliary word register	
SD	0~31	DWord	Special auxiliary double words register	
Т	0~255	Word	Register	
С	0~255	Word	Register	
М	0.0~31.7	Bit	Bit register	
V	0.0~99999.7	Bit	Variable register	

Ι	0.0~15.7	Bit	External input coil
Q	0.0~15.7	Bit External output coil	
SM	0.0~299.7	Bit	Special relay
S	0.0~31.7	Bit	Sequence relay
Т	0~255	Bit	Timer
С	0~255	Bit	Counter

2.61 Siemens S7-1200 (Ethernet) series PLC

2.61.1 Device type

Series	Communic ation type	Cable making	PLC model in Touchwin software
S7-1200	D145	Eig 1 og 2	Sigmons 57 1200/1500 novy series
S7-1500	KJ45	F1g 1 OF 2	Stemens 57-1200/1500 new series

2.61.2 Parameters

PLC software settings:

Take Siemens S7-1200 CPU1211C 6ES7 211-1BD30-0XB0 PLC as an example to explain the settings (a)Open project-devices&networks-normal-Ethernet IP, set the PLC IP address:

Sie	emens - 項目3			_ = ×
म् [(目(P) 编辑(E) 视图(V) 插入(I) 在线(C) 🛉 💽 🔚 保存项目 🔜 📈 🗐 🗎 🗙 🗍	2) 选项(N) 工具(T) 窗口(W) 帮助 3 🖫 🛄 🔛 🖉 转到在线 🖉 转到离	1111) 1111 🔐 📑 📰 📰 🔛 🔜 🛄	Totally Integrated Automation PORTAL
	項目树	項目3 > 设备和网络		_ # = × 4
	设备			📥 网络视图 📑 设备视图 💾
	1 O O 1 O O 1 O O 1 O O O 1 O O O 1 O O O O 1 O O O O O 1 O	■ 网络 11 连接 HMI 连接	- 🐫 🔍 ± 100%	· · · · · · · · · · · · · · · · · · ·
	. <u></u>			▲ <u>I</u>
	▼□项目3 Project			= *
展	■ 添加新设备 → 過名和阿洛 Dovice Supetwork	PLC_1		
各名	PLC_1 [CPU 1211C AC/DC/Rly]	CPU 1211C		线
	▶ 🙀 公共数据			具
				- 🕞
	▶ Ima 在成UPI ▶ Ima SIMATIC 卡達卡器	<u>↓</u>		<u>▶</u> 11世 务
		X1 : PN(LAN)		🧃 属性 📵 信息 関 诊断 👘 🕕
		常規		库
		常規 Ftb orp of ID	子网	: 未连接
		以太阿姆亚 本語	ID addros	☆ 添加新子网
		时间同步	IP协议 IP address	
			「「地址」	192.168.0 .10
			111200	使用 IP 路由器
			路由器地址	· 192.168.0.1 ▶洗择该洗顶:使用网关路由器
	▶ 详细视图		٠	
	4 Portal 初図 座 首席	▲ 设备和网络		2 已创建项目项目2.

(b)PLC DB, M must be defined in the PLC before using. Click project-program block-add new block, choose data block (DB), the type is global DB, not choose only sign visit. DB number can be auto or manual.



(c)Choose project-program block-data block can define the address in the data block.

S	Siemens - 项目3								
:	项目(P) 编辑(E) 视图(V) 插入(I) 在线(Q) 选项(N) 工具(T) 窗口(W) 帮助(H)								
	🕂 💁 🔜 保存项目 🔒 📈 🗐 🗈 🗙 🌆 🔂 🛄 🥵 💋 转到在线 🖉 转到离线 🏭 🖪 🥐 😑 💷								
	项目树								
	设备								
	🖻 O O 🖻	2	i 🔮 약 🏹						
		数	据_块_1						
яH	▼ 🛅 项目3	1	名称	数据类型	偏移量	初始值	保持性	注释	
đ.	📑 添加新设备	1	👻 Static						
Ü	🚠 设备和网络	2	Static_2	Word	0.0	0			
•	▼ 1 PLC_1 [CPU 1211C AC/DC/Rly]	З	Static_1	Word	2.0	0			
	■ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	4	Static_3	Word	4.0	0			
	2 在线和诊断	5	Static_4	Word	6.0	0			
	▼ 最程序块 Program blogk	6	Static_5	Word 👻	8.0	0			
	添加新块	7	Static_6	Word	10.0	0			
	- Main [OB1]	8	Static_7	Word	12.0	0			
	■数据_块_1 [DB1] data block	9	Static_8	Word	14.0	0			
	▶ 🙀 工艺对象	10	Static_9	Word	16.0	0			
	▼ 🔁 PLC 变量	11	Static_10	Word	18.0	0			
	- 🖪 PLC 变量 (1)	12	Static_11	Word	20.0	0			

(d)The data block has "optimized block access" by default. Uncheck it. Operation method: select item - program block - data block, right click it and choose properties:

- 🔽 PLC_1 [CPU 1	1214C	з		•	Remanence
📑 📑 📑 📑	=	4		•	Temp
😨 在线和诊	新	5		•	<新増>
▼ 🛃 程序块 р	program blo	ock	-00	•	Constant
💣 添加휾	しんしょう しんしょう しんしゅう しゅう しゅう しゅう しゅう しゅう しゅう しゅう しゅう しゅう	7		•	<新増>
= Main			4		
📄 数据均		K			
🕨 🕨 🙀 工艺对象					
🕨 🕨 🔚 外部源文	より切(口)		C	trl+)	× 专有技术保护(W)
🕨 🕨 🛃 PLC 变量	■ 复制(Y)		C	trl+(·C ↓
▶ 📴 PLC 数据线	山目 柏坝(P)		0	cri+	
▶ 🔜 监控与强	夏制为文本	格式	(X)		
▶ 📴 在线备份	★ 冊修余(D)			De	el IIII IIII IIII IIII IIII IIII IIII I
🕨 🔀 Traces	重命名(N)			F.	2 properties

Select the properties in the pop-up window and uncheck the "optimized block access":

数据块_1 [DB1]		>
常规		
常规	屋井	
信息	偶性	
时间戳		
编译	🗌 仅存储在装载内存中	
保护 保护	□ 在设备中写保护数据块	
Interview in the second		
下载但不重新初始化		
		The same

Note: for the software STEP Basic V12 and up version, please release the communication protection: 1.Choose the PLC model in the project tree, right click it, choose properties

项目树	
设备	
00	a
right click PL	C model
● 20 在线和诊断	打开 在新编辑器中打开 在 PLC 中搜索并打开 F7
 ▶ □ 社市次 	■ 打印(P) Ctrl+P 予打印预览(V) properties
▶ 🔚 PLC 变量	💽 属性 Alt+Enter

2.Please choose "permit access with PUT/GET communication from remote partner (PLC, HMI, OPC)". Then download the PLC program in the PLC.

	系统常数 文本					
▶ 常規	保护					
▶ PROFINET接口						
DI 14/DQ 10	保护					
▶ ALZ ▶ 古法はお聞 (us c)	进现达 pic 6h左即等犯。					
・ 高速计数器 (HSC)	这样该「LLE的仔缎等级。					
豚/甲友生器 (P10/ 白油						
周知	存取等级		访问		访问权	限
周期 通信会#		HMI	读取	写入	密码	
原目以取	 完全访问权限(无任何保护) 	×	✓	✓		
から元作品リキデリナ 開設	○ 读访问权限	~	 Image: A second s			
田白思志语言	 HMI 访问权限 	×				
时间	○ 不能访问(完全保护)					
保护 Protect						
组态控制						
连接资源	完全访问权限(无任何保护):					
地址总监 ,	TIA Portal 用户和 HMI 应用将具有对所有功能的词	方问权限。				
	无需输入任何密码。					
	· 法按规制 Connection mach	aniem				
	HER THE CONNECTION MECT	anishi				
	🗹 允许从远	程伙伴(PLC、HM	MINOPCN)	使用 PUT/GET	通信访问	
< III >	✓ ポロング 「「「」」「「」」「「」」「」」「」」「」「」」「」」「」」「」」「」」「」」	程伙伴(PLC、HM ACCESS V	with PL	使用 PUTIGET	通信访问	3
< III >	● 允许从远 《 m permit	程伙伴 (PLC、HM ACCESS V	with PU	使用 PUT/GET IT/GET	通信访问	>

S7-1500 communication settings:

(a)Open project-devices&networks-normal-Ethernet IP, set the PLC IP address:

General 接口_1 [Module]					
常規 10 变量 系统常	数 文本				
常规 以太网地址 Ethernet IP	以太网地址				
时间同步 操作模式	接口连接到				
▼ 高級选项	子网:	- 未联网			
接口选项		添加新子网			
介质冗余		ranoversa a t a			
▶ 实时设定	IP协议				
▶ 蒲山 [X1 P1 R]					
Web 服务器访问		● 在项目中设置 IP 地址			
···· - ///// 10/05/1-3		IP地址: 192.168.0 .2			
		子网摘码: 255.255.0			
	_	□ 使用路由器			
		路由器地址: 0 .0 .0 .0			
		○ 在设备中直接设定 IP 地址			
	PROFINET				
		□ 在设备中且接收定 PROFINET 设备名称			
		✓目动生成 PROFINET 设备名称			
	PROFINET设备名称:	plc_1			
	转换的名称:	plcxb1d0ed			
	设备编号:	0			

(b)Properties setting check: permit access to DB from OPC UA.

数据块	{_1 [DB99]		×
علد			
吊	双 义本		
常	规	居性	
信	息		
时	间戳		
编	译	🗌 仅存储在装载内存中	
保護	护	🗌 在设备中写保护数据块	
属	性 Properti	es	
<u>下</u>	载但不重新初…		
		permit access to DB from OPC UA	
<			
		72合 而※	_
		如用双王	

(c)Please choose "permit access with PUT/GET communication from remote partner".

PLC_1 [CPU 1513-1 PN]	
常規 IO 变量 系统	常数 文本
常规	<u></u>
自动更新	
密码	
监控表	☑ 允许来自远程对象的 PUTIGET 通信访问
用户自定义徽标	
支持多语言	
时间	choose "permit access with PUT/GET communication
▼ 防护与安全	
访问级别	from remote partner "
[注接机制] connect	ion mechanism
证书管理器	
安全事件	
 OPC UA 	
常规	
▼ 服务器	
常规	
选项	
 Security 	
Secure Channel	
用户身份认证	

(d)Set access level-HMI access rights/full access.



HMI settings:

1. Choose the HMI type TN(-ET), TG(-ET) or TE(-ET), click next, choose Net device in the list, please input he HMI IP address in the own devices.

2. Choose the net device, right click it, choose new, and name it as Siemens S7-300.



3.Choose Siemens S7-1200 series in the device list, in this example, the PLC IP address is 192.168.0.30, the port is 102 which cannot be changed.

4.For communication with "Siemens S7-1200 series", it is required to check "high-low word exchange", otherwise double words are not used normally.

xinje XS serials(Modbus TCP) Modbus_TCP Modbus RTU Over TCP(Panel is Master,start address is 0) Thinget XNet Series						
Siemens S7-1200 Series Siemens S7-1200/1500 new Series Siemens S7-200 Smart Series Siemens S7-200 Smart new Series Mitaubicki Malace Series(15)						
Mitsubishi Melsec Series(3E)						
IP 192 . 168 . 0 . 30 Port 10	2					
Protocol						
TCP UDP Word exchange						
Communicate Parameters						
Waiting time 0 ^{ms} Retries 1						
Waiting time 0 ^{ms} Retries	1					

5.The communication parameters please use default settings. If communication status register is choosen, and set to PSW256, then PSW256~PSW259 means communication succeeded times, failed times, overtime times, error times. The register address can be set by user.

PSV	256
	unication state occupies address PSW[256] ~ 2591

6.Click next to finish the settings. Then enter the screen, for example, put a data input button in the screen, choose the device S7-1200.

Device	Siemens S7-1200	~
VirStaNO	0 Station	0
VIIStalivO	UStation	
oject —		
OhiType		0

There is no station no. for Siemens S7-1200, set the correct IP address is ok. It can make the networks of multi-HMI-one-PLC, one-HMI-multi-PLC, multi-HMI-multi-PLC.

Note:

(1)please define the DB and M in the Siemens PLC, otherwise the communication will be error.(2) RX/TX lights when the communication is successful. RX/TX is shining when if is finding the network.

2.61.3 Cable making

RJ45 straight through cable (connect HUB) or RJ45 crossover cable:

Pin no.	Color	Pin no.	Color
1	White orange	1	White orange
2	orange	2	orange
3	White green	3	White green
4	blue	4	blue
5	White blue	5	White blue
6	Green	6	Green
7	White brown	7	White brown
8	Brown	8	Brown

Fig 1

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	-	6	orange
7	White brown		7	White brown
8	Brown]	8	Brown

Fig 2

2.61.4 Device address

PLC address	Range	Object type	Explanation
type			
Ι	0~9999	Byte/Word/DWord	Input register
Q	0~9999	Byte/Word/DWord	Output register
М	0~9999	Byte/Word/DWord	Internal auxiliary register
DB0~DB20	0~9999	Byte/Word/DWord	Data register
Ι	0.0~9999.7	Bit	Input
Q	0.0~9999.7	Bit	Output
М	0.0~9999.7	Bit	Auxiliary relay
DB0~DB20	0.0~9999.7	Bit	Auxiliary relay

2.62 TAIAN series PLC

2.62.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in
					Touchwin software
	TP03-20HR-A	RS232 on the CPU Unit	RS232	Fig 1	TAIAN TP03 series
TAIAN	TP03-30HR-A	RS485 on the CPU Unit	RS485	Fig 2	

2.62.2 Parameters

HMI settings:

Parameters	Recommend settings	Choices of settings	Note
PLC type	TAIAN TP03 series		
Port	RS232	RS232/RS485	
Data bit	8	7/8	
Stop bit	2	1/2	
Parity	No parity	Even /odd /no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	
Station no.	1	0-255	

2.62.3 Cable making

RS232 connection:

HMI 9-pin D-type female port

PLC 8-pin round male port

RXD	2 ·	4	TXD
TXD	3	 1	RXD
GND	5	 3	GND



Fig1

RS485 connection:

HMI 9-pin D-type female port PLC RS485 terminal

A	4	 A+
В	7	 В-
GND	5	 SG

Fig2

2.62.4 Device address

Device address	Range	Data type	Explanation
D	0~8511	Word/DWord	Data register
Т	0~511	Word/DWord	Timer
С	0~255	Word/DWord	Counter
Х	0~377	Bit	Input
Y	0~377	Bit	Output
М	0~1535	Bit	Auxiliary relay
S	0~1023	Bit	Auxiliary relay
Т	0~511	Bit	Timer
M8xxx	0~511	Bit	Auxiliary relay
С	0~255	Bit	Counter
S expansion	1024~4095	Bit	Auxiliary relay
M expansion	1536~7679	Bit	Auxiliary relay

2.63 VIGOR VB/VH series PLC

2.63.1 Device type

Series	CPU	Connected module	Port	Cable	PLC model in Touchwin
					software
	VB0-14M	Direct connect to the			
VB	VB0-20M	CDU	RS232	Fig 1	
	VB0-28M	CPU			
	VB0-32M	Connect to the	RS232	Fig 2	Vigor VP
	VB1-14MT-D			rig 2	
	VB1-24MT-D		D \$422	Fig 3	Vigor V B
	VB1-32MTMT-D	extension card	K3422	rig 5	Series
	VB2-16M		DC 495	Eig 4	
	VB2-32M		K5463	Fig 4	
VH	VH -14MR	Direct connect to the CPU	RS232	Fig 1	

2.63.2 Parameters

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1 11/11	•

Parameters	Recommend settings	Choices of settings	Note
PLC type	Vigor VB series PLC		
Port	RS232	RS232/RS485/RS422	
Data bit	7	7 or 8	
Stop bit	1	1 or 2	
Parity	Even parity	Even/odd/no parity	
Baud rate	19200	4800/38400/9600/115200/19200/187500	1
Station no.	0	0~255	

The default parameters of Vigor VB series PLC: 19200, 7, 1, even parity, station no.0

2.63.3 Cable making

(a) CPU RS232 USB-A:



(b) CPU direct connection or RS232 extension card:

HMI 9-pin port

Vigor VB series RS232 extenstion card 9-pin port

2	RXD	 3	TXD
3	TXD	 2	RXD
5	GND	 5	SG

Fig2

(c) CPU direct connection or RS485 extension card:

1. RS422 connection

HMI 9-	pin port	N F F	/igor VB : 85485 ext 85422 5-1	series tension ca wire port	ard
1	TD+		1	RX+	
6	TD-	–	2	RX-	
5	GND		5	SG	
8	RDD-		3	TX-	
9	RDD+		4	TX+	

Fig3

2. RS485 connection

HMI 9-pin port					Vigor VB series RS485 extension card RS485 5-wire port			
4	AI					 1	RX+	
7	BI				┥	 2	RX-	
5	GND					 5	SG	
					[4	TX+	
						 3	TX-	

Fig4

2.63.4 Device address

PLC address	Range	Data type	Explanation	
Х	0~777	Bit	External input coil	
Y	0~777	Bit	External output coil	
М	0~9255	Bit	Internal auxiliary coil	
S	0~999	Bit	Special auxiliary coil	
TSTATUS	0~255	Bit	Status of timer	
CSTATUS	0~255	Bit	Status of counter	
TCOIL	0~255	Bit	Timer coil	
CCOIL	0~255	Bit	Counter coil	

C16	0~199	Word	16-bit counter
C32	200~255	DWord	32-bit counter
D	0~9255	Word/ DWord	Data register
TW	0~255	Word/ DWord	Current timer value
Х	0~777	Word/ DWord	Used as register
Y	0~777	Word/ DWord	Used as register
М	0~9255	Word/ DWord	Used as register
S	0~999	Word/ DWord	Used as register

2.64 VIGOR VS series PLC

2.64.1 Device type

Series	CPU	Connected module	module Port Cable		PLC model in Touchwin software
VS	VS1/2/M/3	Direct connect to CPU	RS232	Fig 1	VIGOR VS series

2.64.2 Parameters

HMI settings

Parameters	Recommend settings	Choices of settings		
PLC type	Vigor VS series			
Port	RS232	RS232/RS485/RS422		
Data bit	8	7 or 8		
Stop bit	1	1 or 2		
Parity	Even parity	Even/odd/no parity		
Baud rate	19200	4800/38400/9600/115200/19200/187500		
Station no.	1	0~255		

PLC settings

文件(F) 编辑(E) 检视(V) 专	窦(P) 工具(T) 日	送机(C) 3	系统设定(S)	窗口(W)	報助
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□ 28 通讯端口设定 2000 元 20000 元 20000 元 2000 元 2000 元 2000 元 2000 元 2000 元 2	应用类型:	MODBUS	5 Slave	`	- I 6
	通讯速率: baud rate	19200		``	2 i
□ HAA页科表情 □ HAIA页科表情	站号: nation n	01		````	ź 🔤
──協 MBUS通讯表格 ●── MBUS0 ●── MBUS0 ●── MBUS0 ●── CPUL通讯表格 ●── CPUL通讯表格	模式 <mark>mode</mark> ④ RTU	○ ASCII			3
● 1000 元件资讯 ● ● 监看 ● ● 二〇 元件监看	数据长度 ○ 7	8			
 ● 监控页 ● 输入模拟盒 ● ① 输出点测试 	同位元 〇 未使用	○ 奇數	• 偶数	t	
	_{停止位元} stop	bit			
	• 1	0 2			
	延迟回应(1ms):	[5		
	MODBUS	諘			

2.64.3 Cable making

(a)CPU RS232 USB-A:



Fig1

(b) CPU direct connection or RS232 extensiion card:

HMI 9-pin port

Vigor VB series RS232 extenstion card 9-pin port

2	RXD	 3	TXD
3	TXD	 2	RXD
5	GND	5	SG

Fig2

(c)CPU direct connection or RS485 extension card:

(1)RS422 connection
V HMI 9-pin port R R			/igor VB series \S485 extension card \S422 5-wire port		
1	TD+		1	RX+	
6	TD-	-	2	RX-	
5	GND		5	SG	
8	RDD-		3	TX-	
9	RDD+		4	TX+	

Fig3

(2)RS485 connection



Fig4

PLC address	Range	Data type	Explanation
Х	0~777	Bit	External input coil
Y	0~777	Bit	External output coil
М	0~9255	Bit	Internal auxiliary coil
S	0~999	Bit	Special auxiliary coil
TSTATUS	0~255	Bit	Status of timer
CSTATUS	0~255	Bit	Status of counter
TCOIL	0~255	Bit	Timer coil
CCOIL	0~255	Bit	Counter coil
М	9000~9511	Bit	Special auxiliary coil
C16	0~199	Word	16-bit counter
C32	200~255	DWord	32-bit counter
D	0~9255	Word/ DWord	Data register
Т	0~511	Word/ DWord	Timer
С	0~199	Word/ DWord	Used as register
R	0~23999	Word/ DWord	Used as register

2.64.4 Device address

2.65 YuDian AI

2.65.1 Device address

Series	Connected module	Port	Cable	PLC model in
				Touchwin software
AI	RS485 on the cpu unit	RS485	Fig 1	AI series instrument

2.65.2 Parameters

HMI settings:

Parameters	Recommend	Choices of settings	Note
	settings		
PLC type	AI series instrument		
Port	RS485	RS485	
Data bit	8	7/8	
Stop bit	1	1/2	
Parity	No parity	Even /odd /no parity	
Baud rate	9600	4800/38400/9600/115200/19200/187500	
Station no.	129		

Note:

1. The parameters of HMI and meter must be the same.

How to set the station no. of meters?
HMI→129 meter→ 1+80H
HMI→130 meter→ 2+80H

2.65.3 Cable making

RS485 connection:

HMI 9-pin D-type female port meter terminal



Fig 1

2.65.4 Device address

Device address	Range	Data type	Explanation
PV	0~100	Read	Measure value
SV	0	Read/write	Set value
MV	0	Read	Output value
Flow meter MV	0	Read	Output value of flow meter
S	0/1	Read	Status bit

2.66 CODESYS PLC

2.66.1 Device type

Series	Connected module	Port	Cable	PLC model in		
				Touchwin software		
VC2	DS222 on the CDU Unit	DC/05/222	Fig1 or	MODBUS RTU/TCP		
A33	KS252 on the CPU Unit	K5485/252	fig 2	(Panel is Master)		

2.66.2 Parameters

1.MODBUS RTU

HMI settings:

Parameters	Recommend	Choices of settings	Note
	settings		
PLC type	Modbus RTU		
Port	RS485/232		
Data bit	8		
Stop bit	1		
Parity	Even parity		
Baud rate	9600	9600/19200	
Station no.	1	1~255	

XS3 series PLC settings:

Devices	• • ×	Modbus_COM X I PLC_PR	S 🛐 Device 💮	Modbus_Serial_Device	Persistentrian
Oriotest Oriotest Oriotest Oriote(ISS-26T4) Oriote(×	PCI-Bus IEC Objects General SerielPort Parameters Status Information	Serial Port Configuration COM port Baud rate Penty Data bits Stop bits	14 (\$ 16200 EVEN 8 1	× ×
Medbus_COM (Hedbus COM) Modbus_Serial_Device (M SoftHoton General Avis Pool Local High Speed IO Local High Pulse Local Extend Module	odbus Senai De				

Define variables





Note: pay attention to the starting address range of the variable.

2.MODBUS TCP

HMI setting:

Series	Port	Cable	PLC model in Touchwin software
XS3	RJ45	Fig 3	MODBUS TCP

Para	Interactive	Panel	Device	Project	Clock	Font			
Devi	ce COM Device PLC Port		Auto IP Ad L ocal IP Ad	dress dress —					
• • •	Met Device	Port	IP A	ddress	192	168	. 6		20
			Sub Gati	net Mask eway	192	168	. 255	•	1
			Por	t					502
	xinje XD/XG serials						mu		
	Modbus T Modbus R Thinget XI Siemens S Siemens S Siemens S Siemens S Mitsubishi	CP TU Over Vet Serie 7-1200 S 7-1200/ 7-200 Sr 7-200 Sr Melsec S	TCP(Pan s Series 1500 new nart Serie nart new Series(1E)	el is Mast Series s Series	er,start a	ddress	; is 0)		,
	IP 1	192 . 16	6 . 8	. 6	Port		5()2	
	Protocol TCF	0	Ou	DP	<mark>□ W</mark> o	rd excł	hange		

PLC settings:

Create a new Modbus TCP device, and set the corresponding IP and the number of variable addresses.



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Jones Dansel Secure Secure	Central Contracts Nuclear Officer Service (CO Nuclear Service) (CO Nuclear Officer Service (CO Nuclear Service) (C	nfyzet framenie Nachod <u>Nav i</u> jeni Nachod <u>Nav i</u> jeni Nav i j	

Assign the edited variable to the corresponding address, and then log in to communicate. Note: in the touch screen project, the station number of Ethernet device must be 0.

2.66.3 Cable making

(a)RS485



Fig1

(b)RS232



Fig2

(c)RJ45 straight through cable (connect HUB) or RJ45 crossover cable:

Pin no.	Color	Pin no.	Color
1	White orange	1	White orange
2	orange	2	orange
3	White green	3	White green
4	blue	4	blue
5	White blue	5	White blue
6	Green	 6	Green
7	White brown	7	White brown
8	Brown	8	Brown

Pin no.	Color		Pin no.	Color
1	White orange		1	White green
2	orange		2	Green
3	White green		3	White orange
4	blue		4	blue
5	White blue		5	White blue
6	Green	·	6	orange
7	White brown		7	White brown
8	Brown		8	Brown

Fig 3



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