

RB系列适配器

用户手册

德克威尔 · 工业智造可靠伙伴



网址: www.wellinkio.com

邮箱: sales@wellinkio.com

地址: 南京市浦口区兰新路19号瑞创智造园13号楼

preface

■ Information introduction

Thank you for buying DECOWELL RB series card I/O module!

RB series card type I/O, the module is a distributed expansion module developed by DECOWELL. The series of modules consists of adapters, I / O modules, Composition of power supply module and terminal module. Adapter can support a variety of communication buses, such as PROFINET, EtherCAT, CC-Link, Modbus TCP, et al. The I / O module can be divided into digital input module, digital output module, analog input module, analog output module and functional module, which users can match according to the actual application.

The RB-1100 is a EtherCAT bus adapter with up to 32 input-output modules per adapter.

This manual mainly describes the specifications, characteristics and use methods of the module, please read it carefully before use, so as to use the product more clearly and safely.

CONTENTS

preface.....	2
Safety precautions.....	6
1. Product information.....	8
1.1 Product naming and nameplate.....	8
1.2 Part description.....	9
1.3 Technical specifications.....	13
1.4 Environmental specifications.....	13
2. Mechanical installation.....	15
2.1 Installation dimensions.....	15
2.2 Installation method.....	15
3. Electrical installation.....	18
3.1 Cable type selection.....	18
3.2 Terminal wiring.....	19
4. Module use.....	21
5. Adapter configuration cases.....	28
5.1 TwinCAT 2 connection with RB-1100 and its configuration.....	28
5.1.1, communication and connection diagram.....	28

5.1.2 Hardware configuration.....	28
5.1.3 Install the XML files.....	29
5.1.4 New engineering and equipment configuration.....	29
5.1.5 IO monitoring and forced output.....	31
5.1.6 Variable associations.....	32
5.2 TwinCAT 3 connection with RB-1100 and its configuration.....	33
5.2.1, Communication and connection diagram.....	33
5.2.2 Hardware Configuration.....	33
5.2.3 Install the XML files.....	33
5.2.4 New engineering and equipment configuration.....	34
5.2.6 IO monitoring and forced output.....	36
5.3 Sysmac Studio connection with RB-1100 and its configuration.....	38
5.3.1, communication and connection diagram.....	38
5.3.2 Hardware configuration.....	38
5.3.3 Install the XML files.....	38
5.3.4 New engineering and equipment configuration	40

5.4 CODESYS is connected with RB-1100 and its configuration.....	44
5.4.1, communication and connection diagram.....	44
5.4.2 Hardware Configuration.....	44
5.4.3 Install the XML files.....	44
5.4.4 New engineering and equipment configuration.....	45
5.4.5 The program download and equipment monitoring.....	48
5. Appendix.....	50

Safety precautions

■ Security statement

01. Please read and observe the safety precautions when installing, operating and maintaining the products.
02. To ensure the safety of people and equipment, when installing, operating and maintaining the product, please follow the identification on the product and all safety precautions noted in the manual.
03. The "prompt", "attention", "warning", "and" dangerous " items in the manual do not represent all safety matters to be followed and are only complementary to all safety precautions.
04. The product shall be used in the environment that meets the requirements of the design specifications, otherwise it may cause failure, and the functional abnormality or component damage caused by the failure to follow the relevant regulations are not within the scope of product quality assurance.
05. DECOWELL shall not bear any legal liability for personal safety accidents and property losses caused by illegal operation of products.

■ Security level definition

 point out

The mark indicates "the necessary supplement or description of the operation".

 note

This marks "Hazard from not operating as required causes mild or moderate injury and equipment damage".

 warn

The mark indicates "a risk of failure to operate as required".

■ Control system design warning

01. Please design safety circuits to ensure that the control system can still work safely when the external power supply fails or the expansion module fails;

02. When the output circuit causes a long time overcurrent due to exceeding the rated load current or load short circuit, the module may smoke or catch fire, so safety devices such as fuse or circuit breaker should be installed externally.

■ Pay attention to the design of the control system

01. Be sure to set up an emergency braking circuit, a protection circuit, an interlock circuit for forward and reverse operation, and an upper and lower interlock switch to prevent damage to the machine in the external circuit of the expansion module;

02. In order to ensure the safe operation of the equipment, please design external protection circuits and safety mechanisms for the output signals related to major accidents;

03. When the output unit of the expansion module, such as relays and transistors, is damaged, the output of the extension module cannot be controlled to ON or OFF.

04. The expansion module is designed to be used in the indoor, overvoltage level II electrical environment, and its power system level should have lightning protection devices to ensure that the lightning overvoltage is not applied to the power input or signal input of the expansion module, control output and other ports to avoid damage to the equipment.

05. Be sure to set up an emergency braking circuit, a protection circuit, an interlock circuit for forward and reverse operation, and an interlock switch for the upper and lower limits of the position to prevent damage to the machine in the external circuit of the expansion module;

06. In order to ensure the safe operation of the equipment, please design external protection circuits and safety mechanisms for the output signals related to major accidents;

07. When the output unit of the expansion module, such as relays and transistors, is damaged, the output of the expansion module cannot be controlled to ON or OFF.

08. The expansion module is designed to be used in the indoor, overvoltage level II electrical environment, and its power supply system level should have a lightning protection device to ensure that the lightning overvoltage is not applied to the power input or signal input terminal, control output terminal and other ports of the expansion module to avoid damage to the equipment.

1. Product information

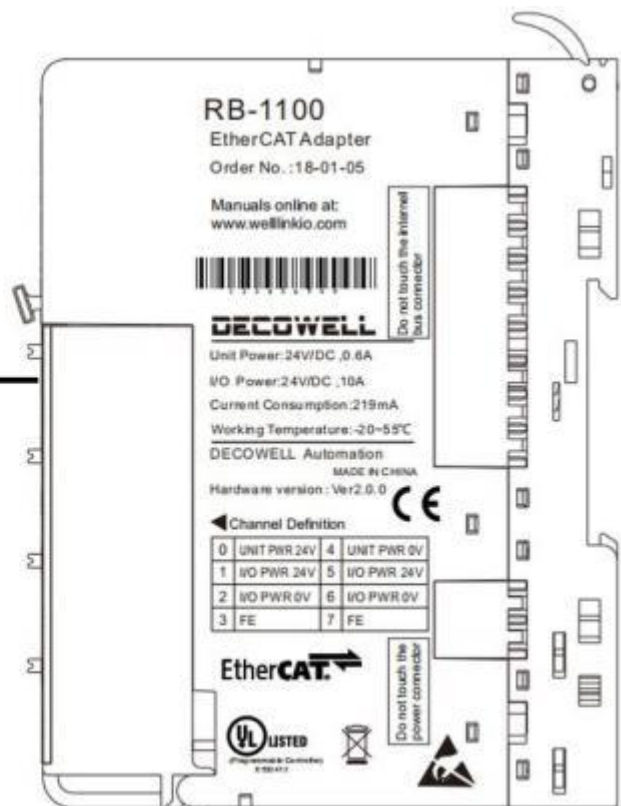
1.1 Product naming and nameplate

RB -1100

①

②

order number	name	Explain the definition
①	RB series	Card-type IO
②	bus adapter	EtherCAT Bus adapter



1.2 Part description

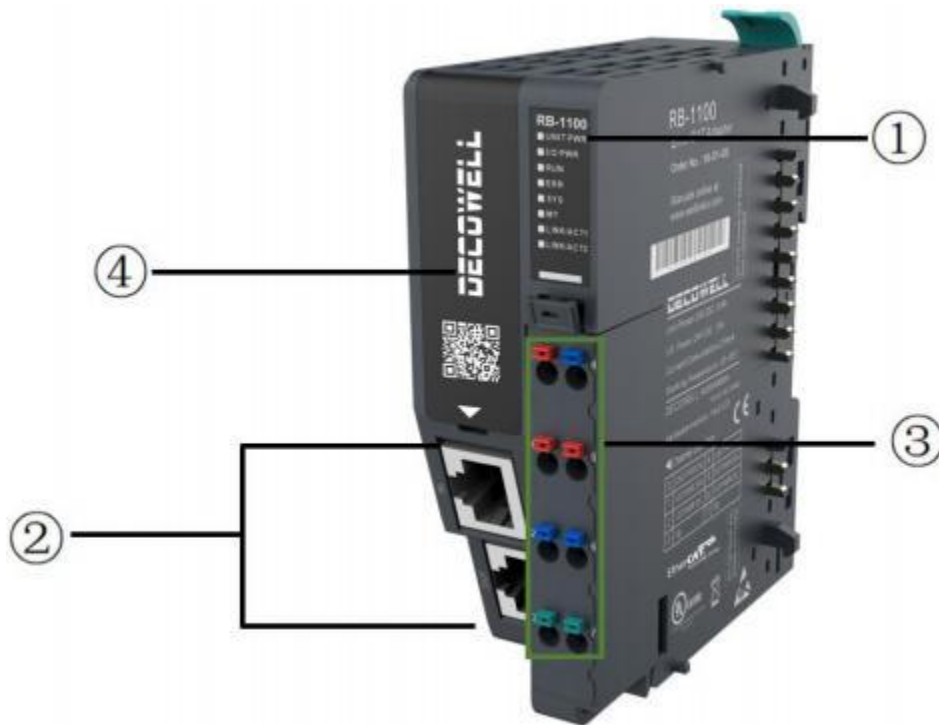


Figure 1-2-1 Schematic diagram of the part description

Part description table

serial number	name	Functional definitions			
1	Status indicator	SYS	System Indicator (Green)	1Hz frequency blinking (green)	Communication is normal
				5Hz frequency blinking (green)	The IO slave is lost
				Flashing and extinguishing	The station number assignment of the I/O module fails
				Two short flashes and one long extinguished	The I/O module configuration failed

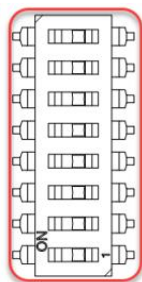
		UNIT PWR	System power indication Lights (red/green)	Bright (green)	The system power supply is normal
				extinguish	Not energized
				Bright (red)	The system power supply is faulty or the power supply is overloaded
		IO PWR	IO power indicator (Red/Green)	Bright (green)	The I/O power supply is normal
				Bright (red)	The IO power supply is not connected or faulty
		MT	Maintenance Indicator (Blue)	extinguish	Works fine
				bright	The reset key press was detected
				Flash mob	Module upgrades
		RUN	Running indicator (Green)	bright	The device is inOPERATIONAL
				flashing	The device is inPREOPERATIONAL
				Single flash	The device is inSAFEOPERATIONAL
				extinguish	The device is in the INIT state
		ERR	System Fault Indicator (Red)	bright	A critical communication or program controller error has occurred
				Flashes twice	Application watchdog timed out
				Flash once	Due to a local error, the EtherCAT status is automatically changed by the slave device application
				flashing	General misconfiguration

				extinguish	The device's EtherCAT is in working condition
		LINK/A CT1	Ethernet port IN indicator (green)	Flashing (green)	Data is being received
				Off (Green)	Communication is abnormal or data stops
		LINK/A CT2	LAN port OUT indicator (green)	Flashing (green)	Data is being received
				Off (Green)	The network is not connected or abnormal
2	Communication interfaces	EtherCAT communication input and output ports (distinguish IN/OUT): The IN port is connected by the front-end controller or the slave OUT port, and the OUT port can be connected to the slave station of the subsequent stage			

3 Power supply channel definition

0	24V	Adapter Power +	4	0V	Adapter Power Supply-
1	24V	I0 source +	5	24V	I0 source +
2	0V	I0 source-	6	0V	I0 source-
3	PE	Functional grounding	7	PE	Functional grounding

4. The module dial code definition



The node address can be set through the DIP switch (only valid in Omron PLC configuration), and it can be configured to different node addresses according to different DIP pin combinations, and the DIP setting node address supports 0-192 (two EtherCAT slaves with the same node address cannot appear in the same network).

DIP switch pin number (NO: 1/OFF: 0)								DIP value	Node address
1	2	3	4	5	6	7	8		
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1	1
0	1	0	0	0	0	0	0	2	2
.
0	1	0	1	0	0	0	0	10	10
0	0	0	0	0	0	1	1	192	192

1.3 Technical Specifications:

Basic parameters	
Dimensions	100×77×34mm
Ingress protection	IP20
Wiring specifications	0.2~1.5mm ²
Wiring	Screw-free
weight	140g
Power supply parameters	
Power input on the system side	DC24V (18~36)
Current is provided on the system side	2A (Max)
Power input on the IO port side	DC24V (±20%)
The output current on the IO port side	10A (Max)
Galvanic isolation on the system side	AC500V
Power protection	Over-current protection, over-voltage protection, anti-reverse polarity protection
Software parameters	
Communication protocols	EtherCAT
Address settings	According to the main station
Expand the number of I/O	32
Input/output maximum bytes	Input: 1024 Byte/Output: 1024 Byte
Communication rate	100Mbps
Transmission distance	100m (distance from station)

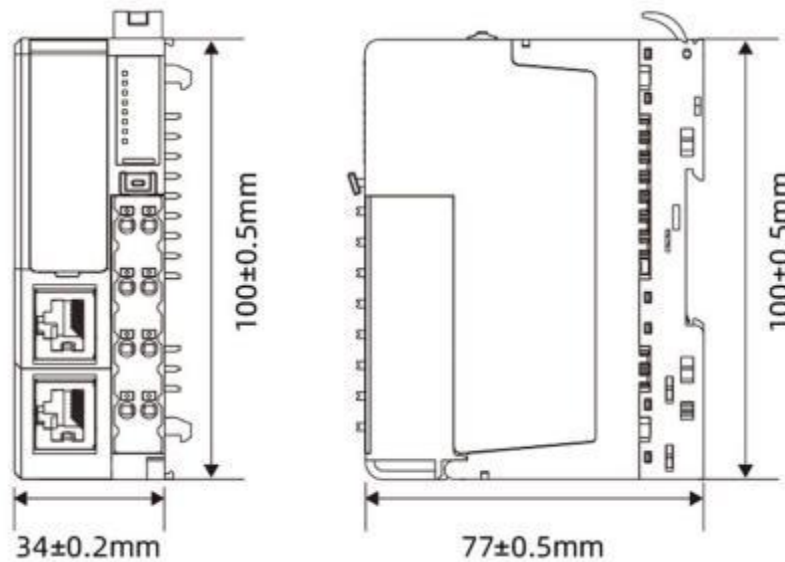
1.4 Environmental Specifications

Environmental parameters	
Operating temperature	-20~55°C
Operating humidity	95% non-condensing
atmosphere	≥ 795 hPa (altitude ≤ 2000 m) as per IEC 61131-2
Storage temperature	-40~+70°C
Overvoltage category	I

2. Mechanical installation

2.1 Installation dimensions

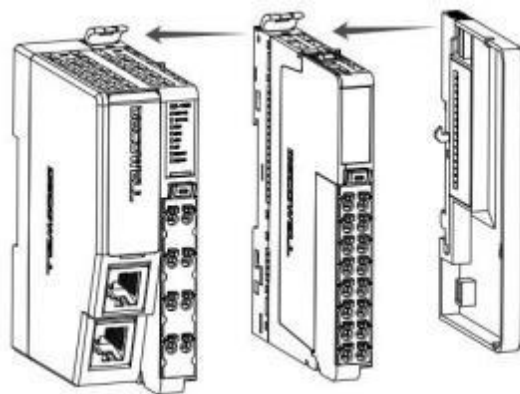
Installation size information is shown in the following figure in (mm).



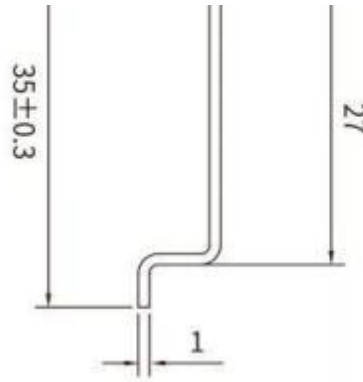
2.2 Installation method

2.2.1, installation between modules

Intermodule assembly is installed by locking the control lever at the top of the module, as shown in the following figure



The module shall be installed with DIN guide rail, and the DIN guide rail shall meet the IEC 60715 standard (35mm width, 1mm thick) with dimension information



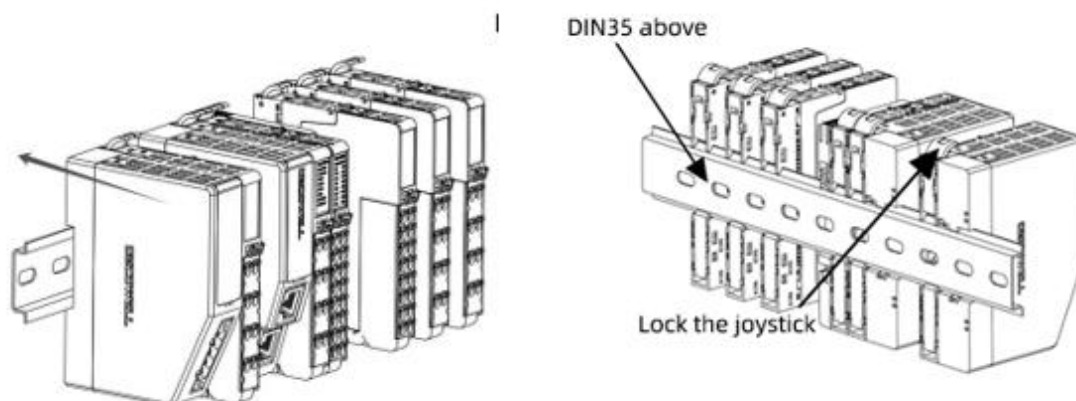
Note: When the module is installed on the nonrecommended DIN35 guide, the DIN guide lock may not be locked normally. Before installing the module, open the lock release lever at the top of the module before proceeding to the next installation.

 Caution

- When this product is installed on the unrecommended DIN rail (especially the DIN rail thickness of 1.0mm), the DIN rail lock will fail and the product cannot be installed in place, thus causing the product to work normally.

2.2.2, and installation on the guide rail

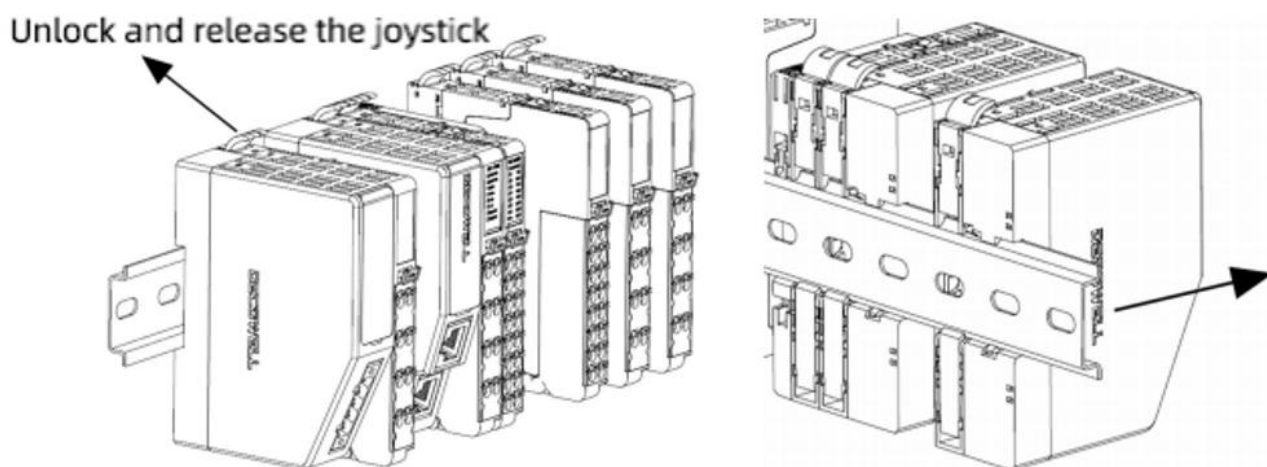
When installing, align the module with the DIN 35 guide rail and press the module in the direction shown by the arrow, as shown in the figure below.



Note: After the installation of the module is completed, press the lock and control lever down to fix the module on the guide rail to ensure that the installation is in place.

dismantle:

Pull the lock lever up and pull the module away from the DIN 35 guide.



3. Electrical installation

3.1 Cable type selection

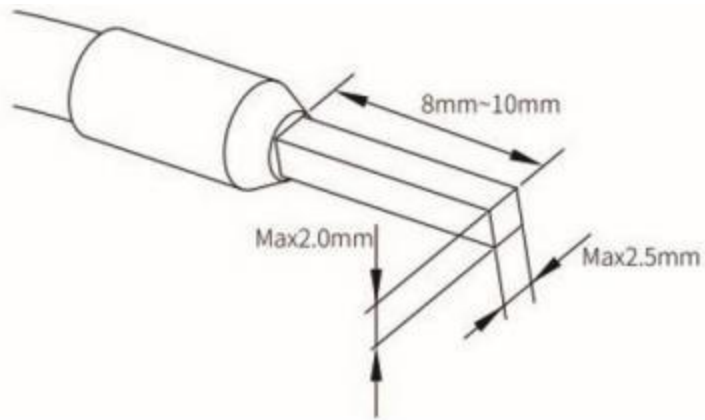
EtherCAT Bus communication adopts shielded network cable for network data transmission, without short circuit, dislocation and bad contact phenomenon; the length of cable between equipment shall not exceed 100m, which will be signal attenuation and affect normal communication. The following specification network cables are recommended:

name	function definition
Cable type	Elastic crossover cable, S-FTP, Class 5 line
Meet the standard	EIA/TIA568A, EN50173, ISO/IEC11801 EIA/TI Abulletin TSB, EIA/TIA SB40-A&TSB36
conductor cross-section	AWG26
Type of wire	twisted-pair
line pair	4

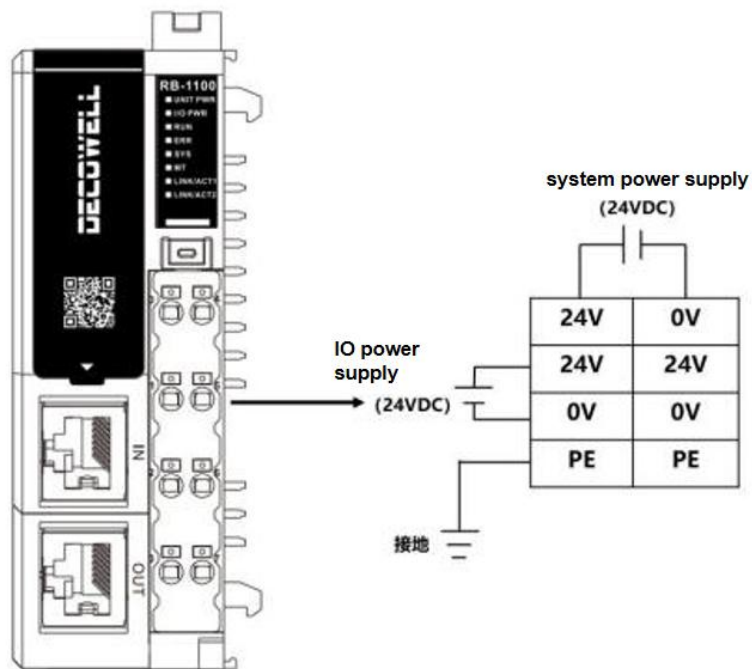
The ear diameter of the middle line below the power supply related cable is only for reference, and can be reasonably calculated according to the actual use and adjusted separately

name	Adaptation line diameter	
	National standard / mm ²	American-Standard /AWG
Pipe line ear	0.75	18
	1.0	18
	1.5	16

The shape and size requirements of riveting terminals are shown in the following figure:



3.2 Terminal wiring



! pay attention to

- The ground terminal of the adapter module must be directly grounded to prevent interference with the I/O module signal.

●RB series adapter power supply is divided into system power supply and I/O power supply. To avoid interference to the system, it is recommended to connect two sets of power cables from the same DC24V power module to the adapter system power supply and I/O power supply respectively.

4. Module use

4.1 Reset and upgrade functions



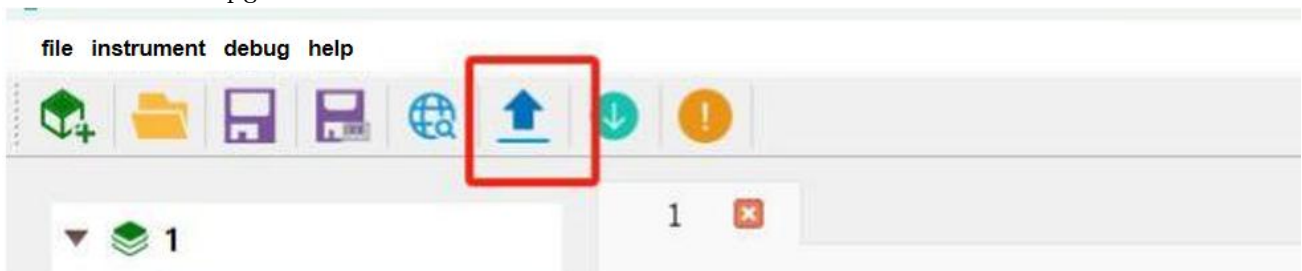
After pressing and holding the Reset button for 5s, release the button to restore the device to factory settings, and reboot it

4.1.2 Upgrade function

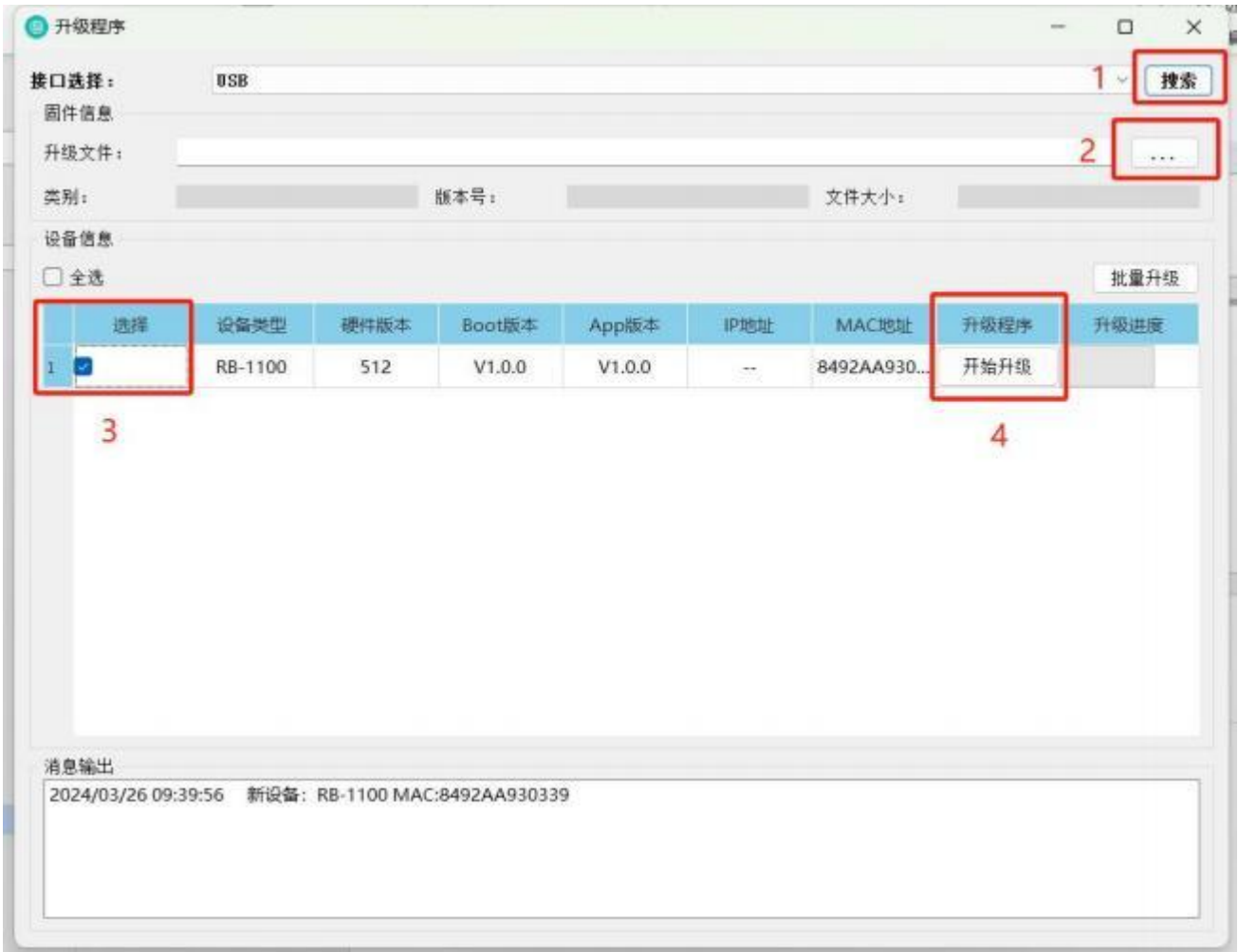
Connect the computer to the adapter type-c port



Click Online Upgrade in IO TesterTool



Click Search, select the corresponding upgrade file after searching the module, and click check the module to start upgrading



4.2 Object dictionary

(1) The PDO process data of the adapter

index	Child Indexes	name	data type	Access type	remark
F100h	1	Errorbit 0	BOOL	R0	retain
	2	Station pending	BOOL	R0	The module is unplugged
	3	Errorbit 2	BOOL	R0	retain

	4	Errorbit 3	BOOL	RO	retain	
	5	Errorbit 4	BOOL	RO	retain	
	6	Errorbit 5	BOOL	RO	retain	
	7	I/O-Configuration error	BOOL	RO	The I/O module is misconfigured	
	8	Errorbit 7	BOOL	RO	retain	
	9	Errorbit 8	BOOL	RO	retain	
	10	Errorbit 9	BOOL	RO	retain	
	11	Errorbit 10	BOOL	RO	retain	
	12	Errorbit 11	BOOL	RO	retain	
	13	Errorbit 12	BOOL	RO	retain	
	14	Errorbit 13	BOOL	RO	retain	
	15	Errorbit 14	BOOL	RO	retain	
	16	Errorbit 15	BOOL	RO	retain	
	17	Slot Active Status[00..07]	BITARR8	RO	The connection status of the I/O module in slots 0-7	
	18	Slot Active Status[08..15]	BITARR8	RO	8-15 slot I/O module connection status	
	19	Slot Active Status[16..23]	BITARR8	RO	16-23 Slot I/O module connection status	
	20	Slot Active Status[24..31]	BITARR8	RO	24-31 slot I/O module connection status	
	F200h	1	Controlbit 0	BOOL	RW	retain
		2	Controlbit 1	BOOL	RW	retain
		3	Controlbit 2	BOOL	RW	retain
4		Controlbit 3	BOOL	RW	retain	
5		Controlbit 4	BOOL	RW	retain	
6		Controlbit 5	BOOL	RW	retain	
7		Controlbit 6	BOOL	RW	retain	
8		Controlbit 7	BOOL	RW	retain	
9		Controlbit 8	BOOL	RW	retain	
10		Controlbit 9	BOOL	RW	retain	
11		Controlbit 10	BOOL	RW	retain	
12		Controlbit 11	BOOL	RW	retain	
13		Controlbit 12	BOOL	RW	retain	
14		Controlbit 13	BOOL	RW	retain	
15		Controlbit 14	BOOL	RW	retain	
16		Controlbit 15	BOOL	RW	retain	

(2) Adapter configuration parameters

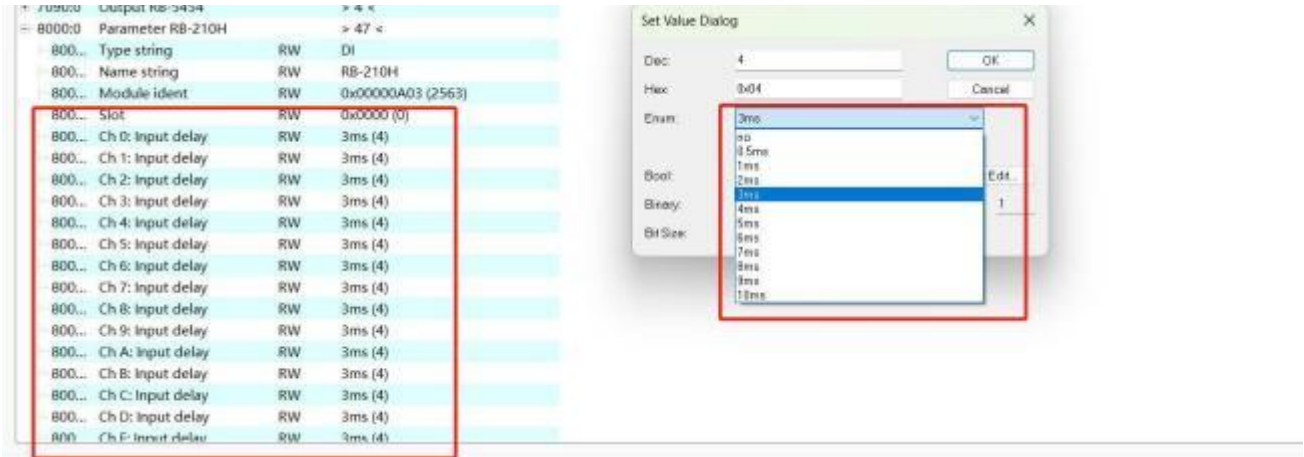
index	Child Indexes	name	value	illustrate
F800h	1	Behaviour of outputs on field bus error	All outputs off	The output is OFF
			Enable substitute value	Outputs with substitution values
			Hold last value	Maintain the last output state of the program
	2	Module behaviour on hot swap	Continue data exchange	Continue interacting
			Behaviour as with fieldbus error	Consistent with bus anomalous behavior
	3	Save module parameters	0	The parameters take effect immediately, and the power is lost
			1	It takes effect after the power is off and restarted
			2	The default values of the I/O module parameters are restored
	4	Restore module parameters	0	Default value
			1	The module parameters are saved
	5	Factory settings	0	Default value
1			Factory reset, module user parameters cleared	

Bus Abnormal Behavior: The adapter supports three types of bus abnormal behaviors: Clear Zero, Replace Value, and Hold Last Value. This function is set via the object dictionary F800:01 Behaviour of outputs on field bus error.

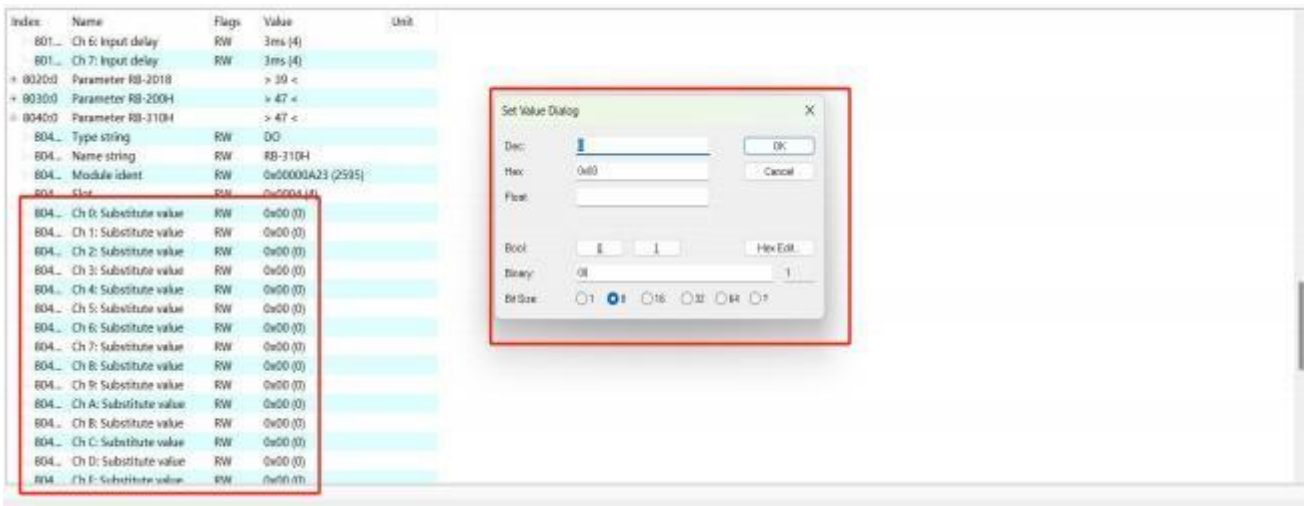
Hot-swap behavior: The adapter supports two types of hot-swap behaviors, namely continuous data interaction and same-bus abnormal behavior. This function is set via the object dictionary F800:02 Module behaviour on hot swap. If this parameter is set to Continue data exchange, other I/O modules will continue to interact with data when they are hot-swapped. If this parameter is set to Behaviour as with fieldbus error, when the I/O module is hot-swapped, the other I/O modules will be executed according to the parameters set by the bus abnormal behavior.

(3) I/O module configuration parameters (the configuration information is in the 80X0 object dictionary)

The DI module supports filter configuration, the configuration range is 0.5~10ms, and the default is 3ms.



The DO module supports single-channel substitution value configuration



AI configuration parameter

General EtherCAT DC Process Data Plc Slots Startup CoE - Online Diag History Online

Update List Auto Update Single Update Show Offline Data

Advanced...

Add to Startup... Online Data Module OD (AoE Port): 0

Index	Name	Flags	Value	Unit
804...	Ch C: Substitute value	RW	0x00 (0)	
804...	Ch D: Substitute value	RW	0x00 (0)	
804...	Ch E: Substitute value	RW	0x00 (0)	
804...	Ch F: Substitute value	RW	0x00 (0)	
* 8050:0	Parameter RB-3018		> 39 <	
* 8060:0	Parameter RB-3118		> 39 <	
* 8070:0	Parameter RB-300H		> 47 <	
8080:0	Parameter RB-4054		> 40 <	
808...	Type string	RW	AI	
808...	Name string	RW	RB-4054	
808...	Module ident	RW	0x00000A40 (2624)	
808...	Slot	RW	0x0008 (8)	
808...	Data format	RW	S7 Data format (0)	
808...	Ch 0: Measurement range	RW	0~10V (3)	
808...	Ch 0: Filter level	RW	Filter level 1 (1)	
808...	Ch 1: Measurement range	RW	0~10V (3)	
808...	Ch 1: Filter level	RW	Filter level 1 (1)	
808...	Ch 2: Measurement range	RW	0~10V (3)	
808...	Ch 2: Filter level	RW	Filter level 1 (1)	
808...	Ch 3: Measurement range	RW	0~10V (3)	
808...	Ch 3: Filter level	RW	Filter level 1 (1)	

data format

range ability

filter rating

A0 configuration parameter

General EtherCAT DC Process Data Plc Slots Startup CoE - Online Diag History Online

Update List Auto Update Single Update Show Offline Data

Advanced...

Add to Startup... Module OD (AoE Port): 0

Index	Name	Flags	Value	Unit
808...	Ch 1: Measurement range	RW	0~10V (3)	
808...	Ch 1: Filter level	RW	Filter level 1 (1)	
808...	Ch 2: Measurement range	RW	0~10V (3)	
808...	Ch 2: Filter level	RW	Filter level 1 (1)	
808...	Ch 3: Measurement range	RW	0~10V (3)	
808...	Ch 3: Filter level	RW	Filter level 1 (1)	
8090:0	Parameter RB-5454		> 40 <	
809...	Type string	RW	AO	
809...	Name string	RW	RB-5454	
809...	Module ident	RW	0x00000A61 (2657)	
809...	Slot	RW	0x0009 (9)	
809...	Data format	RW	S7 Data format (0)	
809...	Ch 0: Measurement range	RW	4~20mA (1)	
809...	Ch 0: Substitute value	RW	0	
809...	Ch 1: Measurement range	RW	4~20mA (1)	
809...	Ch 1: Substitute value	RW	0	
809...	Ch 2: Measurement range	RW	4~20mA (1)	
809...	Ch 2: Substitute value	RW	0	
809...	Ch 3: Measurement range	RW	4~20mA (1)	
809...	Ch 3: Substitute value	RW	0	

data format

Substitute value

output range

After the I/O configuration is modified, you can save the Save module parameters parameter in the F800 object dictionary or take effect immediately.

5. Adapter configuration cases

5.1 TwinCAT 2 connection with RB-1100 and its configuration

5.1.1, communication and connection diagram



Figure 5-1-1, Communication connection diagram

5.1.2 Hardware configuration

Hardware configuration table

hardware	quantity	remarks
Programming computer	1	Install the TwinCAT 2
RB-1100	1	EtherCAT Adapter
RB-210H	1	Digital quantity input module
RB-3108	1	Digital quantity output module
RB-4054	1	Analog quantity input module
RB-5054	1	Analog quantity output module
parvicostellae	Several	

5.1.3 Install the XML files

Install the XML description file into the TwinCAT2, as shown in Figure 5-1-2. (TwinCAT2 Default path:

C:\TwinCAT\Io\EtherCAT) 。

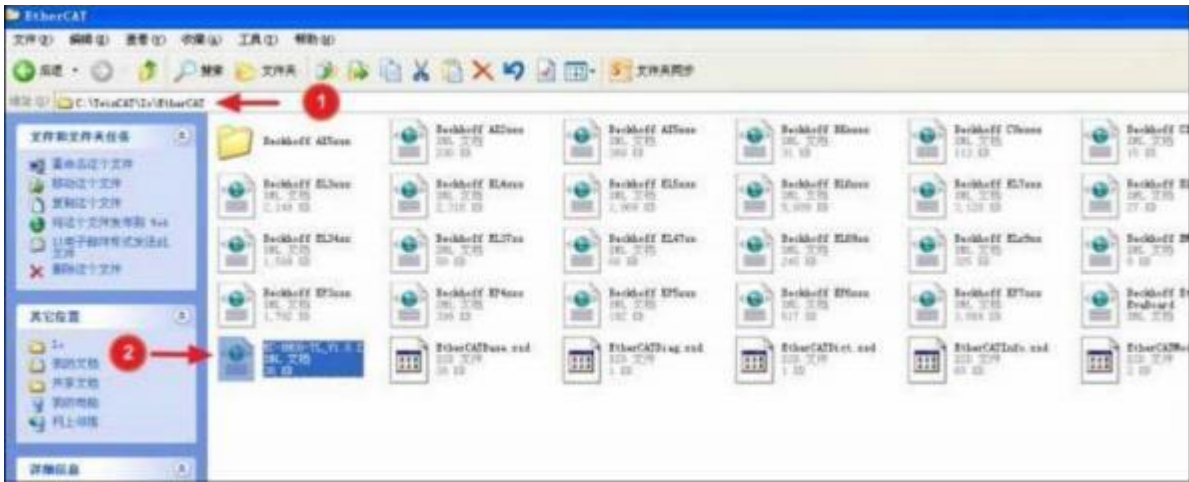


Figure 5-1-2 Install the XML file

5.1.4 New engineering and equipment configuration

Click the TwinCAT icon in the lower right corner of the computer, select "System Manager", and open the TwinCAT software, as shown in Figure 5-1-3.



Figure 5-1-3 Starting the TwinCAT software

After starting the TwinCAT software, select "I / O Devices" on the left side of the project, right-click and select "Scan Devices", as shown in Figure 5-1-4.

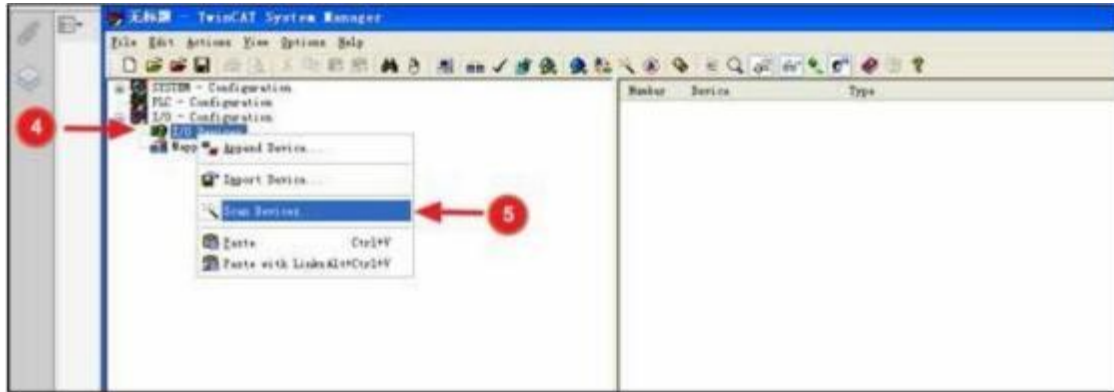


Figure 5-1-4 Select "Scan Devices"

Select the connection to EtherCAT I / O in the new I / O devices found window, as shown in Figure 5-1-5 As shown.

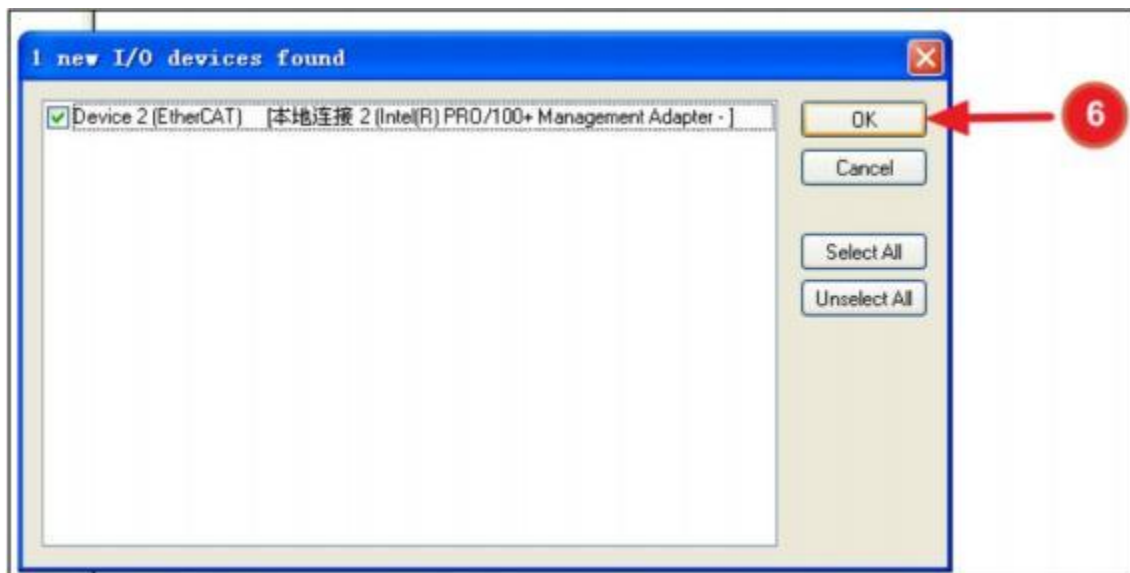


Figure 5-1-5 Select the network card

Select "Yes" in the prompt window "Scan for boxes", when the adapter RB-1100 and the later mounted I / O module are scanned, as shown in Figure 5-1-6.

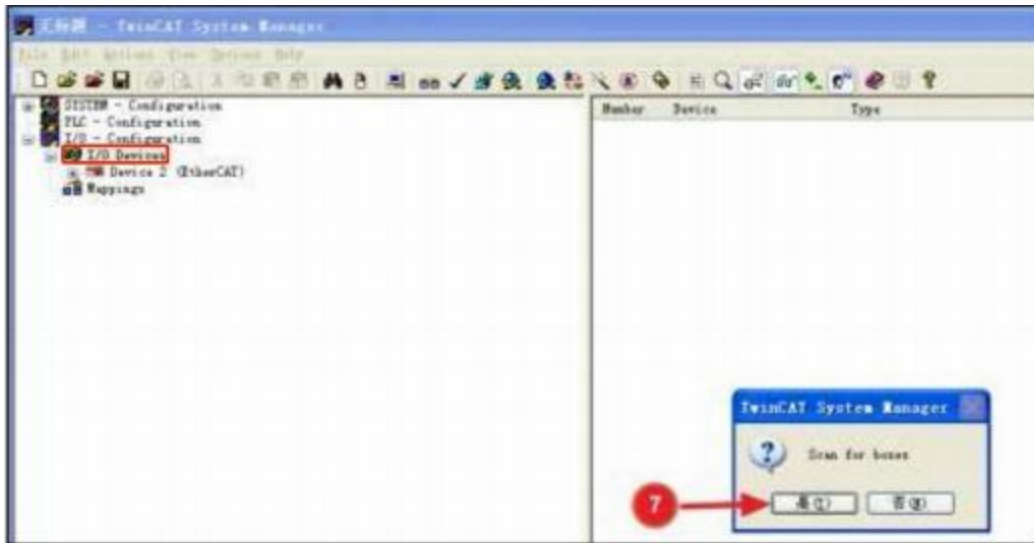


Figure 5-1-6 scans the I / O module

5.1.5 IO monitoring and forced output

Select Box1 (RB-1100) > Module2 (RB-310H) > Channels Date on the left side of the project, double click "Channel 1" pop-up window "Set Value Dialog", and fill in the mandatory value of "1", as shown in Figure 5-1-7.

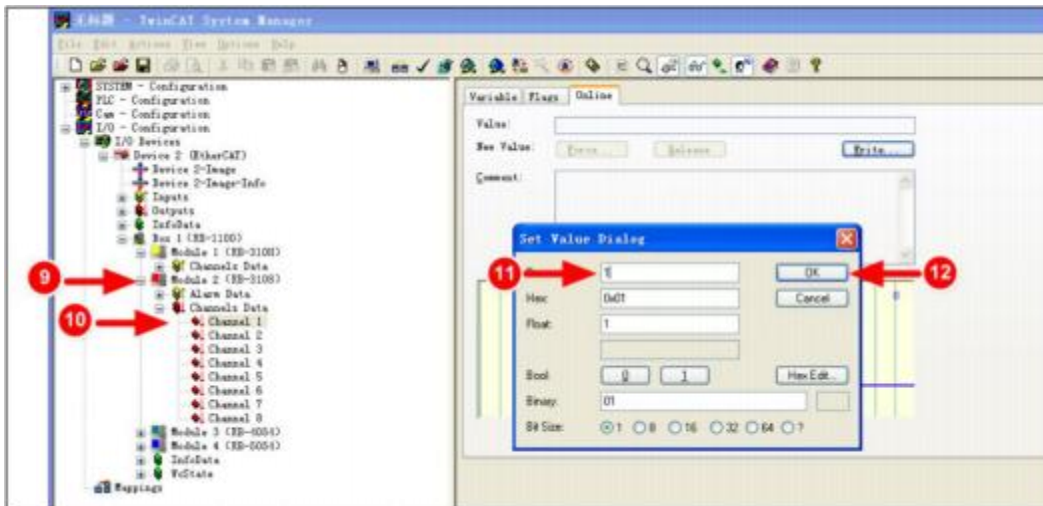


Figure 5-1-7, forced write values

5.1.6 Variable associations

Right-click "PLC-Configuration" on the left side of the project, select Add PLC Project to associate the defined input and output variables to the corresponding I / O channel, as shown in Figure 5-1-8.

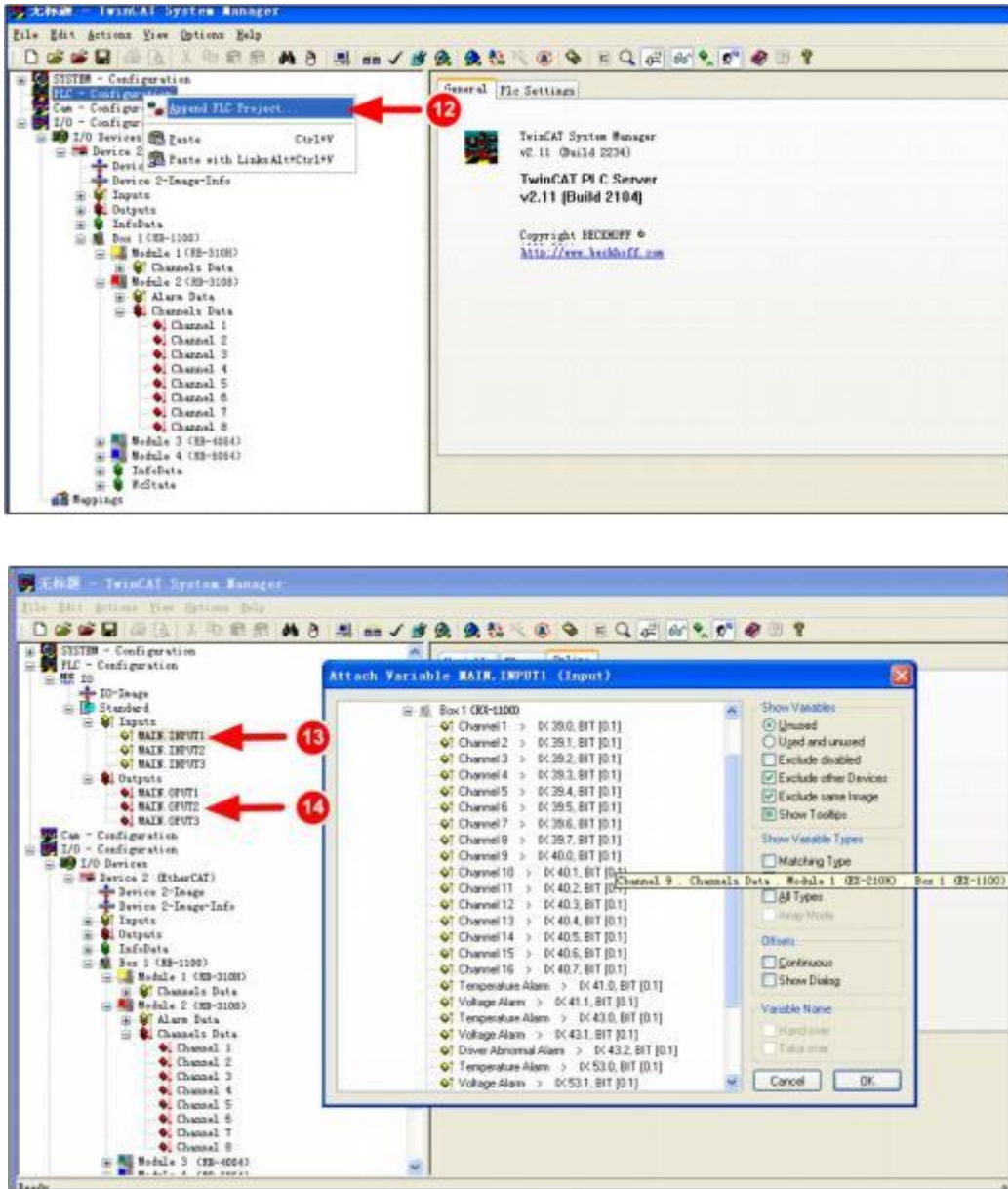


Figure 5-1-8 Variable associations

5.2 TwinCAT 3 connection with RB-1100 and its configuration

5.2.1, Communication and connection diagram

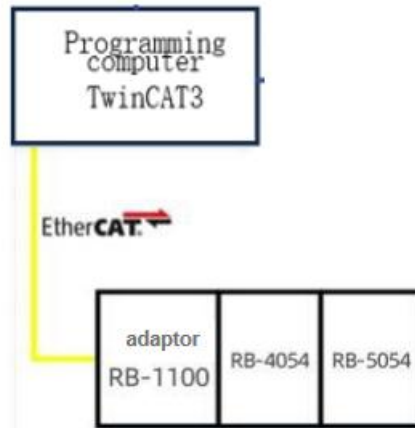


Figure 5-2-1, Communication connection diagram

5.2.2 Hardware Configuration

Hardware configuration table

hardware	quantity	remarks
Programming computer	1	Install the TwinCAT 3
RB-1100	1	EtherCAT Adapter
RB-4054	1	Analog quantity input module
RB-5054	1	Analog quantity output module
parvicostellae	Several	

5.2.3 Install the XML files

Install the XML description file into the TwinCAT3, as shown in Figure 5-2-2. The example default folder is (C: \ TwinCAT \ 3.1 \ Config \ Io \ EtherCAT)

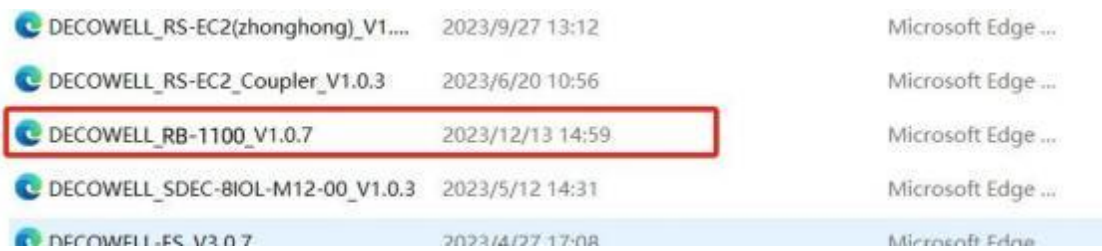


Figure 5-2-2 Install the XML file

5.2.4 New engineering and equipment configuration

Open the TwinCAT3 software, select the "File" in the menu bar > New > Project, as shown in Figure 5-2-3, in the newSelect "TwinCAT projects" in the project window, as shown in Figure 5-2-4.

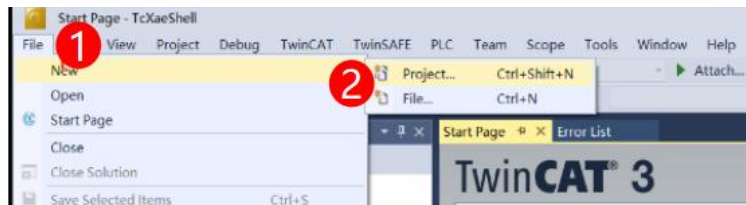


Figure 5-2-4 New construction projects

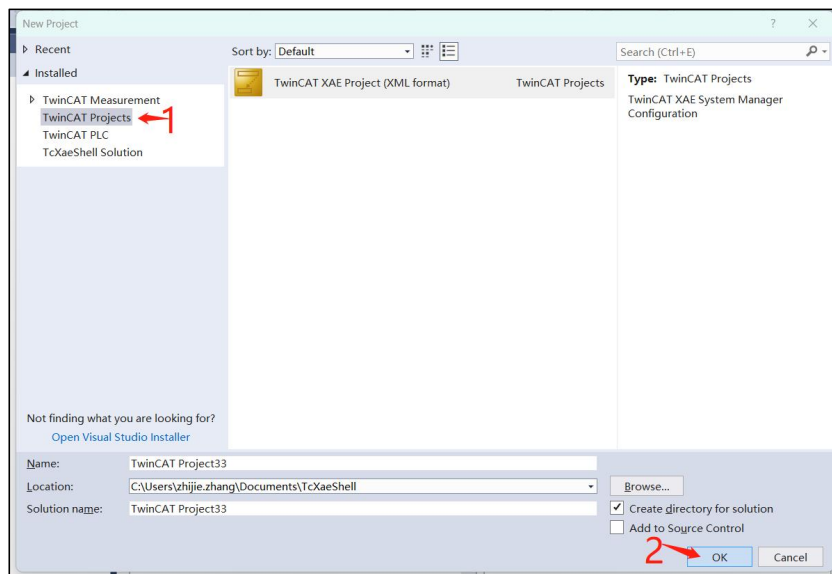


Figure 5-2-5 Select the TwinCAT Project

Scan the I/O connected to the programming computer into the project, click "I/O" > "Devices" > "Scan" in the project tree, as shown in Figure 5-2-6, and the scanned hardware configuration is shown in Figure 5-2-7.

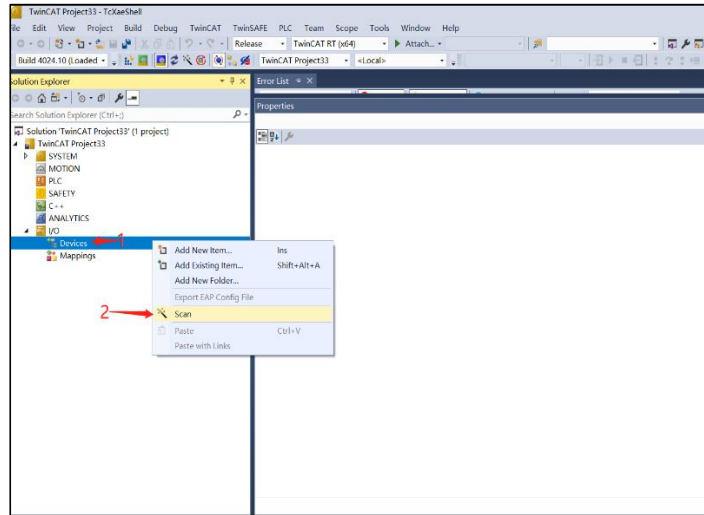


Figure 5-2-6 Add the I/O module



Figure 5-2-7 Hardware configuration

5.2.6 IO monitoring and forced output

Select I / O> Devices> Device3 (EtherCAT)> Box1 (RB-1100)> Module2 (RB-5054)> Channels Data, double-click Channel 0, and select "Online"> "Write", the forced write value is 1000, as shown in Figure 5-2-8, and the monitoring results are shown in Figure 5-2-9.

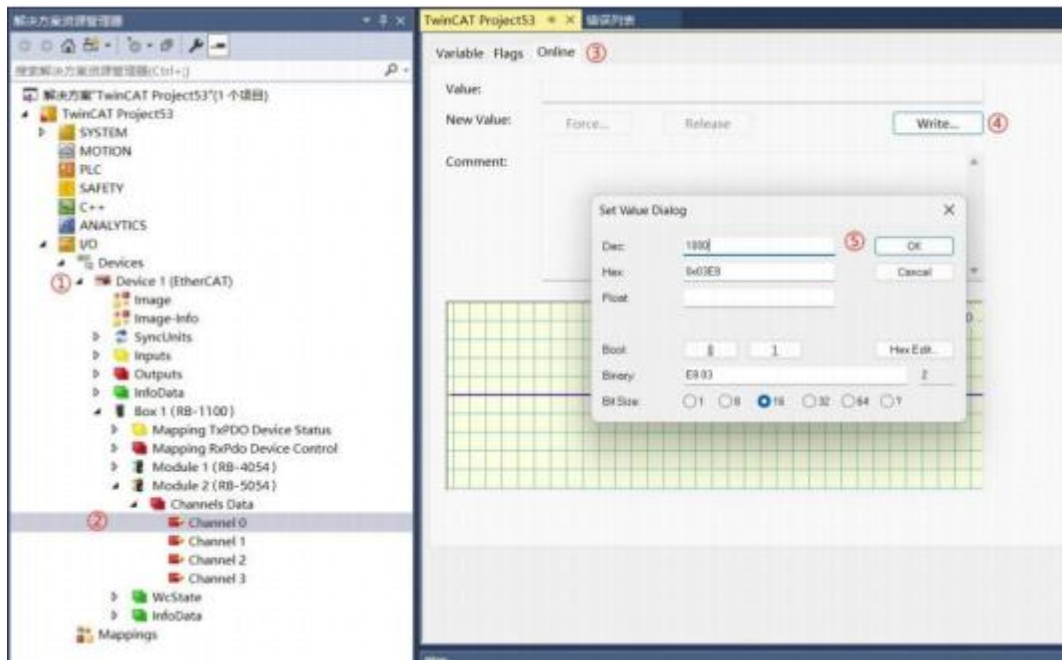


Figure 5-2-8, forced write values

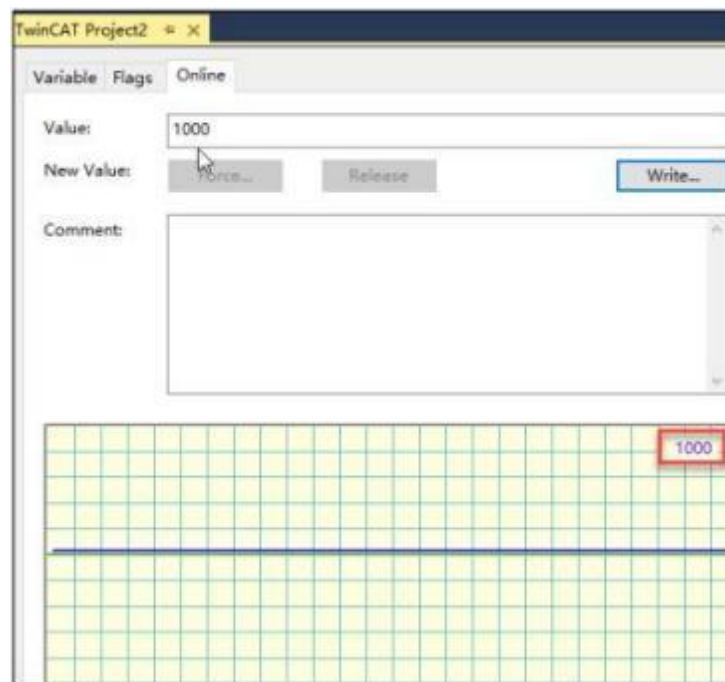


Figure 5-2-9 Monitoring results

5.3 Sysmac Studio connection with RB-1100 and its configuration

5.3.1, communication and connection diagram

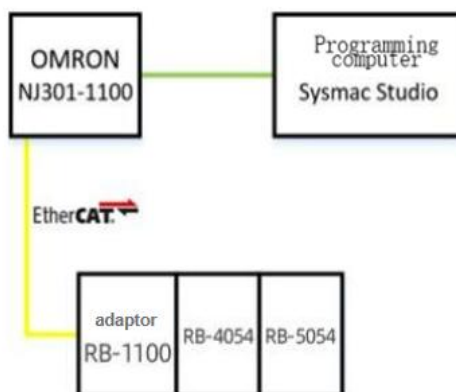


Figure 5-3-1, Communication connection diagram

5.3.2 Hardware configuration

Hardware configuration table

hardware	quantity	remarks
Programming computer	1	Install the Sysmac Studio
controller	1	NJN301-1100
RB-1100	1	EtherCAT Adapter
RB-4054	1	Analog quantity input module
RB-5054	1	Analog quantity output module
parvicostella e	Several	

5.3.3 Install the XML files

Install the XML description file to Sysmac Studio, in two ways.

1: As shown in Figure 5-3-2. Example of the default folder

C:\ProgramFiles(x86)\OMRON\SysmacStudio\IODeviceProfiles\EsiFiles\UserEsiFiles)。



Figure 5-3-2 Install the XML file

2: As shown in Figure 5-3-3. Open the ESI library of Sysmac Studio and click "Install (File)", as shown in Figure 53-4. Select the XML file and confirm until the installation is complete.

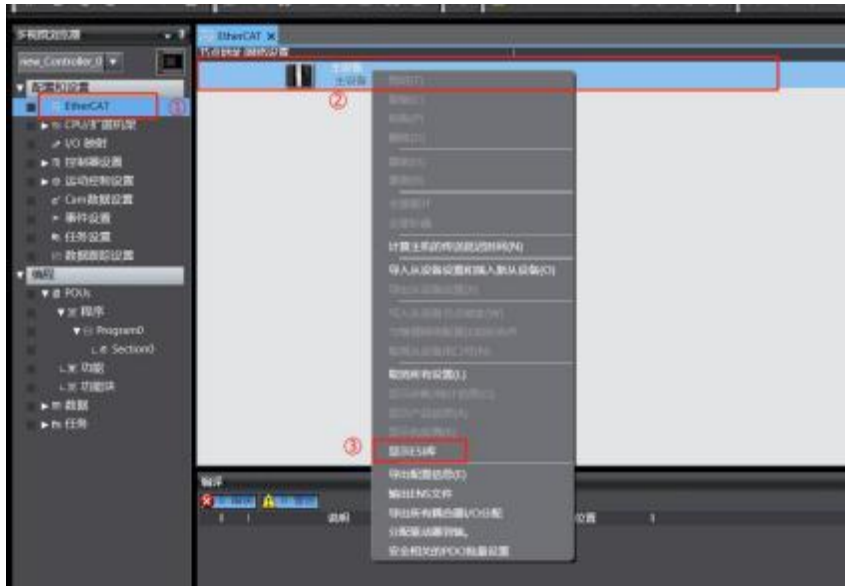


Figure 5-3-3 shows the ESI library

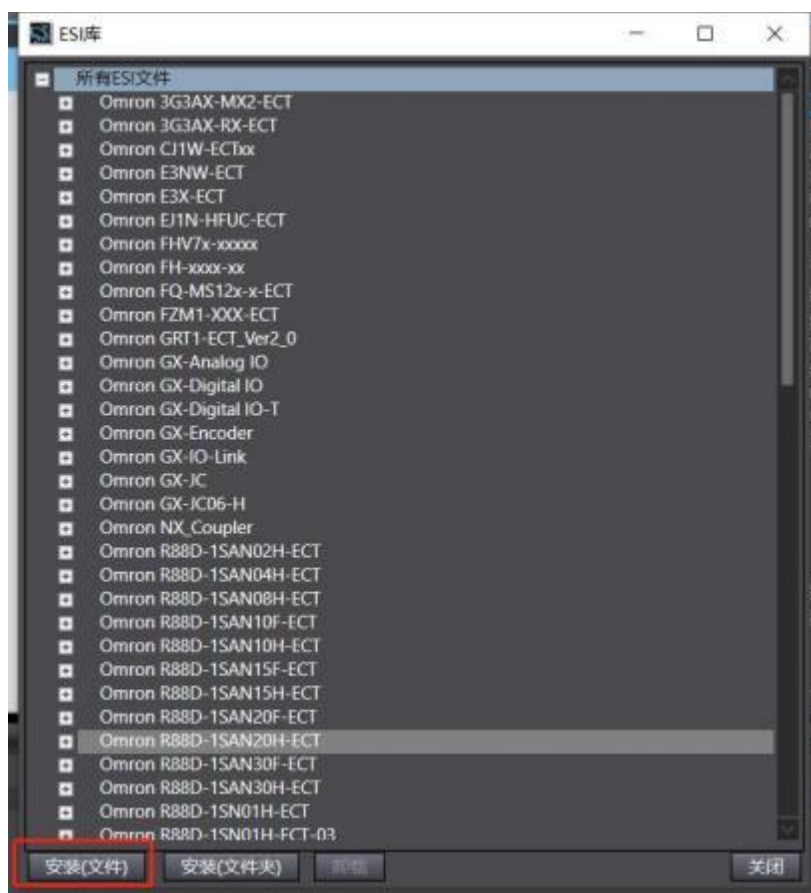


Figure 5-3-4 The XML files are now installed

5.3.4 New engineering and equipment configuration

Open Sysmac Studio, select "New Project" and configure the equipment model and version number, as shown in Figure 5-3-5. 示。



Figure 5-3-5 New Construction project

Add the adapter, double-click "EtherCAT" in the multi-view browser, select "WELLLINK IO" in the toolbox, and select "RB-1100 Rev" below the toolbox as shown in Figure 5-3-6.

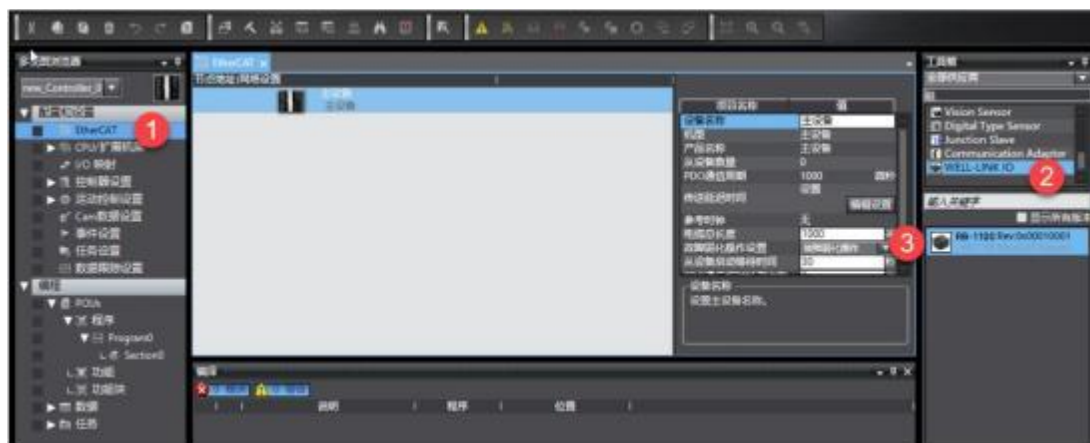


Figure 5-3-6, adding adapters

In EtherCAT, view, the mouse clicks RB-1100 and selects "Edit Module configuration" to perform I / O configuration according to the actual I / O hardware configuration, as shown in Figure 5-3-7.

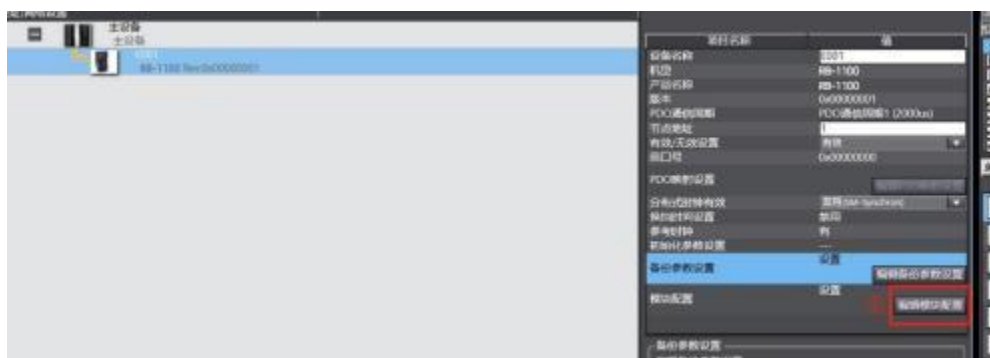


Figure 5-3-7 Edit module information

Note: After the node address is written, the device needs to be restarted before the node address takes effect.

After the device starts, download the program to the control. Select "controller"> "In Transfer"> "Send to controller (T)" as shown in Figure 5-3-8, and execute the download as shown in Figure 5-3-9.

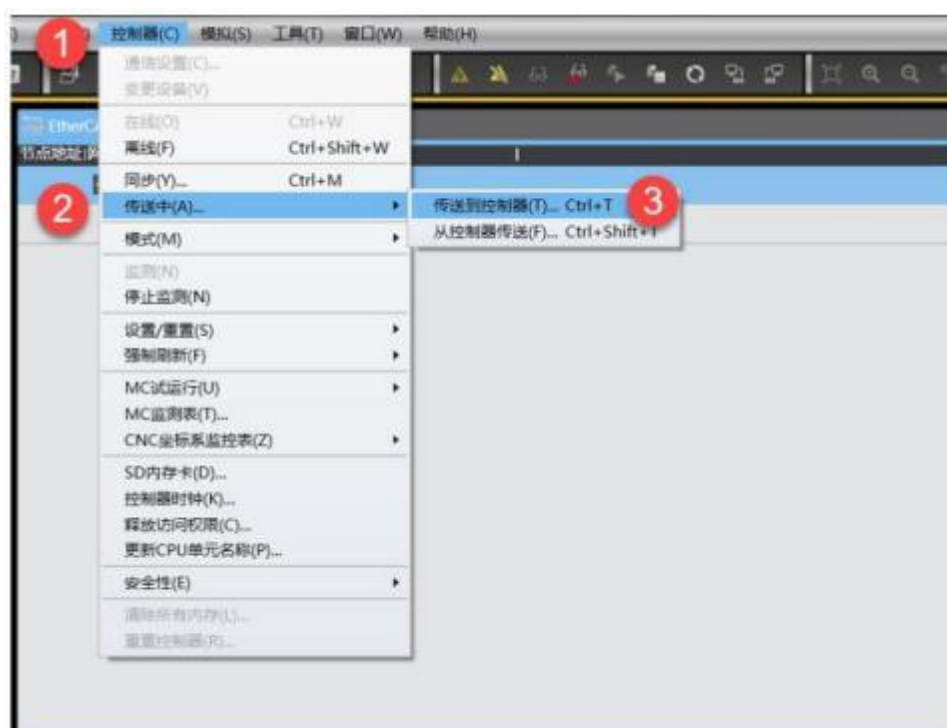


Figure 5-3-8 for program download



Figure 5-3-9 to perform the download

5.4 CODESYS is connected with RB-1100 and its configuration

5.4.1, communication and connection diagram



图 5-4-1 通讯连接图

5.4.2 Hardware Configuration

Hardware configuration table

hardware	quantity	remarks
Programming computer	1	Install the Codesys V3.5
RB-1100	1	EtherCAT Adapter
RB-4054	1	Analog quantity input module
RB-5054	1	Analog quantity output module
parvicostellae	Several	

5.4.3 Install the XML files

Open the CODESYS V3.5 software, and select Tools> Device Repository in the menu bar, as shown in Figure 5-4-2.

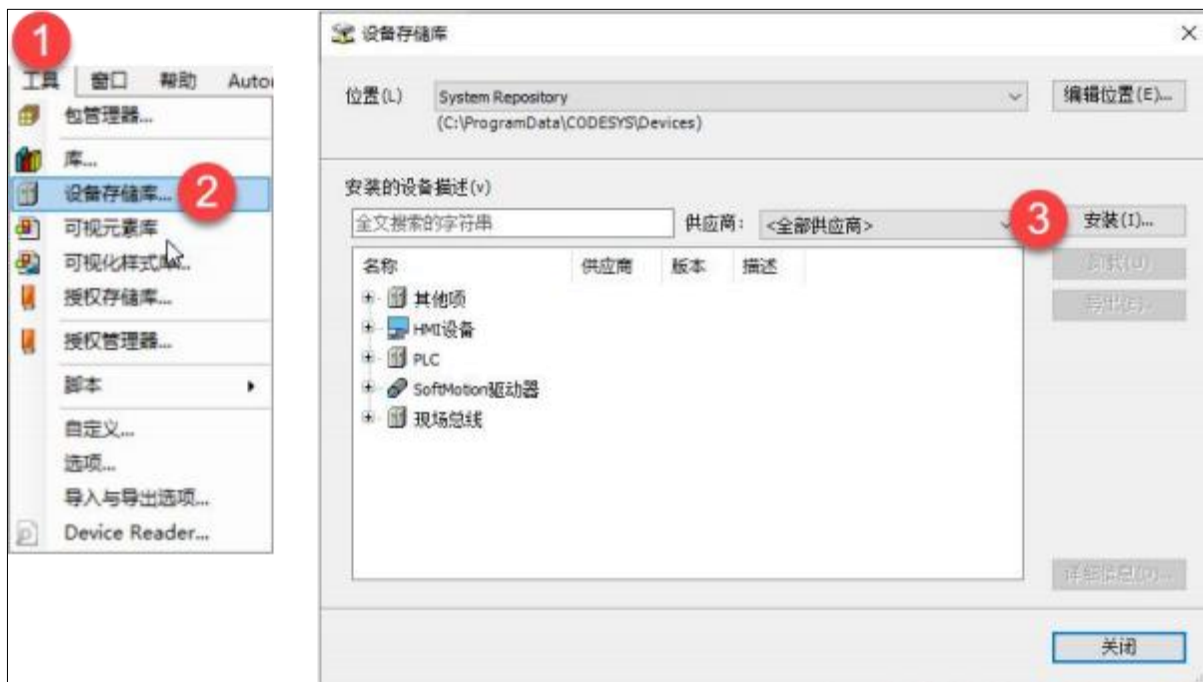


图 4-

5-4-2 Install the XML files

5.4.4 New engineering and equipment configuration

Open the CODESYS V3.5 software and select New Project> Project> Standard project, as shown in Figure 5-4-3.



Figure 5-4-3 New Construction Project

In the standard engineering window, the equipment selects "CODESYS Control Win V3 X64", and the programming language of PLC _ PRG selects "structured text (ST)", as shown in Figure 5-4-4.



Figure 5-4-4 Select the equipment and the programming language

In the device tree, Device (CODESYS Control Win V3 X64) > Add Device, select fieldbus > EtherCAT > EtherCAT Master in the Add Device window, as shown in Figure 5-4-5 and 5-4-6.

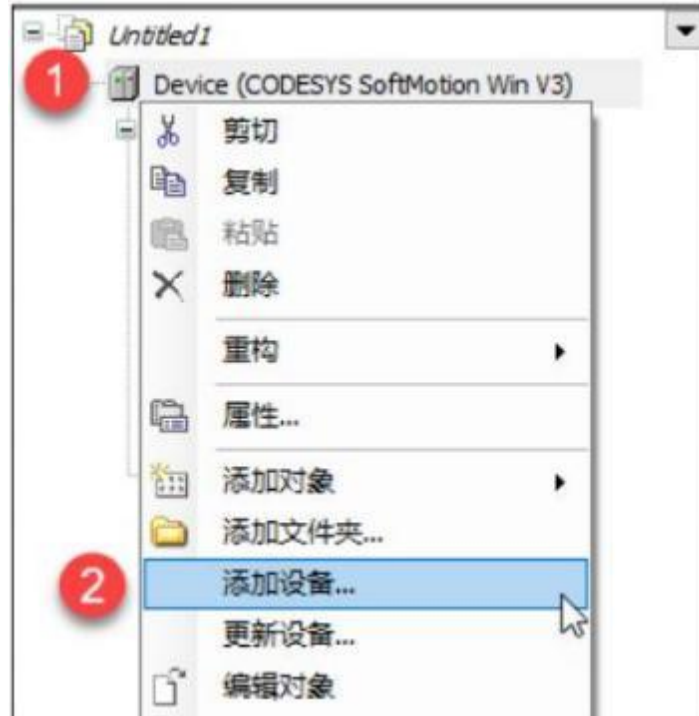


Figure 5-4-5 Added equipment



Figure 5-4-6 Select EtherCAT Master

To assign network ports for the EtherCAT Master, double-click EtherCAT_Master> EtherCAT NIC Settings> Browse in the device tree, as shown in Figure 5-4-7.



Figure 5-4-7 Distribution network port

Will prompt: You need to download the project to the controller before allocating the network port.

Scan the actual hardware configuration into the project, right-click "EtherCAT_Master"> "Scan device", as shown in Figure 5-4-8, and see the actual hardware configuration in the scan window, as shown in Figure 5-4-9.

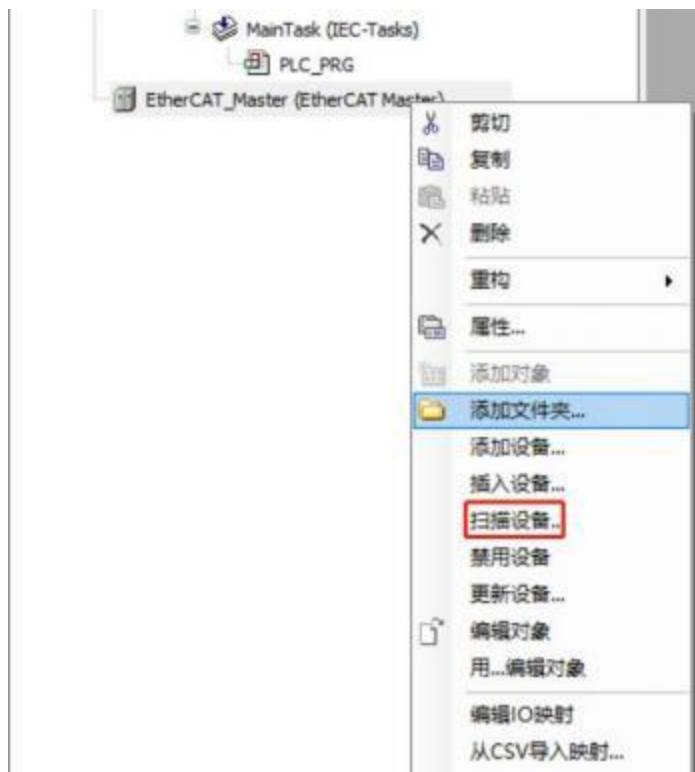


Figure 5-4-8 Scanning of the equipment



Figure 5-4-9 scans for the hardware configuration

5.4.5 The program download and equipment monitoring

Download the project to the controller and start the operation and monitoring, as shown in Figure 5-4-10.



Figure 5-4-10 Program download and monitoring

5. Appendix

Model	SM110204R
Adapter power consumption	219mA
Order number	18-01-AD
Maximum number of I/O	32/piece
Maximum number of input bytes	1024 Byte
Maximum number of output bytes	1024 Byte
Whether digital modules are supported	yes
Whether the analog module is supported	yes
Whether the function module is supported	Yes (≤ 6 tablets)
Whether the communication module is supported	Yes (≤ 6 tablets)
Adapter power consumption	219mA

本手册如有参数更新,恕不另行通知。



南京德克威尔自动化有限公司
Nanjing Decowell Automation Co., Ltd.

全国服务热线

400-0969016

地址:南京市浦口区兰新路19号瑞创智造园13号楼

网址: www.wellinkio.com

邮箱: sales@wellinkio.com

