



CC-Link IE Field Basic CB4 Series Integrated I/O User Manual



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1 Product Overview

1.1 Products

CB4 series Integrated I/O modules with CC-Link IE Field Basic industrial Ethernet bus interface are compatible with CC-Link IE Field Basic networks of multiple vendors, taking up little space, fast speed, quick wiring, pluggable terminals, and simple configuration, providing multiple choices for high-speed data acquisition, optimized system configuration, simplified on-site wiring, and improved system reliability. It provides a variety of options for users to optimize system configuration, simplify field wiring, and improve system reliability by high-speed data acquisition.

1.2 Product Characteristics

- **dual network port**
Support for exchange functions.
- **small volume**
Compact and small footprint.
- **quick**
100 Gigabit industrial Ethernet port.
- **rich variety**
A wide range of I/Os, including digital and analog modules, are available to meet the application requirements of different applications.
- **easy diagnosis**
Innovative channel indicator design, close to the channel, channel status at a glance, easy to detect and maintain.
- **easy configuration**
Simple configuration, supports all major CC-Link IE Field Basic masters.
- **Ease of use assembly line**
DIN 35 mm standard rail mounting.
Adopts spring-type terminals for easy and quick wiring.

2 Destination Rules

2.1 Destination rules

CB 4 - A 8 0 V
(1) (2) (3) (4) (5) (6)

Model number	Meaning	Product description				
(1)	Bus protocol	CB: CC-Link IE Field Basic Protocol Abbreviation				
(2)	Product Series	4: Integrated I/O				
(3)	I/O Type	A: Analog D: Digital				
(4)	Input Signal	Analog: 0, 4, 8 Digital: 0, 8, 16, 24, 32				
(5)	Output Signal	Analog: 0, 4, 8 Digital: 0, 8, 16, 24, 32				
(6)	Input/Output Characteristics	Digital			Analog	
		Type	Input	Output	Type	Description
		A	NPN, 3ms	NPN, 0.5A	I	0~20 mA, 4~20 mA
		B	PNP, 3ms	PNP, 0.5A	V	-10~+10 V, 0~+10 V 1~+5 V, 0~+5 V
		J	-	Relay		

2.2 Model List

Model number	Product Description	
CB4-3200A	32-channel digital input Module, NPN Type	
CB4-3200B	32-channel digital input Module, PNP Type	
CB4-1616A	16-channel digital input/output module, NPN type	
CB4-1616B	16-channel digital input/output module, PNP type	
CB4-0032A	32-channel digital output Module, NPN Type	
CB4-0032B	32-channel digital output Module, PNP Type	
CB4-1600A	16-channel digital input Module, NPN Type	
CB4-1600B	16-channel digital input Module, PNP Type	
CB4-0016A	16-channel digital output Module, NPN Type	
CB4-0016B	16-channel digital output Module, PNP Type	
CB4-0808A	8-channel digital input/output module, NPN type	
CB4-0808B	8-channel digital input/output module, PNP type	
CB4-2408A	24-channel digital input, 8-channel digital output module, NPN type	
CB4-2408B	24-channel digital input, 8-channel digital output module, PNP type	
CB4-0824A	8-channel digital input, 24-channel digital output module, NPN type	
CB4-0824B	8-channel digital input, 24-channel digital output module, PNP type	
CB4-1612J	16-channel digital input (NPN/PNP type), 12-channel relay output module	
CB4-0012J	12-channel Relay Output Module	
CB4-A80V	8-channel analog voltage input module	Range: -10 ~ +10 V, 0 ~ +10 V 0~+5 V, 1~+5V
CB4-A40V	4-channel analog voltage input module	
CB4-A08V	8-channel analog voltage output module	
CB4-A04V	4-channel analog voltage output module	
CB4-A80I	8-channel analog current input module	Range: 0~20 mA, 4~20 mA
CB4-A08I	8-channel analog current output module	
CB4-A40I	4-channel analog current input module	
CB4-A04I	4-channel analog current output module	
XX4-C10_4	Public Side Extension Module	

3 Product Parameters

3.1 General Parameters

Interface parameter		
Protocol	CC-Link IE Field Basic	
Port number	61450 (periodic data), 61451 (search for nodes)	
Number of logical stations	1	
Maximum data volume	RX, RY	64 bits (at 1 logical station)
	RWr, RWw	32 words (at 1 logical station)
Data transmission medium	Ethernet CAT5 cable	
Transmission distance	≤100 m (station to station)	
Transmission rate	100 Mbps	
Interface	2 × RJ45	
Technical Parameters		
Configuration	Through the master	
Bus topology	Line, star, etc.	
Power supply	24 VDC (18V~36V)	
Weight	130g	
Dimension	102 x 72 x 25 mm	
Operating temperature	-10°C~+60°C	
Storage temperature	-20°C~+75°C	
Relative humidity	95%, non-condensing	
Protection class	IP20	

3.2 Digital parameter

Digital input	
Rated voltage	24 VDC (18V~30V)
Number of signal points	8, 16, 24, 32
Signal Type	NPN/PNP
"0" signal voltage (PNP)	-3~+3 V
"1" signal voltage (PNP)	15~30 V
"0" signal voltage (NPN)	15~30 V
"1" signal voltage (NPN)	-3~+3 V
Input Filtering	3 ms
Input Current	4 mA
Isolation method	Optocoupler isolation
Isolated Withstand Voltage	500 VAC
Channel Indicator Lights	Green LEDs
Digital output	
Rated voltage	24 VDC (18V~30V)
Number of signal points	8, 16, 24, 32
Signal Type	NPN/PNP
Load Type	Resistive loads, inductive loads
Single channel rated current	NPN type Max: 500 mA PNP type Max: 500 mA
Port protection	Over-voltage and over-current protection
Isolation method	Optocoupler Isolation
Isolated Withstand Voltage	500 VAC
Channel Indicator Lights	Green LEDs
Relay output	
rated voltage	24 VDC (18V~30V)
Number of signal points	12
Isolation method	Optocouplers, Relays
Rated load	Relay single output 4A
Common terminal wiring method	4 points/1 common
Channel Indicator Lights	Green LEDs

3.3 Analog parameter

3.3.1 Technical Parameters

Analog Input	
Input Points	4, 8
Input signal (voltage type)	0: -10 to +10 V (-32768 to 32767) 1: 0~+10 V (0~65535) 2: -10 to +10 V (-32000 to 32000) 3: 0~+10 V (0~32000) 4: 0~+5 V (0~32000) 5: 1~+5 V (0~32000) 6: -10~+10 V (0~4000) 7: 0~+10 V (0~4000) 8: 0 to +5 V (0 to 4000) 9: 1 to +5 V (0 to 4000)
Input signal (current type)	0: 4~20 mA (0~65535) 1: 0~20 mA (0~65535) 2: 4~20 mA (0~27648) 3: 0~20 mA (0~27648)
Resolution (of a photo)	16 bit
Sampling rate	≤ 1 ksp/s
Accurate	$\pm 0.1\%$
Input Impedance (Voltage Type)	$\geq 2 \text{ k}\Omega$
Input impedance (current type)	100 Ω
Isolated Withstand Voltage	500 VAC
Channel Indicator Lights	Green LEDs

analog output	
Output points	4, 8
Output signal (voltage type)	0: -10 to +10 V (-32768 to 32767) 1: 0~+10 V (0~65535) 2: -10 to +10 V (-32000 to 32000) 3: 0~+10 V (0~32000) 4: 0~+5 V (0~32000) 5: 1~+5 V (0~32000) 6: -10~+10 V (0~4000) 7: 0~+10 V (0~4000) 8: 0 to +5 V (0 to 4000) 9: 1 to +5 V (0 to 4000)
Output signal (current type)	0: 4~20 mA (0~65535) 1: 0~20 mA (0~65535) 2: 4~20 mA (0~27648) 3: 0~20 mA (0~27648)
Resolution (of a photo)	16 bit
Accurate	$\pm 0.1\%$
Load impedance (voltage type)	$\geq 2 \text{ k}\Omega$
Load impedance (current type)	$\leq 200 \text{ }\Omega$
Isolated Withstand Voltage	500 VAC
Channel Indicator Lights	Green LEDs

rs

3.3.2 Voltage Input/Output Range Selection and Code Value Table

Voltage input/output range selection and code value range 1					
Range Selection	0	1	2	3	4
Measurement range	-10~+10 V	0~+10 V	-10~+10 V	0~+10 V	0~+5 V
Code Value Range	-32768~32767	0~65535	-32000~32000	0~32000	0~32000
Voltage Input formula	$D=(65535/20)*U$	$D=(65535/10)*U$	$D=(64000/20)*U$	$D=(32000/10)*U$	$D=(32000/5)*U$
voltage output formula	$U=(D*20)/65535$	$U=(D*10)/65535$	$U=(D*20)/64000$	$U=(D*10)/32000$	$U=(D*5)/32000$
code value correspondence table	See Table 3-1 Voltage Code Value Table .				

Note: D denotes code value and U denotes voltage.

Table 3- 1 Voltage Code Values Table

rS

Range Selection Range input voltage	0	1	2	3	4
	-10~+10 V	0~+10 V	-10~+10 V	0~+10 V	0~+5 V
	code value	code value	code value	code value	code value
-10	-32768	-	-32000	-	-
-9	-29491	-	-28800	-	-
-8	-26214	-	-25600	-	-
-7	-22938	-	-22400	-	-
-6	-19661	-	-19200	-	-
-5	-16384	-	-16000	-	-
-4	-13107	-	-12800	-	-
-3	-9830	-	-9600	-	-
-2	-6554	-	-6400	-	-
-1	-3277	-	-3200	-	-
0	0	0	0	0	0
1	3277	6554	3200	3200	6400
2	6554	13107	6400	6400	12800
3	9830	19661	9600	9600	19200
4	13107	26214	12800	12800	25600
5	16384	32768	16000	16000	32000
6	19661	39321	19200	19200	-
7	22938	45875	22400	22400	-
8	26214	52428	25600	25600	-
9	29491	58982	28800	28800	-
10	32767	65535	32000	32000	-
	Code value = (65535/20) *Voltage	Code value = (65535/10) *Voltage	Code value = (64000/20) *Voltage	Code value = (32,000/10) *Voltage	Code value = (32,000/5) *Voltage
	Voltage = (code value) *20)/65535	Voltage = (code value) *10)/65535	Voltage = (code value) (*20)/64,000	Voltage = (code value) (*10)/32000	Voltage = (code value) (*5)/32,000

Voltage input/output range selection and code value range 2					
Range Selection	5	6	7	8	9
Measurement range	1~+5 V	-10~+10 V	0~+10 V	0~+5 V	1~+5 V
Code Value Range	0~32000	0~4000	0~4000	0~4000	0~4000
Voltage Input formula	$D = (32000/4) * U - 8000$	$D = (4000/20) * U + 2000$	$D = (4000/10) * U$	$D = (4000/5) * U$	$D = (4000/4) * U - 1000$
Voltage Output Calculation Formula	$U = ((D + 8000) * 4) / 32000$	$U = ((D - 2000) * 20) / 4000$	$U = (D * 10) / 4000$	$U = (D * 5) / 4000$	$U = ((D + 1000) * 4) / 4000$
code value correspondence table	See Table 3-2 Voltage Code Value Table .				

Note: D denotes code value and U denotes voltage.

Table 3- 2 Voltage Code Value Table

Range Selection Range	5	6	7	88	9
	1~+5 V	-10 ~+10 V	0~+10 V	0~+5 V	1~+5 V
	code value	code value	code value	code value	code value
Input voltage					
-10	-	0	-	-	-
-9	-	200	-	-	-
-8	-	400	-	-	-
-7	-	600	-	-	-
-6	-	800	-	-	-
-5	-	1000	-	-	-
-4	-	1200	-	-	-
-3	-	1400	-	-	-
-2	-	1600	-	-	-
-1	-	1800	-	-	-
0	-	2000	0	0	-
1	0	2200	400	800	0
2	8000	2400	800	1600	1000
3	16000	2600	1200	2400	2000
4	24000	2800	1600	3200	3000
5	32000	3000	2000	4000	4000
6	-	3200	2400	-	-
7	-	3400	2800	-	-
8	-	3600	3200	-	-
9	-	3800	3600	-	-
10	-	4000	4000	-	-
	code value = (32000/4)*Electri city Pressure-8000	code value = (4000/20)*Electri city Pressure +2000	code value = (4000/10)*Electri city pushdown	Code value = (4000/5)* input voltage	Code value = (4000/4)* Voltage - 1000
	Voltage = (code value) +8000) *4/32000	Voltage = (code value - 2000) *20/4000	Voltage = (code value) (*10)/4000	Voltage = (code value) (*5)/4000	Voltage = (code value) (*1000) *4/4000

3.3.3 Current Input/Output Range Selection and Code Value Table

Analog Current Input/Output Range Selection and Code Value Range				
Range Selection	0	1	2	3
Measurement range	4~20 mA	0~20 mA	4~20 mA	0~20 mA
Code Value Range	0~65535		0~27648	
Current input calculation formulas	$D = (65535/16) * I - 16384$	$D = (65535/20) * I$	$D = (27648/16) * I - 6912$	$D = (27648/20) * I$
Current Output Calculation formulas	$I = (D + 16384) * 16 / 65535$	$I = (D * 20) / 65535$	$I = ((D + 6912) * 16) / 27648$	$I = (D * 20) / 27648$
Code value correspondence table	See Table 3-3 for a table of current code values.			

Note: D denotes code value and I denotes current.

Form 3- 3 Current Code Values Table

Range Selection Range amps	0 (default)	1	2	3
	4-20 mA	0-20 mA	4-20 mA	0-20 mA
	code value	code value	code value	code value
0	-	0	-	0
1	-	3277	-	1382
2	-	6554	-	2765
3	-	9830	-	4147
4	0	13107	0	5530
5	4096	16384	1728	6912
6	8192	19661	3456	8294
7	12288	22937	5184	9677
8	16384	26214	6912	11059
9	20479	29491	8640	12442
10	24575	32768	10368	13824
11	28671	36044	12096	15206
12	32767	39321	13824	16589
13	36863	42598	15552	17971
14	40959	45875	17280	19354
15	45055	49151	19008	20736
16	49151	52428	20736	22118
17	53247	55705	22464	23501
18	57343	58982	24192	24883
19	61439	62258	25920	26266
20	65535	65535	27648	27648
	Code Value = 65535/16* Electricity Stream-16384	Code value = (65535/20)* amps	Code value = (27648/16)* Current-6912	Code value = (27648/20)* amps
	Current=(codevalue+ 16384) *16/65535	Current = (code value * 20) /65535	Current = (code value + 6912) *16/27648	Current = (code value * 20) /27648

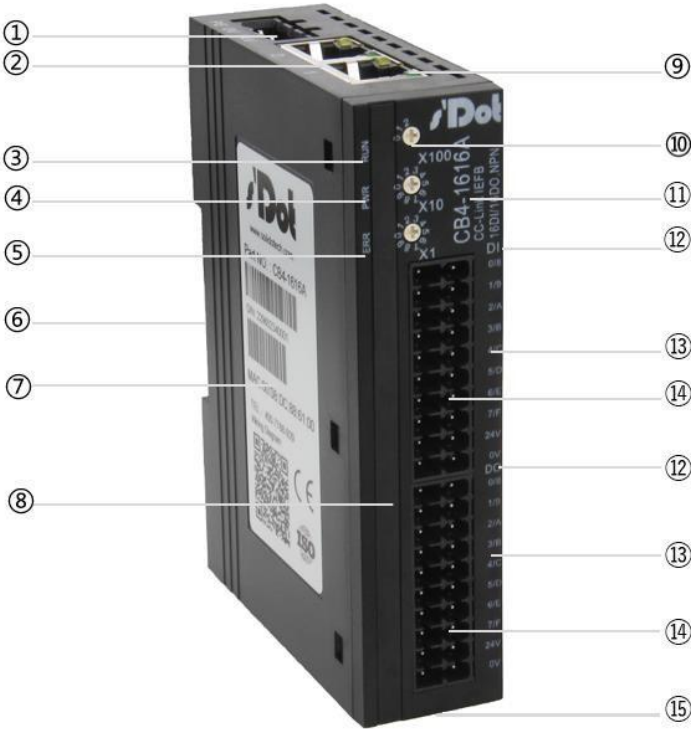
3.4 Parameters of the public side extension module

common terminal	
rated voltage	125 VDC/AC 250V
rated current	8 A
Number of public terminals	4 groups (10P/group)

4 Panel

4.1 Product mix

Name and function description of each part of the product



Serial number	Name (of a thing)	Description
①	Power connector	3P terminal
②	bus interface	2 × RJ45
(iii)	Operation Indicator Light	Module Operational Status
④	Power indicator	Module Power Status
⑤	warning indicator	Indicates module alarm status

(vi)	Guideway slotting	For DIN 35mm rail fixing	s
(vii)	modular labeling	Labeling information such as module model, type, and MAC address	
⑧	Channel Signal Indicator	Indicates the corresponding channel status	
⑨	Network Port Indicator	Link and data sending and receiving status	
⑩	rotary switch	Setting the IP Address	
⑪	module identification	Labeling information such as module model, bus type, etc.	
⑫	signal identification	Indication signal type	
fictitious passage of stool	channel marking	Signal Corresponding Channel Identification	
⑭	channel interface	2◇20P terminals	
⑮	reset switch	Press and hold for more than 1 second to restore the IP address to the factory state.	

4.2 Indicator light function

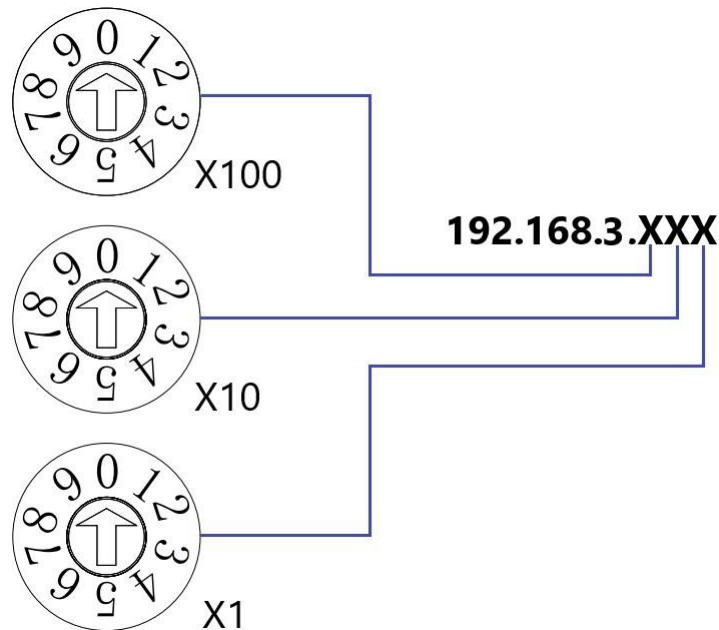
Name (of a thing)	Markings	Color	State of affairs	State Description
Power indicator	PWR	Green	ON	Power supply is normal
			OFF	The product is not powered up or the power supply is abnormal
Operation status indicator	RUN	Green	ON	Module in operation, cyclic transfer in progress
			2.5Hz flashing	Module runs, cyclic transfer stops
			10Hz flashing	Module not configured
			OFF	Module Disconnect
warning indicator	ERR	Red	ON	Communication error
			OFF	The equipment is normal or the power supply is cut off
Port Status Indicator	1	Green	ON	establish a network connection
			Flashing	Connection established with data interaction
			OFF	No network connection established or abnormal
	2	Green	ON	establish a network connection
			Flashing	Connection established with data interaction
			OFF	No network connection established or abnormal
Input Channel Status Indicator signal light	0 to F	Green	ON	Module channels have signal inputs
			OFF	No signal input or abnormal signal input on module channel
Output	0 to F	Green	ON	Module channels have signal outputs

Channel Status Indicator signal light			OFF	No signal output or abnormal signal output from module channel
--	--	--	-----	---

4.3 Rotary switch

Rotary Dial Description

The method of setting the module IP address can be specified using the rotary switch, which is shown below:



Set value (decimal)	Realm
001 to 254	Sets the IP address to 1 Byte lower. " × 1" is set in the range of 1 to 254 for the digit.
000, 255~	When the rotary switch is set to 0, 255, or more than 255, the module is currently using the IP address of the last host computer. Changed IP address or factory IP address.

The factory setting of the rotary switch is "000" and the IP address is the factory setting IP: 192.168.3.100.

The IP address set by the rotary switch will take effect only after re-powering up; without re-powering up, the modified parameters will not take effect.

Remarks:

1. Tool selection

When the module is shipped from the factory, it has been matched with the corresponding specifications of the screwdriver, please use the matching specifications of the screwdriver. If you do not have a screwdriver, please use a 1mm or Phillips screwdriver with a 2mm opening to rotate the switch.

2. Be sure to use the rotary switch to set the IP address in the event of a power failure. If you need to change the IP address during communication, the new settings will not take effect until the power is turned on again after the new settings are completed.

5

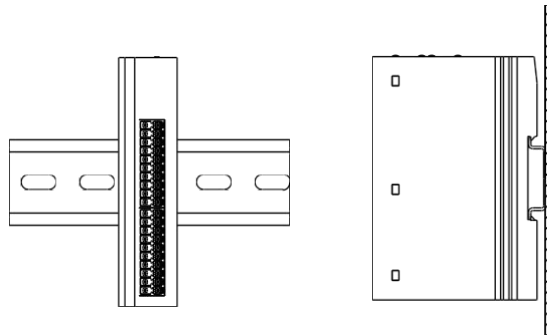
Installation and disassembly

Precautions for installation\dismantling

- Ensure that the cabinet is well ventilated (e.g., the cabinet is fitted with an exhaust fan).
- Do not install this equipment next to or above equipment that may cause overheating.
- Always install the module Integratedly and ensure sufficient spacing between the module and the surrounding equipment.
- Be sure to disconnect the power supply when installing/disassembling.

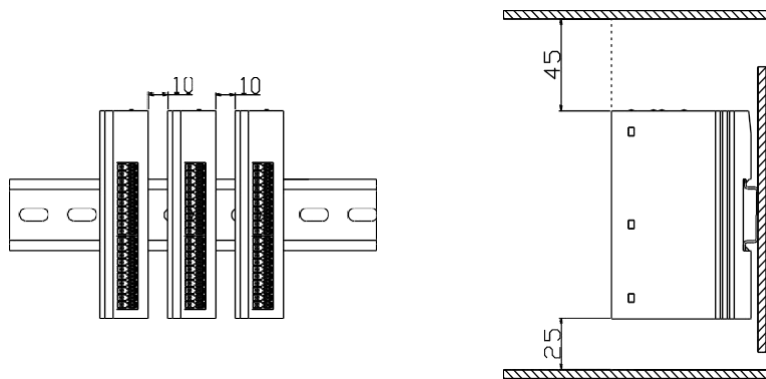
Mounting direction

- To maintain proper heat dissipation from the module, be sure to install the module Integratedly to ensure smooth airflow inside the module.



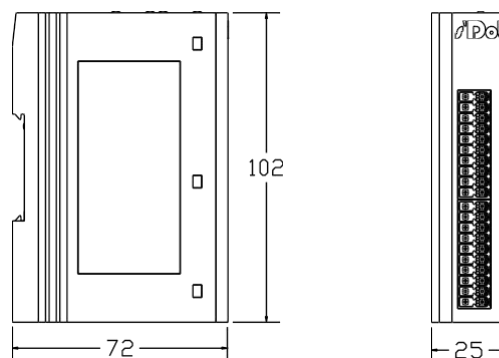
Minimum distance

Module protection level is IP20, need to be installed in the box or cabinet, when installing, module and other modules or heat generating equipment, module up and down and other equipment or wiring slot, please follow the minimum spacing shown in the figure below (unit: mm).



5.1 Overall dimensions

Outline specifications (in mm)

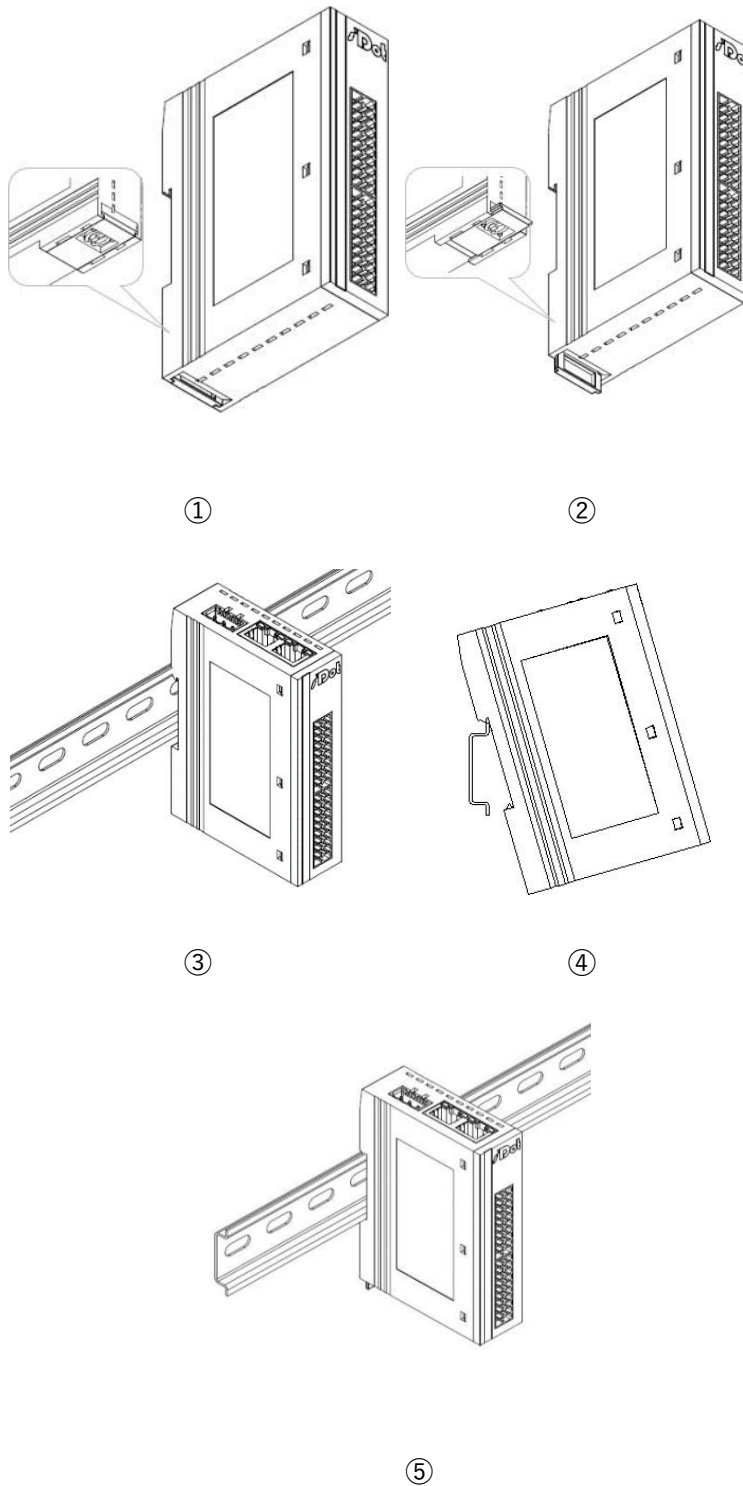


Mounting method:

1. Top and bottom alignment;
2. DIN 35 mm rail, snap-on mounting.

5.2 Installation and disassembly

Mounting

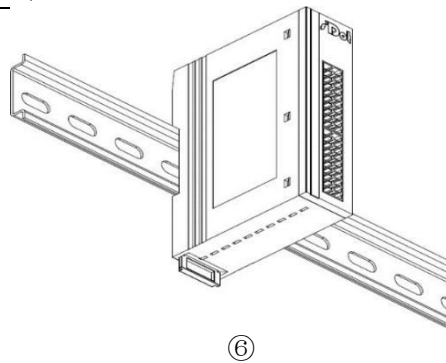


Move

Push the snap on the bottom of the module outward, as shown in Fig. ①, and then push the snap to the position as shown in Fig. ②, and then hear a "click" sound.

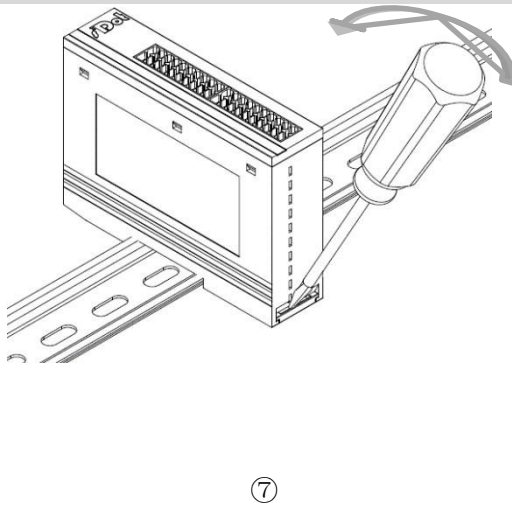
Align the upper edge of the module snap with the upper edge of the rail and place the module into the rail as shown in Figure ③④.

The module placement is shown in Figure ⑤.



Push the snap in the direction of the rail and hear the ringing sound to complete the module installation, as shown in Figure 6.

Dismantle



Move

Insert the flat head into the snap and apply pressure in the direction of the module. (Rattling sound is heard.) Remove the module as shown in Fig.7 by reversing the procedure for installing the module.

6 Wiring

6.1 Wiring terminal

Wiring terminal		
Signal Line Terminal	extremity	2*20 P
	wire diameter	22~17 AWG 0.3~1.0 mm ²
Power supply terminal	extremity	3 P
	wire diameter	22~16 AWG 0.3~1.5 mm ²
Bus interface	2*RJ45	Category 5+ UTP or STP (STP recommended)

6.2 Wiring instructions and requirements

Power supply wiring precautions

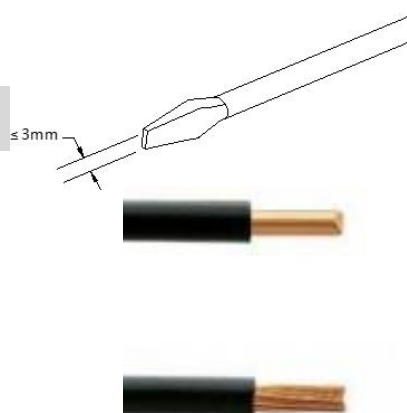
- The module system-side power supply and the field-side power supply are configured and used separately, so do not mix them.
- PE must be reliably grounded.

Wiring Tool Requirements

Screw-free design for the terminals, cable installation and removal with a screwdriver (bit width: ≤ 3 mm)

Stripped Wire Length Requirements

Recommended stripping length 10 mm.



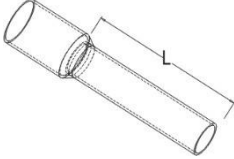
Wiring Method

For single stranded hard wires, after stripping the corresponding length of wire, press down the button while inserting the wire into the terminal.



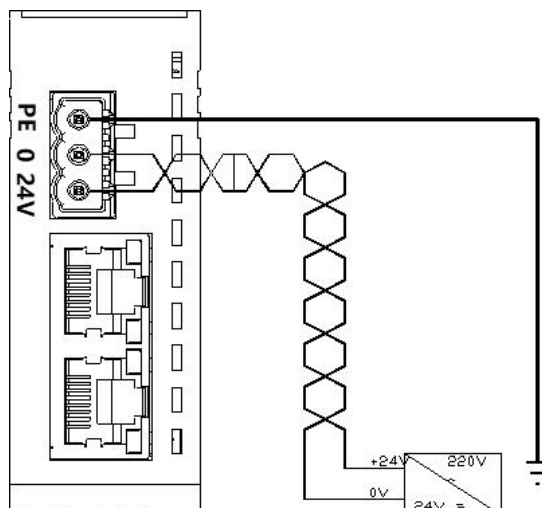
For multi-stranded flexible wires, after stripping the corresponding lengths of wires, use the corresponding standard specification cold press terminals (tubular insulated terminals, reference specifications are shown in the table below) and press the button to insert the wires at the same time.



Tube Insulation End Specification Sheet		
Specification	Model number	Cross-sectional area of conductor mm ²
	E0310	0.3
	E0510	0.5
	E7510	0.75
	E1010	1.0
	E1510	1.5
Tube insulated terminal L with a length of 10 mm		

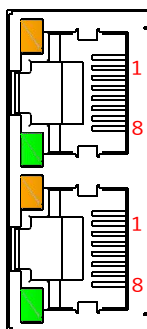
Power Wiring

The module power supply uses DC24V, the power cable is recommended to use twisted-pair cable, the power wiring is shown in the following figure.



Bus Wiring

Adopts standard RJ45 network interface with standard crystal connector, and the pin assignment is shown in the figure below.



pin number	code
1	TD+
2	TD-
3	RD+
4	-
5	-
6	RD-
7	-
8	-

caveat

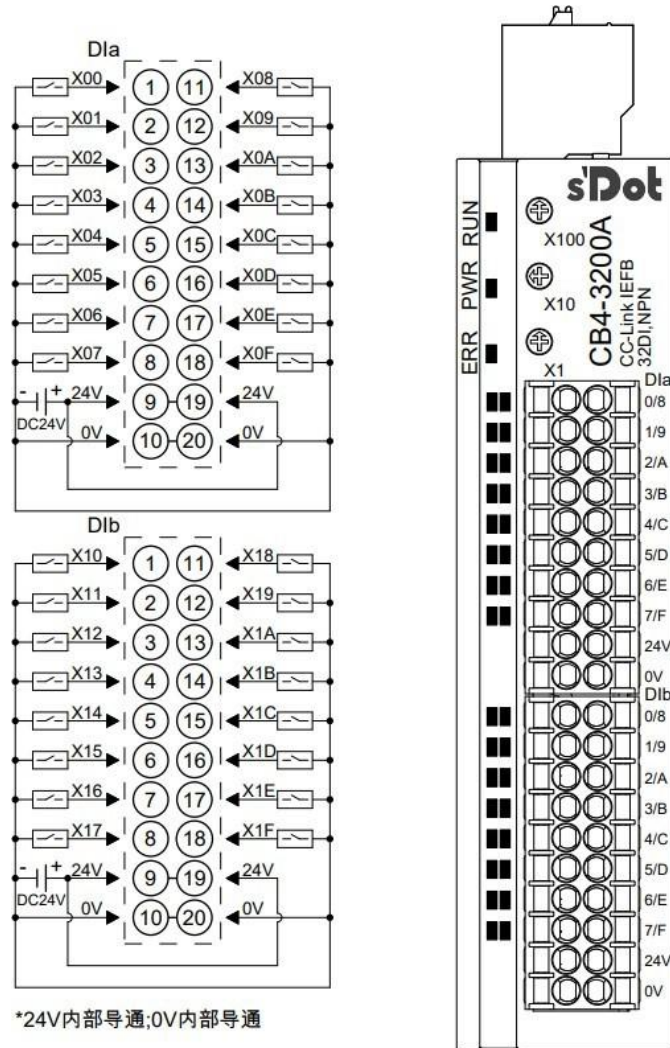
- Double shielded (braided mesh + aluminum foil) STP cables of category 5 or higher are recommended as communication cables.
- The length of the cables between the devices must not exceed 100 m.

Signal and load power wiring

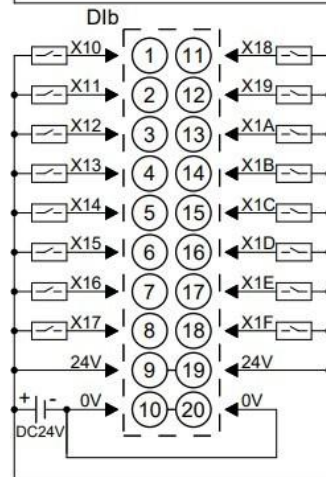
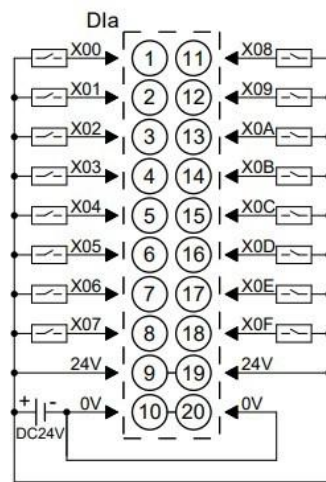
The load power is supplied by DC24V power supply. For the wiring of load power and signal lines, please refer to the wiring diagram of the corresponding I/O module and the wiring method to press the cables into the terminals (refer to [6.3 Wiring Diagram of I/O Module](#) for details).

6.3 I/O module wiring diagram

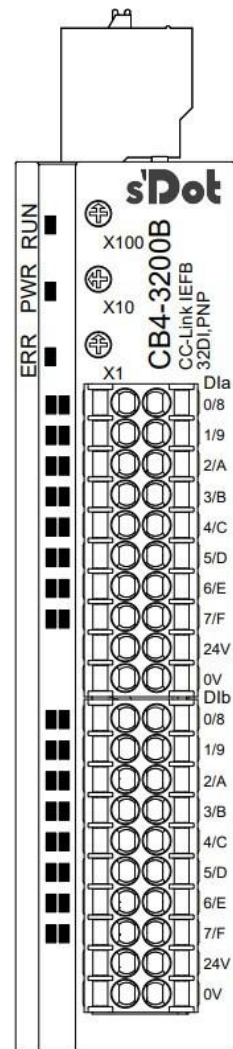
6.3.1 CB4-3200A



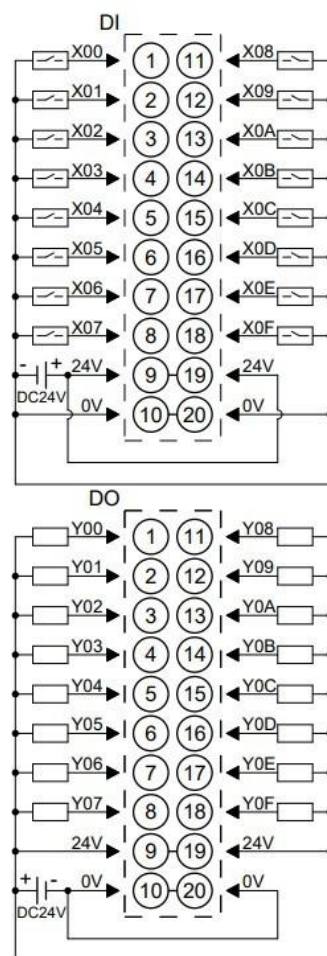
6.3.2 CB4-3200B



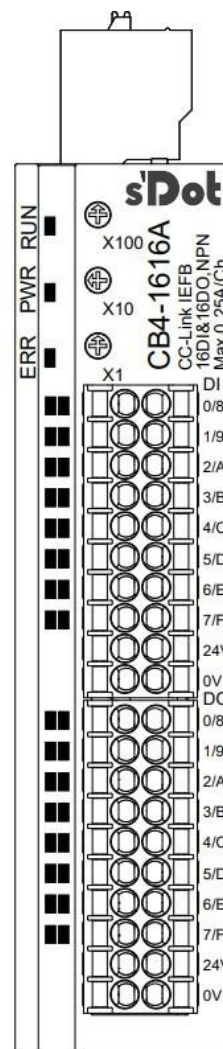
*24V内部导通;0V内部导通



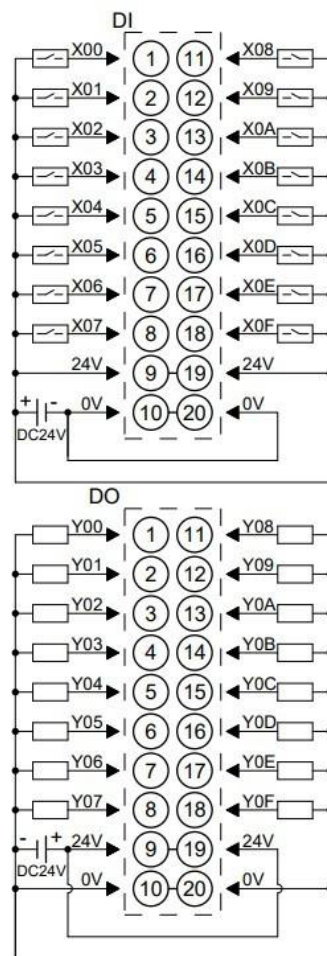
6.3.3 CB4-1616A



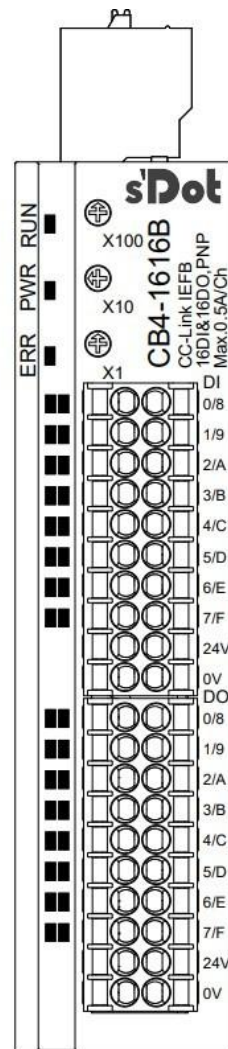
*24V内部导通;0V内部导通;DI与DO之间不互通
 *负载公共端电源需与模块使用同一个电源



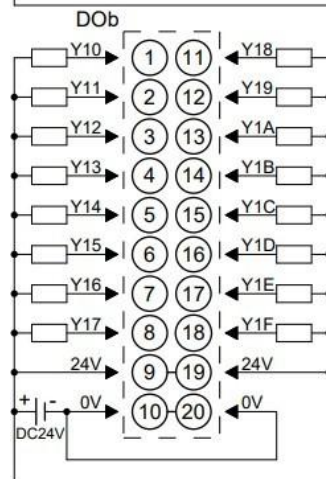
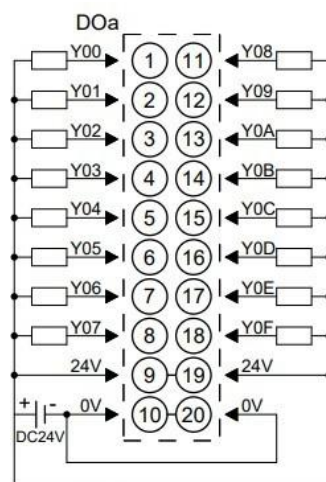
6.3.4 CB4-1616B



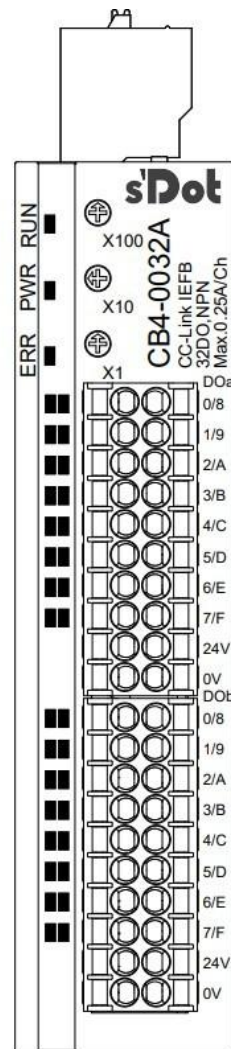
*24V内部导通;0V内部导通;DI与DO之间不互通
 *负载公共端电源需与模块使用同一个电源



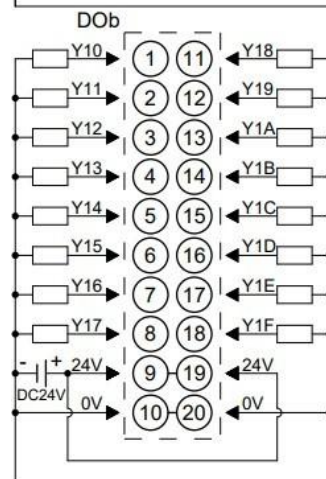
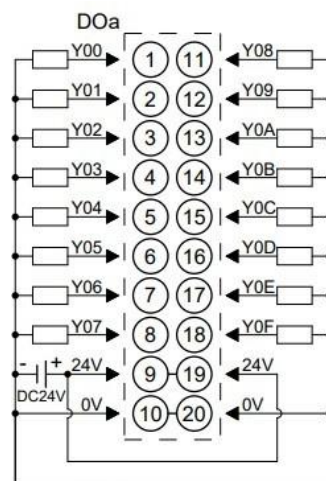
6.3.5 CB4-0032A



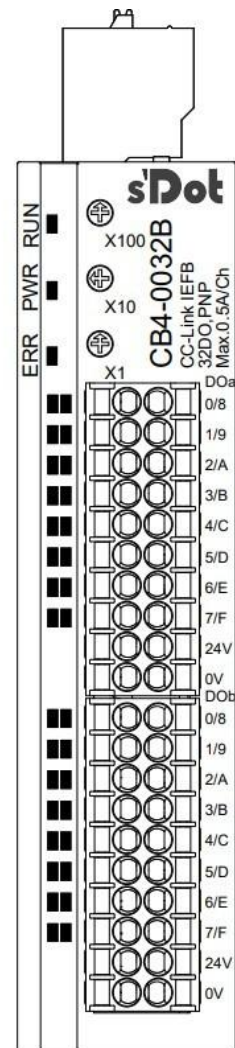
*24V内部导通;0V内部导通;DOa与DOb之间不互通
 *负载公共端电源需与模块使用同一个电源



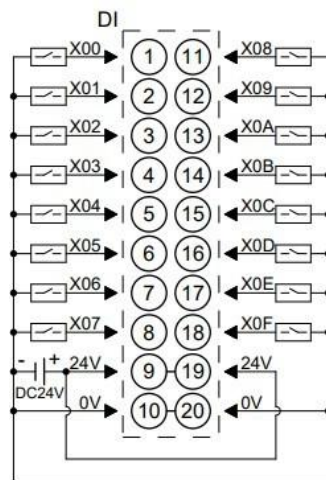
6.3.6 CB4-0032B



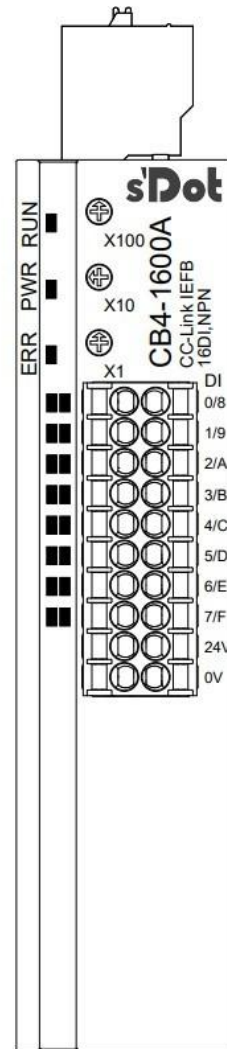
*24V内部导通;0V内部导通;DOa与DOb之间不互通
 *负载公共端电源需与模块使用同一个电源



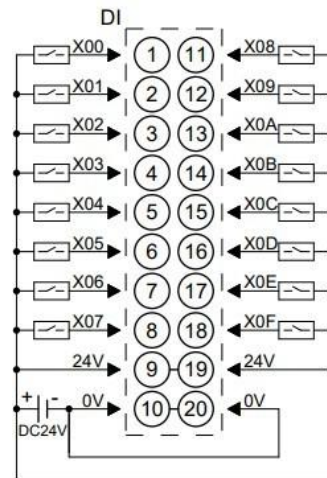
6.3.7 CB4-1600A



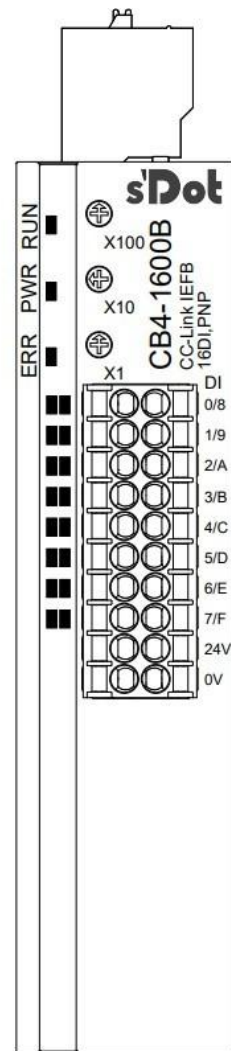
*24V内部导通;0V内部导通



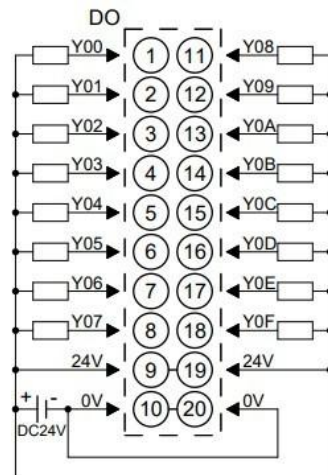
6.3.8 CB4-1600B



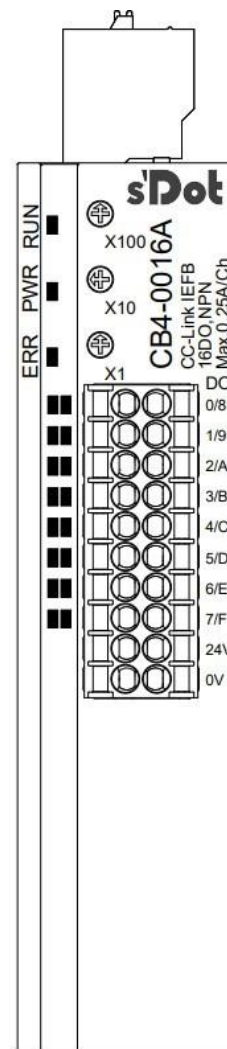
*24V内部导通;0V内部导通



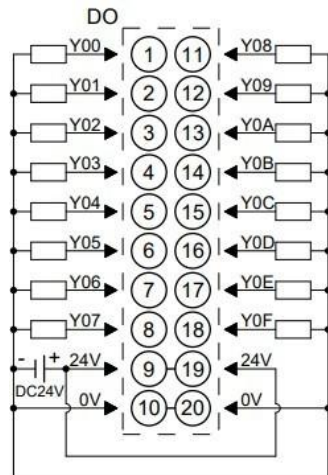
6.3.9 CB4-0016A



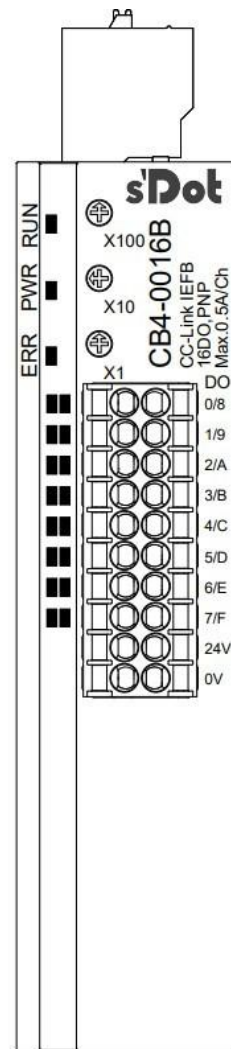
*24V内部导通;0V内部导通
 *负载公共端电源需与模块使用同一个电源



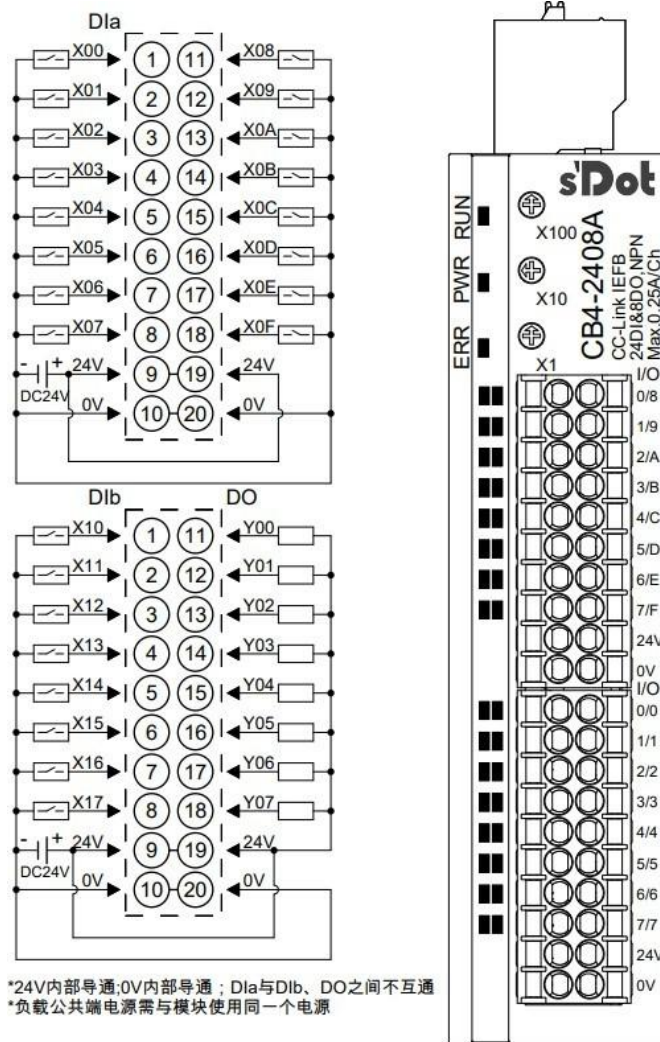
6.3.10 CB4-0016B



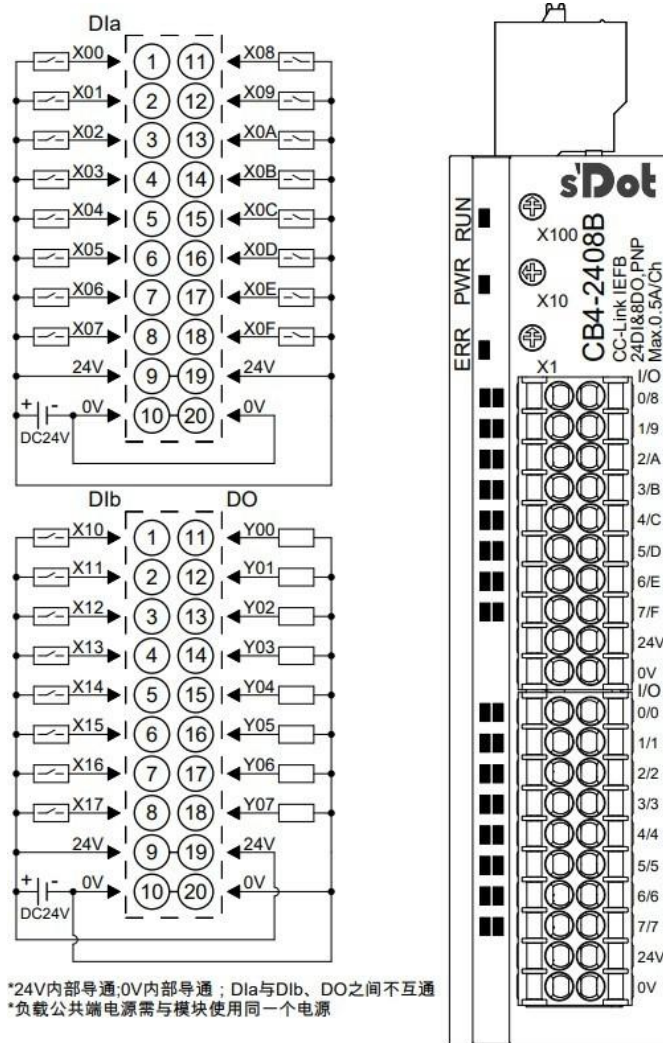
*24V内部导通,0V内部导通
 *负载公共端电源需与模块使用同一个电源



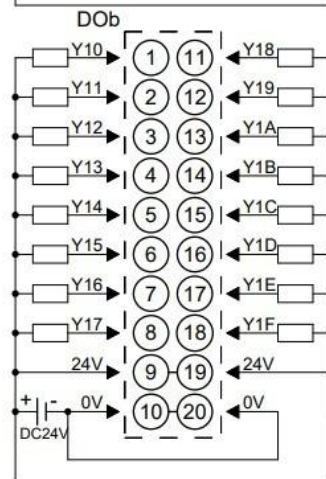
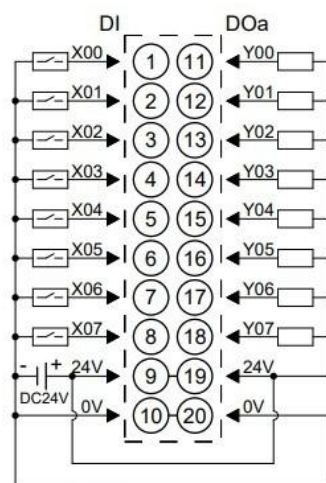
6.3.11 CB4-2408A



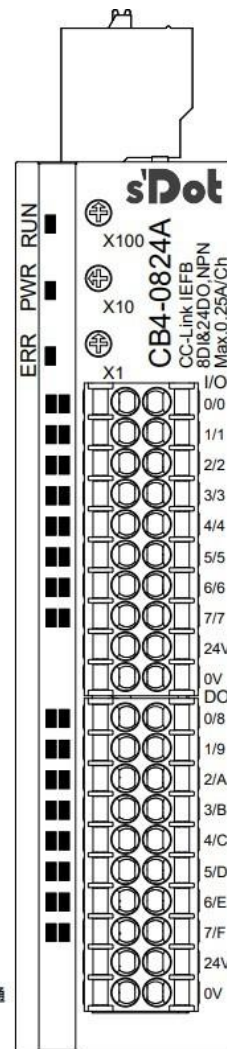
6.3.12 CB4-2408B



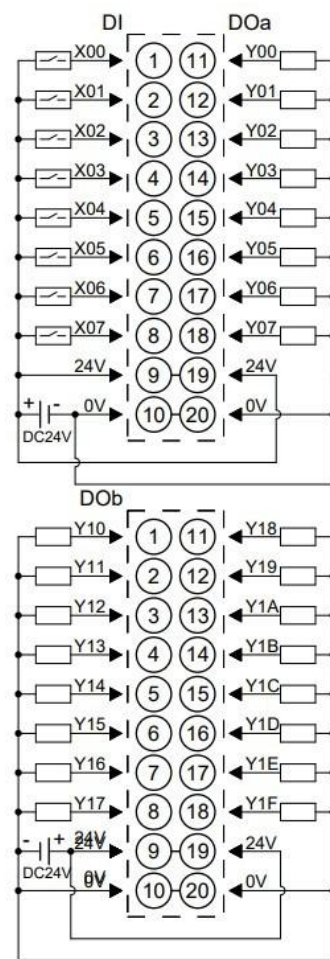
6.3.13 CB4-0824A



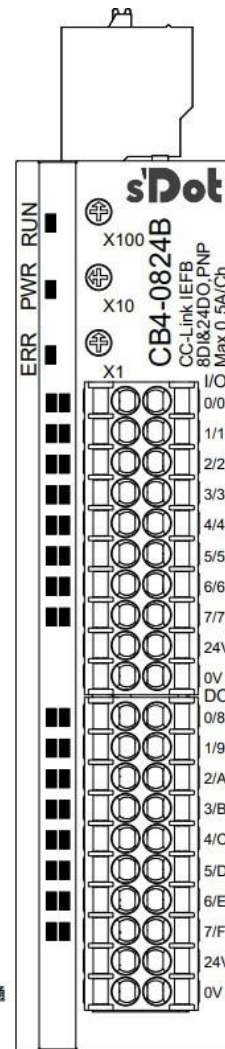
*24V内部导通;0V内部导通; DI、DOa与DOb之间不互通
 *负载公共端电源需与模块使用同一个电源



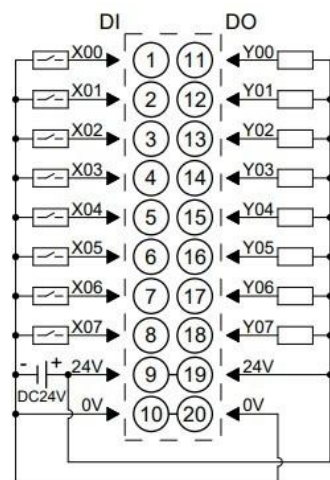
6.3.14 CB4-0824B



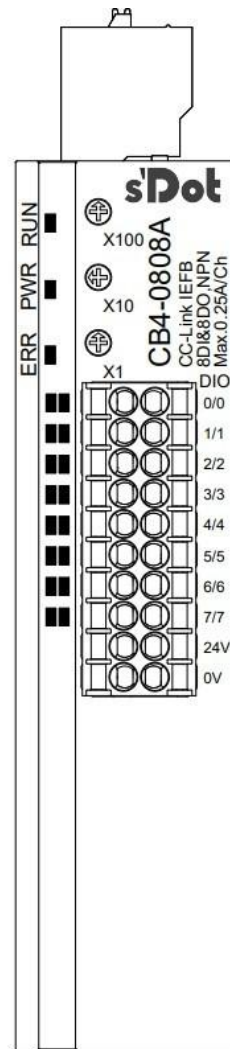
*24V内部导通;0V内部导通; DI、DOa与DOb之间不互通
 *负载公共端电源需与模块使用同一个电源



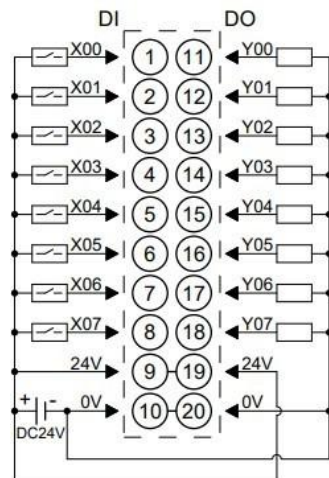
6.3.15 CB4-0808A



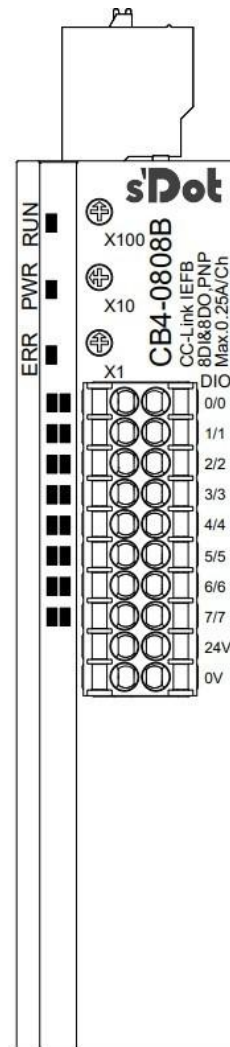
*24V内部导通;0V内部导通
 *负载公共端电源需与模块使用同一个电源



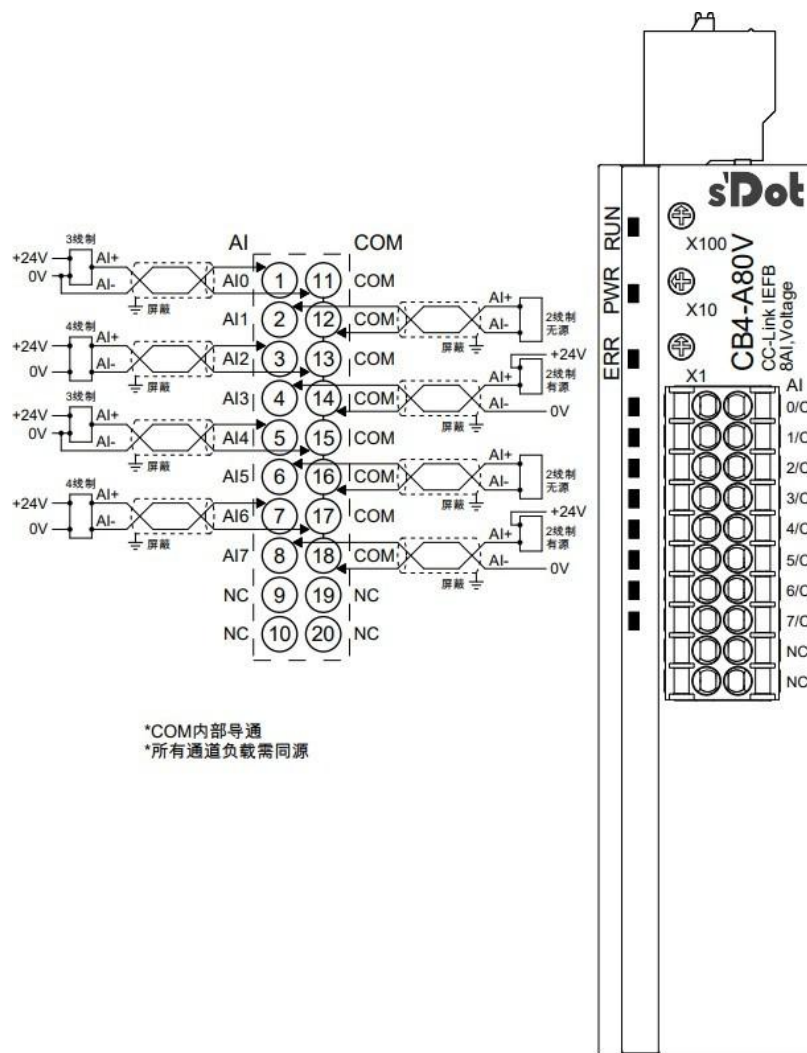
6.3.16 CB4-0808B



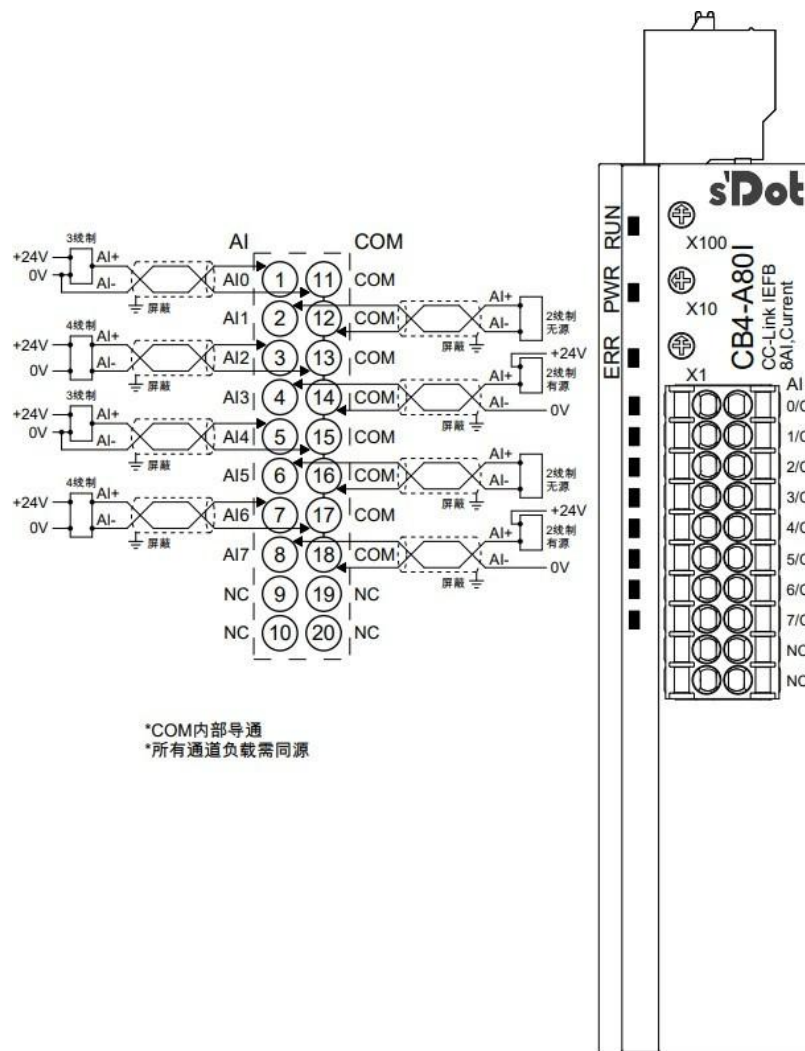
*24V内部导通;0V内部导通
 *负载公共端电源需与模块使用同一个电源



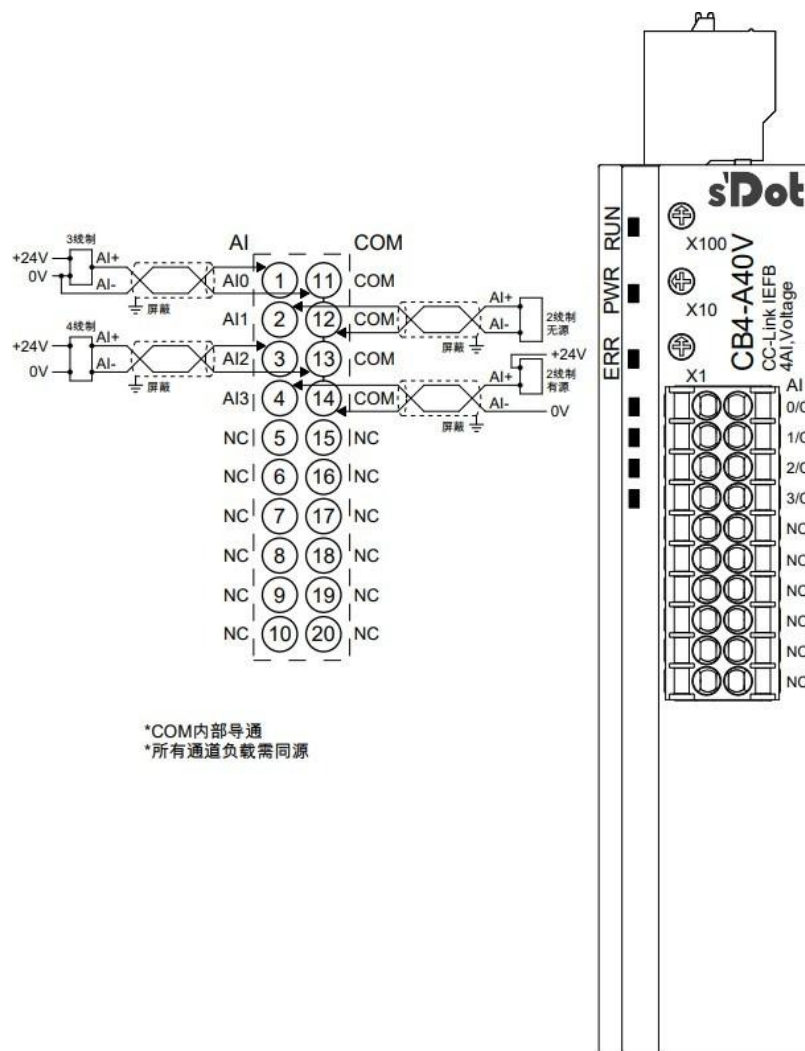
6.3.17 CB4-A80V



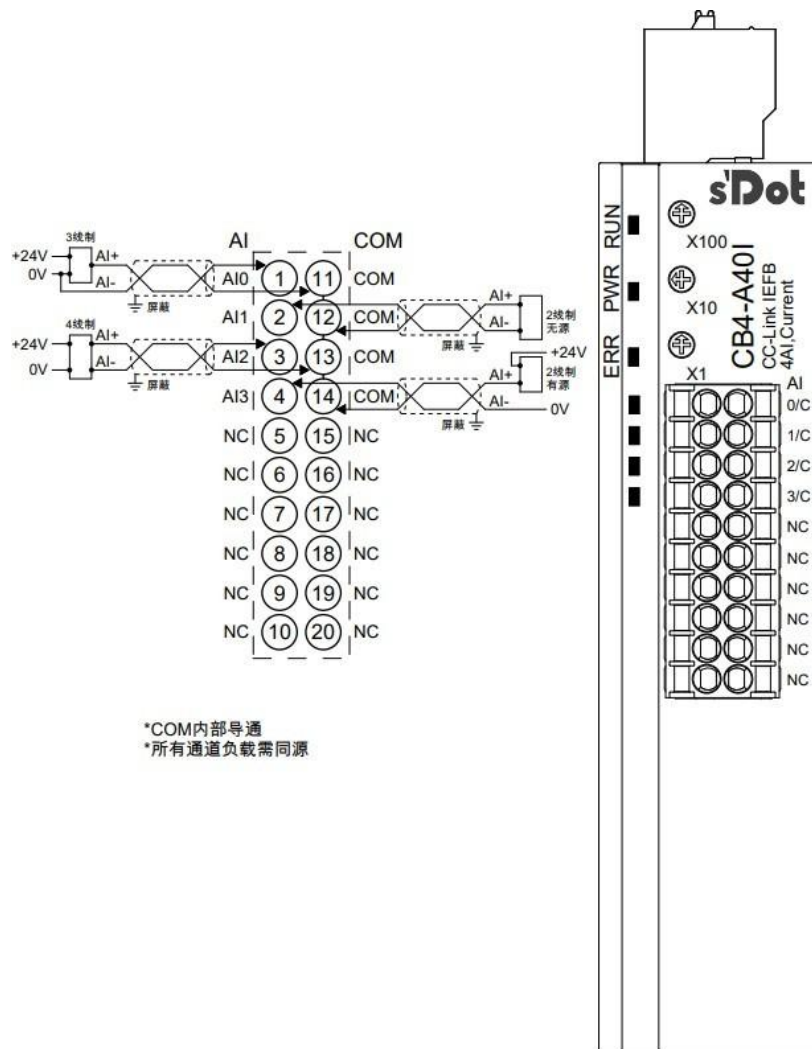
6.3.18 CB4-A80I



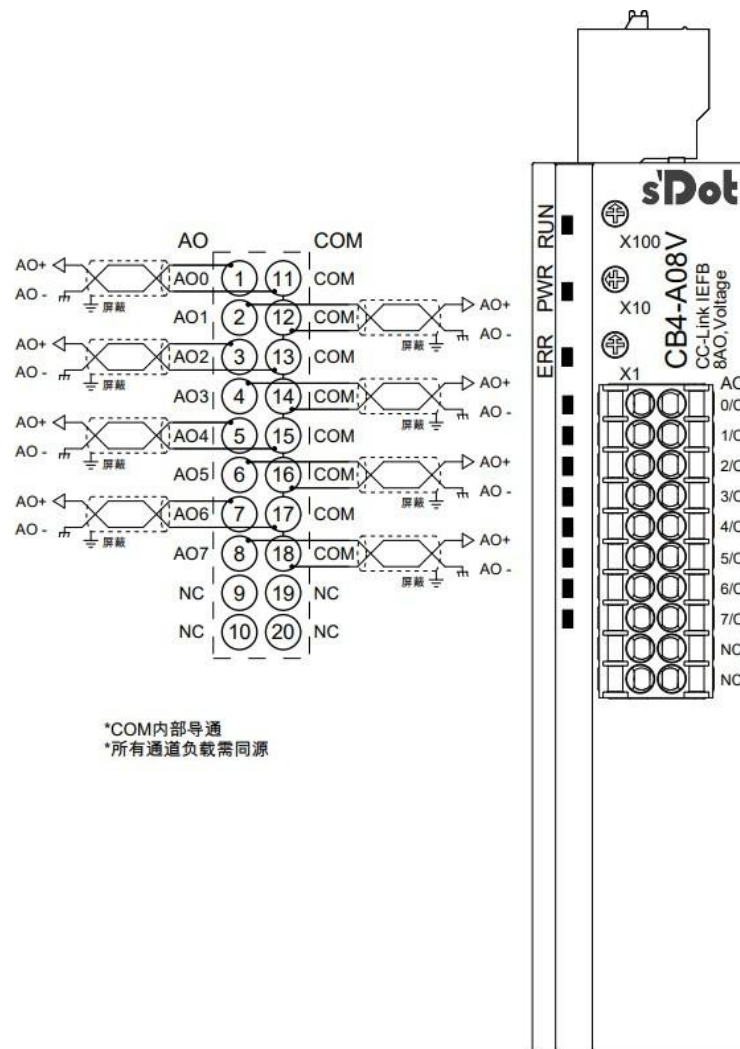
6.3.19 CB4-A40V



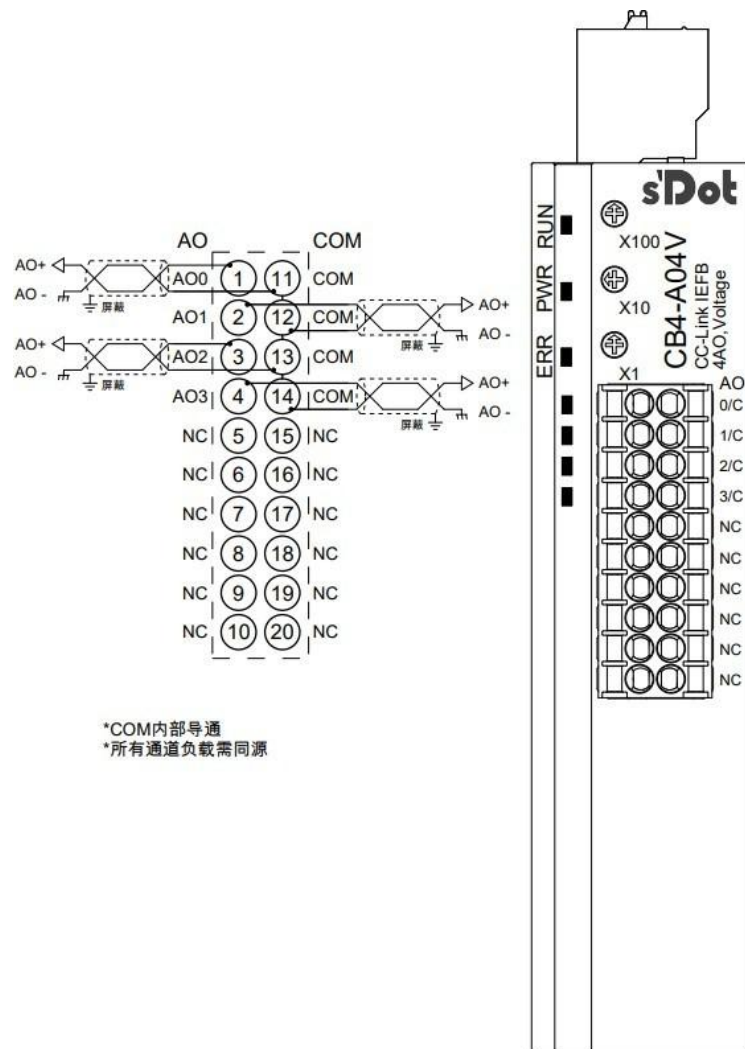
6.3.20 CB4-A40I



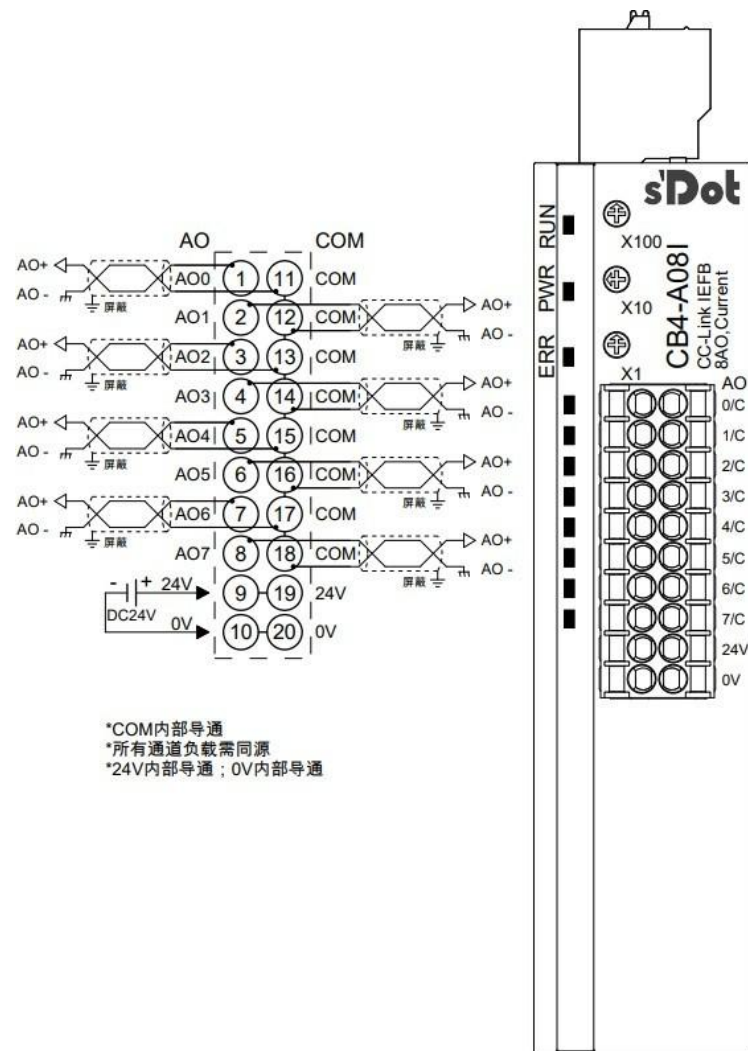
6.3.21 CB4-A08V



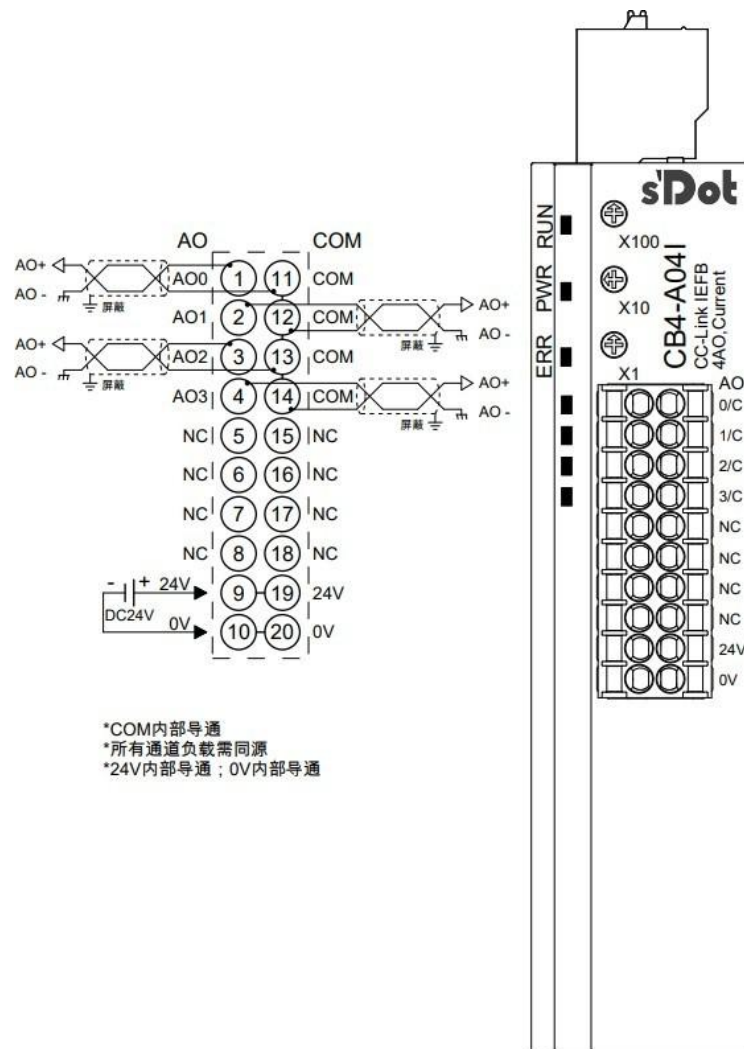
6.3.22 CB4-A04V



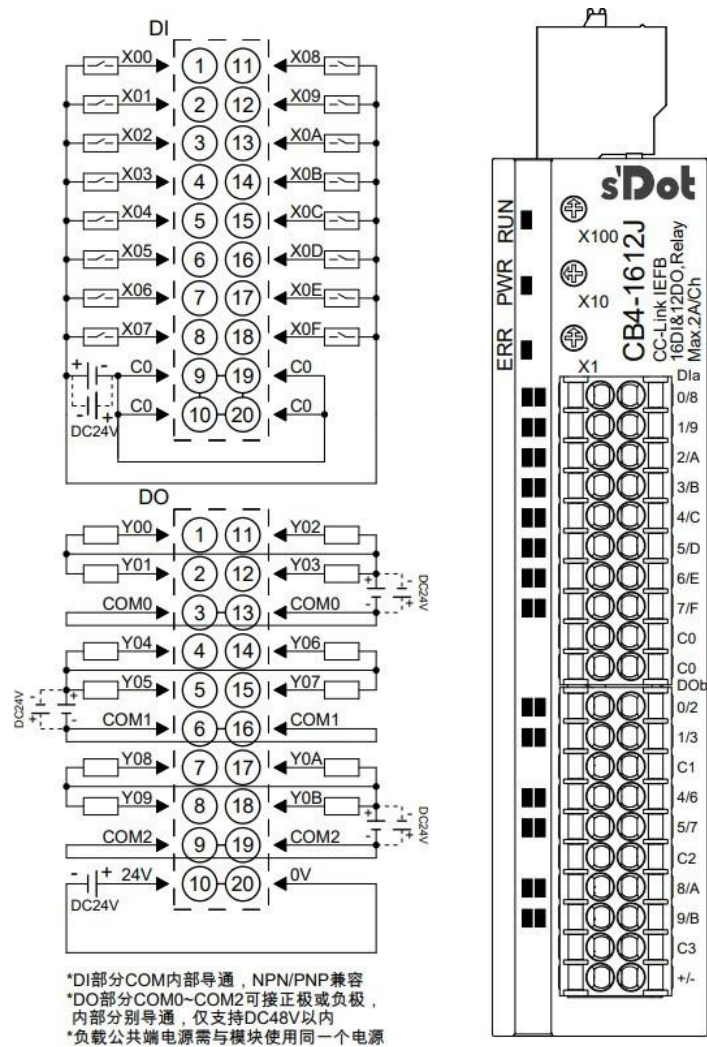
6.3.23 CB4-A08I



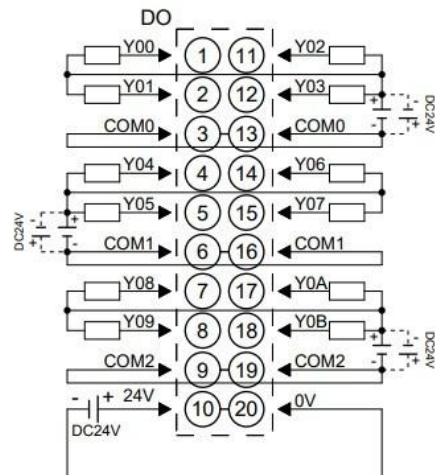
6.3.24 CB4-A04I



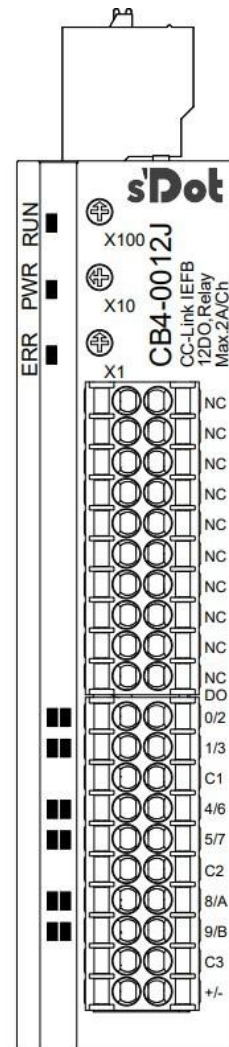
6.3.25 CB4-1612J



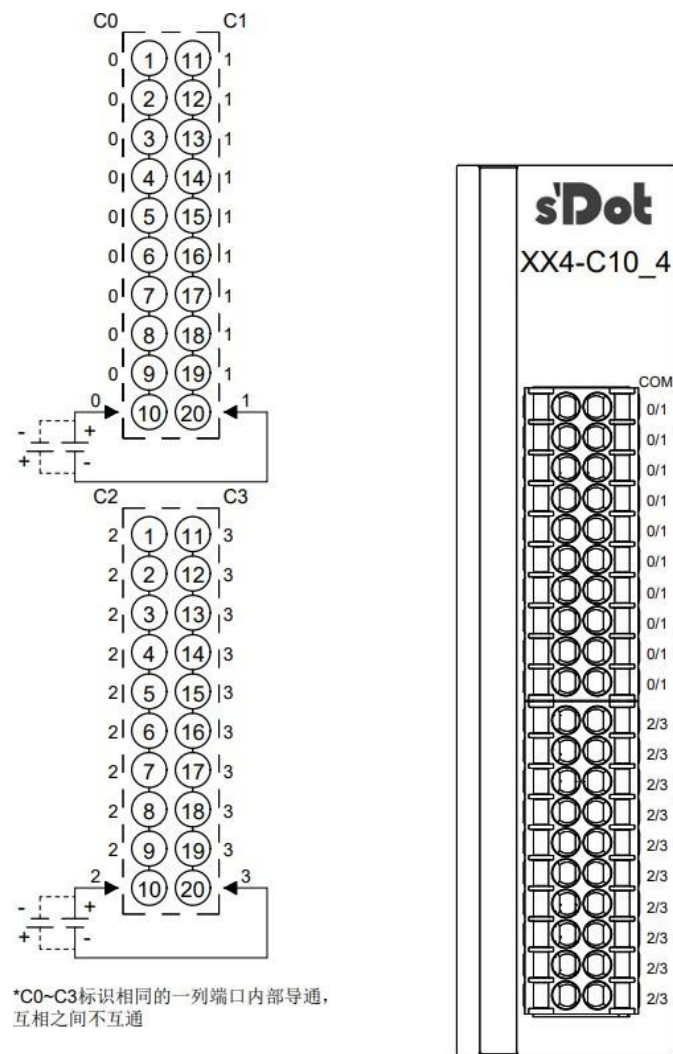
6.3.26 CB4-0012J



*DI部分COM内部导通，NPN/PNP兼容
 *DO部分COM0~COM2可接正极或负极，
 内部分别导通，仅支持DC48V以内
 *负载公共端电源需与模块使用同一个电源



6.4 Common Expansion Module Wiring Diagram



7 Use

7.1 Module Soft Component Description

7.1.1 Soft component allocation

The module soft components are assigned in the following table:

Station type	Number of occupied stations	Soft component	Clarification
Slaves	1	RX	64 bits (8 bytes) For digital input of process data
		RY	64 bits (8 bytes) For digital output of process data for analog input range selection For analog output range selection
		RWr	32 words (64 bytes) For analog input of process data
		RWw	32 words (64 bytes) for analog output process data For analog input filtering configuration

7.1.2 Module Channel and Soft Component Correspondence List

16-channel digital input module		
Signal direction: Input module -> Master		
Soft Component No.	Corresponding Input Channel	Input signal
DI digital input		
RX0~RXF	Channel 0~F	Input signals X0~XF
RX1F~RX3F	nothave	Prohibition on use
RY0~RY3F		
RWr0~RWr3F		
RWw0~RWw3F		

32-channel digital input module		
Signal direction: Input module -> Master		
Soft Component No.	Corresponding Input Channel	Input signal
DIa digital input		
RX0~RXF	Channel 0~F	Input signals X0~XF
DIb digital input		
RX10~RX1F	Channel 0~F	Input signal X10~X1F
RX20~RX3F	nothave	prohibition on use
RY0~RY3F		
RWr0~RWr3F		
RWw0~RWw3F		

16-channel digital output module		
Signal direction: master -> output module		
Soft Component No.	Corresponding Output Channel	output signal
RX0~RX3F	nothave	prohibition on use
DO digital output		
RY0~RYF	Channel 0~F	Output signals Y0~YF
RY10~RY3F	nothave	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

32-channel digital output module		
Signal direction: master -> output module		
Soft Component No.	Corresponding Output Channel	output signal
RX0~RX3F	nothave	prohibition on use
DOa digital output		
RY0~RYF	Channel 0~F	Output signals Y0~YF
DOb digital output		
RY10~RY1F	Channel 0~F	Output signal Y10~Y1F
RY20~RY3F	nothave	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

16-channel digital input/output module		
Signal direction: input module -> master, master -> output module		
Soft Component No.	Corresponding input/output channels	Input/Output Signal
DI digital input		
RX0~RXF	Channel 0~F	Input signals X0~XF
RX10~RX3F	nothave	prohibition on use
DO digital output		
RY0~RYF	nothave	prohibition on use
RY10~RY1F	Channel 0~F	Output signal Y10~Y1F
RY20~RY3F	nothave	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

8-channel digital input/output module		
Signal direction: input module -> master, master -> output module		
Soft Component No.	Corresponding input/output channels	Input/Output Signal
DI digital input		
RX0~RX7	Channel 0~7	Input signals X0~X7
RX8~RX3F	nothave	prohibition on use
DO digital output		
RY0~RY7	nothave	prohibition on use
RY8~RYF	Channel 0~7	Output signals Y8~YF
RY10~RY3F	nothave	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

24-channel digital input, 8-channel digital output module		
Signal direction: input module -> master, master -> output module		
Soft Component No.	Corresponding input/output channels	Input/Output Signal
DI digital input		
RX0~RX17	Channel 0~23	Input signals X0~X17
RX18~RX3F	not have	prohibition on use
DO digital output		
RY0~RY17	not have	prohibition on use
RY18~RY1F	Channel 0~7	Output signal Y18~Y1F
RY20~RY3F	not have	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

8-channel digital input, 24-channel digital output module		
Signal direction: input module -> master, master -> output module		
Soft Component No.	Corresponding input/output channels	Input/Output Signal
DI digital input		
RX0~RX7	Channel 0~7	Input signals X0~X7
RX8~RX3F	not have	prohibition on use
DO digital output		
RY0~RY7	not have	prohibition on use
RY8~RY1F	Channel 0~23	Output signals Y8~Y1F
RY20~RY3F	not have	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

16-channel digital input, 12-channel relay output module		
Signal direction: input module -> master, master -> output module		
Soft Component No.	Corresponding input/output channels	Input/Output Signal
DI digital input		
RX0~RXF	Channel 0~F	Input signals X0~XF
RX10~RX3F	not have	prohibition on use
DO digital output		
RY0~RYF	not have	prohibition on use
RY10~RY1B	Channel 0~B	Output signal Y10~Y1B
RY1C~RY3F		

RWr0~RWr3F		
RWw0~RWw3F		
12 Channel Relay Output Module		
Signal direction: master -> output module		
Soft Component No.	Corresponding Output Channel	output signal
RX0~RX3F	not have	prohibition on use
DO digital output		
RY0~RYB	Channel 0~B	Output signals Y0~YB
RYC~RY3F	not have	prohibition on use
RWr0~RWr3F		
RWw0~RWw3F		

8-channel analog input module		
Signal direction: Input module -> Master		
Soft Component No.	Corresponding Input Channel	input signal
RX0~RX3F	not have	prohibition on use
RY0~RY7	Channel 0 Range Selection	
RY8~RYF	Channel 1 Range Selection	
RY10~RY17	Channel 2 range selection	
RY18~RY1F	Channel 3 range selection	
RY20~RY27	Channel 4 range selection	
RY28~RY2F	Channel 5 range selection	
RY30~RY37	Channel 6 range selection	
RY38~RY3F	Channel 7 Range Selection	
RWr0	Channel 0 Input signal D0	
RWr1	Channel 1 Input signal D1	
RWr2	Channel 2 Input signal D2	
RWr3	Channel 3 Input signal D3	
RWr4	Channel 4 Input signal D4	
RWr5	Channel 5 Input signal D5	
RWr6	Channel 6 Input signal D6	
RWr7	Channel 7 Input signal D7	
RWr8~RWr3F	prohibition on use	
RWw0	Channel 0 Filter Configuration D0	
RWw1	Channel 1 Filter Configuration D1	
RWw2	Channel 2 Filter Configuration D2	
RWw3	Channel 3 Filter Configuration D3	

RWw4	Channel 4 Filter Configuration D4	
RWw5	Channel 5 Filter Configuration D5	
RWw6	Channel 6 Filter Configuration D6	
RWw7	Channel 7 Filter Configuration D7	
RWw8~RWw3F	prohibition on use	
8-channel analog output module		
Signal direction: master -> output module		
Soft Component No.	Corresponding Output Channel	output signal
RX0~RX3F	not have	prohibition on use
RY0~RY7	Channel 0 Range Selection	
RY8~RYF	Channel 1 Range Selection	
RY10~RY17	Channel 2 range selection	
RY18~RY1F	Channel 3 range selection	
RY20~RY27	Channel 4 range selection	
RY28~RY2F	Channel 5 range selection	
RY30~RY37	Channel 6 range selection	
RY38~RY3F	Channel 7 Range Selection	
RWr0~RWr3F	prohibition on use	
RWw0	Channel 0 Output signal D0	
RWw1	Channel 1 Output Signal D1	
RWw2	Channel 2 Output Signal D2	
RWw3	Channel 3 Output Signal D3	
RWw4	Channel 4 Output signal D4	
RWw5	Channel 5 Output signal D5	
RWw6	Channel 6 Output signal D6	
RWw7	Channel 7 Output signal D7	
RWw8~RWw3F	prohibition on use	

4-channel analog input module		
Signal direction: Input module -> Master		
Soft Component No.	Corresponding Input Channel	input signal
RX0~RX3F	not have	prohibition on use
RY0~RY7	Channel 0 Range Selection	
RY8~RYF	Channel 1 Range Selection	
RY10~RY17	Channel 2 range selection	
RY18~RY1F	Channel 3 range selection	
RY20~RY3F	prohibition on use	
RWr0	Channel 0 Input signal D0	
RWr1	Channel 1 Input signal D1	

RWr2	Channel 2 Input signal D2	
RWr3	Channel 3 Input signal D3	
RWr4~RWr3F	prohibition on use	
RWw0	Channel 0 Filter Configuration D0	
RWw1	Channel 1 Filter Configuration D1	
RWw2	Channel 2 Filter Configuration D2	
RWw3	Channel 3 Filter Configuration D3	
RWw4~RWw3F	prohibition on use	
4-channel analog output module		
Signal direction: master -> output module		
Soft Component No.	Corresponding Output Channel	output signal
RX0~RX3F	not have	prohibition on use
RY0~RY7	Channel 0 Range Selection	
RY8~RYF	Channel 1 Range Selection	
RY10~RY17	Channel 2 range selection	
RY18~RY1F	Channel 3 range selection	
RY20~RY3F	prohibition on use	
RWr0~RWr3F	prohibition on use	
RWw0	Channel 0 Output signal D0	
RWw1	Channel 1 Output Signal D1	
RWw2	Channel 2 Output Signal D2	
RWw3	Channel 3 Output Signal D3	
RWw4~RWw3F	prohibition on use	

7.2 Parameter and function configuration

7.2.1 Digital input Filter Time

Digital input filtering prevents the program from responding to unexpected rapid changes in the input signal, which may be caused by switch contact jumps or electrical noise. digital input Filtering is currently fixed at 3ms, which filters out noise up to 3ms, and channels are not individually configurable.

An input filter time of 3ms means that a single signal from "0" to "1" or from "1" to "0" A single signal change from "0" to "1" or from "1" to "0" lasts for 3ms before it can be detected, while a single high pulse or low pulse shorter than 3ms will not be detected.

7.2.2 Analog range configuration function

The analog range setting function allows you to set the analog range for the analog input/output module. (For details of the range, see ["3.3 Analog B"](#))

The range selection is sent through the RY data of the module, each station occupies 8 bytes (64 bits), each channel occupies 1 byte (8 bits), and the channel order corresponds to the start of RY one by

one. For example, RY100 is the starting address, and the address of channel N for range configuration is: $Y100+N*8 \sim Y100+N*8+7$.

Configuration method

See "[7.4 Application in the GX Works3 Software Environment](#)".

7.2.3 Analog filter parameter setting function

The analog input filter function averages the A/D converted data internally to reduce the effects of fluctuations in the input signal due to noise.

Analog inputs are processed as moving averages with a specified number of A/D conversions. Each channel can be configured individually.

Configuration range: 1 to 1000; default 10;

The sampling rate of the 8-channel module is: 1.25KHZ/8 channels (800us/8 channels);

4-channel module sampling rate is: 2.5KHZ/4 channels (400us/4 channels).

The range selection is sent through the RWw data of the module, each station occupies 32 words (64 bytes), each channel occupies 1 word (2 bytes), and the order of the channels corresponds to RWw one by one. If RWw2000 is the starting address, the address of channel N to configure the range is: $RWw2000+N*16 \sim RWw2000+N*16+15$.

Configuration method

See "[7.4 Application in the GX Works3 Software Environment](#)".

7.3 Configure the Modify IP function

7.3.1 Setting the IP address with rotary switches

➤ When the IP address is set by rotary switch from the factory state

The IP address is 192.168.3.XXX (XXX is the setting value of the rotary switch, range 1 to 254).

➤ When setting the IP address with the rotary switch from the state where the IP address has already been set, the IP address is set.

The IP address follows the high 3 bytes and the low 1 byte of the already set IP address as the setting of the rotary switch. For example, if you change the setting of the rotary switch after the IP address has been set to 172.10.0.12.

The IP address is 172.10.0.XXX (XXX is the setting of the rotary switch from 1 to 254).

caveat

- For a description of the rotary switch and how to operate it, see "[4.3 Rotary switch](#)".
- When the module is shipped from the factory, the rotary switch is set to "000" and the IP address is 192.168.3.100.
- Only the host bits of the IP address can be modified, not the network segment. If a segment has been assigned, the module forms an IP address from the assigned segment, if not, it forms an IP address from the 192.168.3 segment.
- Abnormal rotary switch setting: When the rotary switch is set to 255 or more than 255, the module will start with the IP modified by the previous host computer after powering up.

7.3.2 Modify IP address with Conf_TestTool_ToMaster.exe utility

1. After the hardware connection is completed and power is supplied, turn the rotary switch to the IP host position to be assigned, and set the IP address of the computer installing the tool to the same network segment as the IP of the module. (For example, the default factory IP address of the module is 192.168.3.100, and the IP address of the computer can be changed to 192.168.3.11.)
2. Open Conf_TestTool_ToMaster.exe, select "Step2.Test executed", select the network device to be used in "IP address (master station ID)", click "Detect Connected Device", record the MAC address in "serverMACAddr". Test executed", in "IP address (master station ID)", select the network device, click "Detect Connected Device", record the MAC address in "serverMACAddr".
3. Click "IP address setting of connected devices", fill in the recorded MAC address in "Slave station MAC address", fill in the IP address to be set for the slave station in "IP address to be set for the slave station", and click "Execute" to complete the IP address modification. "IP address to be set for the slave station", fill in the IP address that needs to be changed, click "Execute" to complete the IP address modification.

Caveat

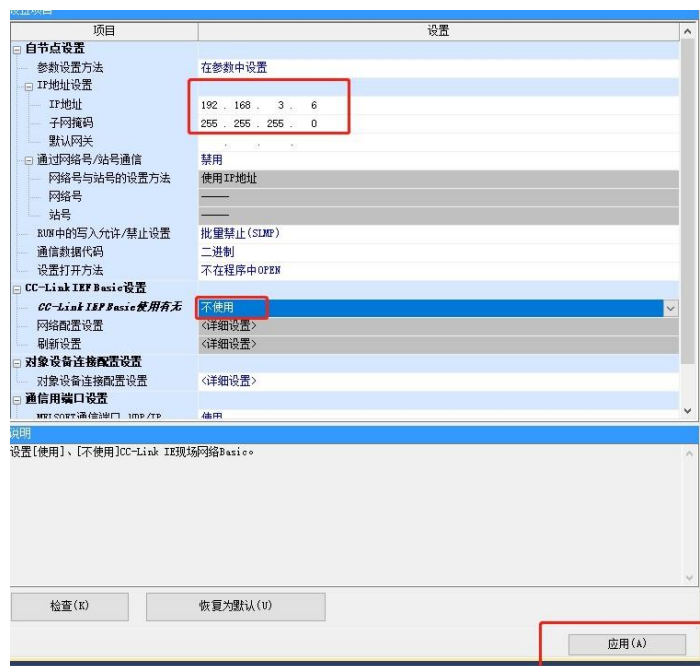
- The module needs to be powered up and properly connected to the host computer.
- When modifying the same network segment, "Normally Processed" will pop up when the modification is successful; when modifying different network segments successfully, "Failed to set IP address" will pop up when the network segments are different and cannot be connected.

7.3.3 Setting the IP address from the host computer GX Works3

This section describes how to change the IP address, using the Mitsubishi FX-5U and GX Works3 as examples.

- a. Install the CSP file, see [7.4 Application in GX Works3 Software Environment](#) for details.
- b. Create a project, see [7.4 Application in GX Works3 Software Environment](#) for details on how to create a project.
- c. Since the rotary switch is set to "000" and the IP address is 192.168.3.100 when the module is shipped from the factory, the IP addresses of the PLC and the module must be in the same network segment when connecting to the module for the first time, or else the scanning will not be successful directly.

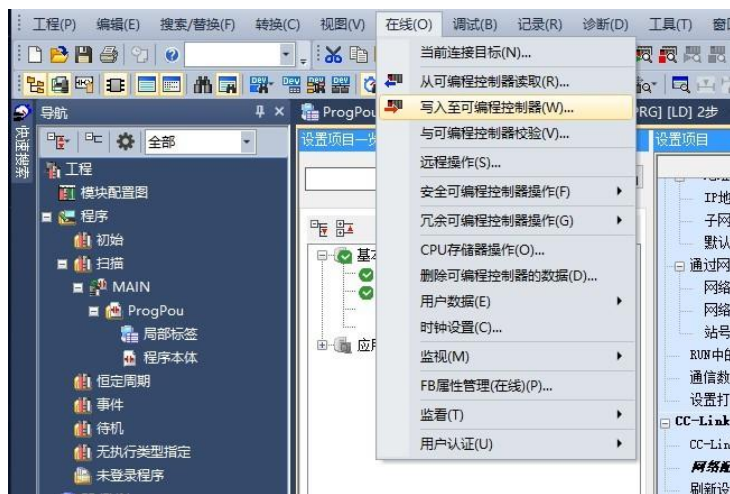
If the PLC is not in 3 network segments, in the left navigation interface, double click "Parameter -> CPU Module Model -> Module Parameter", set the PLC to be in 3 network segments under IP Address Setting, and select "Not Used" for the drop-down box of "Use or Not Use" for CC-Link IEF Basic, and click "Apply", as shown in the following figure. "Click "Apply", as shown in the figure below.



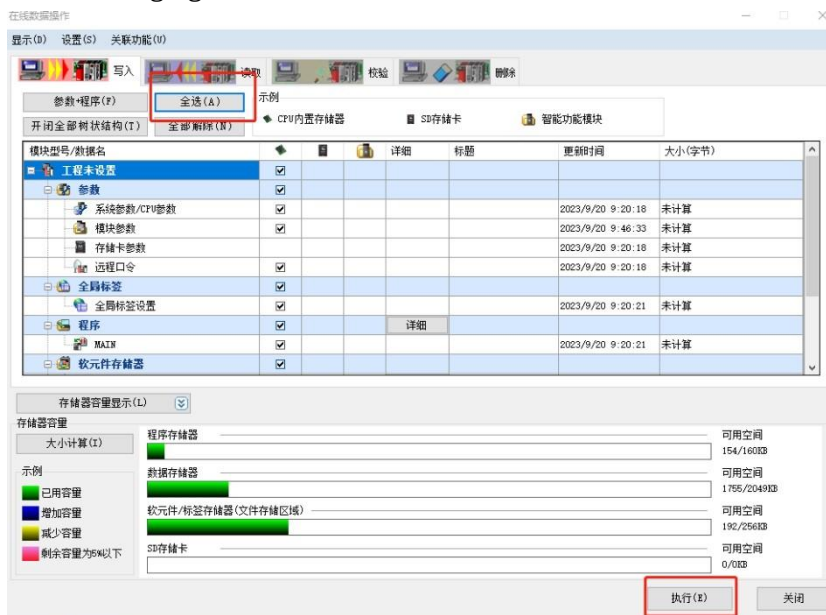
- d. Click "Convert" in the menu bar, click "Convert All", as shown below.



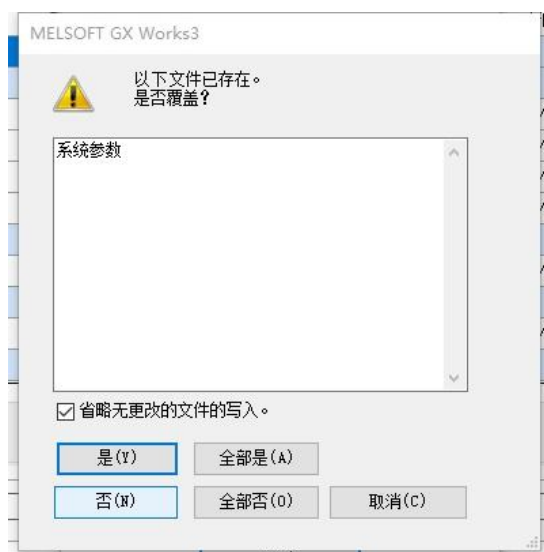
- e. Click "Online" in the menu bar, and then click "Write to Programmable Controller" to write the set parameters to the CPU module of the master station, as shown in the figure below.



- f. The "Online Data Operation" dialog box appears, select "Select All" and click "Execute", as shown in the following figure.



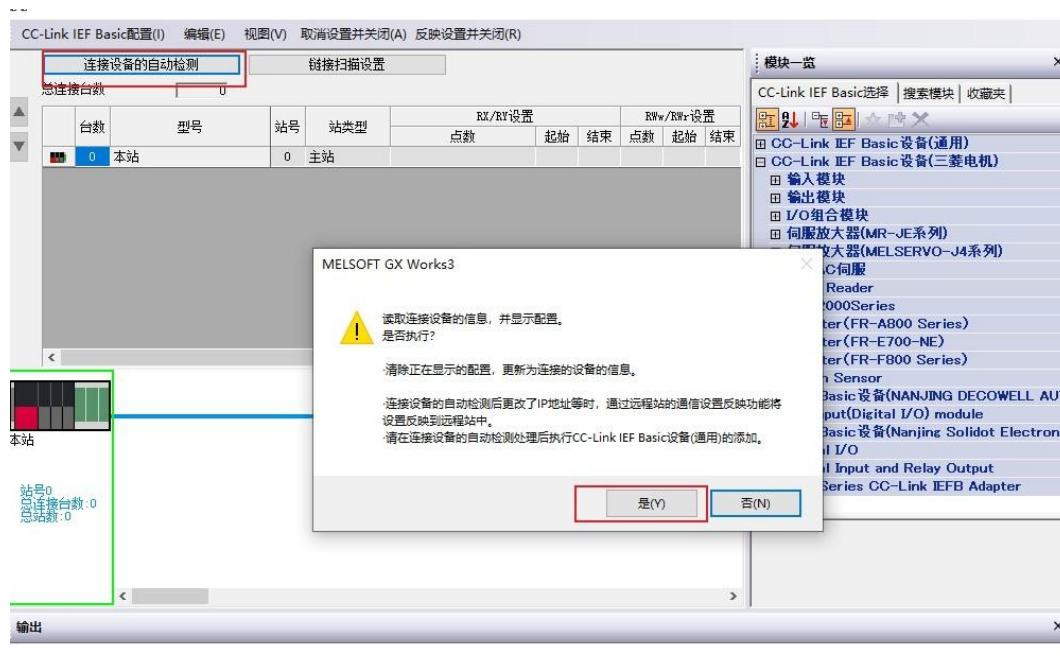
- g. Pop-up box "Parameters already exist, do you want to overwrite them?" Select "Yes to all" as shown below.



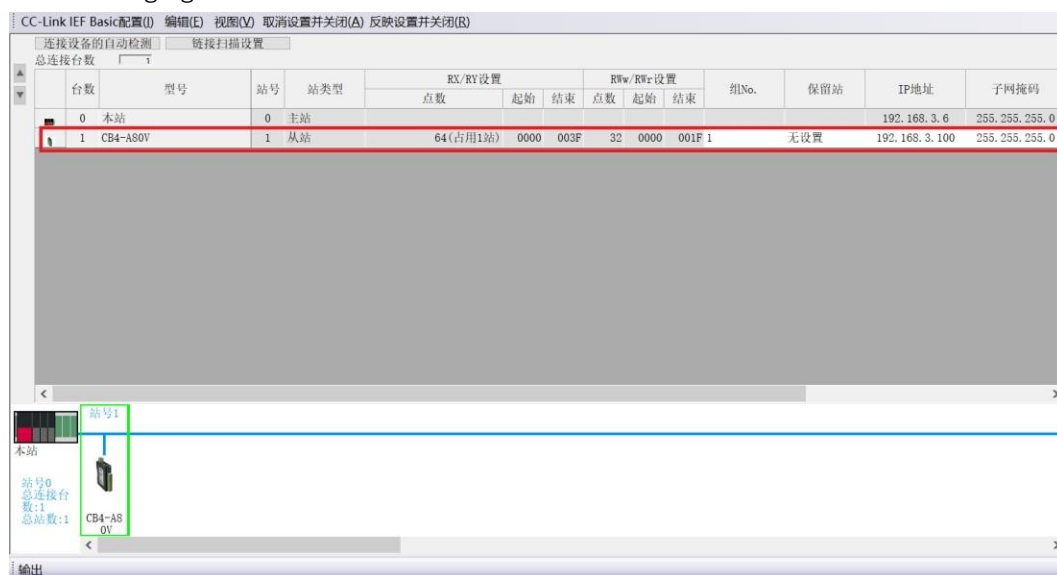
- h. At this point, the download of setup parameters is complete, click "Close".
- i. Power the module back up after disconnecting it from the PLC.
- j. After the PLC is re-powered up, the PLC has been set to 3 network segments, under the setting item interface, select "Use" for the drop-down box of "CC-Link IEF Basic Use or Not", double click "Network Configuration", and click "Settings -> Detailed Settings", as shown in the following figure. Double click "Network Configuration -> Detailed Settings", as shown in the figure below.



- k. In the pop-up window of CC-Link IEF Basic Configuration, click "Automatic Detection of Connected Devices", a pop-up box will appear, select "Yes", as shown in the following figure. Select "Yes", as shown in the following figure.



- l. When the scanning is complete, information about the connected modules is displayed as shown in the following figure.



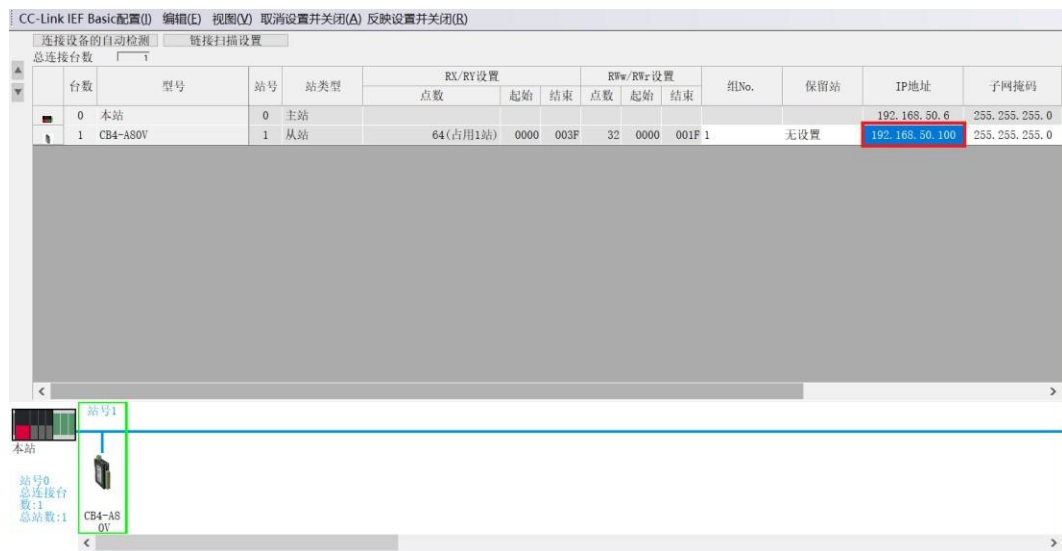
- m. To modify the PLC to use the 50 segment, click Reflect Settings and Close as shown below.



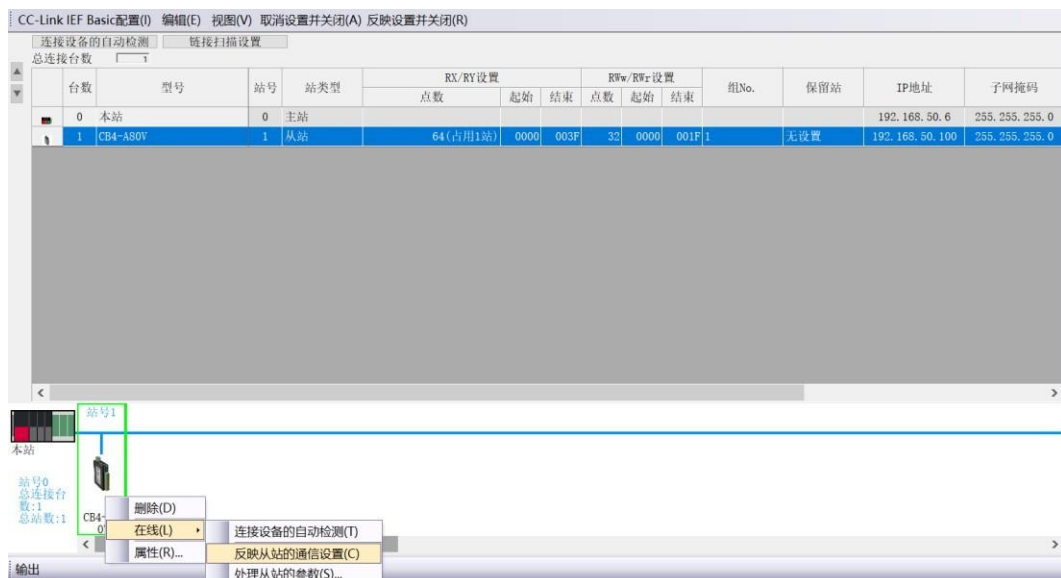
- n. Under Setting item interface, set PLC as 50 network segment under IP address setting, double click "Network Configuration Settings -> Detailed Settings", as shown in the following figure.



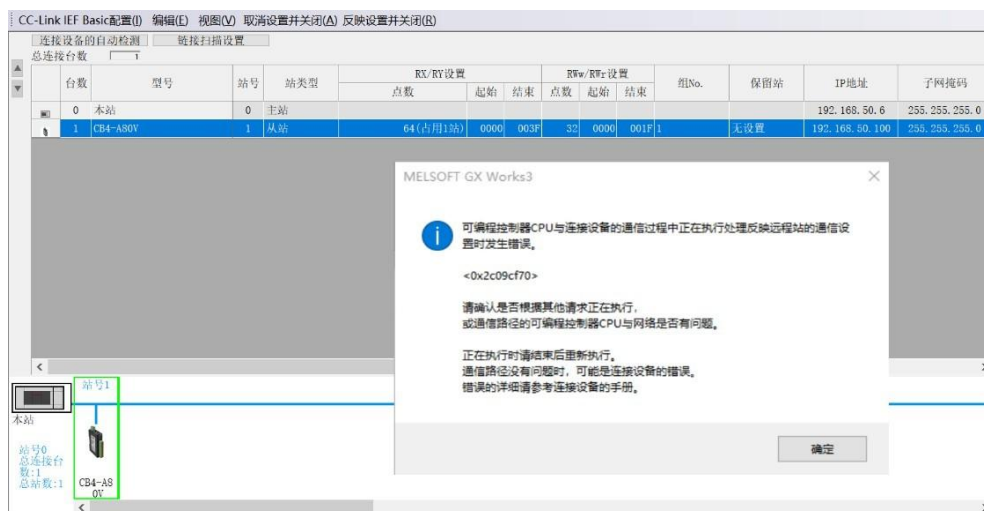
- o. In the CC-Link IEF Basic Configuration window, change the IP address of the module to the 50 segment as well, as shown in the following figure.



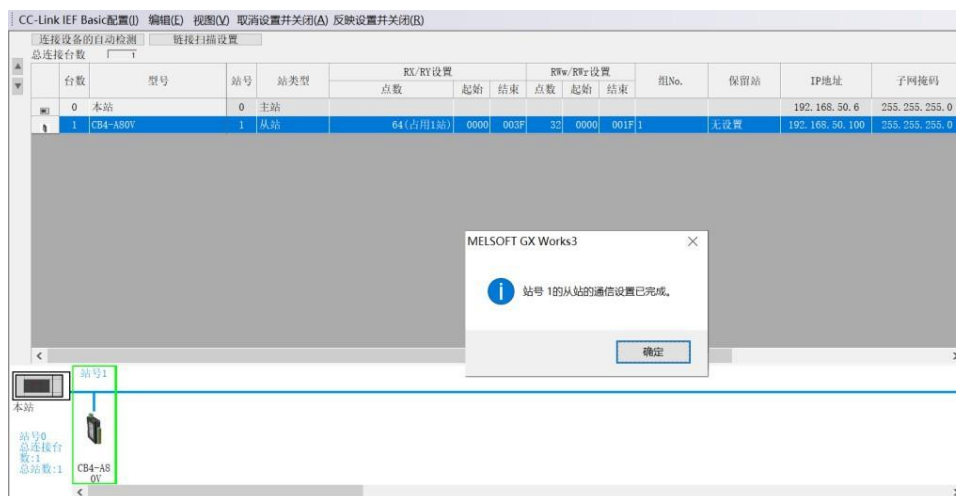
- p. Right-click the slave device and select "Online -> Reflect communication settings of remote station" as shown in the following figure.



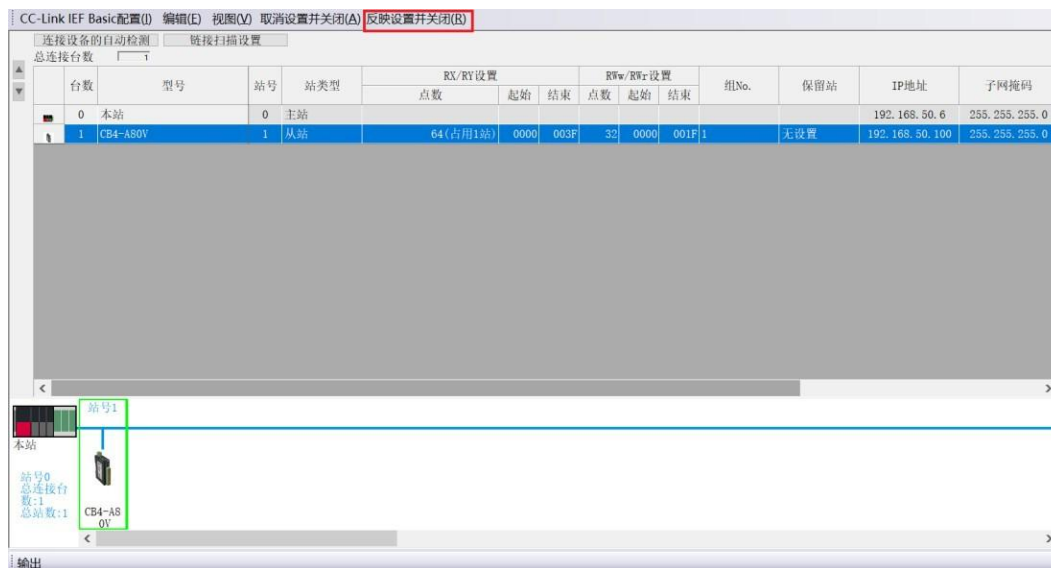
- q. The prompt box shown below pops up, click "OK".



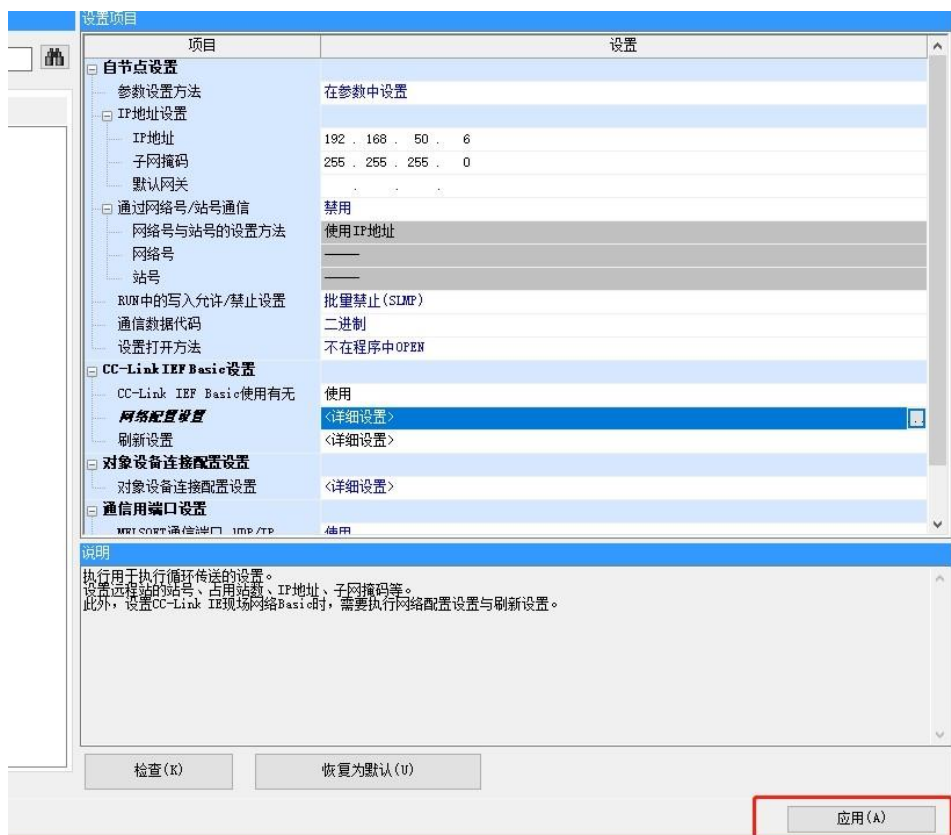
- r. Or pop-up box as shown below, click "OK".



- s. Click "Reflect settings and close" as shown below.



- t. After clicking "Apply", repeat steps d~i as shown below.



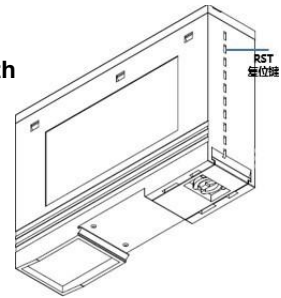
- u. After the PLC is re-powered, the network segments of the PLC and the module are in the same network segment, and the IP change setting is successful. If the PLC and the module have already communicated successfully, you only need to perform steps m~t to change the IP.

7.3.4 Reset operation and restoration of factory settings

1. If the IP address is forgotten, lost or other abnormal conditions occur during use, the IP address of the module can be reset through the reset function. Set the rotary switch to 0, press and hold the reset button for more than 1s until the RUN light and ERR light flash alternately. If the rotary switch is not 0 and a reset is performed, the assigned IP parameters of the module will be cleared and the default network bit 192.168.3 will take effect, with the host bit equal to the current rotary switch setting.
2. If the rotary switch is 0 or greater than 254, perform the reset operation, then reset the module IP address to 192.168.3.100, that is, restore the factory settings.
3. The reset operation only clears the IP address, but not the channel parameter configuration.

Caveat

- When the module is powered on, press and hold the reset button for more than 1s until the RUN and ERR lamps flash alternately and release it immediately.
- Use an insulated tool with a diameter or thickness of less than 1.2mm for th



7.4 Application in GX Works3 software environment

1. Preparations

- **Hardware environment**

- **Module preparation**

This description uses the CB4-A80V module as an example

- **One computer with GX Works3 software pre-installed**
 - **Mitsubishi PLC one, this description to FX-5U for example**
 - **CC-Link IE Field Basic Specialized Shielded Cable**
 - **One switching power supply**
 - **Module mounting rails and rail mounts**
 - **Device Configuration Files**

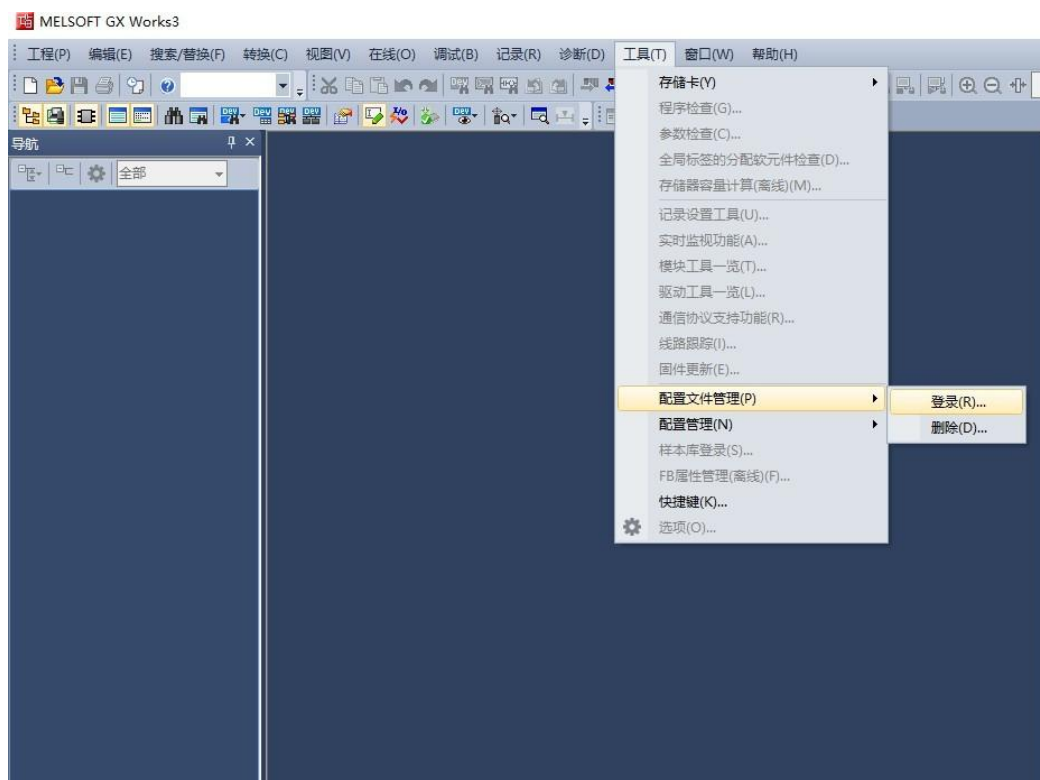
Configuration file access: <https://www.solidotech.com/documents/configfile>

- **Hardware configuration and wiring**

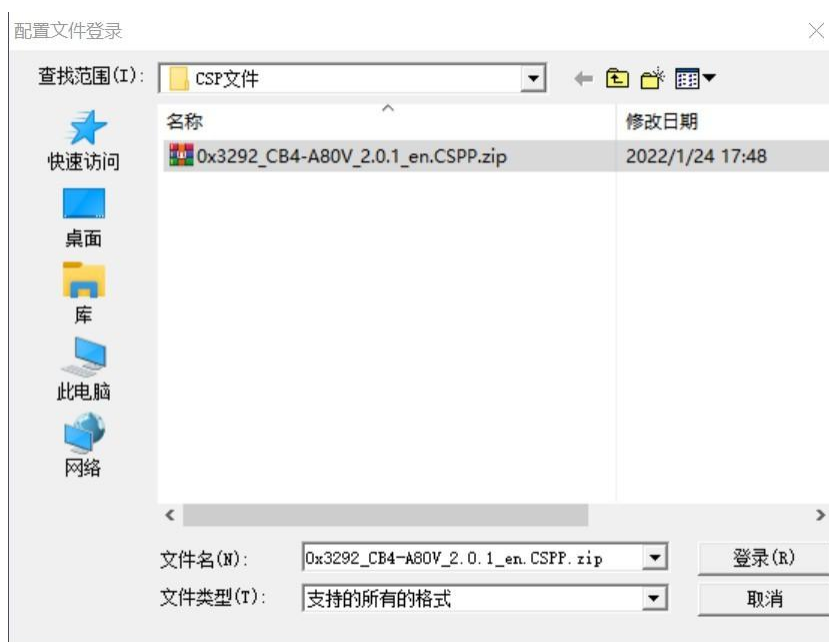
Follow **"5 Mounting and dismounting"** and **"6 Wiring"**.

2. Installation of CSP files

- Open the GX Work3 software, click "Tools" in the menu bar, and then click "Profile Management -> Login", as shown in the following figure.



- b. In the pop-up box, select the CSP file you want to add and click "Login" to complete the installation, as shown below.



Note: Configuration files do not need to be unpacked, you need to close the project when installing; configuration files, if you need to replace, be sure to uninstall before adding.

3. Creating projects

- a. Click "Project" in the menu bar and click "New Project".
- b. The New Project dialog box pops up, select "FX5CPU" for PLC series, "FX5U" for PLC type, and the default program language is ladder diagram.
- c. Click OK, as shown below.



List of supported masters for CB4 module:

MELSEC iQ-R	
Brand name	model number
Programmable controller	CPUR00CPU, R01CPU, R02CPU, R04CPU, R04ENCPU, R08CPU, R08ENCPU, R16CPU, R16ENCPU, R32CPU, R32ENCPU, R120CPU, R120ENCPU
C Controller Module	R12CCPU-V
MELSEC iQ-L	
CPU Module	L04HCPU, L08HCPU, L16HCPU
MELSEC iQ-F	
FX5UJ CPU Module	FX5UJ-24MR/ES, FX5UJ-24MT/ES, FX5UJ-24MT/ESS, FX5UJ-40MR/ES, FX5UJ-40MT/ES, FX5UJ-40MT/ESS, FX5UJ-60MR/ES, FX5UJ-60MT/ES, FX5UJ-60MT/ESS
FX5U CPU Module	FX5U-32MR/ES、FX5U-32MT/ES、FX5U-32MT/ESS、FX5U-64MR/ES、FX5U-64MT/ES、FX5U-64MT/ESS、FX5U-80MR/ES、FX5U-80MT/ES、FX5U-80MT/ESS、FX5U-32MR/DS、FX5U-32MT/DS、FX5U-32MT/DSS、FX5U-64MR/DS、FX5U-64MT/DS、FX5U-64MT/DSS、FX5U-80MR/DS、FX5U-80MT/DS、FX5U-80MT/DSS
FX5UC CPU Module	FX5UC-32MT/D, FX5UC-32MT/DSS, FX5UC-64MT/D, FX5UC-64MT/DSS, FX5UC-96MT/D, FX5UC-96MT/DSS, FX5UC-32MT/DS-TS, FX5UC-32MT/DSS-TS, FX5UC-32MR/DS-TS
FX5 Intelligent Function Module	FX5-ENET
MELSEC-Q	
General-purpose high-speed type QCPU	Q03UDVCP, Q04UDVCP, Q06UDVCP, Q13UDVCP, Q26UDVCP
MELSEC-L	
Ethernet port with built-in LCP	L02CPU, L02CPU-P, L06CPU, L06CPU-P, L26CPU, L26CPU-P, L26CPU-BT, L26CPU-PBT
MELIPC	
MELIPC MI5000 Series	MI5122-VW

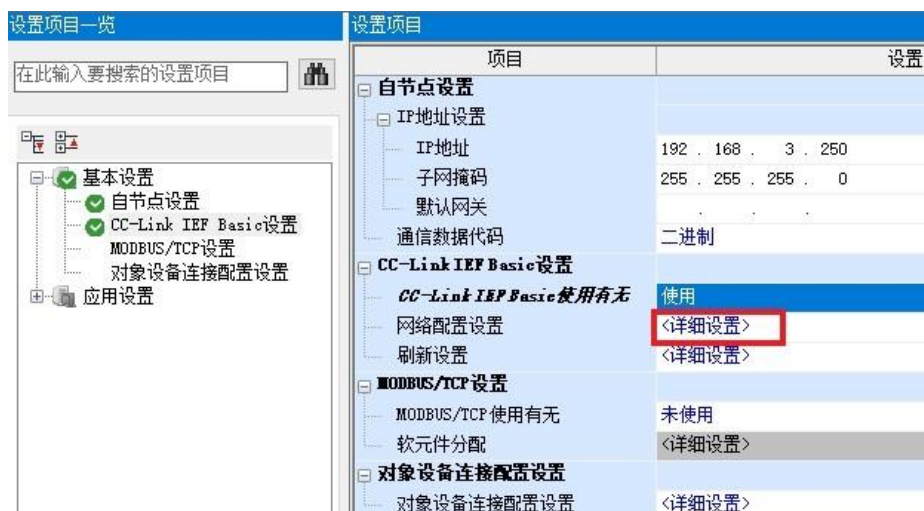
4. Setting up to use CC-Link IE Field Network Basic

- a. In the left navigation interface, select "Parameter -> CPU Module Model", double click "Module Parameter", set the IP address of CPU under IP Address Setting, and select "Use" in the drop-down box of "Use or not use" of CC-Link IEF Basic, as shown in the following figure. Select "Use" in the drop-down box of "Use or not" of CC-Link IEF Basic, as shown in the following figure.

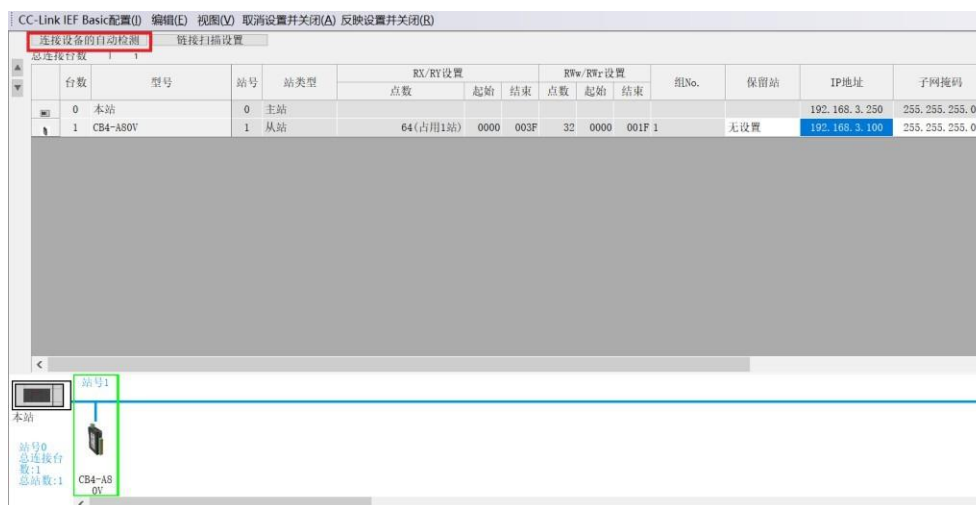


Note: You need to set the IP of CPU and CB4-A80V to the same network segment.

- b. Under the Settings item interface, select "Network Configuration Settings" and double-click "Detailed Settings", as shown in the following figure.

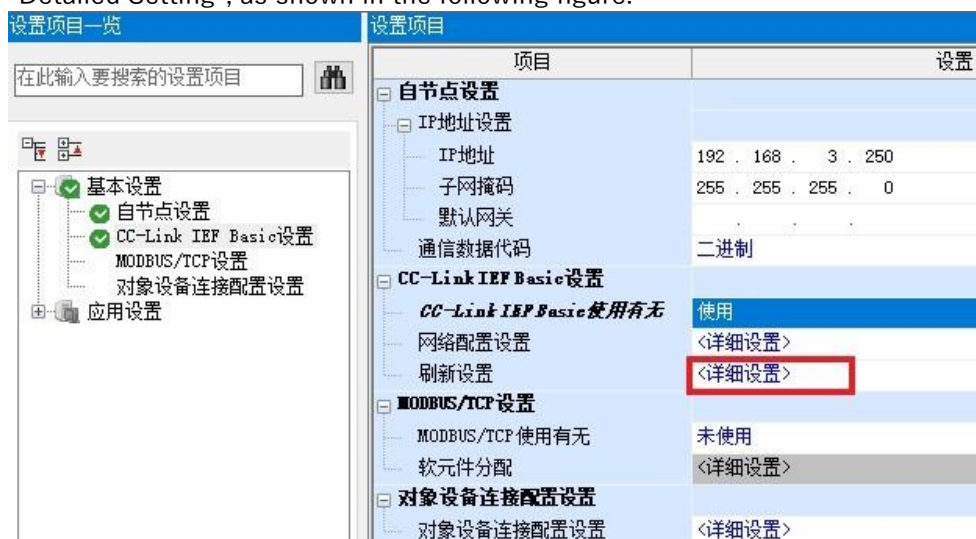


- c. In the pop-up window of CC-Link IEF Basic Configuration, click "Auto Detection of Connected Devices" to automatically add the connected modules to the network, as shown in the following figure.



5. Refresh side setting

- a. In the left navigation interface, select "Parameter -> CPU Module Model", and double click "Module Parameter".
- b. Under Setting item interface, select "CC-Link IEF Basic Setting -> Refresh Setting", double click "Detailed Setting", as shown in the following figure.



- c. Configure the relevant parameters, after the configuration is complete, click "Apply", as shown in the following figure.

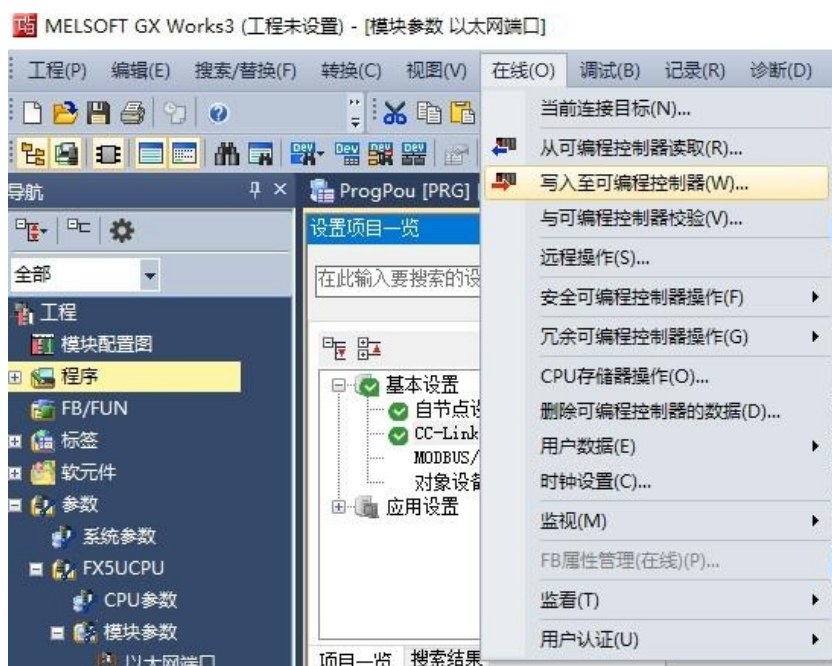


6. Download setup parameters

- a. Click "Convert" in the menu bar, click "Convert All", as shown below.



- b. Click "Online" in the menu bar, and then click "Write to Programmable Controller" to write the set parameters to the CPU module of the master station, as shown in the figure below.



- c. The "Online Data Operation" dialog box will pop up, select "Select All", as shown in the following figure.

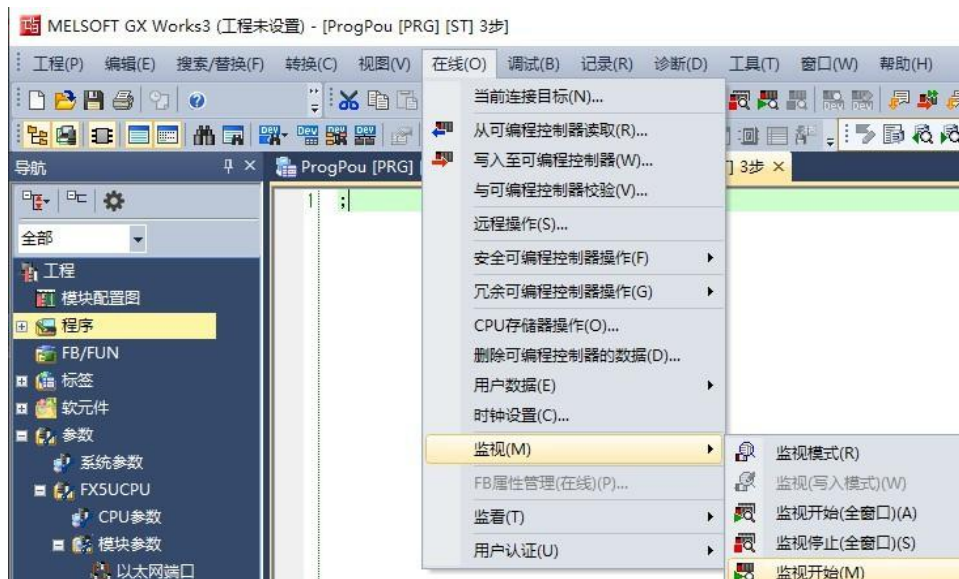


- d. Click on "Execute".
- e. A popup box appears, "After executing Remote STOP, do you want to execute PLC Write?" Select "Yes".
- f. A lower level prompt box pops up "Parameters already exist, do you want to overwrite them?" Select "Yes to all".
- g. A lower level prompt box pops up "No data exists in the soft component comment (COMMENT). No write was performed." Click OK.
- h. A prompt box "The CPU is in STOP state. Select "Yes".

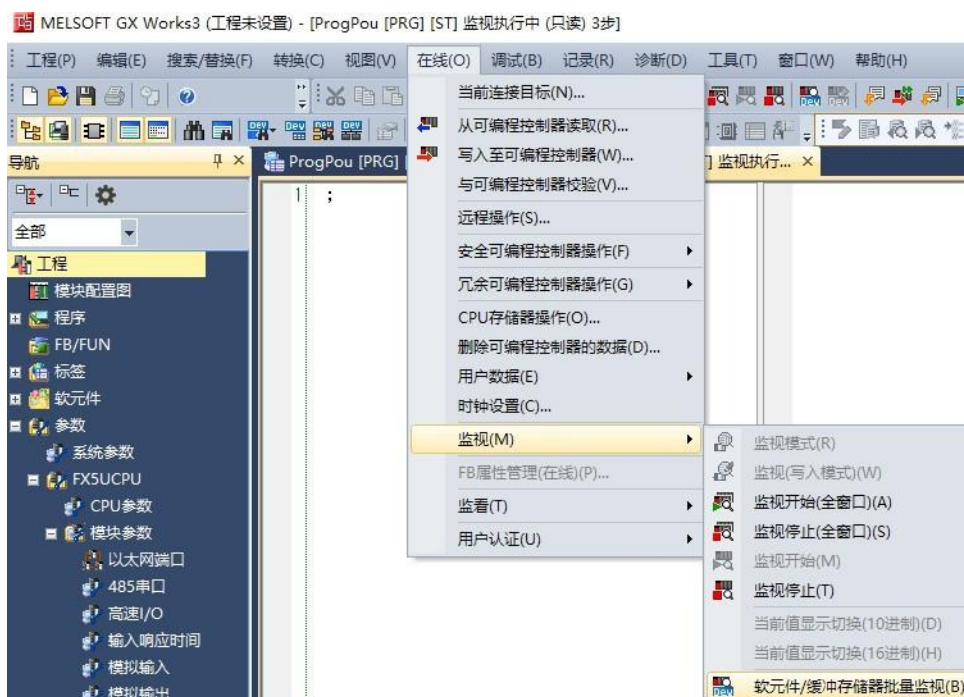
- i. A pop-up box "Completed", click "OK".
- j. At this point, the download of setup parameters is complete, click "Close".
- k. Power the module back up after disconnecting it from the PLC.

7. Adding soft components or buffer memory

- a. Select "Online -> Monitor -> Monitor Start" as shown below.



- b. Select "Online -> Monitor -> Bulk Monitor for Soft Components/Cache Storage" as shown in the following figure.



➤ Analog process data

For analog process data, as shown below, add D1000, each channel occupies 16 bits, D1000 corresponds to channel 0, D1001 corresponds to channel 1, and so on;

When used in cascade, RWr occupies 32 words (64 bytes) in each station, as shown in the figure below, the starting address of the first module is D1000, and the starting address of the second module is D1032.

☒ 软元件名(N)

☐ 缓冲存储器(M) 智能模块号(U) (16进制) 地址(A)

软元件名	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	当前值	字符串
D1000	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	-7	?
D1001	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	7	..
D1002	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	7	..
D1003	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	..
D1004	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	15	..
D1005	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	12	..
D1006	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	25	..
D1007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D1021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..

➤ **Analog range configuration function**

For analog range selection parameters, as shown in the following figure, add Y100, each channel occupies 8 bits, Y100 corresponds to channel 0, Y110 corresponds to channel 1, and so on;

In the following figure, channel 0 is configured as range 0, channel 1 is configured as range 1, channel 2 is configured as range 2, and channel 7 is configured as range 7.

When used in cascade, RY occupies 64 bits (8 bytes) in each station. the starting address of the first module is Y100, and the starting address of the second module is Y100+8 bytes. as shown in the following figure, the starting address of the first module is Y100, and the starting address of the second module is Y200.

☒ 软元件名(N) Y100

☐ 缓冲存储器(M) 智能模块号(U)

软元件名	7	6	5	4	3	2	1	0
Y100	0	0	0	0	0	0	0	0
Y110	0	0	0	0	0	0	0	1
Y120	0	0	0	0	0	0	1	0
Y130	0	0	0	0	0	0	1	1
Y140	0	0	0	0	0	1	0	0
Y150	0	0	0	0	0	1	0	1
Y160	0	0	0	0	0	1	1	0
Y170	0	0	0	0	0	1	1	1
Y200	0	0	0	0	0	0	0	0
Y210	0	0	0	0	0	0	0	0
Y220	0	0	0	0	0	0	0	0
Y230	0	0	0	0	0	0	0	0
Y240	0	0	0	0	0	0	0	0
Y250	0	0	0	0	0	0	0	0
Y260	0	0	0	0	0	0	0	0
Y270	0	0	0	0	0	0	0	0
Y300	0	0	0	0	0	0	0	0
Y310	0	0	0	0	0	0	0	0
Y320	0	0	0	0	0	0	0	0

➤ Analog filter parameter setting function

The analog input filter parameters, as shown in the following figure, add D2000, each channel occupies 16 bits, D1000 corresponds to channel 0, D2001 corresponds to channel 1, and so on;

In the figure below, channel 0~channel 7 are configured as 10;

When used in cascade, RWw occupies 32 words (64 bytes) in each station, as shown in the following figure, the starting address of the first module is D2000, and the starting address of the second module is D2032.

☒ 软元件名(N) D2000

☐ 缓冲存储器(M) 智能模块号(U) (16进制) 地址(A)

软元件名	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	当前值	字符串
D2000	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2001	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2002	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2003	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2004	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2005	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2006	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2007	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	10	..
D2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..
D2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	..

8 FAQ

1. Is it possible to change the IP address of the module through the host computer?

When the rotary switch is not 0, the IP address can also be changed by the host computer, but after rebooting the module, the host bit of the IP is the rotary switch value.