DECOWELL®

Industrial Signal Processing Specialist

EX Series Card I/O

User Manual

Decowell Reliable partner for intelligent manufacturing

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Preface

Information introduction

Thank you for purchasing the DECOWELL EX series card-type I/O module!

The EX series card-type I/O module is a distributed expansion module developed by DECOWELL. This series of modules consists of adapters, I/O modules, power modules, and terminal modules. The adapter can support a variety of communication buses, such as PROFINET, EtherCAT, DeviceNet, Modbus RTU, PROFIBUS-DP, etc. I/O modules can be divided into digital input modules, digital output modules, analog input modules, analog output modules and function modules. Users can match them according to actual applications.

Digital input modules and digital output modules are commonly used I/O modules in the EX series.

This manual mainly describes the specifications, features and usage of this module. Please read it carefully before use in order to use this product more clearly and safely.

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Safety Precautions

Security statement

01. When installing, operating, and maintaining the product, please read and abide by these safety precautions.

02. To ensure personal and equipment safety, when installing, operating and maintaining the product, please follow the signs on the product and all safety precautions described in the manual.

03. The "tips", "notice", "warn" and "danger" items in the manual do not represent all the safety matters that should be followed, but are only a supplement to all safety precautions.

04. This product should be used in an environment that meets the design specifications. Otherwise, it may cause malfunctions. Functional abnormalities or component damage caused by failure to follow relevant regulations are not covered by the product quality guarantee.

05. Deckerwill does not bear any legal responsibility for personal safety accidents, property losses, etc. caused by illegal operation of products.

Security level definition

Tips

This mark means "necessary additions or clarifications to the description of the operation."

Notice

This mark states "Danger caused by failure to operate as required, which may result in mild or moderate personal injury and equipment damage."

warn

This mark indicates "danger caused by failure to operate as required, which may result in personal injury or death."

When designing the control system warn

01. Please be sure to design a safety circuit when applying to ensure that the control system can still work safely when the external power supply is powered off or the expansion module fails;

02. When overcurrent occurs for a long time due to exceeding the rated load current or load short circuit in the output circuit, the module may smoke or catch fire. Safety devices such as fuses or circuit breakers should be installed externally.

When designing the control system Notice

01. Be sure to set up emergency braking circuits, protection circuits, interlock circuits for forward and reverse operations, and position upper and lower limit interlock switches to prevent machine damage in the external circuit of the expansion module;

02. In order to ensure that the equipment can operate safely, please design external protection circuits and safety mechanisms for output signals related to major accidents;

03. When the output units such as relays and transistors of the expansion module are damaged, their output cannot be controlled to the ON or OFF state;

04. The expansion module is designed to be used indoors and in an electrical environment with overvoltage level II. The power supply system level should have a lightning protection device to ensure that lightning overvoltage is not applied to the power input terminal, signal input terminal, and control output terminal of the expansion module. Wait for the port to avoid damaging the device.

05. Be sure to set up emergency braking circuits, protection circuits, interlock circuits for forward and reverse operations, and position upper and lower limit interlock switches to prevent machine damage in the external circuit of the expansion module;

06. In order to ensure that the equipment can operate safely, please design external protection circuits and safety mechanisms for output signals related to major accidents;

07. When the output units such as relays and transistors of the expansion module are damaged, their output cannot be controlled to the ON or OFF state;

08. The expansion module is designed to be used indoors and in an electrical environment with overvoltage level II. The power supply system level should have a lightning protection device to ensure that lightning overvoltage is not applied to the power input terminal, signal input terminal, and control output terminal of the expansion module. Wait for the port to avoid damaging the device.

1.Product Information

1.1 Digital input module

1.1.1 Product model information

Model	Specification Description	Order
EX-2008	8 digital inputs, the input signal is low level NPN	02-02-01
EX-2108	8 digital inputs, the input signal is high level PNP	02-02-02
EX-2018	8 digital inputs, the input signal is low level NPN Support 2/3 wire sensor	02-02-06
EX-2118	8 digital inputs, the input signal is low level PNP Support 2/3 wire sensor	02-02-07
EX-200H	16 digital inputs, the input signal is low level NPN	02-02-03
EX-210H	16 digital inputs, the input signal is high level PNP	02-02-04
EX-202H	16 digital inputs, the input signal is low level NPN Channels DI-E and DI-F support input signal and counting signal switching	02-02-08
EX-212H	16 digital inputs, the input signal is high level PPN Channels DI-E and DI-F support input signal and counting signal switching	02-02-09
EX-2C0S	32 digital inputs, input signal NPN or PNP Must be used with external terminal block	02-02-05
EX-203S	32 digital inputs, input signal is NPN	02-02-17
EX-213S	32 digital inputs, input signal is PNP	02-02-18

1.1.2 Technical specifications

● EX-2008/EX-2108 input module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-2008	EX-2108
Product name	Digital input module	
Signal type	NPN	PNP
Power consumption	24mA	24mA
Number of input channels	8	
Input rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Input logic 1 signal	-3~5V	15~30V
Input logic 0 signal	15~30V	-3~5V
Debounce time	Configurable: 1～10ms, default value: 3ms	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-2018/EX-2118 input module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-2018	EX-2118
Product name	Digital input module (supports 3-wire and 2-wire sensors)	
Signal type	NPN	PNP
Power consumption	17mA	12mA
Number of input channels	8	
Input rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Input logic 1 signal	-3~5V	15~30V
input logic 0 signal	15~30V	-3~5V
Sensor power supply	24V/150mA(MAX)	24V/150mA(MAX)
Debounce time	Configurable: 1～10ms, default value: 3ms	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-200H/EX-210H input module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-200H	EX-210H
Product name	Digital input module	
Signal type	NPN	PNP
Power consumption	25mA	25mA
Number of input channels	16	
Input rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Input logic 1 signal	-3~5V	15~30V
input logic 0 signal	15~30V	-3~5V
Debounce time	Configurable: 1～10ms, default value: 3ms	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-202H/EX-212H counting module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-202H	EX-212H
Product name	Digital input module	
Signal type	NPN	PNP
Power consumption	27mA	33mA
Number of input channels	16	
Counter channel number	2(DI-E/DI-F)	
Counting mode	Linear	
Counting range	0～4294967295 or -2147483648～2147483648	
Counting function	Counting initial value setting, counting direction switching	
Maximum input frequency	10KHz	
Input rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Input logic 1 signal	-3~5V	15~30V
input logic 0 signal	15~30V	-3~5V
Debounce time	Configurable: 1～10ms, default value: 3ms	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-2COS input module parameters

Basic parameters	
Dimensions	90mm×67mm×14mm
Protection level	IP20
Wiring Specification	0.2～1.5mm²
Wiring	No screws
Wiring	External 40-bit terminal block AT04
Technical Parameters	
Model	EX-2COS
Product name	Digital input module
Signal type	PNP&NPN compatible
Power consumption	30mA
Number of input channels	32
Input rated voltage	NPN: DC 0V (±3%)/PNP: DC 24V (±25%)
Input logic 1 signal	PNP:15~30V/NPN:-3~5V
input logic 0 signal	PNP:-3~5V/NPN: 15~30V
Debounce time	Configurable: 1～10ms, default value: 3ms
Isolation withstand voltage	500V
Isolation method	Optocoupler isolation

● EX-203S/EX-213S input module parameters

Basic parameters		
Dimensions	90mm×67mm×28mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-203S	EX-213S
Product name	Digital input module	
Signal type	NPN	PNP
Power consumption	13mA	14mA
Number of input channels	32	
Input rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Input logic 1 signal	-3~5V	15~30V
input logic0Signal	15~30V	-3~5V
Debounce time	Configurable: 1～5ms, default value: 3ms	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

1.2 Digital output module

1.2.1 Product model information

Model	Specification Description	Order
EX-3008	8 digital outputs, the output signal is low level (NPN)	02-03-01
EX-3108	8 digital outputs, the output signal is high level (PNP)	02-03-02
EX-3018	8 digital outputs, the output signal is low level (NPN) Supports two-wire sensors	02-03-08
EX-3118	8 digital outputs, the output signal is high level (PNP)	02-03-09
EX-3208	8 relay outputs, the output signal is relay (normally open)	02-03-05
EX-300H	16 digital outputs, the output signal is low level (NPN)	02-03-03
EX-310H	16 digital outputs, the output signal is high level (PNP)	02-03-04
EX-300S	32 digital outputs, the output signal is low level (NPN)	02-03-06
EX-310S	32 digital outputs, the output signal is high level (PNP)	02-03-07
EX-303S	32 digital outputs, the output signal is low level (NPN)	02-03-18
EX-313S	32 digital outputs, the output signal is high level (PNP)	02-03-19

1.2.2 Technical specifications

● EX-3008/EX-3108 output module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-3008	EX-3108
Product name	Digital output module	
Signal type	NPN	PNP
Power consumption	50mA	50mA
Number of output channels	8	
Output rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Drive capability	Maximum single channel 0.5A/maximum load current 2A for each 8 consecutive channels	
Load type	Resistive load, inductive load, lamp load	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-3018/EX-3118 output module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-3018	EX-3118
Product name	Digital output module	
Signal type	NPN	PNP
Power consumption	18mA	15mA
Number of output channels	8	
Output rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Drive capability	Maximum single channel 0.5A/maximum load current 2A for each 8 consecutive channels	
Load type	Resistive load, inductive load, lamp load	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-3208 relay module parameters

Basic parameters	
Dimensions	90mm×67mm×14mm
Protection level	IP20
Wiring Specification	0.2～1.5mm²
Wiring	No screws
Technical Parameters	
Model	EX-3208
Product name	Relay output module
Power consumption	45mA
Number of output channels	8
Output rated voltage	-
Drive capability	1A, DC30V/0.5A, AC125V
Relay life	Mechanical life (180cpm);Standard working condition:10^8
	Electrical life (20cpm);Standard working conditions:2x10^5 (1A,DC30V), 10^5 (0.5A,AC125V)
Load type	Resistive load, inductive load, lamp load
Isolation withstand voltage	500V
Isolation method	Optocoupler isolation

● EX-300H/EX-310H output module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-300H	EX-310H
Product name	Digital output module	
Signal type	NPN	PNP
Power consumption	72mA	72mA
Number of output channels	16	
Output rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Drive capability	Maximum single channel 0.5A/maximum load current 2A for each 8 consecutive channels	
Load type	Resistive load, inductive load, lamp load	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-300S/EX-310S output module parameters

Basic parameters		
Dimensions	90mm×67mm×14mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	External 40-bit terminal block AT04	
Technical Parameters		
Model	EX-300S	EX-310S
Product name	Digital output module	
Signal type	NPN	PNP
Power consumption	17mA	17mA
Number of output channels	32	
Output rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Drive capability	Maximum single channel 0.5A/maximum load current 2A for each 8 consecutive channels	
Load type	Resistive load, inductive load, lamp load	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

● EX-303S/EX-313S output module parameters

Basic parameters		
Dimensions	90mm×67mm×29mm	
Protection level	IP20	
Wiring Specification	0.2～1.5mm²	
Wiring	No screws	
Technical Parameters		
Model	EX-303S	EX-313S
Product name	Digital output module	
Signal type	NPN	PNP
Power consumption	18mA	19mA
Number of output channels	32	
Output rated voltage	NPN: DC 0V (±3%)	PNP: DC 24V (±25%)
Drive capability	Maximum single channel 0.5A/maximum load current 2A for each 8 consecutive channels	
Load type	Resistive load, inductive load, lamp load	
Isolation withstand voltage	500V	
Isolation method	Optocoupler isolation	

1.3 Environmental regulations

Environmental parameters	
Operating temperature	0～55℃
Working humidity	95% no condensation
Atmosphere	≥795 hPa (altitude ≤ 2000 m) as per IEC 61131-2
Storage temperature	-20～+85℃
Overvoltage category	I

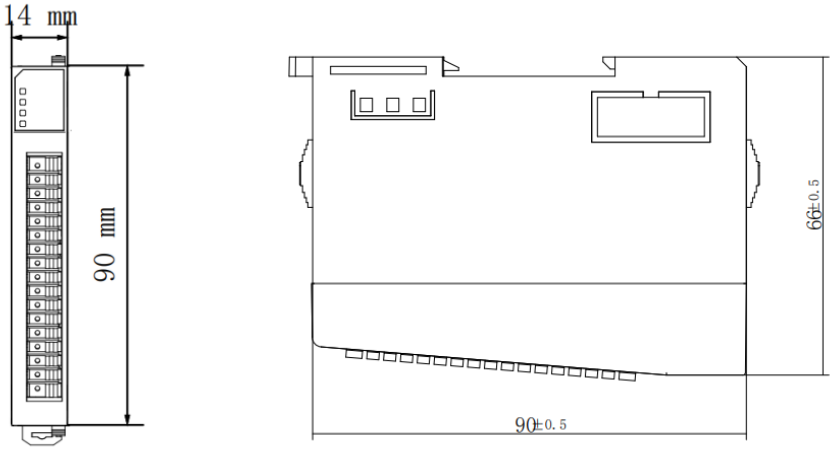
2. Mechanical installation

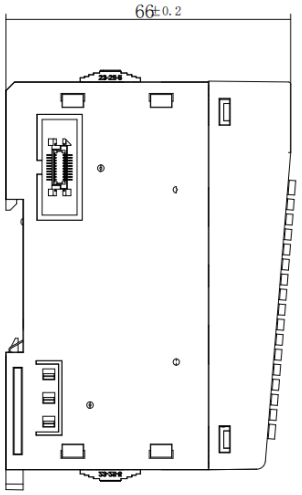
2.1 Installation dimensions

The installation size information is shown in the figure below, the unit is (mm).

Notice

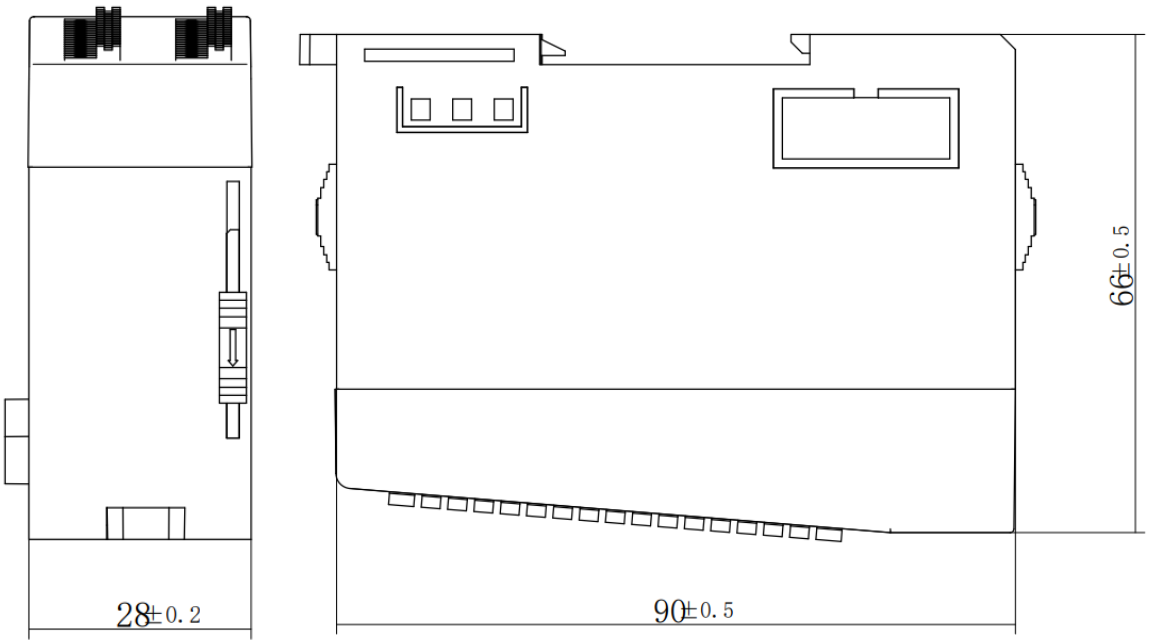
●The dimensions below are applicable to digital input and output modules except EX-203S/EX-213S and EX-303S/EX-313S.

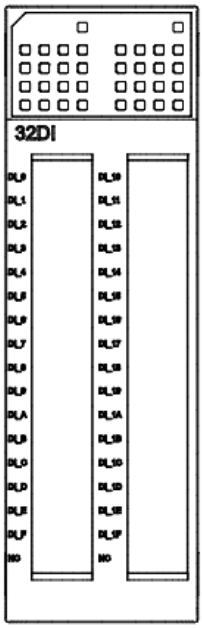


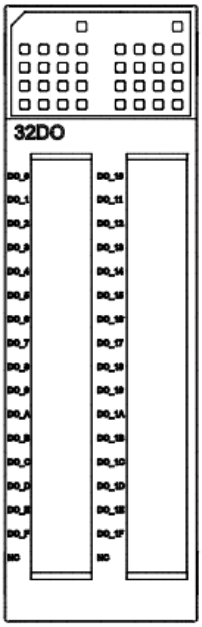


Notice

●The dimensions in the figure below are suitable for EX-203S/EX-213S and EX-303S/EX-313S digital input and output modules.



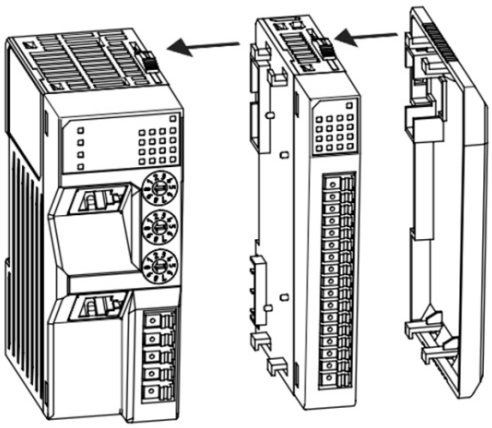

32DI


32DO

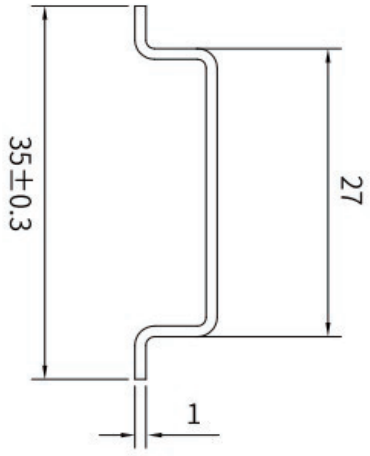
2.2 Installation method

2.2.1 Installation between modules

Inter-module assembly via the top and bottom of the module buckle. Install as shown below



The module is installed using DIN rail. The DIN rail must comply with IEC 60715 standard (35mm wide, 1mm thick). Dimensional information.



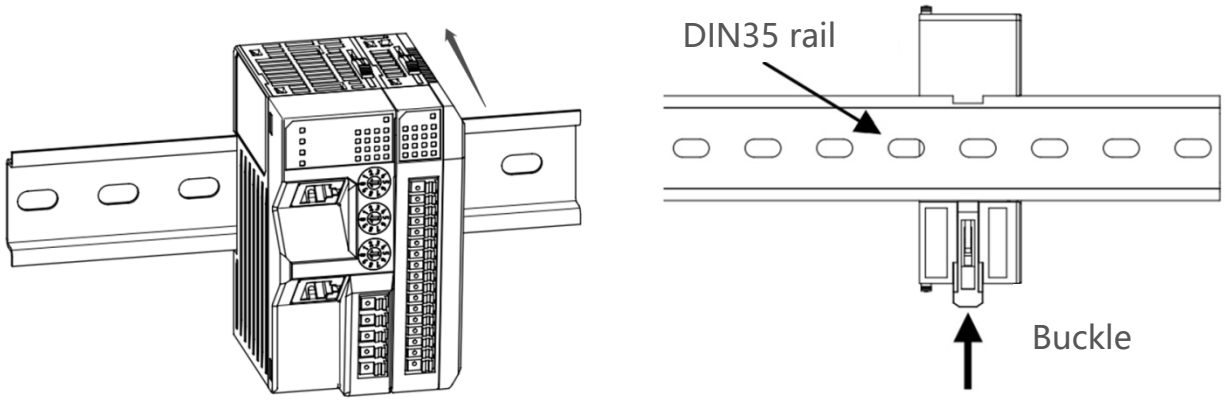
Note: When the module is installed on a DIN35 rail other than those recommended above, the DIN rail lock may not lock properly. Before installing the module, First open the buckle under the module, and then proceed to the next step of installation.

Notice

●This product is mounted to DIN rails other than those recommended above (especially DIN rail thickness≤1.0mm), it will cause the DIN rail lock to fail and the product cannot be installed in place, causing the product to not work properly..

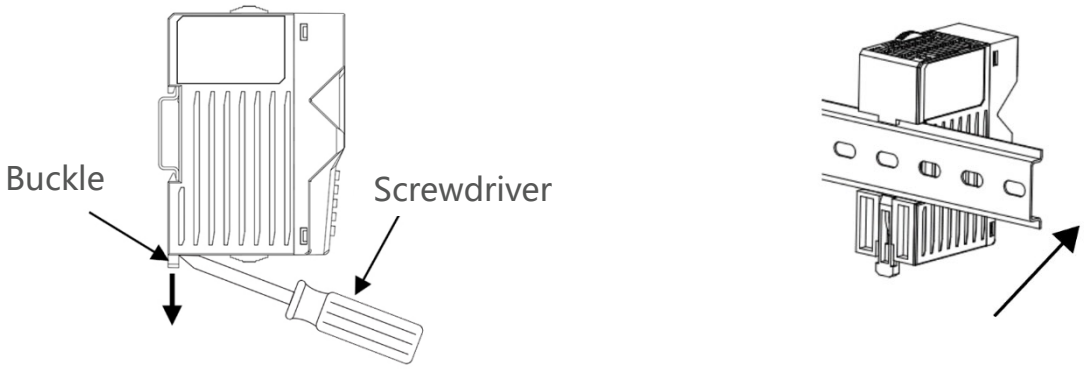
2.2.2 Installation on guide rail

When installing, align the module with the DIN35 rail and press the module in the direction indicated by the arrow, as shown in the figure below.



Note: After the module is installed, you need tosuperiorPress the top of the lock to ensure it is installed in place.

Disassembly: Use a flat-blade screwdriver or similar tool to tilt down the rail lock, and then move the module away from DIN35Pull out the guide rail.



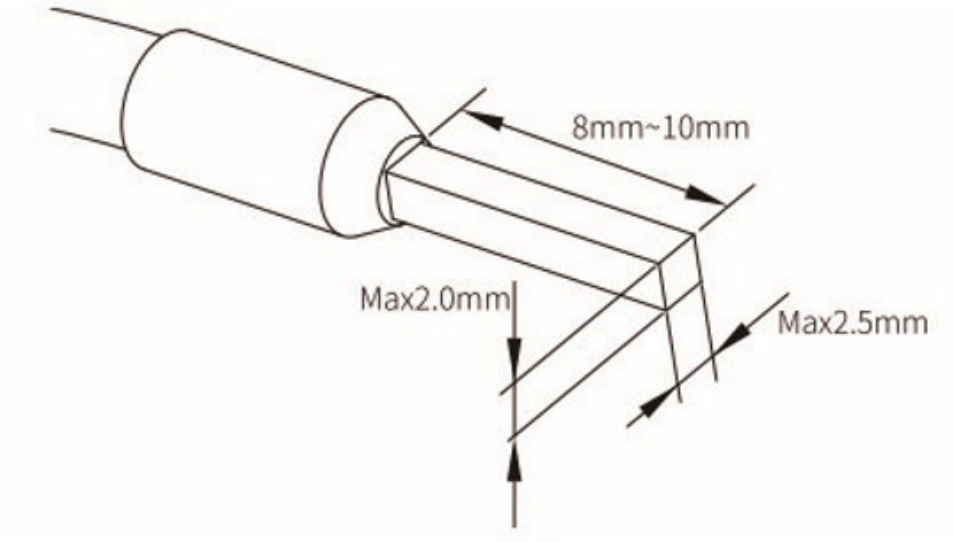
3. Electrical Installation

3.1 Cable selection

Power related cables, The wire lug diameters in the following table are for reference only and can be reasonably calculated and adjusted based on actual use.

name	Adaptable wire diameter	
Tubular wire lug	National standard/mm2	American Standard/AWG
	0.75	18
	1.0	18
	1.5	16

The shape and size requirements of riveted terminals are as shown in the figure below:



3.2 Terminal wiring

Notice

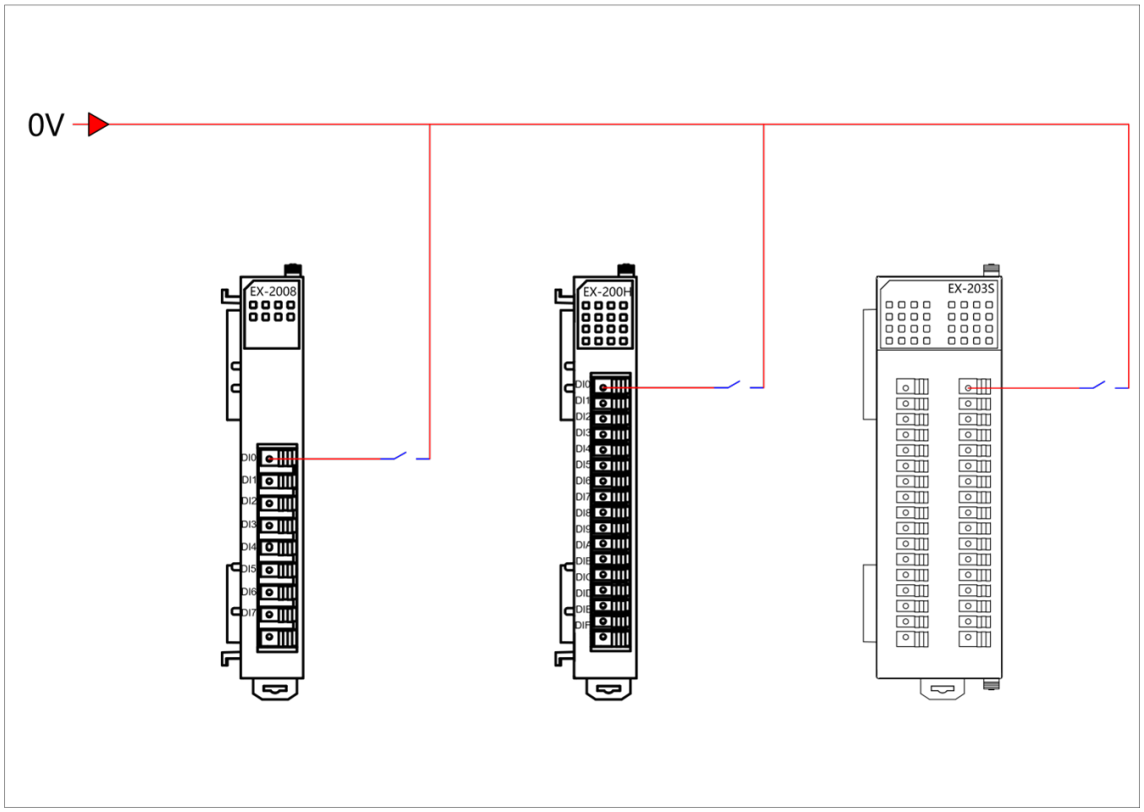
●The EX series adapter power supply is divided into system power supply and I/O power supply. In order to avoid interference to the system, it is recommended to connect two sets of power cords from the same DC24V power module to the adapter system power supply and I/O power supply respectively.

●To ensure the normal use of the module, please check the I on the adapter before use.OCheck whether the side power supply is connected properly.

3.2.1 Digital input module wiring diagram

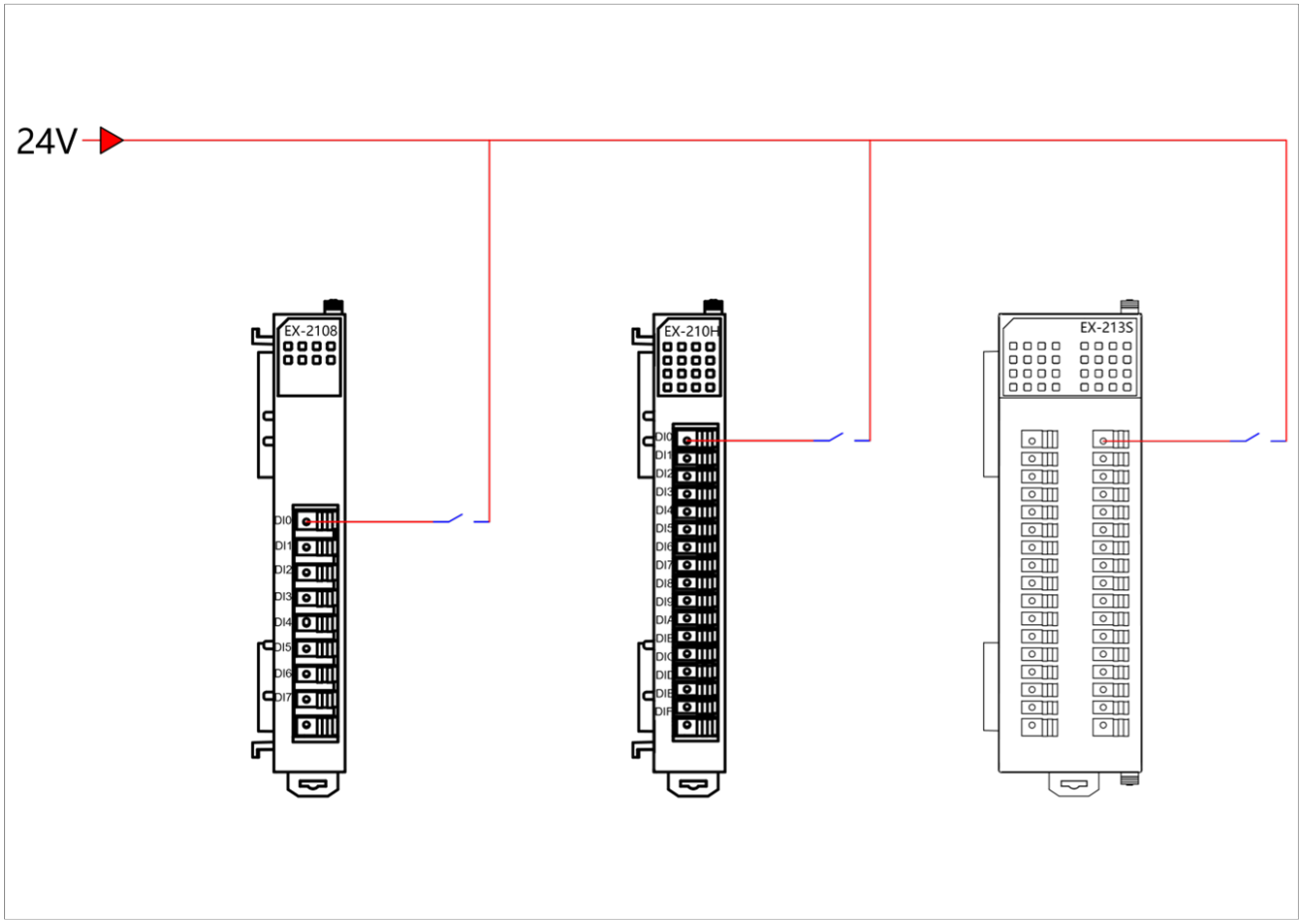
Notice

●EX-2008, EX-200H, and EX-203S are NPN types, and the input signal is 0V.



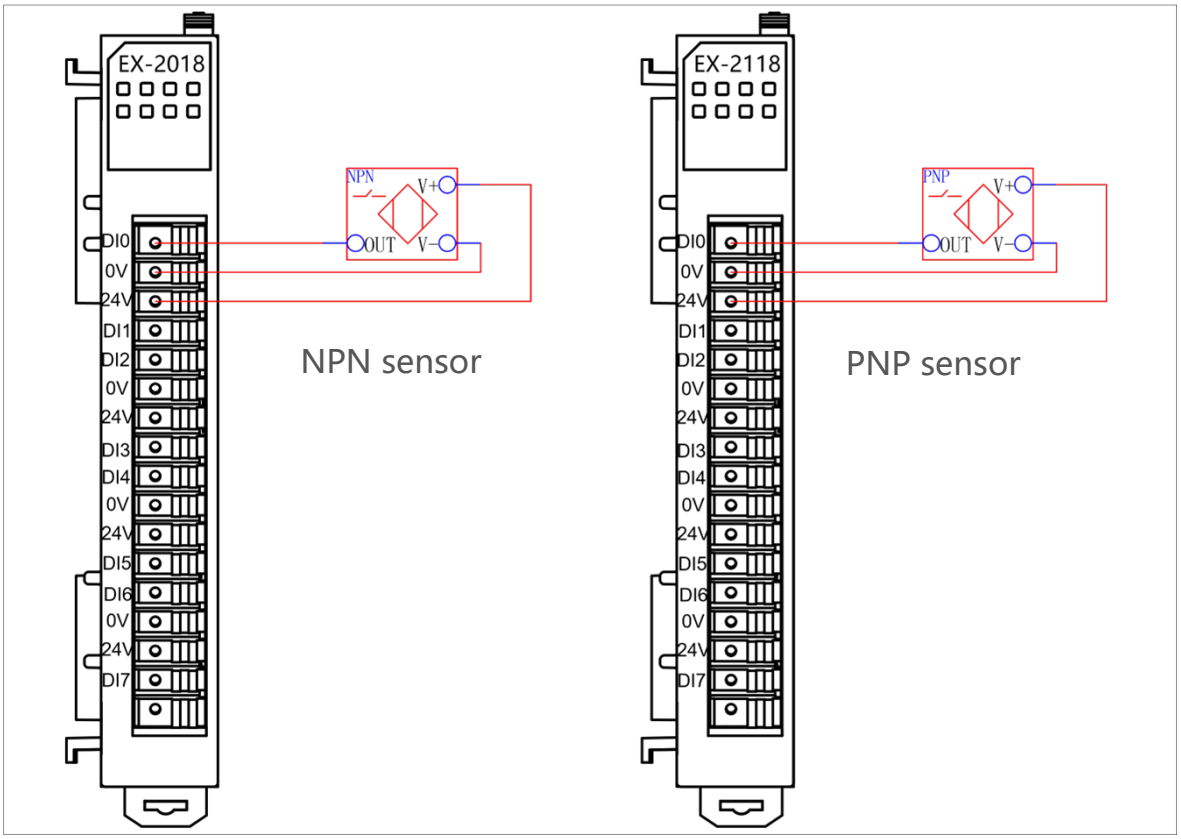
Notice

●EX-2108, EX-210H, and EX-213S are NPN types, and the input signal is 24V.



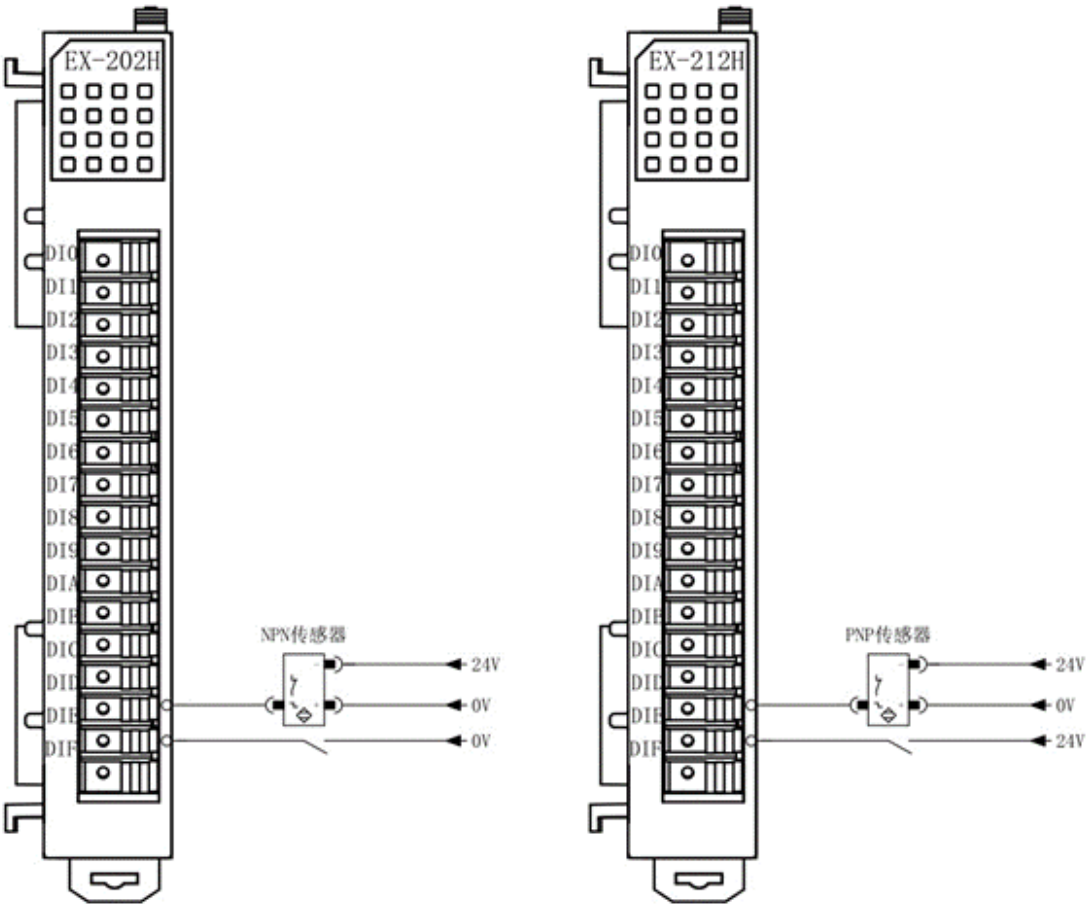
Notice

●EX-2018 is NPN type and EX-2118 is PNP type.



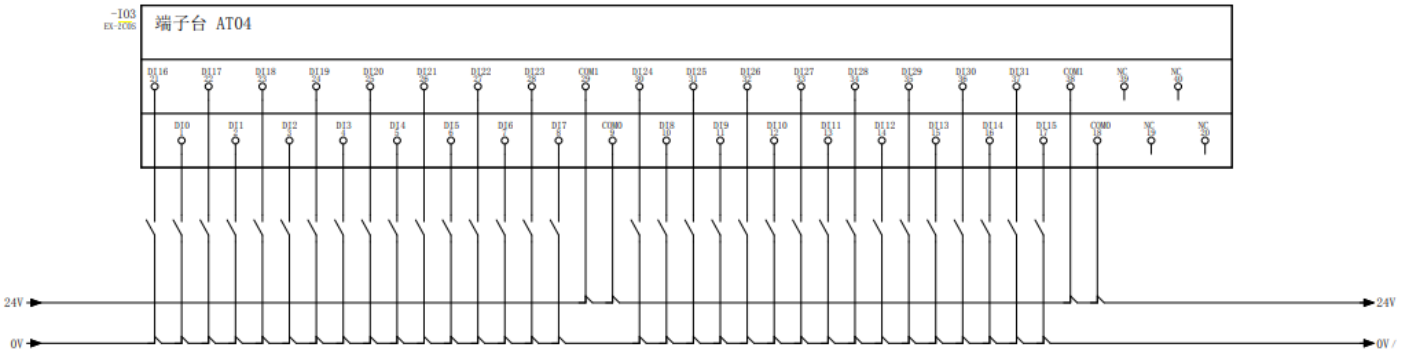
Notice

●EX-202H/EX-212H is used as an ordinary digital input. The wiring method refers to EX-200H/EX-210H wiring. It is used as a counting module. Channel DI-E/DI-F can be switched to a counting signal.

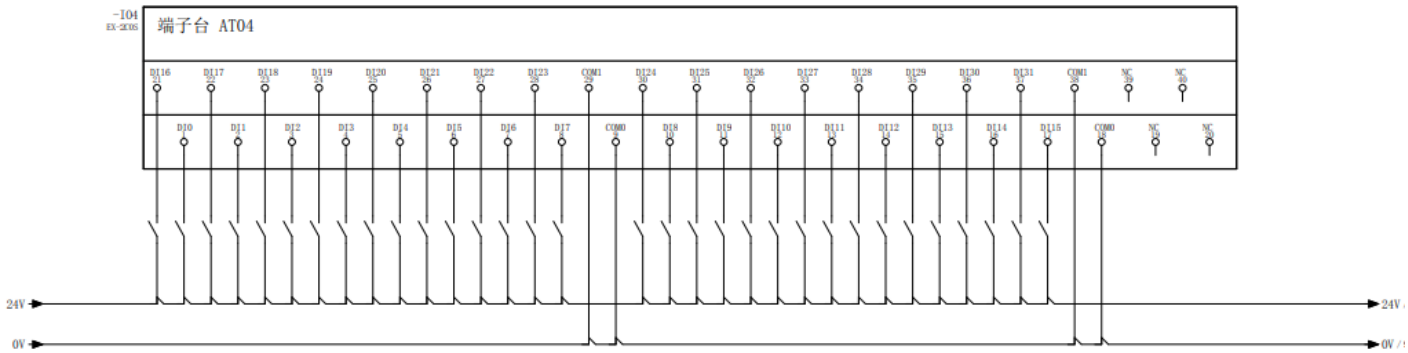


Notice

●The four COM terminals in the EX-2COS module are short-circuited internally and must be connected to the same potential. The input signal is supported as NPN or PNP, as shown in the figure below.



EX-2COS module NPN wiring

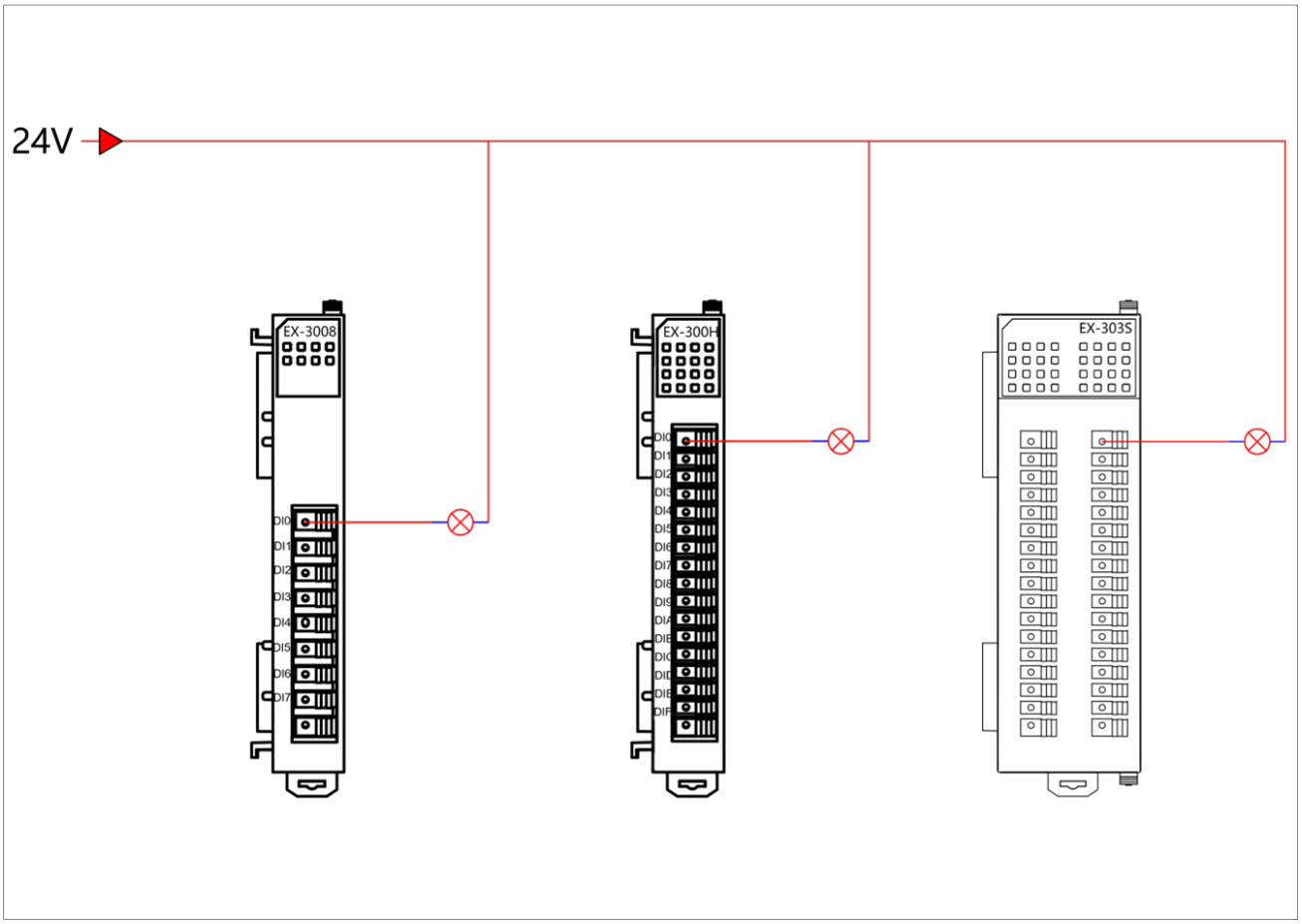


EX-2COS module PNP wiring

3.2.2 Digital output module wiring diagram

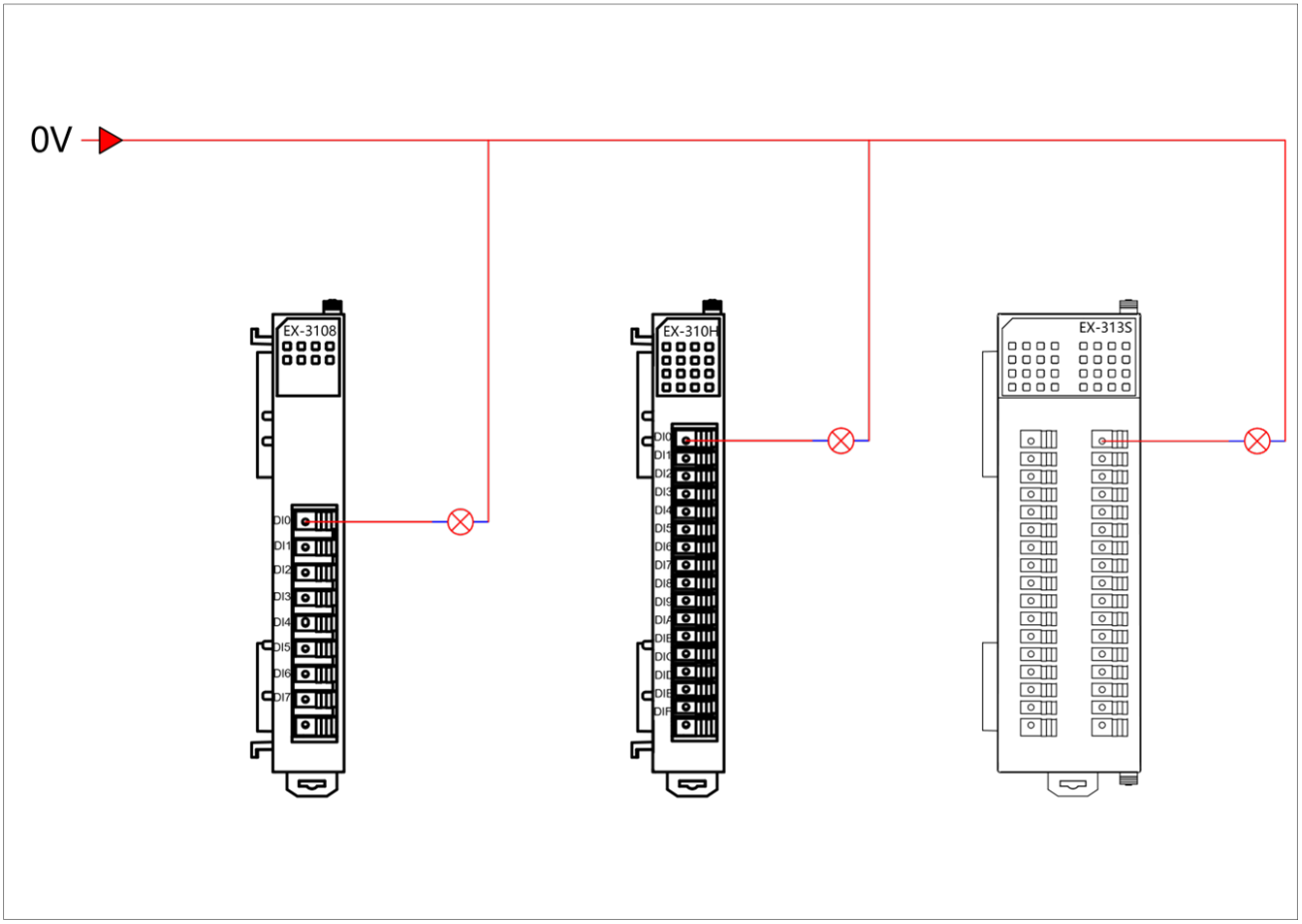
Notice

●EX-3008, EX-300H, and EX-303S are NPN types, and the output signal is 0V.



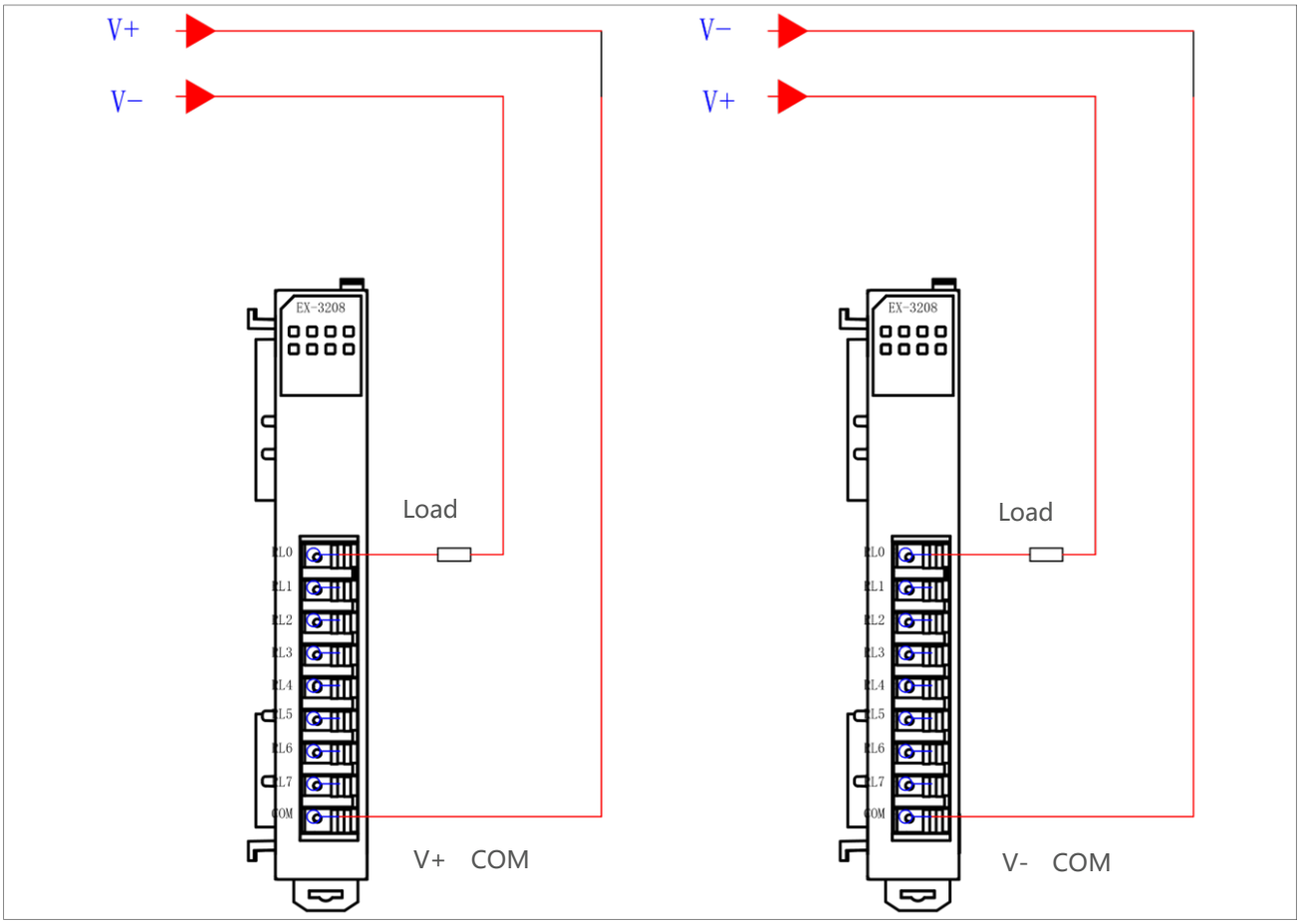
Notice

●EX-3108, EX-310H, and EX-313S are PNP types, and the output signal is 24V.



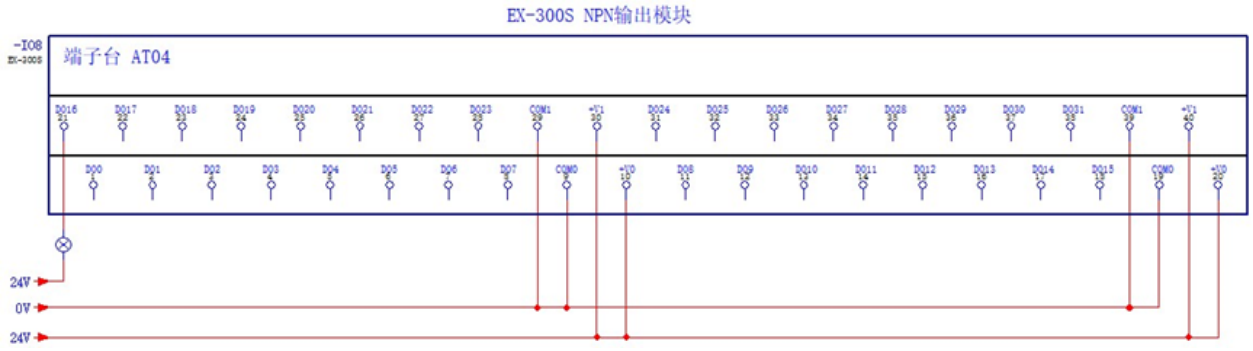
Notice

●There is a normally open contact between the EX-3208 output channel and the COM terminal.



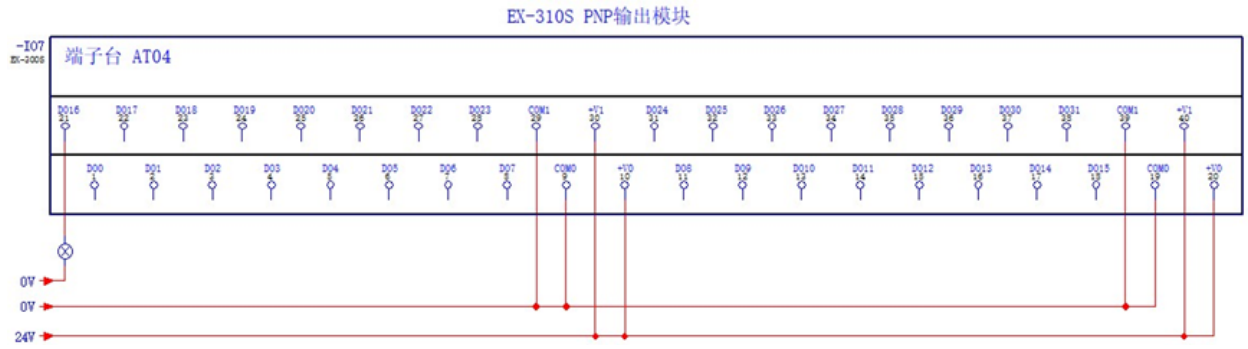
Notice

●The four COM terminals in the EX-300S module are internally interconnected and must be connected to the same potential. The output signal is supported as NPN, as shown in the figure below.



Notice

●The four COM terminals in the EX-310S module are internally interconnected and must be connected to the same potential. The supported output signal is PNP, as shown in the figure below.



4. Appendix

4.1 Module configuration

Number of input and output bytes of digital module

Module type	Number of input bytes	Number of output bytes
8DI	1	—
16DI	2	—
32DI	4	—
8DO	—	1
16DO	—	2
32DO	—	4

Notice

●EX-202H/EX-212H depends on how the user uses it, please refer to4.2 Use of EX-202H/EX-212H.

4.2 Use of EX-202H/EX-212H

4.2.1 Module variables

Variable name	Channel	Meaning	Data size	Remark
Mode Select	Output	DI mode/counting mode switching	1 Bit	0:16-channel DI mode 1:15/16 channel turns on the counting mode
Count Enable Ch1	Output	Counting channel 1 enabled	1 Bit	Enable counting function
Count Init Value Enable Ch1	Output	Counting channel 1 initial value enable	1 Bit	Set initial value, valid on rising edge
Count Direction Ch1	Output	Counting channel 1 direction switching	1 Bit	0: Count up 1: Count down
Count Range Ch1	Output	Counting channel 1 counting range	1 Bit	0:0~4294967295 1：-2147483648～2147483647
Count Enable Ch2	Output	Counting channel 2 enabled	1 Bit	Enable counting function
Count Init Value Enable Ch2	Output	Counting channel 2 initial value enable	1 Bit	Set initial value, valid on rising edge
Count Direction Ch2	Output	Counting channel 2 direction switching	1 Bit	0: Count up 1: Count down
Count Range Ch2	Output	Counting channel 2 counting range	1 Bit	0:0~4294967295 1：-2147483648～2147483647

Initial Count Value CH1	Output	Counting channel 1 initial value	4 bytes	
Initial Count Value CH2	Output	Counting channel 2 initial value	4 bytes	
DI1-DI16	Input	DI channel signal	2 bytes	Each DI channel signal
Count Value CH1	Input	Counting channel 1 count value	4 bytes	
Count Value CH2	Input	Counting channel 2 count value	4 bytes	

4.2.2 Switching between DI mode and counting mode

Set Mode Select (DI mode/counting mode switching) to TRUE, and the module channel DIE/DIF mode switches to counting mode.

4.2.3 Counting enable

(1) Count Enable Ch1 or Count Enable Ch2 is set to TRUE;

(2) There is a signal in counting channel 1 or counting channel 2;

(3) Observe the numerical changes of Count Value CH1 /Count Value CH2.

4.2.4 Writing initial value

(1) Mode Select (DI mode/counting mode switching) is set to TRUE;

(2) Count Enable Ch1 or Count Enable Ch2 is set to TRUE;

(3) Initial Count Value CH1 or Initial Count Value CH2 sets a value other than 0.

(4) Count Init Value Enable Ch1 or Count Init Value Enable Ch2 is set to TRUE;

(5) The Count Value CH1 /Count Value CH2 value is equal to the initial value. Note: Each time the initial value is enabled from FALSE to TRUE, the counting channel initial value will overwrite the counting channel count value.

4.2.5 Clear count value

If Count Enable Ch1 (Count Channel 1 Enable) or Count Enable Ch2 (Count Channel 2 Enable) is set to FALSE, the count value corresponding to the counting channel will be automatically cleared.

4.2.6 Counting direction

Count Direction Ch1 (Counting Channel 1 direction switching) or Count Direction Ch2 (Counting Channel 2 direction switching) is set to TRUE, and the count value will be decremented (default is increment).

4.2.7 Use cases

EtherCAT communication

Used on CODESYS software

(1) CH1 channel mode switching and counting enable

变量	映射	通道	地址	类型	当前值	预备值	单元	描述
		Mode Select	%QX0.0	BIT	TRUE			Mode Select
		Count Enable Ch1	%QX0.1	BIT	TRUE			Count Enable Ch1
		Count Init Value Enable Ch1	%QX0.2	BIT	FALSE			Count Init Value Enable Ch1
		Count Direction Ch1	%QX0.3	BIT	FALSE			Count Direction Ch1
		Count Range Ch1	%QX0.4	BIT	FALSE			Count Range Ch1
		Count Enable Ch2	%QX0.5	BIT	FALSE			Count Enable Ch2
		Count Init Value Enable Ch2	%QX0.6	BIT	FALSE			Count Init Value Enable Ch2
		Count Direction Ch2	%QX0.7	BIT	FALSE			Count Direction Ch2
		Count Range Ch2	%QX1.0	BIT	FALSE			Count Range Ch2
		Initial Count Value CH1	%QD1	UDINT	0			Initial Count Value CH1
		Initial Count Value CH2	%QD2	UDINT	0			Initial Count Value CH2
		DI[0..15]	%IX0.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.7	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.7	BIT	FALSE			DI[0..15]
		Count Value CH1	%ID1	UDINT	6			Count Value CH1
		Count Value CH2	%ID2	UDINT	0			Count Value CH2
		Temperature Alarm	%IX12.0	BIT	FALSE			Temperature Alarm
		Voltage Alarm	%IX12.1	BIT	FALSE			Voltage Alarm

(2) CH1 initial value writing

变量	映射	通道	地址	类型	当前值	预备值	单元	描述
		Mode Select	%QX0.0	BIT	TRUE			Mode Select
		Count Enable Ch1	%QX0.1	BIT	TRUE			Count Enable Ch1
		Count Init Value Enable Ch1	%QX0.2	BIT	TRUE			Count Init Value Enable Ch1
		Count Direction Ch1	%QX0.3	BIT	FALSE			Count Direction Ch1
		Count Range Ch1	%QX0.4	BIT	FALSE			Count Range Ch1
		Count Enable Ch2	%QX0.5	BIT	FALSE			Count Enable Ch2
		Count Init Value Enable Ch2	%QX0.6	BIT	FALSE			Count Init Value Enable Ch2
		Count Direction Ch2	%QX0.7	BIT	FALSE			Count Direction Ch2
		Count Range Ch2	%QX1.0	BIT	FALSE			Count Range Ch2
		Initial Count Value CH1	%QD1	UDINT	150			Initial Count Value CH1
		Initial Count Value CH2	%QD2	UDINT	0			Initial Count Value CH2
		DI[0..15]	%IX0.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.7	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.7	BIT	FALSE			DI[0..15]
		Count Value CH1	%ID1	UDINT	150			Count Value CH1
		Count Value CH2	%ID2	UDINT	0			Count Value CH2
		Temperature Alarm	%IX12.0	BIT	FALSE			Temperature Alarm
		Voltage Alarm	%IX12.1	BIT	FALSE			Voltage Alarm

（3）CH1 count value cleared

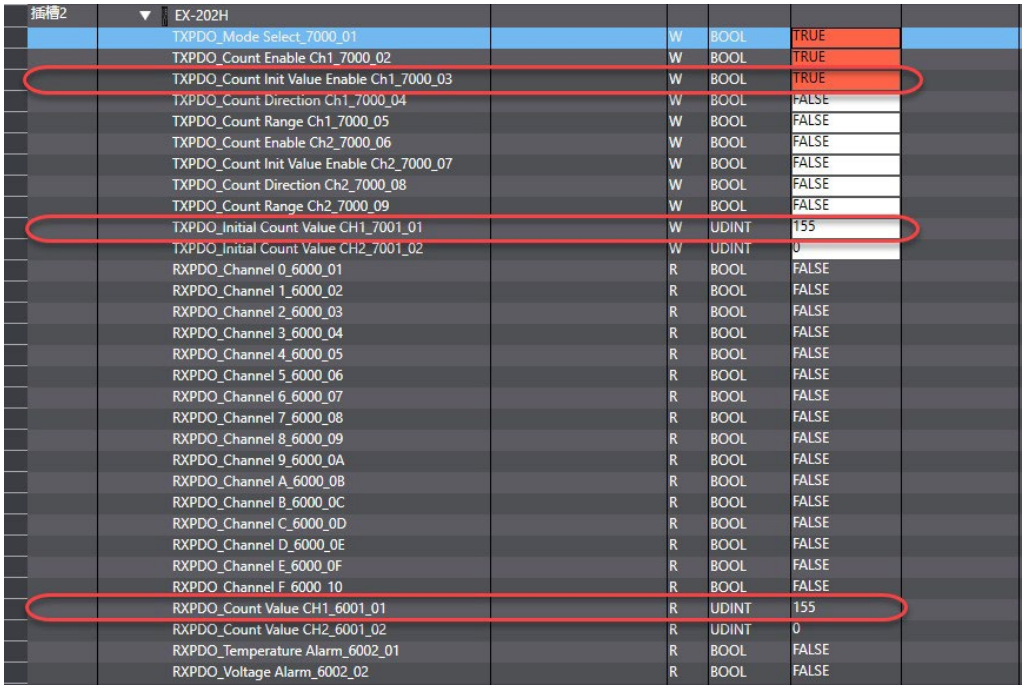
变量	映射	通道	地址	类型	当前值	预备值	单元	描述
		Mode Select	%QX0.0	BIT	TRUE			Mode Select
		Count Enable Ch1	%QX0.1	BIT	FALSE			Count Enable Ch1
		Count Init Value Enable Ch1	%QX0.2	BIT	FALSE			Count Init Value Enable Ch1
		Count Direction Ch1	%QX0.3	BIT	FALSE			Count Direction Ch1
		Count Range Ch1	%QX0.4	BIT	FALSE			Count Range Ch1
		Count Enable Ch2	%QX0.5	BIT	FALSE			Count Enable Ch2
		Count Init Value Enable Ch2	%QX0.6	BIT	FALSE			Count Init Value Enable Ch2
		Count Direction Ch2	%QX0.7	BIT	FALSE			Count Direction Ch2
		Count Range Ch2	%QX1.0	BIT	FALSE			Count Range Ch2
		Initial Count Value CH1	%QD1	UDINT	150			Initial Count Value CH1
		Initial Count Value CH2	%QD2	UDINT	0			Initial Count Value CH2
		DI[0..15]	%IX0.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX0.7	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.0	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.1	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.2	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.3	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.4	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.5	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.6	BIT	FALSE			DI[0..15]
		DI[0..15]	%IX1.7	BIT	FALSE			DI[0..15]
		Count Value CH1	%ID1	UDINT	0			Count Value CH1
		Count Value CH2	%ID2	UDINT	0			Count Value CH2
		Temperature Alarm	%IX12.0	BIT	FALSE			Temperature Alarm
		Voltage Alarm	%IX12.1	BIT	FALSE			Voltage Alarm

Used in Sysmac Studio software

(1) CH1 mode switching and counting enable

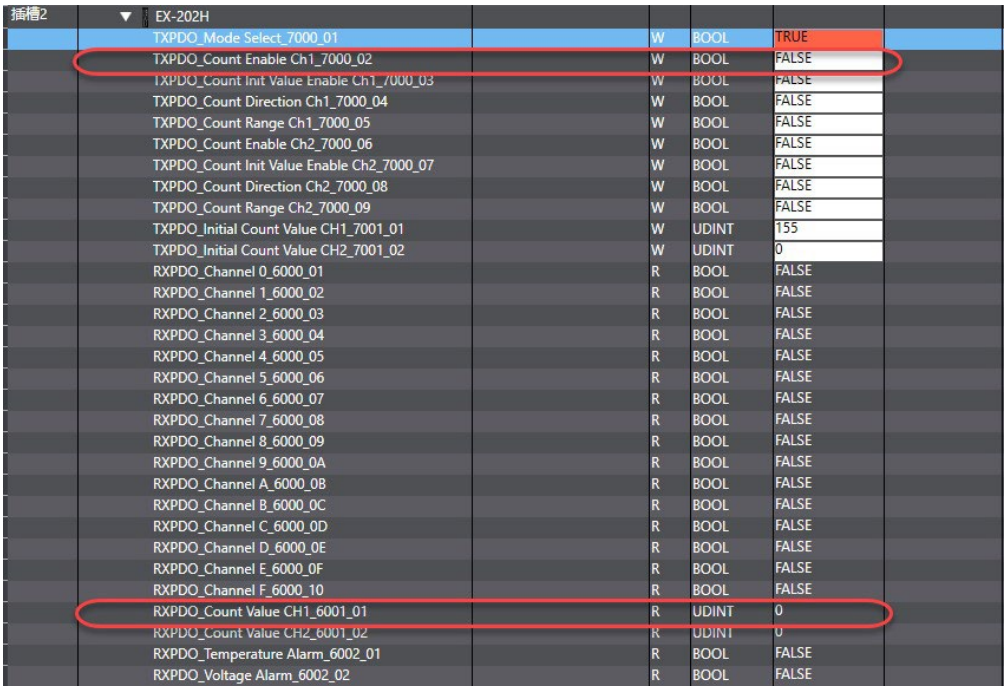
插槽2	EX-202H			
	TXPDO_Mode Select_7000_01	W	BOOL	TRUE
	TXPDO_Count Enable Ch1_7000_02	W	BOOL	TRUE
	TXPDO_Count Init Value Enable Ch1_7000_03	W	BOOL	FALSE
	TXPDO_Count Direction Ch1_7000_04	W	BOOL	FALSE
	TXPDO_Count Range Ch1_7000_05	W	BOOL	FALSE
	TXPDO_Count Enable Ch2_7000_06	W	BOOL	FALSE
	TXPDO_Count Init Value Enable Ch2_7000_07	W	BOOL	FALSE
	TXPDO_Count Direction Ch2_7000_08	W	BOOL	FALSE
	TXPDO_Count Range Ch2_7000_09	W	BOOL	FALSE
	TXPDO_Initial Count Value CH1_7001_01	W	UDINT	0
	TXPDO_Initial Count Value CH2_7001_02	W	UDINT	0
	RXPDO_Channel 0_6000_01	R	BOOL	FALSE
	RXPDO_Channel 1_6000_02	R	BOOL	FALSE
	RXPDO_Channel 2_6000_03	R	BOOL	FALSE
	RXPDO_Channel 3_6000_04	R	BOOL	FALSE
	RXPDO_Channel 4_6000_05	R	BOOL	FALSE
	RXPDO_Channel 5_6000_06	R	BOOL	FALSE
	RXPDO_Channel 6_6000_07	R	BOOL	FALSE
	RXPDO_Channel 7_6000_08	R	BOOL	FALSE
	RXPDO_Channel 8_6000_09	R	BOOL	FALSE
	RXPDO_Channel 9_6000_0A	R	BOOL	FALSE
	RXPDO_Channel A_6000_0B	R	BOOL	FALSE
	RXPDO_Channel B_6000_0C	R	BOOL	FALSE
	RXPDO_Channel C_6000_0D	R	BOOL	FALSE
	RXPDO_Channel D_6000_0E	R	BOOL	FALSE
	RXPDO_Channel E_6000_0F	R	BOOL	FALSE
	RXPDO_Channel F_6000_10	R	BOOL	FALSE
	RXPDO_Count Value CH1_6001_01	R	UDINT	0
	RXPDO_Count Value CH2_6001_02	R	UDINT	0
	RXPDO_Temperature Alarm_6002_01	R	BOOL	FALSE
	RXPDO_Voltage Alarm_6002_02	R	BOOL	FALSE

(2) CH1 mode switching and counting enable



插槽2	EX-202H			
	TXPDO_Mode Select_7000_01	W	BOOL	TRUE
	TXPDO_Count Enable Ch1_7000_02	W	BOOL	TRUE
	TXPDO_Count Init Value Enable Ch1_7000_03	W	BOOL	TRUE
	TXPDO_Count Direction Ch1_7000_04	W	BOOL	FALSE
	TXPDO_Count Range Ch1_7000_05	W	BOOL	FALSE
	TXPDO_Count Enable Ch2_7000_06	W	BOOL	FALSE
	TXPDO_Count Init Value Enable Ch2_7000_07	W	BOOL	FALSE
	TXPDO_Count Direction Ch2_7000_08	W	BOOL	FALSE
	TXPDO_Count Range Ch2_7000_09	W	BOOL	FALSE
	TXPDO_Initial Count Value CH1_7001_01	W	UDINT	155
	TXPDO_Initial Count Value CH2_7001_02	W	UDINT	0
	RXPDO_Channel 0_6000_01	R	BOOL	FALSE
	RXPDO_Channel 1_6000_02	R	BOOL	FALSE
	RXPDO_Channel 2_6000_03	R	BOOL	FALSE
	RXPDO_Channel 3_6000_04	R	BOOL	FALSE
	RXPDO_Channel 4_6000_05	R	BOOL	FALSE
	RXPDO_Channel 5_6000_06	R	BOOL	FALSE
	RXPDO_Channel 6_6000_07	R	BOOL	FALSE
	RXPDO_Channel 7_6000_08	R	BOOL	FALSE
	RXPDO_Channel 8_6000_09	R	BOOL	FALSE
	RXPDO_Channel 9_6000_0A	R	BOOL	FALSE
	RXPDO_Channel A_6000_0B	R	BOOL	FALSE
	RXPDO_Channel B_6000_0C	R	BOOL	FALSE
	RXPDO_Channel C_6000_0D	R	BOOL	FALSE
	RXPDO_Channel D_6000_0E	R	BOOL	FALSE
	RXPDO_Channel E_6000_0F	R	BOOL	FALSE
	RXPDO_Channel F_6000_10	R	BOOL	FALSE
	RXPDO_Count Value CH1_6001_01	R	UDINT	155
	RXPDO_Count Value CH2_6001_02	R	UDINT	0
	RXPDO_Temperature Alarm_6002_01	R	BOOL	FALSE
	RXPDO_Voltage Alarm_6002_02	R	BOOL	FALSE

(3) Clear the CH1 count value to zero



插槽2	EX-202H			
	TXPDO_Mode Select_7000_01	W	BOOL	TRUE
	TXPDO_Count Enable Ch1_7000_02	W	BOOL	FALSE
	TXPDO_Count Init Value Enable Ch1_7000_03	W	BOOL	FALSE
	TXPDO_Count Direction Ch1_7000_04	W	BOOL	FALSE
	TXPDO_Count Range Ch1_7000_05	W	BOOL	FALSE
	TXPDO_Count Enable Ch2_7000_06	W	BOOL	FALSE
	TXPDO_Count Init Value Enable Ch2_7000_07	W	BOOL	FALSE
	TXPDO_Count Direction Ch2_7000_08	W	BOOL	FALSE
	TXPDO_Count Range Ch2_7000_09	W	BOOL	FALSE
	TXPDO_Initial Count Value CH1_7001_01	W	UDINT	155
	TXPDO_Initial Count Value CH2_7001_02	W	UDINT	0
	RXPDO_Channel 0_6000_01	R	BOOL	FALSE
	RXPDO_Channel 1_6000_02	R	BOOL	FALSE
	RXPDO_Channel 2_6000_03	R	BOOL	FALSE
	RXPDO_Channel 3_6000_04	R	BOOL	FALSE
	RXPDO_Channel 4_6000_05	R	BOOL	FALSE
	RXPDO_Channel 5_6000_06	R	BOOL	FALSE
	RXPDO_Channel 6_6000_07	R	BOOL	FALSE
	RXPDO_Channel 7_6000_08	R	BOOL	FALSE
	RXPDO_Channel 8_6000_09	R	BOOL	FALSE
	RXPDO_Channel 9_6000_0A	R	BOOL	FALSE
	RXPDO_Channel A_6000_0B	R	BOOL	FALSE
	RXPDO_Channel B_6000_0C	R	BOOL	FALSE
	RXPDO_Channel C_6000_0D	R	BOOL	FALSE
	RXPDO_Channel D_6000_0E	R	BOOL	FALSE
	RXPDO_Channel E_6000_0F	R	BOOL	FALSE
	RXPDO_Channel F_6000_10	R	BOOL	FALSE
	RXPDO_Count Value CH1_6001_01	R	UDINT	0
	RXPDO_Count Value CH2_6001_02	R	UDINT	0
	RXPDO_Temperature Alarm_6002_01	R	BOOL	FALSE
	RXPDO_Voltage Alarm_6002_02	R	BOOL	FALSE

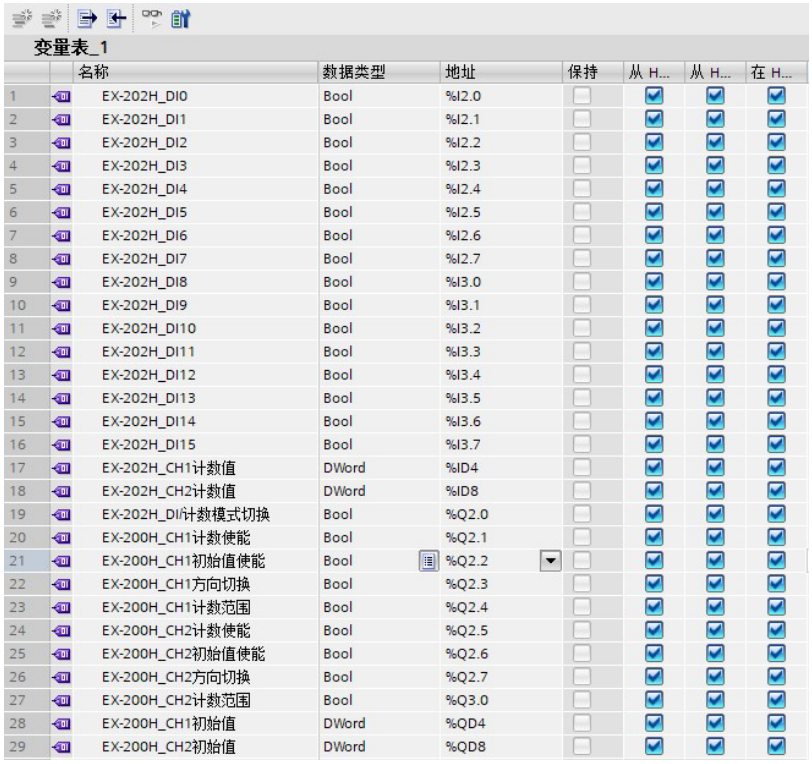
PROFINET communication

Use with TIA Portal software

(1) EX-202H actual assigned physical address

	模块	机架	插槽	I 地址	Q 地址	类型	订货号
✓	pn-66	0	0			EX-1112 Profinet D...	02-01-05-1
✓	Interface	0	0 X1			EX-1112	
✓	EX-202H_1	0	1	2...11	2...11	EX-202H	
✓	EX-212H_1	0	2	12...21	12...21	EX-212H	
✓	EX-2008_1	0	3	22		EX-2008	02-02-01
✓	EX-3008_1	0	4		22	EX-3008	02-03-01

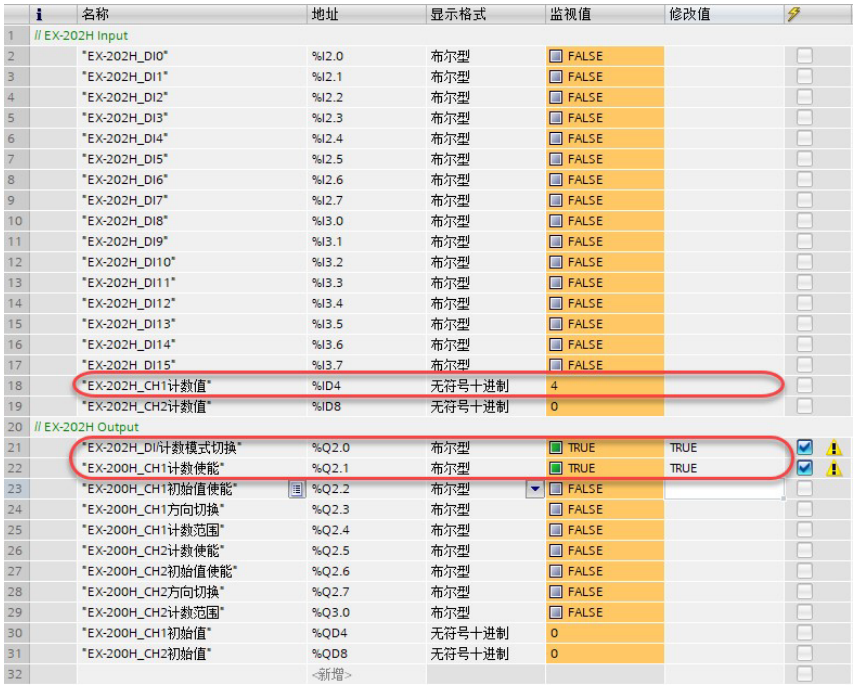
(2) EX-202H IO variable table



变量表_1

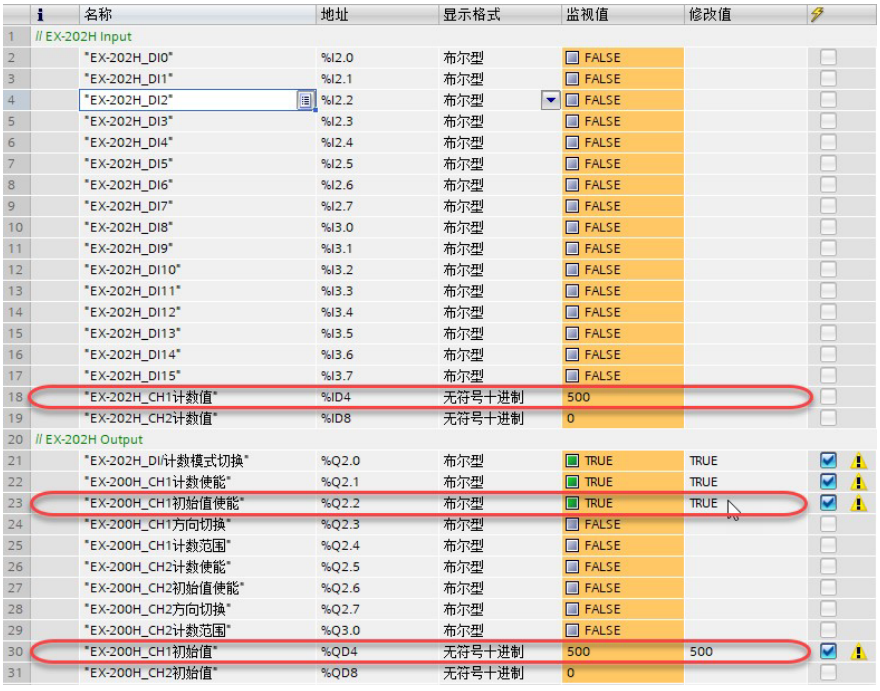
	名称	数据类型	地址	保持	从 H...	从 H...	在 H...
1	EX-202H_DI0	Bool	%I2.0		✓	✓	✓
2	EX-202H_DI1	Bool	%I2.1		✓	✓	✓
3	EX-202H_DI2	Bool	%I2.2		✓	✓	✓
4	EX-202H_DI3	Bool	%I2.3		✓	✓	✓
5	EX-202H_DI4	Bool	%I2.4		✓	✓	✓
6	EX-202H_DI5	Bool	%I2.5		✓	✓	✓
7	EX-202H_DI6	Bool	%I2.6		✓	✓	✓
8	EX-202H_DI7	Bool	%I2.7		✓	✓	✓
9	EX-202H_DI8	Bool	%I3.0		✓	✓	✓
10	EX-202H_DI9	Bool	%I3.1		✓	✓	✓
11	EX-202H_DI10	Bool	%I3.2		✓	✓	✓
12	EX-202H_DI11	Bool	%I3.3		✓	✓	✓
13	EX-202H_DI12	Bool	%I3.4		✓	✓	✓
14	EX-202H_DI13	Bool	%I3.5		✓	✓	✓
15	EX-202H_DI14	Bool	%I3.6		✓	✓	✓
16	EX-202H_DI15	Bool	%I3.7		✓	✓	✓
17	EX-202H_CH1计数值	DWord	%ID4		✓	✓	✓
18	EX-202H_CH2计数值	DWord	%ID8		✓	✓	✓
19	EX-202H_DI计数模式切换	Bool	%Q2.0		✓	✓	✓
20	EX-200H_CH1计数使能	Bool	%Q2.1		✓	✓	✓
21	EX-200H_CH1初始值使能	Bool	%Q2.2		✓	✓	✓
22	EX-200H_CH1方向切换	Bool	%Q2.3		✓	✓	✓
23	EX-200H_CH1计数范围	Bool	%Q2.4		✓	✓	✓
24	EX-200H_CH2计数使能	Bool	%Q2.5		✓	✓	✓
25	EX-200H_CH2初始值使能	Bool	%Q2.6		✓	✓	✓
26	EX-200H_CH2方向切换	Bool	%Q2.7		✓	✓	✓
27	EX-200H_CH2计数范围	Bool	%Q3.0		✓	✓	✓
28	EX-200H_CH1初始值	DWord	%QD4		✓	✓	✓
29	EX-200H_CH2初始值	DWord	%QD8		✓	✓	✓

(3) CH1 mode switching and counting enable



	名称	地址	显示格式	监视值	修改值
1	// EX-202H Input				
2	"EX-202H_DI0"	%I2.0	布尔型	FALSE	
3	"EX-202H_DI1"	%I2.1	布尔型	FALSE	
4	"EX-202H_DI2"	%I2.2	布尔型	FALSE	
5	"EX-202H_DI3"	%I2.3	布尔型	FALSE	
6	"EX-202H_DI4"	%I2.4	布尔型	FALSE	
7	"EX-202H_DI5"	%I2.5	布尔型	FALSE	
8	"EX-202H_DI6"	%I2.6	布尔型	FALSE	
9	"EX-202H_DI7"	%I2.7	布尔型	FALSE	
10	"EX-202H_DI8"	%I3.0	布尔型	FALSE	
11	"EX-202H_DI9"	%I3.1	布尔型	FALSE	
12	"EX-202H_DI10"	%I3.2	布尔型	FALSE	
13	"EX-202H_DI11"	%I3.3	布尔型	FALSE	
14	"EX-202H_DI12"	%I3.4	布尔型	FALSE	
15	"EX-202H_DI13"	%I3.5	布尔型	FALSE	
16	"EX-202H_DI14"	%I3.6	布尔型	FALSE	
17	"EX-202H_DI15"	%I3.7	布尔型	FALSE	
18	"EX-202H_CH1计数值"	%ID4	无符号十进制	4	
19	"EX-202H_CH2计数值"	%ID8	无符号十进制	0	
20	// EX-202H Output				
21	"EX-202H_DI计数模式切换"	%Q2.0	布尔型	TRUE	TRUE
22	"EX-200H_CH1计数使能"	%Q2.1	布尔型	TRUE	TRUE
23	"EX-200H_CH1初始值使能"	%Q2.2	布尔型	FALSE	
24	"EX-200H_CH1方向切换"	%Q2.3	布尔型	FALSE	
25	"EX-200H_CH1计数范围"	%Q2.4	布尔型	FALSE	
26	"EX-200H_CH2计数使能"	%Q2.5	布尔型	FALSE	
27	"EX-200H_CH2初始值使能"	%Q2.6	布尔型	FALSE	
28	"EX-200H_CH2方向切换"	%Q2.7	布尔型	FALSE	
29	"EX-200H_CH2计数范围"	%Q3.0	布尔型	FALSE	
30	"EX-200H_CH1初始值"	%QD4	无符号十进制	0	
31	"EX-200H_CH2初始值"	%QD8	无符号十进制	0	
32		<新增>			

(4) CH1 initial value writing



	名称	地址	显示格式	监视值	修改值
1	// EX-202H Input				
2	"EX-202H_DI0"	%I2.0	布尔型	FALSE	
3	"EX-202H_DI1"	%I2.1	布尔型	FALSE	
4	"EX-202H_DI2"	%I2.2	布尔型	FALSE	
5	"EX-202H_DI3"	%I2.3	布尔型	FALSE	
6	"EX-202H_DI4"	%I2.4	布尔型	FALSE	
7	"EX-202H_DI5"	%I2.5	布尔型	FALSE	
8	"EX-202H_DI6"	%I2.6	布尔型	FALSE	
9	"EX-202H_DI7"	%I2.7	布尔型	FALSE	
10	"EX-202H_DI8"	%I3.0	布尔型	FALSE	
11	"EX-202H_DI9"	%I3.1	布尔型	FALSE	
12	"EX-202H_DI10"	%I3.2	布尔型	FALSE	
13	"EX-202H_DI11"	%I3.3	布尔型	FALSE	
14	"EX-202H_DI12"	%I3.4	布尔型	FALSE	
15	"EX-202H_DI13"	%I3.5	布尔型	FALSE	
16	"EX-202H_DI14"	%I3.6	布尔型	FALSE	
17	"EX-202H_DI15"	%I3.7	布尔型	FALSE	
18	"EX-202H_CH1计数值"	%ID4	无符号十进制	500	
19	"EX-202H_CH2计数值"	%ID8	无符号十进制	0	
20	// EX-202H Output				
21	"EX-202H_DI计数模式切换"	%Q2.0	布尔型	TRUE	TRUE
22	"EX-200H_CH1计数使能"	%Q2.1	布尔型	TRUE	TRUE
23	"EX-200H_CH1初始值使能"	%Q2.2	布尔型	TRUE	TRUE
24	"EX-200H_CH1方向切换"	%Q2.3	布尔型	FALSE	
25	"EX-200H_CH1计数范围"	%Q2.4	布尔型	FALSE	
26	"EX-200H_CH2计数使能"	%Q2.5	布尔型	FALSE	
27	"EX-200H_CH2初始值使能"	%Q2.6	布尔型	FALSE	
28	"EX-200H_CH2方向切换"	%Q2.7	布尔型	FALSE	
29	"EX-200H_CH2计数范围"	%Q3.0	布尔型	FALSE	
30	"EX-200H_CH1初始值"	%QD4	无符号十进制	500	500
31	"EX-200H_CH2初始值"	%QD8	无符号十进制	0	

(5) CH1 count value cleared

	名称	地址	显示格式	监视值	修改值
1	// EX-202H Input				
2	"EX-202H_DI0"	%I2.0	布尔型	FALSE	
3	"EX-202H_DI1"	%I2.1	布尔型	FALSE	
4	"EX-202H_DI2"	%I2.2	布尔型	FALSE	
5	"EX-202H_DI3"	%I2.3	布尔型	FALSE	
6	"EX-202H_DI4"	%I2.4	布尔型	FALSE	
7	"EX-202H_DI5"	%I2.5	布尔型	FALSE	
8	"EX-202H_DI6"	%I2.6	布尔型	FALSE	
9	"EX-202H_DI7"	%I2.7	布尔型	FALSE	
10	"EX-202H_DI8"	%I3.0	布尔型	FALSE	
11	"EX-202H_DI9"	%I3.1	布尔型	FALSE	
12	"EX-202H_DI10"	%I3.2	布尔型	FALSE	
13	"EX-202H_DI11"	%I3.3	布尔型	FALSE	
14	"EX-202H_DI12"	%I3.4	布尔型	FALSE	
15	"EX-202H_DI13"	%I3.5	布尔型	FALSE	
16	"EX-202H_DI14"	%I3.6	布尔型	FALSE	
17	"EX-202H_DI15"	%I3.7	布尔型	FALSE	
18	"EX-202H_CH1计数值"	%ID4	无符号十进制	0	
19	"EX-202H_CH2计数值"	%ID8	无符号十进制	0	
20	// EX-202H Output				
21	"EX-202H_DI计数模式切换"	%Q2.0	布尔型	TRUE	TRUE
22	"EX-200H_CH1计数使能"	%Q2.1	布尔型	FALSE	FALSE
23	"EX-200H_CH1初始值使能"	%Q2.2	布尔型	FALSE	
24	"EX-200H_CH1方向切换"	%Q2.3	布尔型	FALSE	
25	"EX-200H_CH1计数范围"	%Q2.4	布尔型	FALSE	
26	"EX-200H_CH2计数使能"	%Q2.5	布尔型	FALSE	
27	"EX-200H_CH2初始值使能"	%Q2.6	布尔型	FALSE	
28	"EX-200H_CH2方向切换"	%Q2.7	布尔型	FALSE	
29	"EX-200H_CH2计数范围"	%Q3.0	布尔型	FALSE	
30	"EX-200H_CH1初始值"	%QD4	无符号十进制	0	
31	"EX-200H_CH2初始值"	%QD8	无符号十进制	0	

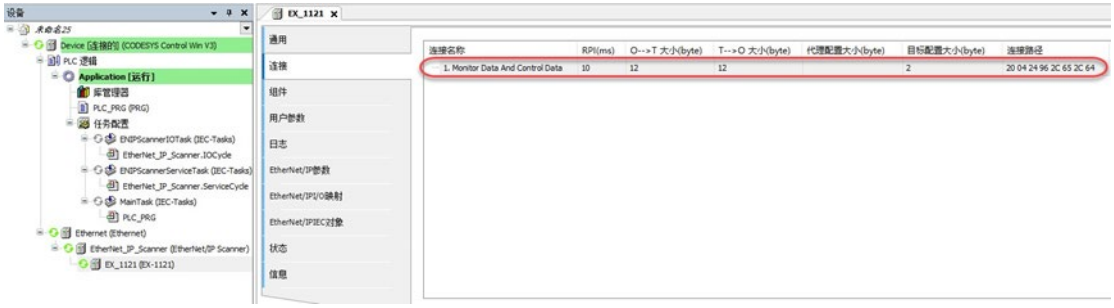
EtherNET/IP communication

Used on CODESYS software

(1)Hardware configuration

Model	Slot location	Module description	Quantity	Number of input bytes	Number of output bytes
EX-1121	0	EtherNet/IP adapter	1	——	——
EX-200H	1	16DI NPN module	1	2	——
EX-300H	2	16DO NPN module	1	——	2
EX-202H	3	16DI NPN counting module	1		

（2）Input and output byte configuration



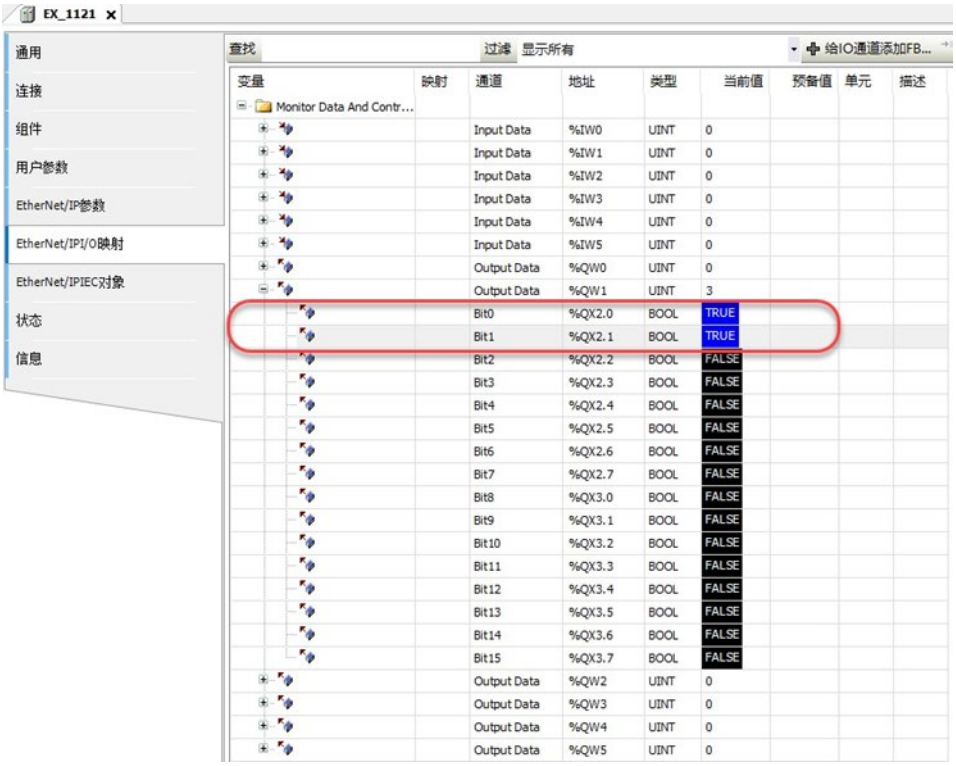
IO address corresponding to the module

EX-200H address	
Channel DIO-DIF	%IW0
EX-300H address	
Channel DIO-DIF	%QW0
EX-202H address	
Input	
address	**Function**
%IW1	DIO-DIF signal
%IW2+%IW3	CH1 count value
%IW4+%IW5	CH2 count value
Output	
address	**Function**
%QX2.0	DI/count switching
%QX2.1	CH1 counting enable
%QX2.2	CH1 initial value setting
%QX2.3	CH1 direction switching
%QX2.4	CH1 counting range
%QX2.5	CH2 counting enable
%QX2.6	CH2 initial value setting
%QX2.7	CH2 direction switching
%QX3.0	CH2 counting range
%QX3.1-3.7	reserved
%QW2+%QW3	CH1 initial value
%QW4+%QW5	CH2 initial value

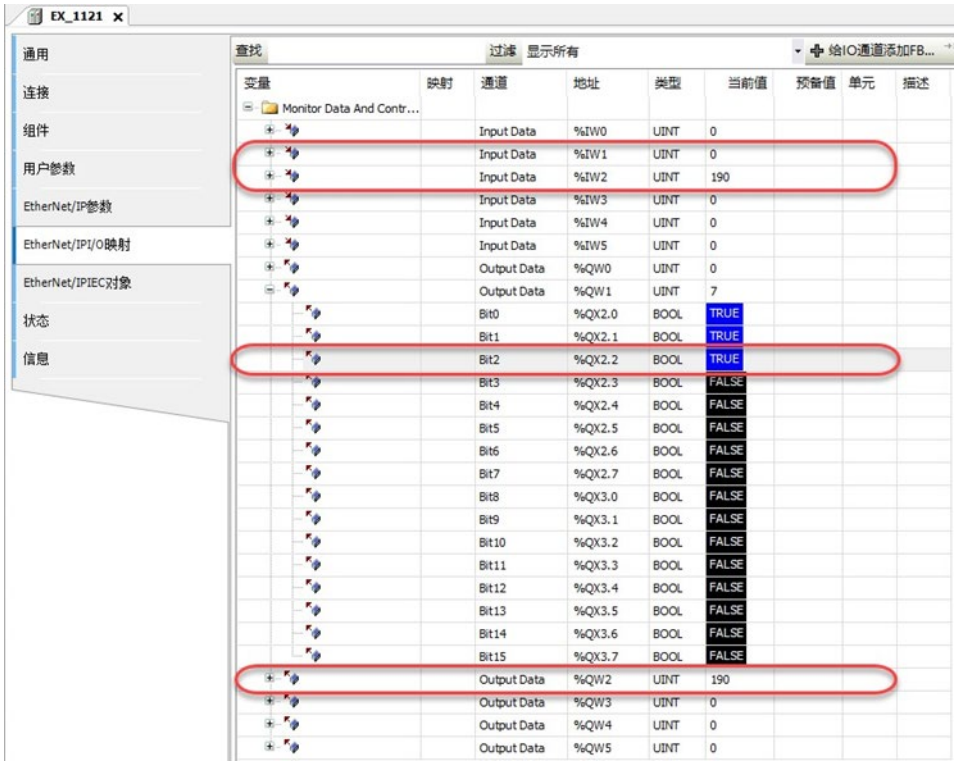
Notice

●When the module changes the slot position, the corresponding physical address of the IO module will also change accordingly.

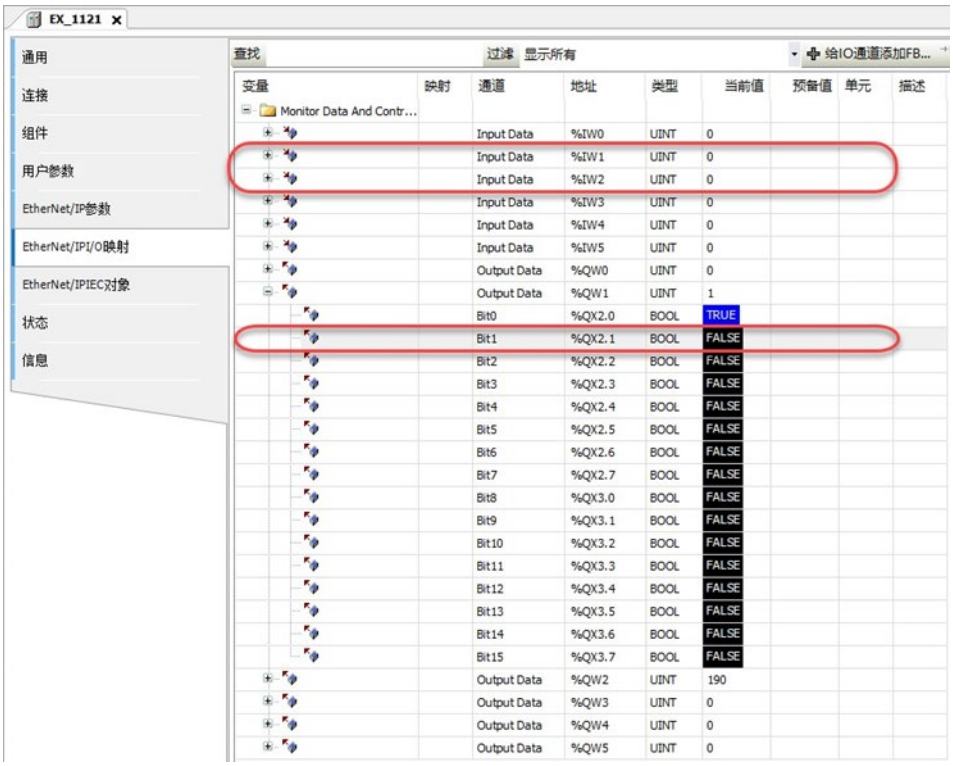
(4) CH1 channel mode switching and counting enable



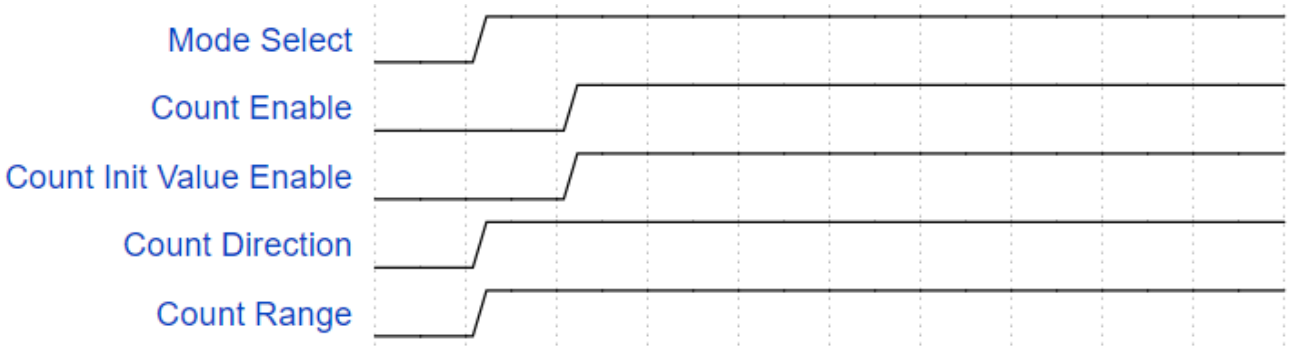
(5) CH1 initial value writing



(6) Clear the CH1 count value to zero



4.2.8 Control sequence diagram



本手册如有参数更新，恕不另行通知。

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