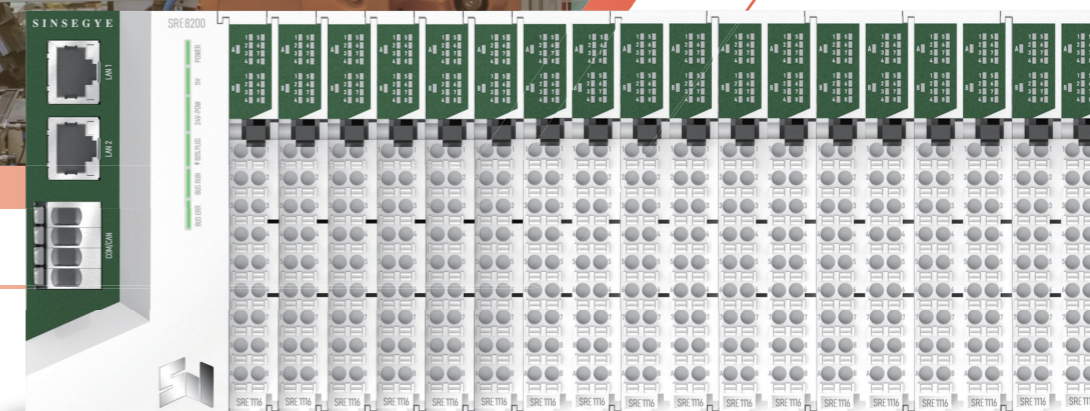




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USER MANUAL

SRE Series IO Module

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Manual version	Description
V1.0	Initial version
V1.1	Update product, add product description of SRE1032, SRE2322, SRE2132, SRE1332, SRE1432, SRE3208, and SRE4208
V1.2	Add product description of SRE3522

1. SRE8200 COUPLER MODULE

1.1 Electrical specifications

Model	SRE8200 coupler module
Product overview	2 RJ45 interfaces, stable 24VDC power supply stable and strong anti-interference performance
Technical specifications	
Order No.	SRE8200
Electrical interface	RJ45
Working power supply	20.8~28.8V DC
Is the CPU connected?	No (independent slave)
Supported protocol	EtherCAT Slave
Quantity of built-in IO	N/A
Slave Station Settings	
Address setting	Configure by DIP switch or Master station
Maximum quantity of stations per segment	255
Isolation	
Between channel and bus	Yes
Power supply to bus	Yes
Display indication	Power supply+24V green light, SF red light, NET red light
System power diagnosis and warning	Support
Work environment	Working environment temperature: -10 ~ 55 °C; Relative humidity: 5% to 90% (no condensation)
Dimensions (length x width x height)	48×80×100mm

1.2 Product Introduction

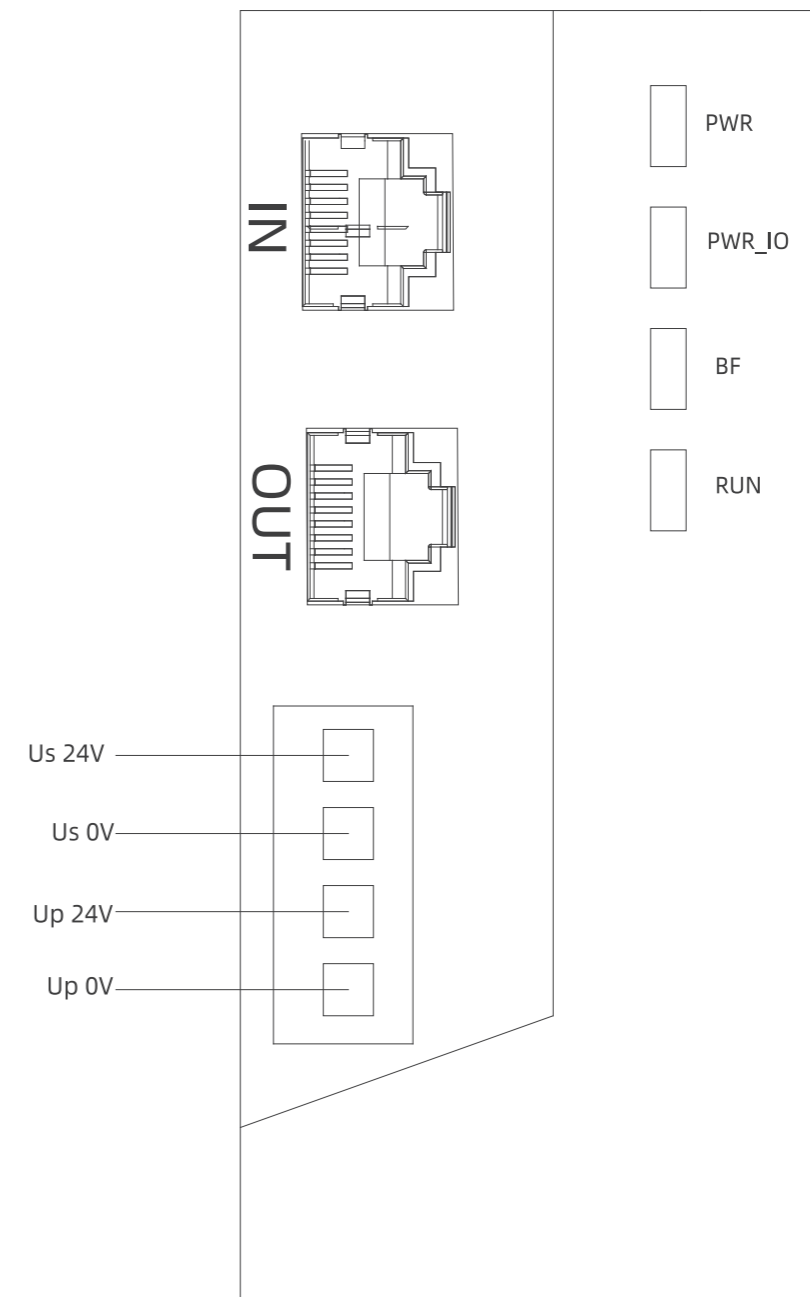


Figure 1-2

Note: Us is the power terminal of the coupler, and Up is the power terminal of the expansion module.

1.3 Terminal Description

Wiring terminals	Description
Up_24V	Positive electrode of coupler power supply terminal
Up_0V	Negative electrode of coupler power supply terminal
Us_24V	Positive electrode of expansion module power supply terminal
Us_0V	Negative electrode of expansion module power supply terminal

1.4 Description of Indicator

Wiring terminals	Description
PWR (green)	Coupler power indicator: On: module power supply is normal; Off: The module is not powered or its power supply is abnormal
PWR_IO (green)	IO power indicator: On: IO power supply is normal Off: IO is not powered or its power supply is abnormal
BF (red)	Bus fault indicator: Always on: Configuration error Off: The module functions properly
RUN (yellow)	Bus communication indicator: Flashing: Module is normal Off: Communication malfunction

2. DIGITAL INPUT MODULE

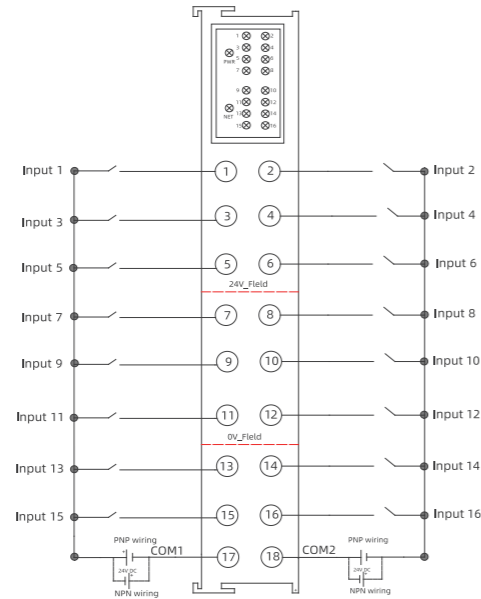
High performance digital input module, 16/32 digital input, NPN/PNP input, 24VDC, with module diagnostic function.

2.1 Electrical Specifications

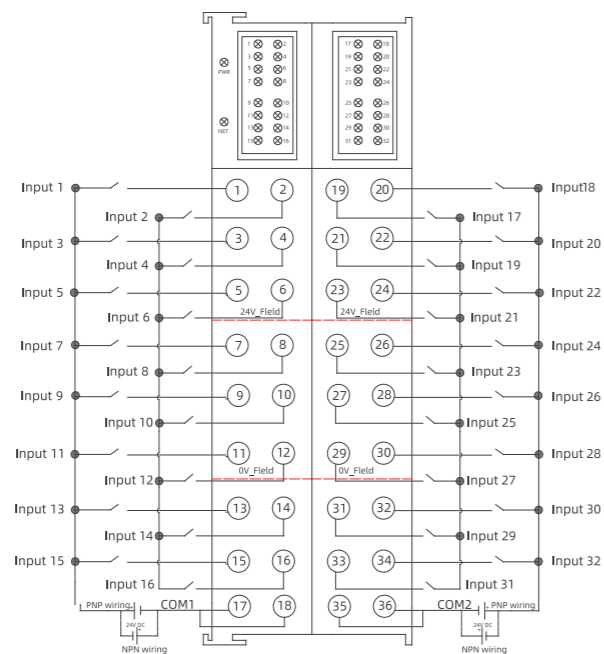
Model	SRE1016	SRE1032
Technical specifications		
Input points	16	32
Cable length (unshielded)	100m	
Input characteristics	Source type, leakage type	
Allowable static current	1mA	
Insulation test voltage	500V DC	
Isolation		
Between channel and bus	Yes	
Between channels	Yes	
Display indication	Green LED display for each channel input	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60°C relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	15×80×100 mm	30×80×100 mm

2.2 Wiring Diagram

2.2.1 SRE1016 Wiring Diagram



2.2.2 SRE1032 Wiring Diagram



2.3 Interface Description

2.3.1 SRE1016 Wiring Terminal Description

Terminal	Description
Input1~Input16	Module input terminal
COM1, COM2	Input public end

2.3.2 SRE1032 Wiring Terminal Description

Terminal	Description
Input1~Input32	Module input terminal
COM1, COM2	Input public end

2.4 Indicator Description

2.4.1 SRE1016 Indicator Description

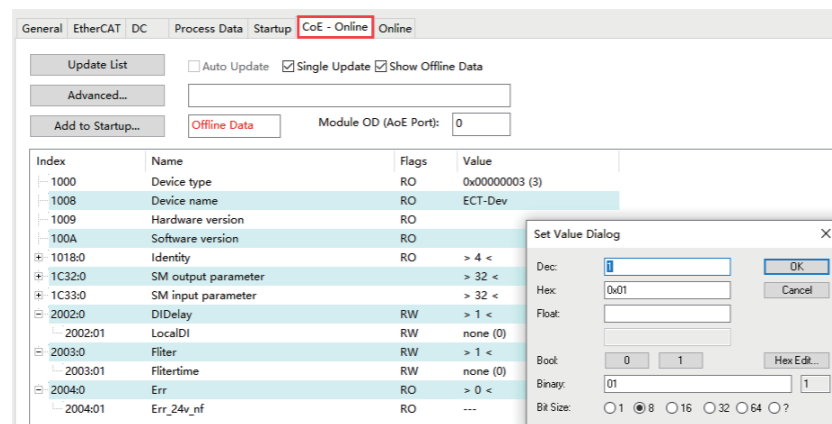
Indicator	Description
PWR	Module power indicator: On: Module power supply is normal Off: No power supply or abnormal power supply
NET	Communication indicator: On: Communication is normal Off: Communication is abnormality
I1~I16 (green)	Digital input indicator, the corresponding indicator lights up when the input channel detects a signal

2.4.2 SRE1032 Indicator Description

Indicator	Description
PWR	Module power indicator: On: Module power supply is normal Off: Module has no power supply or abnormal power supply
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal
I1~I32 (green)	Digital input indicator, the corresponding indicator lights up when the input channel detects a signal

2.5 COE General Parameter Description

Module related parameters can be viewed or modified in COE parameters, and parameter are set not saved when powered off.



Parameter	Description
2002:01 LocalDI	Parameters are used to set the digital input module and DI delay None: No delay 1.6ms: DI delay is 1.6ms 3.2ms: DI delay is 3.2ms 12.8ms: DI delay is 12.8ms 20ms: DI delay is 20ms 50ms: DI delay is 50ms
2003:01 Fliter time	None: No filtering; 1:1ms; 2:2ms; 3:5ms; 4:10ms; 5:20ms; 6: 50ms.
2004:01 Err 24v_nf	Bit0: 1: Channel 24V power supply is abnormal; 0: Normal.

3. DIGITAL OUTPUT MODULE

3.1 16 Point Digital Output Electrical Specifications

SRE2216/SRE2116 digital output module, 16 channel digital output, with built-in DO and module diagnostic function.

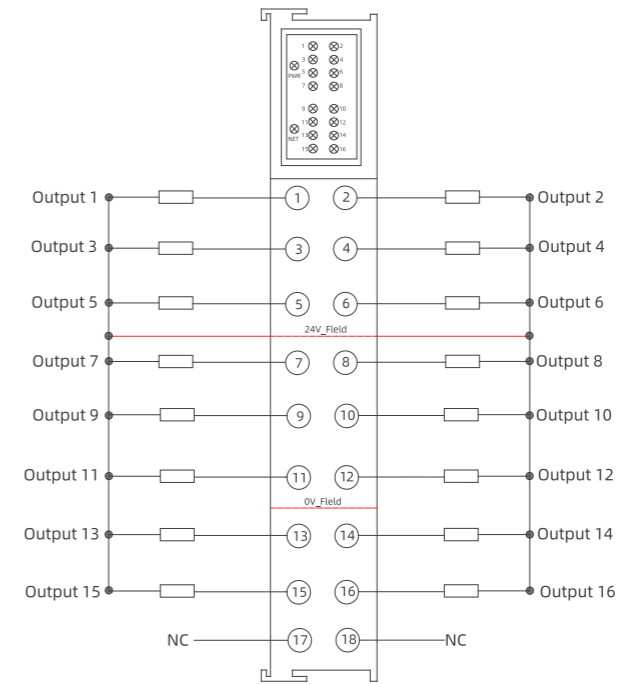
Model	SRE2216	SRE2116
Technical specifications		
Type of output	PNP type solid-state MOSFET	NPN solid-state MOSFET
Output points	16	
Bus consumption current (at 24VDC full load)	29.4mA	84.6mA
Cable length (unshielded)	100m	
Output short-circuit protection	Yes, electronic	
Maximum lamp load	5W	
Output current "1"	0.5A	
Leakage current	< 1mA	
Switching frequency		
Resistive load, maximum	100HZ	
Inductive load, maximum	0.5HZ	
Lamp load, maximum	10HZ	
Mechanical load, maximum	---	
Insulation test voltage	500V DC	
Isolation		
Between channel and bus	Yes	
Between channels	Yes	
Display indication	Each channel outputs a green LED display	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60 °C, relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	15×80×100 mm	

3.2 32 Point Digital Output Electrical Specifications

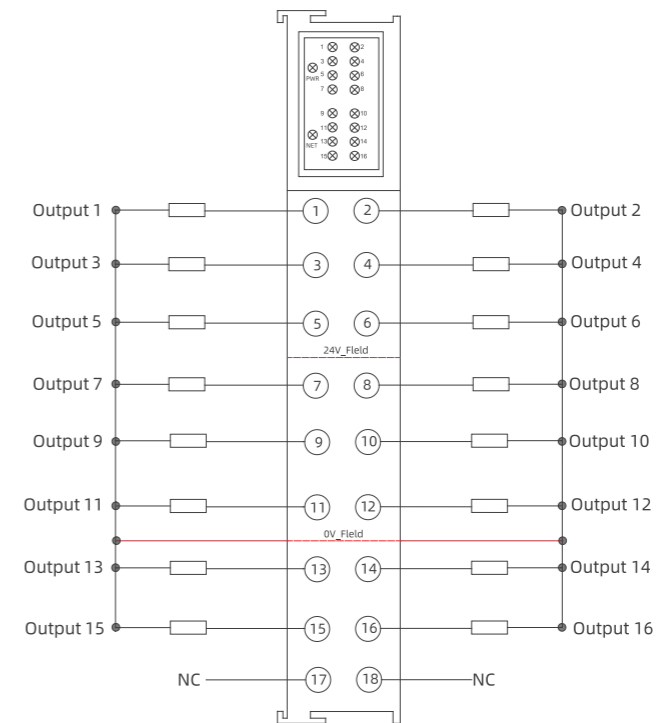
Model	SRE2232	SRE2132
Technical specifications		
Type of output	PNP type solid-state MOSFET	NPN solid-state MOSFET
Output points	16	
Bus consumption current (at 24VDC full load)	29.4mA	/
Cable length (unshielded)	100m	
Output short-circuit protection	Yes, electronic	
Maximum lamp load	5W	
Output current "1"	0.5A	
Leakage current	< 1mA	
Switching frequency		
Resistive load, maximum	100HZ	
Inductive load, maximum	0.5HZ	
Lamp load, maximum	10HZ	
Mechanical load, maximum	---	
Insulation test voltage	500V DC	
Isolation		
Between channel and bus	Yes	
Between channels	Yes	
Display indication	Each channel outputs a green LED display	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60 °C, relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	30x80x100 mm	

3.3 Wiring Diagram

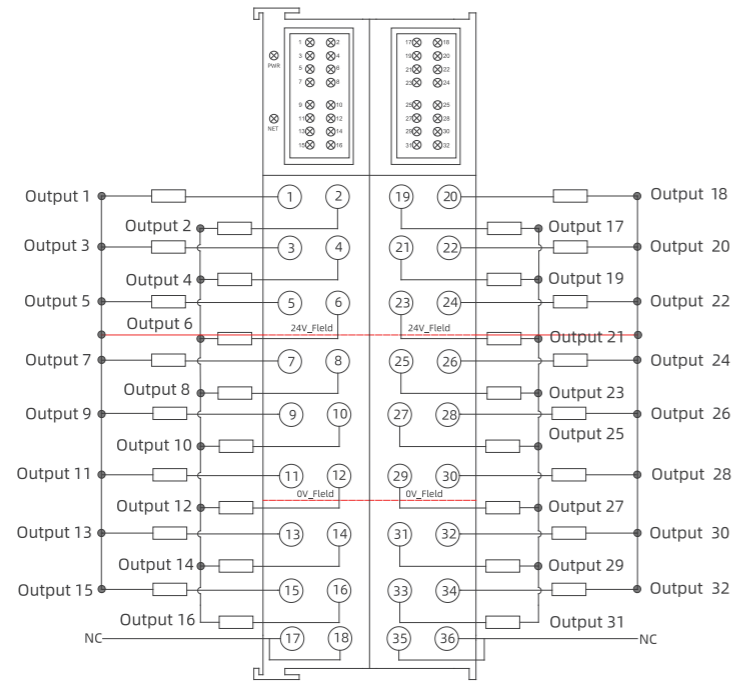
3.3.1 SRE2116 Wiring Diagram



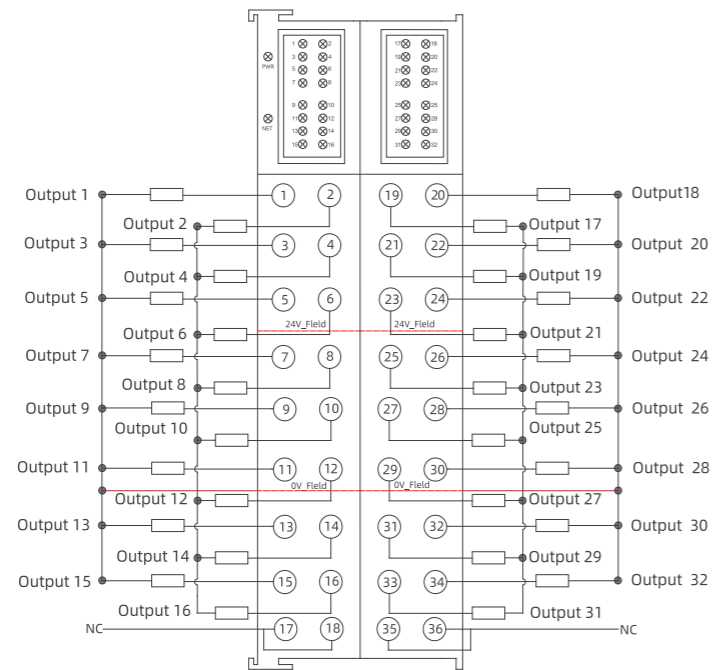
3.3.2 SRE2216 Wiring Diagram



3.3.3 SRE2132 Wiring Diagram



3.3.4 SRE2232 Wiring Diagram



3.4 Indicator Description

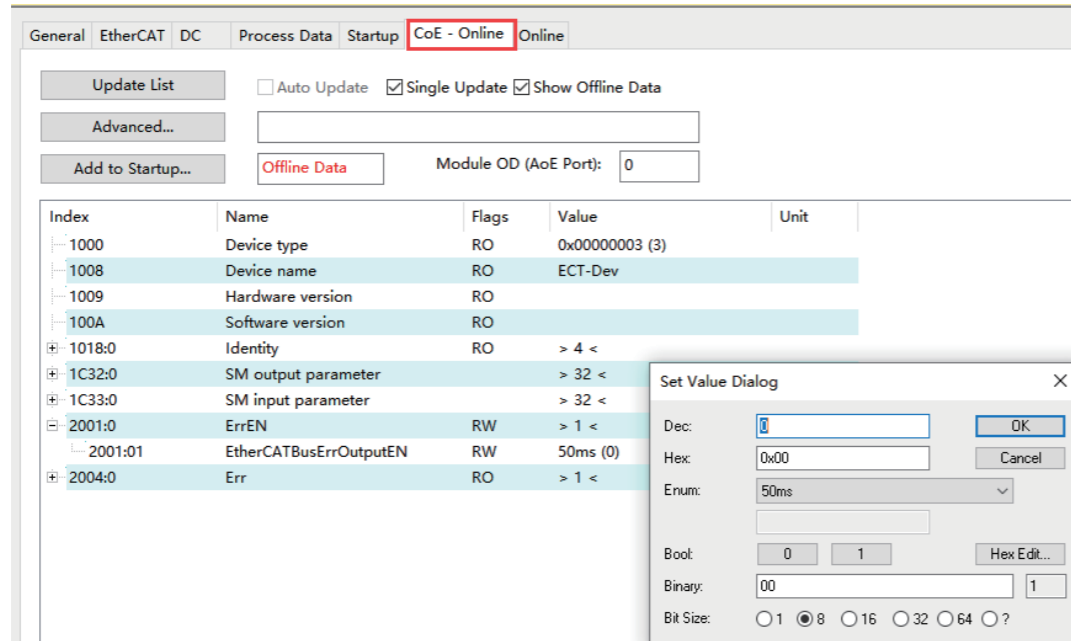
3.4.1 SRE2216/SRE2116 Indicator Description

Indicator	Description
PWR	On: The module power supply is normal; Off: The module is powered off
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal
LED1~LED16	Digital output indicator, the corresponding indicator lights up when a signal is detected

3.4.2 SRE2232/SRE2132 Indicator Description

Indicator	Description
PWR	On: The module power supply is normal Off: The module is powered off
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal
LED1~LED32	Digital output indicator, the corresponding indicator lights up when a signal is detected

3.5 COE General Parameter Description



Parameter	Description
2001:01 EtherCATBusErrOutoutEN	The parameter is used to set the action of output channel after the module communication is disconnected (this setting will not be saved in case the power is turned off): 0: Maintain the output for 50ms and then clear it 1: Maintain output 2: Clear after maintaining the output for 10ms 3: Clear after maintaining the output for 20ms 4: Clear after maintaining output for 100ms 5: Clear after maintaining the output for 500ms 6: Clear the output immediately
2004:01 Err 24v_nf	Bit0: 1: Channel 24V power supply is abnormal 0: Normal Bit1: Reserved Bit2: 1: DO short circuit or overcurrent 0: Normal

4. DIGITAL INPUT/OUTPUT MODULE

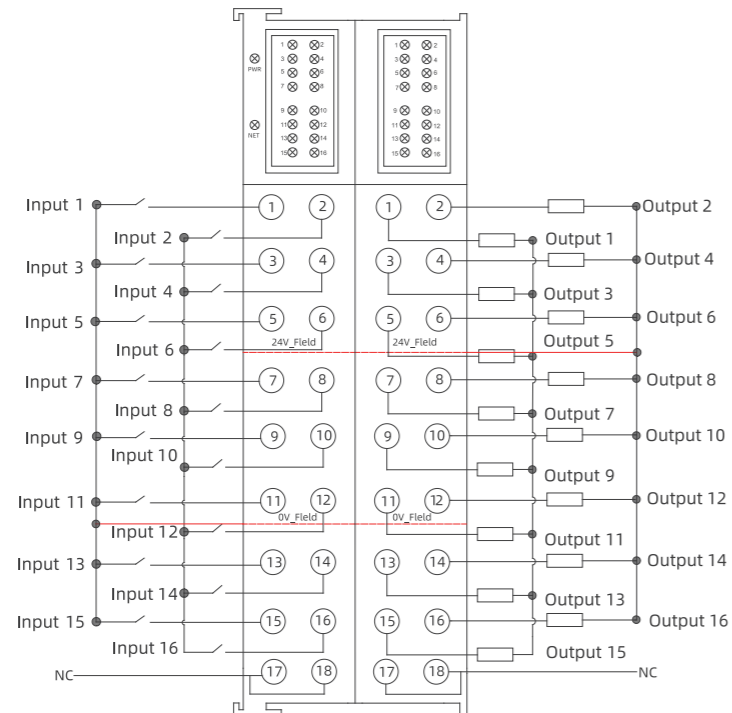
4.1 Electrical Specifications

SRE digital input/output module, 16 digital inputs, 16 digital outputs, NPN/PNP type, module with diagnostic function.

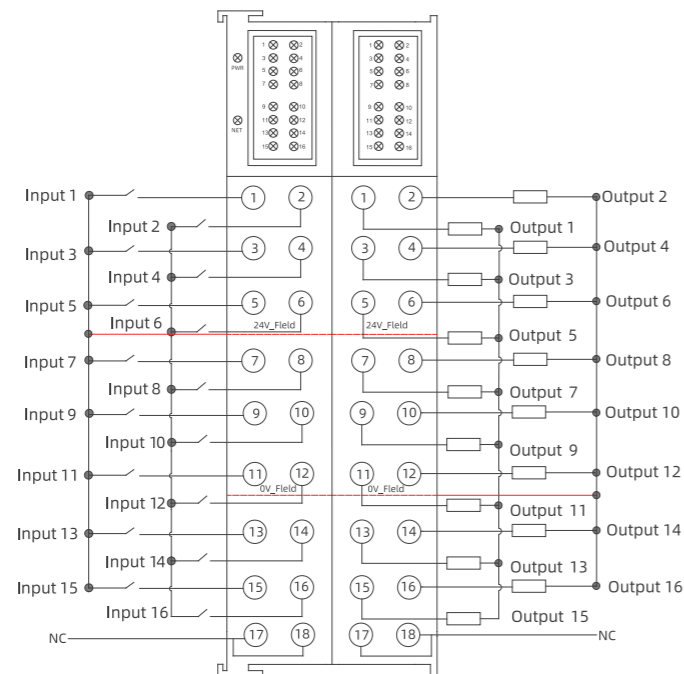
Model	SRE1332	SRE1432
Technical specifications		
Bus 24V current consumption (at full load)	89.7mA	33.5mA
Input characteristics		
Input points	16	
Limit value	24V DC	
Signal "0"	Maximum 5V DC, 1mA	
Signal "1"	Minimum 15V DC, 2.5mA	
Input characteristics	Leakage type	Source type
Allowable static current	1mA	
Insulation test voltage	500V DC	
Cable length (unshielded)	Maximum length of 300m	
Cable length (shielding)	Maximum length of 500m	
Output		
Type of output	NPN solid-state MOSFET	PNP type solid-state MOSFET
Output points	16	
Cable length (unshielded)	Maximum length of 300m	
Cable length (shielding)	Maximum length of 500m	
Output short-circuit protection	Yes, electronic	
Maximum lamp load	5W	
Output current "1"	0.5A	
Leakage current	< 1mA	
Contact mechanical lifespan	--	
Contact electrical life (rated load)	--	
Switching frequency		
Resistive load, maximum	100HZ	
Inductive load, maximum	0.5HZ	
Lamp load, maximum	10HZ	
Mechanical load, maximum	--	
Insulation test voltage	500V DC	
Isolation		
Between channel and bus	Yes	
Between channels	Yes	
Display indication	Each channel outputs a green LED display	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60°C, relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	30x80x100 mm	

4.2 Wiring Diagram

4.2.1 SRE1332 Wiring Diagram



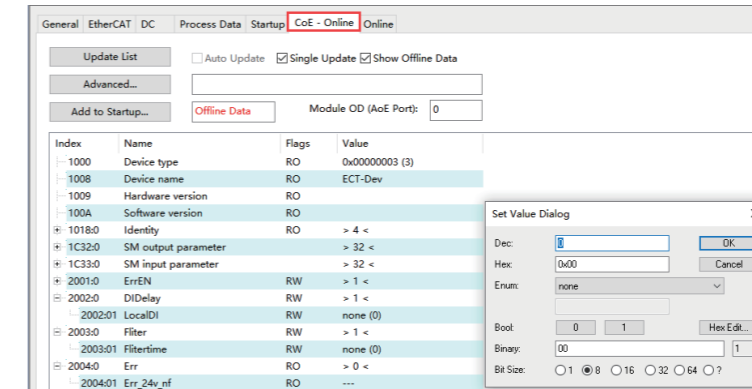
4.2.2 SRE1432 Wiring Diagram



4.3 Indicator Description

Indicator	Description
PWR	On: The module power supply is normal Off: The module is powered off
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal
I1~I16	The digital input indicator will turn on when a signal is detected
Q1~Q16	Digital output indicator, the corresponding indicator lights up when a signal is detected

4.4 COE General Parameter Description



Parameter	Description
2001:01 EtherCATBusErrOutoutEN	Parameters are used to set the action of the output channel after the module communication is disconnected: 0: Maintain the output for 50ms and then clear it; 1: Maintain output; 2: Clear after maintaining the output for 10ms; 3: Clear after maintaining the output for 20ms; 4: Clear after maintaining the output for 100ms; 5: Clear after maintaining the output for 500ms; 6: Clear the output immediately;
2002:01 LocalDI	Parameters are used to set the digital input module and DI delay None: No delay 1.6ms: DI delay is 1.6ms 3.2ms: DI delay is 3.2ms 12.8ms: DI delay is 12.8ms 20ms: DI delay is 20ms 50ms: DI delay is 50ms
2003:01 Fliter time	None: No filtering; 1: 1ms; 2: 2ms; 3: 5ms; 4: 10ms; 5: 20ms; 6: 50ms.
2004:01 Err 24v_nf	Bit0: 1: Channel 24V power supply is abnormal; 0: Normal. Bit1: Reserved; Bit2: 1: DO short circuit or overcurrent; 0: Normal.

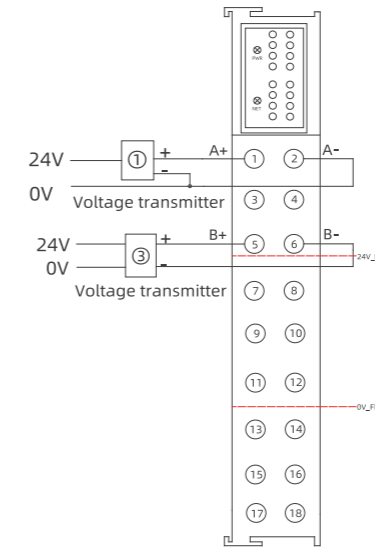
5. ANALOG RAPID ACQUISITION INPUT MODULE

SRE3522 two-way analog fast acquisition module, does not support Omron platform.

5.1 Electrical Specifications

Model	SRE3522
Technical specifications	
Supply voltage	18~28V DC
Number of input channels	2
Collection type	Voltage
Range	
Voltage	-10V-10V
Data word	
Bipolar	-32000~32000
Resolution	16 bits
Input type	Differential input
Sampling type	Simultaneously
Oversampling coefficient	N=1... 100 optional (up to 100 ksamples/s)
Maximum sampling rate	Maximum 10 μs/100 ksps (per channel, synchronous)
Isolation	
Between channel and bus	Yes
Display indication	Power supply green LED display
Distributed clock	Support
System power diagnosis and warning	Support
Work environment	
Working temperature	Working environment temperature: -20~60 °C, relative humidity: 5%~90% (no condensation)
Anti-vibration/anti-impact performance	Comply with EN 60068-2-6/EN 60068-2-27 standards
Anti-electromagnetic interference/anti- electromagnetic radiation performance	Comply with EN 61000-6-2/EN 61000-6-4 standards
Dimensions (length x width x height)	15×80×100 mm

5.2 SRE3522 Module Wiring Diagram



① Three wire sensor ③ Four wire sensor

*Short circuit between negative signal and negative power supply during single line connection.

5.3 Indicator Description

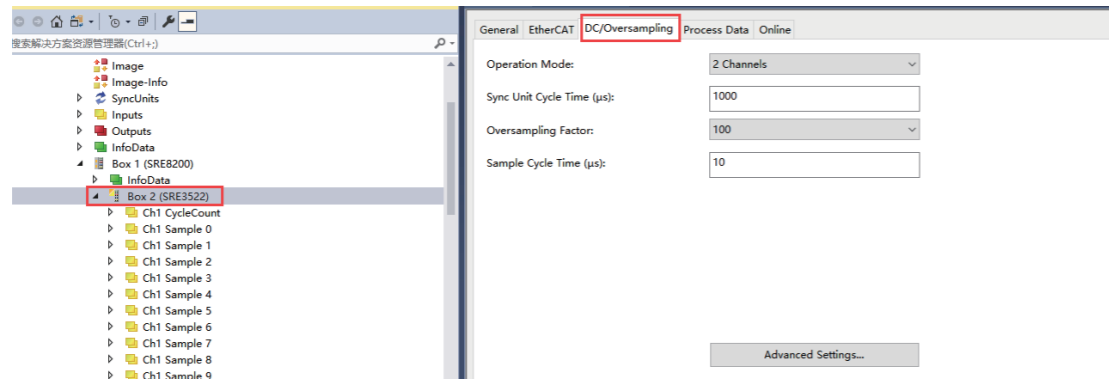
Indicator	Description
PWR (green)	Module power indicator: On: Power supply is normal Off: Abnormal power supply or module not powered
NET (green)	Communication indicator: On: Communication is normal Off: Communication is abnormal

5.4 Terminal Description

Terminal	Description
A+,A-	CH0 voltage acquisition input terminal
B+,B-	CH1 voltage acquisition input terminal

5.5 Parameter Description

The signal oversampling period is: $\text{Sample Cycle Time} = \text{Sync Unit Cycle Time} / \text{Oversampling Factor}$, with a minimum sampling period of 10us, for sampling. Example: If the bus cycle time is 1000us and the sampling frequency is 100 times, then the sampling period is 10us. A value is sampled per 10 us and execute 100 times, and this data is accumulated and transmitted in the next bus cycle.



Parameter	Description
Operation Mode:	Select the number of channels used: 2 Channels: Select two channels 1 Channel: Select one channel (first channel)
Sync Unit Cycle Time (us):	Cycle time, determined by EtherCAT's set cycle time
Oversampling Factor:	Sampling frequency per cycle: up to 100 times can be collected 1:1 2:2 3:4 4:5 5:8 6:10 7:16 8:20 9:25 10:32 11:40 12:50 13:64 14:80 15:100
Sample Cycle Time (us):	The sampling cycle is determined by the relationship between the EtherCAT set cycle and the quantity of samples

6. ANALOG INPUT MODULE

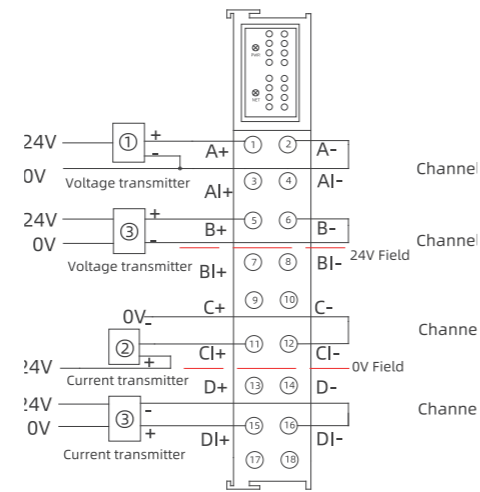
6.1 Electrical Specifications

High performance analog input module, 16 bit accuracy, 4/8 channel voltage/current input, with module diagnostic function.

Model	SRE3204	SRE3208
Technical specifications		
Supply voltage	18~28V DC	
Number of input channels	4	8
Input type	Voltage/Current	
Range		
Voltage (unipolar)	0~10V	
Voltage (Bipolar)	-10V~10V	
Current	0~20mA	
Data word		
Unipolar	0~32000	
Bipolar	-32000~32000	
Isolation		
Between channel and bu	Yes	
Display indication	Power supply green LED display	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60°C, relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	15×80×100 mm	30×80×100 mm

6.2 Module Wiring Diagram

6.2.1 SRE3204 Wiring Diagram

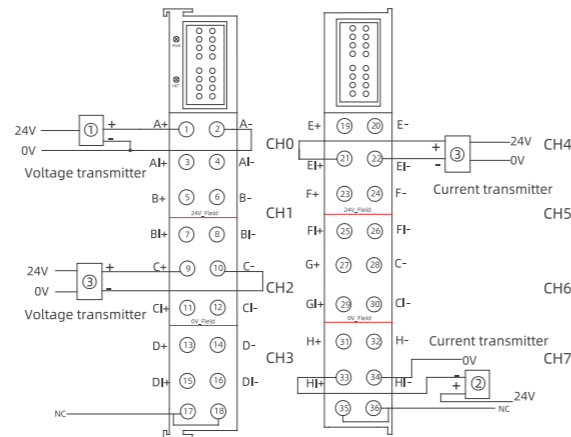


- ① Three wire sensor
- ② Two wire sensor
- ③ Four wire sensor

*Short circuit between negative signal and negative power supply during single line connection.

Note: A+ and A - are voltage signal input channels, and AI+and AI - current signal input channels. If CH0 needs to be connected to a voltage signal, it shall be connected with A+ and A - terminals; If CH0 needs to be connected to a current signal, it shall be connected with the AI+and AI - terminals; These two channels are both CH0 and occupy the same data address, so only one can be used and cannot be connected simultaneously. The other input channels follow this rule. The wiring on the diagram is only an example, and the specific usage can be connected according to one's own needs.

6.2.2 SRE3208 Wiring Diagram



- ① Three wire sensor
- ② Two wire sensor
- ③ Four wire sensor

*Short circuit between negative signal and negative power supply during single line connection.

Note: A+ and A - are voltage signal input channels, and AI+and AI - current signal input channels. If CH0 needs to be connected to a voltage signal, it shall be connected with A+ and A - terminals; If CH0 needs to be connected to a current signal, it shall be connected with the AI+and AI - terminals; These two channels are both CH0 and occupy the same data address, so only one can be used and cannot be connected simultaneously. The other input channels follow this rule. The wiring on the diagram is only an example, and the specific usage can be connected according to one's own needs.

6.3 Terminal Description

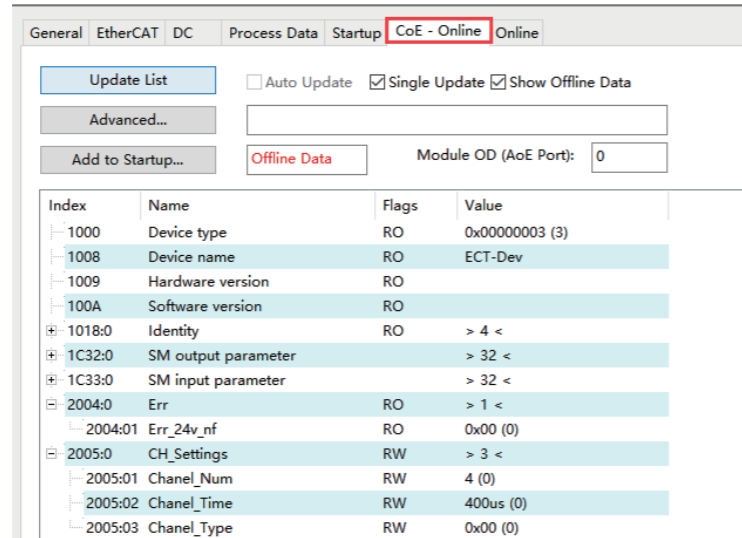
Terminal	Description
A+,A-	CH0 voltage input terminal
AI+,AI-	CH0 current input terminal
B+,B-	CH1 voltage input terminal
BI+,BI-	CH1 current input terminal
C+,C-	CH2 voltage input terminal
CI+,CI-	CH2 current input terminal
D+,D-	CH3 voltage input terminal
DI+,DI-	CH3 current input terminal

6.4 Indicator Description

Indicator	Description
PWR	Module power indicator: On: The module power supply is normal; Off: The module is powered off;
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal

6.5 COE General Parameter Description

The configuration parameters will not be synchronized to Startup, and they will not be saved after power failure or hot plugging.



Parameter	Data type	Description
2004:01	Err_24v_nf	Bit0: 1: Channel 24V power supply is abnormal 0: Normal.
2005:01	Channel Num	0: Enable 4 channels 1: Enable the first channel 2: Enable the first two channels
2005:02	Channel Time	Channel update time: 0:400us; 1:1ms; 2:2ms; 3:5ms; 4:10ms; 5:20ms;
2005:03	Channel Type	Each BIT corresponds to a channel: for example Bit0: corresponds to CH0 Bit1: corresponds to CH1 Set detection value: 0: Voltage \pm 10V; 1: Current 0-20mA

7. ANALOG OUTPUT MODULE

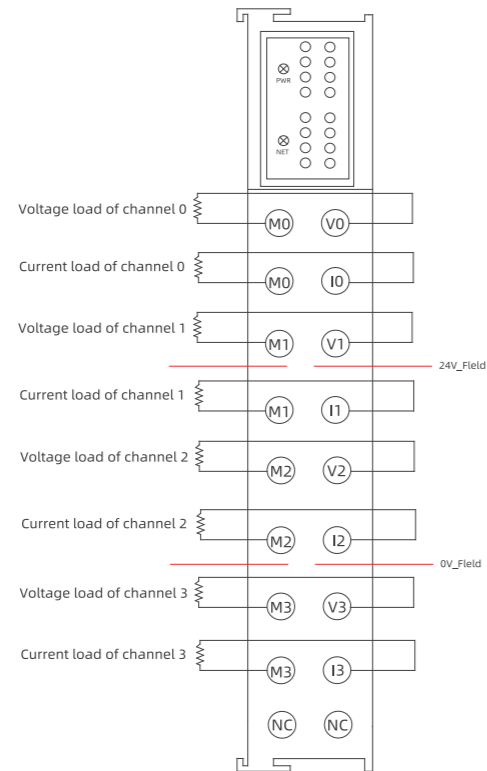
7.1 Electrical Specifications

SRE4204 analog output module, 4-channel voltage/ current, \pm 10V or 0-20mA, module diagnostic function, 16 bit accuracy, 35mm rail installation.

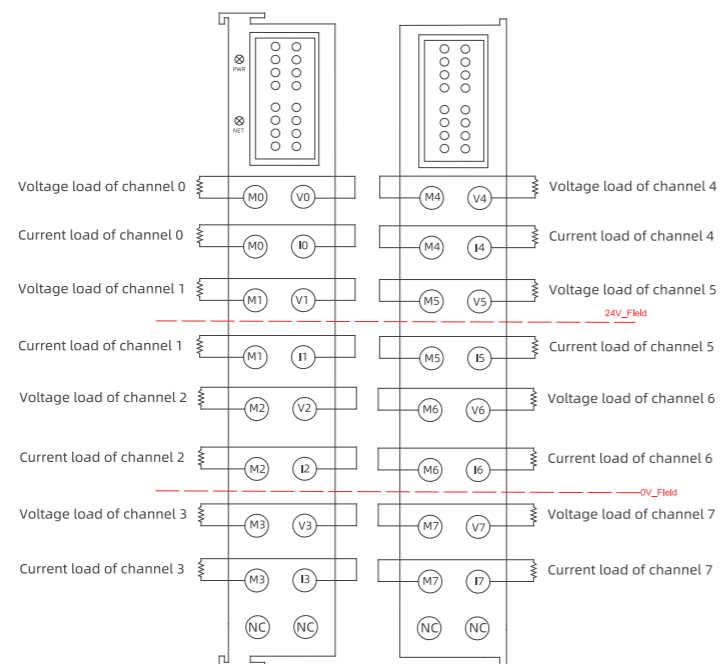
Model	SRE4204	SRE4208
Supply voltage	18~28V DC	
Number of output channels	4	8
Range		
Voltage (unipolar)	0~10V	
Voltage (Bipolar)	-10~10V	
Current	0~20mA	
Voltage	-32000~32000, full range	
Current	0~32000, full range	
Isolation		
Between channel and bus	Yes	
Display indication	Power supply green LED display	
System power diagnosis and warning	Support	
Working temperature	Working environment temperature: -20~60°C relative humidity: 5%~90% (no condensation)	
Dimensions (length x width x height)	15×80×100 mm	30×80×100 mm

7.2 Module Wiring Diagram

7.2.1 SRE4204 Wiring Diagram



7.2.2 SRE4208 Wiring Diagram



7.3 Interface Description

Terminal	Description
PWR	Module power indicator: On: The module power supply is normal Off: The module is powered off
NET	Communication indicator: On: Communication is normal Off: Communication is abnormal

7.4 Terminal Description

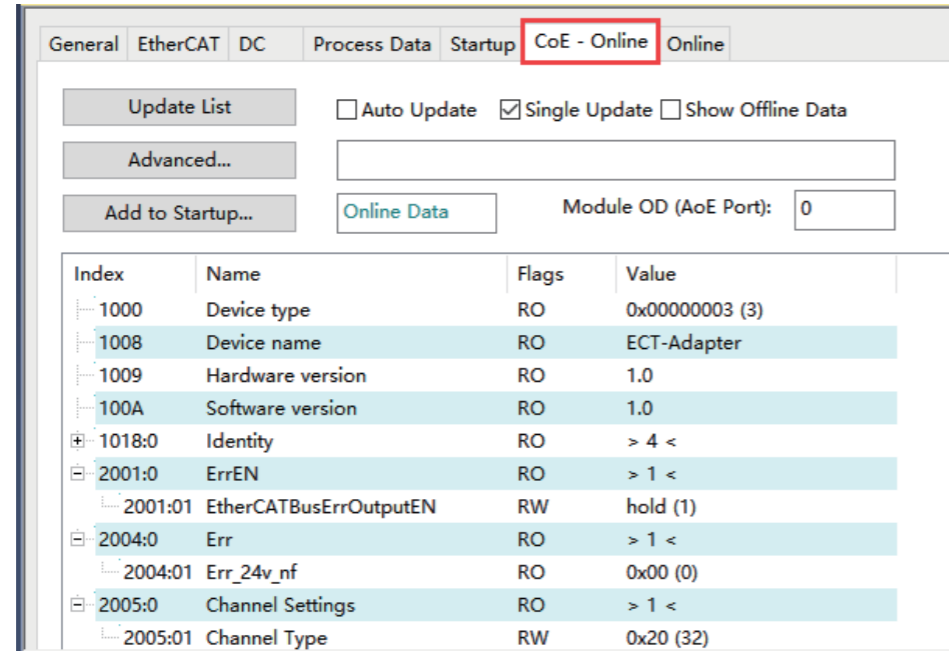
7.4.1 SRE4204 Terminal Description

Terminal	Description
V0,M0	CH0 voltage output terminal
I0,M0	CH0 current output terminal
V1,M1	CH1 voltage output terminal
I1,M1	CH1 current output terminal
V2,M2	CH2 voltage output terminal
I2,M2	CH2 current output terminal
V3,M3	CH3 voltage output terminal
I3,M3	CH3 current output terminal

7.4.2 SRE4208 Terminal Description

Terminal	Description
V0,M0	CH0 voltage output terminal
I0,M0	CH0 current output terminal
V1,M1	CH1 voltage output terminal
I1,M1	CH1 current output terminal
V2,M2	CH2 voltage output terminal
I2,M2	CH2 current output terminal
V3,M3	CH3 voltage output terminal
I3,M3	CH3 current output terminal
V4,M4	CH4 voltage output terminal
I4,M4	CH4 current output terminal
V5,M5	CH5 voltage output terminal
I5,M5	CH5 current output terminal
V6,M6	CH6 voltage output terminal
I6,M6	CH6 current output terminal
V7,M7	CH7 voltage output terminal
I7,M7	CH7 current output terminal

7.5 COE General Parameter Description



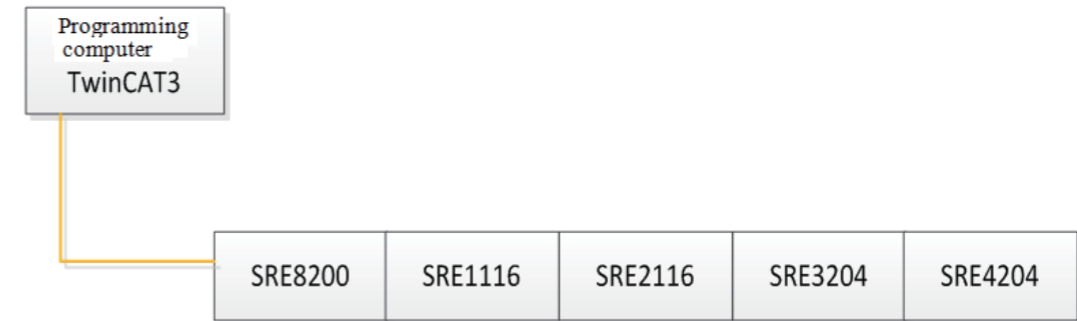
Parameter	Data type	Description
2001:01	EtherCATBusErrOutputEN	Parameters are used to set the action of the output channel after the module communication is disconnected: 0: Maintain the output for 50ms and then clear it; 1: Maintain output; 2: Clear after maintaining the output for 10ms; 3: Clear after maintaining the output for 20ms; 4: Clear after maintaining output for 100ms; 5: Clear after maintaining the output for 500ms; 6: Clear the output immediately;
2004:01	Err 24v_nf	Bit0: 1: Channel 24V power supply is abnormal 0: Normal Bit1: Reserved Bit2: 1: DO short circuit or overcurrent 0: Normal
2005:01	Channel Type	Each BIT corresponds to a channel: for example, Bit0: corresponds to CH0; Bit1: corresponds to CH1; Set channel range configuration: 0:±10V 1:0-20mA/0-10V

8. USAGE EXAMPLE

8.1 SRE8200 Coupler and Communication Instructions with BECKHOFF Main Station

8.1.1 Communication Connection

Communication connection diagram is as shown followings:



Note:

Each module has its own corresponding XML file, which needs to be added before it can be used.

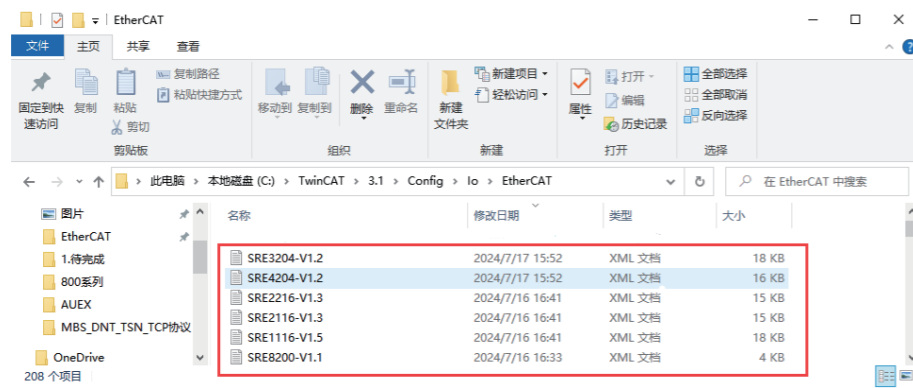
8.1.2 Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Terminal	Description
Programming computer	1 unit	Install TwinCAT3 software
SRE8200	1 piece	EtherCAT communication coupler
SRE1116	1 piece	Digital input module
SRE2116	1 piece	Digital output module
SRE3204	1 piece	Analog input module
SRE4204	1 piece	Analog output module
Network cable	Some	/
24V Switching Power Supply	1 piece	/

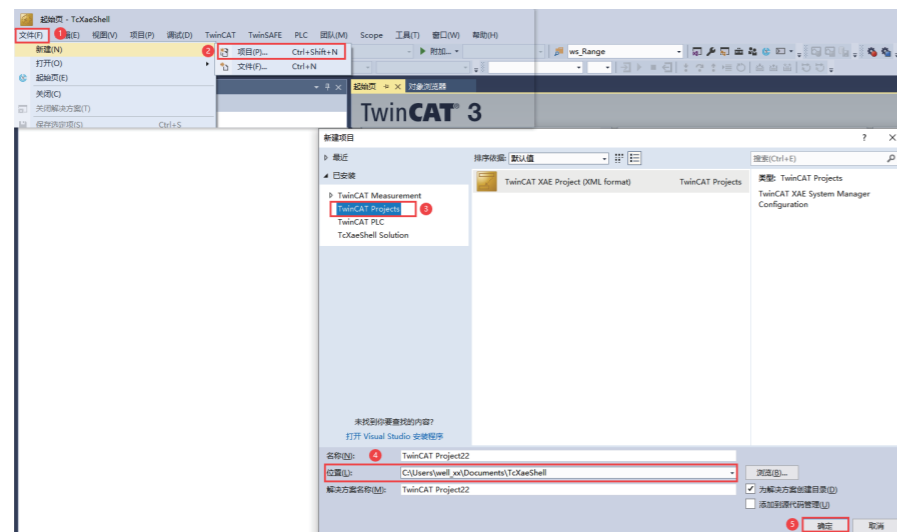
8.1.3 Install XML files

Install XML files into TwinCAT3, the default folder in the example is "C:\TwinCAT\3.1\Config\Io\EtherCAT" as shown in the following figure:

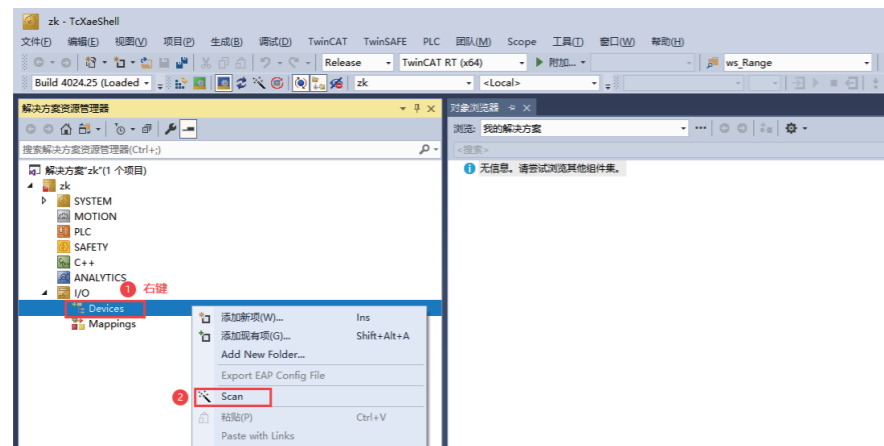


8.1.4 New Project and Configuration

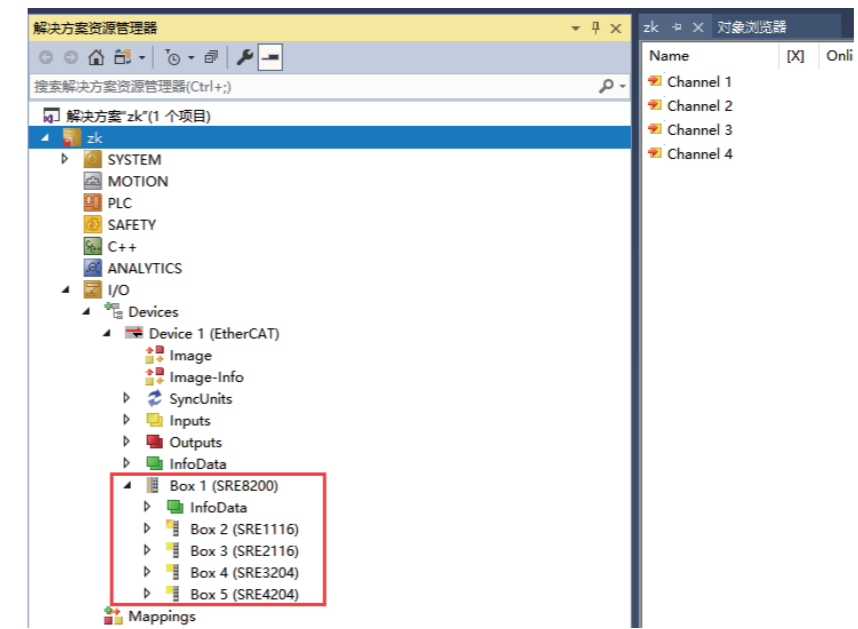
Open TwinCAT3 software and create a new project as shown in the following figure:



Scan the SRE8200 and its extended IO connected to the computer into the project, click I/O>Devices>Scan, as shown in the following figure:



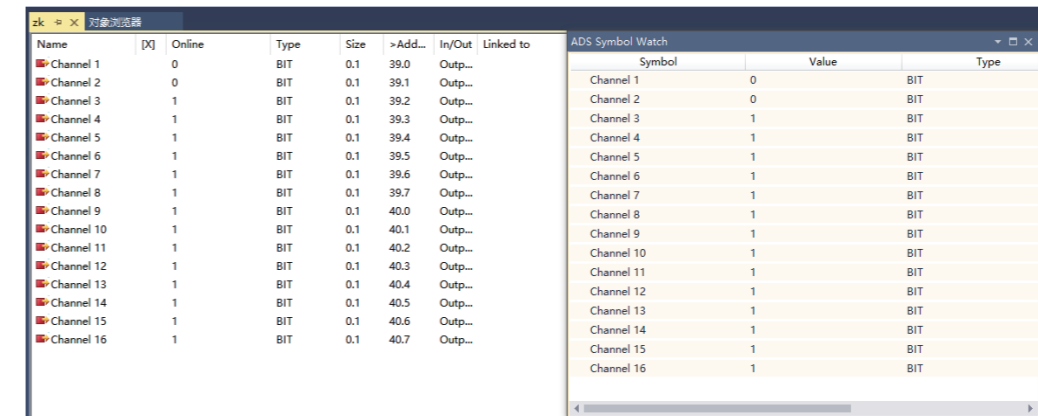
The successfully scanned module is shown in the following figure:



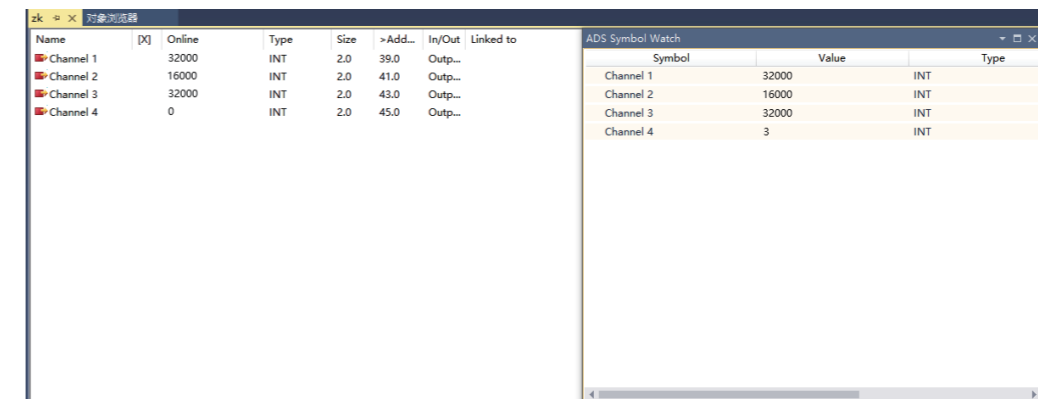
8.1.5 Data Monitoring

Select the IO module to be monitored on TwinCAT3 and choose the data to be monitored:

Digital input/output:



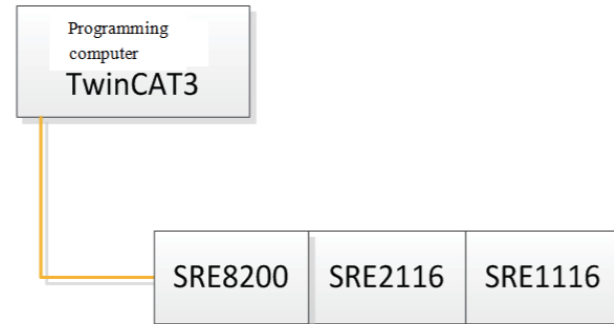
Analog input/output:



8.2 Communication Example between SRE2116 and Twin-CAT3

8.2.1 Communication Connection

Communication connection diagram is shown as follows:



8.2.2 Hardware Configuration

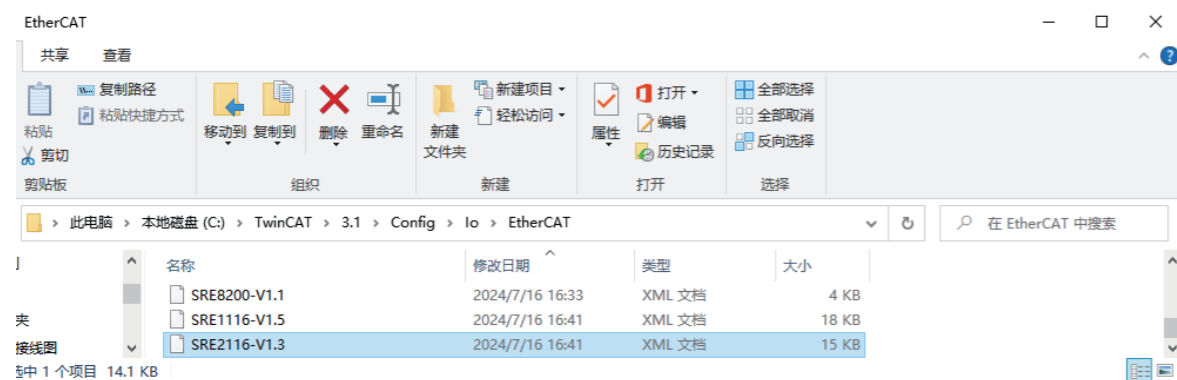
The hardware configuration is shown in the following table:

Hardware	Terminal	Description
Programming computer	1 unit	Install TwinCAT3 software
SRE8200	1 piece	EtherCAT communication coupler
SRE2116	1 piece	High performance digital output module
SRE1116	1 piece	High performance digital input module
Network cable	1 item	/
24V Switching Power Supply	1 piece	/

8.2.3 Install XML files

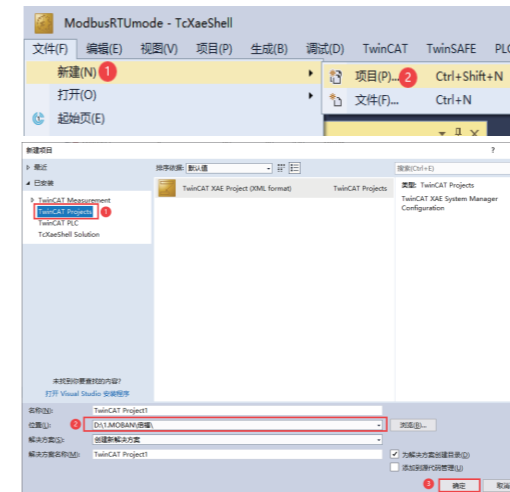
Install XML files into TwinCAT3, the default folder in the example is "C:\TwinCAT\3.1\Config\Io\EtherCAT", as shown in the following figure:

Note: High performance modules have their own corresponding XML files, which need to be added before they can be used.

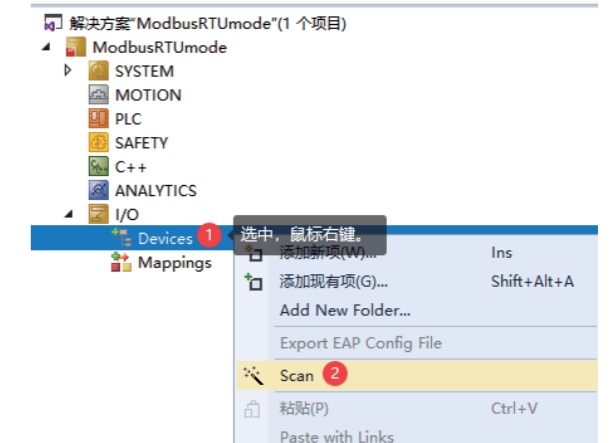


8.2.4 New Project and Configuration

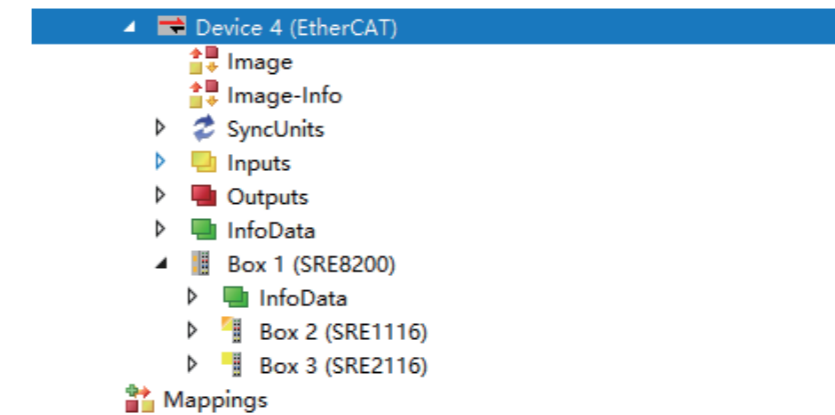
Open TwinCAT3 software and create a new project as shown in the following figure:



Scan the ECT coupler SRE8200 and its extended IO connected to the computer into the project, click I/O>Devices>Scan, as shown in the following figure:

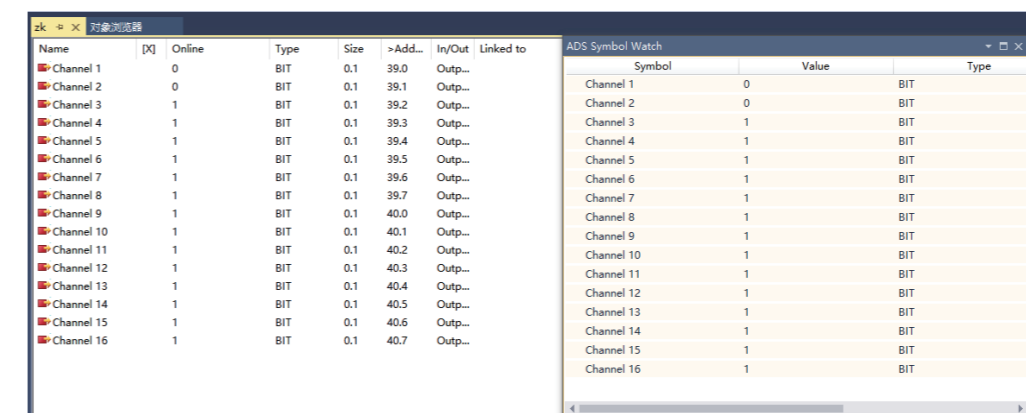


The successfully scanned module is shown in the following figure:



8.2.5 Data Monitoring

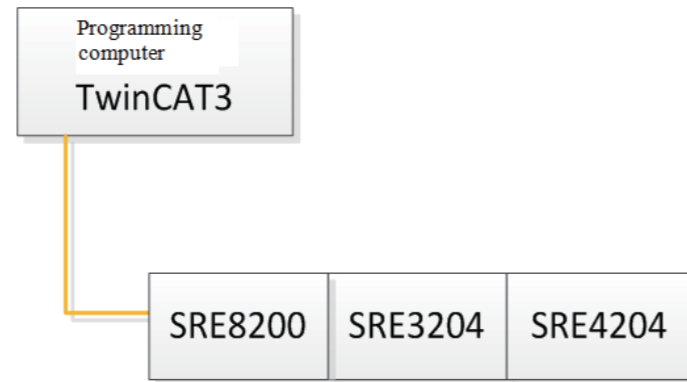
Select the IO module to be monitored on TwinCAT3 and choose the data to be monitored:



8.3 Communication Example between SRE3204 and Twin-CAT3

8.3.1 Communication Connection

Communication connection diagram, as shown in the following figure:



8.3.2 Hardware Configuration

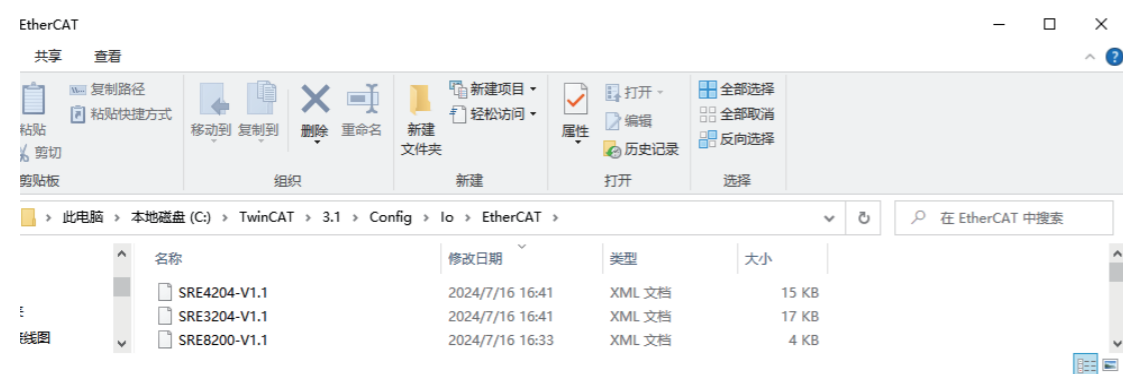
The hardware configuration is shown in the following table:

Hardware	Terminal	Description
Programming computer	1 unit	Install TwinCAT3 software
SRE8200	1 piece	EtherCAT communication coupler
SRE3204	1 piece	High performance analog input module
SRE4204	1 piece	High performance analog output module
Network cable	1 item	/
24V Switching power supply	1 piece	/

8.3.3 Install XML files

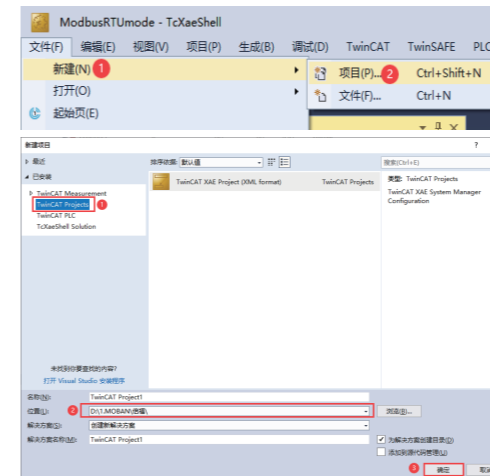
Install XML files into TwinCAT3, the default folder in the example is "C:\TwinCAT\3.1\Config\Io\EtherCAT", as shown in the following figure:

Note: High performance modules have their own corresponding XML files, which need to be added before they can be used.

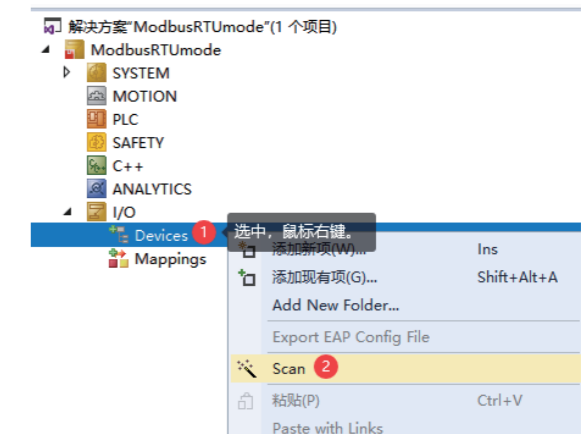


8.3.4 New Project and Configuration

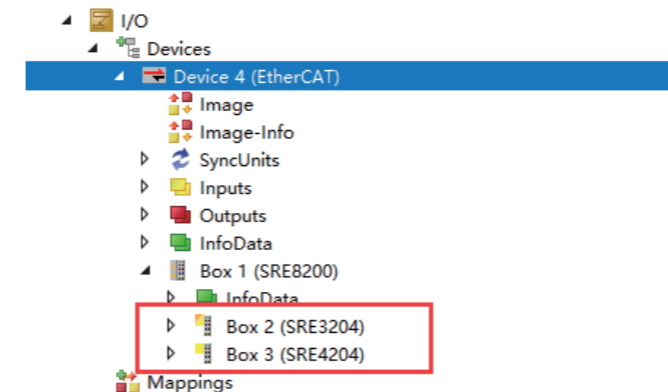
Open TwinCAT3 software and create a new project as shown in the following figure:



Scan the SRE8200 and its extended IO connected to the computer into the project, click on I/O>Devices>Scan, as shown in the following figure:

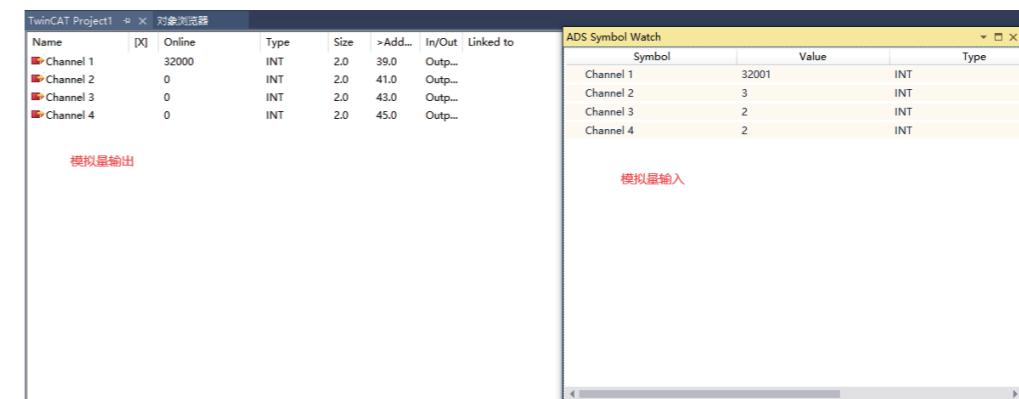


The successfully scanned module is shown in the following figure:



8.3.5 Data Monitoring

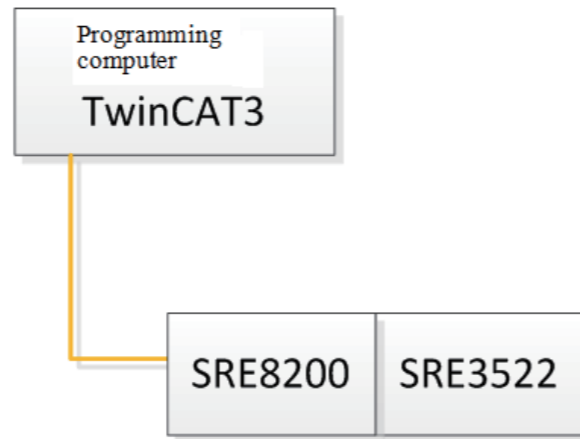
Select the IO module to be monitored on TwinCAT3 and choose the data to be monitored:



8.4 Communication Example between SRE3522 and Twin-CAT3

8.4.1 Communication Connection

Communication connection diagram, as shown in the following figure:



8.4.2 Hardware Configuration

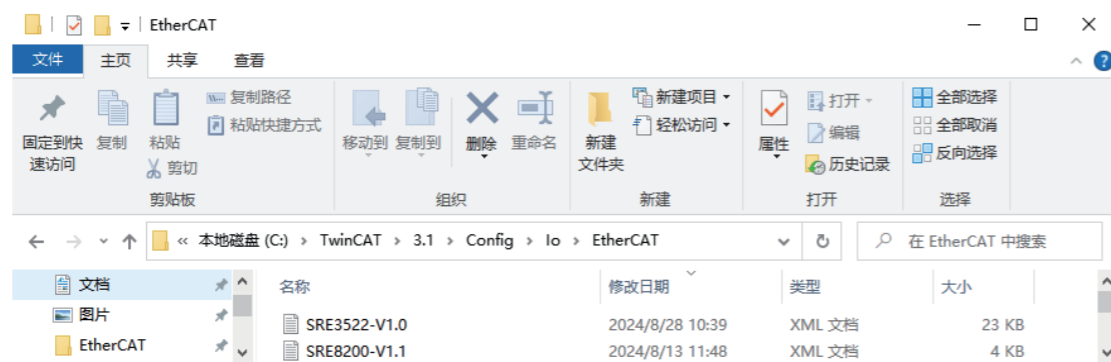
The hardware configuration is shown in the following table:

Hardware	Terminal	Description
Programming computer	1 unit	Install TwinCAT3 software
SRE8200	1 piece	EtherCAT communication coupler
SRE3522	1 piece	Analog rapid acquisition module
Signal generator	1 piece	/
Network cable	1 item	/
24V Switching power supply	1 piece	/

8.4.3 Install XML file

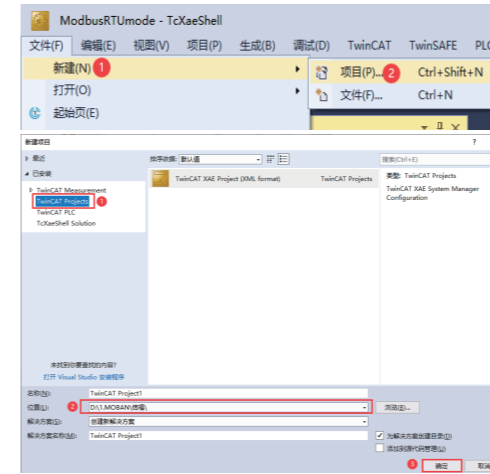
Install XML files into TwinCAT3, the default folder in the example is "C:\TwinCAT\3.1\Config\Io\EtherCAT", as shown in the following figure:

Note: High performance modules have their own corresponding XML files, which need to be added before they can be used.

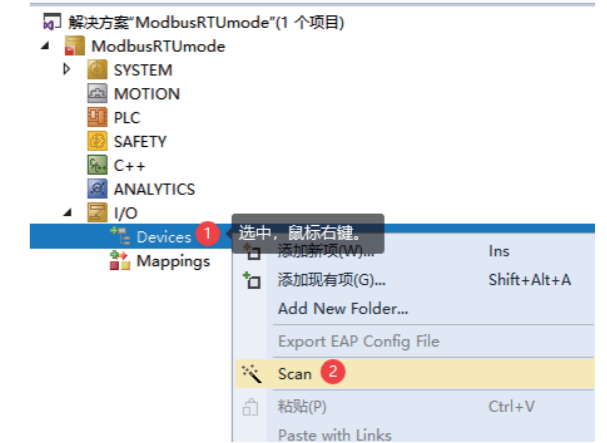


8.4.4 New Project and Configuration

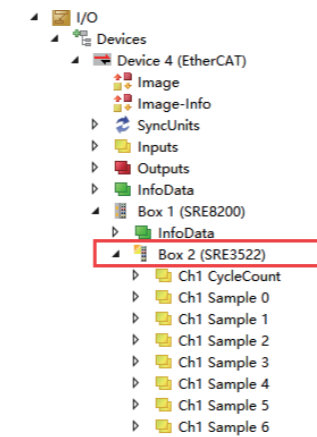
Open TwinCAT3 software and create a new project as shown in the following figure:



Scan the SRE8200 and its extended IO connected to the computer into the project, click on I/O>Devices>Scan, as shown in the following figure:

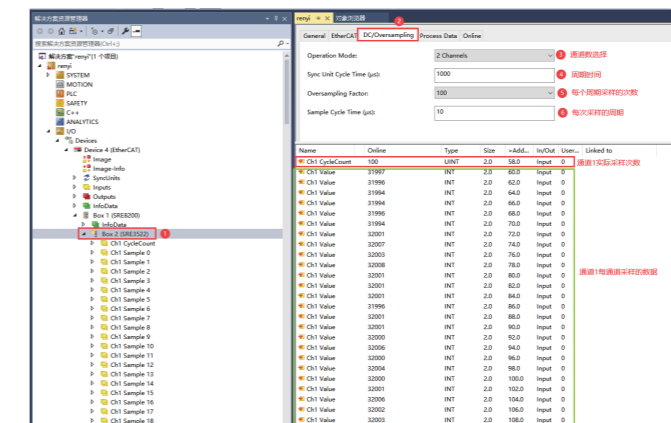


The successfully scanned module is shown in the following figure:



8.4.5 Data Monitoring

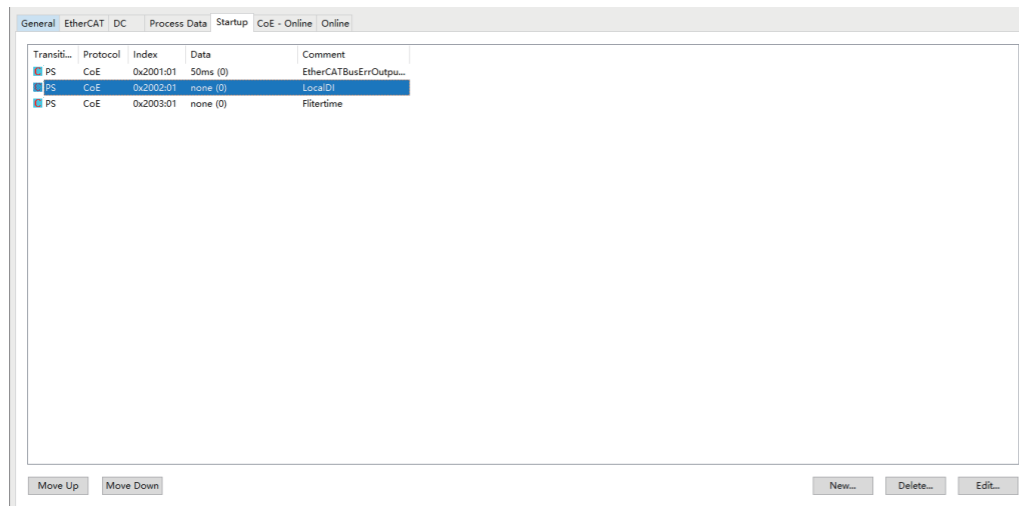
Select the desired channel on TwinCAT3 for data monitoring:



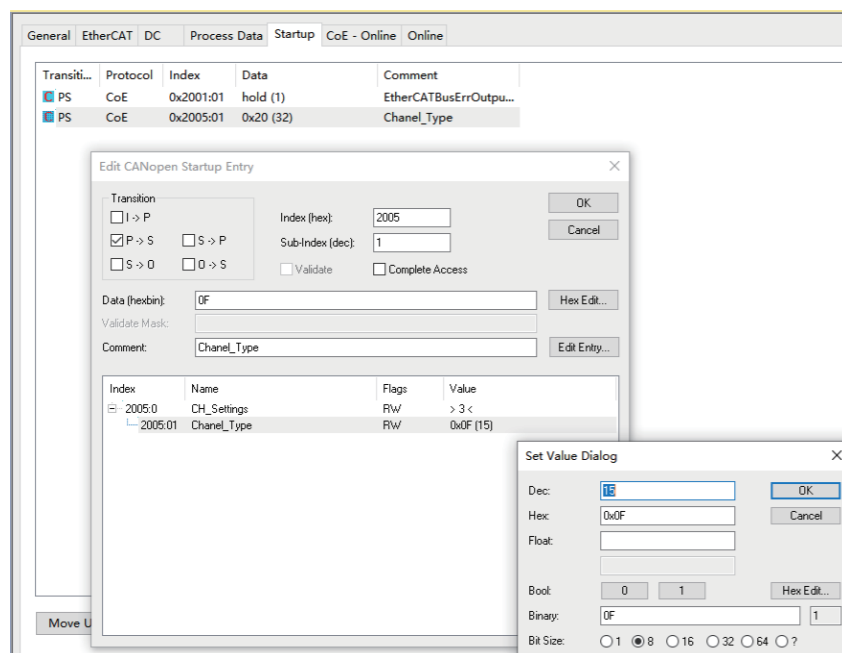
APPENDIX CONFIGURATION PARAMETER DESCRIPTION

TwinCAT3 startup Feature Description

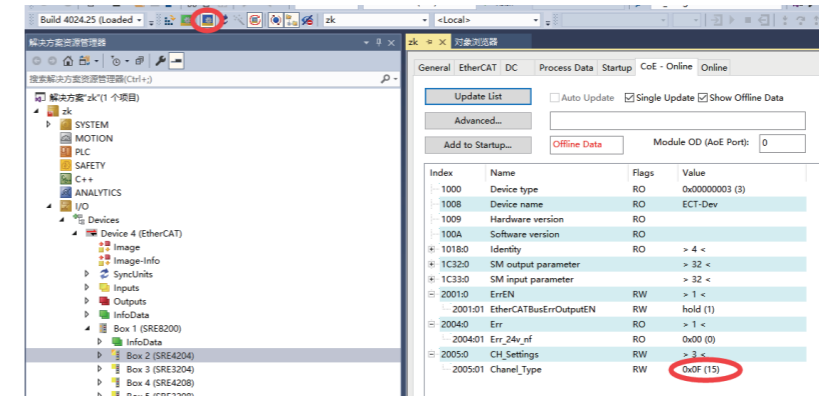
The parameters of the expansion module are not saved in COE. Every time the expansion IO module is rescanned or powered on again, the configuration of the expansion IO module will be restored to its factory settings. Set the parameters of the extended IO module in the startup item, and write the parameters to the coupler every time communication occurs. In the same project, when powered on repeatedly, the parameter configuration of the extended module remains unchanged.



For example, configure the CH1-CH4 channel range of SRE4204 to 0-20mA/0-10V.



After the parameter configuration is completed, it is necessary to refresh and update the data to COE parameters. Then the parameters will take effect and remain in effect after power failure. After rescanning the device, the settings will be restored to the original configuration.



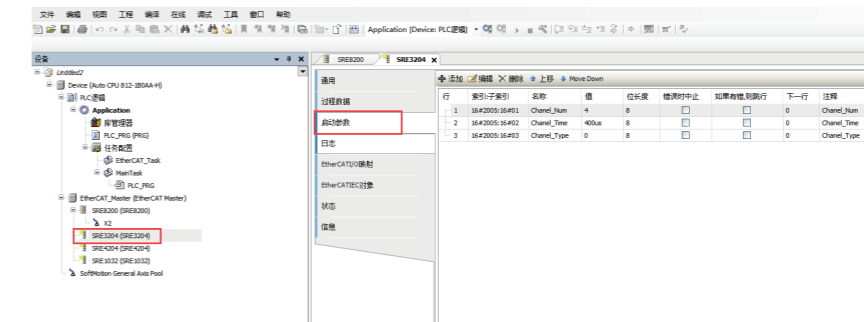
Note: When configuring parameters for SRE3204/SRE3208, different parameters can only be configured in different parameter directories. For example, clicking the first parameter directory will set the first parameter in the parameter directory, and clicking the second parameter directory will set the second parameter in the parameter directory. If the same parameter is configured under three directory parameters, it will be replaced by the last parameter and the last configured parameter will be executed.

Codesys Startup Parameter Setting Extension Module Parameter Description

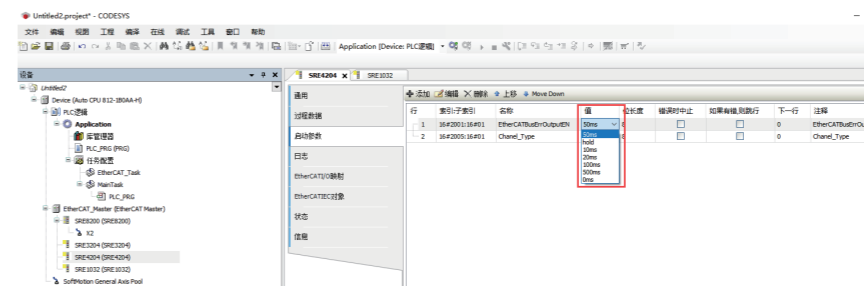
The parameters of the expansion module do not have a saving function. Every time the expansion IO module is rescanned or powered on again, the configuration of the expansion IO module will be restored to its factory settings.

Set the parameters of the extended IO module in the startup item, and write the parameters to the coupler every time communication occurs. In the same project, when powered on repeatedly, the parameter configuration of the extended module remains unchanged.

Scan device, click the module where the parameters need to be modified, select the startup parameters, and view the content of the parameters that can be changed.

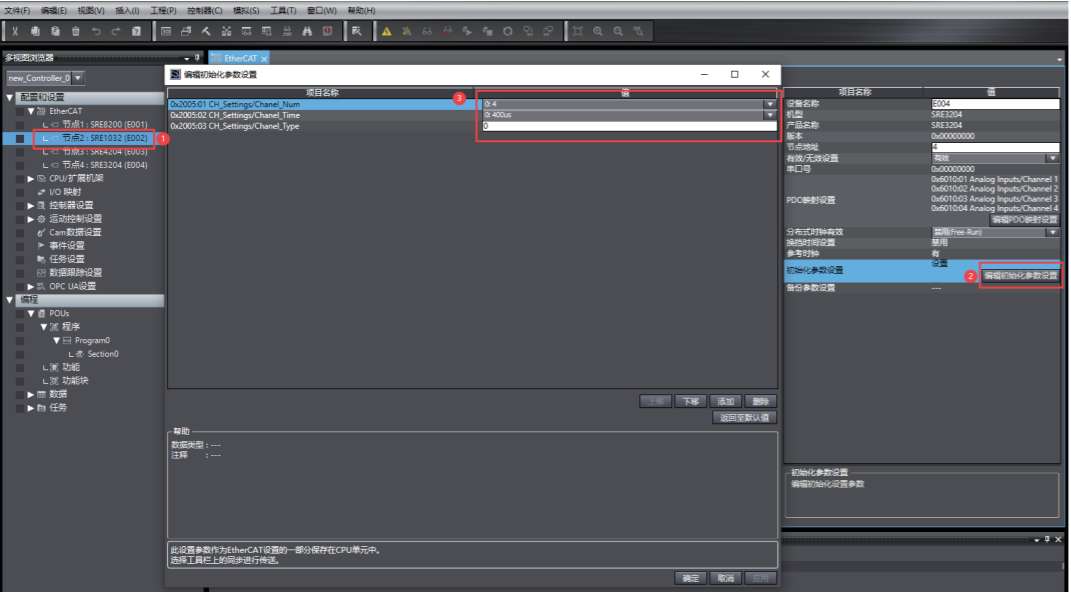


Click the dropdown menu to modify parameters, and the downloaded parameters will take effect after the modification is completed.



Description of Sysmac Studio Initialization Parameter Setting Function

The parameters of the expansion module do not have a saving function. Every time the expansion IO module is rescanned or powered on again, the configuration of the expansion IO module will be restored to its factory settings. Set the parameters of the extended IO module in the startup item, and write the parameters to the coupler every time communication occurs. In the same project, when powered on repeatedly, the parameter configuration of the extended module remains unchanged. After scanning the device, click the module where the parameters need to be modified, and select Edit Initialization Parameter Settings.



Select parameters through the dropdown menu

