

User Manual for the SRE Series Product

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Manual version	Description
V1.0	Initial version.
V1.1	Updated products, and added product descriptions for SRE1032, SRE2232, SRE2132, SRE1332, SRE1432, SRE3208, and SRE4208.
V1.2	Added product description for SRE3522.
V1.3	Added product descriptions for SRE3274 and SRE3284.
V1.4	Added product descriptions for SRE9001, SRE6002, SRE6004, SRE5012, SRE5034, SRE5202, SRE5204, and SRE9020.
V1.5	Added product description for SRE5234.
V1.6	Updated PDO parameters for SRE5234 and gated parameters for SRE5012.
V1.7	Updated parameter configuration for SRE5012.
V1.8	Updated parameter configuration descriptions for SRE5012 and SRE5234.
V1.9	Added product descriptions for SRE5042 and SRE5072.

1. Product Model

The SRE series products are high-performance EtherCAT modules, including couplers, digital I/O terminal, analog I/O terminal, and temperature measurement module, with 24VDC power supply and module diagnostic functions. The product list is shown as follows:

Model	Description
SRE8200	EtherCAT bus, 2 *RJ45 ports, high-performance backplane bus, extendable up to 64 modules.
SRE9020	----
SRE9001	Power relay module
Digital input	
SRE1016	16-channel digital input, supports PNP/NPN input.
SRE1032	32-channel digital input, supports PNP/NPN input.
SRE5072	2-channel digital input oversampling module.
Digital output	
SRE2116	16-channel digital output, transistor NPN, rated 0VDC ($\pm 3V$)/0.5A.
SRE2216	16-channel digital output, transistor PNP, rated 24VDC/0.5A.
SRE2132	32-channel digital output, transistor NPN, rated 0VDC ($\pm 3V$)/0.5A, total not exceeding 10A per module.
SRE2232	32-channel digital output, transistor PNP, rated 24VDC/0.5A, total not exceeding 10A per module.
SRE5202	2-channel digital output oversampling module.
SRE5204	4-channel digital output oversampling module.
Digital input and output	
SRE1332	16-channel NPN input, 16-channel transistor NPN output.
SRE1432	16-channel PNP input, 16-channel transistor PNP output.
Analog input	
SRE3522	2-channel analog fast acquisition module
SRE3204	4-channel voltage/current input, 16-bit precision.
SRE3208	8-channel voltage/current input, 16-bit precision.
SRE3284	4-channel thermocouple input terminal.
SRE3274	4-channel resistance thermometer input terminal.
Analog output	

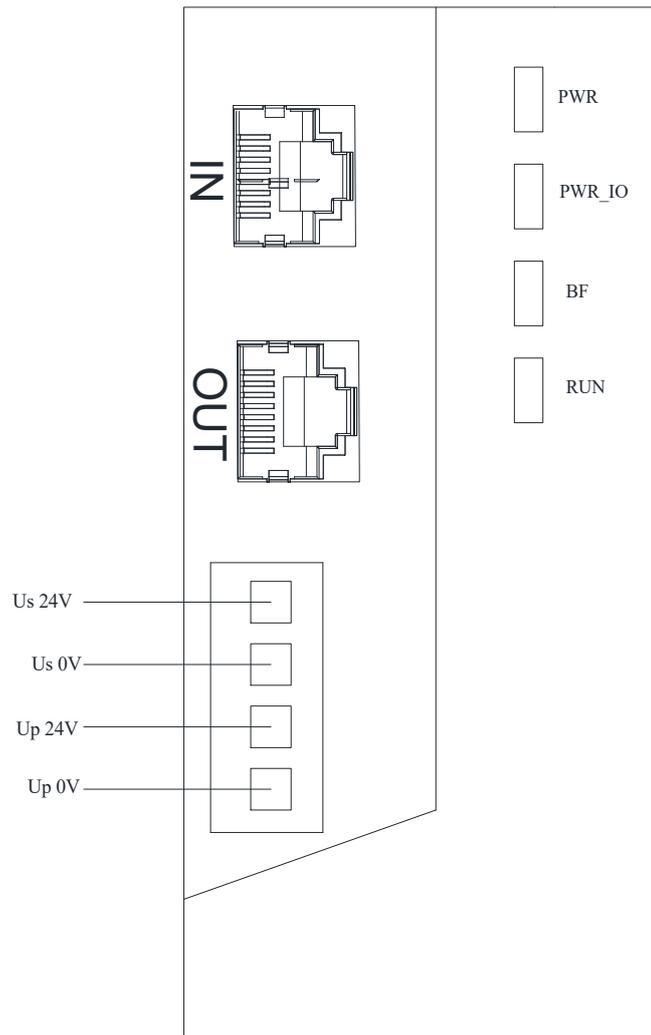
SRE4204	4-channel voltage/current output, $\pm 10V$ or 0~20mA, 16-bit precision.
SRE4208	8-channel voltage/current output, $\pm 10V$ or 0~20mA, 16-bit precision.
Serial port module	
SRE6002	Serial port module, with 2 RS422/RS232/RS485 interfaces, supports Modbus RTU and free port protocol, with maximum baud rate 115.2Kbps.
SRE6004	Serial port module, with 4 RS422/RS232/RS485 interfaces, supports Modbus RTU and free port protocol, with maximum baud rate 115.2Kbps.
Counting module	
SRE5012	2-channel high-speed counting module, with 2 sets of A, B, and C counting inputs and single-ended (max 200KHZ at rated 24V, supporting PNP/NPN input) or differential (max 4MHZ at 5V), supports standard counting functions.
SRE5034	4-channel high-speed counting module, with 4 sets of A, B, and C counting inputs and differential (max 4MHZ at 5V), supports standard counting functions.
SRE5042	SSI decoding module, with 2 sets of synchronous serial (D+, D-, CL+, CL-) inputs, and maximum communication rate 1MHz, supports multi-turn or single-turn SSI encoder input.
SRE5234	High-speed pulse output terminal, with 4-axis PTO output, NPN single-ended output up to 400KHz (at 5V), and differential output up to 1MHz.

2. SRE8200

2.1. Electrical Specifications

Model	SRE8200 module
Product overview	2 *RJ45 ports, 24V DC power supply with stable performance and strong anti-interference performance
Technical specifications	
Electrical interface	RJ45
Working power supply	18V DC~28V DC
Bus 5V DC power supply	2000mA
Bus 5V DC current consumption	269mA
CPU connection status	No (standalone as slave)
Supported protocols	EtherCAT Slave
Number of built-in I/O ports	None
Isolation	
Between channels and buses	Existent
Power to bus	Existent
Display indicator	Power +24V green indicator, BF red indicator, RUN indicator
System power diagnosis and warning	Supported
Environmental conditions	Operating temperature: -20~60°C; relative humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	48×100×80 (mm)

2.2. Wiring Diagram



Note: Us is the power supply terminal for the coupler, and Up is the power supply terminals for the extension modules.

2.3. Terminal Description

Wiring Terminal	Description
Up_24V	Positive pole of coupler power supply terminal
Up_0V	Negative pole of coupler power supply terminal
Us_24V	Positive pole of extension module power supply terminal
Us_0V	Negative pole of extension module power supply terminal

2.4. Indicator Description

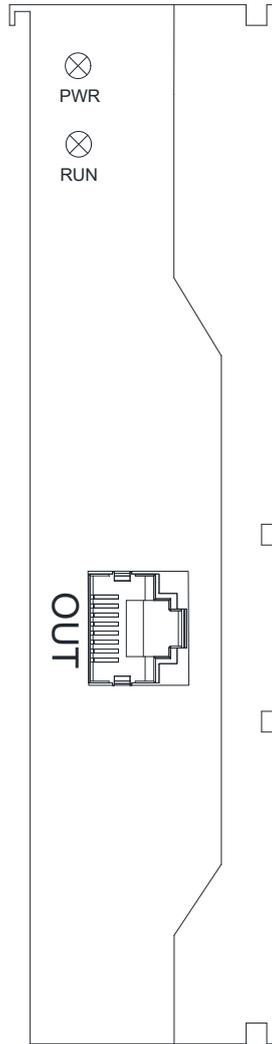
Indicator	Description
PWR (Green)	Coupler power indicator: On: Module is powered normally; Off: Module is not powered or powered abnormally.
PWR_IO (Green)	IO power indicator: On: IO power supply is normal Off: IO power is not supplied or abnormal
BF (Red)	Bus fault indicator: Steadily lit: Configuration error Off: Module Normal
RUN (Yellow)	Bus communication indicator: Flashing: Module normal Off: Communication abnormal

3. SRE9020

3.1. Electrical Specifications

Model	SRE9020
Product overview	1 *RJ45 port
Technical specifications	
Electrical interface	RJ45
Working power supply	18V DC~28V DC
Bus 5V DC current consumption	230mA
Supported protocols	EtherCAT Slave
Number of built-in I/O ports	None
Isolation	
Between channels and buses	Existent
Power to bus	Existent
Display indicator	Power and RUN green indicators
System power diagnosis and warning	Supported
Environmental conditions	Operating temperature: -20~60°C; relative humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	24×100×80 (mm)

3.2. Wiring Diagram



3.3. Module Description

The network port OUT of the module is used for EtherCAT communication, connected to the IN port of the next-level EtherCAT slave. When using the SRE9020 module, it must be connected as the last device in the segment.



4. Digital Input Terminal

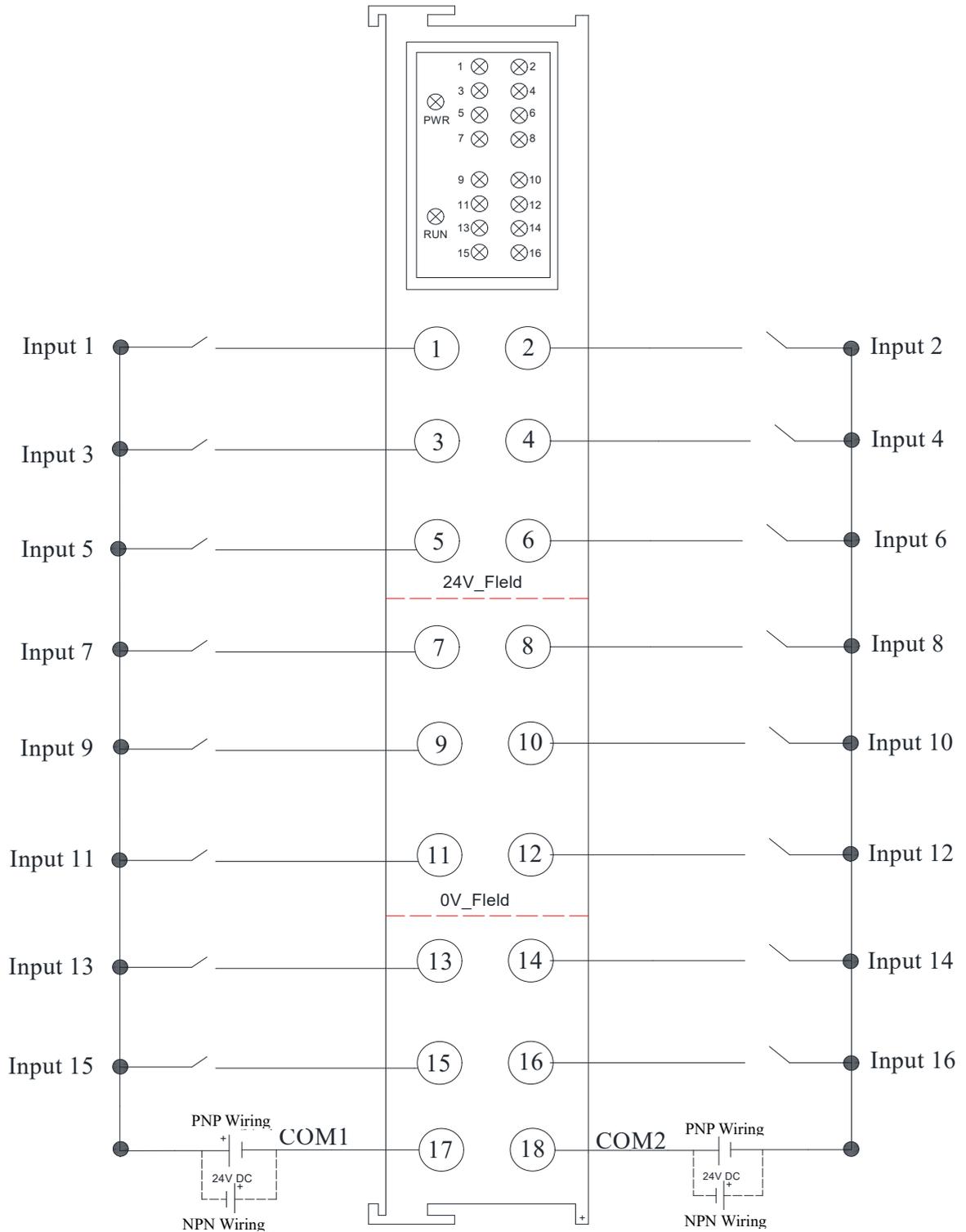
High-performance digital input terminal, available in 16/32-channel digital input. It supports NPN/PNP sensor at 24V DC, and features comprehensive module diagnostics.

4.1. Electrical Specifications

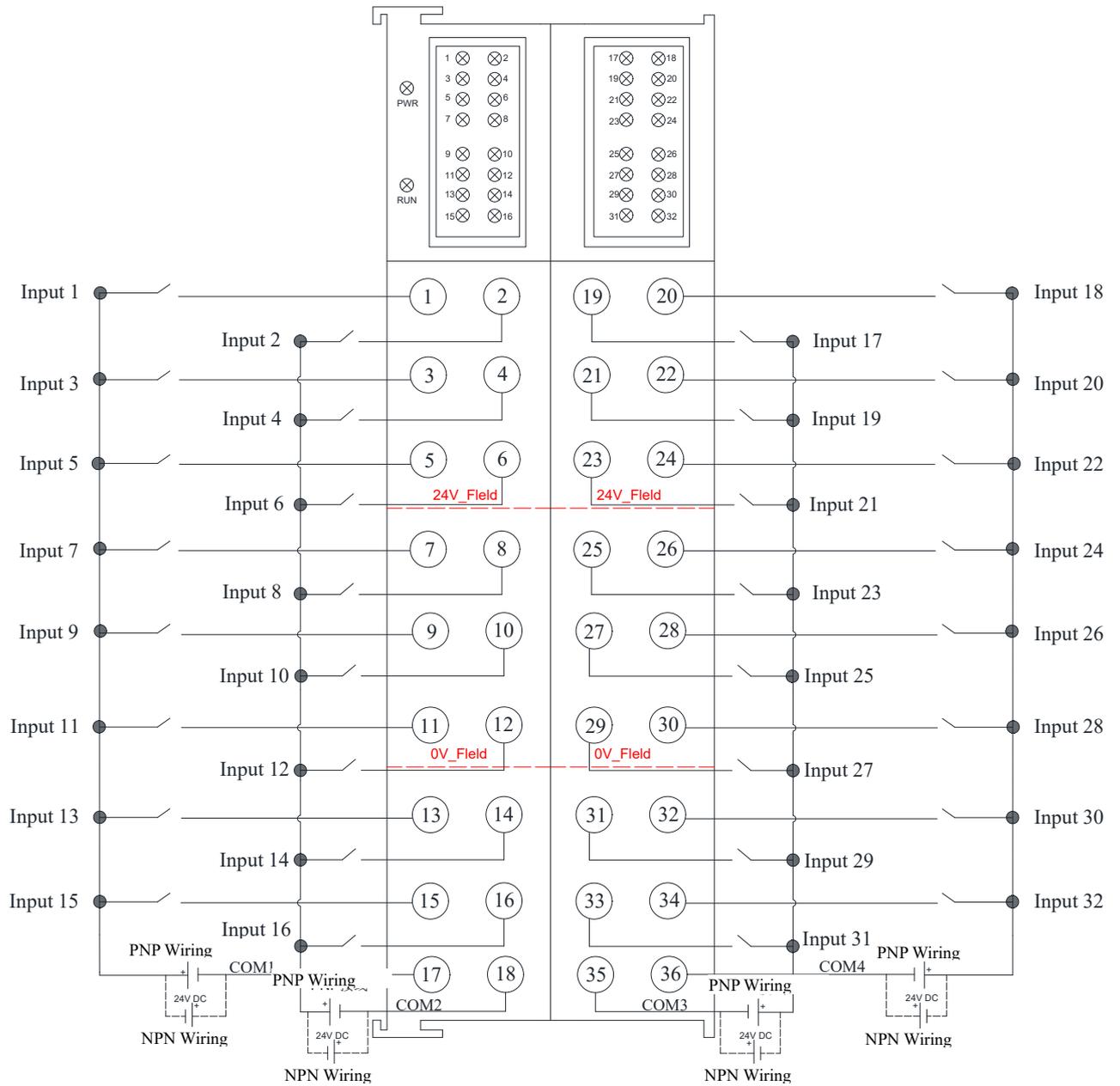
Model	SRE1016	SRE1032
Technical specifications		
Number of input points	16	32
Bus 5V DC current consumption	183mA	200mA
Cable length (unshielded)	100m	
Input characteristics	Source, sink	
Allow static current	1mA	
Insulation test voltage	500V DC	
Isolation		
● Between channels and buses	Existent	
● Between channels	Existent	
Display indicator	Green LED indicator per channel input	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	30×100×80 (mm)

4.2. Wiring Diagram

4.2.1. SRE1016 Wiring Diagram



4.2.2. SRE1032 Wiring Diagram



4.3. Interface Description

4.3.1. SRE1016 Wiring Terminal Description

Terminal	Description
Input1~Input16	Module Input Terminal
COM1、COM2	Input Common Terminal

4.3.2. SRE1032 Wiring Terminal Description

Terminal	Description
Input1~Input32	Module Input Terminal
COM1~COM4	Input Common Terminal

4.4. Indicator Description

4.4.1. SRE1016 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
Q1~Q16 (Green)	The digital input indicator: the corresponding indicator will light up when a signal is detected on the input channel.

4.4.2. SRE1032 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
Q1~Q32 (Green)	The digital input indicator: the corresponding indicator will light up when a signal is detected on the input channel.

4.5. COE General Parameter Description

Module-related parameters can be viewed or modified in COE parameters.

Parameter settings are not saved after power-off.

Index	Name	Flags	Value
1000	Device type	RO	0x00000003 (3)
1008	Device name	RO	ECT-Dev
1009	Hardware version	RO	
100A	Software version	RO	
1018:0	Identity	RO	> 4 <
1C32:0	SM output parameter		> 32 <
1C33:0	SM input parameter		> 32 <
2002:0	DIDelay	RW	> 1 <
2002:01	LocalDI	RW	none (0)
2003:0	Fliter	RW	> 1 <
2003:01	Flitertime	RW	none (0)
2004:0	Err	RO	> 0 <
2004:01	Err_24v_nf	RO	---

Parameters	Description
2002:01 LocalDI	Parameter for configuring the digital input terminal, 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 abnormal 0: Normal

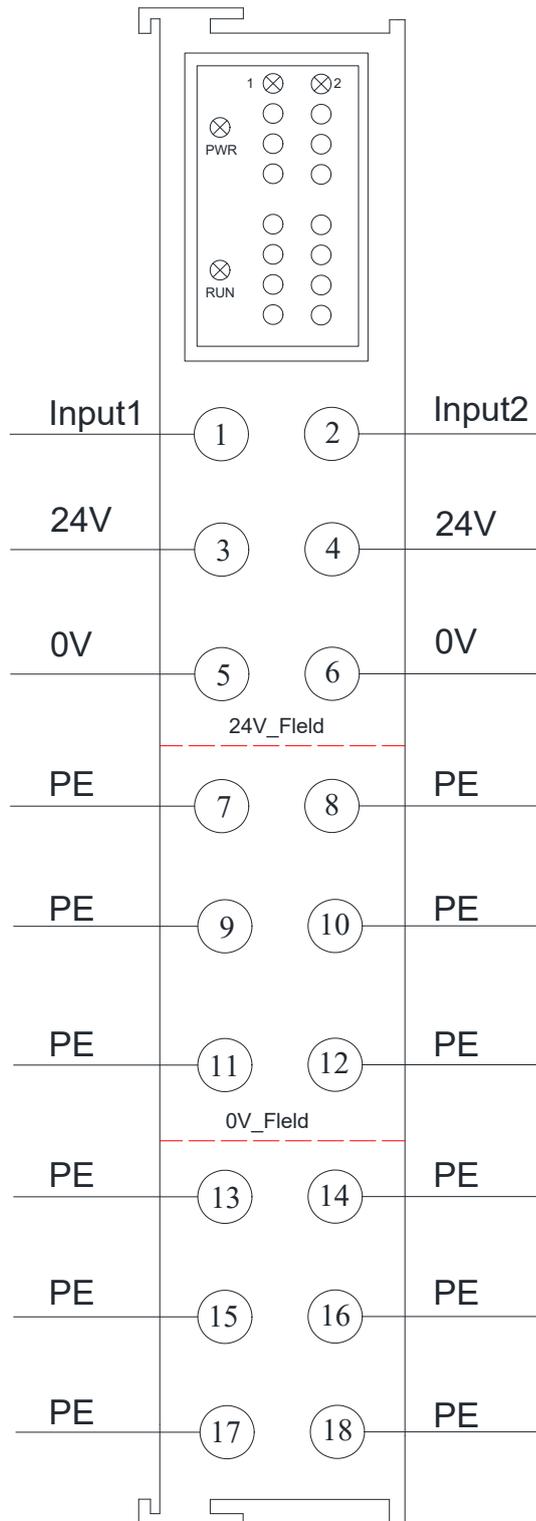
5. Digital Fast Input Terminal

SRE5072 Digital Fast Input Terminal has the DC distributed clock and oversampling function, featuring low input delay for ultra-high-speed signal processing. The oversampling function enables multiple sampling of process data, with 2-channel input.

5.1. Electrical Specifications

Model	SRE5072
Technical specifications	
Rated supply voltage	24V DC
Oversampling factor	n = integer multiple of cycle time, 1...1000
Number of input points	2
Input type	PNP
Distributed clock	$\ll 1 \mu\text{s}$
Input current	3mA
Sampling rate	Maximum sampling rate 1MS/s
Isolation	
● Between channels and buses	Existent
Display indicator	Power supply green LED display
System power diagnosis and warning	Supported
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	15×100×80 (mm)

5.2. Wiring Diagram



5.3. Terminal Description

Wiring Terminal	Description
Input1	Digital input channel 1
Input2	Digital input channel 2
24V	Positive pole of sensor power supply
0V	Negative pole of sensor power supply
PE	Shielded wire

5.4. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Power supply is abnormal
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
LED1	Input1 indicator On: Input1 has input signal Off: Input1 has no input signal
LED2	Input2 indicator On: Input2 has input signal Off: Input2 has no input signal

5.5. Parameter Description

5.5.1. Codesys/Distributed Clock

地址 额外

自动增量地址

EtherCAT地址

专家设置

可选的



▲ 分布式时钟

选择DC

使能

Sync 0

使能 Sync0

同步单元周期

用户自定义

Sync 1

使能 Sync1

同步单元周期

用户自定义

2 Channels - No oversampling

2 Channels - No oversampling

2 Ch. - 2 times oversampling

2 Ch. - 4 times oversampling

2 Ch. - 5 times oversampling

2 Ch. - 8 times oversampling

2 Ch. - 10 times oversampling

2 Ch. - 16 times oversampling

2 Ch. - 20 times oversampling

2 Ch. - 40 times oversampling

2 Ch. - 50 times oversampling

2 Ch. - 100 times oversampling

2 Ch. - 200 times oversampling

2 Ch. - 400 times oversampling

2 Ch. - 1000 times oversampling

2 Channels (Bits)

2 Channels (Bytes)

1 Channel (Bits)

1 Channel (Bytes)

时间 (μs)

时间 (μs)

时间 (μs)

偏移时间 (μs)

Operation Mode		Remarks
2 Ch. - X times oversampling	X: 2, 4, 5, 8, 10, 16, 20, 40, 50, 100, 200, 400, 1000	Sampling data for channels 1 and 2 (bit type)

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6. Digital Output Terminal

6.1. Electrical Specifications for 16-point Digital Output

SRE2216/SRE2116 digital output terminal features 16-channel digital output, with the module diagnostic function.

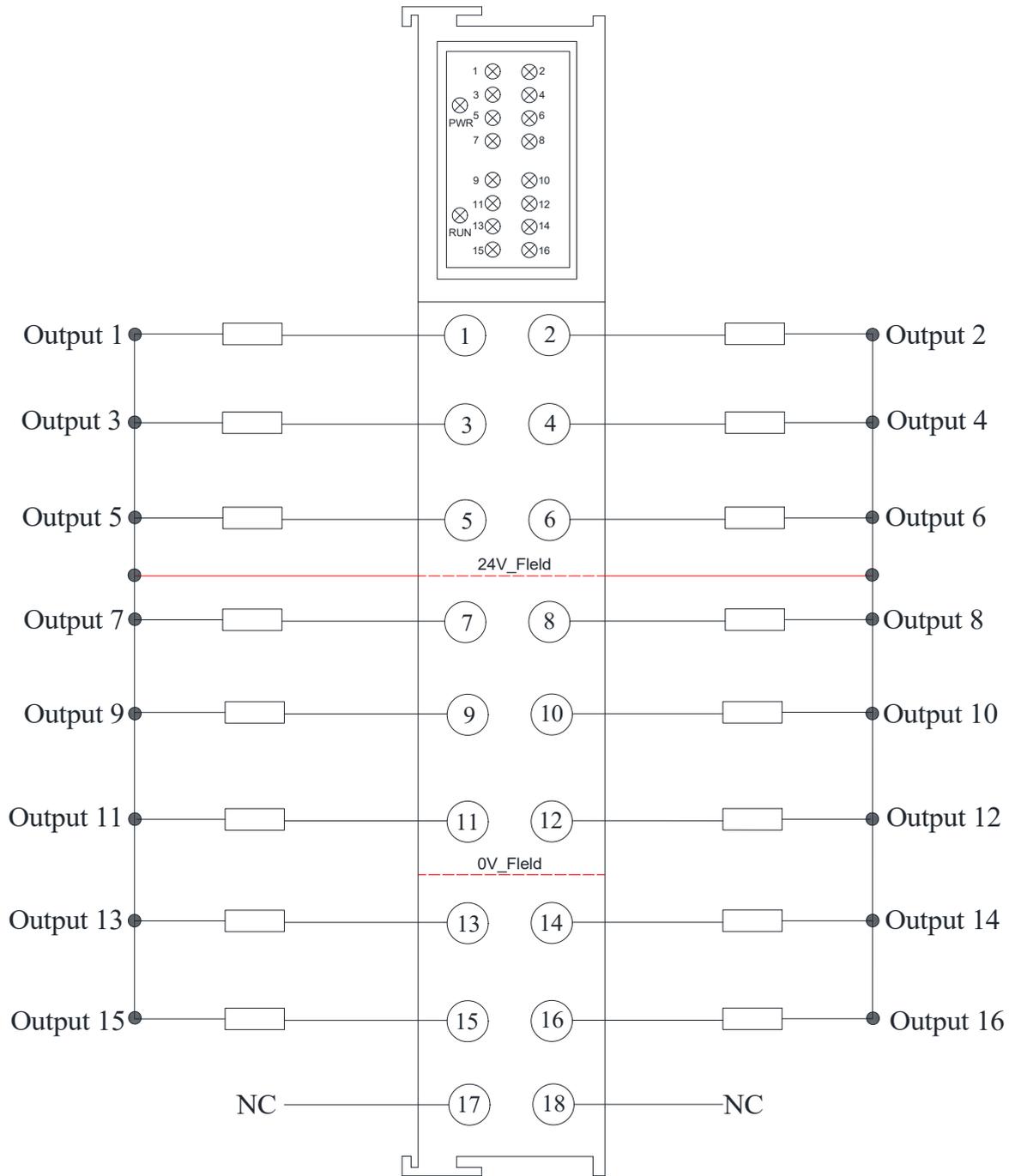
Model	SRE2216	SRE2116
Technical specifications		
Output type	PNP solid-state MOSFET	NPN solid-state MOSFET
Number of output points	16	
Bus 5V DC current consumption	190mA	175mA
Cable length (unshielded)	100m	
Output short-circuit protection	Yes, electronic type	
Maximum lamp load	5W	
Output current "I"	0.5A	
Leakage current	< 1mA	
Switching frequency		
● Maximum resistive load	100HZ	
● Maximum inductive load	0.5HZ	
● Maximum lamp load	10HZ	
● Maximum Mechanical load	---	
Insulation test voltage	500V DC	
Isolation		
● Between channels and buses	Existent	
● Between channels	Existent	
Display indicator	Green LED display per channel output	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	

6.2. Electrical Specifications for 32-point Digital Output

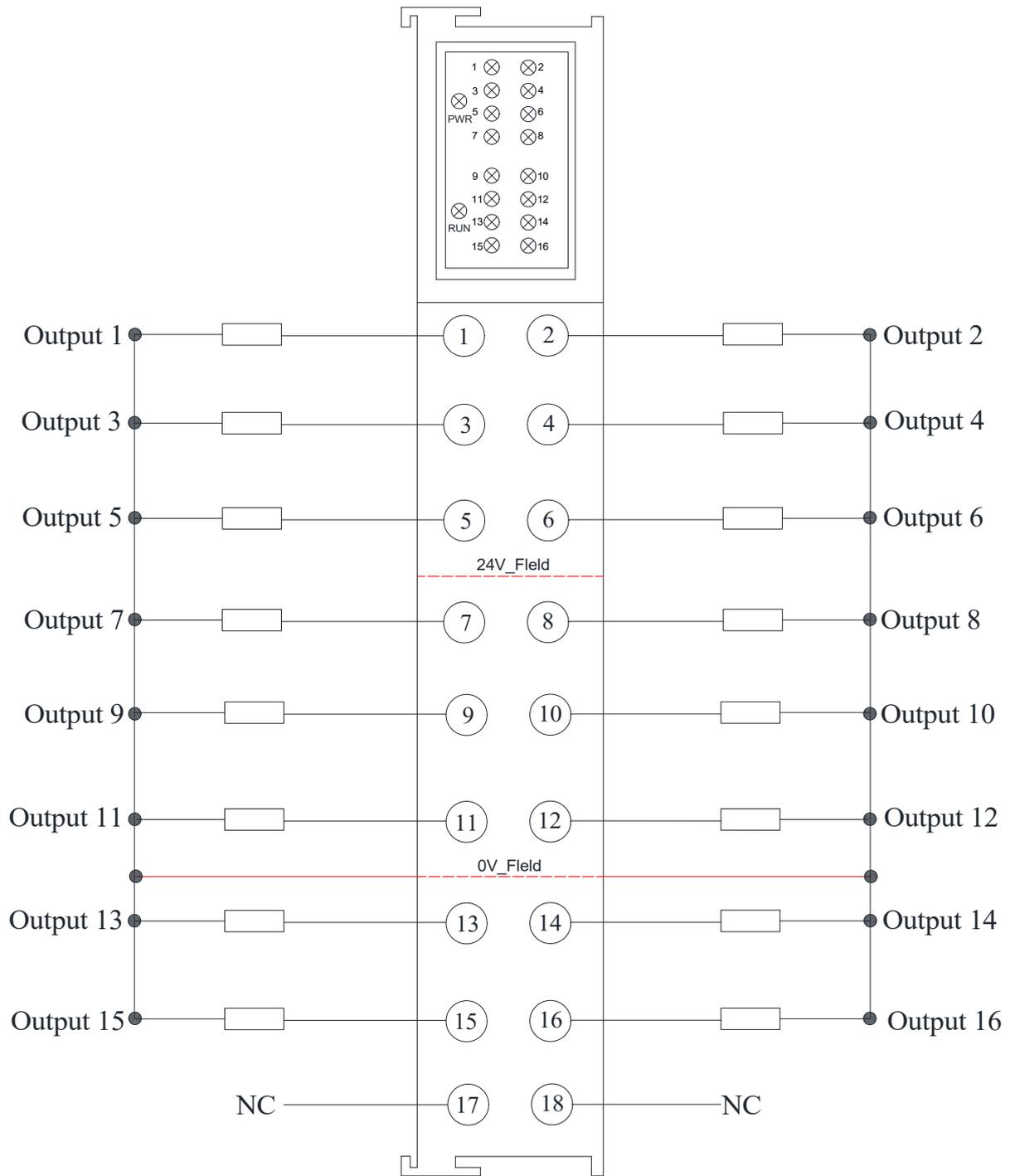
Model	SRE2232	SRE2132
Technical specifications		
Output type	PNP solid-state MOSFET	NPN solid-state MOSFET
Number of output points	32	
Bus 5V DC current consumption	181mA	175mA
Cable length (unshielded)	100m	
Output short-circuit protection	Yes, electronic type	
Maximum lamp load	5W	
Output current "I"	0.5A, Σ 10 A	
Leakage current	< 1mA	
Switching frequency		
● Maximum resistive load	100HZ	
● Maximum inductive load	0.5HZ	
● Maximum lamp load	10HZ	
● Maximum Mechanical load	---	
Insulation test voltage	500V DC	
Isolation		
● Between channels and buses	Existent	
● Between channels	Existent	
Display indicator	Green LED display per channel output	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	30×80×100 (mm)	

6.3. Wiring Diagram

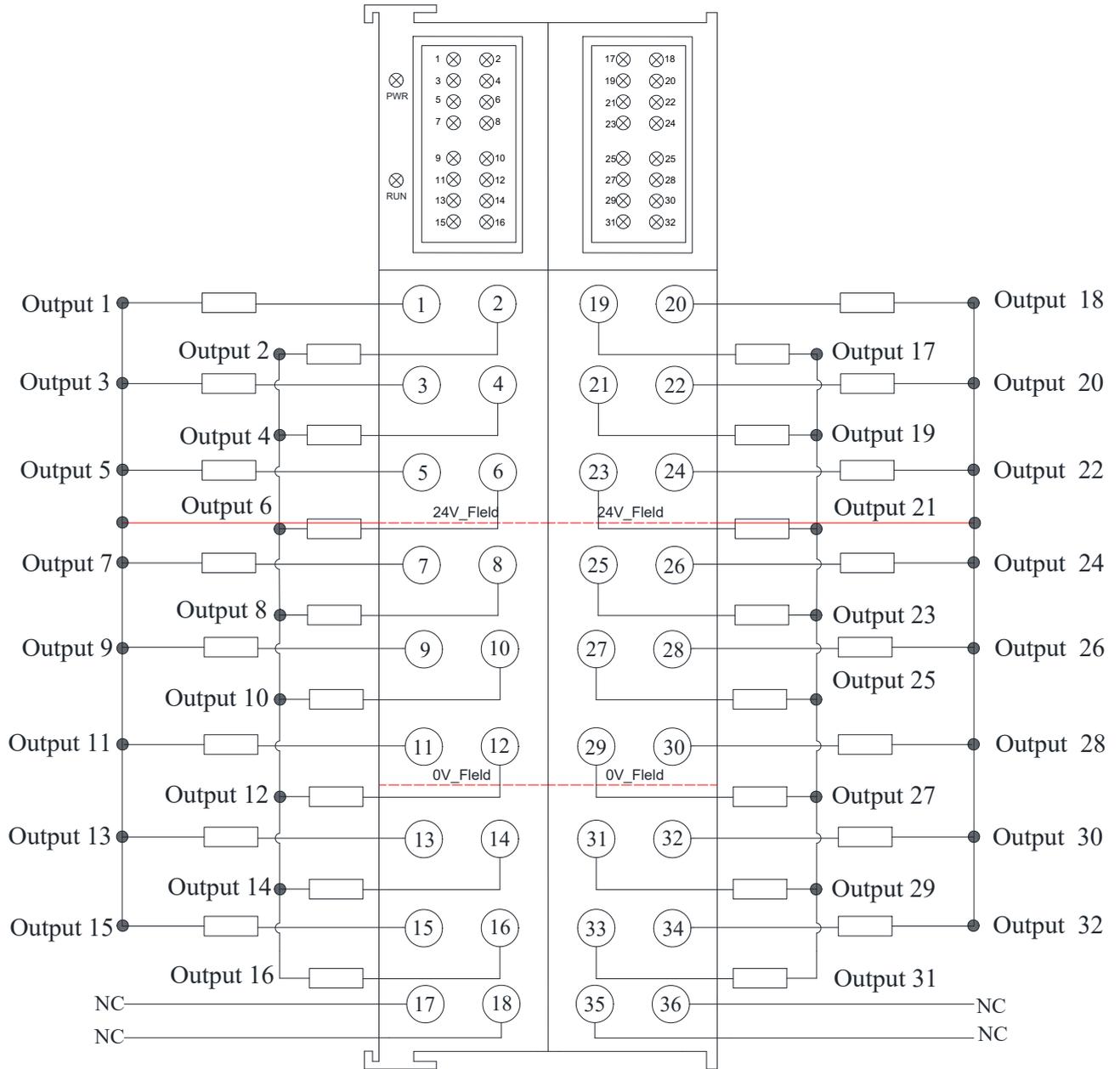
6.3.1. SRE2116 Wiring Diagram



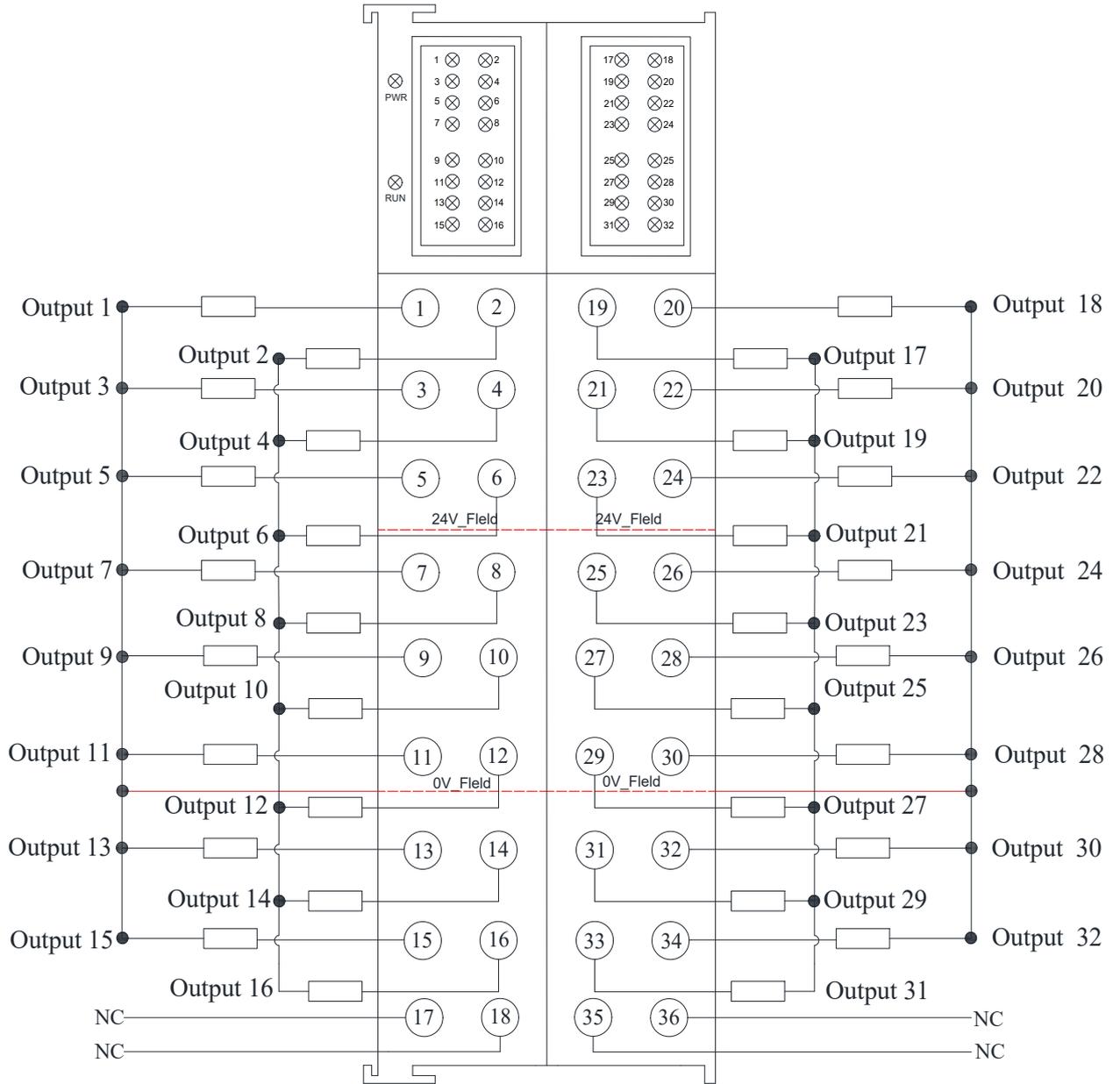
6.3.2. SRE2216 Wiring Diagram



6.3.3. SRE2132 Wiring Diagram



6.3.4. SRE2232 Wiring Diagram



6.4. Indicator Description

6.4.1. SRE2216/SRE2116 Indicator Description

Indicator	Description
PWR (Green)	Module power supply indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
Q1~Q16 (Green)	Digital Output Indicator: the corresponding indicator will light up when a signal is detected.

6.4.2. SRE2232/SRE2132 Indicator Description

Indicator	Description
PWR (Green)	Module power supply indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
Q1~Q32 (Green)	Digital Output Indicator: the corresponding indicator will light up when a signal is detected.

6.5. COE General Parameter Description

The screenshot shows the 'CoE - Online' tab in the software interface. The 'Advanced...' dialog is open, displaying the 'Set Value Dialog' for parameter 2001:01. The dialog has the following fields:

- Dec: 0
- Hex: 0x00
- Enum: 50ms
- Boot: 0
- Binary: 00
- Bit Size: 8 (selected)

Parameters	Description
2001:01 EtherCATBusErrOutoutEN	<p>This parameter defines the action of the output channels when communication with the module is interrupted. (The setting will not be saved after power-off):</p> <p>0: Output holds for 50ms and then clears</p> <p>1: Output holds</p> <p>2: Output holds for 10ms and then clears</p> <p>3: Output holds for 20ms and then clears</p> <p>4: Output holds for 100ms and then clears</p> <p>5: Output holds for 500ms and then clears</p> <p>6: Output clears immediately</p>
2004:01 Err 24v_nf	<p>Bit0:</p> <p>1: Channel 24V power supply abnormal</p> <p>0: Normal</p> <p>Bit1: Reserved</p> <p>Bit2:</p> <p>1: DO short circuit or overcurrent</p> <p>0: Normal</p>

7. Digital Fast Output Terminal

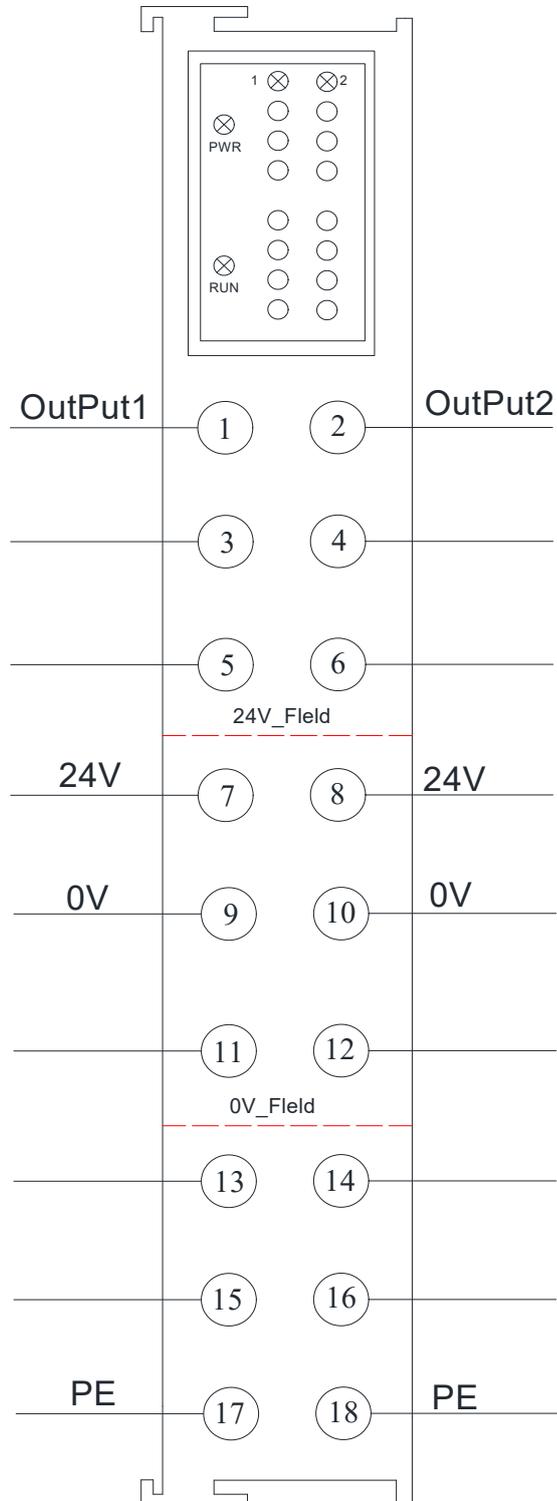
SRE5202/SRE5204 digital fast output terminal, with DC distributed clock and oversampling function, features the maximum output frequency of 1MHz, 2/4 channel output, transistor PNP, rated 24VDC/0.5A, and module diagnostic function.

7.1. Electrical Specifications

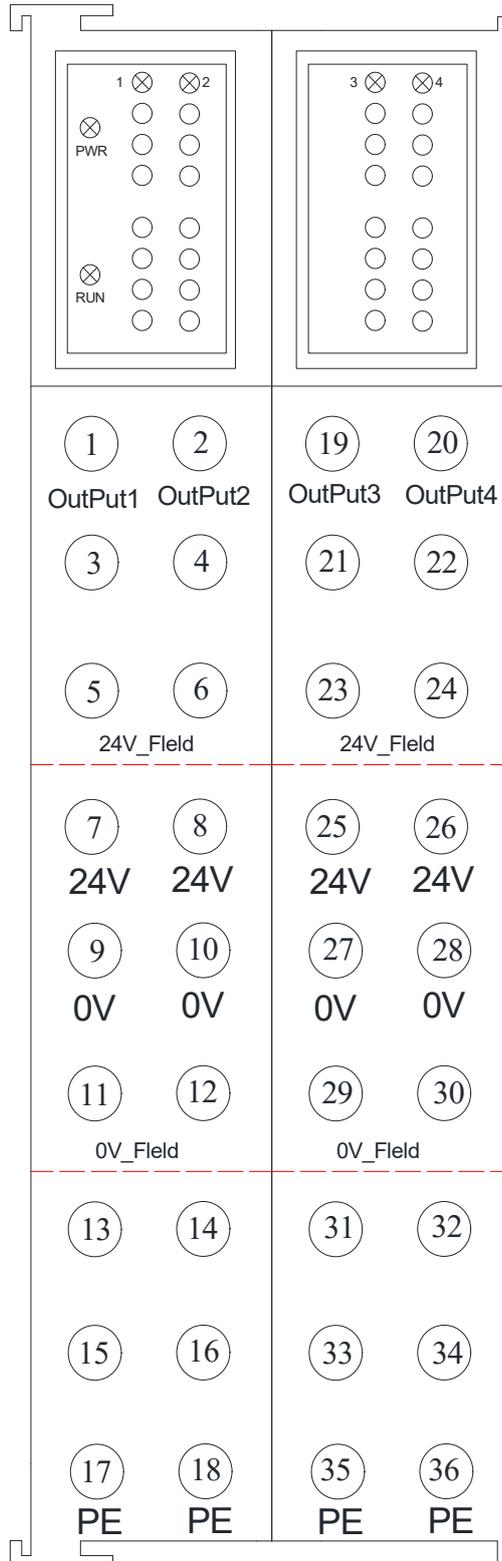
Model	SRE5202	SRE5204
Technical specifications		
Rated supply voltage	24V DC	
Bus 5V DC current consumption	165mA	165mA
Load type	Resistive load, inductive load, lamp load	
Oversampling factor	n = integer multiple of cycle time, 1...1000	
Distributed clock	<< 1 μ s	
Maximum output current	0.5 A per channel (short-circuit protection)	
Switching time	TON: < 1 μ s, TOFF: < 1 μ s	
Maximum frequency	1MHz	
24V current consumption	/	
Digital output characteristics		
Number of output points	2	4
Output type	Transistor PNP Output	
Isolation		
● Between channels and buses	Existent	
Display indicator	Power supply green LED display	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	

7.2. Wiring Diagram

7.2.1. SRE5202 Wiring Diagram



7.2.2. SRE5204 Wiring Diagram



7.3. Terminal Description

7.3.1. SRE5202 Terminal Description

Wiring Terminal	Description
Output1	Digital output channel 1
Output2	Digital output channel 2
24V	Positive pole of sensor power supply
0V	Negative pole of sensor power supply
PE	Shielded wire

7.3.2. SRE5204 Terminal Description

Wiring Terminal	Description
Output1	Digital output channel 1
Output2	Digital output channel 2
Output3	Digital output channel 3
Output4	Digital output channel 4
24V	Positive pole of sensor power supply
0V	Negative pole of sensor power supply
PE	Shielded wire

7.4. Indicator Description

7.4.1. SRE5202 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Abnormal power supply or no power
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
LED1	Output1 indicator On: Output1 is active Off: Output1 is inactive
LED2	Output2 indicator On: Output2 is active Off: Output2 is inactive

7.4.2. SRE5204 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Abnormal power supply or no power
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
LED1	Output1 indicator On: Output1 is active Off: Output1 is inactive
LED2	Output2 indicator On: Output2 is active Off: Output2 is inactive
LED3	Output3 indicator On: Output3 is active Off: Output3 is inactive
LED4	Output4 indicator On: Output4 is active Off: Output4 is inactive

7.5. Parameter Description

7.5.1. COE Parameter Description

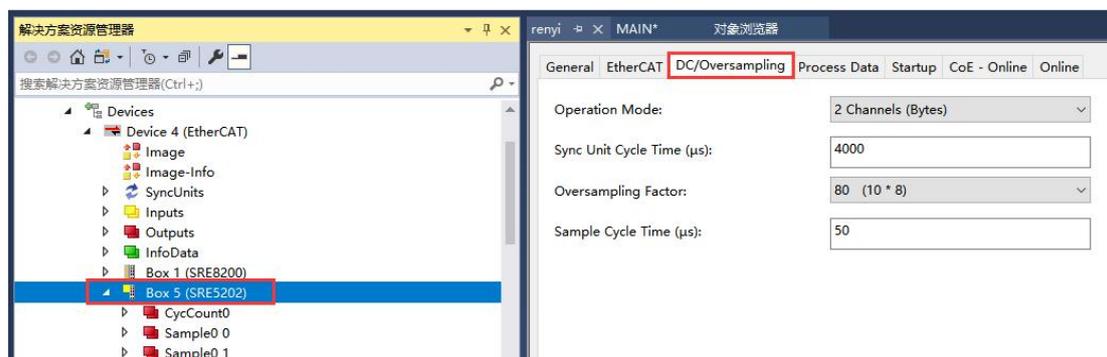
The screenshot shows the 'CoE - Online' configuration window. At the top, there are tabs for 'General', 'EtherCAT', 'DC/Oversampling', 'Process Data', 'Startup', 'CoE - Online', and 'Online'. Below the tabs are buttons for 'Update List', 'Advanced...', and 'Add to Startup...'. There are also checkboxes for 'Auto Update', 'Single Update', and 'Show Offline Data'. A text field for 'Module OD (AoE Port)' is set to '0'. A table lists parameters with columns for Index, Name, Flags, Value, and Unit. The parameter '2001:01 EtherCATBusErrOutputEN' is highlighted in red. A 'Set Value Dialog' is open for this parameter, showing 'Dec: 0', 'Hex: 0x00', 'Enum: 50ms', 'Boot: 0', 'Binary: 00', and 'Bit Size: 8'.

Index	Name	Flags	Value	Unit
1000	Device type	RO	0x00000003 (3)	
1008	Device name	RO	ECT-Dev	
1009	Hardware version	RO		
100A	Software version	RO		
1018:0	Identity	RO	> 4 <	
2001:0	ErrEN	RO	> 1 <	
2001:01	EtherCATBusErrOutputEN	RW	50ms (0)	
6000:0	ID	RO	> 1 <	

Parameters	Description
2001:01 EtherCATBusErrOutoutEN	<p>This parameter defines the action of the output channels when communication with the module is interrupted. (The setting will not be saved after power-off):</p> <p>0: Output holds for 50ms and then clears</p> <p>1: Output holds</p> <p>2: Output holds for 10ms and then clears</p> <p>3: Output holds for 20ms and then clears</p> <p>4: Output holds for 100ms and then clears</p> <p>5: Output holds for 500ms and then clears</p> <p>6: Output clears immediately</p>

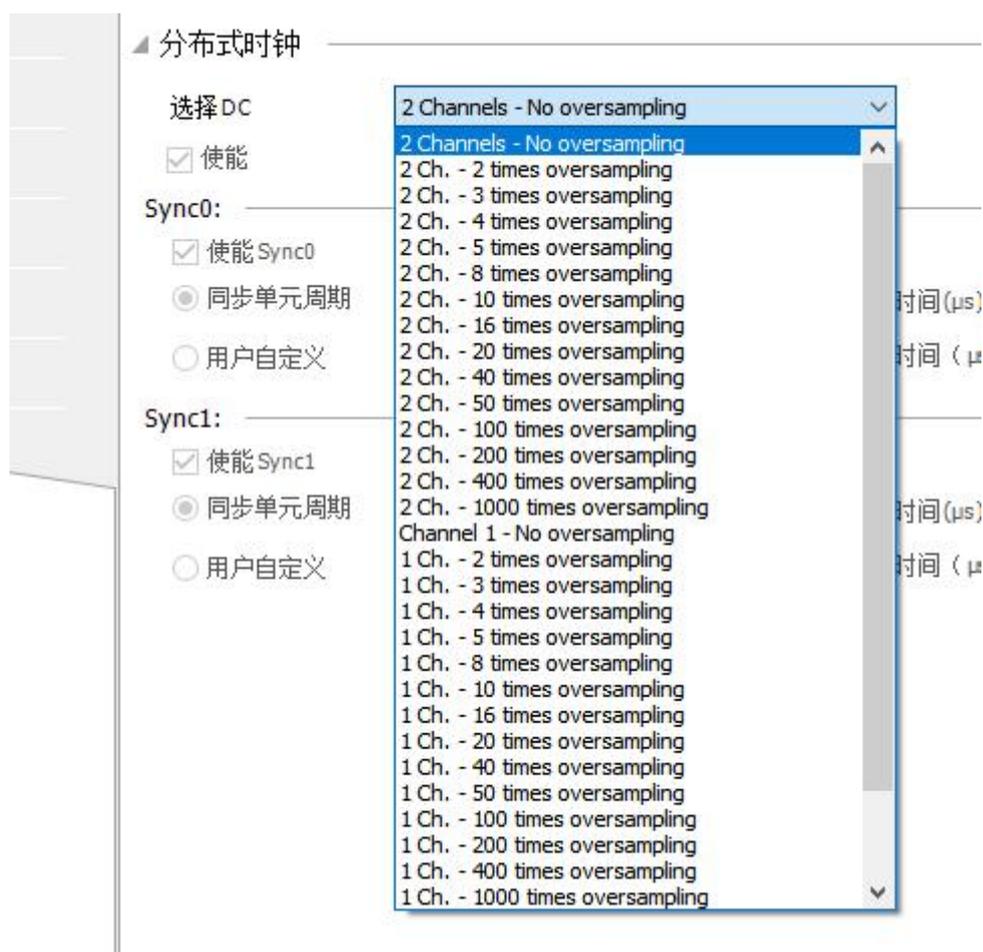
7.5.2. DC/Oversampling Parameter Description

Parameters take effect after refresh



Parameters	Description	
Operation Mode:	<p>Selection of number of channels:</p> <p>2 Channels (Byte): Select to use two channels, Byte type</p> <p>2 Channels (Bit): Select to use two channels, Bit type</p> <p>1 Channel (Byte): Select to use one channel, Byte type (first channel)</p> <p>1 Channel (Bit): Select to use one channel, Bit type (first channel)</p> <p>Note: When using the SRE5204 module, select 1 Channel to use the first two channels, and select 2 Channels to use all channels.</p>	
Sync Unit Cycle Time (us):	Cycle time, determined by the EtherCAT cycle time setting	
Oversampling Factor:	1, 2, 4, 5, 8, 10, 16, 20, 25, 32, 40, 50, 64, 80, 100, 125, 128;	Sampling data (Bit)
	8(1*8), 16(2*8), 32(4*8), 40(5*8), 64(8*8), 80(10*8), 128(16*8), 160(20*8), 200(25*8)	Sampling data (Byte)
Sample Cycle Time (us):	Sampling cycle is determined by the relationship between EtherCAT cycle time and the number of samples	

7.5.3. Codesys/Distributed Clock



(When using SRE5204 module, select 1 Channel to use the first two channels, and select 2 Channels to use all channels)

Operation Mode		Remarks
1 Ch. - X times oversampling	X:2, 3, 4, 5, 8, 10, 16, 20, 40, 50, 100, 200, 400, 1000	Sampling data of Channel 1 (Bit)
2 Ch. - X times oversampling	X:2, 3, 4, 5, 8, 10, 16, 20, 40, 50, 100, 200, 400, 1000	Sampling data for channels 1 and 2 (Bit)

8. Digital I/O Terminal

8.1. Electrical Specifications

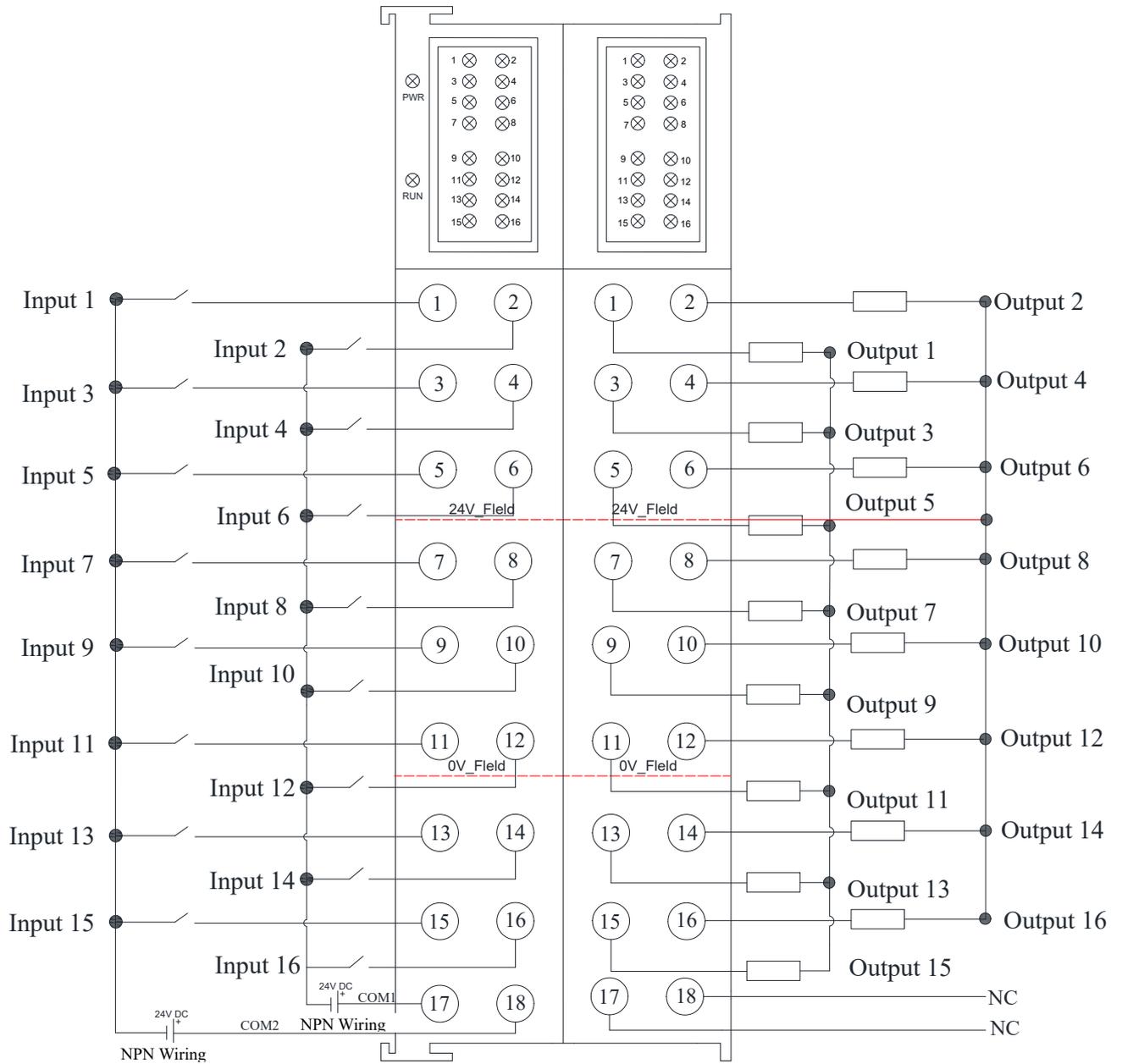
SRE digital I/O terminal features 16-channel digital input, 16-channel digital output, and NPN/PNP, with diagnostic function.

Model	SRE1332	SRE1432
Technical specifications		
Bus 5V DC current consumption	205mA	200mA
Input characteristics		
Number of input points	16	
● Rated value	24V DC	
● "0" signal	Maximum 5V DC, 1mA	
● "1" signal	Minimum 15V DC, 2.5mA	
Input characteristics	Sink	Source
Allow static current	1mA	
Insulation test voltage	500V DC	
Cable length (unshielded)	Maximum 300m	
Cable length (shielded)	Maximum 500m	
Output characteristics		
Output type	NPN solid-state MOSFET	PNP solid-state MOSFET
Number of output points	16	
Cable length (unshielded)	Maximum 300m	
Cable length (shielded)	Maximum 500m	
Output short-circuit protection	Yes, electronic type	
Maximum lamp load	5W	
Output current "1"	0.5A	
Leakage current	<1mA	
Mechanical life of contacts	---	
Electrical life of contacts (rated load)	---	
Switching frequency		
● Maximum resistive load	100HZ	
● Maximum inductive load	0.5HZ	
● Maximum lamp load	10HZ	
● Maximum Mechanical load	---	

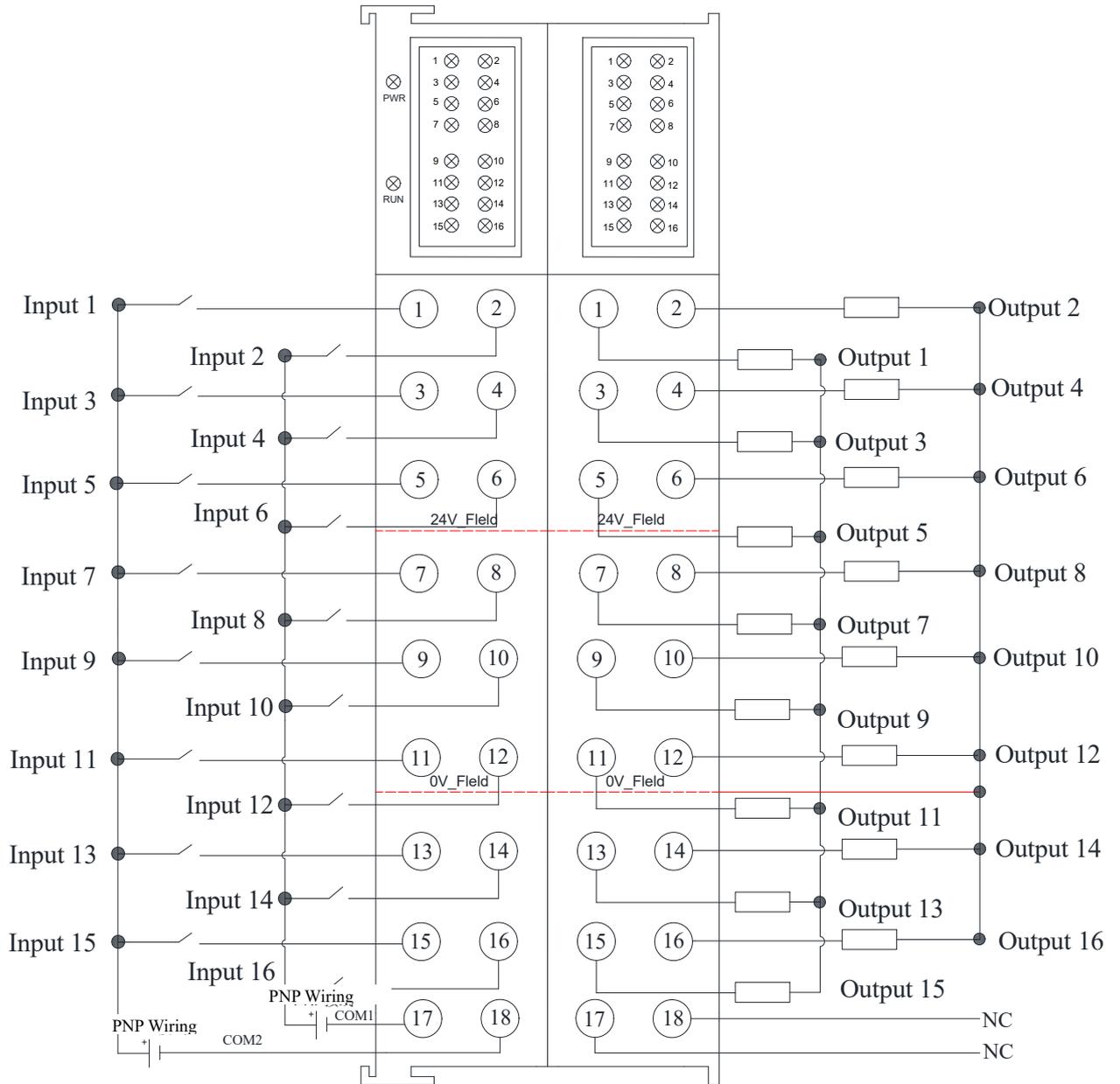
Model	SRE1332	SRE1432
Insulation test voltage	500V DC	
Isolation		
● Between channels and buses	Existent	
● Between channels	Existent	
Display indicator	Green LED display per channel output	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	30×100×80 (mm)	

8.2. Wiring Diagram

8.2.1. SRE1332 Wiring Diagram



8.2.2. SRE1432 Wiring Diagram



8.3. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally; Off: Module is powered abnormally or not powered;
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
I1~I16 (Green)	Digital input indicator: the corresponding indicator will light up when a signal is detected.
Q1~Q16 (Green)	Digital Output Indicator: the corresponding indicator will light up when a signal is detected.

8.4. COE General Parameter Description

The screenshot shows the 'COE - Online' interface with a table of parameters. A 'Set Value Dialog' box is open over the '2001:0 ErrEN' parameter.

Index	Name	Flags	Value
1000	Device type	RO	0x00000003 (3)
1008	Device name	RO	ECT-Dev
1009	Hardware version	RO	
100A	Software version	RO	
1018:0	Identity	RO	> 4 <
1C32:0	SM output parameter		> 32 <
1C33:0	SM input parameter		> 32 <
2001:0	ErrEN	RW	> 1 <
2002:0	DIIDelay	RW	> 1 <
2002:01	LocalDI	RW	none (0)
2003:0	Filter	RW	> 1 <
2003:01	Flitertime	RW	none (0)
2004:0	Err	RO	> 0 <
2004:01	Err_24v_nf	RO	---

Set Value Dialog

Dec:
 Hex:
 Enum:
 Boot: 0 1
 Binary:
 Bit Size: 1 8 16 32 64 ?

Parameters	Description
2001:01 EtherCATBusErrOutoutEN	This parameter defines the action of the output channels when communication with the module is interrupted: 0: Output holds for 50ms and then clears 1: Output holds 2: Output holds for 10ms and then clears 3: Output holds for 20ms and then clears 4: Output holds for 100ms and then clears

Parameters	Description
	5: Output holds for 500ms and then clears 6: Output clears immediately
2002:01 LocalDI	Parameter for configuring the digital input terminal, 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 abnormal 0: Normal Bit1: Reserved Bit2: 1: DO short circuit or overcurrent 0: Normal

9. Analog Input Terminal

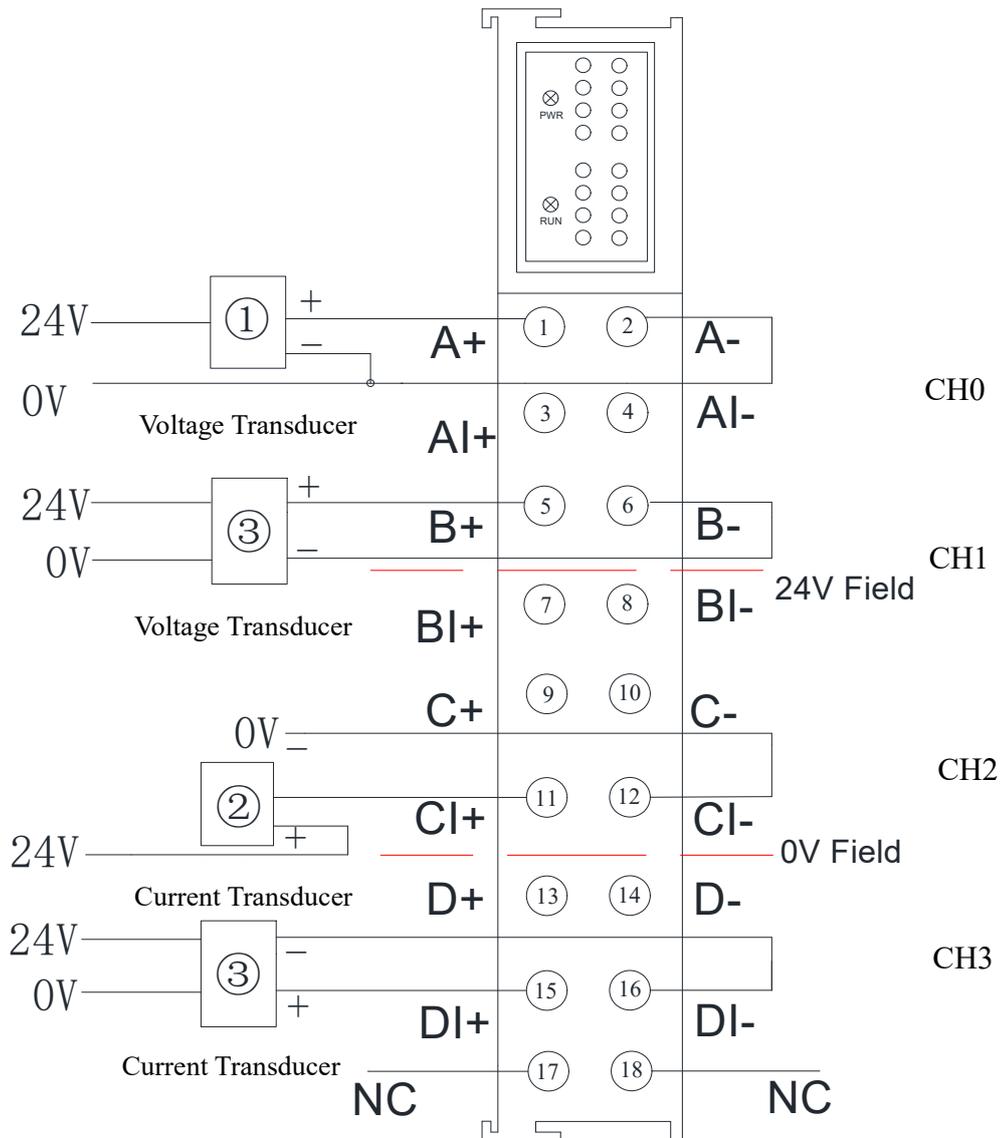
9.1. Electrical Specifications

High-performance analog input terminal features 16-bit precision and 4/8-channel voltage/current input, with the module diagnostic function.

Model	SRE3204	SRE3208
Technical specifications		
Power supply voltage	18V DC~28V DC	
Bus 5V DC current consumption	160mA	165mA
Number of input channels	4	8
Input type	Voltage/Current	
Measuring range		
Voltage (Unipolar)	0-10V	
Voltage (Bipolar)	-10V-10V	
Current	0~20mA	
Data word		
Unipolar	0~32000	
Bipolar	-32000~32000	
Isolation		
● Between channels and buses	Existent	
Display indicator	Power supply green LED display	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	30×100×80 (mm)

9.2. Module Wiring Diagram

9.2.1. SRE3204 Wiring Diagram



① 3-Wire Sensor

② 2-Wire Sensor

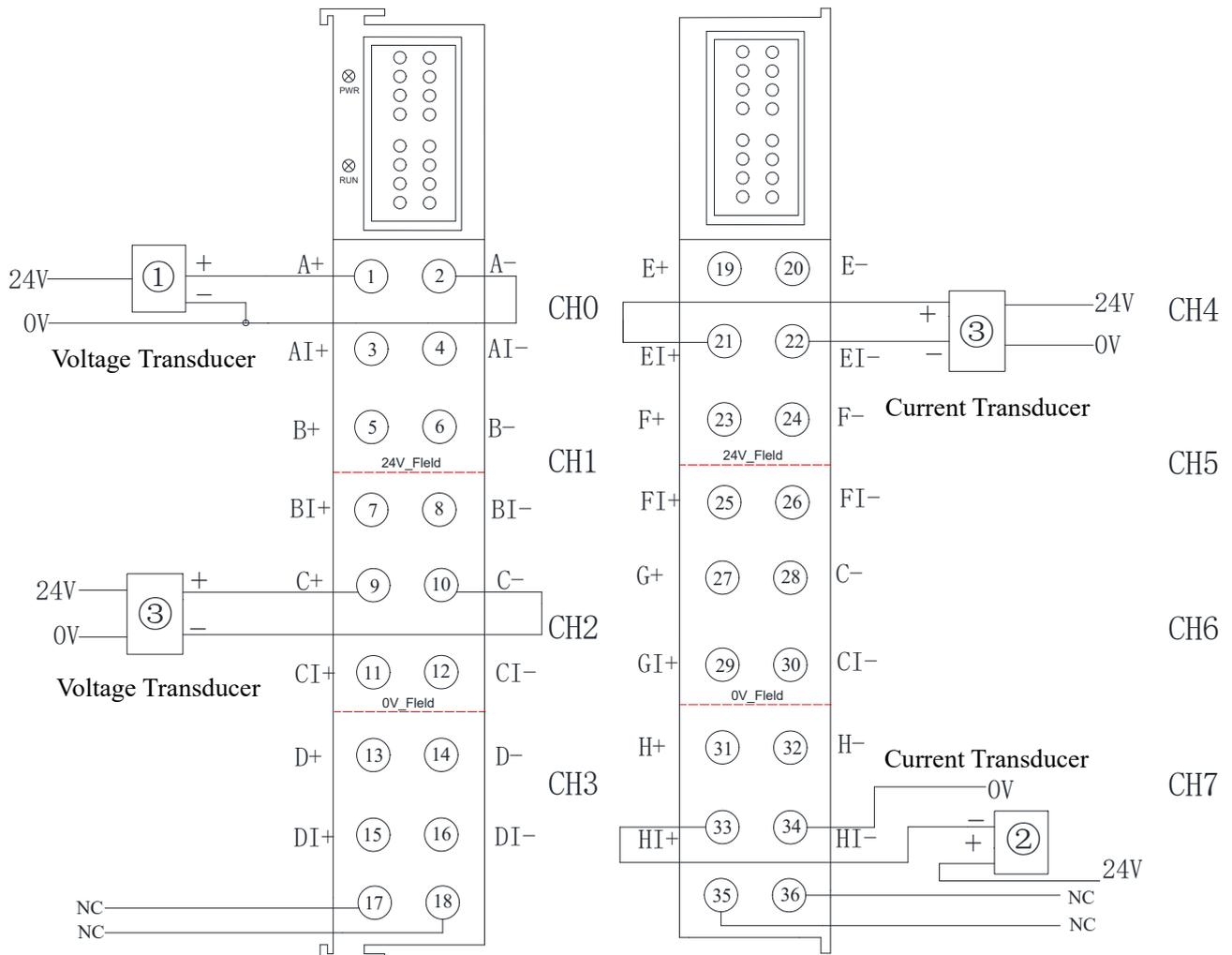
③ 4-Wire Sensor

* For single-ended connections, signal negative (-) and power supply negative (-) are shorted together

Note: A+ and A- are voltage signal input channels, and AI+ and AI- are current signal input channels. If CH0 needs to be connected to a voltage signal, it can be connected to A+ and A- terminals; if CH0 needs to be connected to a current signal, it can be connected to AI+ and AI- terminals; both channels are CH0 and occupy the same data address, so only one can be selected for use and both cannot be connected

simultaneously. The same rule applies to other input channels. The wiring in the diagram is only an example, and specific connections can be made as needed.

9.2.2. SRE3208 Wiring Diagram



① 3-Wire Sensor

② 2-Wire Sensor

③ 4-Wire Sensor

* For single-ended connections, signal negative (-) and power supply negative (-) are shorted together

Note: A+ and A- are voltage signal input channels, and AI+ and AI- are current signal input channels. If CH0 needs to be connected to a voltage signal, it can be connected to A+ and A- terminals; if CH0 needs to be connected to a current signal, it can be connected to AI+ and AI- terminals; both channels are CH0 and occupy the same data address, so only one can be selected for use and both cannot be connected simultaneously. The same rule applies to other input channels. The wiring in the diagram is only an example, and specific connections can be made as needed.

9.3. Terminal Description

9.3.1. SRE3204 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

9.3.2. SRE3208 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
.....
.....
H+,H-	CH7 voltage input terminal
HI+,HI-	CH7 current input terminal

9.4. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is powered abnormally or not powered
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication

9.5. COE General Parameter Description

Configuration parameters will not be synchronized to Startup, and will not be saved after power-off or hot-plugging.

The screenshot shows the 'CoE - Online' configuration window. At the top, there are tabs for 'General', 'EtherCAT', 'DC', 'Process Data', 'Startup', 'CoE - Online', and 'Online'. Below the tabs, there are buttons for 'Update List', 'Advanced...', and 'Add to Startup...'. There are also checkboxes for 'Auto Update', 'Single Update', and 'Show Offline Data'. A search bar is present, and a 'Module OD (AoE Port):' field is set to '0'. The main area contains a table of parameters:

Index	Name	Flags	Value
1000	Device type	RO	0x00000003 (3)
1008	Device name	RO	ECT-Dev
1009	Hardware version	RO	
100A	Software version	RO	
1018:0	Identity	RO	> 4 <
1C32:0	SM output parameter		> 32 <
1C33:0	SM input parameter		> 32 <
2004:0	Err	RO	> 1 <
2004:01	Err_24v_nf	RO	0x00 (0)
2005:0	CH_Settings	RW	> 3 <
2005:01	Chanel_Num	RW	4 (0)
2005:02	Chanel_Time	RW	400us (0)
2005:03	Chanel_Type	RW	0x00 (0)

Parameters	Data type	Description
2004:01	Err 24v_nf	Bit0: 1: Channel 24V power supply abnormal 0: Normal
2005:01	Channel Num	0: Enable 4 channels 1: Enable the first channel 2: Enable the first 2 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 one channel: e.g. Bit0: Corresponds to CH0 Bit1: Corresponds to CH1 Set a detection value: 0: Voltage $\pm 10V$ 1: Current 0-20mA

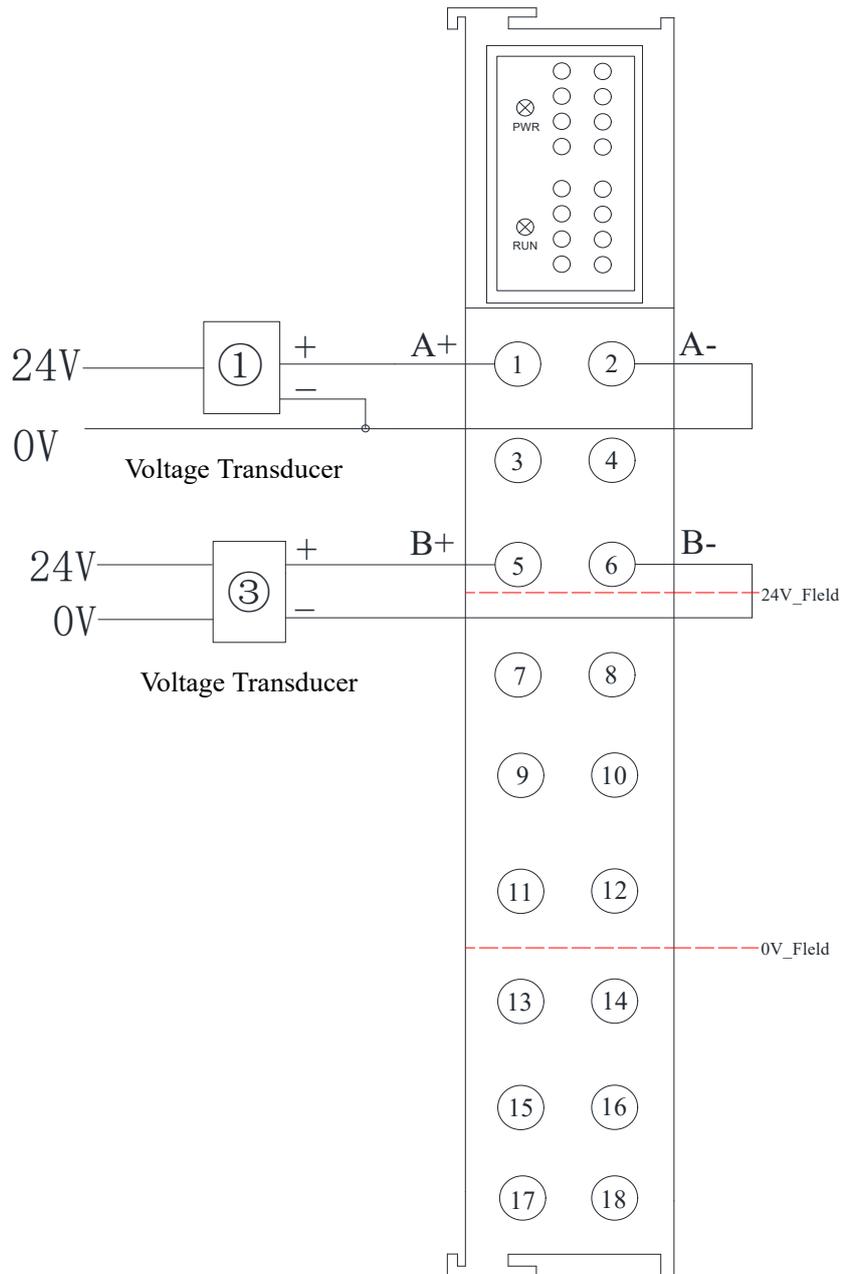
10. Analog Fast Acquisition Input Terminal

The SRE3522 dual-channel analog fast acquisition module **does not support the Omron platform.**

10.1. Electrical Specifications

Model	SRE3522
Technical specifications	
Power supply voltage	18V DC~28V DC
Bus 5VDC current consumption	187mA
Number of input channels	2
Acquisition type	Voltage
Measuring range	
Voltage	-10V-10V
Data word	
Bipolar	-32000~32000
Resolution	16-bit
Input type	Differential input
Sampling type	Simultaneous
Oversampling factor	n = 1...100 optional (Max 100 ksamples/s)
Maximum sampling rate	Max 10 μ s/100 kps (per channel, synchronous)
Isolation	
● Between channels and buses	Existent
Display indicator	Power supply green LED display
Distributed clock	Supported
System power diagnosis and warning	Supported
Environmental conditions	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Vibration/shock resistance	Compliant with EN 60068-2-6/EN 60068-2-27 Standards
EMI/EMR resistance	Compliant with EN 61000-6-2/EN 61000-6-4 Standards
Dimensions (L × W × H)	15×100×80 (mm)

10.2. SRE3522 Module Wiring Diagram



① 3-Wire Sensor

③ 4-Wire Sensor

* For single-ended connections, signal negative (-) and power supply negative (-) are shorted together

10.3. Indicator Description

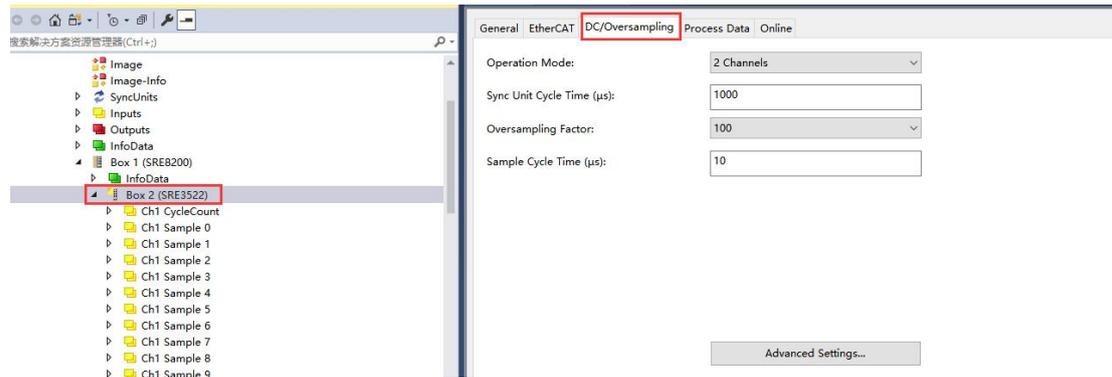
Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Module is powered abnormally or not powered
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication

10.4. Terminal Description

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

10.5. Parameter Description

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



Parameters	Description
Operation Mode:	Selection of number of channels: 2 Channels: Select to use two channels 1 Channel: Select to use one channel (the first channel)
Sync Unit Cycle Time (us):	Cycle time, determined by the EtherCAT cycle time setting
Oversampling Factor:	Oversampling parameter: sampling count per cycle, maximum 100 times. 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):	Sampling cycle is determined by the relationship between EtherCAT cycle time and the number of samples

11. Analog Output Terminal

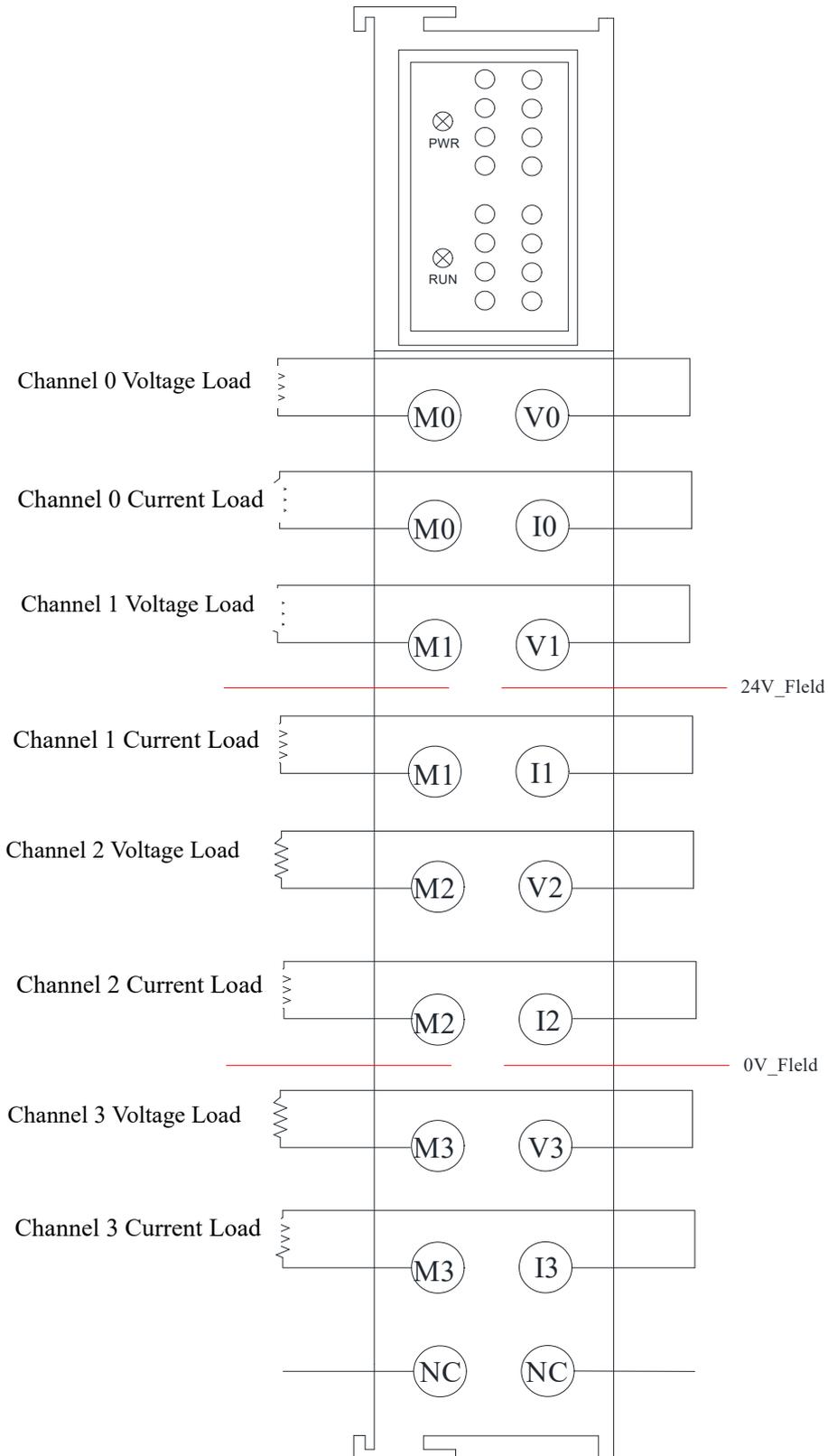
11.1. Electrical Specifications

SRE4204 analog output terminal, 4 channels, configurable for voltage ($\pm 10V$) or current (0-20mA) output, features module diagnostic function, 16-bit precision, 35mm DIN rail mounting.

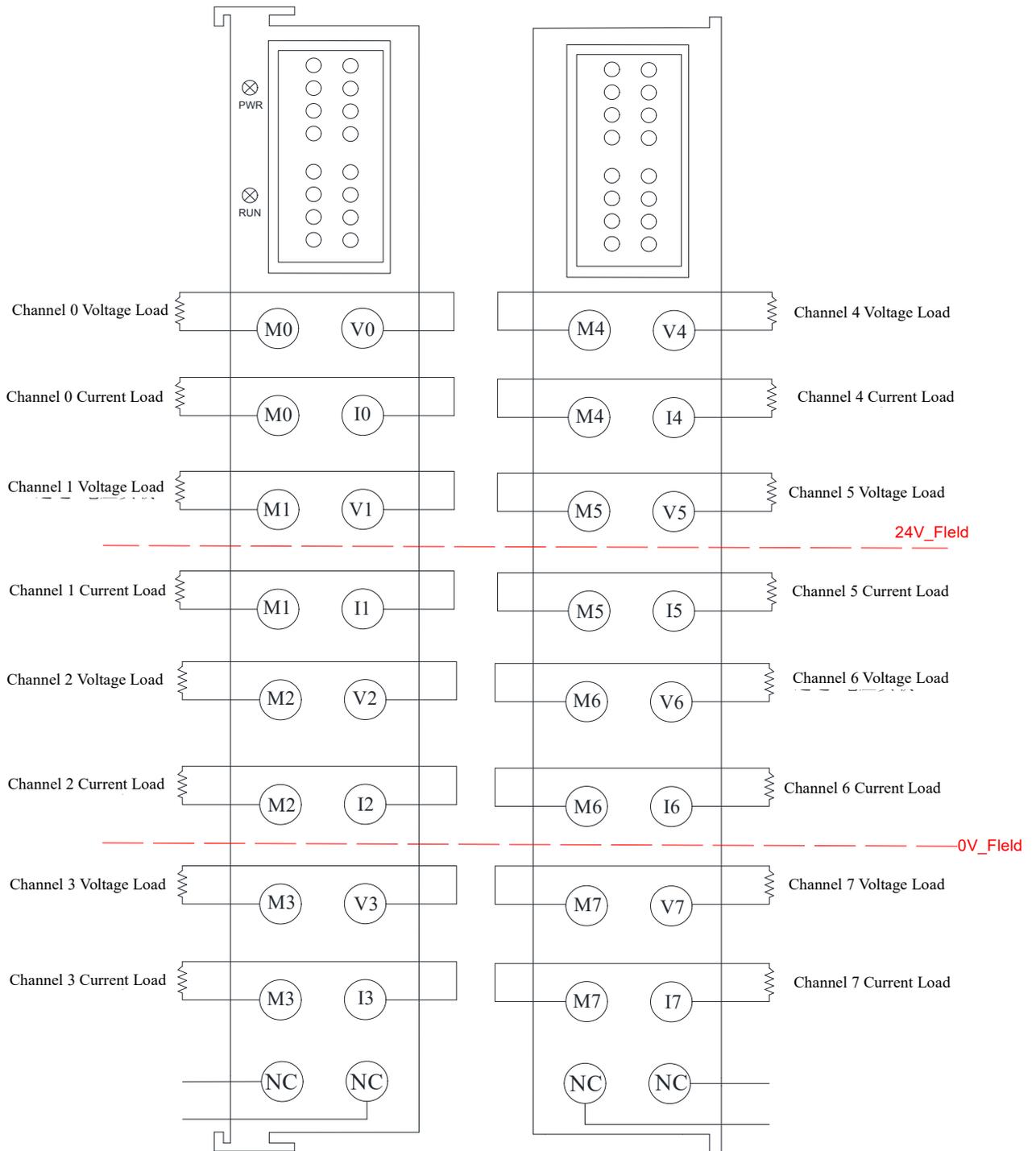
Model	SRE4204	SRE4208
Power supply voltage	18V DC~28V DC	
Bus 5VDC current consumption	170mA	170mA
Number of output channels	4	8
Measuring range		
Voltage (Unipolar)	0~10V	
Voltage (Bipolar)	-10~10V	
Current	0~20mA	
Data word		
Voltage	-32000~32000, full scale	
Current	0~32000, full scale	
Isolation		
● Between channels and buses	Existent	
Display indicator	Power supply green LED display	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	30×100×80 (mm)

11.2. Module Wiring Diagram

11.2.1. SRE4204 Wiring Diagram



11.2.2. SRE4208 Wiring Diagram



11.3. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is powered abnormally or not powered
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication

11.4. Terminal Description

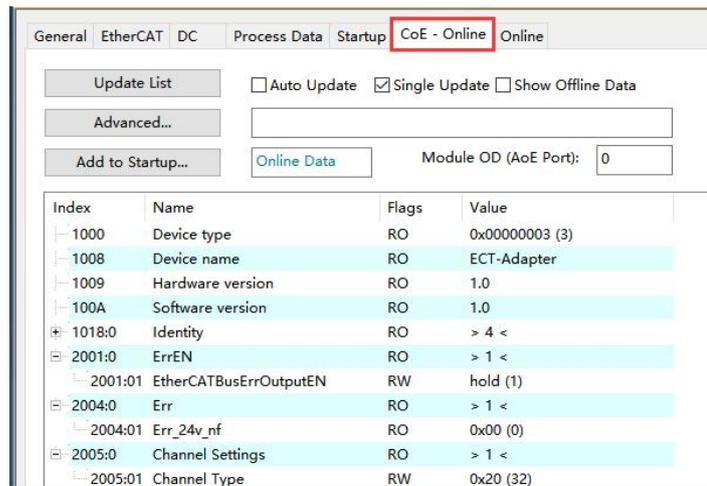
11.4.1. SRE4204 Terminal Description

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

11.4.2. 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

11.5. COE General Parameter Description



Parameters	Data type	Description
2001:01	EtherCATBusErrOutputEN	<p>This parameter defines the action of the output channels when communication with the module is interrupted:</p> <p>0: Output holds for 50ms and then clears</p> <p>1: Output holds</p> <p>2: Output holds for 10ms and then clears</p> <p>3: Output holds for 20ms and then clears</p> <p>4: Output holds for 100ms and then clears</p> <p>5: Output holds for 500ms and then clears</p> <p>6: Output clears immediately</p>
2004:01	Err 24v_nf	<p>Bit0:</p> <p>1: Channel 24V power supply abnormal</p> <p>0: Normal</p>
2005:01	Channel Type	<p>Each Bit corresponds to one channel: e.g.</p> <p>Bit0: Corresponds to CH0</p> <p>Bit1: Corresponds to CH1</p> <p>.....</p> <p>Configure channel range settings:</p> <p>0: ±10V</p> <p>1: 0-20mA/0-10V</p>

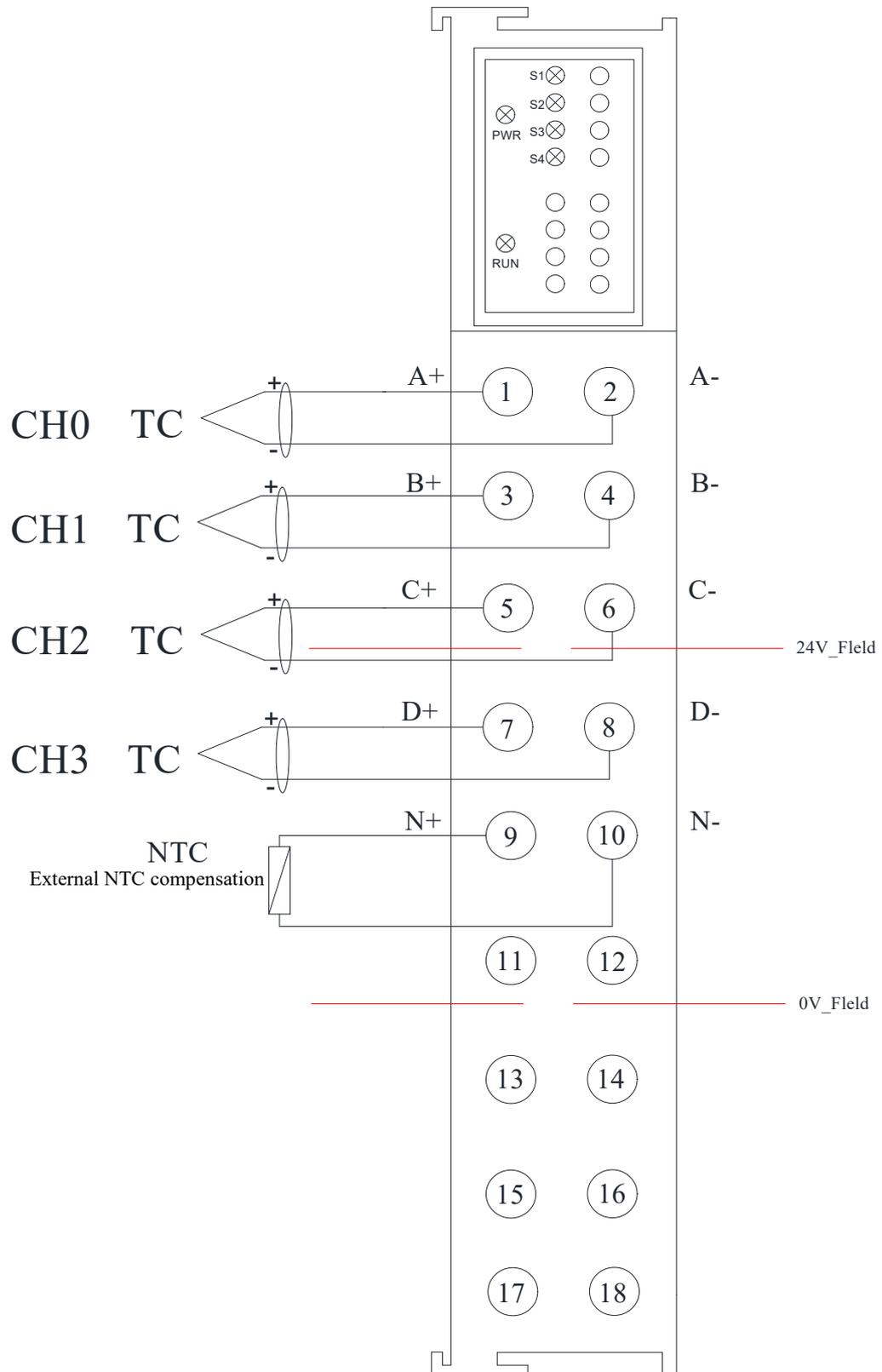
12. Temperature Measurement Module

12.1. SRE3284 Thermocouple Measurement Module

12.1.1. Electrical Specifications

Model	SRE3284
Technical specifications	
Number of input points	4
Input type	Thermocouple
Power supply polarity protection	Supported
Operating voltage	24V DC (allowable voltage range 18VDC~28VDC)
Bus 5V DC current consumption	165mA
Input range	Thermocouple type (select one): S/T/R/E/N/K/J; Voltage range: $\pm 80\text{mV}$
Measurement principle	Sigma -Delta
Resolution	
Temperature	$0.1^{\circ}\text{C}/0.1^{\circ}\text{F}$
Voltage	15-bit + sign bit
Common-mode rejection	85dB, DC-50HZ/60HZ/400HZ
Conductor length	Maximum compensating conductor length 30m
Conductor loop resistance	Maximum 20Ω
Input impedance	$\geq 10\text{M}\Omega$
Basic error	$\leq 0.1\%\text{FS}$
Consistency	$0.05\%\text{FS}$
Cold junction error	$\pm 1.5^{\circ}\text{C}$
Isolation	
● Between channels and buses	Existent
● Between power supply and bus	Existent
● Between channel and power supply	Existent
Display indicator	Power and RUN green indicators
Environmental conditions	
Environmental conditions	Operating temperature: $-20\sim 60^{\circ}\text{C}$, Relative Humidity: $5\%\sim 90\%$ (non-condensing)
Storage temperature	$-40\sim 60^{\circ}\text{C}$
Dimensions (L × W × H)	$15\times 100\times 80$ (mm)

12.1.2. Module Wiring Diagram



12.1.3. Terminal Description

Terminal	Description
A+ A-	CH0 thermocouple input terminal
B+ B-	CH1 thermocouple input terminal
C+ C-	CH2 thermocouple input terminal
D+ D-	CH3 thermocouple input terminal
NTC+ NTC-	External NTC compensation

12.1.4. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Module is powered abnormally or not powered
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
S1 (Red)	Channel disconnection detection indicator Flashing: CH0 sampling value is over range or in the disconnection state Off: CH0 sampling value is within the normal range
.....
S4 (red)	Channel disconnection detection indicator Flashing: CH3 sampling value is over range or in the disconnection state Off: CH3 sampling value is within the normal range

12.1.5. COE Parameter Description

Index	Name	Flags	Value	Unit
1000	Device type	RO	0x00000003 (3)	
1008	Device name	RO	ECT-Dev	
1009	Hardware version	RO		
100A	Software version	RO		
1018:0	Identity	RO	> 4 <	
1C32:0	SM output parameter		> 32 <	
1C33:0	SM input parameter		> 32 <	
2004:0	Err	RO	> 1 <	
2004:01	Err_24v_nf	RO	0x00 (0)	
2005:0	CH_Settings	RW	> 4 <	
2005:01	Chanel_Type	RW	J (0)	
2005:02	cali_depth	RW	Hight (0)	
2005:03	TC_no_compensate	RW	0 (0)	
2005:04	Meth_compensate	RW	none (0)	

Parameters	Data type	Description
2004:01	Err 24v_nf	Bit0: 1: Channel 24V power supply abnormal 0: Normal
2005:01	Channel_Type	Configure channel thermocouple types, including 8 types: 0: J 1: K 2: T 3: E 4: R 5: S 6: N 7: +/-80MV
2005:02	cali_depth	Filter level: 0: High: Strong filtering 1: Normal: Standard filtering 2: None: No filtering
2005:03	TC_no_compensate	Whether to perform cold junction compensation: 0: Yes 1: No
2005:04	Meth_compensate	Temperature compensation method: 0: None: Internal compensation 1: Outside as NTC: External NTC compensation

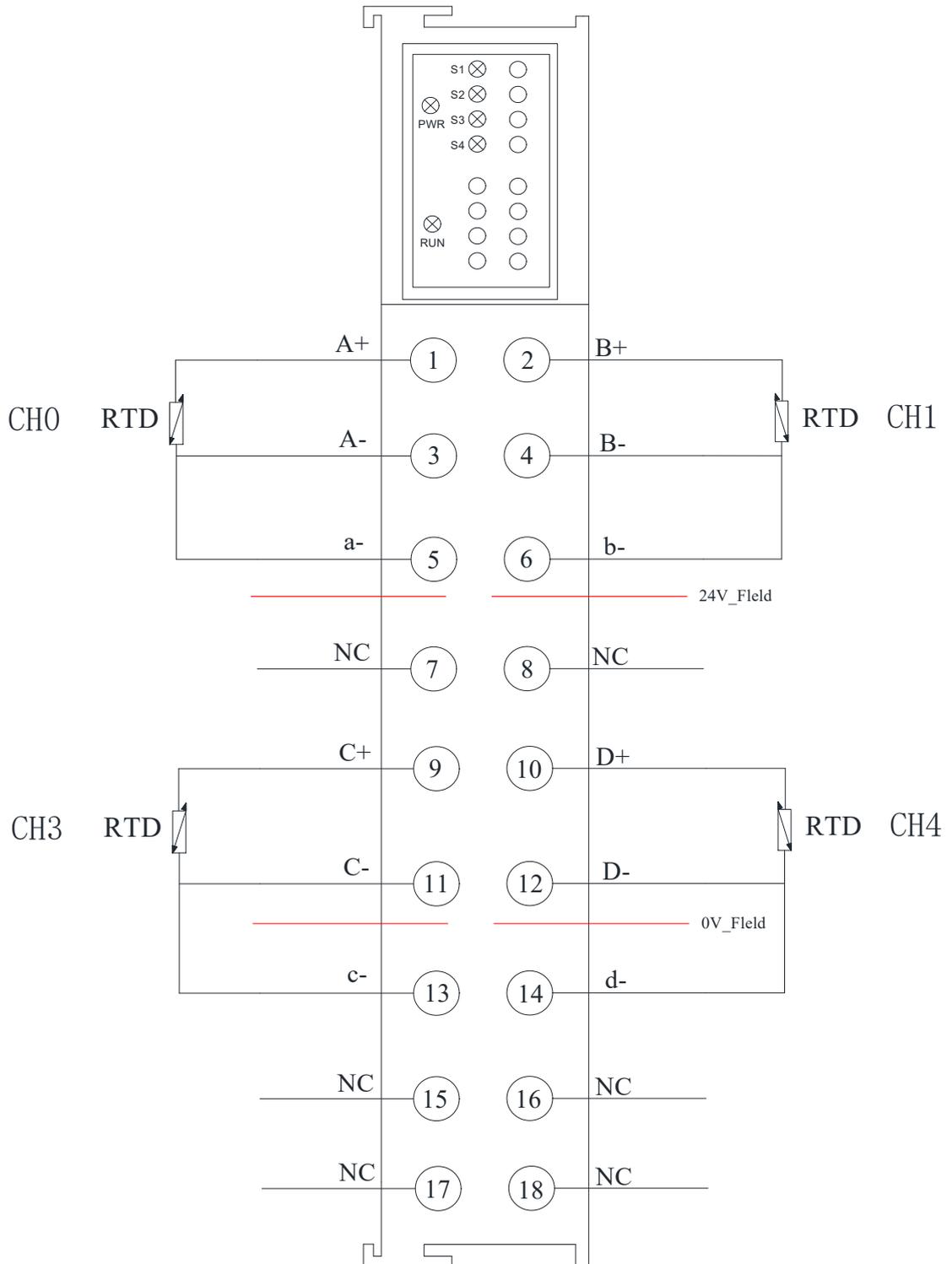
12.2. SRE3274 Resistance Thermometer Measurement Module

12.2.1. Electrical Specifications

Model	SRE3274
Technical specifications	
Number of input points	4
Input type	Resistance thermometer
Power supply polarity protection	Supported
Maximum sustainable voltage	30V DC
Bus 5VDC current consumption	165mA
Input range	Resistance thermometer type (select one): Pt-100Ω,1000Ω($\alpha=3850\text{PPM},3920\text{PPM},3850.55\text{PPM},3916\text{PPM},3902\text{PPM}$) ; Ni-100Ω,1000Ω($\alpha=6720\text{PPM},6178\text{PPM}$) ;
Measurement principle	Sigma -Delta
Data word	-32768~+32767
Resolution	
Temperature	0.1°C/0.1°F
Voltage	---
Resistance	15-bit + sign bit
Measurement conversion time	Less than 400ms
Common-mode rejection	More than 125dB, AC120V
Cable length (compensating conductor)	Maximum 30m
Conductor loop resistance	Maximum 100Ω
Input impedance	$\geq 1\text{M}\Omega$
Basic error	$\leq 0.1\%\text{FS}$
Consistency	0.05%FS
Cold junction error	---
Isolation	
● Between channels and buses	Existent
● Between power supply and bus	Existent
● Between channel and power supply	Existent
Display indicator	Power supply green LED display
System power diagnosis and warning	Supported

Model	SRE3274
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	15×100×80 (mm)

12.2.2. Module Wiring Diagram



12.2.3. Terminal Description

Terminal	Description
A+,A-,a-	CH0 resistance thermometer input terminal
B+,B-,b-	CH1 resistance thermometer input terminal
C+,C-,c-	CH2 resistance thermometer input terminal
D+,D-,d-	CH3 resistance thermometer input terminal

12.2.4. Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Power supply is normal Off: Module is powered abnormally or not powered
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
S1 (Red)	Channel disconnection detection indicator Flashing: CH0 sampling value is over range or in the disconnection state Off: CH0 sampling value is within the normal range
.....
S4 (red)	Channel disconnection detection indicator Flashing: CH3 sampling value is over range or in the disconnection state Off: CH3 sampling value is within the normal range

12.2.5. COE Parameter Description

The screenshot shows the 'CoE - Online' configuration window. It includes tabs for 'General', 'EtherCAT', 'DC', 'Process Data', 'Startup', 'CoE - Online', and 'Online'. The 'CoE - Online' tab is active. Below the tabs are buttons for 'Update List', 'Advanced...', and 'Add to Startup...'. There are also checkboxes for 'Auto Update', 'Single Update', and 'Show Offline Data'. A text box for 'Module OD (AoE Port):' contains the value '0'. Below these controls is a table of parameters:

Index	Name	Flags	Value
1000	Device type	RO	0x00000003 (3)
1008	Device name	RO	ECT-Dev
1009	Hardware version	RO	
100A	Software version	RO	
1018:0	Identity	RO	> 4 <
1C32:0	SM output parameter		> 32 <
1C33:0	SM input parameter		> 32 <
2004:0	Err	RO	> 1 <
2004:01	Err_24v_nf	RO	0x00 (0)
2005:0	Channel Settings	RW	> 2 <
2005:01	RTD_type	RW	0x00 (0)
2005:02	Red_led_en	RW	0x00 (0)

Parameters	Data type	Description
2004:01	Err 24v_nf	Bit0: 1: Channel 24V power supply abnormal; 0: Normal.
2005:01	RTD_Ttype	Resistance thermometer type: 0: 100Ω Pt 0.003850(Default) 1: 1000Ω Pt 0.003850 2: 100Ω Pt 0.003920 3: 1000Ω Pt 0.003920 4: 100Ω Pt 0.00385055 5: 1000Ω Pt 0.00385055 6: 100Ω Pt 0.003916 7: 1000Ω Pt 0.003916 8: 100Ω Pt 0.003902 9: 1000Ω Pt 0.003902 11: 100Ω Ni 0.006720 12: 1000Ω Ni 0.006720 13: 100Ω Ni 0.006178 14: 1000Ω Ni 0.006178
2005:01	Red_led_en	Disconnection detection alarm: Bit0: LED indicate Ch1 Bit1: LED indicate Ch2 Bit2: LED indicate Ch3 Bit3: LED indicate Ch4 Definition: 0: Enable the disconnection detection alarm 1: Disable the disconnection detection alarm

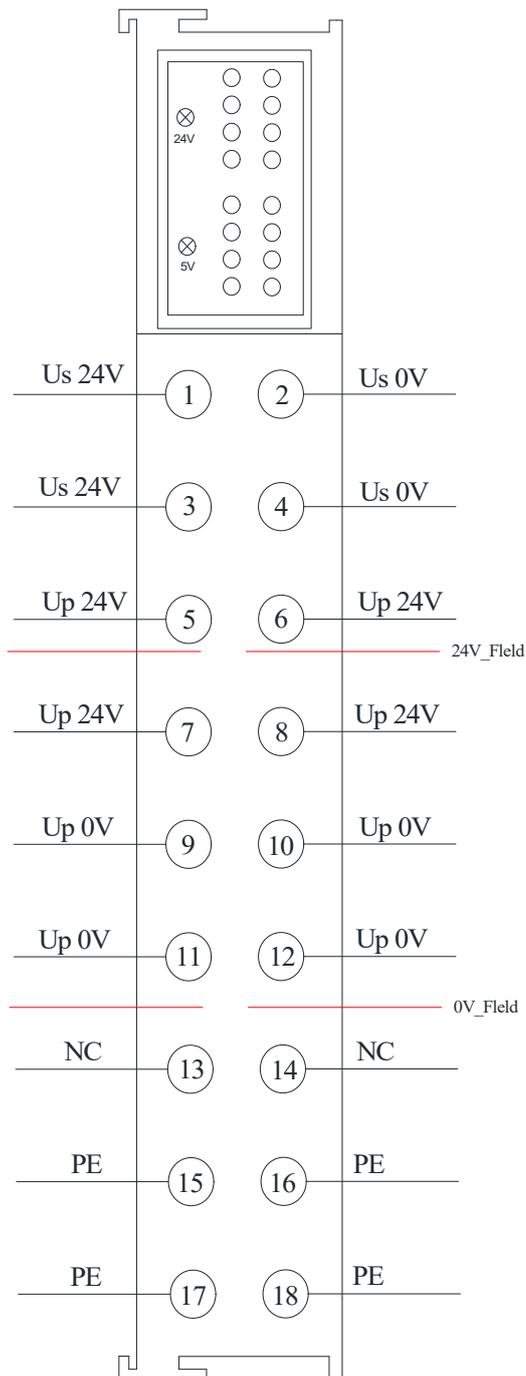
13. SRE9001 Power Relay Module

SRE power relay module relays both the 24V DC field power and the isolated 5V DC bus power. It features no system diagnostics or alarm capabilities and does not require a slot assignment.

13.1. Electrical Specifications

Model	SRE9001
Power supply specifications	
Input power supply voltage	24VDC(±20%)
Output system voltage	5VDC±3% (Power supply for the extension module)
Output system current	10A
Bus 5V DC power supply	2000mA
Certification	CE
Physical characteristics	
Environmental conditions	Operating temperature: -20~60°C, Relative Humidity: 5%~90% (non-condensing)
Storage temperature	-25~+85°C
Relative humidity	95%, non-condensation
Protection rating	IP20
Occupying slot	Not occupy
System diagnostics and alarms	Not support
Dimensions (L × W × H)	15×100×80 (mm)

13.2. Module Wiring Diagram



13.3. Indicator Description

Indicator	Description
24V (Green)	Module power indicator: On: Power supply is normal Off: Abnormal power supply or no power
5V (Green)	Bus source indicator: On: Power supply is normal Off: Abnormal power supply or no power

13.4. Terminal Description

Terminal	Description
Us 24V	Positive pole of the system power
Us 0V	Negative pole of the system power
Up 24V	Positive pole of the IO channel power
Up 0V	Negative pole of the IO channel power
PE	Grounding

14. Serial port module

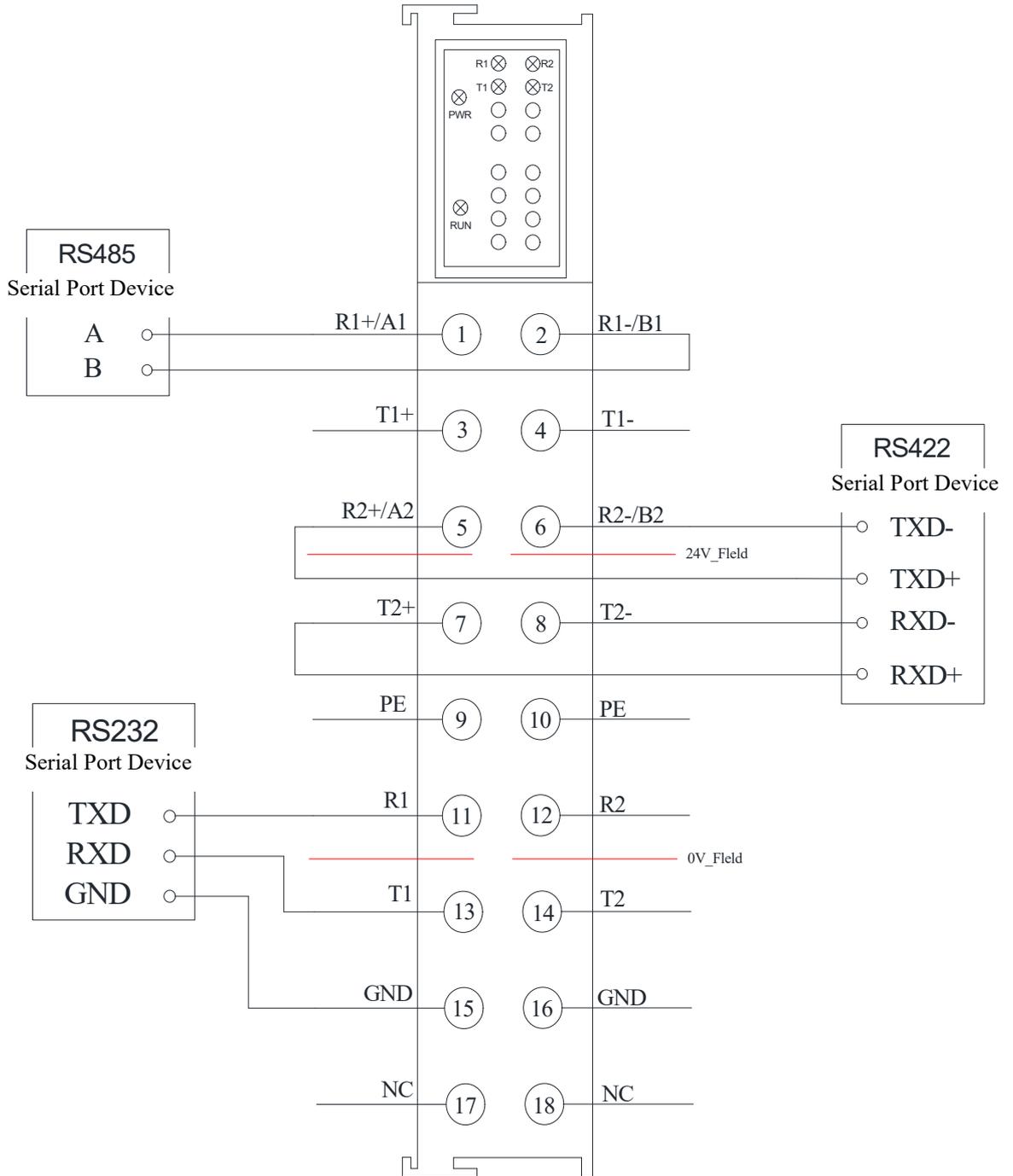
SRE6002/SRE6004 serial port communication module supports high-speed backplane bus, with built-in 2/4 serial ports. Each serial port supports full-duplex (RS422/RS232) and half-duplex (RS485) modes. Each serial port independently supports Modbus-RTU master/slave and free port protocol.

14.1. Electrical Specifications

Model	SRE6002	SRE6004
Technical specifications		
Bus 5V DC current consumption	170mA	170mA
Interface	2 RS422/RS232/RS485 interfaces	4 RS422/RS232/RS485 interfaces
Serial port supported protocols	Modbus-RTU master/ slave and free port protocol	
Data transmission rate	1200bps、2400bps、4800bps、9.6Kbps、19.2Kbps、38.4Kbps、57.6Kbps、115.2Kbps	
Parity bit	No parity, odd parity, and even parity	
Stop bit	1、2	
Data bit	7、8	
Bus 5V DC current consumption	<70mA	
Distributed clock	Not support	
Isolation		
Between channels and buses	Existent	
Display indicator	Power supply green LED display	
Environmental conditions	Operating temperature: -20~55°C, relative humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	15×100×80 (mm)	30×100×80 (mm)

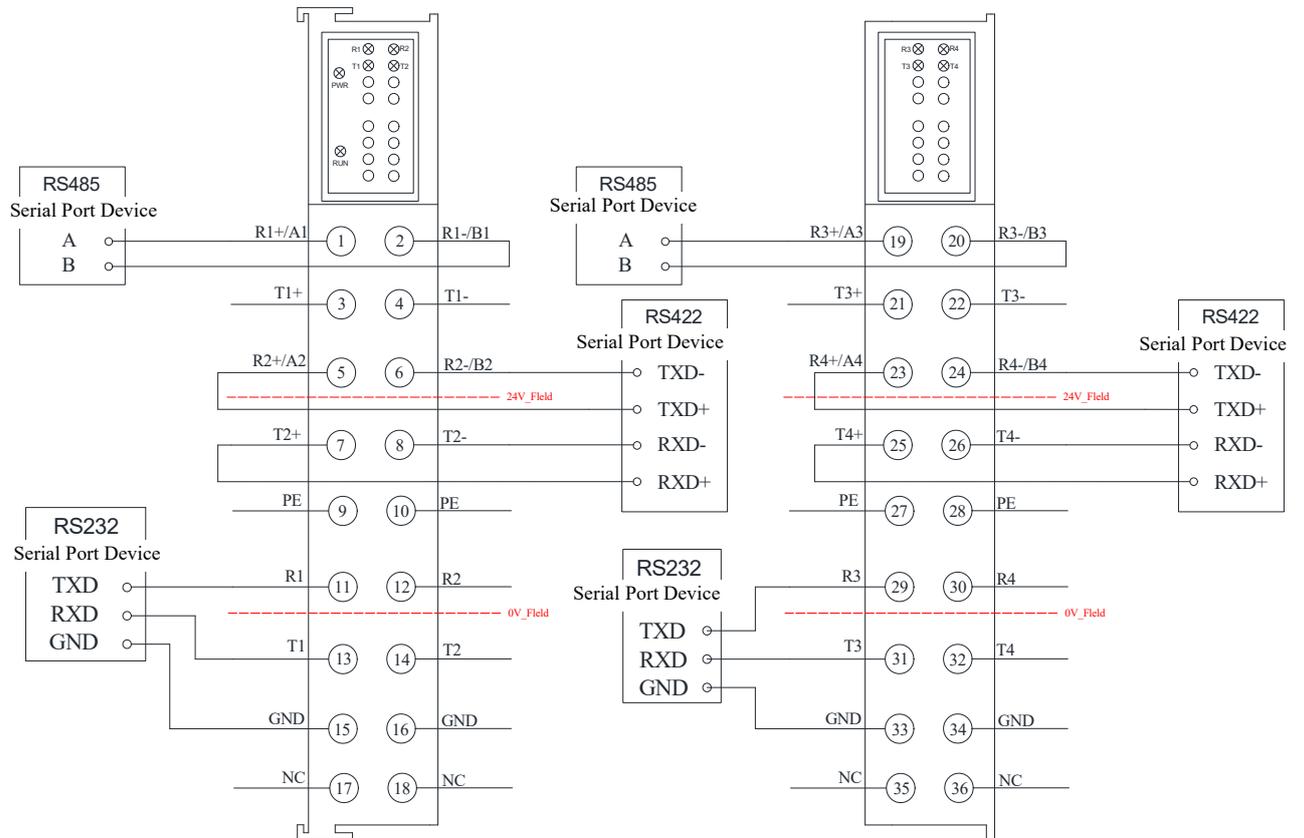
14.2. Module Wiring Diagram

14.2.1. SRE6002 Wiring Diagram



Note: Only one serial port type can be connected to a single channel at the same time. The wiring shown in the diagram is for illustration purposes only, and specific connections should be made according to practical usage.

14.2.2. SRE6004 Wiring Diagram



Note: Only one serial port type can be connected to a single channel at the same time. The wiring shown in the diagram is for illustration purposes only, and specific connections should be made according to practical usage.

14.3. Indicator Description

14.3.1. SRE6002 Indicator Description

Indicator	Meaning
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
RX1/TX1	COM1 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received
RX2/TX2	COM2 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received

14.3.2. SRE6004 Indicator Description

Indicator	Meaning
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
RX1/TX1	COM1 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received
RX2/TX2	COM2 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received
RX3/TX3	COM3 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received
RX4/TX4	COM4 serial port transmit/receive indicator: the indicator flashes when data is transmitted/received

14.4. Module Terminal Description

14.4.1. SRE6002 Terminal Description

Terminal	Terminal Description	
R1+/A1	COM1 serial port RS422 signal receive +	COM1 serial port RS485 signal receive A+
T1+	COM1 serial port RS422 signal transmit +	
R1-/B1	COM1 serial port RS422 signal receive -	COM1 serial port RS485 signal receive B-
T1-	COM1 serial port RS422 signal transmit -	
R1	COM1 serial port RS232 signal receive	
T1	COM1 serial port RS232 signal transmit	
GND	COM1 serial port RS232 signal GND	
PE	Ground	
R2+/A2	COM2 serial port RS422 signal receive +	COM2 serial port RS485 signal receive A+
T1+	COM2 serial port RS422 signal transmit +	
R2-/B2	COM2 serial port RS422 signal receive -	COM2 serial port RS485 signal receive B-
T2-	COM2 serial port RS422 signal transmit -	
R2	COM2 serial port RS232 signal receive	
T2	COM2 serial port RS232 signal transmit	
GND	COM2 serial port RS232 signal GND	
PE	Ground	

14.4.2. SRE6004 Terminal Description

Terminal	Terminal Description	
R1+/A1	COM1 serial port RS422 signal receive +	COM1 serial port RS485 signal receive A+
T1+	COM1 serial port RS422 signal transmit +	
R1-/B1	COM1 serial port RS422 signal receive -	COM1 serial port RS485 signal receive B-
T1-	COM1 serial port RS422 signal transmit -	
R1	COM1 serial port RS232 signal receive	
T1	COM1 serial port RS232 signal transmit	
GND	COM1 serial port RS232 signal GND	
PE	Ground	
R2+/A2	COM2 serial port RS422 signal receive +	COM2 serial port RS485 signal receive A+
T1+	COM2 serial port RS422 signal transmit +	
R2-/B2	COM2 serial port RS422 signal receive -	COM2 serial port RS485 signal receive B-
T2-	COM2 serial port RS422 signal transmit -	
R2	COM2 serial port RS232 signal receive	
T2	COM2 serial port RS232 signal transmit	
GND	COM2 serial port RS232 signal GND	
PE	Ground	
R3+/A3	COM3 serial port RS422 signal receive +	COM3 serial port RS485 signal receive A+
T3+	COM3 serial port RS422 signal transmit +	
R3-/B3	COM3 serial port RS422 signal receive -	COM3 serial port RS485 signal receive B-
T3-	COM3 serial port RS422 signal transmit -	
R3	COM3 serial port RS232 signal receive	
T3	COM3 serial port RS232 signal transmit	
GND	COM3 serial port RS232 signal GND	
PE	Ground	
R4+/A4	COM4 serial port RS422 signal receive +	COM4 serial port RS485 signal receive A+
T4+	COM4 serial port RS422 signal transmit +	
R4-/B4	COM4 serial port RS422 signal receive -	COM4 serial port RS485 signal receive B-
T4-	COM4 serial port RS422 signal transmit -	
R4	COM4 serial port RS232 signal receive	
T4	COM4 serial port RS232 signal transmit	
GND	COM4 serial port RS232 signal GND	
PE	Ground	

14.5. Parameter Description

14.5.1. COE General Parameter Description

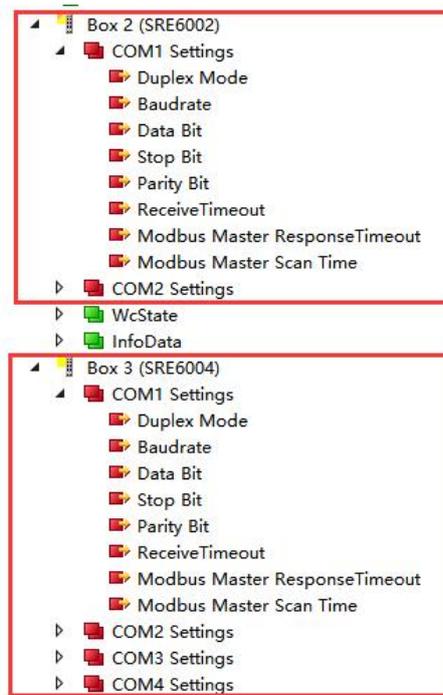
The screenshot shows the 'CoE - Online' configuration window. At the top, there are tabs for 'General', 'EtherCAT', 'DC', 'Process Data', 'Slots', 'Startup', 'CoE - Online', and 'Online'. Below the tabs are several control elements: 'Update List' button, 'Auto Update' (unchecked), 'Single Update' (checked), 'Show Offline Data' (checked), 'Advanced...' button, 'Add to Startup...' button, 'Offline Data' button (highlighted in red), and 'Module OD (AoE Port):' set to '0'. A table lists parameters with columns for Index, Name, Flags, Value, and Unit. The parameter '2001:01 EtherCATBusErrCOMEN' is highlighted in red and has a value of '0x00 (0)'.

Index	Name	Flags	Value	Unit
1000	Device type	RO	0x00000064 (100)	
1008	Device name	RO	ECT-COM	
1009	Hardware version	RO		
100A	Software version	RO		
1018:0	Identity	RO	> 4 <	
1C32:0	SM output parameter		> 32 <	
1C33:0	SM input parameter		> 32 <	
2001:0	ErrEN	RO	> 1 <	
2001:01	EtherCATBusErrCOMEN	RW	0x00 (0)	

Parameters	Description
2001:01 EtherCATBusErrCOMEN	<p>The parameter is used to set whether the COM can transmit/receive data normally after the module communication is disconnected:</p> <p>0: COM cannot transmit/receive data normally after ECT disconnection</p> <p>1: COM can transmit/receive data normally after ECT disconnection</p>

14.5.2. Parameter Description

SRE6002 and SRE6004 are modules with 2 and 4 serial ports respectively, and their parameter descriptions are the same. The following description takes SRE6004 as an example. The configuration of the SRE6002 can be performed accordingly. **All parameter changes take effect immediately, without requiring power outage or restart,** as shown below:



Parameters	Description
Duplex Mode	0: Full duplex (RS232/RS422) 1: Half duplex (RS485)
Baudrate	Baud rate: 0: 1200 1: 2400 2: 4800 3: 9600 4: 19200 5: 38400 6: 57600 7: 115200
Data Bit	Data bit: 0: 8-bit 1: 7-bit

Stop Bit	<p>Stop bit:</p> <p>0: 1-bit</p> <p>1: 2-bit</p>
Parity Bit	<p>Parity bit:</p> <p>0: No parity</p> <p>1: Odd parity</p> <p>2: Even parity</p>
ReceiveTimeout	<p>Serial port receive timeout: 5-200 (unit: ms)</p> <p>If the value is out of range, it shall be calculated as the maximum value, e.g., a value exceeding 200 is calculated as 200.</p>
Modbus Master ResponseTimeout	<p>Modbus RTU master mode response timeout</p> <p>If the slave station fails to respond within the set time, it is judged as a communication timeout</p> <p>5-5000 (unit: ms)</p> <p>If the value is out of range, it shall be calculated as the maximum value, e.g., a value exceeding 5000 is calculated as 5000.</p>
Modbus Master Scan Time	<p>Modbus RTU master mode polling time</p> <p>The interval between the completion of one command and the next in MBS master mode Unit: ms</p>

- Module 1 (Write 16 Words 4xxxx)
 - Input Datas
 - State
 - Output Datas
 - Slave ID
 - Addr
 - Output Datas 1
 - Output Datas 2
 - Output Datas 3
 - Output Datas 4
 - Output Datas 5
 - Output Datas 6
 - Output Datas 7
 - Output Datas 8
 - Output Datas 9
 - Output Datas 10
 - Output Datas 11
 - Output Datas 12
 - Output Datas 13
 - Output Datas 14
 - Output Datas 15
 - Output Datas 16

Parameters	Description
State	Module status: 1: Communication Normal 2: Communication Timeout 3: CRC Error 4: Function Code or Address Error
Output Data	Output Address: Output Data 1~Output Data x
Slave ID	ID of the slave to be accessed
Addr	Address of the Modbus to be accessed

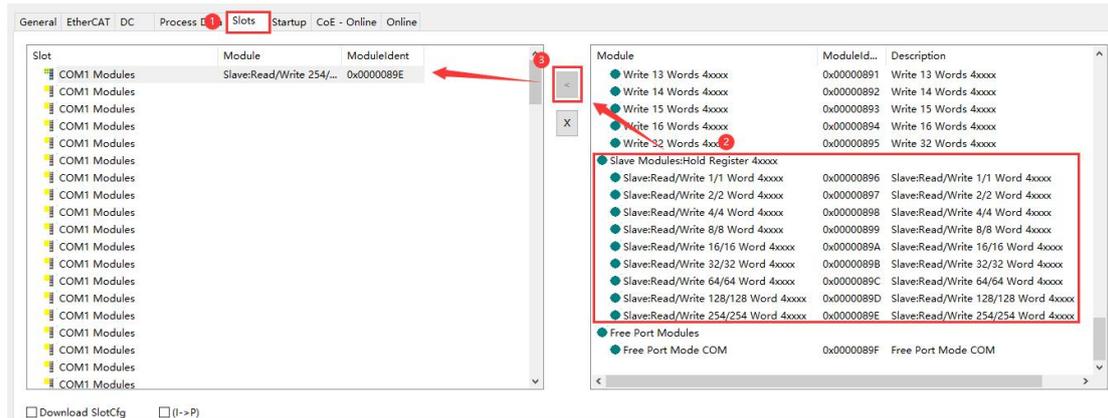
- Module 2 (Read 16 Words 4xxxx)
 - Input Datas
 - Input Data 1
 - Input Data 2
 - Input Data 3
 - Input Data 4
 - Input Data 5
 - Input Data 6
 - Input Data 7
 - Input Data 8
 - Input Data 9
 - Input Data 10
 - Input Data 11
 - Input Data 12
 - Input Data 13
 - Input Data 14
 - Input Data 15
 - Input Data 16
 - State
 - Output Datas
 - Slave ID
 - Addr

Parameters	Description
Input Data	Input address: Input Data 1~Input Data x
State	Module status: 1: Communication Normal 2: Communication Timeout 3: CRC Error 4: Function Code or Address Error

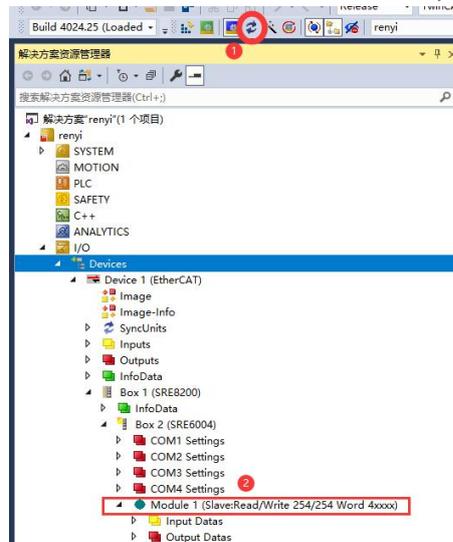
Slave ID	ID of the slave to be accessed
Addr	Address of the Modbus to be accessed

14.6.2. Modbus Slave Configuration

In the Slot, select the module corresponding to the serial port, and add the slave module to be configured. Each serial port can be configured with a maximum of 1 module. If more than 1 module is configured, OP will fail, as shown below:



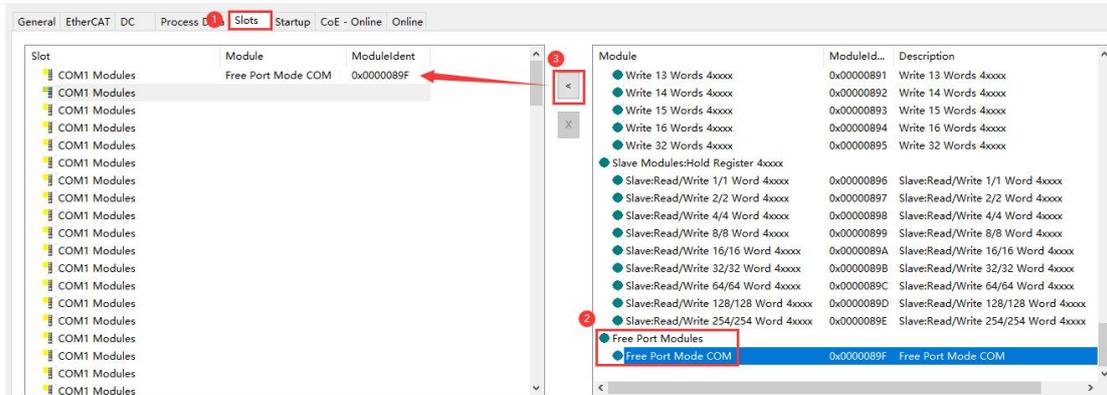
After configuration, add and refresh the IO to enable OP, as shown below:



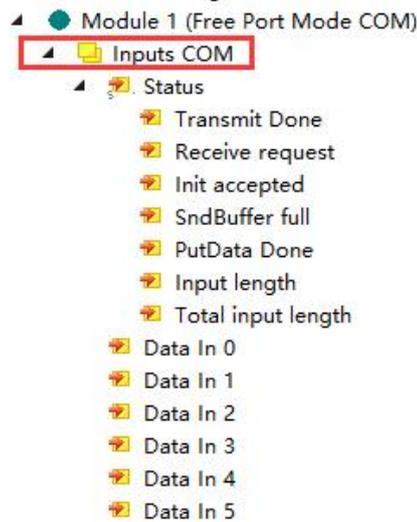
Parameters	Description
Input Datas:	Input Data 1~Input Data x The starting address of the data area that allows writing by the Modbus RTU master is 40256
Output Datas:	Output Data 1~Output Data x The starting address of the data area that allows reading by the Modbus RTU master is 40001
Slave ID:	ID of Local slave

14.6.3. Free Port Configuration

In the Slot, select the module corresponding to the serial port and add it. Each serial port can be configured with a maximum of 1 module. If more than 1 is configured, OP will fail, as shown below:

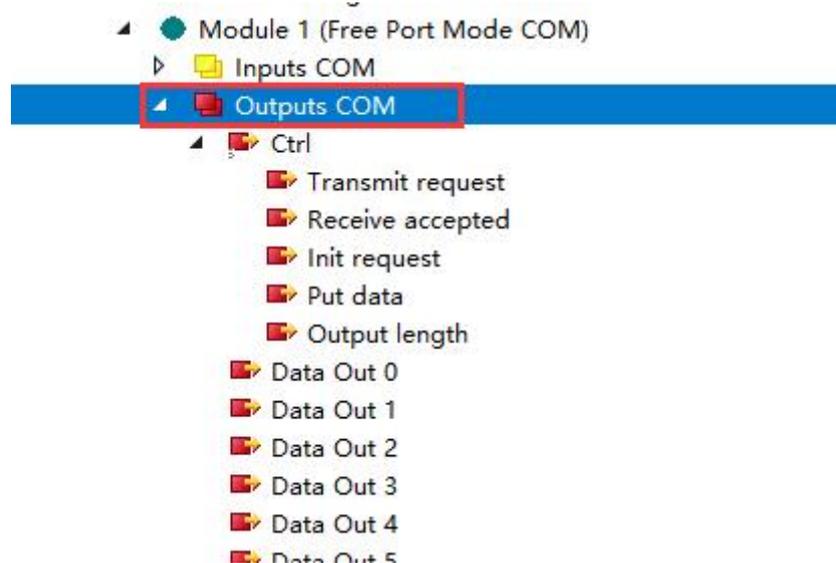


Input parameter description:



Parameters	Description
Status word meanings	Transmit Done: Current frame data transmission has been completed
	Receive request: New data is to be received
	Init accepted: Serial port reinitialization has been completed
	SndBuffer full: The sent frame length exceeds 1024
	PutData Done: Writing the sent data into the transmission buffer has been completed
	Input length: Current data reception length
	Total input length: Total length of data frame
Data In 0~Data In 31	Receive data buffer

Output parameter description:



Parameters	Description
Ctrl word meaning	Transmit request: a transmit request
	Receive accepted: Data has been received
	Init request: Reinitialize the serial port
	Put data: Write the sending data into the transmit buffer
	Output length: Total length of the transmitted data frame
Data Out 0~Data Out 31	Data transmission buffer

When performing the free port communication, it is recommended to initialize the serial port before receiving or transmitting data. After successful initialization, the initialization control word “Init request” shall be set to 0; otherwise, the serial port cannot transmit or receive data normally.

Transmit data:

(1) Initialize the serial port. When the control word “Init request” of COM1 is set to 1 and the status word “Init accepted” of COM1 displays 1, the initialization has been completed.

(2) Set the transmitted data length by writing 40 into the control word “Output length” of COM1.

(3) Write the data to be sent, from 1 to 32, into Output1~Output32 in sequence. (A maximum of 32 bytes of data can be written into the transmission buffer at a time. If the length of the data to be sent is greater than 32 bytes, the data needs to be written into the transmission buffer in batches and then sent out all at a time. For example, to transmit 40 bytes of data, write the data into the transmission buffer in two batches and then transmit all 40 bytes at a time.)

(4) Set the control word “Transmit request” of COM1 to 1, and simultaneously set the control word “Put data” to 1.

(5) Read the status word “PutData Done” of COM1. When PutData Done is 1, it indicates that 32 bytes have been successfully written into the transmission buffer. Then set the control word “Put data” to 0.

(6) Write data 33~40 into Output1~Output8, and then set the control word “Put data” to 1.

(7) When the status word “Transmit Done” of COM1 is 1, it indicates that the current data frame has been successfully sent. Then set the control words “Transmit request” and “Put data” to 0; the current frame transmission is completed.

Receive data:

(1) When the module is receiving data, the "Receive request" status word of COM2 is 1; Input length is 32, indicating that the currently receivable data is 32; Total input length displays a total length of 40;

(2) Reading Input1~Input32 allows access to the first 32 bytes. Set the control word “Receive accepted” of COM2 to 1. When the status word “Receive request” of COM2 is read as 0 at this time, set the control word “Receive accepted” of COM2 to 0. After setting it to 0, the status word “Receive request” of COM2 displays 1, and “Input length” shows 8, indicating there are 8 bytes of data to be received.

(3) At the moment, reading Input1~Input8 is to read the next 8 bytes. After reading, set the control word “Receive accepted” of COM2 to 1 and then to 0. After setting it to 0, the status word “Receive request” of COM1 displays 1. The current data frame reception is complete.

15. High-speed Counting Module

SRE5012/SRE5034 high-performance high-speed counting module features 2/4 channel counting inputs, and supports 4-channel latching function and standard counting function.

15.1. Electrical Specifications of Pulse Input Terminal

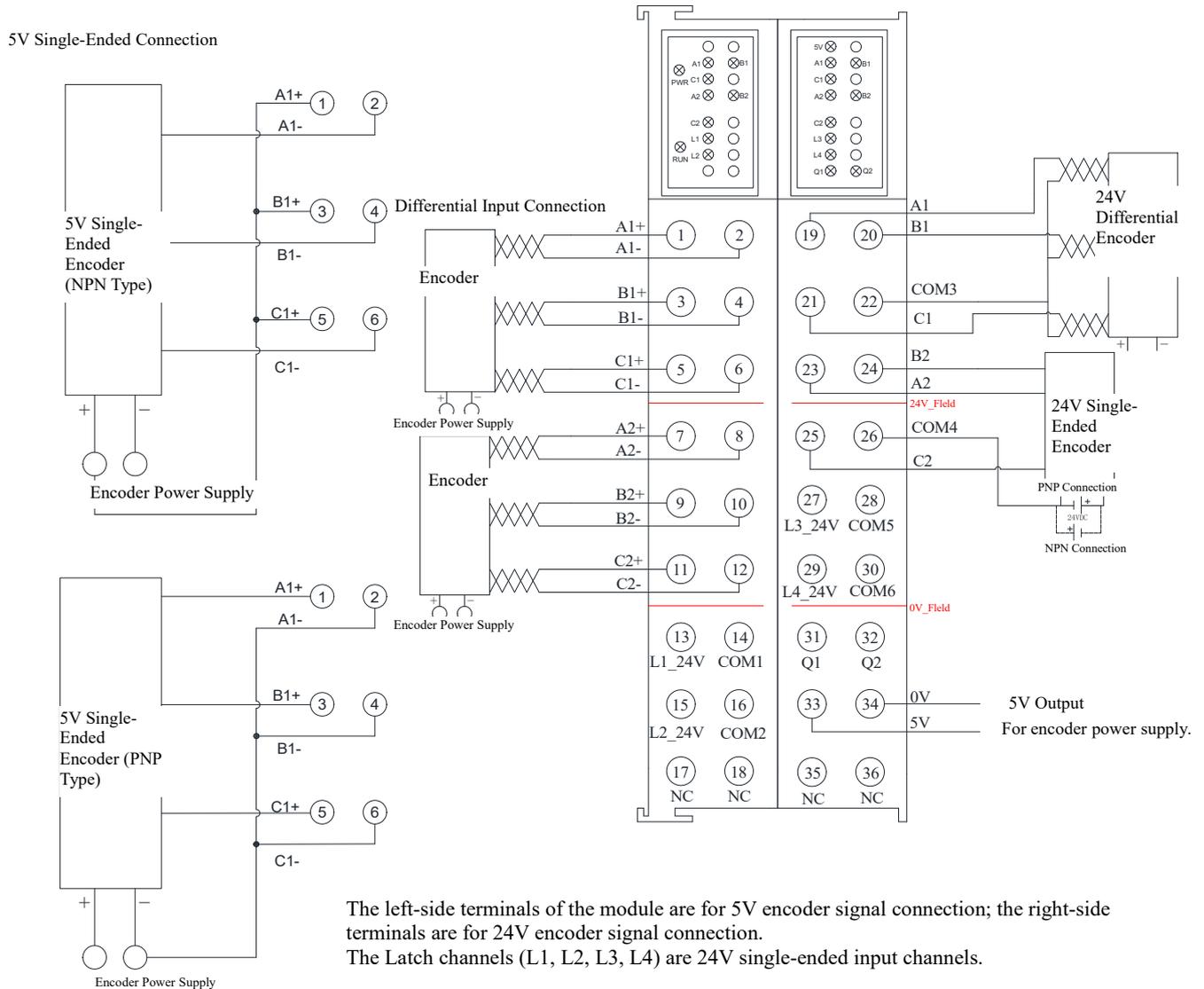
Model	SRE5012	SRE5034
Technical specifications		
High-speed counting channel	2-channel (A, B, C) single-ended input maximum 200KHZ (supports rated voltage 5VDC and 24VDC); Differential maximum 4MHZ, rated voltage 5VDC	4-channel (A, B, C), differential maximum 4MHZ, rated voltage 5VDC
Bus 5VDC current consumption	200mA	200mA
High-speed counter input characteristics	Single-ended (rated 24V, maximum 200kHz), differential (5V, maximum 4MHz)	Differential (5V, maximum 4MHz)
Latch input characteristics	Single-ended input, 24V	
Gated signal output	2DO, NPN type	4DO, NPN type
Distributed clock	Supported	
High-speed counting mode	<ol style="list-style-type: none"> 1. Single-ended count: The Phase A input is used for counting pulses, while the Phase B input defines the counting direction: count up when B is high level, count down when B is low level. 2. Differential count: Phase A and B pulses are orthogonal. Counts up when Phase A leads Phase B by 90 degrees, and counts down when Phase B leads Phase A. 3. Master enables the current count value setting function. When the counter is set as TRUE, the current count value will be set as the preset value. 4. Master enables the latching function, which can be set on the rising edge of Phase C, the rising edge or the falling edge of the LATCH input to latch the current count value. 	
Isolation		
Between channels and buses	Existent	
Display indicator	Power supply green LED display	
System power diagnosis and warning	Supported	
Environmental conditions	Operating temperature: -20~60°C; relative humidity: 5%~90% (non-condensing)	
Storage temperature	-40~60 °C	
Dimensions (L × W × H)	30×80×100 (mm)	30×80×100 (mm)

15.2. Electrical Specifications for SSI Module

Product Model	SRE5042
Technical specifications	
High-speed counting channel	2-channel synchronous serial input (D+, D-, CI+, CI-) Maximum SSI clock frequency 1MHz Rated voltage 5VDC
Bus 5VDC consumption current	200mA
5V channel output current	Maximum 200mA
Signal input (data)	RS422 differential input
Other input characteristics	Serial input data length 32-bit, configurable for single-turn, multi-turn and status data length
Data transmission speed	Maximum 1MHz
Distributed clock	Supported
Encoding method	No conversion, binary code or Gray code
Encoder input rated voltage	5V
Isolation	
Between channels and buses	Existent
Display indicator	Power supply green LED display
System power diagnosis and warning	Supported
Environmental conditions	Operating temperature: -20~60°C; relative humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	15×100×80 (mm)

15.3. Wiring Diagram

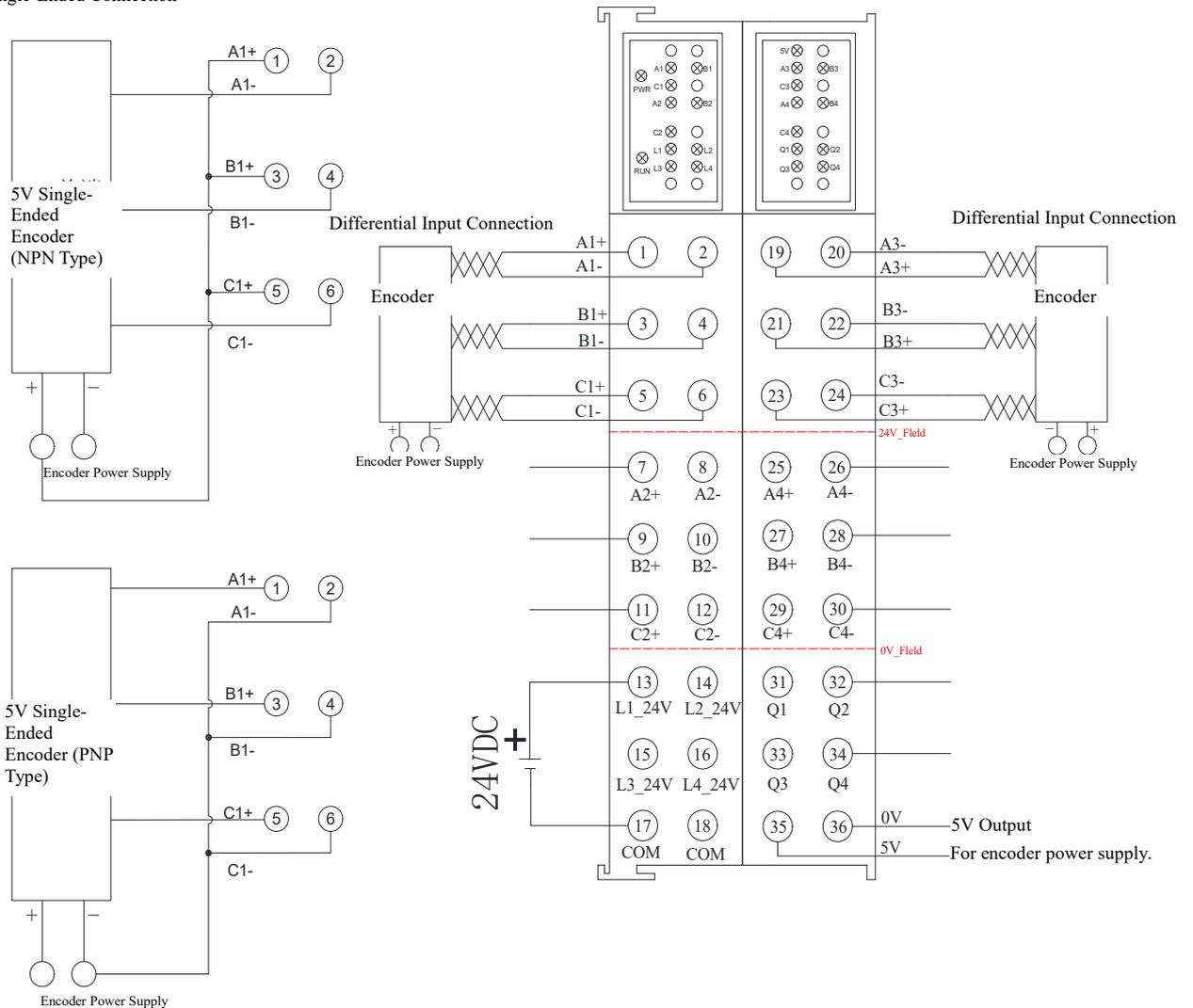
15.3.1. SRE5012 Wiring Diagram



Note: Q1~Q2 are NPN output channels. The wiring examples in the diagram only represent differential and single-ended connections, but do not imply that each channel is limited to the connections as shown in the diagram.

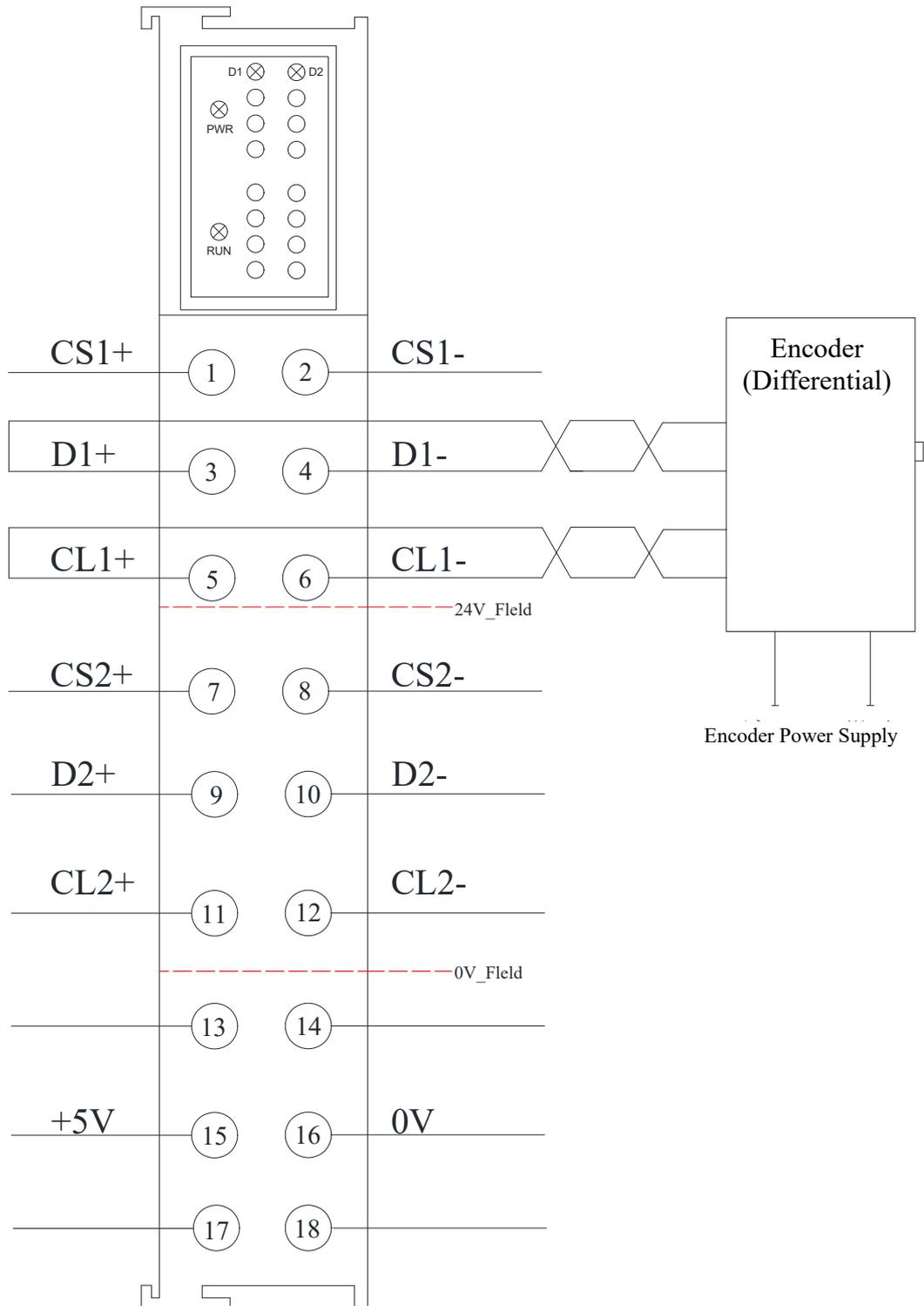
15.3.2. SRE5034 Wiring Diagram

5V Single-Ended Connection



Note: L1, L2, L3, and L4 are 24V single-ended input channels, and Q1~Q4 are NPN output channels. The wiring examples in the diagram only represent differential and single-ended connections, but do not imply that each channel is limited to the connections as shown in the diagram.

15.3.3. SRE5042 Wiring Diagram



15.4. Indicator Description

15.4.1. SRE5012 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
5V (Green)	5V power output indicator: On: Power output is normal Off: Power output is abnormal
Q1 (green)	On: Channel 1 gated output Off: No Channel 1 gated output
Q2 (green)	On: Channel 2 gated output Off: No Channel 2 gated output
A1	Channel 1, Phase A input indicator
B1	Channel 1, Phase B input indicator
C1	Channel 1, Phase C input indicator
A2	Channel 2, Phase A Input Indicator
B2	Channel 2, Phase B Input Indicator
C2	Channel 2, Phase C Input Indicator
L1	L1 input indicator
L2	L2 input indicator
L3	L3 input indicator
L4	L4 input indicator

15.4.2. SRE5034 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally; Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
5V (Green)	5V power output indicator: On: Power output is normal Off: Power output is abnormal
Q1 (green)	On: Output from Channel 1 gate Off: No Channel 1 gated output
Q2 (green)	On: No output from Channel 2 gate Off: No Channel 2 gated output
Q3 (green)	On: Output from Channel 3 gate Off: No output from Channel 3 gate
Q4 (green)	On: Output from Channel 4 gate Off: No output from Channel 4 gate
A1	Channel 1, Phase A input indicator
B1	Channel 1, Phase B input indicator
C1	Channel 1, Phase C input indicator
A2	Channel 2, Phase A Input Indicator
B2	Channel 2, Phase B Input Indicator
C2	Channel 2, Phase C Input Indicator
A3	Channel 3, Phase A input indicator
B3	Channel 3, Phase B input indicator
C3	Channel 3, Phase C input indicator
A4	Channel 4, Phase A input indicator
B4	Channel 4, Phase B input indicator
C4	Channel 4, Phase C input indicator
L1	L1 input indicator
L2	L2 input indicator
L3	L3 input indicator

L4	L4 input indicator
----	--------------------

15.4.3. SRE5042 Indicator Description

Indicator	Description
PWR (Green)	Module power indicator: On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
D1	Axis 1: the indicator will light up when there is a signal at D1+/D1-, otherwise it is off
D2	Axis 2: the indicator will light up when there is a signal at D2+/D2-, otherwise it is off

15.5. Module Terminal Description

15.5.1. SRE5012 Terminal Description

Terminal	Meaning
A1+/A1-	Channel 1, Phase A input terminal
B1+/B1-	Channel 1, Phase B input terminal
C1+/C1-	Channel 1, Phase C input terminal
L1_24V/COM1	LATCH1 input terminal
A2+/A2-	Channel 2, Phase A input terminal
B2+/B2-	Channel 2, Phase B input terminal
C2+/C2-	Channel 2, Phase C input terminal
L2_24V/COM2	LATCH2 input terminal
A1	Channel 1, Phase A input terminal
B1	Channel 1, Phase B input terminal
C1	Channel 1, Phase C input terminal
COM3	Channel 1 Phases A, B, and C input COM
A2	Channel 2, Phase A input terminal
B2	Channel 2, Phase B input terminal
C2	Channel 2, Phase C input terminal
COM4	Channel 2 Phases A, B, and C input COM
L_24V/COM5	LATCH3 input terminal
L_24V/COM6	LATCH4 input terminal
Q1	Channel 1 gated output, NPN
Q2	Channel 2 gated output, NPN
5V/0V	5V DC power output terminal

15.5.2. SRE5034 Terminal Description

Terminal	Meaning
A1+/A1-	Channel 1, Phase A differential input terminal
B1+/B1-	Channel 1, Phase B differential input terminal
C1+/C1-	Channel 1, Phase C differential input terminal
A2+/A2-	Channel 2, Phase A differential input terminal
B2+/B2-	Channel 2, Phase B differential input terminal
C2+/C2-	Channel 2, Phase C differential input terminal
A3+/A3-	Channel 3, Phase A differential input terminal
B3+/B3-	Channel 3, Phase B differential input terminal
C3+/C3-	Channel 3, Phase C differential input terminal
A4+/A4-	Channel 4, Phase A differential input terminal
B4+/B4-	Channel 4, Phase B differential input terminal
C4+/C4-	Channel 4, Phase C differential input terminal
L1_24V	LATCH1 input terminal
L2_24V	LATCH2 input terminal
L3_24V	LATCH3 input terminal
L4_24V	LATCH4 input terminal
COM	LATCH input COM
5V/0V	5V DC power output terminal.
Q1	Channel 1 gated output, NPN
Q2	Channel 2 gated output, NPN
Q3	Channel 3 gated output, NPN
Q4	Channel 4 gated output, NPN

15.5.3. SRE5042 Terminal Description

Terminal	Meaning
CS1+/CS1-	Axis 1 SSI encoder interface, differential signal transmission method: RS422
D1+/D1-	
CL1+/CL1-	
CS2+/CS2-	Axis 2 SSI encoder interface, differential signal transmission method: RS422
D2+/D2-	
CL2+/CL2-	
+5V/0V	5V DC power output terminal

15.6. RXPDO Parameter Description

15.6.1. SRE5012 RXPDO Parameter Description

Input parameters	Data type	Meaning
CHx		
Frequency	UDINT	Current input frequency, unit: Hz. It is only accurate to a single digit, e.g., for a 10KHz measurement signal, the value displays as 10000.
Counter value	UDINT	Current count value, with the highest bit as the sign bit (actually signed data).
C Latch value	UDINT	Current count value latched in Phase C according to the configuration.
CHx Status		
Input A	BOOL	Phase A input
Input B	BOOL	Phase B input
Input C	BOOL	Phase C input
Counter overflow	BOOL	1: Current count value overflow 0: After count value overflow, continue counting upward exceeding 5000.
Counter underflow	BOOL	1: Current count value underflow 0: After count value underflow, continue counting downward exceeding 5000
Set counter done	BOOL	1: Effectively set the current count value of the counter 0: Set counter as 0
Latch C valid	BOOL	1: Flag bit for Phase C input latched 0: No latching performed;
Gate Output Status	BOOL	1: Gated output valid 0: Gated output invalid
Others		
Latch1	BOOL	1: Signal input detected on Latch1 channel 0: No signal input on Latch1 channel
Latch1 valid	BOOL	1: Flag bit for Latch1 signal successfully latched 0: No latching performed
Latch1 value	UDINT	Current count value latched by Latch1 signal according to the configuration
Latch2	BOOL	1: Signal input detected on Latch2 channel 0: No signal input on Latch2 channel
Latch2 valid	BOOL	1: Flag bit for Latch2 signal successfully latched 0: No latching performed
Latch2 value	UDINT	Current count value latched by Latch2 signal according to the configuration
Latch3	BOOL	1: Signal input detected on Latch3 channel 0: No signal input on Latch3 channel
Latch3 valid	BOOL	1: Flag bit for Latch3 signal successfully latched 0: No latching performed
Latch3 value	UDINT	Current count value latched by Latch3 signal according to the configuration
Latch4	BOOL	1: Signal input detected on Latch4 channel 0: No signal input on Latch4 channel

Input parameters	Data type	Meaning
Latch4 valid	BOOL	1: Flag bit for Latch4 signal successfully latched 0: No latching performed
Latch4 value	UDINT	Current count value latched by Latch4 signal according to the configuration

15.6.2. SRE5034 RXPDO Parameter Description

Input parameters	Data type	Meaning
CHx		
Counter value	UDINT	Current count value, with the highest bit as the sign bit (actually signed data)
C Latch value	UDINT	Current count value latched on Phase C according to the configuration
CHx Status		
input A	BOOL	Phase A input
input B	BOOL	Phase B input
input C	BOOL	Phase C input
Counter overflow	BOOL	1: Current count value overflow 0: After count value overflow, continue counting upward exceeding 5000.
Counter underflow	BOOL	1: Current count value underflow 0: After count value underflow, continue counting downward exceeding 5000.
Set counter done	BOOL	1: Effectively set the current count value of the counter 0: Set counter as 0
Latch C valid	BOOL	1: Flag bit for Phase C input latched 0: No latching performed
Others		
Latch1	BOOL	1: Signal input detected on Latch1 channel 0: No signal input on Latch1 channel
Latch1 valid	BOOL	1: Flag bit for Latch1 signal successfully latched 0: No latching performed
Latch1 value	UDINT	Current count value latched by Latch1 signal according to the configuration
Latch2	BOOL	1: Signal input detected on Latch2 channel 0: No signal input on Latch2 channel
Latch2 valid	BOOL	1: Flag bit for Latch2 signal successfully latched 0: No latching performed
Latch2 value	UDINT	Current count value latched by Latch2 signal according to the configuration
Latch3	BOOL	1: Signal input detected on Latch3 channel 0: No signal input on Latch3 channel
Latch3 valid	BOOL	1: Flag bit for Latch3 signal successfully latched 0: No latching performed
Latch3 value	UDINT	Current count value latched by Latch3 signal according to the configuration
Latch4	BOOL	1: Signal input detected on Latch4 channel 0: No signal input on Latch4 channel
Latch4 valid	BOOL	1: Flag bit for Latch4 signal successfully latched 0: No latching performed;
Latch4 value	UDINT	Current count value latched by Latch4 signal according to the configuration

15.6.3. SRE5042 PXPDO Parameter Description

Parameters	Data type	Meaning
Counter value CH1	DINT	Axis 1 current angular position
Counter value CH2	DINT	Axis 2 current angular position
Round CH1	DINT	Axis 1 current turns
Round CH2	DINT	Axis 2 current turns

15.7. TXPDO Parameter Description

15.7.1. SRE5012 TXPDO Parameter Description

Parameters	Data type	Meaning
CHx		
Set counter value	UDINT	Current counter value setting
Freq Update Time	UDINT	Frequency update time; range: 0~2.5s. The recommended set value should be at least 4~5 times larger than the input signal frequency period, unit: ms.
Config Data	Byte	Bit0~Bit7 configuration for module operation mode; When Bit8 is 0, the gate selects count channel 1 for comparison output; when it is 1, the gate selects count channel 2 for comparison output. When Bit9 is 1, it enables count clear on the rising edge of Phase C. When Bit10 is 1, it enables count clear on the falling edge of Phase C.
Set counter	Bit	On the rising edge, set the “Set counter value” to the current “Counter value”
Enable latch C	Bit	1: Latch the “Counter value” to “Latch value” on the rising edge of Phase C input Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).
Clear cnt val	Bit	Clear channel count value
Clear flow flag	Bit	Clear channel overflow and underflow flags
Gate threshold0	UDINT	Gated comparison value 0
Gate threshold1	UDINT	Gated comparison value 1
Latchx Ctrl		
ConfigData	Byte	Latch mode configuration
Enable latch extern on positive edge	Bit	1: Latch the “Counter value” to “Latch value” on the rising edge of Latch Note: The trigger mode is set by Bit1 of ConfigData.
Enable latch extern on negative edge	Bit	1: Latch the “Counter value” to “Latch value” on the falling edge of Latch Note: The trigger mode is set by Bit2 of ConfigData.

15.7.2. SRE5034 TXPDO Parameter Description

Parameters	Data type	Meaning
CHx		
Set counter value	UDINT	Current counter value setting
ConfigData	Byte	Bit0~Bit7 configuration for module operation mode
Set counter	Bit	On the rising edge, set the “Set counter value” to the current “Counter value”
Enable latch C	Bit	1: Latch the “Counter value” to “Latch value” on the rising edge of Phase C input Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).
Clear cnt val	Bit	Clear channel count value
Clear flow flag	Bit	Clear channel overflow and underflow flags
Gate threshold0	UDINT	Gated comparison value 0
Gate threshold1	UDINT	Gated comparison value 1
Latchx Ctrl		
ConfigData	Byte	Latch mode configuration
Enable latch extern on positive edge	Bit	1: Latch the “Counter value” to “Latch value” on the rising edge of Latch Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).
Enable latch extern on negative edge	Bit	1: Latch the “Counter value” to “Latch value” on the falling edge of Latch Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).

15.7.3. SRE5042 TXPDO Parameter Description

Parameters	Data type	Meaning
ConfigData	UINT	<p>Bit0</p> <p>0: Axis 1 Dual code 1: Axis 1 Gray code</p> <p>Bit2~Bit1, Axis 1 SSI baud rate setting</p> <p>00: 125K Baud 01: 250K Baud 10: 500K Baud 11: 1MHz Baud</p> <p>Bit3: Reserved</p> <p>Bit4</p> <p>0: Axis 2 Dual code 1: Axis 2 Gray code</p> <p>Bit6~Bit5, Axis 2 SSI baud rate setting</p> <p>00: 125K Baud 01: 250K Baud 10: 500K Baud 11: 1MHz Baud</p> <p>Bit7~Bit15 Reserved</p>
Coder Resolution CH1	USINT	Single-turn resolution of Axis 1, e.g., 10-bit, 12-bit...
Coder continuous round CH1	USINT	Number of bits occupied by continuous turns of Axis 1, e.g., 10-bit (1024 turns), 12-bit (4096 turns)...
Coder Resolution CH2	USINT	Single-turn resolution of Axis 2, e.g., 10-bit, 12-bit...
Coder continuous round CH2	USINT	Number of bits occupied by continuous turns of Axis 2, e.g., 10-bit (1024 turns), 12-bit (4096 turns)...

15.8. Parameter Configuration Description (Channel)

15.8.1. SRE5012



Operating mode			
Bit	Bit1	Bit0	
Operating mode			
AB-phase quadrature 4x frequency counting	0	0	
AB-phase quadrature single frequency counting	0	1	
Pulse + direction counting (A: Pulse B: Direction; Counts down when B is at high level, and counts up when B is at low level)	1	0	
Working signal			
Bit	Bit3	Bit2	
Working signal			
5V	0	0	
24V	0	1	
Gated output configuration			
Bit	Bit6	Bit5	Bit4
Gated mode			
Gated Output Mode 1	0	0	1
Gated Output Mode 2	0	1	1
Gated Output Mode 3	1	0	1
Gated Output Mode 4	1	1	1
Filtering configuration			
Bit	Bit7		
Filtering configuration			
Disable filtering	0		
Enable filtering	1		
Selection of gated output comparison channels			
Bit	Bit8		

Selection of gated output comparison channels		
Gated output selects channel 1		0
Gated output selects channel 2		1
Phase C clear configuration		
Bit	Bit10	Bit9
Phase C clear configuration		
Close Phase C clear enable	0	0
Phase C rising edge clear enable	0	1
Phase C falling edge clear enable	1	0

15.8.2. SRE5034



Operating mode				
Bi	Bit3	Bit2	Bit1	Bit0
t Operating mode				
AB-phase quadrature 4x frequency counting	---	---	0	0
AB-phase quadrature single frequency counting	---	---	0	1
Pulse + direction counting (A: Pulse B: Direction; Counts down when B is at high level, and counts up when B is at low level)	---	---	1	0
Gated output configuration				
Bi	Bit6	Bit5	Bit4	
t Gated mode				
Gated Output Mode 1	0	0	1	
Gated Output Mode 2	0	1	1	
Gated Output Mode 3	1	0	1	
Gated Output Mode 4	1	1	1	
Filtering configuration				
Bit	Bit7			
Filtering configuration				
Disable filtering	0			
Enable filtering	1			

15.9. Parameter Configuration Description (Latch)

-  ConfigData
-  Enable latch extern on positive edge
-  Enable latch extern on negative edge

15.9.1. SRE5012

Latch mode configuration	
Value \ Bit	Bit0
The Latch channel latches counting channel 1	0
The Latch channel latches counting channel 2	1
Rising edge latch trigger mode	
Value \ Bit	Bit1
Latch only once after enabling	0
Continuously latch many times after enabling	1
Falling edge latch trigger mode	
Value \ Bit	Bit2
Latch only once after enabling	0
Continuously latch many times after enabling	1

Parameters	Data type	Meaning
Latchx Ctrl		
ConfigData	Byte	Latch mode configuration
Enable latch extern on positive edge	Bit	1: Latch the “Counter value” to “Latch value” on the rising edge of Latch Note: The trigger mode is set by Bit1 of ConfigData.
Enable latch extern on negative edge	Bit	1: Latch the “Counter value” to “Latch value” on the falling edge of Latch Note: The trigger mode is set by Bit2 of ConfigData.

15.9.2. SRE5034

Latch mode configuration				
Value \ Bit	Bit3	Bit2	Bit1	Bit0
The Latch channel latches counting channel 1	---	---	---	0
The Latch channel latches counting channel 2	---	---	---	1
Latch channel latches counting channel 3	---	---	1	0
Latch channel latches counting channel 4	---	---	1	1

Parameters	Data type	Meaning
Latchx Ctrl		
ConfigData	BYTE	Latch mode configuration
Enable latch extern on positive edge	BIT	1: Latch the “Counter value” to “Latch value” on the rising edge of Latch Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).
Enable latch extern on negative edge	BIT	1: Latch the “Counter value” to “Latch value” on the falling edge of Latch Latch only once. To restart latching, set this parameter to 0 and then back to 1 (to avoid invalid abnormal latching caused by interference).

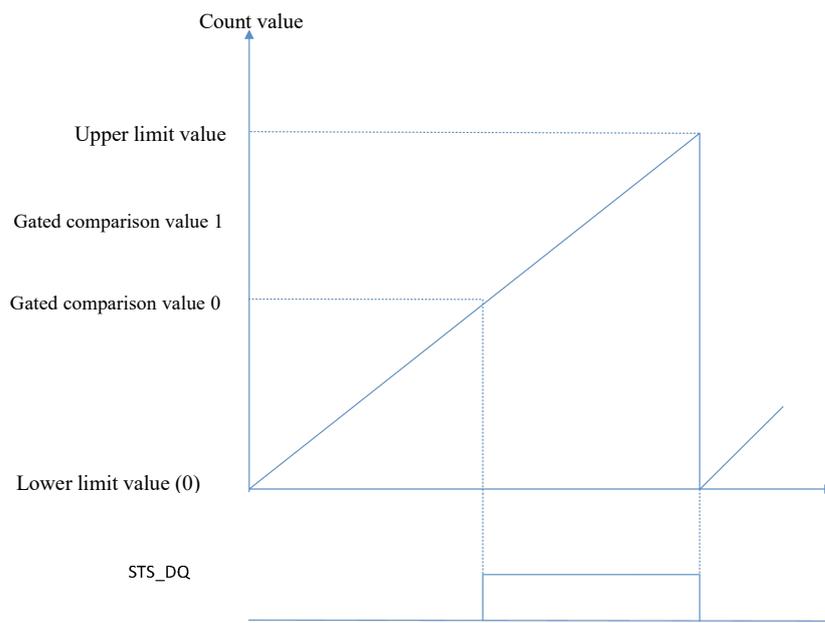
15.10. Gated Output Mode Description

15.10.1. Gated Output Mode 1

Compare between the comparison value and the counter upper limit:

Gated comparison value $0 < \text{counter value} < \text{counter upper limit}$ (i.e., $2^{32} - 1$):
output on the gate (i.e., Q channel).

Counter lower limit (i.e., 0) $< \text{counter value} < \text{gated comparison value 0}$: no
output on the gate (i.e., Q channel).



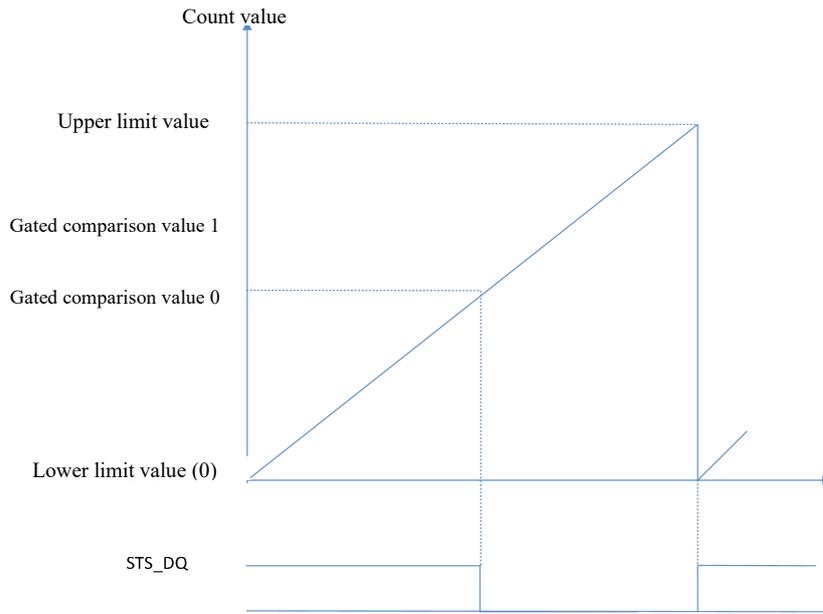
Note: The value for the gated comparison value 1 must be set greater than that for the gated comparison value 0; otherwise, the output will be abnormal.

15.10.2. Gated Output Mode 2

Compare between the comparison value and the counter upper limit:

Gated comparison value $0 < \text{counter value} < \text{counter upper limit}$ (i.e., $2^{32} - 1$): no output on the gate (i.e., Q channel).

Counter lower limit (i.e., 0) $< \text{counter value} < \text{gated comparison value 0}$: output on the gate (i.e., Q channel).



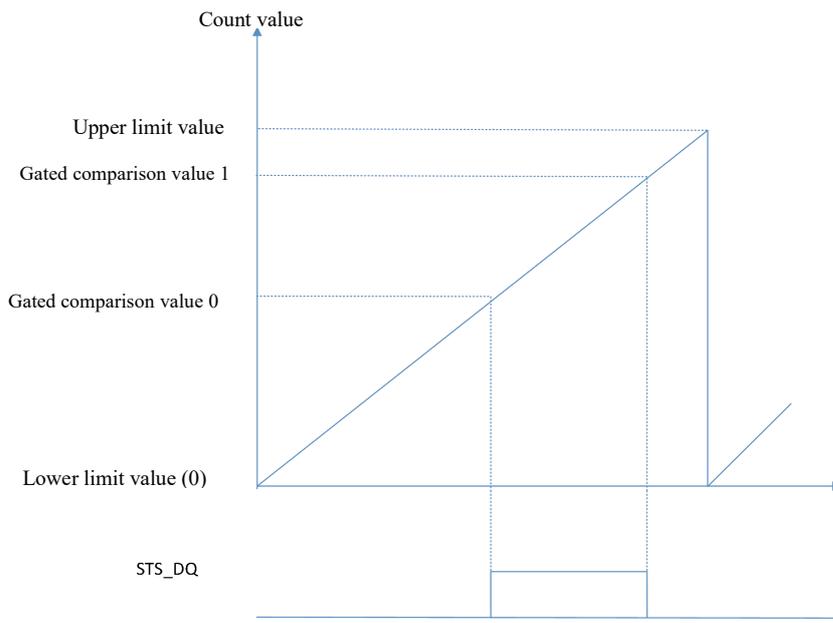
Note: The value for the gated comparison value 1 must be set greater than that for the gated comparison value 0; otherwise, the output will be abnormal.

15.10.3. Gated Output Mode 3

Compare between the comparison value 0 and comparison value 1:

Gated comparison value 0 < counter value < gated comparison value 1: output on the gate (i.e., Q channel).

Counter lower limit (i.e., 0) < counter value < gated comparison value 0, or gated comparison value 1 < counter value < upper limit value (i.e., $2^{32} - 1$): no output on the gate (i.e., the Q channel).



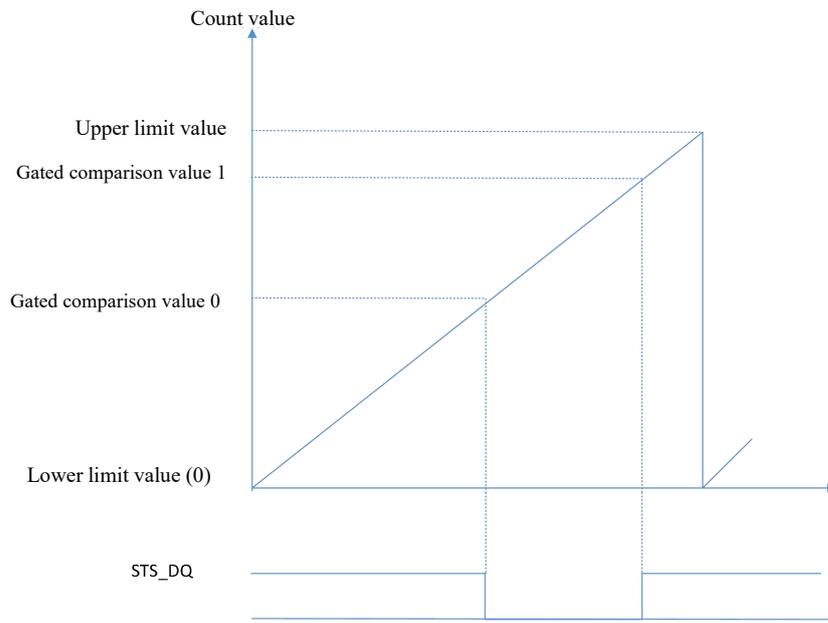
Note: The value for the gated comparison value 1 must be set greater than that for the gated comparison value 0; otherwise, the output will be abnormal.

15.10.4. Gated Output Mode 4

Compare between the comparison value 0 and comparison value 1:

Gated comparison value 0 < counter value < gated comparison value 1: no output on the gate (i.e., Q channel).

Counter lower limit (i.e., 0) < counter value < gated comparison value 0, or gated comparison value 1 < counter value < upper limit value (i.e., $2^{32}-1$): output from the gate (i.e., Q channel).



Note: The value for the gated comparison value 1 must be set greater than that for the gated comparison value 0; otherwise, the output will be abnormal.

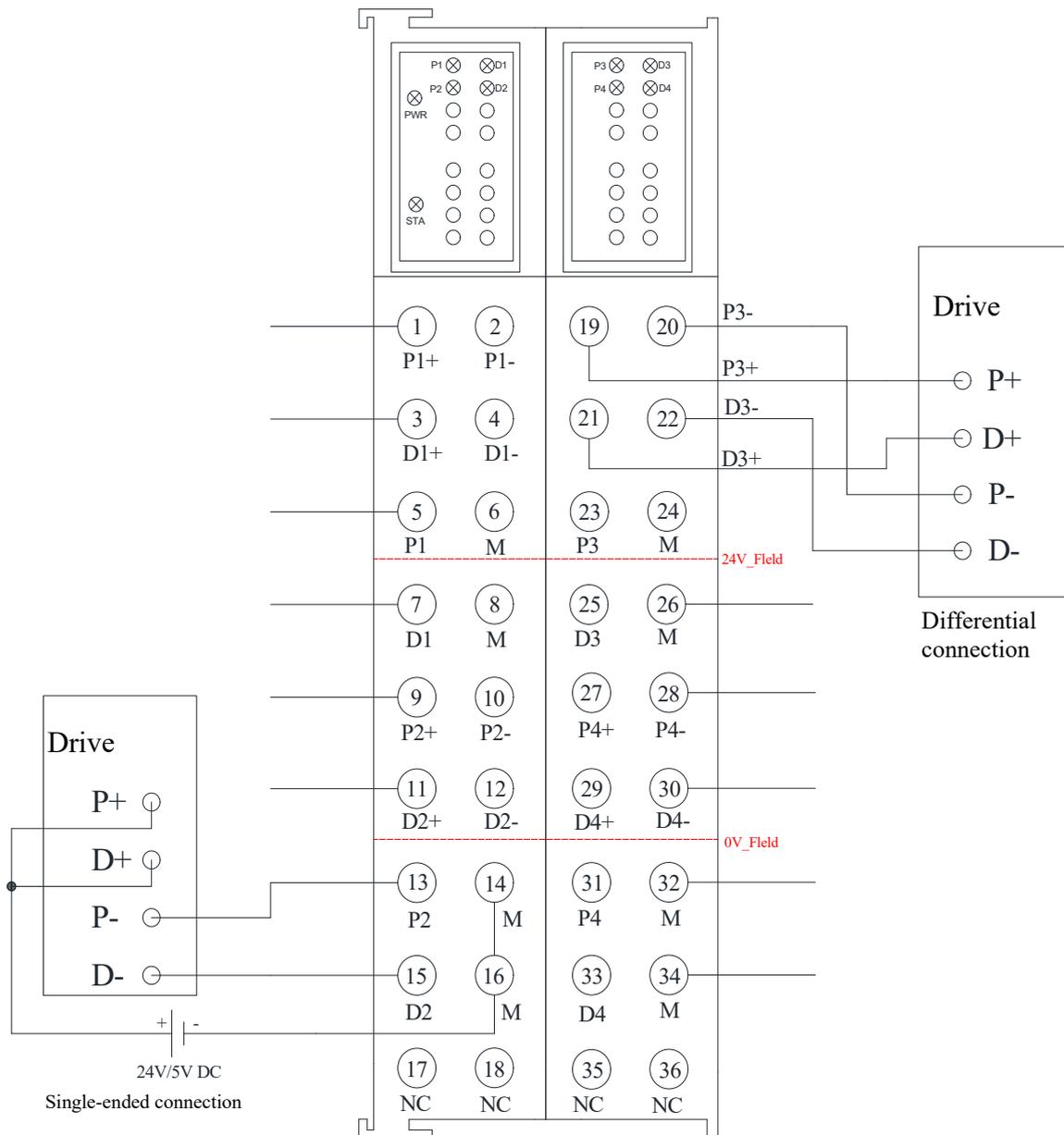
16. SRE5234 High-speed Pulse Output Terminal

The module features 4-axis PTO output, NPN output, single-ended maximum 400KHZ, and differential output maximum 1MHZ. The relevant parameters can be configured via XML file.

16.1. Electrical Specifications

Model	SRE5234
Technical specifications	
High-speed pulse output channel	4 channels
Bus 5VDC consumption current	218.9mA
Signal output	NPN output
	Differential 5V, maximum 1MHz
	Single-ended, 24V maximum 200KHz or 5V maximum 400KHz
Signal type	Pulse + direction
Isolation	
Between channels and buses	Existent
Display indicator	Power supply green LED display
System power diagnosis and warning	Supported
Environmental conditions	Operating temperature: -20~60°C; relative humidity: 5%~90% (non-condensing)
Storage temperature	-40~60 °C
Dimensions (L × W × H)	30×80×100 (mm)

16.2. Electrical Wiring Diagram



- ① Differential output only supports 5VDC
- ② Single-ended (output/input) supports 24VDC and 5VDC

16.3. Wiring Terminal Description

Terminal	Meaning
P1+	Axis 1 differential output, positive pulse signal
P1-	Axis 1 differential output, negative pulse signal
D1+	Axis 1 differential output, positive direction signal
D1-	Axis 1 differential output, negative direction signal
P2+	Axis 2 differential output, positive pulse signal
P2-	Axis 2 differential output, negative pulse signal
D2+	Axis 2 differential output, positive direction signal
D2-	Axis 2 differential output, negative direction signal
P3+	Axis 3 differential output, positive pulse signal
P3-	Axis 3 differential output, negative pulse signal
D3+	Axis 3 differential output, positive direction signal
D3-	Axis 3 differential output, negative direction signal
P4+	Axis 4 differential output, positive pulse signal
P4-	Axis 4 differential output, negative pulse signal
D4+	Axis 4 differential output, positive direction signal
D4-	Axis 4 differential output, negative direction signal
P1	Axis 1 single-ended output, pulse signal
D1	Axis 1 single-ended output, direction signal
P2	Axis 2 single-ended output, pulse signal
D2	Axis 2 single-ended output, direction signal
P3	Axis 3 single-ended output, pulse signal
D3	Axis 3 single-ended output, direction signal
P4	Axis 4 single-ended output, pulse signal
D4	Axis 4 single-ended output, direction signal
M	Common terminal for single-ended output

16.4. Indicator Description

Indicator	Meaning
PWR (Green)	Module power indicator On: Module is powered normally Off: Module is not powered or powered abnormally
RUN (Green)	Communication indicator: On: Normal communication Off: Abnormal communication
P1	Axis 1 pulse output. The indicator will light up when there is a signal; otherwise it will turn off.
P2	Axis 2 pulse output. The indicator will light up when there is a signal; otherwise it will turn off.
P3	Axis 3 pulse output. The indicator will light up when there is a signal; otherwise it will turn off.
P4	Axis 4 pulse output. The indicator will light up when there is a signal; otherwise it will turn off.
D1	Axis 1 direction output. The indicator will light up when there is a signal; otherwise it will turn off.
D2	Axis 2 direction output. The indicator will light up when there is a signal; otherwise it will turn off.
D3	Axis 3 direction output. The indicator will light up when there is a signal; otherwise it will turn off.
D4	Axis 4 direction output. The indicator will light up when there is a signal; otherwise it will turn off.

16.5. COE Parameter Description

Index	Name	Flags	Value
1000	Device type	RO	0x00000002 (2)
1008	Device name	RO	ECT-DEV
1009	Hardware version	RO	1.1
100A	Software version	RO	1.0
1018:0	Identity	RO	> 4 <
1C32:0	SM output parameter		> 32 <
1C33:0	SM input parameter		> 32 <
2004:0	Err	RO	> 1 <

Name	Online	Type	Size	>Add...	In/Out	User...	Linked to
ID	0	UINT	2.0	39.0	Input	0	
M_Status	0x80	BYTE	1.0	41.0	Input	0	
M_Pos_Relative	0	DINT	4.0	42.0	Input	0	

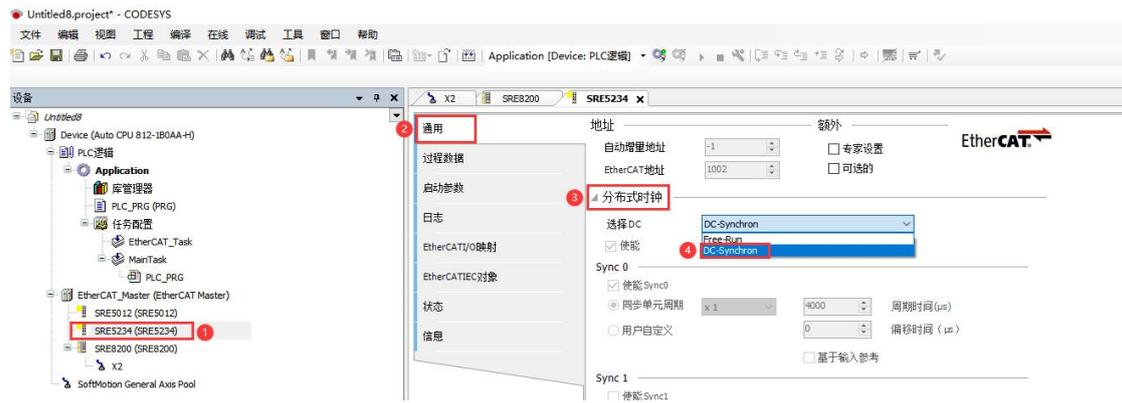
Parameters	Data type	Description
2004:01	Err 24v_nf	Bit0: 1: Channel 24V power supply abnormal 0: Normal

16.6. PDO Parameter Description

Item	Subitem	Data type	Meaning
Axis (1-4) Input	M_Stat us	Byte	<p>Module status.</p> <p>M_Status[6:0]:</p> <p>000_0000: Module in idle state</p> <p>000_0010: Module in operation state</p> <p>000_0110: Module in software emergency stop state</p> <p>000_1000: Module pulse transmission completed state</p> <p>1xx_xxxx: Startup operation flag</p> <p>M_Status[6]: Module operation flag bit. When M_ctrl changes from 0 to 1, the flag signal is set as 1. Only writing 1 into bit6 of the controller Mctrl can clear the flag signal.</p> <p>M_Status[7]:</p> <p>0: Invalid</p> <p>1: After Mctrl RUN command reset, when this flag is detected as 1, the Mctrl RUN command can be set to initiate module pulse output</p> <p>In the cyclic synchronous position mode, it remains in operation state by default.</p>
	M_Pos_Relative	DINT	Relative operation position.
	M_Spd	UDINT	Current module speed.
	M_ERR OR	Byte	<p>0: Normal</p> <p>Bit0: The starting speed is greater than the operation speed.</p> <p>Bit2: Mode error</p>
Axis (1-4) Output	M_Ctrl	Byte	<p>BIT0: RUN, command operation enable, starting on the rising edge, and stopping on the falling edge.</p> <p>BIT1: UPDATE, set as 1 to update operational parameters during motor operation (AccTime, DecTime, Spdss, Spdset, and Posset parameters)</p> <p>BIT2: ESTOP, emergency stop command. Upon receiving this command, the module immediately stops pulse output without any acceleration or deceleration. Default is 0. When emergency stop is required, set this bit as 1. This bit must be reset as 0 before the next operation.</p> <p>BIT3: Clear the M_Pos_Relative position value on the rising edge, which is effective in all modes.</p> <p>BIT4: Alarm clear.</p> <p>BIT5: Direction bit in the speed mode. In the speed mode, control forward or reverse direction.</p> <p>BIT6: The operation flag is cleared and the module completes startup. M_Status[6] will be set. If the PLC detects this flag signal as 1 (closed-loop detection), it indicates that the module has successfully transmitted pulses. When the next pulse needs to be transmitted, this</p>

Item	Subitem	Data type	Meaning
			<p>clear command should be used to reset the operation flag before initiating the next operation detection.</p> <p>BIT7: When set as 1 in the speed mode, the M_Pos_Relative position value will not be cleared at startup.</p> <p>Note: In the cyclic synchronous position mode, only BIT3 is valid, and the remaining BITs are reserved.</p>
	Work_Mode	Byte	<p>Bit0~3: Motion mode setting</p> <p>0: Relative position output mode</p> <p>1: Speed mode</p> <p>3: Cyclic synchronous position mode (The module needs to be configured to DC synchronous mode)</p> <p>Others: Reserved</p> <p>Bit4~5: Pulse output mode setting</p> <p>0: Pulse + direction</p> <p>1: CW/CCW</p> <p>Others: Reserved</p> <p>Bit6~7: Reserved</p> <p>Note: When changing the WorkMode, M_Ctrl must be set as 0.</p>
	AccTime	UINT	<p>Acceleration time (ms). It is used to set the acceleration</p> <p>Invalid in the cyclic synchronous position mode.</p>
	DecTime	UINT	<p>Deceleration time (ms). It is used to set the deceleration</p> <p>Invalid in the cyclic synchronous position mode.</p>
	SpdSs	UDINT	<p>User-defined starting or stopping speed (Hz), data range 0~4000000</p> <p>Invalid in the cyclic synchronous position mode.</p>
	SpdSet	UDINT	<p>User-defined operating speed (Hz), data range 0~4000000</p> <p>Invalid in the cyclic synchronous position mode.</p>
	PosSet	DINT	<p>User-defined position, unit: pulse count</p> <p>In the cyclic synchronous position mode, it represents the number of pulses to be sent within one EtherCAT bus cycle</p>

Configure the module DC synchronous mode:



17. Usage example

17.1. Instructions for SRE8200 Coupler Communication with Beckhoff Master

17.1.1. Communication Connection

The communication connection diagram is as shown below:



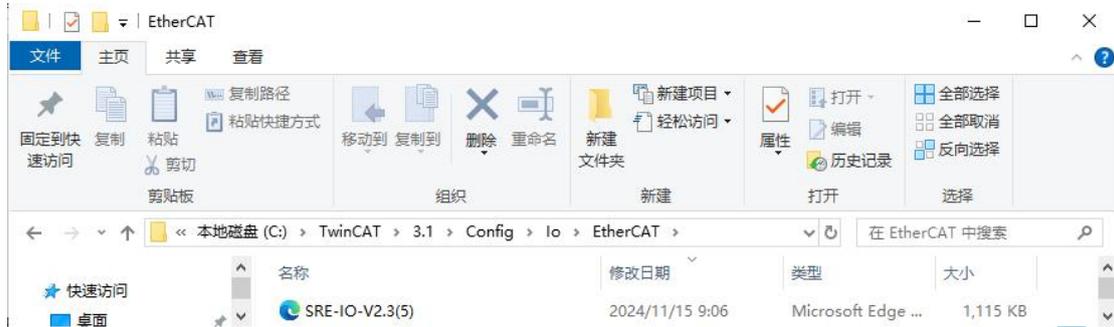
17.1.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE1116	One	Digital Input Terminal
SRE2116	One	Digital Output Terminal
SRE3204	One	Analog Input Terminal
SRE4204	One	Analog Output Terminal
Ethernet cable	Several	
24V switching power supply	One	

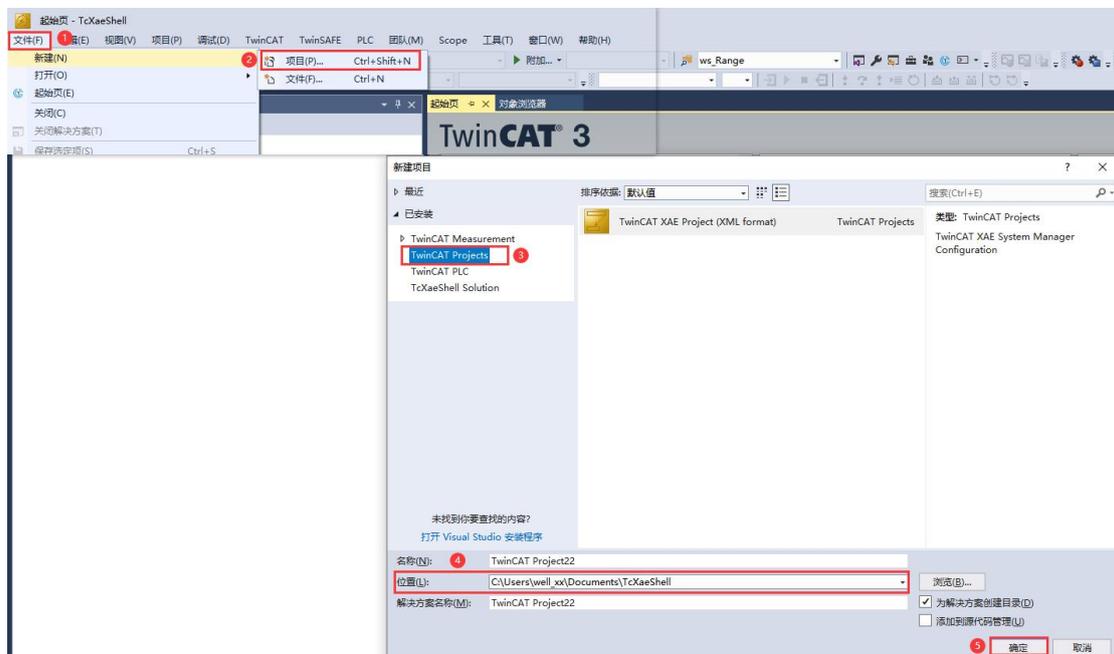
17.1.3. Install XML File

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

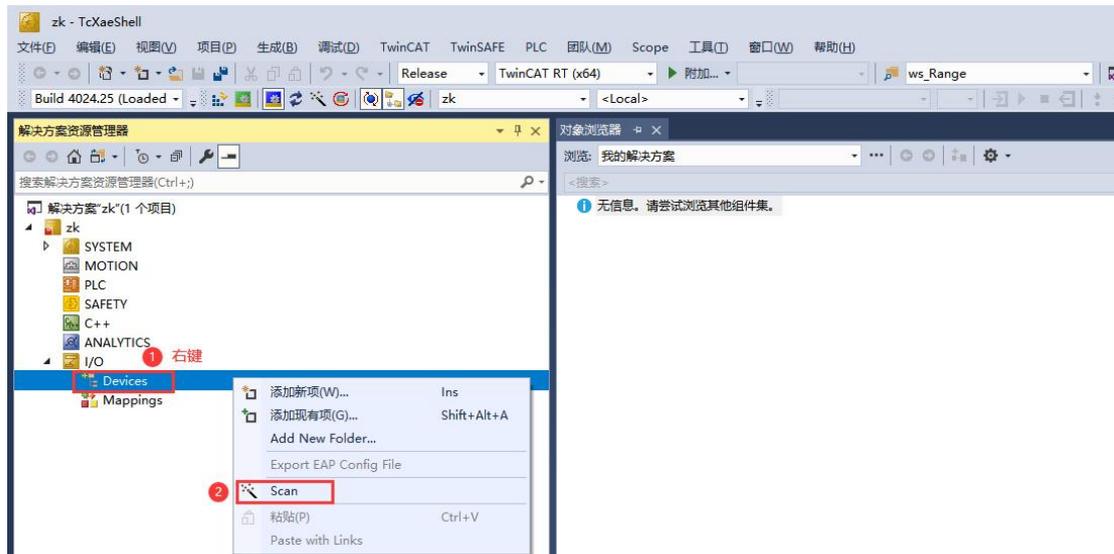


17.1.4. New Project and Configuration

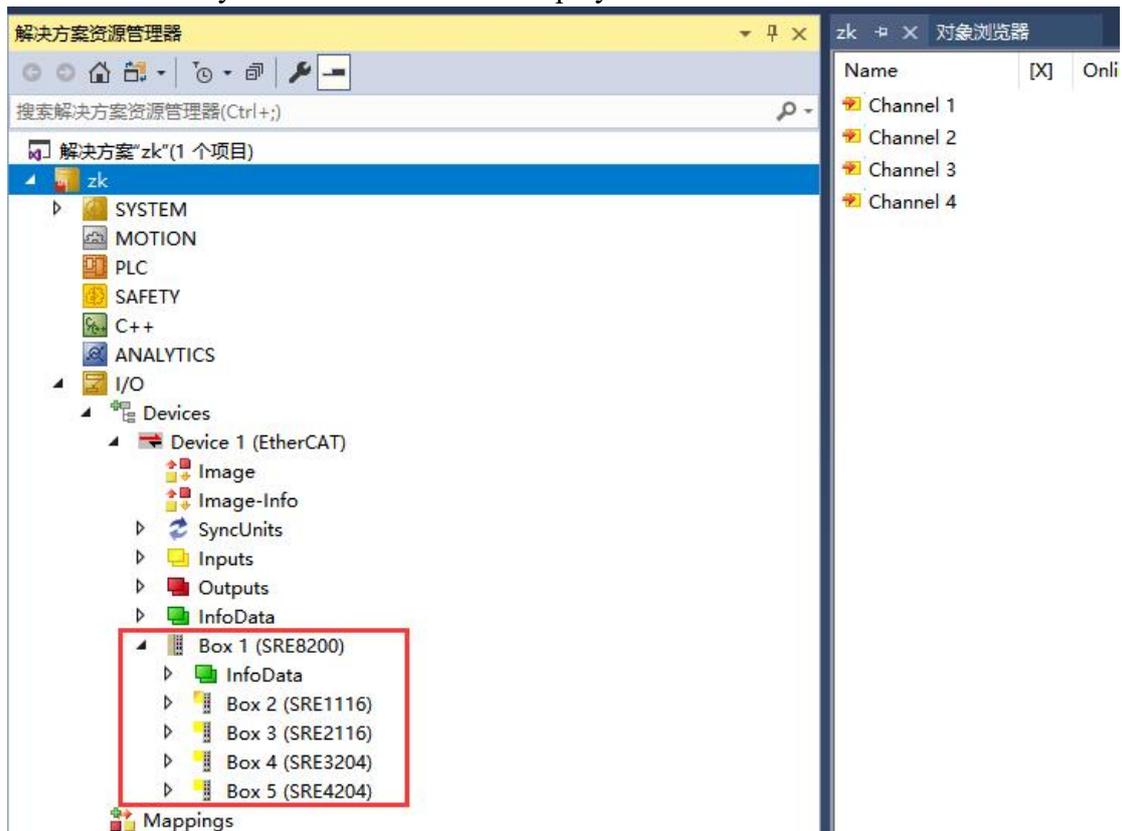
Open TwinCAT3 software and create a new project as shown below:



Scan the SRE8200 connected to the computer and its expansion IO terminals into the project. Click I/O > Devices > Scan as shown below:



Successfully scanned modules are displayed as shown below:



17.1.5. Data Monitoring

Select the IO terminal to be monitored in TwinCAT3 and choose the data to be monitored for monitoring:

Digital input/output:

The screenshot shows the '对象浏览器' (Object Browser) window with a list of 16 channels. All channels are online and configured as BIT type outputs. The 'ADS Symbol Watch' window displays the current values for all channels, which are all set to 1.

Name	[X]	Online	Type	Size	>Add...	In/Out	Linked to
Channel 1		0	BIT	0.1	39.0	Outp...	
Channel 2		0	BIT	0.1	39.1	Outp...	
Channel 3		1	BIT	0.1	39.2	Outp...	
Channel 4		1	BIT	0.1	39.3	Outp...	
Channel 5		1	BIT	0.1	39.4	Outp...	
Channel 6		1	BIT	0.1	39.5	Outp...	
Channel 7		1	BIT	0.1	39.6	Outp...	
Channel 8		1	BIT	0.1	39.7	Outp...	
Channel 9		1	BIT	0.1	40.0	Outp...	
Channel 10		1	BIT	0.1	40.1	Outp...	
Channel 11		1	BIT	0.1	40.2	Outp...	
Channel 12		1	BIT	0.1	40.3	Outp...	
Channel 13		1	BIT	0.1	40.4	Outp...	
Channel 14		1	BIT	0.1	40.5	Outp...	
Channel 15		1	BIT	0.1	40.6	Outp...	
Channel 16		1	BIT	0.1	40.7	Outp...	

Symbol	Value	Type
Channel 1	0	BIT
Channel 2	0	BIT
Channel 3	1	BIT
Channel 4	1	BIT
Channel 5	1	BIT
Channel 6	1	BIT
Channel 7	1	BIT
Channel 8	1	BIT
Channel 9	1	BIT
Channel 10	1	BIT
Channel 11	1	BIT
Channel 12	1	BIT
Channel 13	1	BIT
Channel 14	1	BIT
Channel 15	1	BIT
Channel 16	1	BIT

Analog input/output:

The screenshot shows the '对象浏览器' (Object Browser) window with a list of 4 channels. All channels are online and configured as INT type outputs. The 'ADS Symbol Watch' window displays the current values for all channels: Channel 1 is 32000, Channel 2 is 16000, Channel 3 is 32000, and Channel 4 is 3.

Name	[X]	Online	Type	Size	>Add...	In/Out	Linked to
Channel 1		32000	INT	2.0	39.0	Outp...	
Channel 2		16000	INT	2.0	41.0	Outp...	
Channel 3		32000	INT	2.0	43.0	Outp...	
Channel 4		0	INT	2.0	45.0	Outp...	

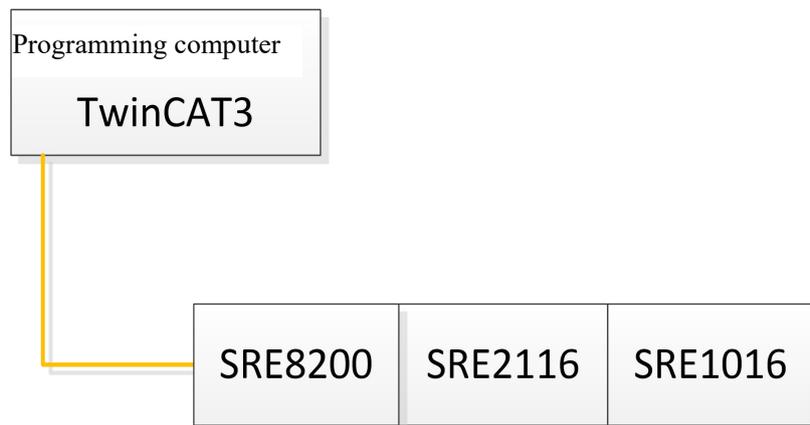
Symbol	Value	Type
Channel 1	32000	INT
Channel 2	16000	INT
Channel 3	32000	INT
Channel 4	3	INT

17.2. Example of SRE2116 Communication with TwinCAT3

This example briefly introduces how the SRE8200 coupler is connected with SRE2116 and SRE1016 for data monitoring through Beckhoff. Digital input and output can be connected and used with reference to this example.

17.2.1. Communication Connection

The communication connection diagram is as shown below:



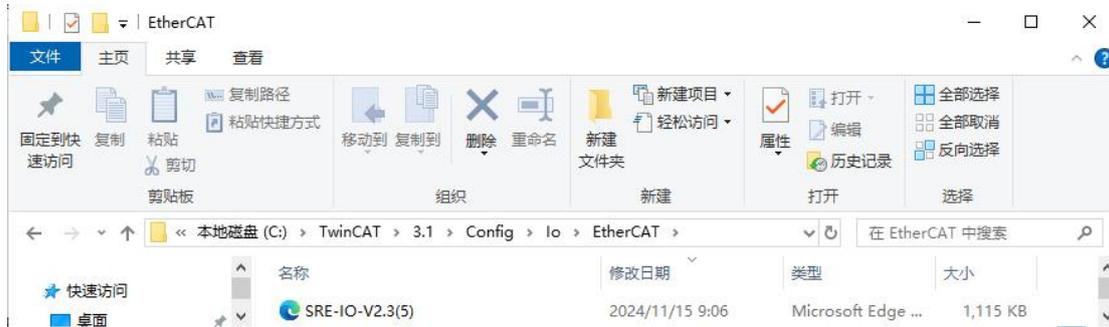
17.2.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE2116	One	High-performance digital output module
SRE1016	One	High-performance digital input module
Ethernet cable	1 piece	
24V switching power supply	One	

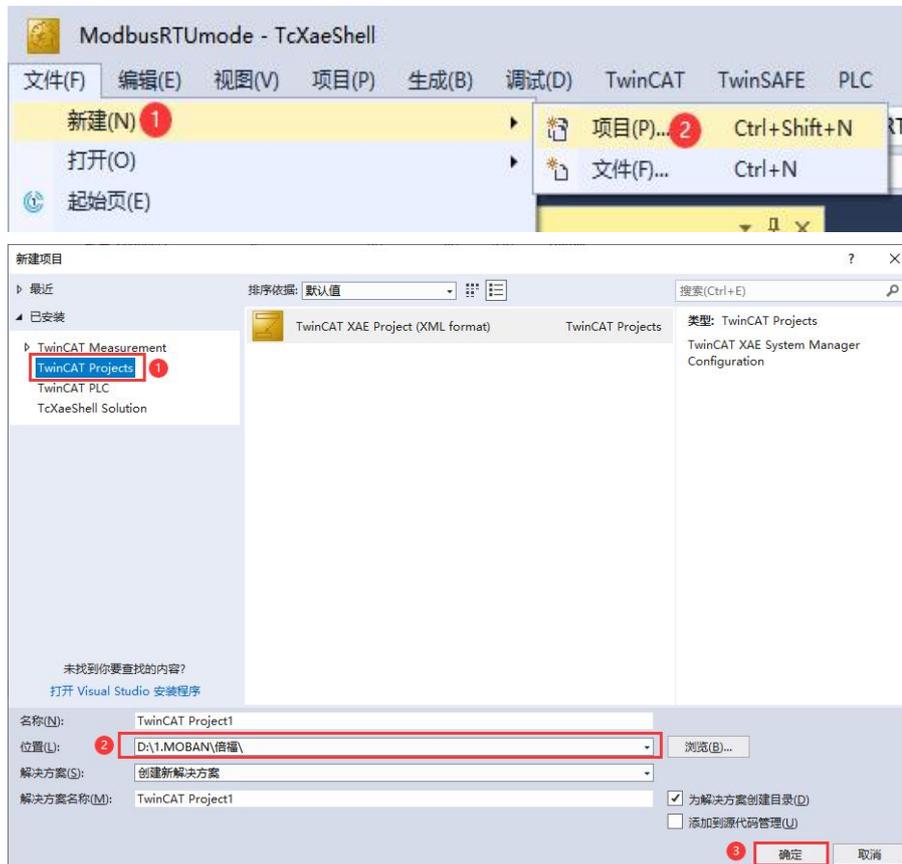
17.2.3. Install XML File

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

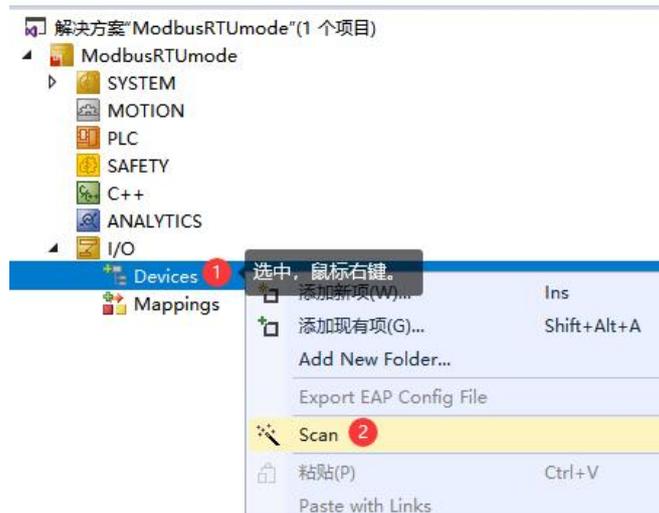


17.2.4. New Project and Configuration

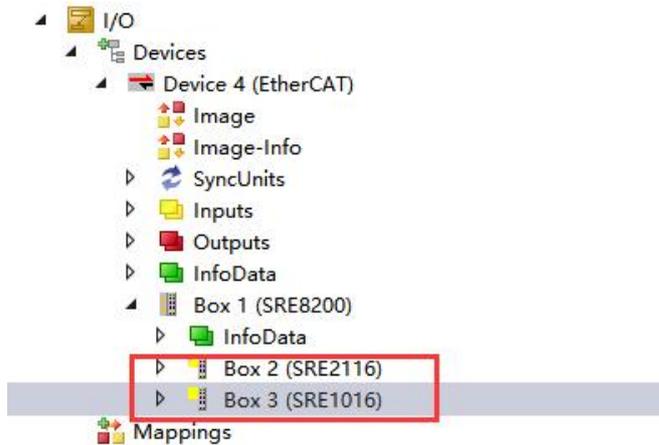
Open TwinCAT3 software and create a new project as shown below:



Scan the ECT coupler SRE8200 connected to the computer and its expansion IO into the project, click I/O>Devices>Scan as shown below:

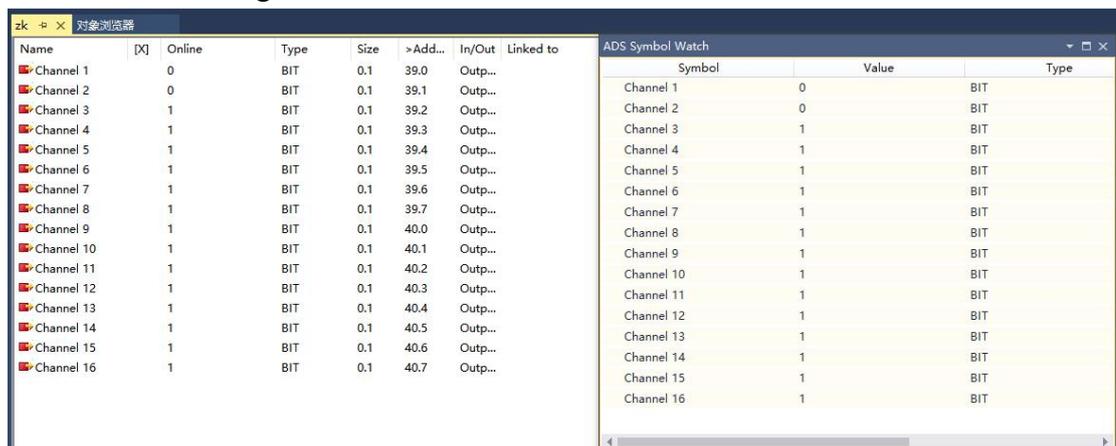


Successfully scanned modules are displayed as shown below:



17.2.5. Data Monitoring

Select the IO terminal to be monitored in TwinCAT3 and choose the data to be monitored for monitoring:



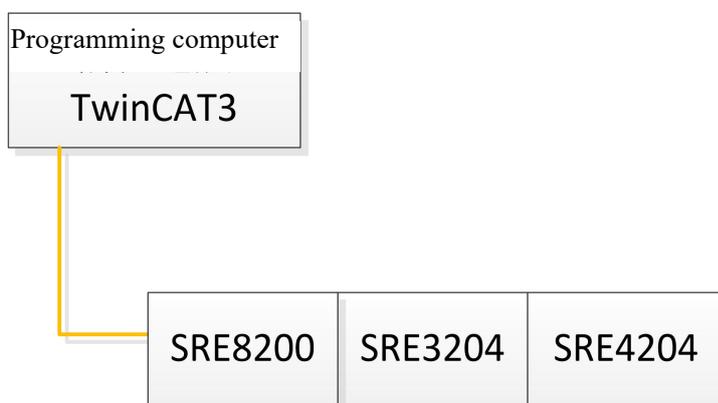
17.3. Example of SRE3204 Communication

17.3.1. Example of Communication with TwinCAT3

This example briefly introduces how the SRE8200 coupler is connected with SRE3204 and SRE4204 for data monitoring through Beckhoff. Analog input and output can be connected and used with reference to this example.

17.3.1.1. Communication Connection

The communication connection diagram is as shown below:



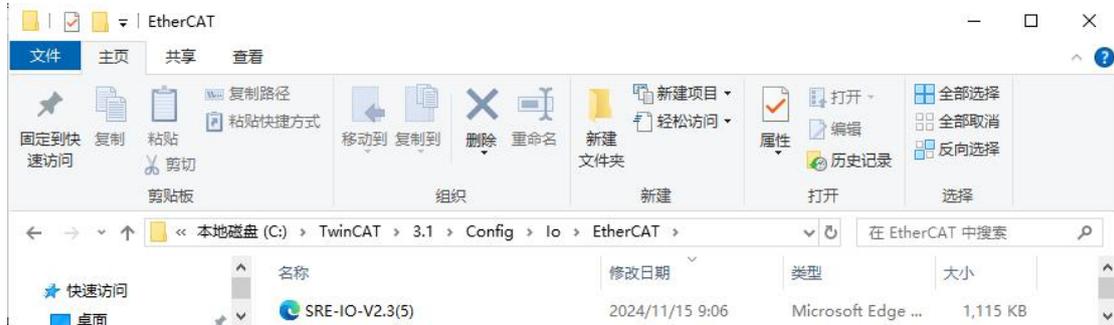
17.3.1.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE3204	One	High-performance analog input module
SRE4204	One	High-performance analog output module
Ethernet cable	1 piece	
24V switching power supply	One	

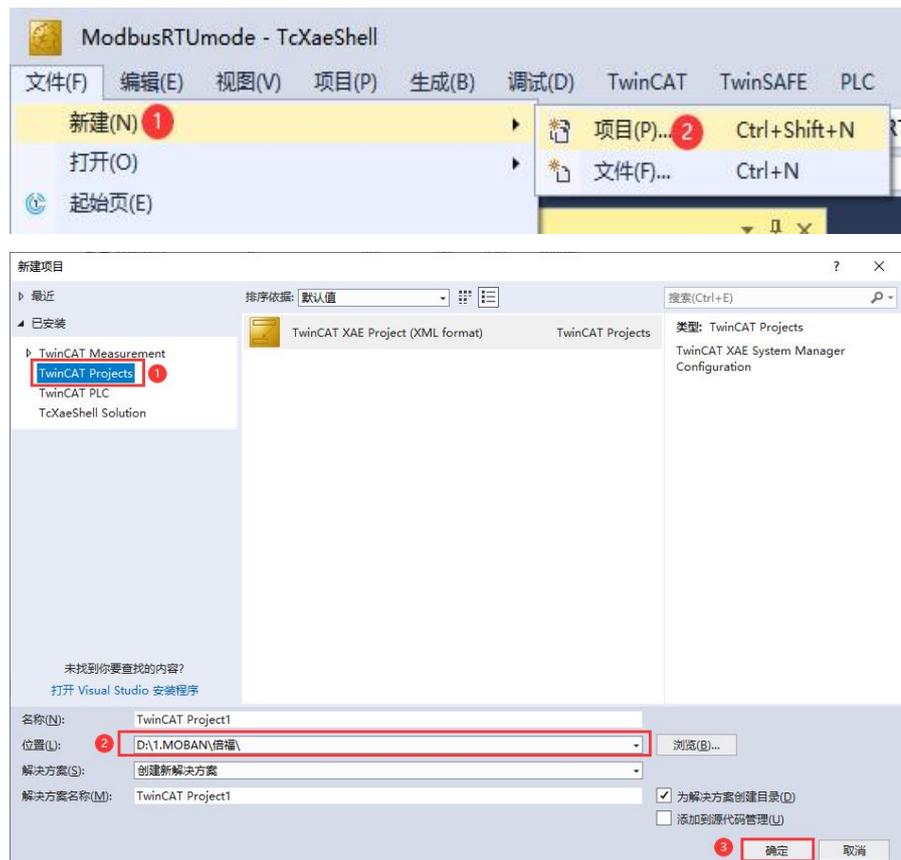
17.3.1.3. Install XML File

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

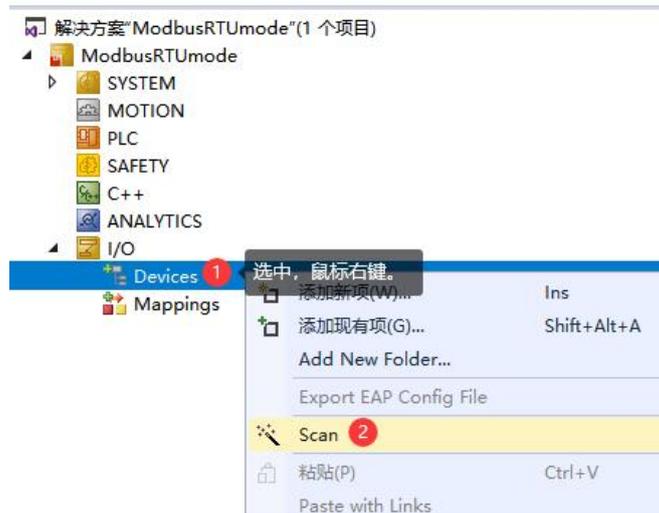


17.3.1.4. New Project and Configuration

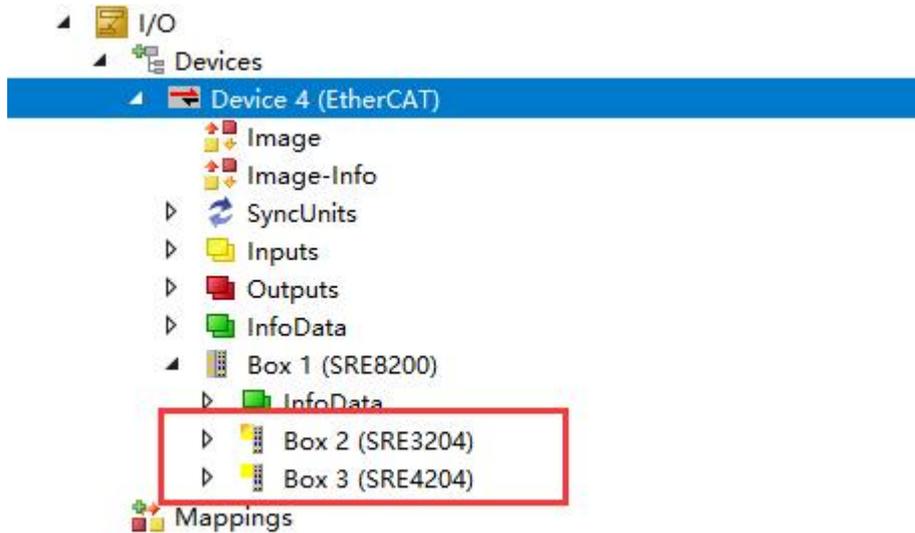
Open TwinCAT3 software and create a new project as shown below:



Scan the SRE8200 connected to the computer and its expansion IO terminals into the project. Click I/O>Devices>Scan as shown below:

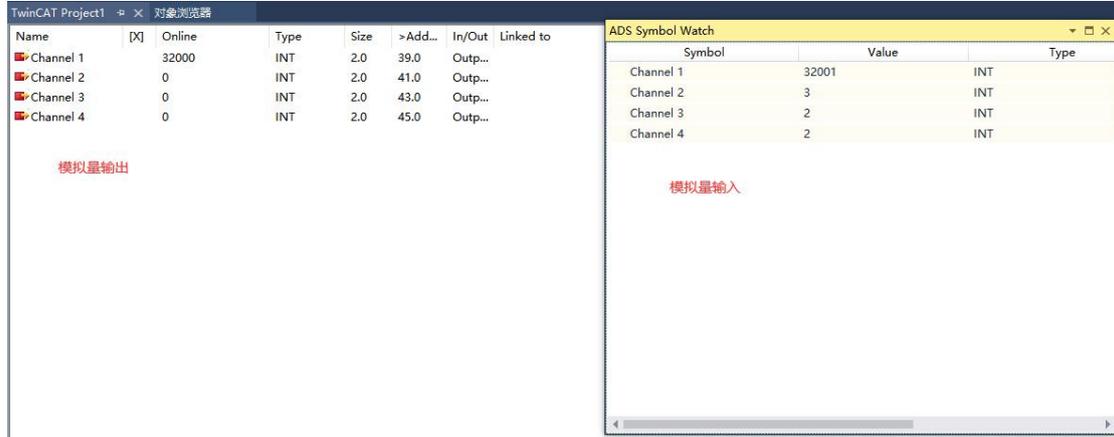


Successfully scanned modules are displayed as shown below:



17.3.1.5. Data Monitoring

Select the IO terminal to be monitored in TwinCAT3 and choose the data to be monitored for monitoring:

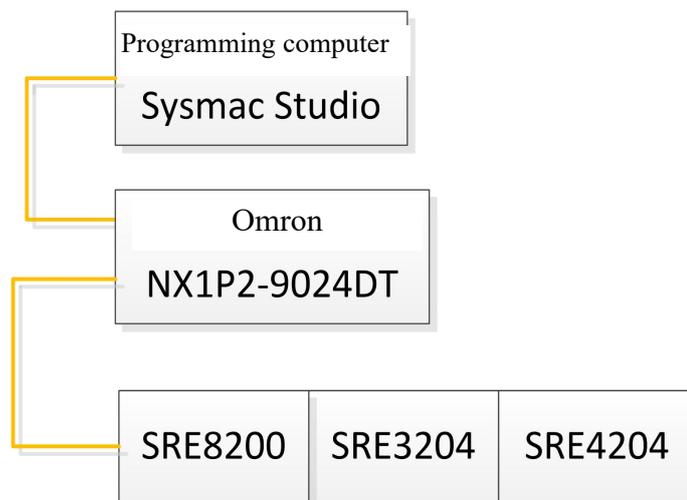


17.3.2. Example of Communication with Omron

This example briefly introduces how the SRE8200 coupler is connected with SRE3204 and SRE4204 for data monitoring through Omron. Analog input and output modules can be connected and used with reference to this example.

17.3.2.1. Communication Connection

The communication connection diagram is as shown below:



17.3.2.2. Hardware Configuration

The hardware configuration is shown in the following table:

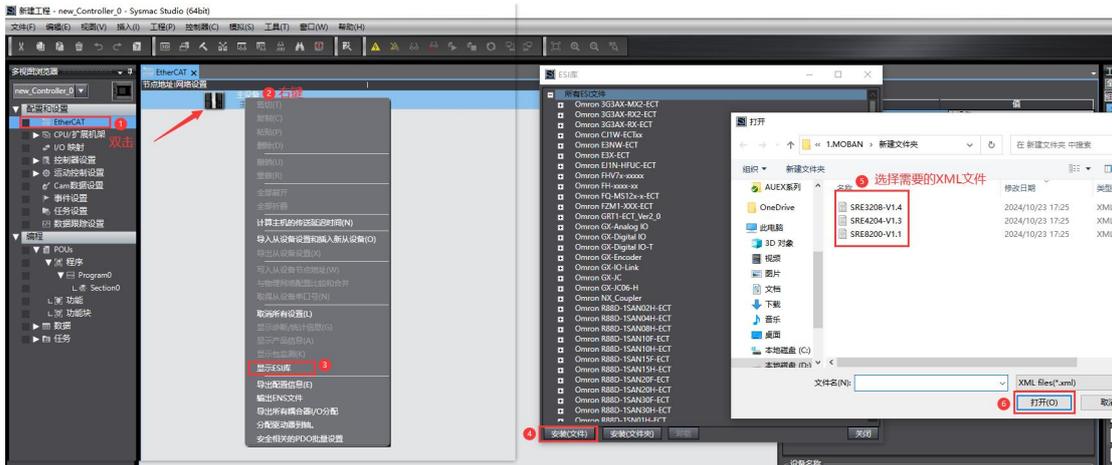
Hardware	Quantity	Remarks
Programming computer	One	Install the Sysmac Studio software.
SRE8200	One	EtherCAT communication coupler
SRE3204	One	High-performance analog input module
SRE4204	One	High-performance analog output module
Ethernet cable	1 piece	
24V switching power supply	One	

17.3.2.3. Create a new project to install the XML file.

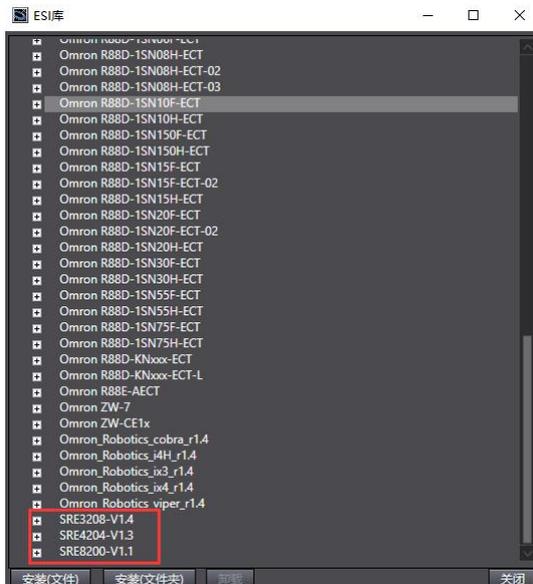
(1) Create a new project, and select the CPU model to be used. In this example, NX1P2-9024DT is used.



(2) After creating a blank project, install the XML file.

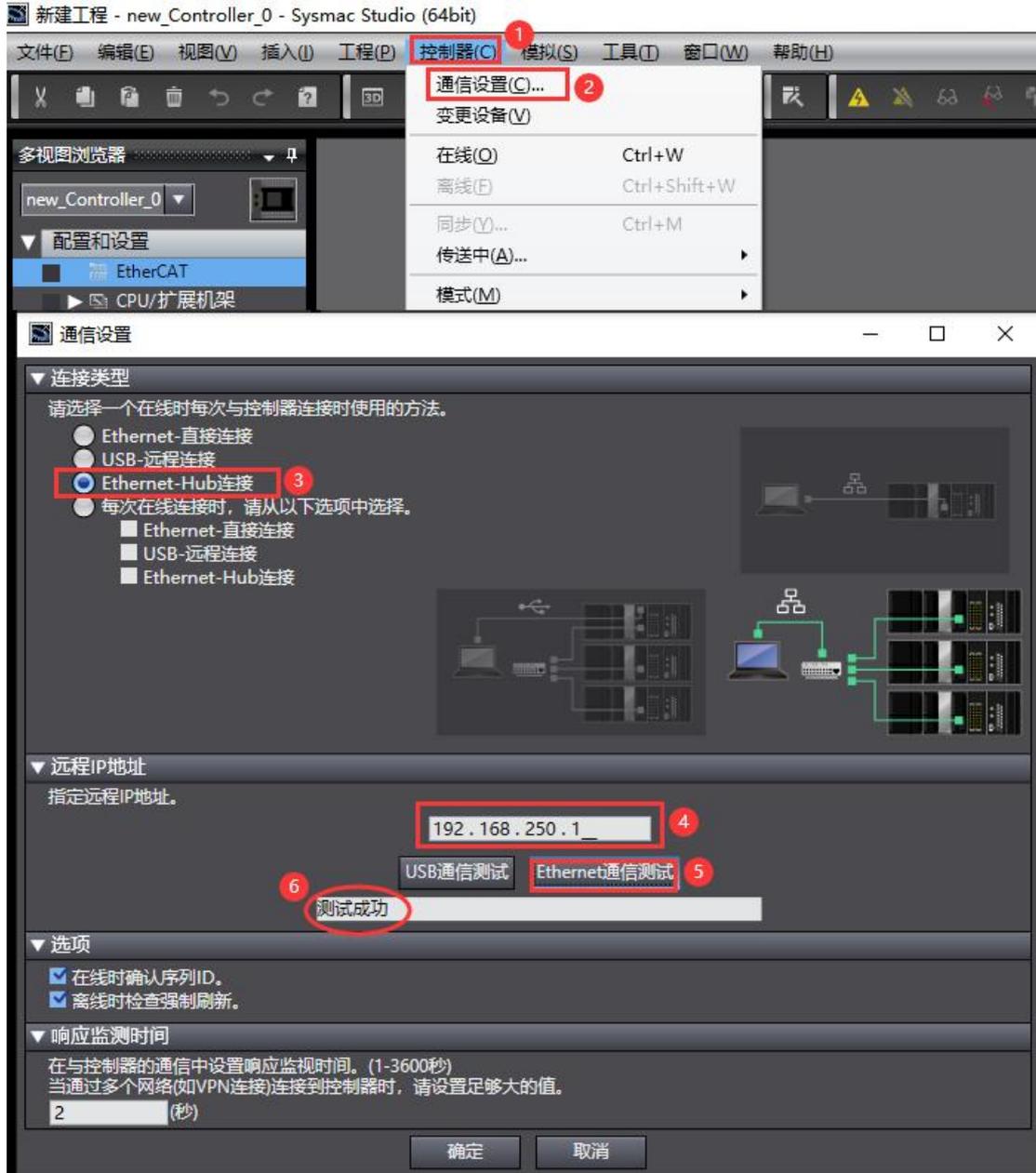


(3) After installation, pull down to view the installed XML file

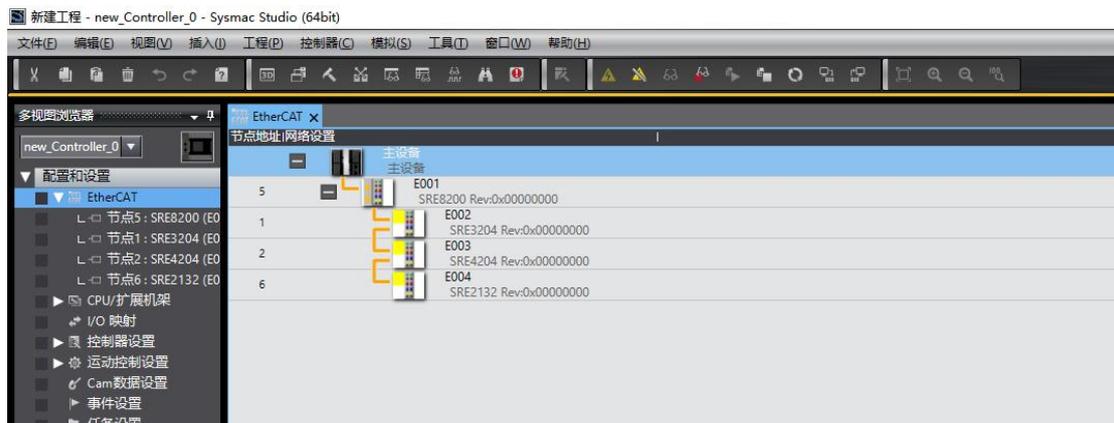
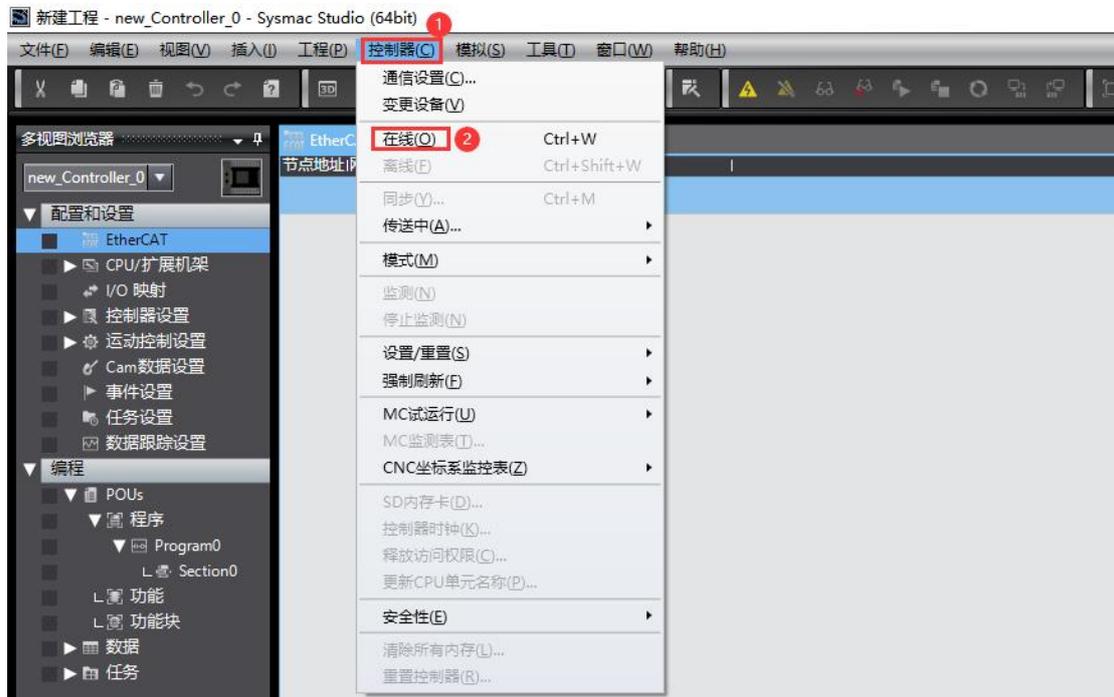


17.3.2.4. Configuration project

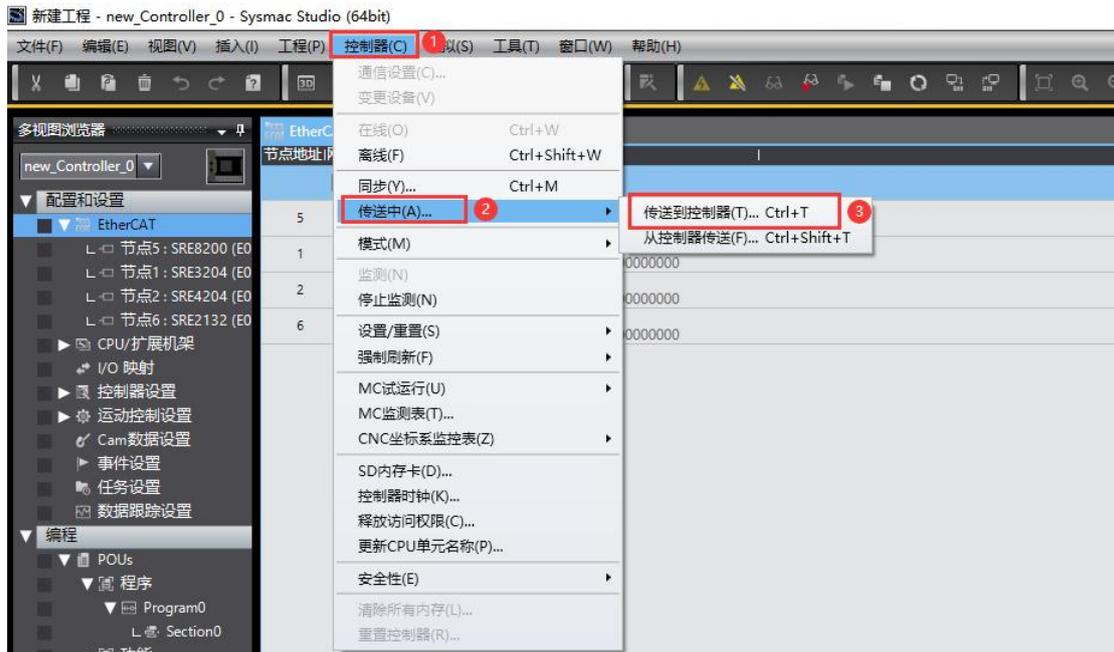
- (4) Establish a connection between the programming computer and the Omron controller. In this example, the IP address of the Omron controller is 192.168.250.1, and the IP address of the programming computer is 192.168.250.111. Test whether the communication between the programming computer and the Omron controller is normal, as shown in the following figure:



- (5) After confirming normal communication between the programming computer and the controller, set the controller as the online status and scan the coupler along with connected expansion modules into Sysmac Studio.

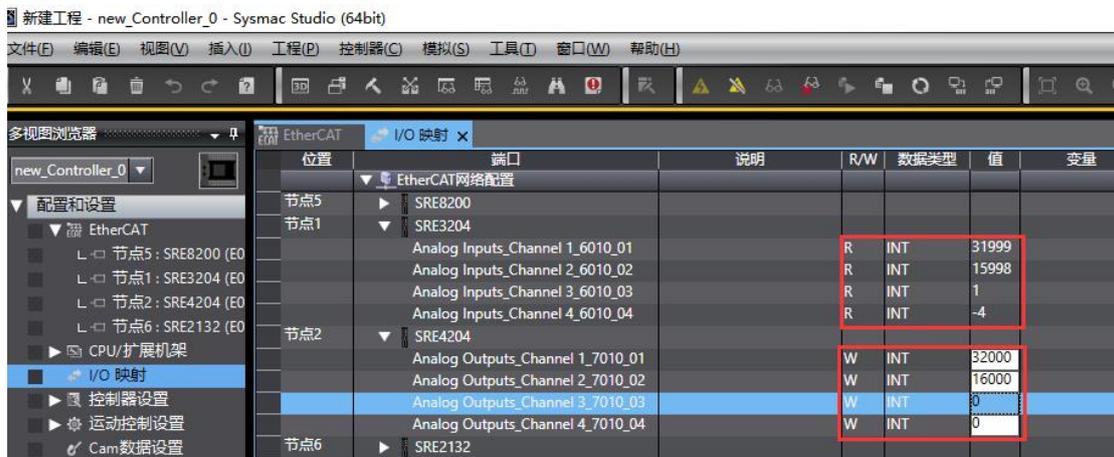


(6) Transmit to CPU after successful scanning



17.3.2.5. Data Monitoring

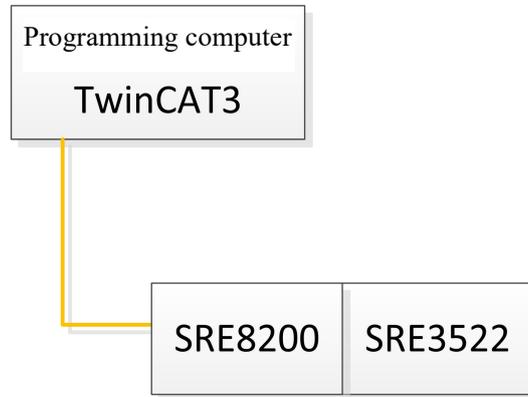
(7) Click I/O mapping to monitor data of the connected modules



17.4. Example of SRE3522 Communication with TwinCAT3

17.4.1. Communication Connection

The communication connection diagram is as shown below:



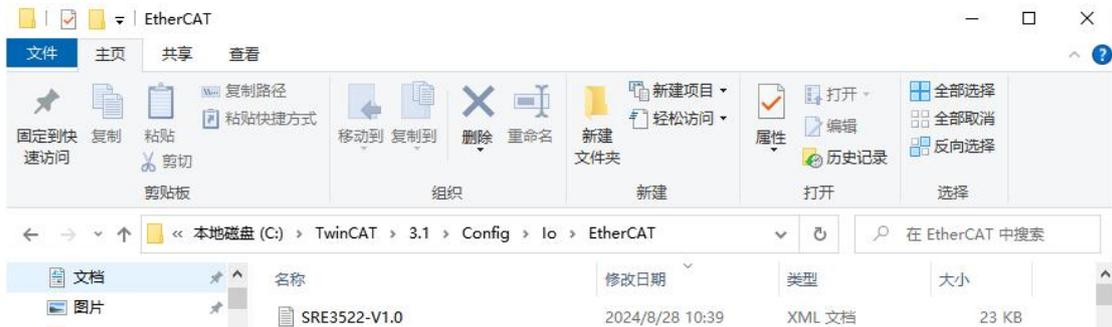
17.4.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE3522	One	Analog fast acquisition module
Signal Generator	One	
Ethernet cable	1 piece	
24V switching power supply	One	

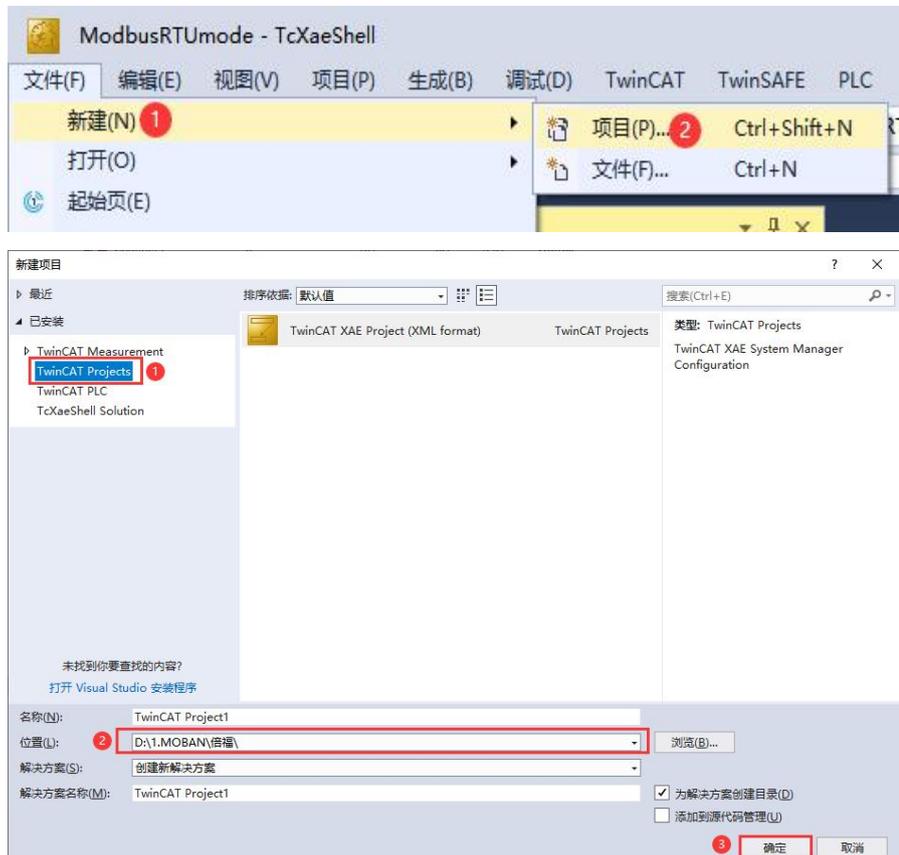
17.4.3. Install XML File

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

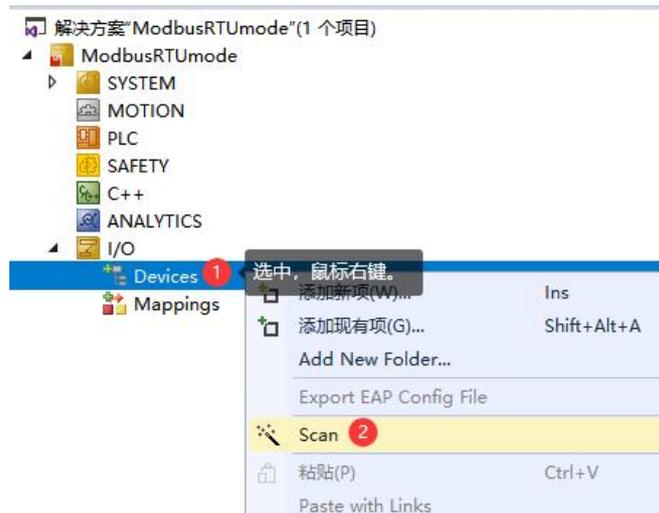


17.4.4. New Project and Configuration

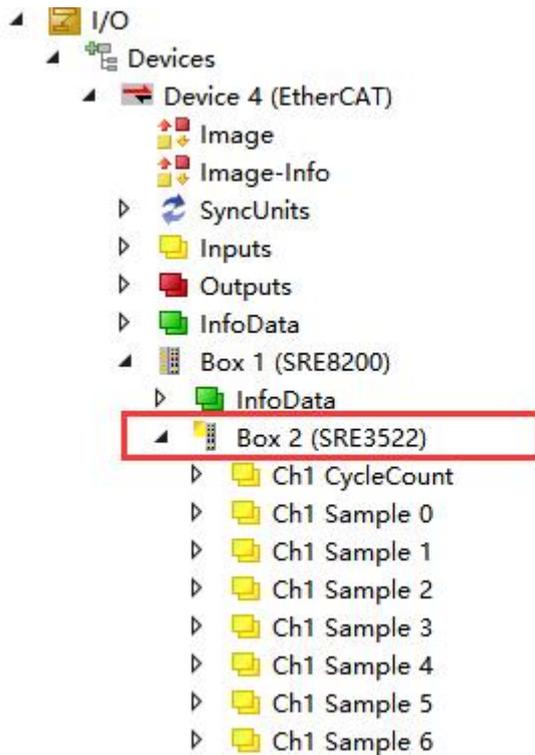
Open TwinCAT3 software and create a new project as shown below:



Scan the SRE8200 connected to the computer and its expansion IO terminals into the project. Click I/O>Devices>Scan as shown below:



Successfully scanned modules are displayed as shown below:



17.4.5. Data Monitoring

Select the desired channel on TwinCAT3 for data monitoring:

The screenshot shows the TwinCAT3 interface with the following components:

- Project Tree (Left):** Shows a project named 'renyi' with a sub-project 'Device 4 (EtherCAT)'. Under 'I/O Devices', 'Box 2 (SRE3522)' is selected and highlighted with a red box and a red circle '1'.
- Configuration Panel (Top Right):** Shows the 'DC/Oversampling' settings. The 'Operation Mode' is set to '2 Channels' (annotated with a red circle '3' and '通道数选择'). 'Sync Unit Cycle Time (μs)' is 1000 (annotated with a red circle '4' and '周期时间'). 'Oversampling Factor' is 100 (annotated with a red circle '5' and '每个周期采样的次数'). 'Sample Cycle Time (μs)' is 10 (annotated with a red circle '6' and '每次采样的周期').
- Data Table (Bottom Right):** A table with columns: Name, Online, Type, Size, >Add..., In/Out, User..., and Linked to. The first row, 'Ch1 CycleCount', is highlighted in red and annotated with '通道1实际采样次数'. The subsequent rows, 'Ch1 Value', are highlighted in green and annotated with '通道1每通道采样的数据'.

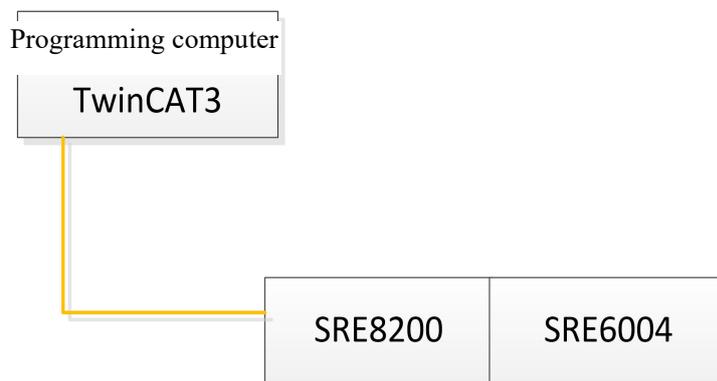
Name	Online	Type	Size	>Add...	In/Out	User...	Linked to
Ch1 CycleCount	100	UINT	2.0	58.0	Input	0	通道1实际采样次数
Ch1 Value	31997	INT	2.0	60.0	Input	0	通道1每通道采样的数据
Ch1 Value	31996	INT	2.0	62.0	Input	0	
Ch1 Value	31994	INT	2.0	64.0	Input	0	
Ch1 Value	31994	INT	2.0	66.0	Input	0	
Ch1 Value	31996	INT	2.0	68.0	Input	0	
Ch1 Value	31994	INT	2.0	70.0	Input	0	
Ch1 Value	32001	INT	2.0	72.0	Input	0	
Ch1 Value	32007	INT	2.0	74.0	Input	0	
Ch1 Value	32003	INT	2.0	76.0	Input	0	
Ch1 Value	32008	INT	2.0	78.0	Input	0	
Ch1 Value	32001	INT	2.0	80.0	Input	0	
Ch1 Value	32001	INT	2.0	82.0	Input	0	
Ch1 Value	32001	INT	2.0	84.0	Input	0	
Ch1 Value	31996	INT	2.0	86.0	Input	0	
Ch1 Value	32001	INT	2.0	88.0	Input	0	
Ch1 Value	32001	INT	2.0	90.0	Input	0	
Ch1 Value	32000	INT	2.0	92.0	Input	0	
Ch1 Value	32006	INT	2.0	94.0	Input	0	
Ch1 Value	32000	INT	2.0	96.0	Input	0	
Ch1 Value	32004	INT	2.0	98.0	Input	0	
Ch1 Value	32000	INT	2.0	100.0	Input	0	
Ch1 Value	32001	INT	2.0	102.0	Input	0	
Ch1 Value	32006	INT	2.0	104.0	Input	0	
Ch1 Value	32002	INT	2.0	106.0	Input	0	
Ch1 Value	32003	INT	2.0	108.0	Input	0	

17.5. Example of SRE6004 Communication with TwinCAT3

This example introduces the basic usage of SRE8200 coupler connected with SRE6004 serial port module. Through Beckhoff, data monitoring is performed on SRE6004 serial port module, enabling data exchange in SRE6004 master/slave and free port modes. SRE6002 can be connected with reference to this example.

17.5.1. Communication Connection

The communication connection diagram is as shown below:



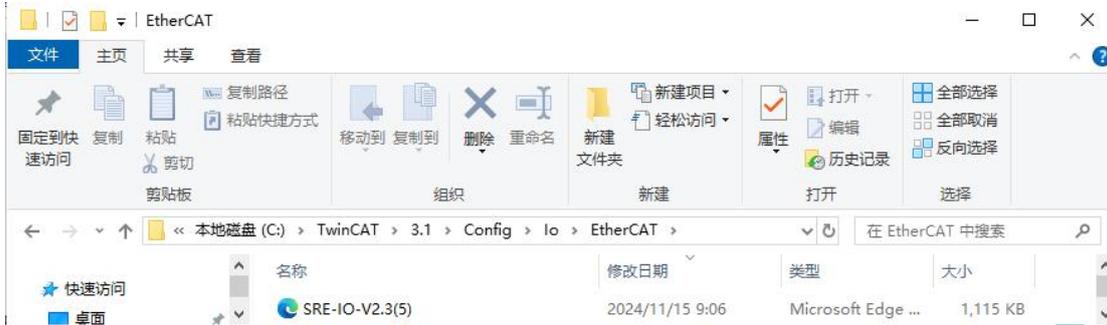
17.5.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE6004	One	High-performance serial port module
Ethernet cable	1 piece	
24V switching power supply	One	

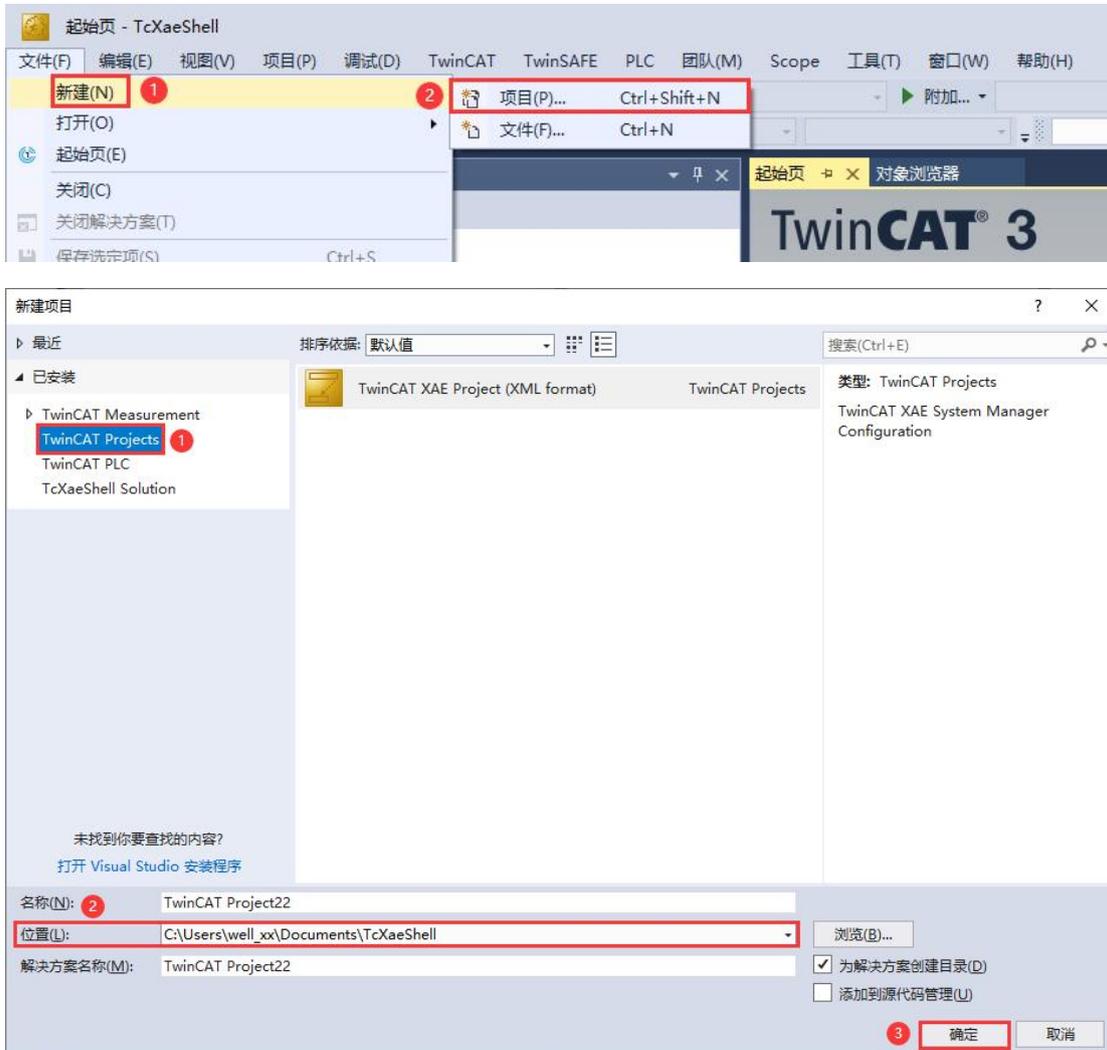
17.5.3. Install XML File

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

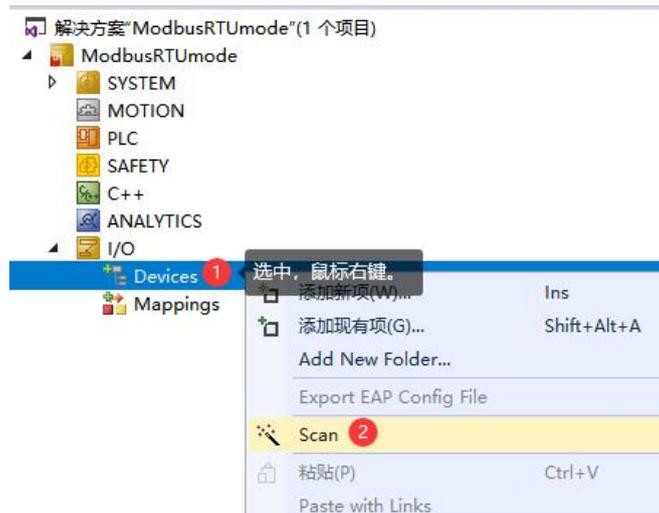


17.5.4. New Project and Configuration

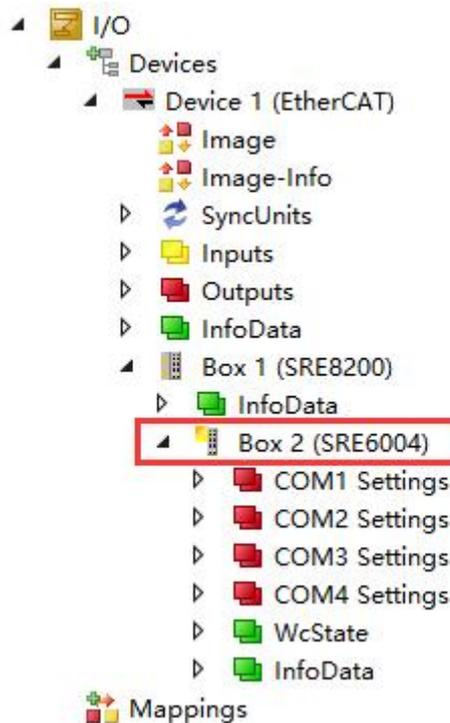
Open TwinCAT3 software and create a new project as shown below:



Scan the SRE8200 connected to the computer and the connected SRE6004 serial port module into the project. Click I/O > Devices > Scan as shown in the following figure:



Successfully scanned modules are displayed as shown below:

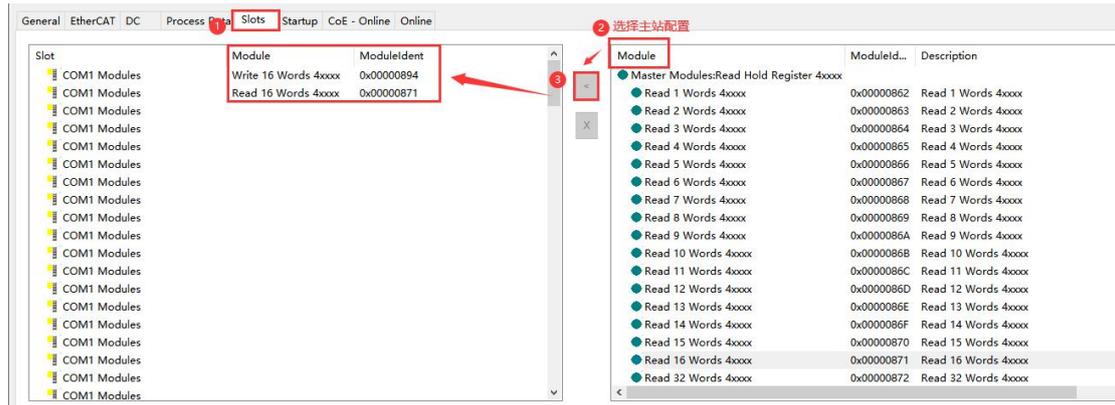


17.5.5. SRE6004 performs Modbus RTU communication

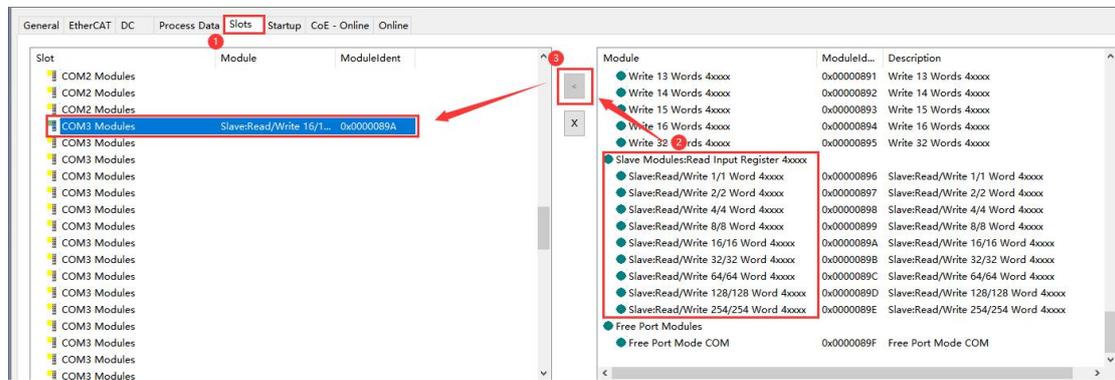
This example demonstrates Modbus RTU communication between COM1 and COM3 on SRE6004 using RS232 connection. COM1 is set as the Modbus RTU master, while COM3 serves as the slave. The data interaction is as follows:

(1) Add the relevant configurations for COM1 master and COM3 slave

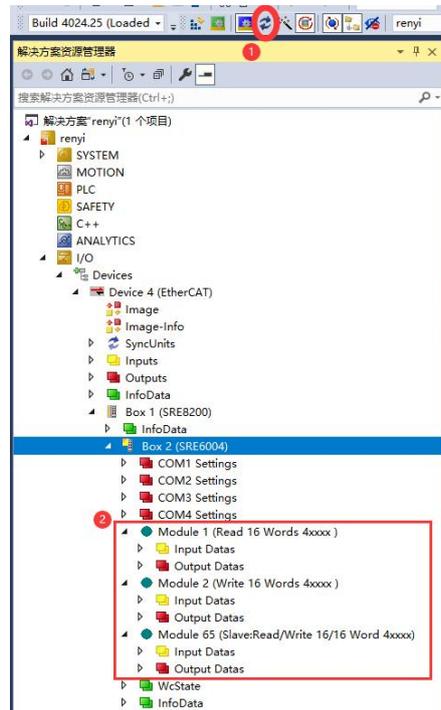
1. Configure COM1 as Modbus RTU master. Add the master parameter configuration, as shown in the following figure:



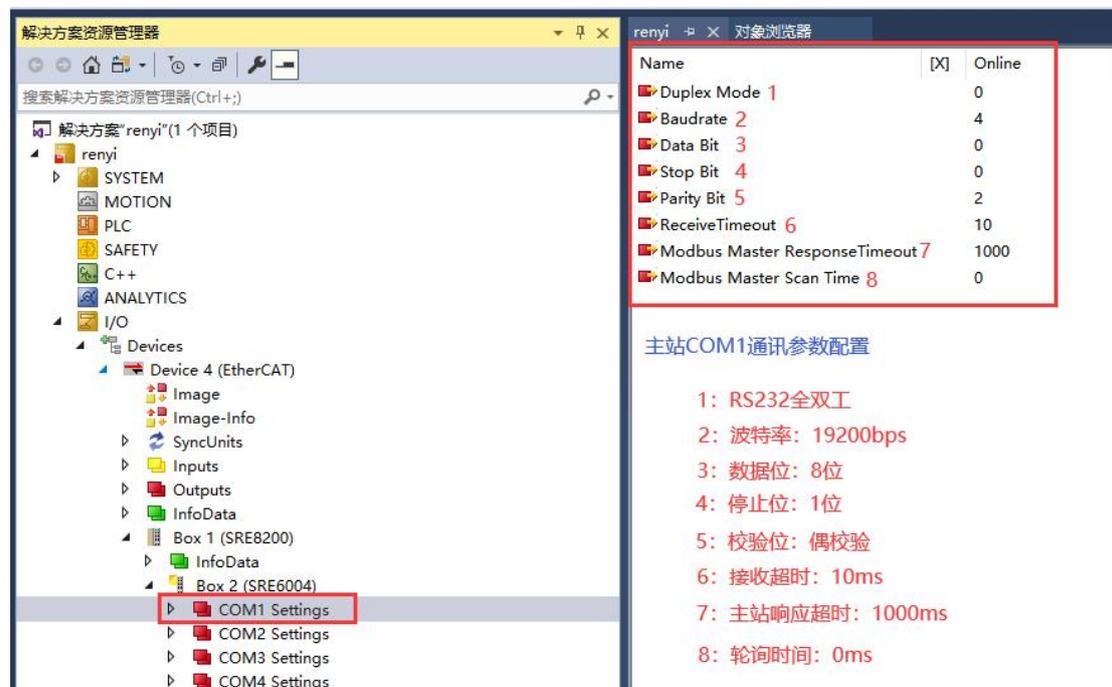
2. Configure COM3 as Modbus RTU slave. Determine the slave read/write address based on the added read/write byte count. The data area allowing read operations for the master is 40001~40017. The data area allowing write operations for the master is 40257~40273. The parameter configuration is as shown below:

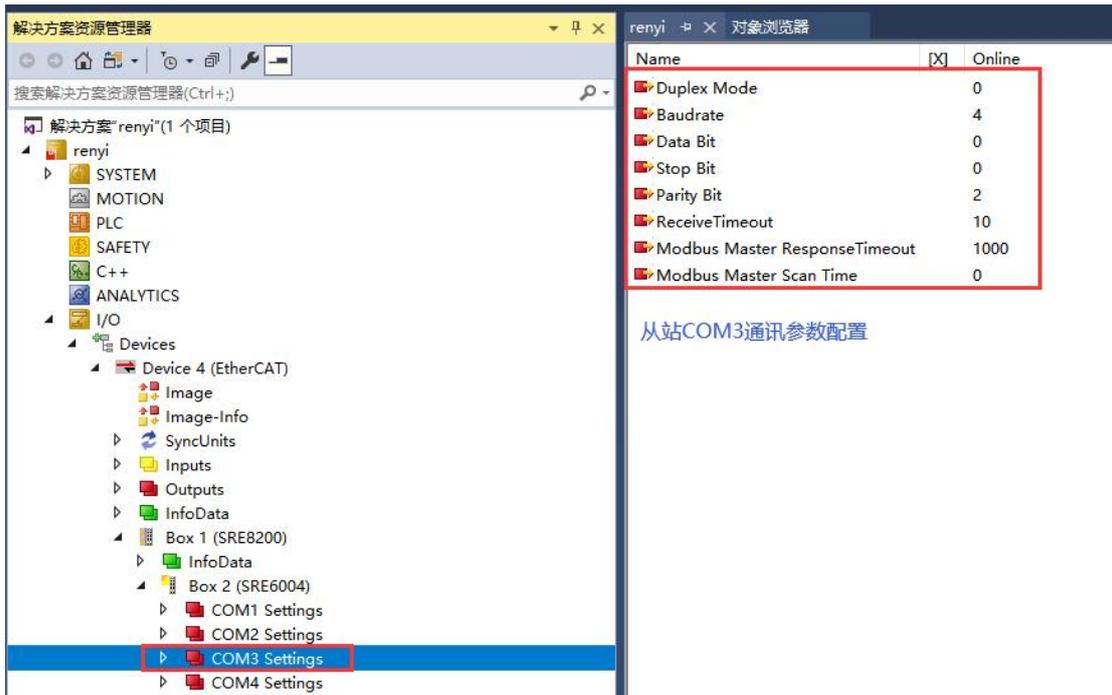


- (2) After configuration, click “Refresh IO” and check whether the module status is “OP”. If it shows “OP”, the configuration is correct; otherwise, it is incorrect.

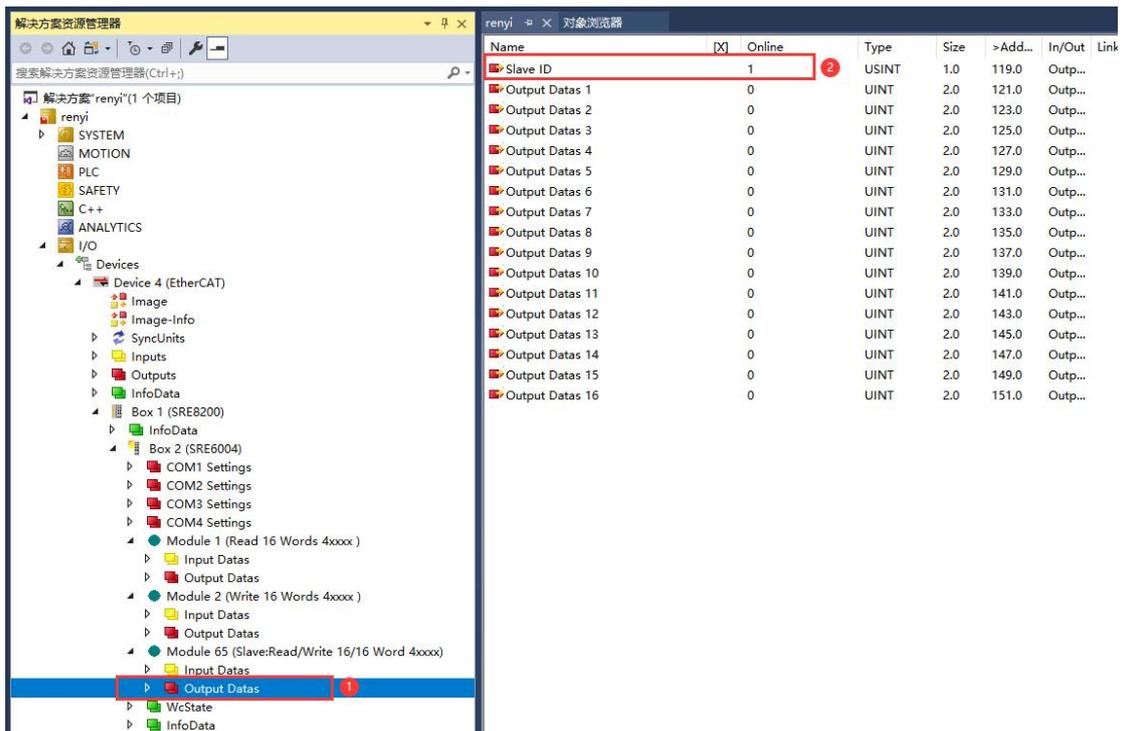


- (3) Configure the communication parameters for COM1 and COM3. The parameters configuration must be identical. Otherwise, the communication will be abnormal, as shown below:





(4) Configure the station address for COM3 slave



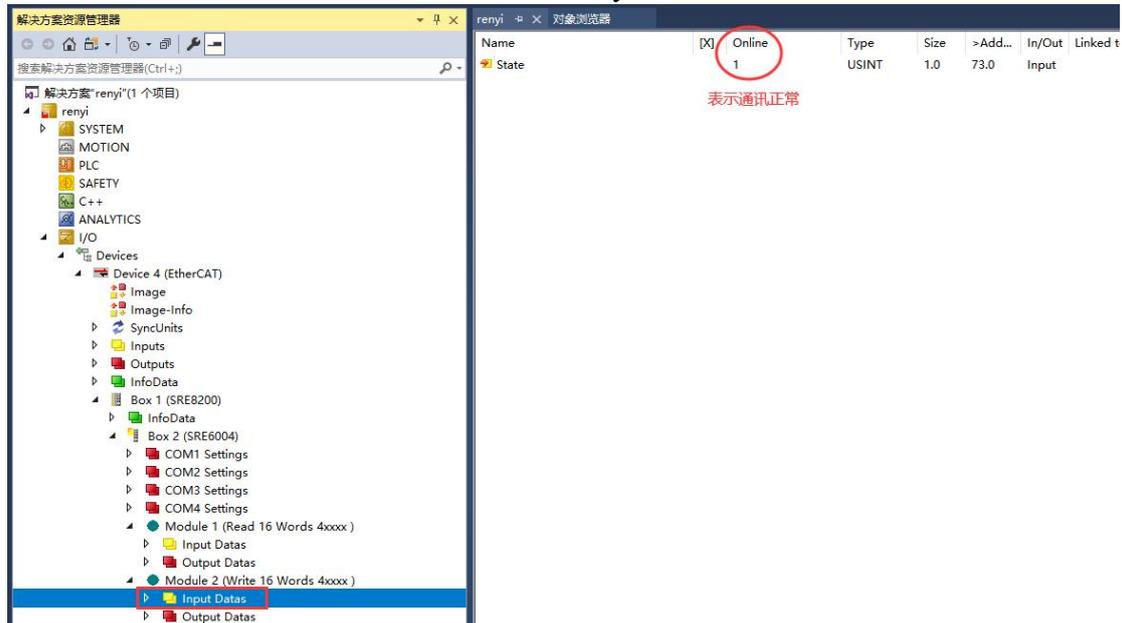
(5) Set COM1 master to access the data from COM3 slave

Name	[X]	Online	Type	S
Slave ID		1	USINT	1
Addr		256	UINT	2
Output Datas 1		0	UINT	2
Output Datas 2		0	UINT	2
Output Datas 3		0	UINT	2
Output Datas 4		0	UINT	2
Output Datas 5		0	UINT	2
Output Datas 6		0	UINT	2
Output Datas 7		0	UINT	2
Output Datas 8		0	UINT	2
Output Datas 9		0	UINT	2
Output Datas 10		0	UINT	2
Output Datas 11		0	UINT	2
Output Datas 12		0	UINT	2
Output Datas 13		0	UINT	2
Output Datas 14		0	UINT	2
Output Datas 15		0	UINT	2
Output Datas 16		0	UINT	2

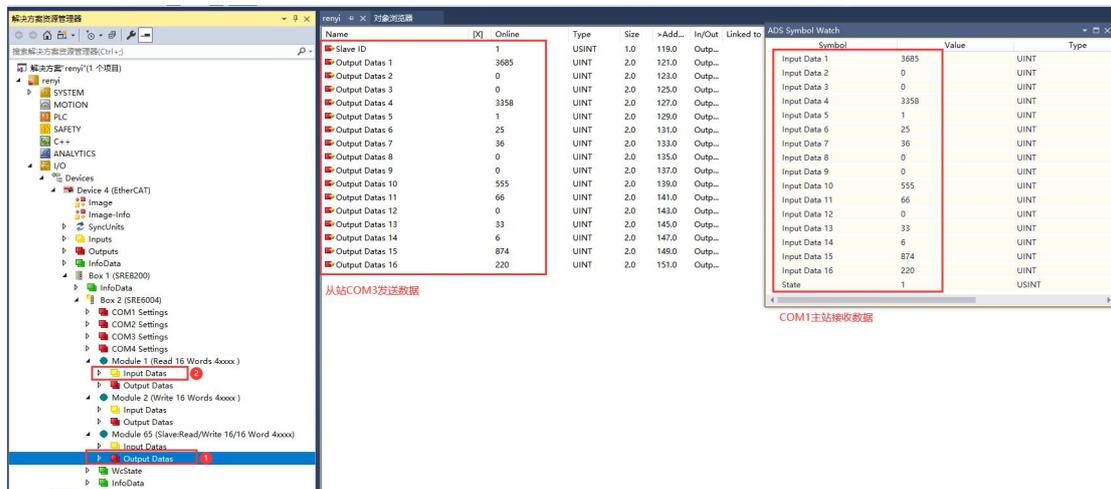
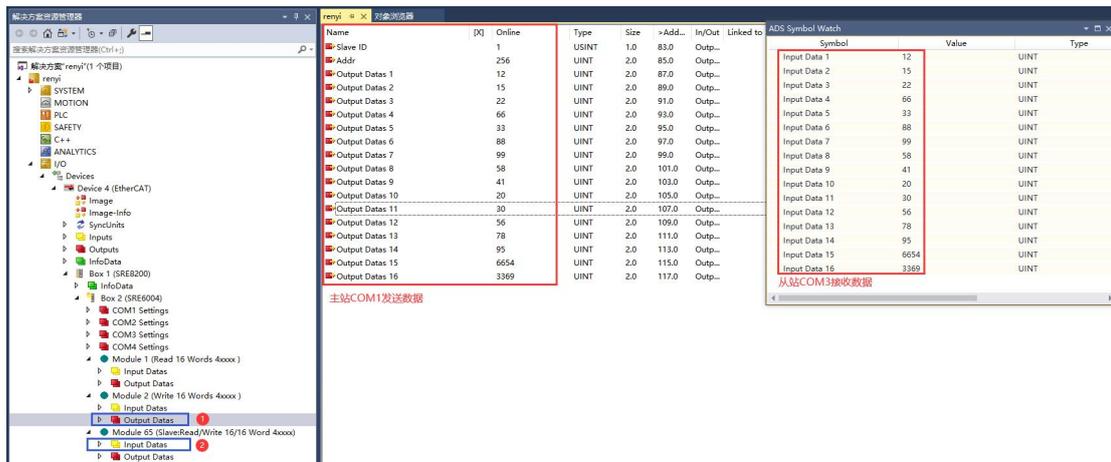
访问从站的站地址
需与设置的从站站地址一致

访问从站数据地址
例如：40001，则填0
40020，则填19

- (6) After configuring the communication parameters for COM1, check the module status. If the status displays as 1, it indicates that the communication is normal and the data can be transmitted successfully:



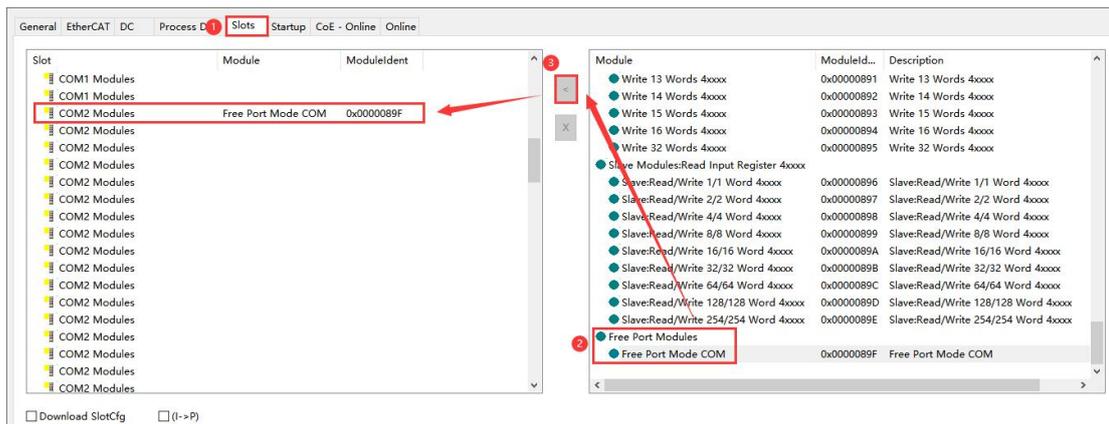
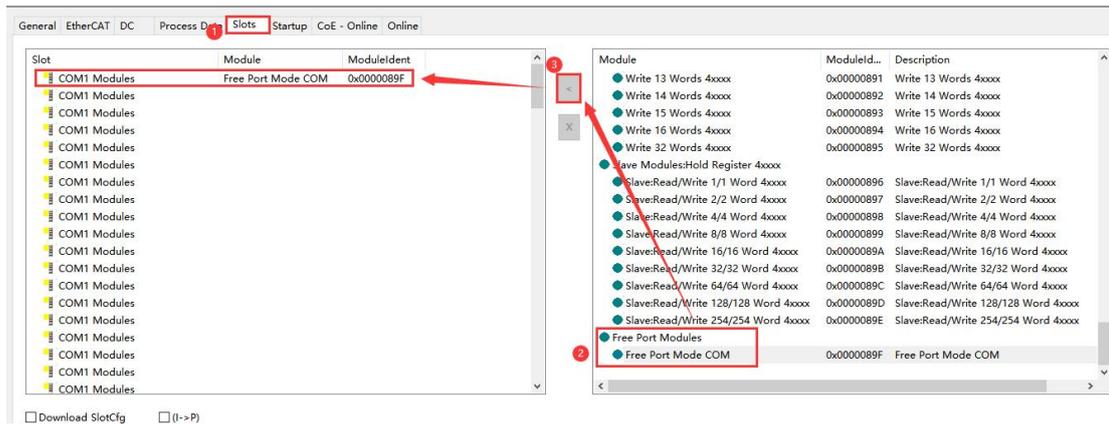
- (7) After completing the above configuration, data transmission and reception can be performed:



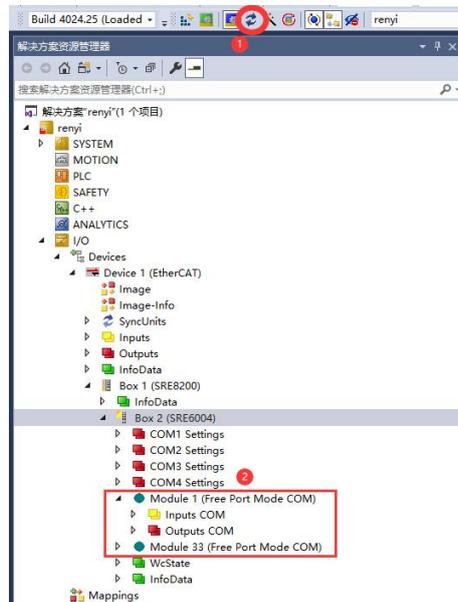
17.5.6. SRE6004 for Free Port Communication

This example demonstrates the free port communication between COM1 and COM2 on SRE6004 using RS232 connection. COM1 transmits data while COM2 receives it. The interaction data is as follows:

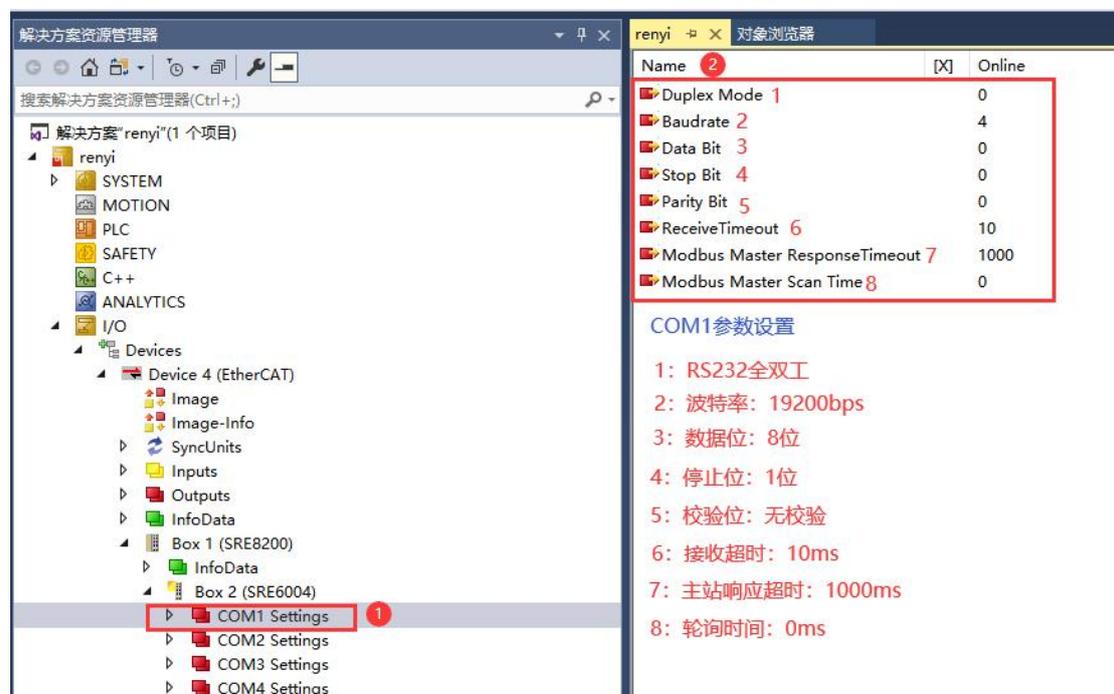
- (1) Configure COM1 and COM2 in the free port mode. The parameter configurations are shown in the following figure:

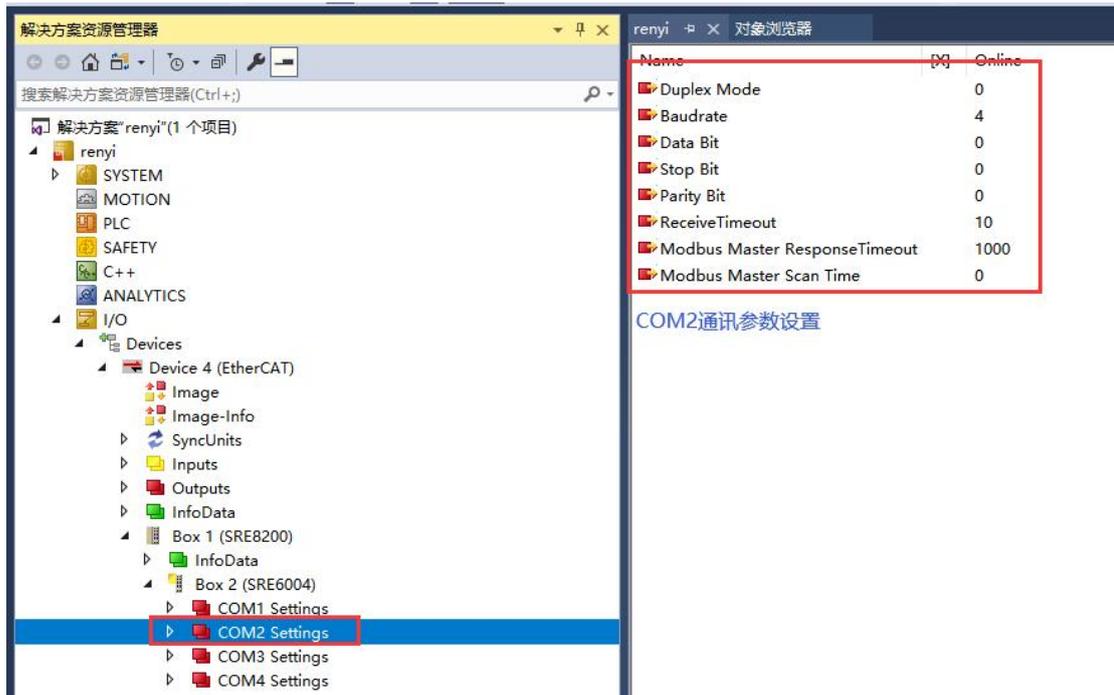


After configuration, click “Refresh IO” and check whether the module status is “OP”. If it shows “OP”, the configuration is correct; otherwise, it is incorrect.



(2) Configure the communication parameters for COM1 and COM2. When using the COM1 and COM2 for free port communication, the baud rate, parity, and stop bits of the communication parameters must be set consistently; otherwise, normal communication cannot be achieved, as shown in the figure below:





(3) Data Monitoring

Name	Online	Type	Size	Symbol	Value	Type
Ctrl	0x00280001 (262...)	Ctrl_F31A...	4.0	Status	...	Status_65F96CD0
Transmit request	1	BIT	0.1	Status.Transmit Done	0	BIT
Receive accepted	0	BIT	0.1	Status.Receive request	1	BIT
Init request	0	BIT	0.1	Status.Init accepted	0	BIT
Put data	0	BIT	0.1	Status.SndBuffer full	0	BIT
Output length	40	USINT	2.0	Status.PutData Done	0	BIT
Data Out 0	11	USINT	1.0	Status.Input length	32	USINT
Data Out 1	22	USINT	1.0	Status.Total input length	40	USINT
Data Out 2	33	USINT	1.0	Data In 0	11	USINT
Data Out 3	88	USINT	1.0	Data In 1	22	USINT
Data Out 4	190	USINT	1.0	Data In 2	33	USINT
Data Out 5	223	USINT	1.0	Data In 3	88	USINT
Data Out 6	164	USINT	1.0	Data In 4	190	USINT
Data Out 7	66	USINT	1.0	Data In 5	223	USINT
Data Out 8	33	USINT	1.0	Data In 6	164	USINT
Data Out 9	46	USINT	1.0	Data In 7	66	USINT
Data Out 10	43	USINT	1.0	Data In 8	33	USINT
Data Out 11	3	USINT	1.0	Data In 9	46	USINT
Data Out 12	3	USINT	1.0	Data In 10	43	USINT
Data Out 13	0	USINT	1.0	Data In 11	3	USINT
Data Out 14	32	USINT	1.0	Data In 12	3	USINT
Data Out 15	4	USINT	1.0	Data In 13	0	USINT
Data Out 16	228	USINT	1.0	Data In 14	32	USINT
Data Out 17	44	USINT	1.0	Data In 15	4	USINT
Data Out 18	67	USINT	1.0	Data In 16	228	USINT
Data Out 19	0	USINT	1.0	Data In 17	44	USINT
Data Out 20	0	USINT	1.0	Data In 18	67	USINT
Data Out 21	0	USINT	1.0	Data In 19	0	USINT
Data Out 22	0	USINT	1.0	Data In 20	0	USINT
Data Out 23	0	USINT	1.0	Data In 21	0	USINT
Data Out 24	0	USINT	1.0	Data In 22	0	USINT
Data Out 25	0	USINT	1.0	Data In 23	0	USINT
Data Out 26	0	USINT	1.0	Data In 24	0	USINT
Data Out 27	6	USINT	1.0	Data In 25	0	USINT
Data Out 28	35	USINT	1.0	Data In 26	0	USINT
Data Out 29	3	USINT	1.0	Data In 27	6	USINT
Data Out 30	3	USINT	1.0	Data In 28	35	USINT
Data Out 31	2	USINT	1.0	Data In 29	3	USINT
				Data In 30	3	USINT
				Data In 31	2	USINT

Note: When performing free port communication, it is recommended to initialize the serial port before receiving or transmitting data. After successful initialization, the initialization control word “Init request” must be set as 0; otherwise, the serial port cannot transmit or receive data normally.

Transmit data:

(1) Initialize the serial port. When the control word “Init request” of COM1 is

set to 1 and the status word “Init accepted” of COM1 displays 1, the initialization has been completed.

(2) Set the transmitted data length by writing 40 into the control word “Output length” of COM1.

(3) Write the data to be sent, from 1 to 32, into Data Out 0 to Data Out 31 in sequence. (A maximum of 32 bytes of data can be written into the transmission buffer at a time. If the length of the data to be sent is greater than 32 bytes, the data needs to be written into the transmission buffer in batches and then sent out all at a time. For example, to transmit 40 bytes of data, write the data into the transmission buffer in two batches and then transmit all 40 bytes at a time.)

(4) Set the control word “Transmit request” of COM1 to 1, and simultaneously set the control word “Put data” to 1.

(5) Read the status word “PutData Done” of COM1. When PutData Done is 1, it indicates that 32 bytes have been successfully written into the transmission buffer. Then set the control word “Put data” to 0.

(6) Write values 33~40 into Data Out 0-Data Out 7 sequentially, and then set the control word “Put data” as 1.

(7) When the status word “Transmit Done” of COM1 is 1, it indicates that the current data frame has been successfully sent. Then set the control words “Transmit request” and “Put data” to 0; the current frame transmission is completed.

Receive data:

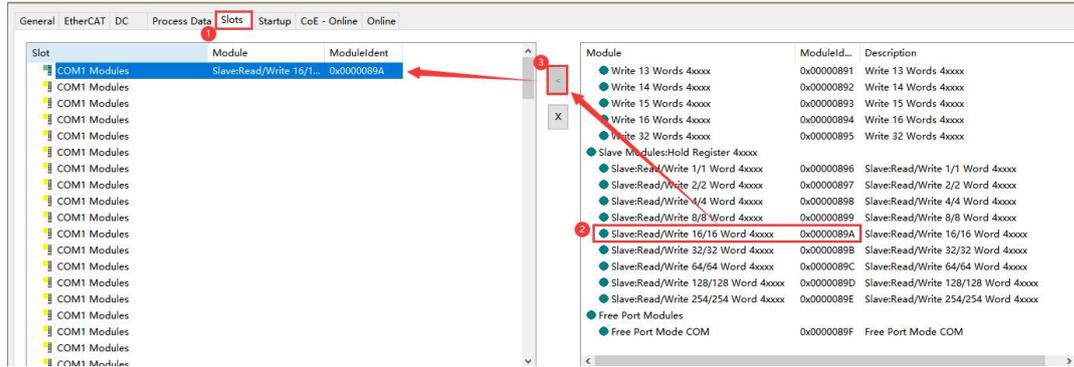
(1) When the module is receiving data, the "Receive request" status word of COM2 is 1; Input length is 32, indicating that the currently receivable data is 32; Total input length displays a total length of 40;

(2) Reading Data In 0-Data In 31 allows access to the first 32 bytes. Set the COM2 control word “Receive accepted” to 1. At the moment, when the status word “Receive request” of COM2 is read as 0, set the control word “Receive accepted” of COM1 to 0. After setting it to 0, the status word “Receive request” of COM1 displays 1, and “Input length” shows 8, indicating there are 8 bytes of data to be received.

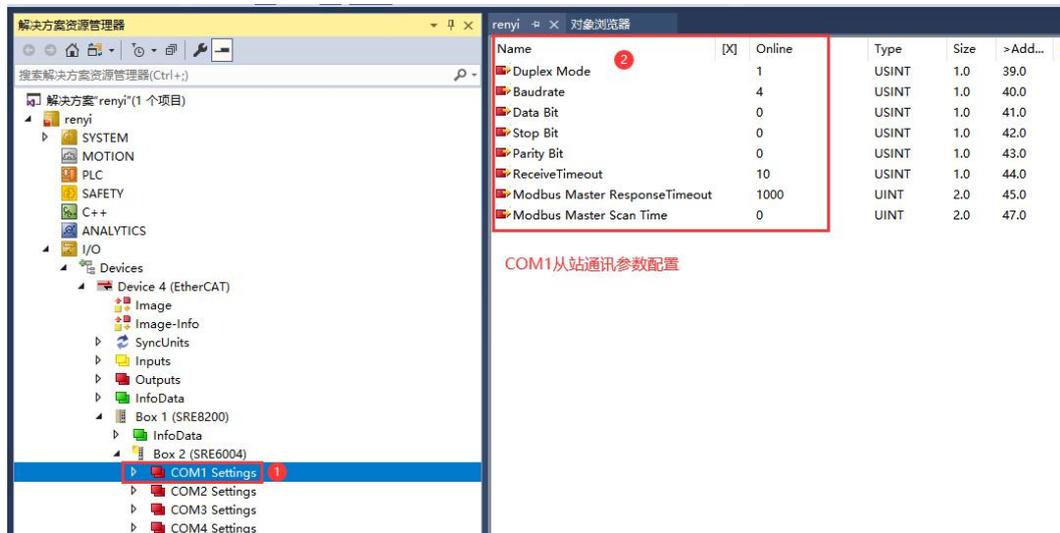
(3) At the moment, reading Data In 0-Data In 7 allows access to the next 8 bytes. After reading, set the control word “Receive accepted” of COM1 to 1. At the moment, when the status word “Receive request” of COM1 is read as 0, set the control word “Receive accepted” of COM2 to 0. After setting it to 0, the status word “Receive request” of COM1 displays 0. The current data frame reception is complete.

17.5.7. SRE6004 as Modbus Slave

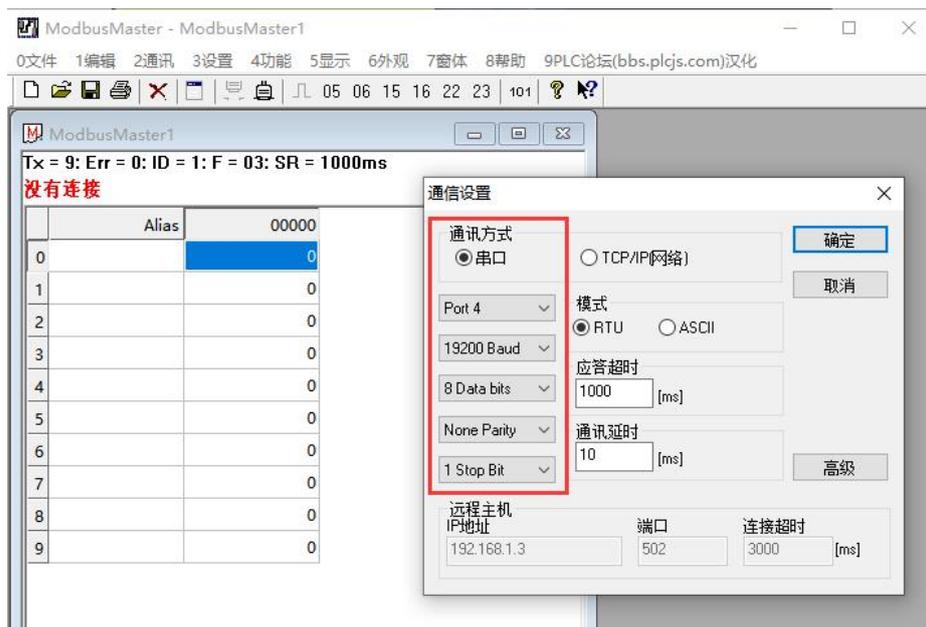
(1) Set COM1 as slave



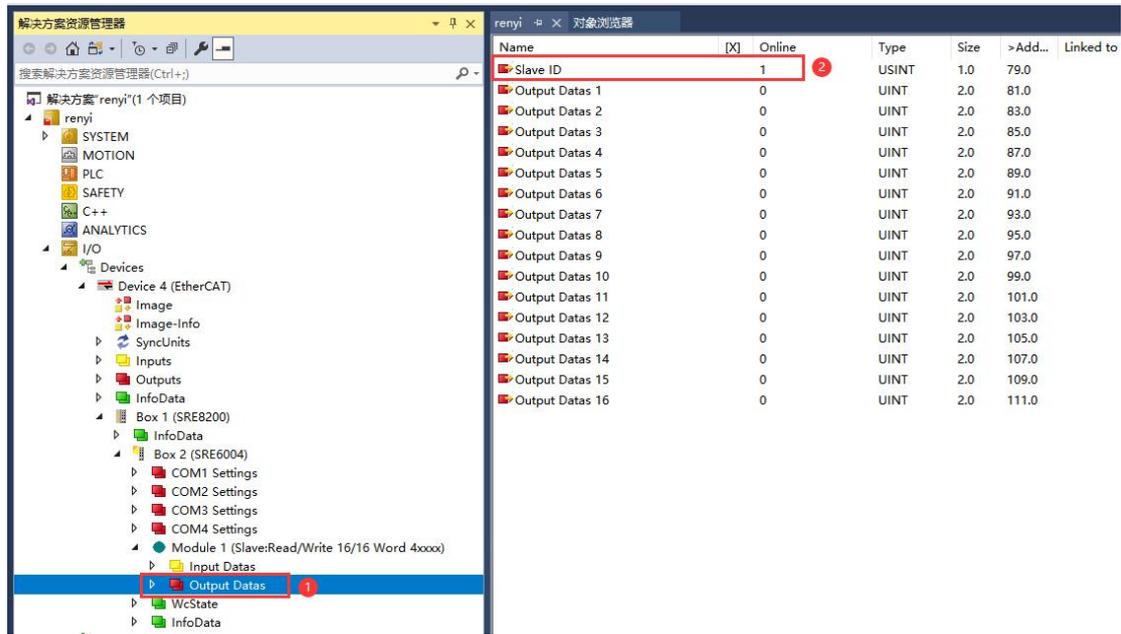
(2) Configure the communication parameters for the COM1 slave



(3) Configure the communication parameters for the Modbus Master, which must be the same as that of the COM1 slave; otherwise, the communication will fail

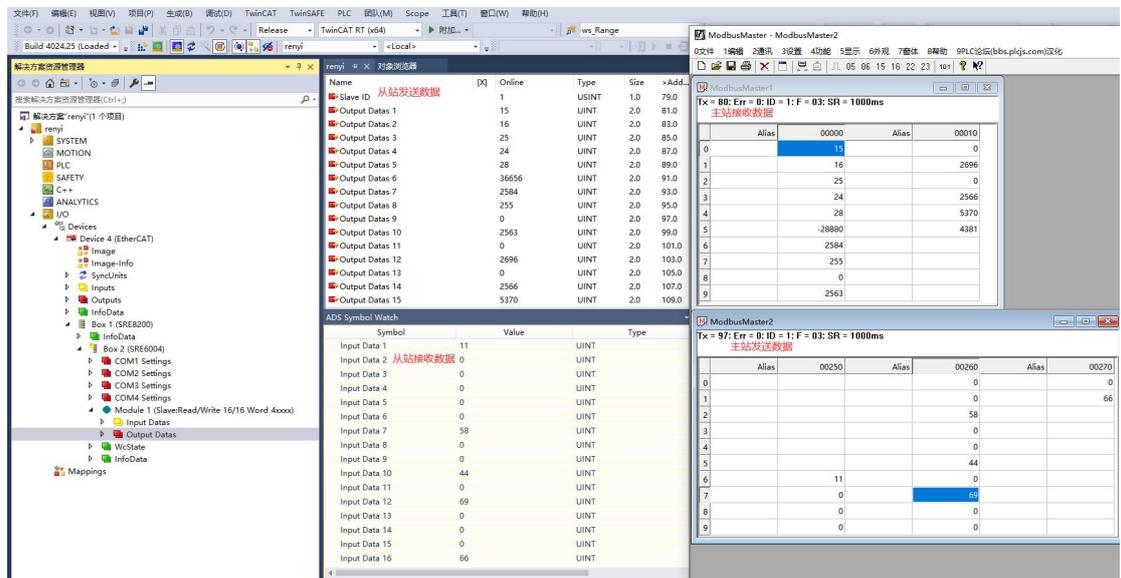


(4) Set the ID of Slave



(5) Data interaction: As shown in the diagram, the master reads the data from addresses 40001~40017 of SRE6004

The master writes data into addresses 40257~40273 of SRE6004

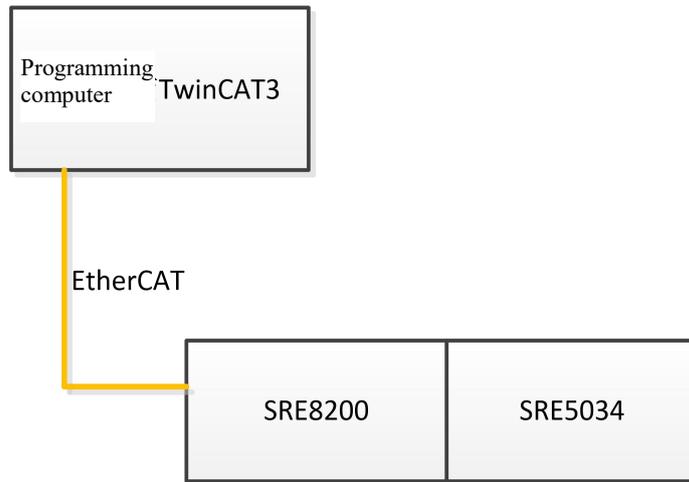


17.6. Example of SRE5034 Communication with TwinCAT3

This example briefly introduces the usage of SRE5034 module behind SRE8200 coupler. SRE5012 can be connected with reference to this example. The operation process is as follows:

17.6.1. Communication Connection

The communication connection diagram is as shown below:



17.6.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE5034	One	Counting module
Ethernet cable	Several	

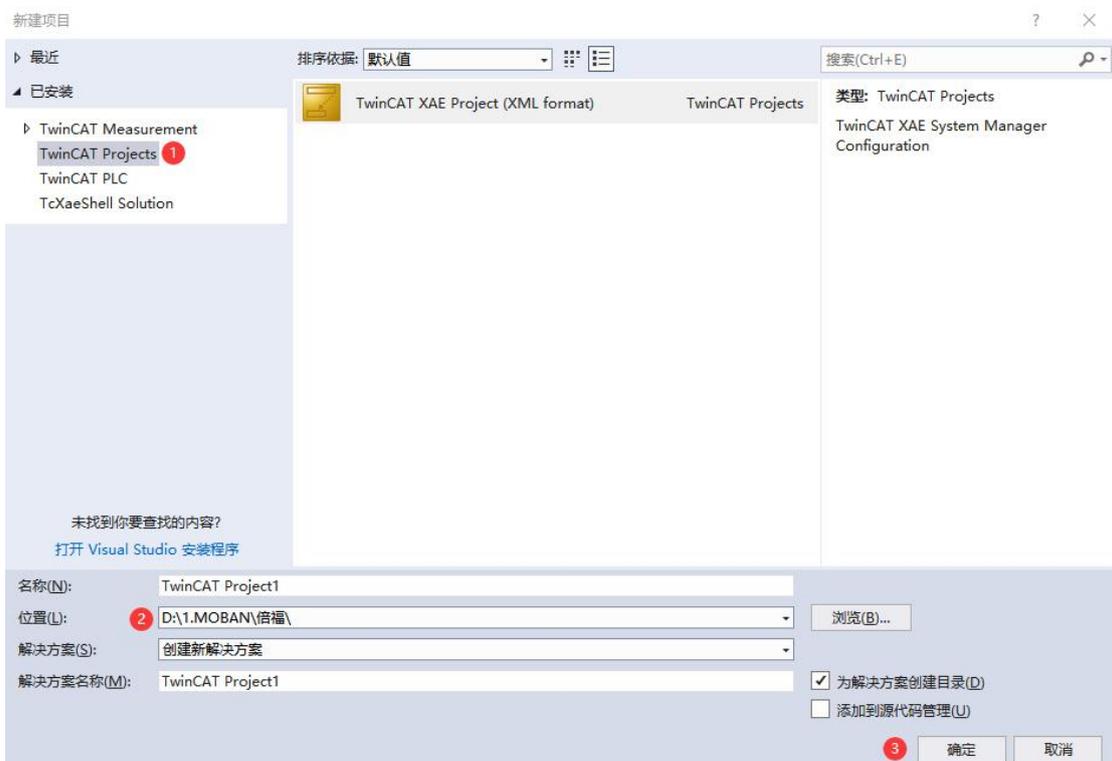
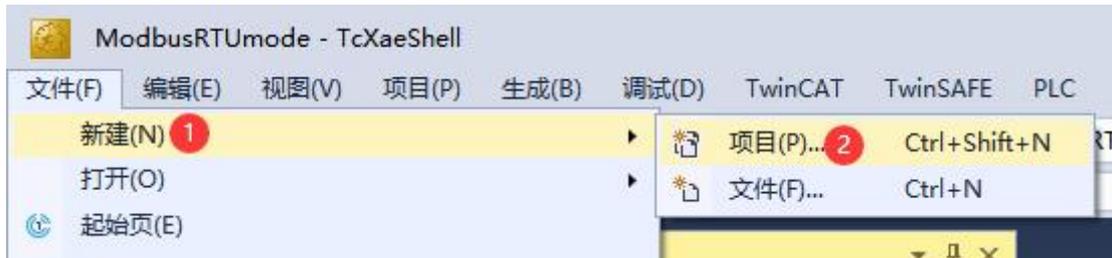
17.6.3. Install XML File

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

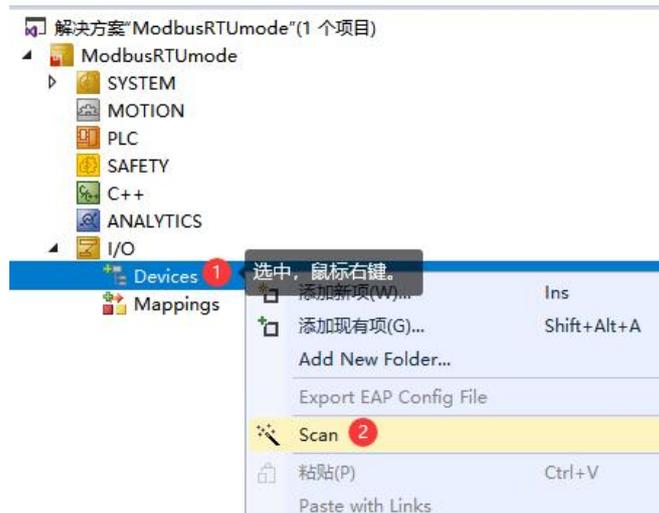


17.6.4. New Project and Configuration

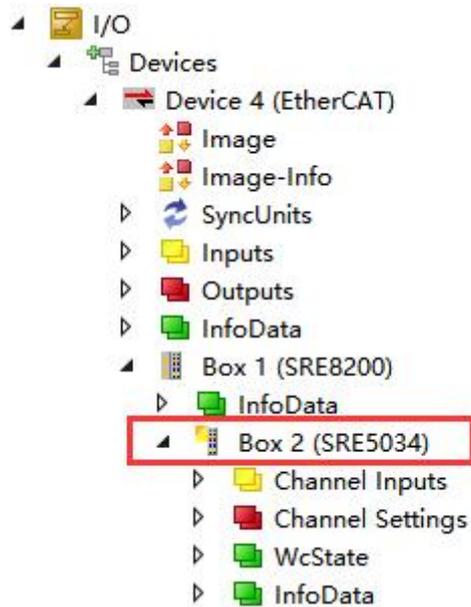
Open TwinCAT3 software and create a new project as shown below:



Scan the SRE8200 connected to the computer and its high-speed count module SRE5034 into the project, and then click I/O > Devices > Scan, as shown in the following figure:

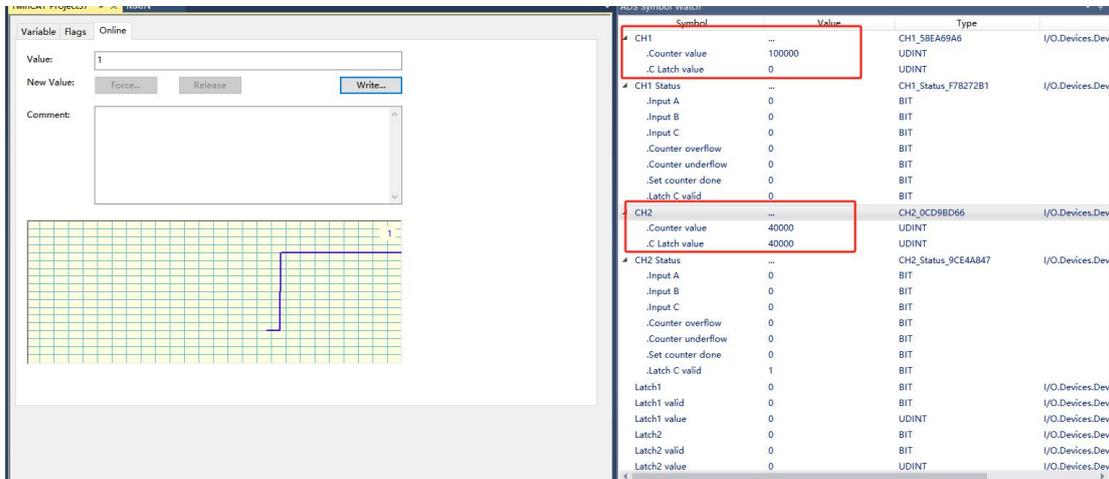


Successfully scanned modules are displayed as shown below:



17.6.5. Data Monitoring

Select the IO terminal to be monitored on TwinCAT3, and choose the channel to be monitored, as shown in the following figure:

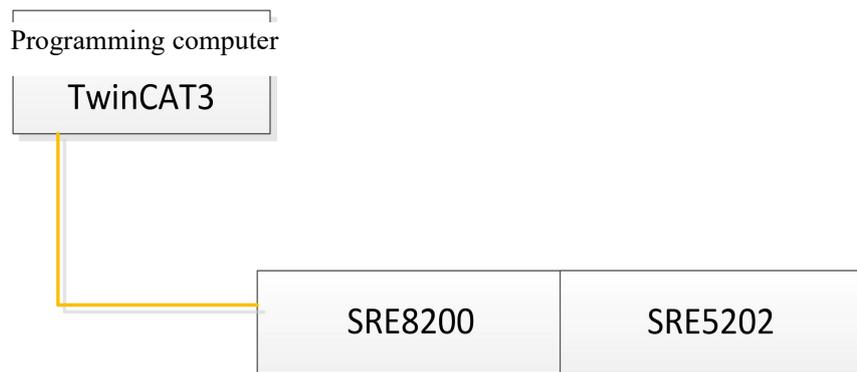


17.7. Example of SRE5202 Communication with TwinCAT3

This example demonstrates the communication connection using SRE8200 extended with SRE5202, monitoring SRE5202 module data through Beckhoff. SRE5204 can be connected and used with reference to this example.

17.7.1. Communication Connection

The communication connection diagram is as shown below:



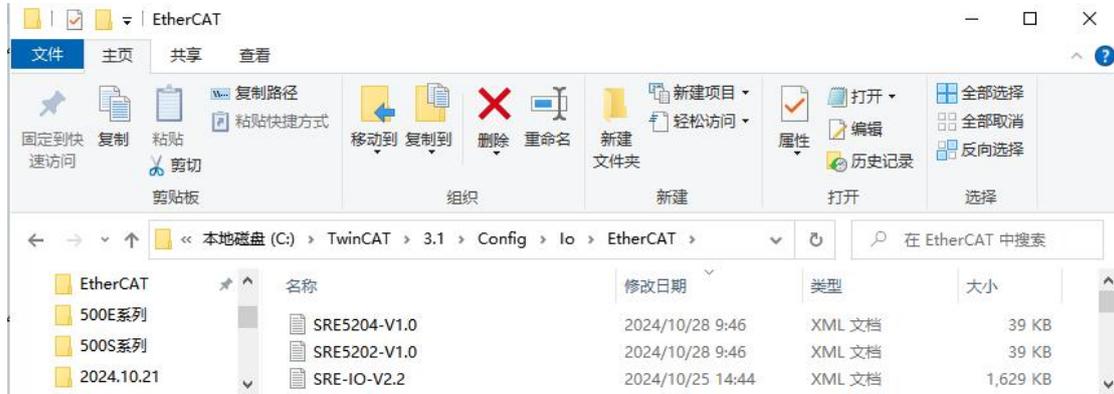
17.7.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE5202	One	
Ethernet cable	1 piece	
24V switching power supply	One	

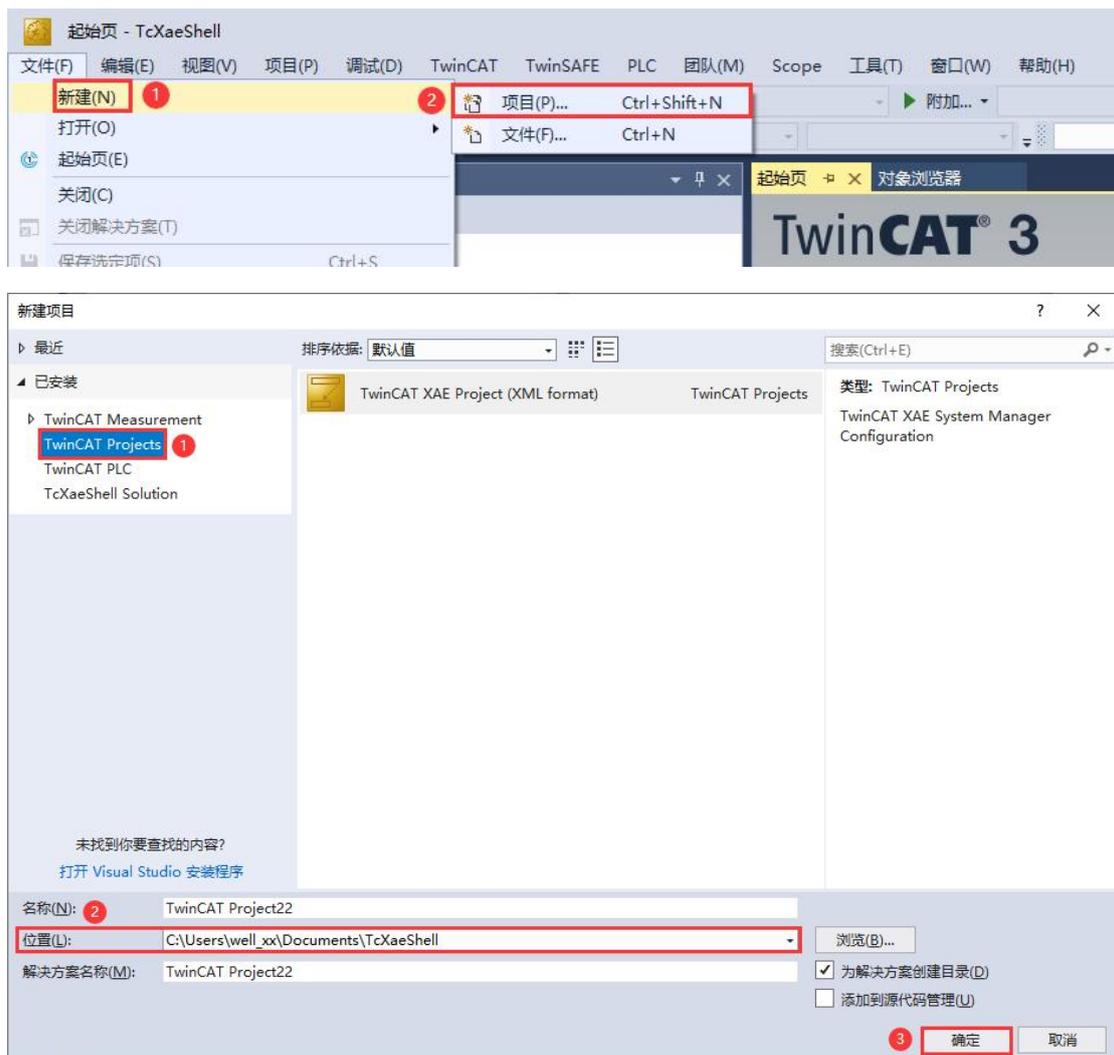
17.7.3. Install XML File

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

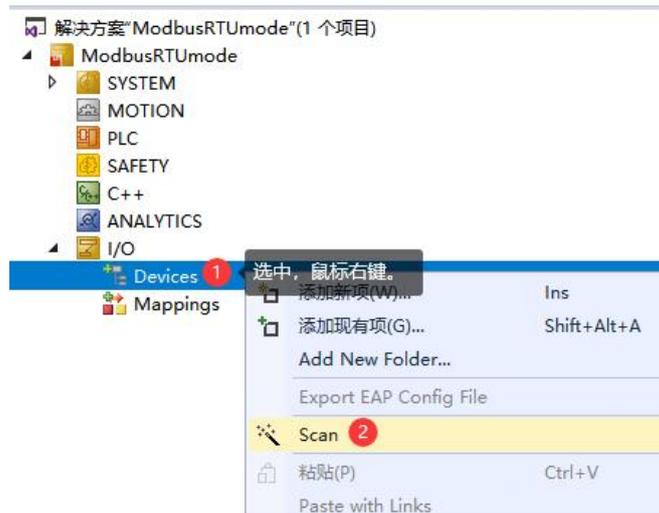


17.7.4. New Project and Configuration

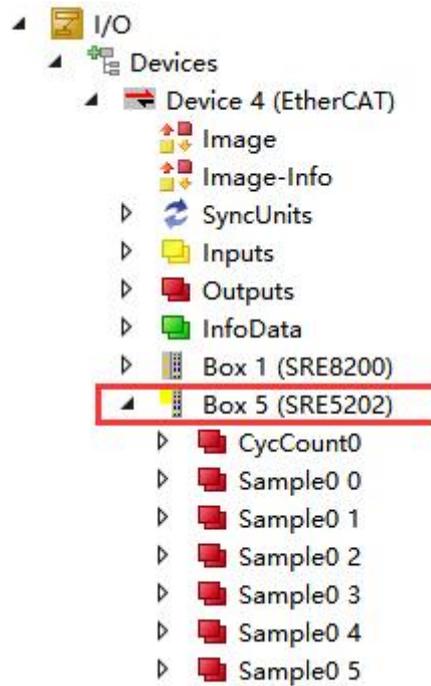
Open TwinCAT3 software and create a new project as shown below:



Connect the SRE8200 coupler to the computer, scan the extended SRE5202 module into the project, and then click I/O > Devices > Scan, as shown in the following figure:



Successfully scanned modules are displayed as shown below:

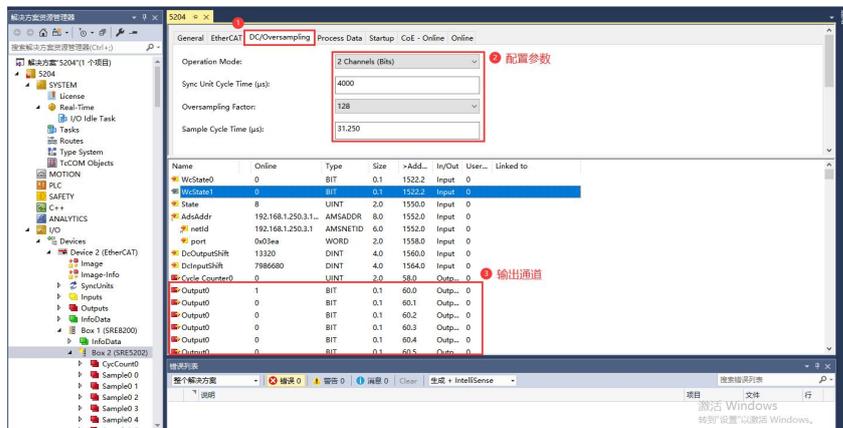


17.7.5. Data Monitoring

According to the actual usage requirements, the parameters of the SRE5202 can be configured through the DC/Oversampling parameter setting panel.

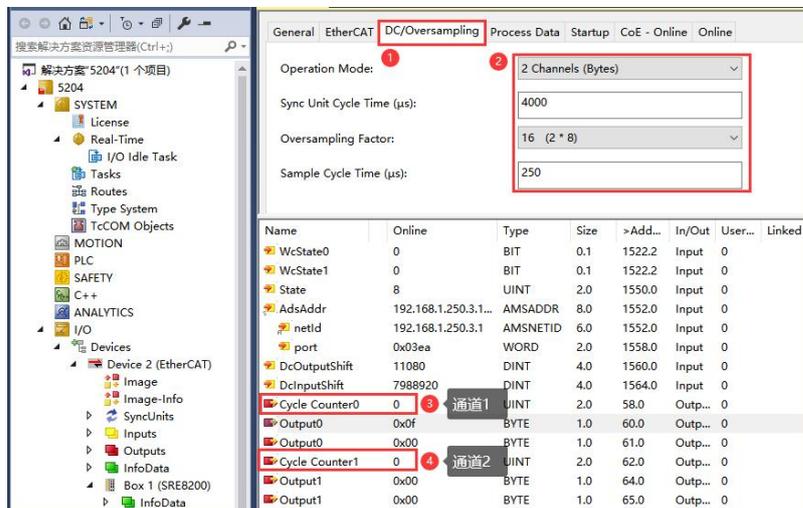
(1) Sampling data via Bit type:

For example: Select 2 Channels (Bits), 128Bit, meaning that the oversampling factor for SRE5202 Channel 1 and Channel 2 processes is 128Bit. This means selecting two channels with a total cycle time of 4000us. Set channel output. Based on the total cycle time and oversampling factor, the sampling cycle time is 31.250us. Setting the channel as 1 will make it continuously output according to the sampling cycle time.

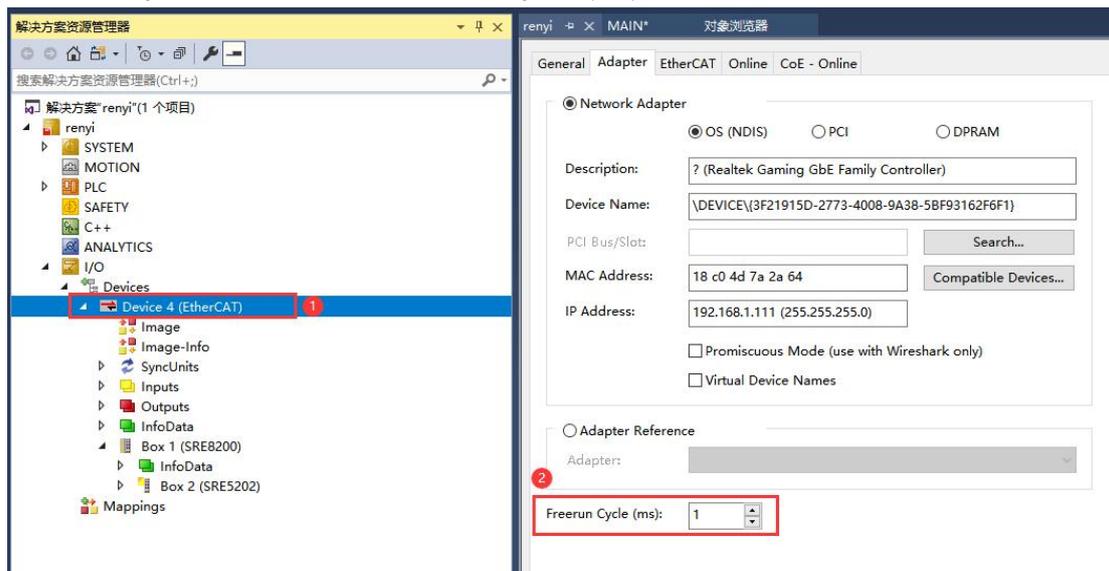


(2) Sampling data via Byte type:

For example: Select 2 Channels (Bytes), 16 (2*8), meaning that the oversampling factor for SRE5202 Channel 1 and Channel 2 is 2 Bytes (16 Bit). This means selecting two channels. Based on the total cycle time and oversampling factor, the sampling cycle time is 250us. As shown below, setting the first 8 bits of Channel 1 as 1 will make it continuously output according to the sampling cycle time.



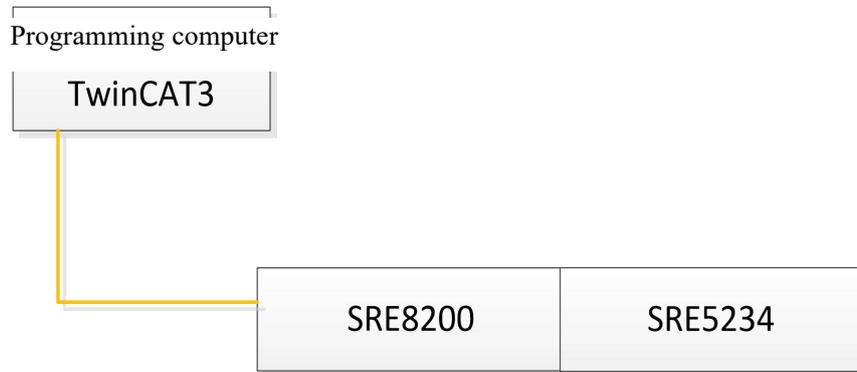
The total cycle time is set via Freerun Cycle (ms).



17.8. Example of SRE5234 Communication with TwinCAT3

17.8.1. Communication Connection

The communication connection diagram is as shown below:



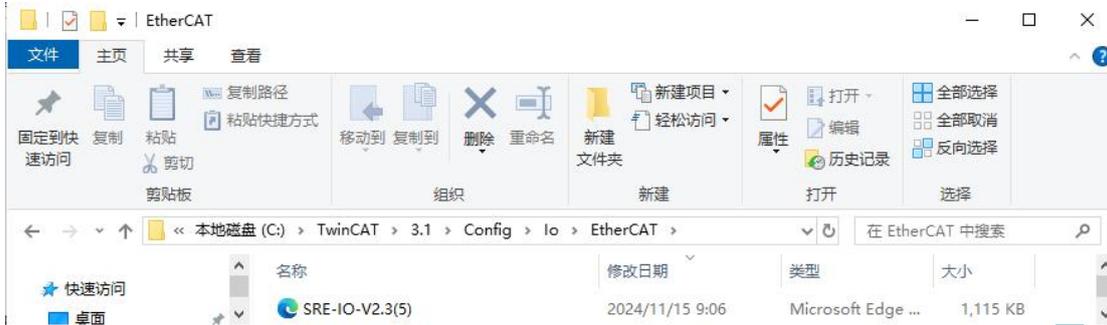
17.8.2. Hardware Configuration

The hardware configuration is shown in the following table:

Hardware	Quantity	Remarks
Programming computer	One	Install TwinCAT3 software
SRE8200	One	EtherCAT communication coupler
SRE5234	One	
Ethernet cable	1 piece	
24V switching power supply	One	

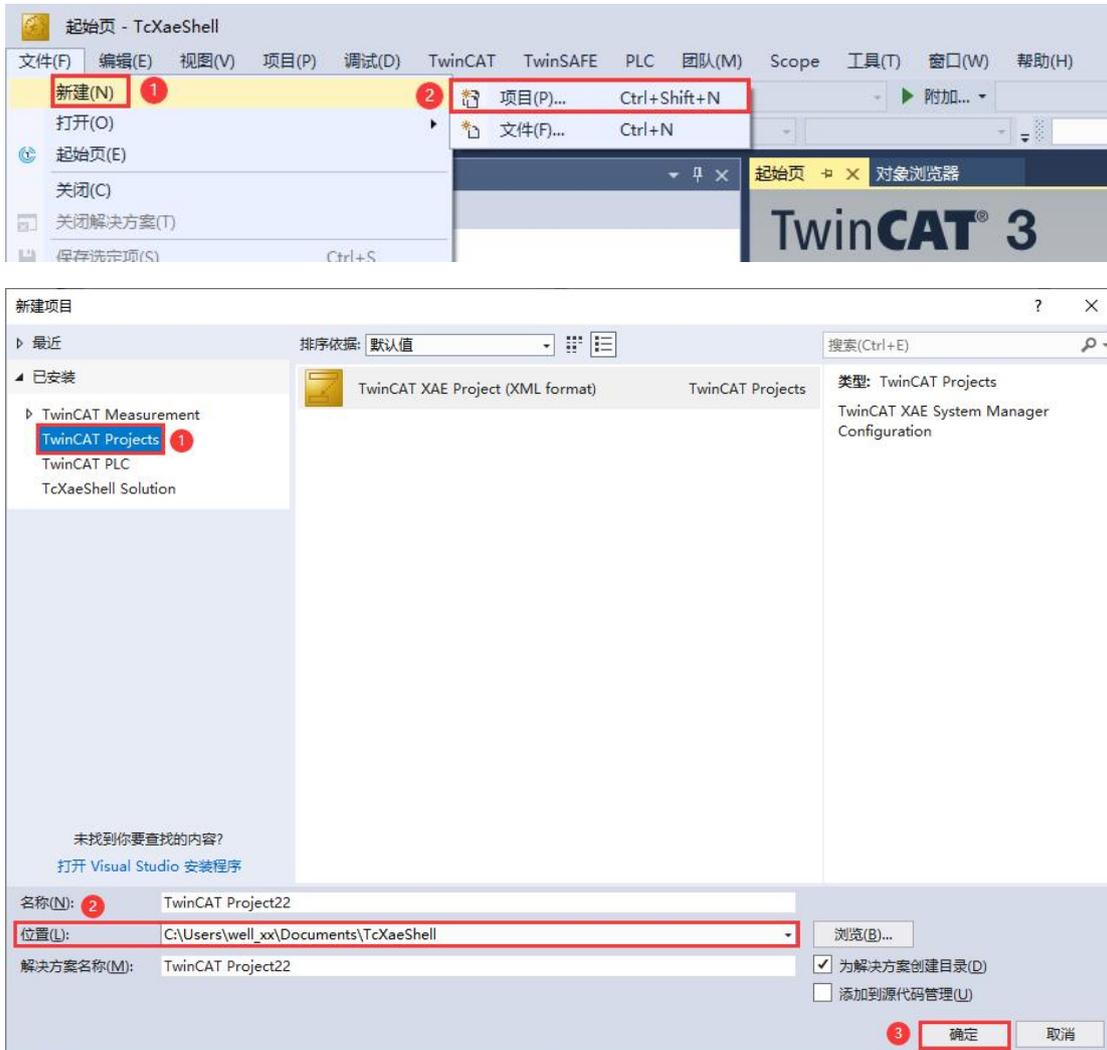
17.8.3. Install XML File

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



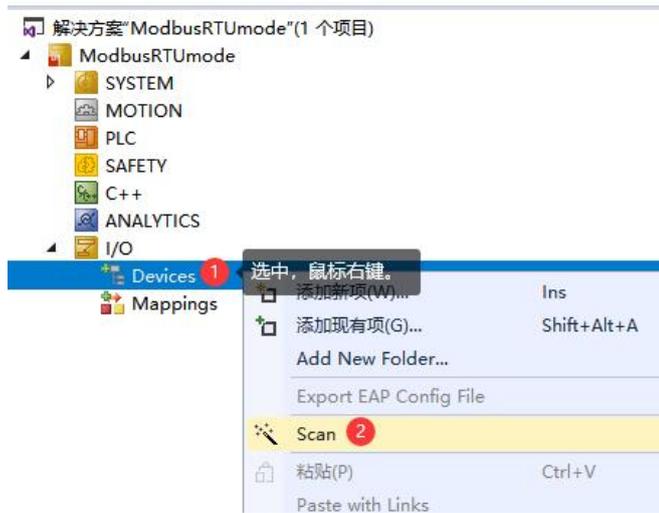
17.8.4. New Project and Configuration

Open TwinCAT3 software and create a new project as shown below:

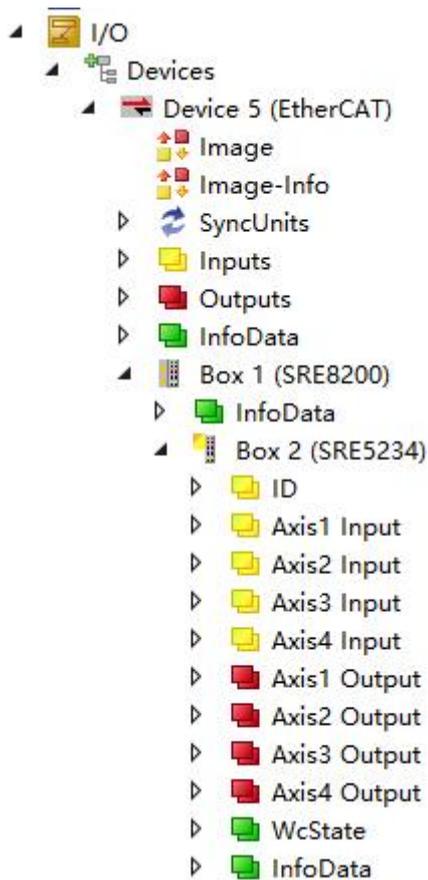


Connect the SRE8200 coupler to the computer, scan the extended SRE5202

module into the project, and then click I/O > Devices > Scan, as shown in the following figure:

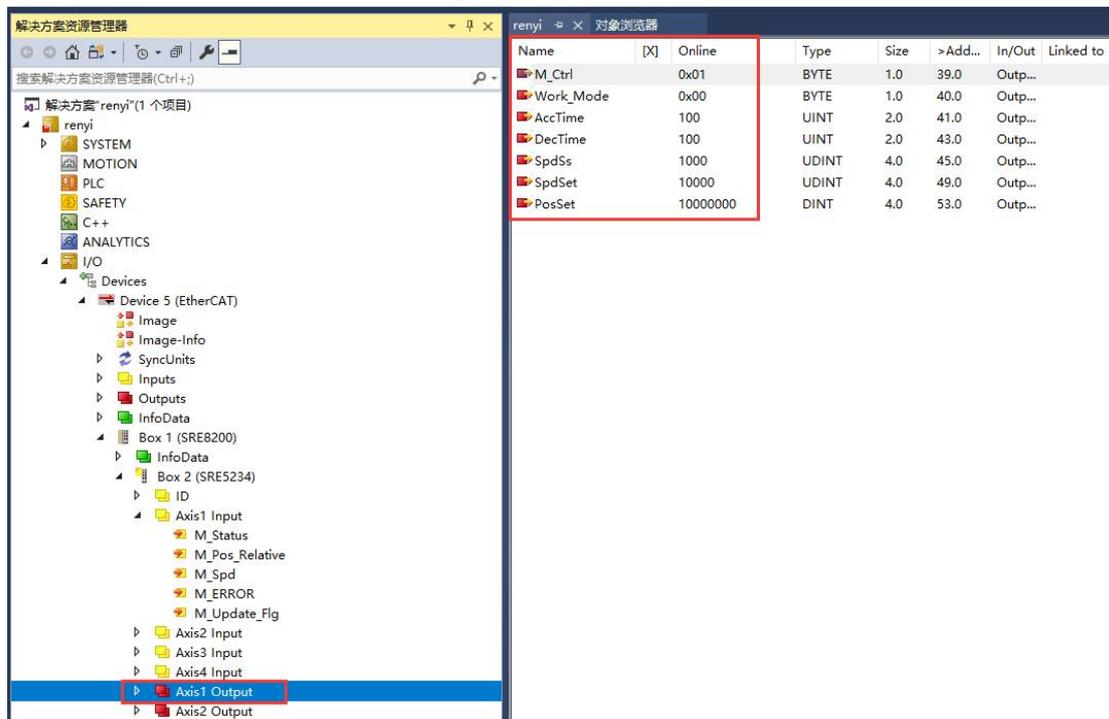


Successfully scanned modules are displayed as shown below:

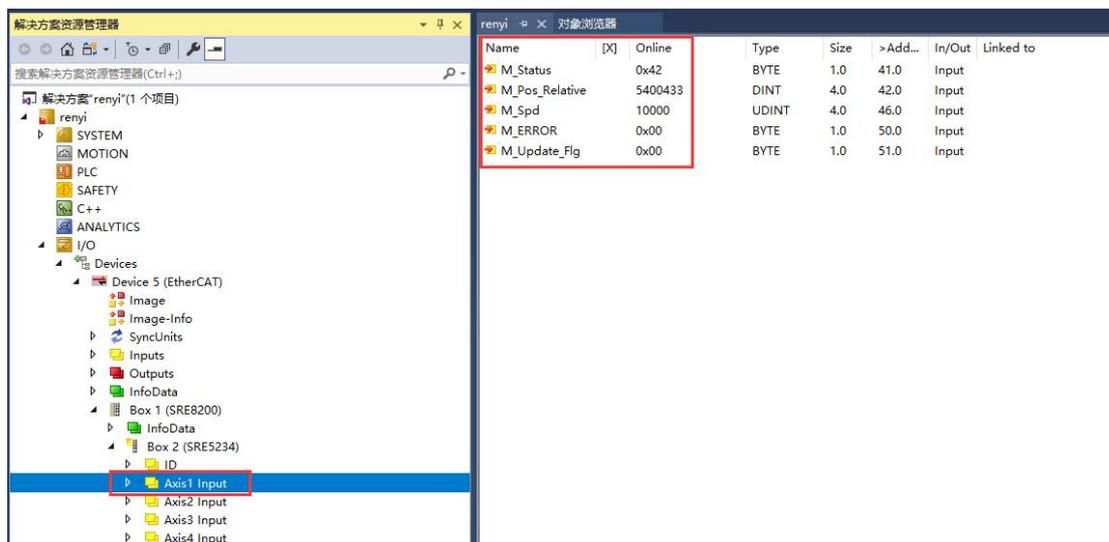


17.8.5. Data Monitoring

On TwinCAT3, select the IO terminal to be monitored, choose Axis 1 for monitoring, and configure the parameters. After parameter configuration, set the control word as 1, indicating the start of output, as shown in the example below:



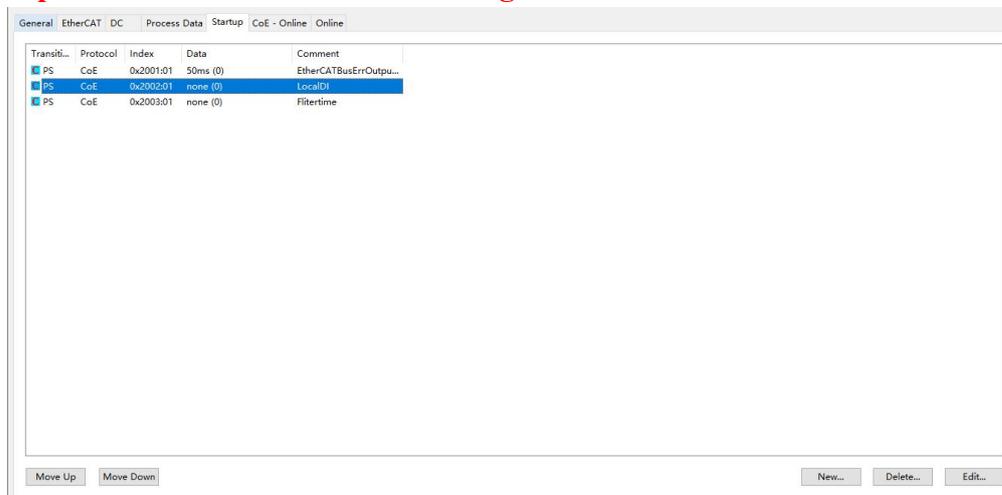
You can view parameters and monitor axis operation status through the corresponding axis in Axis Inputs, as shown in the figure below:



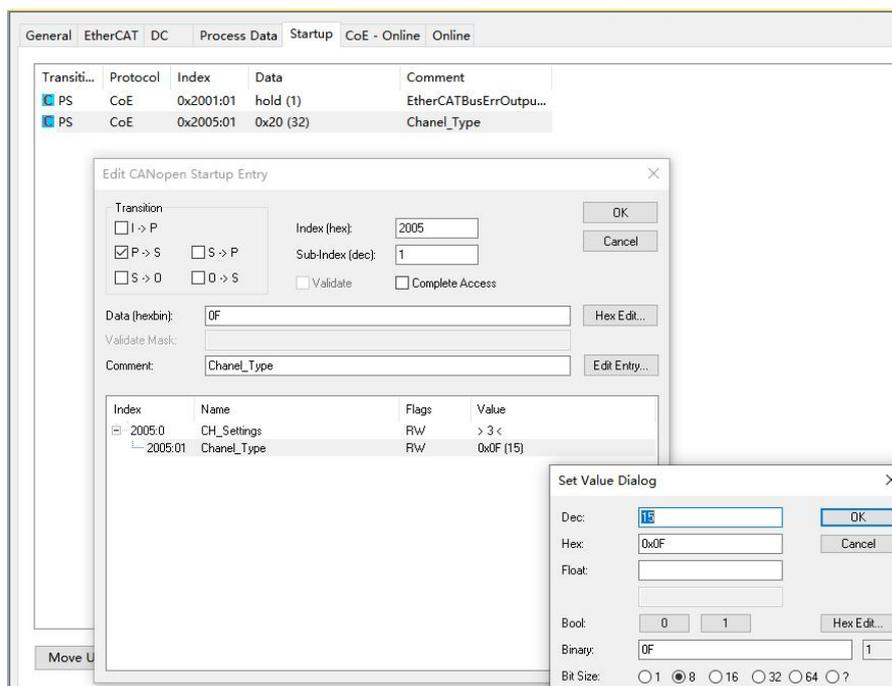
Appendix Configuration Parameter Description

TwinCAT3 Startup Function Description

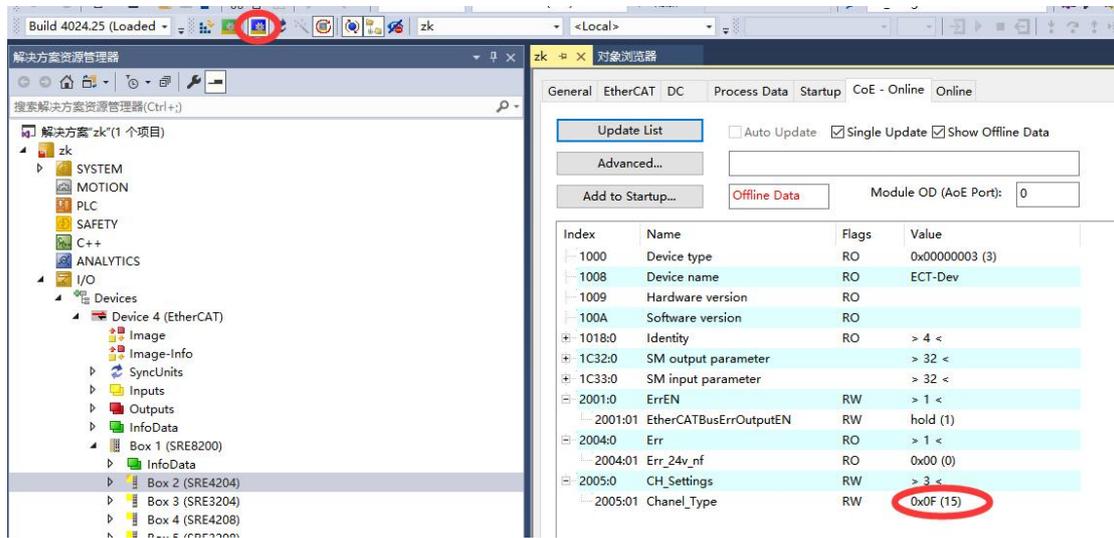
The parameters of the expansion module are not able to be saved in COE. The configuration of the expansion IO terminal will be reset to the factory default settings every time the expansion IO terminal is rescanned or powered on again. Set the parameters of the expansion IO terminal in the startup item. Each time communication occurs, parameters will be written into the coupler. In the same project, after repeated power-on, the parameter configuration of the expansion terminal remains unchanged.



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



After completing parameter configuration, refresh to update data to COE parameters. The parameters will take effect at this point and remain active after power-off, but revert to the original configuration after rescanning the device.

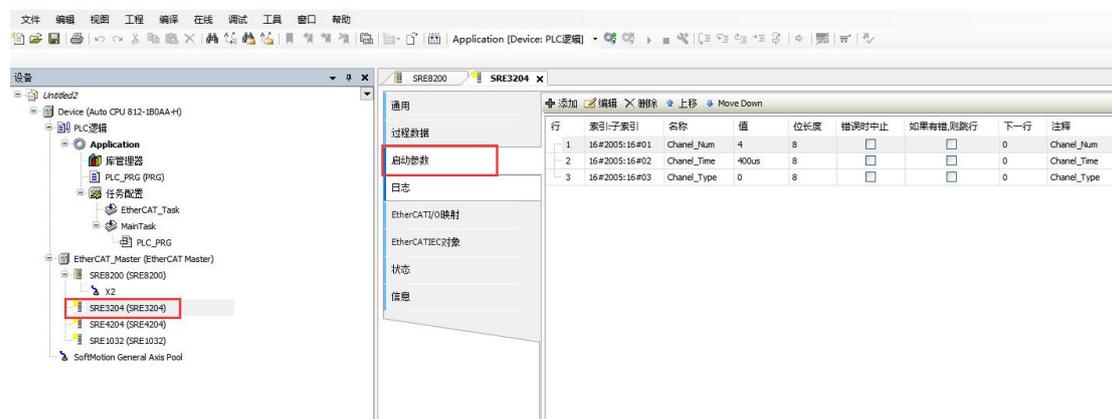


Note: When configuring parameters for SRE3204/SRE3208, different parameters must be set under different parameter directories. For example: clicking the first parameter directory to set the first parameter in the directory, while clicking the second parameter directory to set the second parameter. If the same parameter is configured under three different directories, it will be overwritten by the last parameter, and only the final configured parameter will take effect.

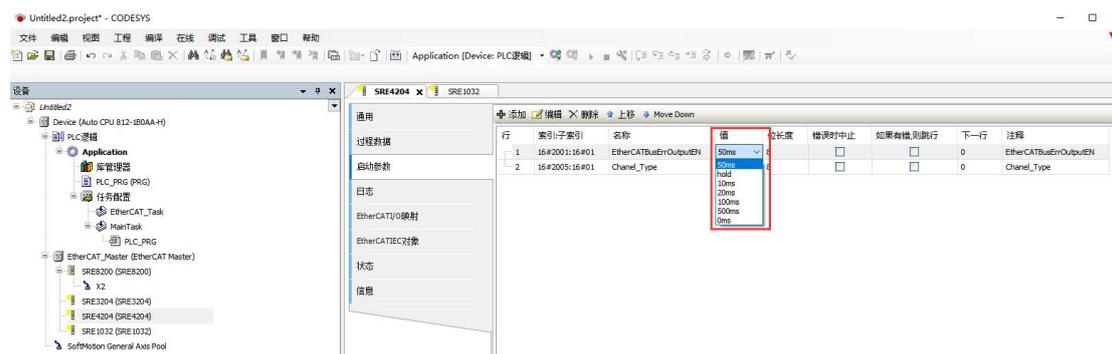
Settings of Extended Module Parameters in Codesys Startup Parameters

The parameters of the expansion module are not able to be saved. The configuration of the expansion IO terminal will be reset to the factory default settings every time the expansion IO terminal is rescanned or powered on again. Set the parameters for the expansion IO terminal in the startup parameters. Each time communication occurs, parameters will be written into the coupler. Within the same project, even after repeated power-on, the parameter configurations of the expansion terminal remain unchanged.

Scan the device, click on the module requiring parameter modification, and select “Startup parameters” to view the adjustable parameter content.



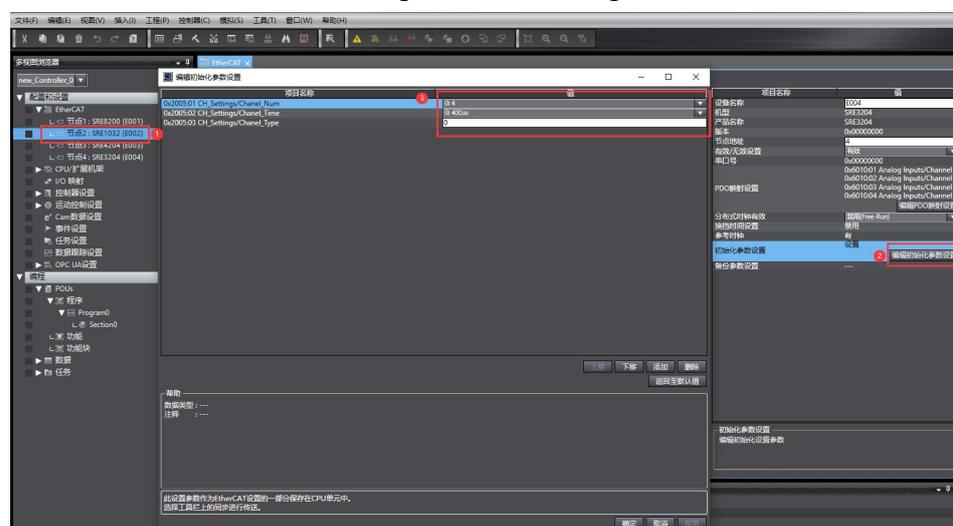
Modify the parameters via the dropdown menu. After modification, download the parameters to apply the changes.



Settings of sysmac Studio Initialization Parameters

The parameters of the expansion module are not able to be saved. The configuration of the expansion IO terminal will be reset to the factory default settings every time the expansion IO terminal is rescanned or powered on again. **Set the parameters for the expansion IO terminal in the startup parameters. Each time communication occurs, parameters will be written into the coupler. Within the same project, even after repeated power-on, the parameter configurations of the expansion terminal remain unchanged.**

After scanning the device, click on the module requiring parameter modification, and select “Edit initialization parameter settings”.



Select the parameters via the dropdown box

