

## **EtherNet/IP**

## **C2P-EI Series Bus Valve Terminal**

## **User Manual**



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## **1** Product Introduction

### 1.1 Product overview

C2P-EI series valve terminal is a control module integrating valve terminal technology and EtherNet/IP bus technology, through which it can realize decentralized control and centralized control in industrial field, optimize system design, quick construction, and simplify debugging, performance testing and diagnostic maintenance of complex systems. The product adopts modular structure, occupies little space, the terminal is pluggable, can be quickly wired, simple configuration, supports all major mainstream EtherNet/IP master station, can be widely used in industrial control systems.



## 1.2 Product Characteristics

- Support EtherNet/IP industrial Ethernet protocols
- RJ45 bus interface, support cascade communication
- Maximum support for 24-position dual-control solenoid valves
- Modular structure, small footprint
- Simple wiring, quick construction and easy maintenance
- Support customization, support mainstream solenoid valves, simple and fast selection

• Supports remote diagnosis to reduce troubleshooting difficulties

## 2 Designation Rules

## 2.1 Designation Rules

# $\frac{C2P}{(1)} - \frac{EI}{(2)} - \frac{24}{(3)} \frac{B}{(4)} - \frac{F01}{(5)}$

Number	Meaning	Description o	Description of values							
(1)	Product Type	C2P (RJ45 cor	C2P (RJ45 connector)							
(2)	Bus protocol	El: Abbreviatio	on for EtherNet	/IP Protocol						
(3)	Number of	08: 8-bit	12: 12 bits	16: 16 bits	20: 20 bits	24: 24 bits				
	Solenoid Valve									
	Positions									
(4)	Type of electric	B: Dual electri	B: Dual electric control (compatible with single electric control)							
	control									
(5)	Solenoid Valve	See <u>solenoid</u>	See <u>solenoid valve model code table</u> below							
	Model Code									

Brand	Code	Valve spacing	Range	Supported Solenoid Valve Models			
	A01	19	4V1	4V110/ 4V120/ 4V130			
	A02	23	4V2	4V210/ 4V220/ 4V230			
	A04	10.5	7V0	7V0510/ 7V0520/ 7V0530			
AirTAC	A05	16	7V1	7V110/ 7V120/ 7V130			
	A06	19	7V2	7V210/ 7V220/ 7V230			
	A07	19	5V1	5V110/ 5V120/ 5V130			
	A08	23	5V2	5V210/ 5V220/ 5V230			
				vuvg-lk10-t32/ vuvg-lk10-m52			
FESTO	F01	10.5	VUVG-LKTU	vuvg-lk10-B52/ vuvg-lk10-p52			
				vuvg-l10-t32/ vuvg-l10-m52			
			000-210	vuvg-l10-B52/ vuvg-l10-p52			
	F02	16		vuvg-lk14-t32/ vuvg-lk14-m52			
				vuvg-lk14-B52/ vuvg-lk14-p52			
	102	10	VUVG-I 14	vuvg-l14-t32/ vuvg-l14-m52			
				vuvg-l14-B52/ vuvg-l14-p52			
	S01	10.5	573	SY3120/ SY3220/ SY3320			
	501 10.5 543		515	SY3420/ SY3520			
SMC	502	16	575	SY5120/ SY5220/ SY5320			
Sivie	502	10	515	SY5420/ SY5520			
	503	19	SV7	SY7120/ SY7220/ SY7320/			
	505		517	SY7420/ SY7520			
	C01	10.5	4GD1	4gd119r/ 4gd129r/ 4gd139r			
CKD	COT	10.5		4GD149R/ 4GD159R			
	C02	16	4602	4gd219r/ 4gd229r/ 4gd239r			
	C02		4002	4GD249R/ 4GD259R			

#### Solenoid Valve Model Code List :

Note: Valve spacing (K value) unit: mm.

## 2.2 Model List

Model number	Product Description
C2P-EI-08B-()	8-position dual control solenoid valve
C2P-EI-12B-()	12-position dual control solenoid valve
C2P-EI-16B-()	16-position dual-control solenoid valve
C2P-EI-20B-()	20-position dual control solenoid valve
C2P-EI-24B-()	24-position dual-control solenoid valve

Note: () brackets represent solenoid valve model code, support self-selected customization.

## **3** Product Parameters

## 3.1 General parameter

Interface parameter	
Bus protocol	EtherNet/IP
Data transmission	Category 5+ UTP or STP (STP recommended)
medium	
Transmission	≤100 m (station to station)
distance	
Transmission rate	100 Mbps
Bus interface	20RJ45
<b>Technical Parameter</b>	'S
System power	24 VDC (18V~30V)
supply	
Rated current	30 mA
consumption	
Electrical isolation	500 VAC
Load power	24 VDC (18V~30V)
Output points	0~48
Single channel	Max: 250 mA
current	
Power connection	5Pin Pop-Up Terminal Block
method	
Power interface	Support
surge protection	
Power connector	Support
reverse connection	
protection	
Channel short	Support
circuit protection	

Channel open	Support
diagnostics	
Channel short	Support
circuit diagnostics	
Weights	Varies by product model
Sizes	Differences by product model (see <u>5.1 External Dimensions</u> for details)
Operating	-5℃~+50℃
temperature	
Storage	-20°C~+75°C
temperature	
Relative humidity	95%, non-condensing
Ingress protection	IP20

## 4 Panel

## 4.1 Product Structure

## 

Number	Name	Description
1	Solenoids	See "Solenoid Valve Model Code List" for details.
2	LED indicator	Indicates power, operation and bus status
3	Power connector	5Pin Pop-Up Terminal Block
4	Bus interface	RJ45, Bus OUT Interface
5	Power connector	RJ45, Bus IN Interface
6	Rotary switch	Setting IP address, reset settings
$\bigcirc$	An air vent	G1/4
8	Air intake	G1/4
9	Communications unit	valve terminal Communication and Control Body
10	Solenoid valve wiring	4Pin
	socket	

(1) Manifold

valve terminal body with A and B silkscreen on both ends

## 4.2 Indicator light function

Name	Markings	Color	Status	Status Description
System power	US	GREEN	ON	Power supply normal
indicator			OFF	The product is not powered up or the power
				supply is abnormal
Load power	UL	GREEN	ON	Power supply normal
indicator			OFF	The product is not powered up or the power
				supply is abnormal
Network	L/A0	GREEN	FLASHING	Network connection with data interaction
indicator IN			OFF	No data interaction or exception
Network	L/A1	GREEN	FLASHING	Network connection with data interaction
indicator OUT			OFF	No data interaction or exception
Operation	RUN	GREEN	ON	The device has established a connection
Status			FLASHING	1Hz: the device has not established a connection
Indicator				but has acquired an IP address; the IP address is
				duplicated; the device is undergoing a power-up
				test.
			OFF	The device has not been given an IP address; the
				device is in an unpowered state.
Warning	ERR	RED	ON	Valve is shorted/over-tempered or unit is being
indicator				restored to factory settings
			OFF	System running normally or not powered up

### 4.3 Rotary Switch

#### **IP address setting**

A rotary switch can be used to specify the setting method of the module IP address.



Set value (decimal)	IP address setting method
001 to 254	Set the IP address in the range of 1 to 254 with "×100" for the hundredth
	digit, "×10" for the tenth digit, and "×1" for the first digit. Setting in the
	range of 1 to 254.
	IP Address High 3Byte continuation of the value previously set via the host
	computer.
	When the IP address is set to a value other than 000 by the rotary switch in
	the factory factory state, the high 3Byte is 192.168.0.
000, 255-998	When the rotary switch is set to 255 or 255 or more, the module powers
	up with the last startup method and parameter startup.
999	Reset Settings.

The factory rotary switch is set to "000".

#### **Remarks:**

1、 Tool selection

Screwdriver specifications: 2 mm opening.

2. The rotary switch IP must always be set in the event of a power failure. If the IP address needs to be changed during communication, the new setting must be re-powered after it is completed to take effect.

#### **Reset function**

Restoration of factory settings can be executed by special operation of the rotary switch.

For details on how to do this, see: 7.4 Restore Factory Settings.

## 5 Installation

### 5.1 External Dimensions



	L size										
Number	4	6	8	10	12	14	16	18	20	22	24
of											
position											
K=10.5	59.5	80.5	101.5	122.5	143.5	164.5	185.5	206.5	227.5	248.5	269.5
K=16	76	108	140	172	204	236	268	300	332	364	396
K=19	88	126	164	202	240	278	316	354	392	430	468
K=23	103	149	195	241	287	333	379	425	471	517	563

	P size											
Number	4	6	8	10	12	14	16	18	20	22	24	
or position												
K=10.5	136.5	157.5	178.5	199.5	220.5	241.5	262.5	283.5	304.5	325.5	346.5	
K=16	153	185	217	249	281	313	345	377	409	441	473	
K=19	165	203	241	279	317	355	393	431	469	507	545	
K=23	180	226	272	318	364	410	456	502	548	594	640	

### 5.2 Solenoid valve installation sequence

#### • Solenoid Valve for valve terminal

For details of solenoid valves for Valve Terminal, see "2.1 Naming Rules Solenoid Valve Model Code

#### <u>List</u>".

#### • Solenoid valve installation sequence

The solenoid valves are installed in order from the communication unit end. Installation order for dual electronically controlled solenoid valve installation: Starting from the communication unit end, install the dual electronically controlled solenoid valve from the 1st position to the Nth position in sequence, and the installation order is shown in the figure below. Installation order of single electronically controlled solenoid valve installation: Starting from the communication unit end, install single electronically controlled solenoid valve installation: Starting from the communication unit end, install single electronically controlled solenoid valves in order from position 1 to position N. Solenoid valve wiring can be done on the A side, and the installation order is shown in the following figure.



## 6 Wiring

## 6.1 Solenoid valve wiring

#### Valve terminal Terminal Distribution

The valve terminal wiring terminals are distributed on both sides of the valve terminal manifold, respectively, side A and side B. Side A and side B can be distinguished according to the silkscreen on the end of the valve terminal manifold. Take valve terminal C2P-EI-24B-F02 as an example, the distribution of A-side and B-side terminals is shown in the figure below.



#### A-side solenoid valve terminal wiring terminal



#### B-side solenoid valve terminal wiring terminal

Wiring terminal		
Torminala	Extremity	4P
rerminais	Wire diameter	22~17 AWG 0.3~1.0 mm <sup>2</sup>

#### **Wiring Tool Requirements**

The solenoid valve terminal adopts screw-free design, and the installation and removal of cables can be operated with a screwdriver (specification:  $\leq 2$ mm).

#### **Stripped Wire Length Requirements**

Recommended cable stripping length for solenoid valve terminals 10 mm

#### Wiring Method

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

Multi-stranded flexible wires, after stripping the corresponding length of wire, can be directly connected or supporting the use of

the corresponding standard specifications of the cold compression end (tube-type insulated terminal, the reference specifications are shown in the table below), press down the button at the same time the line will be inserted.

Tube Insulation End Specification Sheet								
specification	Model	Cross-sectional area of						
		conductor mm <sup>2</sup>						
	E0310	0.3						
	E0510	0.5						
	E7510	0.75						

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Tube insulated terminal L with a length of 10 mm     E1010     1.0	Tube insulated terminal L with a length of 10 mm	E1010	1.0

#### • Solenoid valve wiring

For different types of Valve Terminal, 4Pin sockets with corresponding positions are configured on both sides of the manifold, and a set of "+" and "-" of the sockets can drive a solenoid valve coil. As shown in the figure below, A1 and A2 can drive one solenoid valve coil respectively.



#### • Valve Terminal Wiring

Starting from the communication unit end, the solenoid valve coils on the A and B sides of the manifold correspond one to the other, and the correspondence between the channels and the solenoid valve coils is shown in the figure below.



#### Solenoid valve wiring principles:

- Install the solenoid valve in accordance with "5.2 Solenoid Valve Installation Sequence".
- AX and BX can be connected to a dual electric solenoid valve, and AX can be connected to a single electric solenoid valve. For wiring, please strictly follow the table below, otherwise the solenoid valve will not work or misoperate. "X" means no wiring.

Dual control solenoid valve wiring (all valve pieces are dual control solenoid valves)												
Terminals	A1	B1	A2	B2	A3	B3	A4	B4				
Solenoid	1		2		3		4					
Valve No.												

Terminals	 A22	B22	A23	B23	A24	B24
Solenoid Valve	 22		23		24	
No.						

Note: This example takes C2P-EI-24B-() valve terminal, 24-position dual-control solenoid valve as an example, the rest of the different specifications of the valve terminal, there are differences in wiring.

Dual-control solenoid valve wiring (all access valve pieces are single-control solenoid valves)											
Terminals	A1	B1	A2	B2	A3	B3	A4	B4			
Solenoid	1	$\times$	2	$\times$	3	$\times$	4	$\times$			
Valve No.											

Terminals	 A22	B22	A23	B23	A24	B24
Solenoid Valve	 22	×	23	$\times$	24	$\times$
No.						

Note: This example to C2P-EI-24B-() valve terminal, only access to the single-control solenoid valve as an example, the rest of the different specifications of the valve terminal, wiring differences.

## 6.2 Power Supply Wiring

Power supply terminal S indicates the system power supply, L indicates the load power supply, wiring method and solenoid valve wiring method is consistent with the silkscreen and power parameters can be wired against the power supply, power supply 5P terminal as shown in the following figure:





#### Precautions

• The module system-side power supply and the field-side power supply are configured and used separately, so do not mix them.

• PE needs to be reliably grounded.

## 6.3 Bus Wiring

The bus interface uses an RJ45 connector as shown below:





#### Precautions

- Adopt standard RJ45 network interface with standard crystal connector.
- The length of the cables between the devices must not exceed 100 m.

## 7 Operation

### 7.1 Control Method

Valve terminal solenoid valve control byte way, a byte control 4 valves; at the same time can be controlled in accordance with the bit way, a group of 8 bits, control 1->8 channels, the channel value of 1 is the corresponding solenoid valve is open, the channel value of 0 is the corresponding solenoid valve is closed. 24-bit dual-control solenoid valves have a total of 6 groups of control bits, a total of 48 channel control. Take 24-position dual-control solenoid valve as an example to introduce the output control function of the valve terminal, the control mode is shown in the table below.

Control method		valve[14]									
Channel address	valve [14] [0]	valve [14] [1]	valve [14] [2]	valve [14] [3]	valve [14] [4]	valve [14] [5]	valve [14] [6]	valve [14] [7]			
Transformers	A1	B1	A2	B2	A3	B3	A4	B4			
Solenoid Valve No.	1		2		3		4				

Control method		valve[58]									
Channel address	valve [58] [0]	valve [58] [1]	valve [58] [2]	valve [58] [3]	valve [58] [4]	valve [58] [5]	valve [58] [6]	valve [58] [7]			
Transformers	A5	B5	A6	B6	A7	B7	A8	B8			
Solenoid Valve No.	5		6		7		8				

Control method		valve [912]									
Channel address	valve [912] [0]	valve [912] [1]	valve [912] [2]	valve [912] [3]	valve [912] [4]	valve [912] [5]	valve [912] [6]	valve [912] [7]			
Transformers	A9	B9	A10	B10	A11	B11	A12	B12			
Solenoid Valve No.	9		10		11		12				

Control method		valve [1316]									
Channel address	Valve [1316] <b>[0]</b>	Valve [1316] <b>[1]</b>	Valve [1316] <b>[2]</b>	Valve [1316] [ <b>3]</b>	Valve [1316] <b>[4]</b>	Valve [1316] <b>[5]</b>	Valve [1316] [ <b>6]</b>	valve [1316] [ <b>7]</b>			
Transformers	A13	B13	A14	B14	A15	B15	A16	B16			
Solenoid Valve No.	13		14		15		16				

Control method		valve[1720]									
Channel address	valve [1720] <b>[0]</b>	valve [1720] [ <b>1]</b>	Valve [1720] [ <b>2]</b>	valve [1720] [3]	valve [1720] <b>[4]</b>	valve [1720] <b>[5]</b>	valve [1720] [ <b>6]</b>	valve [1720] [ <b>7]</b>			
Transformers	A17	B17	A18	B18	A19	B19	A20	B20			
Solenoid Valve No.	17		18		19		20				

Control method		valve [2124]									
Channel address	valve [2124] [0]	valve [2124] [1]	valve [2124] <b>[2]</b>	valve [2124] [ <b>3]</b>	valve [2124] <b>[4]</b>	valve [2124] [5]	valve [2124] [6]	valve [2124] [ <b>7]</b>			
Transformers	A21	B21	A22	B22	A23	B23	A24	B24			
Solenoid Valve No.	21		22		23		24				

## 7.2 Diagnostic Function

The C2P-EI valve terminal has an open circuit diagnostic (Open load) and a short circuit or overtemperature diagnostic (Short circuit or overtemperature). An open circuit can only be monitored if the valve is closed and a short circuit can only be monitored if the valve is open.

The diagnostic function is the same as the control mode, and also sends diagnostic information in Byte or bit. If the value is closed, the diagnostic message Open load is normal if the value is 0, and 1 means the corresponding value is open. Under the premise of value opening, value short circuit or overtemperature diagnostic information Short circuit or overtemperature value is 0 is normal, 1 represents the corresponding value short circuit/overtemperature.

The channel diagnostic information and solenoid valve correspondence for Open load and Short circuit or overtemperature diagnostics are the same, taking Open load diagnostics as an example, the correspondence is shown in the table below.

Diagnostic function		Open load[07]								
Channel address	Open [07] [0]	Open[07] [1]	Open [07] [2]	Open [07] [3]	Open [07] [4]	Open [07] [5]	Open[07] [6]	Open[07] [7]		
Transformers	A1	B1	A2	B2	A3	B3	A4	B4		
Solenoid Valve No.	1		2		3		4			

Note: Open load is abbreviated as Open in the table, below.

Diagnostic				Open	load[815]			
function								
Channel address	Open [815] [0]	Open [815] [1]	Open [815] [2]	Open [815] [3]	Open [815] [4]	Open [815] [5]	Open [815] [6]	Open [815] [7]
Transformers	A5	B5	A6	B6	A7	B7	A8	B8
Solenoid Valve		5	6		7		8	
No.								
Diagnostic				Open le	oad[1623]			
function								
Channel address	Open [1623] <b>[0]</b>	Open [1623] [1]	Open [1623] [ <b>2]</b>	Open [1623] <b>[3]</b>	Open [1623] <b>[4]</b>	Open [1623] <b>[5]</b>	Open [1623] [ <b>6]</b>	Open [1623] [ <b>7]</b>
Transformers	A9	B9	A10	B10	A11	B11	A12	B12
Solenoid Valve No.		9	10		11		12	

Diagnostic function		Open load[2431]								
Channel address	Open [2431] [0]	Open [2431] [1]	Open [2431] [ <b>2]</b>	Open [2431] [3]	Open [2431] [4]	Open [2431] [5]	Open [2431] [6]	Open [2431] [ <b>7]</b>		
Transformers	A13	B13	A14	B14	A15	B15	A16	B16		
Solenoid	13		14		15		16			
Valve No.										

Diagnostic function		Open load [3239]								
Channel address	Open [3239] [0]	Open [3239] [1]	Open [3239] [ <b>2]</b>	Open [3239] [3]	Open [3239] [4]	Open [3239] [5]	Open [3239] [6]	Open [3239] [ <b>7]</b>		
Transformers	A17	B17	A18	B18	A19	B19	A20	B20		
Solenoid Valve No.	17		18		19		20			

Diagnostic function		Open load[4047]								
Channel address	Open [4047] [0]	Open [4047] [1]	Open [4047] [ <b>2]</b>	Open [4047] [3]	Open [4047] [ <b>4]</b>	Open [4047] [5]	Open [4047] [6]	Open [4047] [ <b>7]</b>		
Transformers	A21	B21	A22	B22	A23	B23	A24	B24		
Solenoid Valve No.	21		22		23		24			

## 7.3 IP settings and modifications

#### 7.3.1 Setting the IP address by rotary switch

- When the IP address is set by the rotary switch in the factory state
   IP address is 192.168.0.xxx (xxx is the setting value of the rotary switch, range 1~254).
- When setting the IP address with the rotary switch in a state where the IP address has already been set by the host computer

The IP address follows the high 3byte and the low 1byte of the IP address set via the host computer as the setting value of the rotary switch.

For example, when changing the setting of the rotary switch after setting it to 172.10.0.12 via the upper unit, the IP address is 172.10.0.XXX (XXX is the setting value of the rotary switch (1 to 254).

#### Precautions

- For the description and operation of the rotary switch, see "<u>4.3 Rotary Switch</u>".
- When the module is shipped from the factory, the rotary switch is set to "000" and the IP address defaults to 192.168.0.120.
- After the modification by the host computer is completed, the module modifies the startup method to fixed IP startup and reboots automatically. The module starts with the IP address consisting of the rotary switch setting value and the assigned network segment.
- Abnormal rotary switch setting: When the rotary switch is set to 255 or 255 or more, the module starts in the same way as the previous startup with parameters after powering up.

#### 7.3.2 Setting the IP address via the host computer software

This section describes how to change the IP address, using the Keyence KV-7500 and the host computer KV STUDIO Ver.10G as an example.

a. After finding the device, click the IP address on the corresponding device to modify the IP address, and select "Fixed IP Start" as the IP address setting method. Click the "OK" button after the modification is completed, as shown in the figure below.

LtherNet/IP settings			- 🗆 X					
File(F) Edit(E) Settings(S) View(V) Conv	rt( <u>C</u> ) EDS file( <u>D</u> ) Communication( <u>N</u> ) Tool( <u>T</u> ) H	Help( <u>H</u> )						
📲 🕼 🐕 🎖 🕹 🛍 🗯 🌌 😤 😪	🛱 🔍 😿 📩 👔 🕜							
KV-8000[0] : 192.168.0.10	Ether	Net/IP unit	Д					
	Unit	list( <u>1</u> )   Unit setting( <u>2</u> ) Search unit	.(3)					
		👫 🌇 🚮 Display all 🗸 🗸						
1: C2P-EI-24B : 192.168.0.120		Unit name IP address	MAC address					
Exclusive Owner		C2F-E1-24B <u>192.168.0.120</u>	08:F3:E7:10:00:10					
IP address	settings	×						
IP address	setting method(S) Fixed IP start	~						
IR addres								
		···						
Advanced	settings( <u>A</u> ) OK Cancel							
	C2P Nanj Wher EDS	-II-24B[1.1] jing Solidot Electric Technolog a power on next time:Fixed IP s file for C2P EI	ny Co.,Ltd. start					
Output			Ф					
<u>₽</u> • • • • • • • • • • • • • • • • • • •								
N Node name IP adds	ess Connection	RPI[IN] (ms)	RPI[OUT] (ms) Time out					
1 C2P-EI-24B 192.168.0	.120 Exclusive Owner [IN_100,OUT_1	50] 20.0	20.0 RPI*16 Nor:					
K A N Mersage Verify Setur Fot			>					
verily setup list	П <	C d'ann	Canaal Anab					
		COR	Cancel Apply					

#### Precautions

• If you use BOOTP to modify the IP address, you need to set the timeout between the request acceptance time during scanning and the timeout time when the IP address is set to 60s or more, and you need to set the module to start with a fixed IP after the modification is completed, otherwise the assigned IP address will be lost after the power is turned off.

#### 7.3.3 Setting an IP address with the IP Setting Tool

After the device is powered on, wait for 15s and the device will complete the network service startup. After that, the first scan will be performed by the IP Setting Tool tool to set the IP address.

1. Open the IP Setting Tool and click the "Scan EtherNet/IP Devices" button.



#### 2. Set the IP segment and click "OK" .

State	MAC addr.	Device nam	e	IP addr.	Next power on	uau Setup
		Scan EtherNet/IP de	evices		×	IP addr.([)
		IP addr. start( <u>T</u> )	192 . 168	3.0.1		Scan EtherNet/II devices(A)
		IP addr. end( <u>E</u> )	192 . 168	8 . 0 . 254		
		L I	ок	Cancel		

The scanned devices, as shown in the following figure.

IP 🔛	Setting Tool					- 🗆 X
File(F)	Communication(C)	Setup( <u>S</u> ) Languag	e(L) Help(H)			
	State @	MAC addr. 08:F3:E7:10:00:10	Device name C2P-EI-24B(EtherNet/IP)	IP addr. 192.168.0.120	Next power on Start with fixed IP	IP addr.(I)
						Scan EtherNet/IP devices(A)
Dis	play detailed informat	tion(D)				Exit(X)

3. Double-click the device and set the IP address in the pop-up "Setup IP addr." window, as shown below.

🛐 IP	Setting Tool		Setup IP addr.		×		- 🗆 X
File( <u>F</u> )	Communication(C)	Setup(S	Please set the IP address.			_	
	State	MAG		09-12-12-10-00-10		on	setup
		08:13:10	MAC addr.	00.13.11.10.00.10			M IP addr.([)
			Device name	C2P-EI-24B(EtherNet/IP)			Scan EtherNet/IP
			IP addr. (required)([)	192 . 168 . 0 . 120			devices(A)
			Host name (optional)( <u>H</u> )	C2P-EI-24B333			
			IP addr. setting at next power on( <u>N</u> )	Start with fixed IP $\qquad \lor$			
Dis	splay detailed informat	ion( <u>D</u> )	Search available IP address	es(E) OK Cancel			Exit( <u>X</u> )

### 7.4 Restore Factory Settings

If the IP address is forgotten, lost or other abnormalities occur during use, the module can be reset by the IP address reset function to the module. The module can execute the operation of restoring factory settings through the special operation of the rotary switch as follows:

Scenario 1 The device has been powered on to perform a factory reset while in use

1) Set the rotary switch to 999 and wait for 2s, at this time the ERR indicator lights up and the module automatically performs the restoration of factory settings;

2) After the module is restored to factory settings, the IP address parameter is cleared and the startup mode is BOOTP;

3) ① Set the rotary switch to 000, 255 or 255 or more (except 999), and the IP address will be restored to the factory address, i.e. 192.168.0.120, after re-powering up.

② Set the rotary switch to 001~254, and after re-powering up, the IP address is 192.168.0.XXX (XXX is the setting value of the rotary switch, range 1~254).

• Scenario 2 The device performs a factory reset in the event of a power failure

1) Set the rotary switch to 999 and power up the module, the module will automatically perform the restoration of factory settings;

2) After the module is restored to factory settings, the IP address parameter is cleared and the startup mode is BOOTP;

3) ① Set the rotary switch to 000, 255 or 255 or more (except 999), and the IP address will be restored to the factory address i.e. 192.168.0.120 after re-powering up.

 $\odot$  Set the rotary switch to 001~254, and after re-powering up, the IP address is 192.168.0.XXX (XXX is the setting value of the rotary switch, range 1~254).

## 7.5 Parameter description

#### 7.5.1 Output signal clear/hold function

The Clear/Hold function is for the output signal of the valve terminal, and this function can configure the output action of the valve terminal in the abnormal state of the bus.

Clear Output: When communication is disconnected, the valve terminal output channel automatically clears the output.

Hold Output: The valve terminal output channel keeps on outputting when communication is disconnected.

The function supports full-channel setting, single-channel setting and 8-channel batch setting grouped by driver chip, which can better meet the actual use requirements.

This manual takes KV STUDIO Ver.10G as an example to introduce the parameter configuration method, the specific steps are detailed in <u>7.6.1 Parameter Setting.</u>

### 7.6 Configuration Applications

#### 7.6.1 Application in KV STUDIO software environment

#### 1. Preliminary

- Hardware environment
  - > Valve terminal Model C2P-EI-24B
  - > A computer with KV STUDIO Ver.10G software pre-installed
  - > Shielded cable for valve terminal
  - > One Keyence PLC, KV-7500 is used as an example for this description.
  - > One switching power supply
  - > Device Configuration Files

Configuration file access: <u>https://www.solidotech.com/documents/configfile</u> **Note:** valve terminal configuration files with a high number of solenoid positions are compatible for valve Terminal with a lower number of solenoid positions, e.g., a C2P-EI-20B valve terminal can use a C2P-EI-24B configuration file, and so on.

 Hardware configuration and wiring Please follow "<u>5 Installation</u>" and "<u>6 Wiring</u>".

#### 2、 Create Project

- a. Open KV STUDIO software, select "File -> New Project".
- b. In the pop-up box, fill in the "Item Name", select "PLC Models", "Position", as shown in the figure below.

KV STUDIO						
File(F) View(V) Monitor/Simulator(N) Operation recorder/	Replay(R) Tool(T) Window(W) Help(H	H)				
🗅 📪 🖶 🗎 👘 🖷 🗟 👘 🗟 🕜   🔡 USB	· • • • • • • • • • • • • • • • • • • •	6 回 图 1 年	弊昂難局	5 <u>567</u> F8 568 <u>F8 568</u>		
	н <b>м м м ∞ н &gt; © </b>			Comments	*	
	New project		×			
	Project name(N)	PLC model(K)				
	C2P-EI	KV-7500	~			
	Position(P)					
	D:\Backup\Documents\KEYENCE\KVS10	GIKVSIPROJECT	Refer(S)			
	Comment(C)					
			^			
			~			
	AW display comments 🕐					
	KVS PROJECT					
	Register special device cmnts(M)	OK	Cancel			
Ready						++ USB

• Project name: Customize.

• Supported models: View the PLC appearance and select the corresponding model, e.g. KV-7500.

c. The "Confirm Unit Setting Information" window pops up, and you can select to start the Unit Editor, close the dialog box, or read the unit configuration from the PLC as necessary. Select "No" to demonstrate the operation, as shown in the figure below.

File(F) Edit(E) View(V) Program(M) Script(S)	Conver	rt(A) Monitor/Simulator(N) Debug(D) Tool(T) Window(W) Help(H)							
🗄 🗅 🤭 📰 📾 📸 🛤 🖶 🗟 😮 🗑 🖬 USE		• 🗈 📲 📲 😰 🖸 🦉 🎆 🏛 🚭 📟 🔛 🗄 🛱 🛱 🖏 🖏 🕯	SF8 F9 SF8						
i 🗄 🖽 🗷 📾 📾 🖷 🍈 💀 💁 🌒 🖷		II I I I I I I I I I I I I I I I I I I	mments Comment 1 -						
Project 🕴 🗸	Main	×							
<ul> <li>Unit configuration         <ul> <li>[0] KV-7500</li> <li>[1] KV-r500</li> <li>[2] Unit configuration switching</li> <li>[2] Device comment</li> <li>[3] Label</li> <li>[3] CFU system setting</li> </ul> </li> </ul>	00001		8 9 10						
Program: C2P-EI Every-scan execution Main Initialize module	00002								
Fixed-period module Inter-unit sync module Function Block Recro	00003	Confirm unit setting information X Setup unit setting info now?							
<ul> <li>Subroutine macro</li> <li>Self-hold macro</li> <li>Device default</li> </ul>	00004	Yes Start Unit Editor Yes Start Unit Editor Yes Start Unit Setting Information from PLC. Yes Automatic Start Star							
<ul> <li>i File Fejtster setting</li> <li>0:Memory card</li> <li>1:CPU memory</li> <li>User document</li> </ul>	00005								
	00006								
	00007		END						
	00008								
Library Project									

#### 3、 Communication settings

Select the communication method, if the PLC and the host computer software are connected through a network cable, select "Ethernet", if connected through USB, select "USB".

#### Procedure for "Ethernet" operation

a. Click the button and the menu bar to display the "Communication settings" window as

#### shown below.

<u>M</u> )

 Select "Ethernet", click "Destinations", select "1 sample", configure the IP address, and click "Search destination". Click "Search destination", as shown in the following figure, the IP address is configured in the "192.168.0" network segment.

Comm settings		>
PC comm port		
O USB(U)	◯ Serial( <u>S</u> )	
Ethernet(E)	$\bigcirc$ Bluetooth( <u>H</u> )	○ Modem( <u>M</u> )
Ethernet settings		
IP address(])	92 . 168 . 0 . 10	Search dest.( <u>F</u> )
Port No.(P) 8	500	Conn. test(T)
Routing setting(R)		
PC comm port : USB		
via VT/DT : No via network : No Connected model :		
Connected model .		Detail( <u>A</u> )
Destinations(L)	ОК	Cancel
Add to destina	tions list(A)	1
Open destinati	ons list(O)	

c. In the search destination pop-up window, select the network card and click "Execute", as shown in the following figure.

Select network card				
Network card (N)	Realtek PCIe GbE Family Co	ntroller		×
IP address	192.168.0.222			
Subnet mask	255.255.255.0			
Port No.(P) 85	00 Exec	ute(S) Stop	B)	
	Exec	ute(3)		
ind Ethernet unit wh	ere broadcast packets reac	h. (KV only)		
*Network load may	increase according to the n	umber of connected u	nits.	
Result				
(1997) Deste				
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	
IAC address	Connected Unit type	IP address	Project name	

d. Select the found PLC and click "Select" as shown in the following figure.

elect network card				
Network card ( <u>N</u> )	Realtek PCIe GbE Family Control	ller		~
IP address	192.168.0.222			٦
Subnet mask	255.255.255.0			
ort No.(P) 85	500 Execute	( <u>S</u> ) Stop(	B) Search in progress	
nd Ethernet unit wi *Network load may	nere broadcast packets reach. ( increase according to the numl	KV only) ber of connected un	its.	
esult				
		ID a didagan	Designation and	
AC address	Connected Unit type	IP address	Project name	
AC address 01-FC-24-98-74	Connected Unit type KV-7500	192.168.0.10	EC	
AC address 01-FC-24-98-74	Connected Unit type KV-7500	192.168.0.10	EC	ļ
AC address 01-FC-24-98-74	Connected Unit type KV-7500	192.168.0.10	EC	ļ
AC address -01-FC-24-98-74	Connected Unit type KV-7500	IP address 192.168.0.10	Froject name EC	Į
AC address -01-FC-24-98-74	Connected Unit type KV-7500	192.168.0.10	Project name EC	
AC address -01-FC-24-98-74	Connected Unit type KV-7500	IP address	Project name EC	
AC address -01-FC-24-98-74	Connected Unit type KV-7500	IF address	Project name EC	
AC address 01-70-24-90-74	Connected Unit type KV-7500	P address	Froject name EC	
AC address 01-70-24-90-74	Connected Unit type KV-7500	P address 192 168.0.10	EC	
AC address -01-70-24-99-74	Connected Unit type KV-7500	P address 192.168.0.10	EC	

e. Click the "OK" button on the Communication Settings window.

#### "USB connection" operation method

Select USB in the "Communication Settings" interface .

#### 4、EtherNet/IP settings

a. Double click "Unit Configuration -> KV-7500 -> EtherNet/IP R30000 DMI10000" in the left navigation tree to bring up the "EtherNet/IP Settings" window. Select "Manual" or "Auto Configuration" as required. Select "Manual" to demonstrate the operation as shown in the figure below. When the setting is completed, click "OK" to close the window.

E Edit(E) View(V) Program	(M) Script(S) Convert(A) Monitor/Simula	ator(N) Debug(D) Tool(T) Window(W)	Help(H)		-
	🕻 🛼 EtherNet/IP settings			- 🗆 🗙	
	File(F) Edit(E) Settings(S) View(V) (	Convert(C) EDS file(D) Communication(N)	Tool(T) Help(H)		
	4 O B S X B B B 7	6 C ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (			
t			EtherNet/IP unit		
Unit configuration	KV-7500[0] : 192.168.0.10		Units React) Units contribut(2)	Carach unit(2)	-
EtherNet/IP B30000				search unit(3)	_
Init configuration swith	3		■■ ■ 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 =		_
Device comment			Unit name	Rev. EDS fil	^ _ p
Label			Keyence Corporatio	n	
CPU system setting			RV-5500	1.1 KV-5500	
Every-scan execution				1.1 KV-7500	00
🖬 📰 Main			E W EPPO2	1.1 RV 0000	
🛅 Initialize module			KV-N16ER	1.1 16-poin	
Standby module			KV-N16ET*	1.1 16-poin	
Fixed-period module			KV-N16EX	1.1 16-poin	
Function Block			KV-N3AM	1.1 2+1ch a	
Macro		EtherNet/IP settings		1.1 8-point	
🛃 Subroutine macro				1.1 8-point	
📑 Self-hold macro		The EtherNet/IP setting has not been set	t. Please select the setting method.	1.1 8-point	~
Device default		* "Auto Configuration"Search the con	nected equipment to be set automatically.	1 1 010 >	~
0:Memory card					
1:CPU memory		Manual(M) Au	uto Configuration(A)		
User document					
	Output		L		<b>4</b>
	▶ ▶   単 野   ▶   ■				
			DDI (INI) DDI (OUT)	Defe	_
	N Node name	IP address Connection	(ms) (ms)	Time out prior	it
	H A & N Message Verify Setup list				_
	H + + H Message/Verify Setup list			>	

#### 5. Installation of EDS files

a. Right-click on the KV-7500 in the Unit Editor window and select "EtherNet/IP Settings" to enter the settings page as shown below.

File(F) Edit(E) View(V) Program(M) Script	(S) Convert(A) Monitor/Simulator(N) Deb	oug(D) Tool(T) Window(W) Help(H	D	
i 🗅 🚗 🖬 📾 📫 🛤 🖶 🗟 🕢 i 🛍 E	thernet 🔹 🕴 📾 🖬 🔬 😥	🛃 🖷 🏛 🥞 💷 📰 🗄 👯 👯	1 F7 SF7 F8 SF8 F8 SF8	
人生生活 网络碧兰马马马 ●		📲 🖳 🔯 🗄 Editor	· Comments Comment 1	
Project 4	× Main ×			
Gait configuration     (0) KV-7800     Unit configuration switching     Unit configuration switching     Unit configuration switching     CFU system setting     CFU system setting     Forgram: C2P-E1     Forgram: C2P-E1	Hont Editor - Edit mode     File(7) Edit(E) Convert(9) View(V)     H → P → P → P → P → P → P → P → P →	Option(O) Window(W) Help(H) W C R R R R R R R R R R R R R R R R R R	Vinit Select unit() Setup unit(2) Fig #= O is unit and its Function Socket function Not Base Leading DH No. EM. Number of DHs 23 Number of rel 644 Baud rate 100 Socket function is following functions, se used. "Socket".	
	Message			<b>4</b>
	Process Row	No. Code Message		
	H + + H Message	[ <		>
Library Project	Display EtherNet/IP setting screen.	Editor	Line:1, Col:1 OK Can	icel Apply
Ready				Ethernet 192.168.0.10

b. Click "EDS File" in the menu bar of the "EtherNet/IP Settings" screen, and then click "Register" as shown in the following figure.

KV STUDIO -[Editor: KV-7500] - [Ca	2P-EI]			- [	
File(F) Edit(E) View(V) Program(	📕 EtherNet/IP settings			- 🗆 X	
	File(F) Edit(E) Settings(S) View(V) Convert(	C) EDS file(D) Communication(N)	Tool(T) Help(H)		
	40 B B X B B B B 8 8 8 8	@ Reg(I)			
Project		Delete(D)	EtherNet/IP unit	а	
Unit configuration	KV-7500[0] : 192.168.0.10	Search(S)	Unit list(1) Unit cotting(2) [ S	earch unit/2)	
E [0] KV-7500	Li Li	Edit comments(E)			1
EtherNet/IP R30000		Add to scan list(A)			-
Dout configuration swit		Display all EDS files(V)	Unit name	Rev. EDS fil ^	
Label			RV-5500	1.1 KV-5500	
CPU system setting		Property(P)	KV-7500	1.1 KV-7500	
🚍 🕋 Program: C2P-EI			KV-8000	1.1 KV-8000	
Every-scan execution			E KV-EP02	1.1 EtherNe	
🖬 🔜 Main			KV-N16ER	1.1 16-poin	
Standby module			KV-N16ET*	1.1 16-poin	
Fixed-period module			KV-N16EX	1.1 16-poin	
Inter-unit sync module			KV-N3AM	1.1 2+1ch a	
- 🛃 Function Block			KV-N8ER	1.1 8-point	
a 🗃 Macro			KV-N8ET*	1.1 8-point	
Subroutine macro			KV-N8EX	1.1 8-point	
Device default			< NOBAD	1 1 010 >	
File register setting			1		
0:Memory card					
1:CPU memory					
🖬 🛄 User document					
	Output			ф.	
					L.
	N Node name IP add	ress Connection	RPI[IN] RPI[OUT]	Fime out Refres	h
			(m5) (m5)	prorit	
				Ī	
	I Message Verify Setup list			>	
	Read FDC file and an interact the web list	- I.		Consel April	
	Neau EDS life, and register to the unit list.	Edit	UK	Cancel Apply	
Library Project					v
Ready				Ethernet 192	2.168.0.10

c. In the folder where the EDS file is placed, select the EDS file of the corresponding model and click "OK", the configuration file installation is completed, as shown in the following figure.

K EtherNet/IP settings						8 <del>.</del>	-3		×
File(F) Edit(E) Settings(S) View(V)	Convert(C) EDS file(D)	Communication(N)	Tool( <u>T</u> )	Help( <u>H</u> )					
📲 🔃 🐕 🖏 👗 🖿 🌮	🛯 🚳 🔍 💌 🖿 🖿	0							
WV-7500101 - 192 168 0 10			EtherN	et/IP unit					ņ
			Unit li	st(1) Unit	setting(2)	Search u	nit(3)		
				₽E ₽=  .					
				Unit n	ame	Rev.	EDS	fil	. ^
			ED	SR-650 S	eries	1.1	SR-6	50	
			ED	SR-750 S	eries	1.1	SR-7	50	
			ED	SR-D100	Series	1.1	SR-D	0100	
			ED	SR-LR1		1.1	SR-L	R1	
			EO	SZ-V		1.1	SZ-V	Se	
			ED	WI-5000	Series	1.1	WI-5	i000	
			ED	XG-8000/	7000	1.2	XG-8	000	•
			ED	XG-X1000	Series	1.1	XG-X	:100	•
			ED	XG-X2000	Series	1.1	XG-X	200	•
			ED	Generic	Device	1.1	Gene	ric	•
			- 📜 N	lanjing S	olidot	•			
			ED	C2P-EI-2	4B	1.1	EDS	fil	
			<	BTO 1010		1 1	anc	£2.1	>
			C2P- EDS :	EI-24B[1. file for C	1] 29 EI				
Output									ņ
🖻 💼   M 🎜   🕏 🛼   🏪									
N Node name	IP address	Connection		RPI[IN] (ms)	RPI[OUT] (ms)	Time o	ut	Re pri	efres
It d b by Marcana Warth Stars Ed /									
verify Setup list			1		-	11			-
Read EDS file, and register to the unit list.	· · · · · · · · · · · · · · · · · · ·	Edit	or		OK	Cance		Apply	

#### 6、 Topological configuration

Topology configuration can be "manually added" and "automatic configuration", this configuration using manual configuration.

a. Enter the "EtherNet/IP Settings" page and switch to the "Search unit" tab, as shown in the following figure.

📕 Ethe	erNet/IP settings								×
File(E)	Edit(E) Settings(S) View(V)	Convert(C) EDS file	e(D) Communication(N)	Tool(I)	Help(H)				
📲 🕦	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 🙉 🔍 😿 🛙	a 11 🕜						
	KV-7500[0] : 192.168.0.10			Ether	Net/IP unit				ņ
TE.				Unit	list( <u>1</u> )   Unit	setting( <u>2</u> )	Search unit(3		
				10 H	b A Displ	ay all		~	
					Unit name	IP	address	MAC	a
				<					>
Output									đ
B B	🗰 ङ 🗷 🗞 🐘								
N	Node name	IP address	Connection		RPI[IN]	RPI [OUT]	Time out	F	efres
					(ms)	(ms)		pı	lorit
H 4 >	Message Verify Setup list		[] <						>
			Ec	litor		OK	Cancel	Apply	

b. Click and the USB connection method is shown in the

#### following figure.

File(F) Edit(E) Settings(S) View(V)	Convert(C) EDS fi	ile(D) Communication(N)	lool(I) Help(H)			
	- 163 and 6-1 18		EtherNet/IP uni	t		ç
KV-/800[0] : 192.168.0.10			Unit list(1)   U	Unit setting(2)	Search unit(3	
			<b>1. 11. 🖓</b> Di	splay all		~
			Unit na	me IP	address	MAC a
	Select comm	unication path	×			
	Ethernet p	ort of EtherNet/IP unit via PLC(P	)			
	O PC Ethern	et port direct link( <u>D</u> )				
			<u>i</u>			>
		ОК	Cancel			
Output						ļ
na ina ina ina ina ina ina ina ina ina i						
N Node name	IP address	Connection	RPI[I (ms)	N] RPI[OUT] ) (ms)	Time out	Refre priori
H A D Message/Verify) Setup list						>

c. "PC Ethernet port direct link" is the network cable connection method, as shown in the following figure.

📕 EtherNet/IP settings					-	
File(F) Edit(E) Settings(S) View(V)	Convert(C) EDS file	(D) Communication(N) To	ool(T) Help(H)			
📲 🔃 🐕 🗞 🖒 🛍 🕌 🖿 🖋	6 段 🗬 😿 🛔	a 🖬 🕜				
KV-7500[0] : 192.168.0.10			EtherNet/IP unit	t		¢
			Unit list(1)   U	Init setting(2)	Search unit(3)	
			in in A Di	splay all		~
			Unit nam	ne IP	address	MAC a
	Select commu	aication path				
			~			
	C Ethernet por	t of Ethernet/Punit via PLC(P)	8			
	PC Ethernet	port direct link(U)				
	<b></b>		_			
		:	' E			>
		ОК	Cancel			
Output						¢
6 6 # <i>5</i> 8 8 8 8						
N Node name	IP address	Connection	RPI[I (ms)	N] RPI[OUT] (ms)	Time out	Refres priorit
H + + H Message Verify Setup list		[] <				>
		Editor		OK	Cancel	Apply

d. Select "PC Ethernet port direct link" to bring up the "Select network card" window, and set the local network card and IP address, as shown in the following figure.

KetherNet/IP settings							
File(F) Edit(E) Settings(S) View	(V) Convert(C) EDS	file(D) Communication(N) Too	ol(T) Help(H)				
📲 🕼 🐕 🖧 🔓 👘 🕌 🖷	Y 🝠   🗞 段 👰 😿	io, in 🕜					
KV-7500[0] : 192.168.0.10			Et	herNet/IP un	it		ņ
			U	nit list( <u>1</u> )	Unit setting(	2) Search unit(3)	
			5		isplay all		~
				Unit na	ıme	IP address	MAC a
Sal	act natwork card				~		
350					^		
Ne	twork card(N) Rea	Itek PCIe GbE Family Controller			~		
IP a	address 192	.168.0.254					
Sul	bnet mask 255	.255.255.0					
			OK		Cancel		>
Output							a
• • <b>•</b> • <b>•</b> • <b>•</b> • • • • • • • • • • •							
N Node name	IP address	Connection	RPI[IN] (ms)	RPI[OUT] (ms)	Time out	Refresh priority	1
II I I Message Verify Setup li	ist	<					>
		-	Editor		OK	Cancel	Apply

e. Click to search for devices connected to the network. Set the IP address segment for

searching, and click "Search" as shown in the following figure.

			Ett	nerNet/IP un nit list( <u>1</u> )	it Unit setting( <u>2)</u>	Search unit( <u>3</u> )	
				Unit na	me I	P address	MAC a
	Search un Search st Search er ⊠Search Reque	t settings art address(I) 192 . 168 . d address(E) 192 . 168 . unit without IP address(U) st acceptance time(Q) 15 Search(E)	0 . 0 0 . 255 S Cancel				
Dutput							

f. When the search is complete, the display is shown below.

LtherNet/IP settings								×
File(F) Edit(E) Settings(S) View(V)	Convert(C) EDS file(D	) Communication(N) Too	Help(H)					
🐗 🛈 📅 💁 👗 🛍 👘 👘 🧬	6 🕲 🔍 😿 🗽	11 0						
KV-7500[0] : 192, 168, 0, 10			EtherNet/IP unit	:				д
m			Unit list( <u>1</u> )   U	nit setting(2	) Search unit(	3)		
			Di 🔐 🔐 Di	splay all		~		
			Unit nam	ae	IP address	MAC	addres	s
			C2P-EI-2	24B <u>192</u>	.168.0.120	08:F3:E7	:10:00:	10
			C2P-EI-24B	[1.1]	ic Technology	Co. Ltd		
			When power o	n next tim	ne:Fixed IP st	art		
			EDS file for	C2P EI				
Output								đ
🖻 💼   🏔 ङ   🗟 🛼   🏪								
N Node name	IP address	Connection	RPI[IN]	RPI [OUT]	Time out	Refres	h	
Houe name	II uuurcoo	connection	(ms)	(ms)	TIME OUT	priorit	У	
H + + Message Verify Setup list		<						>
		u	Editor		OK	Canad		

g. Double-click on the found device to add it to the configuration, as shown below.

LtherNet/IP settings						-		×
File(E) Edit(E) Settings(S) View(V) Convert(C)	EDS file(D) Communication	n( <u>N)</u> Tool(]	) Help( <u>H</u> )					
📲 🕼 🐕 🐁 🕹 🛍 🕌 📲 💏 🚳 👰 👰	🗹 🔄 🖬 🕜							
KV-8000[0] : 192.168.0.10		E	therNet/IP unit					д
			Unit list( <u>1</u> )   Ur	it setting(2) S	earch unit(	3)		
			Dis 🖓 📲	play all		~		
1: C2P-EI-24B : 192.168.0.120 Exclusive Owner			Unit nam	e IP a 4B 192 168	ddress	08:F3:1	address	,
			021 11 2	10 192.100	5.0.120	00.13.1	11.10.00.	
		-						
			C2P-EI-24B[ Nanjing Solid	1.1] Not Electric T	echnology	Co.,Ltd.		
			When power on EDS file for	next time:Fi C2P EI	xed IP st	art		
Output								Д
				RPTITM	1 0	PLIQUE		
N Node name IP address	Conne	ction		(ms)		(ms) 1	ime out	
1 C2P-EI-24B 192.168.0.120	Exclusive Owner [	IN_100,0U	T_150]		20.0	20.0 R	PI*16	Nor
I A A A Message Verify Setup list								>
a to the standard security (securitise		U \	Editor	1	OK	Cancel	Apply	
			Editor		UK	Cancel	Apply	//

#### 7、Setting the IP address

In the interface of the found device, double-click the IP address column and configure the IP address in the pop-up box. The default address network segment is 192.168.0.

Description:

- The timeout for setting the IP address needs to be configured to 60s.

- If the dipswitch has been configured with an IP address, the IP of the dipswitch takes precedence.

The C2P-EI-24B in this example uses the default IP address of 192.168.0.120.

#### 8、 Parameter settings

a. Click the Switch Mode option in the menu bar to switch to Editor mode, as shown in the following figure.

File(E) Edit(E) View(V) Program(M) Script(S)	Conve	(A) Monitor/Simulator(N) Debug(D) Tool(T) Window(W) Help(H)	
: 🗅 🤒 🗟 🗟 🖄 🝓 🗟 🖶 🗟 🕢 👔 Eth	ernet	• ! 🖻 📲 看 🗗 🗹 🛒 🎬 🗮 😭 📟 🔛 ! 다 🎄 다 다 다 2 3	F7 F8 SF8 F8 SF8
1.4 = = = 2 🗟 📾 📾 📲 🕇 🗞 🗞 🗣 🔘		I K ▲ K H ▼ H > ◎ 🖑 🗣 🖄 🖬 🗄 Editor	Comments Comment 1 .
Project I X	Main	Editor	
Unit configuration		Monitor	
[0] KV-7500		1 2 3 4 Online edit	/ 8 9 10
EtherNet/IP R30000 DM10000		Simulator	
Unit configuration switching			
- Device comment	00002		
Label			
CPU system setting			
Frequences execution			
Main	00003		
Initialize module			
Standby module			
- Fixed-period module			
Inter-unit sync module	00004		
Function Block			
E Macro			
Subroutine macro	00005		
Seif-hoid Macro	00005		
File register setting			
0:Memory card			
1:CPU memory	00006		
n 🐴 User document			
			END
	00007		
			ENDH
	00008		
< >	00009		
Library Project			
Ready			ag Ethernet 192.168.0.10

b. Enter the "EtherNet/IP Settings" screen and click "Exclusive Owner" to bring up the "Connection Settings" window. In the "Connection Settings" window, click "Setup Parameter" as shown below.

EtherNet/IP settings	-				X
File(F) Edit(E) Settings(S) View(V	) Convert	Connection settings - 1:C2	P-EI-24B	' ×	
	4 6 C	Connection list(L)			
		No. Connec	ction Application typ	е	
KV-7500[0] : 192.168.0.10		1 Exclusive Owner [IN_	100,OUT_150] 🕈 exclusive owner		
					th unit( <u>3</u> )
1: C2P-EI-24B : 192.1	68.0.120				^
Exclusive owner		Add(A) Delete(E	5)		68.0.120
				_	I-24B
		Connection name(C)	Exclusive Owner	~	I-24B
		Time out(T)	RPI*16 ~ (IN:320.0ms / OUT:320.0ms	s)	Ing Solidot E
		Refresh priority(E)	Normal	~	ing>
			Setup parameter/P) Assign device	e(D)	ing>
		IN (input from adapter)	Cottap parameter(_)	<u></u>	
		Connection type	Point-to-point	~	error
		Connection point	IN 100	~	
			e		
		Data size	0 Word		
		Send trigger	Cyclic	$\sim$	
		RPI (communication cycle)	20.0 ms (2.0 to 50.0ms)		v
		Des dusting in hibit lines			
		Production innibit time	ms		
		OUT (output to adapter)		_	
Output		Connection type	Point-to-point	~	Д
🖹 💼 🛤 🍠 🗏 🖳 🔛		Connection point	OUT_150	~	
		Data size	3 Word		Refresh
N Node name	IP add	PPI (communication curle)	20.0 ms (2.0 to 50.0 ms)		priority
1 C2P-EI-24B	192.16	KFI (communication cycle)			5 Normal
			Keep consistent with IN		
H A Dessage Verify Setup list	/		OK	Cancel	>
					incel Apply

c. In the "Setup Parameter" window, you can configure the parameters of the valve terminal, and the parameters of the valve terminal of C2P-EI series are the output signal clear/hold setting function, as shown in the following figure.

K EtherNet/IP settings					$\times$
File(F) Edit(E) Settings(S) View	v(V) Convert Con	nection settings - 1:C2P-EI-24B	?	×	
	🔐 🛷 🖂 👩 Con	nection list(L)			
		D. Connection	Application type	a	
KV-7500[0] : 192.168.0.1	0	1 Exclusive Owner [IN_100,OUT	150] 🛛 🛐 exclusive owner		¢
				th unit(3)	
		Setup parameter		×	
1: C2P-EI-24B : 192	.168.0.120	Parameter(P)	C2P-EI-24B	~	^
Exclusive Owner					
		No. Parameter	Set value Attribute	e .68.0.120	
		0001 BusFault_Clear/Hold	1:Hold V R/W	11-24B	
	Cor	0020 Clear/Hold[07]	0 R/W	✓ I-24B	
	Tim	0021 Clear/Hold[815]	0 R/W	ng Solidot	E
	<b>D</b> -4	0022 Clear/Hold[1623]	0 RAV		
	Ret	0024 Clear/Hold[32 39]	0 RW	ing>	
		0025 Clear/Hold[40, 47]	0 R/W	, ing-	
	_IN	0		error	
	Co	n		~	
	C				
	00				
	Da	itz			
	Se	Description New Viele State	-		
		Default value 1	5		
	RP	Range 0 to 2			*
	De	Current set 1			
	FI	Remarks			
	<u>O</u> l	1			
Output	Co	n		~	д.
	Co	n		~	
N Node name	TP add Da	Restore to default(D)	OK Cancel	E E E	Refresh
	RF	(communication cycle) 20.0	ms (2.0 to 50.0ms)	put pi	ciority
1 C2P-EI-24B	192.16			6 Norma	1
		⊠ кеер	consistent with IN		
H + + Message Verify Setup I	list		OK C	Cancel	>
				the second se	

d. Output signal clear/hold parameter function, double click "BusFault Clear/Hold" option behind the set value, write **0** for clear, write **1** for hold; write **2** for single-channel setup or group setup, set the value of **2**, the following 0020~0025 parameters are valid, as shown in the figure below. Click "OK" to save the parameter, click "Apply" in the "EtherNet/IP Settings" window and download it to the controller to make the parameter take effect.

	Nia		Connection		Application type		1	
KV-7500[0] : 192.168.0.10	1110.	Exclusiv	o Owner INL 100 OLIT	1501 Sevelue	Application type			ņ
		LACIUSIV			ive owner	_	ch unit(3)	
		Setup pa	rameter		×			
1: C2P-EI-24B : 192.168.0.120		Paramet	er( <u>P)</u>	C2P-EI-24B				^
Exclusive Owner		No	Parameter	Set value	Attribute	1	69 0 120	
	1	0001	BusFault Clear/Hold	1 : Hold	V R/W	1	T-24B	
	Conr	0020	Clear/Holdf071	0	RW	~	T-24B	
		0021	Clear/Hold[8.,15]	0	R/W		ng Solidot E	
	Time	0022	Clear/Hold[1623]	0	R/W	i I		
	Refre	0023	Clear/Hold[2431]	0	R/W	~	ing>	
		0024	Clear/Hold[3239]	0	R/W		ing>	
		0025	Clear/Hold[4047]	0	R/W			
	<u>IN (</u>						error	
	Con					~		
	Con					~		
	001					1		
	Data							
	Con							
	Sell	Descript	ion New Help Strin	e.		-		
	RPI	Range	0 to 2					~
		Current s	set 1					
	Proc	Value						
	00	rvemarks					1	
0.1.1	Con					~		-
Output								4
🖻 💼 🛤 🖅 🗏 🗛 🔛	Con					~		
N Node name IP add	Data	Restore	to default(D)	ОК	Cancel		out Ref	resh
1 C2P-EI-24B 192.16	RPI (	communi	cation cycle) 20.0	ms (2.0 to 50	.0ms)		5 Normal	-

e. Output signal clear/hold parameter function, 0001 "BusFault Clear/Hold" is set to **2**, modify the setting value of the group parameter of 0020~0025 below, and you can set clear/hold by channel, as shown in the following figure. Click "OK" to save the parameter, click "Apply" in the "EtherNet/IP Settings" window and download it to the controller to make the parameter take effect.

EtherNet/IP settings					_	
File(F) Edit(E) Settings(S) View(V) Convert	Connection se	ttings - 1:C2P-EI-24B		?	×	
📲 🛈 🛱 🕾 👗 🖿 📥 🛤 🖉 🕾 📾	Connection lis	:( <u>L</u> )				
	No.	Connection	App	lication type		
KV-7500[0] : 192.168.0.10	1 Exclusi	ve Owner [IN_100,OUT_	_150] 🛛 👔 exclusive	owner		+
	Setup p	arameter		×	sh unit(3	0
1: C2P-EI-24B : 192.168.0.120	Parame	ter(P)	C2P-EI-24B	~		^
	No.	Parameter	Set value	Attribute	.68.0.1	20
	000	BusFault_Clear/Hold	2 : Set by channel	R/W	I-24B	
	Conr 0020	Clear/Hold[07]	255	R/W	✓ I-24B	
	002	Clear/Hold[815]	0	R/W	ng Sol	idot E
	0022	Clear/Hold[1623]	0	R/W		
	Refre 0023	Clear/Hold[2431]	0	R/W	✓ ing>	
	0024	Clear/Hold[3239]	0	R/W	ing>	
	0025	Clear/Hold[4047]	0	R/W		
	IN (				error	
	Con				~	
	Con				~	
				-	_	
	Data					
	Sen Descrin	tion New Help Strine	,		~	
	Default	value 0	>		_	~
	RPI Range	0 to 255				
	Current	set 255				
	Remark	s				
	QU					
Output	Con				~	¢
🖻 🛍 🛤 🍠 🖻 🕵 🐘	Con				~	
N Node name IP add	Data Restor	e to default( <u>D</u> )	ОК	Cancel	out	Refresh
1 C2P-EI-24B 192.16	RPI (commun	ication cycle) 20.0	ms (2.0 to 50.0r	ns)	5 N	ormal
		Кеер	consistent with IN			
II I I Message Verify Setup list			OK	Cancol		>
			UK	Cance	ancel	Apply

- f. When the configuration is complete, click the "OK" button in the "Setup Parameter" window.
- g. In the "Connection Settings" window, click the "OK" button.
- h. In the "EtherNet/IP Settings" window, click the "Apply" button and click the "OK" button.
- i. In the "Unit Editor" window, click the "Apply" button and click the "OK" button.

#### 9. Configuration Download

After module configuration and parameter setting are completed, download to PLC operation is performed.

a. Click "Monitor/Simulator (N) -> Transfer to PLC -> Monitor Mode (C)" in the menu bar as shown below.



b. The "Transfer Program" window pops up, check "Clear Program in PLC", click "Select All", click "Execute" to download the program to the PLC, as shown in the following figure.

📰 Tr	ansfer program [Communication d	estination: KV-7500, route: Ethernet 192.168.0.1	Х
Trans	fer items( <u>I</u> )		
	Item		
	Unit setting info		
	Global device comments		
	Global label		
	CPU system setting		
	Operation recorder setting		
	Program		
	Device default info		
	Logging/trace setting info		
	Ethernet/serial function setting info		
	File Register setting		
	User document		
	Positioning unit parameter	LINE CONTRACTOR	
	Camera setting	Unit setting info	
~	Select all(S) Cancel all(D)		
Cle	ar program in PLC(Q)		
/ Ca	ution		
Trans unit s Etherr comm	fer is conducted via Ethernet. When etting information is transferred and net setting is changed, the nunication may be disabled.		
• Tra	nsfer in PROGRAM mode(P)		
OTra	nsfer in RUN mode( <u>R</u> )		
	Execute(E) Cancel(C)		

c. A prompt box pops up "Change to PROGRAM mode and overwrite? Continue?", click to select "Yes" as shown below.



d. After writing to the PLC is completed, a pop-up box will appear, "Change to RUN mode", click and select "Yes", as shown in the figure below, to enter the monitoring mode.

KV STUDIO	×
Change to F	RUN mode?
是(Y)	杏(N)

e. After the configuration is downloaded, it is shown in the following figure.



#### 10. Data monitoring

a. In monitor mode, double click "C2P-EI-24B" icon to open the monitor table, you can monitor the module as shown below.



W00~W02 are the monitoring values for the open load function of the valve terminal. W03~W05 are the monitoring values of valve terminal short circuit or overtemperature function. W06~W08 for valve terminal output control function

b. To turn on any of the solenoid coil outputs of the valve terminal, take the first channel as an example, you can double-click on the current value of W06 and enter **1** to turn on the first solenoid coil channel, as shown below.

File(F) Edit(E) View(V) Program(M) Script(S	Convert(A)	Monitor/Simulator(N)	Debug(D) Operatio	n recorder/Replay( <u>R</u> ) To	ool() Window(W)	Help( <u>H</u> )
🗄 🗅 🔥 🖶 🗎 🔮 📫 🗟 🖶 🕼 🚱 🗄 🔛 Eth	ernet	• D 2 4 5	🛱 🖬 🖷 🎼 📼	E E F5 SF5 F4 SF4 F	-7 SF7 F8 SF8 F9 SF9	
- 🦨 🏣 🐹 🐼 🎬 🖷 🏅 🗞 🗞 🔩 🖲		H ▼ H H ▼ H >	· 🔘 🥼 🗣 🖄 🔤	Monitor	Comments	-
Project 🕴 🖡 🗙	Main 🗙					
<ul> <li>Whit configuration         <ul> <li>C(0) KW-7500</li> <li>ExterNet/IP R30000 DM10000</li> <li>C(1) C2P-EI-24B</li> <li>Whit configuration switching</li> <li>Device comment</li> <li>Label</li> <li>Operation recorder setting</li> <li>C(PU system setting</li> <li>Every-scan execution</li> <li>Every-scan execution</li> </ul> </li> </ul>	E Sensor IO	Image: Second	48(1) ay format Bir pr-580(0 Bir pr-580(0 Bir pr-580(0 Bir pr-580(0 Bir pr-580(0 Bir pr-580(0 Bir pr-580(0 Bir pr-580(0) Bir pr-580	Comments a Comments a Comments and Data (000) Commends (110, 000) Commends (110, 000) Co	- 0 X	10 <b>•</b>
Thritialize module Standby module Fixed-period module Fineter-unit sync module Fineter-unit sync module Fineter-unit of the sync module Fineter-unit sync module Fineter-u	00003					
Bevice default     File register setting     O:Memory card     I:CPU memory	00005					
n — User accument	00006					
Monitor Library Project	00007	( PROG				END v
nearry		7 1100		30	an- orrowis as Euler	102.108.0.10

c. If you need to control a group of solenoid valve coil outputs, take the first group of channels as an example, you can double-click the current value of W06 to enter **255** to turn on the first group of solenoid valve coil channels, as shown in the following figure.



#### 7.6.2 Application in CODESYS V3.5 software environment

#### 1. Preliminary

- Hardware environment
  - > Valve terminal model C2P-EI-24B
  - > One computer, pre-installed with CODESYS V3.5 software
  - > Shielded cable for valve terminal
  - > One switching power supply
  - > Device configuration files

Configuration file access: <u>https://www.solidotech.com/documents/configfile</u> **Note:** valve terminal profiles with a high number of solenoid positions are compatible for

use with Valve Terminal with a lower number of solenoid positions, e.g., a C2P-EI-20B valve terminal can use a C2P-EI-24B profile, and so on.

 Hardware configuration and wiring Please follow "<u>5 Installation</u>" and "<u>6 Wiring</u>".

#### 2. Installation Profiles

- a. Open CODESYS software and select "Tools -> Device Repository" to install the EhterNet/IP EDS device description file.
- b. The Device Repository window pops up, click "Install", select the relevant EDS file to install. Successful installation shows that the device "xxxx" has been installed to the device repository, as shown in the following figure.

cation	System Repository			~	Edit Locations.
	(C:\ProgramData\CODESYS\Devi	ces)			
stalled de	vice descriptions				
trin <mark>g f</mark> or a	fulltext search	Vendor:	<all vendors=""></all>	~	<u>I</u> nstall
Name		Ver	ndor	^	<u>U</u> ninstall
	Ethernet Adapter				Export
	EtherNet/IP Local Adapter				
	EtherNet/IP Remote Adapter				
	C2P-EI-24B	Nan	jing Solidot Electric Technology Co.,Ltd.		
	EtherNetIP Adapter	35 -	Smart Software Solutions GmbH		
	Generic EtherNet/IP devic	ce 3S -	Smart Software Solutions GmbH		
	Generic EtherNet/IP devi	ce 3S -	Smart Software Solutions GmbH		
	Generic EtherNet/IP devi	ce 3S -	Smart Software Solutions GmbH	~	-
¢				>	<u>D</u> etails
=- 1 D:1	(C2P-EI_24B_v1.0.0.eds Device "C2P-EI-240" installed to d	levice repos	itory.		

#### 3、 New construction

a. Click "File", select "New Project", enter the project name, click "OK", as shown below.

Lib	oraries ojects				
		Empty project	HMI project	Standard project	Standard project w
project c	ontaining one device, one a	pplication, and an e	empty implement	tation for PLC	PRG
project c <u>l</u> ame	ontaining one device, one a Untitled 1	pplication, and an e	empty implement	tation for PLC	PRG
A project c <u>l</u> ame ocation	Untitled 1 C:\Users\29719\Documer	pplication, and an ents	empty implemeni	tation for PLC	PRG

#### 4、 Add "Ethernet"

- a. Start the PLC with "CODESYS Control Win V3 x64 SysTray".
- b. Double-click "Device (CODESYS Control Win V3 X64)" in the left navigation tree, and click "Scan Network".
- c. Select Devices, Scan Network, and Network is active, as shown in the following figure.

Applications   Backup and Restore   Files   Log   CStimps   PLC Settings   Public Settings <t< th=""><th>Communication Settings</th><th>Scan Network   Gateway •   Device •</th></t<>	Communication Settings	Scan Network   Gateway •   Device •
accurate and reactive       Files       Log       Dr       Cost       PLC Settings       Settings       Settings       Proth       1217       Device Address:       0000 000-8       Target Version:       35.15.10       Setture       Information	Applications	
op     istemay       istemay     istemay	files	
LC Settings P-Address: localiset localiset P-C-2020/S1559 Port 0000.8172 Target ID: 0000.004 Target TD: 0000.004 Target TD: 0000.004 Target TD: 0000.004 Target TD: 0000.004 Target TD: 0000.004 Target Ype: 4996 So Smart Software Solutions GmbH Target Version: 3.5.15.10	og	Gateway Sateway PC-202307051559 (active)
Lic Shell     Ports 1217     Device Address: 000.517E       Isers and Groups     Target To 0000 0004     Target To 4996       ymbol Rights     Target Tope: 4996       EC Objects     Target Tope: 5-Smart Software Solutions GmbH       target Tope: 4996     Target Yeesion: 35.15.10	LC Settings	IP-Address: Device Name: localhost PC-202307051559
Jsers and Groups     Target ID: 000 0004       Access Rights     Target Vps: 4096       Symbol Rights     Target Vps: 4096       EC Objects     Target Vendor: 35.15.10       Ratus     Target Version: 35.15.10	PLC Shell	Port: Device Address: 1217 0000.817E
Access Rights     access Rights       Symbol Rights     Target Type: 4995       EEC Objects     Target Vendor: 35 - Smart Software Solutions GmbH       Task Deployment     Target Vension: 35.15.10	Users and Groups	Target ID: none none
Symbol Rights         "unon           EEC Objects         Target Vendor: 35 - Smart Software Solutions GmbH           Tarsk Deployment         Target Vendor: 3.5.15.10	Access Rights	Target Type:
Information	Symbol Rights	Target Vendor:
Status 3.5.15.10	Tack Deployment	35 - Smart Soltware Solutions GmbH Target Version:
nformation	Status	3.5.15.10
	Information	

- d. Right click on "Device(CODESYS Control Win V3 X64) " in the left navigation tree and select "Add Device".
- e. The Add Device window pops up, select "EthernetIP -> Ethernet Adapter -> Ethernet", click "Add Device", as shown in the following figure.



- f. Right-click "Ethernet" in the left navigation tree and select "Add Device".
- g. Select "EthernetIP -> EthernetIP Scanner -> Ethernet/IP Scanner" and click "Add Device" as shown in the following figure.

		Add Device							
ices 🗸 🕂 🕂	C Device X	Name EtherNet TD Adenter							
Untitled I  Device (CODESYS Control Win V3 x64)  Device (CODESYS Control Win V3 x64)  Device (CODESYS Control Win V3 x64)	Communication Settings Applications	Sca Action							
Application	Backup and Restore	String for a fulltext search Vendor <all vendors=""></all>							
PLC_PRG (PRG)     Section 2 - Section	Files	Name Vendor Version Descriptio							
□ 😂 MainTask (IEC-Tasks)	Log	EtherNet/IP							
에 PLC_PRG	PLC Settings	EtherNet/IP Adapter 35 - Smart Software Solutions GmbH 3.5.15.10 A device that							
	PLC Shell								
	Users and Groups	B - ### Profinet IO							
	Access Rights								
	Symbol Rights	Group by category Display all versions (for experts only) Display outdated versions							
	IEC Objects	Name: EtherNet/IP Adapter							
	Task Deployment	Vendor: 35 - Smart Software Solutions GmbH Categories: EtherNet/IP Local Adapter							
	Status	Version: 3.5.15.10 Order Number: -							
	Information	Description: A device that works as an EtherNet/IP Adapter.							
		Append selected device as last child of Ethernet  City (You can select another target node in the navigator while this window is open.)							
		Y Class							

#### 5、 Configure "EthernetIP"

- a. Double-click on "Ethernet" in the left navigation tree to open the configuration window.
- b. In the General tab, click to the right of Interfaces, select "Network Adapters", and finally click "OK", as shown in the following figure.

Devices - 7 ×	Device Betherne	t x					
Intitled 1     Intitled 1     Provide [connected] (CODESYS Control Win V3 x64)	General	Interface					
e 1 PLC Logic	Log	IP address	92 . 168 . 0 . 222				
- Millibrary Manager	Status	Subnet mask 2	Subnet mask 255 . 255 . 0				
PLC_PRG (PRG)     Task Configuration	Network Adapters			:	×		
😑 🍪 ENIPAdapterIOTask (IEC-Tasks)	Interfaces						
EtherNet_IP_Adapter.IOCycle	Name Description		IP address	^	•		
ENIPAdapterServiceTask (IEC-Tasks)	以太网 Realtek PCIe	GbE Family Controller	169. 254. 80. 143				
EtherNet_IP_Adapter.ServiceCycle	以太网:1 Realtek PCIe	GbE Family Controller	192. 168. 0. 222				
🖃 🍪 MainTask (IEC-Tasks)	蓝牙网络连接 Bluetooth De	vice (Personal Area Network	) 0.0.0.0				
PLC_PRG	WLAN Intel(R) Wi-	Fi 6 AX201 160MHz	192. 168. 20. 153		11		
😑 🎲 Ethernet (Ethernet)	本地连接* 9 Microsoft Wi	-Fi Direct Virtual Adapter	0, 0, 0, 0	~			
EtherNet_IP_Adapter (EtherNet/IP Adapter)	IP address 192.1 Subnet mask 255.2 Default gateway 0. MAC address 7C:8A:E	68 . 0 . 222 55 . 255 . 0 0 . 0 . 0 1:95:25:53		OK Cancel			

#### 6、 Add Device

- a. Click 🥰 to log in to the device.
- b. Right-click on "EtherNet\_IP\_Scanner (EtherNet/IP Scanner)" in the left navigation tree and select "Scan Devices".
- c. After scanning, select "C2P-EI-24B" and click "Copy to Project" as shown in the following figure.

es	▼ 🖡 🗙 👔 Device	Ethernet X			
Untitled I	Scan Devices				
😑 🗐 PLC Logic	Scanned Devices				
C Application [stop]     Duray Manager     Duray Manager	EC-Tasks) IOC/yde sk (EC-Tas sk (EC-Tas sk (EC-Tas st/IP Adapte	Device type [C2P-EI-C480Major Revision=1681, Minor Revision = 1681)	IP Address 192. 168. 0. 120	Serial Number 387856488 (16827100010	))
				Donow allierend	es to
	Sam Danias		Conv. t	o project	Clor.

d. The device has been added, as shown below.



#### 7、 Parameter settings

page, as shown below.

The parameter setting function is used to configure the clear/hold function of the valve terminal.

a. Double-click the device to open the "Device Configuration" window, switch to the "Connections"

eneral	Connection Name	RPI (mc)	Oust	Size (Buter)	T>O Si	(Buter)	Provy Config	Size (Buter	) Target Config Size (Butes	Connection Path
onnections	1 Furthering Ourses	10	6	Size (bytes)	17 20 30	e (bytes)	rioxy comit	g Size (bytes	n anger coning size (bytes	20.04.24.07.20.06.2
mectona	1. Exclusive Owner	10	0		12				8	20 04 24 97 2C 96 2
semblies										
er-Defined Parameters										
g										
erNet/IP I/O Mapping										
erNet/IP IFC ()biects										
erNet/IP IEC Objects										
itus	<									
atus	< Add Connection	Delete Co	onnection	Edit Con	nection					
atus formation	< Add Connection Configuration Data	Delete Co	onnection	Edit Con	nection					
atus	<     Add Connection Configuration Data     Raw data values	Delete Co Show Param	onnection neter Groups	Edit Con	nection					Defaults
ther state of the	<     Add Connection Configuration Data Raw data values  Parameters	Delete Co ] Show Param	onnection neter Groups Value	Edit Con Unit	nection Data Type	Minimum	Maximum	Default	Help String	Defaults
itus	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values @</li> <li>Parameters</li> <li>Exclusive Owner</li> </ul>	Delete Co Show Param	onnection neter Groups Value	Edit Con Unit	nection Data Type	Minimum	Maximum	Default	Help String	Defaults
erwey in its objects	<     Add Connection Configuration Data Raw data values E Parameters Parameters Target Config Target Config Target Config	Delete Co Show Param data	nnection neter Groups Value	Edit Con Unit	nection Data Type	Minimum	Maximum	Default	Help String	Defaults
erwer(in inc Unjects	Add Connection     Configuration Data     Raw data values      Parameters     Texclusive Owner     Target Config     DusFault_	Delete Co ] Show Param data ear/Hold	nnection neter Groups Value Hold	Edit Con	nection Data Type USINT	Minimum	Maximum 2	Default	Help String	Defaults
enver(IP IEC Objects	<     Add Connection     Configuration Data     Raw data values      Parameters     Exclusive Owner     Target Config     DusFault_C     Clear/Holl	Delete Co ] Show Param data ear/Hold 07]	neter Groups Value Hold	Edit Con	Data Type	Minimum 0	Maximum 2 255	Default 1	Help String New Help String New Help String	Defaults
erwer()P in UC Objects	<     Add Connection      Configuration Data     Raw data values      Parameters     Exclusive Owner     Target Config         Target Config         Configuration         Clear/Hold[         Clear/Hold[	Delete Co Show Param data ear/Hold 07] 515]	nnection Nature Value Hold 0	Edit Con	Data Type USINT USINT	Minimum 0 0	Maximum 2 255 255	Default 1 0	Help String New Help String New Help String	Defaults
erwer(in inc Unjects	<     Add Connection     Configuration Data     Raw data values      Parameters     ■ Exclusive Owner     ■ Target Config     Usafaut_     Clear/Hold[      Clear/Hold[	Delete Co Show Param data ear/Hold 07] 315] 1623]	nnection heter Groups Value Hold 0 0	Edit Con	Data Type USINT USINT USINT USINT	Minimum 0 0 0 0	Maximum 2 255 255 255	Default 1 0 0	Help String New Help String New Help String New Help String New Help String	<u>D</u> efaults
erwet/iP iEC Ubjects	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values </li> <li>Parameters</li> <li>Exclusive Owner</li> <li>Target Config</li> <li>BusFault O</li> <li>Clear /Hold[</li> <li>Clear /Hold[</li> <li>Clear /Hold[</li> <li>Clear /Hold[</li> <li>Clear /Hold[</li> <li>Clear /Hold[</li> </ul>	Delete Co Show Param data ear/Hold 07] 315] 1623] 2431]	nnection value Hold 0 0 0	Edit Con	Data Type USINT USINT USINT USINT USINT USINT	Minimum 0 0 0 0 0	Maximum 2 255 255 255 255	Default 1 0 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	Defaults
erwet/iP iEC Ubjects	<     Add Connection      Add Connection      Configuration Data     Raw data values      Parameters      Exclusive Owner     Target Config     Olar Mold[     Olar Mold]     Olar Mold[     Olar Mold[     Olar M	Delete Co Show Param data ear/Hold 07] 315] 1623] 2431] 3239]	nnection heter Groups Value Hold 0 0 0 0 0 0	Edit Con	Data Type Data Type JSINT JSINT JSINT JSINT JSINT	Minimum 0 0 0 0 0 0 0 0	Maximum 2 255 255 255 255 255 255 255	Default 1 0 0 0 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	<u>D</u> sfaults

b. Output signal clear/hold parameter function, click the drop-down menu behind the "BusFault Clear/Hold" option, select Clear for clear, select Hold for hold; select Set by Channel for single channel setting or group setting, at this time, the following Clear/Hold[0..7] ~ Clear/Hold[40..47] parameters are valid, as shown in the figure below. Hold[0..7] ~ Clear/Hold[40..47] parameters are valid, as shown below.

ieral									
	Connection Name	RPI (ms	s) O>T Size (Bytes)	T>O Size (Bytes)	Proxy Co	onfig Size (Byte	es) Targ	get Config Size (Bytes)	Connection Path
inections	- 1. Exclusive Owner	10	6	12			8		20 04 24 97 2C 96 2C
emblies									
-Defined Parameters									
rNet/IP I/O Mapping									
rNet/IP IEC Objects									
rNet/IP IEC Objects	<								
erNet/IP IEC Objects	< Add Connection	Delete C	ionnection Edit Con	nection					
rrNet/IP IEC Objects us rmation	< Add Connection	Delete C	Connection Edit Con	nection					
rNet/IP IEC Objects us rmation	<     Add Connection Configuration Data     Raw data values	Delete C	Connection Edit Con	nection					Defaults
rNet/IP IEC Objects us rmation	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values</li> <li>Parameters</li> </ul>	Delete C	ionnection Edit Con meter Groups Value U	nection nit Data Type	Minimum	Maximum	Default	Help String	Defaults
rrNet/IP IEC Objects us rmation	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values</li> <li>Parameters</li> <li>Exclusive Owner</li> </ul>	Delete C	Connection Edit Con meter Groups Value U	nection nit Data Type	Minimum	Maximum	Default	Help String	Defaults
rNet/IP IEC Objects us rmation	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values</li> <li>Parameters</li> <li>Exclusive Owne</li> <li>Target Cont</li> </ul>	Delete C Show Para	Connection Edit Con meter Groups Value U	nit Data Type	Minimum	Maximum	Default	Help String	Defaults
us mation	Add Connection     Configuration Data     Raw data values     Parameters     Exclusive Owm     Target Con     BusFault	Delete C Show Para r fig data Clear/Hold	Tonnection Edit Con meter Groups Value U Set by channel V	nection nit Data Type USINT	Minimum	Maximum 2	Default 1	Help String New Help String	Defaults
as mation	<     Add Connection Configuration Data     Raw data values Parameters     Exclusive Owne     Farget Con     BusFault     Gear/hol	Delete C Show Para rr fig data Clear/Hold d[07]	Connection Edit Con meter Groups Value U Set by channel ~ Clear	nection  nit Data Type USINT USINT	Minimum 0	Maximum 2 255	Default 1	Help String New Help String New Help String	Defaults
as mation	Add Connection      Configuration Data     Raw data values      Parameters     Exclusive Owne     Target Con     BusFault     Clear/Hol     Clear/Hol     Clear/Hol     Clear/Hol	Delete C Show Para rr fig data (Clear/Hold d[07] d[815]	ionnection Edit Con meter Groups Value U Set by channel V Glear Hold Set by channel	nection  Data Type USINT USINT USINT	Minimum 0 0 0	Maximum 2 255 255	Default 1 0	Help String New Help String New Help String New Help String	Defaults
IS mation	Add Connection      Configuration Data     Raw data values      Parameters     Exclusive Owne     Target Con     BusFault     Gear/Hol     Gear/Hol     Gear/Hol     Gear/Hol     Gear/Hol	Delete C Show Para ir iig data (Clear/Hold d[07] d[815] d[1623]	ionnection Edit Con meter Groups Value U Set by channel V Clear Hold Set by channel 0	nection Data Type USINT USINT USINT USINT	Minimum 0 0 0 0	Maximum 2 255 255 255	Default 1 0 0	Help String New Help String New Help String New Help String New Help String	Defaults
In a second seco	<     Add Connection     Configuration Data     Raw data values     Parameters     Exclusive Owne     Target Con     DusFault,     Olear/Hol     Olear/Hol     Clear/Hol     Olear/Hol     Clear/Hol	Delete C Show Para ir iig data (Clear/Hold d[07] d[815] d[623] d[1623]	Connection Edit Con meter Groups Value U Set by channel V Clear Hold Set by channel 0 0	Inction Data Type USINT USINT USINT USINT USINT	Minimum 0 0 0 0 0	Maximum 2 255 1 255 255 1	Default 1 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	<u>R</u> efaults
as mation	<      Add Connection      Configuration Data      Raw data values      Parameters      Exclusive Owne     BusFault,      Olear Hol     Ole	Delete C Show Para ir ig data (Cear/Hold d(07) d(815) d(1623) d(2431) d(2431)	Connection Edit Con meter Groups Value U Set by channel V Clear Hold Set by channel 0 0 0 0	nection Data Type USINT USINT USINT USINT USINT	Minimum 0 0 0 0 0 0 0 0 0	Maximum 2 255 255 255 255 255	Default 1 0 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	Defaults

c. "BusFault Clear/Hold" select Set by Channel, modify the value of the grouping parameter of Clear/Hold [0..7] below, you can set clear/hold by channel, as shown in the following figure.

iel di	Connection Name	RPI (ms)	) O>T Size (Bytes)	T>O Size (Bytes)	Proxy Co	onfig Size (Byt	tes) Tar	get Config Size (Bytes)	Connection Path
nnections	- 1. Exclusive Owner	10	6	12			8		20 04 24 97 2C 96 2C 6
emblies									
r-Defined Parameters									
1)									
erNet/IP I/O Mapping									
erNet/IP IEC Objects									
us	۲								
us	< Add Connection	Delete Ce	onnection Edit Con	rection					
tus	< Add Connection Configuration Data	Delete Co	onnection Edit Con	rection					
us	<     Add Connection Configuration Data     Raw data values [	Delete Co	onnection Edit Con	nection					Defaults
rmation	< Add Connection Configuration Data Raw data values [ Parameters	Delete Co	nnection Edit Con neter Groups Value U	nection	Minimum	Maximum	Default	Help String	<u>D</u> efaults
us	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values [ Parameters</li> <li>Exclusive Owner</li> </ul>	Delete Co	nnection Edit Con neter Groups Value U	nection	Minimum	Maximum	Default	Help String	Defaults
us	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values [</li> <li>Parameters</li> <li>Exclusive Owne</li> <li>Target Confi</li> </ul>	Delete Co	nnection Edit Con neter Groups Value U	nit Data Type	Minimum	Maximum	Default	Help String	Defaults
us rmation	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values [</li> <li>Parameters</li> <li>Exclusive Owner</li> <li>Target Confi</li> <li>BusFault</li> </ul>	Delete Co	nonnection Edit Com meter Groups Value U Set by channel	nit Data Type	Minimum	Maximum 2	Default	Help String	Defaults
us	<ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values [</li> <li>Parameters</li> <li>Exclusive Owne</li> <li>Target Confi</li> <li>BuFault,</li> <li>Clear/Hold</li> </ul>	Delete Co Show Parar g data Clear/Hold [07]	ennection Edit Con meter Groups Value U Set by channel	nit Data Type USINT USINT	Minimum 0	Maximum 2 255	Default 1	Help String New Help String New Help String	Defaults
us	<     Add Connection Configuration Data Configuration Data Parameters Exclusive Ownee Exclusive Ownee BusFault Colear/Hold Clear/Hold Clear/	Delete Co Show Parar g data Clear/Hold [07] [815]	ennection Edit Con meter Groups Value U Set by channel CSS 0	nit Data Type USINT USINT USINT	Minimum 0 0	Maximum 2 255 255	Default 1 0	Help String New Help String New Help String New Help String	Defaults
us	Add Connection     Configuration Data     Configuration Data     Raw data values     Parameters     Fxclusive Owner     BusFault     Clear/hold     Clear/hold     Clear/hold     Clear/hold     Clear/hold	Delete Co Show Parar g data Lear/Hold [07] [815] [1623]	Nonnection Edit Connection Value U Set by channel Co O O	nit Data Type USINT USINT USINT USINT	Minimum 0 0 0 0	Maximum 2 255 255 255	Default 1 0 0	Help String New Help String New Help String New Help String New Help String	Defaults
us	<     Add Connection Configuration Data Configuration Data Raw data values Exclusive Owne E Target Confi DissFault Clear/hold Cle	Delete Ci Show Parar g data Jear/Hold [07] [1623] [2431]	Edit Con meter Groups Value U Set by channel 255 0 0 0 0	it Data Type USINT USINT USINT USINT	Minimum 0 0 0 0	Maximum 2 255 255 255 255 255	Default 1 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	Defaults
us	< <ul> <li>Add Connection</li> <li>Configuration Data</li> <li>Raw data values [</li> </ul> <li>Parameters</li> <li>Exclusive Owner</li> <li>BusFault_</li> <li>Clear/Hoid</li> <li>Clear/Hoid</li> <li>Clear/Hoid</li> <li>Clear/Hoid</li>	Delete Cr Show Paran g data Jear/Hold [07] [815] [1623] [2431] [3239]	Edit Con       meter Groups       Value       Value	ection nit Data Type USINT USINT USINT USINT USINT	Minimum 0 0 0 0 0 0 0 0	Maximum 2 255 255 255 255 255 255	Default 1 0 0 0 0 0	Help String New Help String New Help String New Help String New Help String New Help String	Defaults

- Ele Edit View Project Build Online Debug Iools Window Help Debug Iools Window Help Login Alt+F8 Count Ctrl+F8 Application [Device: PLC Logic] 🝷 🧐 💜 🖒 🗉 🤻 🛛 🖓 👘 🖅 🤻 🖓 🔶 👘 👘 Create Boot Application Dev C2P\_EI\_248 X Download Online Change Untitled1

  Device (CODESYS Control Win V3 x64 Connection Name RPI (ms) O-->T Size (Bytes) T-->O Size (Bytes) Proxy Config Size (Bytes) Target Config Size (Bytes) Connection Path Source Download to Connected Device PLC Logic 1. Exclusive Owner 10 6 12 8 20 04 24 97 2C 96 2C 64 Multiple Download... Application Library Manager <u>R</u>eset Warm Res<u>e</u>t Cold Exist Configuration
   Set Configuration
   Set Configuration
   Set State
   Reset Origin Sim<u>u</u>lation Security Operating Mode < Status Ethernet (Ethernet) Add Connection... Delete Connection Edit Connection... EtherNet\_IP\_Scanner (EtherNet/IP Scanner) Information Configuration Data C2P\_EI\_246 (C2P-EI-246) Defaults Raw data values 🗹 Show Parameter Groups Parameters Value Unit Data Type Minimum Maximum Default Help String Exclusive Owner Target Config data
   BusFault\_Clear/Hold Set by channel USINT 2 1 New Help String Clear/Hold[0..7] Clear/Hold[8..15] USINT New Help String 255 255 0
  0
  0
  0
  0
  0
  0
  0 Clear/Hold[16..23] USINT 0 255 255 255 255 New Help String New Help String New Help String 0 Clear/Hold[10..23] Clear/Hold[24..31] Clear/Hold[32..39] Clear/Hold[40..47] USINT USINT UDIN New Help String Sevices POUs
- d. Click "Online -> Multi-Download" in the menu bar, as shown below.

e. Multiple download window will pop up, select "Always perform a full download", click "OK", as shown in the figure below.

Aultiple Download	~
Please select the items to be downloaded	
Device: Application	
Online change options If the application in the project differs from the application already preser PLC, then behave as follows:	nt on the
Online change options If the application in the project differs from the application already preser PLC, then behave as follows: O Iry to perform an online change. If this is not possible, perform a full d	nt on the lownload.
Online change options If the application in the project differs from the application already preser PLC, then behave as follows: Iry to perform an online change. If this is not possible, perform a full d Eorce an online change. If this is not possible, cancel the operation Always perform a full download	nt on the Iownload.
Online change options If the application in the project differs from the application already presen PLC, then behave as follows: Iry to perform an online change. If this is not possible, perform a full do Eorce an online change. If this is not possible, cancel the operation Always perform a full download If an application is not yet present on the PLC, a full download is always p	nt on the lownload. eerformed.
Online change options If the application in the project differs from the application already presen PLC, then behave as follows: ① Iry to perform an online change. If this is not possible, perform a full d ② Eorce an online change. If this is not possible, cancel the operation ③ Always perform a full download If an application is not yet present on the PLC, a full download is always perform a full download	nt on the lownload. eerformed.
Online change options If the application in the project differs from the application already preser PLC, then behave as follows: If y to perform an online change. If this is not possible, perform a full d Eorce an online change. If this is not possible, cancel the operation Always perform a full download If an application is not yet present on the PLC, a full download is always p Additional operations Delete all applications on the PLC which are not part of the project.	nt on the lownload. verformed.
Online change options If the application in the project differs from the application already preser PLC, then behave as follows: Iry to perform an online change. If this is not possible, perform a full do Eorce an online change. If this is not possible, cancel the operation Always perform a full download If an application is not yet present on the PLC, a full download is always p Additional operations Delete all applications on the PLC which are not part of the project. Start all applications after download or online change.	nt on the lownload. eerformed.

f. Once the download is complete, click 🥵 and the system is online as shown below.

	Device C2P_EL	248 🗙								
Untitled 1	General	Find		Filter Show all		- Add	FB for IO Channel	→ Go to Instan	nce	
Device (connected) (codes is control with its kory      DI PLC Logic      Device (connected) (codes is control with its kory      Ethernet (Ethernet)	Connections	Variable	Mapping	Channel	Address	Туре	Current Value	Prepared Value	Unit	Description
🖹 😏 🗊 EtherNet_IP_Scanner (EtherNet/IP Scanner	Assemblies	8-39		Open Load[07]	%IB0	USINT				
🖸 🗐 C2P_EI_248 (C2P-EI-248)		B- 🍫		Open Load[815]	%IB1	USINT				
	User-Defined Parameters	B-*>		Open load[1623]	%IB2	USINT				New Help String
	Log	8-39		Open load[2431]	%IB3	USINT				New Help String
		· · · · ·		Open load[3239]	%IB4	USINT				New Help String
	EtherNet/IP I/O Mapping	18 - 🍋		Open load[4047]	%IB5	USINT				New Help String
	EtherNet/IP IEC Objects	B- 🍫		Short circuit or overtemperature[07]	%IB6	USINT				New Help String
	culenter ice objects	🗄 - 🍫		Short circuit or overtemperature[815]	%IB7	USINT				New Help String
	Status	B- <b>*</b> 9		Short circuit or overtemperature[1623]	%IB8	USINT				New Help String
		#- 🍫		Short circuit or overtemperature[2431]	%IB9	USINT				New Help String
	Information	8-*9		Short circuit or overtemperature[3239]	%IB10	USINT				New Help String
		8-*		Short circuit or overtemperature [4047]	%IB11	USINT				New Help String
		B- **		valve[14]	%Q80	USINT				
		18 - <b>*</b> ø		valve[58]	%Q81	USINT				
		B- <b>*</b> ø		valve[912]	%Q82	USINT				
		18 - <b>No</b>		valve[1316]	%Q83	USINT				
		B- <b>*</b> ø		valve[1720]	%Q84	USINT				
		B- <b>5</b> 0		valve[2124]	%Q85	USINT				

#### 8、Data monitoring

- a. Click the soutton to log out and switch to the "EtherNet/IPI/O Mapping" tab.
- b. Select "Enable 1" mode from the drop-down list in the lower right corner, as shown below.

   If End Yew Projet Build Online Debug Tools Window Help

   If End Yew Projet Build Online Debug Tools Window Help

   If End Yew Projet Build Online Debug Tools Window Help

   If End Yew Projet Build Online Debug Tools Window Help

   If End Yew Projet Build Online Debug Tools Window Help

C C Denter (controls control Man 10.00)	General	Find		Filter Show all		• 🕂 Add	FB for I	O Channel → Go to I
Device (CODESTS Control Win V3 X04)      Device (CodeSTS Control Win V3 X	Connections	Variable	Mapping	Channel	Address	Туре	Unit	Description
EtherNet_IP_Scanner (EtherNet/IP Scanner)	Assemblies	8-49		Open Load[07]	%IB0	USINT		
C2P_EI_248 (C2P-EI-248)		8-10		Open Load[815]	%IB1	USINT		
	User-Defined Parameters	B-*9		Open load[1623]	%IB2	USINT		New Help String
	100	B- 🏘		Open load[2431]	%IB3	USINT		New Help String
	cog	8-10		Open load[3239]	%IB4	USINT		New Help String
	EtherNet/IP I/O Mapping	⊕- <b>*</b> ∳		Open load[4047]	%IB5	USINT		New Help String
		B- 🏘		Short circuit or overtemperature[07]	%IB6	USINT		New Help String
	EtherNet/IP IEC Objects	B- 🏘		Short circuit or overtemperature[815]	%IB7	USINT		New Help String
	Status	B-*		Short circuit or overtemperature[1623]	%IB8	USINT		New Help String
		B- 🏘		Short circuit or overtemperature[2431]	%IB9	USINT		New Help String
	Information	B- 🏘		Short circuit or overtemperature[3239]	%IB10	USINT		New Help String
		B- 🎭		Short circuit or overtemperature[4047]	%IB11	USINT		New Help String
		B- <b>*</b> ø		valve[14]	%Q80	USINT		
		B- 🍫		valve[58]	%Q81	USINT		
		B- <b>*</b> \$		valve[912]	%Q82	USINT		
		B - 🍫		valve[1316]	%Q83	USINT		
		B- 🏘		valve[1720]	%Q84	USINT		
		÷- *•		valve[2124]	%Q85	USINT		

Untitled1												
CODESYS Control Win V3 x64)	General	Find		Filter Show all		• 🖶 Add	FB for IO Channel +	Go to Instance				
Im Device (connected) (CODESTS Control Win V3 xo4)	Connections	Variable	Mapping	Channel	Address	Туре	Current Value	Prepared Value	Unit	Description		
🖻 😏 🚮 EtherNet_IP_Scanner (EtherNet/IP Scanner)	Assemblies	8-10		Open Load[07]	%IB0	USINT	0					
- 5 m C2P_EI_248 (C2P-EI-248)		8-39		Open Load[815]	%IB1	USINT	0					
	User-Defined Parameters	8-39		Open load[1623]	%IB2	USINT	0			New Help Strin		
	Log	8-10		Open load[2431]	%IB3	USINT	0			New Help Strin		
		B- 🏘		Open load[3239]	%IB4	USINT	0			New Help Stri		
	EtherNet/IP I/O Mapping	B- 🍫		Open load[4047]	%IB5	USINT	0			New Help Stri		
		B-10		Short circuit or overtemperature[07]	%IB6	USINT	0			New Help Stri		
	EtherNet/IP IEC Objects	8-10		Short circuit or overtemperature[815]	%IB7	USINT	0			New Help Stri		
	Status	8-10		Short circuit or overtemperature[1623]	%IB8	USINT	0			New Help Stri		
		8-10		Short circuit or overtemperature[2431]	%IB9	USINT	0			New Help Stri		
	Information	8-10		Short circuit or overtemperature[3239]	%IB10	USINT	0			New Help Stri		
		B- 🍫		Short circuit or overtemperature[4047]	%IB11	USINT	0			New Help Stri		
		B- <b>*</b> \$		valve[14]	%QB0	USINT	0					
		B- 🍫		valve[58]	%QB1	USINT	0					
		B- <b>5</b> 0		valve[912]	%QB2	USINT	0					
		B- 🍫		valve[1316]	%QB3	USINT	0					
		B- <b>5</b> 0		valve[1720]	%QB4	USINT	0					
		😟 - 🍫		valve[2124]	%QB5	USINT	0					

#### c. Click $\stackrel{\text{loc}}{=}$ to log in and monitor the page as shown below.

- Open circuit diagnostics Open load[0..7], Open load[8..15], Open load[16..23], Open load[24..31], Open load[32..39], Open load[40..47], 48 channels can be diagnosed independently.
- Short circuit/overtemperature diagnosis Short circuit or overtemperature[0..7], Short circuit or overtemperature[8..15], Short circuit or overtemperature[16..23], Short circuit or overtemperature[24..31], Short circuit or overtemperature[32..39], Short circuit or overtemperature[40..47], 48 channels can be diagnosed independently.
- Valve terminal output control function, 24-bit dual-control solenoid valve, according to the driver chip grouping, a total of 6 groups of channels, valve[1..4], valve[5..8], valve[9..12], valve[13..16], valve[17..20], valve[21..24], each group of 8 channels, a total of 48 channel output control.
- d. **Open diagnostic Open load**, a diagnostic value valid when the channel solenoid coil output is off (i.e., 0).

In the "current value" corresponding to Open load[0..7], you can view the diagnostic value of open solenoid valve corresponding to each group of channels of the valve terminal as a whole, a group of channels with normal solenoid valve coils is **0**, and any solenoid valve with an open circuit is not **0**.

Click "+" to expand Open load [0..7], you can view the open diagnostic value of each channel solenoid valve, the value of **1** is the valve open, the value of **0** is normal, as shown in the figure below.

General	Find Filter Show all • + Add FB for IO Channel + Go to Instance								
Connections	Variable	Mapping	Channel	Address	Туре	Current Value	Prepared Value	Unit	Description
Assemblies	8-*		Open Load[07]	%IB0	USINT	0			
	👋		Bit0	%IX0.0	BOOL	FALSE			
Iser-Defined Parameters			Bit1	%IX0.1	BOOL	FALSE			
100	🐐		Bit2	%IX0.2	BOOL	FALSE			
*9			Bit3	%IX0.3	BOOL	FALSE			
therNet/IP I/O Mapping	🍫		Bit4	%IX0.4	BOOL	FALSE			
	🐐		Bit5	%IX0.5	BOOL	FALSE			
EtherNet/IP IEC Objects	🦄		Bit6	%IX0.6	BOOL	FALSE			
Status	<b>*</b> *		Bit7	%IX0.7	BOOL	FALSE			
	18- <b>*</b> 9		Open Load[815]	%IB1	USINT	0			
Information	18 <b>X</b>		Open load[1623]	%IB2	USINT	0			New Help String
	🛞 - 🍫		Open load[2431]	%IB3	USINT	0			New Help String
	8-*9		Open load[3239]	%IB4	USINT	0			New Help String
	🖷 - 🍫		Open load[4047]	%IB5	USINT	0			New Help String
	🗷 🍫		Short circuit or overtemperature[07]	%IB6	USINT	0			New Help String
	18 - 🍫		Short circuit or overtemperature[815]	%IB7	USINT	0			New Help String
	18- <b>19</b>		Short circuit or overtemperature[1623]	%IB8	USINT	0			New Help String
	🗎 🍫		Short circuit or overtemperature[2431]	%IB9	USINT	0			New Help String
	🗷 🍫		Short circuit or overtemperature[3239]	%IB10	USINT	0			New Help String
	😟 – 🍫		Short circuit or overtemperature[4047]	%IB11	USINT	0			New Help String
	😟 – 🍫		valve[14]	%QB0	USINT	0			
				Reset Mappi	ing Al	ways update variables	nabled 1 (use bus cyc	le task if	not used in any t

e. **Short circuit/overtemperature diagnostic**, diagnostic value is valid when the channel solenoid coil output is on (i.e., is 1).

In Short circuit or overtemperature [0..7] corresponding to the "current value", you can view the valve terminal as a whole each group of channels corresponding to the solenoid valve short circuit / overtemperature diagnostic value, there are solenoid valves short circuit / overtemperature is not **0**, there is no short circuit / overtemperature is **0**.

Click "+" to expand Short circuit or overtemperature [0..7], you can view the diagnostic value of short circuit/overtemperature for each channel solenoid valve, the value of **1** is the solenoid valve short circuit/overtemperature, the value of **0** is not short circuit/overtemperature, as shown in the figure below.

ral	Find		Filter Show all	<ul> <li>Add FB for IO Channel</li> <li>Go to Instance</li> </ul>							
ections	Variable	Mapping	Channel	Address	Туре	Current Value	Prepared Value	Unit	Description		
	18 - Mp		Open load[4047]	%IB5	USINT	0			New Help String		
mblies	e- 🍫		Short circuit or overtemperature[07]	%IB6	USINT	0			New Help String		
Defined Parameters	- 🐐		BitO	%IX6.0	BOOL	FALSE					
	🍫		Bit1	%IX6.1	BOOL	FALSE					
			Bit2	%IX6.2	BOOL	FALSE					
	-*		Bit3	%IX6.3	BOOL	FALSE					
Net/IP I/O Mapping	🍫		Bit4	%IX6.4	BOOL	FALSE					
Net/IP IEC Objects	<b>*</b> *		Bit5	%IX6.5	BOOL	FALSE					
	<b>*</b> *		Bit6	%IX6.6	BOOL	FALSE					
s	- *		Bit7	%IX6.7	BOOL	FALSE					
	🛞 - 🍫		Short circuit or overtemperature[815]	%IB7	USINT	0			New Help String		
mation	🗷 🍫		Short circuit or overtemperature[1623]	%IB8	USINT	0			New Help String		
	🛞 – 🏘		Short circuit or overtemperature[2431]	%IB9	USINT	0			New Help String		
	⊞ ¥≱		Short circuit or overtemperature[3239]	%IB10	USINT	0			New Help String		
	😟 - 👋		Short circuit or overtemperature[4047]	%IB11	USINT	0			New Help String		
	œ <b>*</b> ≱		valve[14]	%QB0	USINT	0					
	i ⊕ - <b>*</b> ≱		valve[58]	%QB1	USINT	0					
	⊞ <b>*</b> ∳		valve[912]	%QB2	USINT	0					
	i⊞ <b>*</b> ≱		valve[1316]	%QB3	USINT	0					
	⊞- <b>*</b> ≱		valve[1720]	%QB4	USINT	0					
	🖻 - 🍫		valve[2124]	%QB5	USINT	0					
	New Help String			Reset Mappi	na Ah	ways undate variables	nabled 1 (use hus cur	le tack i	not used in any t		

f. Channel output control, if you want to let any one solenoid valve coil output of the valve terminal open, take the first channel as an example, you can click "+" to expand the valve[1...4], in the Bit0 corresponding to the reserve value, write "1", and then press "Ctrl+F7" to write, you can open the first solenoid valve coil channel, the other channels to open the output method is consistent, as shown below.

ral	Find	Filter Show all	Filter Show all - I Add FB for IO Channel + Go to Instance					
ections	Variable Ma	oping Channel	Address	Туре	Current Value	Prepared Value	Unit	Description
	iii - ¥≱	Open load[4047]	%IB5	USINT	0			New Help String
blies		Short circuit or overtemperature[07]	%IB6	USINT	0			New Help Strin
	🕮 - 🏘	Short circuit or overtemperature[815]	%IB7	USINT	0			New Help Strin
erined Parameters	⊞¥≱	Short circuit or overtemperature[1623]	%IB8	USINT	0			New Help Strin
	i≣- ¥≱	Short circuit or overtemperature[2431]	%IB9	USINT	0			New Help Strin
	B- 🍫	Short circuit or overtemperature[3239]	%IB10	USINT	0			New Help Strine
iet/IP I/O Mapping	i≣ ¥ø	Short circuit or overtemperature[4047]	%IB11	USINT	0			New Help String
rNet/IP IEC Objects	⊟- <b>*</b> ≱	valve[14]	%QB0	USINT	0			
	- **	Bit0	%QX0.0	BOOL	FALSE	TRUE		
IS	**	Bit1	%QX0.1	BOOL	FALSE	TRUE		
	*	Bit2	%QX0.2	BOOL	FALSE	TRUE		
ation	**	Bit3	%QX0.3	BOOL	FALSE	TRUE		
	- 🐪	Bit4	%QX0.4	BOOL	FALSE	TRUE		
	**	Bit5	%QX0.5	BOOL	FALSE	TRUE		
	- **	Bit6	%QX0.6	BOOL	FALSE	TRUE		
	- <b>*</b> ø	Bit7	%QX0.7	BOOL	FALSE	TRUE		
	i≡- <b>*</b> ⊉	valve[58]	%QB1	USINT	0			
		valve[912]	%QB2	USINT	0			
	B- <b>*</b>	valve[1316]	%QB3	USINT	0			
	<b>⊞</b> _ <b>*</b> ∲	valve[1720]	%QB4	USINT	0			
	🖻 - <b>*</b> ø	valve[2124]	%QB5	USINT	0			
			Reset Mappi	ing Al	ways update variables	nabled 1 (use hus cvo	le task i	finot used in any

## **8** FAQ

#### 8.1 Unable to scan to module

#### 1. Check network line connections

Use windows command to ping the IP address of the module, such as ping through, then check the status of the indicator, such as ping can not be, then check the network line connection, such as the network line connection is not abnormal, then the device scanning request acceptance time is set to 60s to scan the module again, such as can be scanned to an unknown device, then the reason is not the module IP has not been assigned, re-assign the IP can be. If you still can not scan to the corresponding module, check the status of the indicator.

#### 2. Checking Indicator Status

If the RUN light blinks, the IP address exists. Controller and module may not be in the same network segment, restore the module to factory settings and then reset the IP address; RUN light flashing may also be the module detects duplicate IP addresses in the network, it is recommended to troubleshoot duplicate IP devices and deal with them.

#### 8.2 IP address assignment anomaly

#### 1. Unable to scan to device under factory setup parameters

Modify the request reception time for module lookup to 60s.

#### 2. Timeout for IP address assignment using BOOTP

Click Advanced Settings in IP Address Settings and set the timeout time to 60 s. If this phenomenon occurs when the timeout time has already been set to 60 s, check whether the controller address is in the same network segment as the IP address assigned to the module.

#### 3. Loss of assigned IP address after power failure

This is caused by not setting the module to boot with a fixed IP after using BOOTP to assign an IP address.

#### 4. IP change using rotary switch, no change in IP address

The IP address setting is out of the specified range or the IP address setting is 0. Verify that the rotary switch settings are as expected.

## 8.3 IP Setting Tool tool does not scan for devices

When the device cannot be scanned using the IP Setting Tool tool, you can try the following methods.

- First, use the cmd command route print to view all the network segments of the routing table, and use the host computer software to set the IP address of the valve terminal so that the IP address is inconsistent with all the network segments of the routing table.
- After an interval of five minutes, re-power on the device, power on 15s, and then scan, such as scanning can not be tried several times.