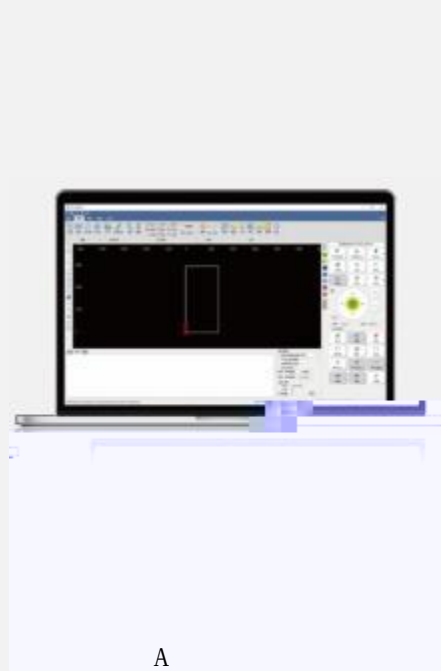


XC3000Pro Vision

XC3000Pro Vision Laser Cutting System Commissioning Manual



!

RAYTOOLS

XC3000Pro Vision

V1.0.1

2025

EMC

1) 


2)

- 1)
- 2)
- 3)
- 4)

1.
 - 1.1.
 - 1.2.
 - 1.3.
 - 1.4.
 - 1.5.
 - 1.6.
 - 1.7.
2.
 - 2.1. EPC-1020
 - 2.1.1. EPC-1020
 - 2.2. EPC-2000
 - 2.3. EPC-2000
 - 2.4. EDS3000
 - 2.4.1. EDS3000
 - 2.4.2.
 - 2.4.3.
 - 2.4.4.
 - 2.4.5.
 - 2.4.6.
 - 2.4.7. PWM
 - 2.4.8.
 - 2.5.
 - 2.6.
 - 2.6.1. MAX
 - 2.6.2.
 - 2.6.3. RFL-C3000
 - 2.7. EDS2011
 - 2.7.1. EDS2011
 - 2.7.2. EDS2011
 - 2.7.3. EDS2011
 - 2.7.4. EDS2011
 - 2.8. EDS2010
 - 2.8.1. EDS2010
 - 2.8.2. EDS2010
 - 2.8.3. EDS2010
 - 2.8.4. EDS2010
 - 2.9.
3.
 - 3.1.
 - 3.2.
 - 3.2.1.
 - 3.2.2.
 - 3.2.3.
 - 3.2.4.
 - 3.2.5.
 - 3.2.6.
 - 3.3.

4.

4.1.

- 1 XY
- 2 XY
- 3 Z
- 4
- 5
- 6
- 7

4.2.

4.3.

5.

5.1.

- 5.1.1.
- 5.1.2. PLC
- 5.1.3.
- 5.1.4.
- 5.1.5. PLC
- 5.1.6. PLC
- 5.1.7.
- 5.1.8.

5.2.

- 5.2.1.
- 5.2.2.
- 5.2.3.

5.3.

6.

6.1.

- 6.1.1.
- 6.1.2.

6.2. F

- 6.2.1. BM9
- 6.2.2. BM111

6.3.

- 6.3.1.
- 6.3.2.
- 6.3.3.

OP

7.

7.1. EDS2000

- 7.1.1. EDS2000I/O
- 7.1.2. EDS2000
- 7.1.3. EDS2000
- 7.1.4. EDS2000
- 7.1.5. EDS2000

7.2. EDS3000

7.3. EDS2011

7.4. EDS2010

7.5. EPC-2000

7.6. EPC-1020

7.7. IPC E4000

7.8.

7.9.

7.9.1. XY

7.9.2.

7.9.3. XY

7.9.4. Z

7.9.5.

7.9.6.

7.9.7.

7.9.8.

7.9.9.

7.9.10.

7.9.11.

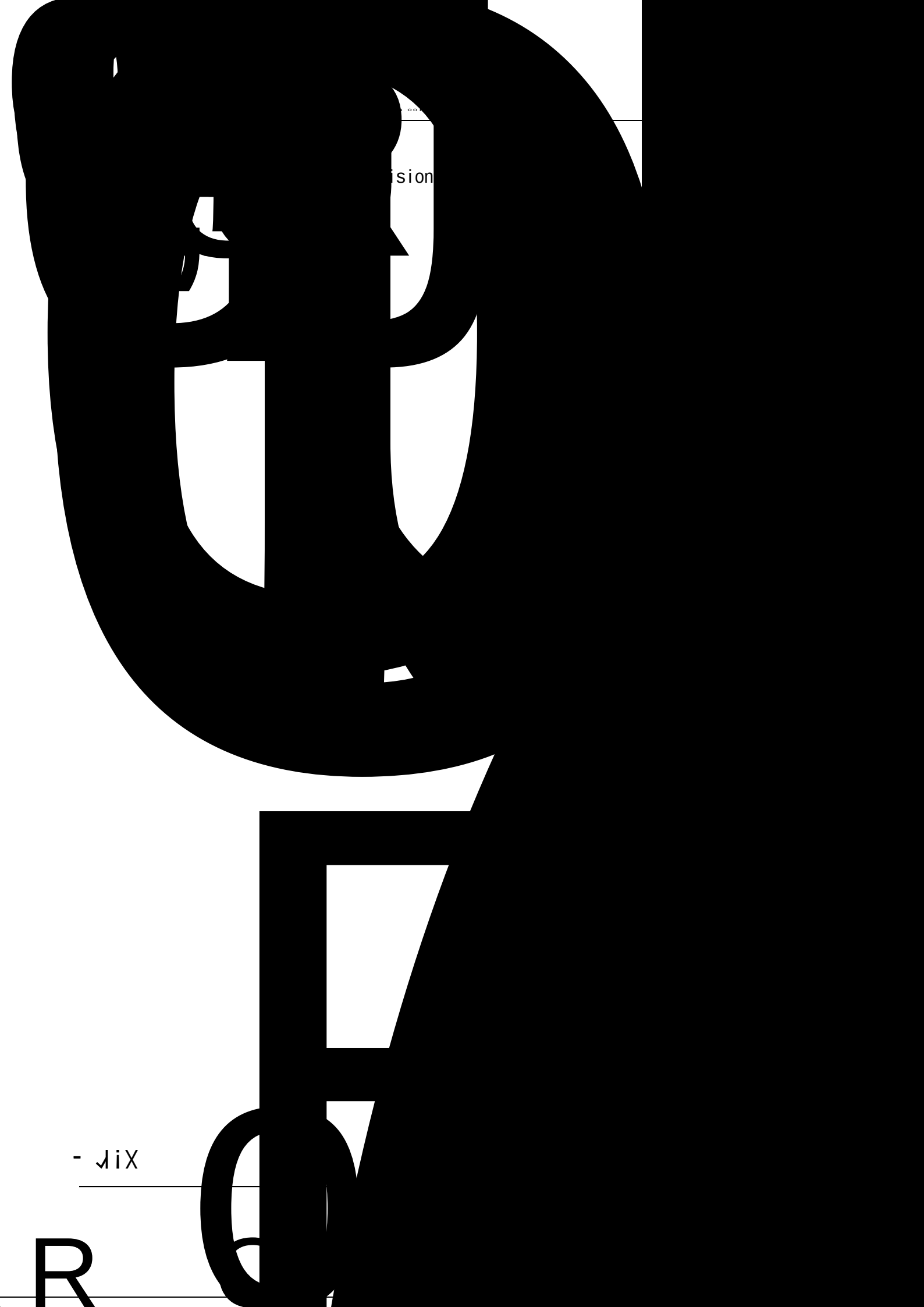
7.9.12.

7.9.13.

7.9.14.

7.9.15.

7.9.16.



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- Jix

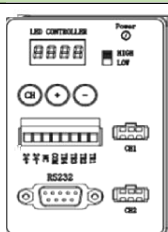
R

7



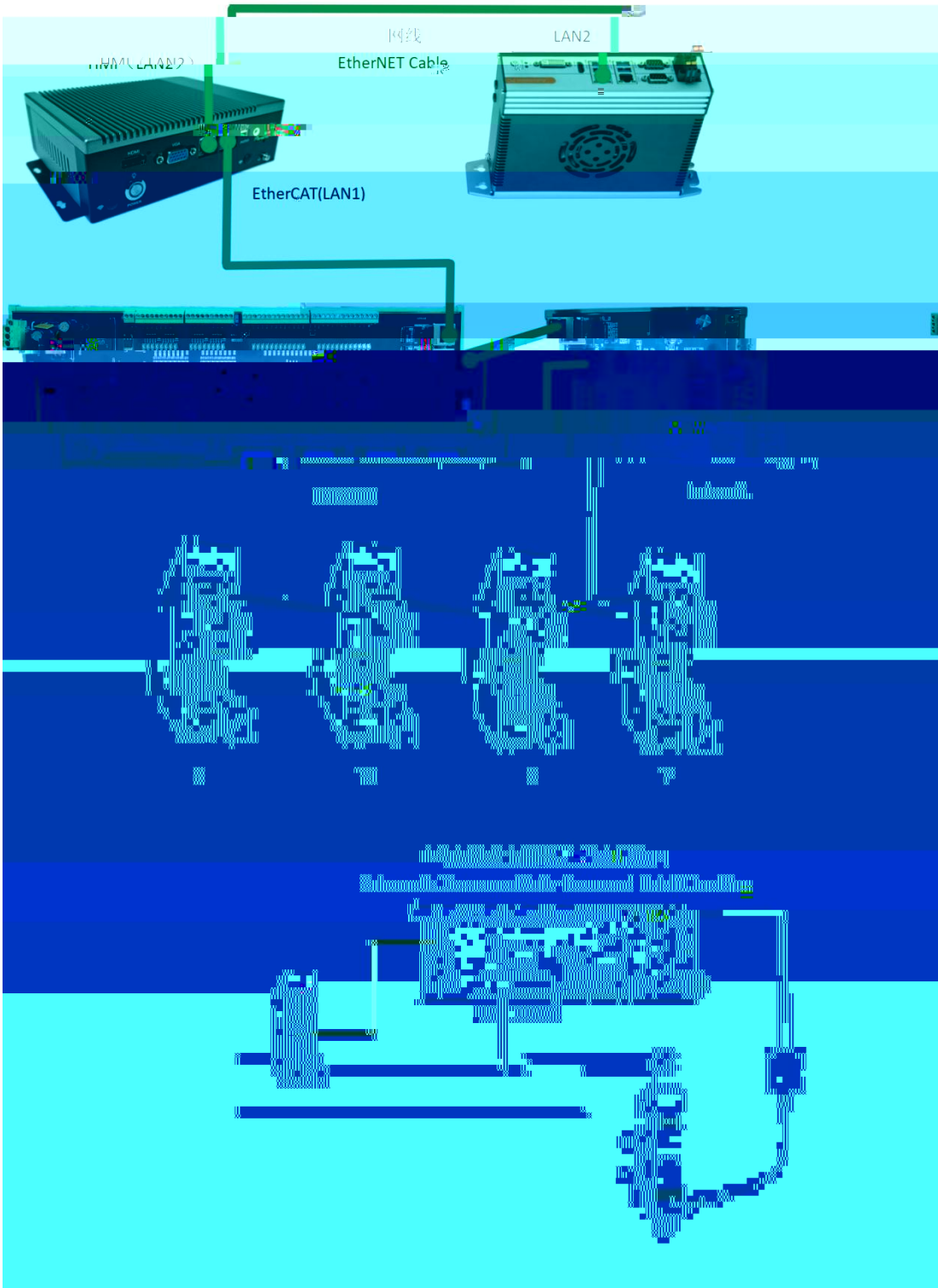
10

1



网络连接示意图

Schematic Diagram of EtherNET Connection

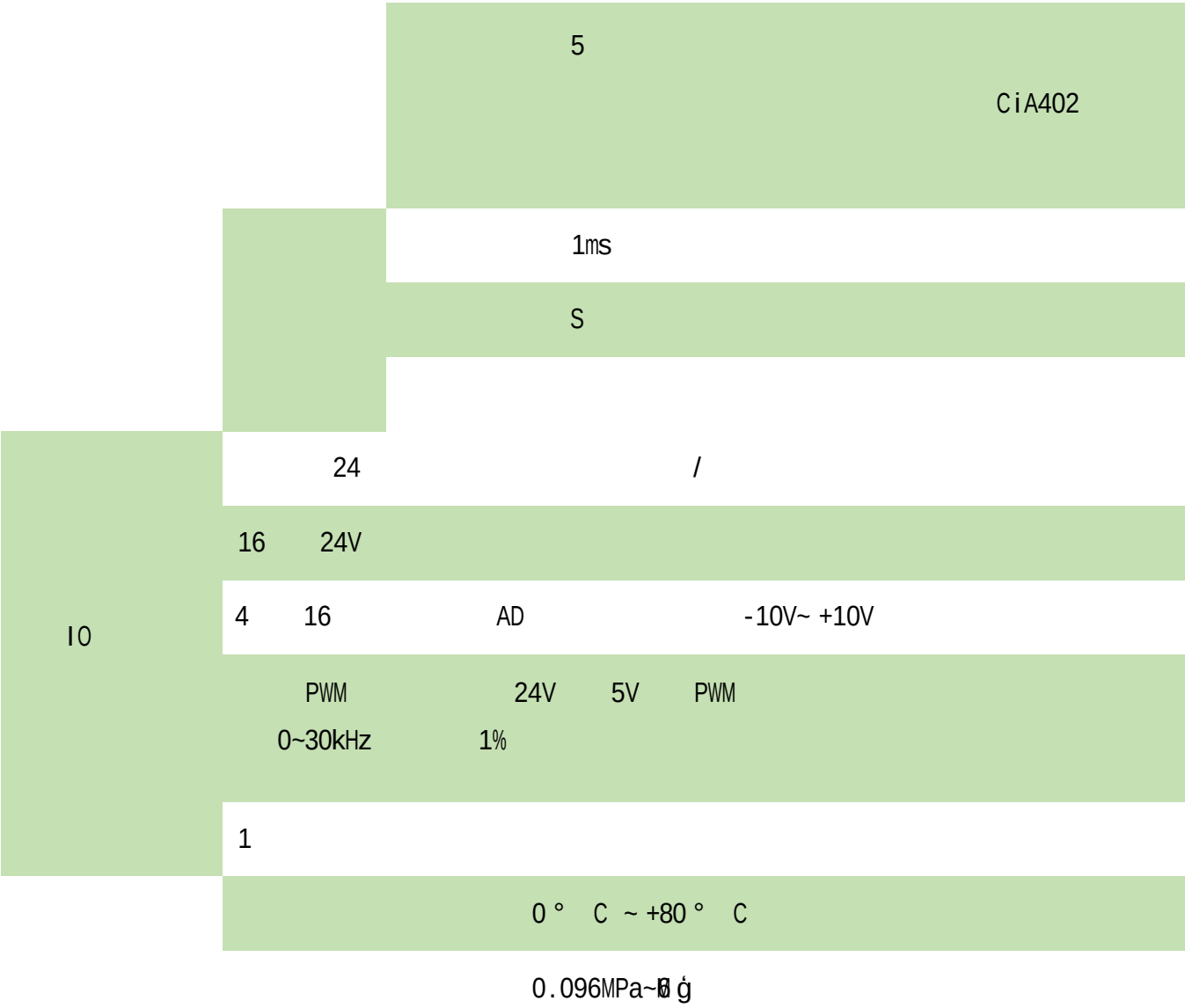


网络连接示意图

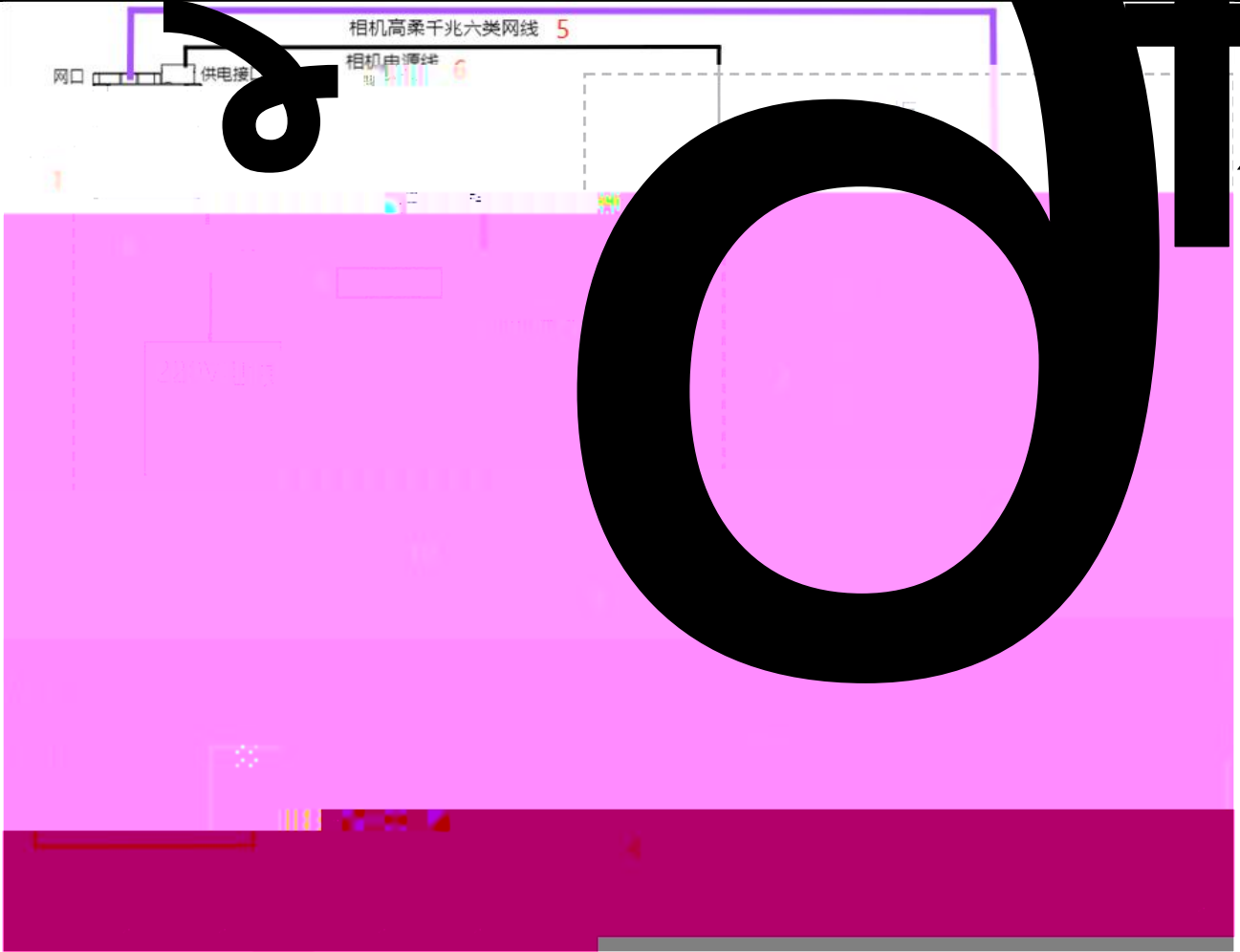


1.3.

EtherCAT



RAYTOOL



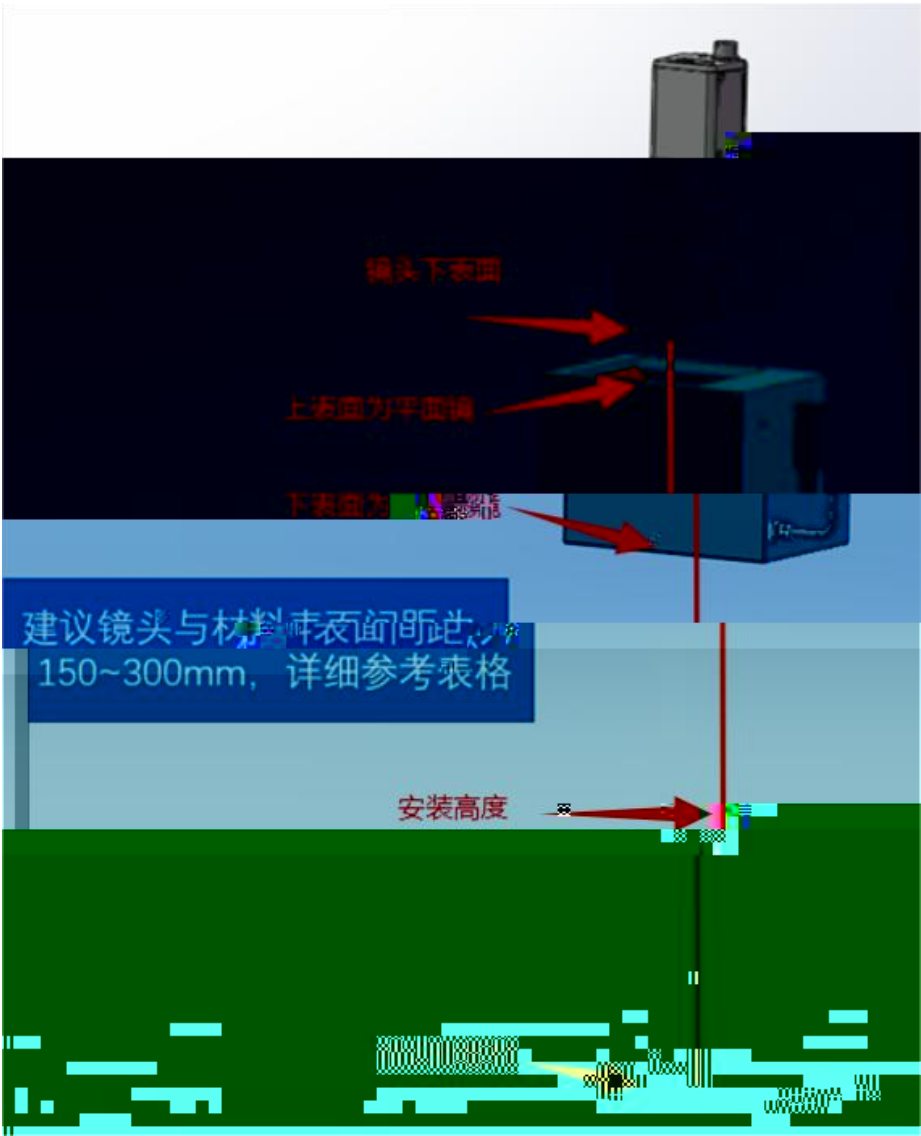
1 *1 2 *3 3 *1 4 *1 5 *1 6
*1 7 *1 8 *1 9 LPV

RAYTOOLS

	6.0MP
TV (%)	0.1(0.003)
(mm)	M30.5×0.5
(mm)	Φ37.0×56.0
()	-10~+50
(g)	104.5g

1.6.

a



b

+

f	H	
---	---	--

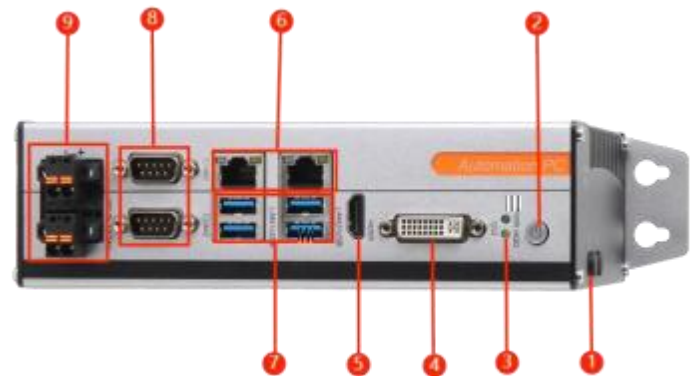
50mm	300mm	44.24mm*29.49mm
50mm+5mm =55mm	200mm	26.81mm*17.87mm
	150mm	20.10mm*13.41mm
50mm+10mm =60mm	200mm	24.57mm*16.38mm
	150mm	18.42mm*12.28mm
50mm+15mm =65mm	200mm	22.68mm*15.12mm
	150mm	17.01mm*11.34mm

1.7.



	A	B	
	C	C	

2.1.1. EPC-1020



1	
2	
3	
4	DVI -D
5	HDMI
6	2 ×
7	4 × USB
8	2xRS232/RS485
9	DC IN 12V~24V

- LAN2 EPC-2000
- 24V 12V~24V

2.2. EPC-2000

EPC-2000

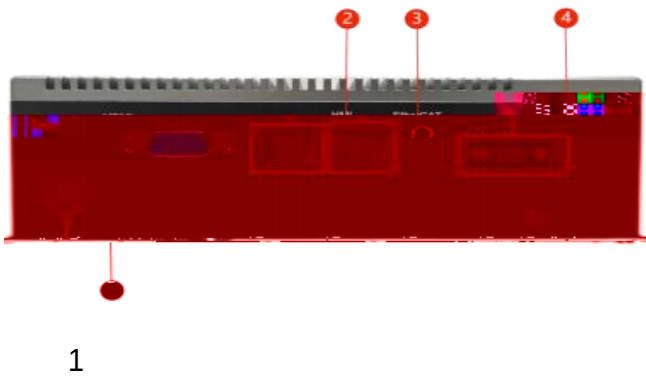
PC

RAYTOOLS

391

EPC-2000			
	2 ×		
USB	4 × USB2.0 2 USB3.0		
	1 × 2.5HD, 1 × MSATA		
	-20 ~60		
	5%~95%		
	HDMI VGA		
	9-36V		
	× × 181.7 × 126.5 × 54mm		

2.3. EPC-2000



- EtherCAT LAN1 EtherCAT EDS
- HMI LAN2 EPC-1010
- 24V 9-36V

2.4. EDS3000

EDS3000 EtherCAT IO

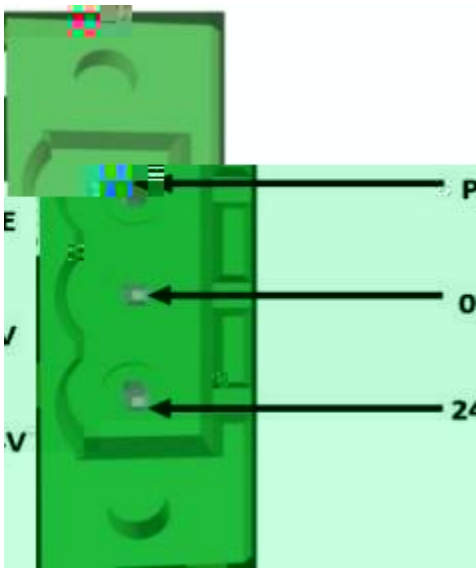
EDS3000

		/	24V DC			18~36V
PWM	2	5V	24V	0%-100%	20kHz	
DA	4	0~ +10V		16bit	10mV	
AD	4	0~ #10V 1		16bit	10mV	
		24V/0V	00%	E	T t	
		24				



122mm*348mm											
4	DB15							DIN C45			
	1	F		RJ45				Y	X	Y1	Z
		2	PWM	4				F			EtherCAT
			24V					4			1
		12						2	PWM	24V	5V
								12			16

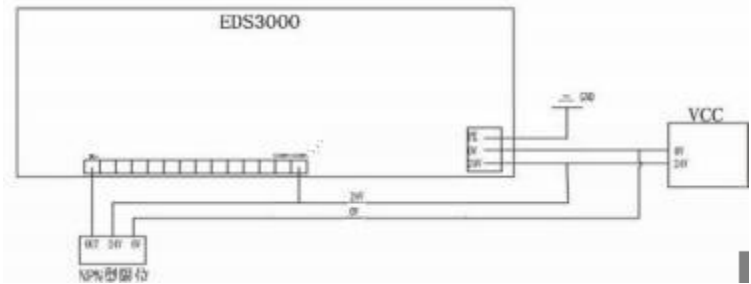
2.4.2.



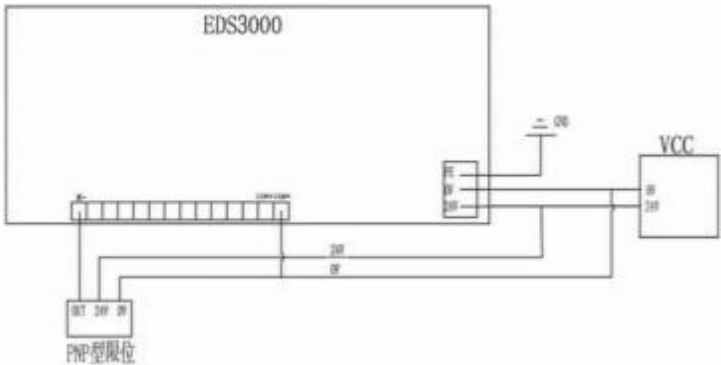
EDS3000											
	24V	0V		DC24V				24V	0V	PE	

2.4.3.

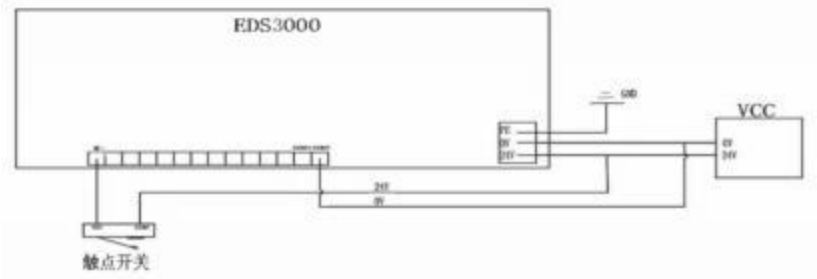
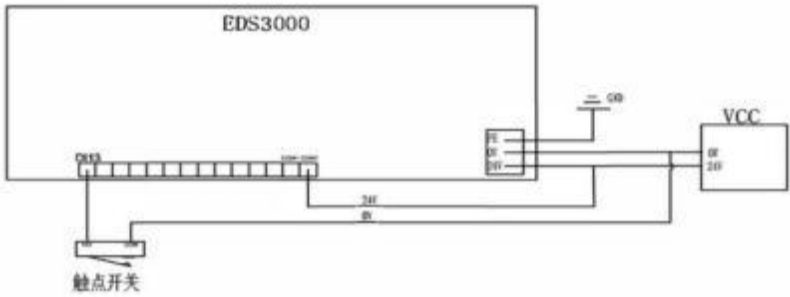
COM1	24V			COM1	0V
NPN	PNP				
	NPN	COM1	24V		



PNP COM1 0V



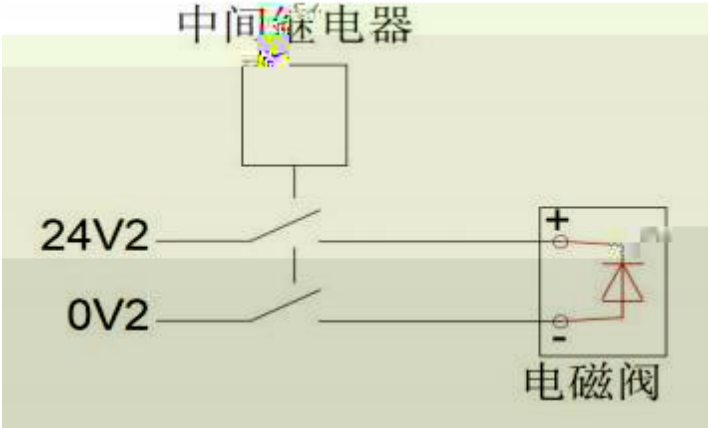
COM1 24V COM1 0V



2.4.4.

D01-D016 16 24V “ ” “ ” “ ”

D01~D016	24V	0.5A	
		MIC 10A6	DC24V2 ,
IO	DC24V1		

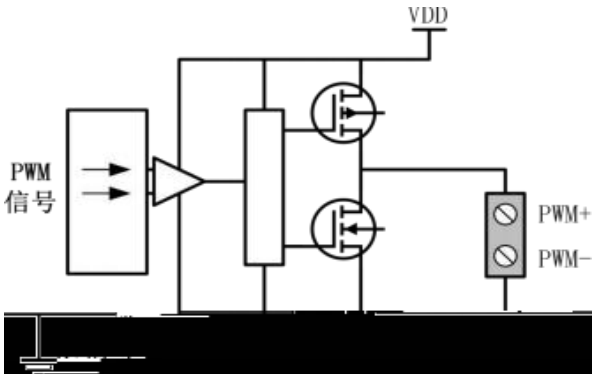


2.4.5. AI 4 0~10V

2.4.6. AO 4 0~10V

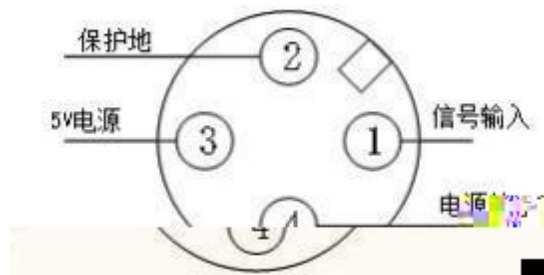


2.4.7. PWM 5V 2 PWM 0%-100% PWM 24V



1

CPU



1	Y	X	Y1	Z	F	5	DB15
---	---	---	----	---	---	---	------

1

Y

X

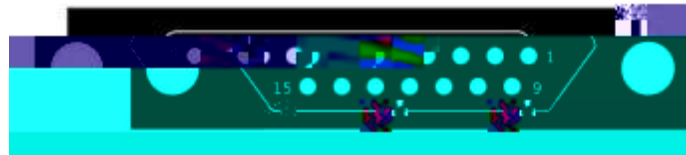
Y1

Z

F

5

DB15



3	A+	A	+	2	XD+	+
11	A-	A	-	10	XD-	-
4	B+	B	+	14	ALM	
12	B-	B	-	6	SON	
5	Z+	Z	+	7	CLR	
13	Z-	Z	-	8	P24V	24V
1	XP+		+	15	PGND	
9	XP-		-			

EDS3000 ALM

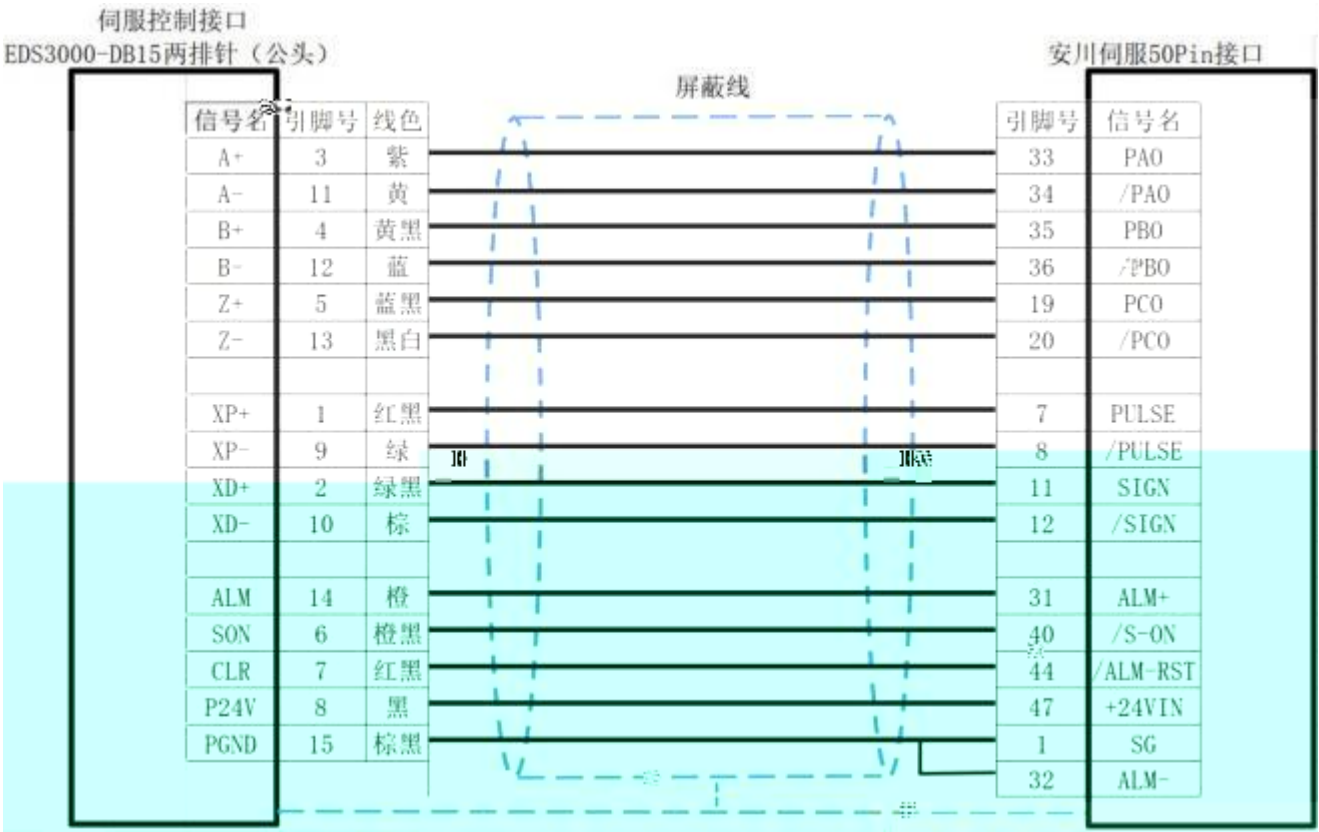


2

EDS3000 + SON

“ ”

2.5.1.



RAYTOOLS

Pn000 0.1.0 0.0.x.0(0 1)0.0.0.X(0 1)

Pn000 .0.1 0.X.0.0(0 1) 0.0.0.X(0 1)

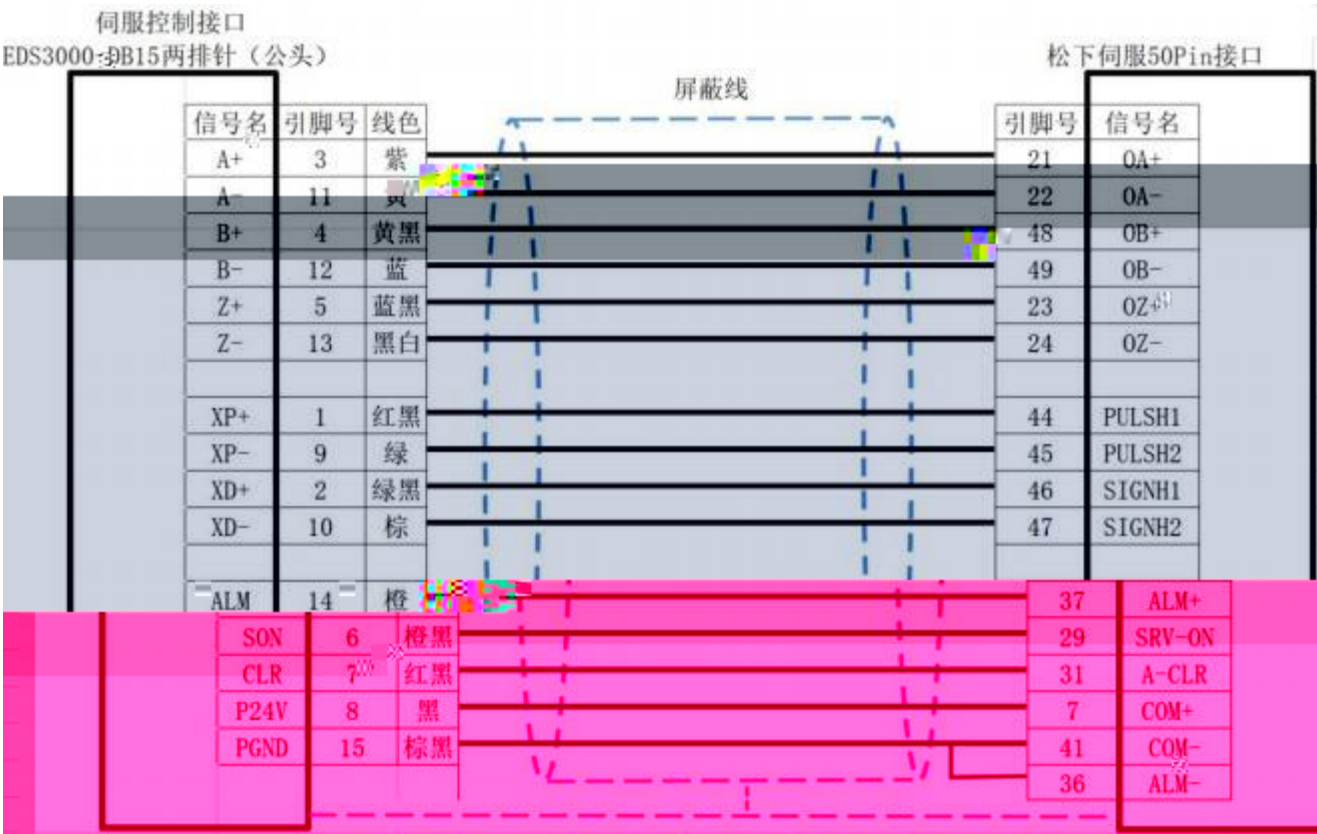
Pn200 0.0.0.0

3555

000

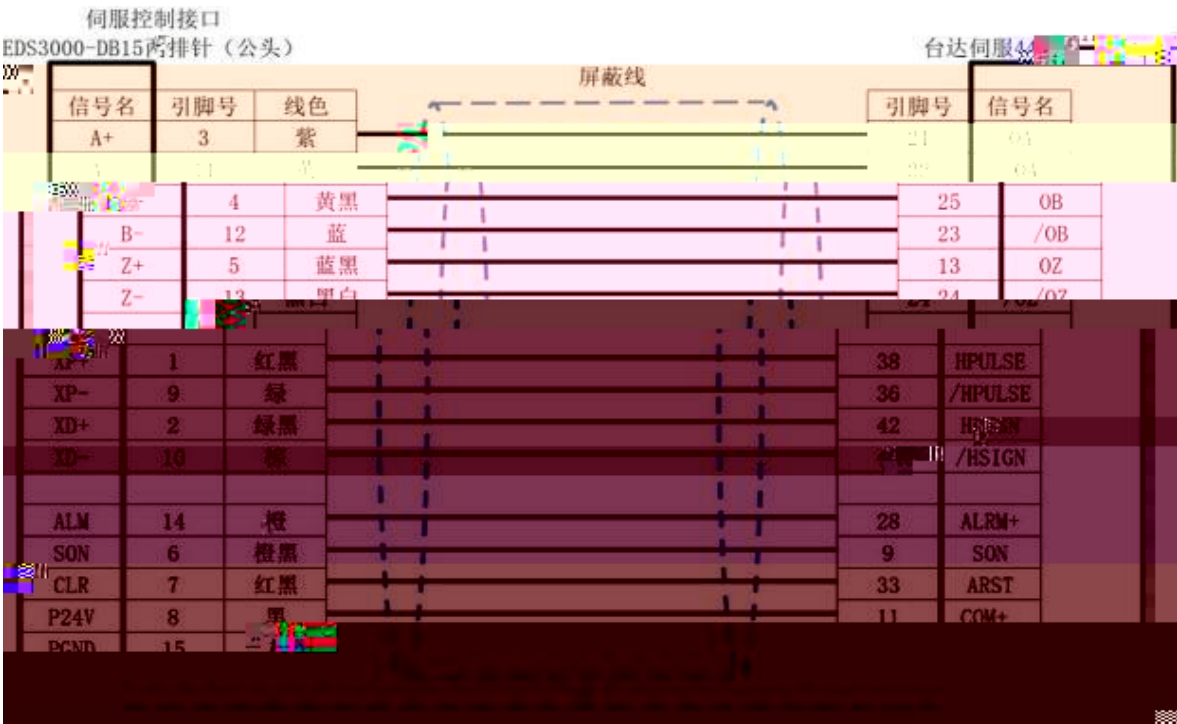
P00-07	0	0	+	1	—
P00-16	1	0		1	

2.5.3.

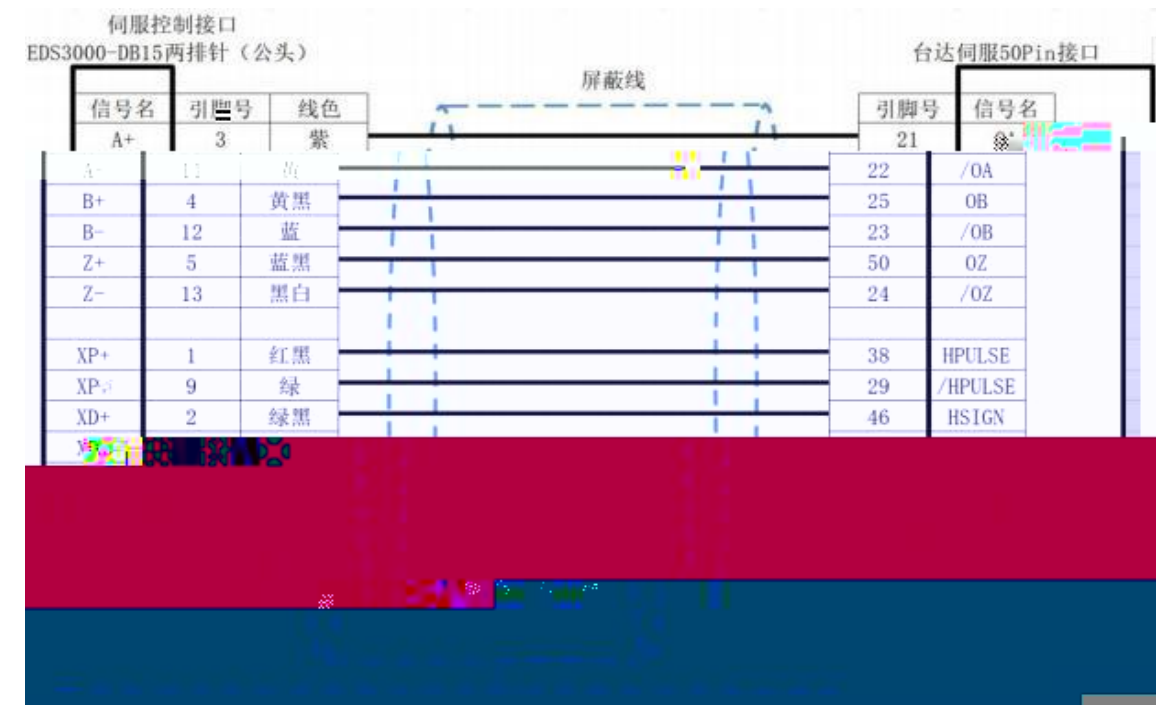


Pr001	0	0: 1:
Pr007	3	3
Pr005	1	1: 3mpa;0: 500kpps

2.5.4.



B

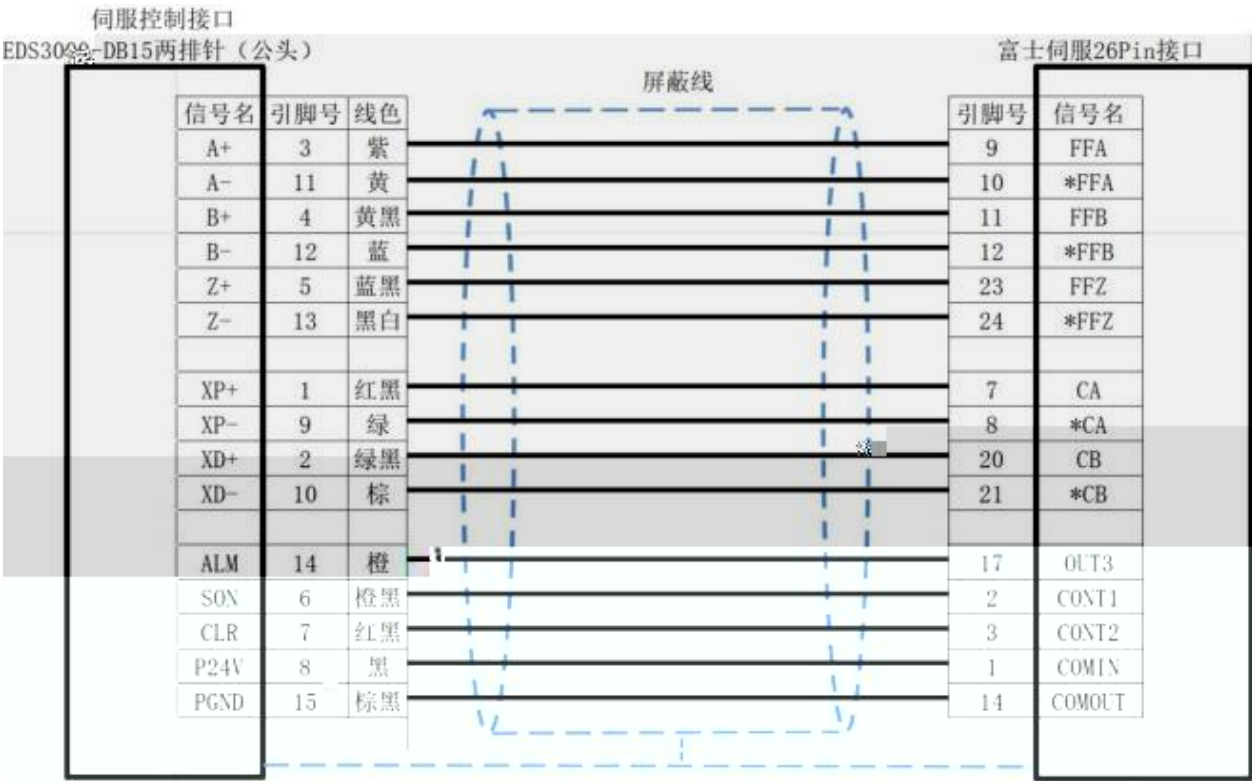


A2



P1-00	0x1002	1
P1-01	0x0000	1
P2-10	0x0101	DI1

2.5.5.

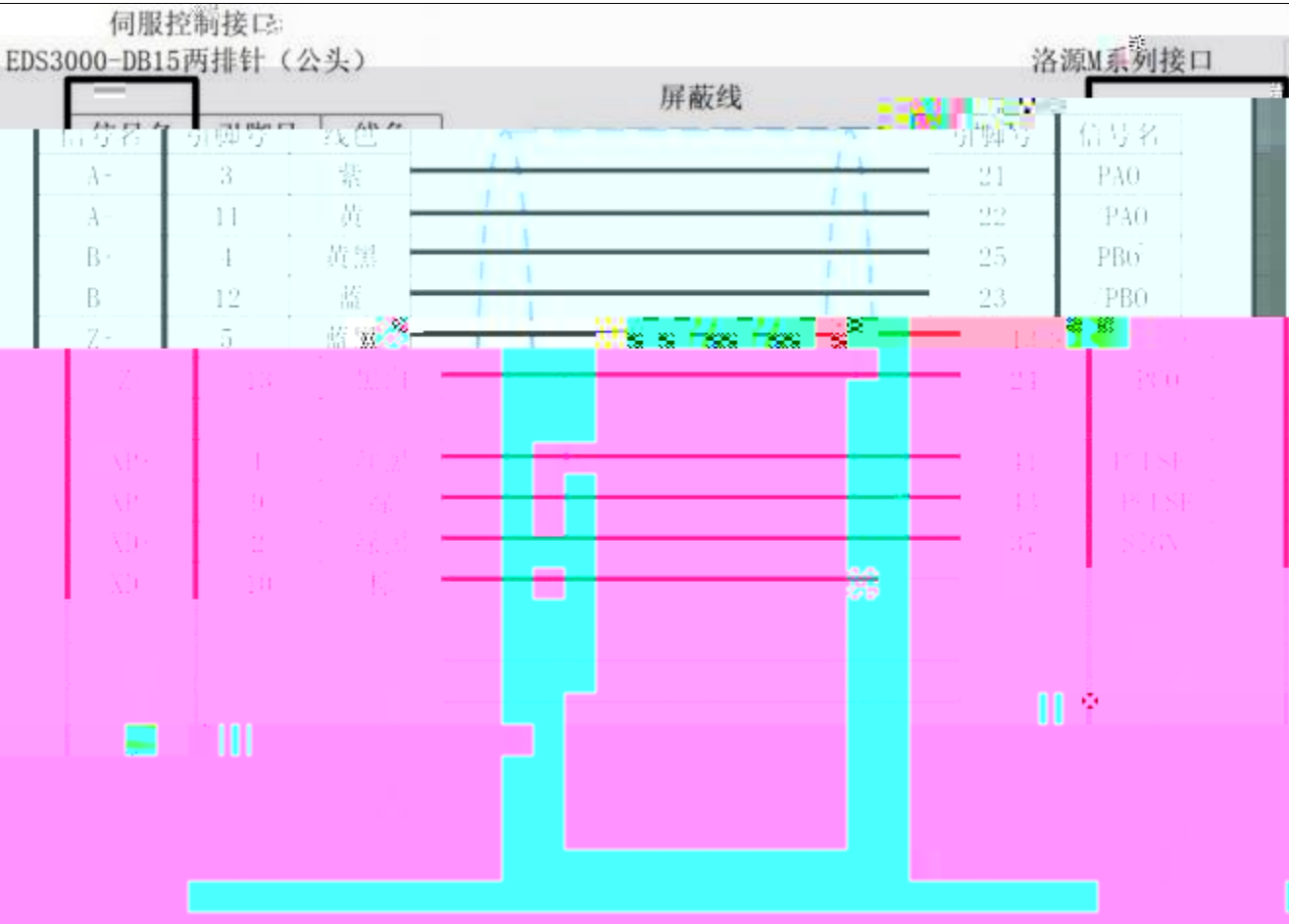


PA-101	0	0... 1... 2... 3... < = > 4... < = > 5... < = > 6... 7...

PA-103	1	0... : / 1... :
		/ 2... :90 ° 2 10...
		: / 11... :
		/ 12... :90 ° 2

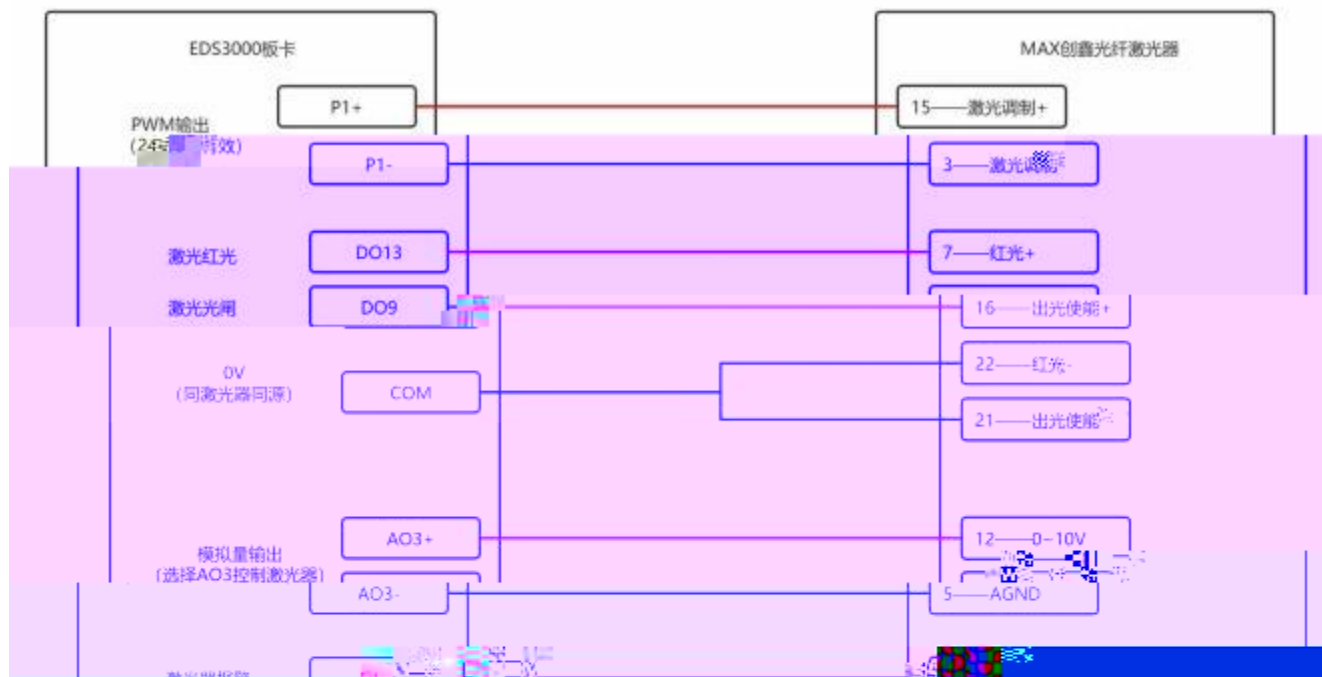
2.5.6.





2.6.

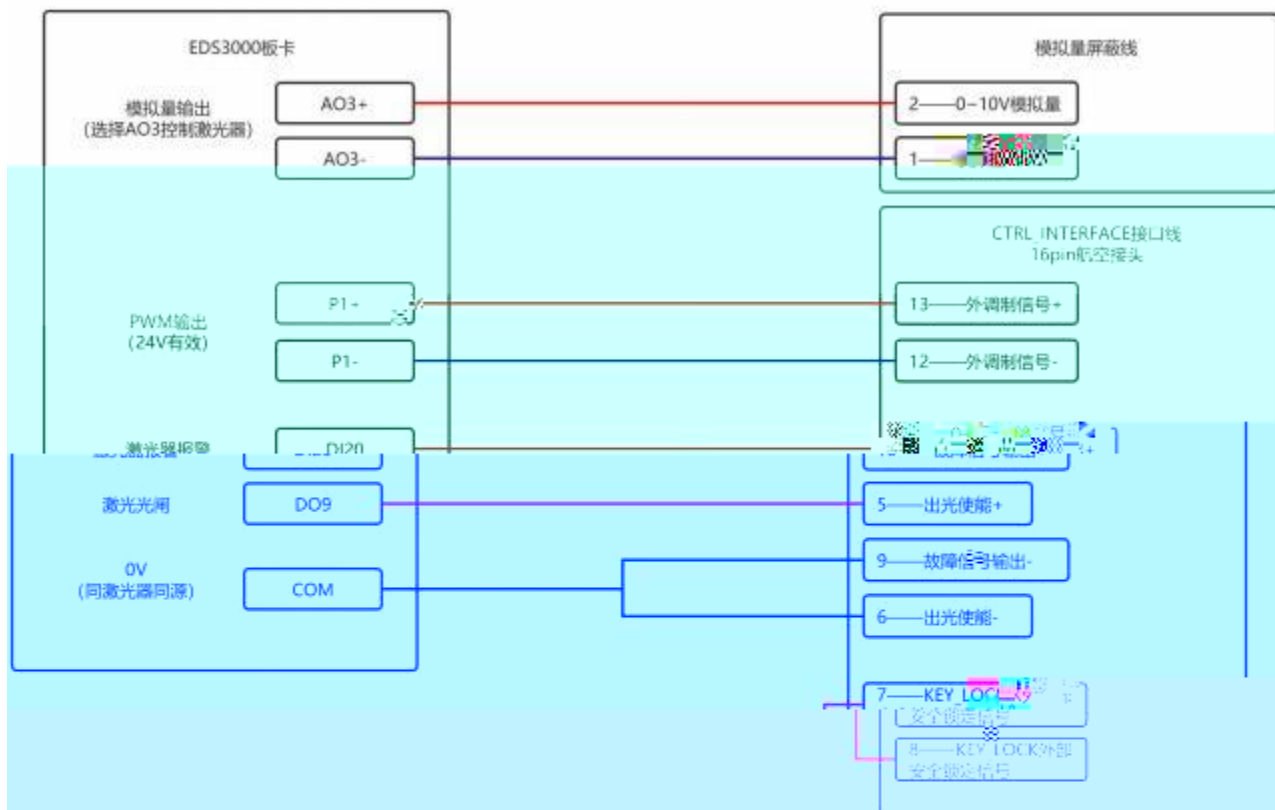
2.6.1. MAX



注意

1. 24V 2A 直流电源接至板卡上，板卡上+24V提供了板卡工作输入，+24V电压——数字量输入——DO13/DO9无接限制，需接。
2. 板卡上+5V电压此电压为板卡上+5V输入，+5V电压——数字量输入——DO13/DO9无接限制，需接。
3. 板卡上+5V电压此电压为板卡上+5V输入，+5V电压——数字量输入——DO13/DO9无接限制，需接。

2.6.2.



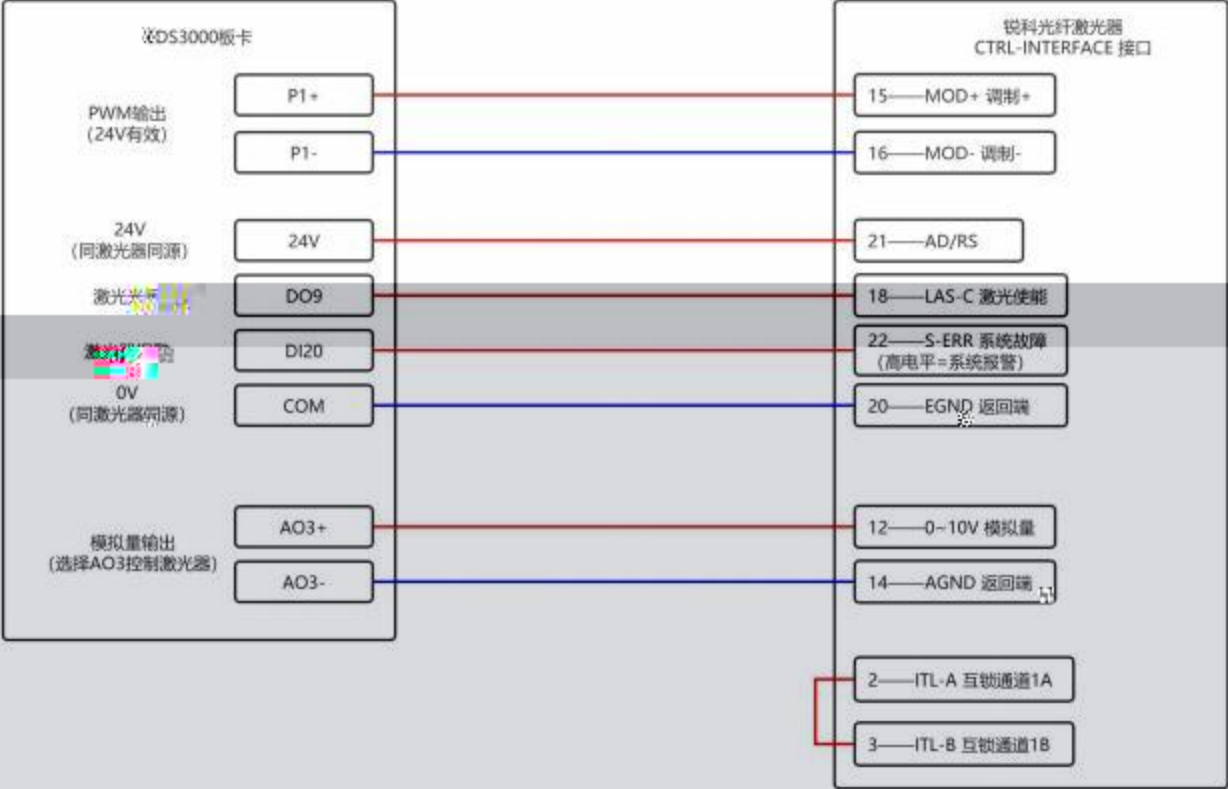
注：

1. DO9+ DO- 是激光器报警输出口，接到EDS3000端子板的DO输入口，“平台配置——数字量输入——DO10”默认报警信号。

2. 系统内所有激光器报警信号，同时接入EDS3000数字量输入DO10，默认与激光器同源。

3. 如需激光源190，选择201-190。

2.6.3. RFL-C3000



注:

1. RFL-C3000

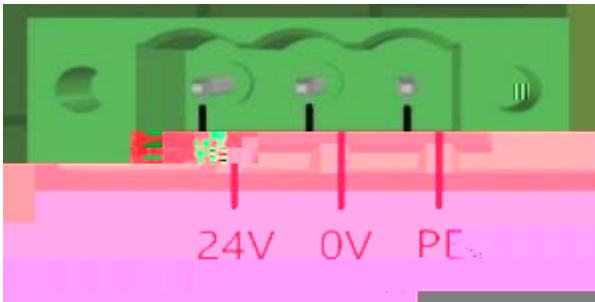
2.7. EDS2011



105mm*130mm DIN C4535

RJ45	EtherCAT	EtherCAT IN	EtherCAT OUT
8	8	1-8	
	24V		

2.7.1. EDS2011



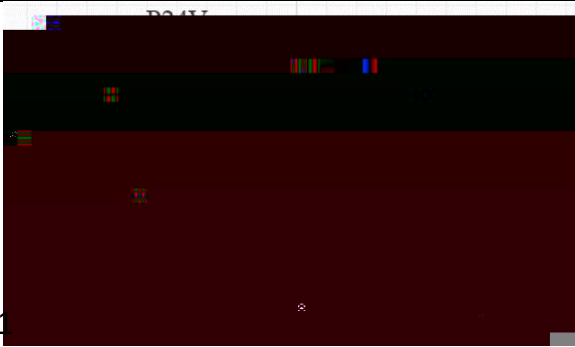
EDS2011	24V	0V	DC24V	24V	0V	PE
---------	-----	----	-------	-----	----	----

2.7.2. EDS2011

DI	8	COM	24V	COM	0V
----	---	-----	-----	-----	----

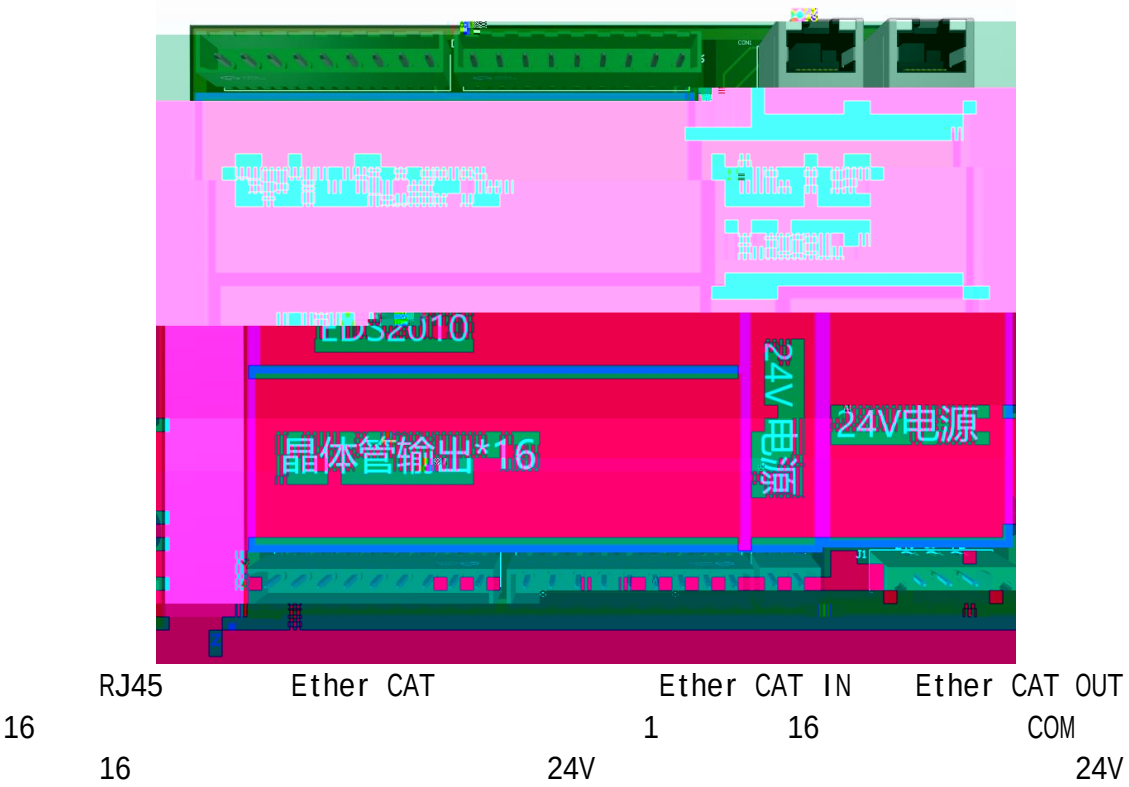
2.7.3. EDS2011

D01-D08	8	750mA	8	24V
---------	---	-------	---	-----

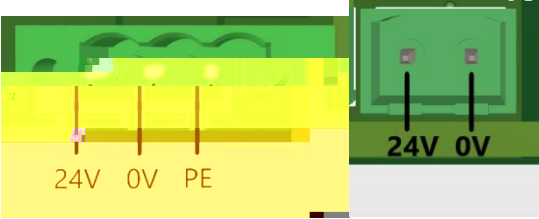


2.7.4. EDS2011

2.6.2 я] kn



2.8.1. EDS2010



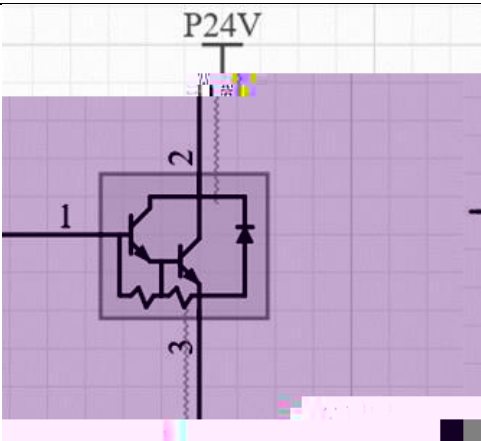
EDS2010 DC24V 24V 0V 24V 0V 24V 0V PE 24V 0V

2.8.2. EDS2010

DI 16 DI1-DI16 COM 24V
COM 0V

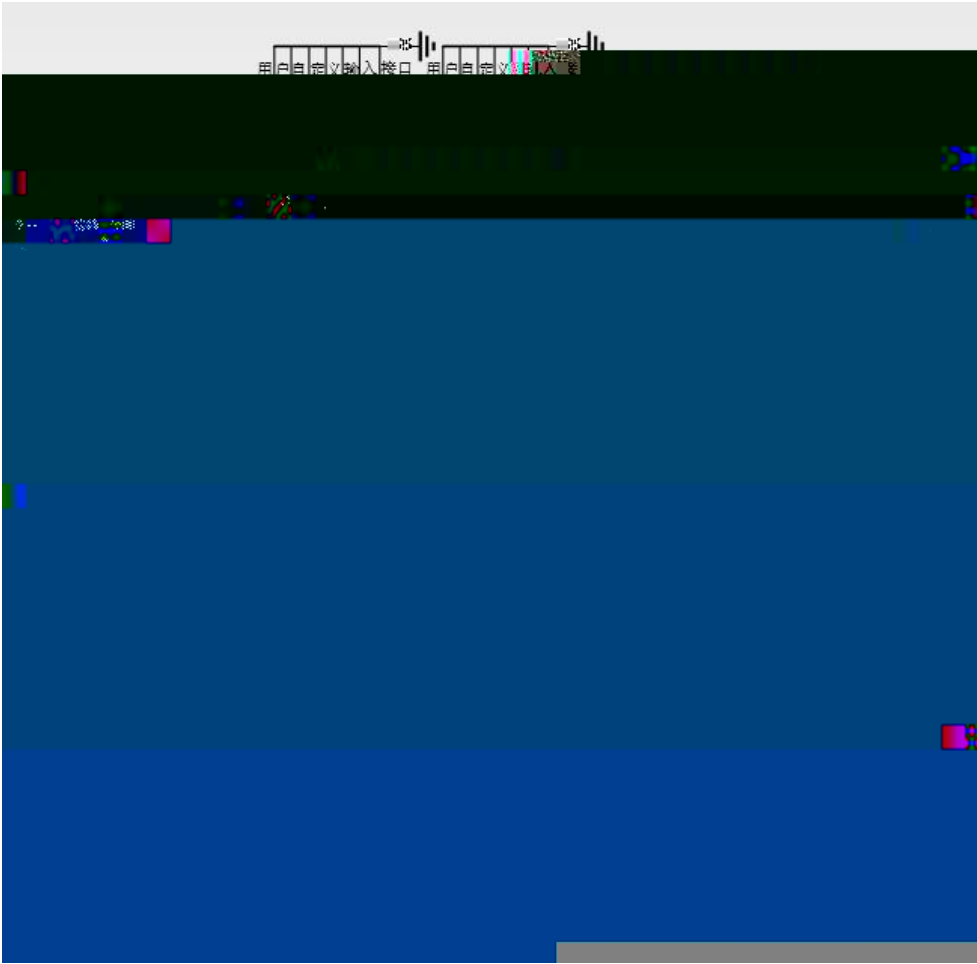
2.8.3. EDS2010

D01-D016 16 750mA 16 24V



2.8.4. EDS2010

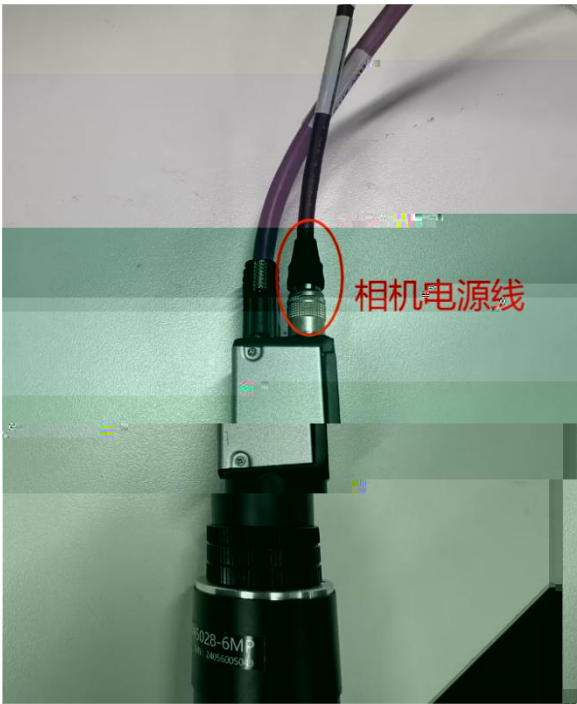
2.7.2



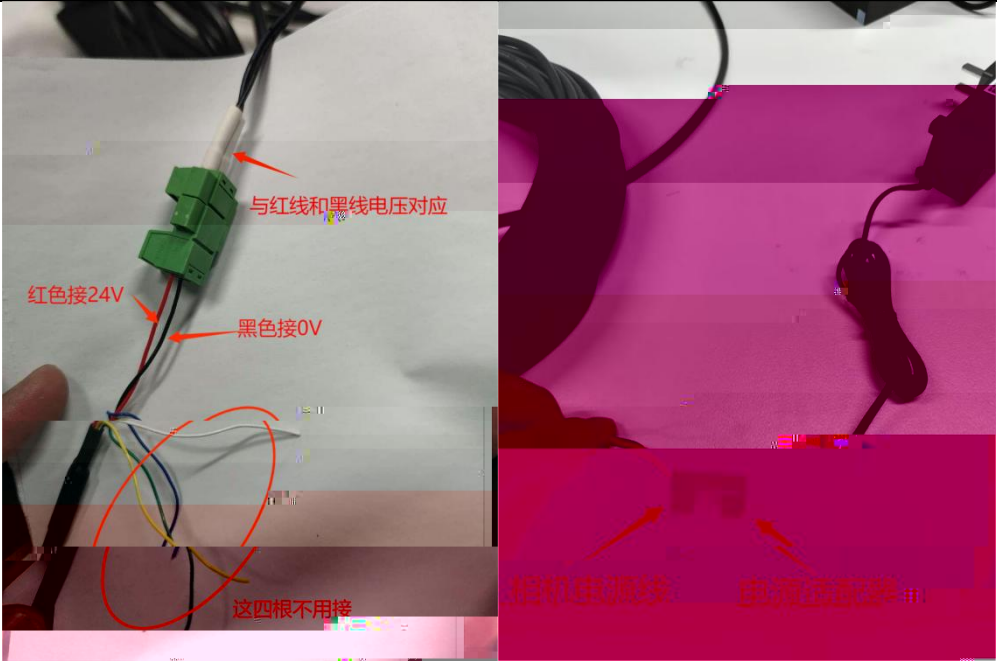
2.9.



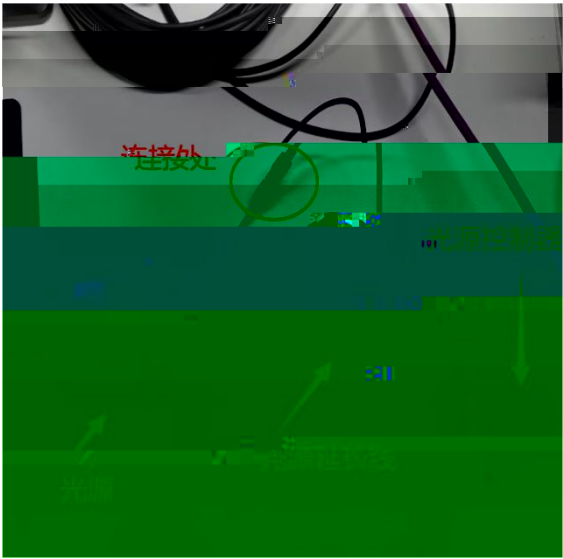
2



3



4



5

CH1



6

24V

+24V

-24V



3.

3.1.

CPU	Inter i5 1.6GHz 4			
	8GB			
	120G			
	2 × 10/100/1000			
USB	4 × USB3.0 4 × USB2.0			
	HDMI VGA			
	Windows10	64	/	Windows7 64

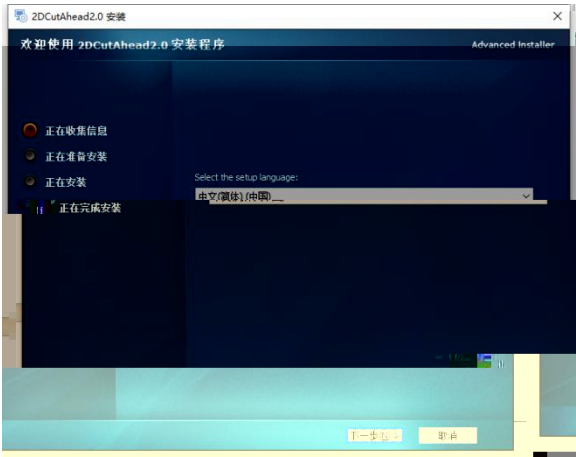
3.2.

3.2.1.

1



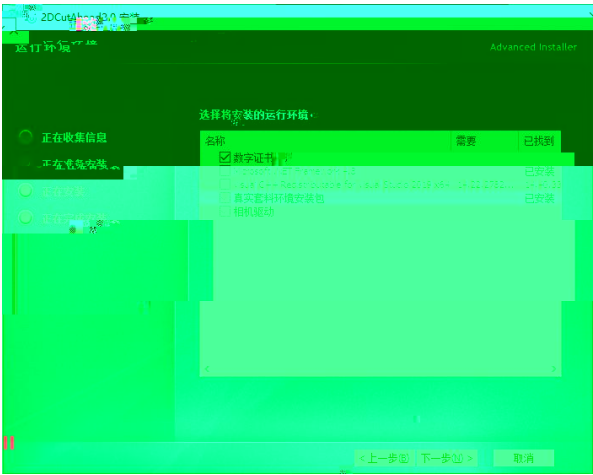
2



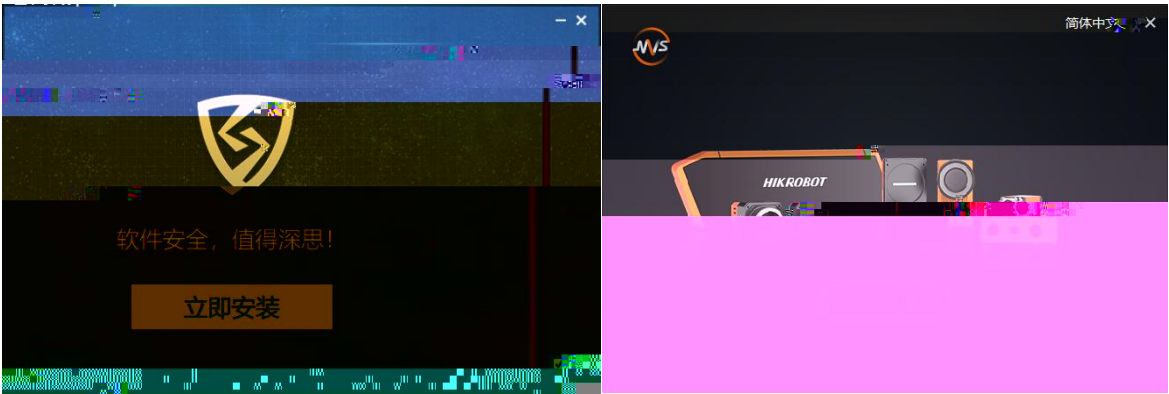
3



4



5



6

C: /HMI



7



8

ipv_sdk_2.16.3\0.zip

Ipv

\\pv_sdk_2.16.3.0\bin
Ipv

reg_run_as_admin

3.2.2.

1

XC3000S

1

EDS3000

2



2



3.2.3.

XYZ

“ ”

3.2.4.

1



2

“ HMI ”



3.2.5.



3.2.6.

a

ip

MVS



ip

ip

ip

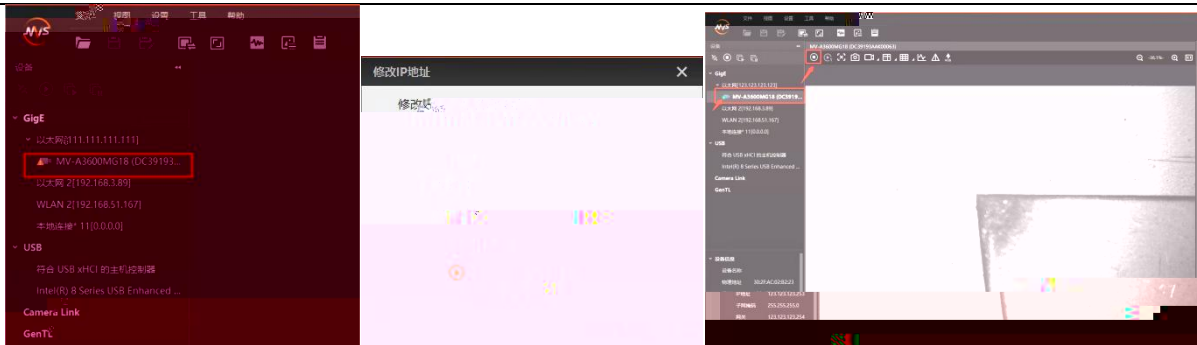
ip

ip

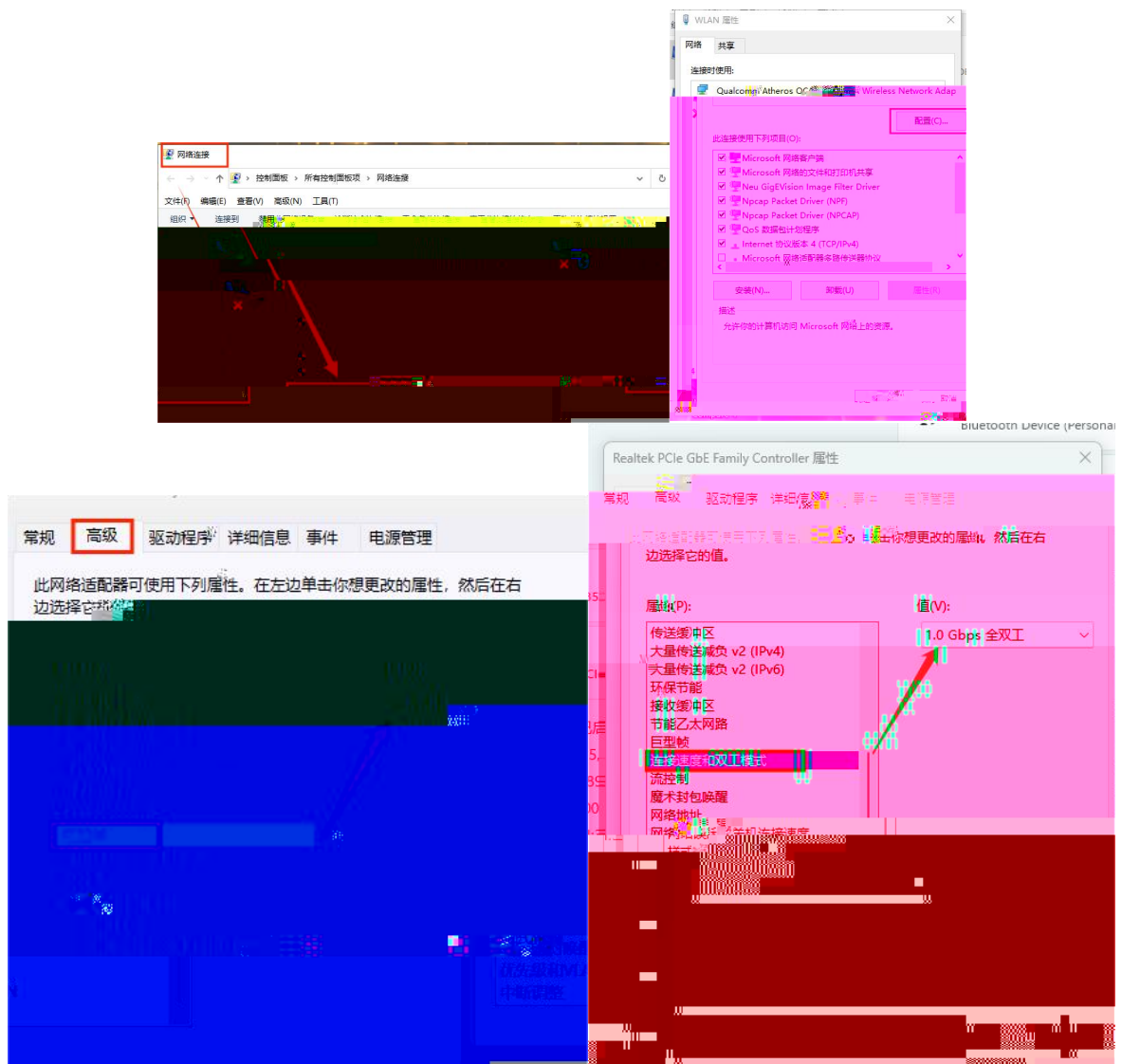
√

ip

RAYTOOLS



b

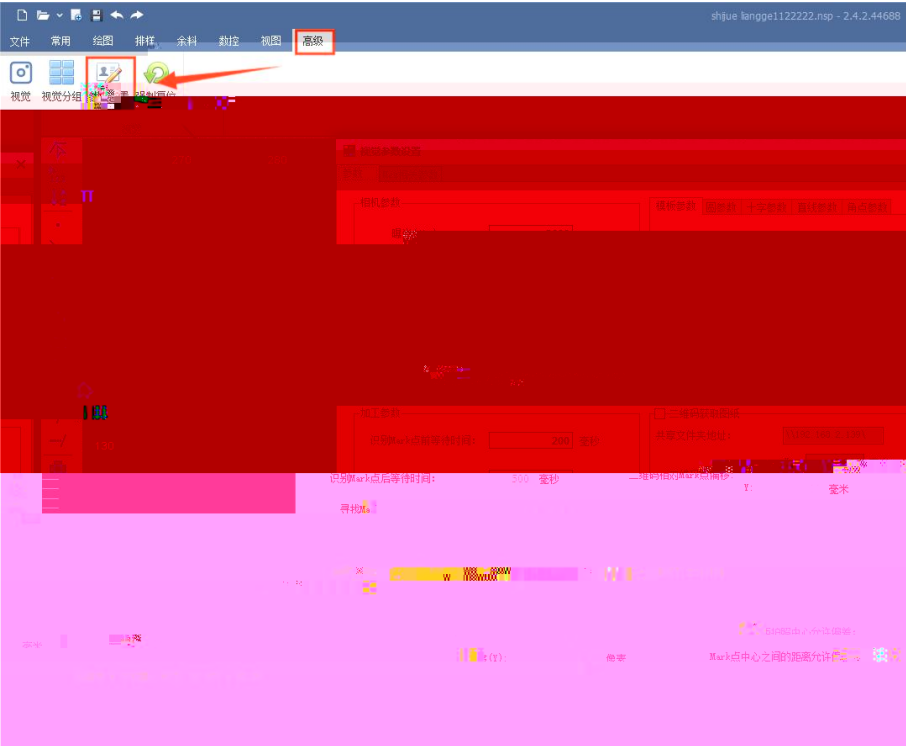


c

d

X

Y

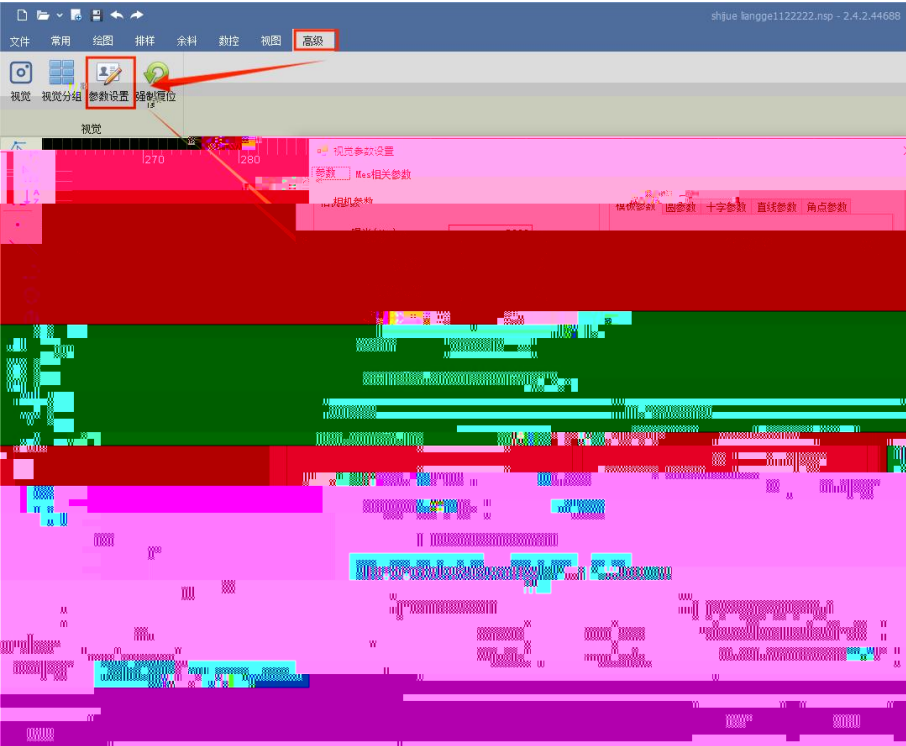


e

X

90°

-90°



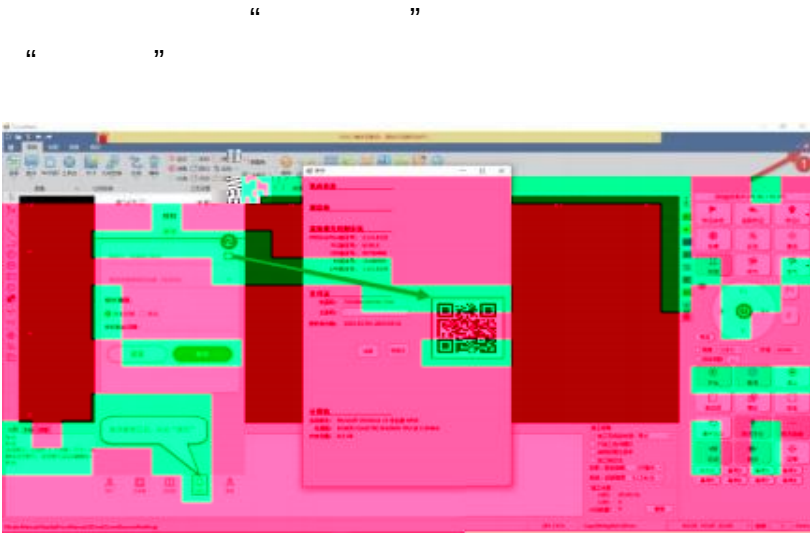
f

3~5

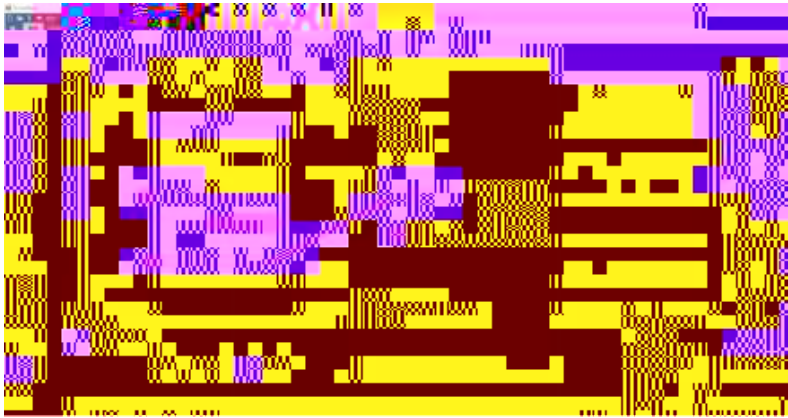
g
0Pro Vision

3.3.

- 1
- 2)



- 3)
- 4
- 5)
- 6



4.

4006701510
G



4.1.

1 XY
XY
XY XY XY



2 XY
XY



3 Z

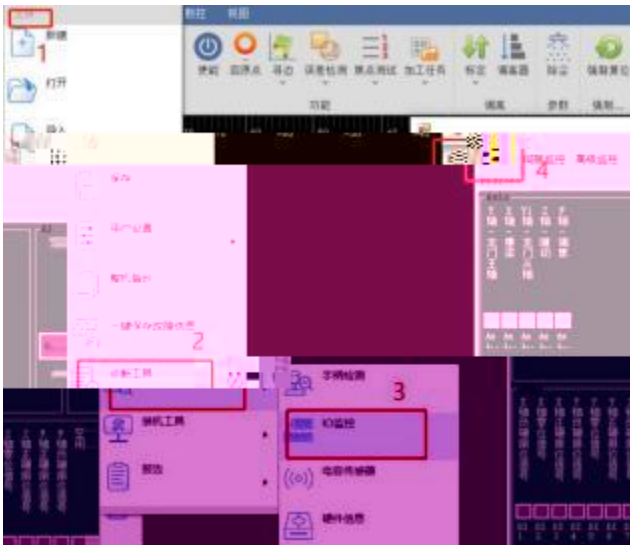
6

7



4.2.

1 HMI - -10



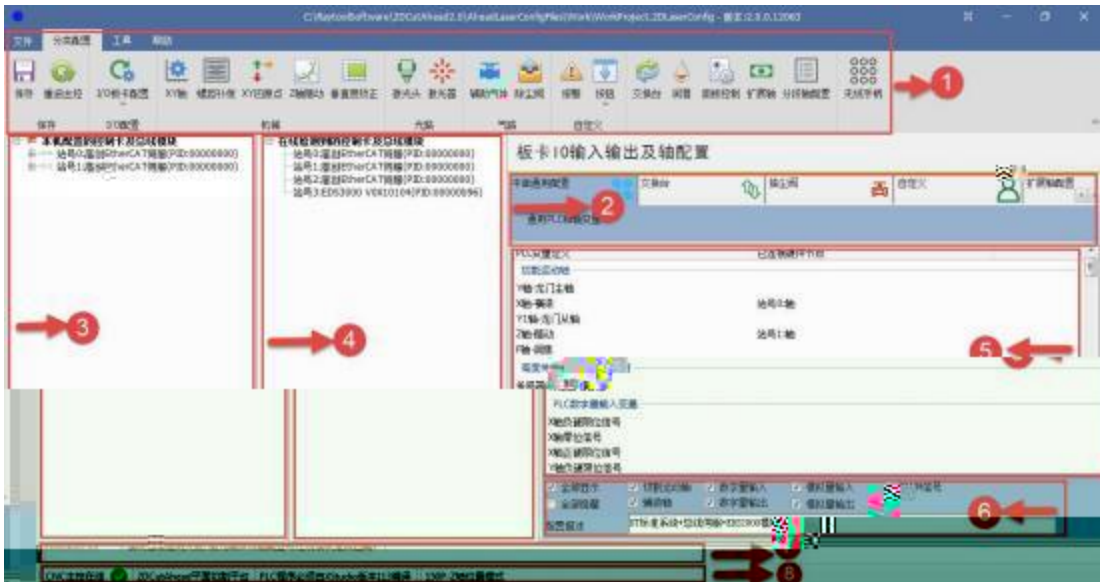
2



5.

4006701510

5.1.



- 1
- 2 PLC
- 3
- 4
- 5 PLC
- 6 PLC
- 7
- 8

5.1.1.

:

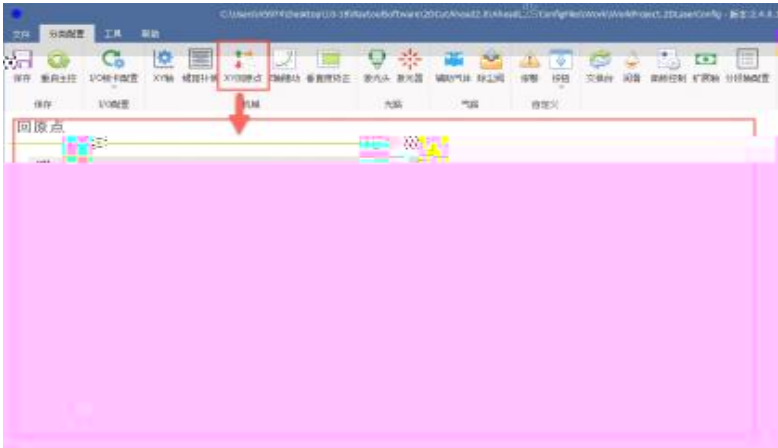






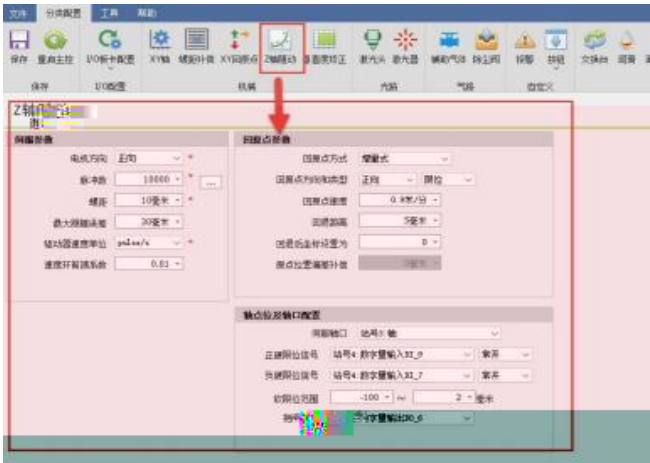
XY

7.4.3 :



Z

Z 7.4.4 :



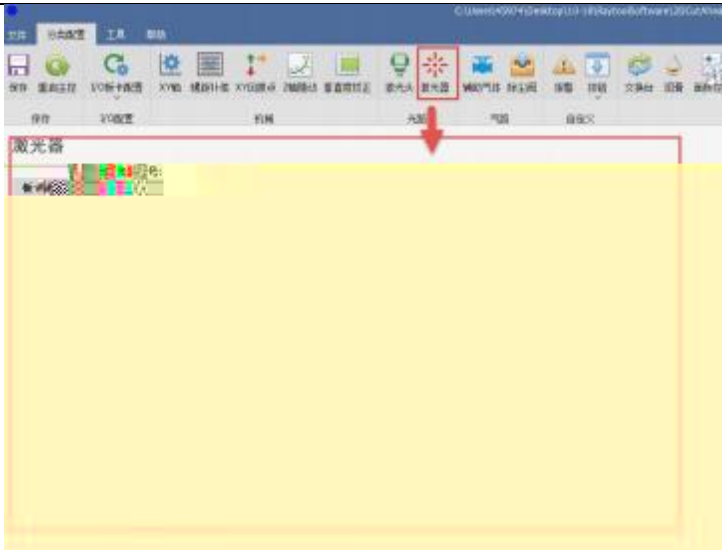
7.4.5



7.4.6



7.4.7

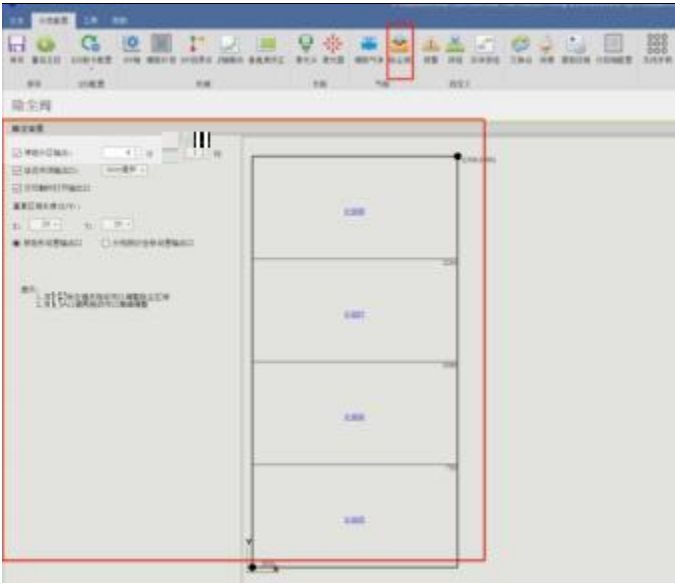


7.4.8



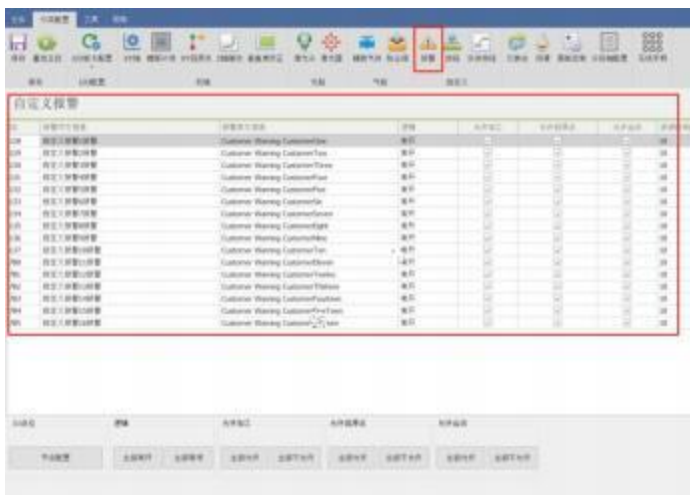
7.4.9

RAYTOOLS

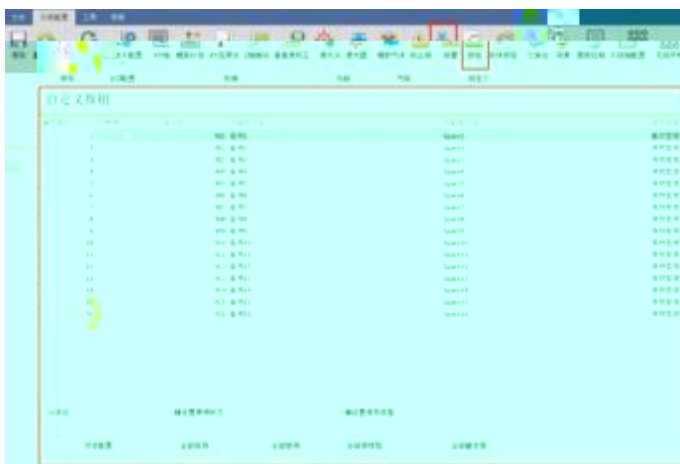


1-16

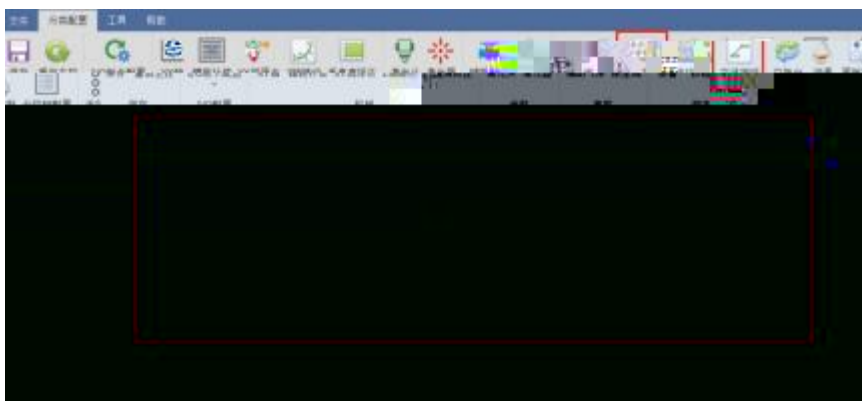
7.4.10



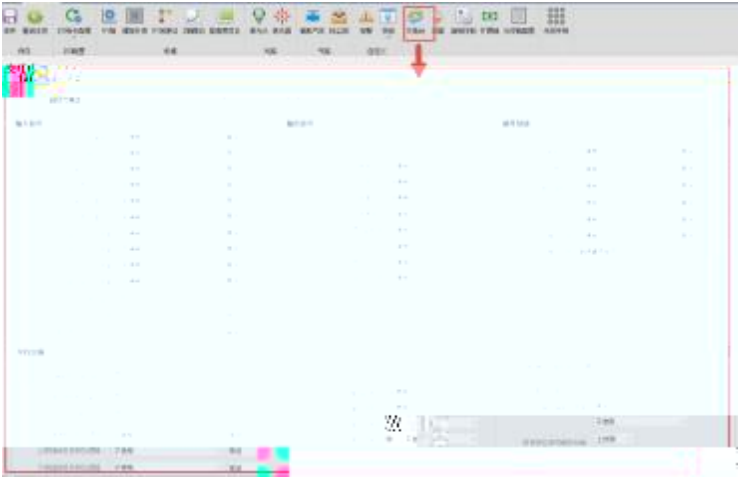
7.4.11



7.4.12



7.4.13

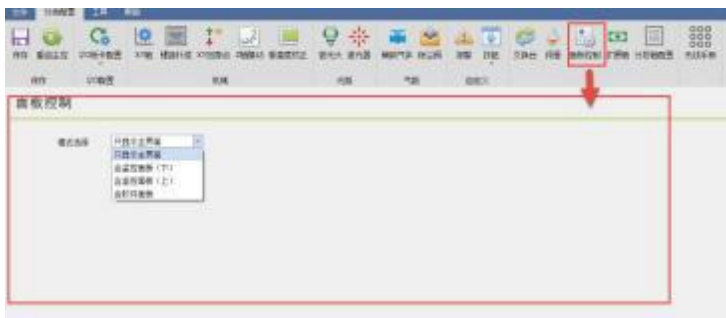


7.4.14 :



1.

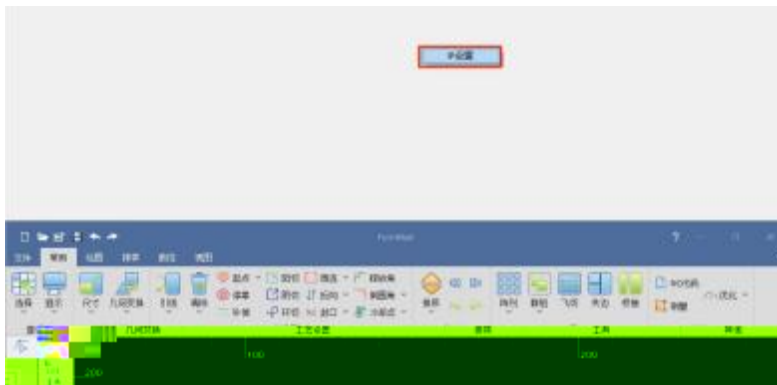
RAYTOOLS



2.



3.



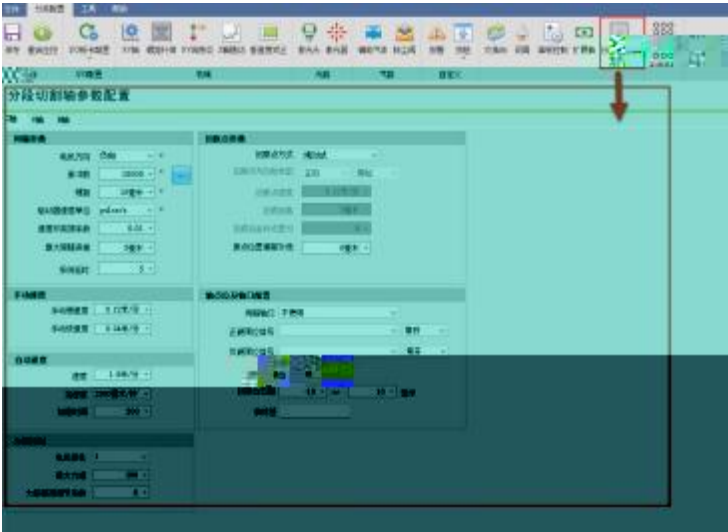
4.

IP

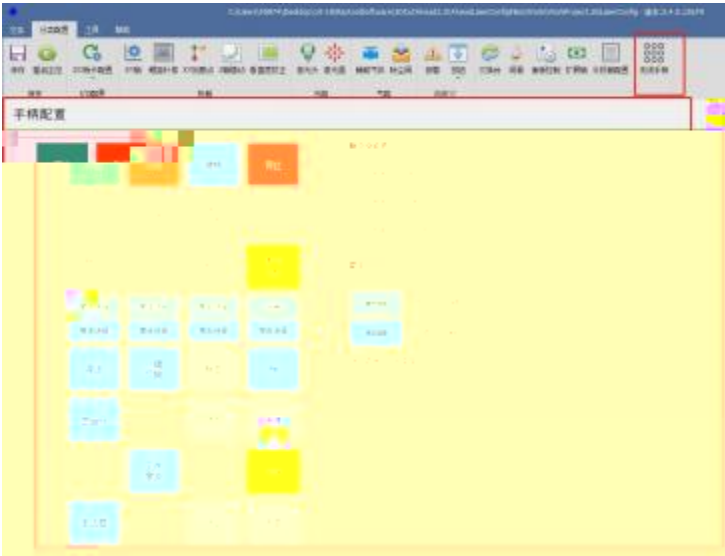


C V B

7.4.15



K1~K4 Fn+K1~K4 8



|



7.4.16

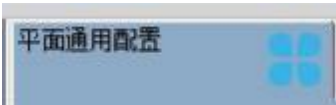




|



5.1.2. PLC
 PLC



PLC



PLC

RA Tool

自冠

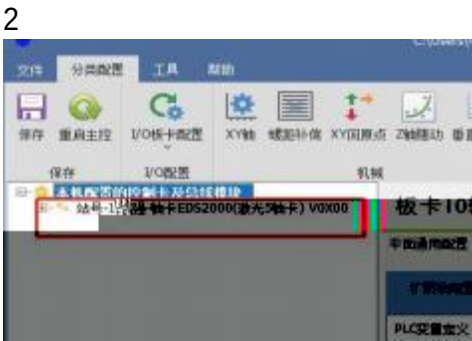
 $\hat{A}$

48

16

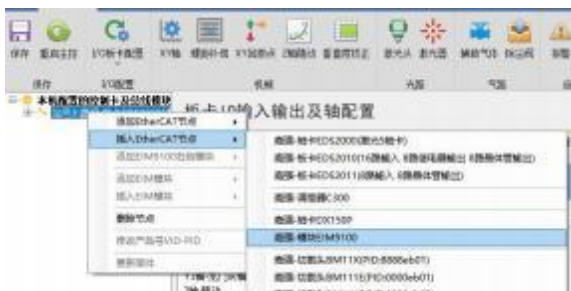
1

RAYTOOLS

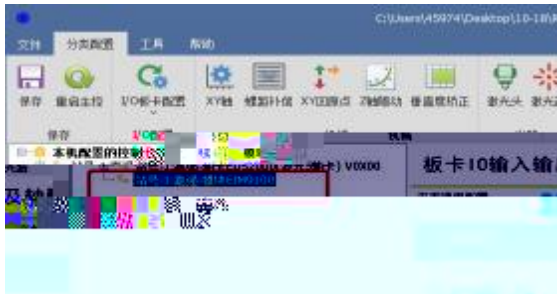


1 - EtherCAT -

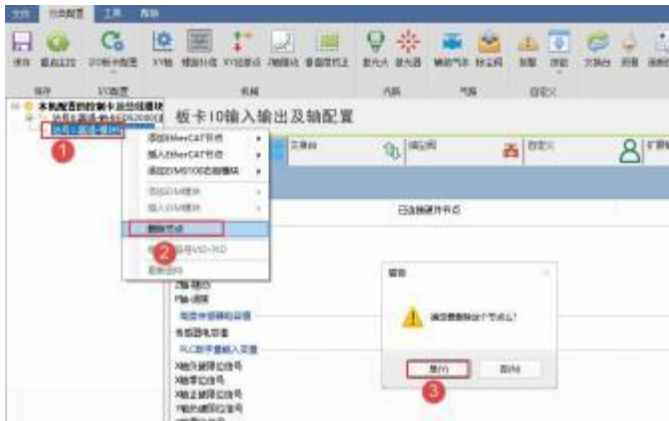
RAYTOOLS



2



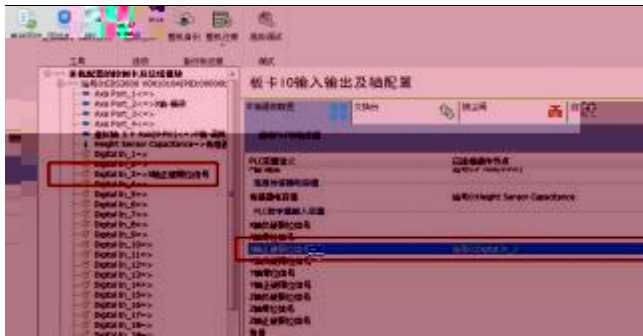
1



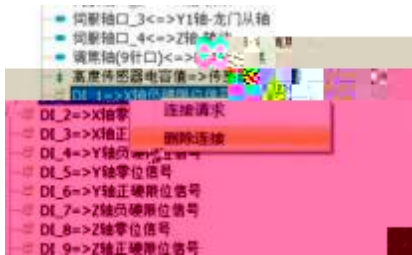
2



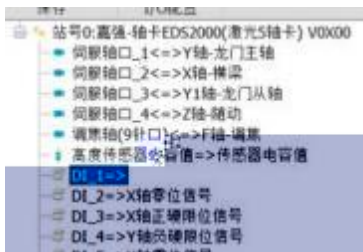
RAYTOOLS



1

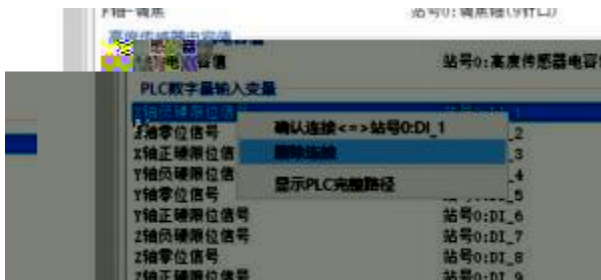


2



1

PLC



2

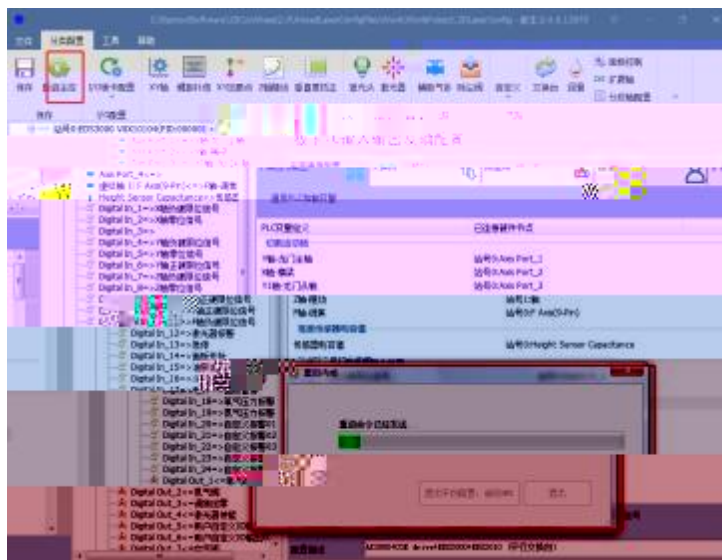
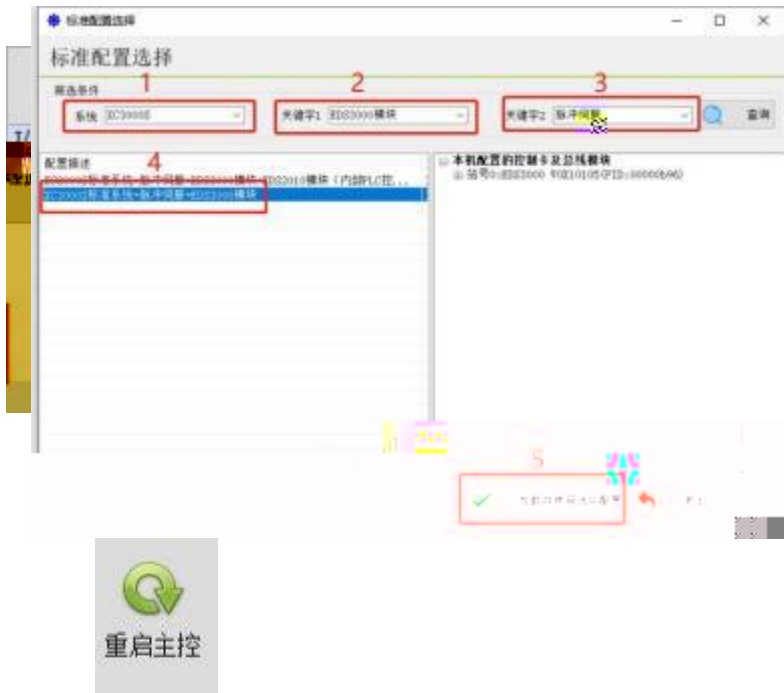


5.3.

1 XC3000P Vision
4 Y, X, Y1, Z EDS3000

4006701510

XC3000S EDS3000



1
4 Y X Y1 Z EDS3000
Y X

1

4006701510

4

EDS3000

4.2.1



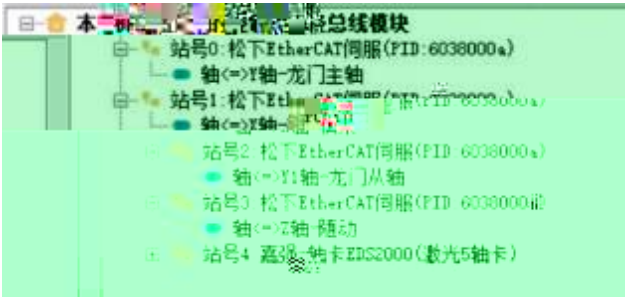
2

0

Y

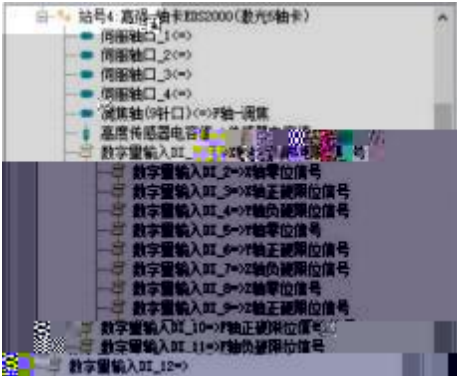
2

Y1

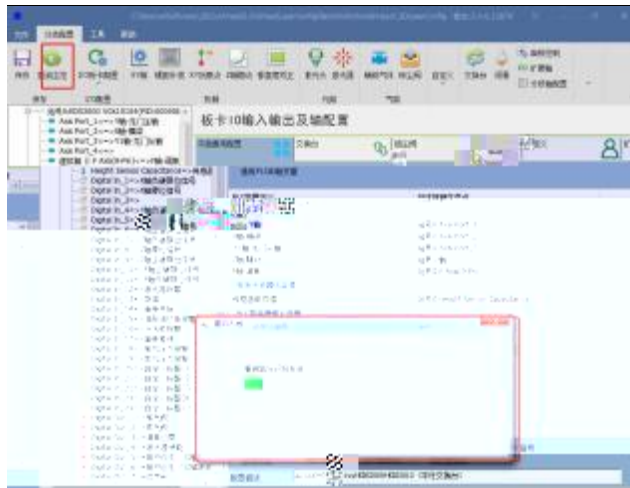


3

EDS3000



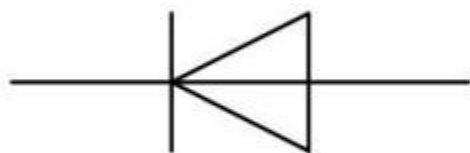
RAYTOOLS



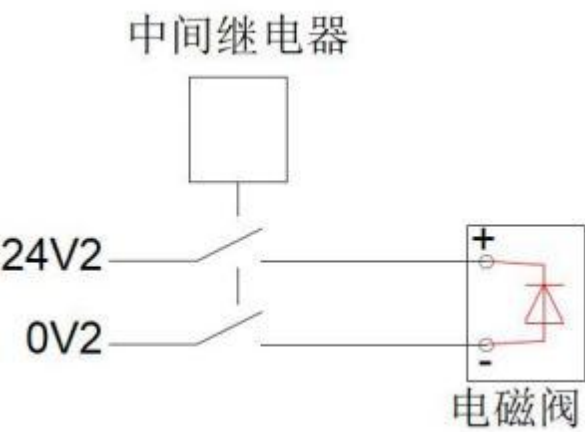
6.

6.1.

6.1.1.



MIC 6A10



24V 0V 24V 0V

1.

220V
- DC12V
2.
3.

OneKEY

6.3.2.

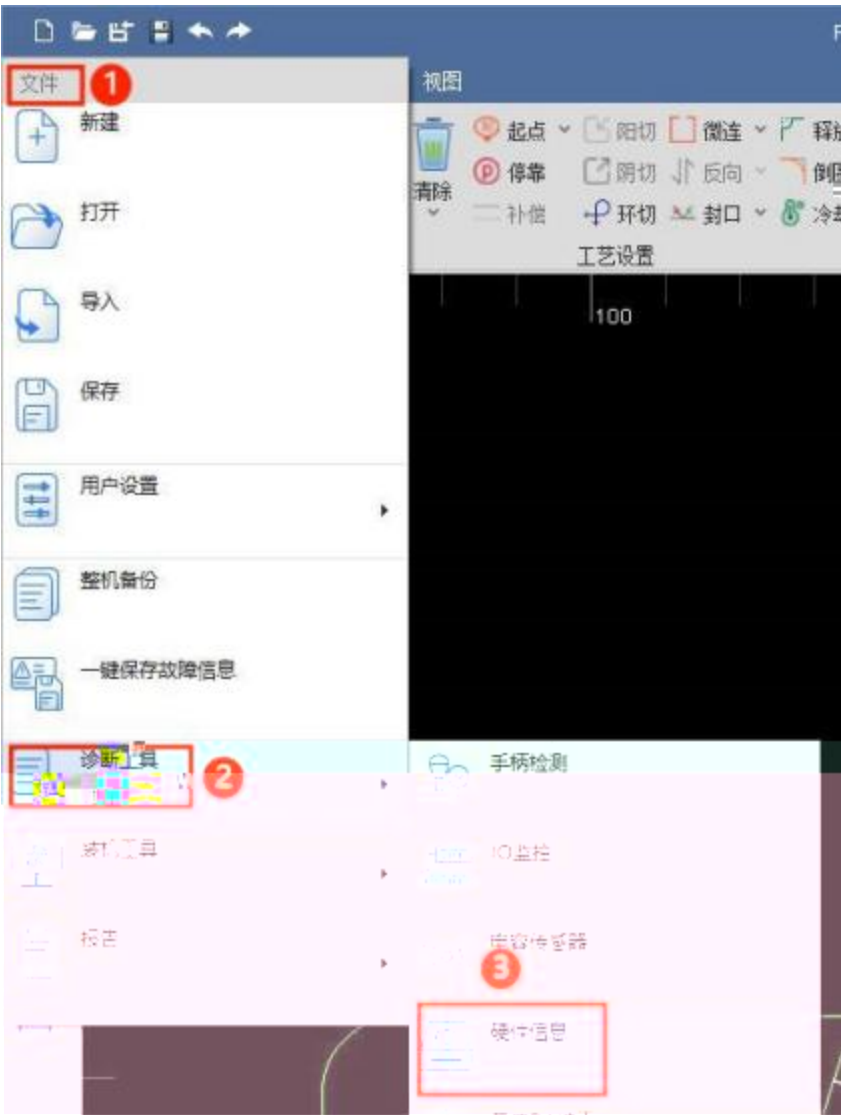
OP

1.
2.

1.2

6.3.3.

“ “



The screenshot shows the FormidWare software interface. At the top, there is a table listing slave stations:

从站序号	从站名称	Op状态	P0-Crc	P0-PHY	P1-Crc	P1-PHY	P2-Crc	P2-PHY
0	CDHD	OP	0	0	0	0		
1	CDHD	OP	0	0	0	0		
2	SGD75-xxxxX0x	OP	0	0	0	0		
3	EOS0001	OP	0	0				

Below the table, the 'Station 0' details are shown:

```

Station 0
Phase: Dynamic
Active: run
[Station 0] [OP] [0] [0] [0] [0]
[Station 0] [OP] [0] [0] [0] [0]
Name: CDHD, v2.0.0, OP: 0 (attached)
Link: OP
To frames: 174609637
To bytes: 5435190748
Rr frames: 174609636
Rr bytes: 5435199422
To: 0x00000000
  
```

At the bottom of the interface, there is a status bar with the text '通信从站寄存器' and a '退出' (Exit) button.

OP

OP

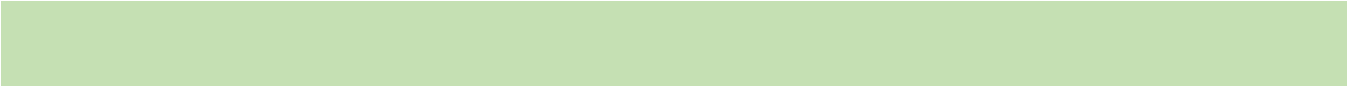
P0-Crc

P0-PHY

9

RAYTOOLS

EtherCAT	2 LINK	EtherCAT			



7.

7.1. EDS2000

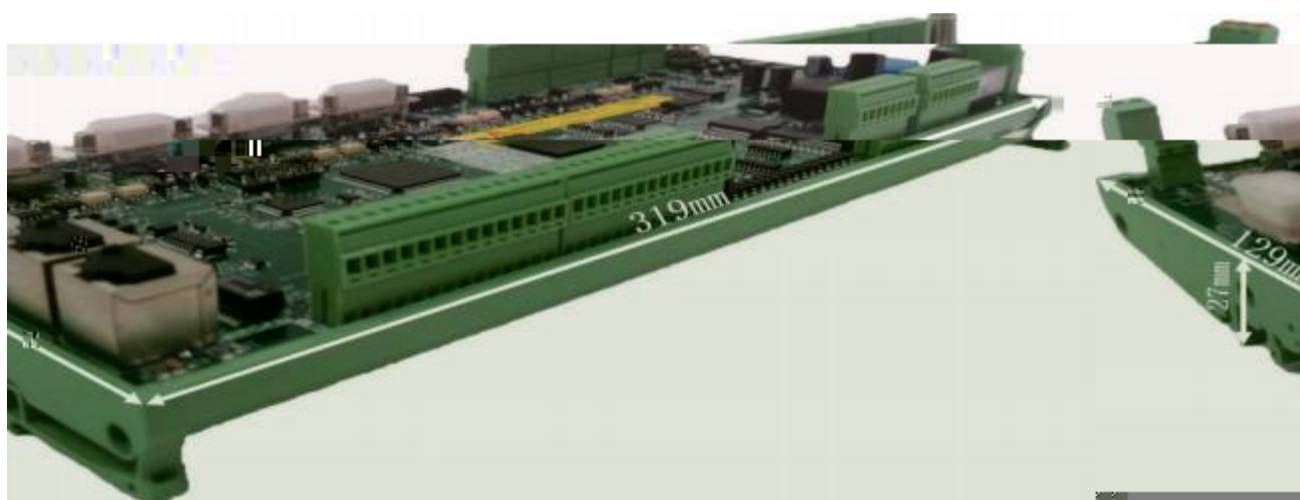
XC3000Pro Vision

EDS2000

EDS3000

EDS2000

7.1.1. EDS2000 I/O

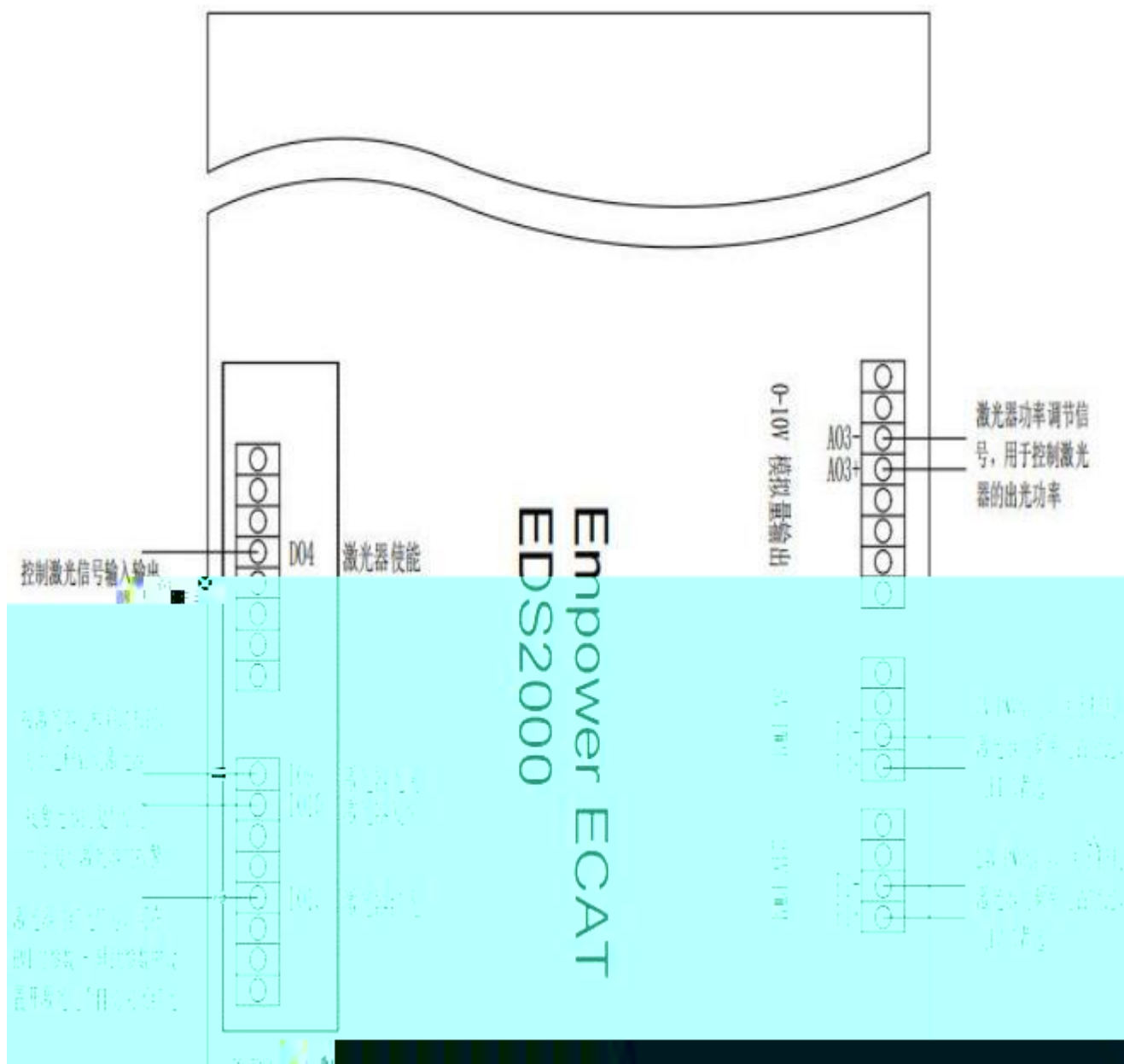


EDS2000

EtherCAT

I/O

7.1.3. EDS2000



F					
1	CLR		6	SON	
2	ALM		7	PP	+
3	NP	-	8	ND	-
4	PD	+	9	PGND	
5	P24V	24V			

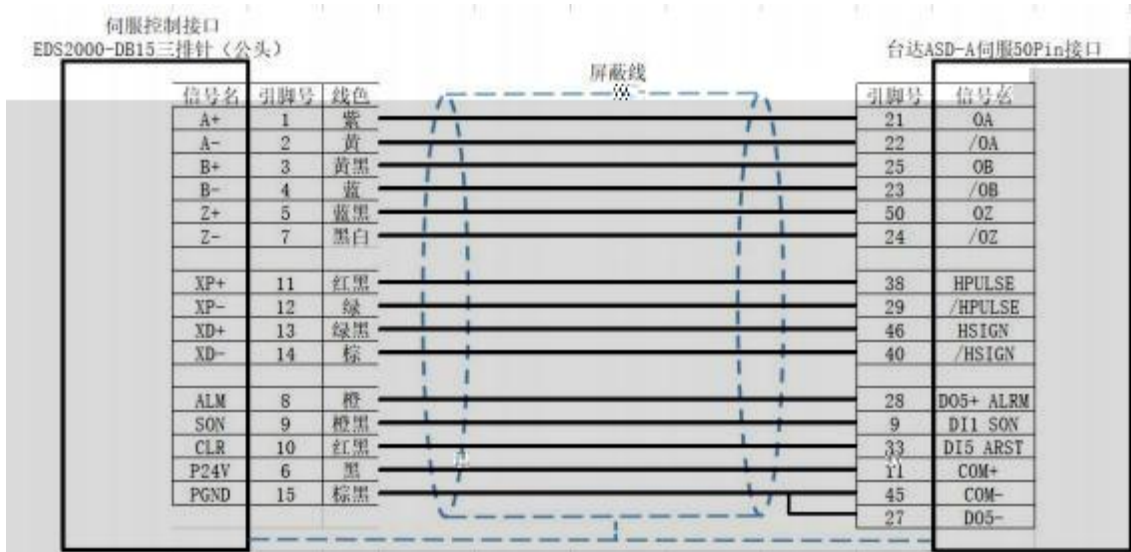
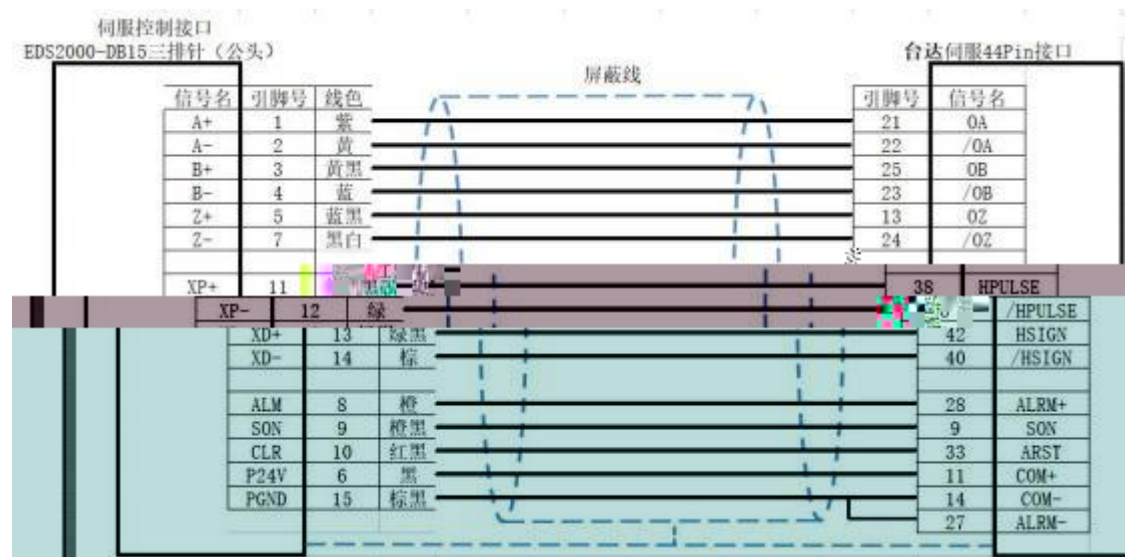
EDS2000	SON	ALM	OV	OV
3				
EDS2000	+			
		SON		24V
ON		ALM		24V
ON				
				“ ” F
	B	A2		

7.1.5

w 1 v

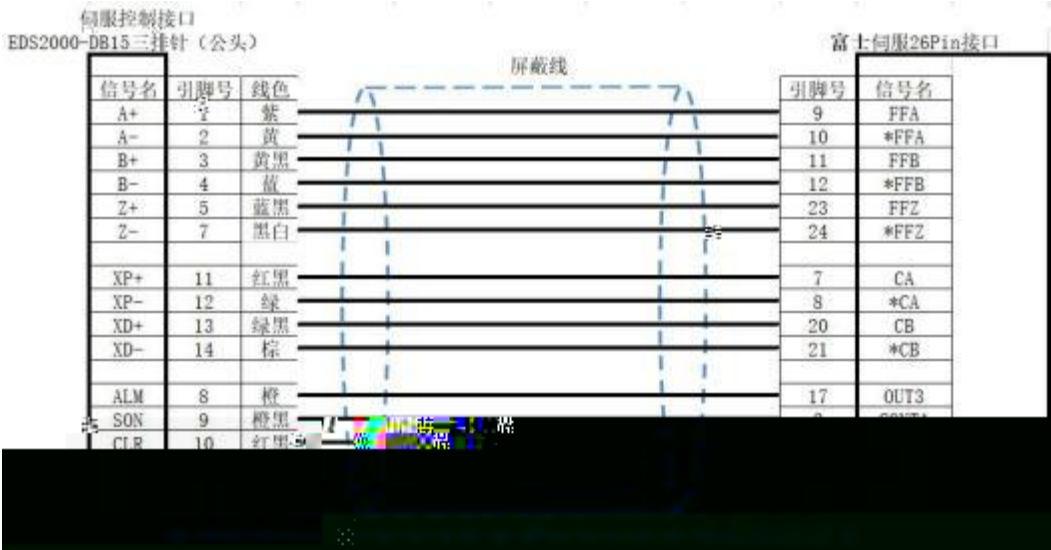
Pr001	0	0:	1:
Pr007	3	3	
Pr005	1	1:	3mpa;0: 500kpps

B



P1-00	0x1002	1
P1-01	0x0000	1
P2-10	0x0101	DI1

ALPHA5 Smart

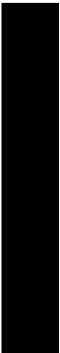


PA-101 0 0... 1... 2... 3... < = > 4...
 < = > 5... < = > 6... 7...

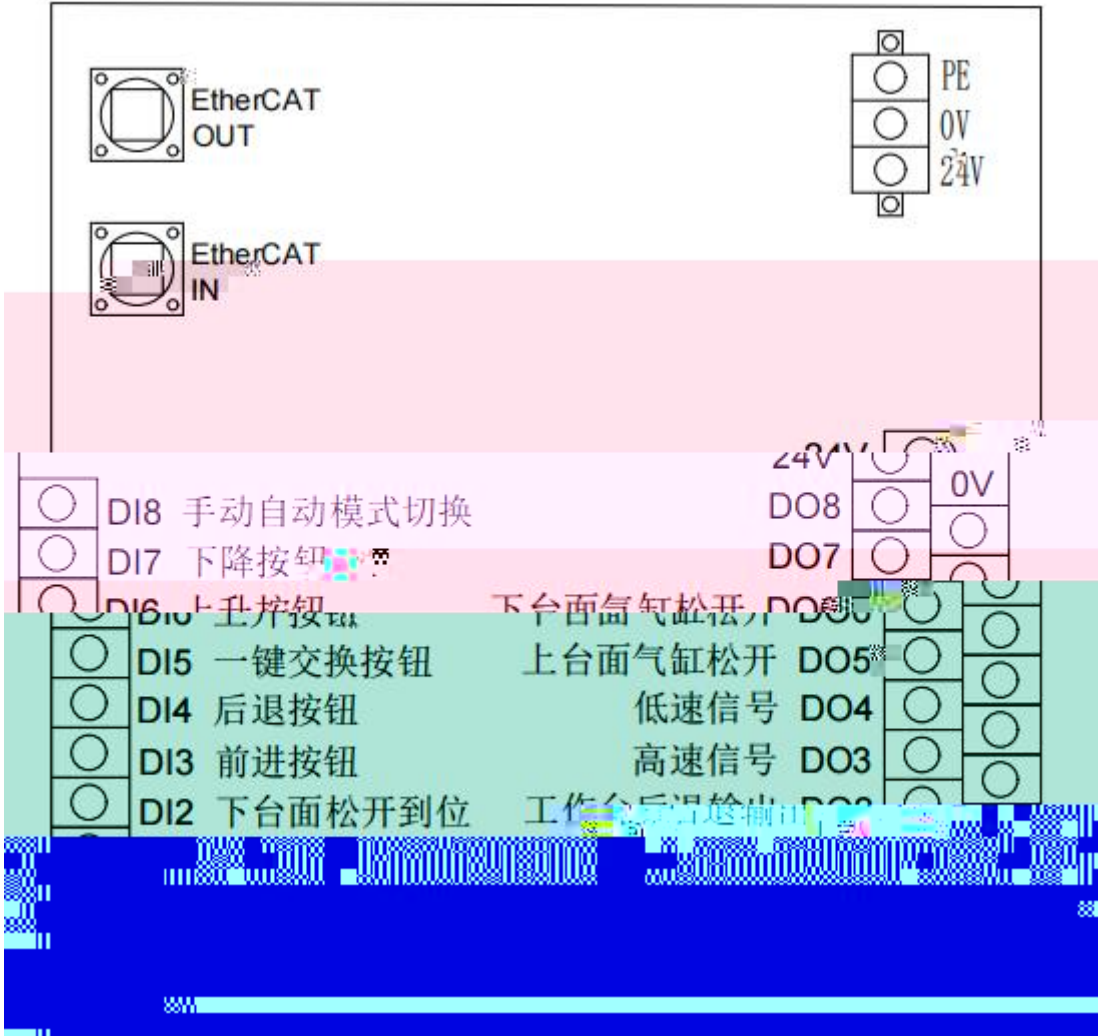
PA-103 1 0... : / 1... :

		12...	:90 °	2
--	--	-------	-------	---

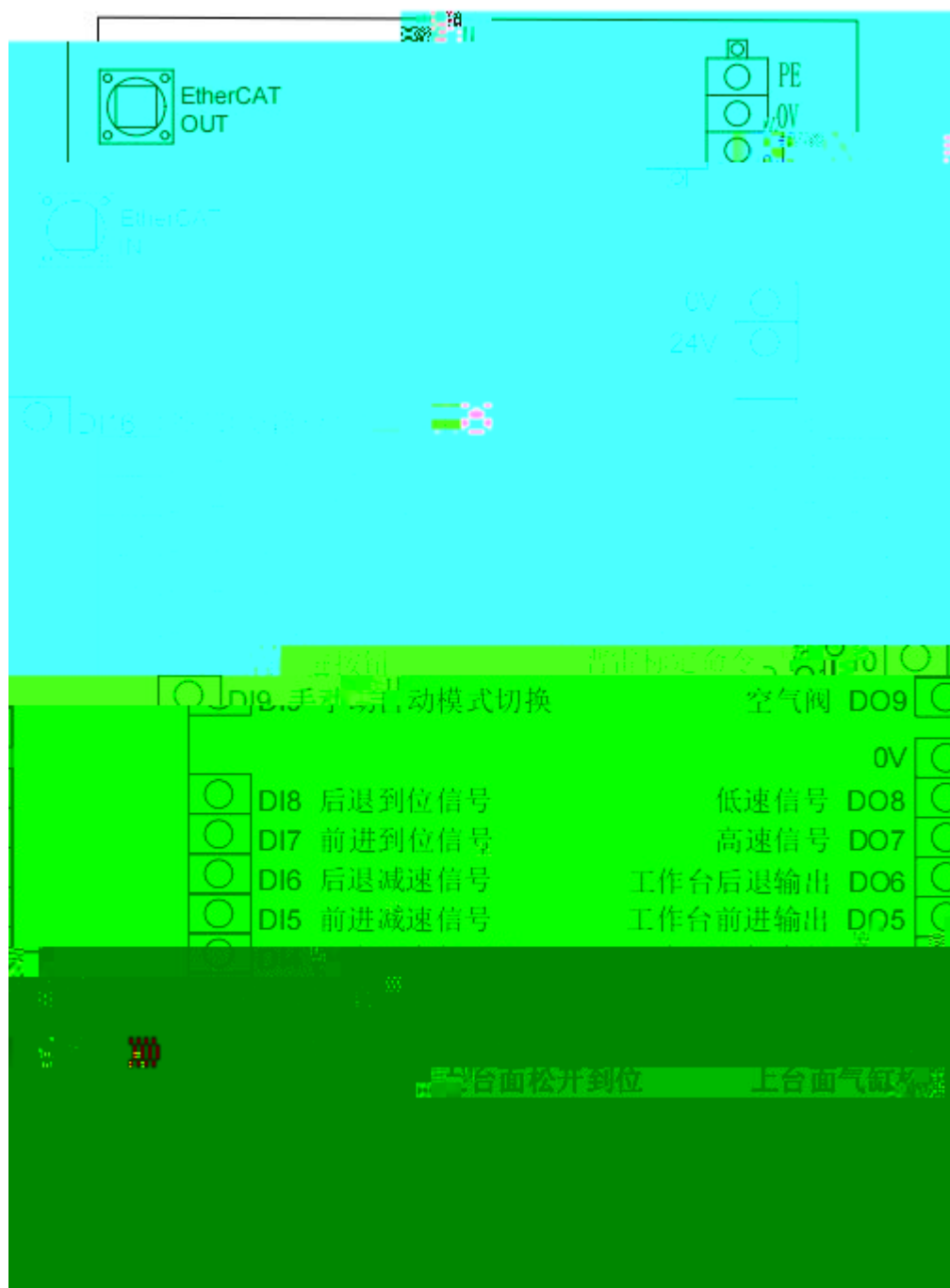
F



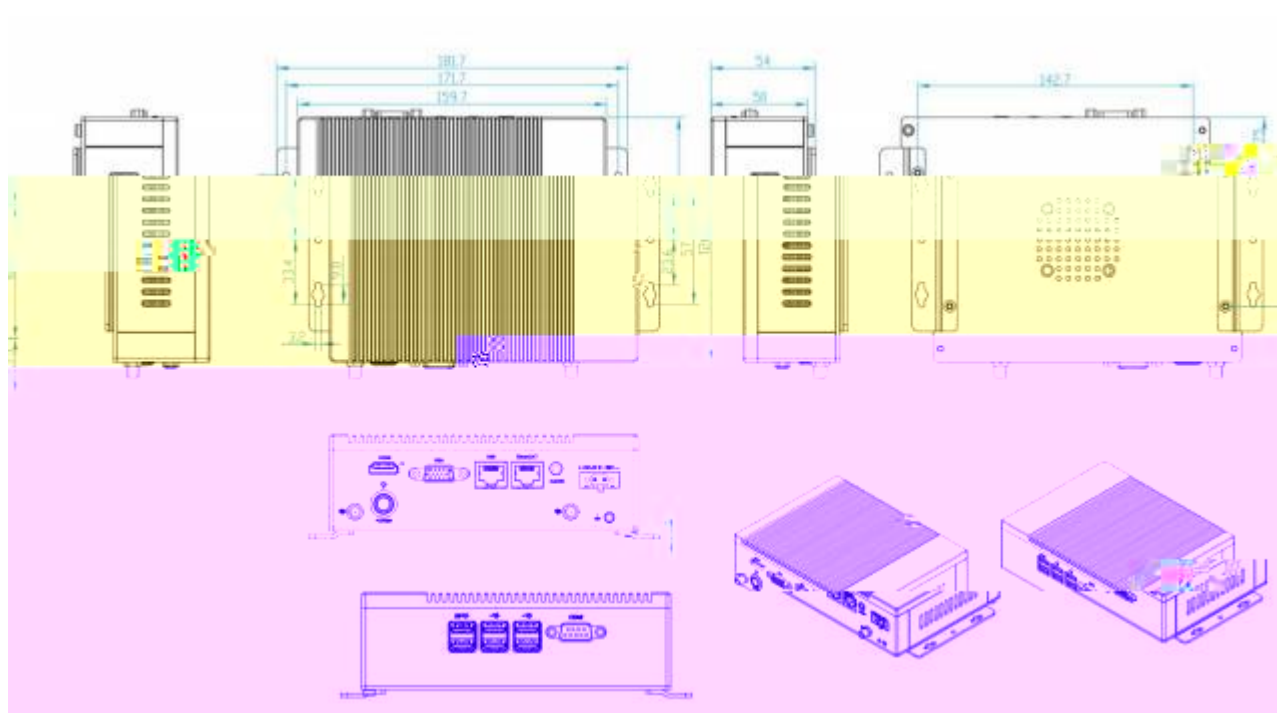
7.3. EDS2011



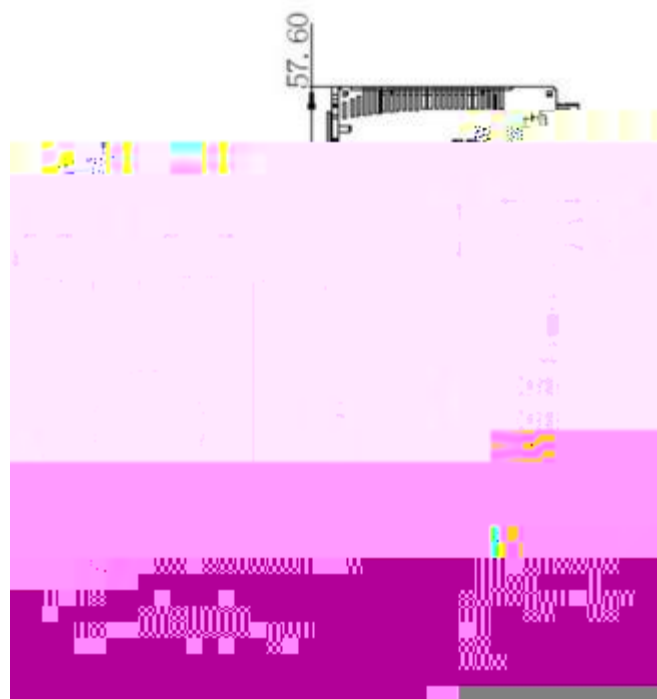
7.4. EDS2010



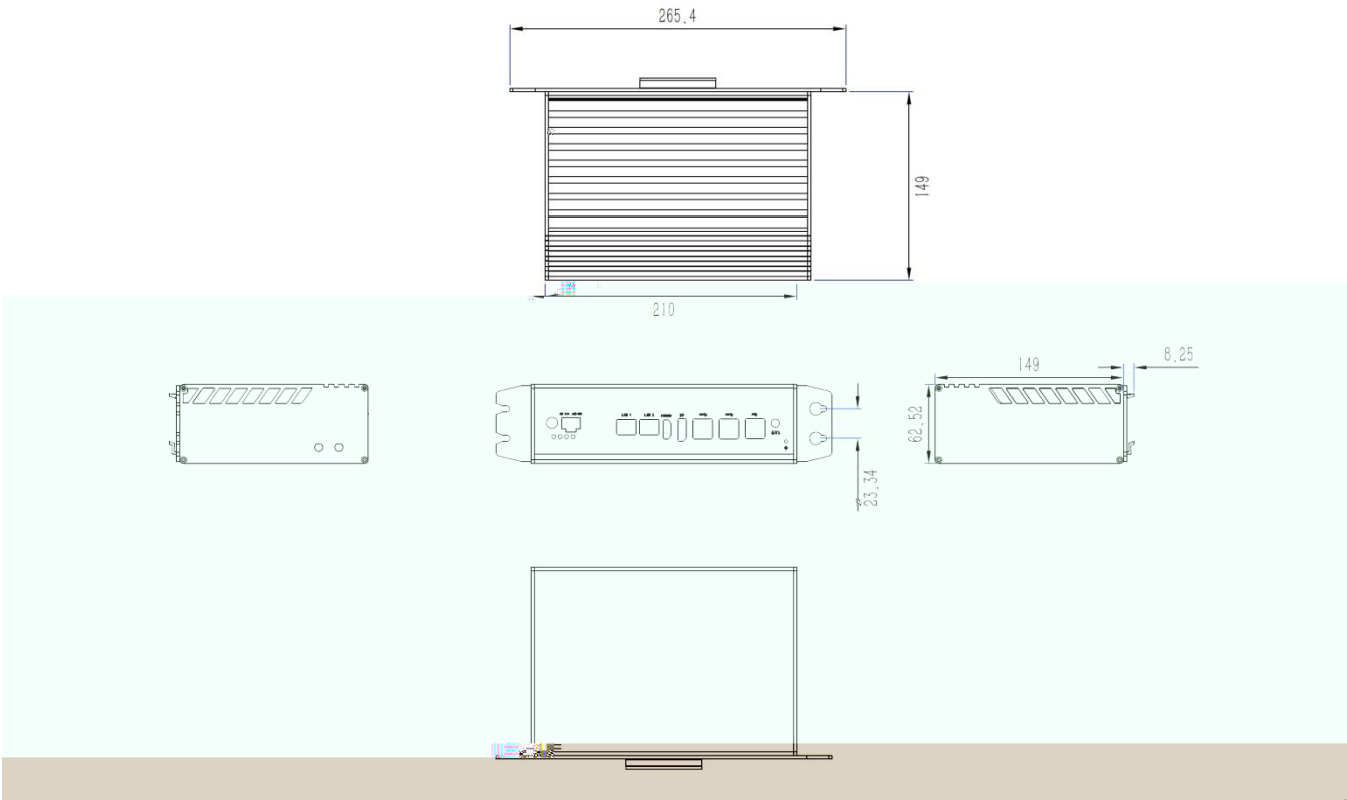
7.5. EPC-2000



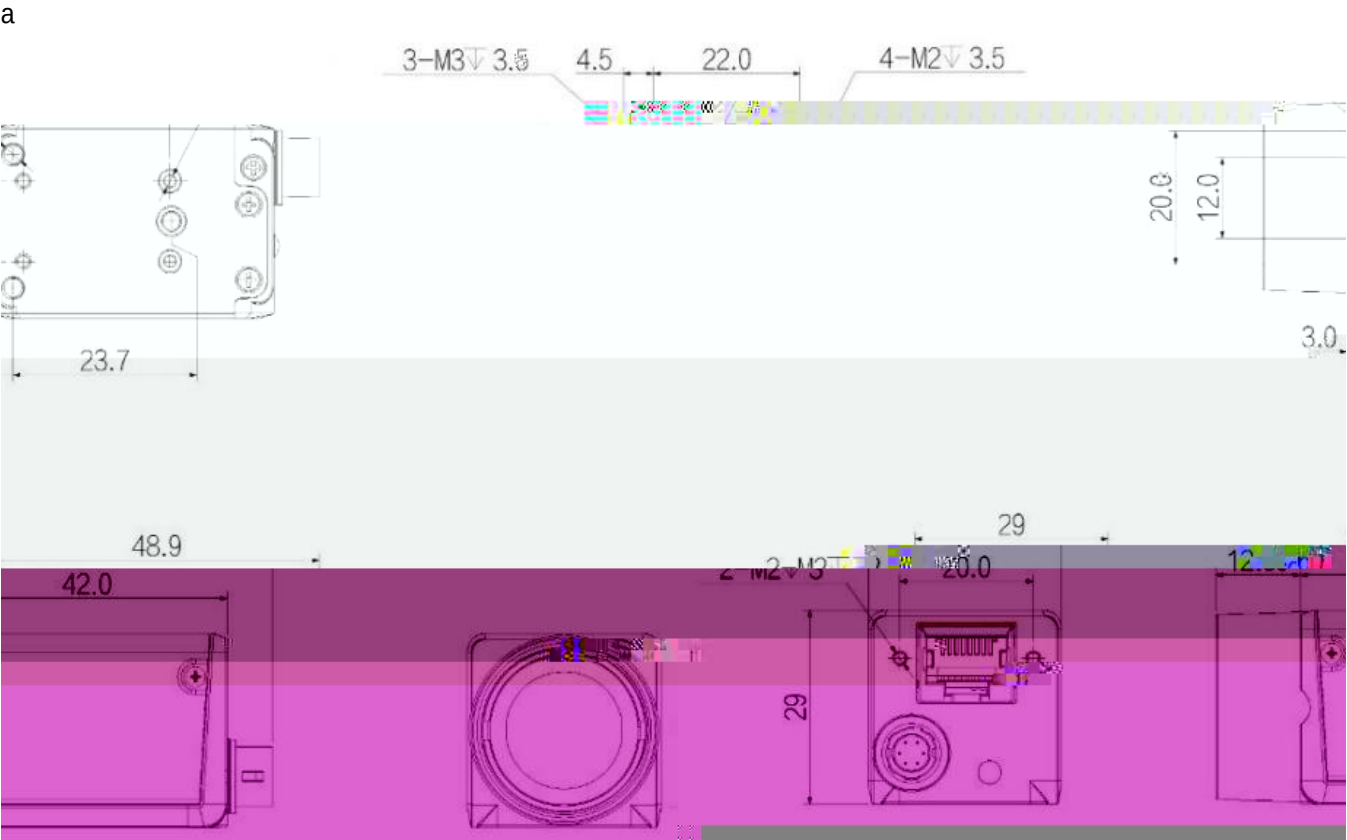
7.6. EPC-1020

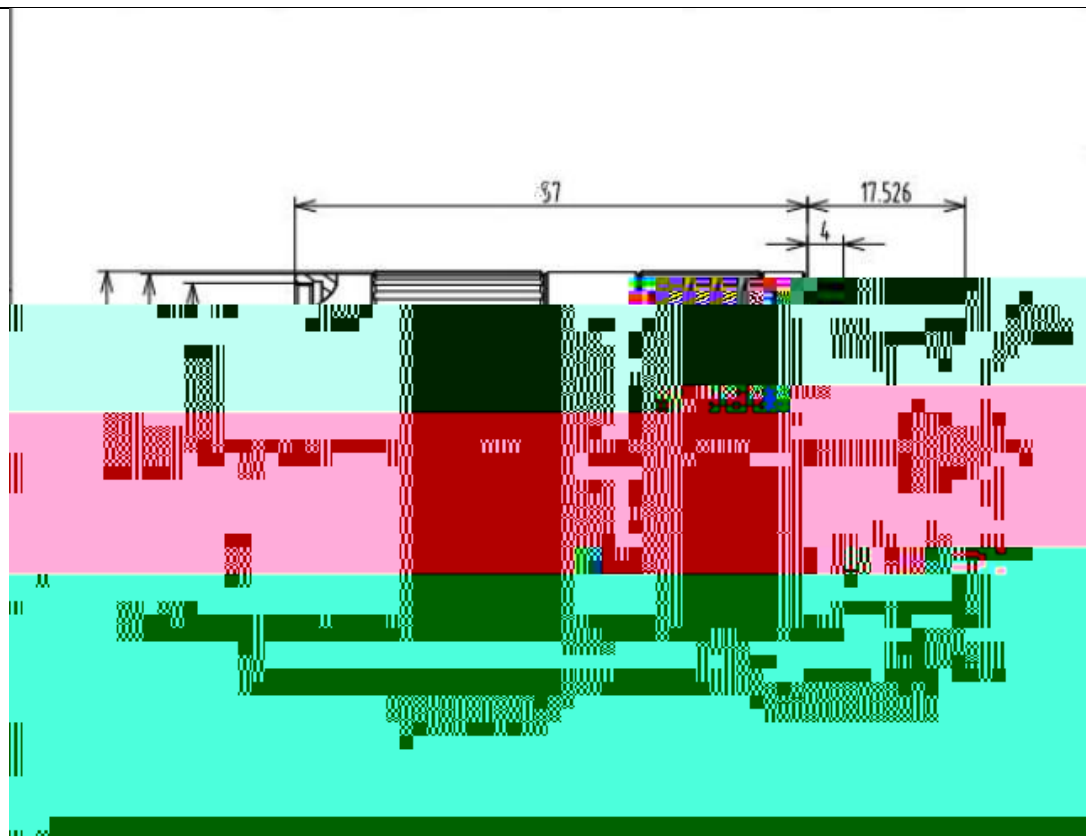


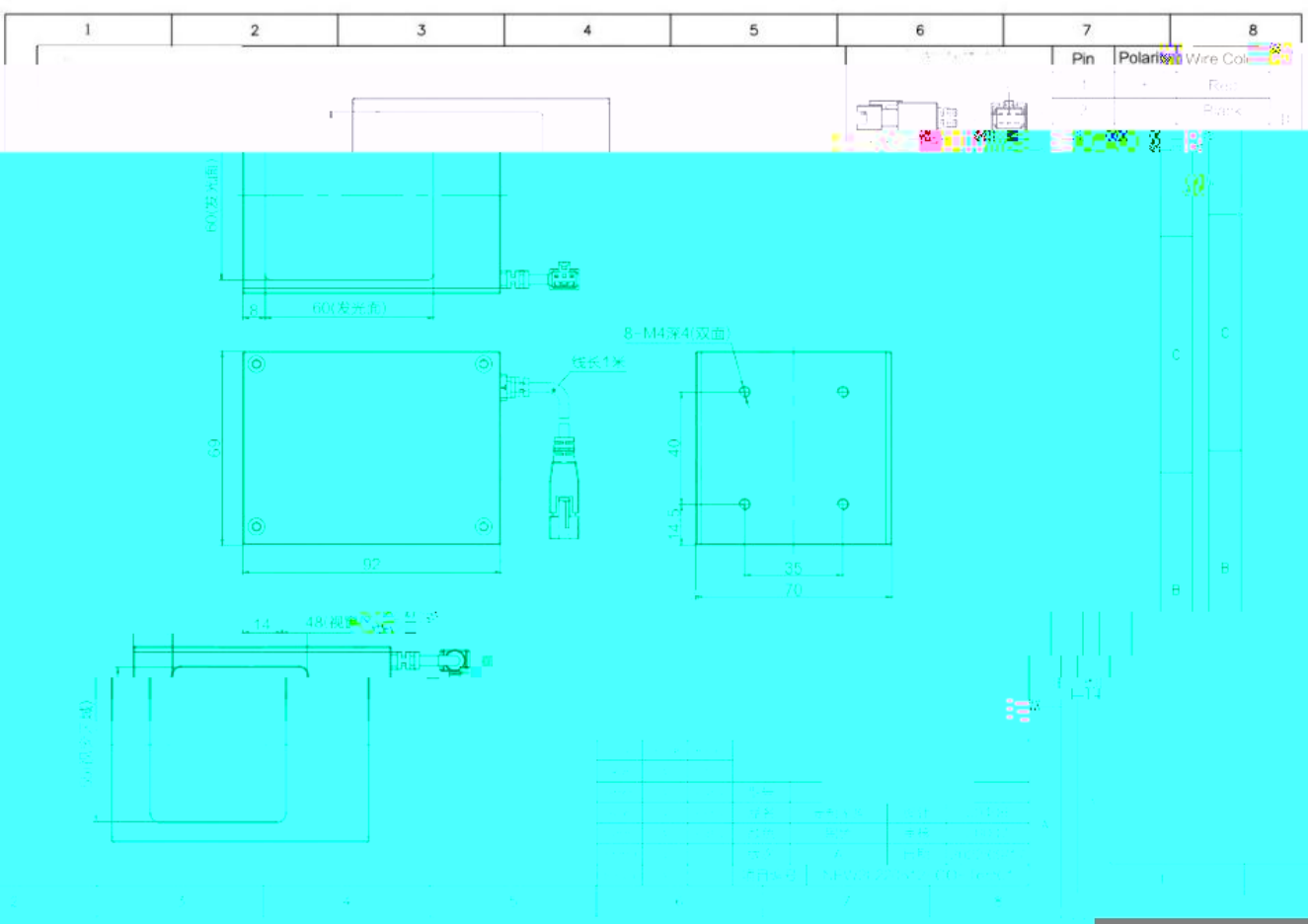
7.7. IPC E4000



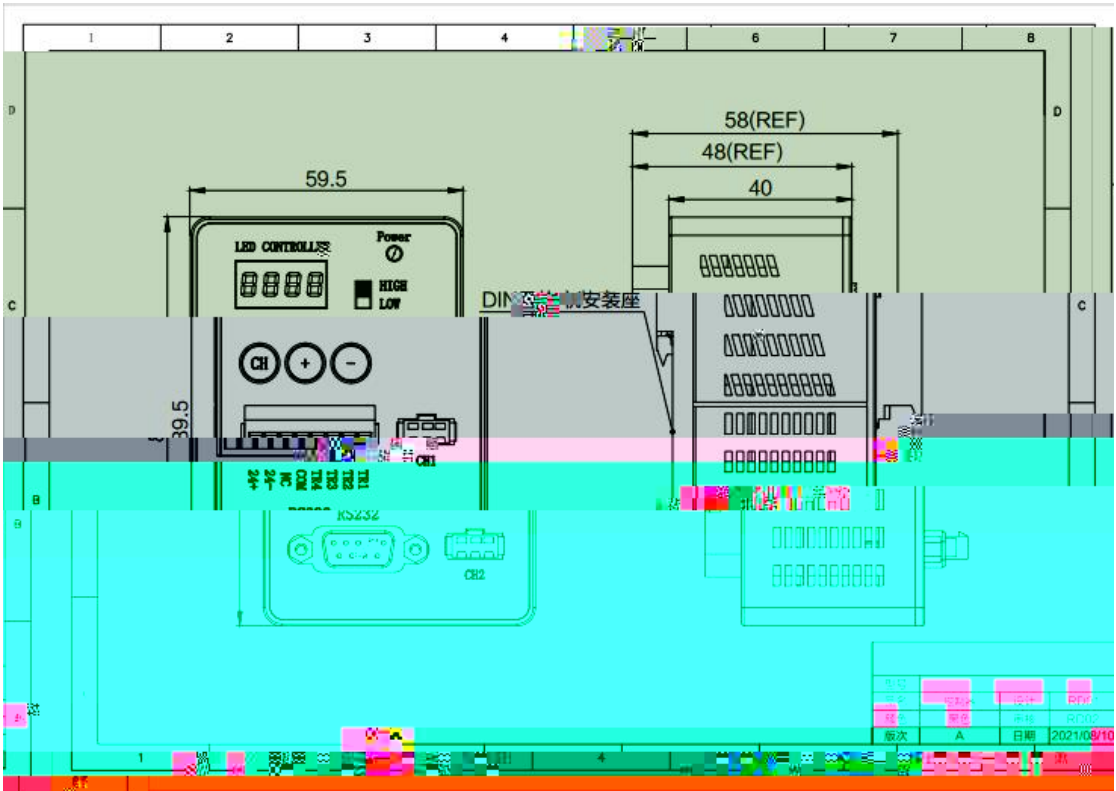
7.8.







d



7.9.

7.9.1. XY

XY			
10000			
		CW	CCW
36			
0			
60			
60			
6000			
X	Y	X	Y
Y	X	Y	X
		X	Y
X/Y	DI3/DI6 /		
X/Y	DI2/DI5 /		
X/Y	DI2/DI4 /		

Y1		
		Y1
	10	
	0	
	1	

7.9.2.

7.9.3. XY

XY		
		0
	1.8	
	0	
	0	
	0	

7.9.4. Z

Z		
	10000	
		CW CCW
	10	
	pulse/s	pulse/s 0.1RPM RPM
	0.01	
	30	
		0
	0.9	
	5	
	0	
	0	
	DI9	
	DI7	
	-100~2	Z
	DI6	

7.9.8.

D09

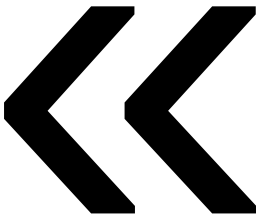
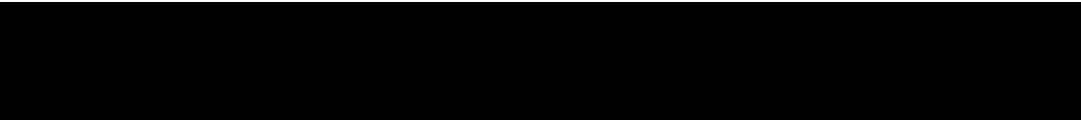
10	0-10BAR
----	---------

7.9.9.

/	4/1	
	Do5-Do8	
X/Y	20/20	
	1500*3000	

7.9.10.

ID	1	2	3.....





R Tools

[illegible]

7.9.14.

7.9.15.

	CW	CCW
10000		
10		
pulse/s	pulse/s	0.1RPM RPM
0.01		
5mm		
5		
0.12m/min		
0.24m/min		
1.8m/min		
2000mm/s		
500		
1		
200		
0		

0



7.9.16.

HMI		
G00		

