

透科自动化

User Manual



RX

PROFINET
Remote IO Module
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PROFINET® PI

IP20

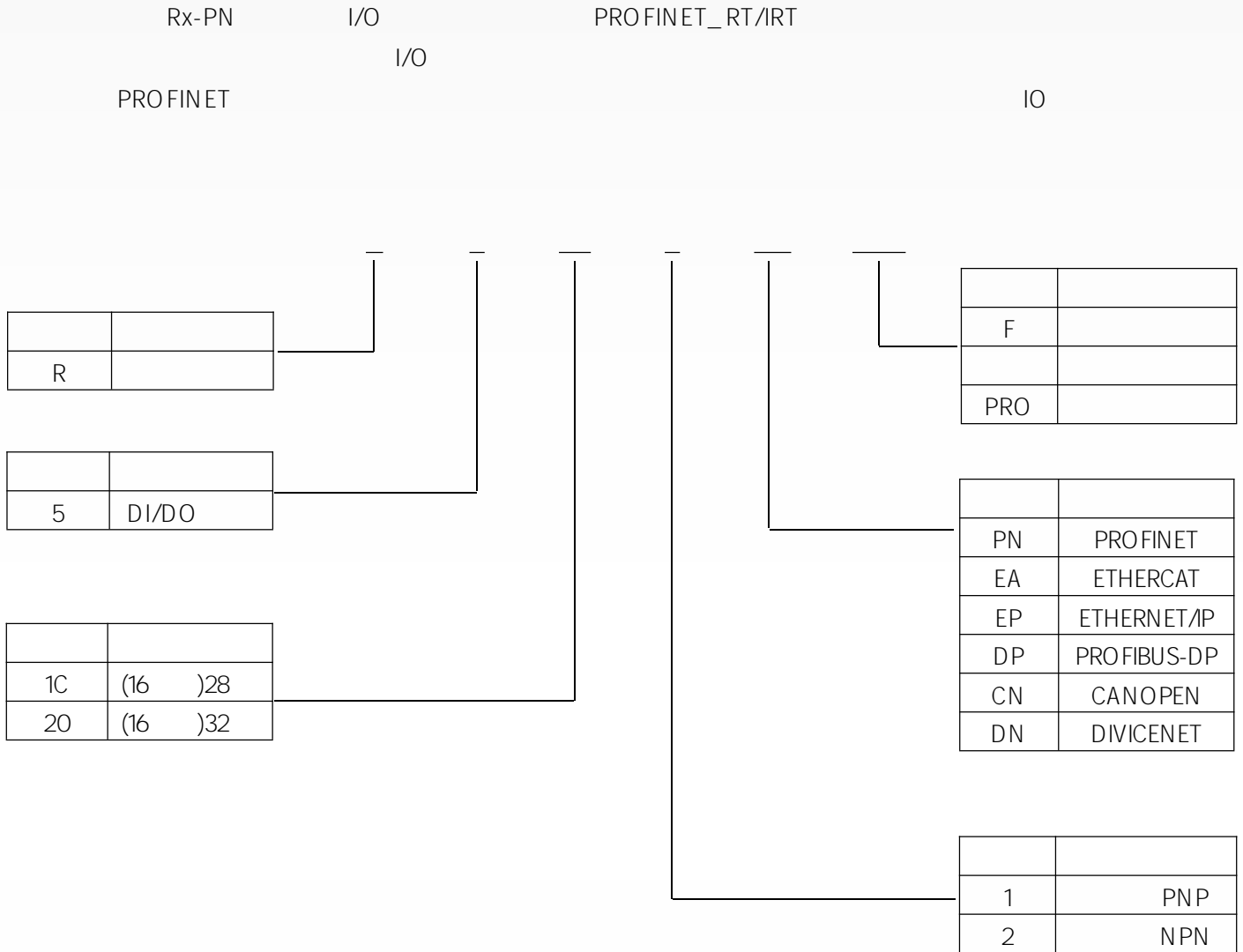
V1.00	2017.05.15	
V1.10	2017.07.15	R51C1-PN-Pro IO
V2.21	2021.06.08	

IEC11631-22007 Programmable controllers –Part 2:Equipment requirements and tests

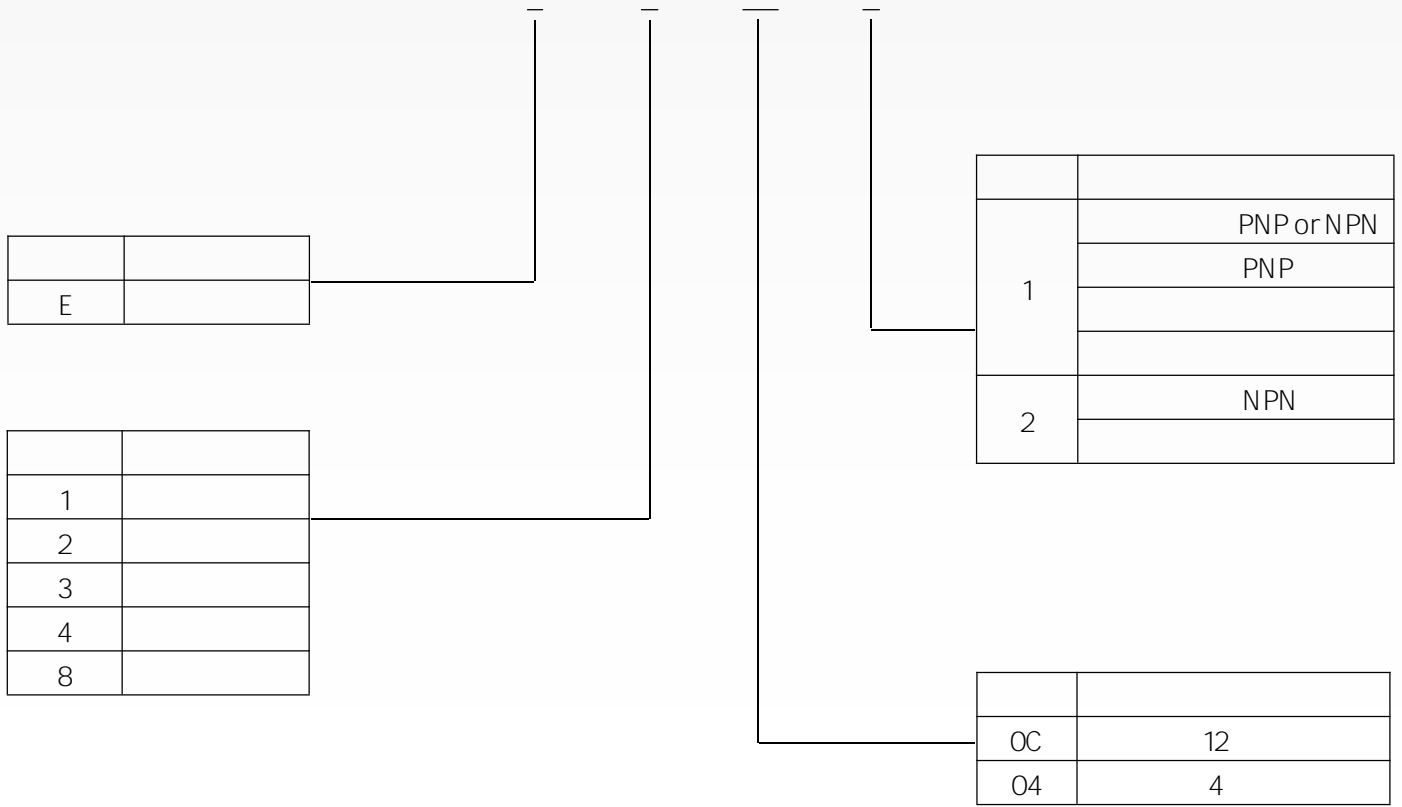
IEC/TR 61158 -

IEC61784-1 -

PNO -7.352, *PROFINET IO Device Integration, Guideline for PROFINET, Version 1.0, October 2014, PROFIBUS & PROFINET International, Order Number 7.352*



1	R51C1-PN/F	16DI	12DQ	PNP	IO	PROFINET	I/O
2	R51C1-PN/PRO	16DI	12DQ	PNP		PROFINET	I/O
3	R51C2-PN/F	16DI	12DQ	NPN	IO	PROFINET	I/O
4	R51C2-PN/PRO	16DI	12DQ	NPN		PROFINET	I/O



1	E10C1	12DI /
2	E20C1	12DQ PNP
3	E20C2	12DQ NPN
4	E3041	12BIT 4
4	E4041	12BIT 4
5	E8041	4
6	E8042	4

R51C1-PN/F R51C1-PN/Pro

DI 3

1		16
2		2 bytes
3	Ton	Type. 18uS / Max. 35uS
4	Toff	Type. 135uS / Max. 250uS
5		
6		
7		24 V DC (-15 %/+ 20 %), (IEC 61131-2, type 2)
8	"0"	-3...+5 V (IEC 61131-2, type 2)
9	"1"	15...30 V (IEC 61131-2, type 2)
10		Typ. 10mA/Ch (IEC 61131-2, type 2)
11		/ 500V DC

MOSFET DQ 4

1		12
2		2 bytes
3	Ton	Type. 12uS / Max. 25uS
4	Toff	Type.



PROFINET

5

1		PROFINET RT IRT IEC 61158 Type3
2		10/100 Mbaud
3		RJ45 IEEE 802.xx)
5		MAC
6		CAT5e
7	PROFINET	(MRP)
8		IEC61000-4-2 1500V DC

R51C1-PN /F

R51C1-PN /Pro

1		DC 5V
2		1.5A
3		7

3

MOSFET

3

24V DC (-15 %/+ 20 %) 0.5A

I/O

500V DC

24V DC (-15 %/+ 20 %) 16*10mA I/O

500V DC

MOSFET

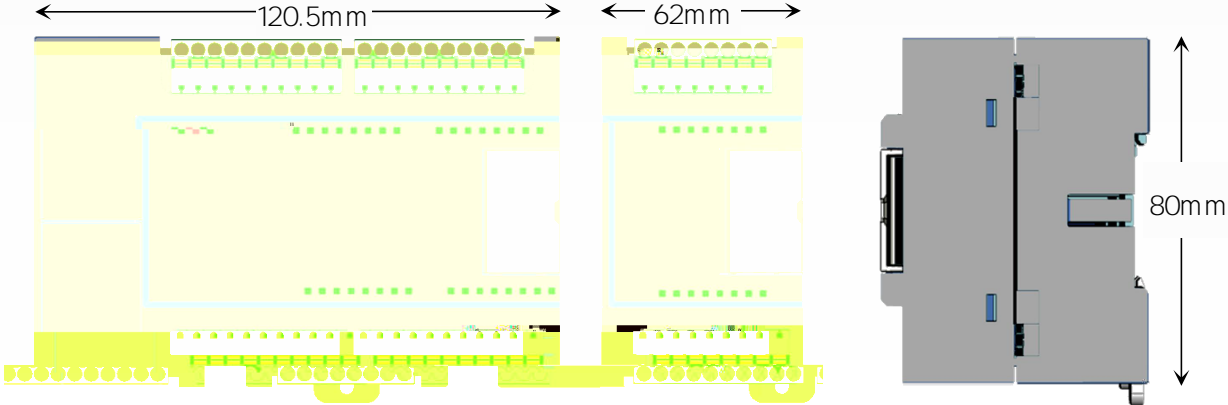
24V DC (-15 %/+ 20 %) 8*0.5A

I/O

500V DC



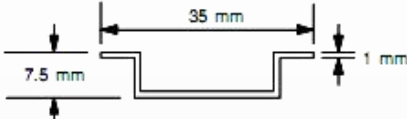
h=5.5mm IP20



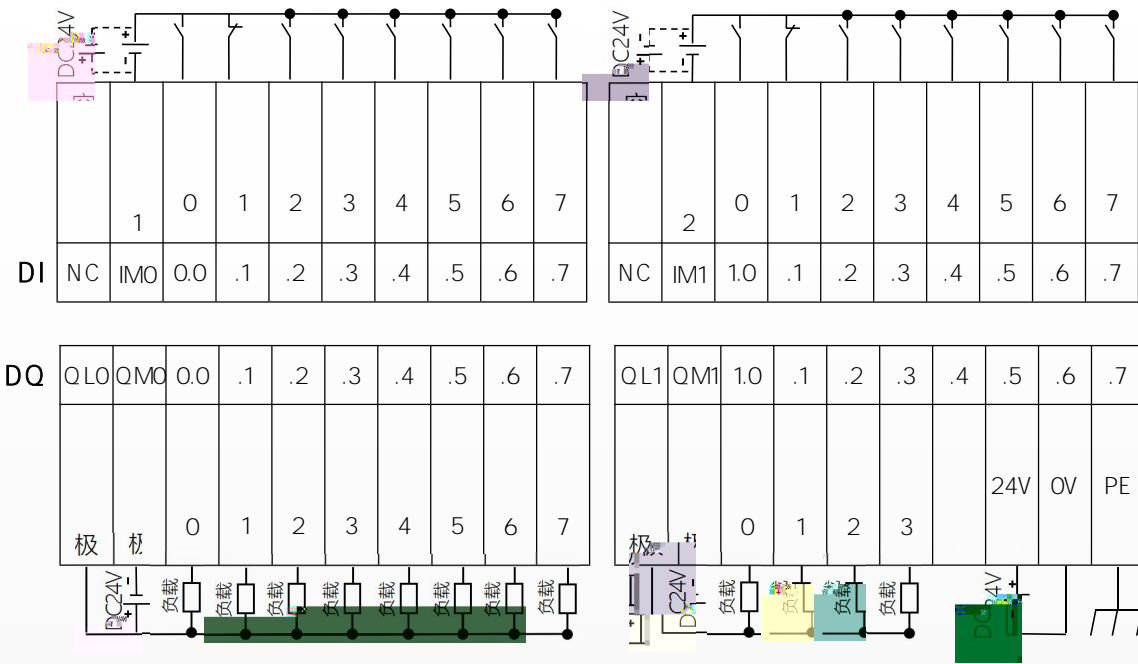
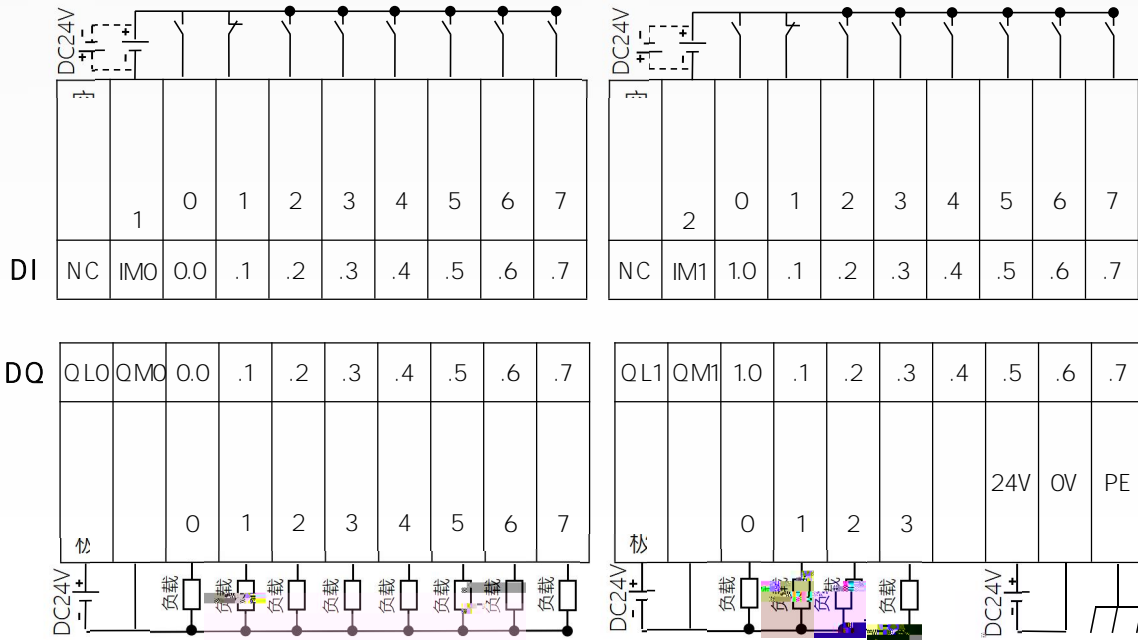
2

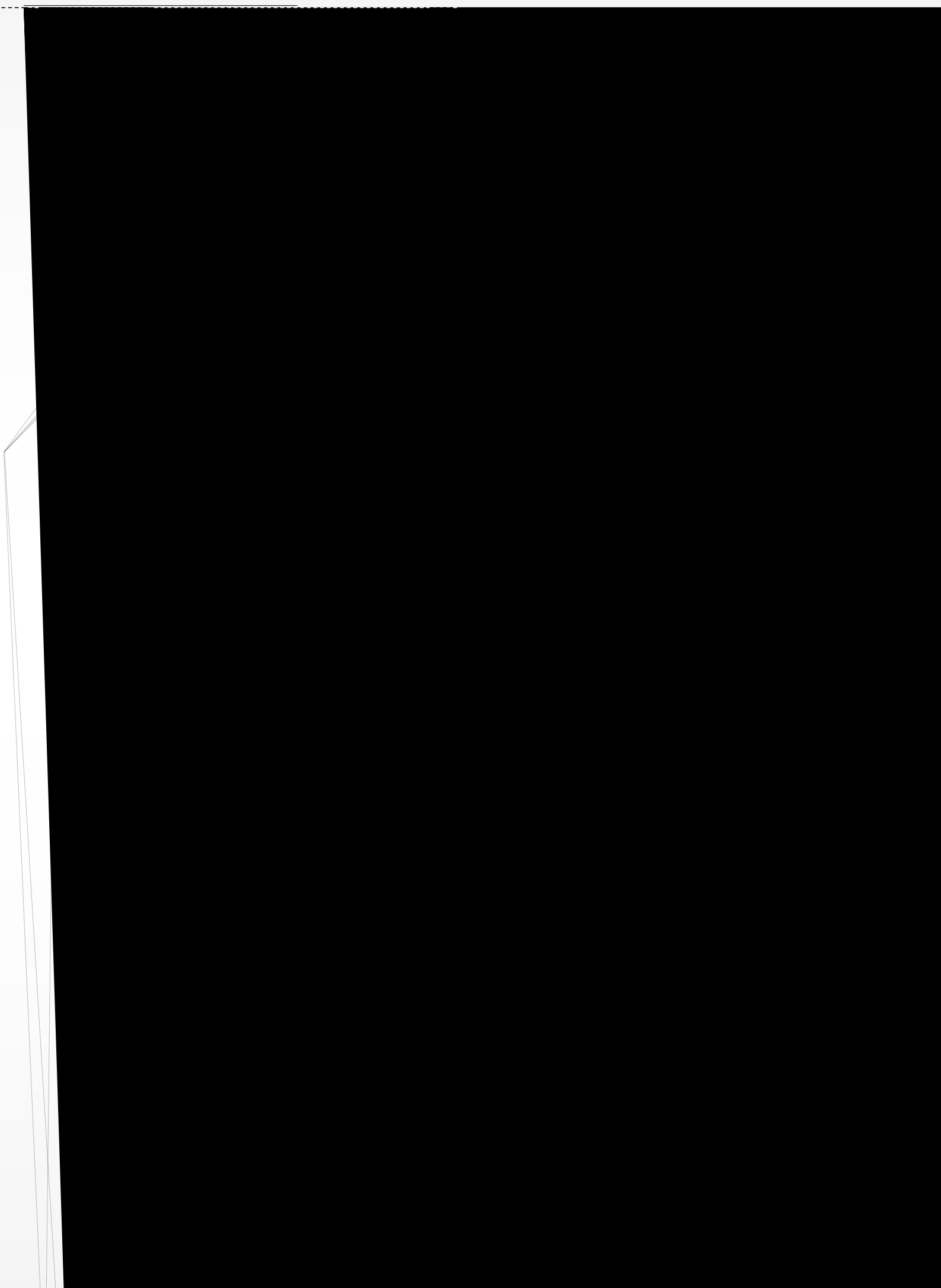
DIN

75 mm
25 mm
TS35/7.5

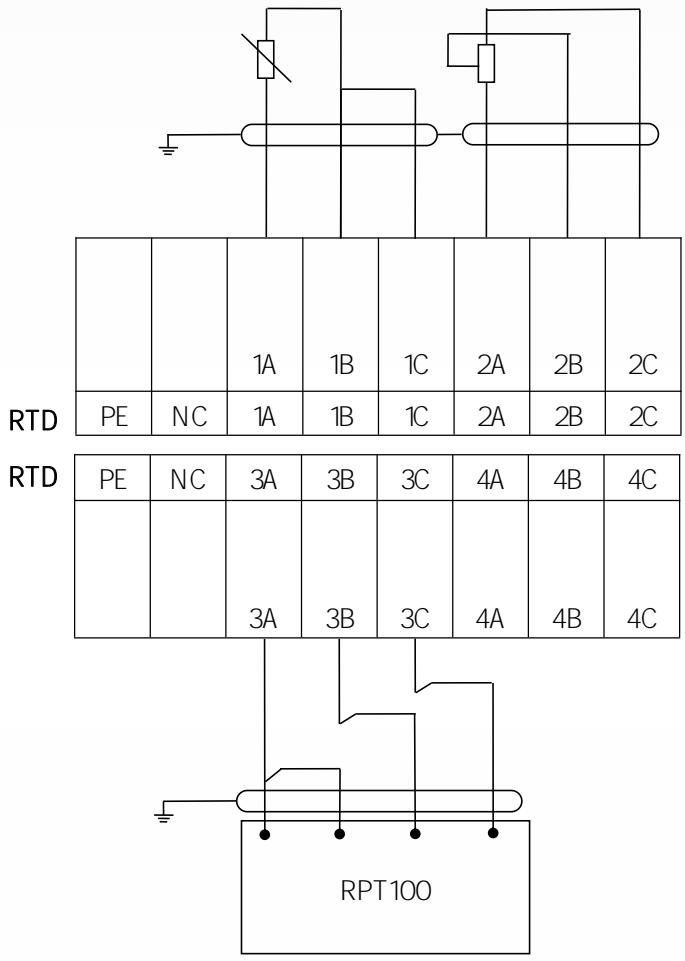


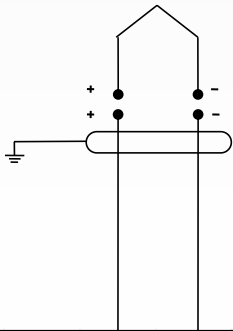








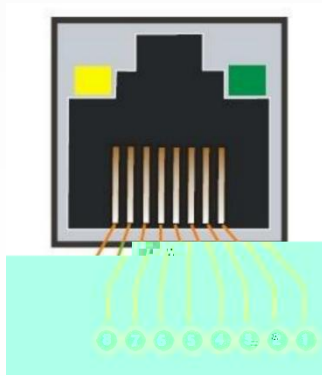




		1A	1B		2A	2B		
TC	PE	NC	1A	1B	NC	2A	2B	NC

		3A	3B		4A	4B		
TC	PE	NC	3A	3B	NC	4A	4B	NC
			3A	3B		4A	4B	

RJ45

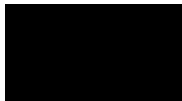
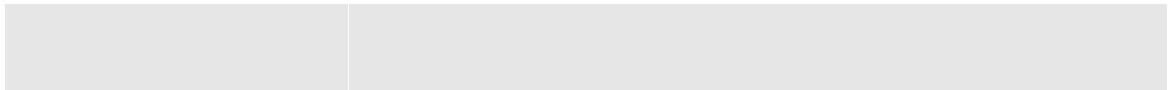


LED

3

I/O

RJ45



RJ45

IMO ^(*)	DI 1	IM1 ^(*)	DI 2
0	DI-0.0	0	DI-1.0
1	DI-0.1	1	DI-1.1
2	DI-0.2	2	DI-1.2
3	DI-0.3	3	DI-1.3
4	DI-0.4	4	DI-1.4
5	DI-0.5	5	DI-1.5
6	DI-0.6	6	DI-1.6
7	DI-0.7	7	DI-1.7

* M1 M2

10P

12

16P

0.5A

QLO ^(*)	DQ	QL1 ^(*)	DQ
QMO ^(*)	DQ	QM1 ^(*)	DQ
0	DQ-0.0	0	DQ-0.0
1	DQ -0.1	1	DQ -0.1
2	DQ -0.2	2	DQ -0.2
3	DQ -0.3	3	DQ -0.3
4	DQ -0.4		
5	DQ -0.5		
6	DQ -0.6		
7	DQ -0.7		

* QLO/QMO QL1/QM1

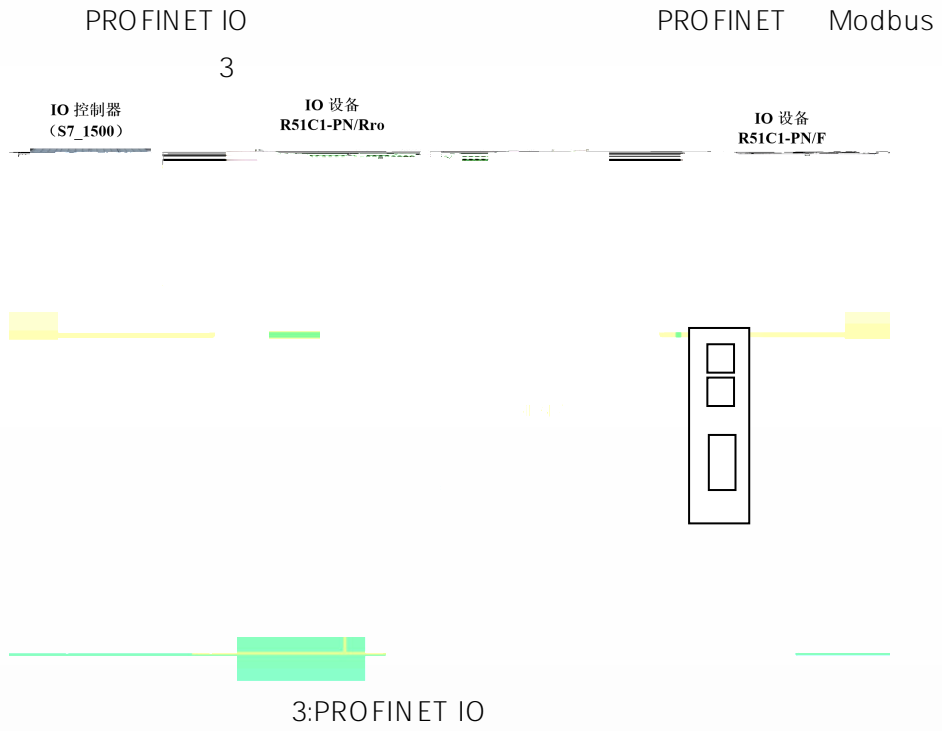
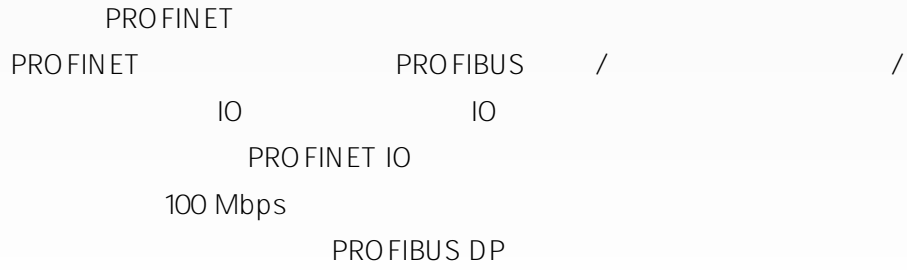
DQ

24V



PROFINET IO

PROFINET



R51C1-PN/F R51C1-PN/Pro DI/DQ

- 16 2 In
- 12 2 Out
-

模块	...	机架	插槽	I 地址	Q 地址	类型
▼ R51C1-PN		0	0			V0.0
▶ Interface		0	0 X1			R51C1-PN
Base_IO_1		0	1	1...2	1...2	Base_IO

- E10C1 12 2 In
- E20C1 12 2 Out
- E3041 4 2 8 In
- E4041 4 2 8 Out

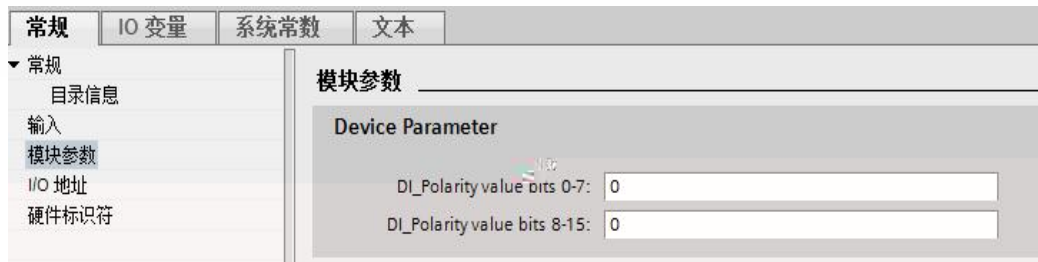
6

▼ R51C1-PN		0	0			V0.0
▶ Interface		0	0 X1			R51C1-PN
Base_IO_1		0	1	1...2	1...2	Base_IO

TIA Portal V13

6

2

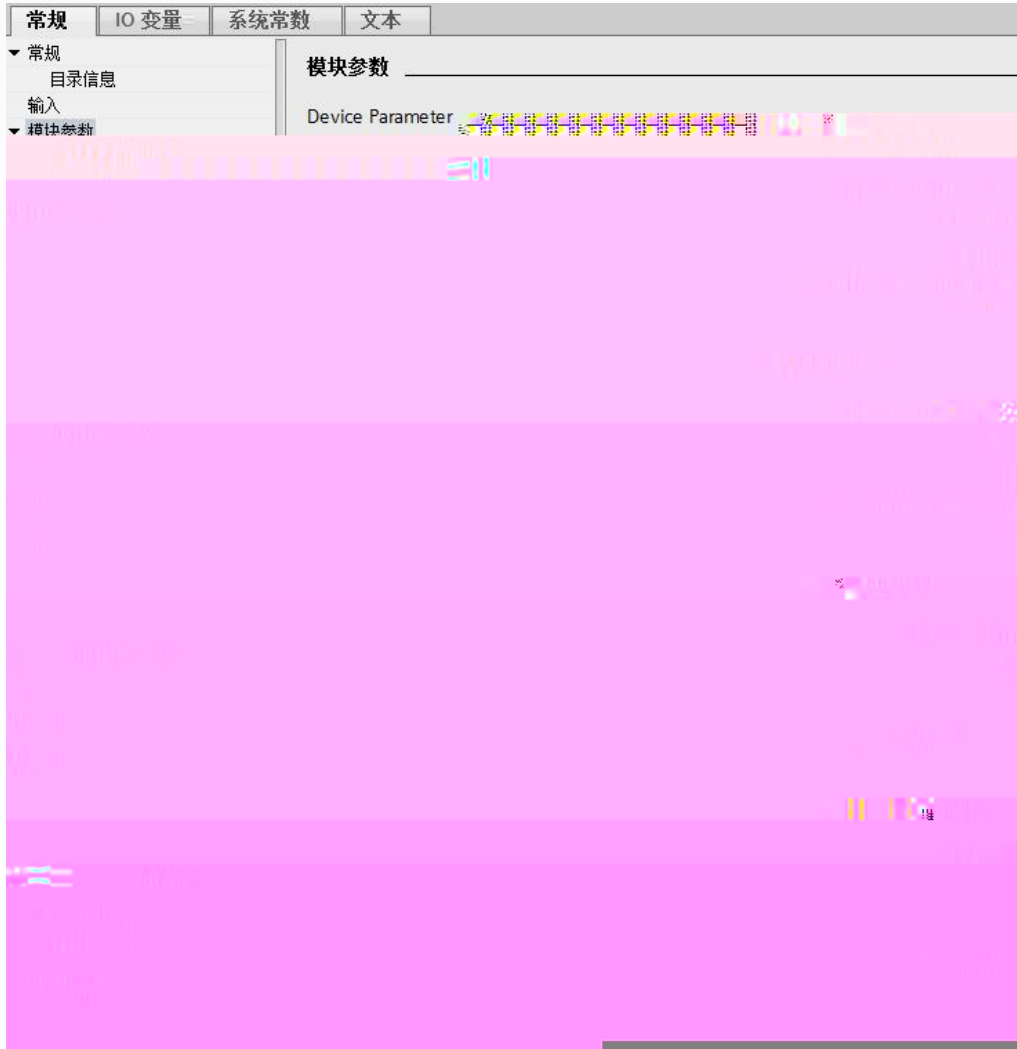


DI_ Polarity 0..7	DI[7..0]		0~ 255	DI-0.0	Bit0 bit "1"	"0"
DI_ Polarity 8..15	DI[15..8]		0~ 255	Polarity[7..0] 0100B	"4" "DI-0.2"	0000



8

4





	16bit			16bit				
12bit ADC	4bit		"0"					
	-/+ 10V	-/+ 5V	-/+ 2.5V	0-10V	0-5V	-/+ 20Ma	0-20Ma	4-20Ma
	32000	32000	32000	65520	65520	32000	32000	32000
0	0	0						

CHx_Sensor_type			"PT100" "PT10" "PT1000" "CU50" "Disable" PT100	Disable
CHx_Offset			0-65536 0	
CHx_Gain			0-65536 1000	
CHx_AverageNum			0-255 20	$V_r = V_o * \frac{\text{Gain}}{1000} + \text{Offset}$ $V_o = \frac{V_r}{\text{Gain}}$

16bit

16bit

12bit ADC

4bit

"0"

E8042 12BIT

CH1_Output_Range "PT100"

CH1_Offset 10 DEC

CH1_Gain 2000 DEC

1 100

100 100

$$V_i = V_r * \text{Gain} / 1000 + \text{Offset}$$

210 DEC

D2 H

11

4

Device Parameter

TC Channel 1

CH1_Sensor_Type: TC_K

CH1_Offset: 0

CH1 Gain: 1000

Text_Gsd_PN_CH1_AverageNum
em: 10

TC Channel 2

CH2_Sensor_Type: TC_K

CH2_Offset: 0

CH2 Gain: 1000

CH2 AverageNum: 10

TC Channel 3

CH3_Sensor_Type: TC_K

CH3_Offset: 0

CH3 Gain: 1000

CH2 AverageNum: 10

TC Channel 4

CH4_Sensor_Type: TC_K

CH4_Offset: 0

CHx_Sensor_type			"TC_K" "TC_S" "TC_R" "TC_B" "TC_J" "TC_N" "TC_E" "TC_T" "Disable" TC_K	Disable
CHx_Offset			0-65536 0	$V_r = V_o * \text{Gain} / 1000 + \text{Offset}$ V_o V_r
CHx_Gain			0-65536 1000	
CHx_AverageNum			0-255 20	

19

16bit

16bit

12bit ADC

4bit

"0"

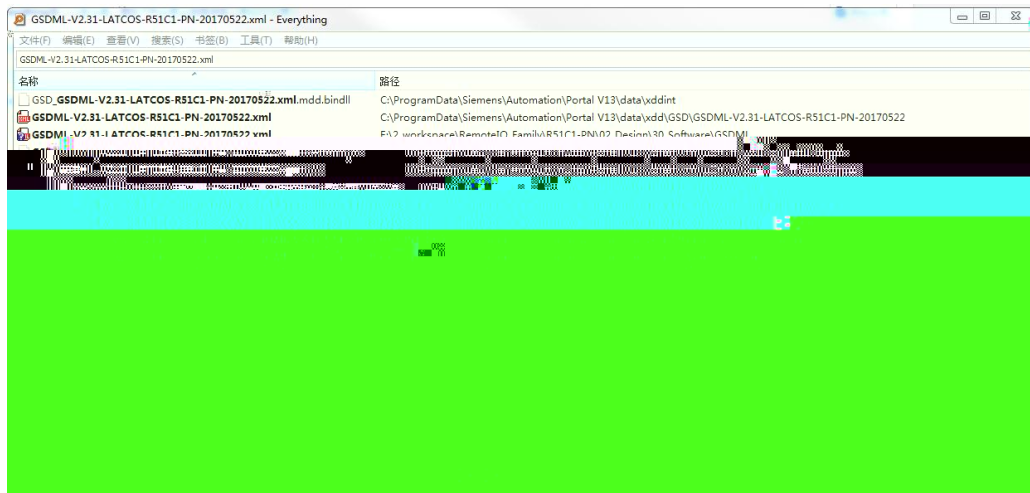
TIA Portal V13

GSD

Everything

- 1 Everything
- 2 TIA Portal V13
- 3 Everything

"GSDML-V2.31-LATCOS-R51C1-PN-20170522.xml"



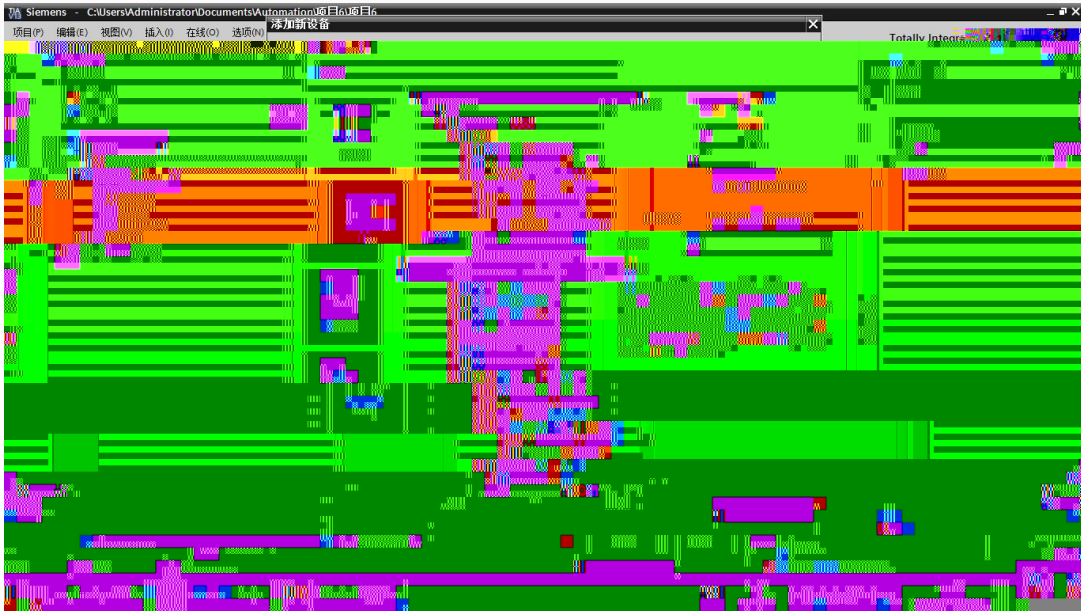
4 " "

" "

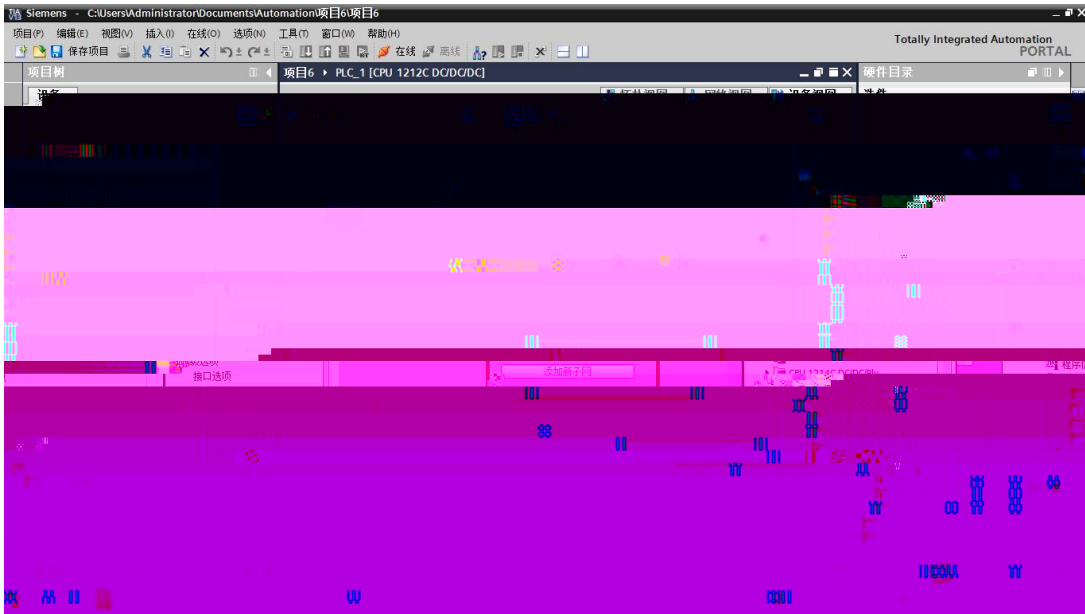
GSD

GSD

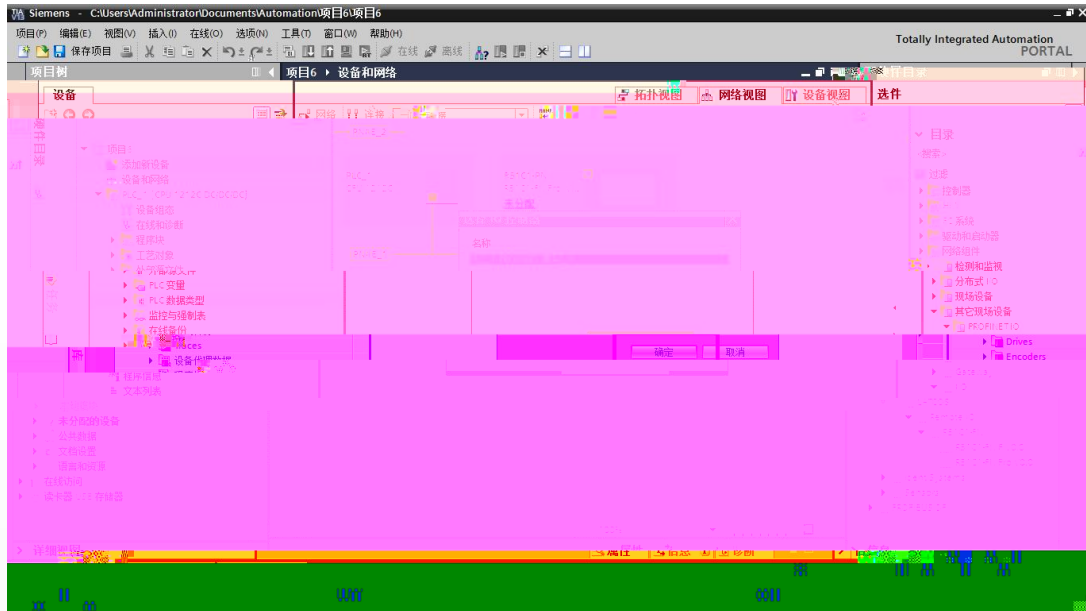
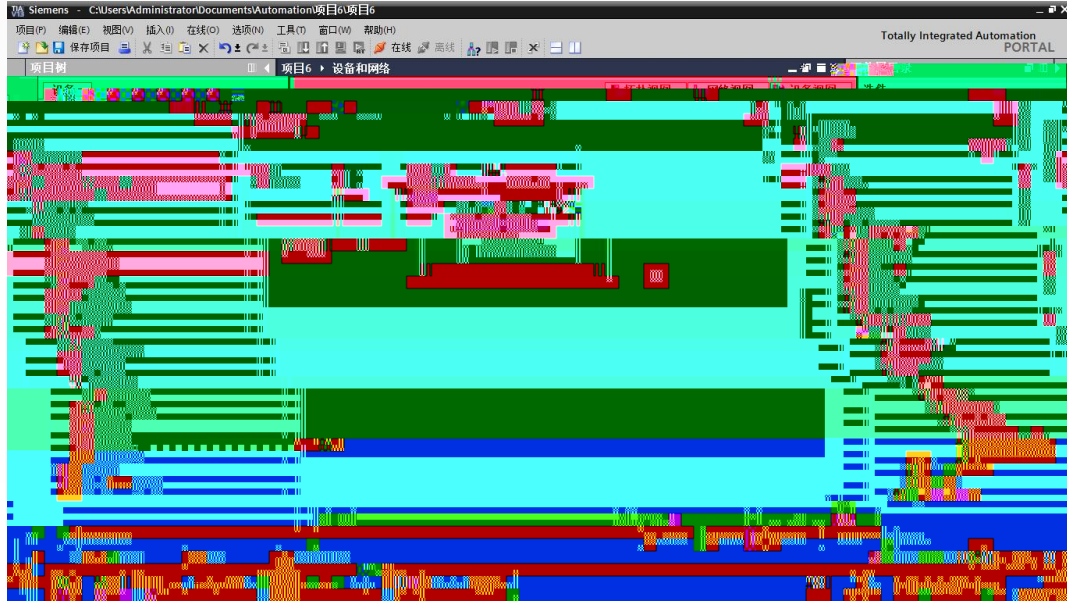
S7-1200 CPU SIMATIC S7-1200 1212C

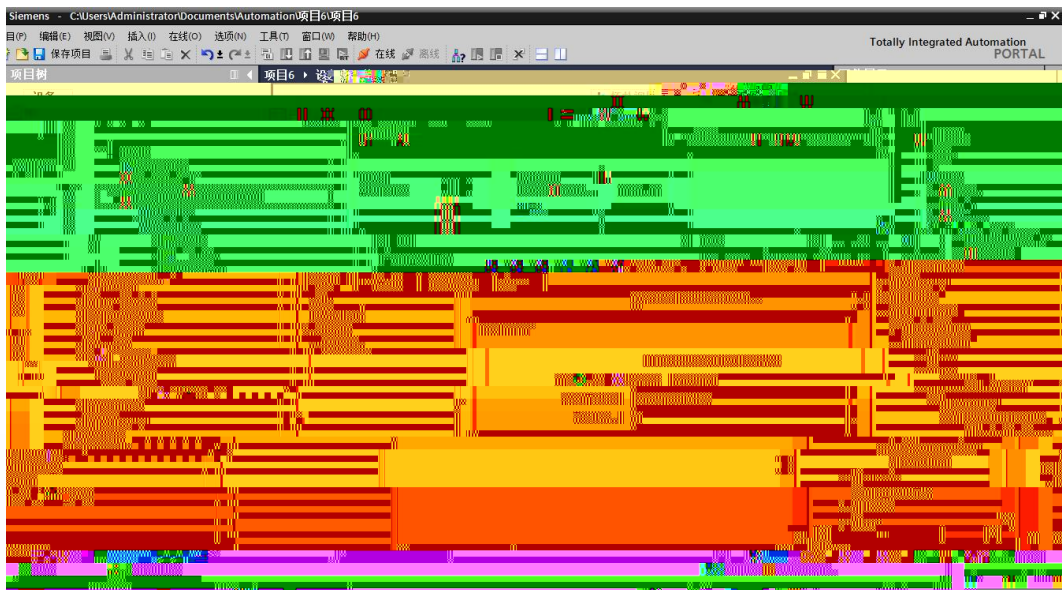
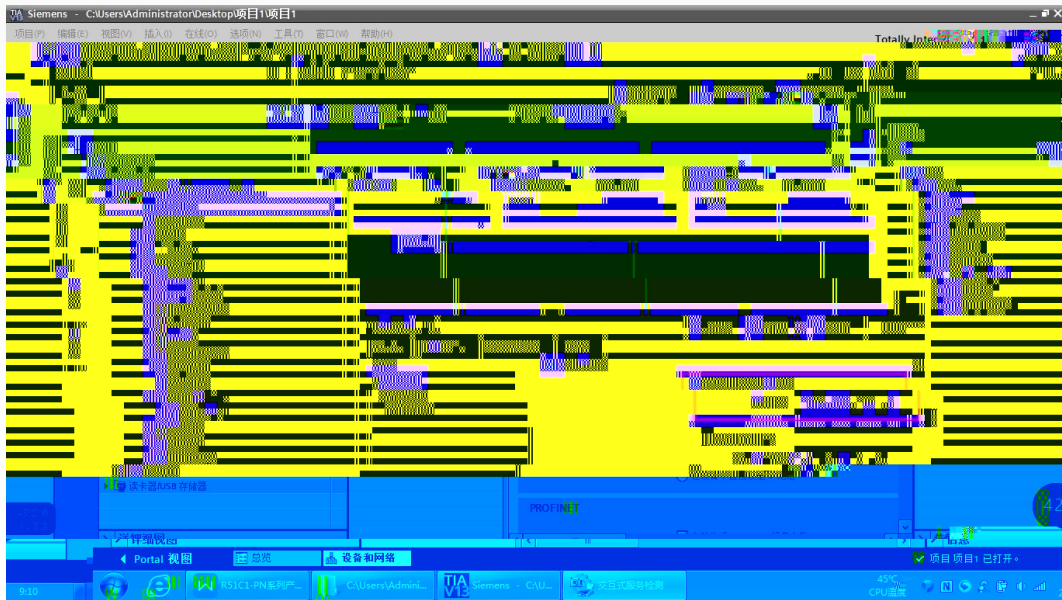


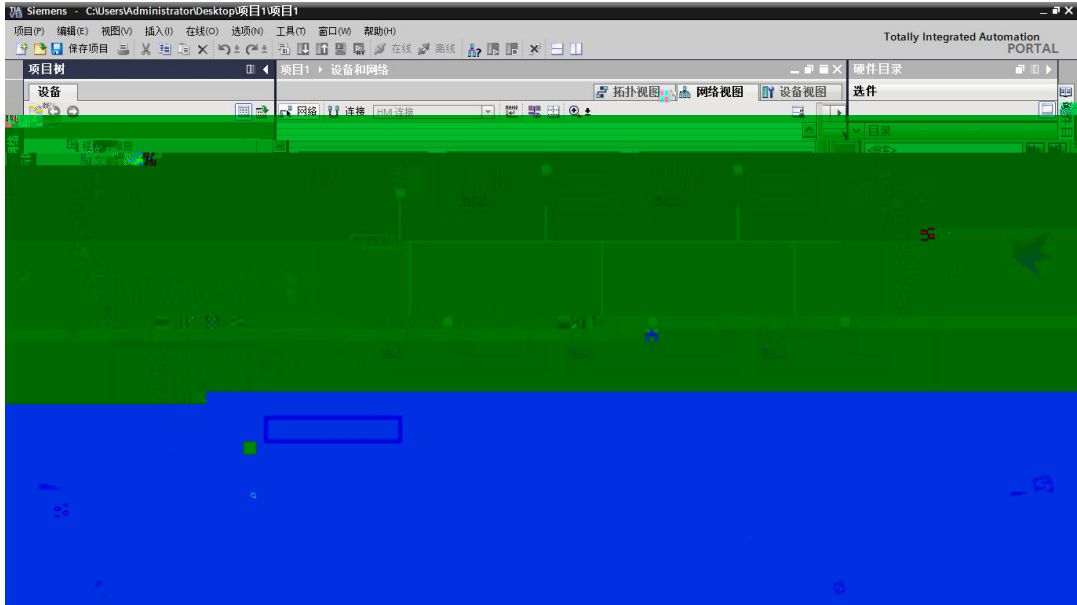
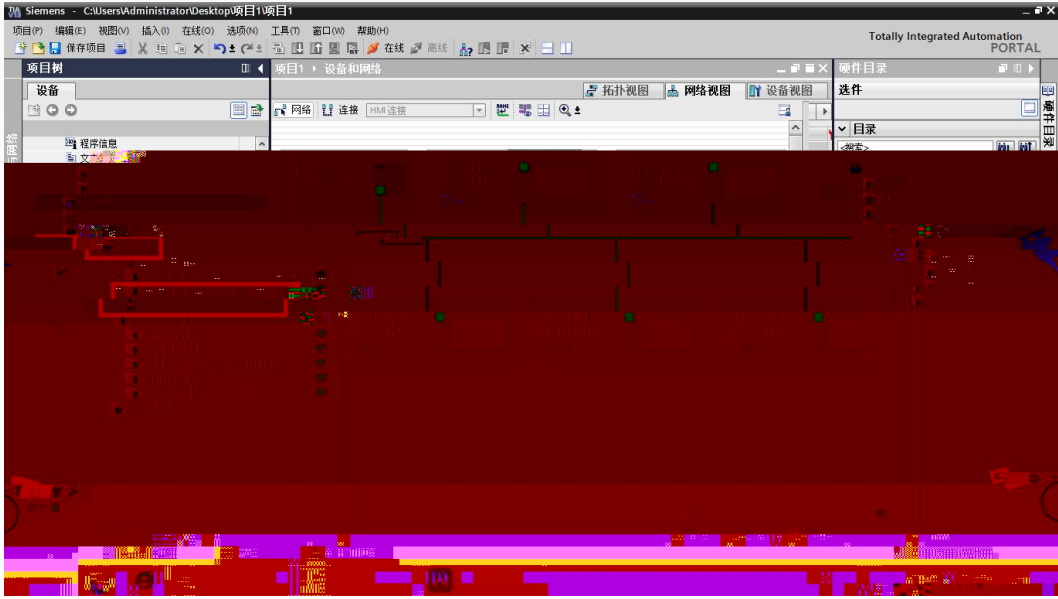
IP CPU 1200 192.168.10.11

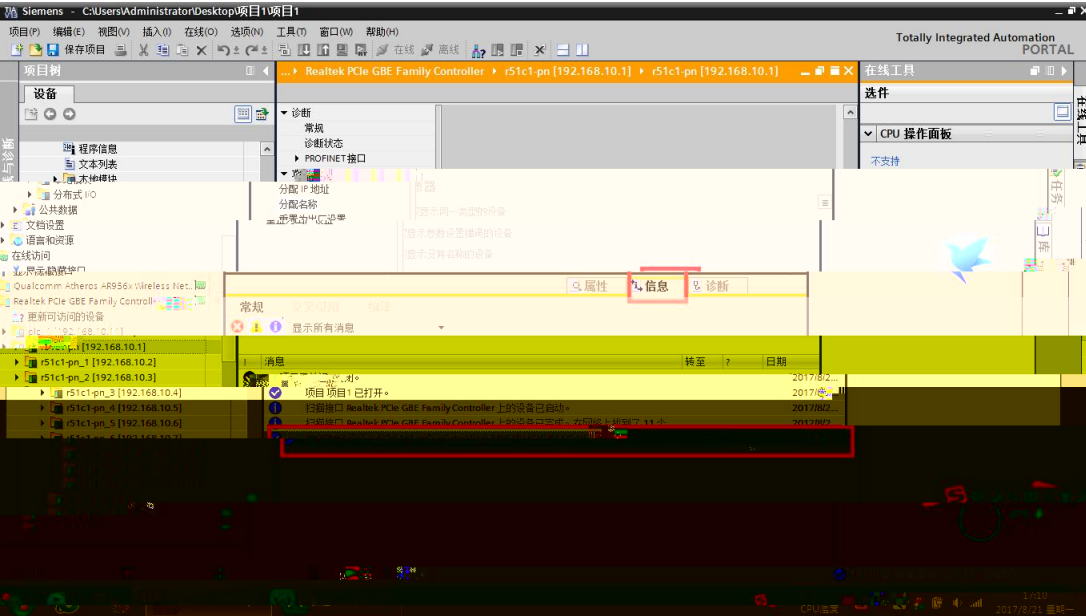
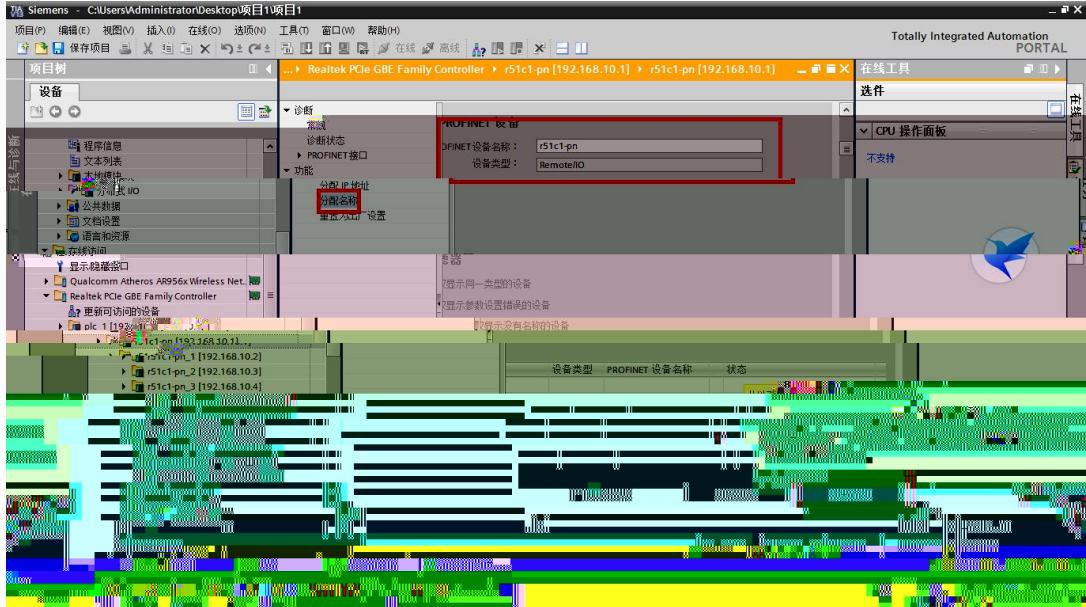


PROFINET IO IO /LATCOS/Remote/IO /R
51C1-PN/R51C1-PN /PRO V0.0 R51C1-PN/PRO V0.0
I/O .

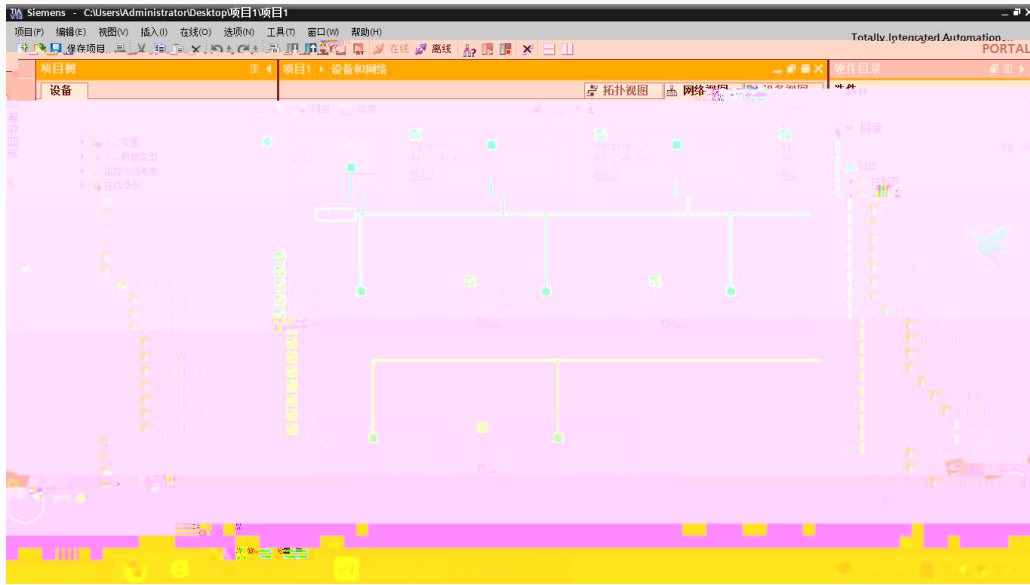




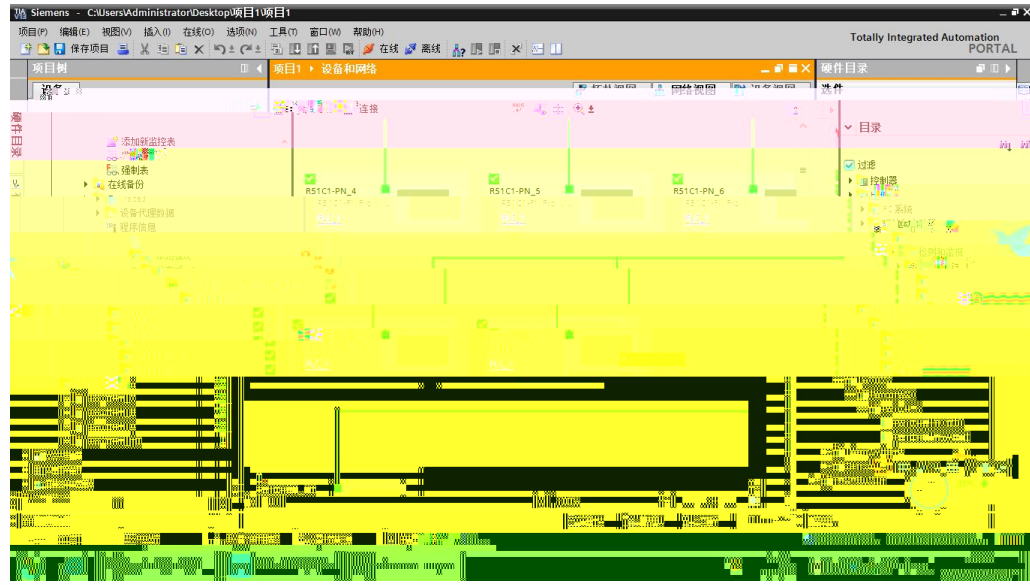




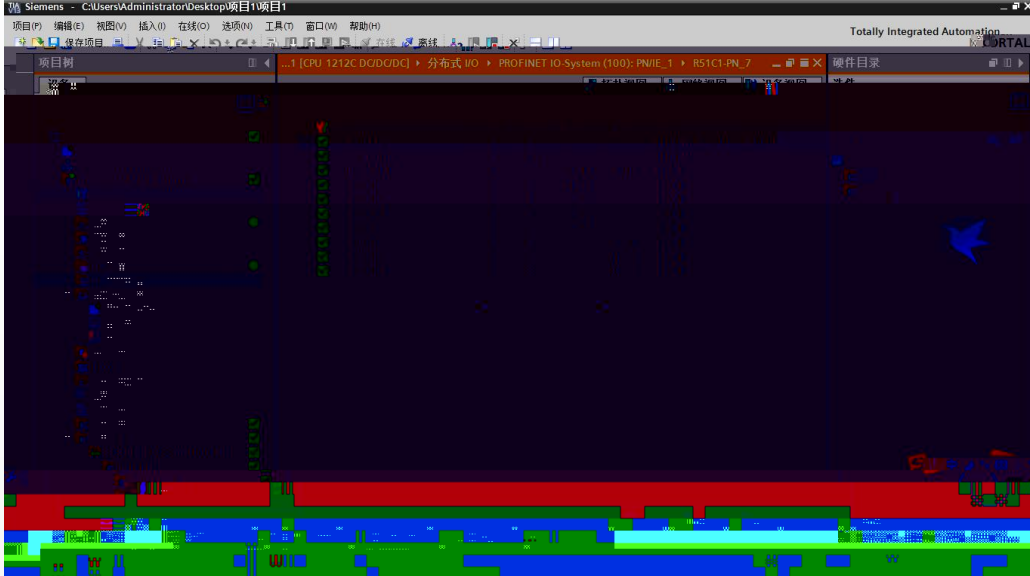
1200PLC RX IO 10 IO
7
IO 10 OK



IO 11



7 OK





凌科自控
LATCOS

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