

—Modbus

1

1.1

Modbus

1.2

Modbus

1.3

1.0

1.3.2

2 Modbus

2.1 MODBUS

Modbus 1979 Modicon ((Schneider))
Mod-Bus 1979 Modbus

2.2

Modbus OSI 7

MODBUS /

OSI

OSI

Modbus

2		TCP
1		232 485

2.3

Modbus

TCP/IP



Modbus-RTU

Modbus

CRC-16_Modbus



Modbus-ASCII

ASCII

LRC



Modbus-TCP

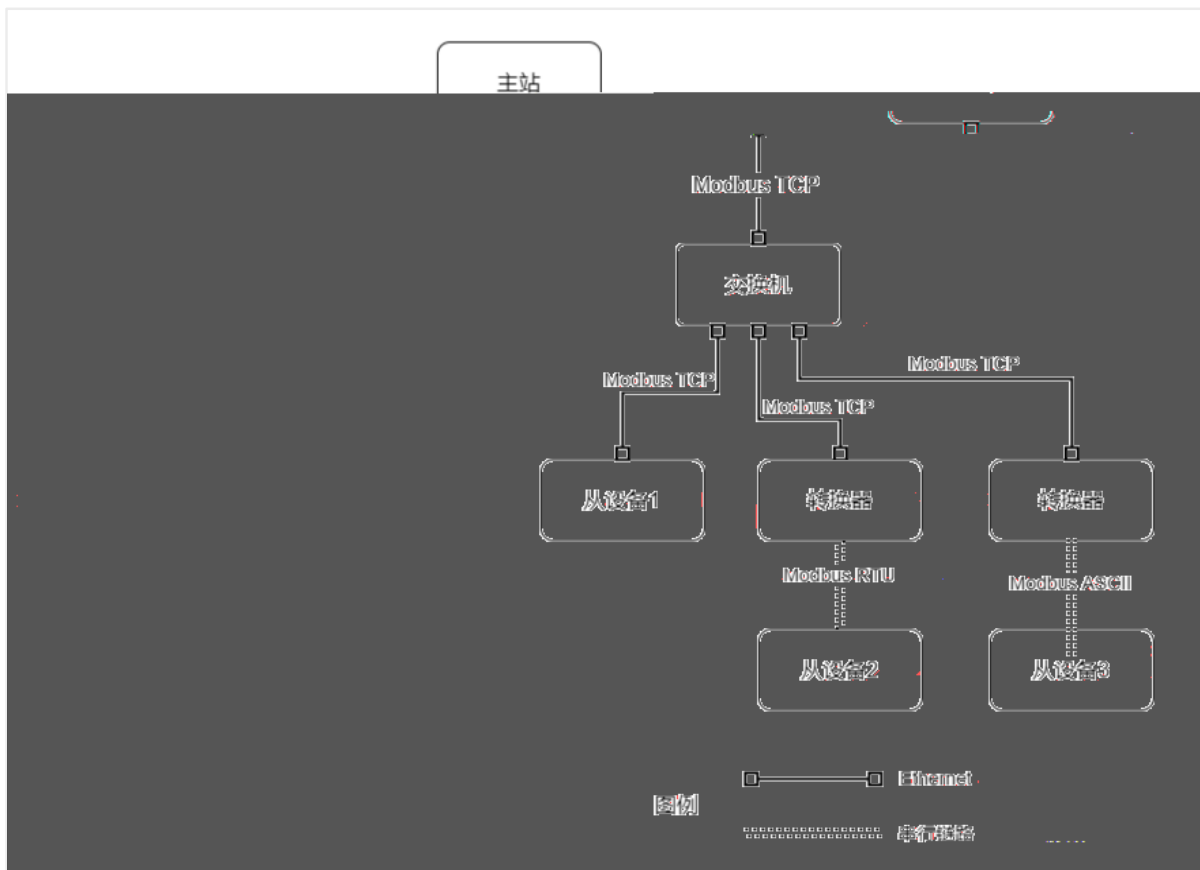
Modbus-TCP

TCP/IP

502

MBAP(

)+PDU()



2.4 Modbus-RTU

Modbus-RTU

3.5

Modbus-RTU

1.5

RTU

Data

ADU (Application Data Unit)	ADDRESS (Modbus Address)	SlaveID	1	
	PDU	Function code	1	

2.6

Modbus

			1	/	/
			1		/
			16	/	/
			16		/

2.7 Function code

Modbus

4 03())
04() 06() 16())
01() 02())
03() 04() 05() 06()
)

类型

读单个线圈寄存器	功能码
读单个线圈寄存器	01
读离散输入寄存器	02
读单个保持寄存器	03
读输入寄存器	04
写单个线圈寄存器	05
写单个保持寄存器	06

				Function Codes			
				code			
Read Discrete Inputs	02	02	6.2	Data Access	Bit access	Physical Discrete Inputs	Read Discrete Inputs
	01	01	6.1			Internal Bits Or Physical coils	Read Coils
	05	05	6.5		16 bits access	Physical Input Registers	Write Single Coil
	15	0F	6.11				Write Multiple Coils
Read Input Registers	04	04	6.4			Internal Registers Or Physical Output Registers	Read Input Registers
Read Holding Registers	03	03	6.3			Read Holding Registers	
Write Single Register	06	06	6.6			Write Single Register	
Write Multiple Registers	16	10	6.12			Write Multiple Registers	
Read/Write Multiple Registers	23	17	6.17			Read/Write Multiple Registers	
Mask Write Register	22	16	6.16			Mask Write Register	
Read FIFO queue	24	18	6.18	Read FIFO queue			
Read File record	20	14	6.14	File record access	Read File record		
Write File record	21	15	6.15		Write File record		

3

Modbus

Modbus

3.1

Modbus

modbus

io

3.2

io

3.3

Modbus

-

IP

IP

2

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0

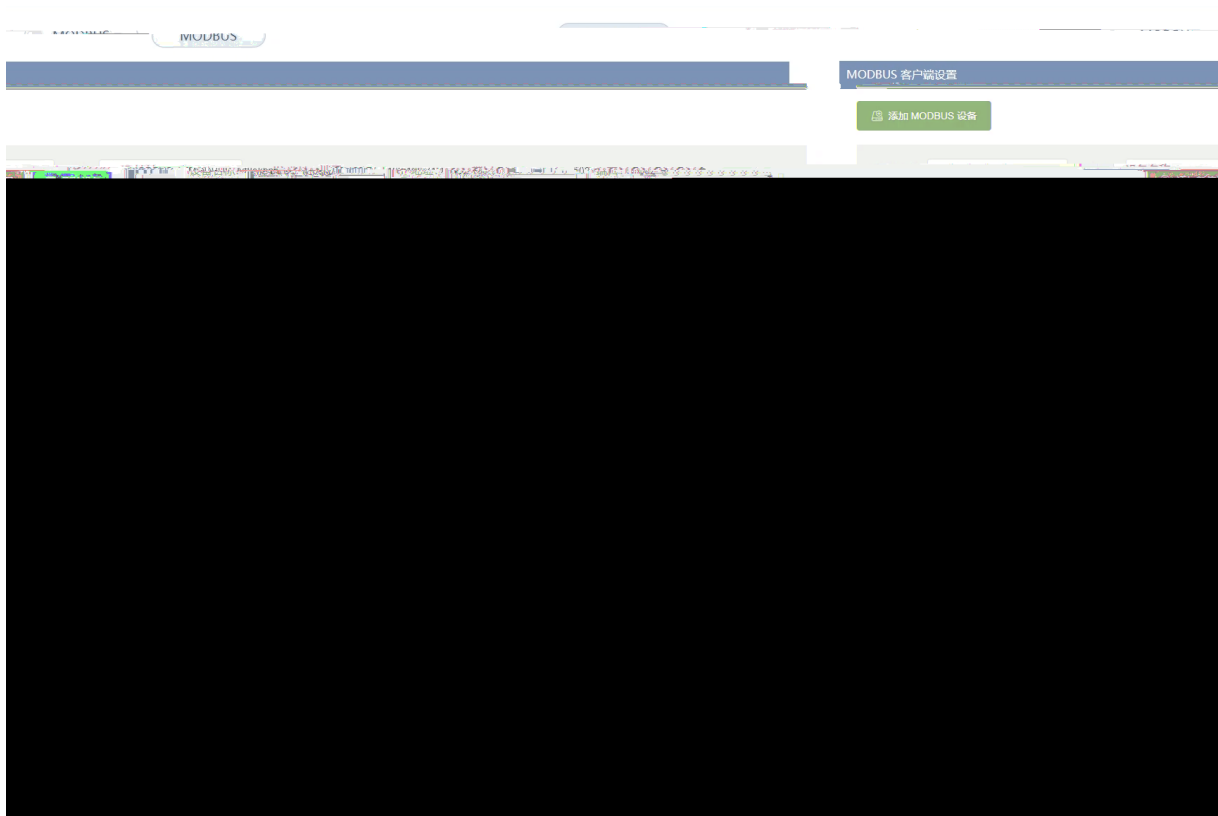
MODBUS

0

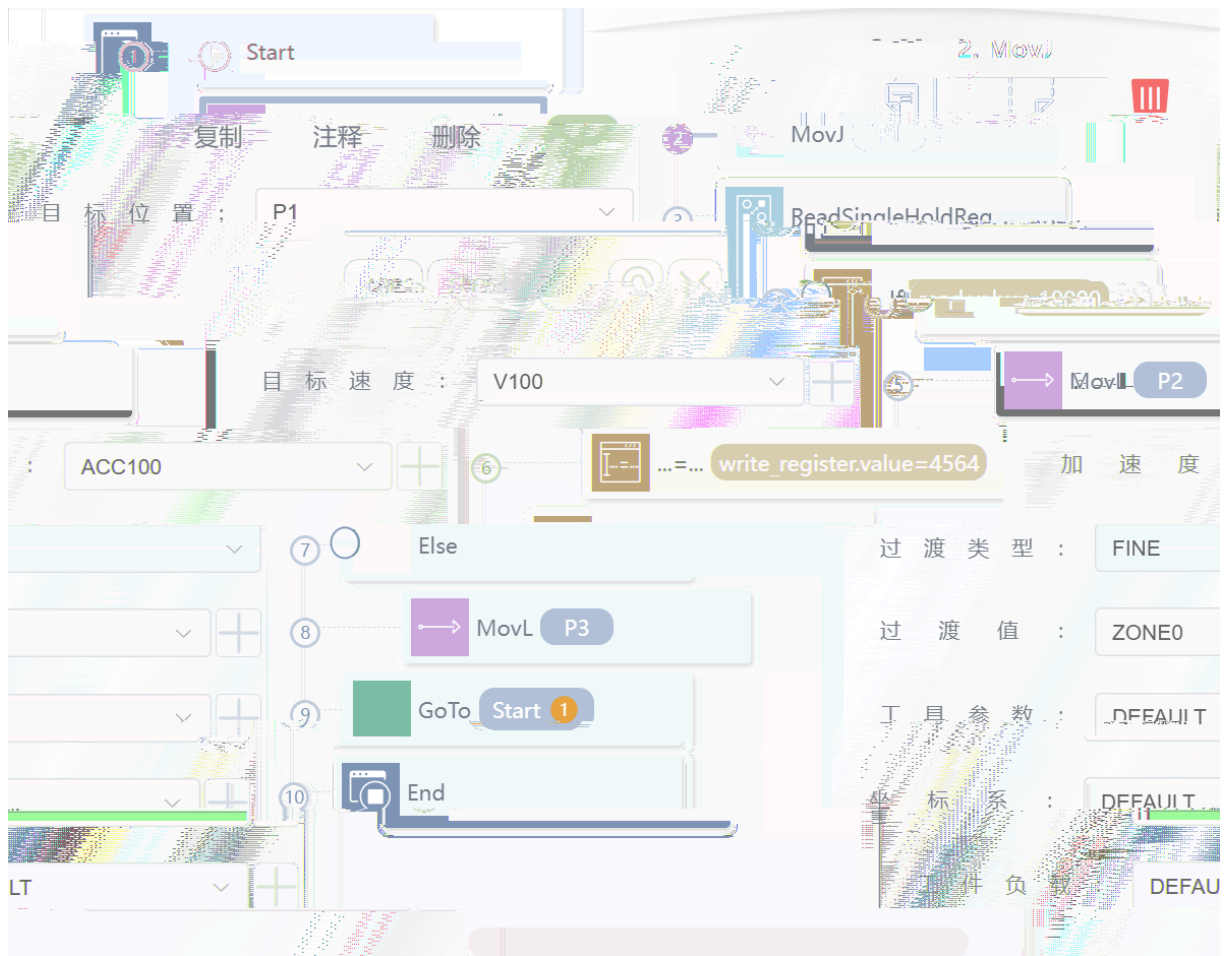
Modbus

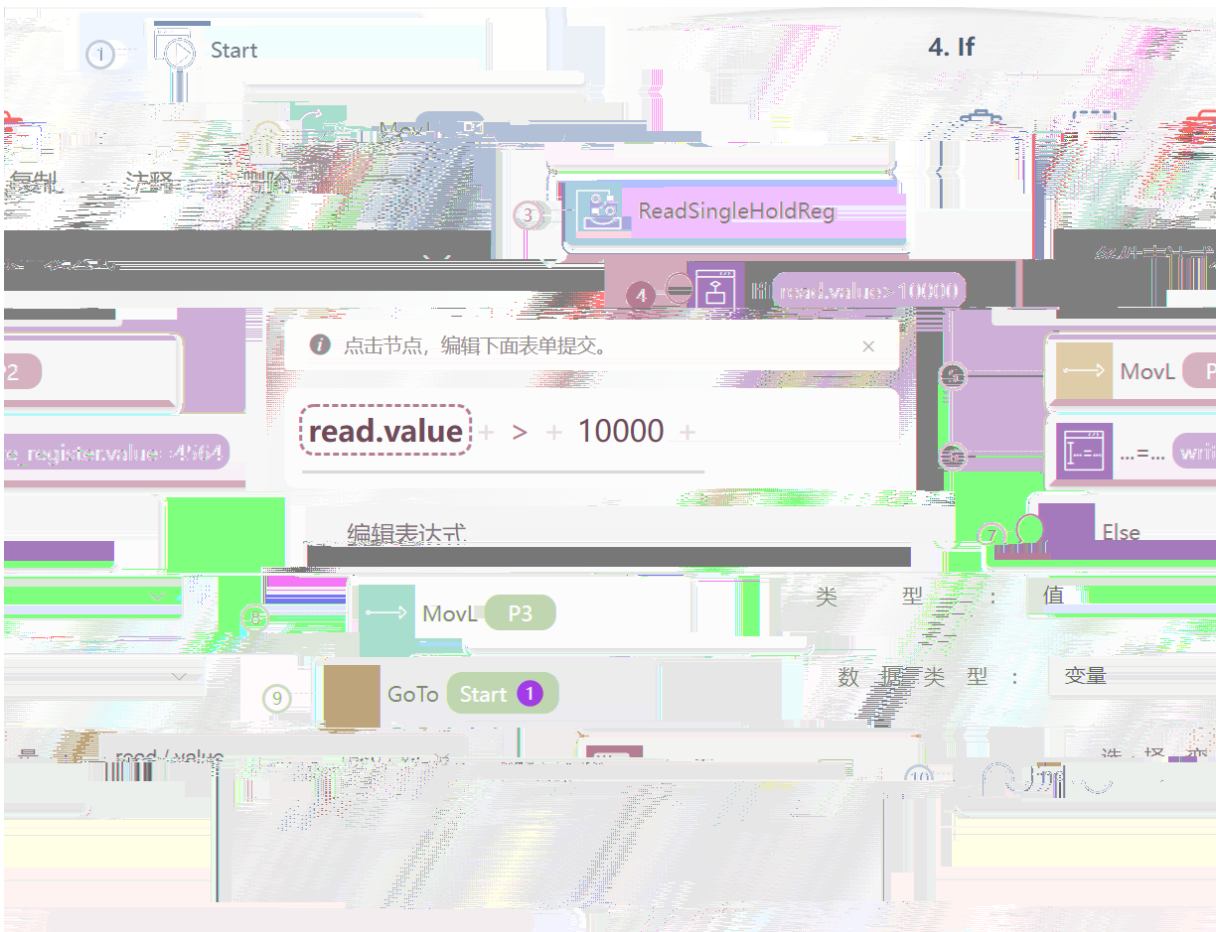
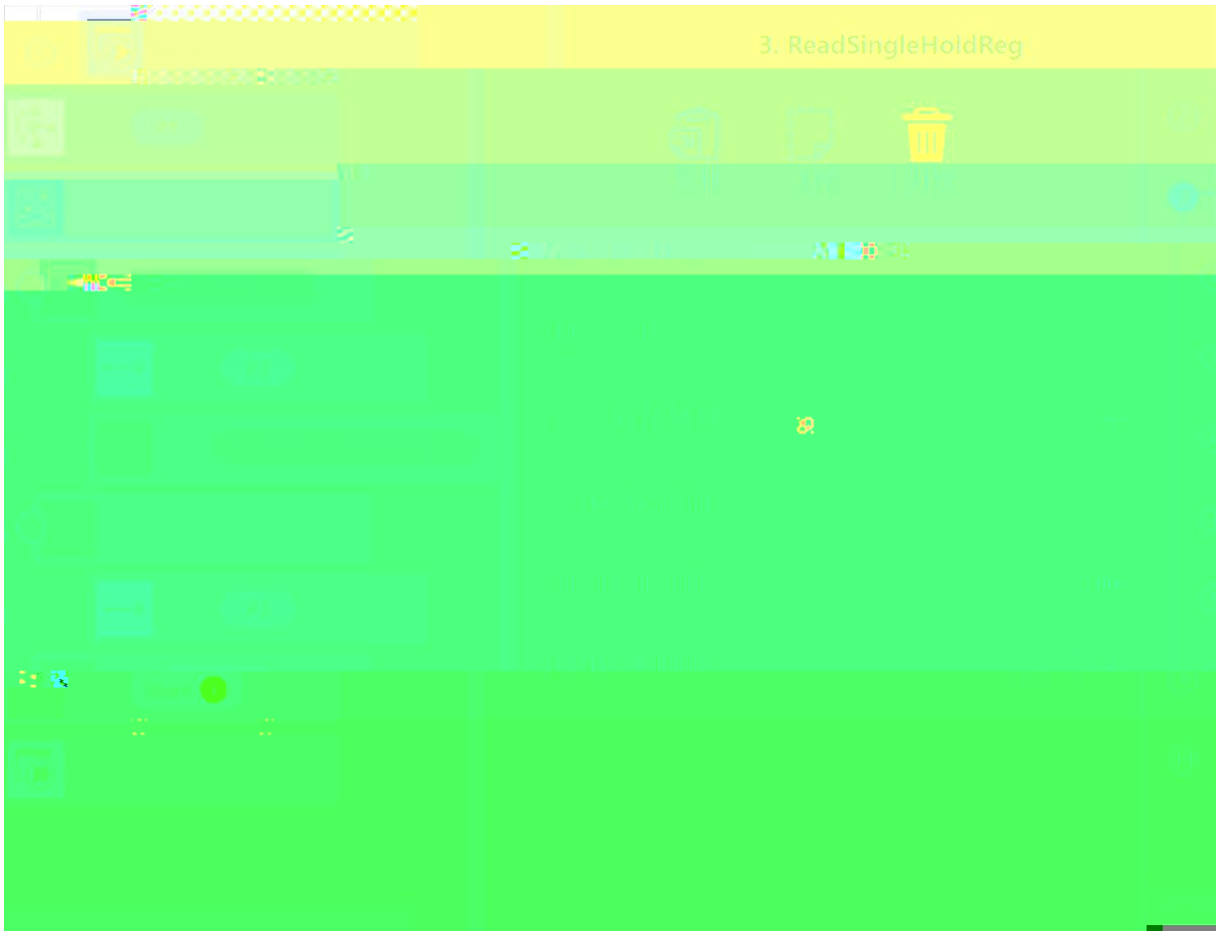
0

10



3.4



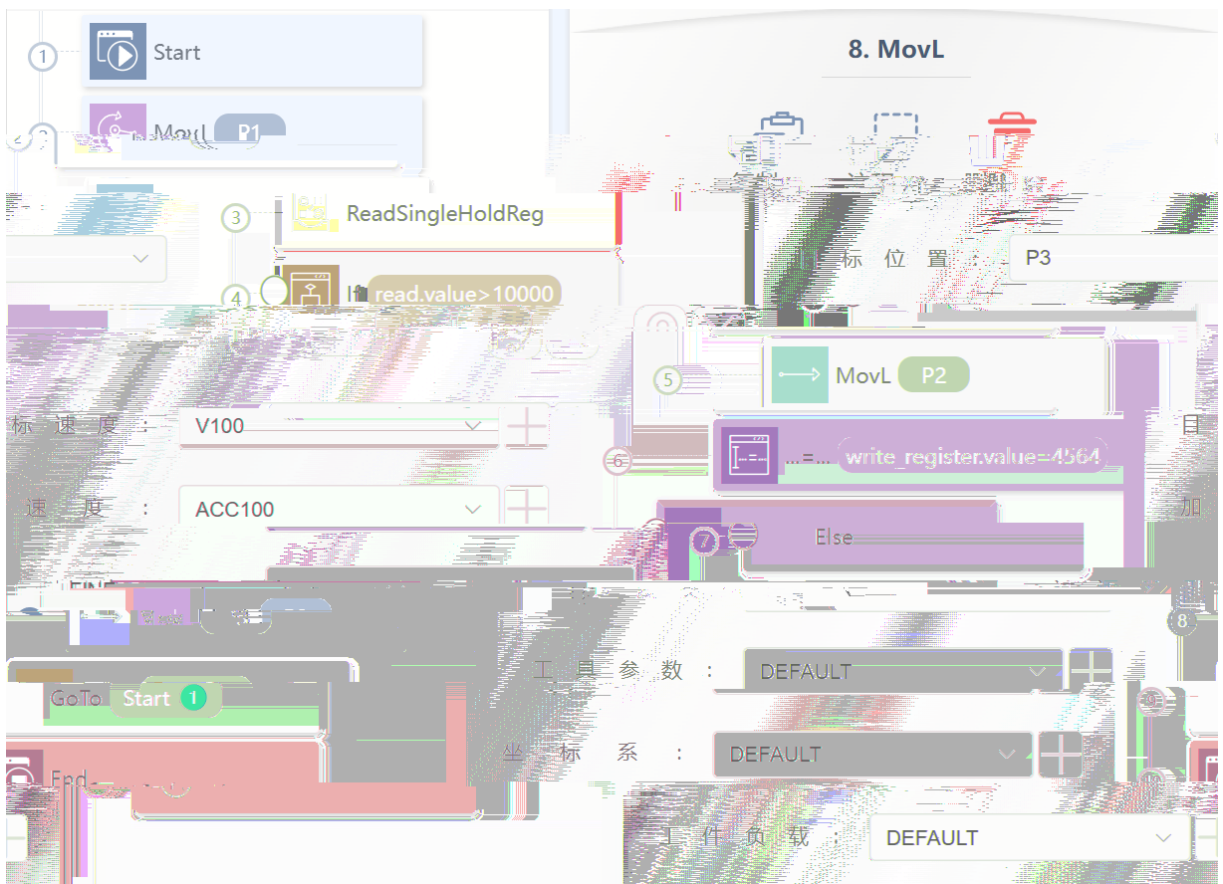
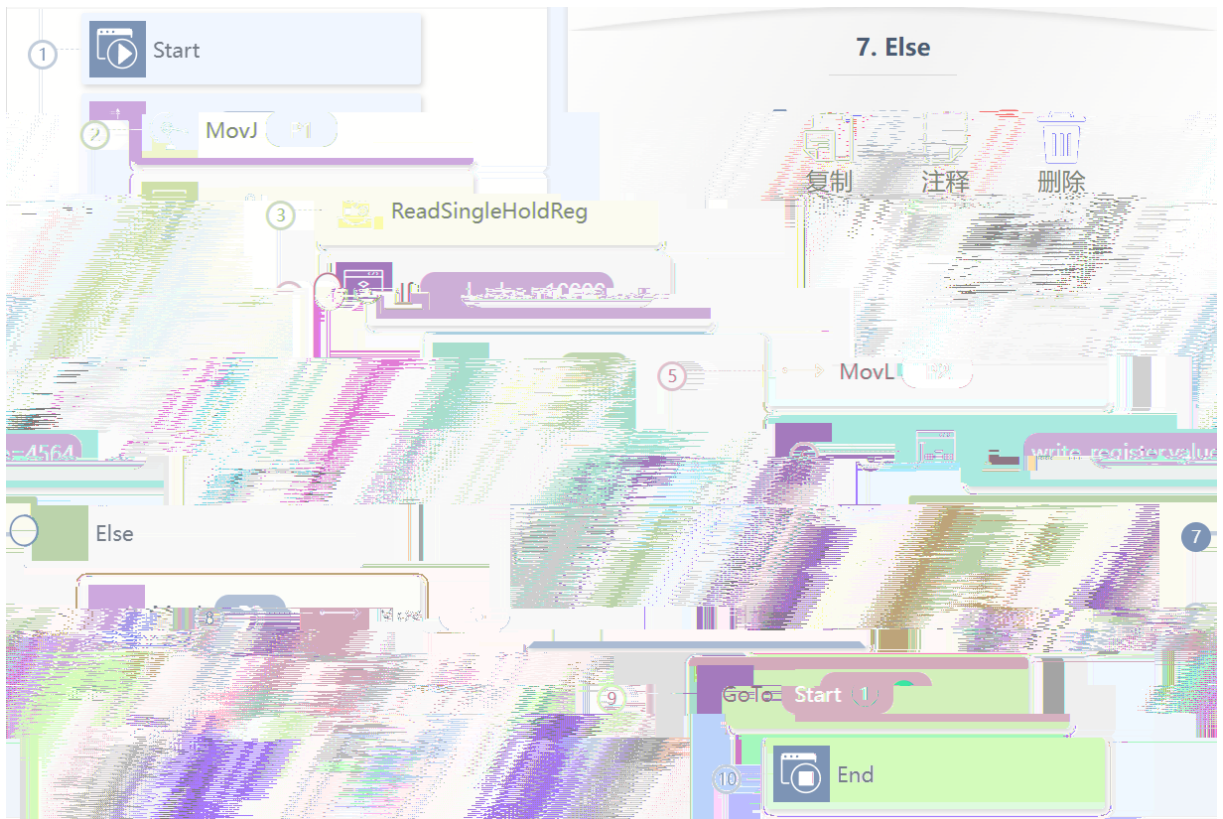


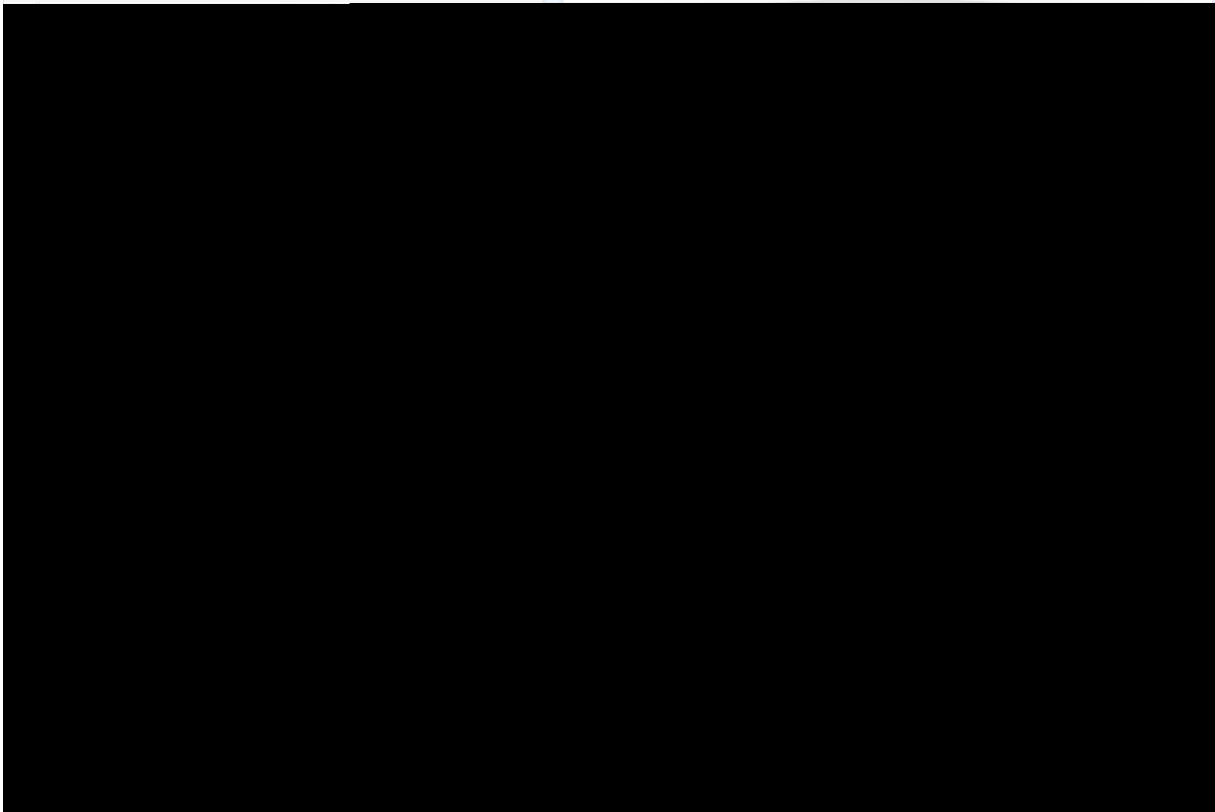
5. MovL

The screenshot shows a programming environment with a top toolbar containing icons for undo, redo, and delete. Below the toolbar is a workspace with a grid. A block titled "5. MovL" is highlighted in yellow. The block contains the text "4564". To the right of the block, there are three icons: a blue circle with a white 'M', a blue circle with a white 'L', and a yellow trash can icon.

6. ...=...

The screenshot shows the same programming environment. A block titled "6. ...=..." is highlighted in yellow. The block contains the text "write register.value = 4564". To the right of the block, there are three icons: a blue circle with a white 'M', a blue circle with a white 'L', and a yellow trash can icon.





2	MovJ P1	P1
3	ReadSingleHoldReg	0
4	If read.value>10000	10000.
5	MovL P2	P2
6	...=...	4564 write_register Modbus 10Hz
7	Else	If
8	MovL P3	P3
9	GoTo	

0

0

MODBUS

0

Modbus

4

Modbus

Modbus

4.1

Modbus

IO

Modbus

4.2

5

Modbus

Modbus