

M100

	M		M100 M200 M300 M500 M500S		
	-				-
					2025-08-4
M	Sysctrl Studio 2.4 M100 M200 M300 M500 M500S HCMXB-CAN-BD HCMXB-RTC-BD HCMXB-2RS232-BD HCMXB-2RS485-BD				
M					
2025-8-4		V1.0			

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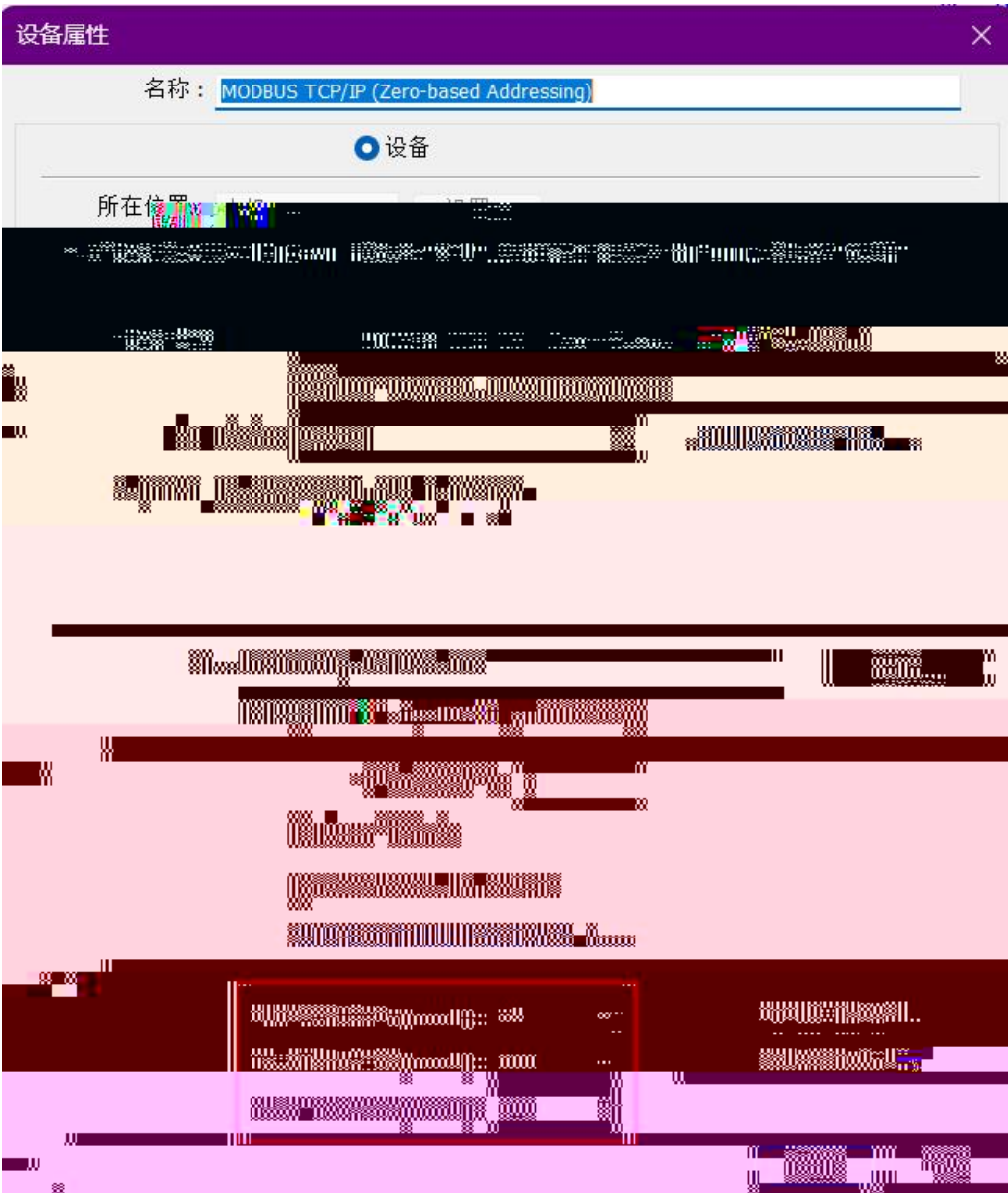
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10.	RUN	PLC	STOP		26

1.

104 WORD PLC 100WORD /

100word



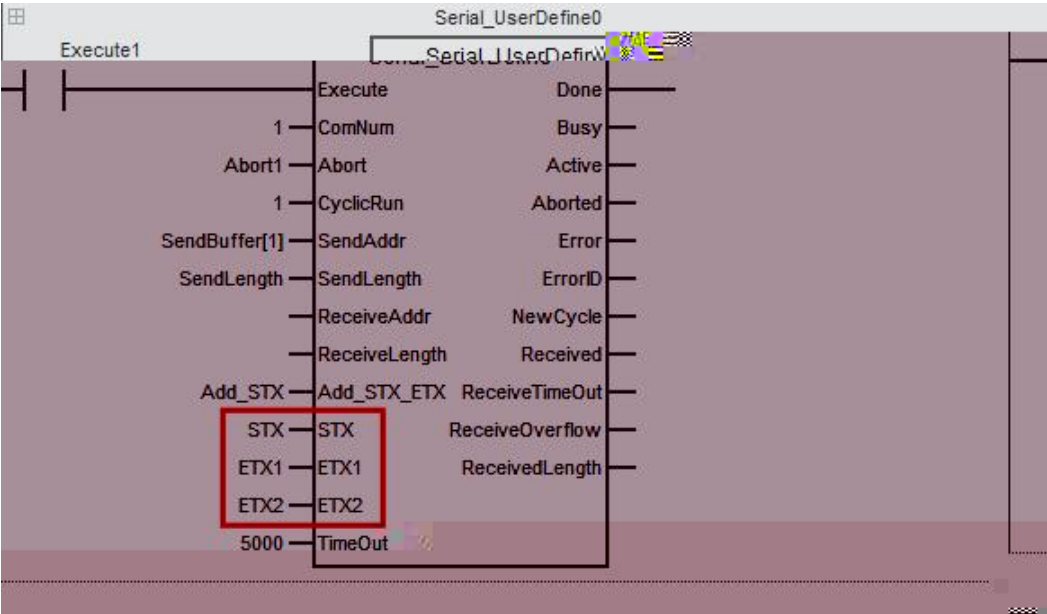
2.

RS485 ? ModbusRTU

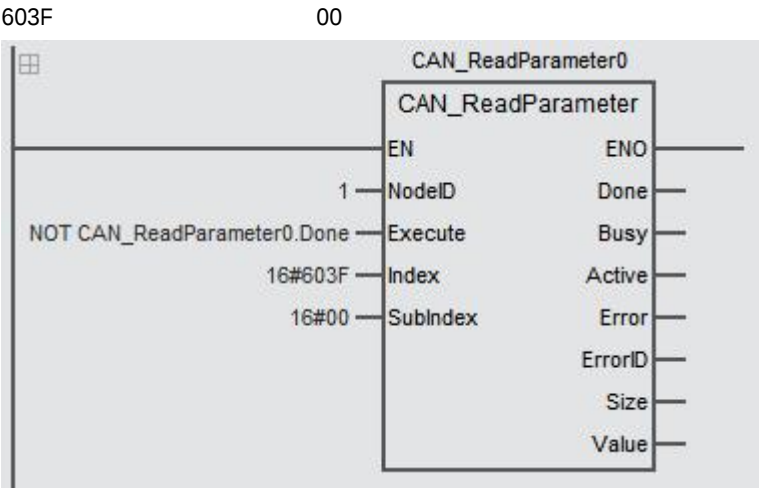
06 10 10

3.

RTU ASCII RTU M -



4. E610 CAN 603F

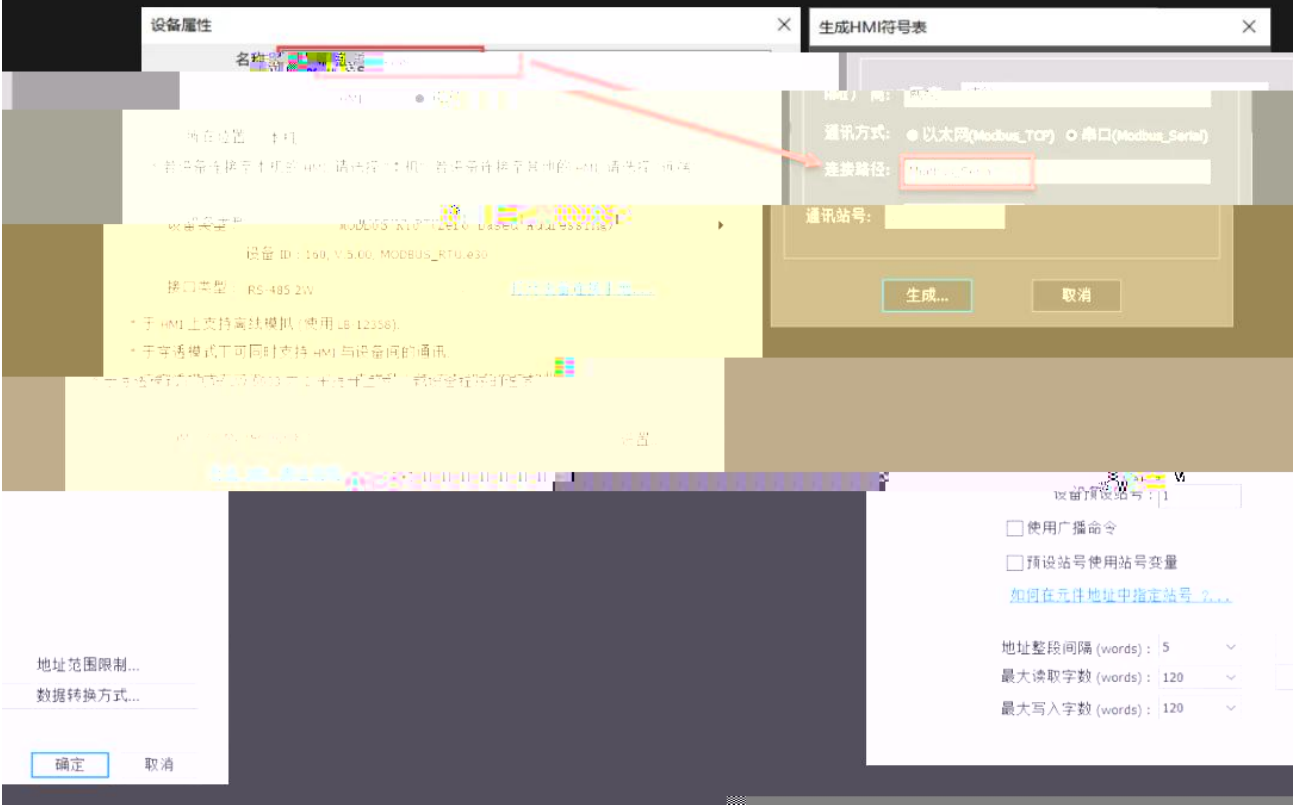


5. RS485

通道	启用	超时时间(ms)	触发方式	执行方式	读写类型	功能码	主站地址	..	从站地址	数量
1	☒	1000	默认触发	循环	读寄存器	默认	%MW1000	↔	16#0001	1
2	☒	1000	默认触发	循环	写寄存器	默认	%MW1000	⇒	16#0002	1

6. M HMI

(1) 名称需要和【生成HMI符号表】-【连接路径】命名一致。



7. TCP

socket 502 5020 TCP

8. Modbus TCP

TCP 6 ASCII ACK 0 ASCII

0 ASCII 0

类别	名称	分配到	数据类型	在线值	准备值
1 VAR	读取扫码枪数据	%MW2000	STRING	'0'	
2 VAR	数据处理	%MW3000	STRING	'0'	

1

2

数据处理

'ACK'

:=读取扫码枪数据

'ACK'

%MW3000

%MW2000

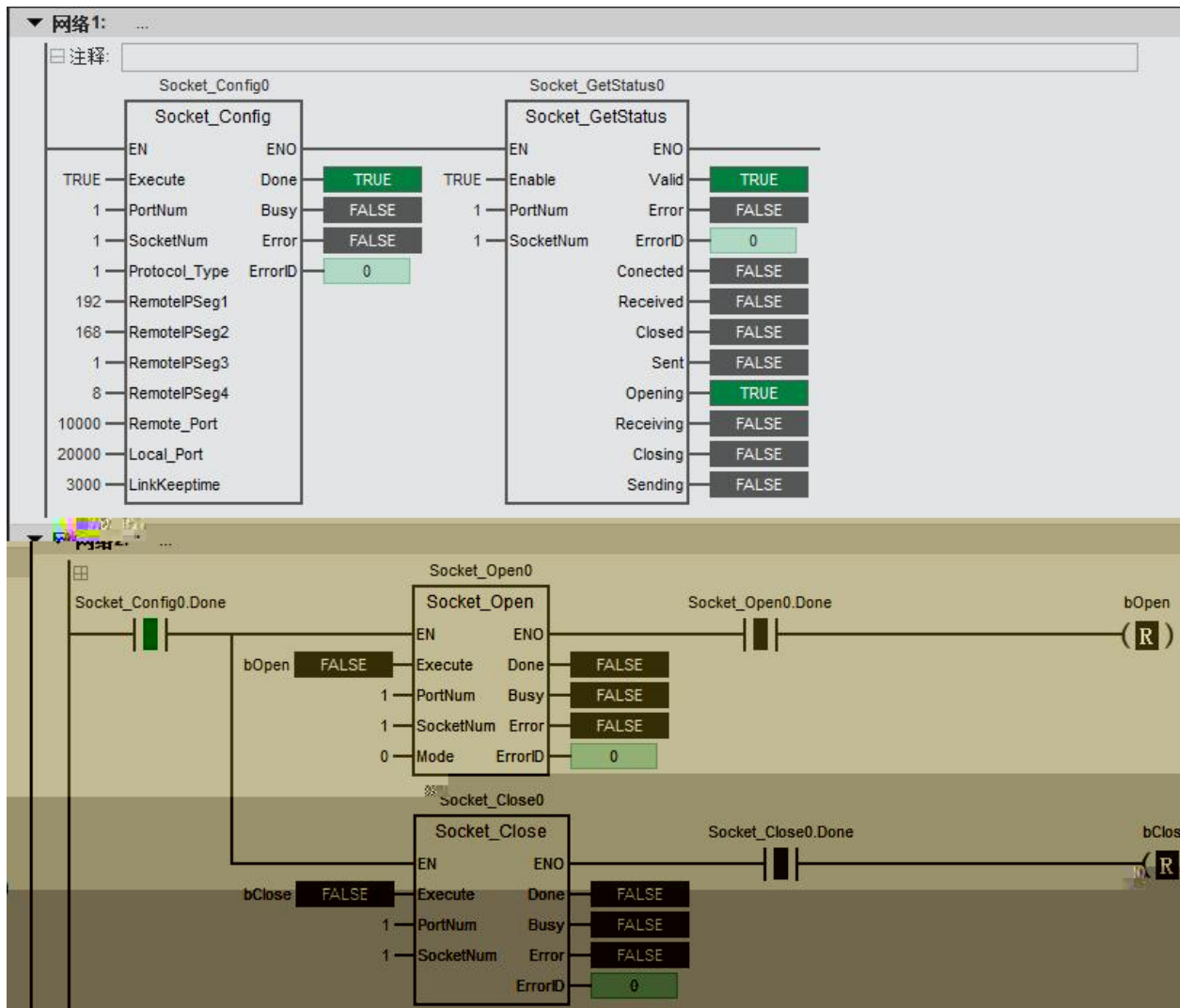
'06、00、50、51、52、53、54'

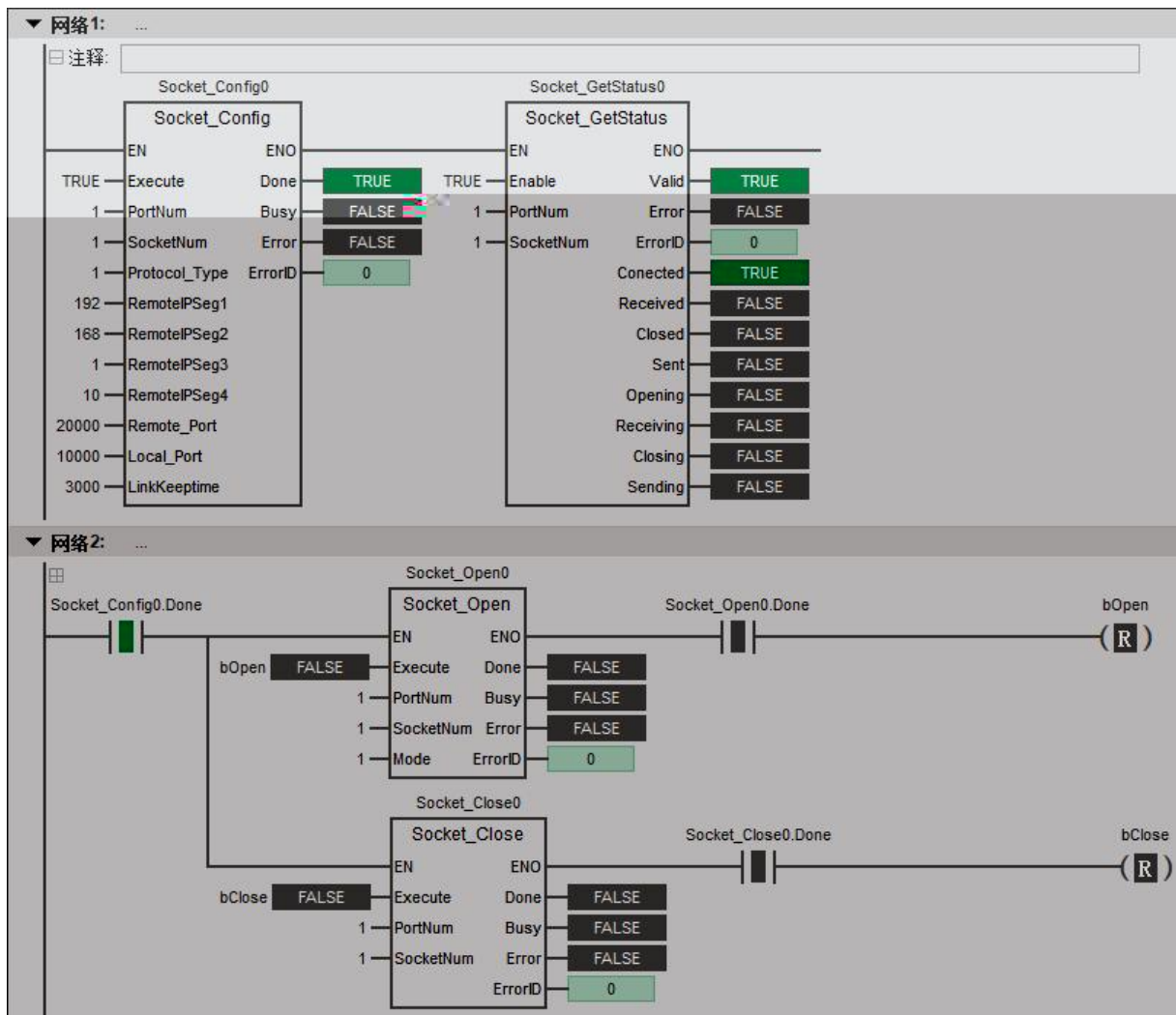
ACK NUL 2 3 4 5 6

名称	在线值	准备值	数据类型
%MW2000	6		UINT
%MW2001	13106		UINT
%MW2002	13620		UINT
%MW2003	54		UINT
%MW3000	6		UINT
%MW3001	0		UINT
%MW3002	0		UINT
%MW3003	0		UINT

9. Socket

	Socket_GetStatus	Opening
Opening	Socket_Open	Socket
Socket_Open	Socket_Close	Socket_Open
		Opening





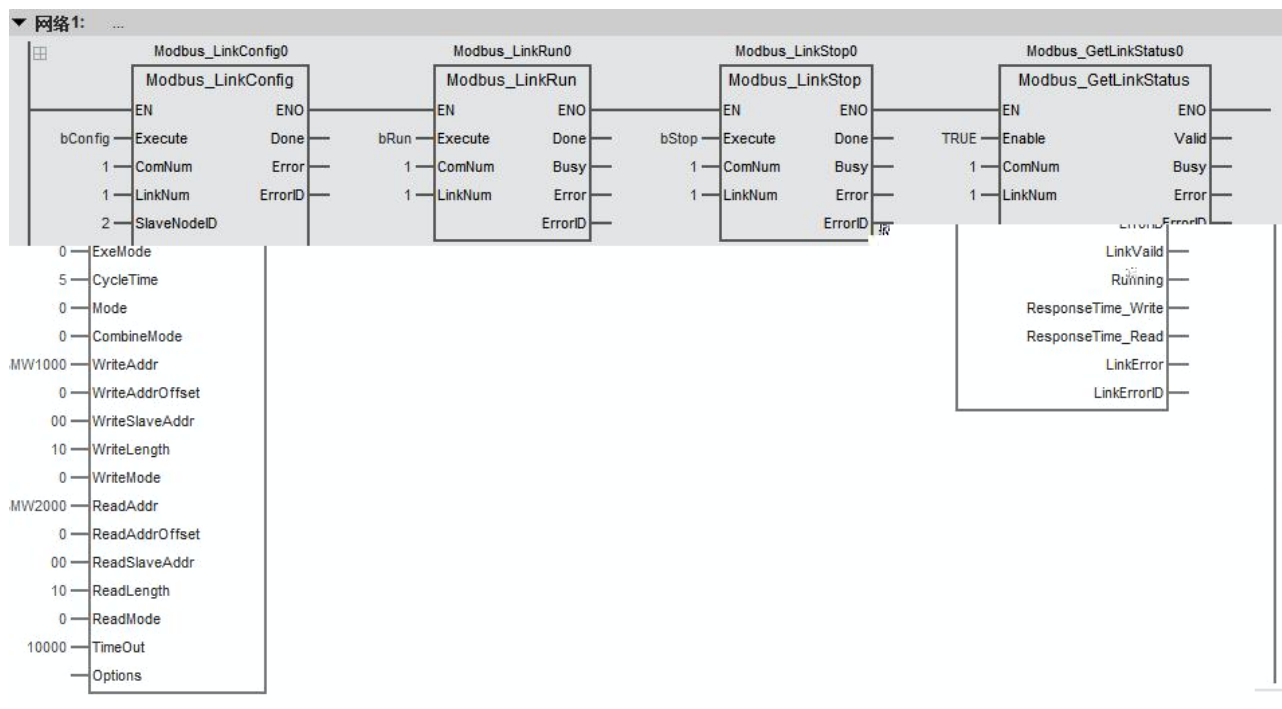
10.

485

LINKCONFIG

1-Modbus_LinkConfig 2-Modbus_LinkRun 3-Modbus_GetLinkStatus 4-

5-Modbus_LinkStop



11. E600

1.

POU x

	类别	名称	分配到	数据类型	在线值
1	VAR	AA		ARRAY [1..7] OF REAL	
2	VAR	AA[1]		REAL	24675
3	VAR	AA[2]		REAL	24675
4	VAR	AA[3]		REAL	24675
5	VAR	AA[4]		REAL	24675
6	VAR	AA[5]		REAL	24675
7	VAR	AA[6]		REAL	24675
8	VAR	AA[7]		REAL	24675
9	VAR	BBB		BOOL	FALSE
10	VAR	CCC		INT	17945
11	VAR	DDD		WORD	0
12	VAR	ifor		INT	9

网络1: ...

注释:

结构化文本

```

1 for ifor 9 := 0 to 8 DO
2   AA[ifor 9] := AA[ifor 9] + 1;
3 END_FOR;
  
```

2.

“.” “.”

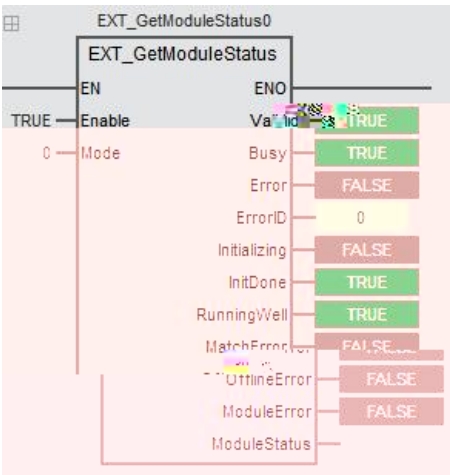
9	VAR	测试	BOOL		
10	VAR	转盘故障	BOOL		
11	VAR	edge back val1	BOOL		

```

18 FOR I := 1 TO 7 DO
19   St_RealAxis[I].IN_ib_轴复位 := Axis[I].AxState = 2 AND HMI_故障复位;
20 END_FOR;
21 //-----警告手动不停机101-150
22 //Err101-----缺料警告
23 ton缺料提示延时(IN:=Gby_整机状态字=自动) AND NOT DI_纸堆检测 AND DO_吸纸允许, PT:=REAL_TO_TIME(hmi缺料提示延时*10
24 //警告触发[51](Set:=ton缺料提示延时.Q, Reset:=HMI_故障复位, Q=>HMI_故障报警[151]);
25
26 //Err015-----底纸预送错误, 警告=报警无信号
27 //警告触发[2](Set:=GB底纸预送错误, Reset:=HMI_故障复位, Q=>HMI_故障报警[102]);
28 //
29 //
30 //Err008-----管道堵塞报警
31 //警告触发[3](Set:= GB管道堵塞, Reset:=HMI_故障复位, Q=>HMI_故障报警[103]);
32 //
33 //Err009-----缺料报警停机
34 ton缺料停机延时(IN:=ton缺料提示延时.Q, PT:=REAL_TO_TIME(hmi缺料报警延时*1000000000));
35 //警告触发[4](Set:=ton缺料停机延时.Q, Reset:=HMI_故障复位, Q=>HMI_故障报警[104]);
36
37 //Err010-----工位1错误报警, 纸堆有纸, 纸张检测无信号
38 //警告触发[5](Set:=工位1错误报警, Reset:=HMI_故障复位, Q=>HMI_故障报警[105]);
39 //
40 //Err011-----工位5错误报警, 上杯桶光电无信号
  
```

3.

EXT_GetModuleStatus

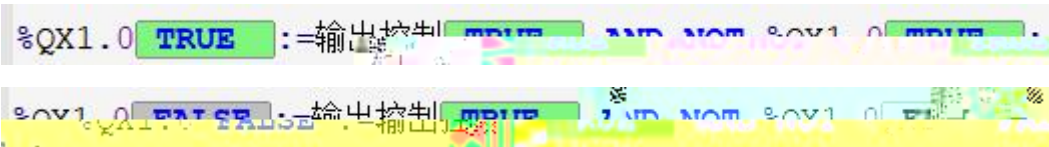


4.

PG

5.

Q



6.

M511S

M511

2104

CPU

	类别	名称	分配到	数据类型	初始值	注释
11	VAR_INPUT	nFeedPaperLength		REAL		送纸长度
12	VAR_INPUT	nFeedPaperVel		REAL		送纸速度
13	VAR_INPUT	iStatorGroove		INT		定子槽数
14	VAR_INPUT	arFeedPaperSet		ARRAY[1..60] OF INT		送纸设定
15	VAR_INPUT	iCutRunStep		REFERENCE TO INT		打纸自动步序
16	VAR_INPUT	iCutHomeStep		REFERENCE TO INT		打纸回原步序
17	VAR_INPUT	iCutPauesStep		REFERENCE TO INT		打纸暂停步序
18	VAR_INPUT	stFeedPaperCtrl		REFERENCE TO SI_AxisCtrl		送纸结构体
19	VAR_INPUT	iCutStatus		REFERENCE TO INT		状态:0料库空 1打纸中 2打纸...
20	VAR_OUTPUT	iActGroove		INT		当前槽数
21	VAR_OUTPUT	bCutHighSpeed		BOOL		打纸高速
22	VAR_OUTPUT	bCutLowSpeed		BOOL		打纸低速
23	VAR	bCutHighSpeed_Var		BOOL		打纸高速局部变量
24	VAR	bCutLowSpeed_Var		BOOL		打纸低速局部变量
25	VAR	bCutHighSpeed_Retain		BOOL		
26	VAR	bCutLowSpeed_Retain		BOOL		

7.

IP

Ethernet_SetIPAddress

IP

POU x

类别	名称	分配到	数据类型	在线值
5 VAR	Ethernet_SetIPAddress0_IPAddress		ARRAY [1..4] OF USINT	
6 VAR	Ethernet_SetIPAddress0_IPAddress[1]		USINT	192
7 VAR	Ethernet_SetIPAddress0_IPAddress[2]		USINT	168
8 VAR	Ethernet_SetIPAddress0_IPAddress[3]		USINT	1
9 VAR	Ethernet_SetIPAddress0_IPAddress[4]		USINT	9
10 VAR	Ethernet_SetIPAddress0_SubnetMask		ARRAY [1..4] OF USINT	
11 VAR	Ethernet_SetIPAddress0_SubnetMask[1]		USINT	255
12 VAR	Ethernet_SetIPAddress0_SubnetMask[2]		USINT	255
13 VAR	Ethernet_SetIPAddress0_SubnetMask[3]		USINT	255
14 VAR	Ethernet_SetIPAddress0_SubnetMask[4]		USINT	0

网络1: ...

8.

POU x 任务1 任务管理 硬件设置

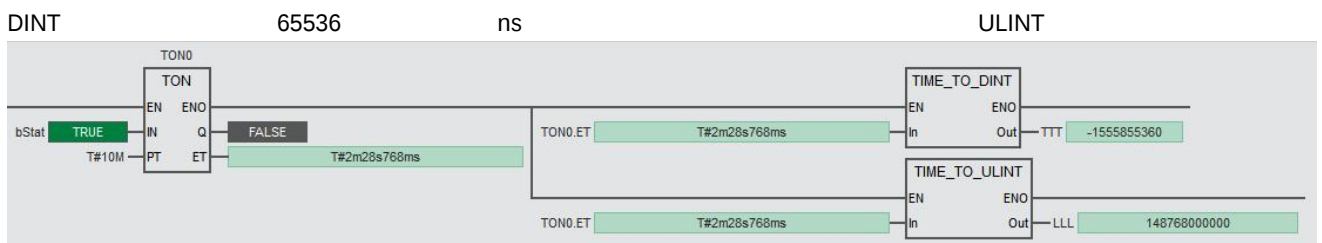
类别	名称	分配到	数据类型	初始值	注释
1 VAR	ARR		ARRAY[1..10000] OF uint	[1000(3)]	
2 VAR	ENABLE		BOOL		
3 VAR	DONE		BOOL		
4 VAR	ENABLE1		BOOL		

网络1: ...

耗时比较长 运算比较快, 要求编译库版本为1.1.0.0以上

9.

Time to DINT



10.

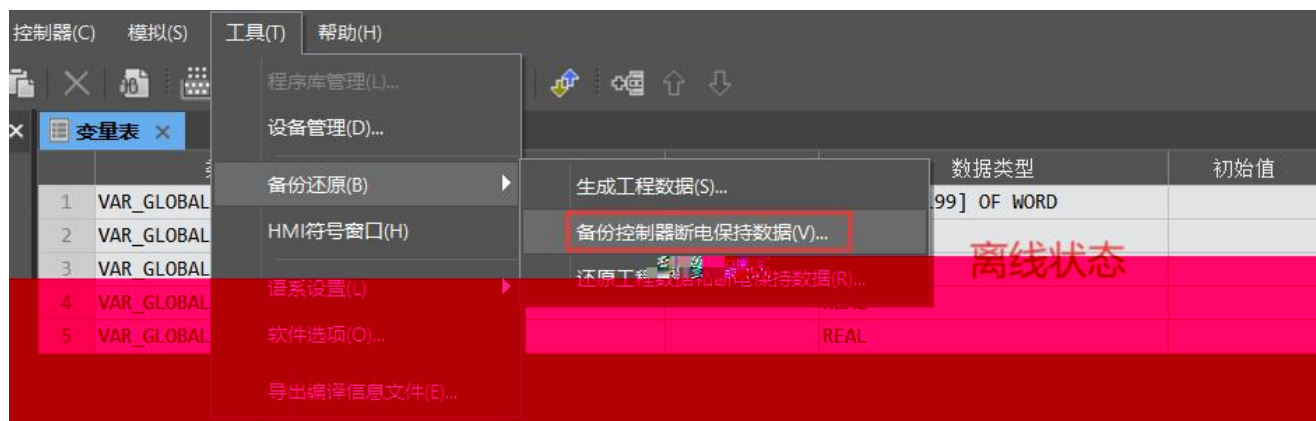
16#2103

2ms

3ms

4ms

11.



12. M514

13. 4-20ma 200 200 4-20ma 0ma

14. INT

	名称	数据类型
1	Test_1	UNION
2	AA	INT
3	Byt	ARRAY[0..1] OF BYTE

POU					
	类别	名称	分配到	数据类型	在线值
1	VAR	bStart		BOOL	TRUE
2	VAR	edge_back_val		BOOL	FALSE
3	VAR	Int_0	Test_1		
4	VAR	AA	Test_1		

15. TIME
- TIME modbus
16.

80+1

1

modbus

类型表				
	名称	数据类型	初始值	注释
1	TTT	STRUCT		
2	AA	STRING		
3	BB	STRING		
4	CC	STRING		
5	DD	STRING		
6	EE	STRING		

HMI符号

添加工程符号... 添加自定义符号... 删除 上移 下移 显示所有符号 HMI系 繁易 检查工程符号 生成HMI符号表... 注: 您可以

名称	类型	变量	Modbus地址	注释	检查结果
测试.AA	STRING	%MD3000	16#1770		
测试.BB	STRING	%MB12081	16#17C1		✖ 获取变量的Modbus地址失败
测试.CC	STRING	%MB12162	16#17C1		
测试.DD	STRING	%MB12243	16#1812		✖ 获取变量的Modbus地址失败
测试.EE	STRING	%MD3081	16#1812		

双击此处编辑

类型表

	名称	数据类型	初始值	注释
1	TTT	STRUCT		
2	AA	STRING[79]		
3	BB	STRING[79]		
4	CC	STRING[79]		
5	DD	STRING[79]		
6	EE	STRING[79]		

HMI符号

添加工程符号... 添加自定义符号... 删除 上移 下移 显示所有符号 HMI系 繁易 检查工程符号 生成HMI符号表... 注: 您可以

名称	类型	装置	Modbus地址	注释	检查结果
测试.AA	STRING[79]	%MD3000	16#1770		
测试.BB	STRING[79]	%MD3020	16#1798		
测试.CC	STRING[79]	%MD3040	16#17C0		
测试.DD	STRING[79]	%MD3060	16#17E8		
测试.EE	STRING[79]	%MD3080	16#1810		
双击此处编辑					

17. ID

ID PLC

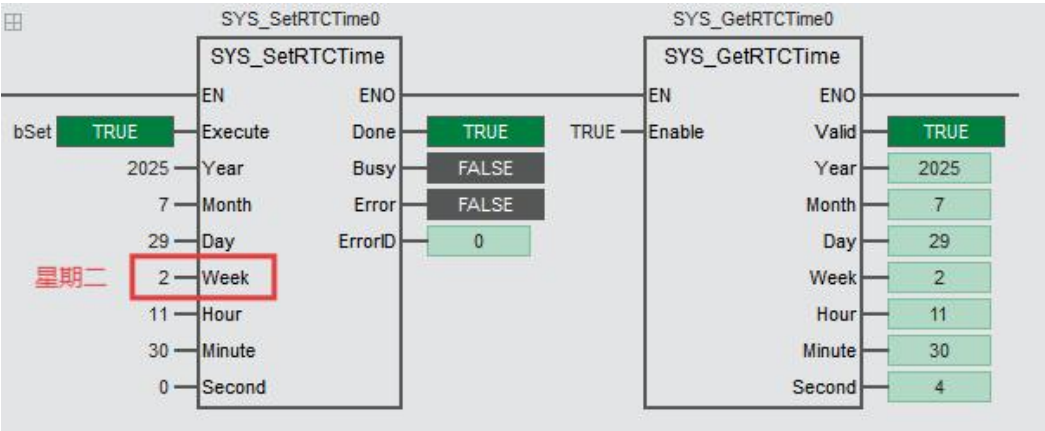
18. M RTC

Sysctrl Studio 2.4.0.1705 SYS_SetRTCTime M100 M200 M300 M500

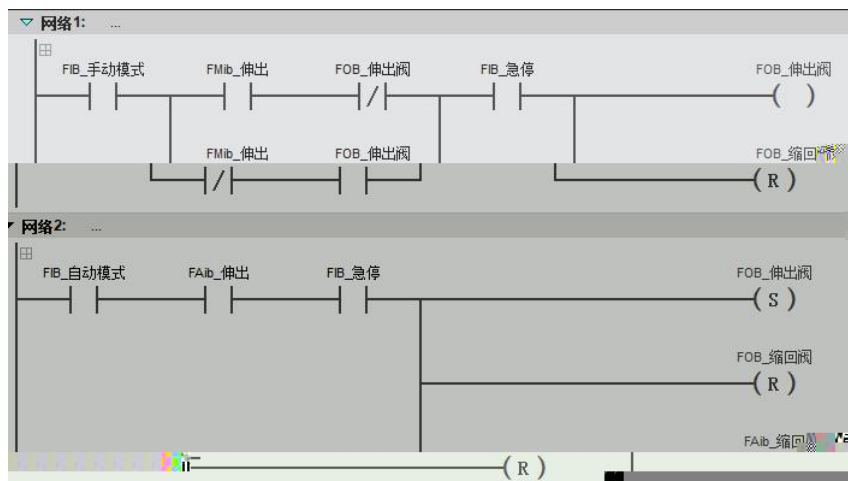
M500S

19. RTC 16690

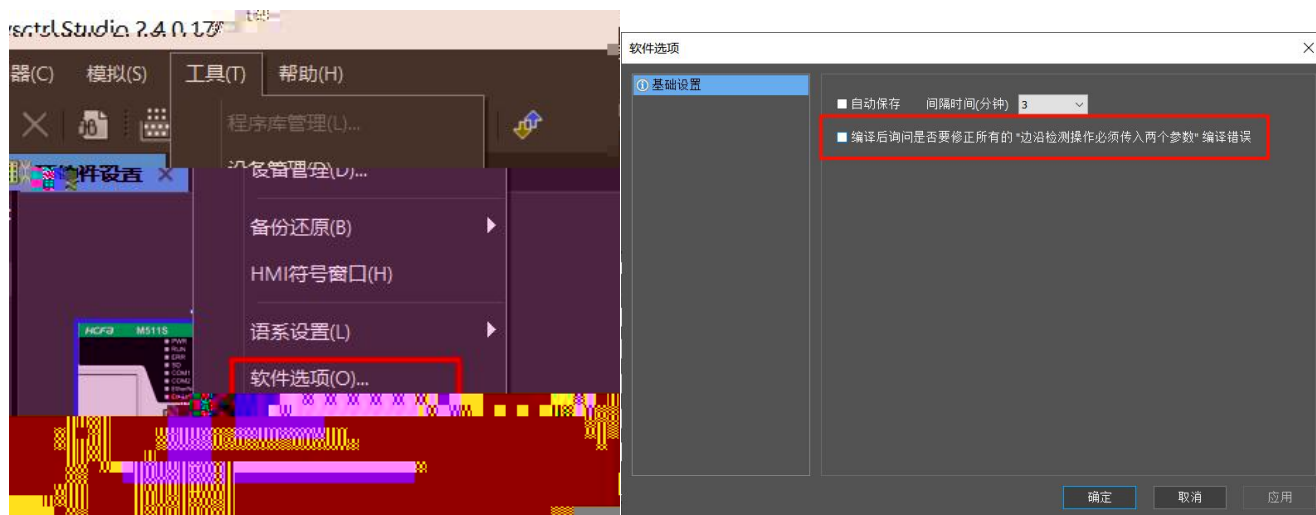
week 1-7



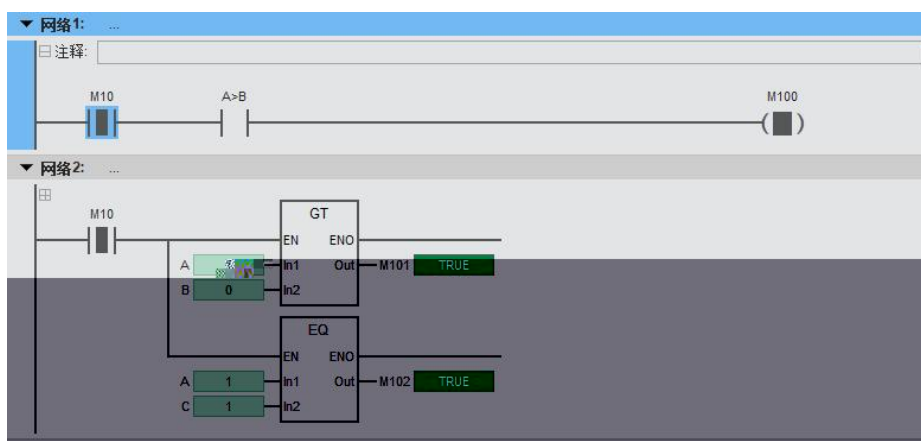
20.



21.



22.



23.

V+ I+

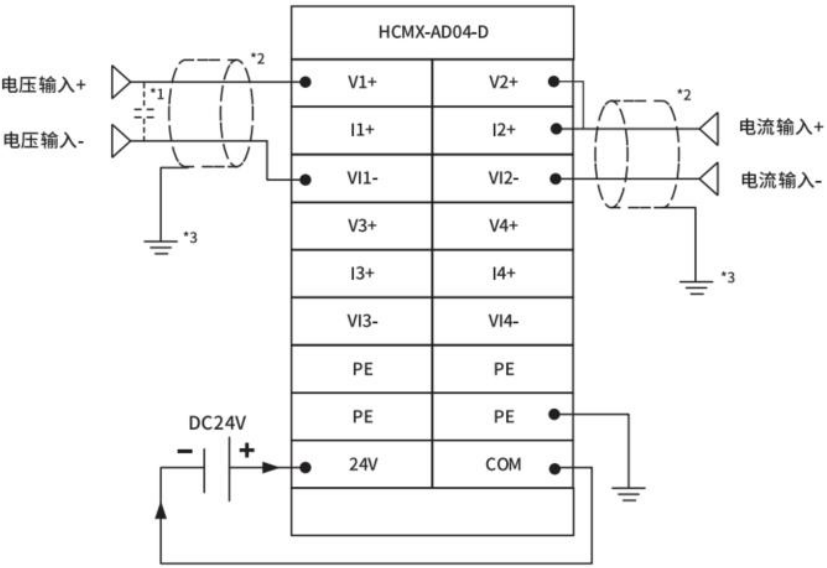


图 8 HCMX-AD04-D 模块端子接线图

24. IF

Sysctrl Studio 2.4.1705 I

FB_Test

	类别	名称	分配到	数据类型
1	VAR_INPUT	reData		REFERENCE TO REAL
2	VAR_INPUT	reST		REFERENCE TO TEST

```

1
2   reData:=reData+1;
3
4   reST.Output:=reST.Input;
5

```

POU

	类别	名称	分配到	数据类型
1	VAR	FB_Test0		FB_Test
3	VAR	FB_Test0 reData		REAL
4	VAR	FB_Test0 reST	Test	

网络 1:

```

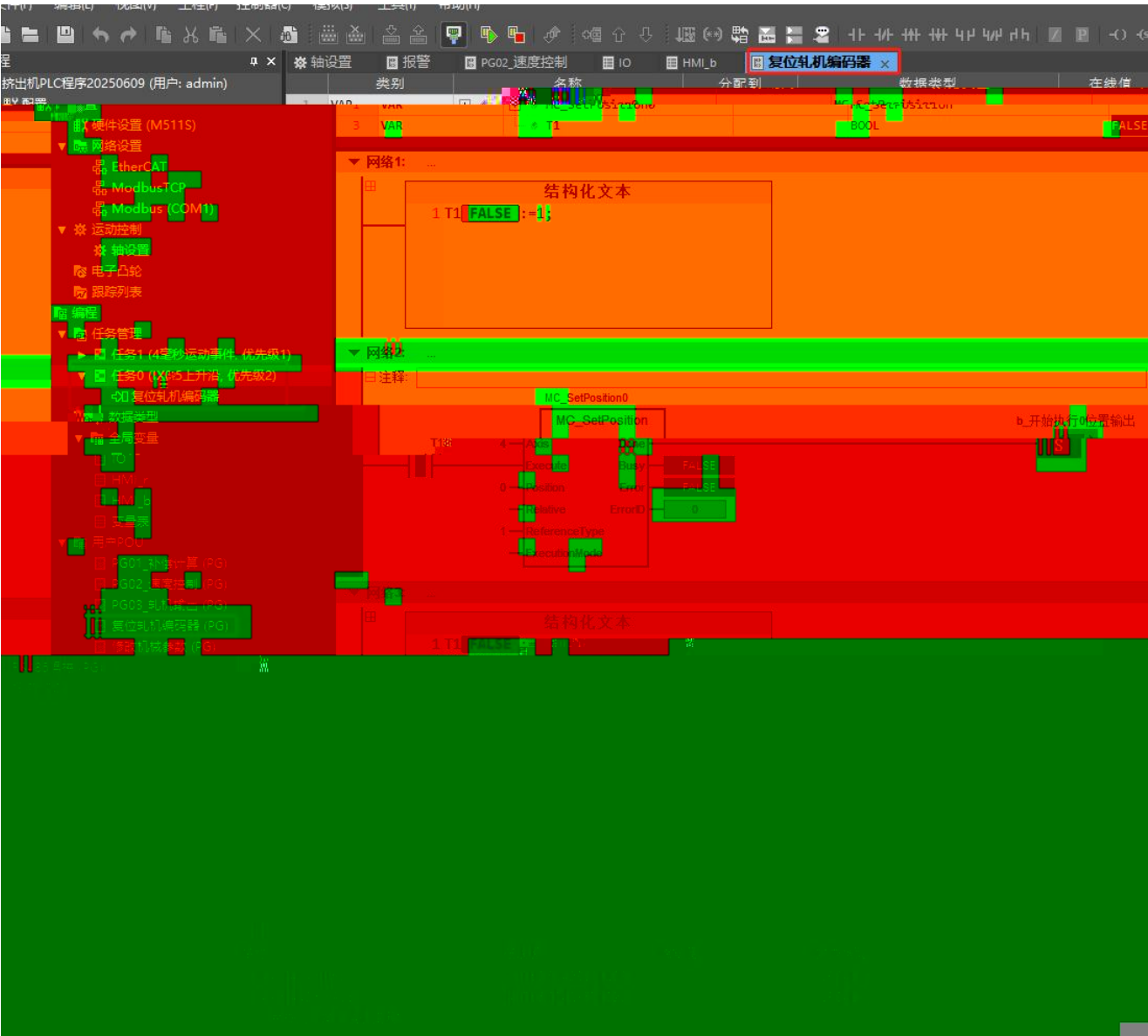
FB_Test0
FB_Test
EN  END
FB_Test0_reData—reData
FB_Test0_reST—reST

```

1.

MC_Setposition

MC_Setposition



2.

6064

PLC

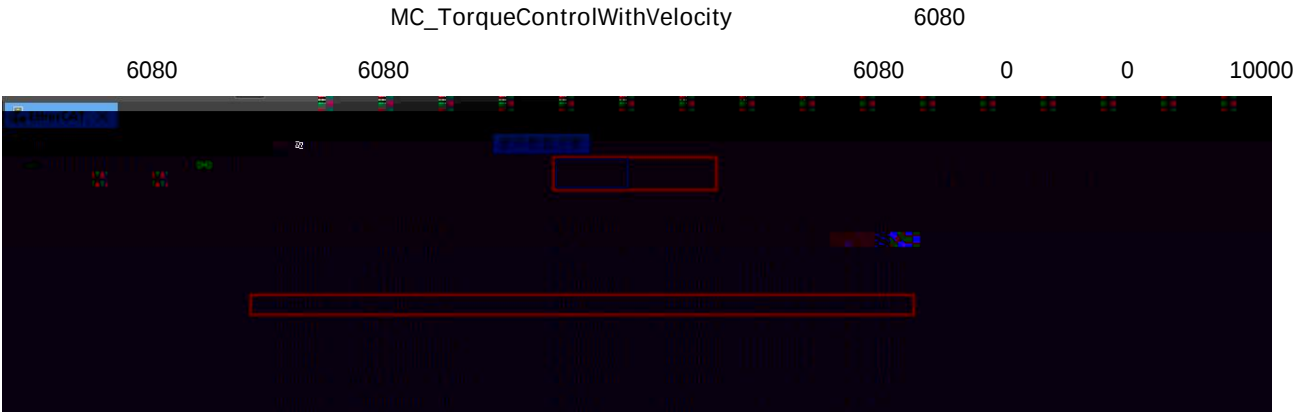
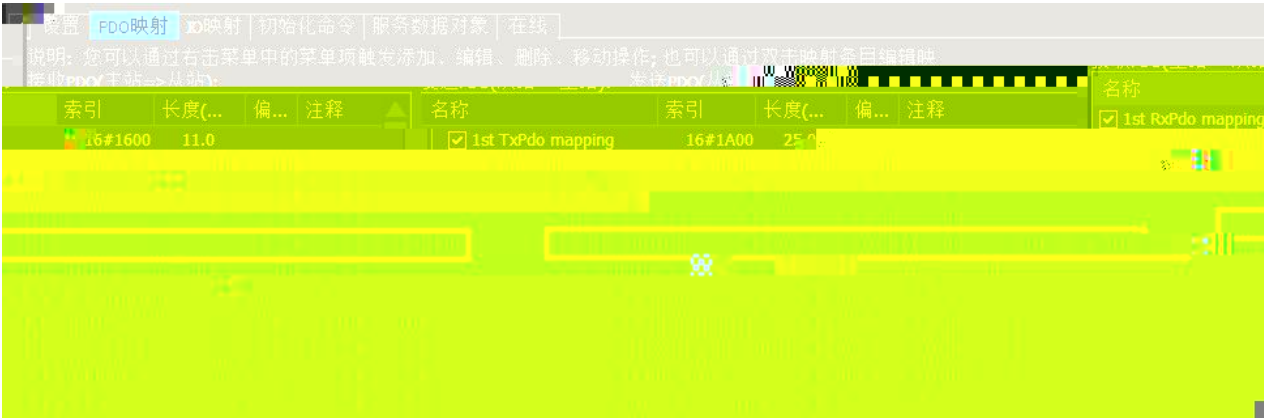
				6064			
1:400	23	1	8388608	230.4mm		6064	
PLC		6064					
23	+Y7S						
M	100000		Y7S	Pn78C	8388608	Pn78E	100000

3.

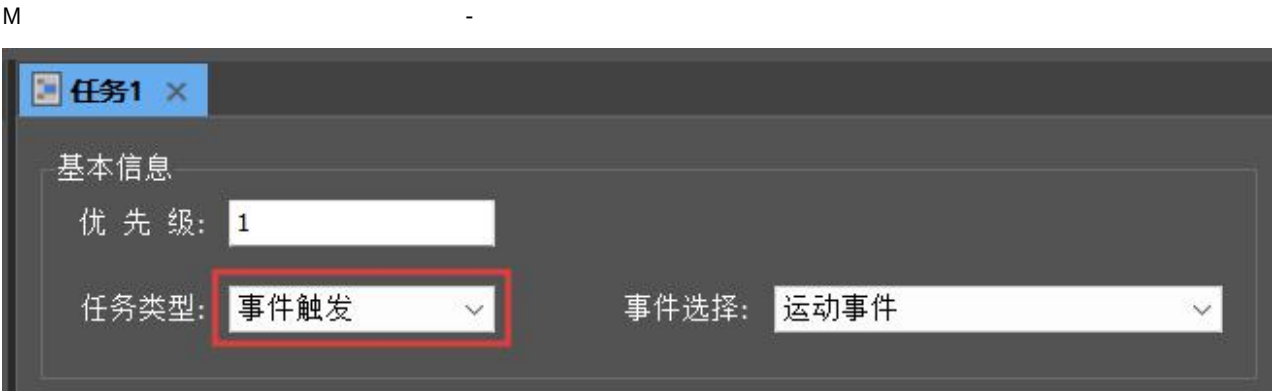
M511S

M511

M500	PLC	PDO	XML
PDO 6077	6071		



4.



5.



6.

MC_HomeByPLCIO

7.

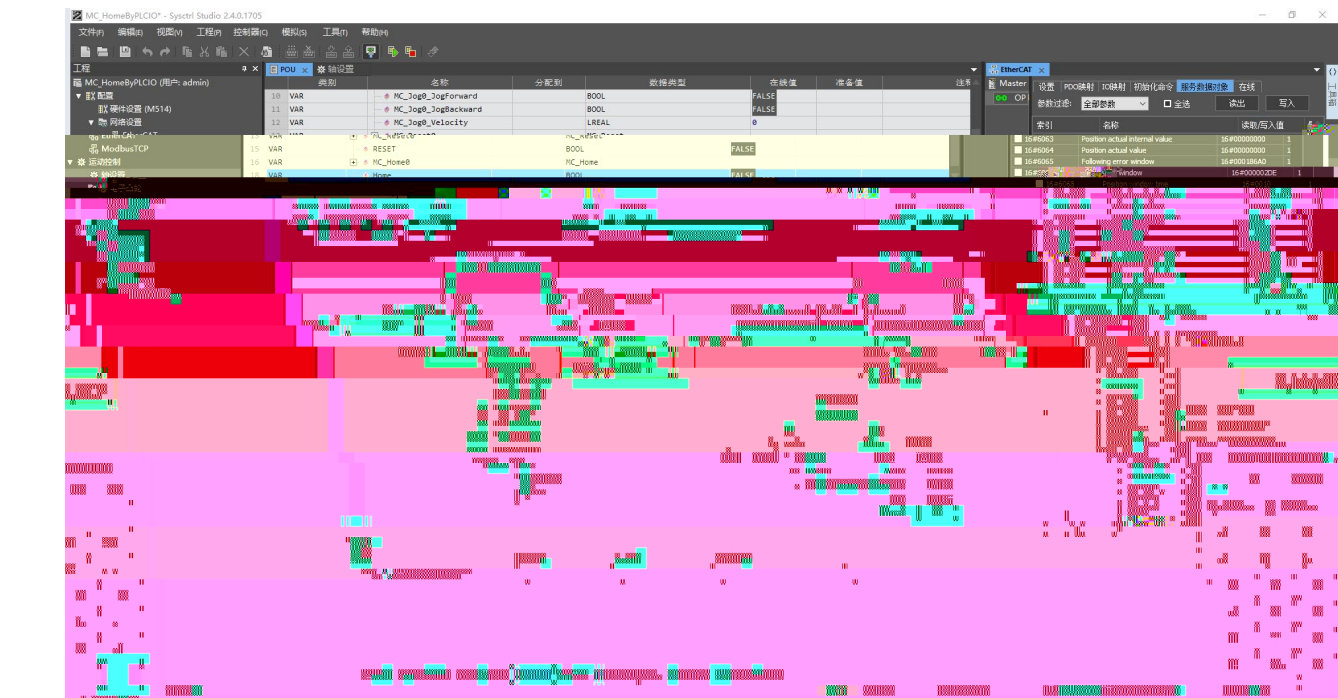
On

8.

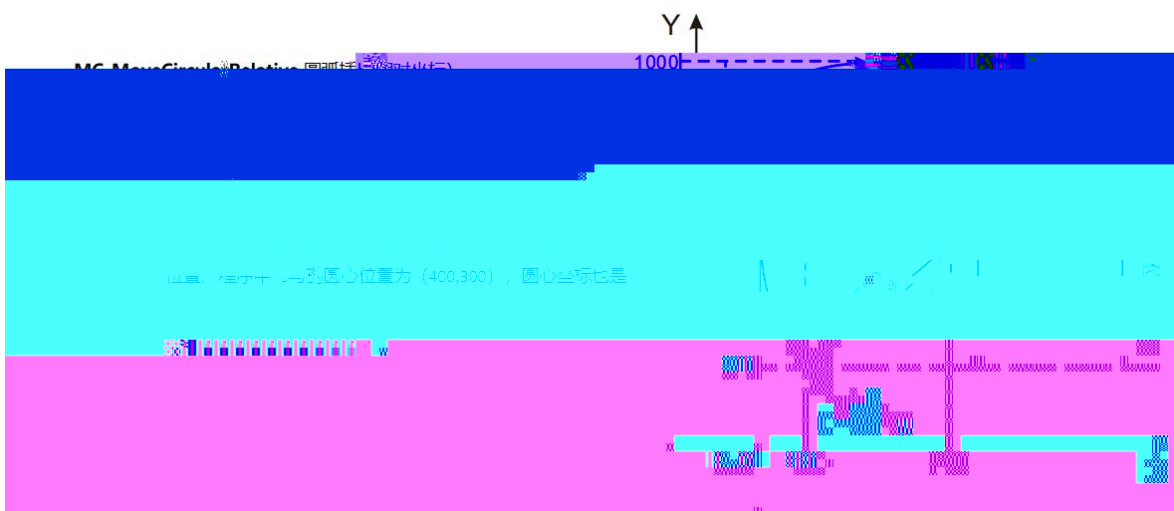
Jerk

Jerk

MC_StopAtPhase



11.				4612			
	50	0	50	0		0	
				0	MC_Setposition	0	
12.		XY				20	4618

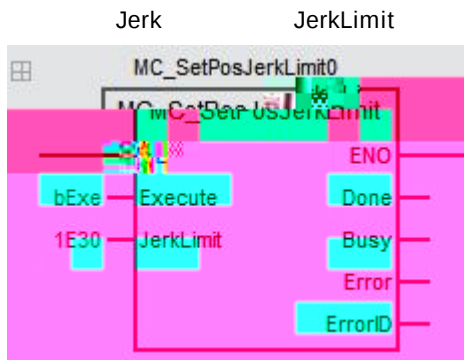


13. MC_HomeByPLCIO homing

PDO 6060

PDO 6060 6061 6040 6041 607A 6064

14. Jerk JerkLimit 1E30



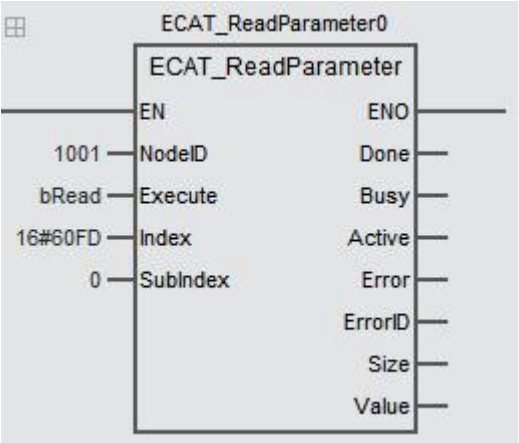
15. M512 op

pdo pdo

名称	索引	长度(类型)	偏移	注释	名称	索引	长度(类型)	偏移	注释
Receive PDO 1	16#1600	8.0	0.0		Transmit PDO 1	16#1A00	19.0		
Control Word	16#6040	2.0 (UINT)	0.0		Last Error Code	16#603F	2.0 (UINT)	0.0	
Profile Target Position	16#607A	4.0 (DINT)	2.0		Status Word	16#6041	2.0 (UINT)	2.0	
Touch Probe Function	16#6088	2.0 (UINT)	6.0		Modes of Operation display	16#6061	1.0 (SINT)	4.0	
Position Actual Value	16#1601	18.0			Position Actual Value	16#6064	4.0 (SINT)	5.0	
Control word	16#6040	2.0 (UINT)	0.0		Touch Probe Status	16#60B9	2.0 (UINT)	9.0	
Profile Target Position	16#607A	4.0 (DINT)	2.0		Touch Probe 1 Positive Value	16#60BA	4.0 (DINT)	11.0	
Profile Velocity	16#6081	4.0 (UINT)	6.0		Digital Input	16#60F0	4.0 (UINT)	13.0	
Profile Target Acceleration	16#6083	4.0 (UINT)	10.0		Transmit PDO 2	16#1A01	0.0		
Profile Target Deceleration	16#6084	4.0 (UINT)	14.0						
Modes of Operation	16#6060	1.0 (USINT)	18.0						
Receive PDO 3	16#1602	15.0							
Control Word	16#6040	2.0 (UINT)	0.0						
Target Velocity	16#60FF	4.0 (DINT)	2.0						
Profile Acceleration	16#6083	4.0 (UINT)	6.0						
Profile Deceleration	16#6084	4.0 (UINT)	10.0						
Modes of Operation	16#6060	1.0 (USINT)	14.0						
Receive PDO 4	16#1603	20.0							
Control Word	16#6040	2.0 (UINT)	0.0						
Homing Method	16#6098	1.0 (SINT)	2.0						
Homing Velocity (fast)	16#6099:01	4.0 (UINT)	3.0						
Homing Velocity (slow)	16#6099:02	4.0 (UINT)	7.0						
Homing Acceleration	16#609A	4.0 (DINT)	11.0						
Homing Offset	16#607C	4.0 (DINT)	15.0						
Modes of Operation	16#6060	1.0 (USINT)	19.0						

16. DI SDO

ECAT_ReadParameter



17.
- ECAT_ReadParameter,ECAT_WriteParameter
- ECAT
- PDO
- 1
18.
- 4123
- 096
19.
- MC_GearIn
- InGear
- Eexcute
- MC_GearIn
- MC_GearIn
- Eexcute
- InGear
20.
- 16#2151
- 16#2151
21.
- 360
- 3600
22.
- ECAT_WriteParameter
- SDO
- 16#60E0
- 16#60E1
23.
- M511S
- M511
- 4116
- M500
- 1.0-1.7
- TriggerInput
- 8-15
24.
- 3,2
- CNC
- G52

G51 圆弧过渡

功能说明

概念之间以圆弧形式进行路径连续过渡...可实现在相邻两段路径之间以恒定速度过渡。

格式说明

G51 D_

圆弧过渡示意图

圆弧过渡示意图

G52 圆滑过渡

功能说明

相邻两段路径之间圆滑过渡...主要显示相邻两段路径以恒定速度过渡。

圆滑过渡示意图

圆滑过渡示意图

TransitionMode介绍

- 轴在运动指令的控制下运动,在此过程中,可以触发其它运动指令执行,且前后两个运动指令之间有三种过渡模式可选择。TransitionMode须与BufferMode一起配合使用。
- 当使用mcTMCoverDistance模式时需要填写TransitionParameter



25.

6080

26.

JERK

1000

27. MC_SetPosition

IF

```
IF bSetCon THEN
  MC_SetPosition1(
    Axis:=1 ,
    Execute:=bSetPosition
    Position:= ,
    Relative:= ,
    ReferenceType:= ,
    ExecutionMode:= ,
    Done=> ,
    Busy=> ,
    Error=> ,
    ErrorID=>
  );
END_IF;
IF MC_SetPosition1.Done THEN
  bSetCon:=FALSE;
END_IF;
```

```
MC_SetPosition1(
  Axis:=1 ,
  Execute:=bSetPosition AND bSetCon ,
  Position:= ,
  Relative:= ,
  ReferenceType:= ,
  ExecutionMode:= ,
  Done=> ,
  Busy=> ,
  Error=> ,
  ErrorID=>
);
IF MC_SetPosition1.Done THEN
  bSetCon:=FALSE;
END_IF;
```

28.

MC_SetPosition 0 Axis[].cmdPos 0

MC_SetPosition MC_ReadActualPosition

29.

AXIS[1].CMDPOS

31. M511 Y7S

10000 / plc 10000 / plc

[1] 电机每转的脉冲数目:

8388608

脉冲/转

[2] 工作每转的工作行程:

0.250

[单元]

[3] 减速机输出转速:

1

[4] 减速机输入转速:

1

点动

点动速度:

2500.000

单元/秒

点动加速度:

2500.000

单元/秒^2

点动减速度:

2500.000

单元/秒^2

轴使能

轴去使能

正转

反转

32. M512

M500 PDO PDO 16#606C M

设置PDO映射IO映射初始化命令服务图标在线

说明: 您可以通过右击菜单中的菜单项触发添加、编辑、删除、移动操作, 您可以通过双击映射条目编辑映射

接收PDO(主站=>从站):

发送PDO(从站=>主站):

名称	索引	长度(...)	偏...	注释
☒ 1st RxPdo mapping	16#1600	9.0		
Control Word	16#6040	2.0 (UL...	0.0	
Modes of operation	16#6060	1.0 (UL...	0.0	
Target position	16#606C	4.0 (UL...	0.0	

名称	索引	长度(...)	偏...
☒ 1st TxPdo mapping	16#1A00	23.0	
Error Code	16#603F	2.0 (UL...	0.0
Status Word	16#6041	2.0 (UL...	2.0

33. Z

Z Axis[1].CmdPos

34.

$1,000 \times 1 \div 69 \times 131,072 = 1,899,594.2028985$ 200Khz

1000

35.

+SetPosition MC_SetOverride 0

36. 4107

37.

38.	MC_home	30	4105
-----	---------	----	------

39.	SV730W	4866
-----	--------	------

40.	MC_TorqueControlwithVelocity	4865
-----	------------------------------	------

SDO SDO



41.

42. 0

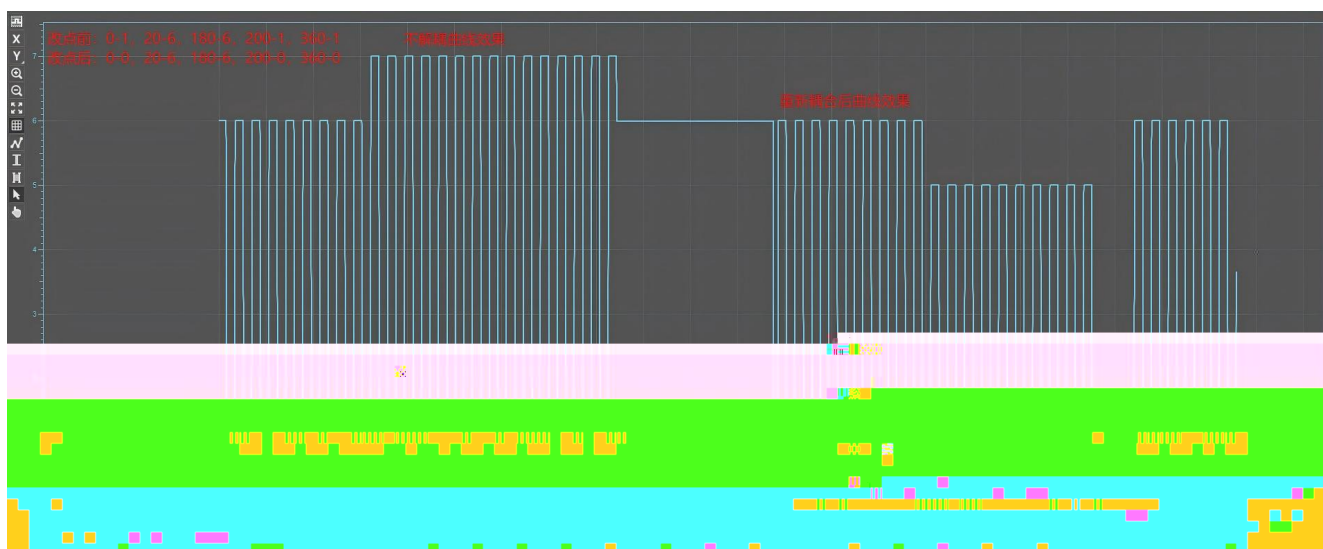
43.

44. 1:1

2 0 0



45.



1. —RUN

ERR

2. —

IP

STOP

3. —

Sysctrl Studio

4. —

PLC

0.0

5. M :

Sysctrl Studio

6. M512

500

500

7. “ ”

office

2007

https://blog.csdn.net/qg_33188565/article/details/112859534

8.

9. 16#2111

10. RUN PLC STOP