



M

100

| | | | |
|----------|--|--|-----------|
| 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 | | |
| | | | |



| | |
|------------------------|---|
| ..... | 1 |
| 1. 100 | 1 |
| 2. RS485 ?..... | 1 |
| 3. ASCII RTU | 1 |
| 4. E610 CAN 603F | 2 |
| 5. RS485 | 2 |
| 6. | 2 |
| 7. TCP 502 5020 | 3 |
| 8. ModbusTCP | 3 |
| 9. Socket | 4 |
| 10. 485 | 5 |
| 11. E600 485 | 6 |
| 12. | 6 |
| 13. ModbusTCP M | 6 |
| 14. | 6 |
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| 1. | 7 |
| 2. | 7 |
| 3. | 7 |
| 4. | 8 |
| 5. Q | 8 |

| | | | | | |
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| 6. | M511S | M511 | 2104 | | 8 |
| 7. | | IP | | | 8 |
| 8. | | | | | 9 |
| 9. | Time to DINT | | | | 9 |
| 10. | | | 16#2103 | | 9 |
| 11. | | | | | 9 |
| 12. | M514 | | | | 10 |
| 13. | 4-20ma | 200 | 200 | | 10 |
| 14. | INT |  |  | ..... | 10 |
| 15. | TIME |  |  | ..... | 11 |
| 16. |  |  |  | ..... | 11 |
| 17. | ID |  |  | ..... | 12 |
| 18. M | | RTC |  | ..... | 12 |
| 19. | RTC | 16690 |  | ..... | 12 |
| 20. |  |  |  | ..... | 12 |
| 21. |  |  |  | ..... | 13 |
| 22. |  |  |  | ..... | 13 |
| 23. |  |  |  | ..... | 13 |
| 24. | IF |  |  | ..... | 14 |
| 25. IF | | THEN END_IF |  | ..... | 14 |
|  |  |  |  | ..... | 16 |
| 1. | MC_Setposition |  |  | ..... | 16 |

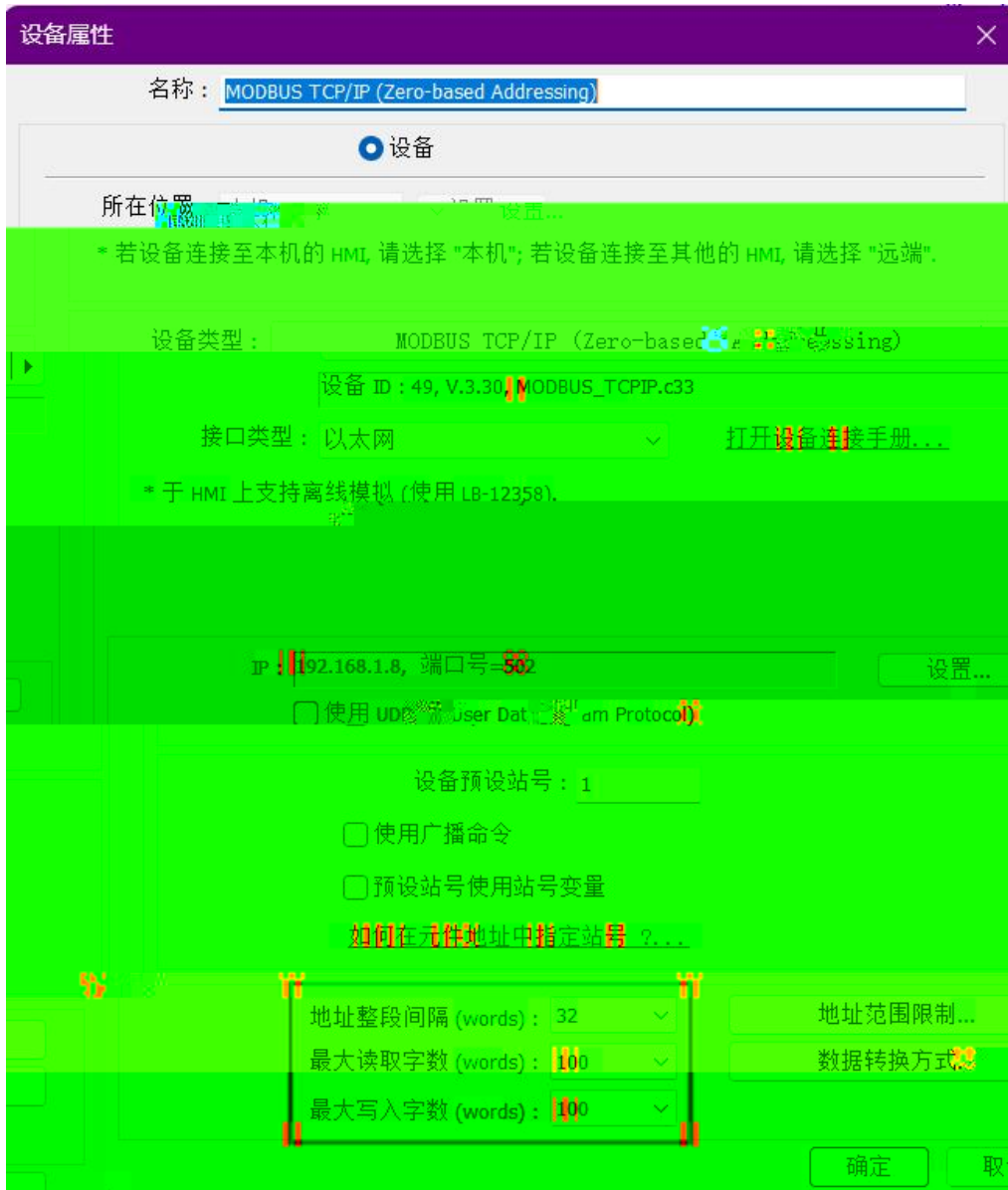
| | | | | |
|-----|----------------|---------------------------|---------------|----|
| 2. | 6064 | PLC | ..... | 16 |
| 3. | M511S | M511 | ..... | 16 |
| 4. |  |  | ..... | 17 |
| 5. | 200 | 50-80 | ..... | 17 |
| 6. | MC_HomeByPLCIO |  | ..... | 17 |
| 7. |  |  | ..... | 17 |
| 8. |  |  | ..... | 17 |
| 9. | MC Stop | MC_MoveContinuousVelocity | 5377 | 18 |
| 10. | MC_HomeByPLCIO | 20 | 4105 | 18 |
| 11. | | | 4612 | 18 |
| 12. | XY | | 20 4618 | 18 |
| 13. | | MC_HomeByPLCIO | homing | 19 |
| 14. |  |  | ..... | 19 |
| 15. | M512 | op | ..... | 19 |
| 16. | | DI | ..... | 19 |
| 17. |  |  | ..... | 20 |
| 18. | | 4123 | 096..... | 20 |
| 19. | MC_GearIn | InGear | Eexecute ... | 20 |
| 20. | | 16#2151 | ..... | 20 |
| 21. |  |  | ..... | 20 |
| 22. |  |  | ..... | 20 |
| 23. | M511S | M511 | 4116 | 20 |





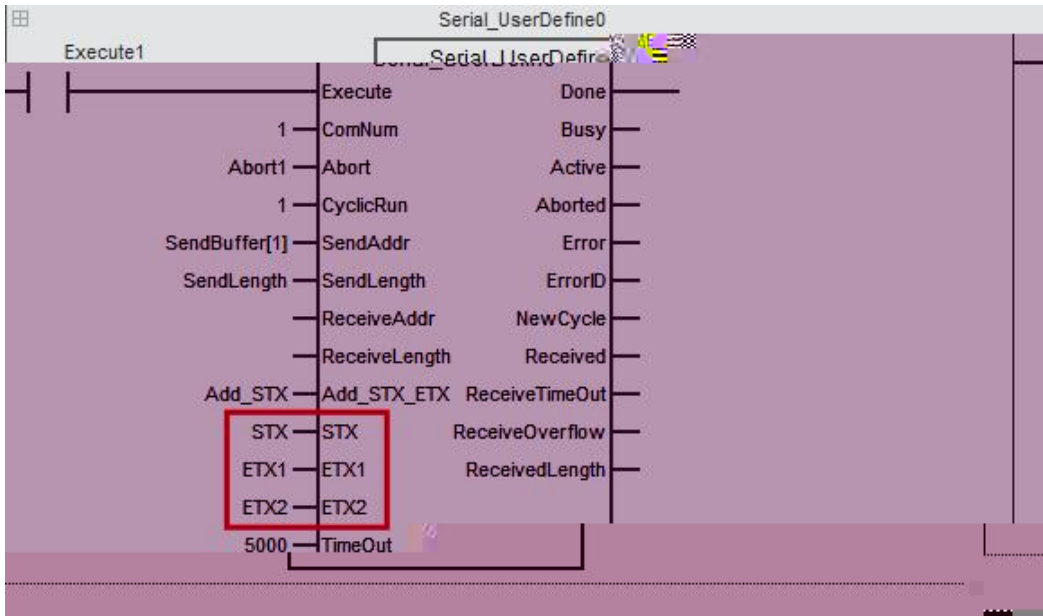
| | |
|------------------------------------|---------|
| ..... | 26 |
| 1. —RUN |26 |
| 2. — |26 |
| 3. — |26 |
| 4. — |26 |
| 5. M : |26 |
| 6. M512 |26 |
| 7. " " |26 |
| 8. |26 |
| 9. 16#2111 |26 |
| 10. RUN PLC STOP |26 |

1. 104 WORD PLC 100 100WORD /
100word

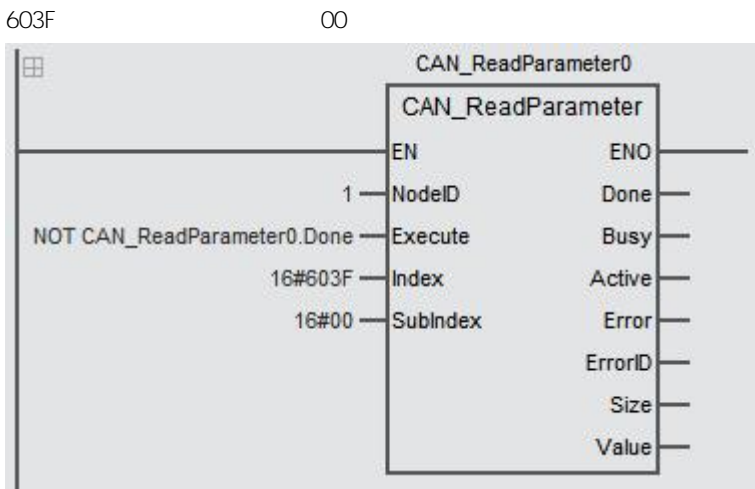


2. RS485 ? ModbusRTU
06 10 10

3. ASCII RTU
RTU ASCII M -



4. E610 CAN 603F



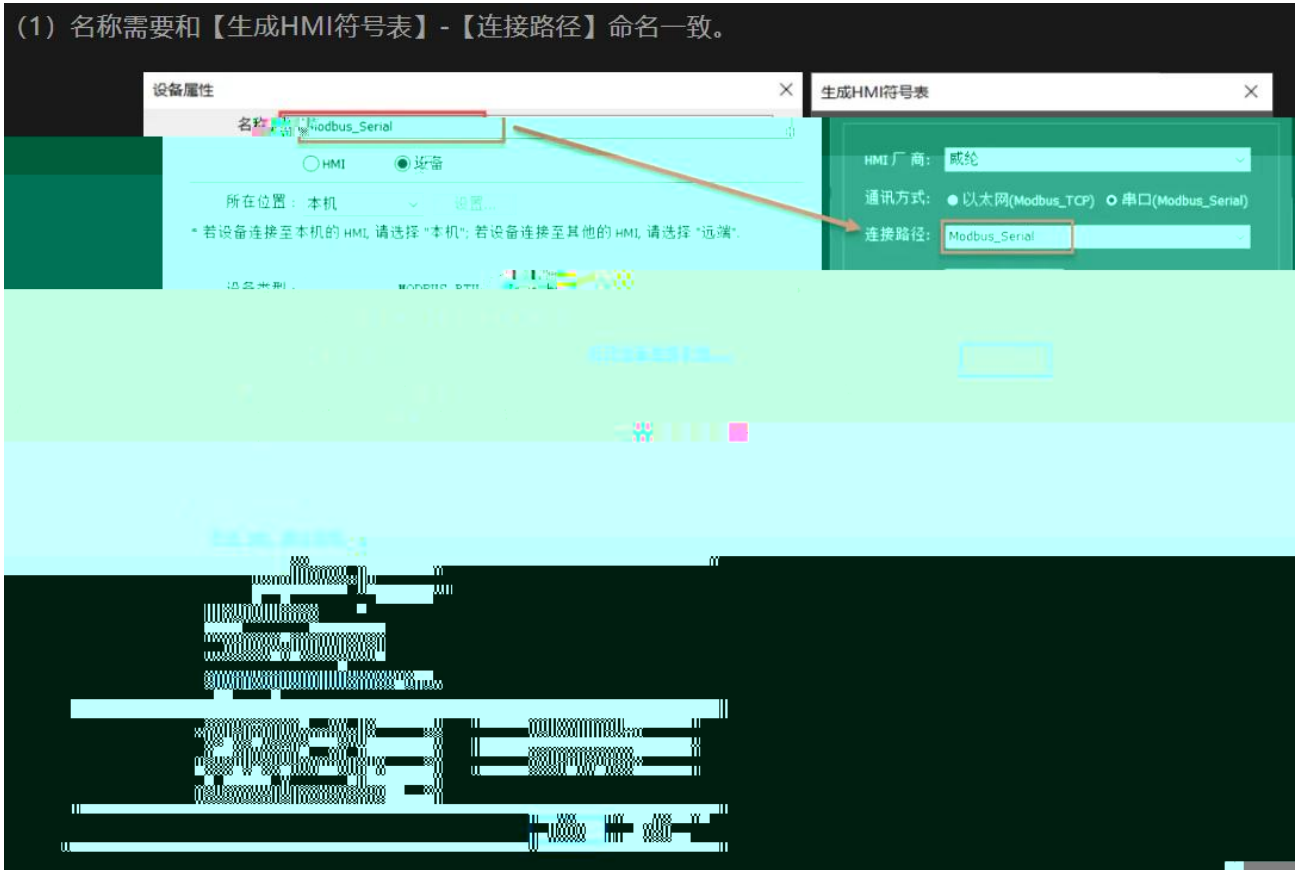
5. RS485

| 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 | <input checked="" type="checkbox"/> | 1000 | 默认触发 | 循环 | 读寄存器 | 默认 | %MW1000 | ↔ | 16#0001 | 1 |
| 2 | <input checked="" type="checkbox"/> | 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 502 5020
 socket 5020 TCP

8. ModbusTCP

TCP 6 ASCII ACK 0 ASCII
 0 ASCII 0

扫码枪

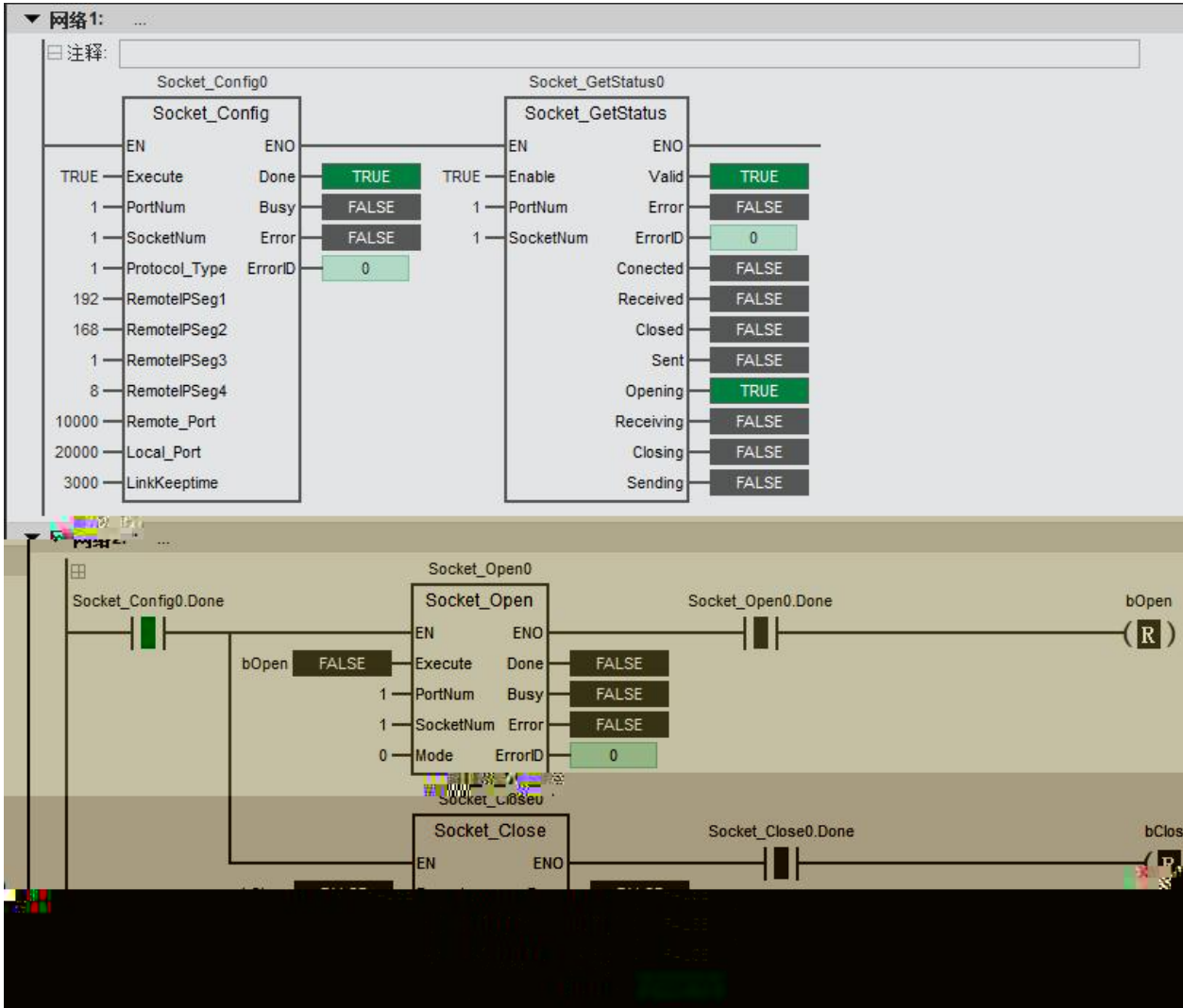
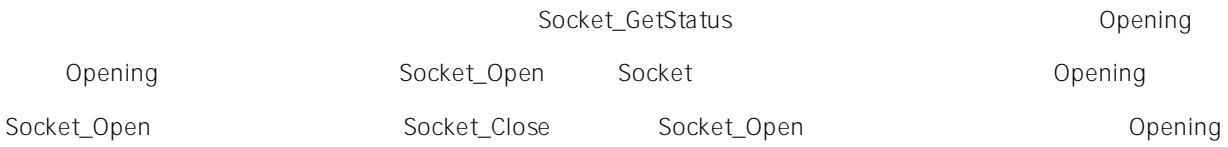
| 类别 | 名称 | 分配到 | 数据类型 | 在线值 | 准备值 |
|-------|---------|---------|--------|-----|-----|
| 1 VAR | 读取扫码枪数据 | %MW2000 | STRING | '0' | |
| 2 VAR | 数据处理 | %MW3000 | STRING | '0' | |

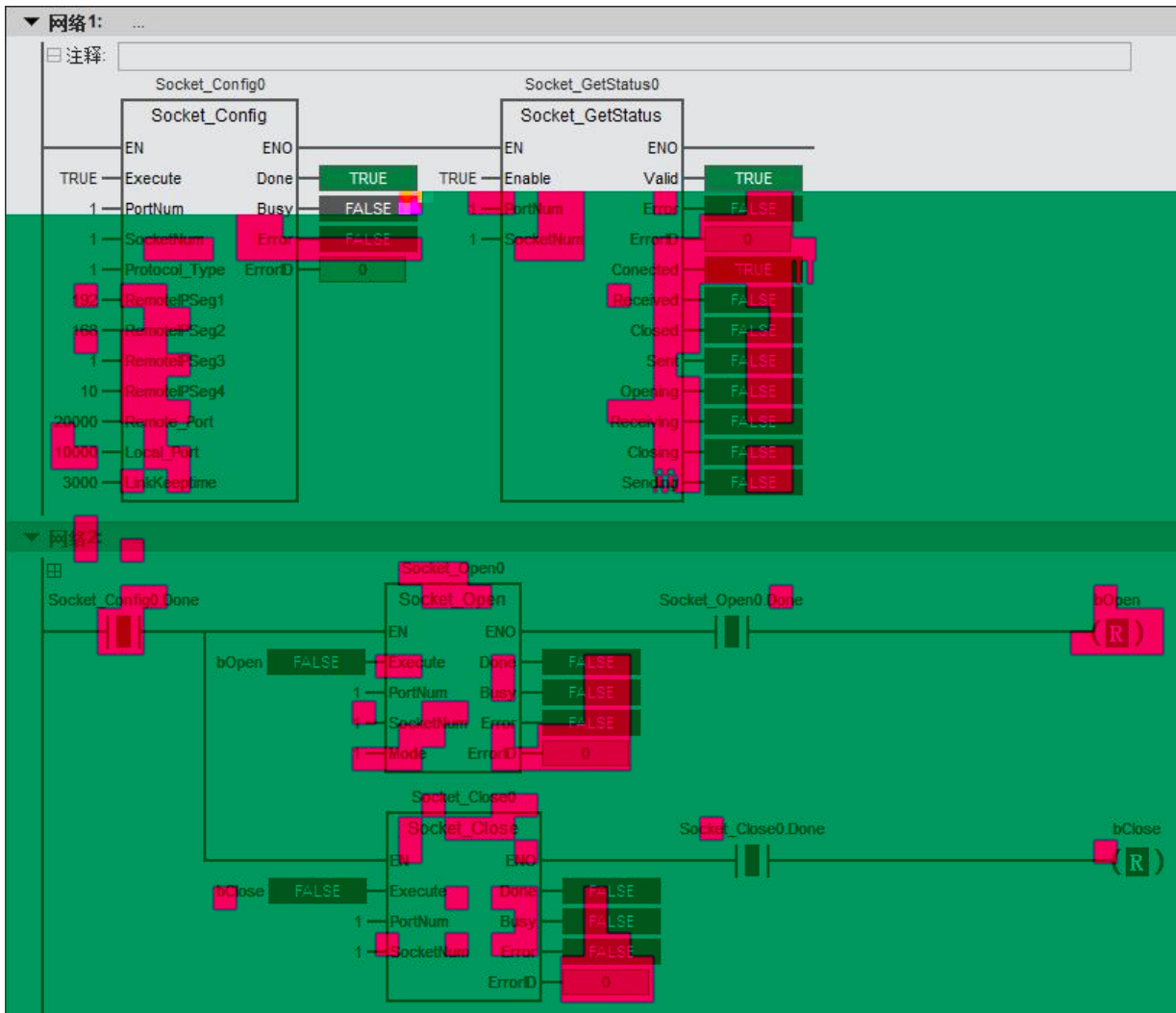
1 数据处理 'ACK' := 读取扫码枪数据 'ACK' ;
 2 %MW3000 %MW2000 '06、00、50、51、52、53、54'
 ACK NUL 2 3 4 5 6

监视2

| 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



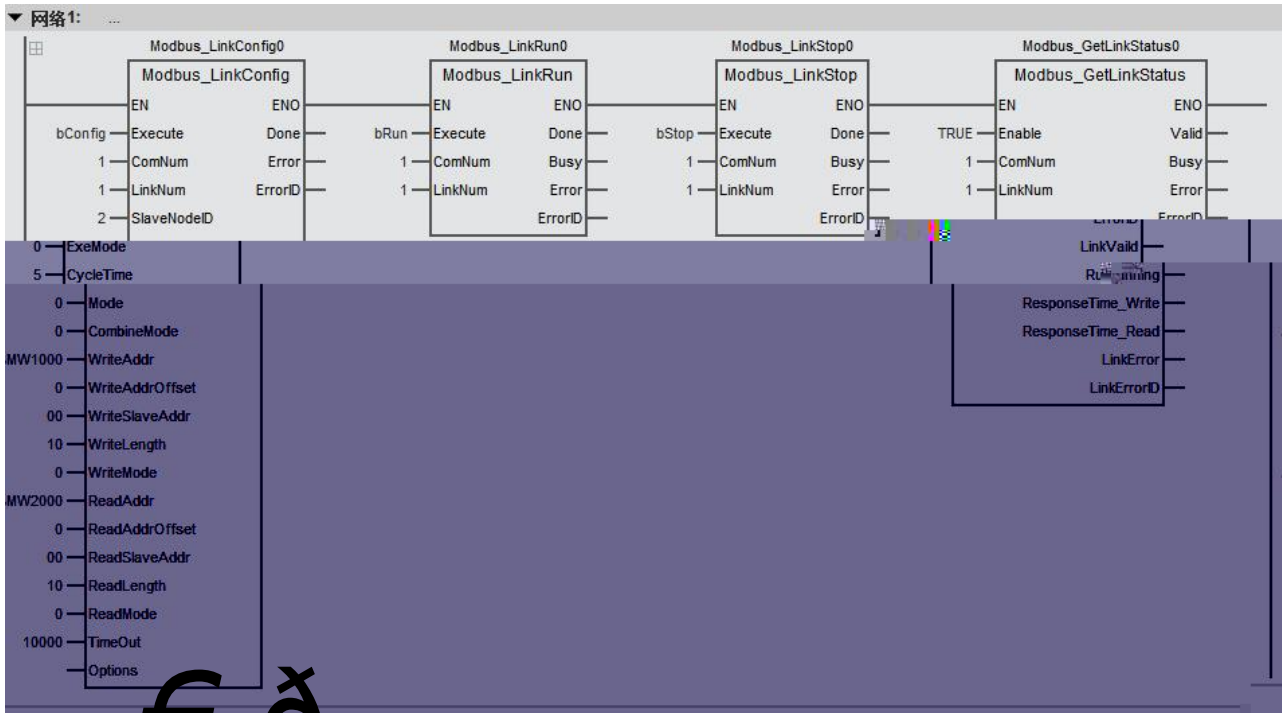


10.

485

LINKCONFIG

1-Modbus_LinkConfig 2-Modbus_LinkRun 3-Modbus_GetLinkStatus 4- 5-Modbus_LinkStop



11. E600



1.

| 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 |

```

FOR I := 1 TO 7 DO
    ...
END FOR
    
```

2.

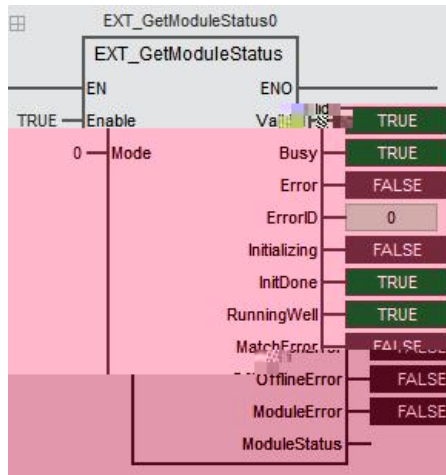
```

9 VAR 测试cw      BOOL
10 VAR 转盘故障   BOOL
11 VAR edge back vall  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(S11(Set:=ton缺料提示延时,Reset:=HMI_故障复位 ,Q=>HMI_故障报警[151] ));
25
26 //Err102-----后纸筒堵塞报警,要求出纸车停转
27 警告触发(S12(Set:=后纸筒堵塞,Reset:=HMI_故障复位 ,Q=>HMI_故障报警[146] ));
28
29 //Err103-----警筒堵塞报警
30 警告触发(S13(Set:=筒堵塞,Reset:=HMI_故障复位 ,Q=>HMI_故障报警[147] ));
31
32 //Err104-----缺料报警提示
33 警告触发(S14(Set:=缺料报警提示,Reset:=HMI_故障复位 ,Q=>HMI_故障报警[148] ));
34
35 //Err105-----工段报警,缺纸报警,缺纸报警报警
36 警告触发(S15(Set:=工段报警,Reset:=HMI_故障复位 ,Q=>HMI_故障报警[149] ));
37
38 //Err111-----工段报警报警,工段报警报警
    
```

3.

EXT_GetModuleStatus



4.

PG

5.

Q

```

%QX1.0 TRUE := 输出控制 TRUE AND NOT %Q1.0 TRUE
%QX1.0 FALSE := 输出控制 TRUE AND NOT %Q1.0 FALSE
    
```

6.

M511S

M511

2104

CPU

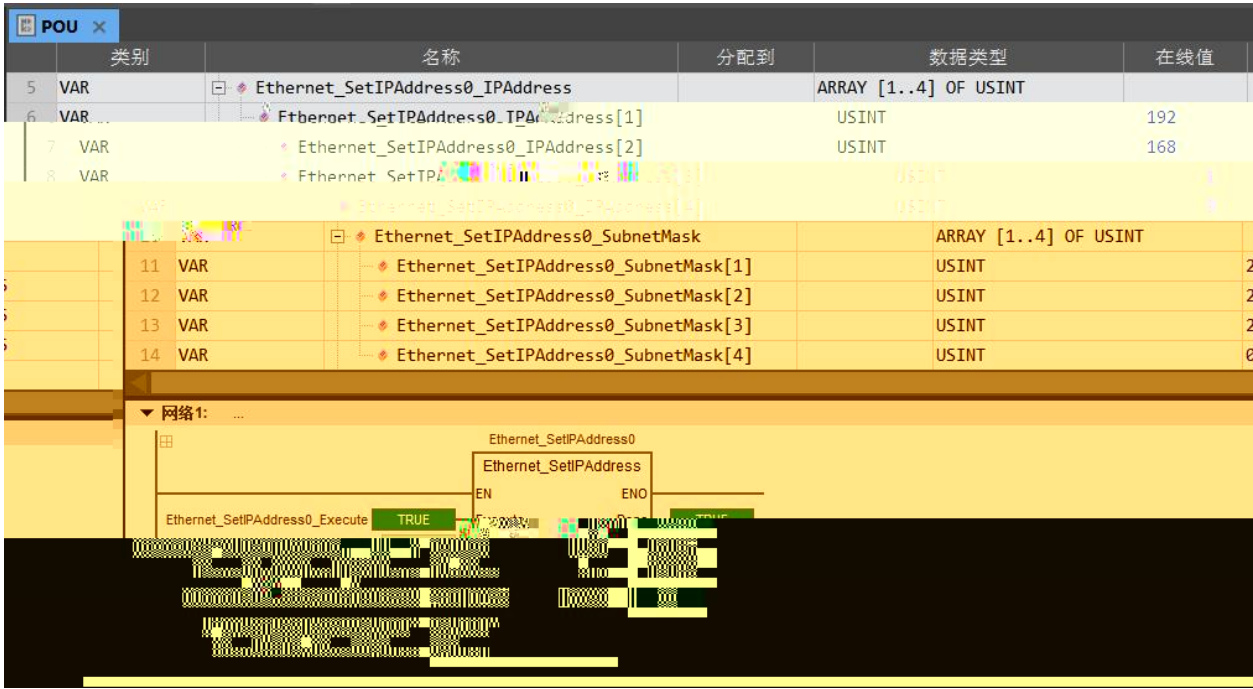
| 类别 | 名称 | 分配到 | 数据类型 | 初始值 | 注释 |
|----|------------|----------------------|--------------------------|-----|---------------------|
| 11 | VAR_INPUT | rFeedPaperLength | REAL | | 送纸长度 |
| 12 | VAR_INPUT | rFeedPaperVel | REAL | | 送纸速度 |
| 13 | VAR_INPUT | iStatorGroove | INT | | 定子槽数 |
| 14 | VAR_INPUT | 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.

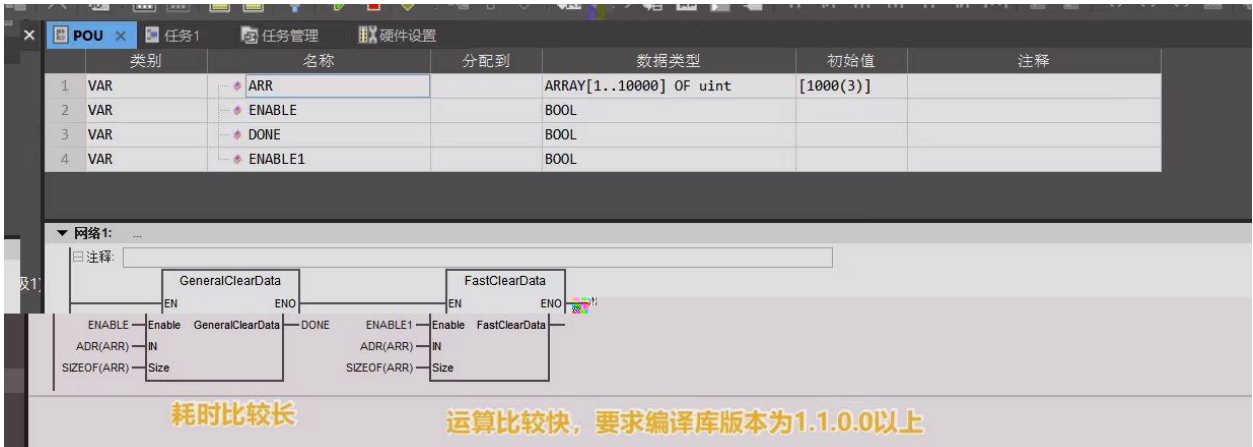
IP

Ethernet_SetIPAddress

IP

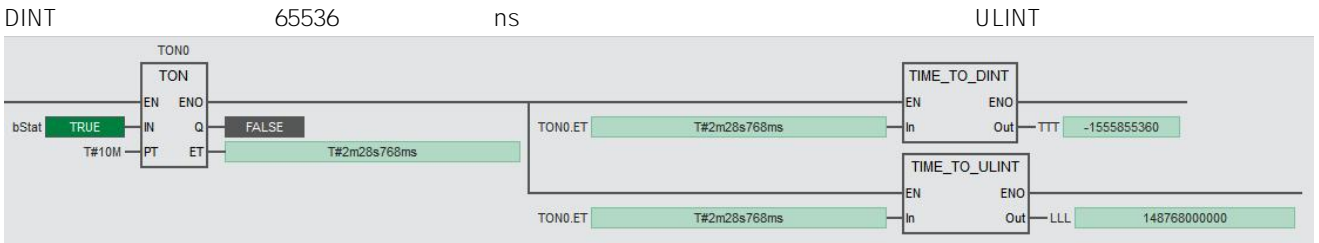


8.



9.

Time to DINT



10.

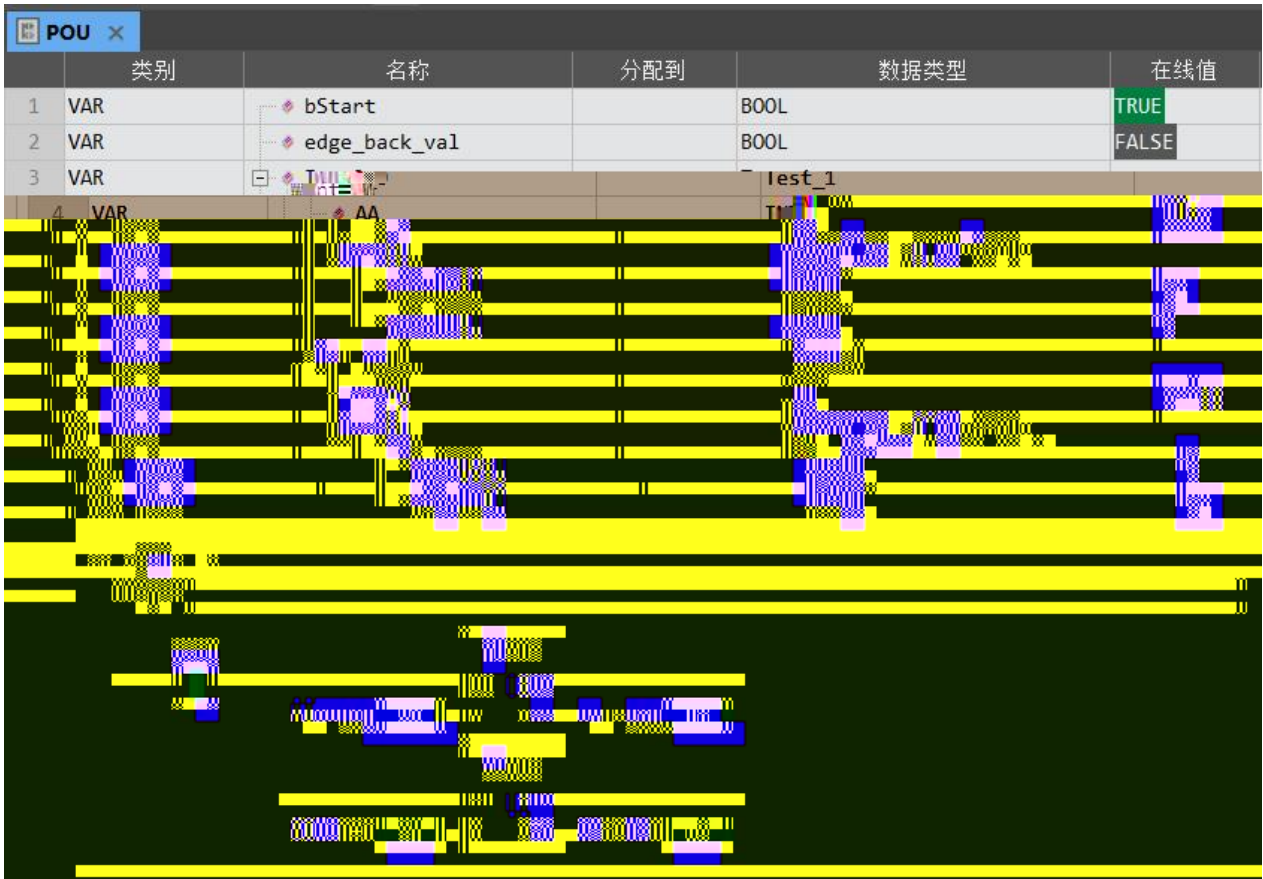
16#2103

2ms

3ms

4ms

11.



15. TIME

TIME modbus

16.

80+1 1 modbus



| 名称 | 数据类型 | 初始值 | 注释 |
|-----|------------|-----|----|
| TTT | STRUCT | | |
| AA | STRING[79] | | |
| BB | STRING[79] | | |
| CC | STRING[79] | | |
| DD | STRING[79] | | |
| EE | STRING[79] | | |

| 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 | | |

17. ID ID

ID PLC

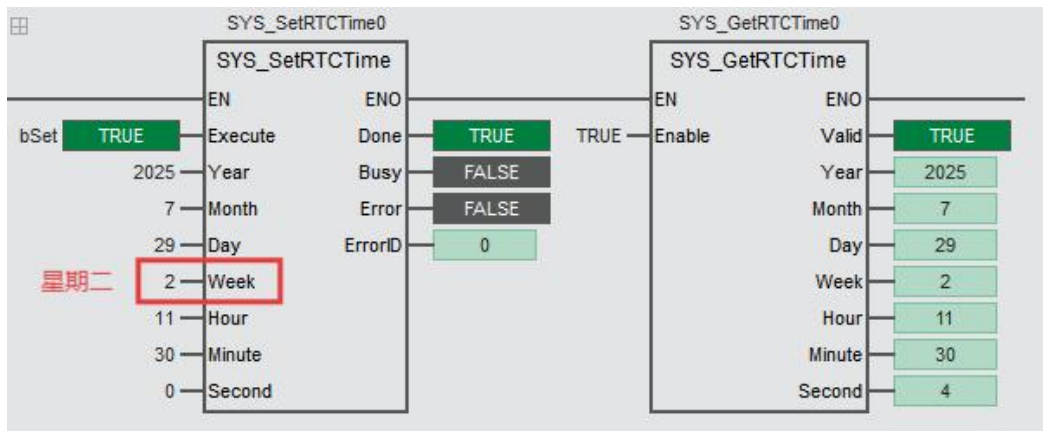
18. M RTC

Sysctrl Studio 2.4.0.1705 SYS_SetRTCTime M100 M200 M300 M500

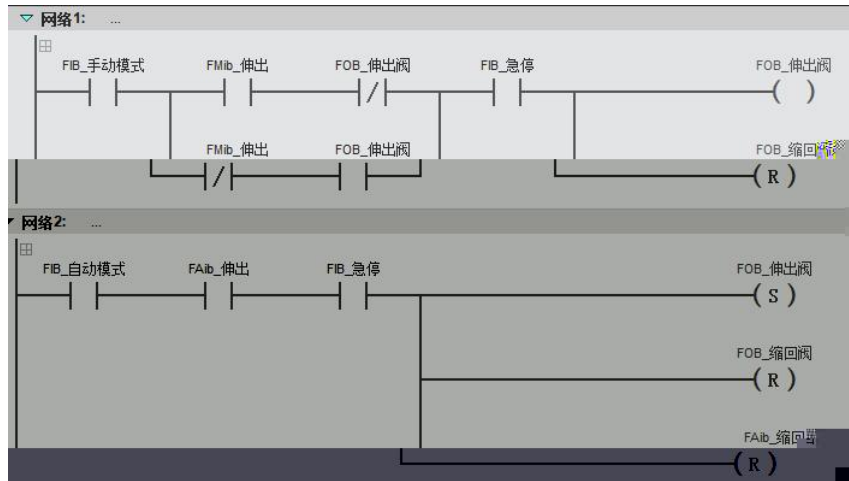
M500S

19. RTC 16690

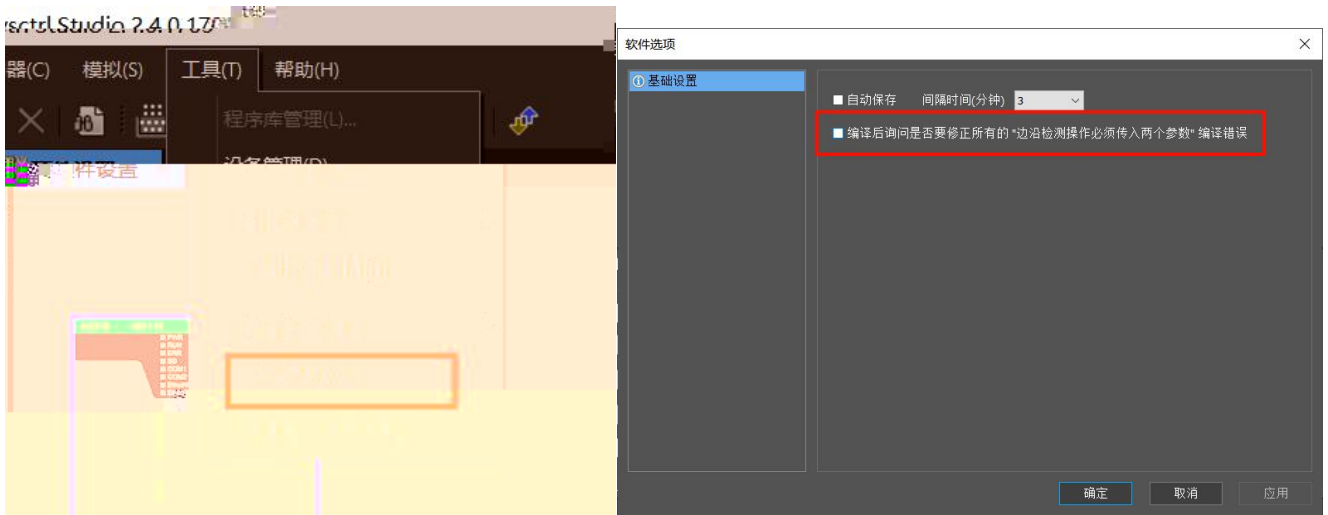
week 1-7



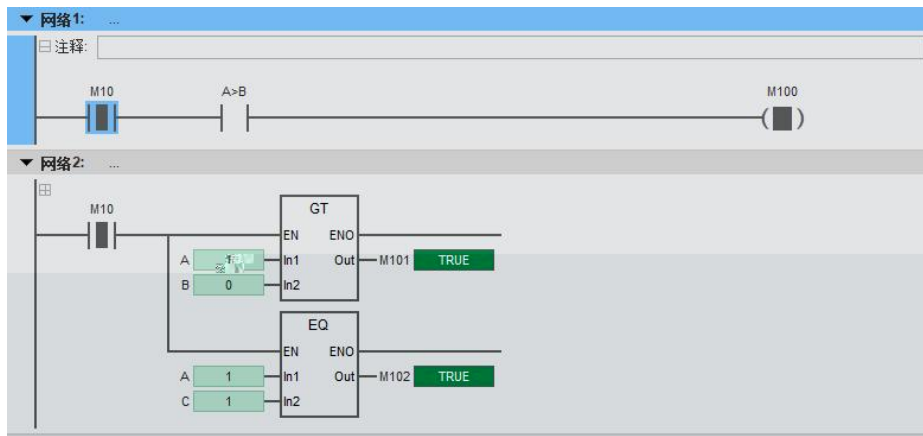
20.



21.



22.



23.

V+ I+

2.

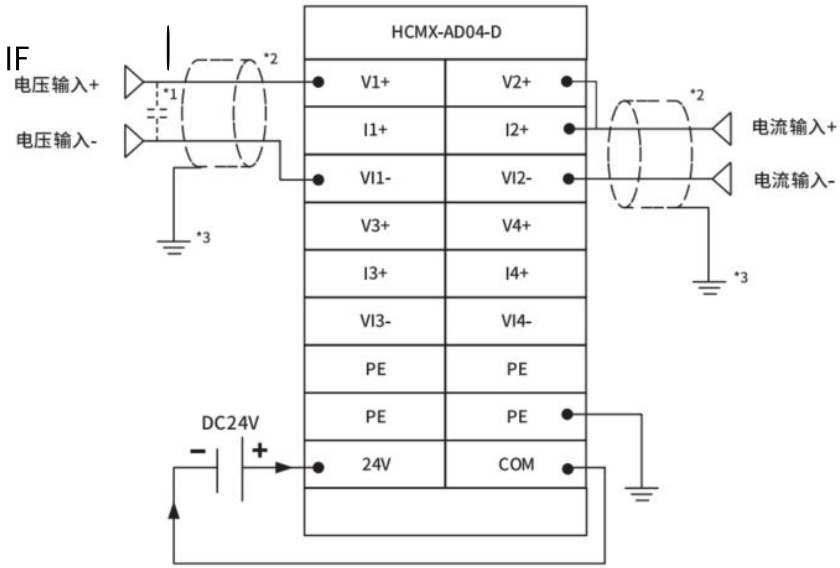


图 8 HCMX-AD04-D 模块端子接线图

24. IF

Sysctrl Studio 2.4.1705 I

| 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 |


```

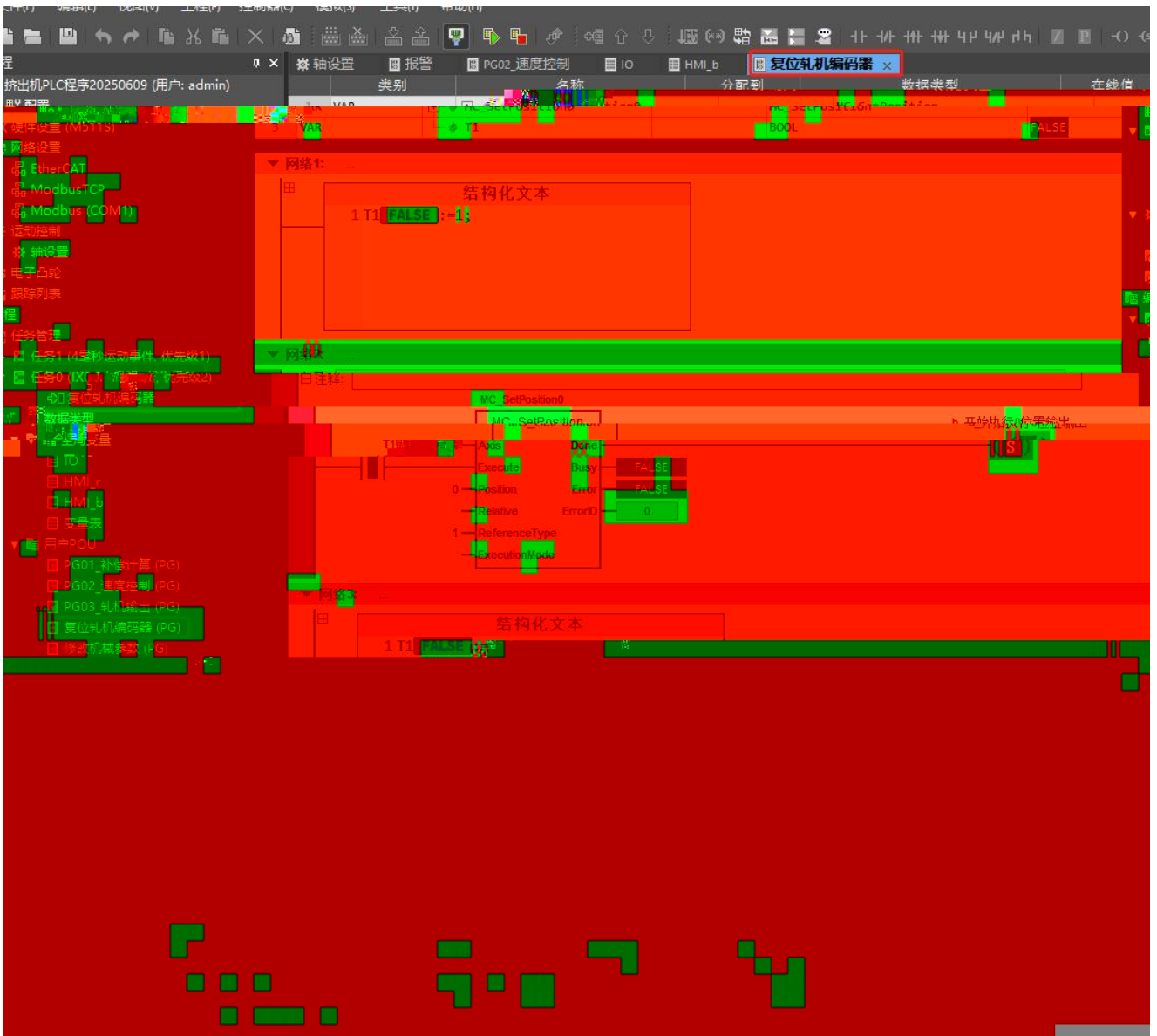
1
2   reData:=reData+1;
3
4   reST.Output:=reST.Input;
5

```

| 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 |

1. MC_Setposition

MC_Setposition

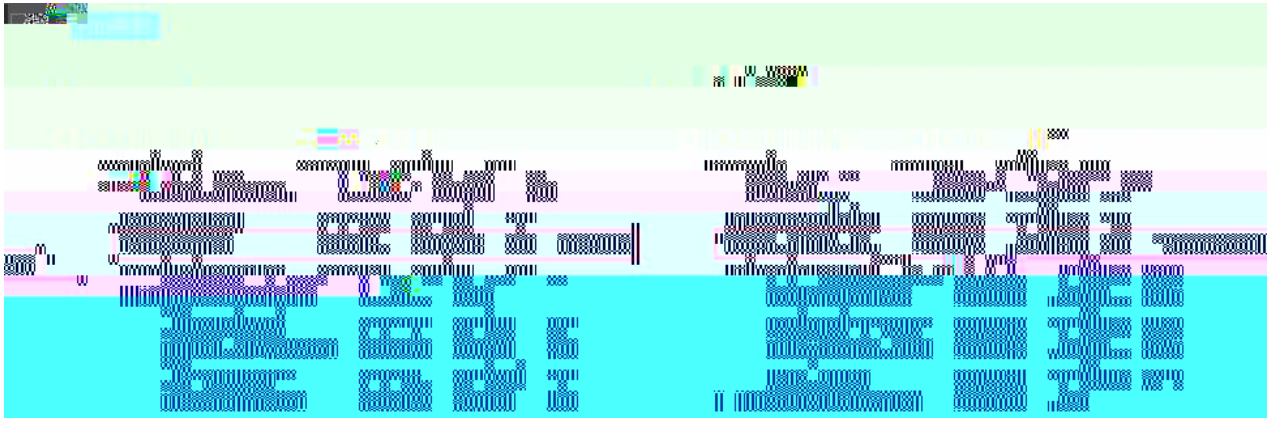


2. 6064 PLC

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

3. M511S M511

| | | | |
|----------|------|-----|-----|
| M500 | PLC | PDO | XML |
| PDO 6077 | 6071 | | |



MC_TorqueControlWithVelocity 6080 6080 6080 0 0 10000

| 索引 | 名称 | 读取/写入值 | 最小值 | 最大值 | 属 | 类型 | 注释 |
|------------|-------------------------|-------------|-------------|-------------|----|-------|----|
| 16#607D:01 | Min position limit | 16#80000001 | 16#80000000 | 16#7FFFFFFF | rw | UDINT | |
| 16#607D:02 | Max position limit | 16#7FFFFFFF | 16#80000000 | 16#7FFFFFFF | rw | UDINT | |
| 16#607E | Polarity | 16#00 | 16#00 | 16#01 | rw | UDINT | |
| 16#607F | Max profile velocity | 16#00000888 | 16#00000000 | 16#FFFFFFF | rw | UDINT | |
| 16#6080 | Max motor speed | 10000 | 16#00000000 | 16#FFFFFFF | rw | UDINT | |
| 16#6081 | Profile velocity | 16#00000064 | 16#00000000 | 16#FFFFFFF | rw | UDINT | |
| 16#6083 | Profile acceleration | 16#00000064 | 16#00000000 | 16#FFFFFFF | rw | UDINT | |
| 16#6084 | Profile deceleration | 16#00000064 | 16#00000000 | 16#FFFFFFF | rw | UDINT | |
| 16#6085 | Quick stop deceleration | 16#000000 | | | | | |

4.

M

任务1 ×

基本信息

优先级:

任务类型: 事件触发 事件选择:

5.

200

50-80

MC_TorqueControl

InTorque

Axis[].ActTrq

6.

MC_HomeByPLCIO

On

7.

Jerk

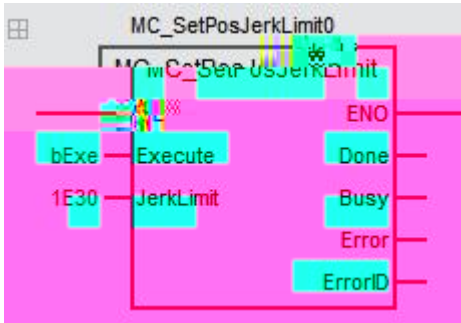
Jerk

8.

MC_StopAtPhase

13. MC_HomeByPLCIO homing
 PDO 6060
 PDO 6060 6061 6040 6041 607A 6064

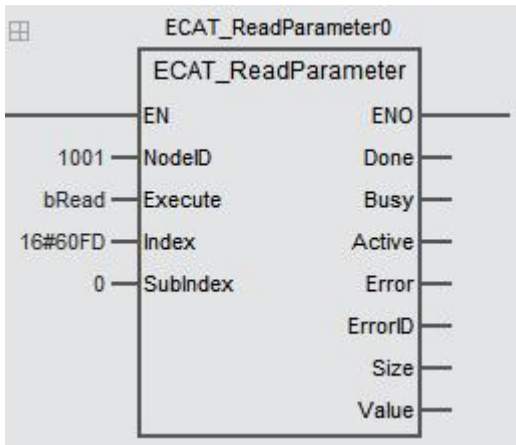
14. Jerk JerkLimit 1E30



15. M512 op pdo pdo

| 名称 | 索引 | 长度(类型) | 偏移 | 注释 |
|------------------------------|------------|-------------|------|----|
| Receive PDO 1 | 16#1600 | 8.0 | | |
| Control Word | 16#6040 | 2.0 (UINT) | 0.0 | |
| Profile Target Position | 16#607A | 4.0 (DINT) | 2.0 | |
| Touch Probe Function | 16#6088 | 2.0 (UINT) | 6.0 | |
| Control word | 16#6040 | 2.0 (UINT) | 0.0 | |
| Profile Target Position | 16#607A | 4.0 (DINT) | 2.0 | |
| Profile Target Velocity | 16#6083 | 4.0 (UDINT) | 6.0 | |
| Profile Target Acceleration | 16#6083 | 4.0 (UDINT) | 10.0 | |
| Profile Target Deceleration | 16#6084 | 4.0 (UDINT) | 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#608F | 4.0 (DINT) | 2.0 | |
| Profile Acceleration | 16#6083 | 4.0 (UDINT) | 6.0 | |
| Profile Deceleration | 16#6084 | 4.0 (UDINT) | 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 (UDINT) | 3.0 | |
| Homing Velocity (slow) | 16#6099:02 | 4.0 (UDINT) | 7.0 | |
| Homing Acceleration | 16#6099:03 | 4.0 (UDINT) | 11.0 | |
| Homing Umset | 16#607C | 4.0 (DINT) | 15.0 | |
| Modes of Operation | 16#6060 | 1.0 (USINT) | 19.0 | |
| Transmit PDO 1 | 16#1A00 | 19.0 | | |
| Last Error Code | 16#603F | 2.0 (UINT) | 0.0 | |
| Status Word | 16#6041 | 2.0 (UINT) | 2.0 | |
| Modes of Operation display | 16#6061 | 1.0 (SINT) | 4.0 | |
| Position Actual Value | 16#6064 | 4.0 (DINT) | 5.0 | |
| Touch Probe Status | 16#6089 | 2.0 (UINT) | 9.0 | |
| Touch Probe 1 Positive Value | 16#608A | 4.0 (DINT) | 11.0 | |
| Transmit PDO 2 | 16#1A01 | 0.0 | | |

16. DI SDO
 ECAT_ReadParameter DI SDO



- 17. ECAT_ReadParameter,ECAT_WriteParameter ECAT
PDO 1
- 18. 4123 096
- 19. MC_GearIn InGear Eexecute MC_GearIn
Eexecute InGear MC_GearIn
- 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

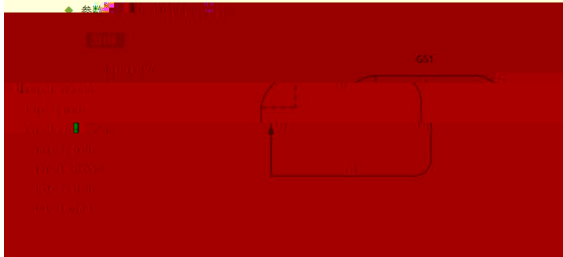
G51 圆弧过渡

功能说明

- ◆ 概念之间以圆弧形式进行路径连续过渡...可在两直线段之间以恒定速度过渡。

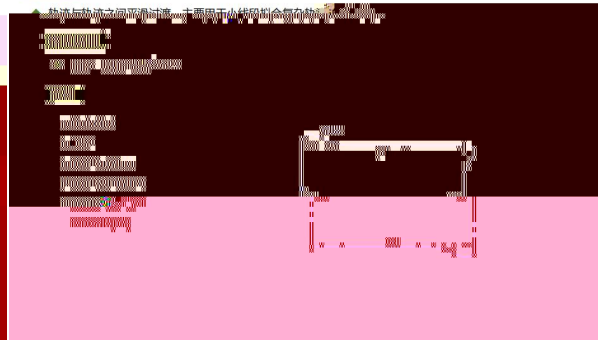
格式说明

- ◆ 格式命令一般格式为: G51 D_
- ◆ 参数



G52 圆滑过渡

功能说明



TransitionMode介绍

- ◆ 轴组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MC_MoveDistance模式时需要填写TransitionParameter参数，该参数表示过渡半径

过渡模式由前后两个指令的TransitionMode参数共同决定，且前后两个指令的参数相同时才会有意义，否则都无效。各个轴组指令支持的过渡模式



25.

6080

26.

JERK

1000

27. MC_SetPosition

IF

```

IF bSetCon THEN
    MC_SetPosition(
        Axis:=1,
        Execute:=bSetCon
    );
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: 脉冲/转

[2] 工作每转的工作行程: [单元]

[3] 减速机输出转速:

[4] 减速机输入转速:

点动

点动速度: 单元/秒

点动加速度: 单元/秒²

点动减速度: 单元/秒²

轴使能 轴去使能 正转 反转

32. M512

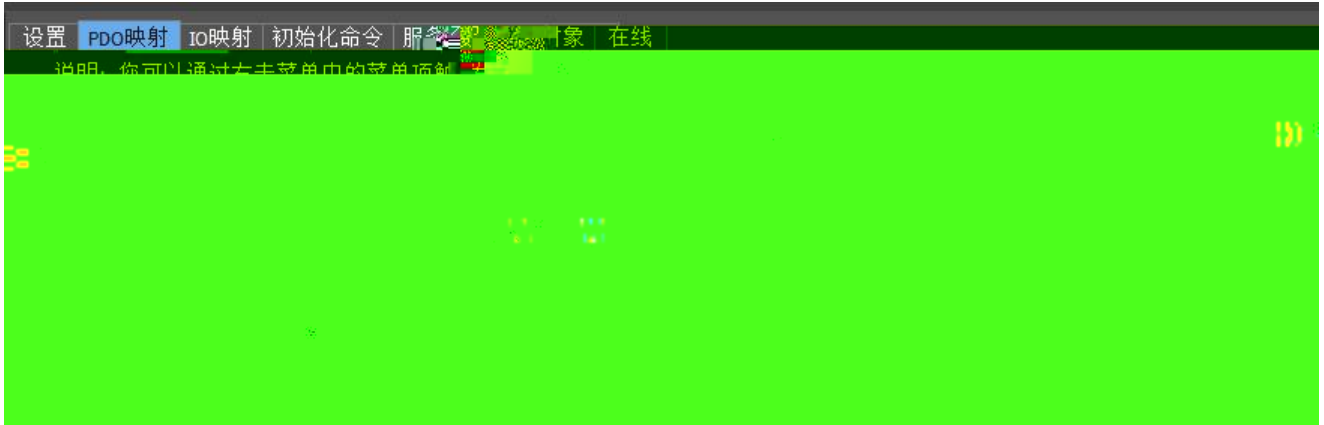
M500

PDO

PDO

16#606C

M



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

buffermode 1 3 0

37.

MC_EncoderCompare M100 M200 M300 M500S

38. MC_home 30 4105

30*10*8388608=2,516,582,400 607C

39. SV730W 4866

730W XML 6080 16#607F

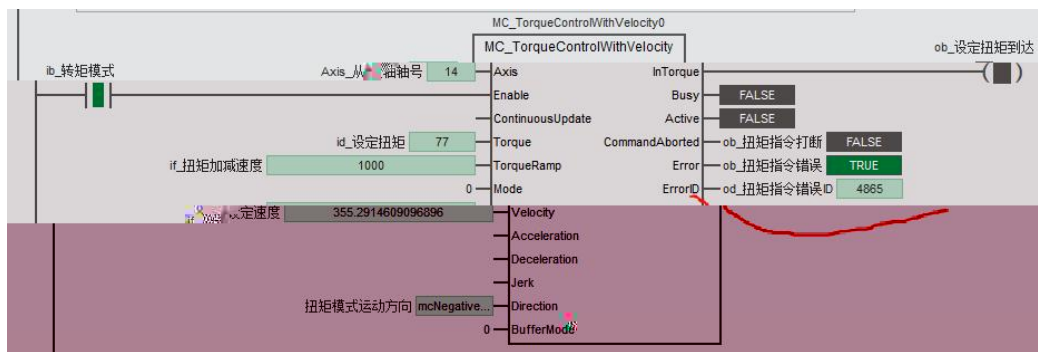
40. MC_TorqueControlwithVelocity 4865

SDO PDO

1) 1ms SDO

2) SDO SDO

SDO SDO



41.

MC_SetCamPoint

MC_GetCamPoint

42. 0

MC_CAMIN MasterValueSource

1 1

43.

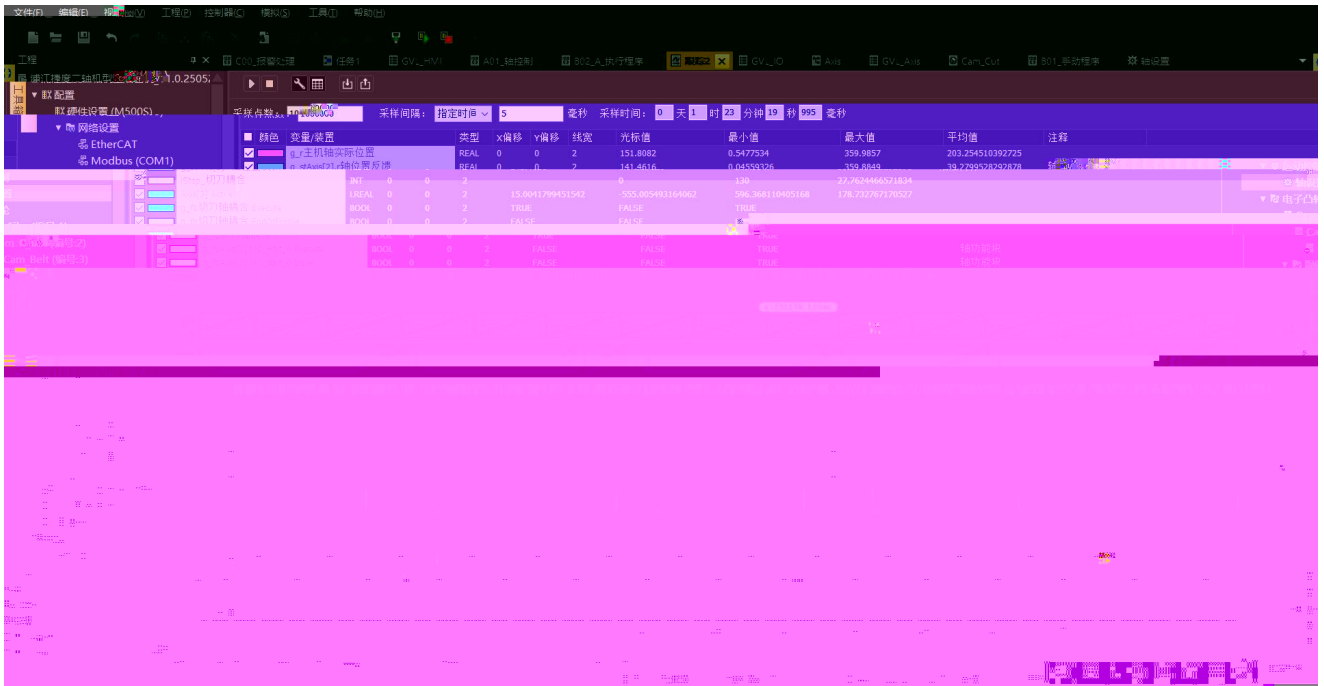
CAM

44. 1:1

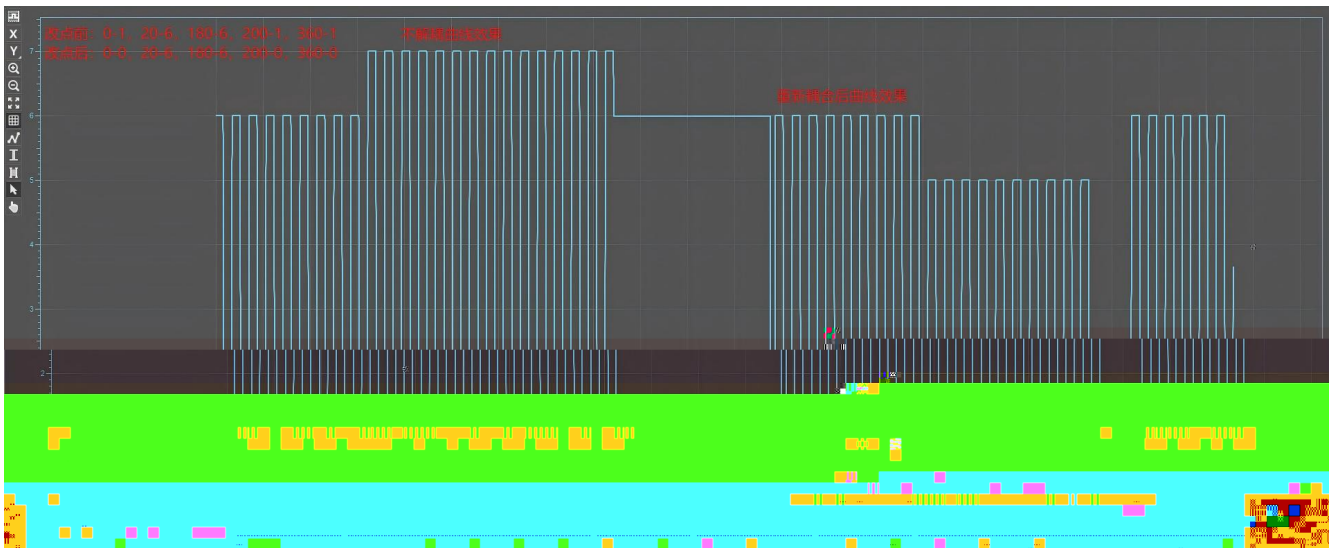
1 camin

AB

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. " "

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https://blog.csdn.net/qq_33188565/article/details/112859534

8.

9. 16#2111

10. RUN PLC STOP