
MC

Rev:V2.4

: 2016 10 10

MC

V2.4

2016-10-10

B 5

518057

www.megmeet.com

400-666-2-163

0755-86600999

PLC

PLC

MC

PLC

.....	1
.....	13
.....	38
.....	52
.....	62
.....	77
.....	254
.....	278
.....	288
.....	298

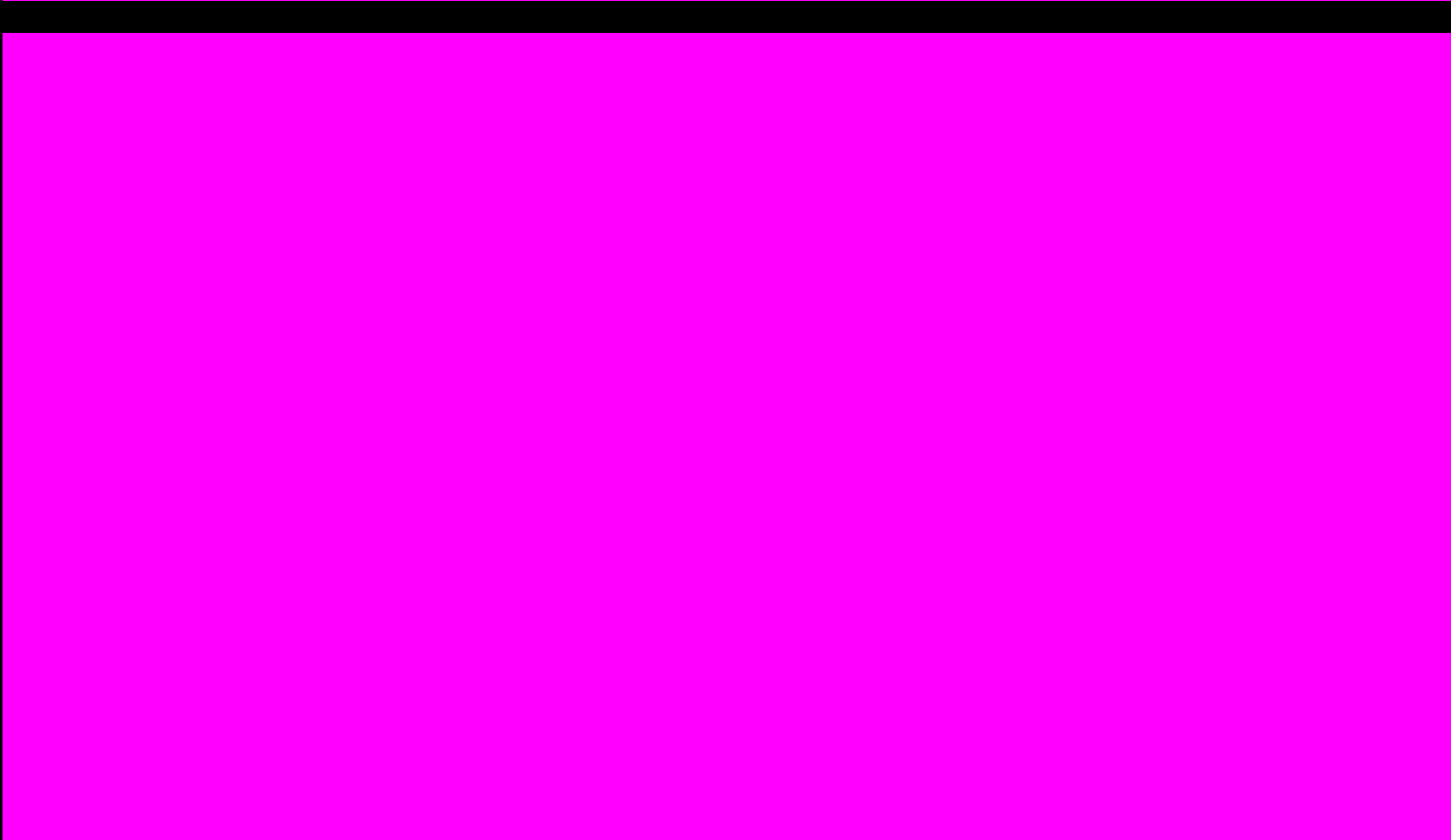
	MC100	MC200	MC280	PLC	
					1
1.1					2
1.1.1	MC	PLC			2
1.1.2	MC80				4
1.1.3	MC100				5
1.1.4	MC200				5
1.1.5	MC280				6
1.2	X_Builder				6
1.2.1					7
1.2.2	X_Builder				7
1.2.3	X_Builder				7
1.2.4					8
1.3					8
1.3.1					8
1.3.2					9
1.3.3					9
1.4					10
1.4.1	Modbus				10
1.4.2	MCbus				10
1.4.3					10
1.5	MC	PLC			10
1.5.1					10
1.5.2	IO				11
1.5.3					12
1.5.4					12
1.5.5					12

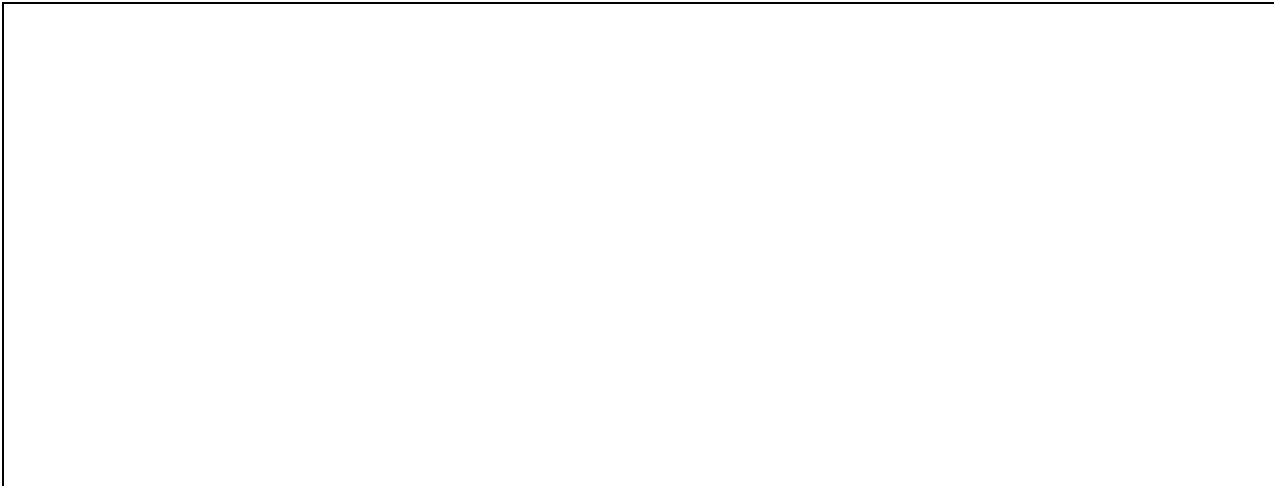
1.1

MC

PLC

		MC280		MC200		MC100		MC80	
		32k	64kByte	12k	24kByte	16k	24kByte	6k	12kByte
		R		C		320		320	180
				200		180			
				1		EEPROM		EEPROM	
		100ms T0 T209 10ms T210 T479 1ms T480 T511		100ms T0 T209 10ms T210 T251 1ms T252 T255					
		16 C0 C199 32 C200 C235 32 C236 C259 C301 C306		16 C0 C199 32 C200 C235 32 C236 C259					
		D0 D7999 R0 R32767		D0 D7999		D0 D7999		D0 D3999	
		V0 V63							
		Z0 Z15							
		SD0 SD511		SD0 SD255					
		M0 M10239		M0 M1999		M0 M2047		M0 M1023	
		LM0 LM63							
		SM0 SM511		SM0 SM255					
		S0 S4095		S0 S991		S0 S1023		S0 S1023	
		3		3		3		3	
		16		16		16		16	
		8		6		6		6	
		12		10		8		4	
	PTO	6		2		2		2	
		3		/		/		/	
		6		/		/		/	
		1		1		1		1	
		0.065 S		0.09 S		0.3 S		0.3 S	
		3		3		25		100	
				2 /8		2 /8			
		PORT0 RS232 PORT1 RS485 PORT2 RS485		PORT0 RS232 PORT1 RS232/RS485		PORT0 RS232 PORT1 RS232/RS485		PORT0 RS232	
		Modbus/	/MCbus/						



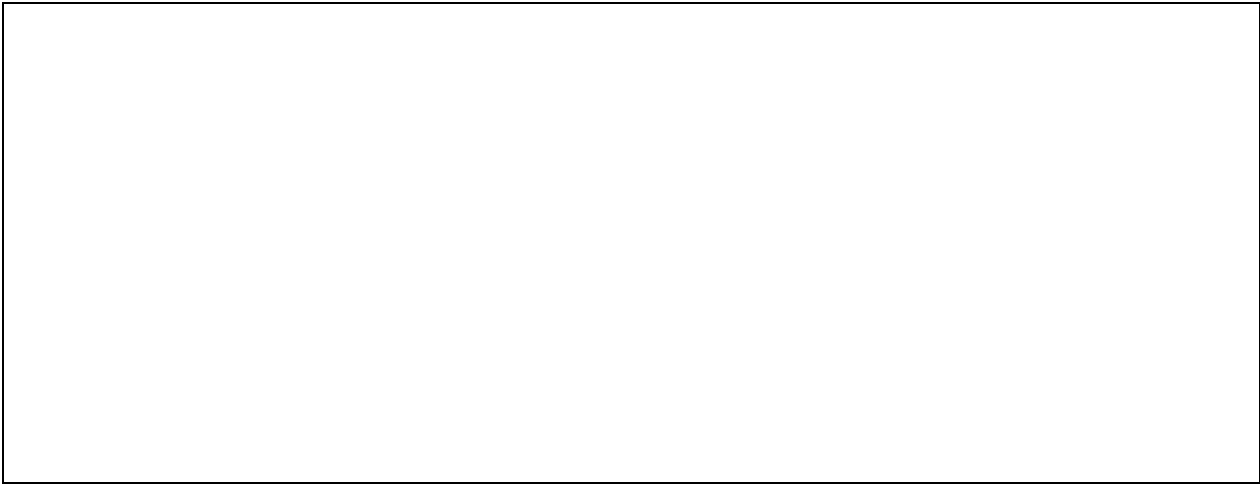


1-1 MC80

PORT0 RS232 Mini DIN8 ON TM OFF

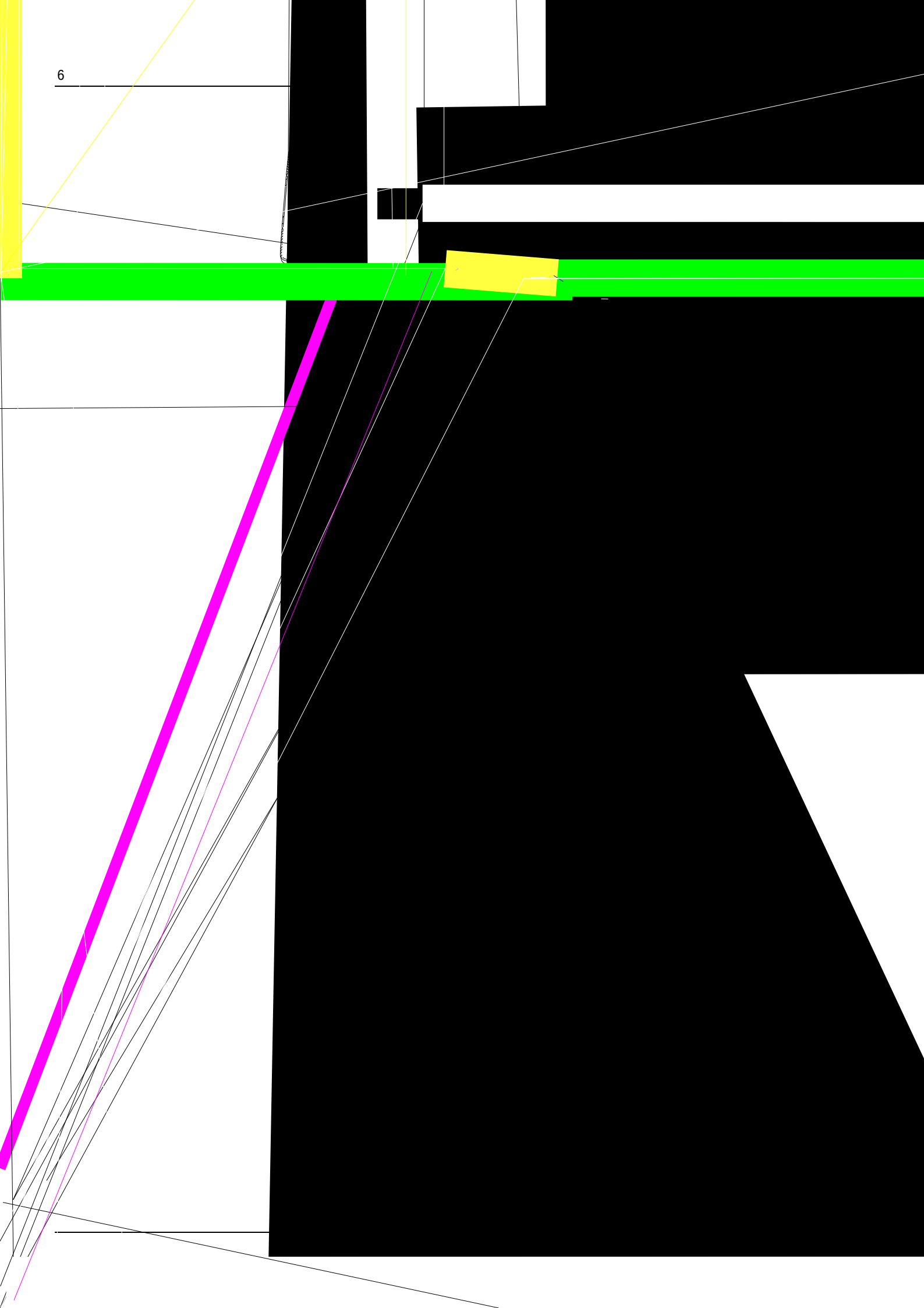
1.1.3 MC100

MC100 MC100-1614BRA



1-2 MC100

PORT0 PORT1 PORT0 RS232 Mini DIN8 PORT1 RS485 RS232
ON TM OFF ? ? ? 1



6

1.2.1

X_Builder

IBM PC

Microsoft Windows

Windows 98 NT 4.0 Windows 2000 Windows XP Windows Vista Windows7

X_Builder

1-2 X_Builder

	CPU				CPU		
	Intel	Pentium 233			Intel	Pentium 1G	
	64M				128M		
	640	480	256		800	600	65535
	DB9		RS232	USB	RS232		USB
	PLC						

1.2.2 X_Builder

X_Builder

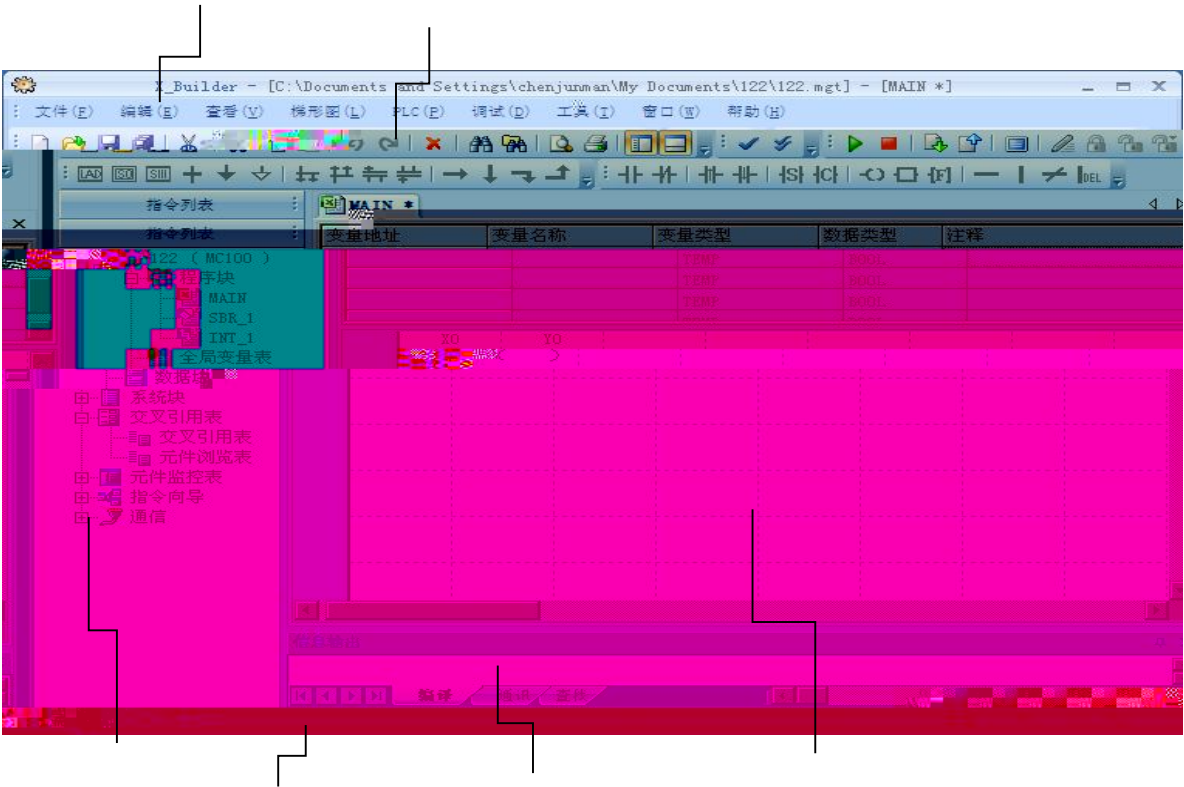
X_Builder

Windows

X_Builder

X_Builder

1.2.3 X_Builder



1-5 X_Builder

X_Builder

X_Builder

1.2.4

USB

PLC

RS232

DB9

1.3

MC

MC

MC100

MC200

MC280

1.3.1

1

MCA200-UDM01SL2

MCA200-UDM01



1-6

2

PLC

PLC-



1-7

3

X-builder

PLC

4

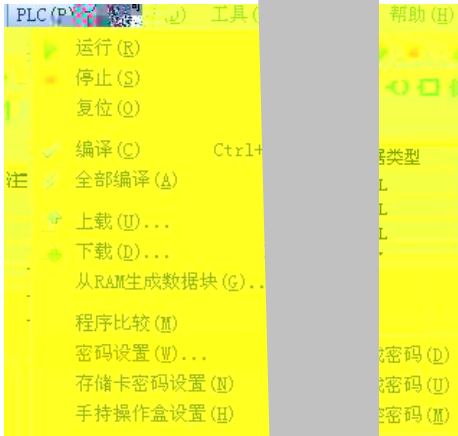
PLC

PLC-PLC

-

/

/



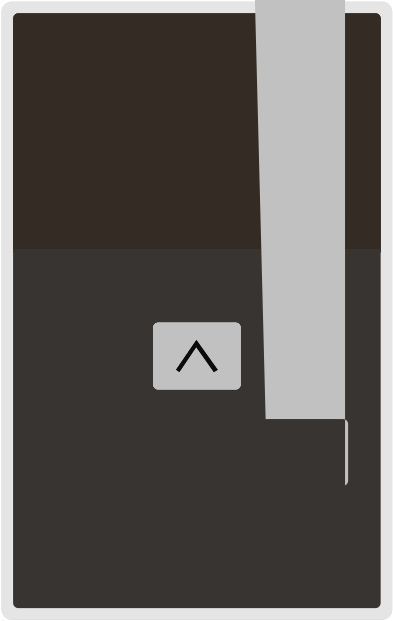
1-8

1.3.2

1	MCA200-UDM01SL1	MC	PLC	POWER	
2	UPLOAD	ENT	(WORK	ERR	
3	DOWNLOAD	WORK	WORK	ERR	ERR

1.3.3

1	MON				
2	PLC	⊖ ⊖	SHIFT	ENT	
3	ENT				



1.4

MC100/200 PLC 2 PORT0 PORT1 MC280 PLC 3
 PORT0 PORT1 PORT2 Profibus 485
3 Modbus MCbus

1.4.1 Modbus

 PORT1 PORT2 RS485 PORT0 RS232/485 PLC
 RS485 Modbus 1200 115200bit/s RTU
ASCII
 PORT0 PORT1 RS232 PLC 1 1
 Modbus Modbus MC100 MC200

1.4.2 MCbus

MC100/MC280 PLC MCbus PORT1 PORT2 RS485 N:N
 RS232/485 PORT0 MCbus
MCbus 2 32 PLC 115200bps
 MCbus

1.4.3

 ASCII
 PLC PLC RS232 RS485 RS485

1.5 MC PLC

MC PLC

1.5.1

MC80	
MC100	

MC200	
MC280	
MC100 (AC)	
MC100 (DC)	

1.5.2 IO

MC100	
MC200	

[illegible]

1.5.3

[illegible]

1.5.4

	MC100
	MC200

1.5.5

MC200	

	MC	PLC	PLC	
2.1				14
2.1.1				14
2.1.2 PLC				18
2.1.3				19
2.1.4				19
2.1.5				19
2.1.6				19
2.1.7				19
2.1.8 D				20
2.1.9				20
2.1.10				20
2.1.11				21
2.2				21
2.2.1				21
2.2.2				28
2.2.3				29
2.2.4 MC200 MC280 BFM				29
2.3				30
2.3.1				30
2.3.2				30
2.3.3				31
2.4				31
2.4.1				31
2.4.2				31
2.4.3				33
2.4.4				33
2.4.5 PLC				34
2.4.6				35
2.4.7 RAM				36

2.1

2.1.1

2-1 MC100

I/O	I/O	128	
		I/O	4
		16k	
		8000 D	
		0.3 S/	
		S	S /
		32	
		226	
7		128 /128	X0 X177 Y0 Y177 ¹
		2048 M0 M2047	
		64 LM0 LM63	
		256 SM0 SM255	
		1024 S0 S1023	
		256 T0 T255 ²	
		256 C0 C259 ³	
		8000 D0 D7999	
		64 V0 V63	
		16 Z0 Z15	
		256 SD0 SD255	
		16 X0 X7	
		6	
		3	
		8	
	PTO	2	
		1	
		2	0 RS232 1 RS232 RS485
		Modbus	MCbus 1 N N:N
		X0 X1	50kHz X0 X5 80kHz
		X2 X5	10kHz
		Y0 Y1	100kHz
		X0 X7	X0-X3 X4-X7
	⁴	2	
		64	6 16
			3 8
			16
	⁵	X_Builder ⁶	IBM PC
		100	2

2-2 MC80

I/O	I/O	60	
		6k	
		4000 D	
		0.3 S/	
		S S/	
		32	
		200	
7		128 /128 X0 X177 Y0 Y177 ¹	
		1024 M0 M1023	
		64 LM0 LM63	
		256 SM0 SM255	
		1024 S0 S1023	
		256 T0 T255 ²	
		256 C0 C255 ³	
		4000 D0 D3999	
		64 V0 V63	
		16 Z0 Z15	
		256 SD0 SD255	
		16 X0 X7	
		6	
		3	
		4	
	PTO	2	
		1	
		1 0 RS232	
		Modbus	
		X0 X1	50kHz X0 X5 80kHz
		X2 X5	10kHz
		Y0 Y1	50kHz
		X0 X7	
	⁴	2	
		64	6 16
			3 8
			16
	⁵	X_Builder ⁶	IBM PC

2-3 MC200

I/O	I/O	512 256 /256	
		8 8	
		12k	
		8000 D	
		0.09 S /	
		S 280 S /	
		32	
		221	
7		256 /256 X0 X377 Y0 Y377 ¹	
		2000 M0 M1999	
		64 LM0 LM63	
		256 SM0 SM255	
		992 S0 S991	
		256 T0 T255 ²	
		256 C0 C255 ³	
		8000 D0 D7999	
		64 V0 V63	
		16 Z0 Z15	
		256 SD0 SD255	
		16 X0 X7 /	
		6	
		3	
		3	
		12	
	PTO	2	
		2 0 RS232 1 RS232 RS485	
		2 485 RS422 RS485	
		Modbus 1 N	
		X0 X1 50kHz X0 X5 80kHz	
		X2 X5 10kHz	
		Y0 Y1 100kHz	
		X0 X17	
	⁴	2	
		64 6	
		16	
			3 8
	⁵	X_Builder ⁶ IBM PC	
		PDA	

2-4 MC280

I/O	I/O	512	256
-----	-----	-----	-----

(2) 10ms T210' T

MC

& ũ U ó î 0 (3 1 x 00 1 x

2.1.3

X_Builder

2.1.4

X_Builder
0



2.1.5

The diagram illustrates the relative positions of three components (MC200, MC100, MC280) to three memory types (RAM, FLASH, EEPROM). The components are arranged vertically, and the memory types are arranged horizontally. MC200 is positioned above MC100, which is above MC280. RAM is positioned to the left of FLASH, which is to the left of EEPROM. MC200 is connected to RAM by a horizontal line. MC100 is connected to FLASH by a horizontal line. MC280 is connected to FLASH and EEPROM by a horizontal line.

Component	RAM	FLASH	EEPROM
MC200	Connected		
MC100		Connected	
MC280		Connected	Connected



1 30

2 MC200 MC280 PLC

用户信息文件错误

2.1.6

PLC STOP RUN EEPROM

2-5 PLC

	OFF	ON	STOP	RUN
EEPROM				
0 0				
0 0				

2.1.7

2-2

MC100
MC200 MC280
MC200

M100 M200
M300 M400

M100 M200 M300 M400



2-2

1	MC200	MC280	PLC					PLC	
2	MC100		PLC						

2.1.8 D

MC100		EROMWR		D	D6000 D6999		EEPROM	
		2		5ms				
		EEPROM		100		CPU		
		EEPROM				CPU		

2.1.9

MC200 X0 X17 MC100 MC280 X0 X17

2.1.10

MC200 MC280

2.1.11

2-6

	PLC PLC



2.2

2.2.1

PLC PLC PLC

[illegible]

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•

•

•

•

MC100	MC200	MC280	PLC	SRAM
-------	-------	-------	-----	------

2-3



2-3



PLC

D M S T C

MC200 MC280
MC100

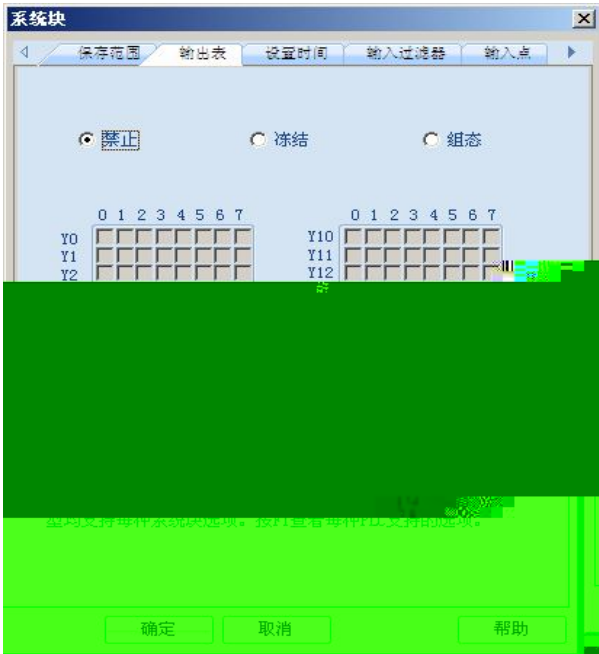


MC100 PLC T

PLC
PLC SRAM SRAM SRAM
SRAM PLC SRAM

PLC

2-4

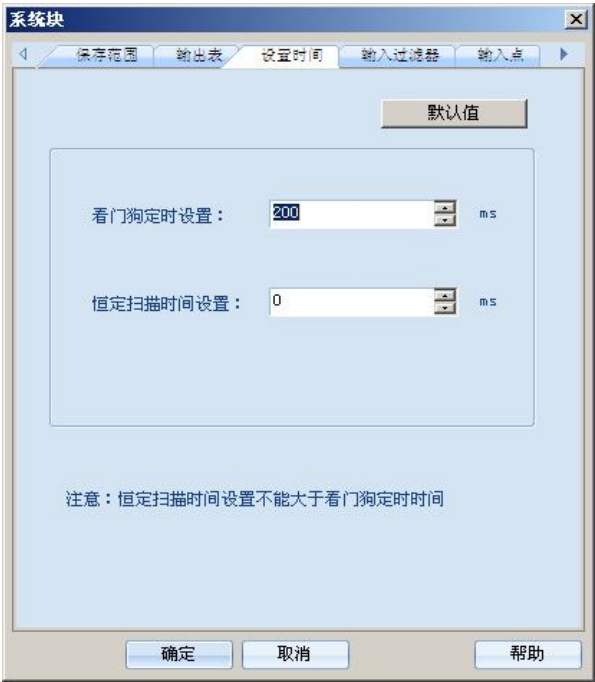


2-4

MC

		CPU	
		PLC	
(1)	PLC		
(2)	PLC		
(3)	PLC		0

2-5



2-5

1.

	PLC		0ms
1000ms		200ms	

2.

0ms	1000ms	0ms
-----	--------	-----

3.

	MC200	MC280		
		PLC		
	0ms	100ms	0ms	
		PLC		
		X0 X17 MC100 MC280	X0 X17	
	MC100	X0 X3 X4 X7		0 2 4 8 16 32 64
MC280		X0 X3 X4 X7	0 60ms	MC200
0 60ms	MC100			

2-6



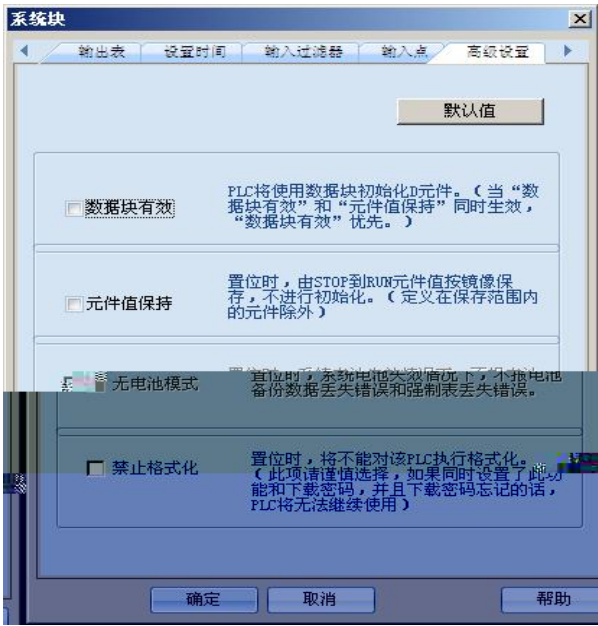
1

STOP

ON



2



2-8

1. : PLC STOP RUN D
2. : STOP RUN



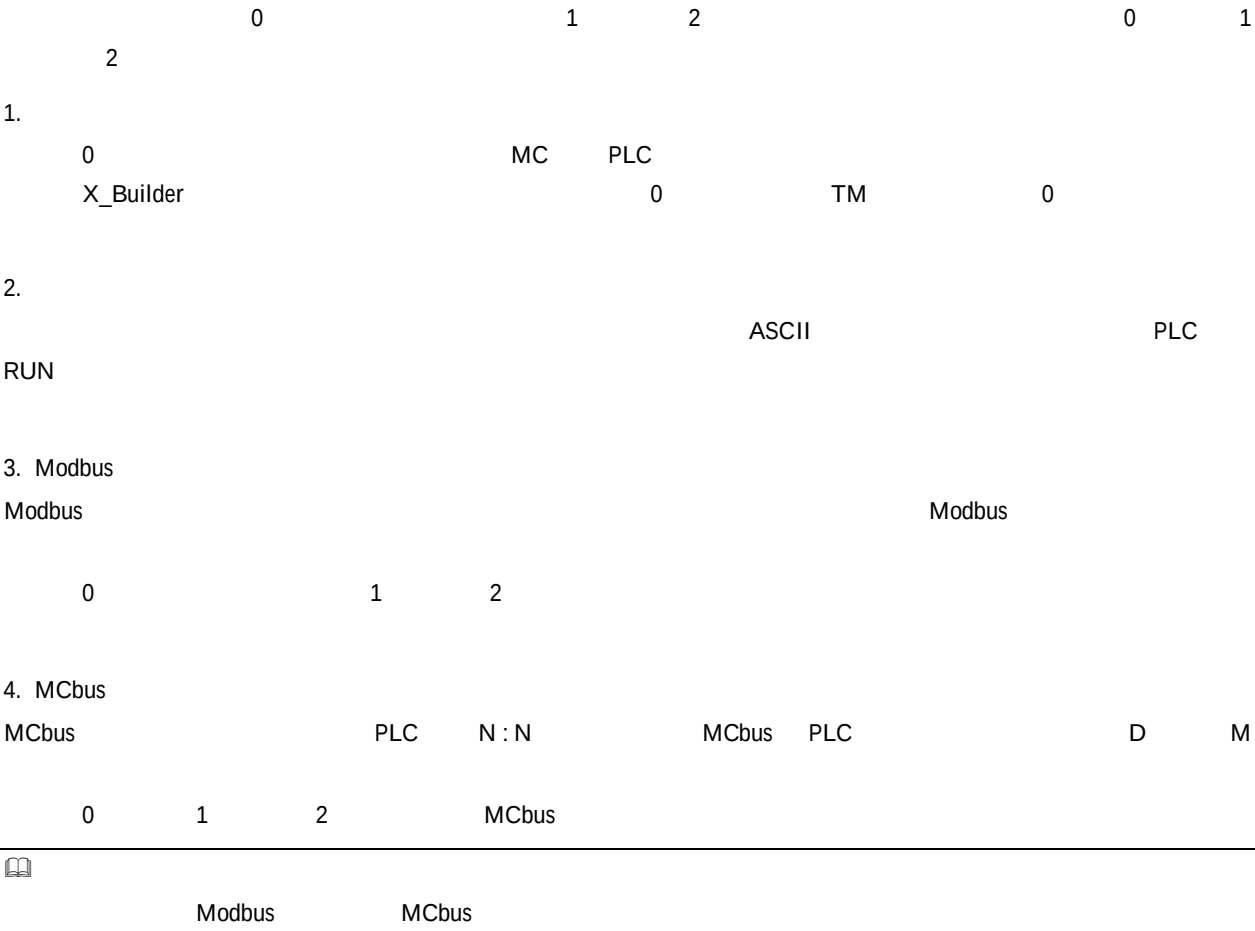
数据块有效 元件值保持 数据块有效 2.1.6

3.

PLC 2 3 2-9



2-9



MC200 2-10



2-10

1.
- 0
- 3

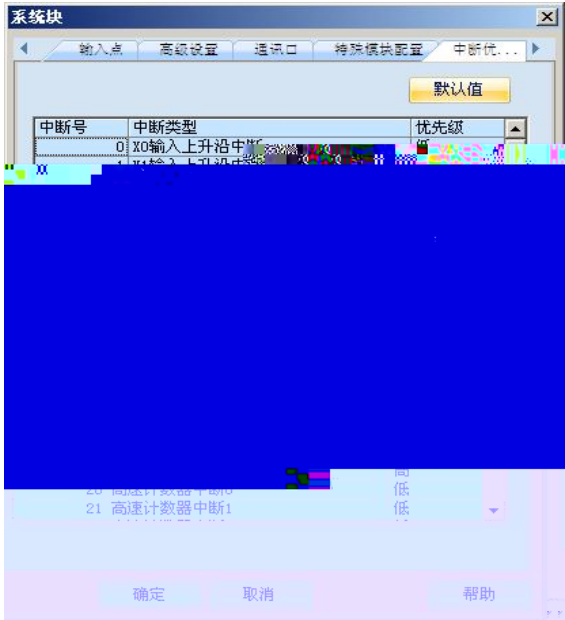
2.



2-11

2-12

PLC



2-12

D

D

D

MC280

D

R

X_Builder

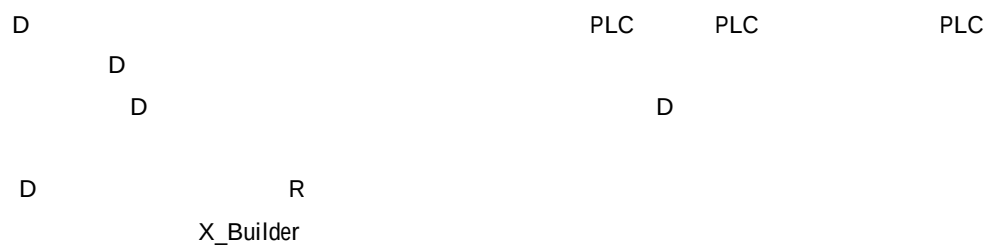
PLC

PLC

PLC

D

MC



2.2.3

PLC

A Z a z 0 9
8

MC280/100/80

PLC

1000/500/140

2-15

MAIN 全局变量表			
	变量名	变量地址	注释
1	正向定位控制	X4	正向定位控制
2	反向点动	X3	反向点动
3	正向点动	X2	正向点动
4	原点回归	X1	原点回归
5	停止按钮	X0	停止按钮

信息输出

编译 通讯 查找

2-15

2.2.4 MC200 MC280 BFM

MC200 MC280 PLC

+X g

MC200 MC280

MC200 MC280

TO MC200 BFM MC200

FROM MC200 BFM

MC200 MC280

MC200 MC280

TO MC200 BFM

SD3 SD3 SM3

SD3

ERR

SM20 SM20 SD20



2-19 PLC

SD3

SD20

2.4.3

PLC



PLC

PLC

PLC

PLC

1

/

2

PLC

2.4.4

PLC

PLC

PLC

PLC

PLC

PLC

PLC

PLC

PLC

PLC



2-21 PLC

PLC

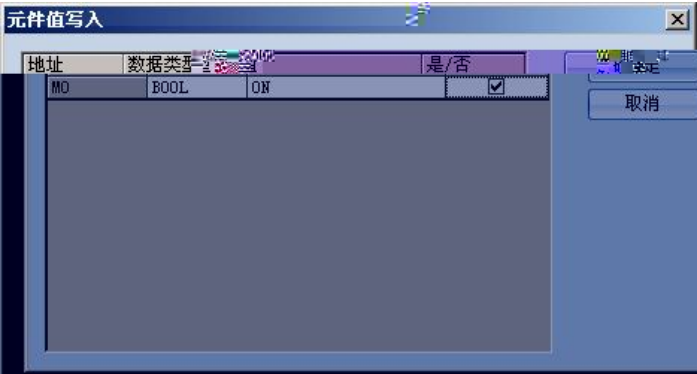
PLC

2.4.6

PLC

PLC

2-22



2-22

2-23



2-23

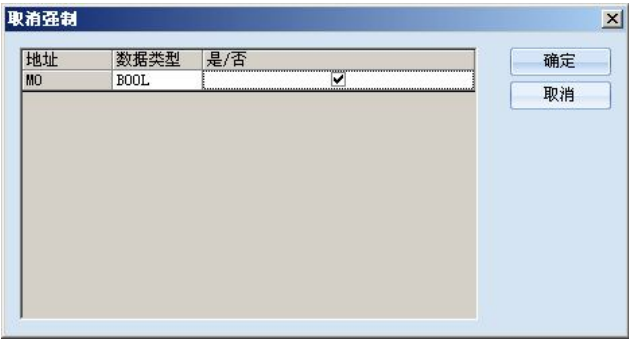
2-24



2-24

PLC

2-25

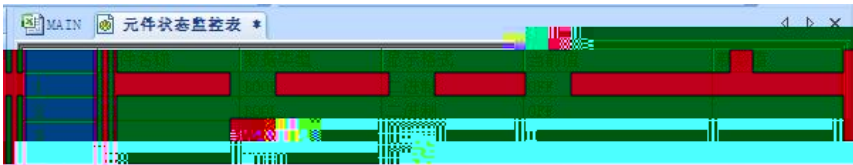


2-25

PLC

/

2-26



2-26

2.4.7 RAM

PLC D

RAM

2-27



2-27 RAM

16 10 8 2

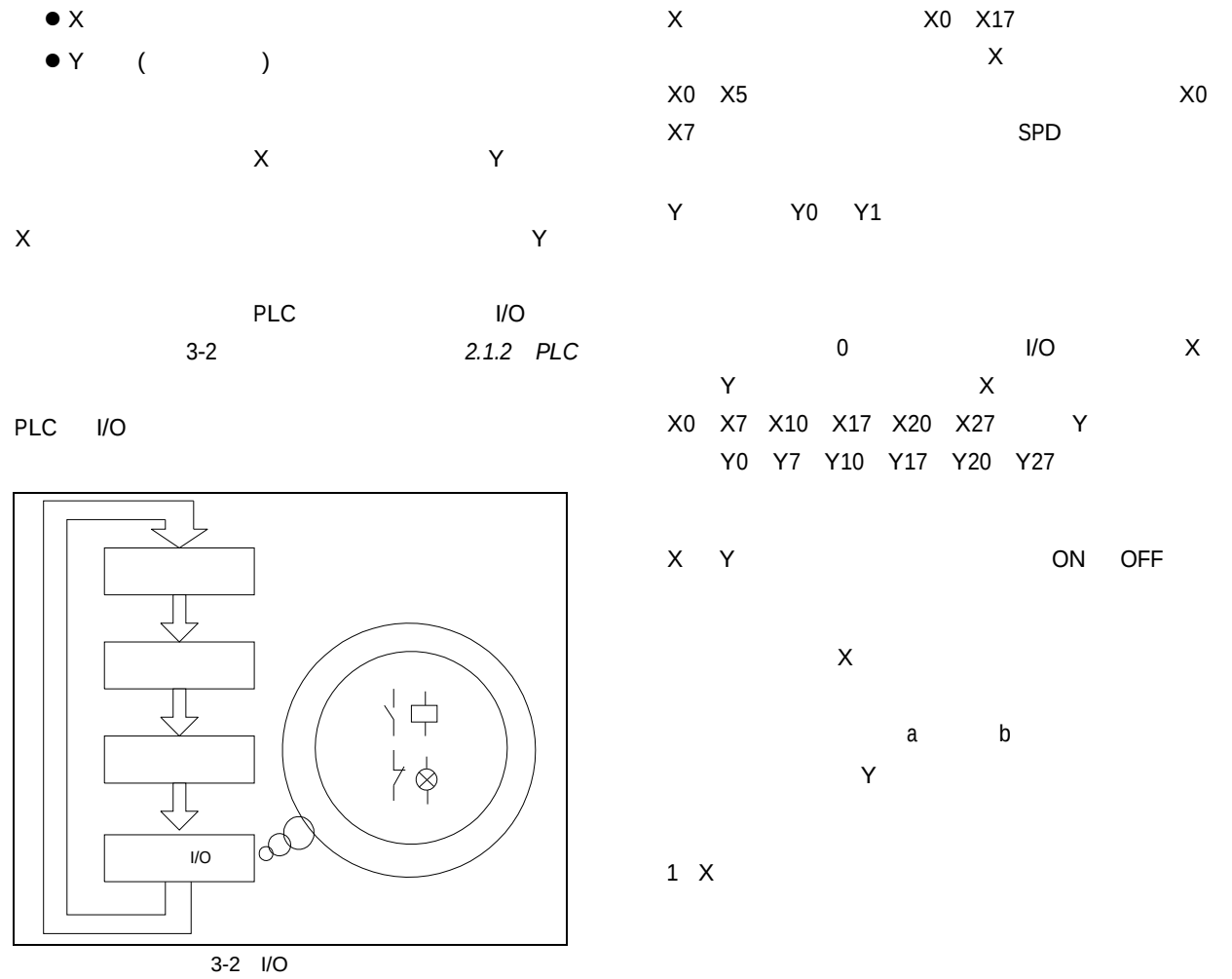
	MC	PLC	
3.1			39
3.1.1			39
3.1.2			40
3.1.3			41
3.1.4			41
3.1.5			42
3.1.6			42
3.1.7			43
3.1.8			43
3.1.9			44
3.1.10			44
3.1.11			45
3.1.12			45
3.1.13			45
3.2			46
3.2.1		Kn	46
3.2.2		Z	46
3.2.3			47
3.2.4	D R V	32	47
3.3	"H	 1' -L	3.3

3.1

3.1.1

PLC

3.1.3



3.1.4

: M

0

ON OFF

1

2

	M	M
RUN Y STOP		
STOP Y RUN		
2.2.1		

MCbus

M

3.1.5

S

12

STL

STLS

M

12

S0 S19

0

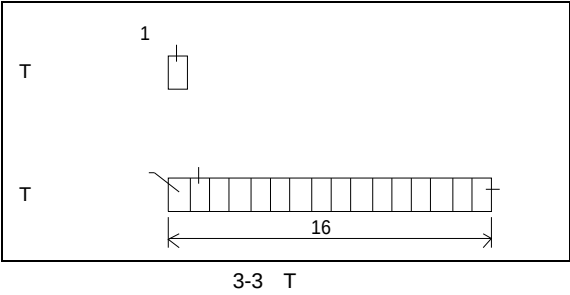
ON OFF

	S	S
RUN Ĳ STOP		
STOP Ĳ RUN		
2.2.1		

3.1.6

T0

T2
T162
T
ON OFF



T3
T

T	
T0 T209	
T210 T251	
T252 T255	

1ms T PLC

10ms 100ms T
PLC

T4
4

12

	T MC200	T
RUN Ĳ STOP		
STOP Ĳ RUN		
2.2.1		



T T 32767 32768 32767

3.1.7

: C

C

16

32

C

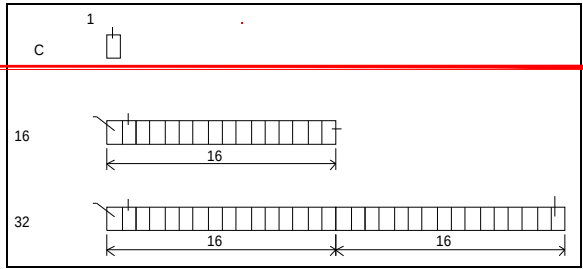
2

4

C

16 32

C



6 (20)X

C

16

4 à 4

32

4

C

C			
C0	C199	16	16
C200	C235	32	32

C236 C259 32 1/0

418-40 C'€ fE"r q làçy/ TM~ €-R' Nĩ ÷ TM€ €-R' ¼àç TMð €-R' TM Î ñ Ÿ •€ e"r , eî ò/ •€„v e ^("âî ñ• "làç2« 7

16

32

5L v ĩ E

qF f

0

! p2± Á

ON OFF

3.1.9

SM

SM

PLC
PLC

SM
SM

- SM0 RUN ON
- SM1

3.1.11

:Z

16

3.2.2

Z

Z

Z

0

1

2

3.1.12

LM

0

LM

LM

ON OFF

LM

LM
LM

1

2

4.4

3.1.13

V

0

V

V

ON OFF

V

V
V

1

2

V

4.4

3.2

3.2.1 Kn

Kn

K n U n 1 8 n 4 U

- 1 K1X0 4 X0 X1 X2 X3
- 2 K3Y0 12 Y0 Y01 Y02 Y03 Y04 Y05 Y06 Y07 Y10 Y11 Y12 Y13
- 3 K4M0 16 M0 M1 M2 M3 é M15
- 4 K8M0 32 M0 M1 M2 M3 é M31

Kn

Kn

MOV 2#10001001 K2M0 MOV 16#89 K2M0 MOV 137 K2M0 K2M0

K2M0	M7	M6	M5	M4	M3	M2	M1	M0
16#89	1	0	0	0	1	0	0	1

Kn

Kn

DBITS 16# FFFFFFF0 K1M0

2 K1M0

16 1c

16 1c 28

2 K1M0

4

K1M0=16 c 12

3.2.2 Z

MC200/ MC280 PLC Z Z

Z

= Z

D0Z0

Z0=3

D0

Z0

3

D3

Z0=3

MOV 45 D0Z0

MOV 45 D3

D3

45

1

LD M01

MOV 6 Z1

SFTR X0Z1 M0 8 2

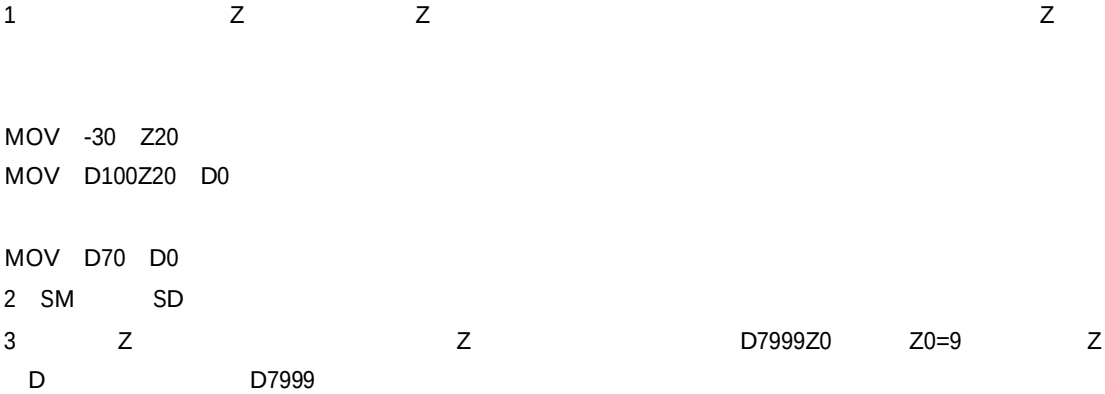
LD M0 1
SFTR X6 M0 8 2

Z1=6
X0Z1 = X 0 Z1 = X6
2
LD M0 1

MOV 30 Z20
MOV D100Z20 D0

LD M0 1
MOV D130 D0

Z20=30
D100 Z20 = D 100 Z20 = D130



3.2.3

K1X0Z10

Z
Kn

MOV K1X0Z10 D0

LD M1
MOV K1X3 D0

Z10=3
K1X0Z10=K1X 0 Z10 =K1X3

3.2.4 D R V

1 INT

Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

2 DINT

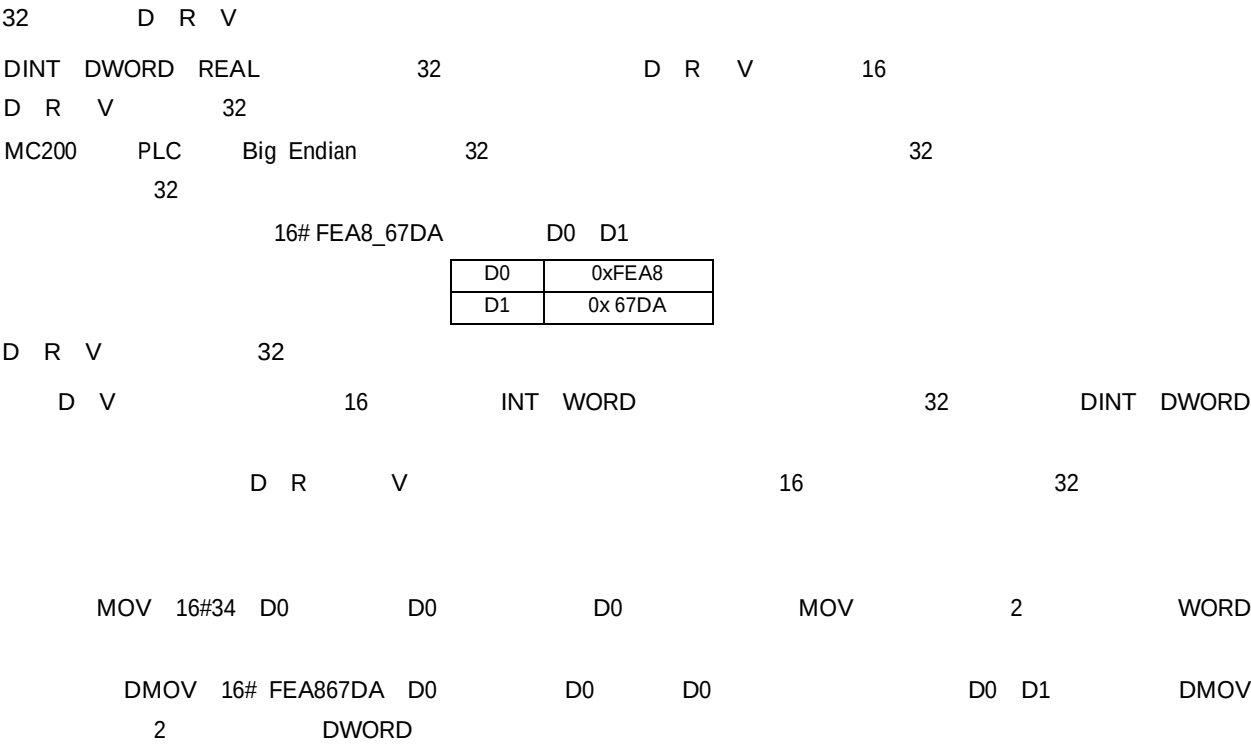
D(R)		15														
	Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
D+1 (R+1)		16														
	Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

3 WORD

Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

4 DWORD

D(R)		16														
	Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
D+1 (R+1)		16														
	Bit15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0



3.3

3.3.1

0 9 10 9

MC PLC 0

1 2.
0+0=0 0+1=1 1+0=1,1+1=10()

MC PLC 1bit,1byte,1word,2word

1Bit

0

1Byte 8Bit

0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---

1Word 16Bit

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

2Word 32Bit

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

81632

09A(10)B(11)C(12)D(13)E(14)F(15)

81632248

PLC

0787

100101102ééééééé

202122ééééééé

160161162ééééééé

808182ééééééé

-

8Bit11100011

127+126+125+024+023+022+121+120 = 227

-

32AC2F

A163+C162+2161+F160 = 44079

PLC

D32bitC

16bitDbit15D

2Dbit31D

2,147,483,647-32,76832,76732bit

01Word7FFF327672Word

7FFFFFFF2,147,483,647

11

MC

PLC

210

a m e a = m Ĩ b^e m d.ddd...dd b e 988436216

9.8844108,

PLC
32bit

PLC

3.3.2

3-2

BOOL		1	ON OFF 1 0
INT		16	32768 32767
DINT		32	2147483648 2147483647
WORD		16	0 65535 16#0 16#FFFF
DWORD		32	0 4294967295 16#0 16#FFFFFFFF
REAL		32	1.175494E-38 3.402823E 38 ¹

X-builder

- a.
- 7
- b.

E-6 E6
ñ ò
E-6 E+6
ñ ò

X-builder

E6 -E-6 X-builder
7 ò
-E6 -E-6
6

3.3.3

3-3

BOOL	X	Y	M	S	LM	SM				C	T			
		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R

3.3.4

MC200 PLC

3-4

16	8949	32768 32767	
16	65326	0 65535	
32	2147483646	2147483648 2147483647	
32	4294967295	0 4294967295	
16	16#1FE9	16#0 16#FFFF	
32	16#FD1EAFE9	16#0 16#FFFFFFFF	
16	8#7173	8#0 8#177777	
32	8#71732	8#0 8#3777777777	
16	2#10111001	2#0 2#1111111111111111	
32	2#101110011111	2#0 2#1111111111111111 1111111111111111	
	3.1415E-16 3.1415E 3 0.016	1.175494E-38 3.402823E 38	IEEE-754 7

	MC	PLC	
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4.2.3			55
4.3			55
4.3.1			55
4.3.2			56
4.4			58
4.4.1			58
4.4.2			58
4.4.3			58
4.4.4			59
4.4.5			59
4.5			61
4.5.1			61
4.5.2			61
4.5.3			61

4.1

LAD

IL

SFC

4.1.1

LAD

PLC

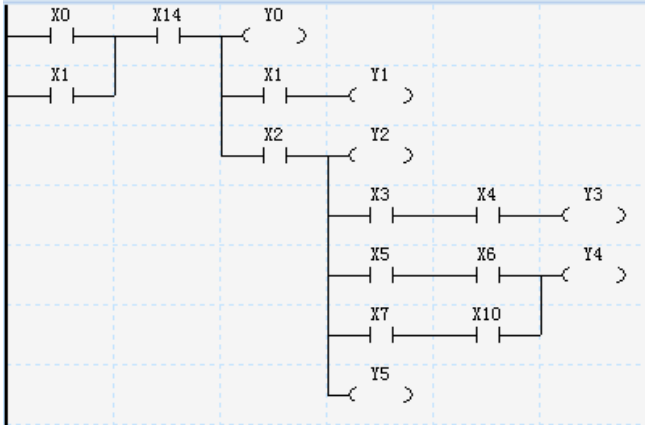
PLC

1

2

4.1.2 IL

PLC

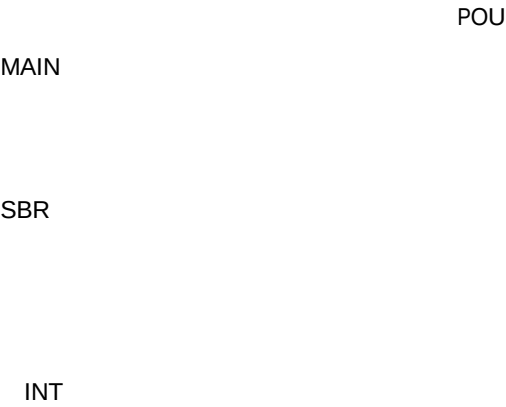
		LD X0
		OR X1
		AND X14
		MPS
		OUT Y0
		AND X1
		OUT Y1
		MPP
		AND X2
		MPS
		OUT Y2
		AND X3
		AND X4
		OUT Y3
		MRD
		LD X5
		AND X6
		LD X7
		AND X10
		ORB
		ANB
		OUT Y4
		MPP
		OUT Y5

4.1.3 SFC

<pre>/*用户程序运行第一个周期，激活S0步进状态*/ SM1 | | [ SET S0] /*步进状态S0的处理*/ S0 < S > | | Y0 | | M0 | | [ SET S20] /*步进状态S20的处理*/ S20 < S > | | Y1 | | M1 | | S0 [RET]</pre>	
--	---

4.2

4.2.1



4.2.2

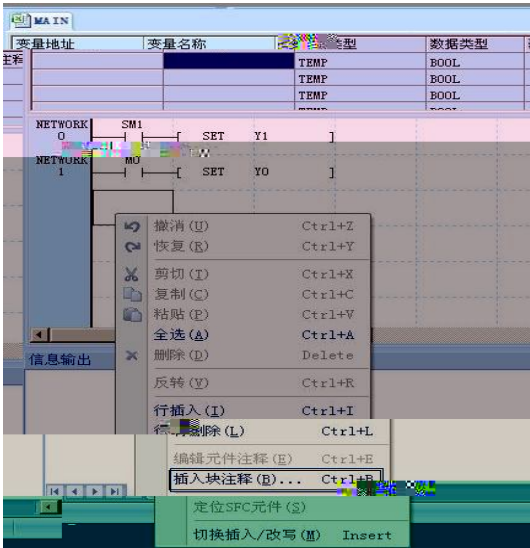


4.2.3

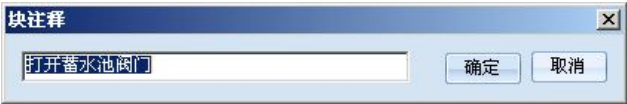


4.3

4.3.1



4-4



4-5

/* */



4-6

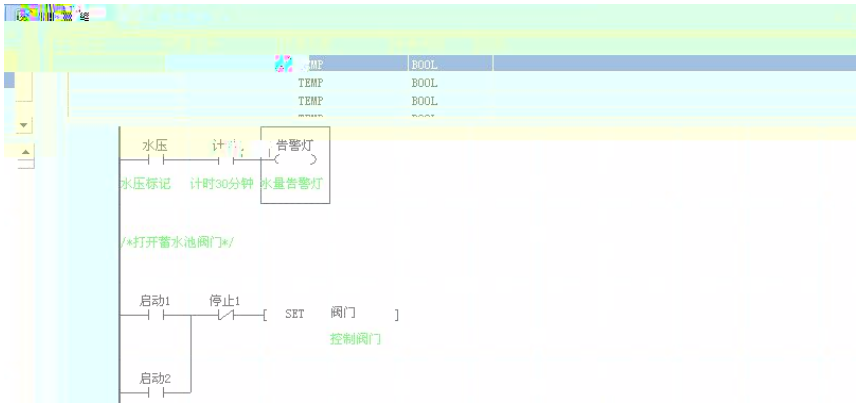
4.3.2

2.2.3

4.4.3

	变量	变量地址	注释
1	水压	X0	水压标志
2	计时	T0	
3	启动1	M0	
4	启动2	M1	
5	停止1	M2	
6	告警灯	Y0	水量告警灯
7	阀门	Y1	控制阀门

4-7



4-10



MC200 MC280

PLC

4.4

4.4.1

- 1
- 2
- 3

4.4.2

```
1                                     6
                                     6
MAIN SBR1 SBR2 SBR3 SBR4 SBR5 SBR6
CALL
2
● MAIN SBR0 SBR0
● MAIN SBR0 SBR1 SBR0
3                                     64
4                                     16      16
5                                     CALL
6
```

4.4.3

1

LM V

2

3

IN OUT IN_OUT TEMP

- IN
- OUT
- IN_OUT
- TEMP

4

4-1

4-11 SBR_1

MAIN *SBR_1 *

变量地址	变量名称	变量类型	数据类型	注释
V0	IN1	IN	INT	
V1	IN2	IN_OUT	INT	
		OUT	BOOL	
V2	OUT1	TEMP	INT	
		TEMP	BOOL	

SM0

[ADD V0 V1 V2]

CALL SBR_1

```
LD M0
CALL SBR_1 3 2 D0
```

- IN1 3
- IN2 2
- OUT1 D0

4.5

4.5.1

●	S	1	S ₁	S ₂	S ₃
●	D	1	D ₁	D ₂	

4.5.2

SM180

SM181

SM182

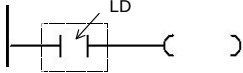
4.5.3

	SPD	X0	X7	
	1			
Modbus	XMT	1		RCV

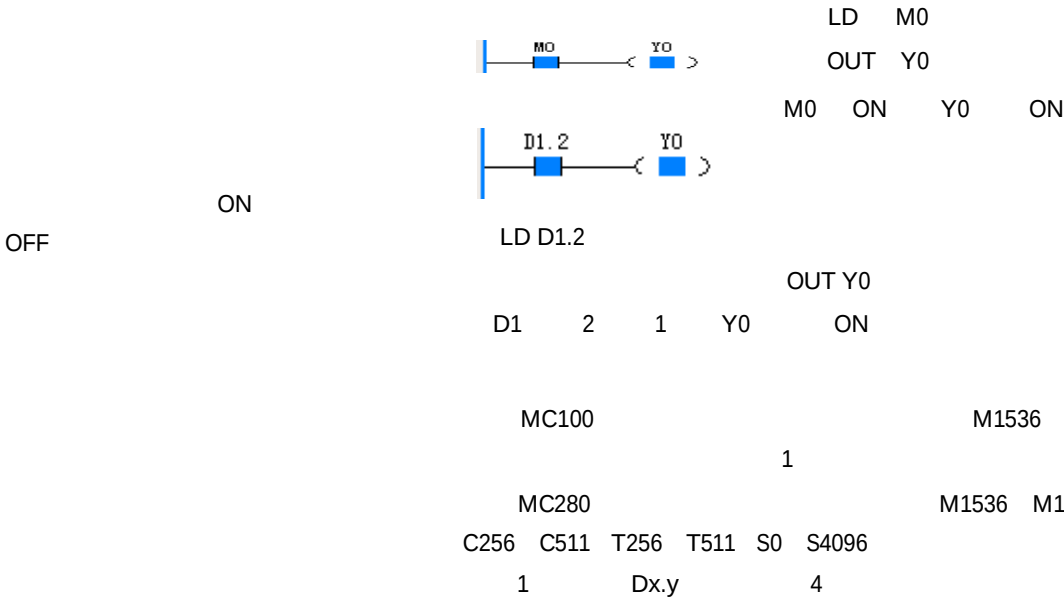
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5.5.1 CTU 16			75
5.5.2 CTR 16			75
5.5.3 DCNT 32			76

5.1

5.1.1 LD

										MC200 MC100 MC80 MC280			
LD										1			
S	BOOL	X	Y	M	S	LM	SM		Dx.y*		C	T	

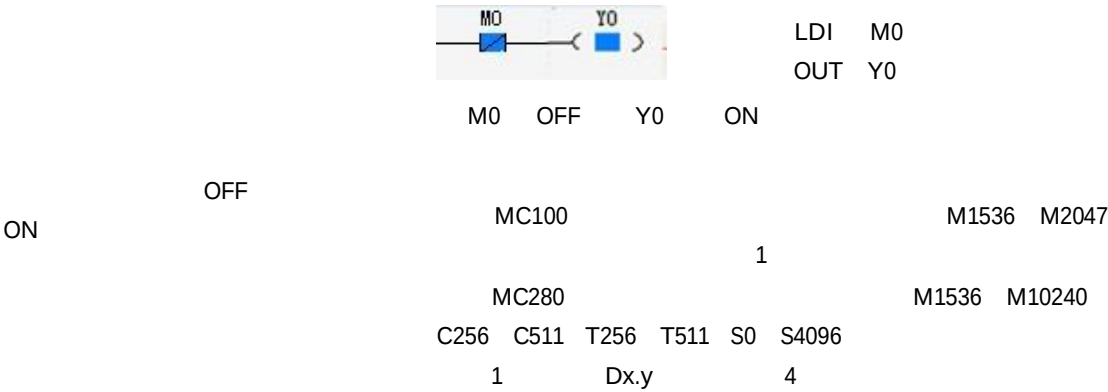
* MC280



5.1.2 LDI

										MC200 MC100 MC80 MC280			
LDI										1			
S	BOOL	X	Y	M	S	LM	SM		Dx.y*		C	T	

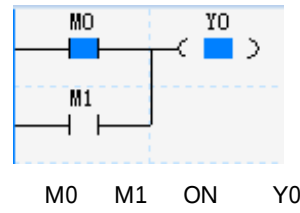
* MC280



5.1.3 AND

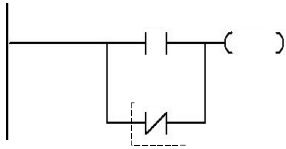
| H | H | H | H | ()

ON/OFF

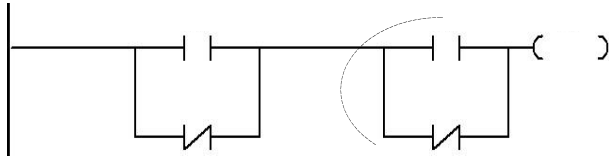


LD M0
OR M1
OUT Y0

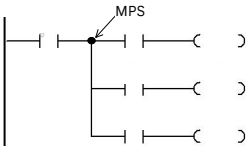
5.1.6 ORI



5.1.8 ANB



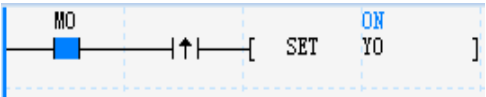
5.1.10 MPS

		MC200 MC100 MC80 MC280
		1

5.1.13 EU

		MC200 MC100 MC80 MC20	
		2	

OFF ON



LD M0
EU
SET Y0

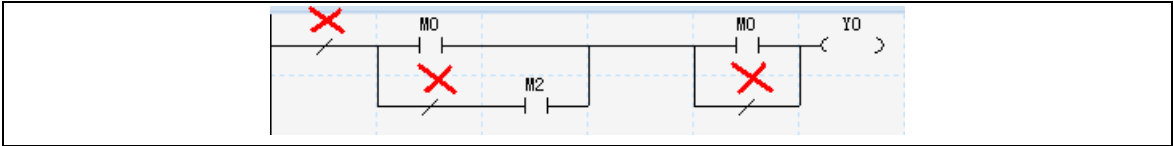
5.1.14 ED

		MC200 MC100 MC80 MC20	
		2	

ON OFF

INV

INV



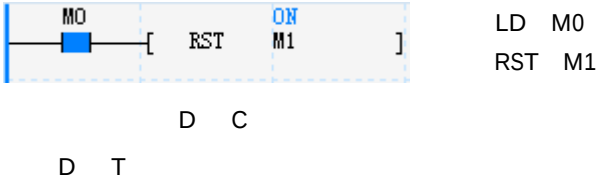
5.1.16 SET

[SET (D)]												MC200 MC100 MC80 MC280			
												1			
S	BOOL		Y	M	S	LM	SM		Dx.y		C	T			



5.1.17 RST

RST (D)												MC200 MC100 MC80 MC280			
RS												1			
S	BOOL		Y	M	S	LM	SM		Dx.y		C	T			



5.1.18 NOP

		MC200		MC100	MC80	MC280
[NOP]						
		1				

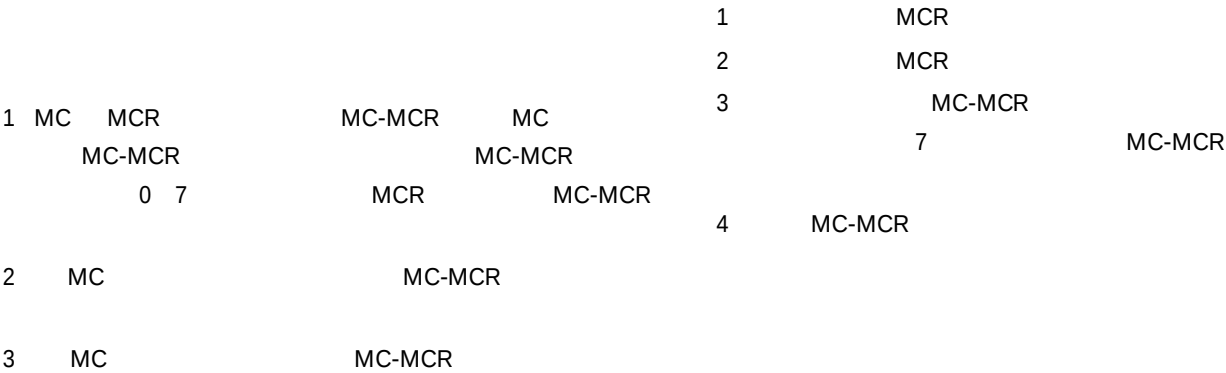
5.2

5.2.1 MC

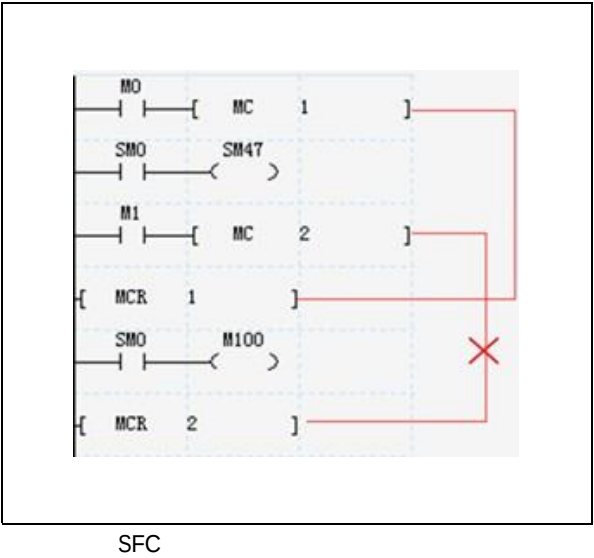
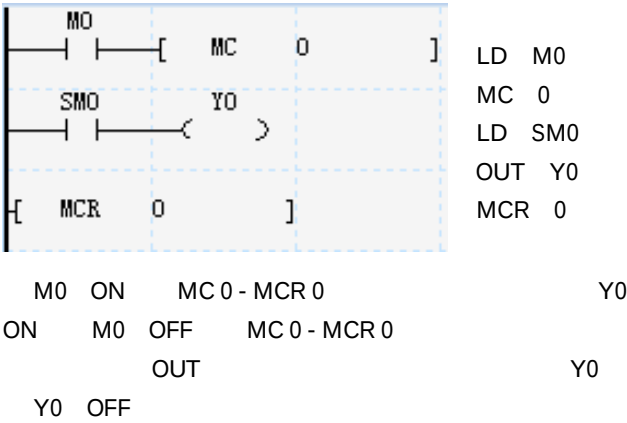
										MC200 MC100 MC80 MC280			
										3			
S	INT												

5.2.2 MCR

										MC200 MC100 MC80 MC280			
										1			
S	INT												

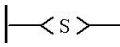


OUT TON TOF PWM HCNT PLSY PLSR DHSCS
SPD DHSCI DHSCR DHSZ DHST DHSP BOUT



5.3 SFC

5.3.1 STL SFC

			MC200	MC100	MC80	MC280
			3			
S	BOOL	S				

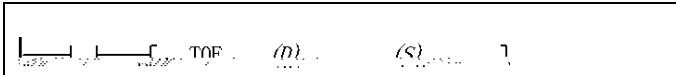
5.3.5 RET SFC

[RET]		MC200 MC100 MC80 MC280
RET		1

												MC200 MC100 MC80 MC280					
												5					
D	INT											T					
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		

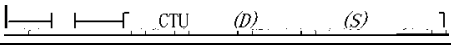
T

5.4.3 TOF

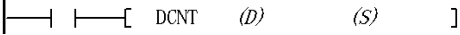
		MC200	MC100	MC80	MC280

5.5

5.5.1 CTU 16

		MC200 MC100 MC80 MC280
		5
D	INT	

5.5.3 DCNT 32

		MC200 MC100 MC80 MC280
		7

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6.7.7	DRCR	32		133
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6.16		204
6.16.1 LD = < > <> >= <=	LD	204
6.16.2 ANI = < > <> >= <=		204

6.1

6.1.1 FOR

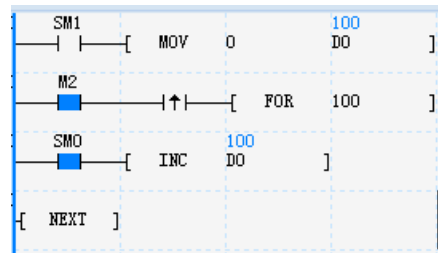
[FOR (S)]										MC200 MC100 MC80 MC280					
										3					
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R

6.1.2 NEXT

{ NEXT }										MC200 MC100 MC80 MC280					
										1					

1 FOR NEXT FOR-NEXT
2 FOR
FOR-NEXT

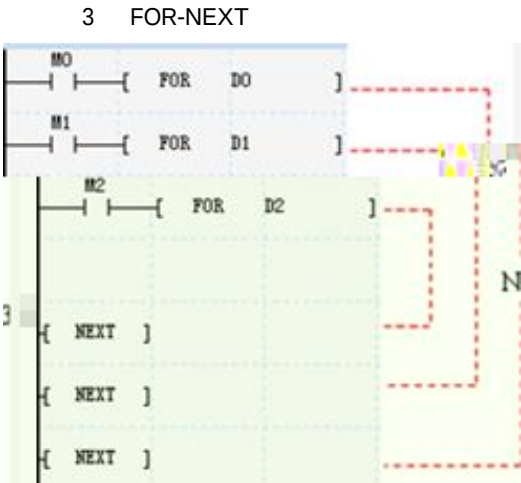
FOR-NEXT
3 FOR
FOR-NEXT
FOR-NEXT



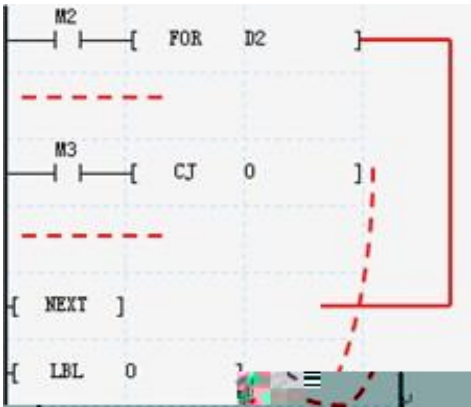
LD SM1
MOV 0 D0
LD M2
EU
FOR 100
LD SM0
INC D100
NEXT

D0=0 M2=OFF M2 OFF ON
FOR-NEXT 100 D0
100 D0=100

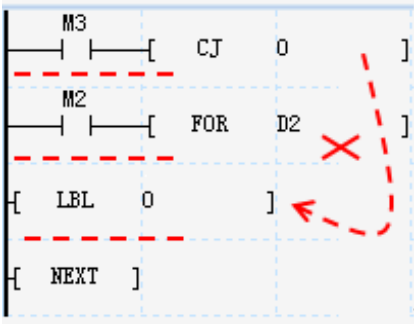
1 FOR-NEXT POU
2 FOR-NEXT MC200 CPU
8 FOR-NEXT



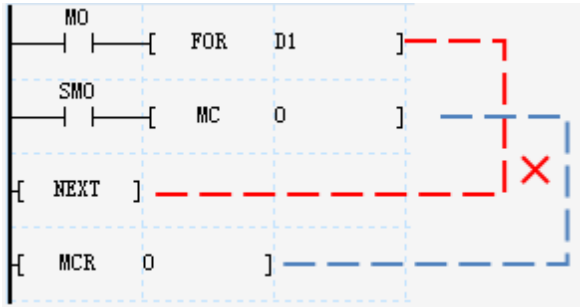
3 CJ



4 CJ



5 MC-MCR FOR-NEXT



FOR-NEXT

WDT

6.1.3 LBL

[LBL (S)]		MC200 MC100 MC80 MC280											
		3											
S	INT												

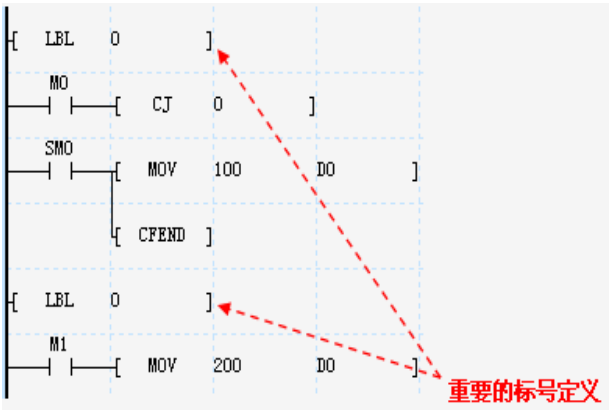
1

2

CJ

1 0 127

2



6.1.4 CJ

CJ (S)												MC200 MC100 MC80 MC280			
										3					
S	INT														

6.1.6 WDT

WDT		MC200	MC100	MC80	MC280
		1			
x 1 L I x 2					

6.1.7 EI

		MC200	MC100	MC80	MC280
EI					

6.1.11 CALL

		MC200	MC100	MC80	MC280
é					

CALL

1 CALL

CALL

2 CALL

SBR1

DINT/DWORD

- CALL SBR1 Z0 Z
- CALL SBR1 C199 C0 C199
- CALL SBR1 K2X0 Kn 1 n 3
SBR1

DINT/DWORD
DINT/DWORD
DINT/DWORD
INT/WORD

- CALL SBR1 C200 C200 C255
- CALL SBR1 K2X0 Kn 4 n 8

INT/WORD
INT/WORD

3 CALL

SBR1

OUT IN_OUT

- CALL SBR1 321
- CALL SBR1 K4X0 K4X0
- CALL SBR1 SD0 SD0

OUT IN_OUT
OUT IN_OUT
OUT IN_OUT

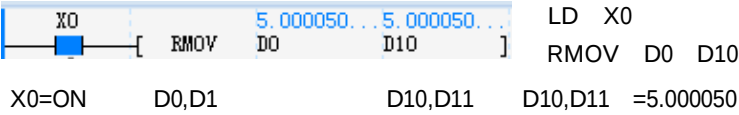
4 CALL

6.1.12 CSRET

		MC200	MC100	MC80	MC280
CSRET		1			

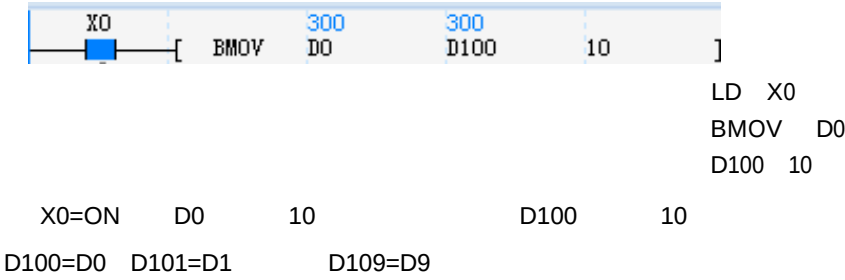
6.2.3 RMOV

										MC200 MC100 MC80 MC280						
										7						
S	REAL								D				V		R	
D	REAL								D				V		R	



6.2.4 BMOV

[BMOV (S1) (D) (S2)]											MC200 MC100 MC80 MC280					
											7					
S1	INT		KnX	KnY	KnM	KnS	KnLM		D	SD	C	T	V		R	
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.2.5 FMOV

										MC200 MC100 MC80 MC280					
$[\text{FMOV } (S1) \quad (D) \quad (S2)]$															
										7					
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V		R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R

- 1C C0 C199
- 20
- 3Kn Kn



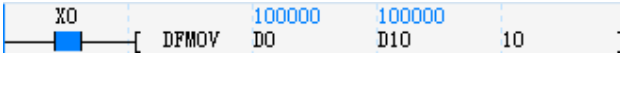
LD X0
FMOV D0 D100
10

X0=ON D0 D100 10 D100=D101=
=D109=D0=300

6.2.6 DFMOV

										MC200 MC100 MC80 MC280					
$[\text{DFMOV } (S1) \quad (D) \quad (S2)]$															
										9					
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DINT			KnY	KnM	KnS	KnLM		D		C		V		R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R

- 1C C200 C255
- 20
- 3Kn Kn

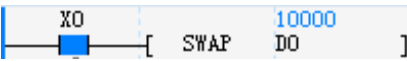


LD X0
DFMOV D0 D10
10

X0=ON D0,D1 D10 10 2 D10,D11 =
D12,D13 = = D28,D29 = D0,D1 =100000

6.2.7 SWAP

 [SWAP (D)]										MC200 MC100 MC80 MC280					
										3					
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

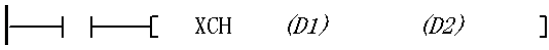


LD X0
SWAP D0

X0=ON D0=0x1027 4135
10000

D0 D0=0x2710

6.2.8 XCH

 [XCH (D1) (D2)]										MC200 MC100 MC80 MC280					
										5					
D1	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R
D2	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

1

2

MC PLC

Kn D1

D2 Kn .

1



LD
XCH

X0=ON D0 D10
D0=5000
D10=1000
D0=1000 D10=5000

2

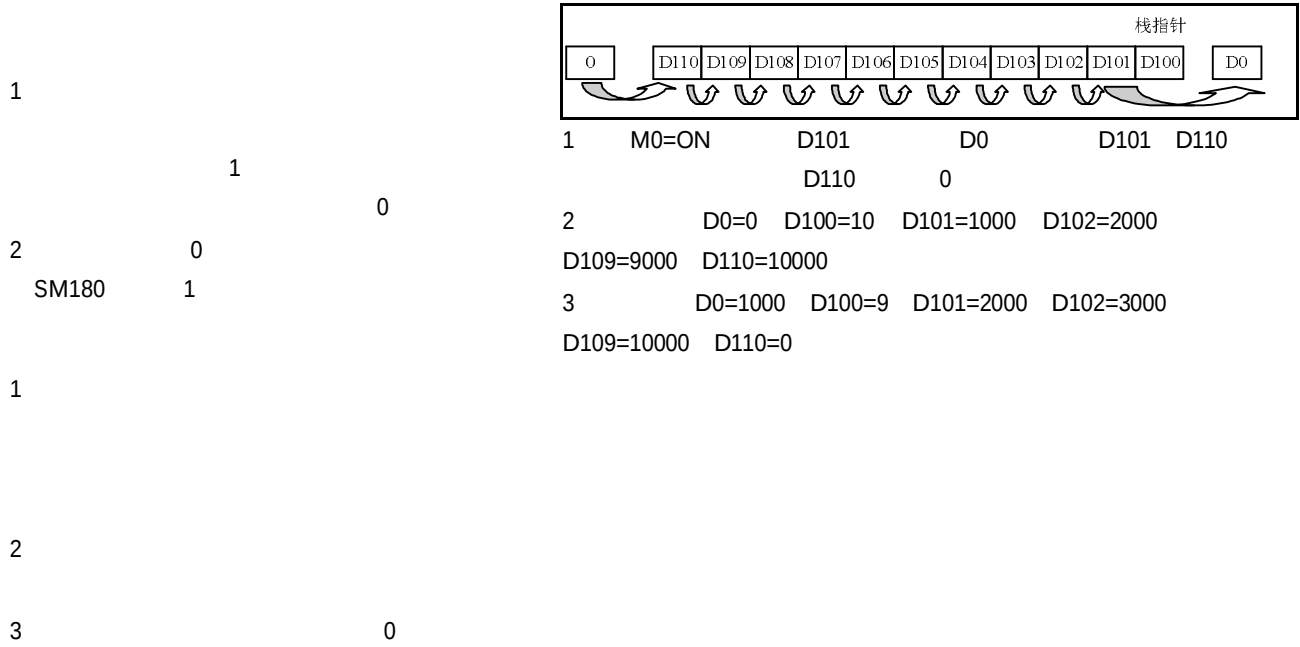
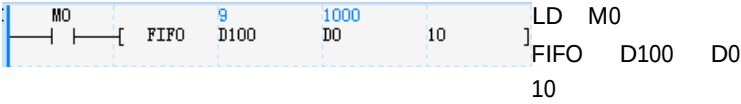
/*用户人机界面访问D0 D1，对用户来说是可见的*/

/*初始化时要记得交换数据位置，使它符合用户人机界面的规则*/

6.2.9 ~~DA~~CHM ů , & → 6.2

6.2.11 FIFO

										MC200 MC100 MC80 MC280					
															
										7					
D1	INT								D				V		R
D2	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R



6.2.12 LIFO

LIFO (D1) (D2) (S)											MC200 MC100 MC80 MC280					
											7					
D1	INT								D				V		R	
D2	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1

1

2

1

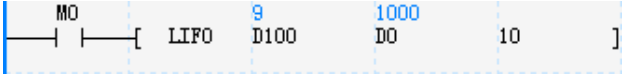
1

2

3

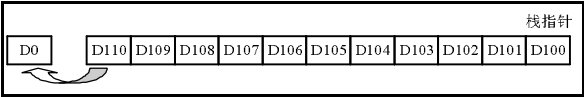
0

SM180



LD M0

LIFO D100 D0 10



1 M0=ON D110 D0 D101 D110

2 D0=0 D100=10 D101=1000
D102=2000 D109=9000 D110=10000

3 D0=10000 D100=9 D101=1000
D102=2000 D109=9000 D110=10000

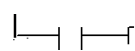
6.2.13 WSFR

MC200 MC100 MC80 MC280

[WSFR (S1) (D) (S2) (S3)]

6.2.14 WSFL

MC200 4 1



WSFL (S1) (S2) (S3) (S4)

6.3

6.3.1 ADD

										MC200 MC100 MC80 MC280					
[ADD (S1) (S2) (D)]															
										7					
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

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32768

SM182

LD X0

ADD D0 D1 D10

X0=ON D0 1000 D1 2000

D D10 D10=3000 N 0

1000

2000

3000

D0

D1

D10

6.3.2 SUB

										MC200 MC100 MC80 MC280					
[SUB (S1) (S2) (D)]															
										7					
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

6.3.3 MUL

										MC200 MC100 MC80 MC280						
										8						
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	DINT			KnY	KnM	KnS	KnLM		D		C		V		R	

1

MUL

32

2



LD X0
MUL D0 D1 D10
X0=ON D0 1000 D1 2000
D10,D11 D10,D11 =2000000

6.3.4 DIV

											MC200 MC100 MC80 MC280					
											7					
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	

1

0

0

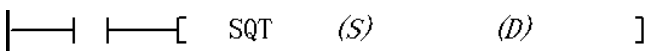
2



D

LD X0
DIV D0 D1 D10
X0=ON D0 2500 D1 1000
D10,D11 D10=2 D11=500

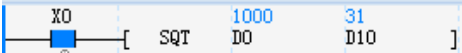
6.3.5 SQT

										MC200 MC100 MC80 MC280						
										5						
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	

0

1

X0



LD X0
SQT D0 D10

2

0

X0=ON D0 1000 D10 D10=31

SM180

SM182

6.3.6 INC

										MC200 MC100 MC80 MC280						
										3						
D	INT		KnY	KnM	KnS	KnLM			D		C	T	V	Z	R	

6.3.7 DMC

										MC200 MC100 MC80 MC280					
										3					
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

-32768 32767

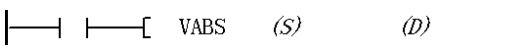
1



X0=ON D0 1000 1

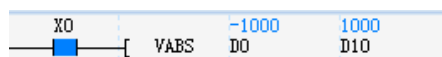
LD X0
DMC D0
D0=999

6.3.8 VABS

										MC200 MC100 MC80 MC280					
										5					
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

-32767 32767

-32768

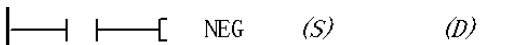


X0=ON D0 -1000

D10 D10=1000

LD X0
VABS D0 D10

6.3.9 NEG

										MC200 MC100 MC80 MC280					
										5					
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

-32767 32767

-32768

LD X0
NEG D0 D10



X0=ON D0 1000

D10 D10=-1000

6.3.12 DMUL

DMUL (S1) (S2) (D)												MC200 MC100 MC80 MC280									
												10									
S1	DINT			KnX	KnY	KnM	KnS	KnLM	KnSM	D		SD	C			V		R			
S2	DINT			KnX	KnY	KnM	KnS	KnLM	KnSM	D											

6.3.14 DSQT

										MC200 MC100 MC80 MC280					
										7					
S	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DINT			KnY	KnM	KnS	KnLM		D		C		V		R

0

1

LD X0
DSQT D0 D10

2

0

SM180

X0=ON

D0,D1

83000

D10,D11

D10,D11

SM182

6.3.15 DINC

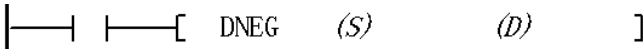
										MC200 MC100 MC80 MC280					
										4					
D															

D

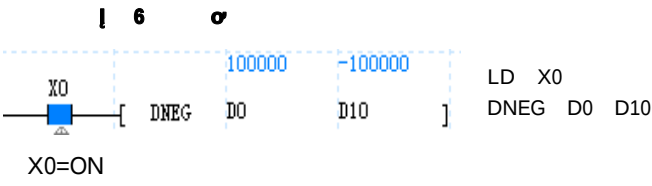
6.3.16 DDMC

DDEC (D)		MC200	MC100	MC80	MC280

6.3.18 DNEG

										MC200 MC100 MC880MC280					
S	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DINT			KnY	KnM	KnS	KnLM		D		C		V		R

2147483647 2147483647 2147483648



6.3.20 DSUM

DSUM (S1) (S2) (D)										MC200 MC100 MC80 MC280					
										9					
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	DINT			KnY	KnM	KnS	KnLM		D		C		V		R

2

SM0

[

DMOV

100000

100000

D0

]

[

DMOV

200000

200000

D2

]

[

DMOV

300000

300000

D4

]

[

DMOV

400000

400000

D6

]

[

DMOV

500000

500000

D8

]

[

DSUM

100000

5

1500000

D100

]

LD SM0

DMOV 100000 D0

DMOV 200000 D2

DMOV 300000 D4

DMOV 400000 D6

DMOV 500000 D8

LD X0

DSUM D0 5 D100

0

255

X0=ON

D0

5

2

D100,D101

D100,D101 = D0,D1

D8,D9 =1500000

6.4

6.4.1 RADD

RADD (S1) (S2) (D)										MC200 MC100 MC280					
										10					
S1	REAL								D				V		R
S2	REAL								D				V		R
D	REAL								D				V		R

SM181

0

SM180

1

2

X0

[

RADD

-1000.20

2000.500

1000.300

D0

D2

D10

]

LD X0

RADD D0 D2 D10

1

2

X0=ON

D0,D1

-1000.20

D2,D3

2000.500

D10,D11

D10,D11 =-1000.300

1.701412e 038

1.701412e 038

6.4.2 RSUB

 RSUB (S1) (S2) (D)										MC200 MC100 MC280					
										10					
S1	REAL								D				V		R
S2	REAL								D				V		R
D	REAL								D				V		R

1
2

1

6.4.4 RDIV

6.4.6 RVABS

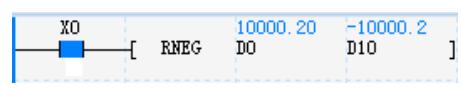
												MC200 MC100 MC280		
		[RVABS (S) (D)]												
												7		
S	REAL								D				V	R
D	REAL								D				V	R



```
LD X0
RVABS D0 D10
X0=ON D0,D1 -10000.2
D10,D11 D10,D11 =10000.2
```

6.4.7 RNEG

												MC200 MC100 MC280		
		[RNEG (S) (D)]												
												7		
S	REAL								D				V	R
D	REAL								D				V	R

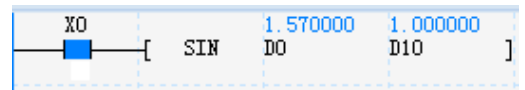


```
LD X0
RNEG D0 D10
X0=ON D0,D1 =10000.2
D10,D11 D10,D11 -=10000.2
```

6.4.8 SIN SIN

												MC200 MC100 MC280		
		[SIN (S) (D)]												
												7		
S	REAL								D				V	R
D	REAL								D				V	R

2 0 SM180



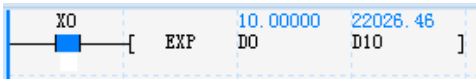
```
LD X0
SIN D0 D10
```


6.4.11 POWER

[POWER (S1) (S2) (D)]													MC200 MC100 MC280			
													10			
S1	REAL								D				V		R	
S2	REAL								D				V		R	
D	REAL									D				V		R

6.4.13 EXP

										MC200 MC100 MC280						
										7						
S	REAL								D				V		R	
D	REAL								D				V		R	



LD X0
EXP D0 D10

1

EXP

X0=ON D0,D1 =10.0 EXP D10,D11 D10,D11
=22026.464844

2

1.701412e 038

1.701412e 038

SM181

0 SM180

6.4.14 RSUM

<									
--	--	--	--	--	--	--	--	--	--

2

1 0 255

6.4.15 ASIN

6.4.17 ATAN ATAN

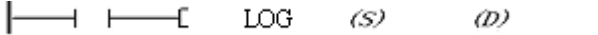
										MC280				
ATAN (S) (D)										7				
S	REAL								D				V	R
D	REAL								D				V	R

2 0 SM180

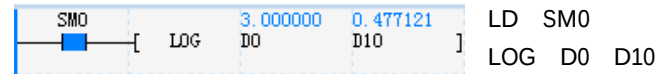


1
TAN-1
SM0=ON (D0 D1) 3.14 TAN-1 (D10 D11) (D10 D11)=1.262481

6.4.18 LOG

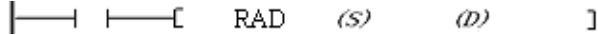
										MC280				
LOG (S) (D)										7				
S	REAL								D				V	R
D	REAL								D				V	R

2 0 SM180

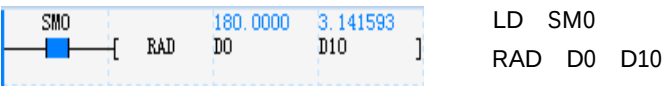


1
LOG
LOG 10
SM0=ON D0(D1) 3.0 D10(D11) D10(D11)=0.477121

6.4.19 RAD ->

										MC280				
RAD (S) (D)										7				
S	REAL								D				V	R
D	REAL								D				V	R

1
2 0 SM180



SM0=ON D0(D1) 180.0 D10(D11) D10(D11)=3.141593

6.4.20 DEG ->

 [DEG (S) (D)]				MC280
DEG (S) (D)				7
S	REAL		D	

6.5

BOOL		1	ON OFF	1 LM
INT		16	-32768 +32767	1 V
DINT		32	-2147483648 +2147483647	2 V
WORD		16	0 65535	1 V
DWORD		32	0 4294967295	2 V
REAL		32	Ñ1.175494351 E - 38 ~ Ñ3.402823466 E + 38	2 V

BCD

-- BCD Binary Coded Decimal
BCD 8421BCD
8421BCD

BCD

0	0000	0000
1	0001	0001
2	0010	0011
3	0011	0010
4	0100	0110
5	0101	1110
6	0110	1010
7	0111	1000
8	1000	1100
9	1001	0100

6.5.1 DTI

										MC200	MC100	MC80	MC280
| | | [ DTI (S) (D)]													
										6			
S	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	V	R
D	INT			KnY	KnM	KnS	KnLM		D		C	T	Z

32767 -32768



X0=ON D0, D1 =10000 D10 D10=10000

LD X0
DTI D0 D10

6.5.5 INT

		MC200 MC100 MC280									
— —											
INT		6									
S	REAL								V		R
D	INT		KnY	KnM	KnS	KnLM		D	T	V	Z R

S 32767 =32767

D=-32768

LD X0

INT D0 D10

X0=ON

D0,D1 =10000.5

D10=10000

6.5.6 DINT

		MC200 MC100 MC280 & b									
— —											
DINT (S) (D)											

6.5.7 BCD 16 BCD

		BCD (S)																MC200	MC100	MC80	MC280
S	WORD		KnX					KnSM	D	SD	C	T	V	Z	R						
D	WORD								D		C	T	V	Z	R						

9999

LD X0

BCD D0 D10

X0=ON D0=0x0D05 3333 9BC 16 BCD .1~ D10

D10=0x3333 13107Λ . ×

6.5.8 DBCD BCD

		BCD (D)																MC200	MC100	MC80	MC280
S	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D												

6.5.9 BIN 16 BCD

					MC200	MC100	MC80	MC280
[	BIN	(S)	(D)	]				

6.5.14 N 32

	[DGBIN (S) (D)]										MC200 MC100 MC80 MC280				
									7						
	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
DWORD			KnY	KnM	KnS	KnLM		D		C		V		R	

\$ i ™đ 2ěň' Ÿ (Y€ \$Hcv€[Rµà/p Á



' Ä & T Ž . X0=ON Ç D0,D1 =0xCCCCCCCC 3435973836 32
32
D10,D11 D10,D11 =0x88888888 2290649224

6.5.15 SEG 7

[SEG (S) (D)]										MC200 MC100 MC80 MC280			

6.5.16 ASC ASCII

ASC(S1~S8)(D)												MC200 MC100 MC80 MC280					
												19					
S1	WORD																
S2	WORD																
S3	WORD																
S4	WORD																
S5	WORD																
S6	WORD																
S7	WORD																
S8	WORD																
D	WORD								D		C	T	V	Z	R		

8 0

ASCII 0x21 0x7E

8 0X00

ASCII

SM186=OFF

ASCII SM186=ON

1 ASCII



LD M0

ASC 12345678 D0

M0=ON ASCII

- SM186=OFF D0=0x3231
D1=0x3433 D2=0x3635 D3=0x3837
- SM186=ON D0=0x31 D1=0x32
D2=0x33 D3=0x34 D4=0x35 D5=0x36 D6=0x37
D7=0x38

6.5.17 ITA 16 16 ASCII

										MC200 MC100 MC80 MC280	= a ō
| | [ ITA (S1) (D) (S2)]											

- SM186=OFF

D20=0x3839
- SM186=ON

D20=0x39 D21=0x38
- D21=0x3637

D22=0x37 D23=0x36

6.5.18 ATI ASCII 16 16

[ATI (S1) (D) (S2)]											MC200 MC100 MC80 MC280					
									7							
S1			KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D				KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S2			KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

ASCII

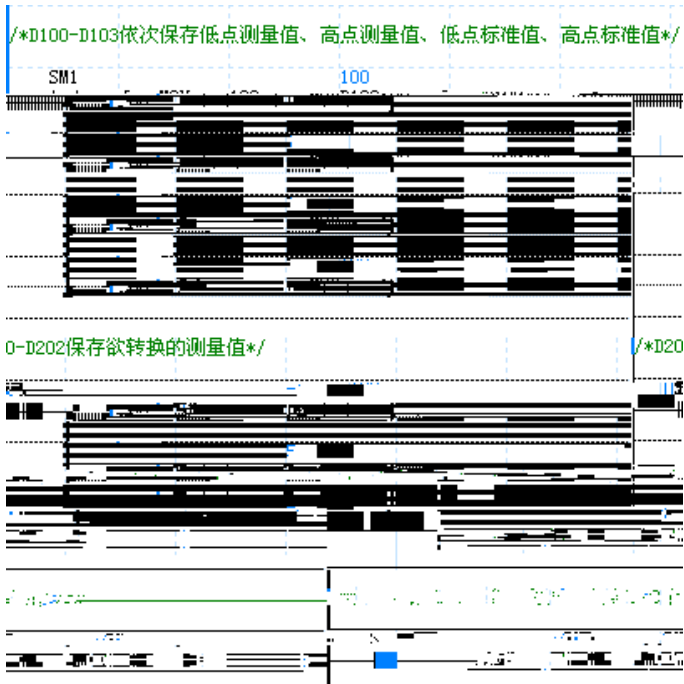
0x30 0x39 0x41 0x46 SM186=OFF

PLC

$$A = (V_{SL} - V_{SH}) / (V_{ML} - V_{MH}) * 10000$$
$$B = V_{SL} - (V_{ML} * A / 10000)$$
$$D_n = (S_n * A / 10000) + B$$

D_n

32767 32767 -32768 -32768

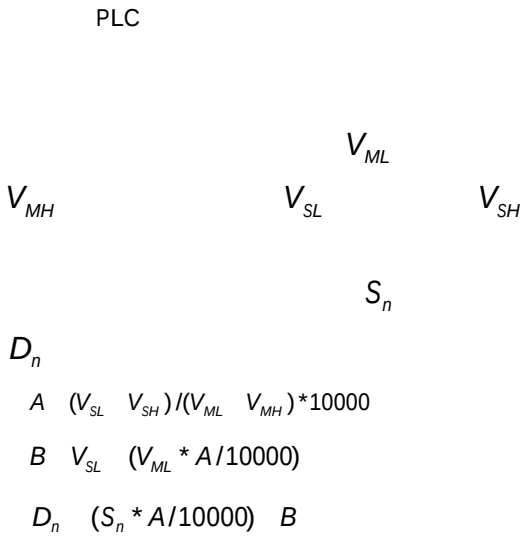


LCNV

D300 = -10
D301 = 50
D302 = 150

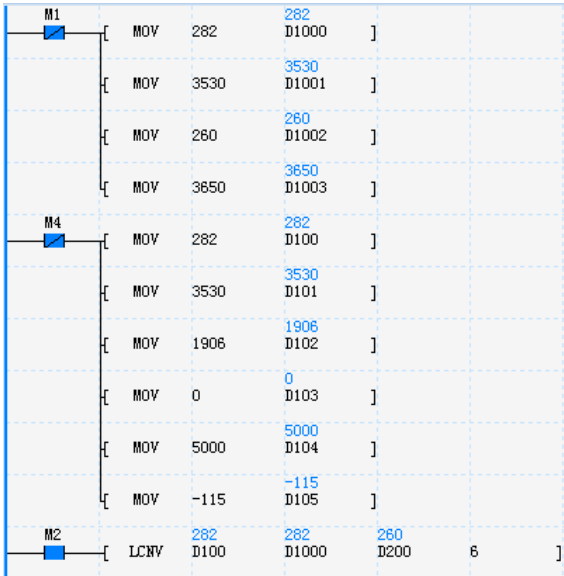
6.5.20 RLCNV





D_n 32767 32767

-32768 -32768



```
LDI M1
RMOV 282 D1000
RMOV 3530 D1002
RMOV 260 D1004
RMOV 3650 D1006
LDI M4
RMOV 282 D100
RMOV 3530 D102
RMOV 1906 D104
RMOV 0 D106
RMOV 5000 D108
RMOV -115 D110
LD M2
RLCNV D100 D100 D1000 D200 6
M2=ON LCNV
```

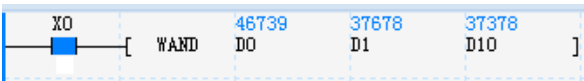
D200(D201) = 260
D202(D203) = 3650
D204(D205) = 1955
D206(D207) = -34.3288
D208(D209) = 5184.267
D210(D211) = -154.357

6.6

6.6.1 WAND

--	--	--	--	--	--	--	--	--

1
2



LD X0
WAND
D0 D1 D10

X0=ON D0=

1

2

X0

46739

37678

9661

LD

X0

WXOR

D0

D1

D10

X0=ON

D0=2#1011011010010011

46739

D1=2#1001001100101110

37678

D10

D10=2#0010010110111101

9661

6.6.4 WINV

											MC200 MC100 MC80 MC280				
| | [ WINV (S) (D)]															
											5				
S	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R

X0

46739

18796

LD

X0

WINV

D0

D10

X0=ON

D0= 46739

D10

D10= 18796

6.6.5 DWAND

											MC200 MC100 MC80 MC280				
| | [ DWAND (S1) (S2) (D)]															
											10				
S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R

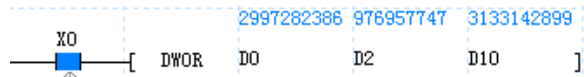
b•0

6.6.6 DWOR

										MC200 MC100 MC80 MC280					
[DWOR (S1) (S2) (D)]															
										10					
S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
S2	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R

1

2


 LD X0
 DWOR D0 D2 D10
 X0=ON D0, D1 =2#10110010101001101110011001010010 2997282386
 D2, D3 =2#00111010001110110011000100110011 976957747
 D10, D11 D10, D11 =2#1011101010111111111011101110011 3133142899

6.6.7 DWXOR

										MC200 MC100 MC80 MC280					
[DWXOR (S1) (S2) (D)]															
										10					
S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
S2	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R

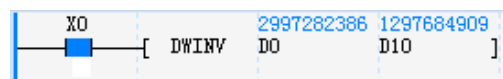
1

2


 LD X0
 DWXOR D0 D2 D10
 X0=ON D0,D1 =2#10110010101001101110011001010010 2997282386
 D2,D3 =2#00111010001110110011000100110011 976957747
 D10, D11 D10, D11 =2#10001000100111011101011101100001 2292045665

6.6.8 DWINV

[DWINV (S) (D)]															
S	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R


 LD X0
 DWINV D0 D10
 X0=ON D0,D1 =2#10110010101001101110011001010010 2997282386
 D10,D11 D10,D11 =2#01001101010110010001100110101101 1297684909

6.7

6.7.1 F 16

	[ROR (S1) (D) (S2)]															
	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1

2

SM101 e . 1 e l l ' r ħ M15

0

Kn Kn 4

6.7.2 ROL 16

S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1

2

6.7.4 RCL 16

RCL (<i>S1</i>) (<i>D</i>) (<i>S2</i>)]																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

6.7.6 DROL 32

S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1	0	Kn	Kn	8
---	---	----	----	---

2

MO	3013123244	753280811	
DROL	D0	D10	30

```
LD      M0
DROL    D0    D10    30
```

```

M0=ON      D0,D1  =#10110011100110001001110010101100  3013123244
      30          D10,D11                                D10,D11
=#00101100111001100010011100101011  753280811  SM181=ON
      ROL

```

6.7.7 DRCR 32

																
S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1	0	Kn	Kn	8
---	---	----	----	---

2

MO		DRCR	3013123244	722891539	11
		DO		DIO	

```
LD    M0
DRCR  D0
D10   11
```

SM181	1	M0=ON	D0,D1	=2#10110011100110001001110010101100	3013123244
		SM181=OFF	11	D10,D11	D10,D11
		=2#00101011000101100111001100010011	722891539	SM181=ON	
	2	RCR			

6.7.8 DRCL 32

 [DRCL (S1) (D) (S2)]																
S1	DWORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
D	DWORD			KnY	KnM	KnS	KnLM		D		C		V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1 0 Kn Kn 8

2



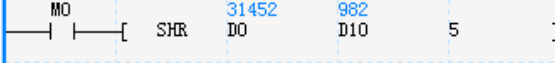
LD M0
DRCL D0 D10 25

1M0=ON D0,D1 =2#10110011100110001001110010101100 3013123244
SM181 SM181=OFF 25 D10,D11 D10,D11
=2#001011000101100111001100010011100 1488165020 SM181=ON
2 RCL

6.7.9 SHR 16

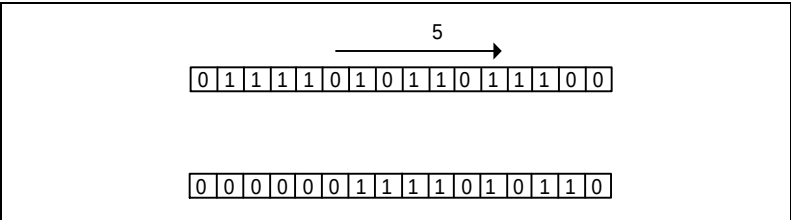
 [SHR (S1) (D) (S2)]																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1



LD M0
SHR D0 D10 5

2



Kn 0 Kn 4 M0=ON D0=2#0111101011011100 31452 5 D10
D10=2#0000001111010110 982

6.7.10 SHL 16

| | | [ SHL (S1) (D) (S2)]																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1

2

0

KnKn4

MO

| | | [SHL 31452 28160 D0 D10 7]

LD M0 SHL D0 D10 7

7

011111011011001110111000

0110111000000000000000

M0=ON D0=2#0111101011011100 31452 7 D10

D10=2#0110111000000000 28160

6.7.11 DSHR 32

DSHR </								
--	--	--	--	--	--	--	--	--

1

2

0

KnKn8

MO

| | | [DSHR 1939381420 1893927 D0 D10 10]

LD M0 DSHR D0 D10 10

1

M0=ON D0,D1 =2#01110011100110001001110010101100 1939381420 10 D10,D11 D10,D11 =2#00000000000111001110011000100111 1893927

2

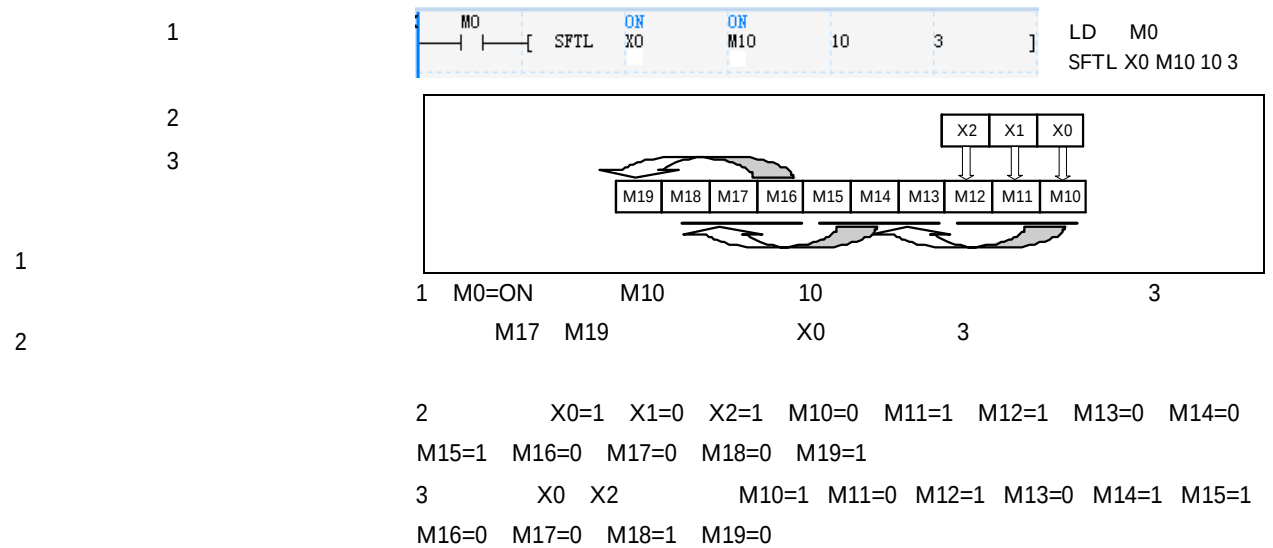
SHR

6.7.12 DSHL 32

|—| —[ DSHL (S1) (D) (S2)]		

6.7.14 SFTL

 SFTL (S1) (D) (S2) (S3)																
S1	BOOL		X	Y	M	S	LM	SM			C	T				
D	BOOL			Y	M	S	LM				C	T				
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.8

6.8.1 FROM

S1	INT															
S2	INT															
D	INT								D				V		R	
S3	INT															

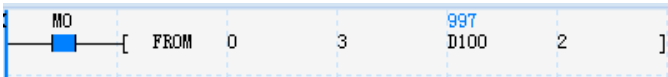
BFM

0 7

FROM

BFM

0 32767
BFM
BFM



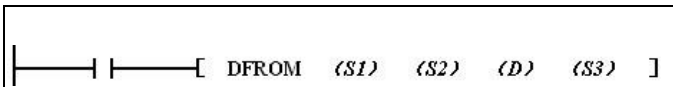
LD M0
FROM 0 3 D100 2

M0 ON 0 3 BFM 2
D100 D101

BFM

1 32767
BFM
BFM

6.8.2 DFROM

																
S1	INT															
S2	INT															
D	DINT								D					V		R
S3	INT															

BFM

0 7

BFM

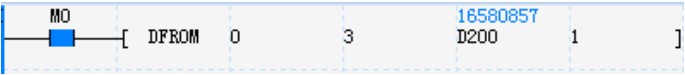
BFM

DFROM

0 32767

BFM

BFM


--

LD M0

DFROM 0 3 D200 1

M0 ON 0 3 BFM 1

BFM

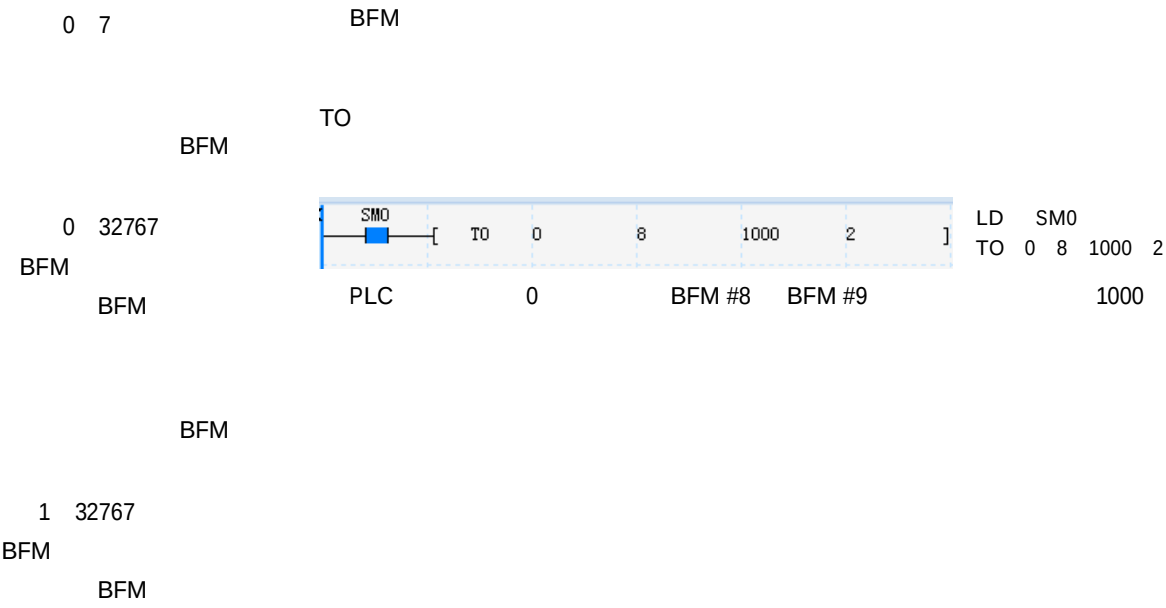
D200,D201

1 32767

BFM

6.8.3 TO

																	
S1	INT																
S2	INT																
S3	INT								D					V		R	
S4	INT																



BFM

132767

BFM

BFM

6.8.4 DTO

S1	INT										
S2	INT										
S3	DINT							D			V R
S4	INT										

0 7

BFM

DTO

BFM

0 32767

BFM

BFM

PLC

0

BFM#8 9

1

16711935

BFM

1 32767

BFM

BFM



LD SM0

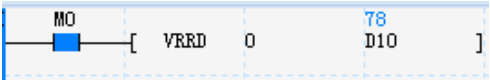
DTO 0 8 16711935 1

6.8.5 VRRD

S	WORD										
D	WORD							D			V

0 255

0 255



LD M0

VRRD 0 D10

M0 ON

0

D10

6.8.6 REFF

S	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		

- MC200

0 64ms 64

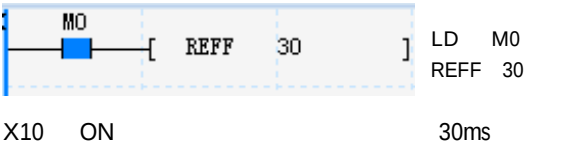
64
- MC100

0 8 16 32 64

8 0 16 8

32 16 64 32

64



X0 X17

6.8.7 REF I/O

D	BOOL		X	Y											
S	INT														

- X/Y

8

X0 X10 X20 é
- Y0 Y10 Y20 é

0
- 8 16 256 8

- 1

Xn Yn

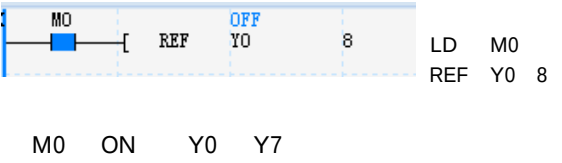
8
- 2

8
- 3

FOR-NEXT

CJ
- REF
- 4
- REF
- 5

PLC





6.8.9 PR

PR															
S	WORD								D		C	T		R	
D	BOOL			Y											

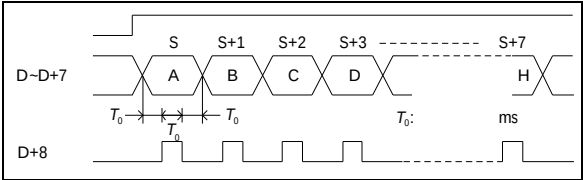
Y

1S S+781

2SM71SM71

D D+7

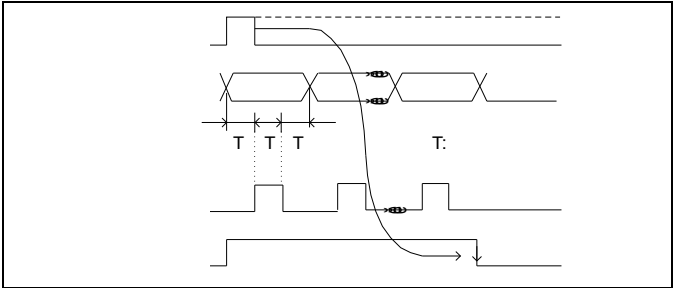
Y0



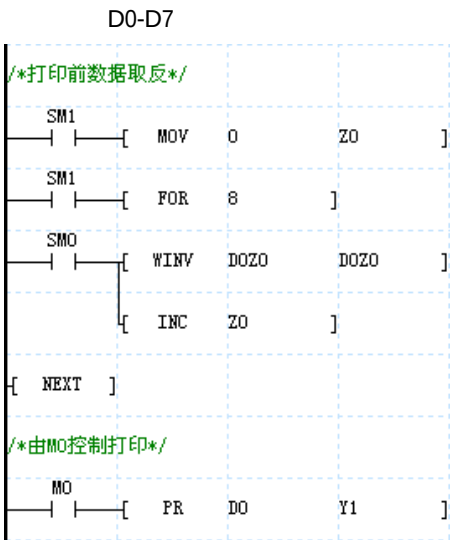
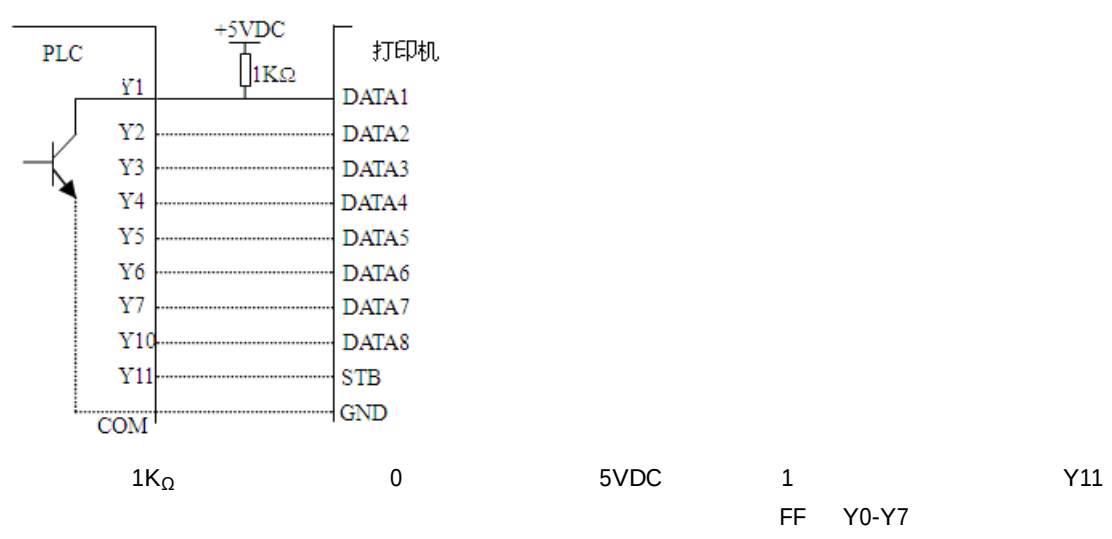
3SM70OFF8

ON116H00NUL

SM70 ON



- 1
- 2



- 1
 - 2
 - 3
- SM71 .

TKY		
TKY		

6.9

6.9.1 TRD

[TRD (D)]											
D	WORD								D		
										V	R

TRD

7

D



LD M0
TRD D10

M0 ON

D10 7

	SD100		2000 2099		D10	
	SD101		1 12		D11	
	SD102		1 31		D12	
	SD103		0 23		D13	
	SD104		0 59		D14	
	SD105		0 59		D15	
	SD106		0 6		D16	

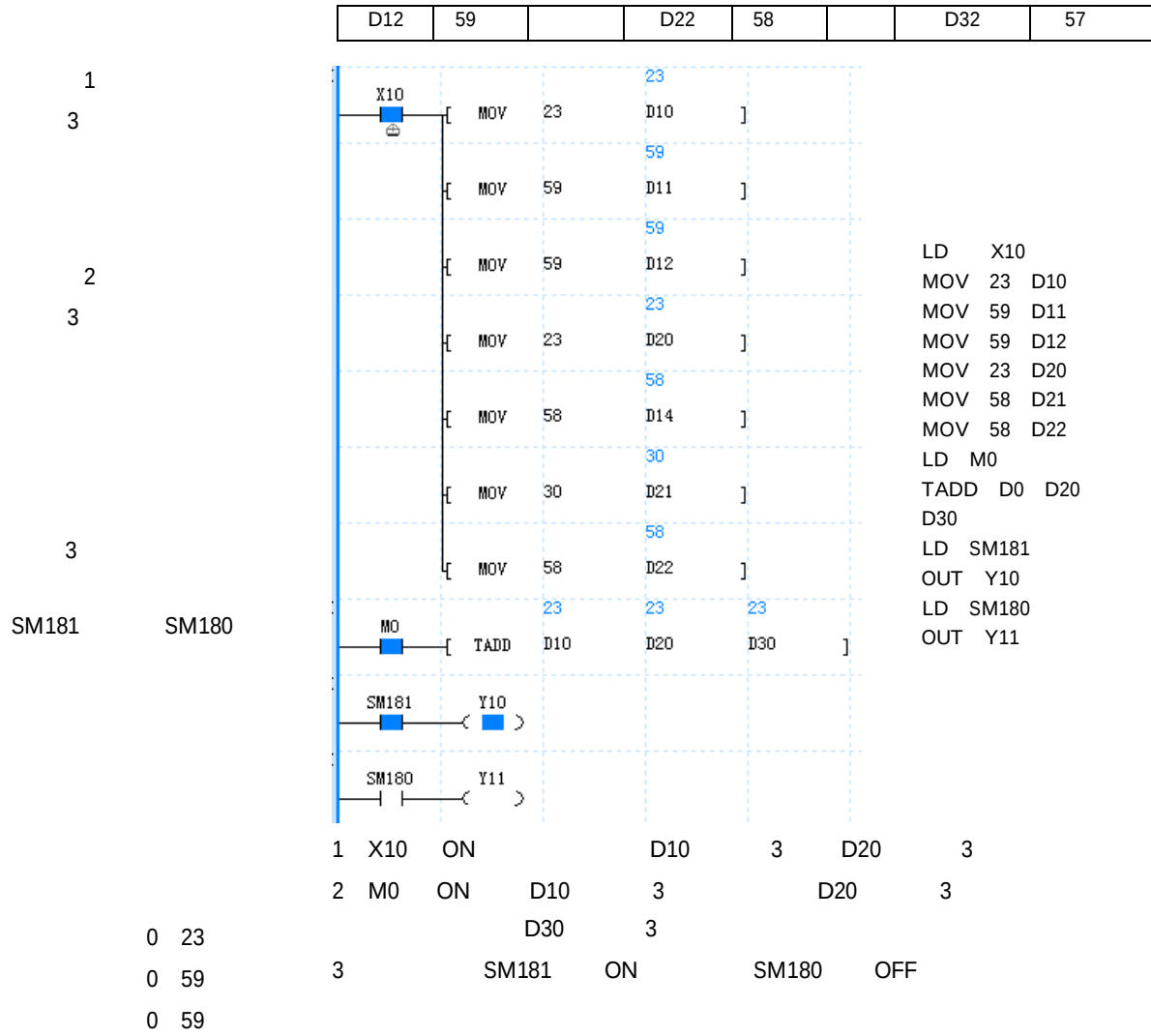
6.9.2 TWR

[TWR (S)]		

c

6.9.3 TADD

| | [ TADD (S1) (S2) (D)]															
S1	WORD								D	SD			V		R
S2	WORD								D	SD			V		R
D	WORD								D				V		R



S1		S2		D	
D10	23	D20	23	D30	23
D11	59	D21	58	D31	58

6.9.4 TSUB

| | | | | | | | | | [ TSUB (S1) (S2) (D)]												MC280					
S1	WORD									D	SD			V		R	
S2	WORD									D	SD			V		R	
D	WORD									D				V		R	

1

3

S1			S2			D	
D10	23		D20	23		D30	23
D11	59		D21	59		D31	59
D12	58		D22	59		D32	59

2

3

X10

[

MOV

23

D10

]

[

MOV

59

D11

]

[

MOV

58

D12

]

[

MOV

23

D20

]

[

MOV

59

D21

]

[

MOV

59

D22

]

M0

[

TSUB

D10

D20

D30

]

SM182

[

Y10

]

SM180

[

Y11

]

LD X10

MOV 23 D10

MOV 59 D11

MOV 58 D12

MOV 23 D20

MOV 59 D21

MOV 59 D22

LD M0

TSUB D10 D20 D30

LD SM182

OUT Y10

LD SM180

OUT Y11

3

SM182

SM180

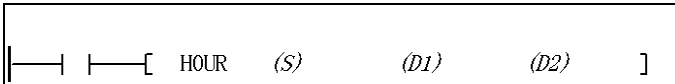
1	X10	ON		D10	3	D20	3
2	M0	ON	D10	3		D20	3
				D30	3		
3			SM182	ON		SM180	OFF

0 23

0 59

0 59

6.9.5 HOUR

										MC280						
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	INT								D				V		R	
D2	BOOL			Y	M	S	LM									

PLC

32767

0

2

ON

3

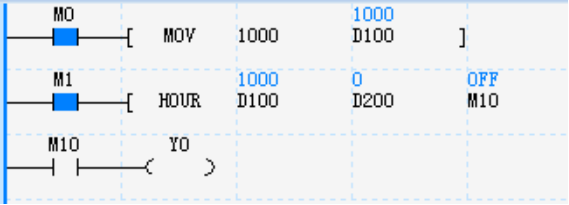
16

32767

0

1

ON



LD M0
MOV 1000 D100
LD M1
HOUR D100 D200 M10
LD M10
OUT Y0

ON

- 1 M0 ON HOUR
- 2 M1 ON HOUR
- 3 M1 ON 1000 M10 ON

1

PLC

6.9.6 DCMPCMP = < > <> >= <=

										MC280					
[	—	—	—	—	—	—	—	—	—						
[	—	—	—	—	—	—	—	—	—						
[	—	—	—	—	—	—	—	—	—						
[	—	—	—	—	—	—	—	—	—						
[	—	—	—	—	—	—	—	—	—						
[	—	—	—	—	—	—	—	—	—						
S1	INT								D	SD			V		R
S2	INT								D	SD			V		R
D	BOOL			Y	M	S	LM				C	T			

1

3

2

3

D

ON

OFF

BIN

2004 9

31 2003 2 29

SM0

X0

[

MOV

2004

2004

D0

]

[

MOV

10

10

D1

]

[

MOV

25

25

D2

]

[

MOV

2004

2004

D10

]

[

MOV

10

10

D11

]

[

MOV

24

24

D12

]

[

DCMP=

2004

2004

D0

D10

OFF

M0

]

[

DCMP<

2004

2004

D0

D10

OFF

M1

]

[

DCMP>

2004

2004

D0

D10

ON

M2

]

[

DCMP<>

2004

2004

D0

D10

ON

M3

]

[

DCMP>=

2004

2004

D0

D10

ON

M4

]

[

DCMP<=

2004

2004

D0

D10

OFF

M5

]

LD SM0

MOV 2004 D0

MOV 10 D1

MOV 25 D2

MOV 2004 D10

MOV 10 D11

MOV 24 D12

LD X0

DCMP= D0 D10 M0

DCMP< D0 D10 M1

DCMP> D0 D10 M2

DCMP<> D0 D10 M3

DCMP>= D0 D10 M4

6.9.7 TCMP = < > <> >= <=

TCMP= (S1) (S2) (D)]																MC280		
TCMP< (S1) (S2) (D)]																		
TCMP> (S1) (S2) (D)]																		
TCMP<> (S1) (S2) (D)]																		
TCMP>= (S1) (S2) (D)]																		
TCMP<= (S1) (S2) (D)]																		
S1	INT								D	SD				V		R		
S2	INT								D	SD				V		R		
D																		

6.9.8 HTOS

[HTOS (S) (D)]											
	S	WORD		KnX	KnY	KnM	KnS	T	C	D	SD

6.10 IO

6.10.1 HCNT

| | | [ HCNT (D) (S)]											
D	DINT									C	
S	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C
											V
											R

C236 C259

32

2147483648 2147483647

X10 SM236

X11 [RST OFF C236]

X12 [HCNT 0 C236 -5]

LD X10

OUT SM236

LD X11

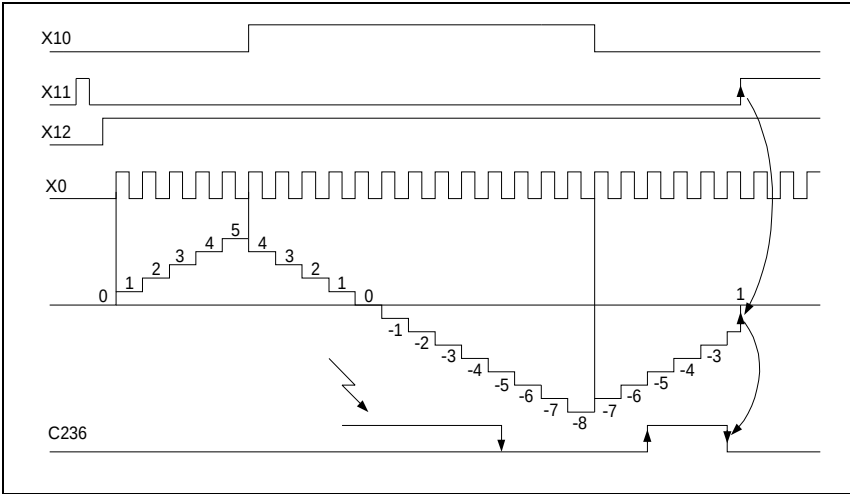
RST C236

LD X12

HCNT C236 -5

HCNT
HCNT SPD

IO
IO



- 1 X12 OFF ON C236 X0 C236
- 2 C236 X0 X12 OFF X0 C236
- 3 X11 ON RST C236 C236
- 4

		X0	X1	X2	X3	X4	X5	X6	X7	kHz		
										MC28 0	MC20 0	MC10 0
	C236	/								100	50	
	C237		/									
	C238			/								
	C239				/						10	
	C240					/						
	C241						/					
	C301							/			/	
	C302								/			
	C242	/										
	C243				/						10	
	C244	/										
	C245				/							
	C246									100	50	
	C247										10	
	C303										/	
	C248											
	C249										10	
	C250											
	C251	A	B							50	30	
	C304			A	B							
	C305					A	B				/	
	C306							A	B			
	C252	A	B									
	C253				A	B					5	
	C254	A	B									
	C255				A	B						
	C256 (X10)	A	B									
	C257 (X11)			A	B						/	
	C258 (X12)					A	B					
	C259 (X13)							A	B			
SPD										100	10	
										/	/	
/		0/10	1/11	2/12	3/13	4/14	5/15	6/16	7/17	/	/	

6.10.2 DHSCS

|—| —[ DHSCS (S1) (S2) (D)]																
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT										C					
D	BOOL			Y	M	S										

32 DINT
2147483648 2147483647

C236 C259
Y M

S

- 1 DHSCS
- HCNT
- HCNT
- DHSCS
- 2 DHSCS

6.10.3 DHSCI

[DHSCI (S1) (S2) (S3)]															
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
S2	DINT										C				
S3	WORD														

32 DINT
2147483648 2147483647

C236 C259
20

25

HCNT

OFF ON

DHSCI

4 PLC
DHSP DHST

DHSCS DHSCI DHSCR DHSZ
IO

M1

SM236

M0

HCNT

C236 1000

M2

DHSCI

2000 C236 20

C236

Y11

LD M1

OUT SM236

LD M0

DHSCI 2000 C236 20

LD C236

OUT Y11

M10

Y20

D0

>=

100

Y12

MOV

0

D0

LD M10

OUT Y20

LD>= D0 100

OUT Y12

MOV 0 D0

1 DHSCI
HCNT
HCNT
DHSCI

2 DHSCI

DMOV MOV
DHSCI

3 DHSCI DHSCS DHSCR
DHSZ DHSP DHST

1 M1 ON C236 X0 OFF ON X0
IO C236 999 1000 C236 1001
1000 C236 C236 Y11 Y11

2 M2 ON DHSCI
C236 2000 20

3 M0 ON SM236 C236 M0 OFF SM236
C236

4 C236 C236 2000 20
M10 ON Y20 Y20
D0 100 Y12 D0

6

6

6.10.4 DHSPI

|—| |—| [ DHSPI (S1) (S2) (S3)]																
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT									SD						
S3	WORD															

uXD; 6™€ H...™(¾C° ñ" 32 DINT
2147483648 2147483647

SD200,SD320,SD340,SD350,SD360,SD370
y¾G)~ &T¿ 03,5465,51,52,53™(—>|"Op™€ "00@

6.10.5 DHSCR

|—| |—| [ DHSCR (S1) (S2) (D)]																
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT										C					
D	BOOL			Y	M	S					C					

2 DHSCR DMOV MOV

DHSCR

3 DHSCR DHSCI DHSCS DHSZ DH67% DHT ~, 0 S c` Qp
%Dw6s...\$ ñ N⁻ 6 6

4 PLC DHSCS

C236 C259

Y M

S C

C

HCNT

OFF ON

DHSCR

Y

DHSCR

1 DHSCR

HCNT

HCNT

DHSCR

6.10.6 DHSZ

|—| |—[ DHSZ (S1) (S2) (S3)																			
S1	DINT		KnX	KnY	KnM	KnS	KnL			SD	C		V		R				
S2	DINT		KnX	KnY	KnM	KnS	KnLM			SD	C		V		R				
S3	DINT									C									
D	BOOL			Y	M	S													

N F P

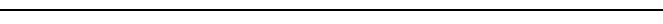
Ö+iÿ ~€ Q& H '2éó• RVd ™€ 7e •° ".7W' ö Cc W'20 ™~ 2R' Ö

1 32 ■ ■ DINT

2147483648

214748347

ÿ ™~ \$V\$F2+& • tç²Á~ ô™^ 5 `d€ 0³p

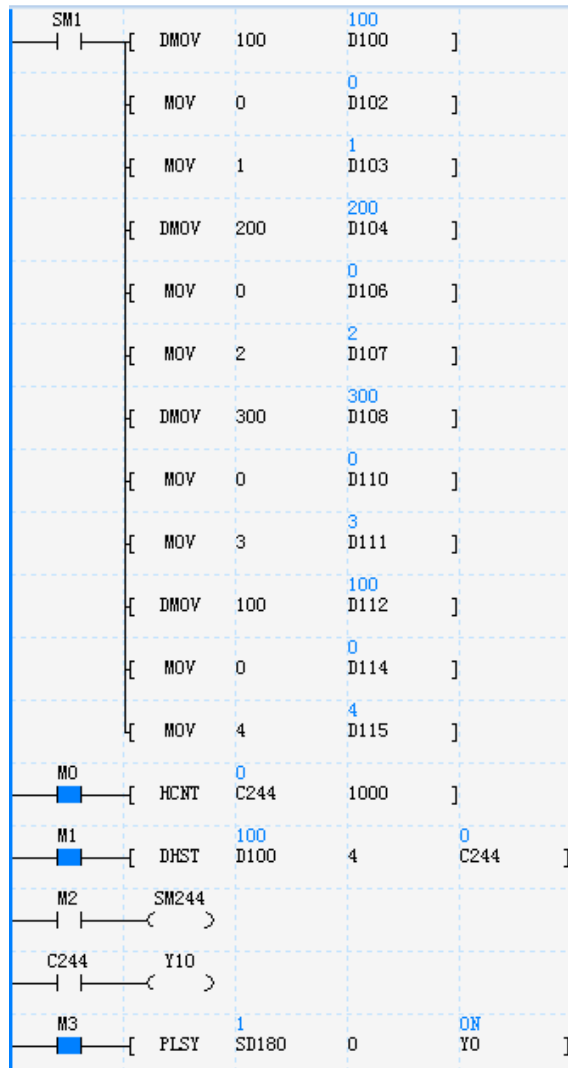
																	
S1	DINT									D						R	
S2	INT																
S3	DINT											C					

[illegible]

6.10.8 DHSP

[DHSP (S1) (S2) (S3)]																	
S1	DINT									D						R	
S2	INT																

		SD180 SD181		
D100=0	D101=100	D102=0	D103=1	1
D104=0	D105=200	D106=0	D107=2	2
D108=0	D109=300	D110=0	D111=3	3
D112=0	D113=300	D114=0	D115=4	4
				1



```

LD      SM1
DMOV    100 D100
MOV      0 D102
MOV      1 D103
DMOV    200 D104
MOV      0 D106
MOV      2 D107
DMOV    300 D108
MOV      0 D110
MOV      3 D111
DMOV    100 D112
MOV      0 D114
MOV      4 D115
LD      M0
HCNT     C244 1000
LD      M1
DHSP     D100 4 C244
LD      M2
OUT      SM244
LD      C244
OUT      Y10
LD      M3
PLSY     SD180 0 Y0

```

1 D100 D115

2 M0 X6 ON C244 X0 OFF ON IO C244 999 1000
C244 1001 1000 C244 C244 Y10 Y10

3 M1 ON DHSP 1 1
2 1

SM185 SD184 SD182 SD183
SD180 SD181 0
SD180 SD181 0

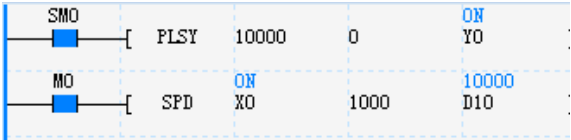
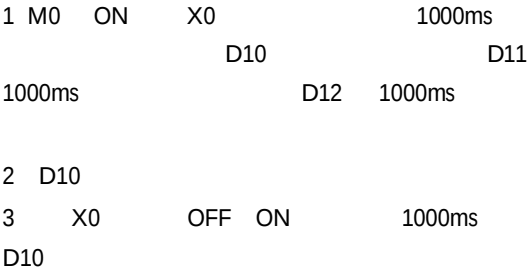
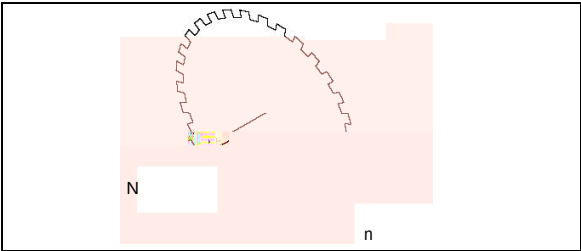
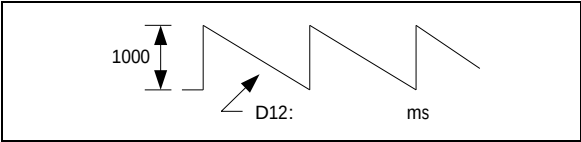
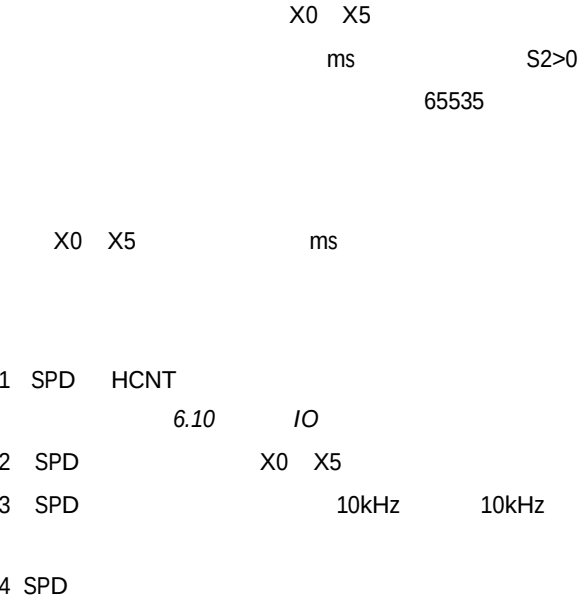
4 M2 ON SM244 ON C244 M2 OFF SM244 OFF C244

5 X6 OFF C244

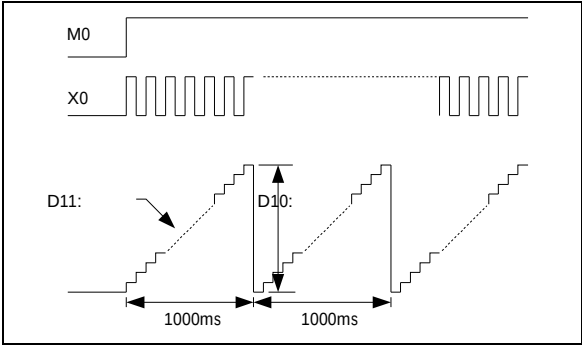
6 M0 X6 ON X2 ON C244 0 C244

6.10.9 SPD

| | | SPD (S1) (S2) (D) |															
S1	BOOL		X												
S2	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
D	WORD								D				V		R



```
LD SMO
PLSY 10000 0 Y0
LD M0
SPD X0 1000 D10
```



6.10.10 PLSY

6 PLSY PWM PLSR

[PLSY (S1) (S2) (D)]									7	PWM		PLSY		PLSR		
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	8	D	SD	C	DHSCS	DHSCR	DHSZ	DHSP
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	DHST	HCNT	SD	C	PLSY	V		R
D	BOOL			Y												

Hz
MC100 MC200 1 100000 Hz MC280
1 200000 Hz 0 100000

M1	[PLSY 1000 10000 OFF Y1]
	[PLSY 1000 10000 OFF Y0]

PLS
0 2147483647
0
MC100 MC200, Y0
Y1 MC280, Y0 Y1 Y2 Y3 Y4
Y5 Y6 Y7

LD M1
PLSY 1000 10000 Y1
PLSR 1000 10000 Y0

1 M1 ON Y0 Y1 10000
1000Hz 10000
M0 OFF ON
M0 OFF OFF
2 50 ON 50 OFF

PLC
1 PLC
2 PLC PLC

3 PLSY PWM PLSR

4 OFF PWM PLSY
PLSR
100mA
5

Y Y0
PORT0 Y1 PORT1
3 SM80 Y0 SM81 Y1
1
4 SM82 SM83 Y0 Y1
M0 OFF
5 SD50 Y0 PLSY PLSR
SD51 Y0 PLSY PLSR
SD52 Y1 PLSY PLSR
SD53 Y1 PLSY PLSR
SD54 Y0 Y1 PLSY
PLSR
SD55 Y0 Y1 PLSY PLSR

6 SD50 SD55 DMOV SD5

MOV SD5

7 PLSY

DHSP

6.10.11 PLSR

PLSR(S1)(S2)(S3)(D)																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S3	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	BOOL			Y												

Hz

10 20000 Hz

20000 20000

10 10

PLS

110

2147483647

MC100

50ms

10

/10

MC100 MC200,

Y0 Y1 MC280, Y0 Y1 Y2 Y3

Y4 Y5 Y6 Y7

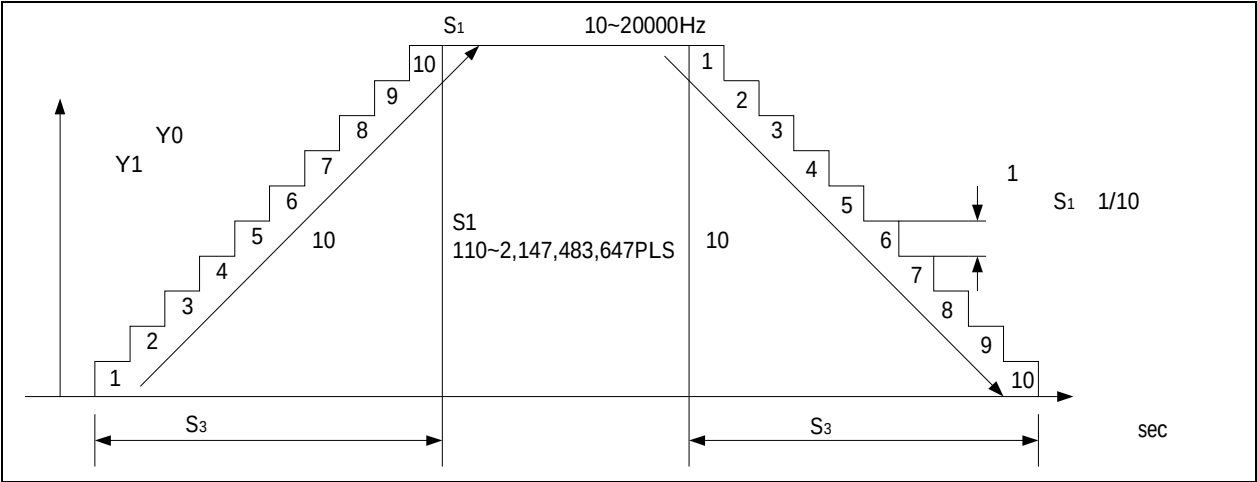
ms

<100000 =100000/

PLSR

>S2 909 =S2 909/

PLSR



1 10 20000Hz

2 PLC

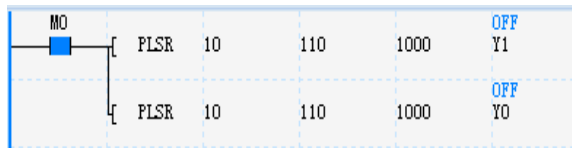
Y1 PORT1

3

4 2 PLSR
PWM PLSY

5 PWM PLSY PLSR

6 DHSCS DHSCR DHSZ DHSP
DHST HCNT PLSR



LD M0
PLSR 10 110 1000 Y1
PLSR 10 110 1000 Y0

1 M0 ON Y0 Y1
110 M0 OFF
ON M0 OFF
OFF

2 M0 ON OFF
ON

3 SM80 Y0 SM81 Y1
SM80 SM81 1

4 SM82 SM83 Y0 Y1
M0 OFF SM82 SM83 OFF
SM82 SM83 ON

5 SD50 SD55
1 SD50 Y0 PLSY PLSR

2 SD51 Y0 PLSY PLSR

3 SD52 Y1 PLSY PLSR

4 SD53 Y1 PLSY PLSR

5 SD54 Y0 Y1 PLSY PLSR

6 SD55 Y0 Y1 PLSY PLSR

6 SD50 SD55 DMOV SD5
MOV SD5

6.10.12 PLS

 [PLS (S1) (S2) (D1)]															
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R
D1	BOOL			Y											

D
0 255
MC100 MC200,
Y0 Y1 MC280, Y0 Y1 Y2 Y3
Y4 Y5 Y6 Y7

1 PLS

2 0
3 SM80 SM81

4 PLS_SET n

D M
LD SM0
DMOV 1 Dn
DMOV 1 Dn 2
DMOV 2 Dn 4
DMOV 2 Dn 6
DMOV 3 Dn 8
DMOV 3 Dn 10

DMOV M Dn 4M 4
DMOV M Dn 4M 2
DMOV Dn 4M
MOV Dn 4M 2
MOV Dn 4M 3
MOV Dn 4M 4

1 PTO PLS
PLS

2 P F_N N
 F_{max} F_{min} T_{up}
 T_{down}
1 N N 1
N :
 $P \frac{(F_N - F_{N-1}) (F_N - F_{N-1}) T_{up}}{2000 (F_{max} - F_{min})}$
2 N N 1
N :
 $P \frac{(F_N - F_{N-1}) (F_N - F_{N-1}) T_{down}}{2000 (F_{max} - F_{min})}$
3
1 N=1 N 1 F_{min}
2 1 1
 $P \frac{(F_1 - F_{min}) (F_1 - F_{min}) (T_{up} - T_{down})}{2000 (F_{max} - F_{min})}$
3
 $P \frac{(F_M - F_{M-1}) (F_M - F_{M-1}) (T_{up} - T_{down})}{2000 (F_{max} - F_{min})}$
4
5 999 999
4 PLC
5
6 PLSY,PLSR,PLS

6.10.13 PLSB

S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S3	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S4	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	BOOL			Y												

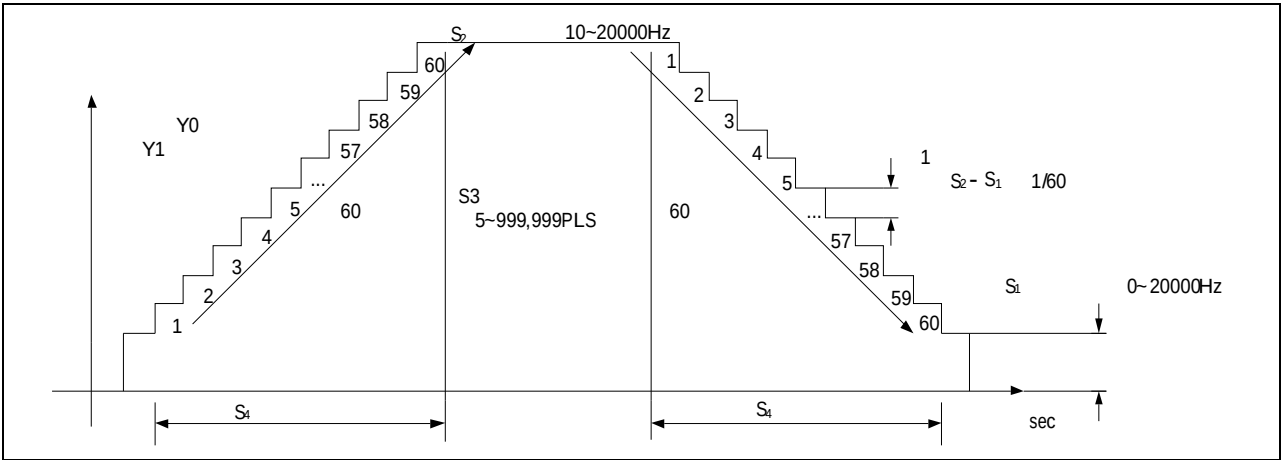
HZ
0 20000Hz

(mS)
0-10000

HZ
10 20000 (Hz)

MC100 MC200, Y0 Y1 MC280,
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7

(PLS)
5-999999



1 10-20000Hz

M0	[	PLSB	100	10000	10000	1000	OFF	Y1	]
	[	PLSB	100	10000	10000	1000	OFF	Y0	]

2 LD M0
PLSR 100 10000 10000 1000 Y1
PLSR 100 10000 10000 1000 Y0
1 M0 ON Y0 Y1
10000 M0 OFF
ON M0 OFF
OFF
2
M0 ON OFF ON

3 60

5 ()

3 SM80 Y0 SM81 Y1
SM80 SM81 1

6 2 PLSB Y000 Y001
PWM PLSY

4 SM82 SM83 Y0 Y1
M0 OFF SM82 SM83 OFF
SM82 SM83 ON

7 PWM PLSY PLSB

5 SD50 SD55
1 SD50 Y0 PLSB
2 SD51 Y0 PLSB
3 SD52 Y1 PLSB
4 SD53 Y1 PLSB
5 SD54 Y0 Y1 PLSB

8 DHSCS DHSCR DHSZ DHSP
DHST HCNT PLSB

9 Y0 Y1

6 SD55 Y0 Y1 PLSB
6 SD50 SD55 DMOV SD5
MOV SD5

6.10.14 PWM

PWM (S1) (S2) (D)																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	BOOL			Y												

ms/ s
0 32767 ms 32767

SM84 0 SM84 1
s

ms
1 32767

SM84 0 SM84 1
s Å

~~MC100, MC200, Y0~~
Y1 MC280 Y4 Y5 Y6 Y7

PWM ||

1 0 ON { 1 &

6.11

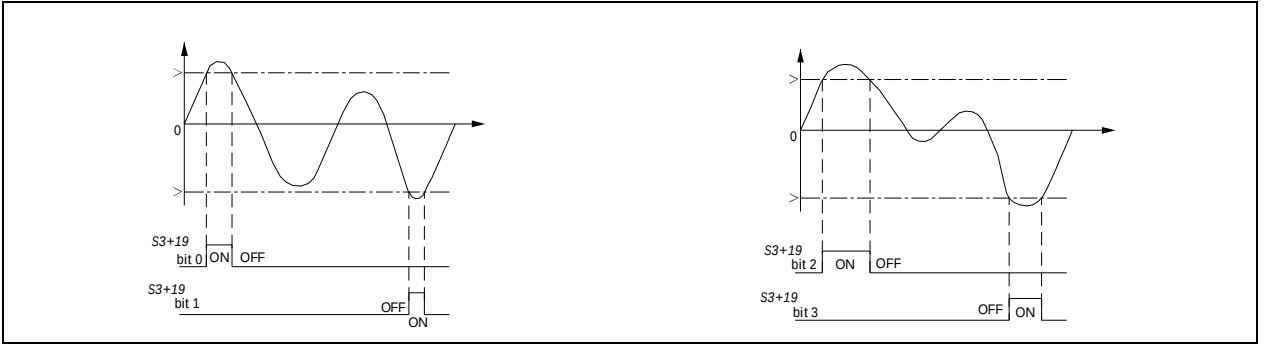
6.11.1 PID

PID (S1) (S2) (S3) (D)														
S1	INT								D					R
S2	INT								D					R
S3	INT								D					R
D	INT								D					R

8

BIT1=ON BIT2=ON BIT5=OFF PID
PID

PID



9 PID

	PID
	$\Delta MV = KP \left\{ (EV_n - EV_{n-1}) + \frac{T_s}{T_i} EV_n + D_n \right\}$ $EV_n = PV_{nf1} - SV$ $D_n = \frac{T_D}{T_s} \frac{\ddot{U}_D}{\ddot{U}_D} PV_{nf1} - PV_{nf2} - 2PV_{nf1} - \frac{\ddot{U}_D}{T_s} \frac{T_D}{\ddot{U}_D} D_{n-1}$ $MV_n = \varphi MV$
	$\Delta MV = KP \left\{ (EV_n - EV_{n-1}) + \frac{T_s}{T_i} EV_n + D_n \right\}$ $EV_n = SV - PV_{nf1}$ $D_n = \frac{T_D}{T_s} \frac{\ddot{U}_D}{\ddot{U}_D} 2PV_{nf1} - PV_{nf1} - PV_{nf2} - \frac{\ddot{U}_D}{T_s} \frac{T_D}{\ddot{U}_D} D_{n-1}$ $MV_n = \varphi MV$

EV _n			D _n	
EV _{n-1}	1		D _{n-1}	1
SV			KP	
PV _{nf}			T _s	
PV _{nf1}	1		T _i	
PV _{nf2}	2		T _D	
φMV			U _D	
MV				

```
// PID
LD      SM1          //
MOV     1000         D500 //
MOV     500          D510 //      Ts      1 32767 ms
//
MOV     7             D511 //
MOV     70            D512 //      0 99[ ] 0
MOV     100           D513 //      Kp      1 32767[ ]
MOV     25            D514 //      TI      0 32767 100ms 0
//
```

Address	Instruction	Source	Destination	Comment
0000	SM1			
0001	MOV	1000	D500	
0002	MOV	500	D510	
0003	MOV	16#7	D511	
0004	MOV	70	D512	
0005	MOV	100	D513	
0006	MOV	25	D514	
0007	MOV	0	D515	
0008	MOV	63	D516	
0009	FMOV	0	D517	8
0010	MOV	2000	D525	
0011	MOV	2000	D526	
0012	MOV	2000	D527	
0013	MOV	2000	D528	
0014	MO			
0015	FROM	0	D501	1
0016	PID	1000 D500	D501 D510	24349 D502
0017	TO	0	D502	1

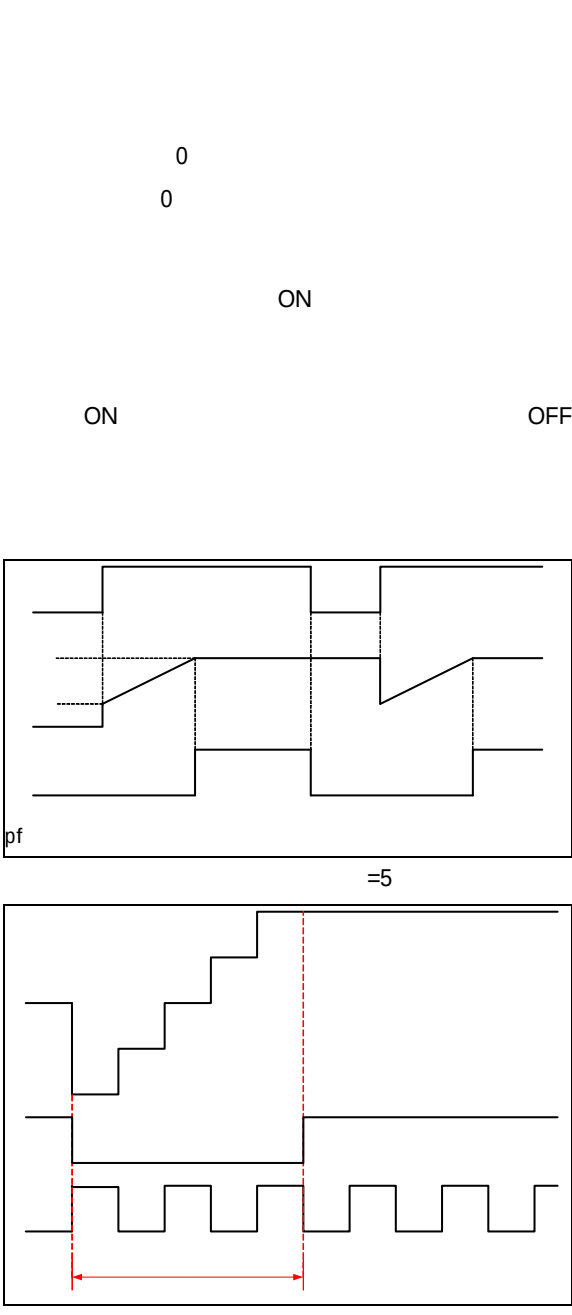
PID

PID

PID

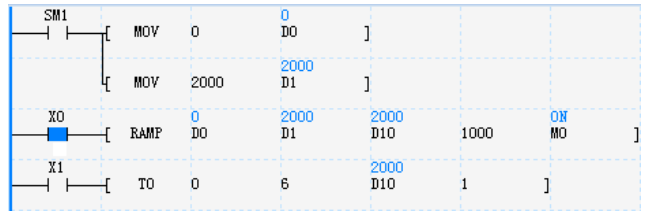
6.11.2 RAMP

| H H [RAMP (S1) (S2) (D1) (S3) (D2)]																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	INT								D				V		R	
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D2	BOOL			Y	M	S	LM				C	T				



1
2
3 S1=S2 D1=S2 D2=ON
4 RAMP HACKLE TRIANGLE
100
5. RAMP HACKLE TRIANGLE

```
//  
LD SM1  
MOV 0 D0  
MOV 2000 D1  
//X0=ON  
LD X0  
RAMP D0 D1 D10 1000 M0  
//X1=ON  
LD X1  
TO 0 6 D10 1
```



1 X0=ON D10
D10=D0=0 2 2000/1000 D10=D1=2000
D10 M0=ON
OFF
D10=D0
2

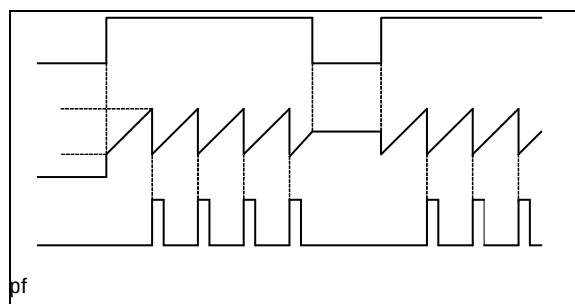
$L_{ii} = L_{ii} - \frac{L_{ii} L_{ii}}{L_{ii} L_{ii} - L_{ii} L_{ii}} \quad (S1) \quad L_{ii} = L_{ii} - \frac{L_{ii} L_{ii}}{L_{ii} L_{ii} - L_{ii} L_{ii}} \quad (S2) \quad L_{ii} = L_{ii} - \frac{L_{ii} L_{ii}}{L_{ii} L_{ii} - L_{ii} L_{ii}} \quad (S3) \quad L_{ii} = L_{ii} - \frac{L_{ii} L_{ii}}{L_{ii} L_{ii} - L_{ii} L_{ii}} \quad (S4)$																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	INT								D				V		R	
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D2	BOOL			Y	M	S	LM				C	T				

2 = = =ON
3 RAMP HACKLE TRIANGLE
 100

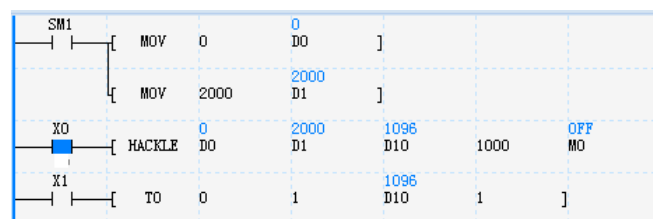
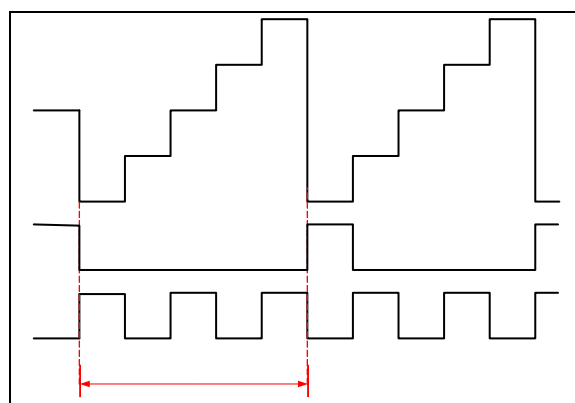
0

```
//
LD          SM1
MOV        0 D0
MOV  2000 D1
//X0=ON
LD          X0
HACKLE     D0 D1 D10 1000 M0
//X1=ON
```

LD	X1
TO	0 1 D10 1



=5

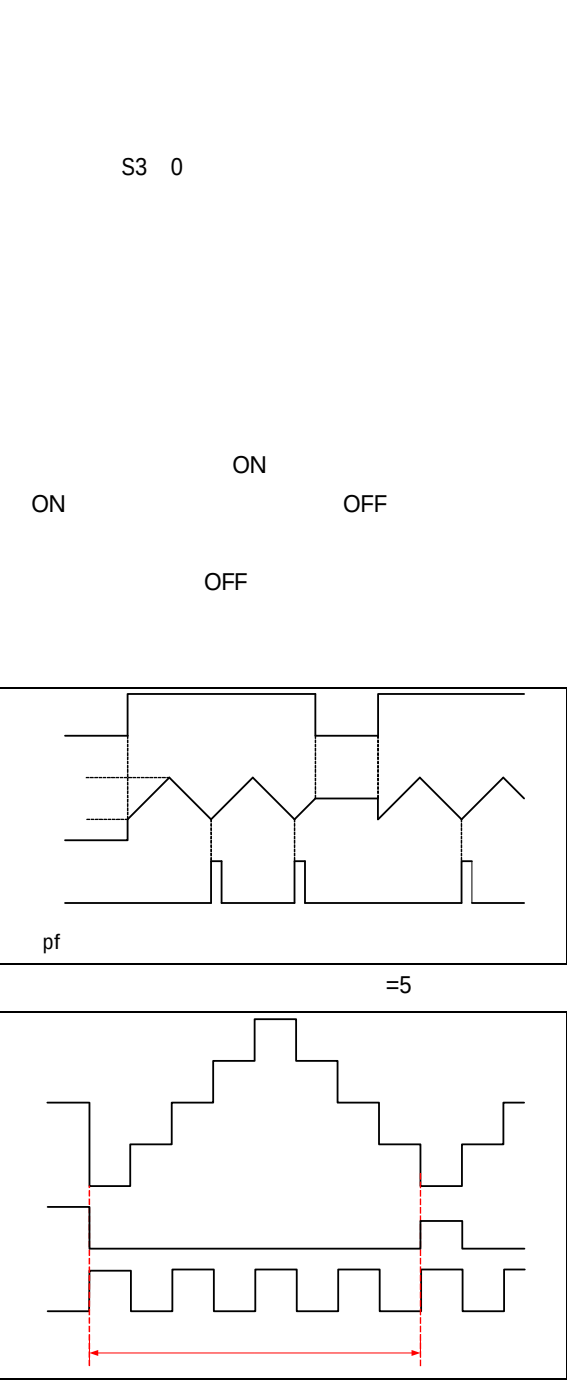


1	X0=ON		D10	
	D10=D0=0	2	2000/1000	D10=D1=2000
	M0=ON		X0	ON
	D10=D0=0		M0=OFF	
	OFF			

2

6.11.4 TRIANGLE

[TRIANGLE (S1) (S2) (D1) (S3) (D2)]																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D1	INT								D				V		R	
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D2	BOOL			Y	M	S	LM				C	T				



1
2
3 = = =ON
4 = 1 2
5 RAMP HACKLE TRIANGLE
100

//
LD SM1
MOV 0 D0
MOV 2000 D1
//X0=ON
LD X0
TRIANGLE D0 D1 D10 1000 M0
//X1=ON DA

LD X1
TO 0 1 D10 1

SM1	MOV	0	0	D0													
X0																	
X1																	

1 X0=ON D10
D10=D0=0 2 2000/1000 D10=D1=2000
D10 2
D10=D0=0 M0=ON
X0 ON M0=OFF
OFF

2

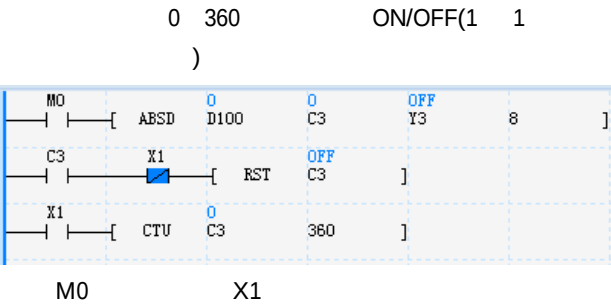
6.11.5 ABSD

ABSD															
S1	INT		KnX	KnY	KnM	KnS			D		C	T		R	
S2	INT										C				
D	BOOL			Y	M	S									
S3	WORD														

n 4

1 64

1 n (n 2) ON/OFF n



2 / n 2

1 k 4

2 S2 C0 C199

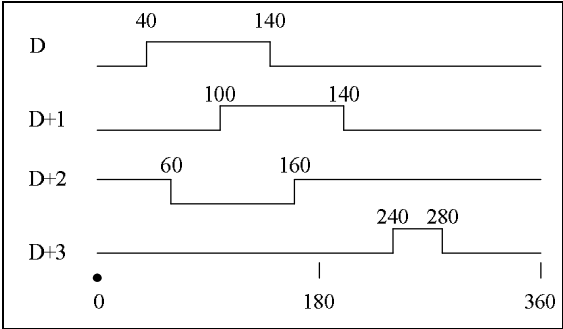
3

3 S1 S1 2n 1

	40	+1	140	
+2	100	+3	200	+1
+4	160	+5	60	+2
+6	240	+7	280	+3
é	é	é	é	é
+2n		+2n+1		+n-1

4 ON n

D+1 140 200



6.11.6 DABSD

MO [DABSD D100 C200 Y3 8]															
S1	DINT		KnX	KnY	KnM	KnS			D		C	T		R	
S2	DINT										C				
D	BOOL			Y	M	S									
S3	WORD														

k=8

C200 C255

1 64

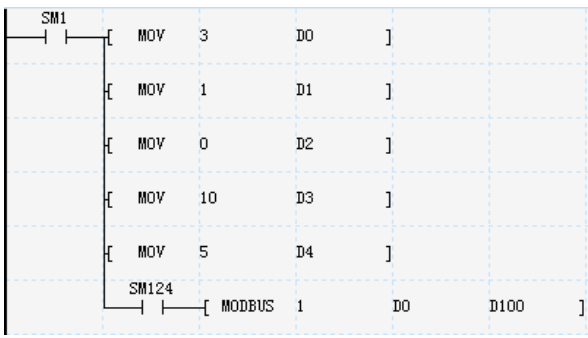
1 n (n 4)
n D ON/OFF

2 / [+1] [+(n
2)+3 +(n 2)+2]

3 [+1] [+1]+4n+3

[+1]	40	[+3 +2]	140	
[+9 +8]				
[+13 +12]	240	[+15 +14]	280	

4

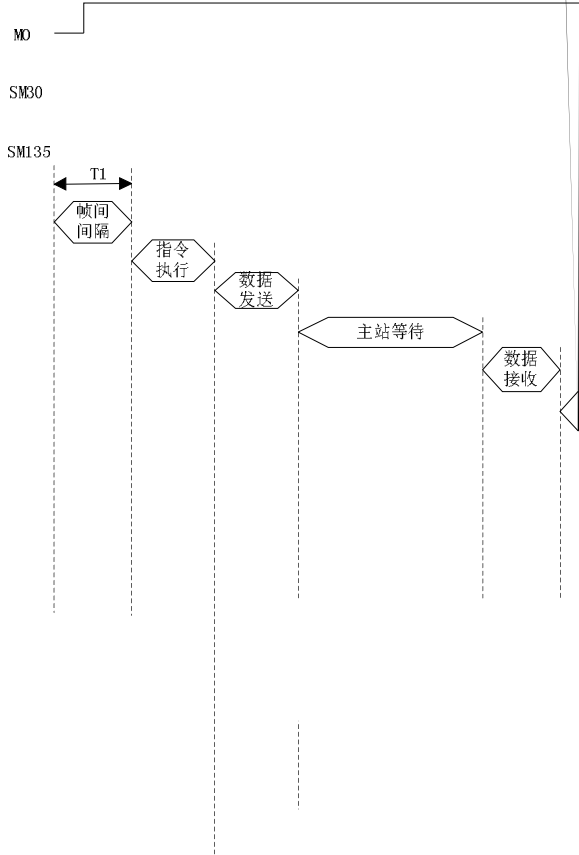
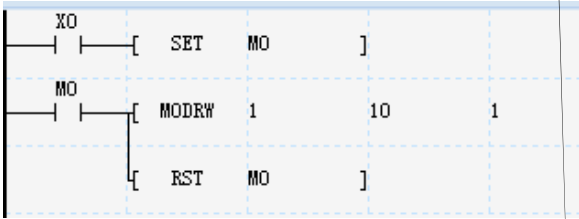


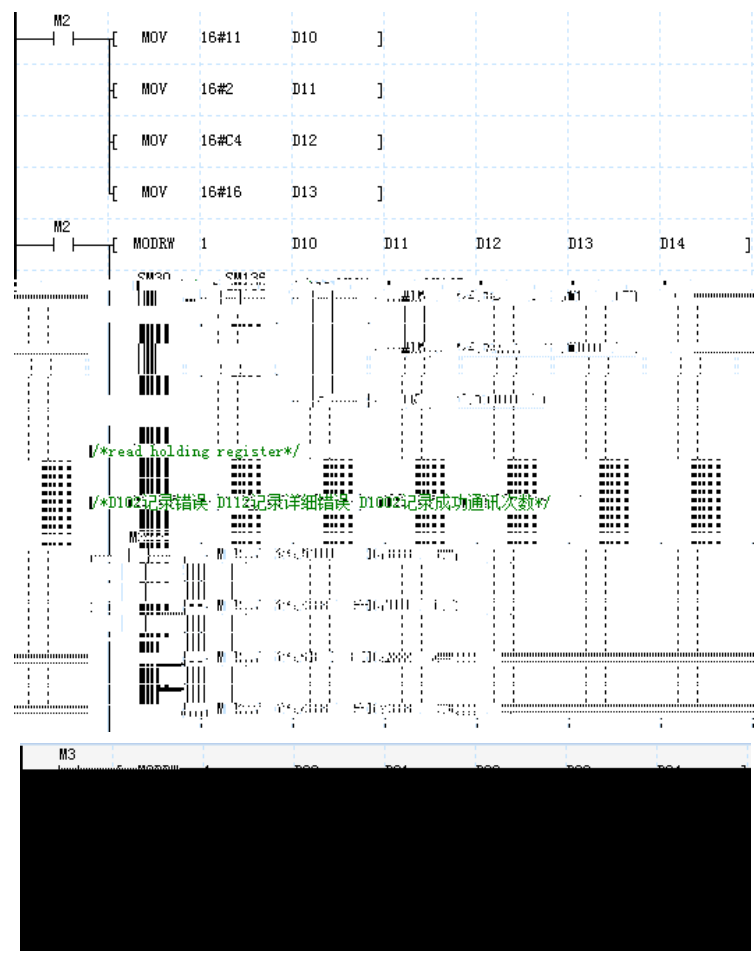
```
LD SM1
MOV 3 D0
MOV 1 D1
MOV 0 D2
MOV 10 D3
MOV 5 D4
AND SM124
Modbus 1 D0 D100
1 Modbus D0
2 D100
3 Modbus CRC
SM136
SD139
4 SM114 SM124
MODBUS MODBUS
Modbus
```

0x01	
0x02	
0x03	
0x10	
0x11	
0x12	/
0x13	

6.12.2 MODRW MODBUS

|—| —|





SM30 MODRW MODRW SM136 SD139
MODRW SM30 MODRW SD194 SM136 SD139 SD194
SM30 2 MODRW
SM30 SM135 MODRW
MODRW SM30 MODRW
MODRW
SM30 MODRW
SM30

2

MC100

MV600

MC100

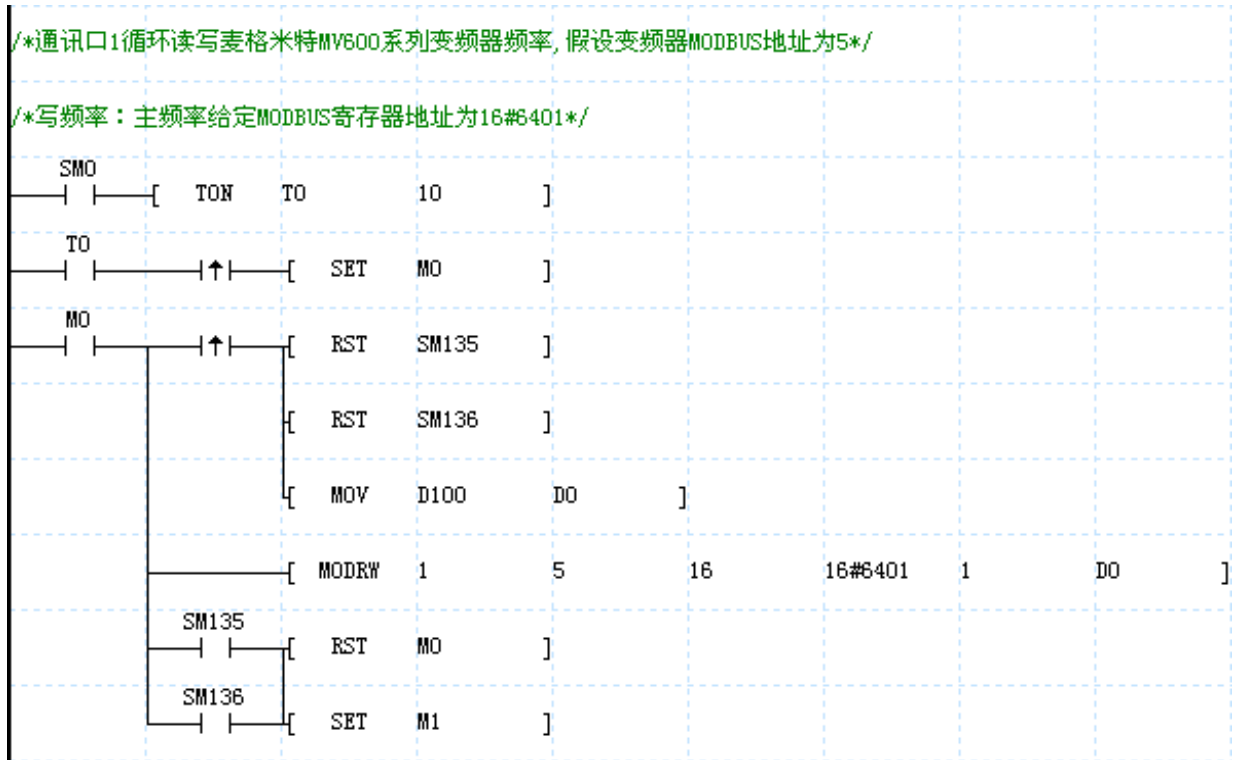
T0

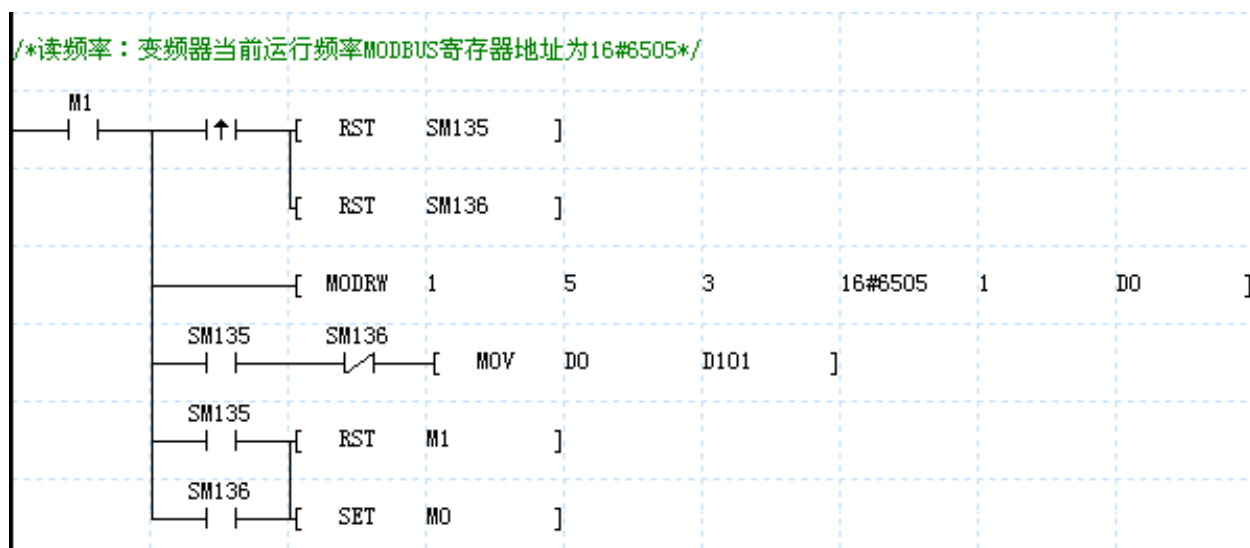
MV600

T0

SM135

SM136





6.12.3 Modlink MODBUS

M90 [MODLINK 1 D200 D46 M114 M156]															
S1	INT														
S2	INT	D													
S3	INT	D													
S4	BOOL			M	S					C	T				
S5	BOOL			M	S					C	T				

1

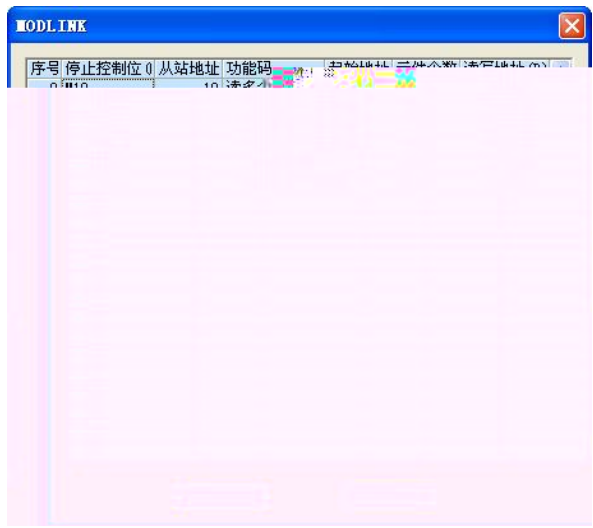
MODLINKMODBUS

MODLINKMODLINK

MODLINK

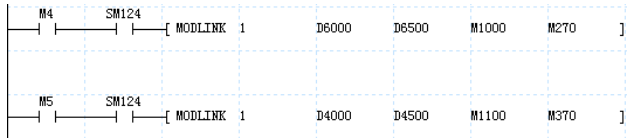
MODLINKMODBUS

MODLINK



D6000

S2		
S2+1	M	0
S2+2		
S2+3		
S2+4		
S2+5		
S2+6		
S2+7		
S2+8		1
S2+9		
S2+10		
S2+11		
S2+12		
S2+13		
S2+14		
é		
é		



SM124

			D
01		1~2000	S5 15 /16
02		1 2000	S5 15 /16
03		1~125	S5
04		1~125	S5
05		0(fixed)	1
06		0(fixed)	1
15		1~1968	S5 15 /16
16		1~123	S5

MODLINK

MODBUS

0 N

S3

S3	0
S3+1	1
S3+2	2
é	
é	
S3+N	N

S3

Modbus

0x01	
0x02	
0x03	
0x10	
0x11	
0x12	/
0x13	

S4	0
S4+1	1
S4+2	2
é	
é	
S4+N	N

6.12.4 XMT

|—| |—[ XMT (S1) (S2) (S3)]				
S1	XMT			

6.12.5 RCV

| | | [ RCV (S1) (D) (S2)]																
S1	INT															
D	WORD	D	V												R	
S2	INT		KnX	KnY	KnM	KnS	KnLM		D	SD	C	T	V	Z	R	



0 1

SM111 SM121

RCV

1
V
V63
2
0 1
D
D7999

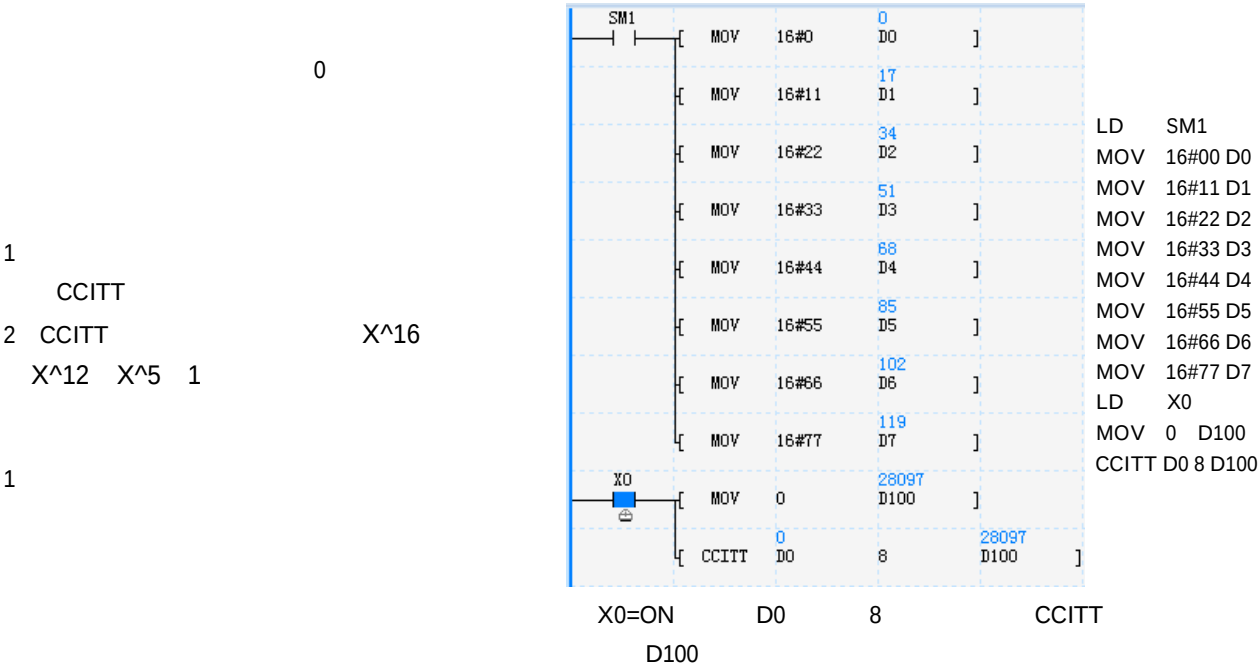
SM1	|	|	[	RCV	1	D20	5	]
SM123	|	|	[	INC	D100			]

LD SM1
RCV 1 D20 5
LD SM123
INC D100
1 RCV
SM1

6.13

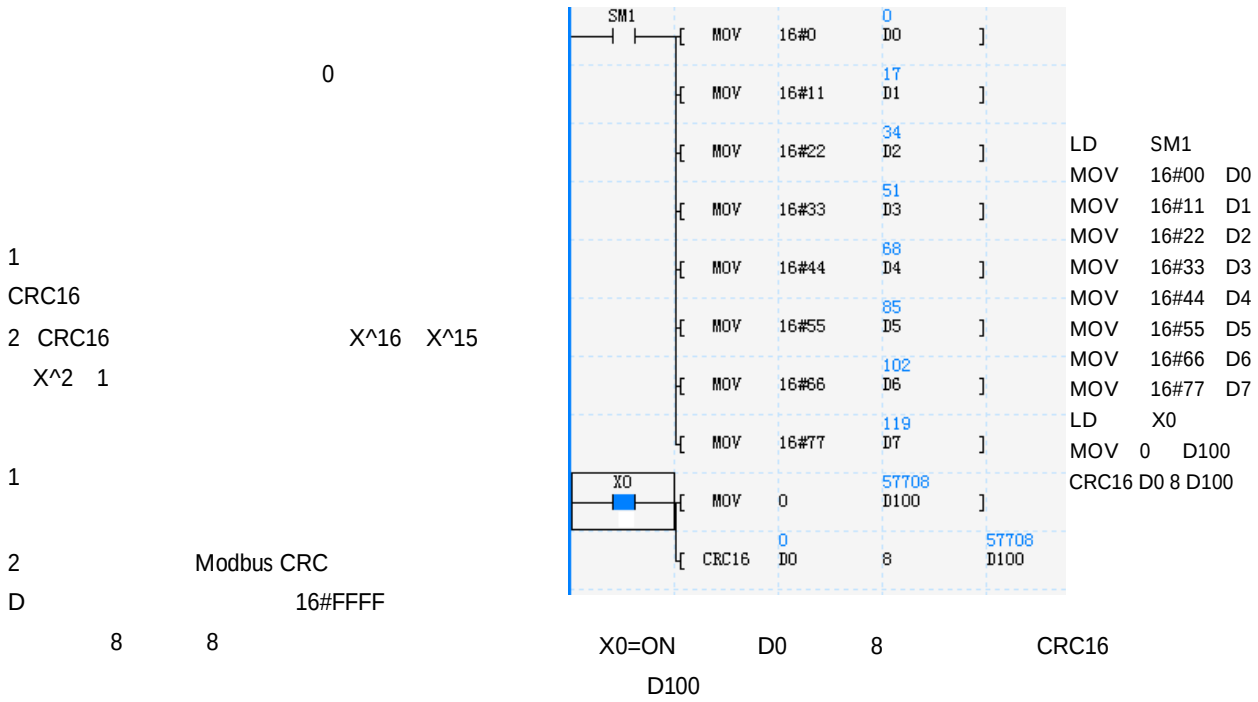
6.13.1 CCITT

| | | [ CCITT (S1) (S2) (D)]													
S1	WORD								D			V	R
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	Z
D	WORD								D			V	R



6.13.2 CRC16

| | [ CRC16 (S1) (S2) (D)]																
S1	WORD								D				V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	WORD								D				V		R	



6.13.3 LRC

| — | — [ LRC (S1) (S2) (D)]																
S1	WORD								D				V		R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	WORD								D				V		R	

LRC

0

1

2

SM1

[

MOV

16#0

D0

]

[

MOV

16#11

D1

]

[

MOV

16#22

D2

]

[

MOV

16#33

D3

]

[

MOV

16#44

D4

]

[

MOV

16#55

D5

]

[

MOV

16#66

D6

]

[

MOV

16#77

D7

]

MO

[

MOV

0

D100

]

[

LRC

D0

8

D100

]

LD

SM1

MOV

16#00

D0

MOV

16#11

D1

MOV

16#22

D2

MOV

16#33

D3

MOV

16#44

D4

MOV

16#55

D5

MOV

16#66

D6

MOV

16#77

D7

LD

M0

MOV

0

D100

LRC

D0

8

D100

X0=ON

D0

8

LRC

D100

6.14

6.14.1 ZRST

| — | — [ ZRST (D) (S)]																
D	BOOL			Y	M	S	LM				C	T				
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

1

2

C

C

T

T

SM0

[

ZRST

OFF

M10

10

]

LD

SM0

ZRST

M10

10

SM0=ON

M10

M10

M11

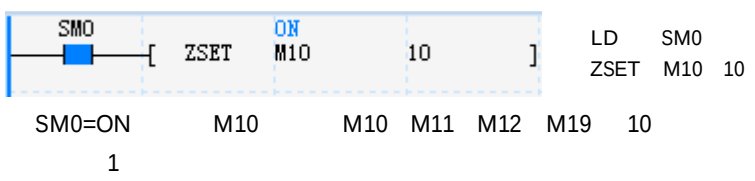
M12

M19

10

6.14.2 ZSET

| — | — [ ZSET (D) (S)]																	
D	BOOL			Y	M	S	LM				C	T				✓	
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	✓	

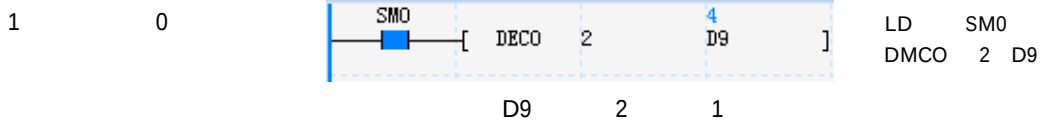


1

6.14.3 DMCO

[DECO (S) (D)]																	
S	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		
D	INT			KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		

0 15
15 0

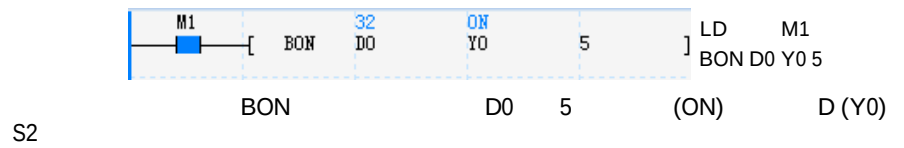


6.14.4 ENCO

[ENCO (S) (D)]																
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	Z	R	

6.14.7 BON ON

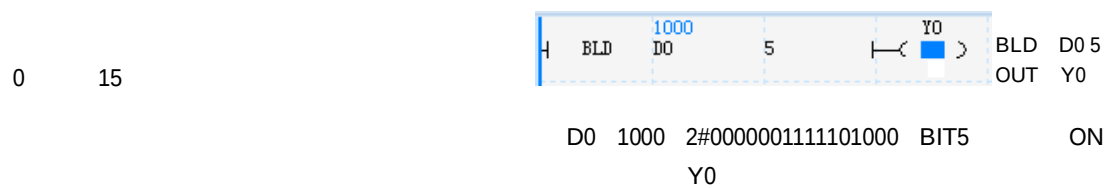
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V			
D	BOOL		Y	M	S											
S2	INT								D				V		R	



6.15

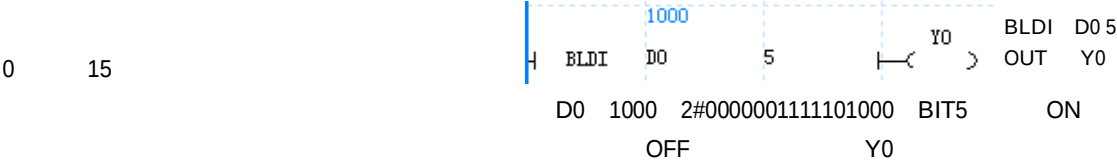
6.15.1 BLD LD

																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



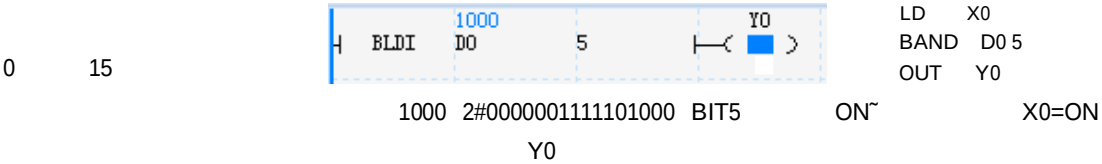
6.15.2 BLDI LDI

BLDI (S1) (S2)																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.15.3 BAND AND

BLD (S1) (S2) BAND																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.15.4 BANI ANI

BLDI (S1) (S2)) BANI BLDI																	
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		

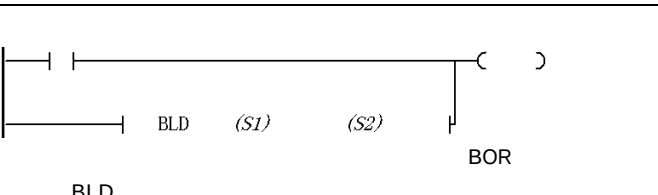
0 15



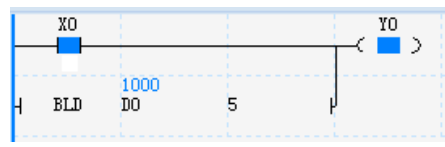
D0 1000 2#0000001111101000 BIT5 ON
X0=ON Y0

LD X0
BANI D0 5
OUT Y0

6.15.5 BOR OR

																	
BLD																	
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R		

0 15



D0 1000 2#0000001111101000 BIT5 ON
X0=ON Y0

LD X0
BOR D0 5
OUT Y0

6.15.6 BORI ORI

BLDI (S1) (S2) BORI BLDI																
S1	WORD		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

LD X0

BORI D0 5

OUT Y0

0 15

X0

Y0

BLDI D0 5

1000

D0 1000 2#0000001111101000 BIT5 ON OFF

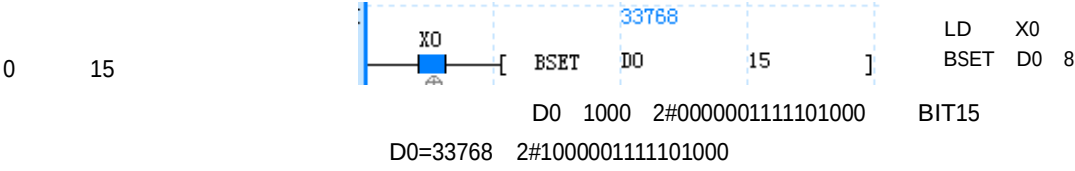
X0=ON Y0

6.15.7 BOUT

BOUT (D) (S)																			
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R				
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R				

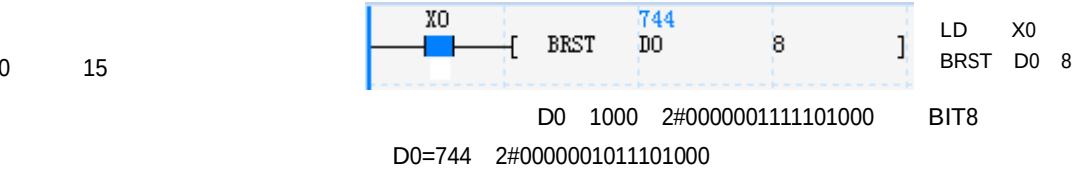
6.15.8 BSET

[BSET (D) (S)]																
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.15.9 BRST

[BRST (D) (S)]																
D	WORD			KnY	KnM	KnS	KnLM		D		C	T	V	Z	R	
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	



6.16

6.16.1 LD = < > <> >= <= LD

		=	(S1)	(S2)												
		<	(S1)	(S2)												
		>	(S1)	(S2)												
		<>	(S1)	(S2)												
		>=	(S1)	(S2)												
		<=	(S1)	(S2)												
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	

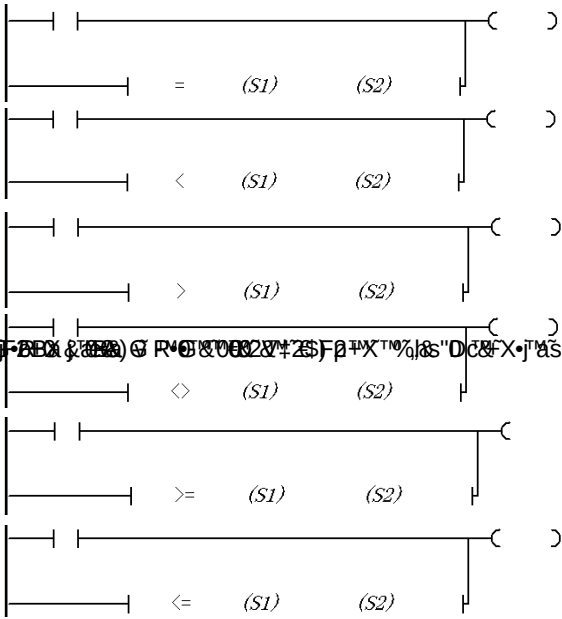
1
2

BIN

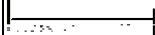
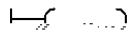
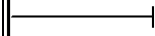
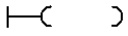
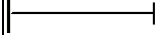
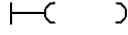
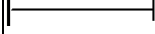
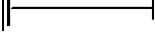
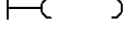
	=	1000 D0	-2000 D1		Y0
	<	1000 D0	-2000 D1		Y1
	>	1000 D0	-2000 D1		Y2
	<>	1000 D0	-2000 D1		Y3
	>=	1000 D0	-2000 D1		Y4
	<=	1000 D0	-2000 D1		Y5
		D0 D1	BIN		

LD= D0 D1
OUT Y0
LD< D0 D1
OUT Y1
LD> D0 D1
OUT 2
LD<> D0 D1
OUT Y3
LD>= D0 D1
OUT Y4
LD<= D0 D1
OUT Y5

6.16.3 OR = < > <> >= <= OR



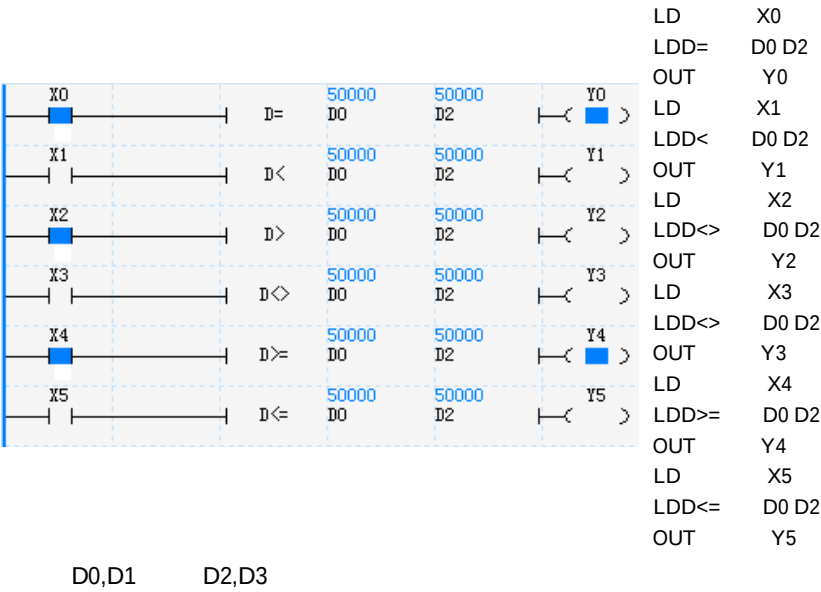
6.16.4 LDD = < > <> >= <= LDD

	D≡	(S1)	...	(S2)	...			
	D<	(S1)		(S2)				
	D>	(S1)		(S2)				
	D<>	(S1)		(S2)				
	D>=	(S1)		(S2)				
	D<=	(S1)		(S2)				

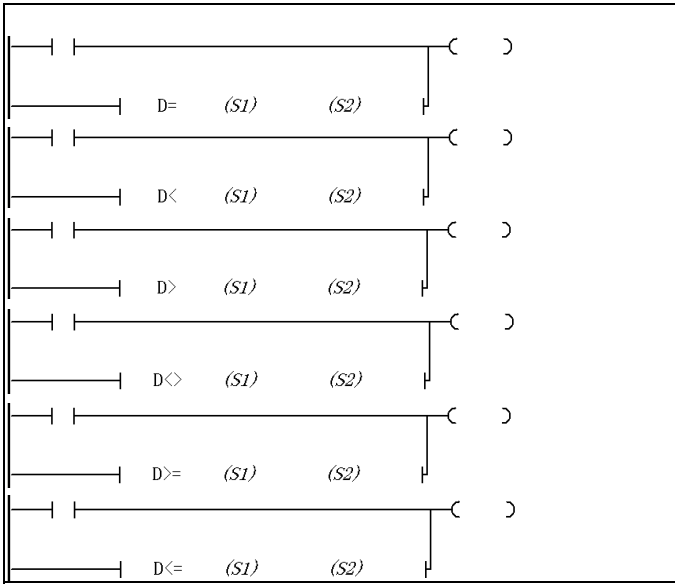
6.16.5 ANDD = < > <> >= <= ANDD

		D=		(S1)	(S2)			)								
		D<		(S1)	(S2)			)								
		D>		(S1)	(S2)			)								
		D<>		(S1)	(S2)			)								
		D>=		(S1)	(S2)			)								
		D<=		(S1)	(S2)			)								
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	

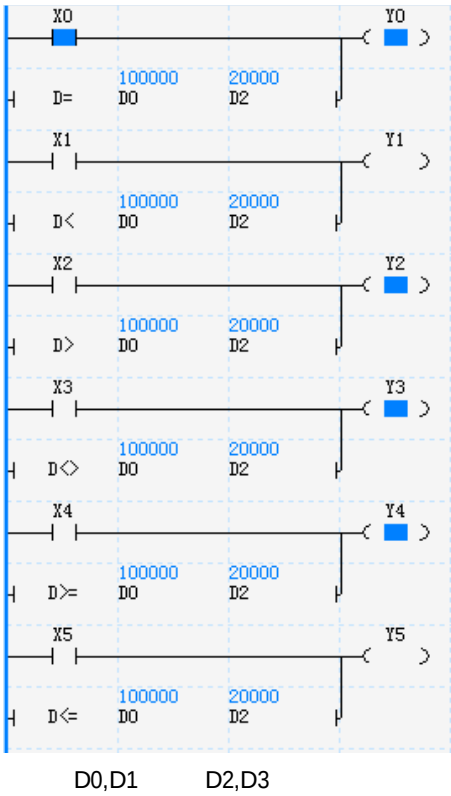
1
2



6.16.6 ORD = < > <> >= <= ORD

																			
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R				
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R				

1
2



LD X0
ORD= D0 D2
OUT Y0
LD X1
ORD< D0 D2
OUT Y1
LD X2
ORD<> D0 D2
OUT Y2
LD X3
ORD>= D0 D2
OUT Y3
LD X4
ORD>= D0 D2
OUT Y4
LD X5
ORD<= D0 D2
OUT Y5

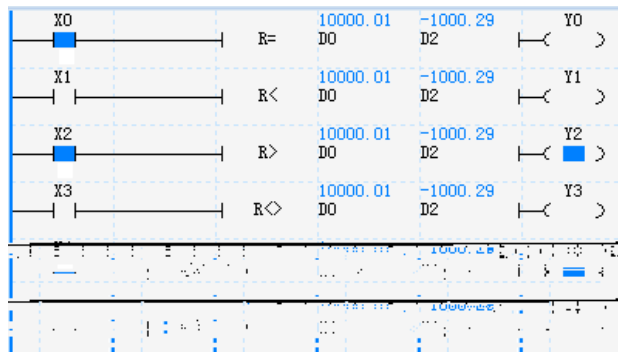
6.16.7 LDR

|-----|	R=	(S1)	(S2)	|-----|	)	
|-----|	R<	(S1)	(S2)	|-----|	)	
|-----|	R>	(S1)	(S2)	|-----|	)	
|-----|	R<>	(S1)	(S2)	|-----|	)	
|-----|	R>=	(S1)	(S2)	|-----|	)	
|-----|	R<=	(S1)	(S2)	|-----|	)	

6.16.8 ANDR

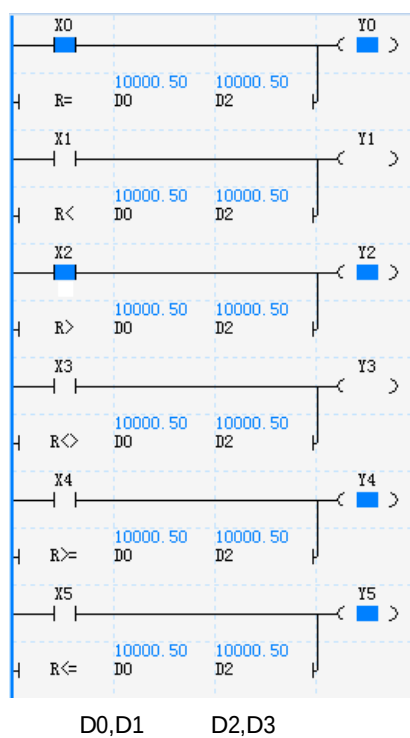
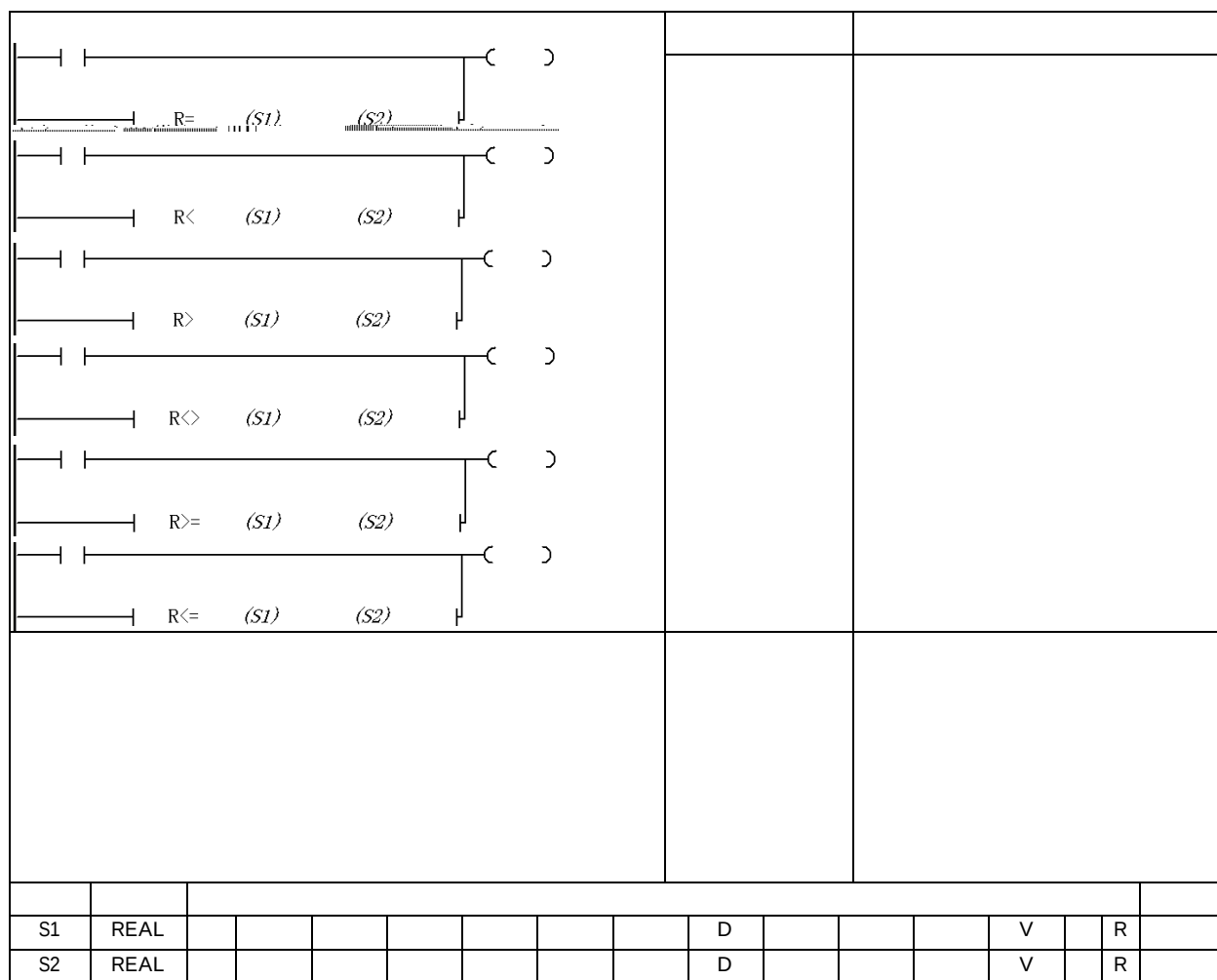
S1	REAL								D				V		R
S2	REAL								D				V		R

1
2



LD X0
ANDR= D0 D2
OUT Y0
LD X1
ANDR< D0 D2
OUT Y1
LD X2
ANDR<> D0 D2
OUT Y2
LD Y3
ANDR<> Y3
LD X4
ANDR>= D0 D2
OUT Y4
LD X5
ANDR<= D0 D2
OUT Y5

D0,D1 D2,D3

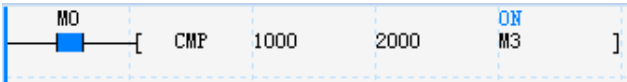


LD	X0
ORR=	D0 D2
OUT	Y0
LD	X1
ORR<	D0 D2
OUT	Y1
LD	X2
ORR>	D0 D2
OUT	Y2
LD	X3
ORR<>	D0 D2
OUT	Y3
LD	X4
ORR>=	D0 D2
OUT	Y4
LD	X5
ORR<=	D0 D2
OUT	Y5

6.16.10 CMP

CMP																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	Z	R	
D	BOOL			Y	M	S										

+1 +2 ON



6.16.11 LCMP

S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V	Z	R	
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V	Z	R	
D	BOOL			Y	M	S										

+1 +2 ON

1
2



6.16.12 RCMP

RCMP															
S1	REAL								D					R	
S2	REAL								D					R	
D	BOOL			Y	M										

6.17.2 BKSUB

[BKSUB (S1) (S2) (D) (S3)]															
BKSUB															
S1	INT								D	SD	C	T	V	R	
S2	INT								D	SD	C	T	V	R	
D	INT								D	SD	C	T	V	R	
S3	INT								D				V	R	



LD M1

BKSUB D10 D100 D1000 5

M1=ON	D10	5	D100
-------	-----	---	------

5

D1000 5 D1000=D10-D100

D1001=D11-D101 D1004=D14-D104

1

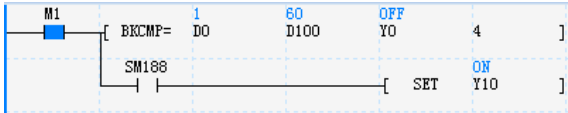
2

6.17.3 BKCMP=,>,<,<>,<=,>=

BKCMP= (S1) (S2) (D) (S3)]															
BKCMP< (S1) (S2) (D) (S3)]															
BKCMP> (S1) (S2) (D) (S3)]															
BKCMP<= (S1) (S2) (D) (S3)]															
BKCMP>= (S1) (S2) (D) (S3)]															
BKCMP<= (S1) (S2) (D) (S3)]															
BKCMP>= (S1) (S2) (D) (S3)]															
BKCMP															
S1	INT								D	SD	C	T	V	R	
S2	INT								D	SD	C	T	V	R	
D	BOOL		Y	M	S	LM	SM								
S3	INT								D				V	R	

1

2 S1 16 ,S1
S1 S2 s3 16
D S3
3 D S3 ON
SM188

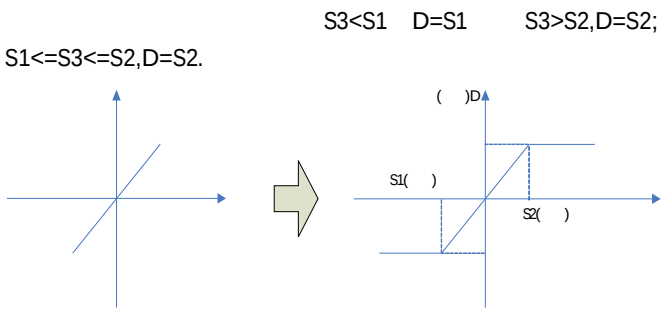


LD M1
BKCMP= D10 D100 Y0 4
LD SM188
SET Y10
M1=ON D10 4 D100
4 Y0
4 ON Y10
ON

6.18

6.18.1 LIMIT

LIMIT (S1) (S2) (S3) (D)]																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R		

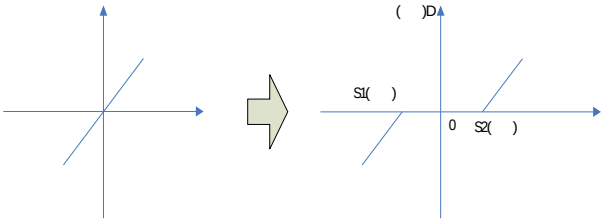


M1	10	100	30	30
	D0	D10	D100	D1000

```
LD M1
LIMIT D0 D10 D100 D1000
```

6.18.2 DBAND

[DBAND {S1} {S2} {S3} {D}]															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	

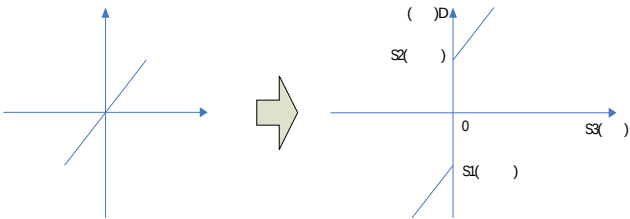


LD M1
DBAND D0 D10 D100 D1000

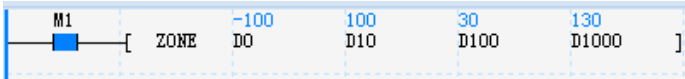
S3<S1 D=S3-S1
S3>S2,D=S3-S2; S1<=S3<=S2,D=0.

6.18.3 ZONE

|——|——| [ ZONE {S1} {S2} {S3} {D}]																
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
S3	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R		
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R		



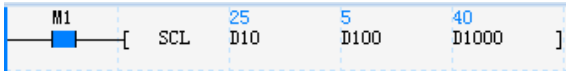
ZONE D0 D10 D100 D1000



LD M1

6.18.4 SCL

		SCL (S1) (S2) (D)]													
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
S2	INT								D				V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	



LD M1

SCL D10 D100 D1000

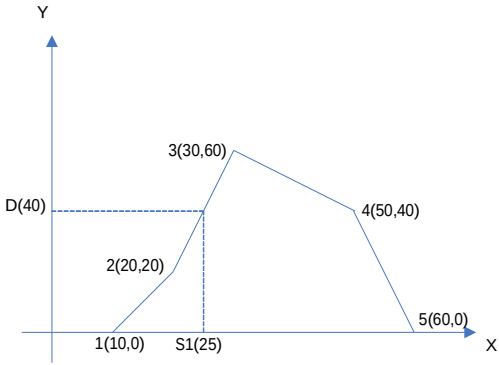
M1=ON D10
D1000

1 S1
D
2 S2
1

		S2
1	X	S2+1
	Y	S2+2
2	X	S2+3
	Y	S2+4
é	é	é
n ()	X	S2+2n-1
	y	S2+2n

		D100	5
1	X	D101	10
	Y	D102	0
2	X	D103	20
	Y	D104	20
3	X	D105	30
	y	D106	60
4	X	D107	50
	y	D108	40
5	X	D109	60
	y	D110	0

1 X
2 S1



6.18.5 SER

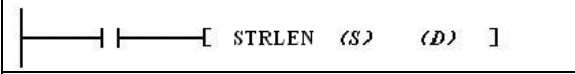
SER (S1) (S2) (D) (S3)															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	
S3	INT								D				V	R	

1. S1 S3 , S2

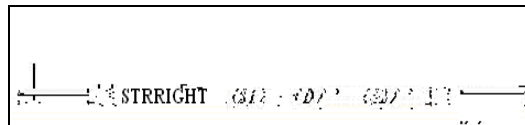
1

ГҮҮД ҮҮД ҮҮД

6.19.2 STRLEN

6.19.3 STRRIGHT

															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	
S2	INT								D				V	R	

1 S1 00H

2 S2 0

3 S2 S1

1 S1 00H

2 S2 D

3 M1=ON D10

4 0000H

LD M1

STRRIGHT D10 D100 3

B15---b8 b7---b0

D10	0x32	0x31
D11	0x34	0x33
D12	0x36	0x35
D13	0x00	0x00

B15---b8 b7---b0

D100	0x35	0x34
D101	0x00	0x36

6.19.4 STRLEFT

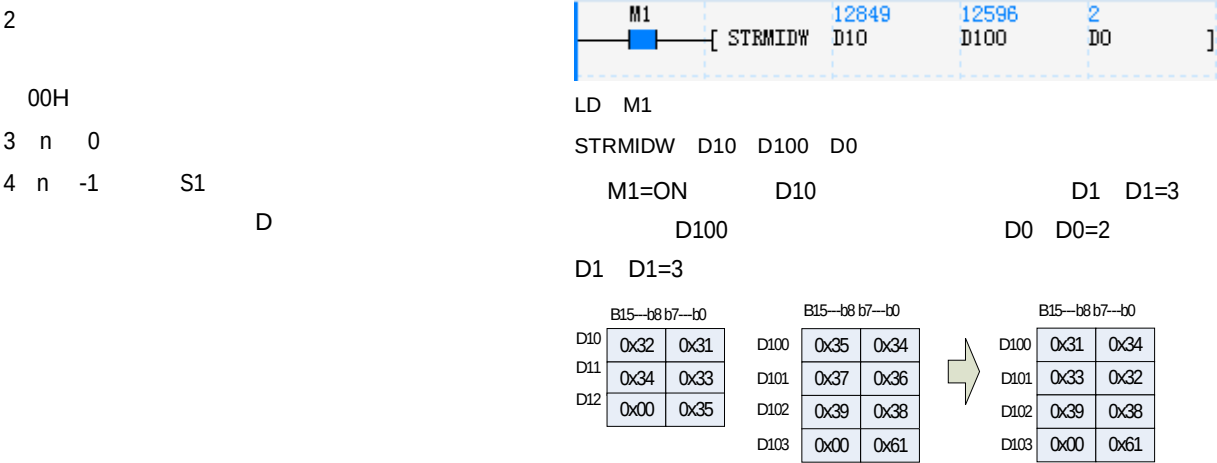
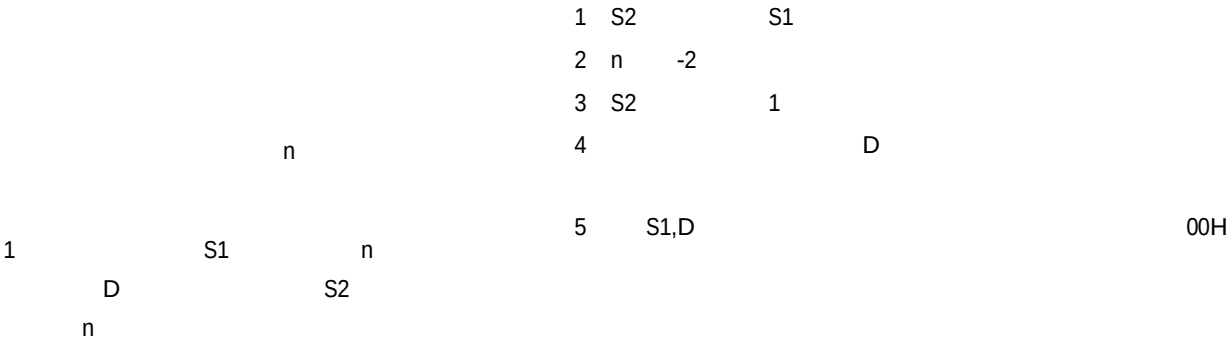
															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	
S2	INT								D				V	R	

6.19.5 STRMIDR

STRMIDR (S1) (D) (S2)															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	

6.19.6 STRMIDW

[STRMIDW (S1) (D) (S2)]															
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	
S2	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	



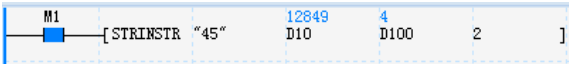
6.19.7 STRINSTR

[STRINSTR (S1) (S2) (D) (S3)]																
S1	INT								D	SD	C	T	V	R		
S2	INT								D	SD	C	T	V	R		
D	INT								D	SD	C	T	V	R		
S3	INT								D				V	R		

2 S3 S2
3 S1 32 ,

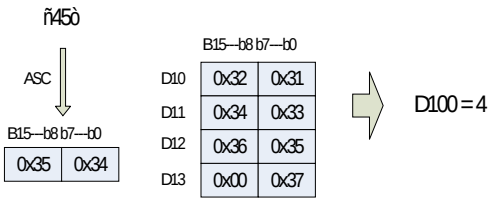
4 S1 00H S2
00H S2
00H

1 S2 S3
S1
D
2 D 0
3 S3 0
4 00H

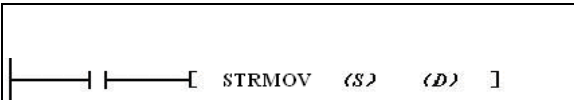


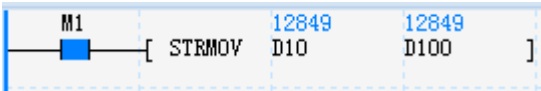
LD M1
STRINSTR "45" D10 D100 2
M1=ON D10 2
45 D100

1 S1 S2
00H



6.19.8 STRMOV

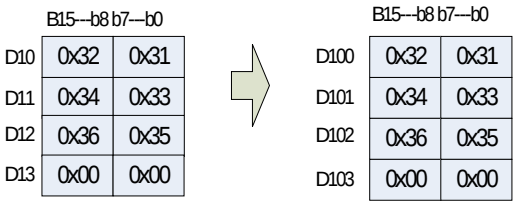
															
S	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T	V	R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C	T	V	R	



```
LD M1
STRMOV D10 D100
M1=ON D10 D100
```

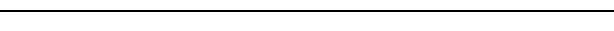
1 S 00H
D ;
2 00H

1 S 00H
2 S 00H
D 00H
3 S1 32 ,

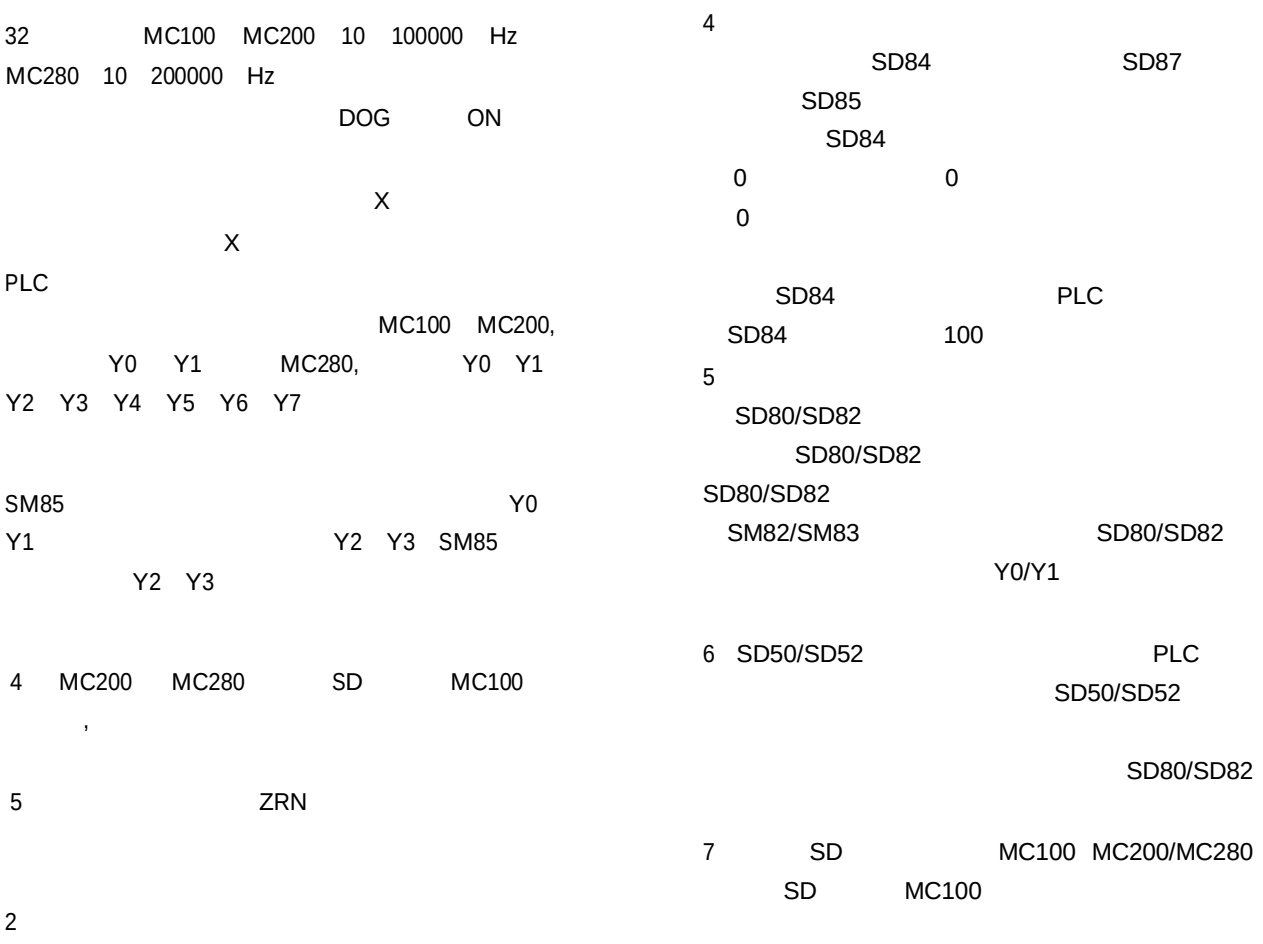


6.20

6.20.1 ZRN

																
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S3	BOOL		X	Y	M	S										
D1	BOOL			Y												

F_{min_acc}

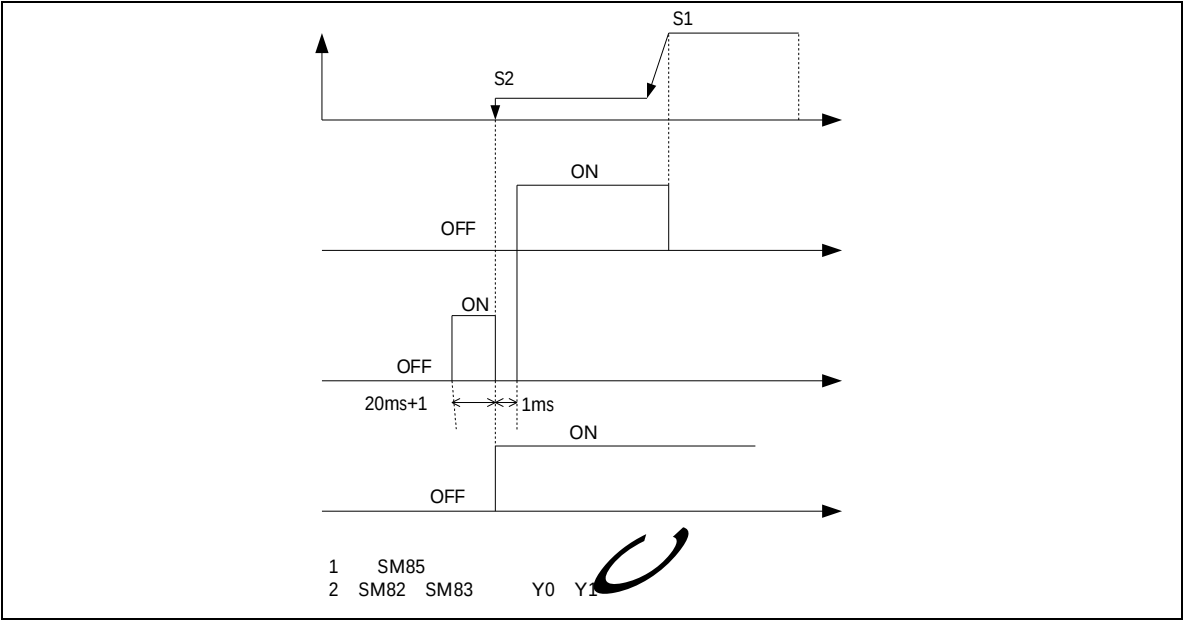


$$F_{min_acc} = \sqrt{\frac{F_{max} \cdot 500}{T}}$$

$$\frac{F_{max}}{T}$$

SD85 SD86

SD87



6.20.2 PLSV

[PLSV (S) (D1) (D2)]											
S	DINT	KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	V R

6.20.3 DRVI

[DRVI (S1) (S2) (D1) (D2)]																
S1	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
S2	DINT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C		V		R	
D1	BOOL			Y												
D2	BOOL			Y	M	S										

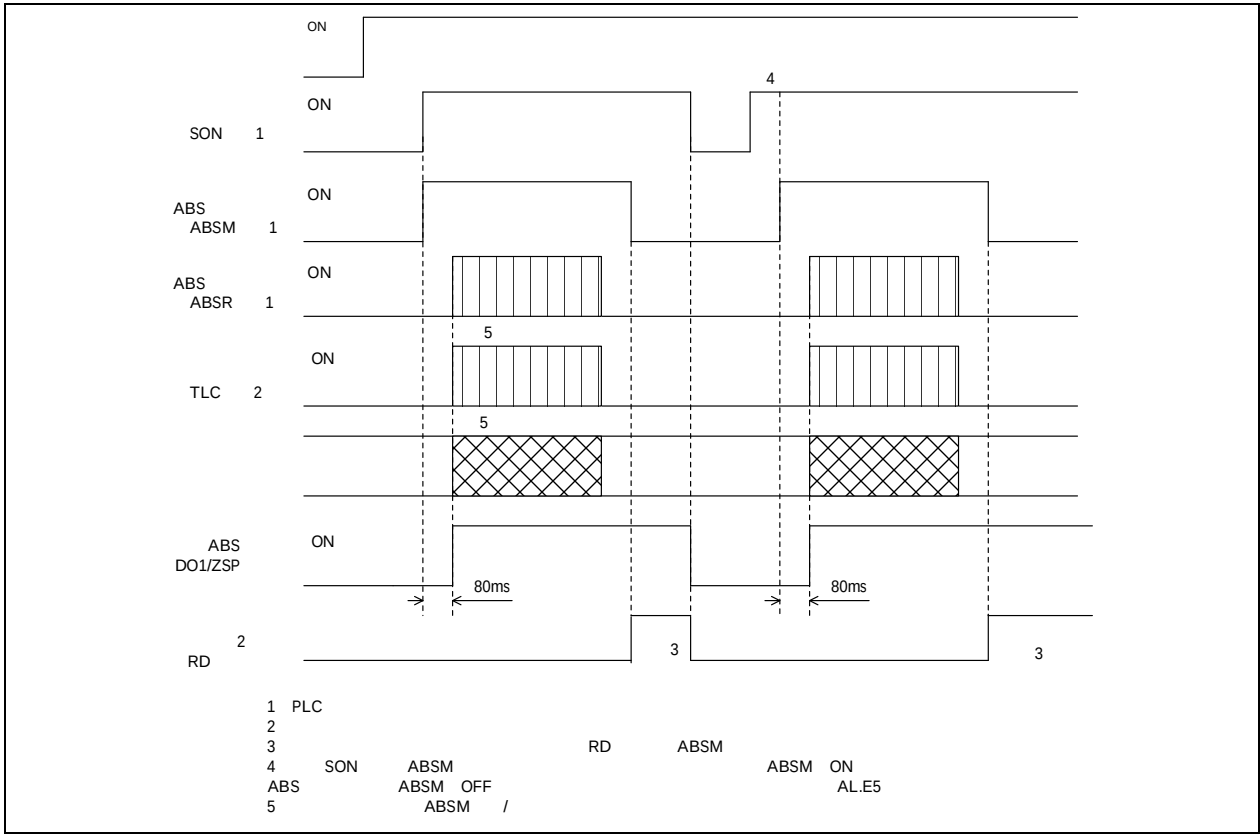
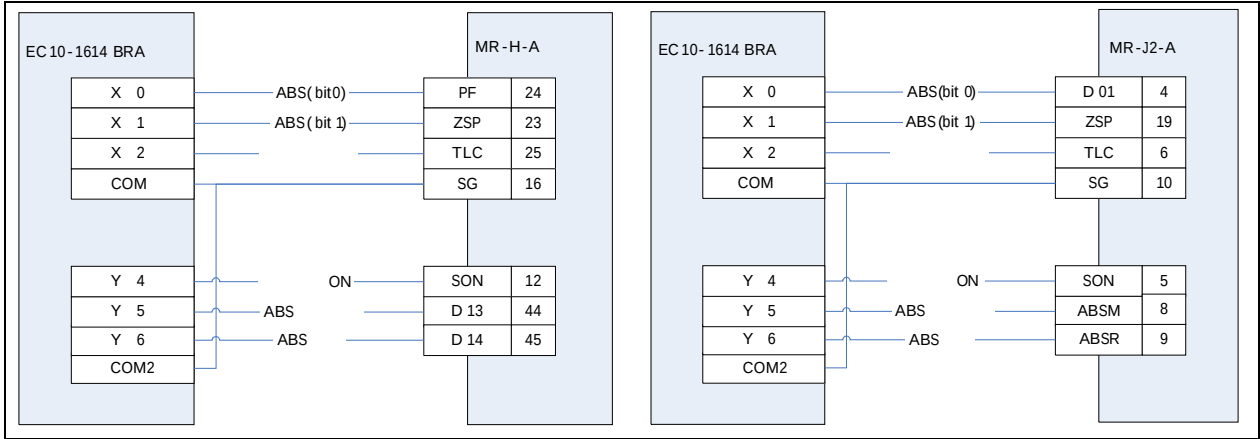
										$F_{\min_acc} \sqrt{\frac{F_{\max}}{T} \cdot 500}$																													
32	999999		999999							$F_{\max}$					SD85	SD86																							
Hz										T					SD87																								
32	MC100	MC200	10	100000	Hz	MC280							$F_{\min_acc}$																										
10	200000		Hz												SD87																								
										MC100										MC200,																			
Y0		Y1	MC280,		Y0		Y1	Y2																															
Y3	Y4	Y5	Y6	Y7																																			
										4																													
●		D2	ON							SD84										SD87																			
●		D2	OFF							SD85																													
										SD84										0																			
										0										0																			
1																				SD84																			
●		Y0	SD80	SD81	32							PLC								SD84																			
●		Y1	SD82	SD83	32							100																											
2											5																												
3											SD80/SD82																												
4											SD80/SD82									SD80/SD82																			
																				SM82/SM83																			
5											OFF									SD80/SD82																			
										SM										Y0/Y1																			
6											OFF									6					SD50/SD52					PLC									
SM80,SM81		ON												SD50/SD52																									
7. SM440	SM441	SM443	Y0/Y1		Y2/Y3															SD80/SD82																			
Y6/Y7	AB	ON	AB	OFF																																			
										OFF										7					SD					MC100					MC200/MC280				
																				SD					MC100														
MC200		MC280		SD		MC100																																	

6.20.5 ABS

ABS (S) (D1) (D2)																
S	BOOL	X	Y	M	S											
D1	BOOL		Y	M	S											
D2	DINT		KnY	KnM	KnS					D	SD	C			R	

- 5 ABS ON ABS
- S,S 1,S 2 3 X
- 6 ABS
- 32 6
- 7 ABS bit0 bit1 2
- 8 79
- 80
- 32
- D2 D2 1 2
- ABS
- SD80 SD82 32
- SD80 SD82
- 1 PLC
- PLC
- 2 ABS D2
- SD80
- SD82
- 3 ABS ABS
- ABS
- ON OFF
- 4 SM82 SM83 Y0 Y1
5. MC200 MC280 SD MC100 ,

ABS



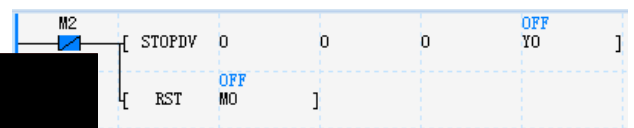
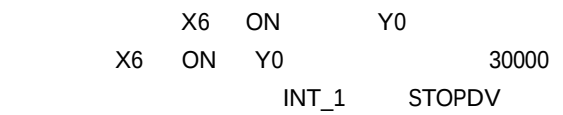
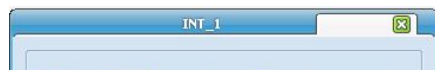
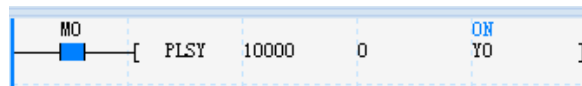
ABS MR J2 MR J2S ABS

32

ABS ABS

6.20.6 DSZR DOG

| | [ DSZR]			



X6 Y0

STOPDV

Y0

[illegible]

--	--

		10
S+1	00	ON/ _ _ OFF
	01	+

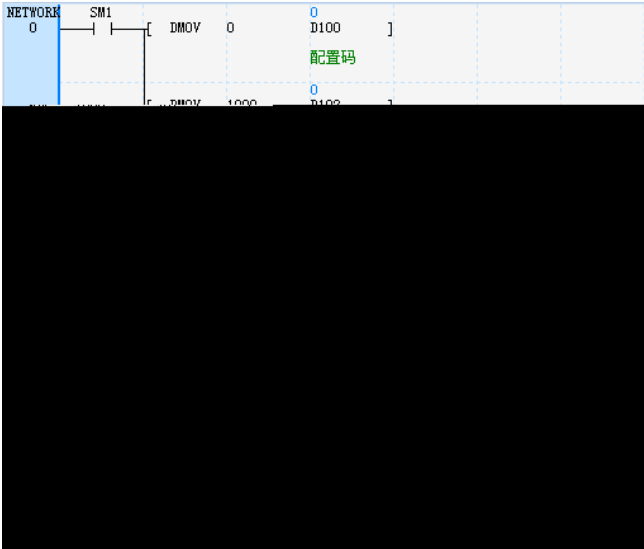
10

1

2

D	
S	

1
Y0 Y2 Y1 Y3 Y0 Y2
D1 D3 Y4,Y5,Y6,Y7 2
2 Y0 Y2 +
+ 100k Y4 Y5
Y6 Y7 +
20k
3 16,777,215
4



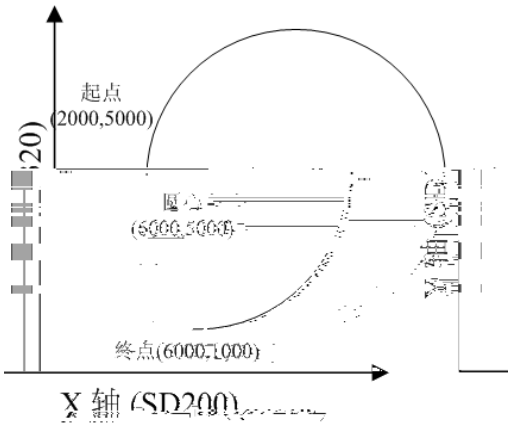
6.20.9 CW

															
S	DINT									D					
D1	BOOL			Y											
D2	BOOL			Y											
D3	BOOL			Y											
D4	BOOL			Y											

1 È
 .Ä

2.È

D				
S				
	0			
	1			
S+1	10			
	00		ON/	OFF
	01		+	
	10		ON/	OFF
	11		+	
S+2				
S+3				
S+4				
S+5				
S+6				
S+7				
S+8	X			
S+9	X			
S+10	Y			
S+11	Y			
S+12	X	/	X	
S+13	X	/	X	Ä
S+14	¥	/		



NETWORK 0	SM1	[	DMOV	0	0	D100	]												
						配置码													
		[	DMOV	1000	0	D104	]												
		[	DMOV	4000	0	D108	]												
						X轴移动距离													
		[	DMOV	-4000	0	D110	]												
						Y轴移动距离													
		[	DMOV	4000	0	D112	]												
						圆心X轴相对位置													
		[	DMOV	0	0	D114	]												
						圆心Y轴相对位置													
NETWORK 1	MO	[	CW	0	0	D100	]	OFF	OFF	OFF	OFF								
						配置码		X轴脉冲	X轴方向	Y轴脉冲	Y轴方向								

6.20.10 CCW

[CCW]																			
S	DINT									D									
D1	BOOL			Y															
D2	BOOL			Y															
D3	BOOL			Y															
D4	BOOL			Y															

D			
S+1	10		
	00		ON/ OFF
	01		+
	10		ON/ OFF
	11		+
S+2			
S+3			
S+4			
S+5			
S+6			
S+7			
S+8	X		
S+9	X		
S+10	Y		
S+11	Y		
S+12	X	/	X
S+13	X	/	X
S+14	Y	/	Y
S+15	Y	/	Y

1

2

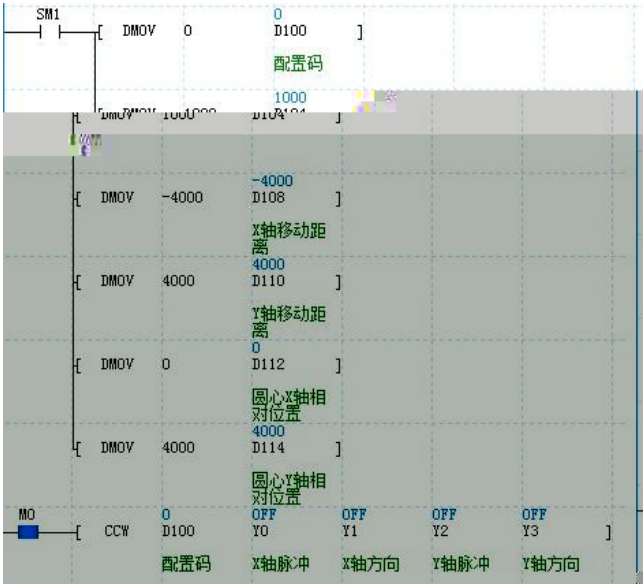
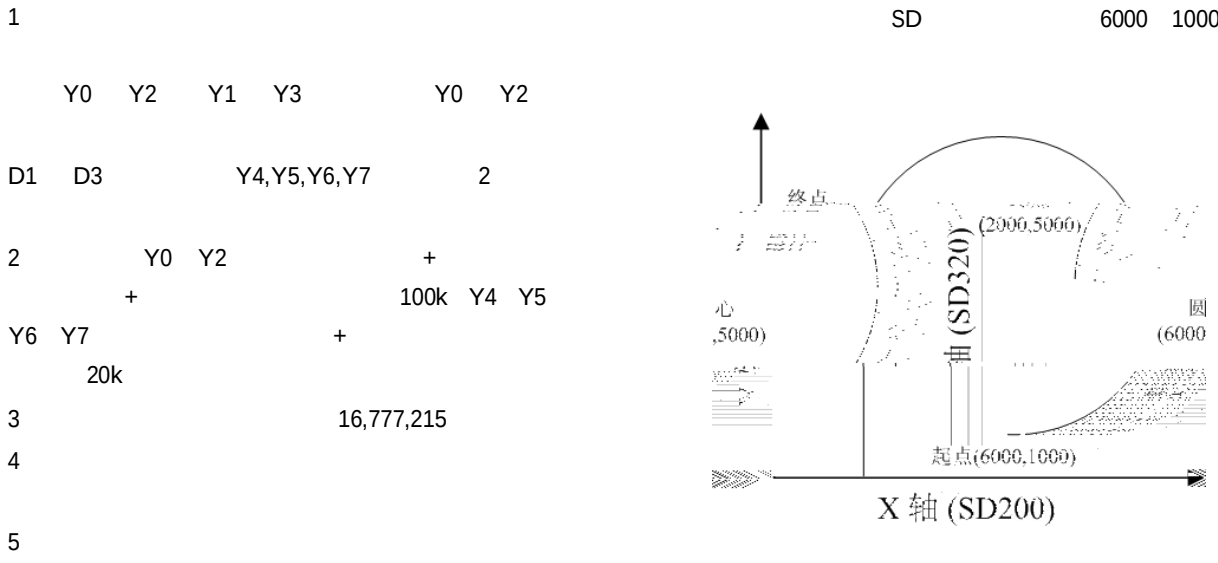
D	
S	
	0
	1

1

X Y

2

X Y



SD	C		V		
SD	C		V		
SD	C		V		
SD	C		V		

C

2 GEARBOX

[GEARBOX]		

$$t = \frac{SD205 * (f - sd204)}{(SD202 - SD204)}$$

2. $s = \frac{(t/1000) * (f + SD204)}{}$

3. Y0 SM80
 Y SM

- 4.
- 5.

6. Y0 SM82 ON
OFF

7. Y0~Y7

1. Y X

2. Drvi

1. SD205 SD205 SD202(32
) SD204 16 f

[illegible]

6.20.15 CAMBOX

[CAMBOX (S1) (D1) (D2) (D3) (D4)]															
S1	INT			Y						D	SD	C		V	
D1	BOOL	X	Y									C			
D2	BOOL		Y												
D3	BOOL		Y	M											
D4	BOOL		X												

CAMTABLE

X0~X7

C236~C307

Y0~Y7

Y0~Y7

X0~X7

1

2

C

hcnt

0

1

M1

M3

[↑]

[CAMBOX D0

[CAMTABLE R10

X0

Y2

Y3

X10

D12

D14

D16

D18

]

]

1.

Table0

6.21

6.21.1 MEAN

 [MEAN (S1) (D) (S2)]									MC280						
S1	INT		KnX	KnY	KnM	KnS	KnLM	KnSM	D	SD	C	T		R	
D	INT			KnY	KnM	KnS	KnLM		D	SD	C			R	
S2	INT								D					R	

1
2

M1		[MEAN 32 D0 10 D10 4]													
----	--	-------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--

LD M1

MEAN D0 D10 4

M1=ON D0 4 ,

D10 D0=32 D1=10 D2=15 D3=-14

D10=10

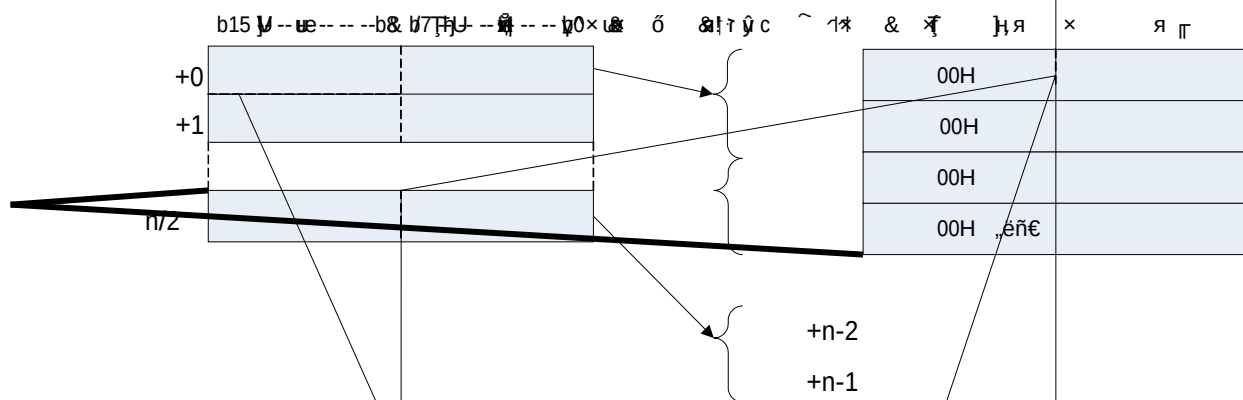
1

6.21.2 WTOB

 [WTOB (S1) (D) (S2)]									MC280						
									7						
S1	INT								D	SD	C	T		R	
S2	INT								D	SD	C	T		R	
D	INT								D					R	

1
2

1

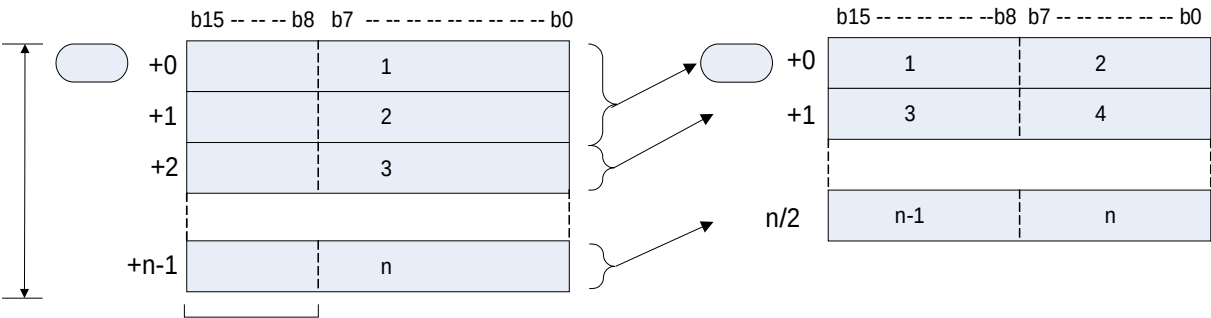


6.21.3 BTOW

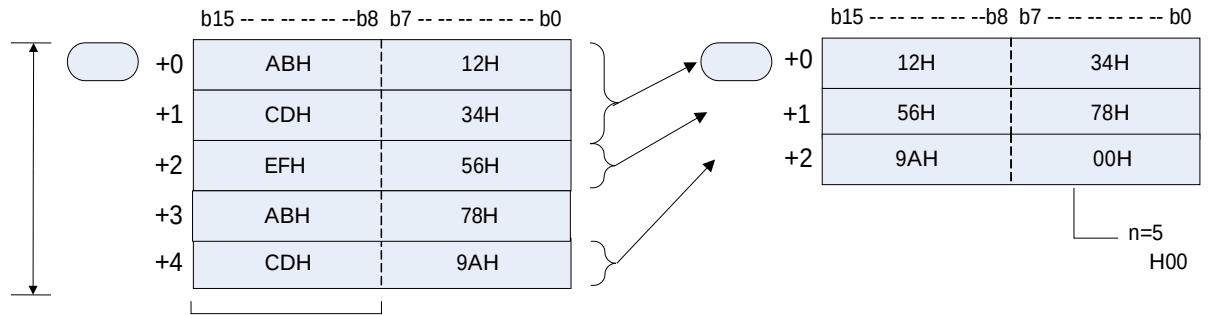
[BTOW (SI) (D) (S2)]															
S1	INT								D	SD	C	T		R	
S2	INT								D	SD	C	T		R	
D	INT								D					R	

1
2

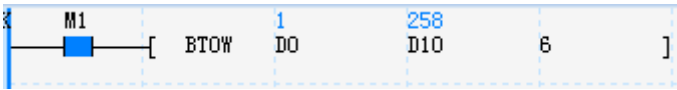
1



2



3
4



LD M1
BTOW D0 D10 6
M1=ON D0 6 3 D10 3 D0=0x01, D1=0x02,
D2=0x03, D3=0x04, D4=0x05, D5=0x06 D10=0x102, D11=0x304, D12=0x506

6.21.4 UNI

$\vdash \vdash [\text{UNI} \quad (S1) \quad (D) \quad (S2)]$

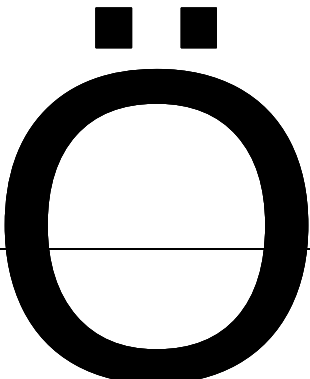
6.21.5 DIS

DIS <i>(S1)</i> <i>(D)</i> <i>(S2)</i>																		
S1	INT									D	SD	C	T		R			
S2	INT									D	SD	C	T		R			
D	INT											D			R			

6.21.6 ANS

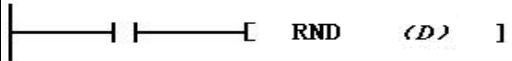
[ANS (S1) (S2) (D)]		

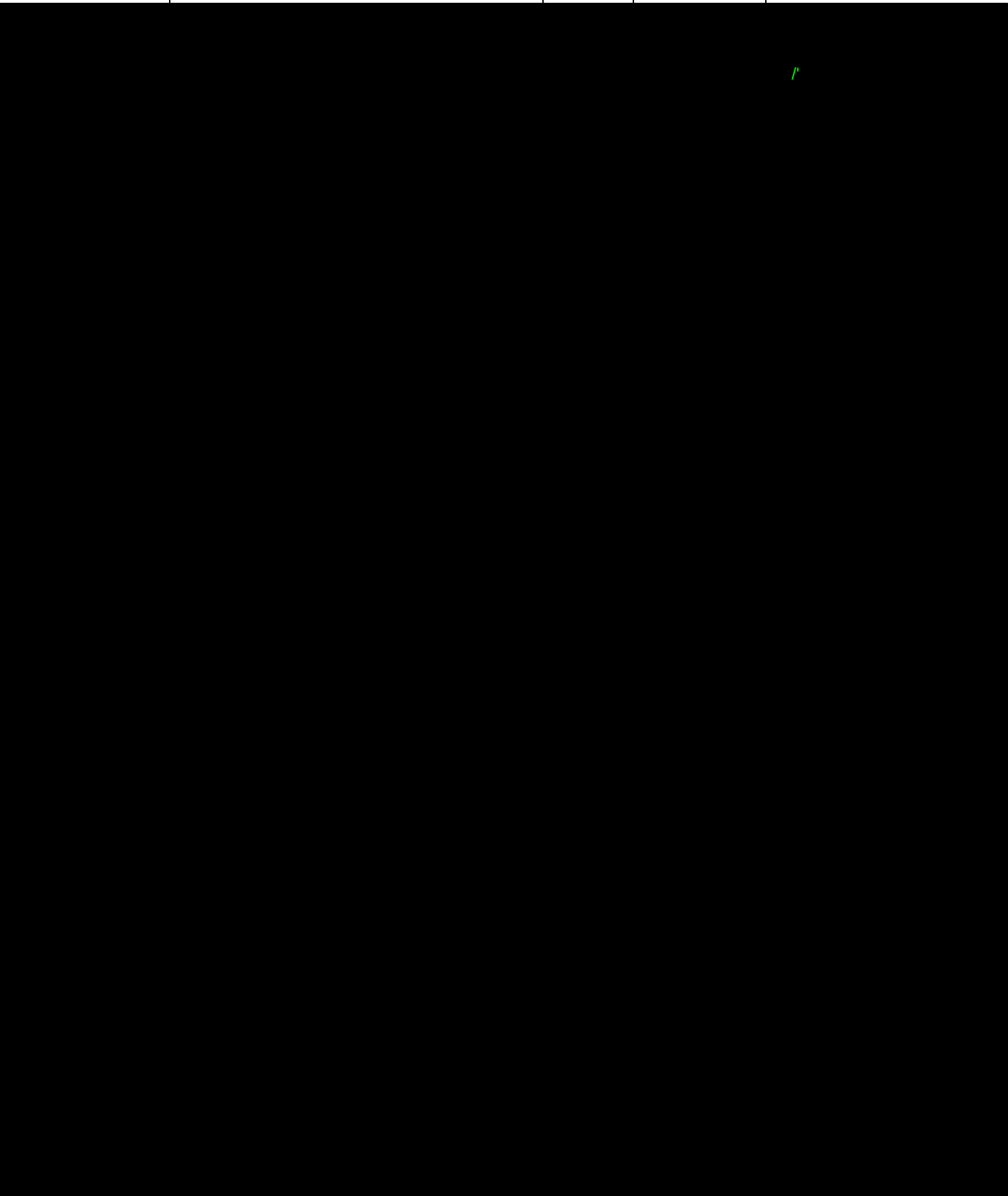
(S1) (S2) (D)



6.22

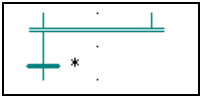
6.22.1 RND



06 1" @ahy

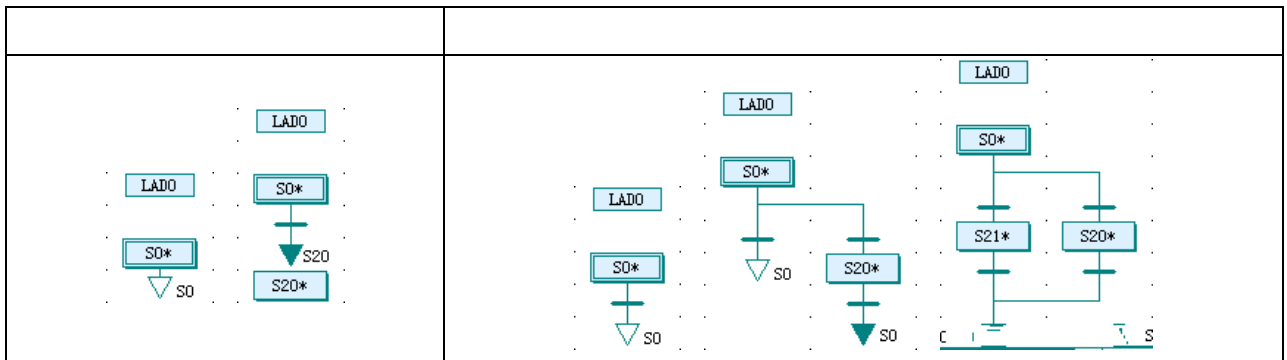
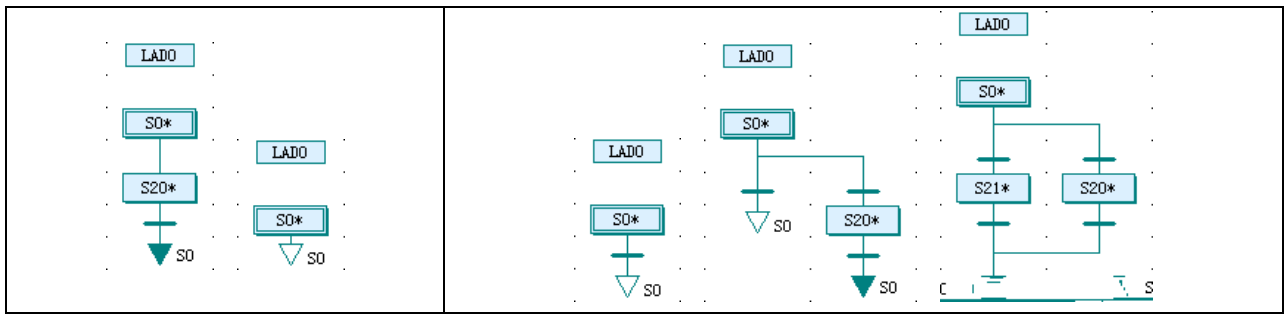
7.1				255
7.1.1				255
7.1.2	MC	PLC		255
7.1.3				

		S
		S ON
		S OFF
		
		
		
		
	LAD1*	

LADO  S0*  LADO  S0* 	LADO  S0* 

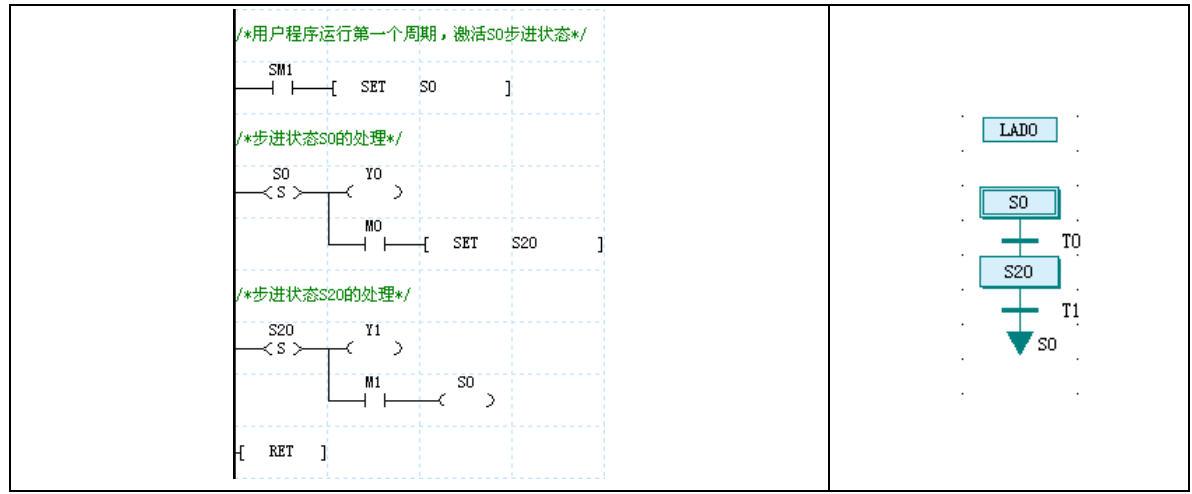
LADO  S0*  LADO  S0* 	LADO  S0* 

--	--



7.1.5

SFC



1.

S ON

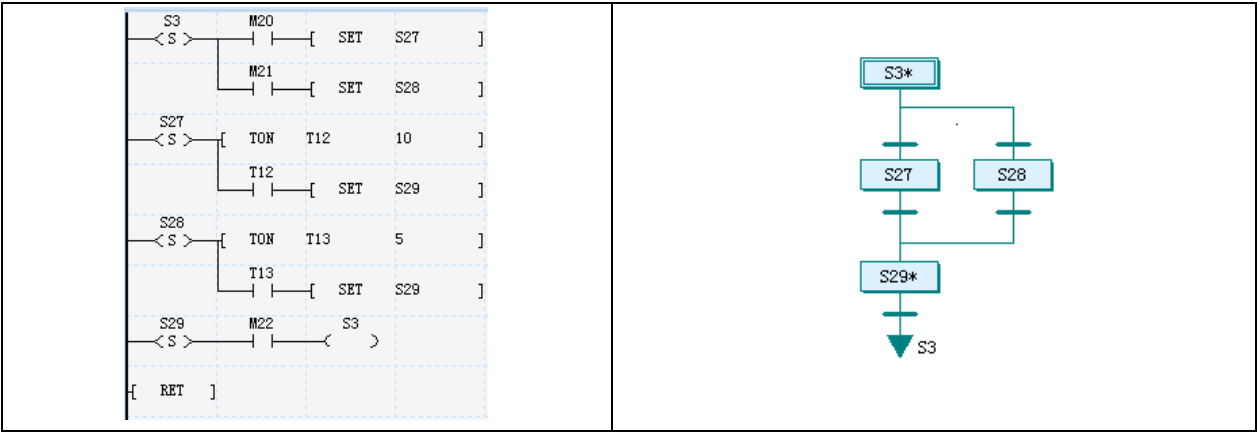
2.

S 0 19

3.

S 20 991 MC200 20 1023 MC100

4.

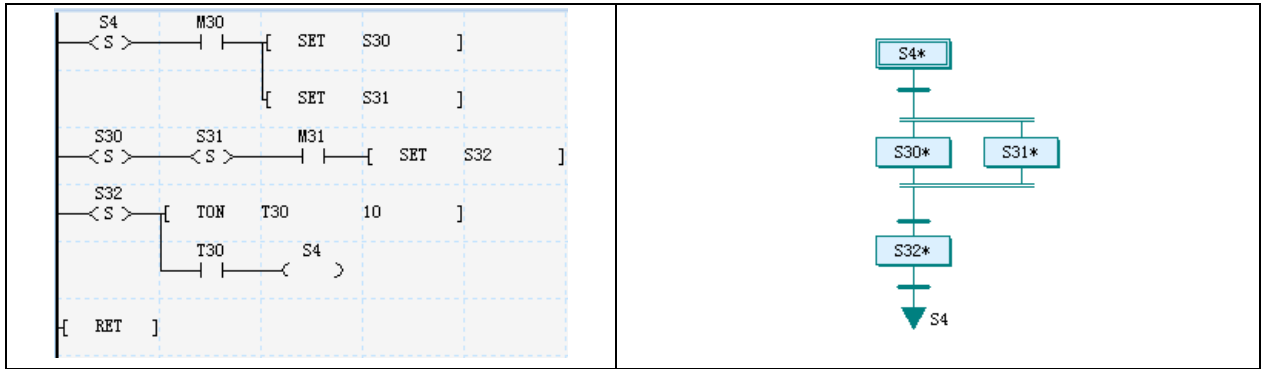


1.

M20 M21 M20 M21 N0 S27 S28 S27 S28

2.

T12 N2 S28 T13 N1 S27 S29



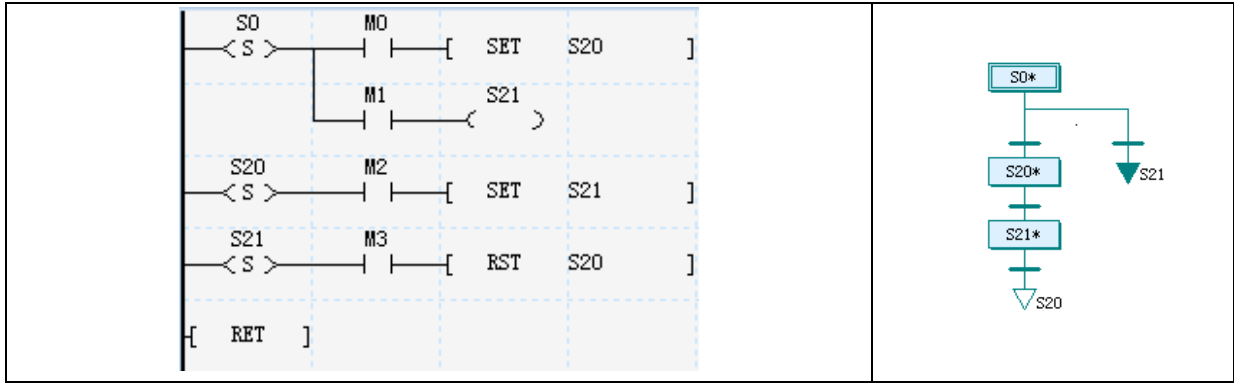
3.

N0 M30 M30 S30 S31

4.

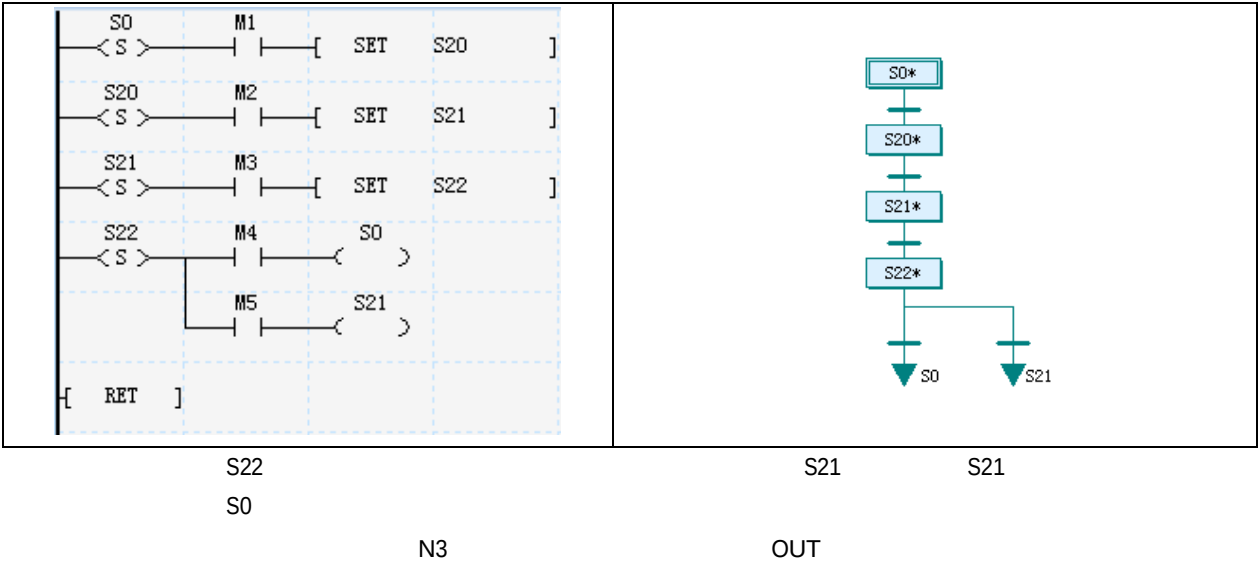
S30 S31 M31 S32 S30 S31 N6

1.



2.

S21 S20 OUT SET
S0 N0 M1 ON S21



M5

|

[

S21

>

[

RET

]

S22

S0

S21

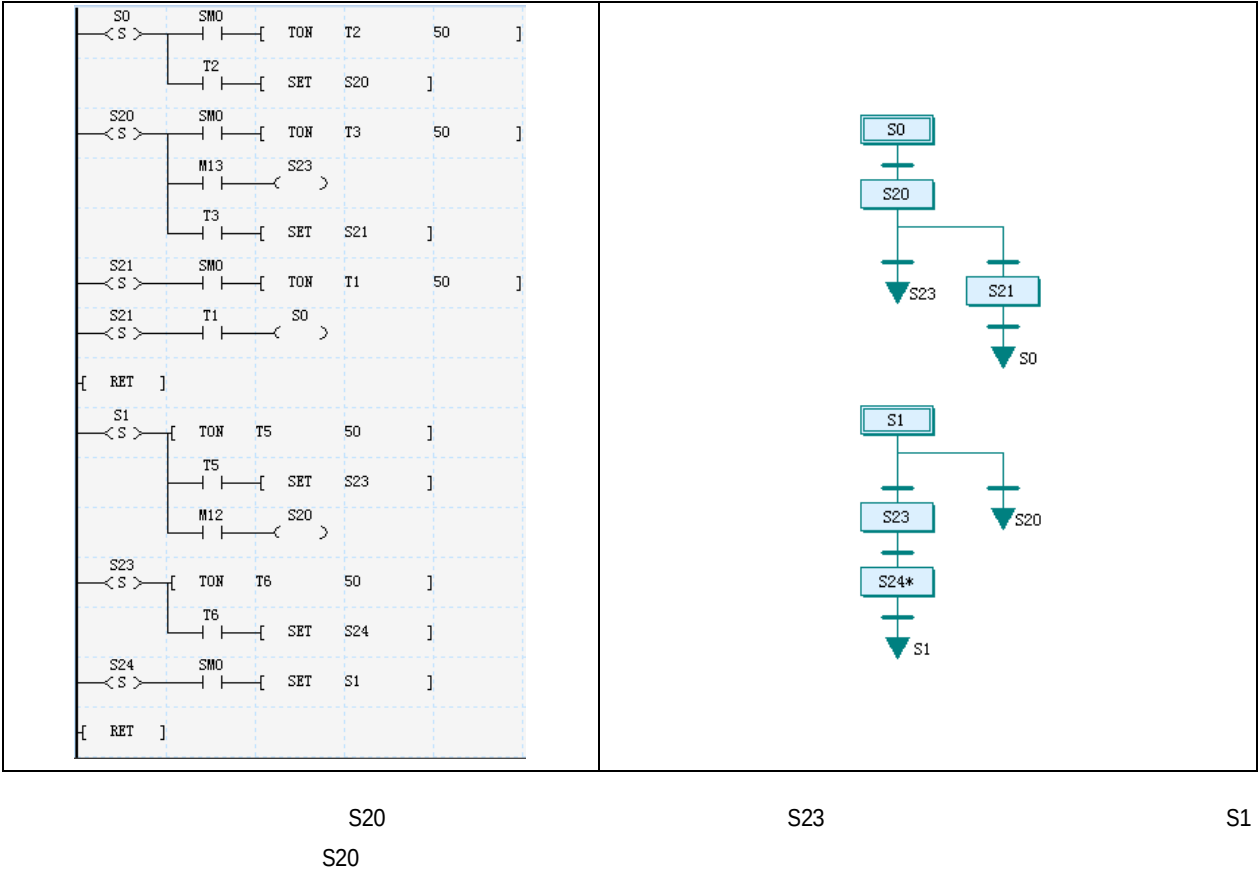
S21

OUT

3.
MC PLC



PLC



[

RET

]

S1

< S >

TON

T5

50

]

T5

|

[

SET

S23

]

M12

|

[

S20

>

S23

< S >

TON

T6

50

]

T6

|

[

SET

S24

]

S24

< S >

SM0

|

[

SET

S1

]

[

RET

]

S20

S20

S23

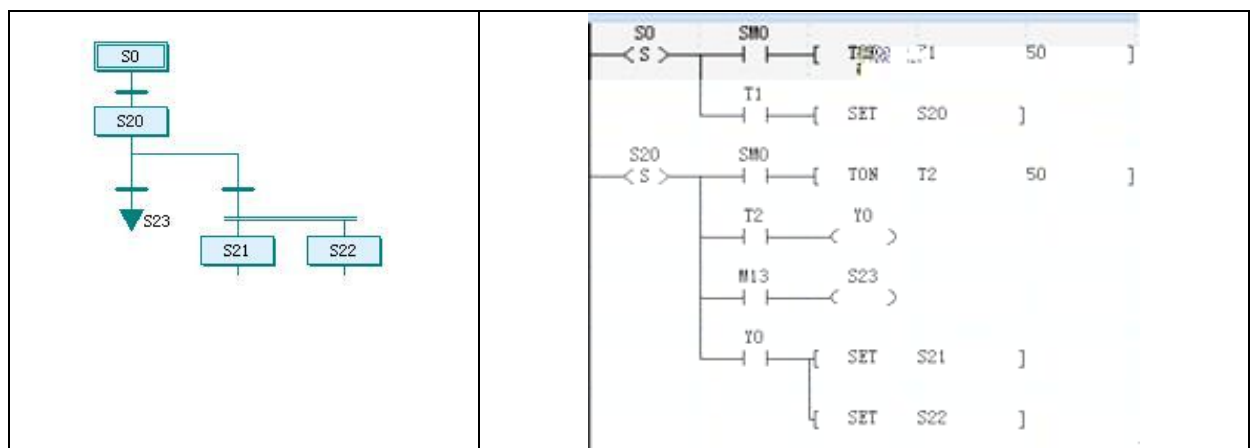
S1

S1

OFF S0 S20 S21 OFF S20 S23 S20

7.1.6

						S20		T2
T2		S21	S22		M13	OFF		S23



S
ON OFF ON/OFF 5.3.1 STL SFC S



MC PLC

S

PLC

S

7.4

7.2

SFC

SFC

SFC

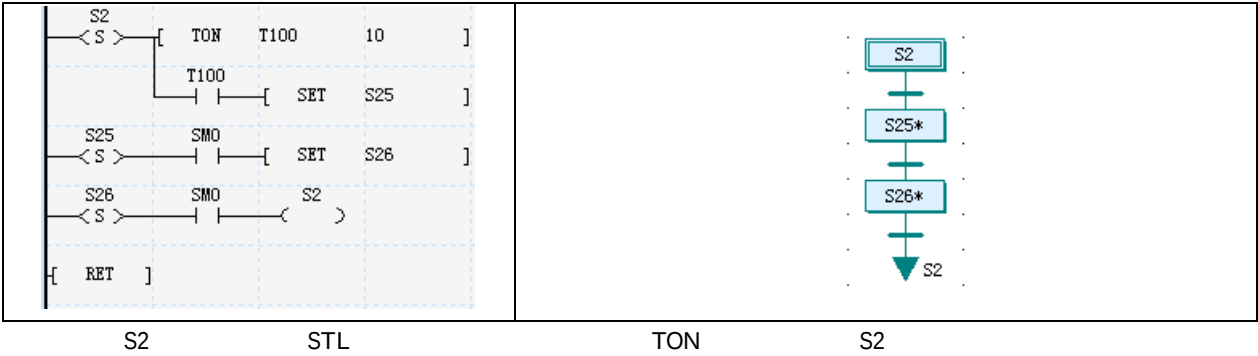
SFC

7.2.1 STL

STL

S

SFC



STL 5.3.1 STL SFC ON OFF
OUT TON TOF PWM HCNT PLSY PLSR DHSCS SPD DHSCI DHSCR DHSZ DHST
DHSP BOUT

PLC ON OFF 7.4.1

7.2.2 SFC

SFC SET SFC

7.2.3 RET SFC SFC S2 2 S2 SFC
RET RET

7.2.4 SFC

S2 N3 OUT
S26 N3 RST S26

7.2.5 SFC

7.1.5
7.1.5

7.3

1. SFC

2.

3. SFC
X_Builder SFC SFC PLC

4.

5. SFC SFC

6.



SFC

7.4

STL PLC SFC

7.4.1

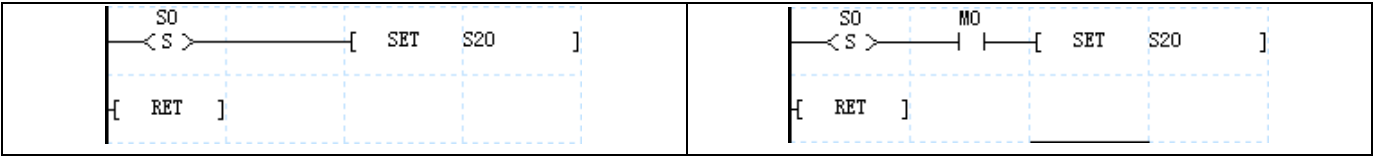
1
2 S0-S19
3 RET
4 ON OFF
5
6
7
8
9
10
11

1. PLC S

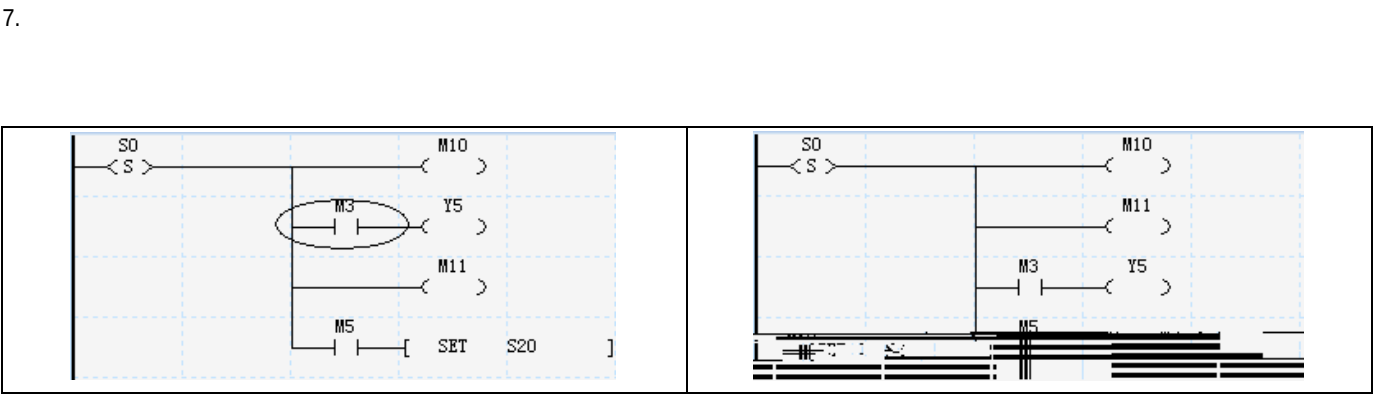
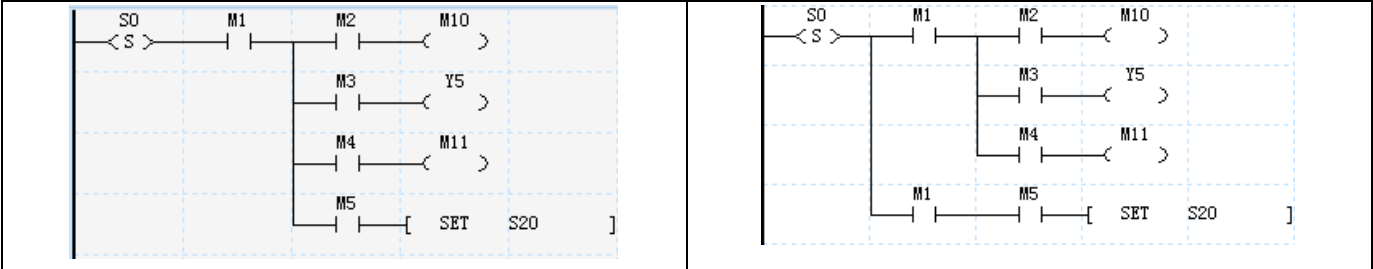
2. S0-S19
SFC S0-S19 S20

3. RET
SFC RET

4.
- ON OFF
- ON OFF OUT TON TOF PWM HCNT PLSY PLSR DHSCS SPD DHSCI
- DHSCR DHSZ DHST DHSP BOUT
5.



6.
- M1



8.
- PLC

STL ON OFF

5.3.1 STL SFC

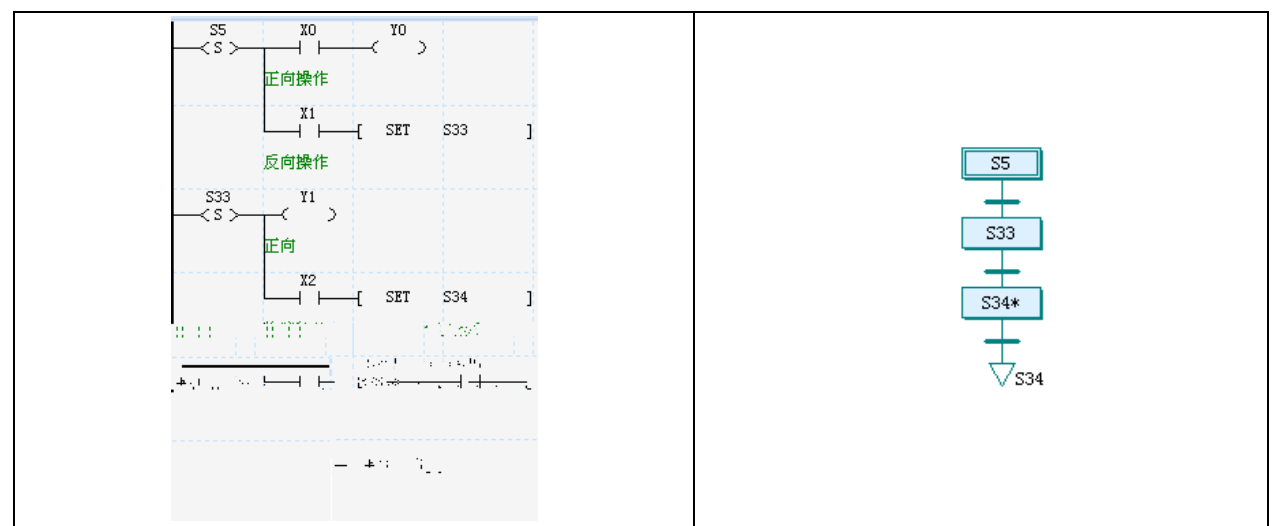
T2

S0 S20 T2

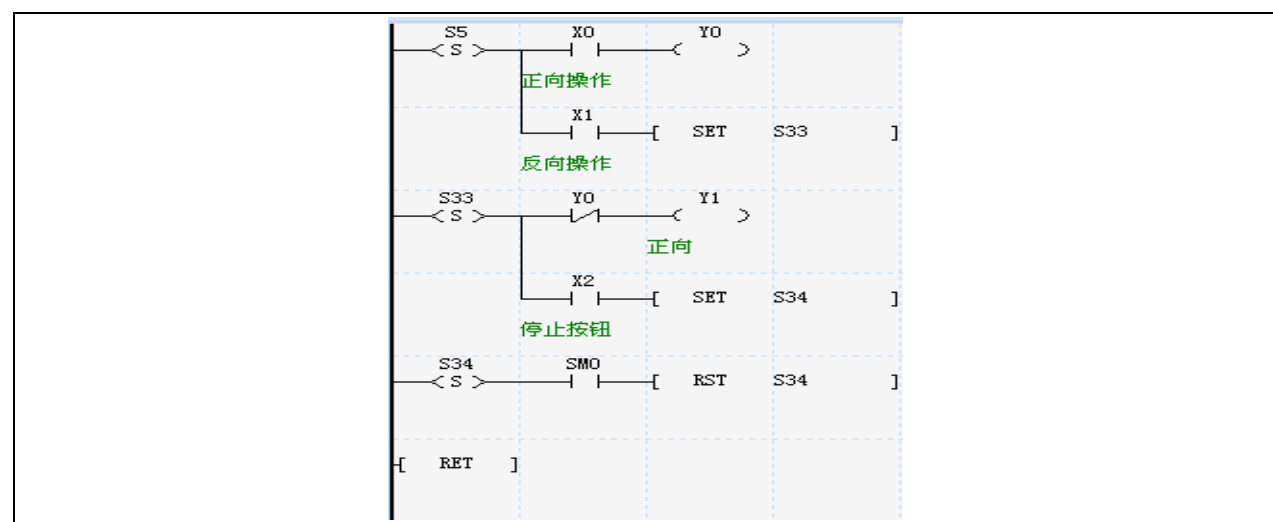
S20 S21 S22

SFC

				Y0	Y1		X0		X1	
X2		Y0	Y1			ON			X1	S5
	S33			Y0	Y1	ON				



Y1 Y0

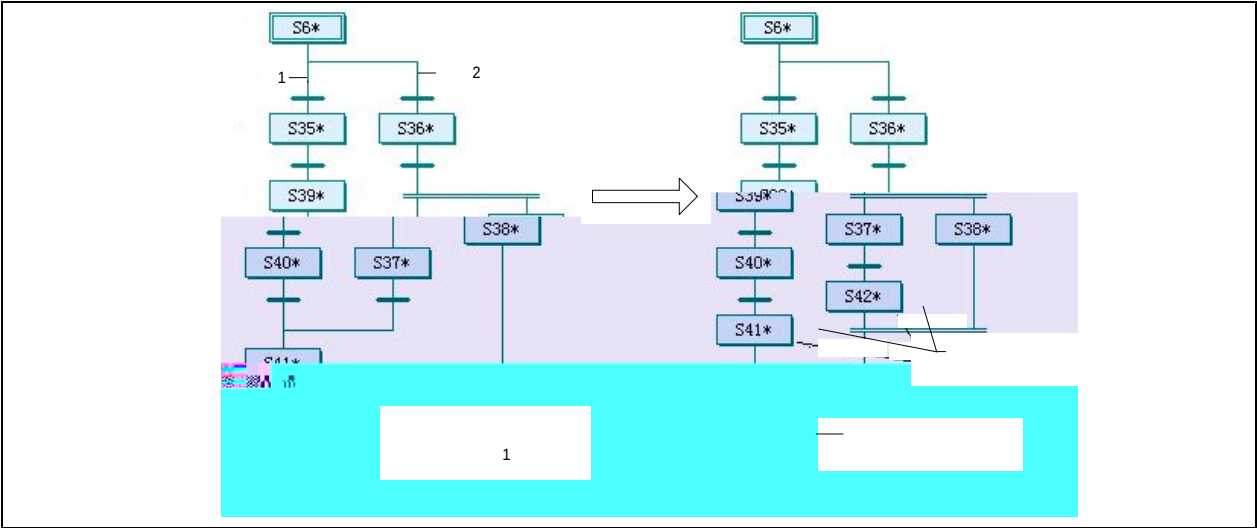


10.

OUT SET SET OUT

11.

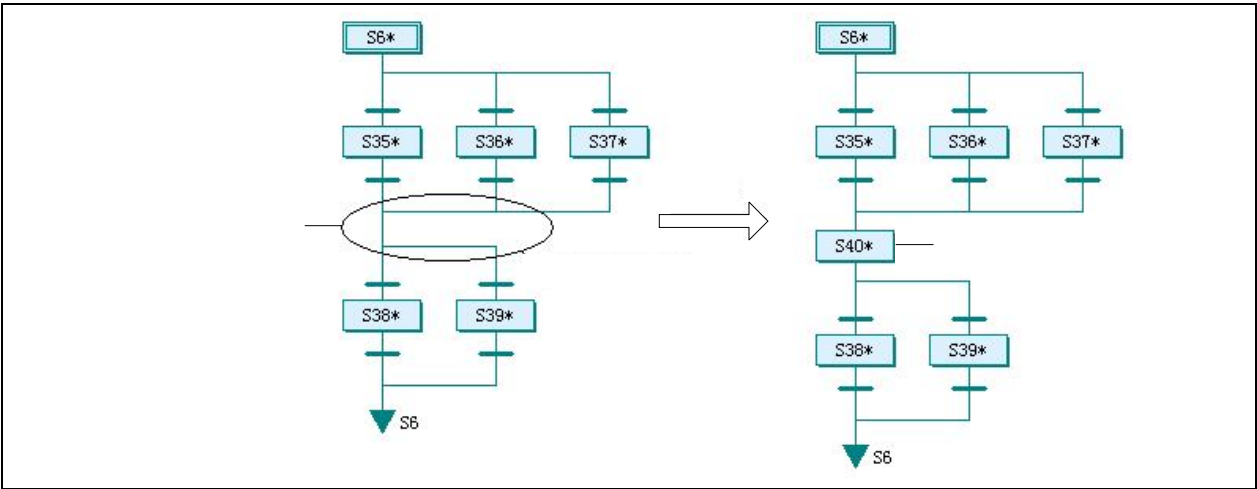
1 S41 2

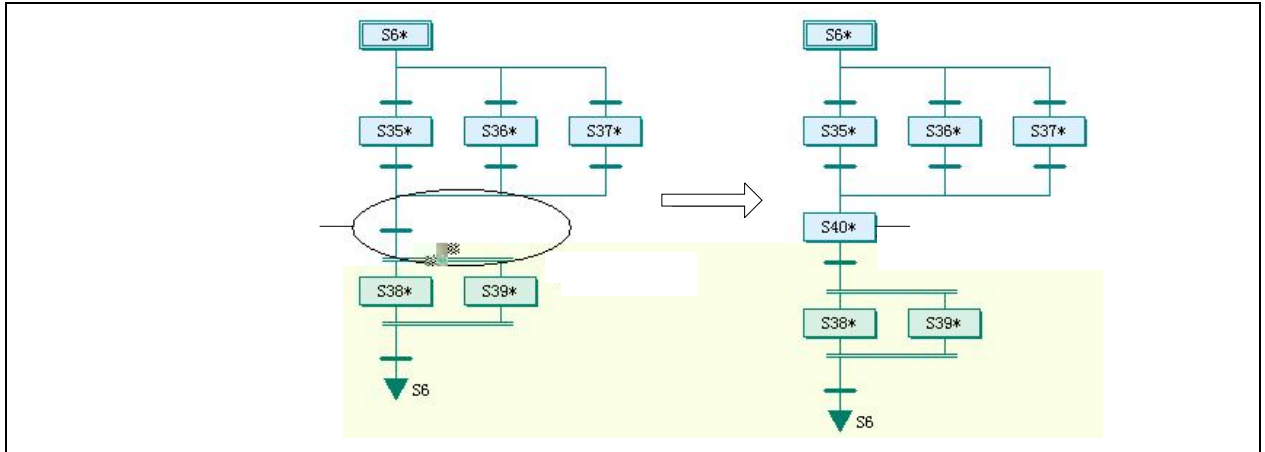


S38 S41 S43 S42 S41 S43 S41

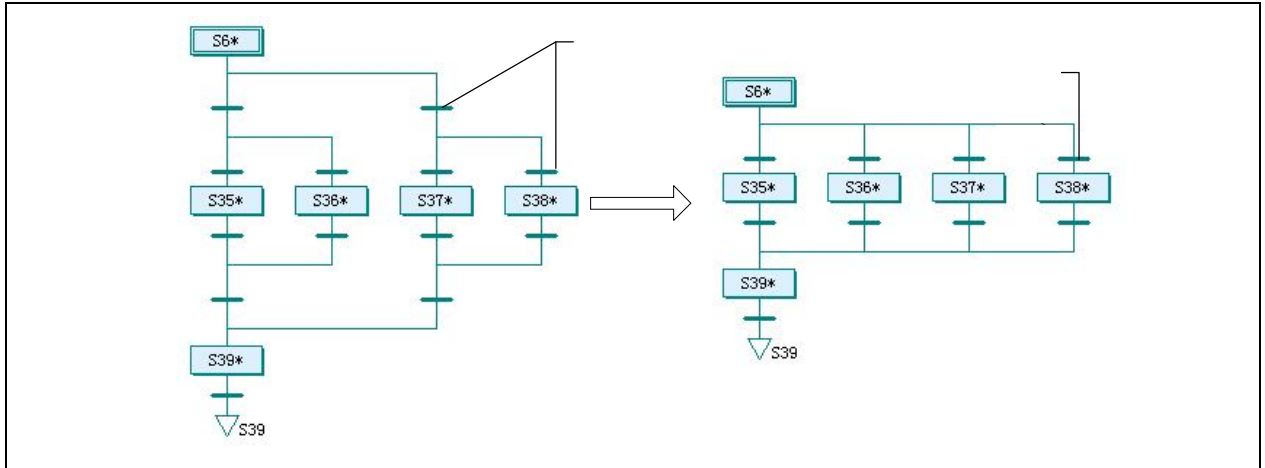
7.4.2

1.





2.

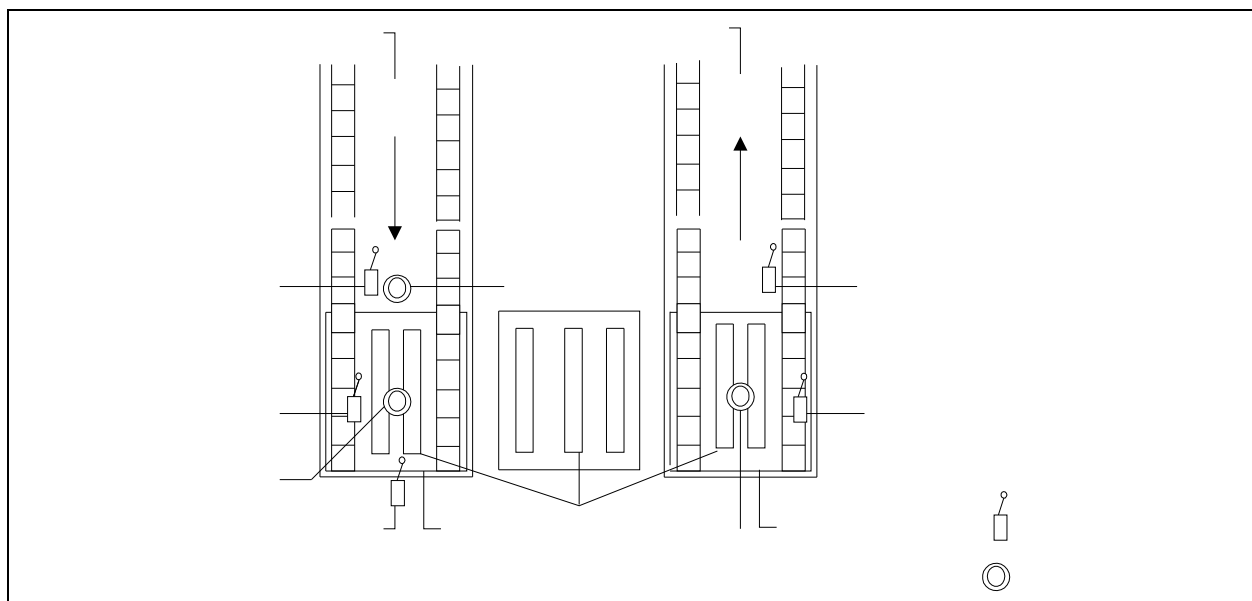


3.

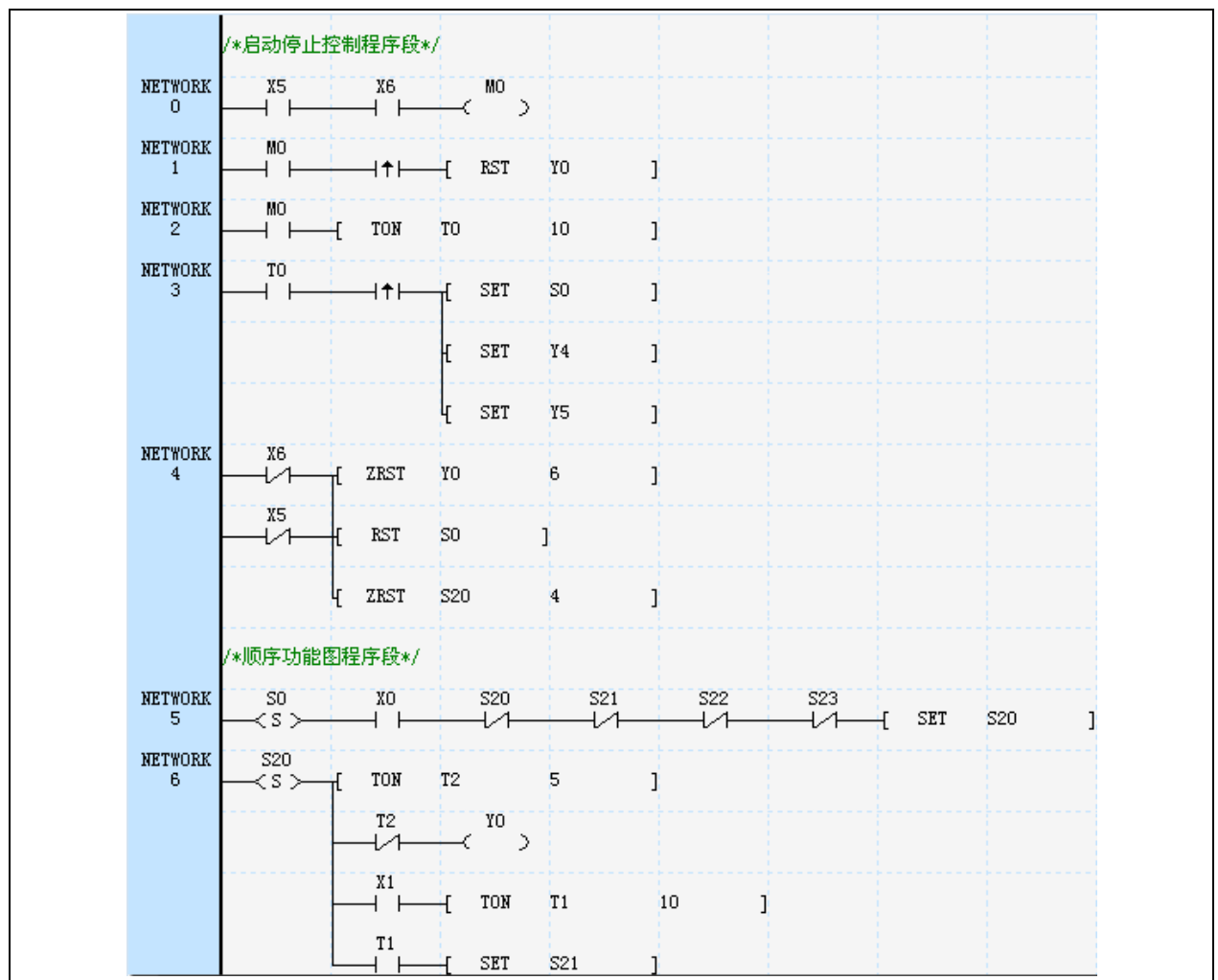
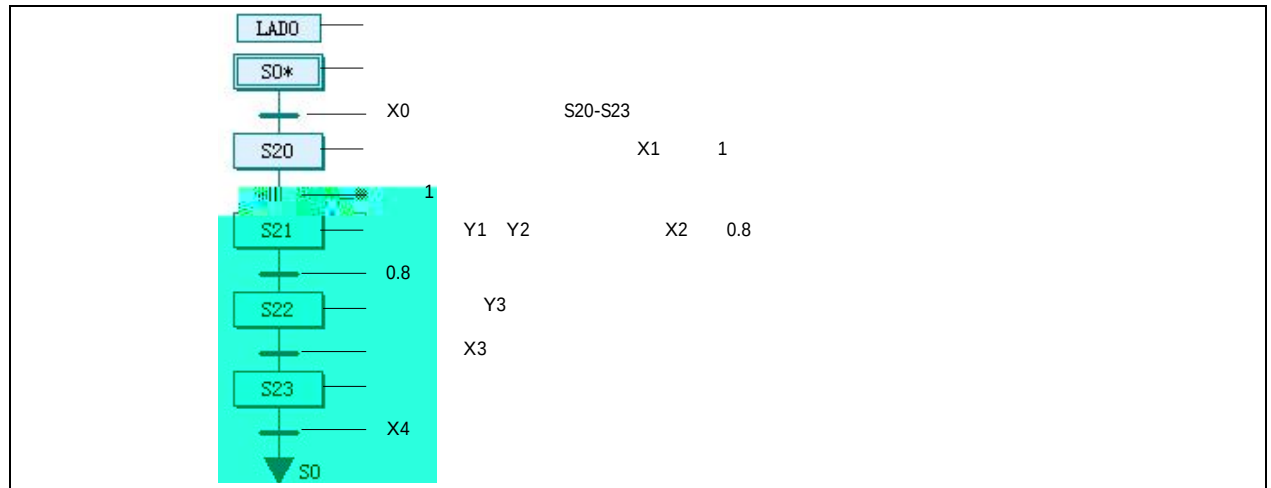
S

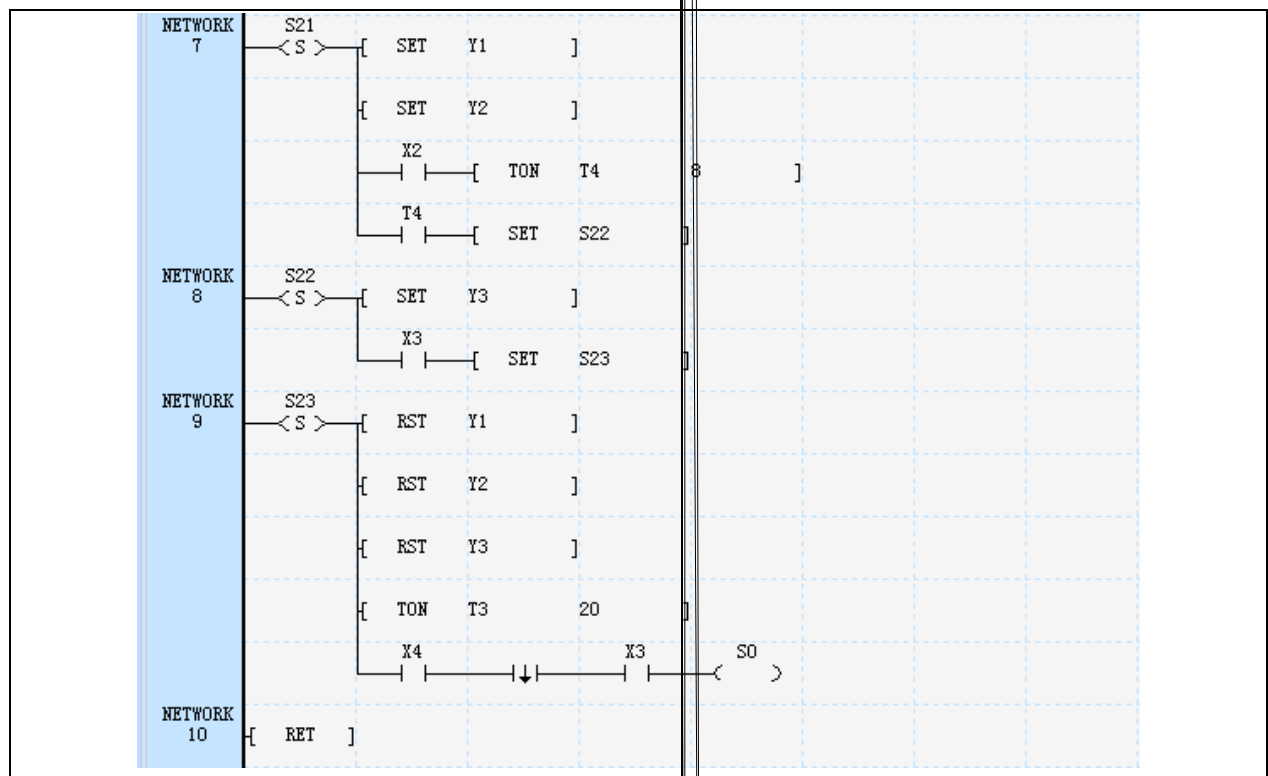
7.5

7.5.1



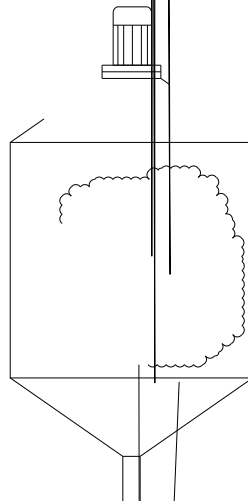
A ↑ C



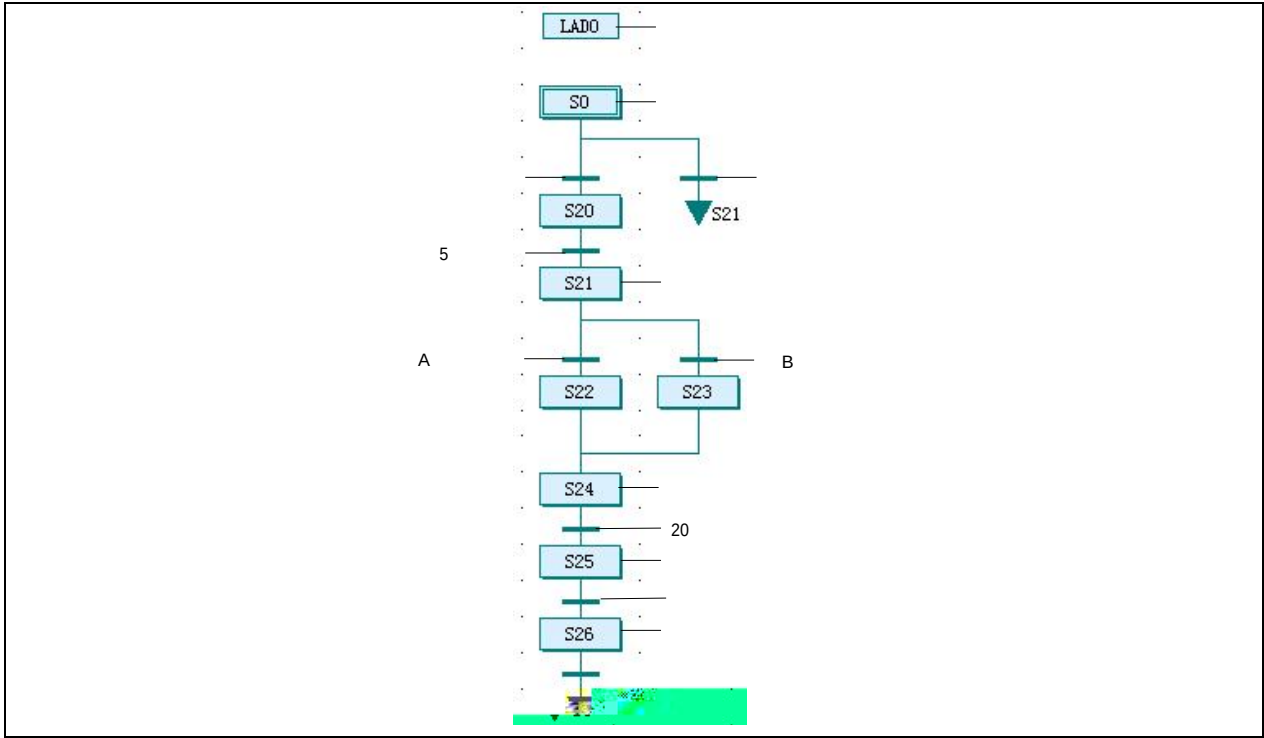


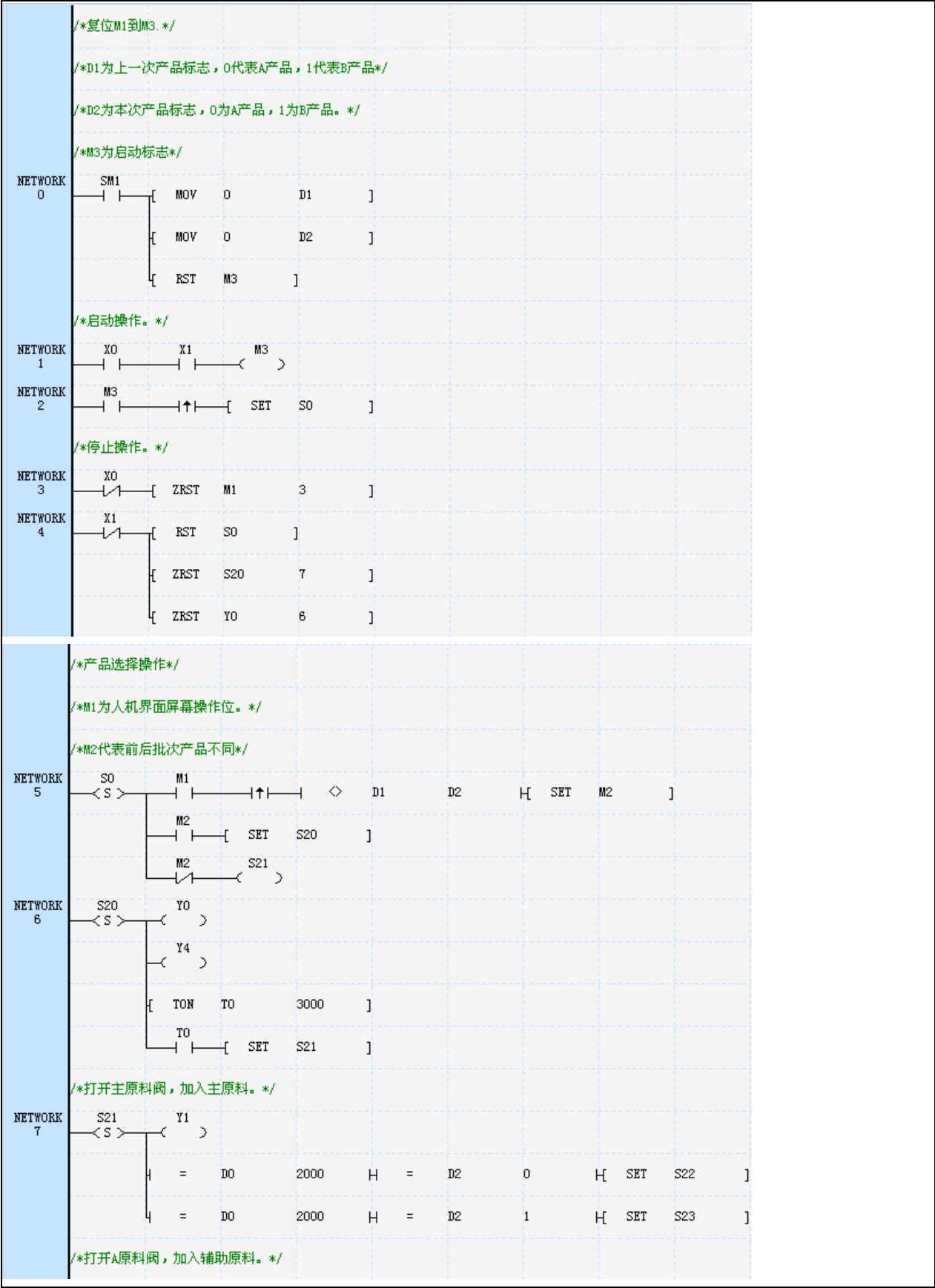
7.5.2

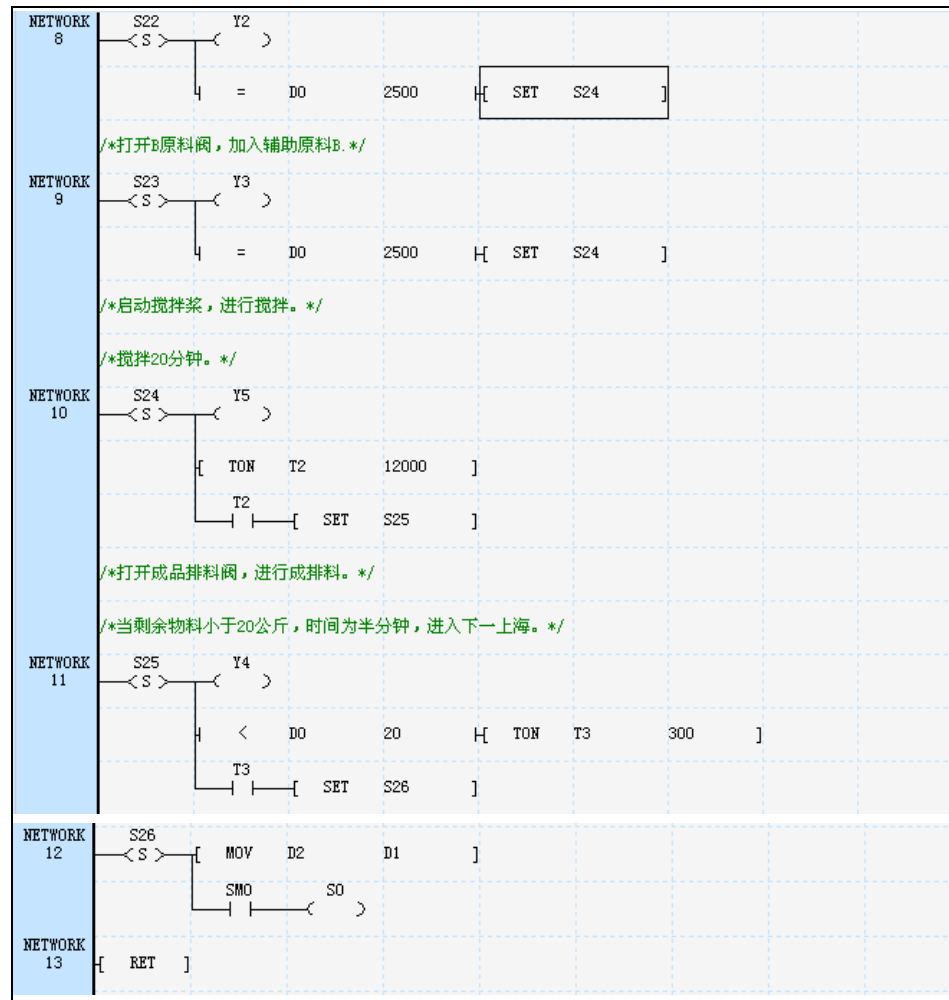
A B



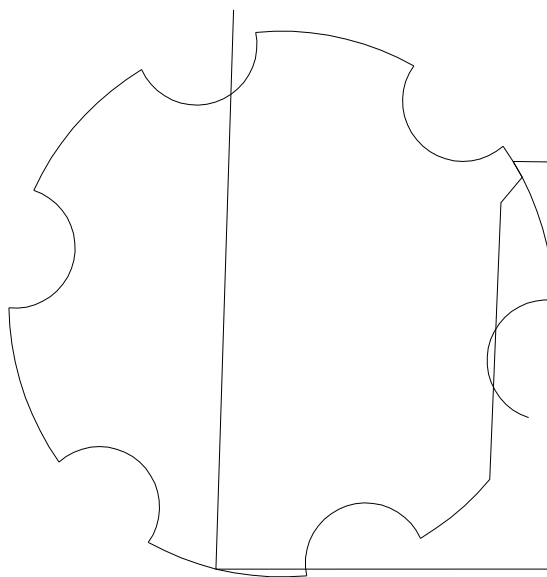
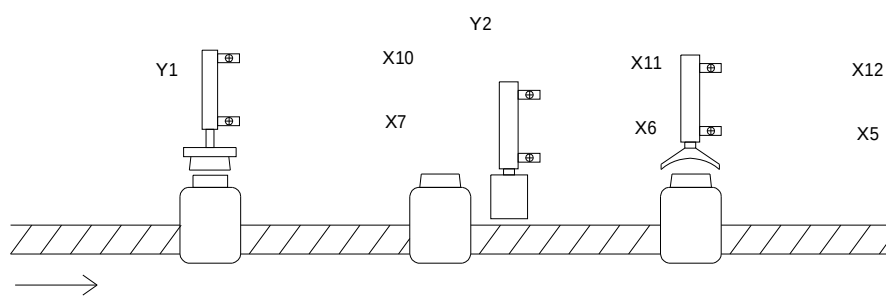
1	X0			10	X11	
2	X1			11	X12	
3	X2			12	Y0	
4	X3			13	Y1	
5	X4	A		14	Y2	A
6	X5	A		15	Y3	B
7	X6	B		16	Y4	
8	X7	B		17	Y5	
9	X10					
A			B			

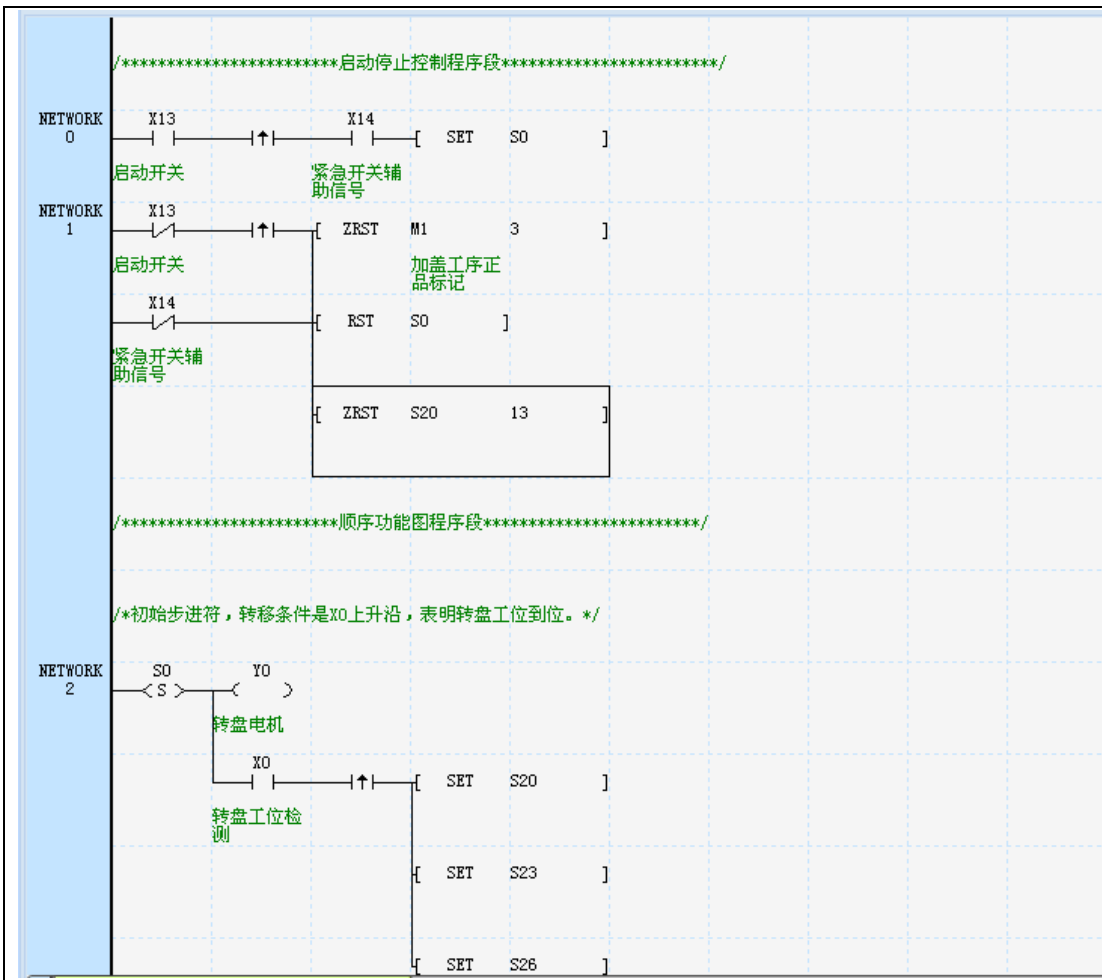
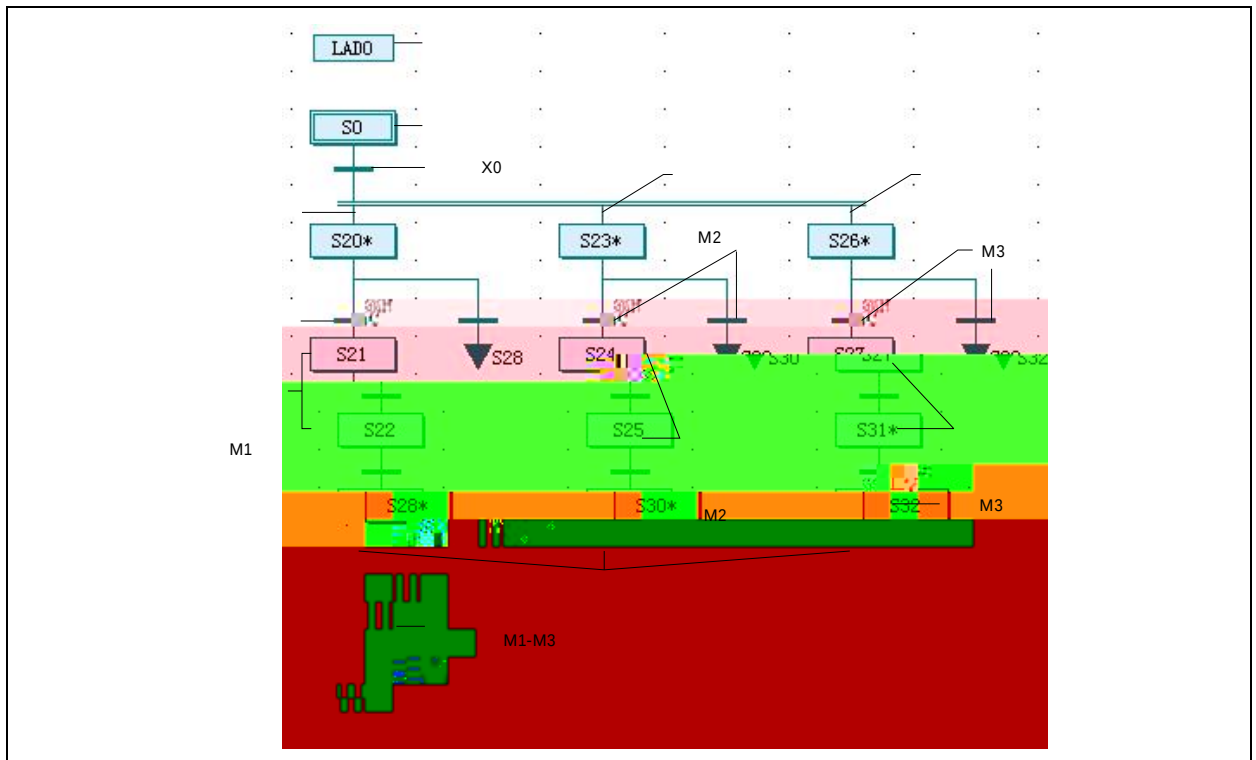


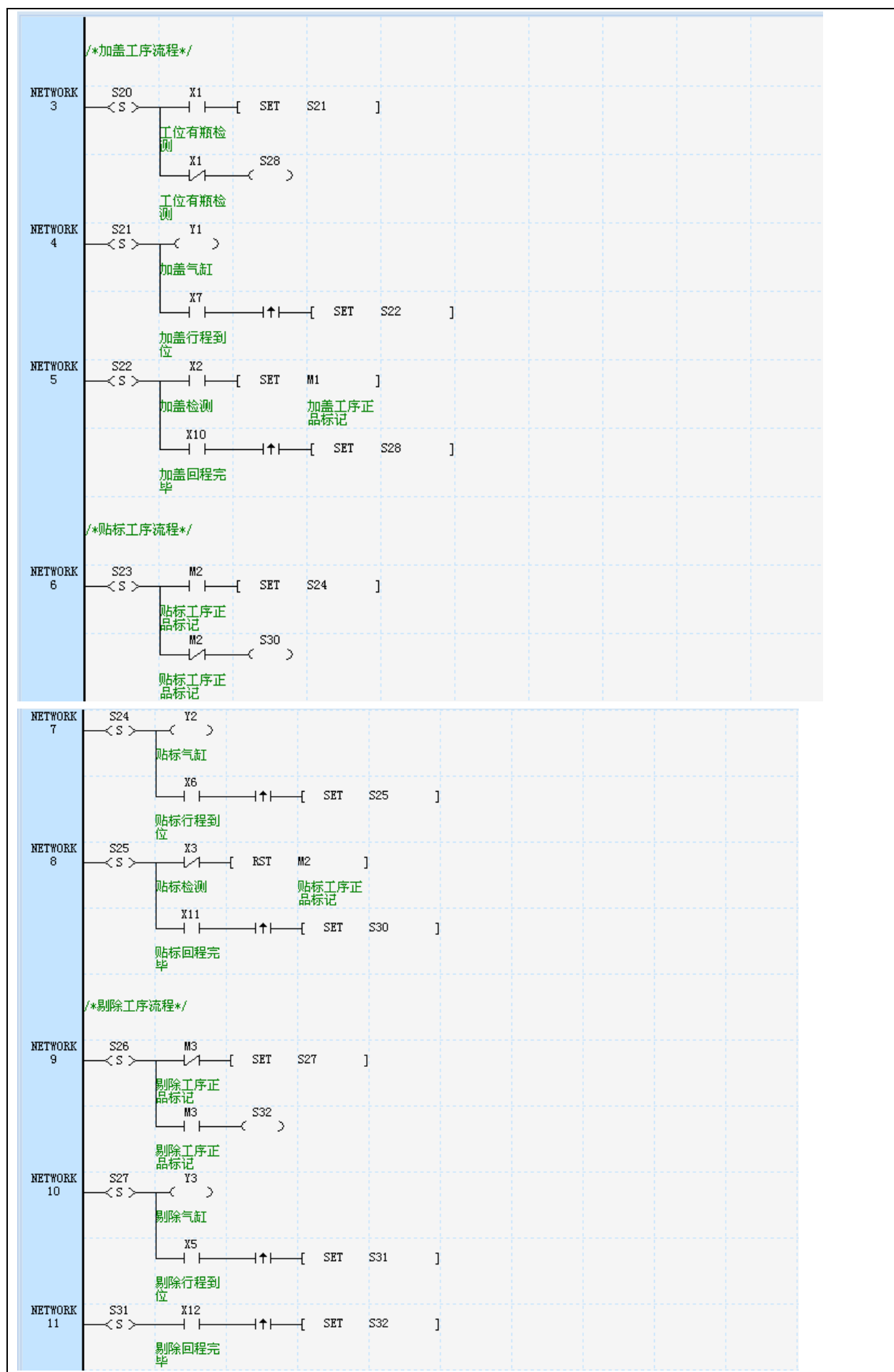


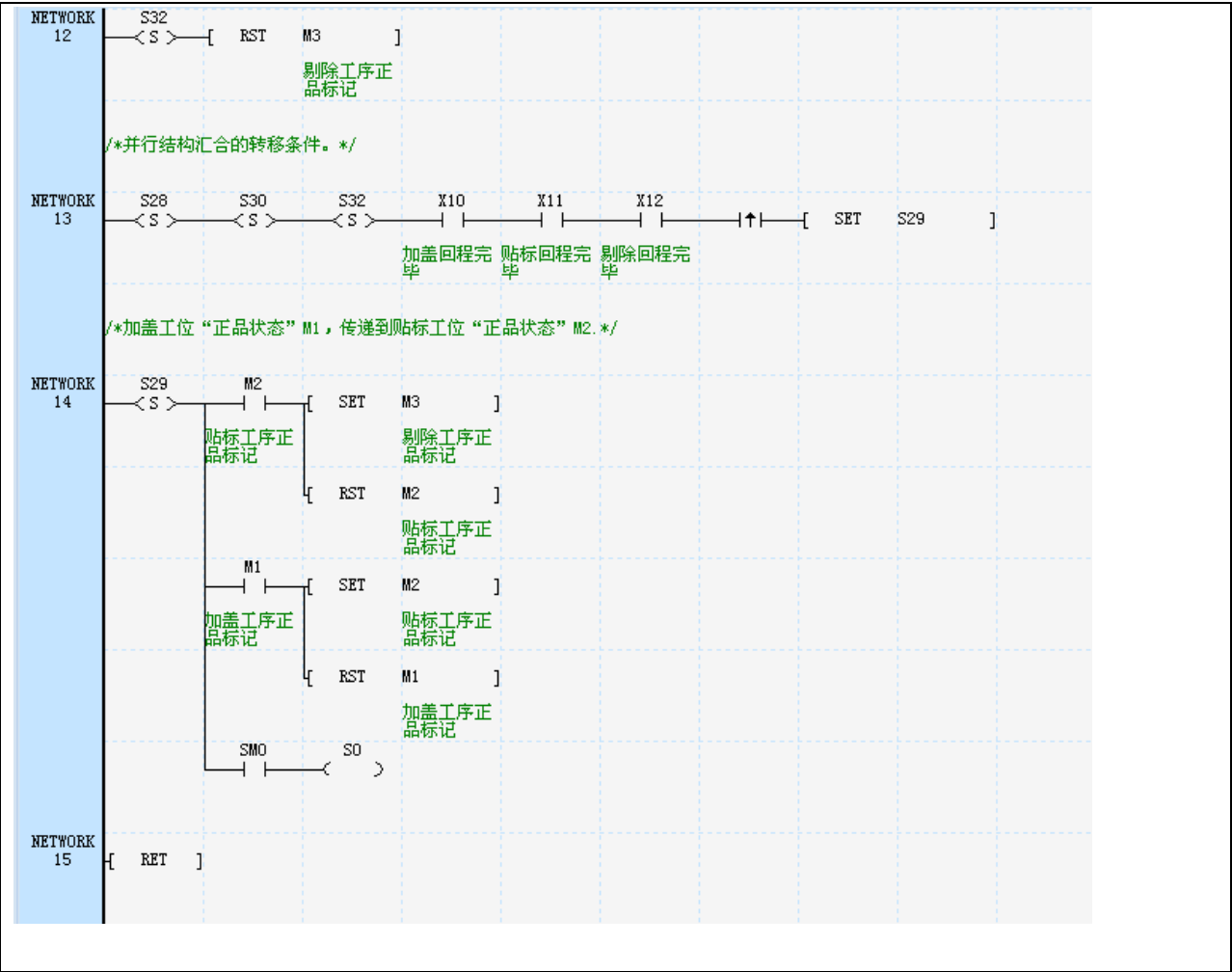


7.5.3









8.1	.....	279
8.1.1	.....	279
8.1.2 MC	PLC	280
8.1.3	SM	280
8.1.4	.....	282
8.1.5 MC200	MC100	285
8.2	.....	285
8.3	.....	286
8.4	.....	286

8.1

8.1.1

MC PLC

		X0	X1	X2	X3	X4	X5	X6	X7	kHz		
										MC280	MC200	MC100
	C236	/								100	50	
	C237		/									
	C238			/								
	C239				/						10	
	C240					/						
	C241						/					
	C301							/				
	C302								/		/	
	C242	/										
	C243				/							
	C244	/									10	
	C245				/							
	C246									100	50	
	C247										10	
	C303										/	
	C248											
	C249										10	
	C250											
	C251	A	B							50	30	
	C304			A	B							
	C305					A	B				/	
	C306							A	B			
	C252	A	B									
	C253				A	B					5	
	C254	A	B									
	C255				A	B						
	C256 (X10)	A	B									
	C257 (X11)			A	B							
	C258 (X12)					A	B					
	C259 (X13)							A	B		/	

PLC

32

/

/

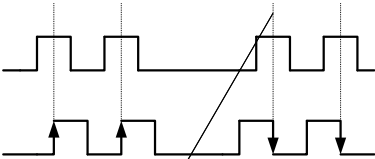
	SM236	SM245	SM301	SM302	ON/OFF	C236	C245	C301	C302	/		
	SM303				C246	C250	C303	/		SM246	SM250	
					SM	OFF		ON				

MC



SM100 SM104 OFF ă C251 C259 C304 C300

SM251 SM259 SM304 SM306 SM OFF ON



	C251	SM100
	C252	SM100
	C253	SM102
	C254	SM100
	C255	SM102
	C256	SM100
	C257	SM101
	C258	SM103
	C259	SM104
	C304	SM101
	C305	SM103
	C306	SM104

PLC

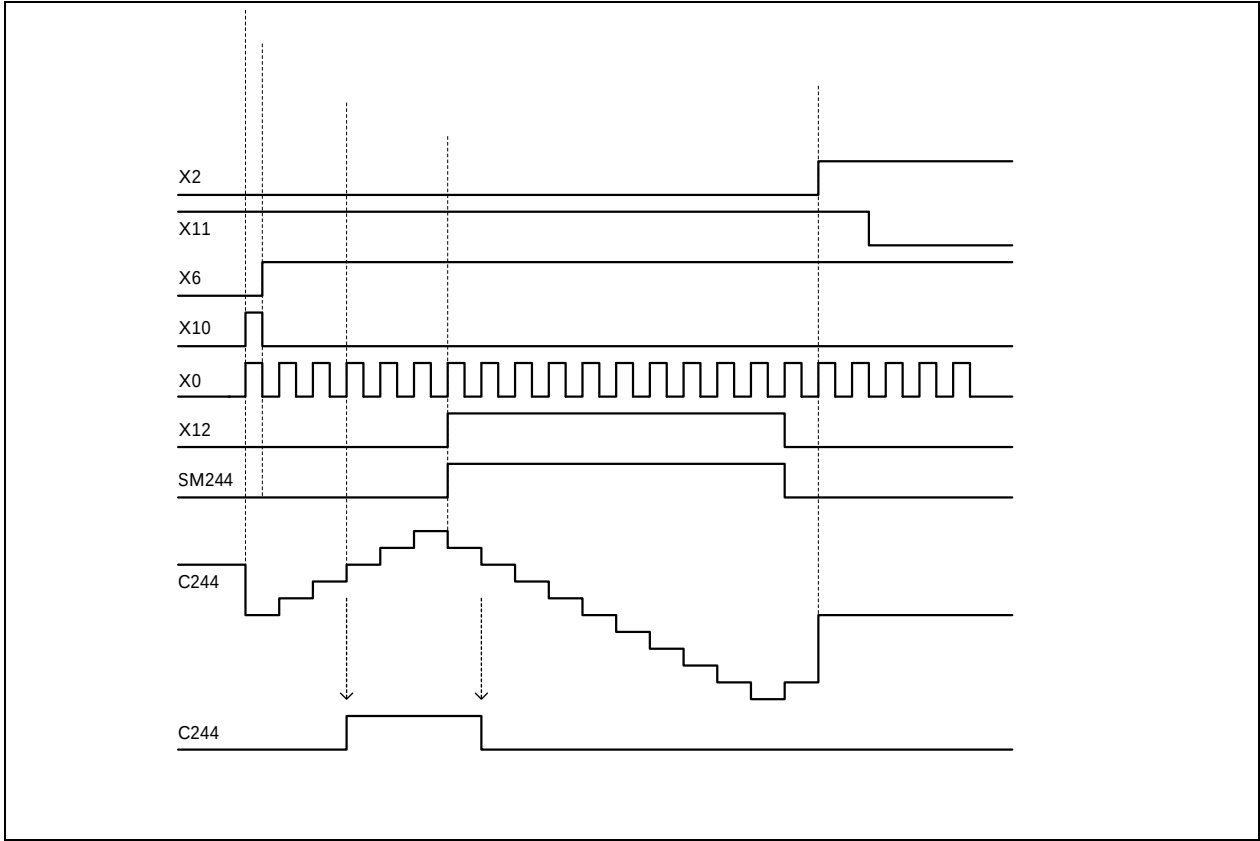
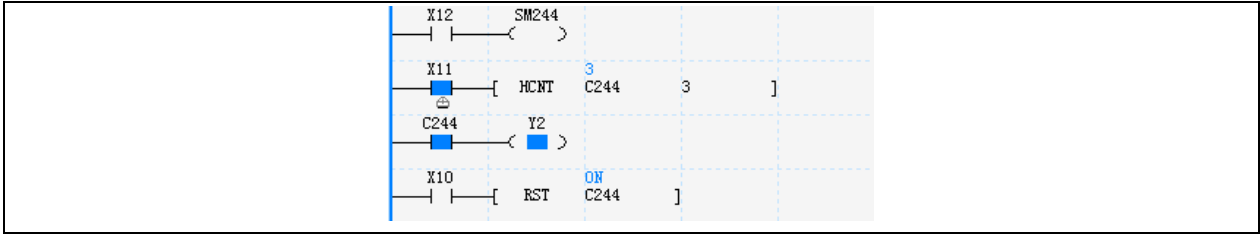
		R/W	MC200	MC100	MC280
SM100	X0 X1 AB 1 /4	R/W			
SM101	X2 X3 AB 1 /4	R/W			
SM102	X3 X4 AB 1 /4	R/W			
SM103	X4 X5 AB 1 /4	R/W			
SM104	X6 X7 AB 1 /4	R/W			

		/
	C246	SM246
	C247	SM247
	C248	SM248
	C249	SM249
	C250	SM250
	C303	SM303
	C251	SM251
	C252	SM252
	C253	SM253
	C254	SM254
	C255	SM255
	C256	SM256
	C257	SM257
	C258	SM258
	C259	SM259
	C304	SM304
	C305	SM305
	C306	SM306

8.1.4

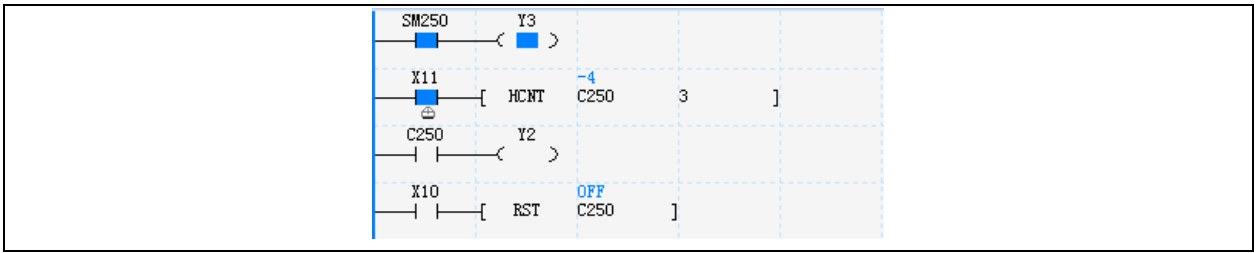
OFF ON

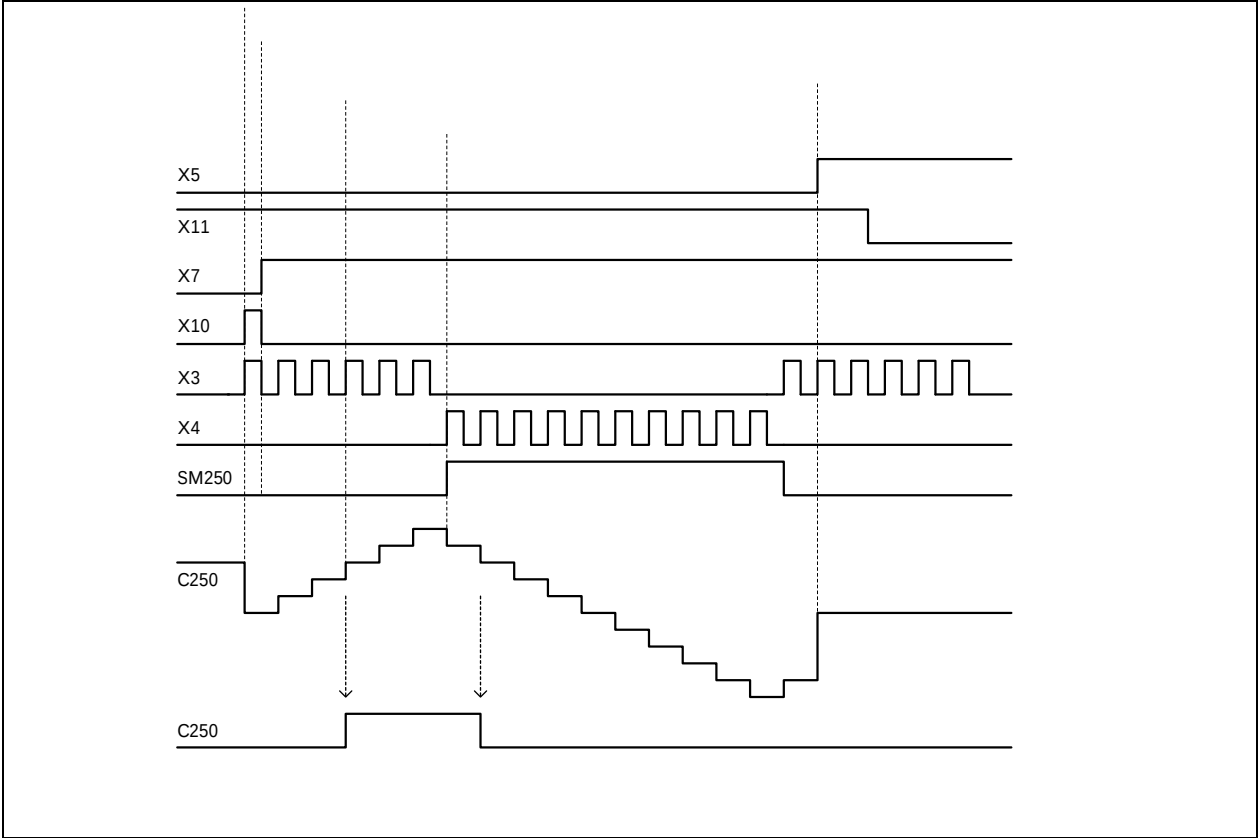
SM



OFF ON

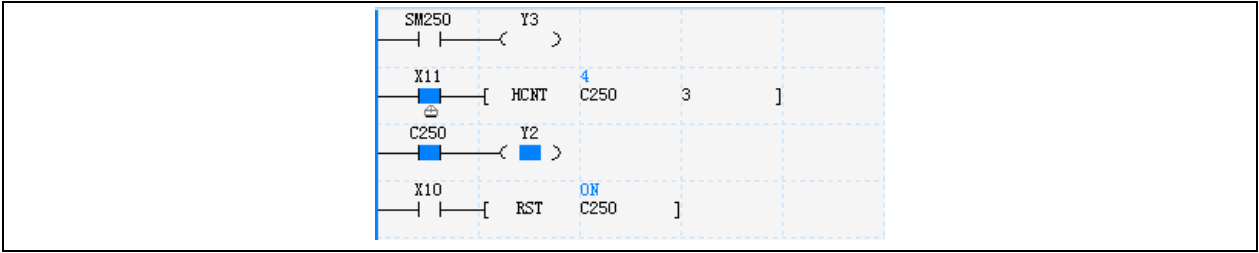
SM

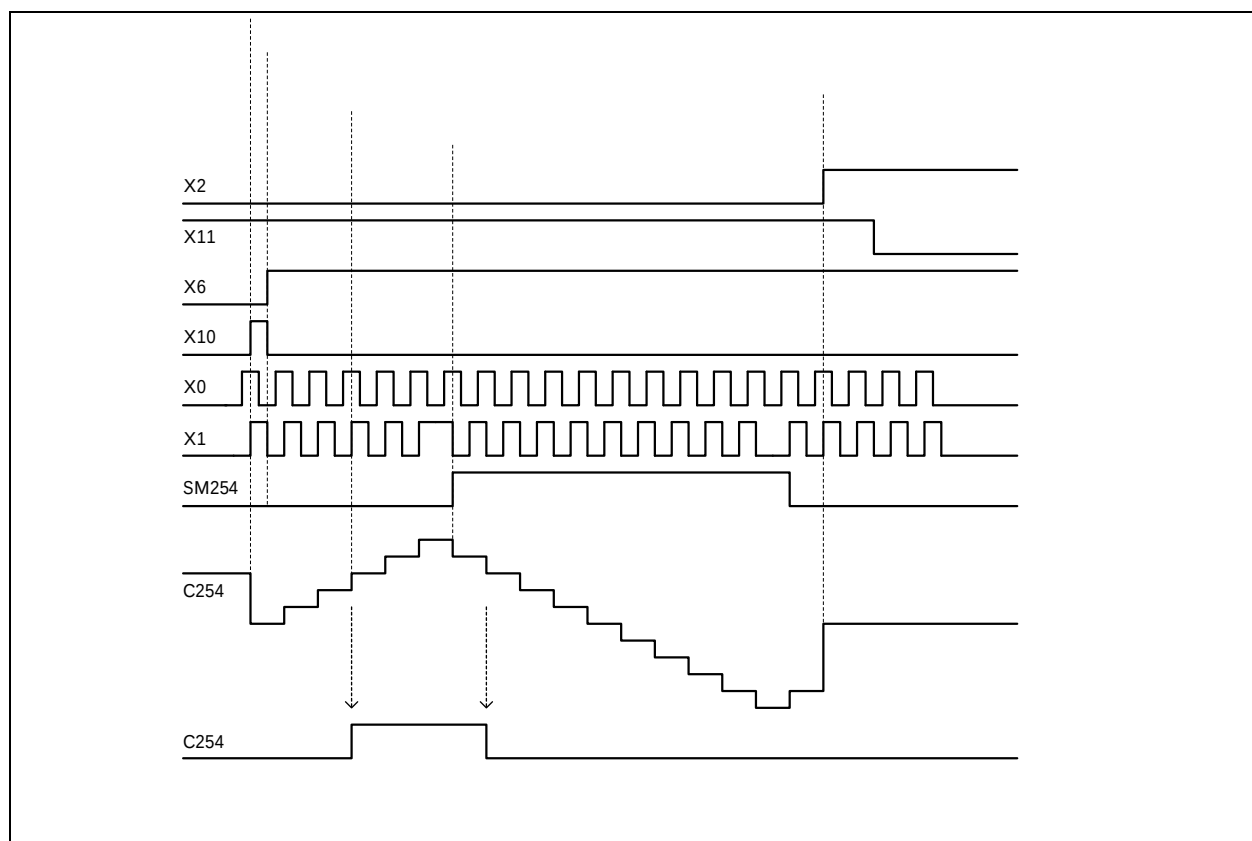




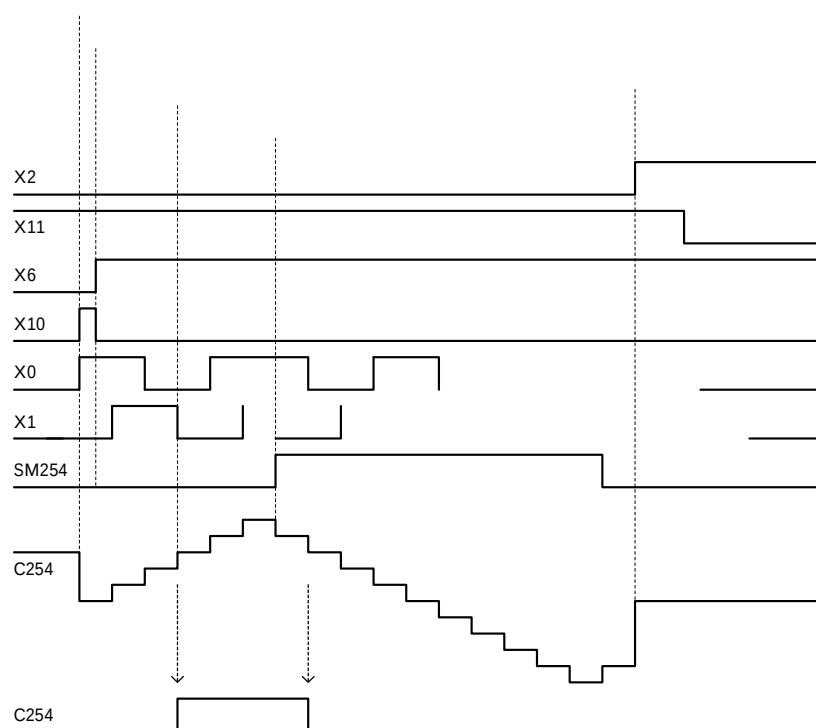
OFF ON

SM





OFF ON ON OFF
SM



8.1.5 MC200 MC100

C236 C237 C246 C251 /

SPD

80kHz(MC100 60kHz)
SPD

DHSCS	DHSCR	DHSCI	DHSZ	DHSP	DHST	80kHz (MC100 60kHz)
DHSCS	DHSCR	DHSCI	DHSP	DHST		30kHz
DHSZ						20kHz

C236 C237 C246 C251

- C236 C237 C246 50kHz
- C251 30kHz

DHSCS DHSCR DHSCI DHSP DHST
10kHz 5kHz
DHSZ 5kHz 4kHz

8.2

X0 X7 SM

		SM
	X0	SM90
	X1	SM91
	X2	SM92
	X3	SM93
	X4	SM94
	X5	SM95
	X6	SM96
	X7	SM97



- 1 OFF→ON SM ON
- 2 SM90 SM97 HCNT SPD
- 3 PLC
- 4 HCNT SPD
- 5 X0~X7 SPD HCNT 80k
DHSCS DHACI DHSP DHST 30k

8.3

X0 X7		SPD								PLC	
1		X0 X7								SPD	
		X0	X1	X2	X3	X4	X5	X6	X7	kHz	
		X0	X1	X2	X3	X4	X5	X6	X7	MC280	MC200 MC100
	C236	/								100	50
	C237		/								
	C238			/							
	C239				/						10
	C240					/					
	C241						/				
	C301							/			
	C302								/		/
	C242	/									
	C243				/						
	C244	/									
	C245				/						
	C246									100	50
	C247										10
	C303										/
	C248										10
	C249										
	C250										
	C251	A	B								30
	C304			A	B						/
	C305					A					

9.1		.....	288
9.2		.....	289
9.3		.....	289
9.4		.....	291
9.5		.....	292
9.6	PTO	.....	294
9.7		.....	294
9.8		.....	295

196 0

SM			SM
----	--	--	----

82

9.2

1
8
2
(1)
(2)

(3)

(4)
(5)
3

4 8



1
2
3 I/O REF REF I/O
4 SM SM ON /
5

9.3

SD ms
4ms
SM ON/OFF / OFF
MC PLC 3

9-1

		SD	SM
0	26	SD66	SM66
1	27	SD67	SM67
2	28	SD68	SM68

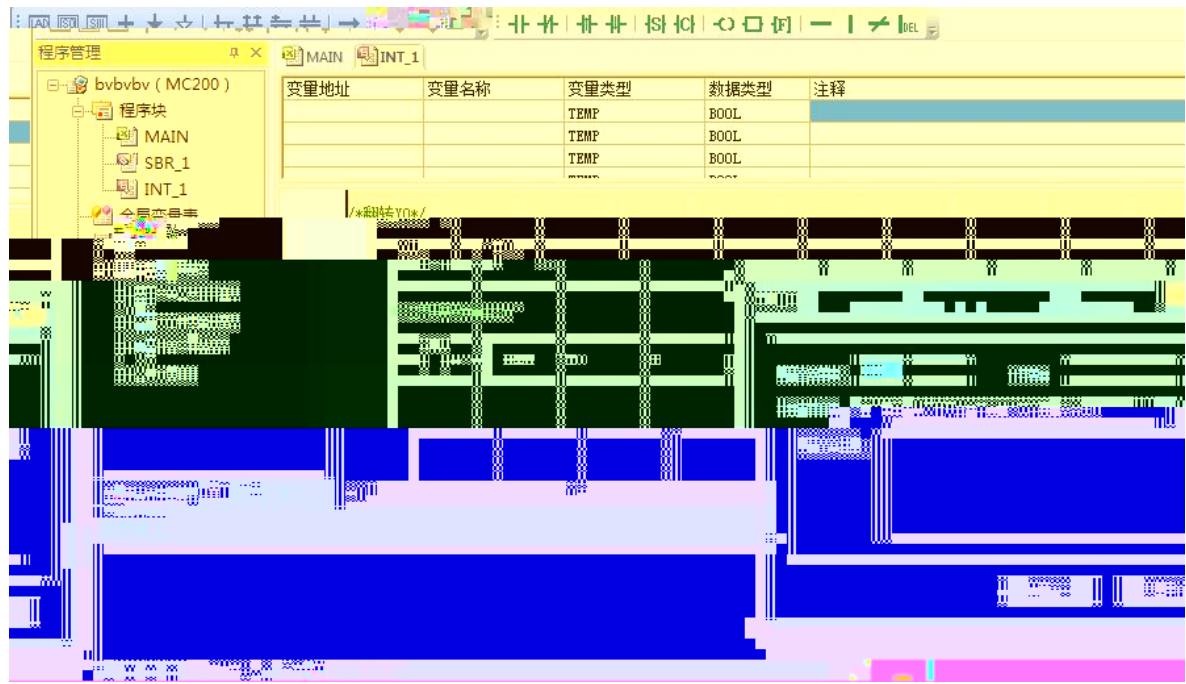


1
2

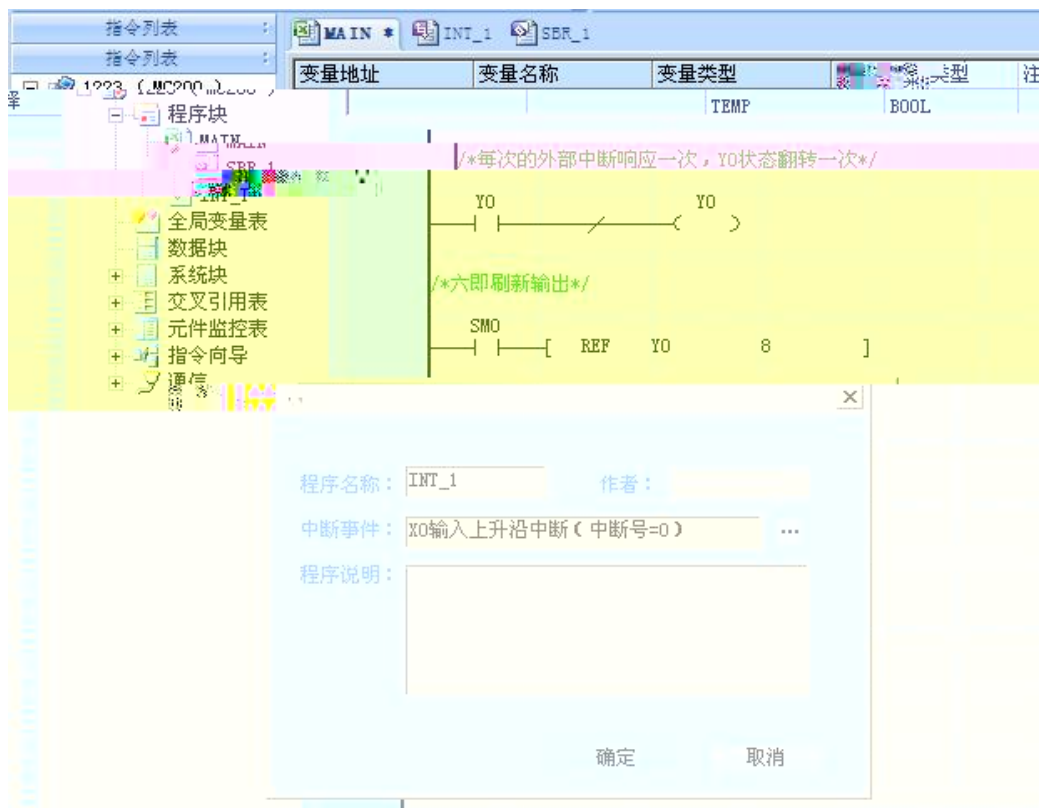
0 Y0 Y0



2

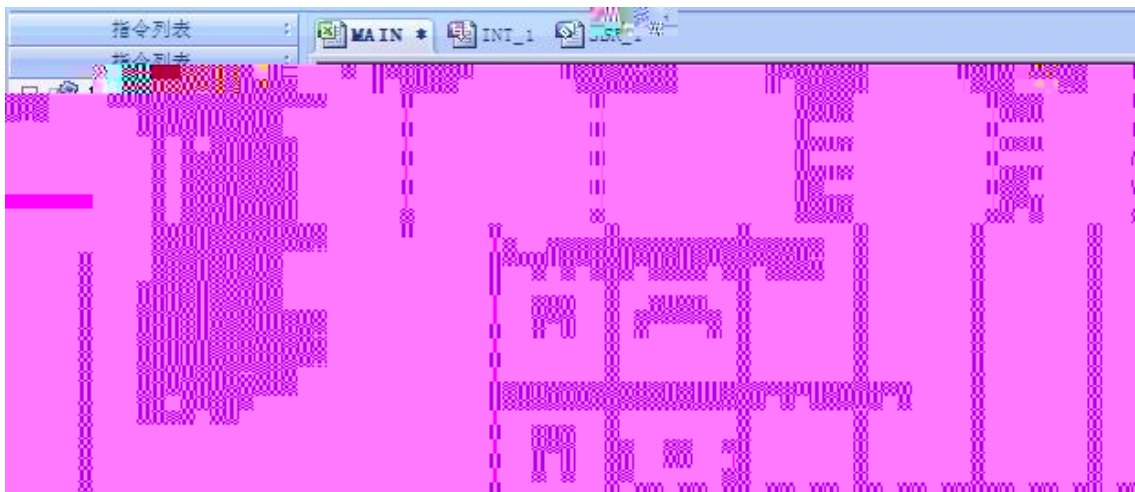


1



2

EI X0 SM40



9.5

HCNT	DHSCI
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

20 25

EI

X0

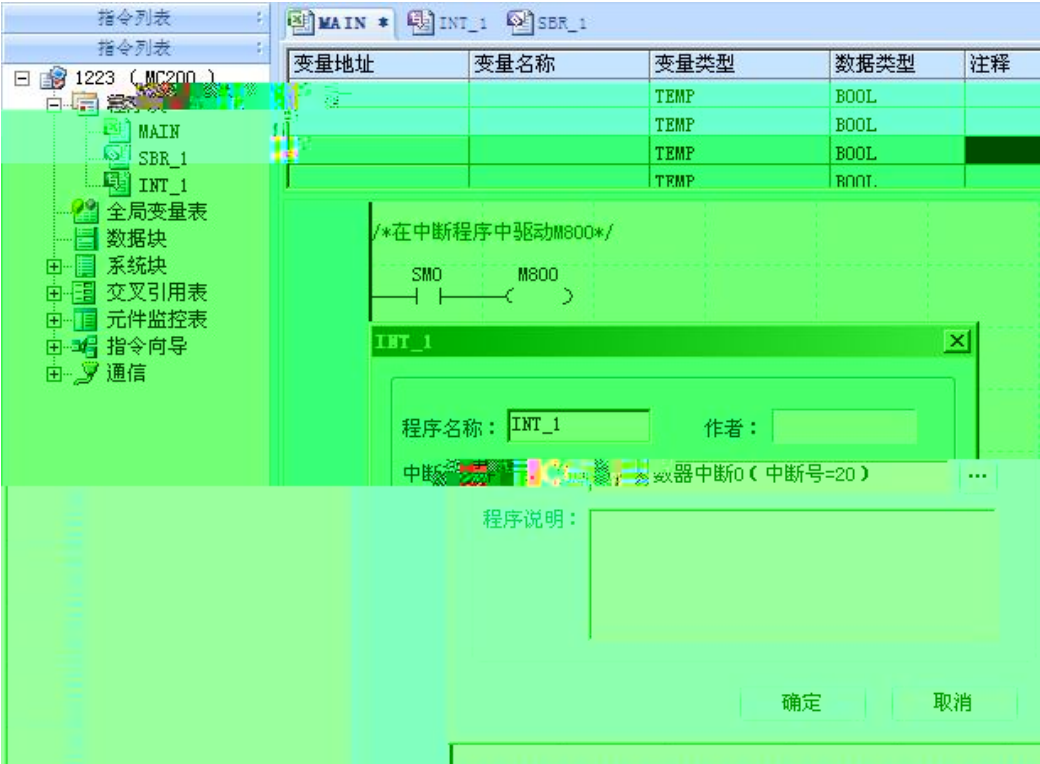
C236

DHSCI

20

1

INT_1

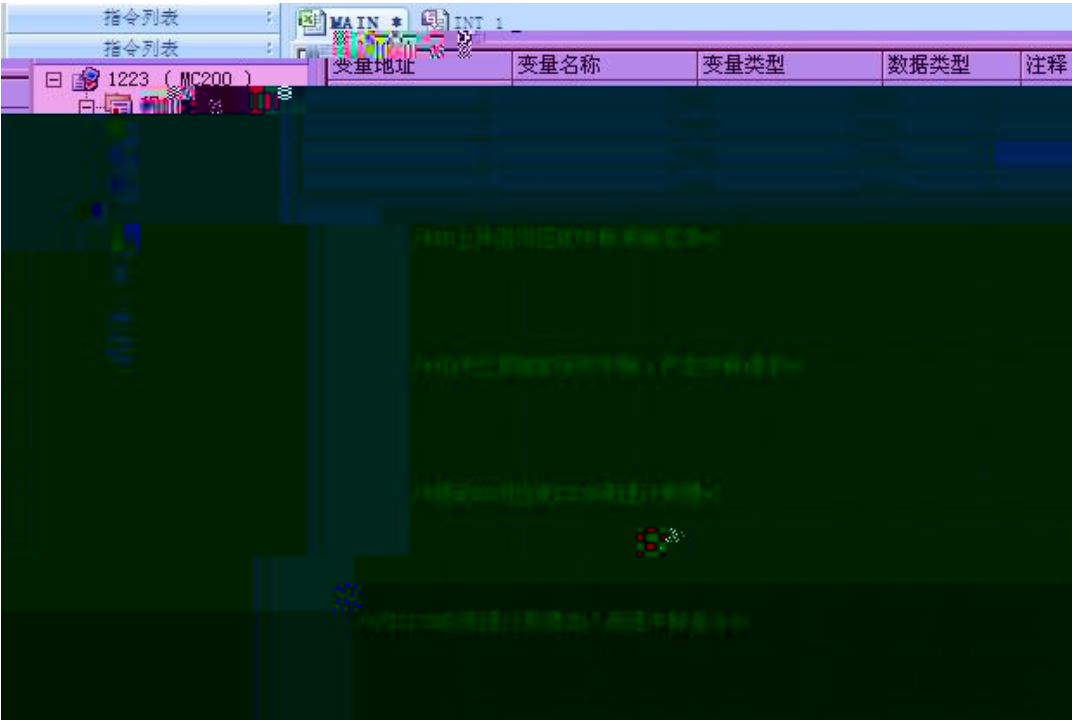


2

EI

SM65

C236



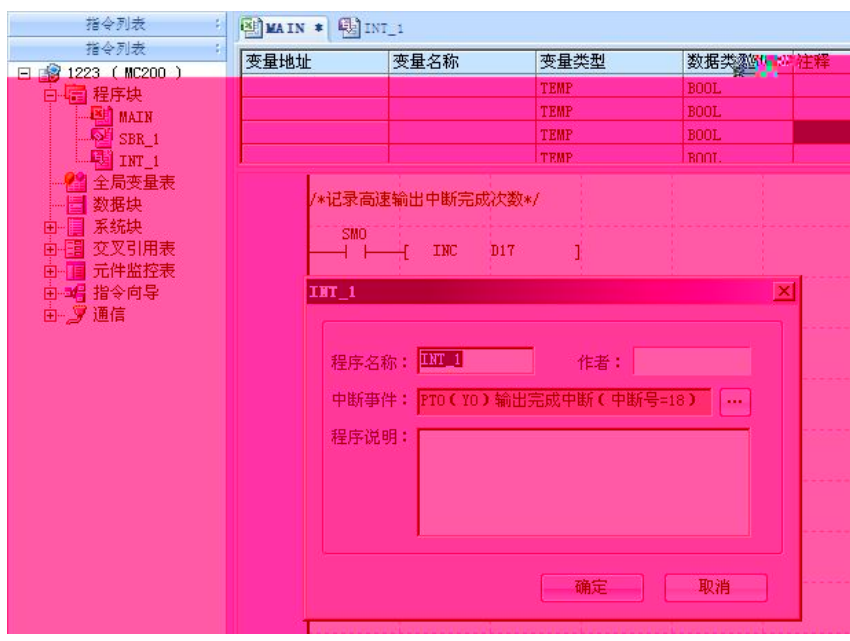
9.6 PTO

PTO

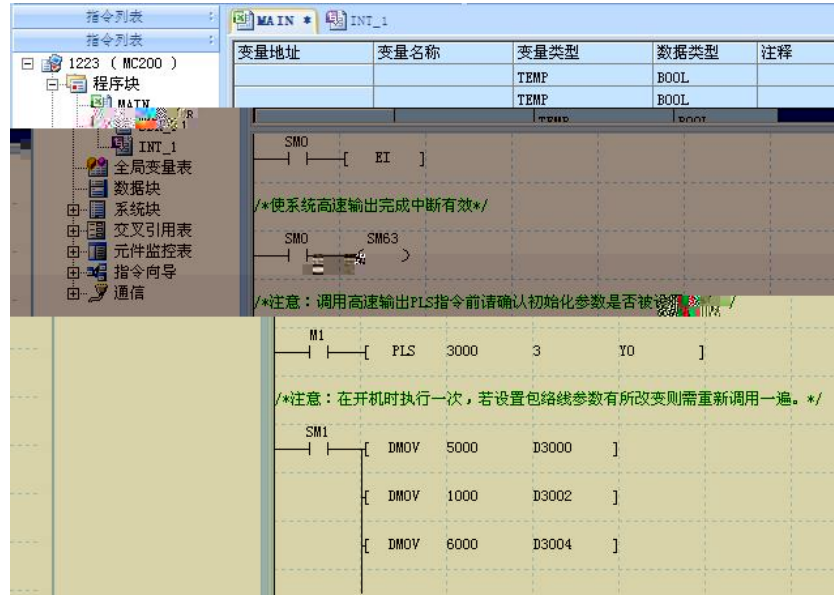
SM63 SM64 Y0 Y1 PTO
MC100

PTO

Y0 Y0 18
INT_1
INT_1



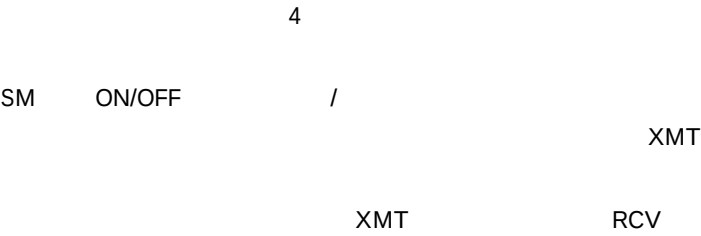
2 MAIN PTO SM63 PLS



9.7

SM56
MC100

9.8



		SM
30	0	SM48
31	0	SM49
32	0	SM50
33	0	SM51
34	1	SM52
35	1	SM53
36	1	SM54
37	1	SM55
8	2	SM59
9	2	SM60
38	2	SM57
39	2	SM58



3



	MC	PLC	
10.1			299
10.2			299
10.3			299
10.3.1			299
10.3.2			299
10.3.3			300
10.3.4			302
10.3.5			302
10.3.6 RTU			302
10.3.7 ASCII			303
10.3.8 Modbus			303
10.3.9 PLC			303
10.3.10 Modbus			304
10.3.11			304
10.3.12			305
10.3.13 LONG INT			305
10.3.14			305
10.3.15			306
10.3.16 Modbus			306
10.3.17 Modbus			307
10.3.18			309
10.4 MCbus			312
10.4.1 MCbus			312
10.4.2 MCBUS			312
10.4.3 MCbus			312
10.4.4 MCbus			314
10.4.5			318
10.4.6 MCbus			319
10.5			320
10.5.1			320
10.5.2			320
10.5.3 M N			320
10.5.4 MCbus			320

10.1

MC		PLC	
Modbus		115200	57600 38400 19200 9600 4800 2400 1200
MCbus		115200	57600 38400 19200 9600 4800 2400 1200

MC		PLC	
MC200	0	RS232	Modbus MCbus
	1	RS232 RS485	Modbus MCbus
MC100	0	RS232	Modbus MCbus
	1	RS232 RS485	Modbus MCbus
MC280	0	RS232	Modbus MCbus
	1	RS485	Modbus MCbus
	2	RS485	Modbus MCbus

MC PLC RUN STOP TM 0

10.2

X_Builder

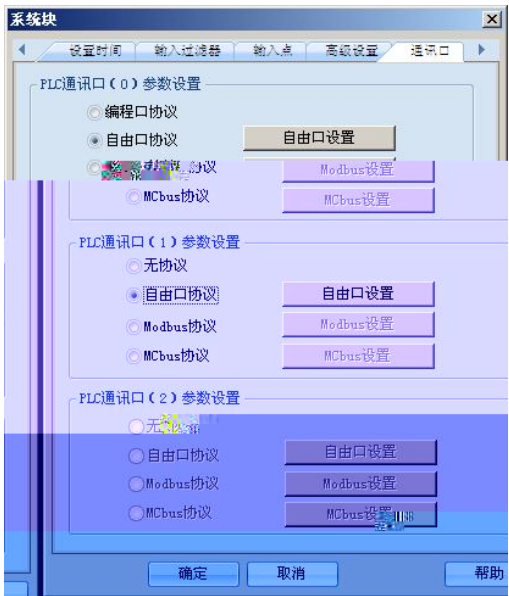
10.3

10.3.1

ASCII

PLC RUN
XMT RCV

10.3.2



自由口协议

默认值

PLC串口设置

波特率

9600

奇偶校验

不校验

数据位

8

停止位

1

☒ 允许起始字符检测

10

☒ 允许结束字符检测

30

☒ 字符间超时

100ms

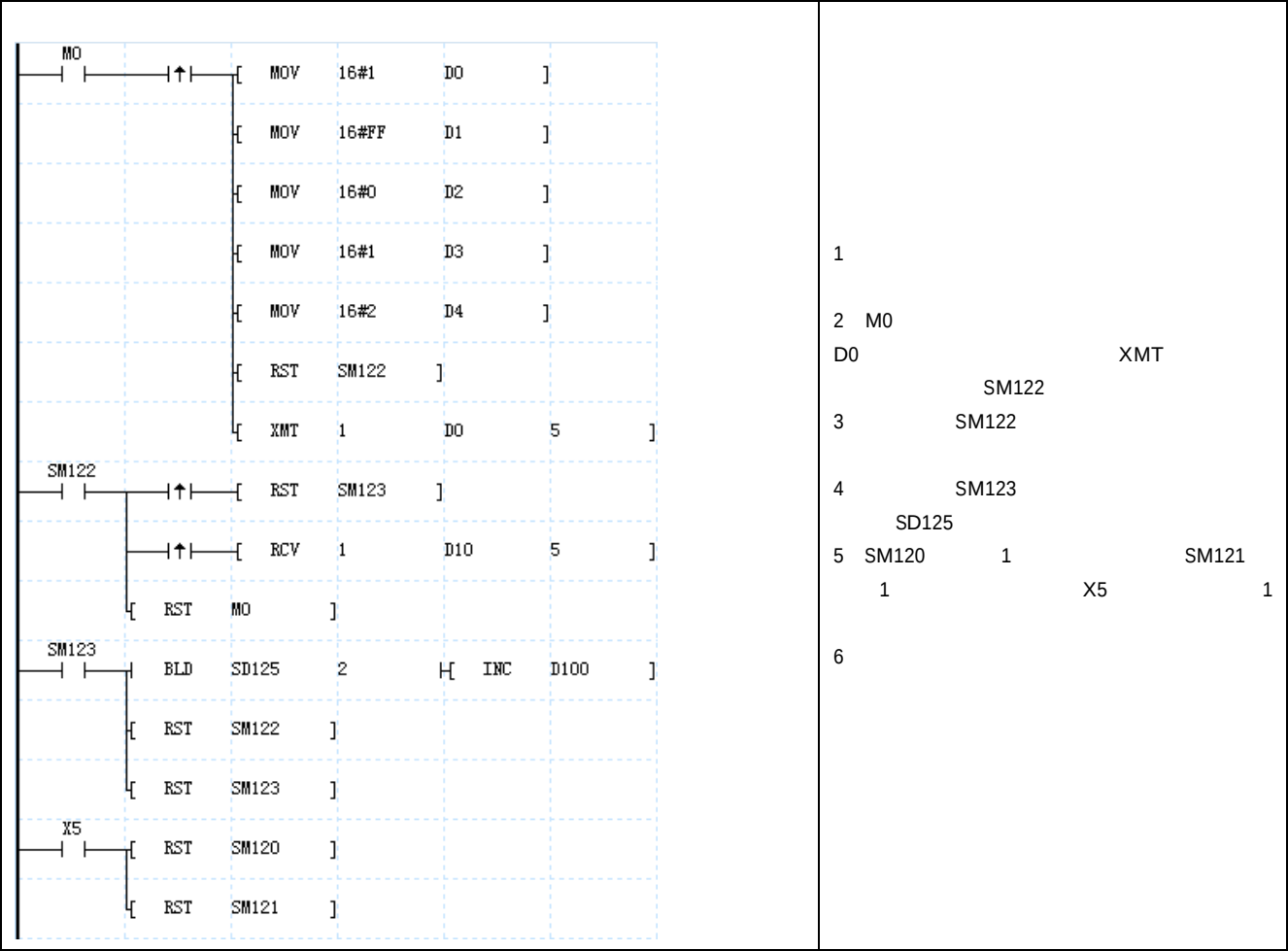
☒ 帧间超时

1000ms

确定

取消

	115200 57600 38400 19200 9600 4800 2400 1200 9600	
	7 8 8	
	1 2 1	
	0 255 00 FF	
	0 255 00 FF	
	0 65535ms	



SM123

|

|

BLD

SD125

2

|

[

INC

D100

]

[

RST

SM122

]

[

RST

SM123

]

X5

|

|

[

RST

SM120

]

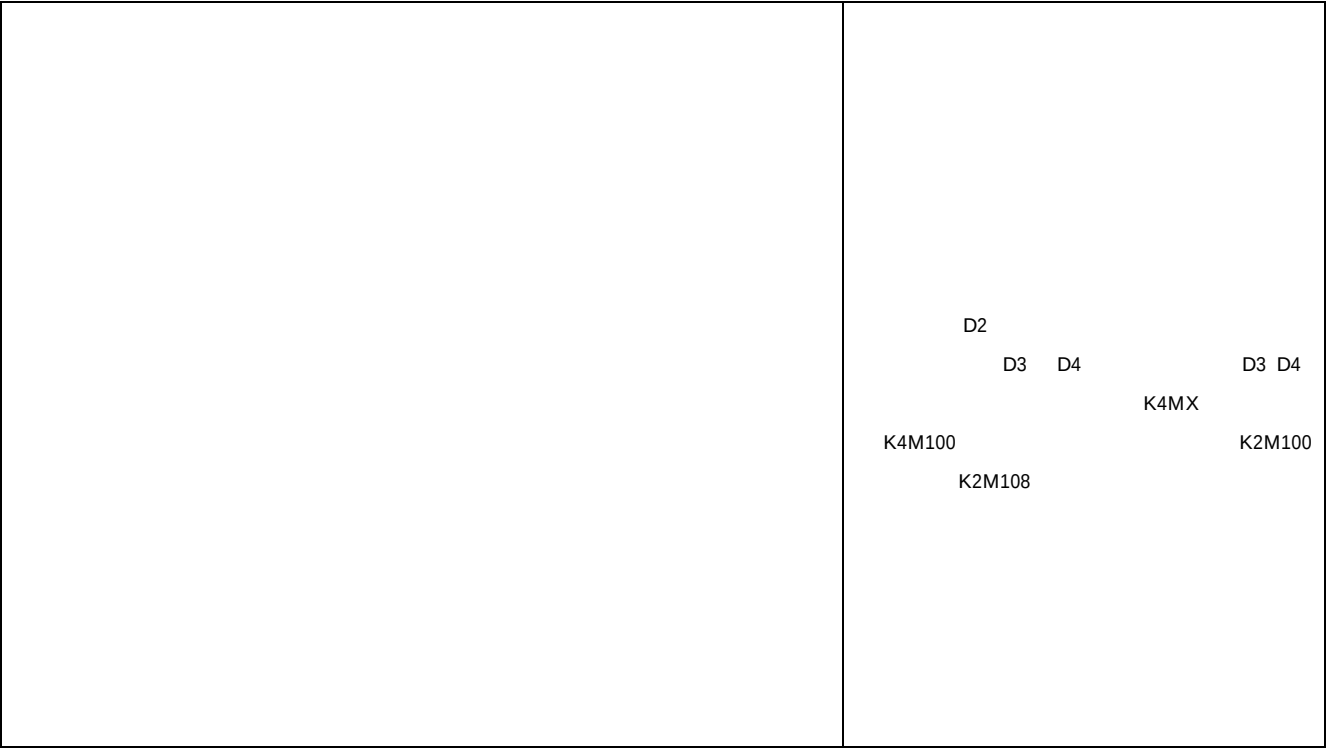
[

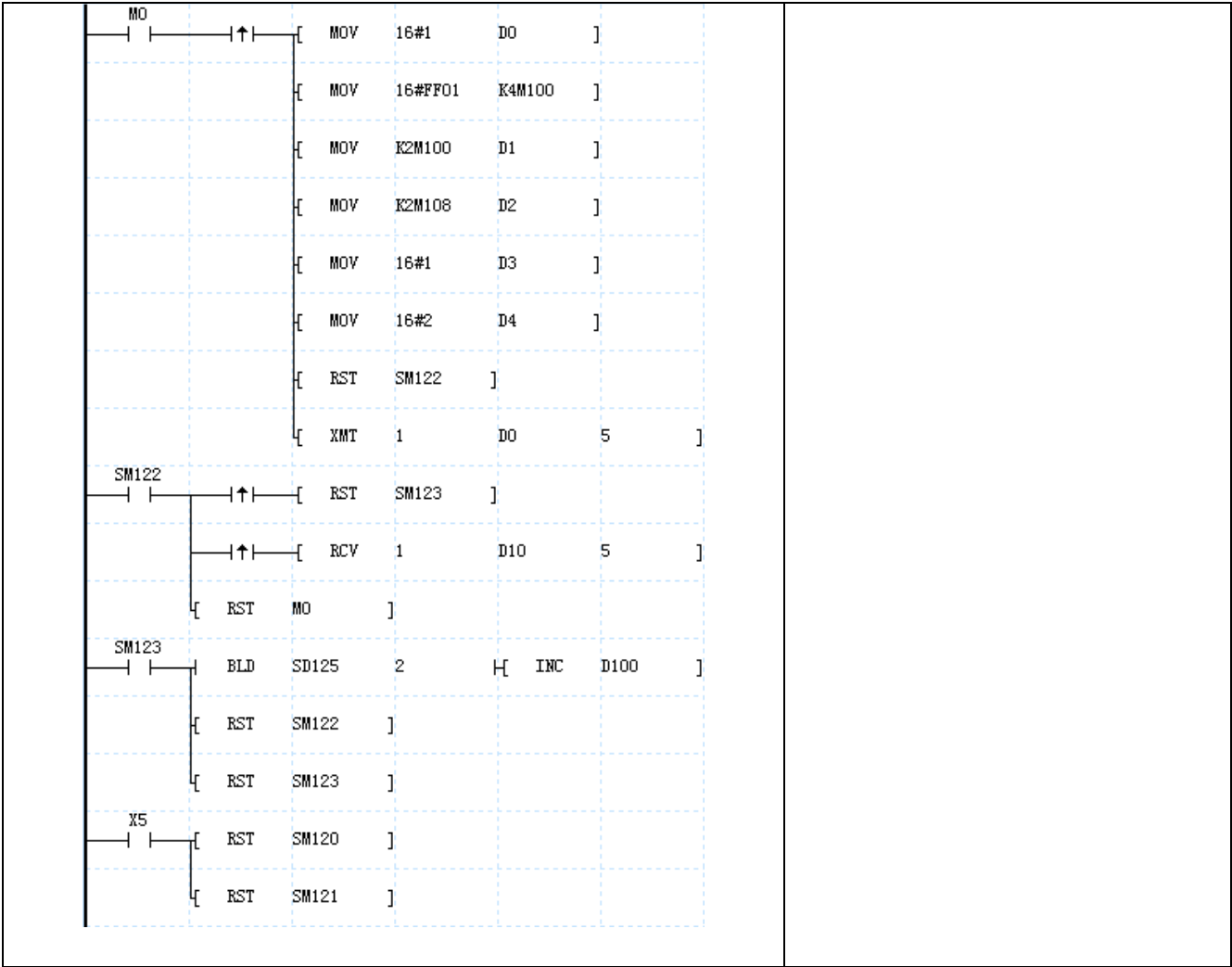
RST

SM121

]

1





10.3.4

MC PLCModbus ASCII RTU MC100 RTU

10.3.5

1 RS232 RS485
2
(1) 7 ASCII 8 RTU
(2) 1200 2400 4800 9600 19200 38400
(3)
(4) 1 2
3 31 1 31

10.3.6 RTU

1
2 1.5
3 3.5

4 CRC16

5 RTU 256

				CRC
	1	1	0 252	2

6

19200 1.5 =1/19200 11 1.5 1000=0.86ms
 3.5 =1/19200 11 3.5 1000=2ms

10.3.7 ASCII

1 ASCII

2 3A CRLF 0D 0A

3 1s

4 LRC

5 ASCII RTU ASCII HEX ASCII 2 252
 RTU 252 ASCII 513

					LRC	
	1	2	2	0 2*252	2	2

10.3.8 Modbus

Modbus 01 02 03 04 05 06 15 16 41
 41

10.3.9 PLC

		Modicon		
01		0 ¹ :xxxx	Y X M SM S T C	
02		1 ² :xxxx	X	
03		4 ³ :xxxx ⁴	D SD Z T C	
05		0:xxxx	Y M SM S T C	
06		4:xxxx	D SD Z T C	
15		0:xxxx	Y M SM S T C	
16		4:xxxx	D SD Z T C	
1 0 2 1 3 4 4 xxxx 1 9999 1 9999 0 5 0 1 4 6 05 15 X X				

2 PLC Modbus

Y		Y0 Y377 8 256	0000 0255	01 05 15	Y0 Y7
X		X0 X377 8 256	1200 01455		Y10 Y17

				0000	01 01	257				Y
	01	81	03	00	51					
						257	256	256		Y
3	01	01	00	64	00	A0	7D	AD		
			00	64		100		00 A0		160
	01	81	02	C1	91					
						100	Y		156	160
4	01	04	00	02	00	0A	D1	CD		
			04							
	01	84	01	82	C0					
					MC200			04		



1	X				X				SM	SD
2			01				CRC			

10.3.12

C						C200	C255		C200	C255
	03	16								

08	00			08	12	
08	01			08	13	
08	04			08	14	
08	10			08	15	
08	11			08	18	

MC200/MC280

10.3.15

0x01	
0x02	
0x03	

- (1)
- (2)RTU256
- (3)RTU
- (4)
- (5)ASCII



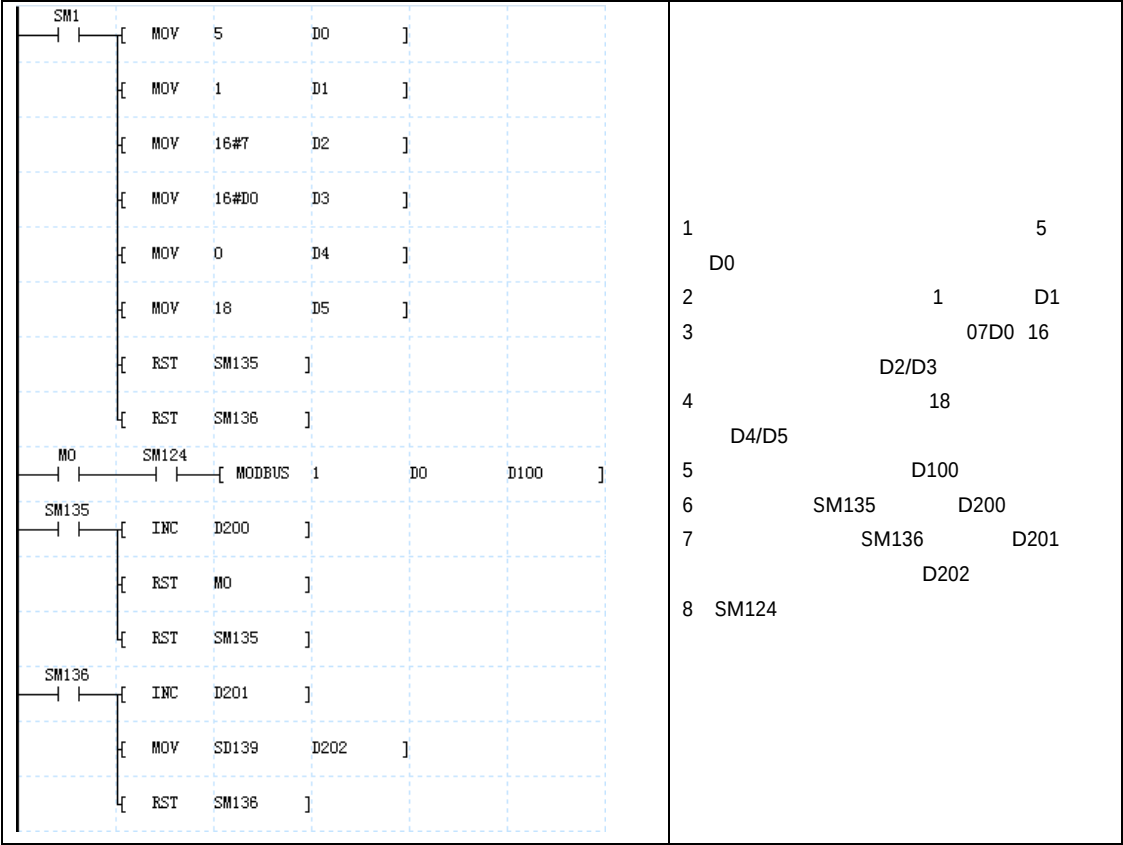
10.3.16 Modbus

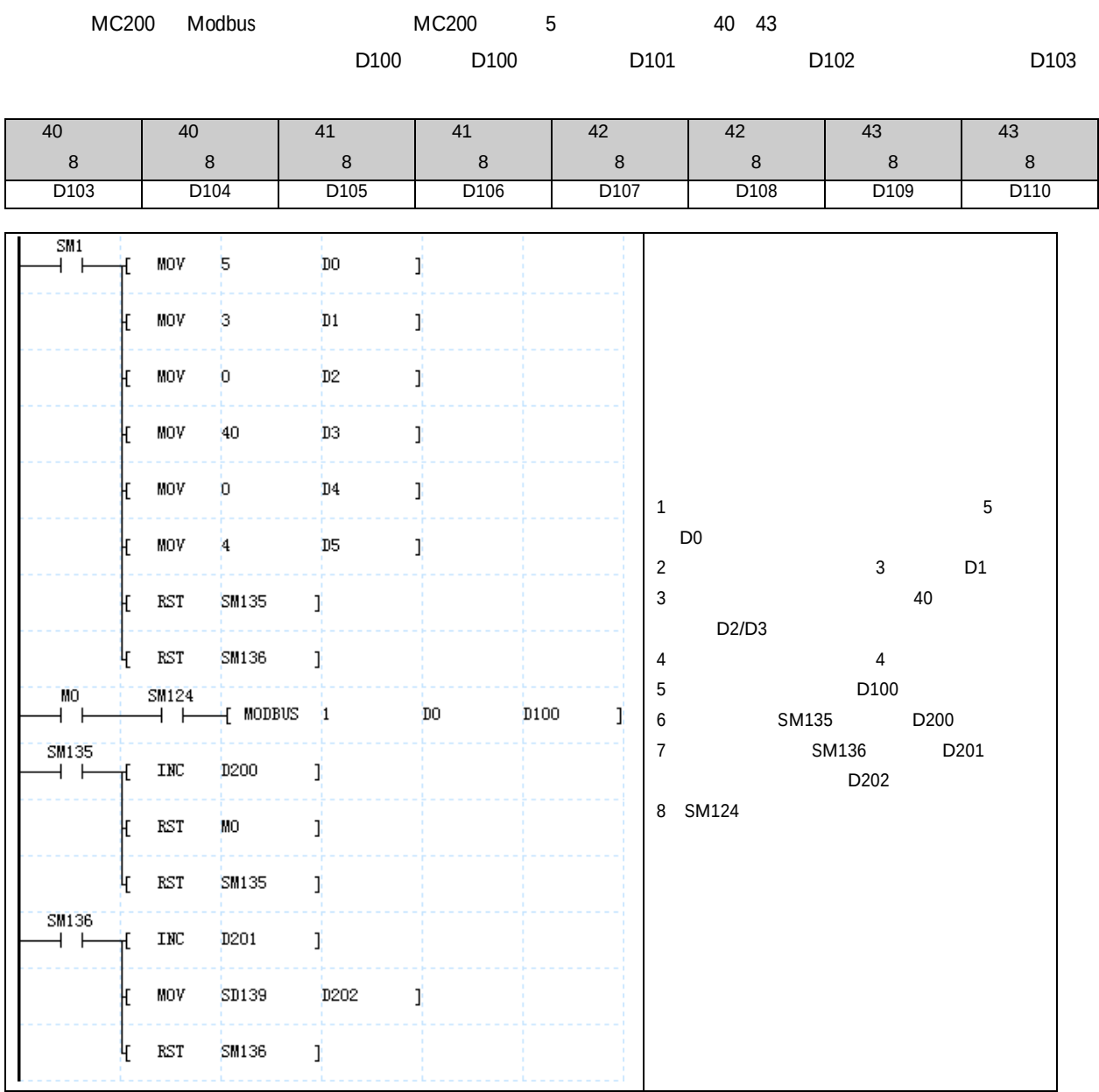
	PORT0	PORT0	PORT1	PORT0	Modbus	PORT1	Modbus
Modbus							
Modbus				Modbus			
	031						
	1152005760038400192009600480024001200						
	78ASCII7RTU8						
	1212						
Modbus /	10						
	RTUASCII						



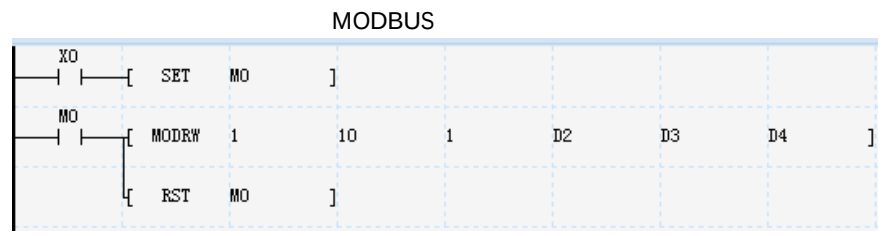
1	MC200 PLC	1	0	11
39		12		
2			Modbus	
		Modbus		
SD139	D202	D202		
3			MC200	Modbus
	MC200	PLC		

MC200	Modbus	MC200	5	2000	2017		
		D100	D100	D101	D102		D103





10.3.18



M0

SM30

SM135

T1

帧间隔

指令
执行

数据
发送

主站等待

数据
接收

内容

MC

T_{12}

1ms

1920081RTU1020

T_5

$\frac{10}{19200} \frac{10}{1000}$ 1 6.2ms

T_7

$\frac{20}{19200} \frac{10}{1000}$ 1 11.4ms

T_4

T_8 T_9 1ms

T_6

35ms

T_3

1 6.2 35 11.4 1 1 55.6ms

10ms

T_2

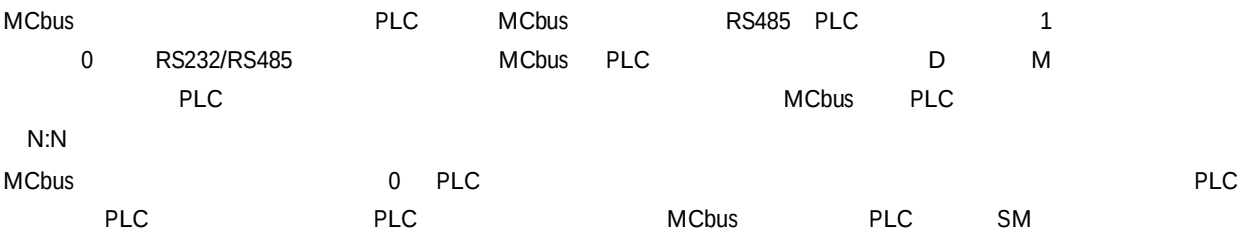
$(INT(\frac{55.6}{15}) - 1)15$ 60ms

T_{10}

6.2 15 1 11.4 33.6ms

10.4 MCbus

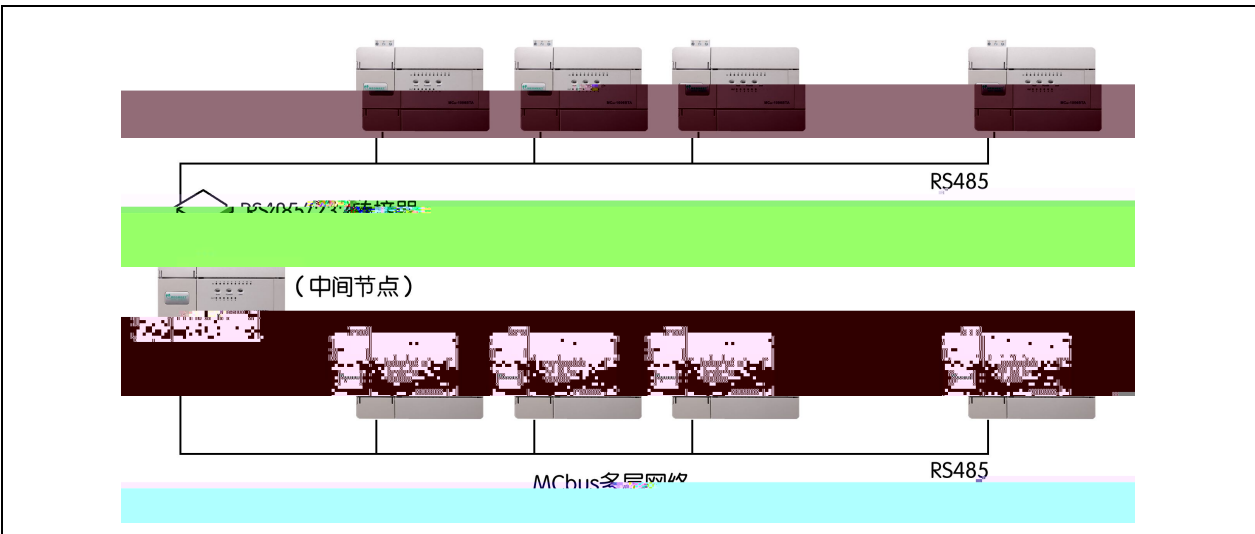
10.4.1 MCbus



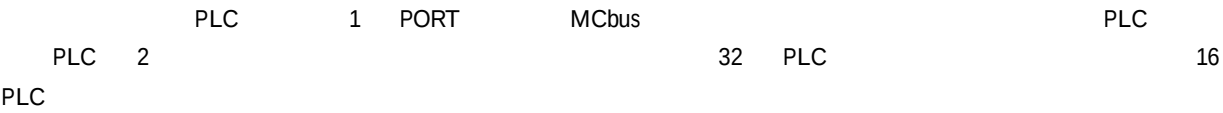
10.4.2 MCbus



10-1 MCbus



10-2 MCbus



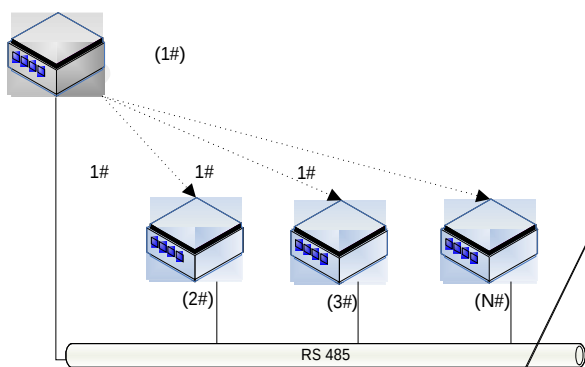
10.4.3 MCBUS



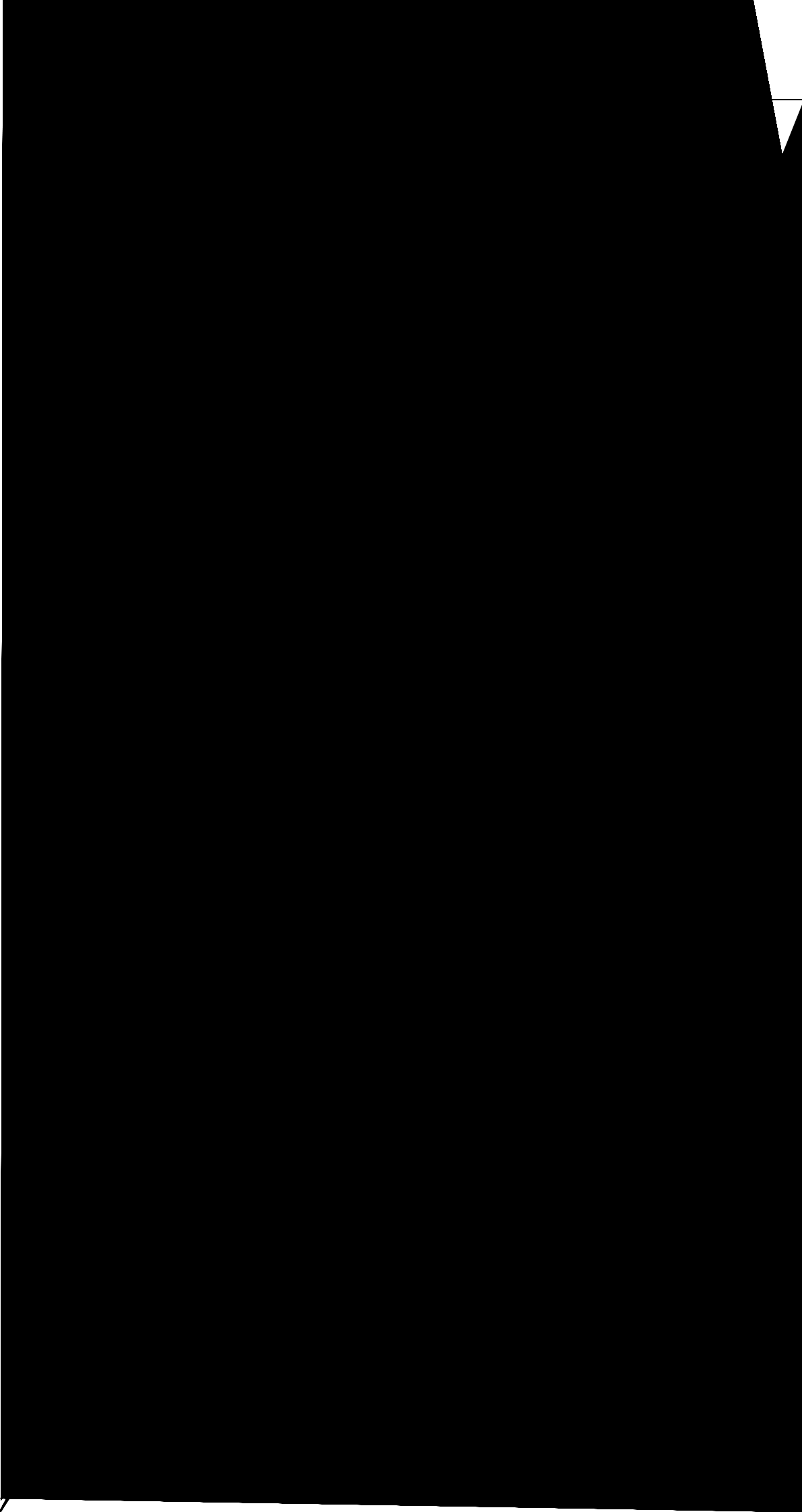
10-1

10-5

1



10-3



D	1	2	3	4	5
D7756 D7757	#28	#14	#7		
D7758 D7759	#29				
D7760 D7761	#30	#15			
D7762 D7763	#31				

(1) 1 0#

D

D7760 D7763 0# PLC D7700 D7701 D7702 D7703

1#- 15#

D7700 D7704

MCbus

M

M	1	2	3	4	5
M1400 M1415	#0	#0			

M1608 M1623

#13

M1624 M1639

#14

M1640 M1655

#15

M1656 M1671

#16

#8

#4

#2

#1

]M

MC

MCbus D 0

D	6	7	8	9
D7700 D7701	#0	#0	#0	#0
D7702 D7703	#1			
D7704 D7705	#2	#1		
D7706 D7707	#3			
D7708 D7709	#4	#2	#1	
D7710 D7711	#5			
D7712 D7713	#6	#3		
D7714 D7715	#7			
D7716 D7717	#8	#4	#2	#1
D7718 D7719	#9			
D7720 D7721	#10	#5		
D7722 D7723	#11			
D7724 D7725	#12	#6	#3	
D7726 D7727	#13			
D7728 D7729	#14	#7		
D7730 D7731	#15			

6 0# 0 D D7700 D7701 0# PLC D7700 D7701
1#- 15# D7700 D7701

MCbus D 1

D	10	11	12	13
D7732 D7733	#0	#0	#0	#0
D7734 D7735	#1			
D7736 D7737	#2	#1		
D7738 D7739	#3			
D7740 D7741	#4	#2	#1	
D7742 D7743	#5			
D7744 D7745	#6	#3		
D7746 D7747	#7			
D7748 D7749	#8	#4	#2	#1
D7750 D7751	#9			
D7752 D7753	#10	#5		
D7754 D7755	#11			
D7756 D7757	#12	#6	#3	
D7758 D7759	#13			
D7760 D7761	#14	#7		
D7762 D7763	#15			

10 0# 1 D D7732 D7733 0# PLC D7732 D7733
1#- 15# D7732 D7733

MCbus M 0

M		6	7			9
M1400	M1415	#0	#0			#0
M1416	M1431	#1				
M1432	M1447	#2				
M1448	M1463	#3				
M1464	M1479	#4	#2			#1
M1480	M1495	#5	#3			
M1496	M1511	#6				
M1512	M1527	#7				
M1528	M1543	#8	#4			#1
M1544	M1559	#9	#5			
M1560	M1575	#10				
M1576	M1591	#11				
M1592	M1607	#12				
M1608	M1623™	Y/ .ð "ð`H žB (/ .ð v/ `H žð 7 / .ð q	s \$7.ð 'ó -ĩ „ó -ĩ q"ó -ĩ q/0 •)nð V ó -ĩ /0 •)nðU™			
M1624	M1639	#14	#7	5	0	o Ů ж 1 ъ

10.4.5

D	14	15	16	17	18
D7500 D7507	#0	#0	#0	#0	#0
D7508 D7515	#1				
D7516 D7523	#2	#1			
D7524 D7531	#3				
D7532 D7539	#4	#2			
D7540 D7547	#5				
D7548 D7555	#6		#3		
D7556 D7563	#7				
D7564 D7571	#8	#4	#1		
D7572 D7579	#9				
D7580 D7587	#10			#5	
D7588 D7595	#11				
D7596 D7603	#12	#6			
D7604 D7611	#13				
D7612 D7619	#14			#7	
D7620 D7627	#15				
D7628 D7635	#16	#8	#4	#2	
D7636 D7643	#17				
D7644 D7651	#18	#9			
D7652 D7659	#19				
D7660 D7667	#20	#10			
D7668 D7675	#21				
D7676 D7683	#22		#11		
D7684 D7691	#23				
D7692 D7699	#24	#12	#6	#1	
D7700 D7707	#25				
D7708 D7715	#26				#13
D7716 D7723	#27				
D7724 D7731	#28	#14			
D7732 D7739	#29				
D7740 D7747	#30				#15
D7748 D7755	#31				

				PLC			6	PLC		6		6	PLC	
	0	5						2	PLC					8
		PLC		6	7		6	7		MCbus	1			
	0	5												

10.5

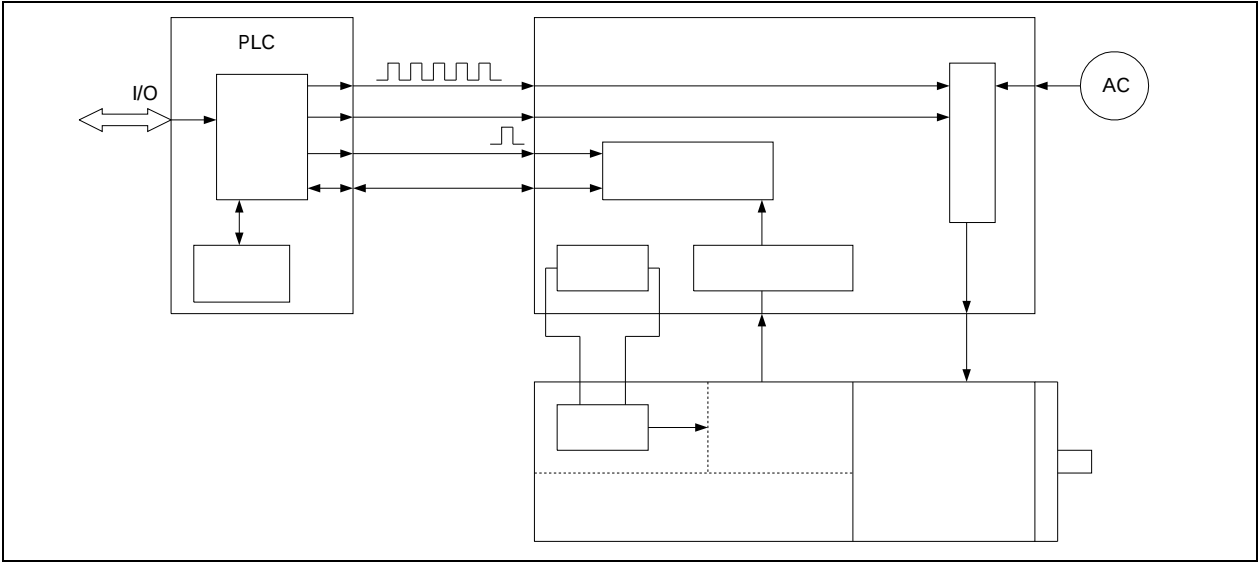
10.5.1

0		0		MCbus
		0		

11.1	.....	321
11.1.1	.....	321
11.1.2	.....	322
11.1.3	.....	323
11.2 MC	PLC	323
11.3	.....	325
11.4	.....	326
11.4.1 MC280	.....	326
11.4.2 MC200	.....	338
11.4.3 MC100	.....	341
11.5	.....	342
11.5.1	.....	342
11.5.2	.....	349

11.1

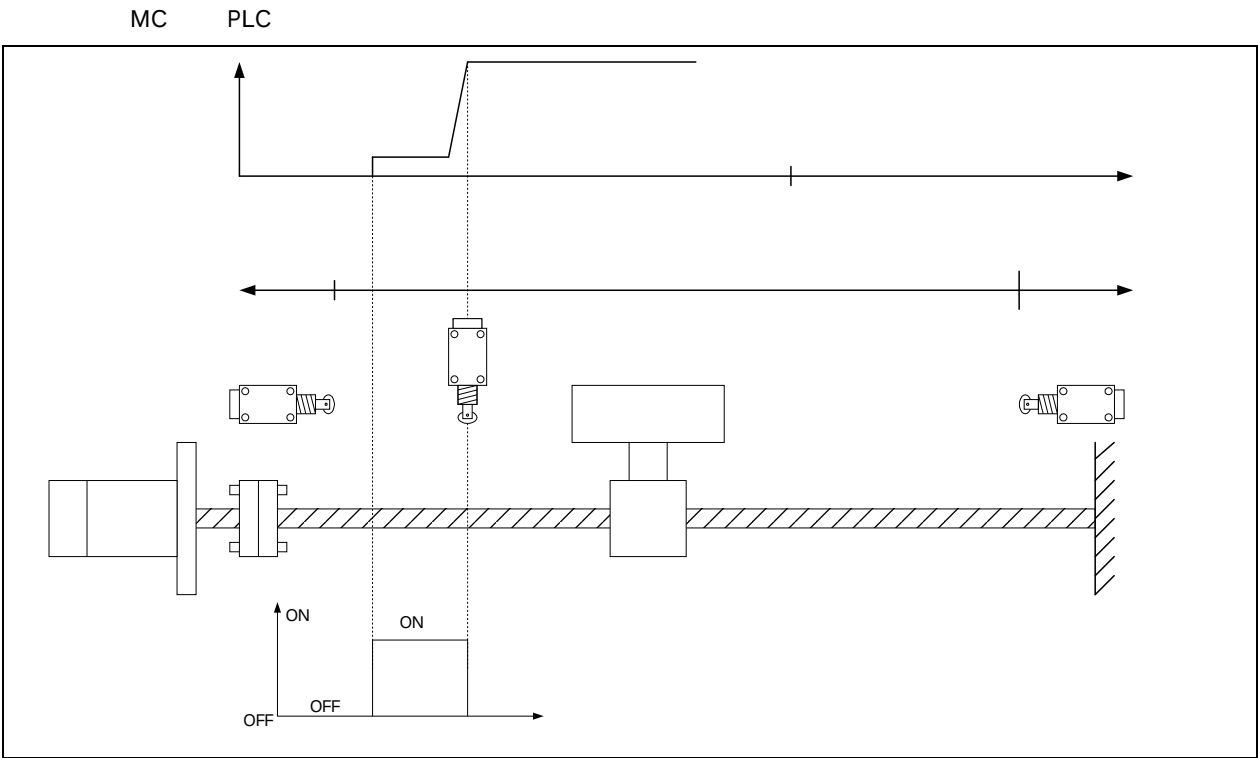
11.1.1



11-1

PLC

PLC

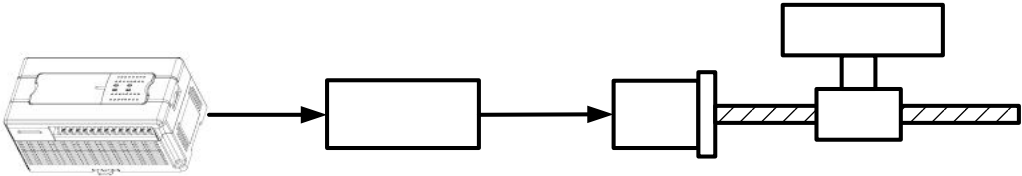


11-2

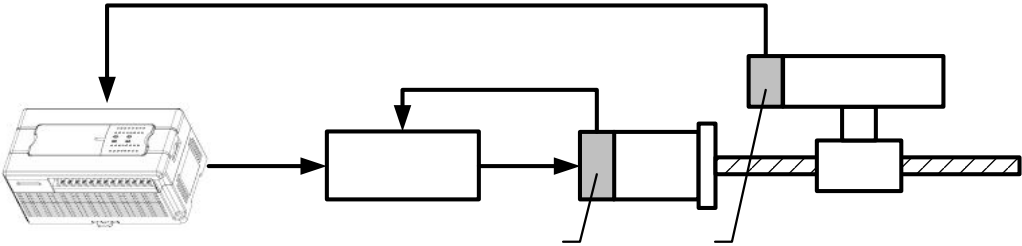
PLC

ZRN

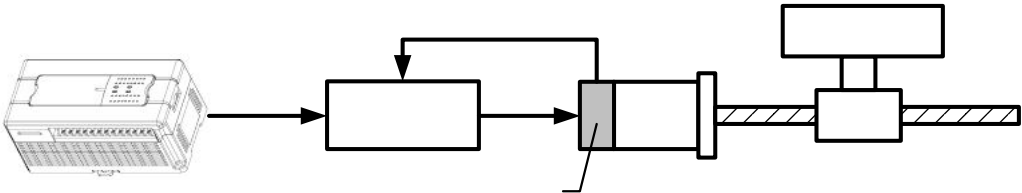
11.1.2



11-3

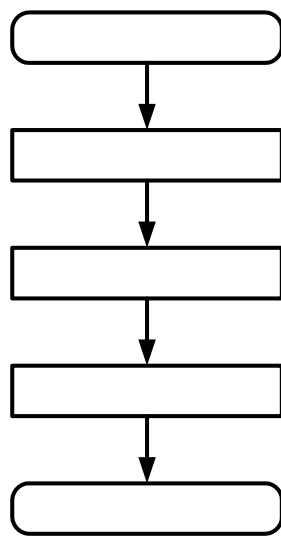


11-4



11-5

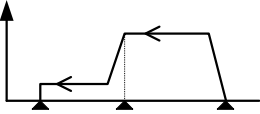
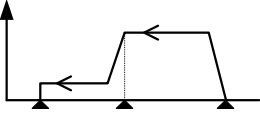
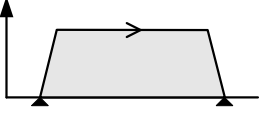
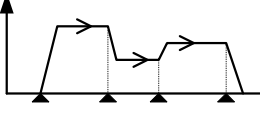
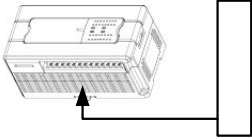
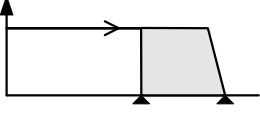
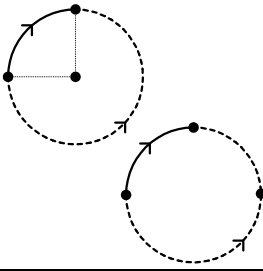
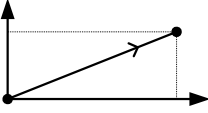
11.1.1.3

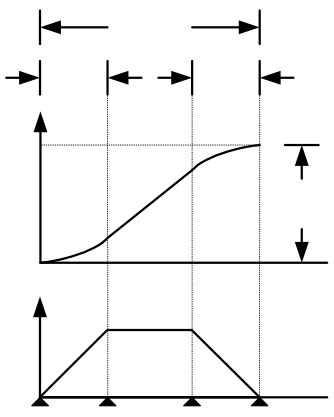
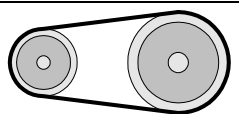


11.2 PLC

MC PLC

11-2 MC PLC

			MC280	MC200	MC100	MC80
DSZR		DOG DOG DOG DOG ON				
ZRN		DOG DOG ON DOG DOG OFF				
DRVI						
DRVA						
PLSV						
ABS						
STOPDV						
CW						
CCW						
LIN						

			MC280	MC200	MC100	MC80
MOVELINK						
GEARBOX						

6.10 IO

11.3

		MC	PLC						
1									
2			1	1	PLC				
3					SD84		SD87		SD85
					SD84		0		0
		0							
	SD84		PLC		SD84	100			
4					SD80/SD82				SD80/SD82
			SD80/SD82				SM82/SM83		
	SD80/SD82		Y0/Y1						
5	SD50/SD52		PLC				SD50/SD52		
							SD80/SD82		
6	SD		MC100	MC200/MC280	SD	MC100			

PLSY PLSR PLS SD

SD SD

SD SD PLSY PLSR PLS PLC

SD

$$F_{min_acc} = \sqrt{\frac{F_{max}}{T} \cdot 500}$$

$$\frac{F_{max}}{F_{min_acc}}$$

SD85 SD86 T SD87

$$\frac{F}{3}$$

- F F F_{max}
- F F_{min_acc} F_{min_acc}
- F F_{min_acc} F_{min_acc} F_{max} F

11.4

11.4.1 MC280

MC280

11-3 MC280-1616BTA8

0	+		Y0	200	X Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y0				
	+		Y0				
			Y1				
	A + B	A	Y0/Y1(A Y1 B)				
B		Y1/Y0(B Y0 A)					
1	+		Y1	200	X Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y1				
	+		Y0				
			Y1				
	A + B	A	Y1/Y0(A Y0 B)				
B		Y0/Y1(B Y1 A)					
2	+		Y2	200	Y Y0 Y1 Y2 Y3		
			Y2				
	+		Y2				
			Y3				

	A + B	A	Y2/Y3(A Y3 B)		Y4 Y5 Y6 Y7				
		B	Y3/Y2(B Y2 A)						
3	+		Y3	200	Y Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7				
			Y3						
	+		Y2						
			Y3						
	A + B	A	Y3/Y2(A Y2 B)						
B		Y2/Y3(B Y3 A)							
4	+		Y4	100	X /Y /			20	
			Y4						
	PWM								
5	+		Y5	100	X /Y /				
			Y5						
	PWM								
6	+		Y6	100	X /Y /				
			Y6						
	A + B	A	Y6/Y7(A Y7 B)						
		B	Y7/Y6(B Y6 A)						
	PWM								
7	+		Y7	100	X /Y /				
			Y7						
	A + B	A	Y7/Y6(A Y6 B)						
		B	Y6/Y7(B Y7 A)						
	PWM								

11-4 MC280-1616BTA6

0	+		Y0	200	X Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7	100		
			Y0					
	+		Y0					
			Y1					
	A + B	A	Y0/Y1(A Y1 B)					
B		Y1/Y0(B Y0 A)						
1	+		Y1	200	X Y0 Y1 Y2 Y3	100		
			Y1					
	+		Y0					
			Y1					
	A + B	A	Y0/Y1(A Y1 B)					
B		Y1/Y0(B Y0 A)						

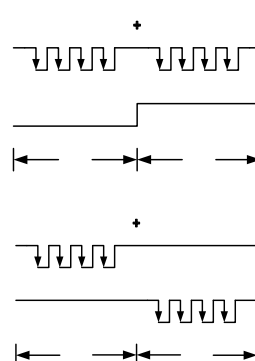
	A + B	A	Y1/Y0(A Y0 B)		Y4 Y5 Y6 Y7		
2	+		Y2	200	Y Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y2				
	+		Y2				
			Y3				
	A + B	A	Y2/Y3(A Y3 B)				
B		Y3/Y2(B Y2 A)					
3	+		Y3	200	Y Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y3				
	+		Y2				
			Y3				
	A + B	A	Y3/Y2(A Y2 B)				
B		Y2/Y3(B Y3 A)					
4	+		Y4	100	X /Y /	20	
			Y4				
	PWM						
5	+		Y5	100	X /Y /		
			Y5				
	PWM						

11-5 MC280-1616BTA4

0	+		Y0	200	X Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7	100	
			Y0				
	+		Y0				
			Y1				
	A +	A	Y0/Y1(A Y1 B)				
	B	B	Y1/Y0(B Y0 A)				
1	+		Y1	200	X Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7	100	
			Y1				
	+		Y0				
			Y1				
	A +	A	Y1/Y0(A Y0 B)				
	B	B	Y0/Y1(B Y1 A)				
2	+		Y2	200	Y		
			Y2				

	+		Y2		Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y3				
	A + B	A	Y2/Y3(A Y3 B)				
		B	Y3/Y2(B Y2 A)				
3	+		Y3	200	Y Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7		
			Y3				
	+		Y2				
			Y3				
	A + B	A	Y3/Y2(A Y2 B)				
		B	Y2/Y3(B Y3 A)				

11-6 MC200E-1616BTA8

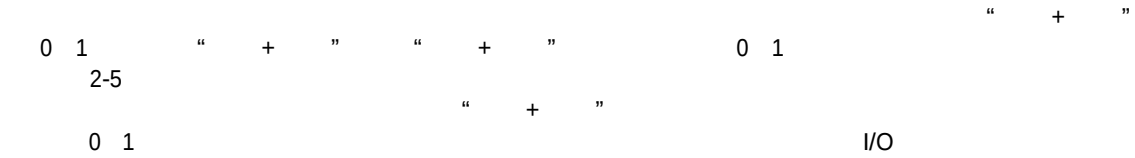
0	+		Y0	200	/	/	
			Y0				
	+		Y0				
			Y1				
	A + B	A	Y0/Y1(A Y1 B)				
B		Y1/Y0(B Y0 A)					
1	+		Y1	200	/		
			Y1				
	+		Y0				
			Y1				
	A + B	A	Y1/Y0(A Y0 B)				
B		Y0/Y1(B Y1 A)					
2	+		Y2	200	/		
			Y2				
	+		Y2				
			Y3				
	A + B	A	Y2/Y3(A Y3 B)				
B		Y3/Y2(B Y2 A)					
3	+		Y3	200	/		
			Y3				
	+		Y2				
			Y3				
	A + B	A	Y3/Y2(A Y2 B)				

	B	B	Y2/Y3(B Y3 A)	Y2			
4	+		Y4	100	/		

			B	B	Y3/Y2(	Y3			
					B	Y2	A	)	
			+			Y3			
						Y3			
			+			Y2			
						Y3			
EOA	3						200	/	

YÀ

"Eœ



			RW
--	--	--	----

			R/W
SD202	0	10 200000	R/W
SD203	0		R/W
SD204	0		R/W
SD205	0	50 5000 ms	R/W
SD206	0	SM281 N Y Y N	R/W
SD207	0	DSZR	R/W
SD208	0	DSZR	R/W
SD209	0		R/W
SD220	0	PLS	R
1 SD202 SD205			
2 1/10			

1 Y1

			R/W
SM261		Y1	R/W
SM271		Y1 busy ON ready OFF	R
SM71		Y1	R/W
SM310		DSZR/ZRN Y1 CLR	R/W
SM311	Y	DSZR Y1 SD316 N Y Y N Y11	R/W
SM312		DSZR Y1	R/W
SM313		DSZR Y1	R/W
SM314		DSZR Y1	R/W
SM315		DSZR Y1 ON ON OFF ON	R/W
SM316		DSZR Y1 ON ON OFF ON	R/W
SM317		Y1 DVIT	
SM318		DSZR Y1 busy ON ready OFF	R/W
SM319		Y1 DVIT	
SM310 Y11 1 CLR 20ms+1			

1 Y1

			R/W
SD52	1	SD310 SD311 32 SD310	R/W
SD53	1		R/W
SD310	1		R/W
SD311	1		R/W
SD312	1	10 200000	R/W
SD313	1		R/W
SD314	1		R/W
SD315	1	50 5000 ms	R/W
SD316	1	SM311 N Y Y N	R/W
SD317	1	DSZR	R/W

SD318	1	DSZR	R/W
SD319	1		R/W
1 SD312 SD315			
2 1/10			

2 Y2

			R/W
SM262		Y2	R/W
SM272		Y2 busy ON ready OFF	R
SM72		Y2	R/W
SM320		DSZR/ZRN Y2 CLR	R/W
SM321		DSZR Y2 SD326 N Y Y N Y12	R/W
SM322		DSZR Y2	R/W
SM323		DSZR Y2	R/W
SM324		DSZR Y2	R/W
SM325		DSZR Y2 OFF ON ON ON	R/W
SM326		DSZR Y2 OFF ON ON ON	R/W
SM327		Y2 DVIT	
SM328		DSZR Y2 busy ON ready OFF	R/W
SM329		Y2 DVIT	
SM320 Y12 1 CLR			20ms+1

2 Y2

			R/W
SD160	2	SD320 SD321 32 SD320	R/W
SD161	2		R/W
SD320	2		R/W
SD321	2		R/W
SD322	2	10 200000	R/W
SD323	2		R/W
SD324	2	1/10	R/W
SD325	2	50 5000 ms	R/W
SD326	2	SM321 N Y Y N	R/W
SD327	2	DSZR	R/W
SD328	2	DSZR	R/W
SD329	2		R/W
SD222	2	PLS	R
1 SD322 SD325			
2 1/10			

3 Y3

			R/W
--	--	--	-----

			R/W
		Y Y N Y14	
		DSZR Y4	
SM342			R/W
		DSZR Y4	
		DSZR Y4 OFF	

4 Y4

			R/W
SD164	4	SD164 SD165 SD340 SD341 32 SD340	R/W
SD165	4		R/W
SD340	4		R/W
SD341	4		R/W
SD342	4	10 100000	R/W
SD343	4		R/W
SD344	4	1/10	R/W
SD345	4	50 5000 ms	R/W
SD346	4	SM341 N	

SM355		DSZR	Y5		OFF		R/W
		ON		ON	ON		
SM356		DSZR	Y5		OFF		R/W
		ON		ON	ON		
SM358		DSZR	Y5	busy	ON	ready	OFF
	SM350		Y15	1	CLR		20ms+1

5 Y5

							R/W
SD166	5				SD166	SD167	R/W
SD167	5						R/W
SD350	5	SD350	SD351				R/W
SD351	5		32		SD350		R/W
SD352	5						R/W
SD353	5			10	100000		R/W
SD354	5				1/10		R/W
SD355	5			50	5000	ms	R/W
SD356	5	SM351	N	Y	Y	N	R/W
SD357	5	DSZR					R/W
SD358	5	DSZR					R/W
SD359	5	DSZR					R/W
SD225	5	PLS					R
1 SD352 SD355							
2 1/10							

6 Y6

							R/W
SM266		Y6					R/W
SM276		Y6	busy	ON	ready	OFF	R
SM76		Y6					R/W
SM360		DSZR/ZRN	Y6		CLR		R/W
			CLR				
SM361		DSZR	Y6		SD366	N	R/W
	Y	Y N			Y16		
SM362		DSZR	Y6				R/W
SM363		DSZR	Y6				R/W
SM364		DSZR	Y6				R/W
SM365		DSZR	Y6		OFF		R/W
		ON		ON	ON		
SM366		DSZR	Y6		OFF		R/W
		ON		ON	ON		
SM368		DSZR	Y6	busy	ON	ready	OFF
	SM360		Y16	1	CLR		20ms+1

6 Y6

							R/W
SD168	6				SD168	SD169	R/W

			R/W
SD378	7	DSZR	R/W
SD379	7		R/W
SD227	7	PLS	R
1 SD372 SD375			
2 1/10			

11.4.2 MC200

MC200

11-9 MC200

0	+		Y0
			Y0
1	+		Y1
			Y1

0 Y0

			R/W
SM80	Y0	Y0	R/W
SM82	Y0	Y0 busy ON ready OFF	R
SM63	Y0	Y0	R/W
SM280		DSZR/ZRN Y0 CLR	R/W
SM281		DSZR Y0 SD220 Y N Y10	R/W
SM282		DSZR Y0	R/W
SM283		DSZR/DVIT Y0	R/W
SM284		DSZR/DVIT Y0	R/W
SM285		DSZR Y0 ON ON OFF ON	R/W
SM286		DSZR Y0 ON ON OFF ON	R/W
SM287		DVIT Y0 ON ON OFF ON	R/W
SM288		DSZR/DVIT Y0 busy ON ready OFF	R/W
SM289	Y0	DVIT Y0 SD240 X N X0	R/W
SM260		DVIT Y0 Y1 SM289 SM299 SD240	R/W

SM280

Y10 1 CLR

20ms+1

0 Y0

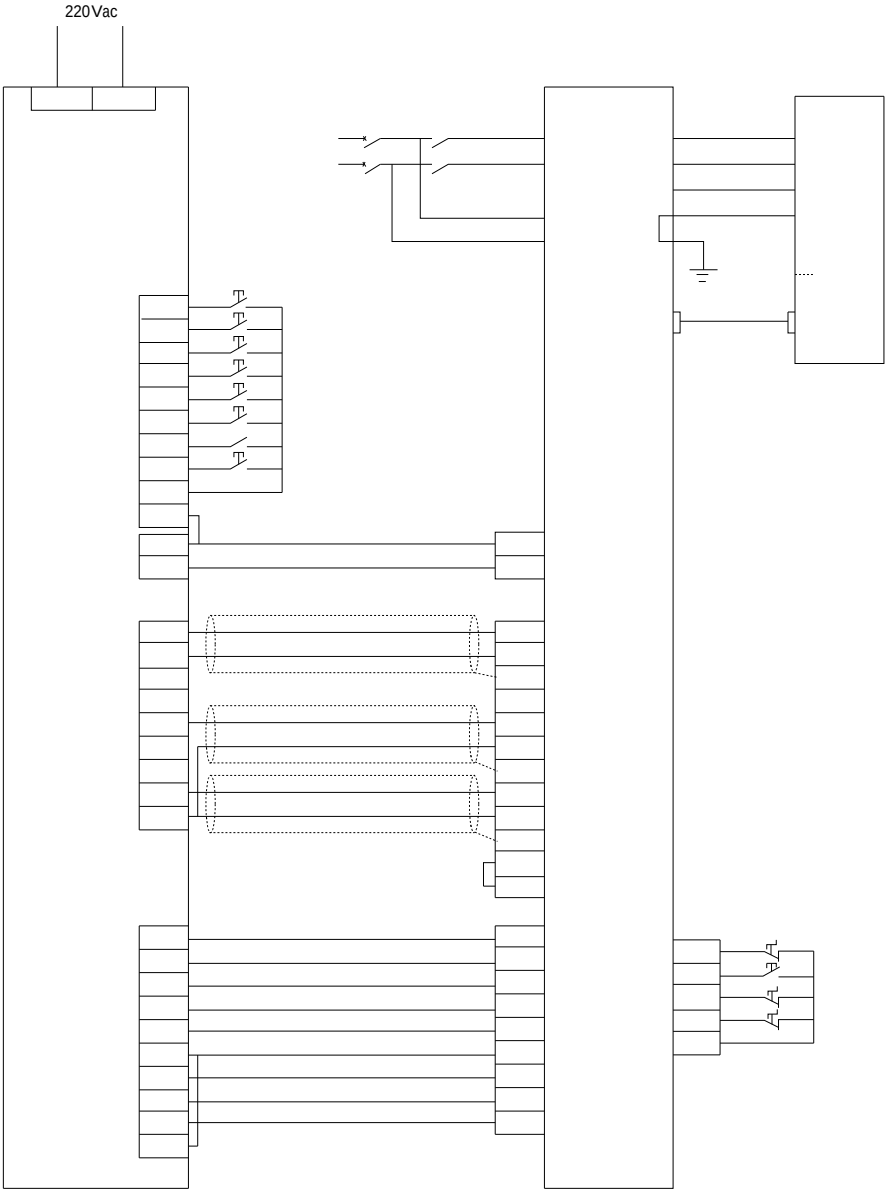
			R/W
SD50	0	SD200 SD201 32 SD200	R/W
SD51	0		R/W
SD200	0		R/W
SD201	0		R/W
SD202	0	10 100000	R/W
SD203	0		R/W
SD204	0	1/10	R/W
SD205	0	50 5000 ms	R/W
SD207	0	DSZR	R/W
SD208	0	DSZR	R/W
SD209	0		R/W
SD220	0	SM281 N Y Y N	R/W
SD240		SM289 N Y Y N 0	R/W
1 SD202 SD205			
2 1/10 1/10			

1 Y1

			R/W
SM81	Y1	Y1	R/W
SM83	Y1	Y1 busy ON ready OFF	R
SM64	Y1	Y1	R/W
SM290		DSZR/ZRN Y1 CLR CLR	R/W
SM291		DSZR Y1 SD230 Y N Y11	R/W
SM292		DSZR Y1	R/W
SM293		DSZR/DVIT Y1	R/W
SM294		DSZR/DVIT Y1	R/W
SM295		DSZR Y1 OFF ON ON ON	R/W
SM296		DSZR Y1 OFF ON ON ON	R/W
SM297		DVIT Y1 OFF ON ON ON	R/W
SM298		DSZR/DVIT Y1 busy ON ready OFF	R/W
SM299	Y1	DVIT Y1 SD240 X N X1	R/W
SM260		DVIT Y0 Y1 SM289 SM299 SD240	R/W
SM290 Y11 1 CLR 20ms+1			

			R/W
SD50	0	SD80 SD81 32 SD80	R/W
SD51	0		R/W
SD80	0		R/W
SD81	0		R/W
SD52	1	SD82 SD83 32 SD82	R/W
SD53	1		R/W
SD82	1		R/W
SD83	1		R/W
SD84	0 1	1/10	R/W
SD85	0 1	10 100000	R/W
SD86	0 1		R/W
SD87	0 1	50 5000 ms	R/W
SD56	0	PLS	R
SD57	1	PLS	R

1 SD84 6

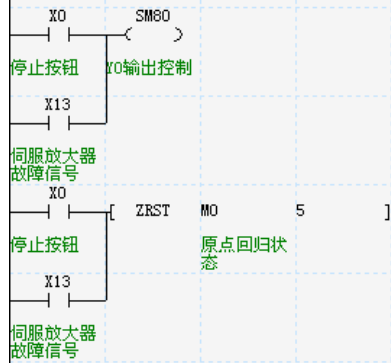


7

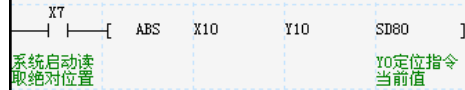
/*上电初始化*/



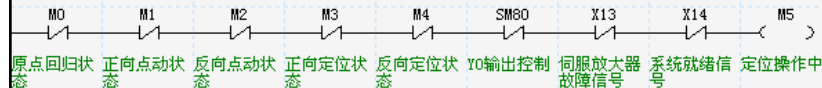
/*故障和停止时停止输出脉冲，并停止所有的定位操作*/



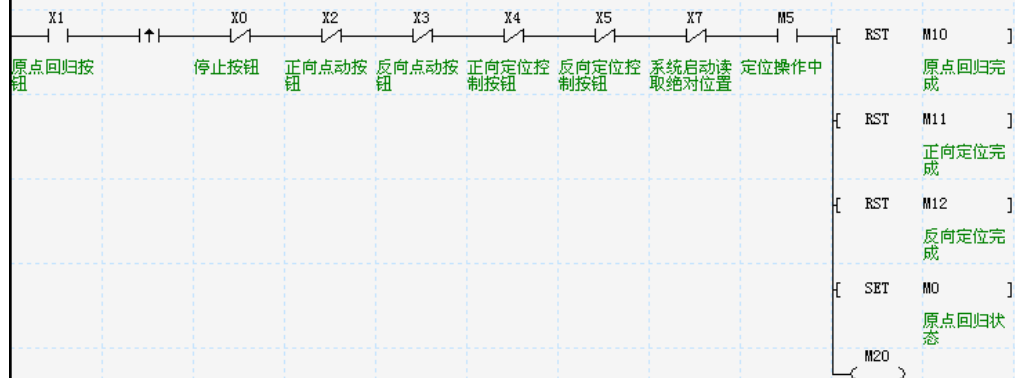
/*绝对位置值读取*/

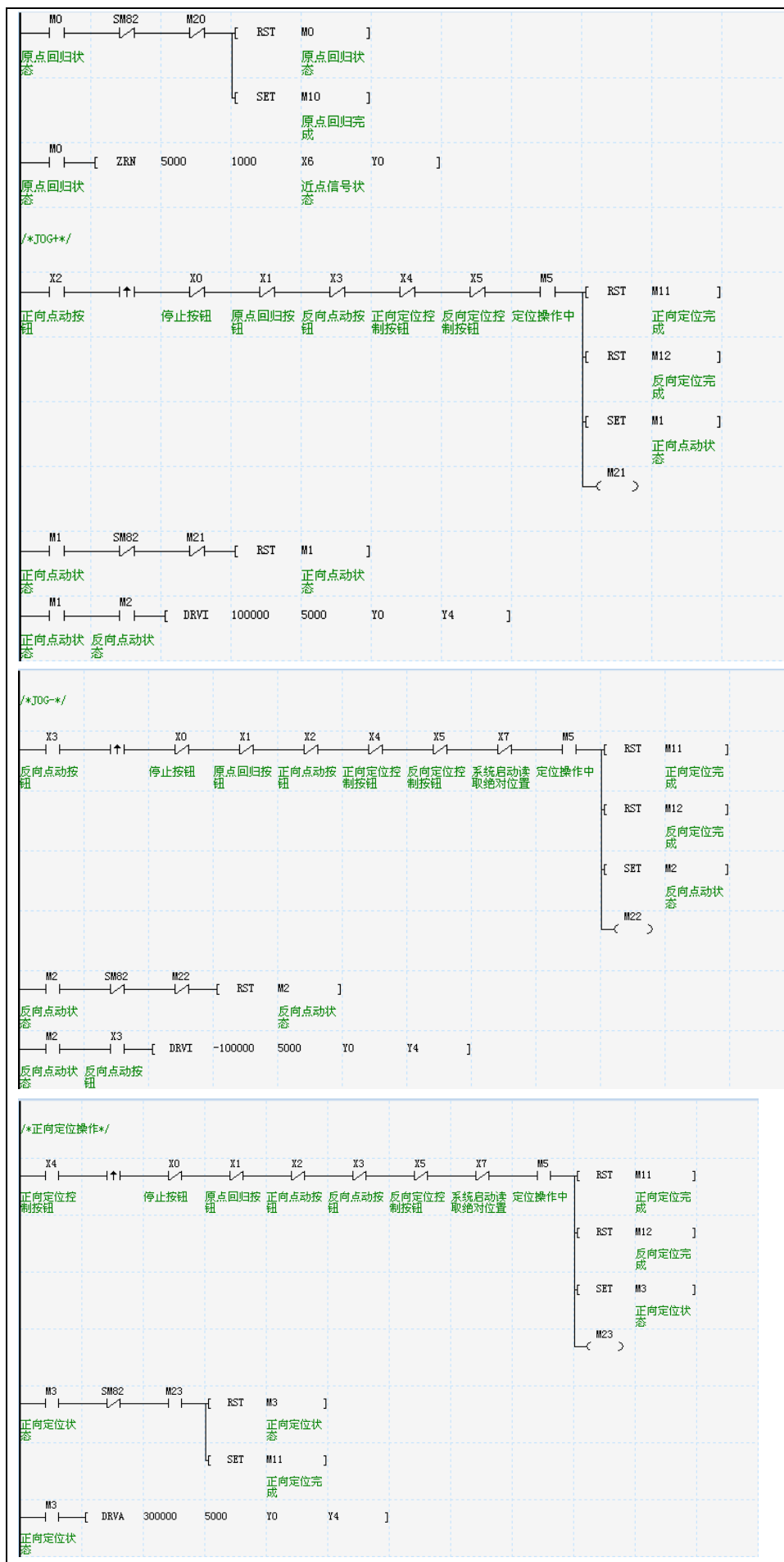


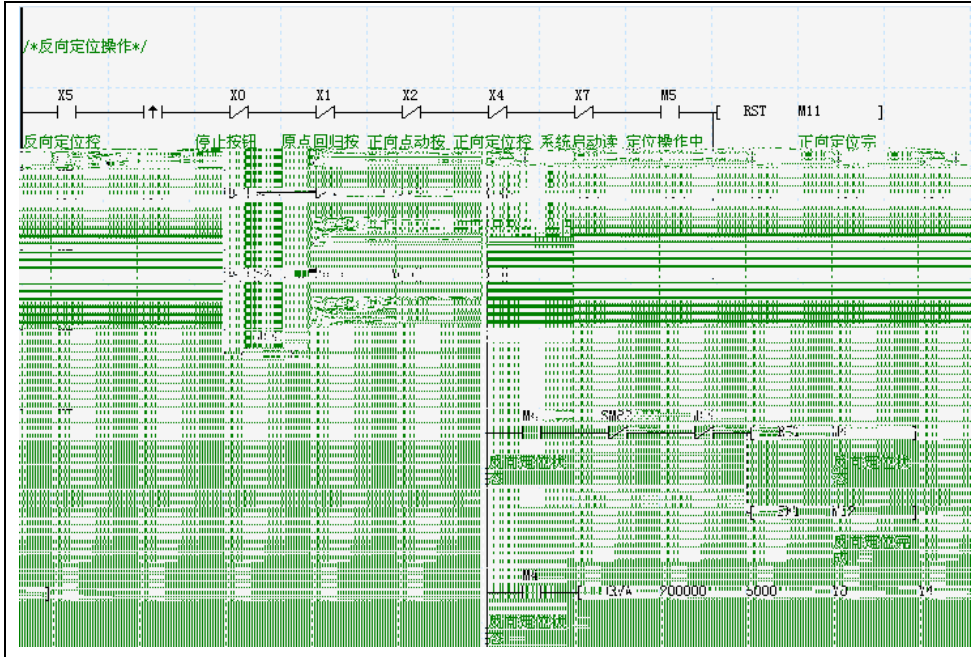
/*检测是否正在进行定位操作。M5为0X表示当前没有进行操作。*/



/*原点回归*/







PLS

PLS

PTO

PTO

X_Builder

PLS



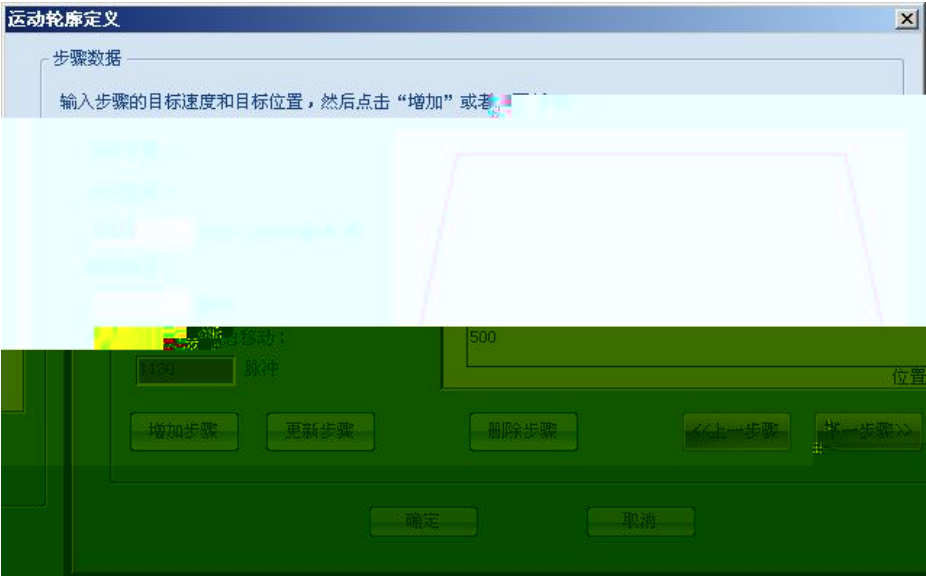


20000Hz

50000Hz

1000 50000 20000 100000 5000 316 0.316

20000 50000 0.316 2 11060



D

D

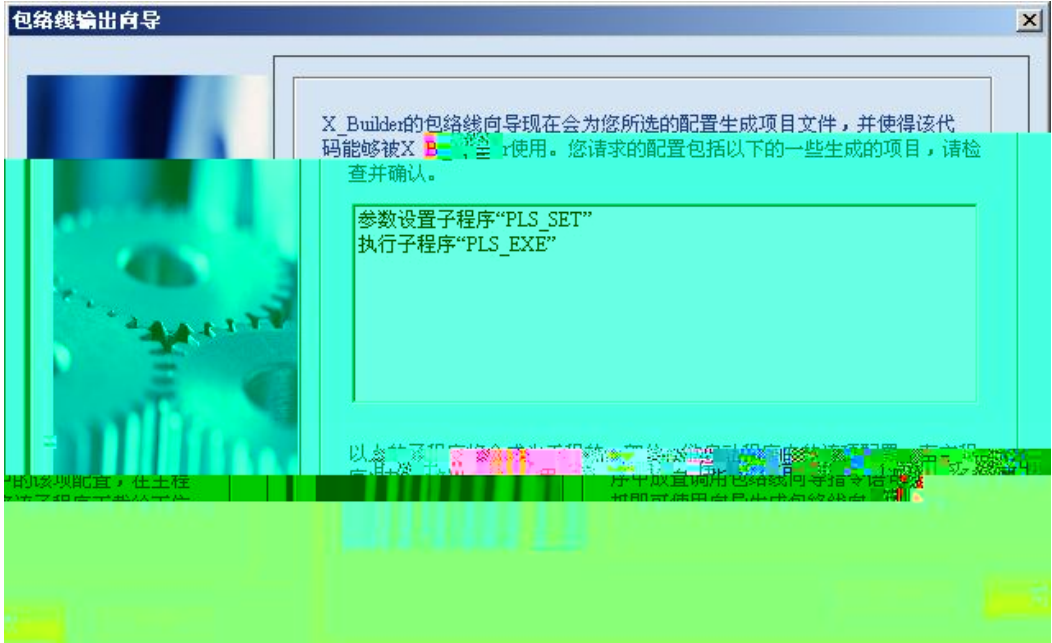


PLS

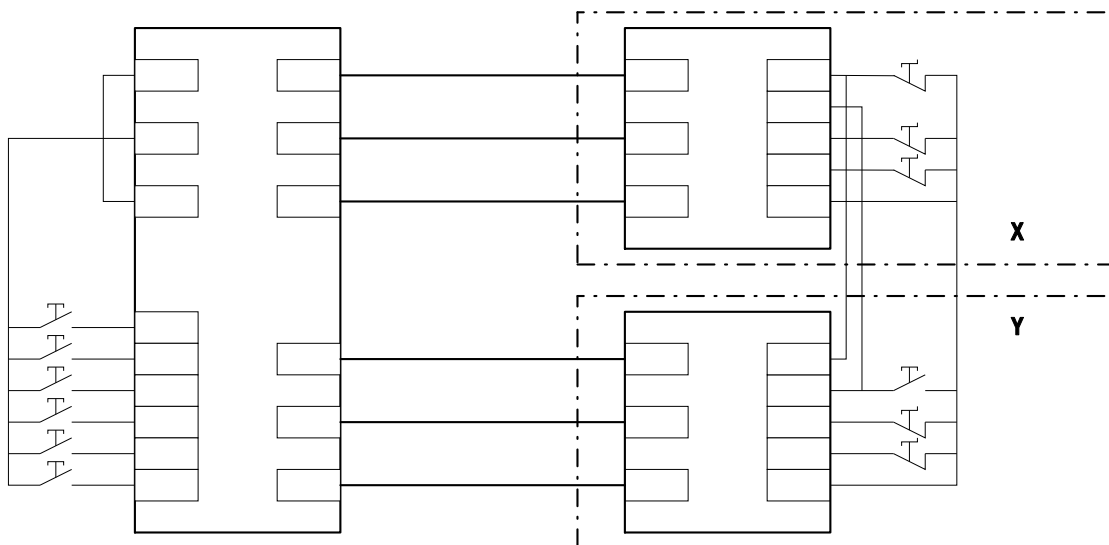
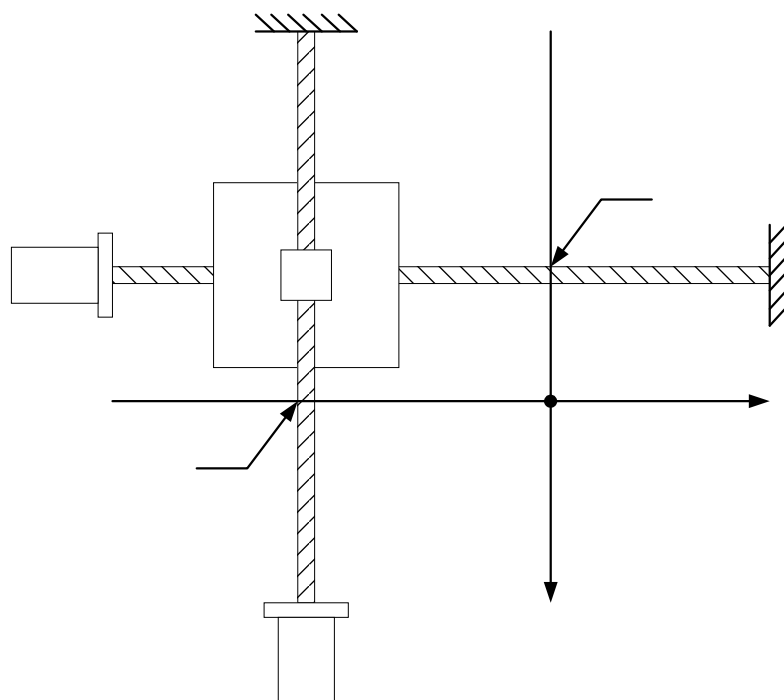
D



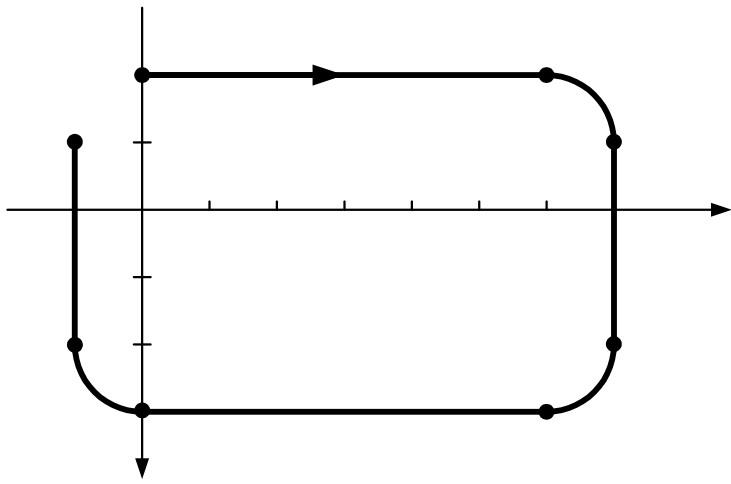
PTO



11.5.2



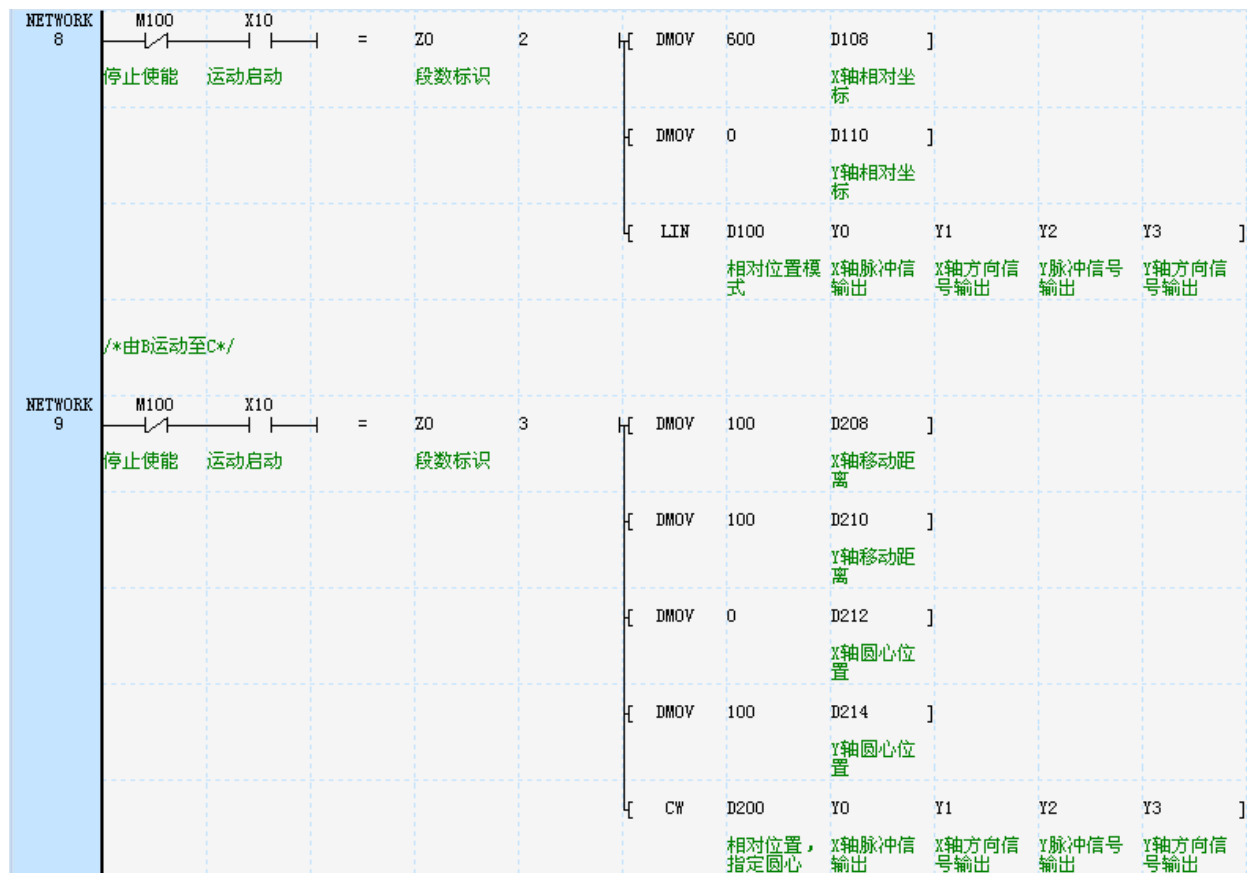
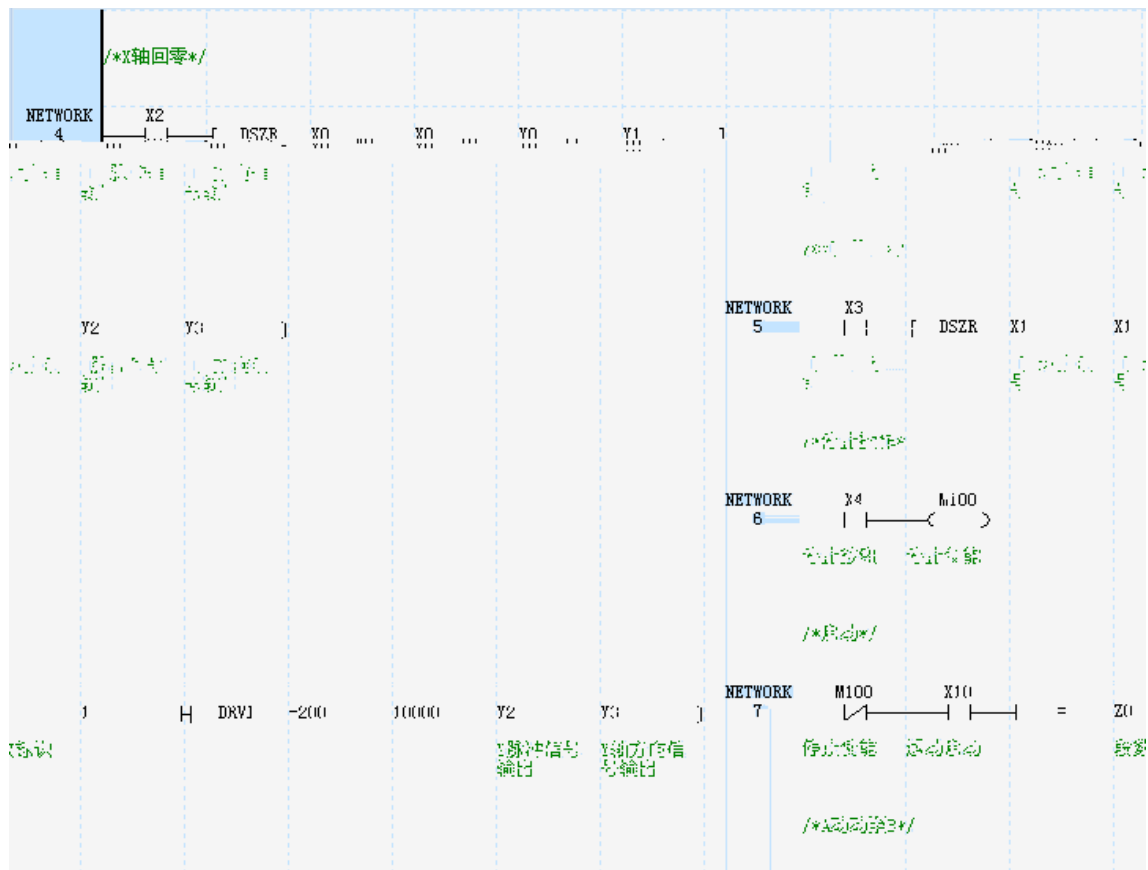
- 1
- 2
- 3



/*初始化运动控制指令相关软元件*/					
NETWORK 0	SM1	[	DMOV	0	D100]
					相对位置模式
			DMOV	10000	D102]
					直线插补初始速度
			DMOV	10000	D104]
					直线插补合成速度
NETWORK 1	SM1	[	DMOV	100	D106]
					直线插补减速速度时间
			DMOV	0	D108]
					X轴相对坐标
			DMOV	0	D110]
					Y轴相对坐标
NETWORK 1	SM1	[	DMOV	0	D200]
					相对位置, 指定圆心
NETWORK 1	SM1	[	DMOV	10000	D202]
					圆弧插补保留

	[	DMOV	10000	D204	]	圆弧插补合成速度
	[	DMOV	100	D206	]	保留
	[	DMOV	0	D208	]	X轴移动距离
	[	DMOV	0	D210	]	Y轴移动距离
	[	DMOV	0	D212	]	X轴圆心位置
	[	DMOV	0	D214	]	Y轴圆心位置
	[	MOV	1	Z0	]	段数标识
	[	SET	SM72		]	Y2脉冲输出完成中断
	[	SET	SM69		]	中断使能控制
	[	EI			]	

NETWORK 2	SMO	[	DMOV	200000	SD202	]	Y0最高速度
		[	MOV	10	SD204	]	Y0基底速度
		[	MOV	100	SD205	]	Y0加减速时间
		[	MOV	10	SD207	]	Y0爬行速度
		[	DMOV	2000	SD208	]	Y0回归速度
NETWORK 3	SMO	[	DMOV	200000	SD322	]	Y2最高速度
		[	MOV	10	SD324	]	Y2基底速度
		[	MOV	100	SD325	]	Y2加减速时间
		[	MOV	10	SD327	]	Y2爬行速度
		[	DMOV	2000	SD328	]	Y2回归速度





/*由C运动至H*/											
NETWORK 14	M100		X10		=		Z0	8	[DMOV 0 D108]		
	停止使能		运动启动				段数标识		X轴相对坐标		
									[DMOV -300 D110]		
									[LIN D100 Y0 Y1 Y2 Y3]		
									相对位置模式 X轴脉冲信号输出 X轴方向信号输出 Y脉冲信号输出 Y轴方向信号输出		

STOP→RUN



SD SM SM R

1. PLC

			R/W	MC200	MC100	MC280
SM0		RUN STOP	R			
SM1		STOP RUN	R			
SM2			R			
SM3		STOP RUN	R			
SM4		2.4V	R			
SM5		40ms SD05	R			
SM6	24Vdc	24Vdc 50ms 50ms 24Vdc	R			
SM7		1	R			
SM8			R			
SM9		X ON PLC STOP RUN	R			

2.

			R/W	MC200	MC1	MC280
SM10	10ms	10ms	0 Q R /			1

SM20		SD20	R			
SM21		SD20	R			
SM22		SD20	R			
SM30		MODRW	R			

4.

			R/W	MC2 00	MC1 00	MC280
SM40	X0 /	1 X0	R/W			
SM41	X1 /	1 X1	R/W			
SM42	X2 /	1 X2 1	R/W			
SM43	X3 /	1 X3				

5.

			R/W	MC200	MC100	MC280
SM70		1 1-16 0 8	R/W			
SM71		1	R			

6.

			R/W	MC200	MC100	MC280
SM80	Y0	Y0	R/W			
SM81	Y1	Y1	R/W			
SM82	Y0	Y0 busy ON ready OFF	R			
SM83	Y1	Y1 busy ON ready OFF	R			
SM84	PWM	ON OFF	R/W			
SM85		ZRN CLR	R/W			
SM86	Y0	ON PLSY	R/W			
SM87	Y1	ON PLSY	R/W			
SM88		ON	R/W			
SM89	PLSV	ON	R/W			

7.

			R/W	MC200	MC100	MC280
SM90	X0	X0	R/W			
SM91	X1	X1	R/W			
SM92	X2	X2	R/W			
SM93	X3	X3	R/W			
SM94	X4	X4	R/W			
SM95	X5	X5	R/W			
SM96	X6	X6	R/W			
SM97	X7	X7	R/W			
1 STOP RUN HCNT SPD 6.10.9 SPD 6.10.1 HCNT 2 MC100 MC200 X0 X7 SPD HCNT 80k DHSCS DHSCI DHSZ DHSP DHST 30k						

8.

			R/W	MC200	MC100	MC280
SM100	X0 X1 AB 1 /4		R/W			
SM101	X2 X3 AB 1 /4		R/W			
SM102	X3 X4 AB 1 /4		R/W			
SM103	X4 X5 AB 1 /4		R/W			
SM104	X6 X7 AB 1		R/W			

	/4				
--	----	--	--	--	--

9. PORT0

			R/W	MC200	MC100	MC280
SM110	0	XMT 0	R/W			
SM111	0	RCV 0	R/W			
SM112	0		R/W			
SM113	0		R/W			
SM114	0		R			



SM112-SM114 PORT0 MC100 PLC PORT0
 MCbus Modbus FREEPORT SM112-SM114

10. PORT1

			R/W	MC200	MC100	MC280
SM120	1	XMT 1	R/W			
SM121	1	RCV 1	R/W			
SM122	1		R/W			
SM123	1		R/W			
SM124	1		R			



SM122-SM124 PORT1 MC100 PLC
 PORT1 MCbus Modbus FREEPORT SM122-SM124

11. PORT 2

			R/W	MC200	MC100	MC280
SM130	2	XMT 2	R/W			
SM131	2	RCV 2	R/W			
SM132	2		R/W			
SM133	2		R/W			

			R/W	MC200	MC100	MC280
SM134	2		R			



12. Modbus

			R/W	MC200	MC100	MC280
SM135	1 Modbus		R/W			
SM136	1 Modbus		R/W			
SM137	2 Modbus		R/W			
SM138	2 Modbus		R/W			

13. MCbus

			R/W	MC200	MC100	MC280
SM140	0		R			
SM141	1		R			
SM142	2		R			
SM143	3		R			
SM144	4		R			
SM145	5		R			
SM146	6		R			
SM147	7		R			
SM148	8		R			
SM149	9		R			
SM150	10		R			
SM151	11		R			
SM152	12		R			
SM153	13		R			
SM154	14		R			

14.

			R/W	MC200	MC100	MC280
SM172	AD 0	1 AD 0	R/W			
SM173	AD 1	1 AD 1	R/W			
SM174	AD 0	1 0	R/W			
SM175	AD 1	1 0	R/W			
SM178	DA 0	1 DA 0	R/W			

15.

			R/W	MC200	MC100	MC280
SM180			R/W			
SM181	/		R/W			
SM182			R/W			
SM185			R/W			
SM188		1	R/W			

16. ASCII

			R/W	MC200	MC100	MC280
SM186	ASC	0 1 ASCII 1 1 ASCII	R/W			
SM189	SAVER		R			

17.

			R/W	MC200	MC100	MC280
SM190		1 2 STOP RUN 3 4	R			
SM191		1 2	R			
SM192		1 2	R			

18.

			R/W	MC200	MC100	MC280
SM193			R			

20.

SM2 _ _

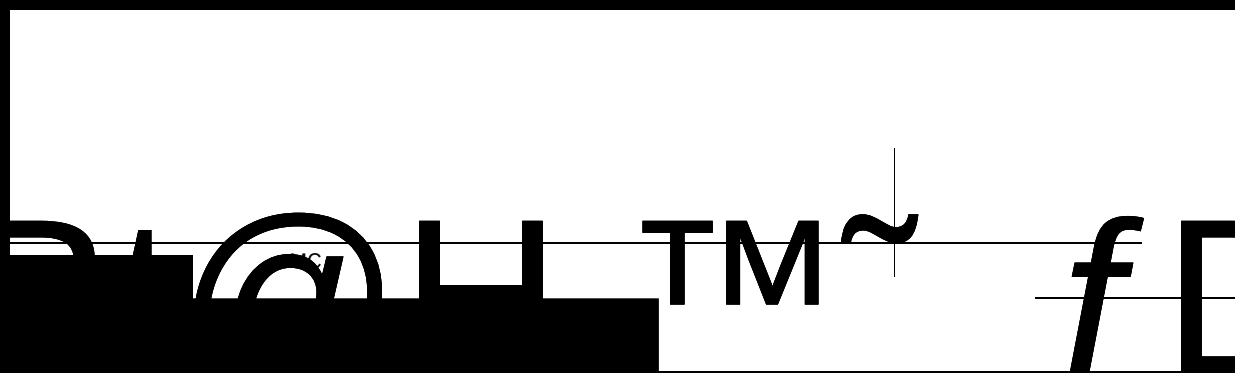
				R/W	MC200	MC100	MC280
	SM243	C243		R			
	SM244	C244		R			
	SM245	C245		R			
	SM246	C246		R			
	SM247	C247		R			
	SM301	C301		R			
	SM248	C248		R			
	SM249	C249		R			
	SM250	C250	C2 __ SM2 __	R			
	SM251	C251		R			
	SM304	C304		R			
	SM305	C305		R			
	SM306	C306		R			
	SM252	C252		R			
	SM253	C253		R			
	SM254	C254		R			
	SM255	C255		R/			
	SM256	C256		R/			
	SM257	C257		R/			
	SM258	C258		R/			
	SM259	C259		R/			

21.

			R/W	MC200	MC100	MC280
SM260		Y0 Y1 DVIT Y0 X0 Y1 X1 SD240 4 Y	R/W			
SM261	Y001	Y001	R/W			
SM262	Y002	Y002	R/W			
SM263	Y003	Y003	R/W			
SM264	Y004	Y004	R/W			
SM265	Y005	Y005	R/W			
SM266	Y006	Y006	R/W			
SM267	Y007	Y007	R/W			
SM271	Y001 busy/ready	Y001	R			
SM272	Y002 busy/ready	Y002	R			
SM273	Y003 busy/ready	Y003	R			
SM274	Y004 busy/ready	Y004	R			
SM275	Y005	Y005	R			

	busy/ready	
SM276	Y006	
	busy/ready	

	R/W	MC





1 SD50 SD55 STOP → RUN
 2 SD SM SD R

1. PLC

			R/W	MC200	MC100	MC280	
SD00	PLC	10 MC100 20 MC200	R				
SD01		1001 1.001	R				
SD02		12 12k	R				
SD03			R				
SD04		0.1V 3.6V 36	R				
SD05		10ms 10ms 100ms 100ms	R				10 100ms
SD06		4 4 6 6	R				
SD07	I/O		R				
SD08			R				
SD09	10 X0 0 X10 8 15		R			0 15	
SD10	IO		R				
SD11	IO		R				
SD12	IO		R				
SD13							
SD14							
SD15							
SD16							
SD17							
SD18		SM16 0.1ms ,32 0 -- 429496729.5ms	R/W		3.009		
SD19			R/W		3.009		

2. FIFO

			R/W	MC200	MC100	MC280	
SD20	0	5 SD20	R				
SD21	1		R				
SD22	2		R				
SD23	3		R				
SD24	4		R				

3. FROM/TO

		R/W	MC200	MC100	MC280	
SD25	FROM/TO0	R				255
SD26	I/OI/O0	R				255

4.

			R/W	MC200	MC100		
SD30		ms	R				
SD31		ms	R				
SD32		ms	R				

0ms
1ms

SD33

SD331000ms1000

9.

			R/W	MC200	MC100	MC280	
SD66	0	1 32767	R/W				1 32767ms
SD67	1	1 32767	R/W				1 32767ms
SD68	2	1 32767	R/W				1 32767ms

1ms

5ms

10.

		R/W	MC200	MC100	MC280	
SD80	Y0	R/W				0
SD81	Y0	R/W				
SD82	Y1	R/W				0
SD83	Y1	R/W				
SD84	ZRN DRVI DRVA	R/W				0
SD85	ZRN DRVI DRVA	R/W				100.000
SD86	ZRN DRVI DRVA	R/W				
SD87	ZRN DRVI DRVA	R/W				100
SD88		R/W				100
SD89		R/W				100

11.

		R/W	MC200	MC100	MC280	
SD100		R				2000 2099
SD101		R				1 12
SD102		R				1 31
SD103		R				0 23
SD104		R				0 59
SD105		R				0 59
SD106		R				0 6
TWR						

12.

0



13.

1

				R/W	M	MC100
		SD120.0	SD120.2	b2	b1	b0
				000		38,400
				001		19,200
				010		9,600
				011		4,800
				100		2,400
				101		1,200
				110		57,600
				111		115,200
		SD120.3		0	1	
				1	2	
		SD120.4		σ		

SD120

1

R/W

			R/W	MC200	MC100	MC280	
SD126			R				
SD127			R				
SD128			R				

14. Modbus/MCbus

		R/W	MC200	MC100	MC280	
SD130	0	R/W				MOD 1 32 MCBUS 0 31
SD131	0 /MCbus	R/W				
SD132	0	R/W				
SD133	MCbus 0	R/W				1 13
SD135	1	R/W				MOD 1 32 MCBUS 0 31
SD136	1 /MCbus	R/W				
SD137	1	R/W				0 100
SD138	MCbus 1	R/W				1 13
SD139	Modbus 1	R				

15.

2

			R/W	MC200	MC100	MC280	
SD140	2	SD140.0 SD140.2	b2 b1 b0 000 38,400 001 19,200 010 9,600 011 4,800 100 2,400 101 1,200 110 57,600 111 115,200	R/W			
		SD140.3	0 1 1 2				
		SD140.4	0 1				
		SD140.5	0 1				
		SD140.6	0 8 1 7				
		SD140.7	1 0				
		SD140.8	1 0				
		SD140.9	1 0				
		SD140.10	1 0				
SD140		SD140.11		R/W			
		SD140.12	0 1				
		SD140.13 SD140.15					

	† M	m 00	R/W	MC200	MC100	MC280	00	%n
SD141			R/W					
SD142			R/W					
SD143		0ms	R/W				0	32767ms
SD144		0ms	R/W				0	32767ms
SD145	< i 0 < 1	0 1 2 3 x 4 1 i 5 6 15	R		M			
SD146			R					

Modbus								MC100	MC200	MC280
	</									

SD213	Y1 ZRN PLSV DRVI DRVA DSZR DVIT 10 100000	R/W			
SD214	Y1 ZRN PLSV DRVI DRVA DSZR DVIT (1/10)	R/W			
SD215	Y1 ZRN DRVI DRVA DSZR DVIT SD214 SD212 SD213 50ms 5000ms	R/W			
SD217	Y1 DSZR	R/W			
SD218	Y1 DSZR	R/W			
SD219	Y1 DSZR	R/W			
SD220	Y0	R/W			
SD230	Y1	R/W			
SD240		R/W			

				R/W	MC10 0	MC20 0	MC280
SD220		16	0	Y000	R		
SD221		16	0	Y001	R		
SD222		16	0	Y002	R		
SD223		16	0	Y003	R		
SD224		16	0	Y004	R		
SD225		16	0	Y005	R		
SD226		16	0	Y006	R		
SD227		16	0	Y007	R		
SD310		32	0	Y001	R/W		
SD311							
SD312		32	100000(MC280:2 00000)	ZRN,PLSV,DRVI,DRVA DSZR DVIT (10-100000) y1 MC280 10 200000	R/W		
SD313					R/W		
SD314		16	5000(MC280:500)	ZRN,PLSV,DRVI,DRVA DSZR DVIT (1/10) y1	R/W		
SD315		16	1000	ZRN,DRVI,DRVA DSZR DVIT SD314 SD312,SD313 y1 50ms 5000ms	R/W		
SD316		16	0	Y1	R/W		
SD317		16	1000	Y1 DSZR	R/W		
SD318		32	50000	Y1 DSZR	R/W		
SD319					R/W		
SD320							
SD321		32	0	Y002	R/W		
SD322					R/W		
SD323		32	100000(MC280:2 00000)	ZRN,PLSV,DRVI,DRVA DSZR DVIT (10-100000) y2 MC280 10 200000	R/W		
SD324		16	5000(MC280:500)	ZRN,PLSV,DRVI,DRVA DSZR DVIT (1/10) y2	R/W		
SD325		16	1000	ZRN,DRVI,DRVA DSZR DVIT SD324 SD322,SD323 y2 50ms 5000ms	R/W		

					R/W	MC100	MC200	MC280
SD326		16	0	Y2	R/W			
SD327		16	1000	Y2 DSZR	R/W			
SD328		32	50000	Y2 DSZR	R/W			
SD329					R/W			
SD330		32	0	Y003	R/W			
SD331								
SD332		32	100000(MC280:200000)	ZRN,PLSV,DRV,DRVA DSZR DVIT (10-100000) y3 MC280 10 200000	R/W			
SD333					R/W			
SD334		16	5000(MC280:5000)	ZRN,PLSV,DRV,DRVA DSZR DVIT (1/10) y3	R/W			
SD335		16	1000	ZRN,DRV,DRVA DSZR DVIT SD334 SD332,SD333 y3 50ms 5000ms	R/W			
SD336		16	0	Y3	R/W			
SD337		16	1000	Y3 DSZR	R/W			
SD338		32	50000	Y3 DSZR	R/W			
SD339					R/W			
SD340		32	0	Y004	R/W			
SD341								
SD342		32	200000	ZRN,PLSV,DRV,DRVA DSZR DVIT (10-100000) y4 MC280 10 200000	R/W			
SD343					R/W			
SD344		16	500	ZRN,PLSV,DRV,DRVA DSZR DVIT (1/10) y4	R/W			
SD345		16	1000	ZRN,DRV,DRVA DSZR DVIT SD344 SD342,SD343 y4 50ms 5000ms	R/W			
SD346		16	0	Y4	R/W			
SD347		16	1000	Y4 DSZR	R/W			
SD348		32	50000	Y4 DSZR	R/W			
SD349					R/W			
SD350		32	0	Y005	R/W			
SD351					R/W			
SD352		32	200000	ZRN,PLSV,DRV,DRVA DSZR DVIT (10-100000) y5 MC280 10 200000	R/W			
SD353					R/W			
SD354		16	500	ZRN,PLSV,DRV,DRVA DSZR DVIT (1/10) y5	R/W			
SD355		16	1000	ZRN,DRV,DRVA DSZR DVIT SD354 SD352,SD353 y5 50ms 5000ms	R/W			
SD356		16	0	Y5	R/W			
SD357		16	1000	Y5 DSZR	R/W			

					R/W	MC100	MC200	MC280
SD358		32	50000	Y5 DSZR	R/W			
SD359					R/W			
SD360		32	0	Y006	R/W			
SD361					R/W			
SD362		32	200000	ZRN,PLSV,DRV,DRVA DSZR DVIT (10-100000) y6 MC280 10 200000	R/W			
SD363					R/W			
SD364		16	500	ZRN,PLSV,DRV,DRVA DSZR DVIT (1/10) y6	R/W			
SD365		16	1000	ZRN,DRV,DRVA DSZR DVIT SD364 SD362,SD363 y6 50ms 5000ms	R/W			
SD366		16	0	Y6	R/W			
SD367		16	1000	Y6 DSZR	R/W			
SD368		32	50000	Y6 DSZR	R/W			
SD369					R/W			
SD370		32	0	Y007	R/W			
SD371					R/W			
SD372		32	200000	ZRN,PLSV,DRV,DRVA DSZR DVIT (10-100000) y7 MC280 10 200000	R/W			
SD373					R/W			
SD374		16	500	ZRN,PLSV,DRV,DRVA DSZR DVIT (1/10) y7	R/W			
SD375		16	1000	ZRN,DRV,DRVA DSZR DVIT SD374 SD372,SD373 y7 50ms 5000ms	R/W			
SD376		16	0	Y7	R/W			
SD377		16	1000	Y7 DSZR	R/W			
SD378		32	50000	Y7 DSZR	R/W			
SD379					R/W			

22.

		R/W	MC100	MC200	MC280
SD401	S900-S999	R/W			

23.

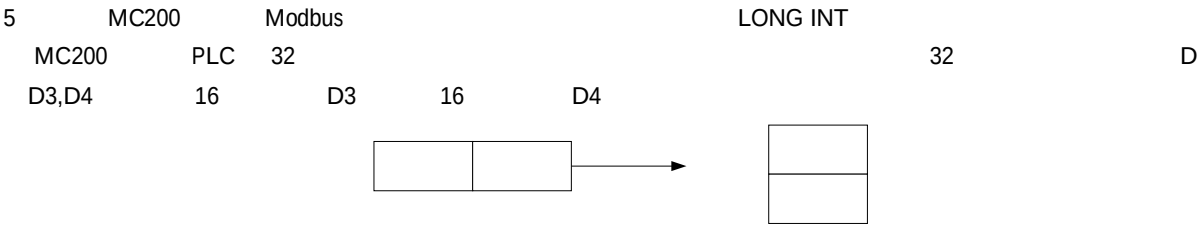
		R/W	MC100	MC200	MC280
SD430	1	R/W			
SD431	2	R/W			
SD432	3	R/W			
SD433	4	R/W			
SD434	5	R/W			

280

Modbus

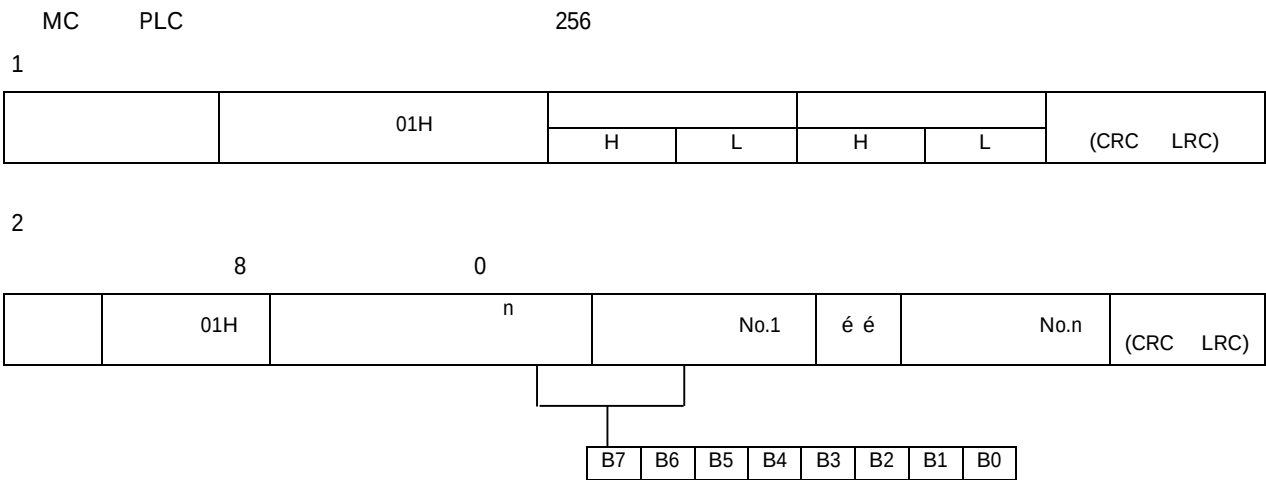
1 200 bps 19200

C	
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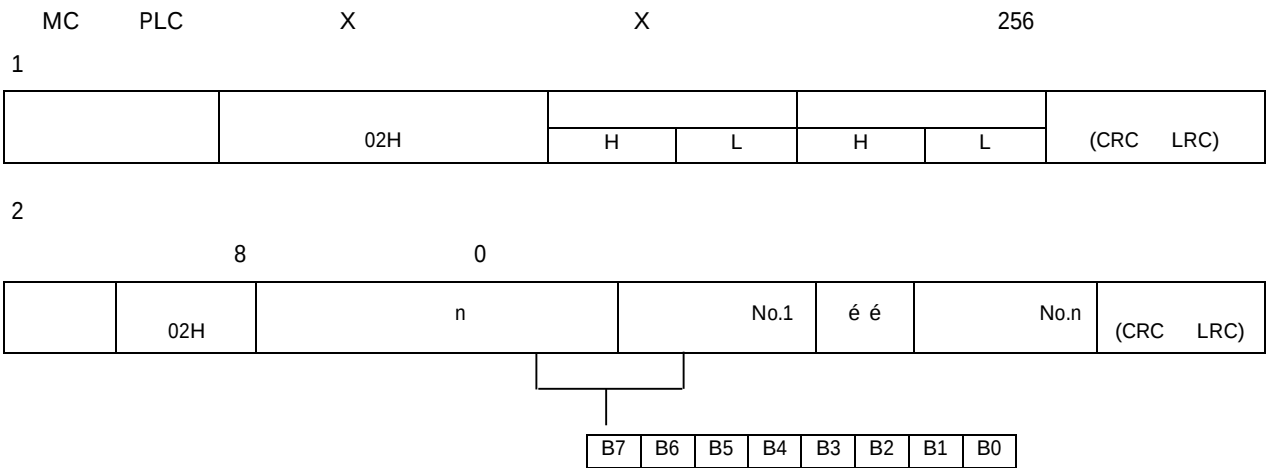


3. Modbus

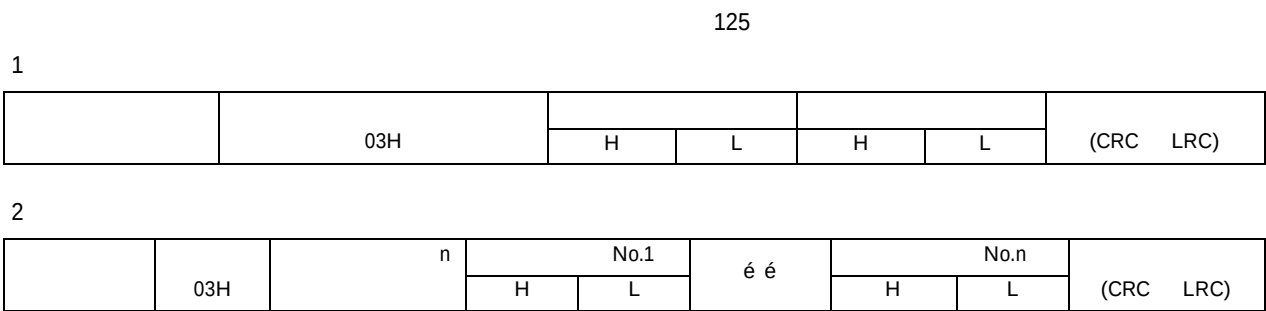
3.1 0x01



3.2 0x02



3.3 0x03



3.4

0x05

broadcast

1

1

	05H	H	L	H	L	(CRC LRC)
--	-----	---	---	---	---	-----------

0xFF00(ON,1) 0x0000(OFF,0)

2

	05H	H	L	H	L	(CRC LRC)
--	-----	---	---	---	---	-----------

3.5

0x06

1

1

	06H	H	L	H	L	(CRC LRC)
--	-----	---	---	---	---	-----------

2

	06H	H	L	H	L	(CRC LRC)
--	-----	---	---	---	---	-----------

3.6

(0x0F)

1968

0x07b0 ,

1

	0FH	H	L	H	L	(n)	No.1	é é	No.N	(CRC LRC)
								B7 B6 B5 B4 B3 B2 B1 B0		

2

	0FH	H	L	H	L	(CRC LRC)
--	-----	---	---	---	---	-----------

3.7

(0x10 Hex)

120

0x78

1

	0x10H					(n)	No.1		é é	No.N		(CRC LRC)
		H	L	H	L		H	L		H	L	

2

	0x10H	H	L	H	L	(CRC LRC)
--	-------	---	---	---	---	-----------

3.8

1.

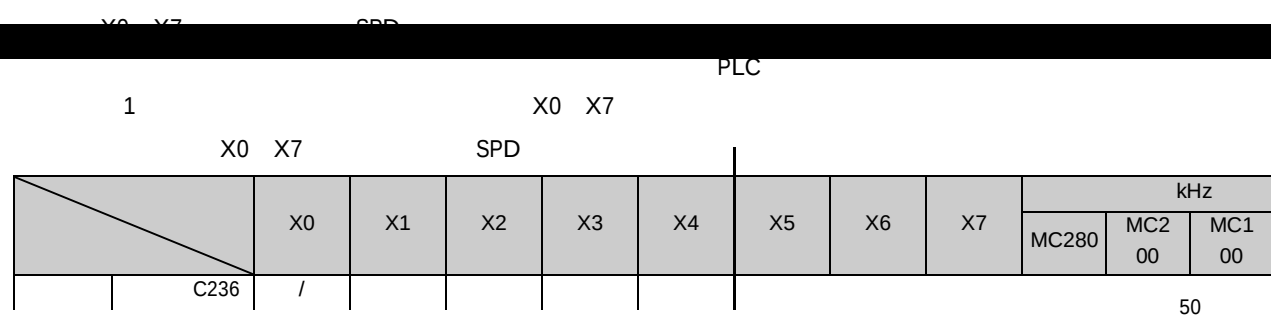
X Y

Modbus

0x01	
0x02	
0x03	
0x10	
0x11	
0x12	/
0x13	
0x14	
0x15	
0x16	
0x17	
0x18	
0x19	
0x1A	CRC/LRC
0x1B	modrw
0x1C	
0x1D	
0x1E	

0x1	
0x2	
0x3	
0x4	
0x5	
0x6	
0x18	
0x20	
0x21	
0x22	

	MC100/MC200		MC80	
	D7940	D7969	D3940	D3969
	D7970	D7999		
	D7800 (MC200)	D7894 (MC200)		
MCbus	D7700	D7763		
MCbus 14-18	D7500	D7755		
MCbus	M1400	M1911		
EROMWR	D6000	D6999		



100

				MC100	MC200	MC280
0						
1 9						
10	SRAM					
11	FLASH					
12						38 U

13

				MC100	MC200	MC280
61						
62						
63						
64			SD20			
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75	I/O					
76						
77	PLSR					
78	BFM					
79	ABS					
80	ABS					

MC200

D

MC200

5

PLC

10

EEPROM

D

10

PLC

EEPROM

1	D7800	D7801		D7802		D7803		D7804	D7805-- D7809
2	D7810	D7811		D7812		D7813		D7814	D7815-- D7819
3	D7820	D7821		D7822		D7823		D7824	D7825-- D7829
4	D7830	D7831		D7832		D7833		D7834	D7835-- D7839
5	D7840	D7841		D7842		D7843		D7844	D7845-- D7849
6	D7850	D7851		D7852		D7853		D7854	D7855-- D7859
7	D7860	D7861		D7862		D7863		D7864	D7865-- D7869
8	D7870	D7871		D7872		D7873		D7874	D7875-- D7879
9	D7880	D7881		D7882		D7883		D7884	D7885-- D7889
10	D7890	D7891		D7892		D7893		D7894	D7895-- D7899

ASCII

ASCII HEX		3							
		0	1	2	3	4	5	6	7
4	0	NUL	DLE	SPACE	0	@	P		p
	1	SOH	DC1	!	1	A	Q	a	q
	2	STX	DC2	"	2	B	R	b	r
	3	ETX	DC3	#	3	C	S	c	s
	4	EOT	DC4	\$	4	D	T	d	t
	5	ENQ	NAK	%	5	E	U	e	u
	6	ACK	SYN	&	6	F	V	f	v
	7	BEL	ETB		7	G	W	g	w
	8	BS	CAN	(	8	H	X	h	x
	9	HT	EM	)	9	I	Y	i	y
	A	LF	SUB	*	:	J	Z	j	z
	B	VT	ESC	+	;	K	[	k	{
	C	FF	FS		<	L		l	
	D	CR	GS	-	=	M	]	m	}
	E	SO	RS	.	>	N	^	n	
	F	SI	US	/	?	O		o	DEL

				MC200	MC100	MC80	MC280	
A	ABS		8					10
	ACOS	COS ⁻¹	7					113
	ADD		7					97
	ANB		1					66
	AND		1					64
	AND<	AND<	5					205
	AND<=	AND<=	5					205
	AND<>	AND<>	5					205
	AND=	AND=	5					205
	AND>	AND>	5					205
	AND>=	AND>=	5					205
	ANDD<	AND<	7					208
	ANDD<=	AND<=	7					208
	ANDD<>	AND<>	7					208
	ANDD=	AND=	7					208
	ANDD>	AND>	7					208
	ANDD>=	AND>=	7					208
	ANDR<	AND>	7					211
	ANDR<=	AND<=	7					211
	ANDR<>	AND<>	7					211
	ANDR=	AND=	7					211
	ANDR>	AND>	7					211
	ANDR>=	AND>=	7					211
	ANR							

				MC200	MC100	MC80	MC280	
B	BRST		5					203
	BSET		5					203
	BTOW		7					249
C	CALL							87
	CAMBOX		11					245
	CAMTABLE		11					244
	CCITT	CCITT	7					194
	CCW		12					240
	CFEND		1					85
	CIRET		1					86
	CJ		3					85
	COS	COS	7					110
	CRC16	CRC16	7					195
	CSRET		1					87
	CTR	16	5					75
	CTU	16	5					75
	CMP		7	*		*		213
	CW		12					239
D	DADD		10					101
	DBAND		9					218
	DBCD	32 BCD	7					119
	DBIN	32 BCD	7					120
	DBITS	ON	6					198
	DCMP<		7					152
	DCMP<=		7					152
	DCMP<>		7					152
	DCMP=		7					152
	DCMP>		7					152
	DCMP>=		7					152
	DCNT	32	7					76
	DDMC		4					104
	DDIV		10					102
	DMC		3					100
	DEG	->	7					115
	DMCO		5					197
	DFLT		7					117
	DFMOV		9					90
	DFROM		10					139
	DGBIN	32	7					122
	DGRY	32	7					121
	DHSCI		10					158
	DHSCR		10					160
	DHSCS		10					157
	DHSP		10					164
	DHSPI		10					159
	DHST		10					162
	DHSZ		13					161
	DI		1					86
	DINC		4					103

					MC200	MC100	MC80	MC280	
	DINT			7					118
	DIS	16	4	7					251
	DIV			7					98
	DMOV			7					88
	DMUL			10					102
	DNEG			7					105
	DRCL	32		9					134
	DRCR	32		9					133
	DROL	32		9					133
	DROR	32		9					132
	DRVA			11					

D

LDR>

LD>

7

				MC200	MC100	MC80	MC280	
	ORD<=	OR<=	7					209
	ORD<>	OR<>	7					209
	ORD=	OR=	7					209
	ORD>	OR>	7					209
	ORD>=	OR>=	7					209
	ORI		1					65
	ORR<	OR>	7					212
	ORR<=	OR<=	7					212
	ORR<>	OR<>	7					212
	ORR=	OR=	7					212
	ORR>	OR>	7					212
	ORR>=	OR>=	7					212
	OUT		1					65
	OUT Sxx	SFC	3					71
P	PID	PID	9					174
	PLS		7					170
	PLSR		10					168
	PLSV		8					230
	PLSY		9					167
	POWER		10					111
	PUSH		7					92
	PWM	PWM	7					173
R	PLSB		12					171
	RAD	->	7					114
	RADD		10					106
	RAMP		12					177
	RCL	16	7					132
	RCR	16	7					131
	RCV	RCV	7					193
	RDIV		10					108
	REF	I/O	5					142
	REFF		3					142
	RET	SFC	1					72
	RLCNV		12					125
	RMOV		7					89
	RMUL		10					107
	RND		3					253
	RNEG		7					109
	ROL	16	7					131
	ROR	16	7					130
	RSQT		7					108
	RST		1					69
	RST Sxx	SFC	3					71
	RSUB		10					107
	RSUM		9					112
	RVABS		7					109
	RCMP		9	*		*		214
	SCL		7					219
	SEG	7	5					122
	SER		9					220
	SET		1					69

				MC200	MC100	MC80	MC280	
SET Sxx	SFC 1	3						71
SFTL		9						137
SFTR		9						136
SHL	16	7						135
SHR	16	7						134
SIN	SIN	7						109
SPD	SPD	7						166
SQT		5						99
STL	SFC	3						71
STOH		5						154
STOP		1						86

				MC200	MC100	MC80	MC280	
W	WAND		7					127
	WDT		1					86
	WINV		5					128
	WOR		7					127
	WSFL		9					96
	WSFR		9					95
	WTOB		7					247
	WXOR		7					127
X	XCH		5					91
	XMT	XMT	7					192
Z	ZONE		9					218
	ZRN		11					229
	ZRST		5					196
	ZSET		5					197
* MC200								

				MC200	MC100	MC80	MC280	
	LD		1					63
	LDI		1					63
	AND		1					64
	ANI		1					64
	OR		1					64
	ORI		1					65
	OUT		1					65
	SET		1					69
	RST		1					69
	ANB		1					66
	ORB		1					66
	INV		1					68
	NOP		1					69
	MPS		1					67
	MRD		1					67
	MPP		1					67
	MC		3					70
	MCR		1					70
	EU		2					68
	ED		2					68
	TON		5					73
	TOF		5					74
	TMON		5					74
	TONR		5					73
	CTU	16	5					75
	CTR	16	5					75
	DCNT	32	7					76
	LBL		3					84
	CJ		3					85
	CALL							87
	CSRET		1					87
	CFEND		1					85
	CIRET		1					86
	FOR		3					83
	NEXT		1					83
	WDT		1					86
	STOP		1					86
	EI		1					86
	DI		1					86

					MC200	MC100	MC80	MC280	
SFC	STL	SFC	3						71
	SET Sxx	SFC	3						71
	OUT Sxx	SFC	3						71
	RST Sxx	SFC	3						71
	RET	SFC	1						72
	MOV		5						88
	DMOV		7						88
	RMOV		7						89
	BMOV		7						89
	SWAP		3						91
	XCH		5						91
	DXCH								

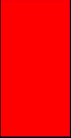
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MC280	
	106
	107
	107
	108
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	110
	110
	111
	112
	111
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	113
	113
	114
	114
	115
	114

127 2Ж ä128l L "



				MC200	MC100	MC80	MC280	
TRD		3						147
TWR		3						148
TADD		7	1				1	

					MC200	MC100	MC80	MC280	
	AND<>	AND<>	5						205
	ANDD<>	AND<>	7						208
	ANDR<>	AND<>	7						211
	OR=	OR=	5						206
	ORD=	OR=	7						209
	ORR=	OR=	7						212
	OR>	OR>	5						206

					MC200	MC100	MC80	MC280	
	BLD	LD	5						199
	BLDI	LDI	5						200
	BAND	AND	5						200
	BANI	ANI	5						201
	BOR	OR	5						201
	BORI	ORI	5						202
	BSET		5						203
	BRST		5						203
	BOUT		5						202
	Modbus	Modbus	8						182
	XMT	XMT	7						192
	RCV	RCV	7						193
MODRW	MODBUS		14		*		*		184

				MC200	MC100	MC80	MC280	
	STRMOV		5					228
	RND		3					253
	DUTY		7					253
* MC200								