





LKS 安全型控制系统

指令手册

V1.0

2019 06

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1

1.1

V1.0	2017.08.30	
V1.1	2018.02.02	
V1.2	2018.11.31	2.3.2
V1.0	2019.06.13	

1.2

1.3

LKS

1.4

1.4.1

1.4.2

1.4.3

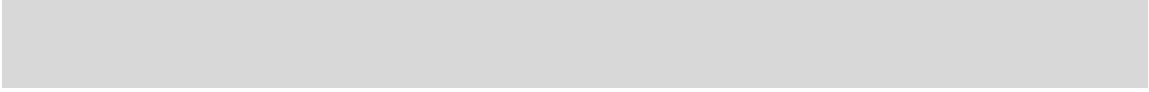
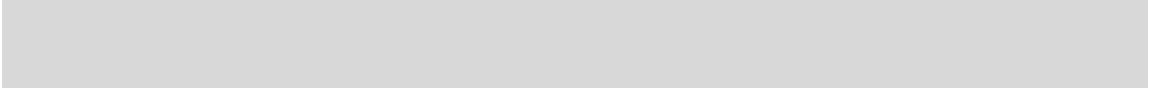
Enter



1.4.4

F1

1.4.5



+



Ctrl+I

POU

1



1.5



Safety FA-AutoThink



LKS



LKS

2

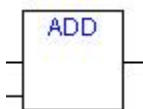
2.1

sysGetDPConfirmState	HS_DPDIAG.HLF
sysGetDPSlaveComState	
DIProc	HS_IOPROC.HLF

2.2

2.2.1

2.2.1.1 ADD



1

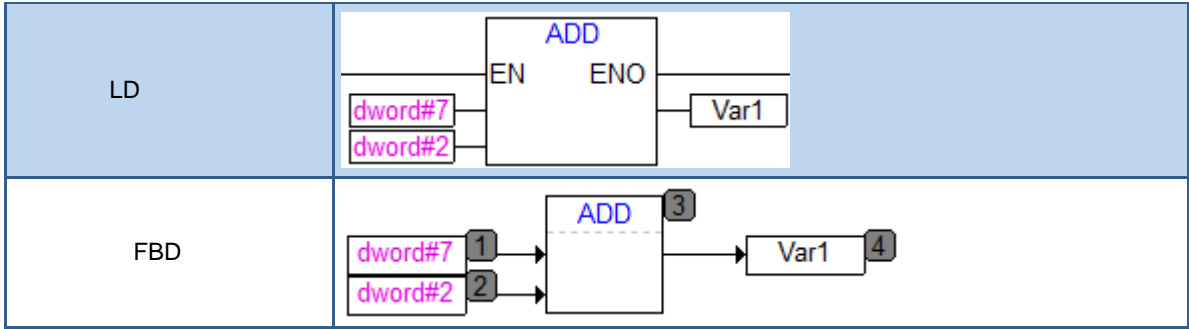
1.

		DWORD	DINT	REAL	LREAL TIME
		DWORD	DINT	REAL	LREAL TIME

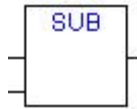
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区



2.2.1.2 SUB



2

1.

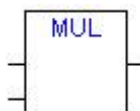
		DWORD	DINT	REAL	LREAL	TIME
		DWORD	DINT	REAL	LREAL	TIME

2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区

2.2.1.3 MUL



3

1.

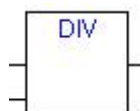
		DWORD	DINT	REAL	LREAL

2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区
LD					
FBD					

2.2.1.4 DIV



4

1.

		DWORD	DINT	REAL	LREAL



		DWORD DINT REAL LREAL
--	--	-----------------------

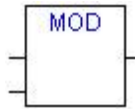
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区

LD	
FBD	

2.2.1.5 MOD



5

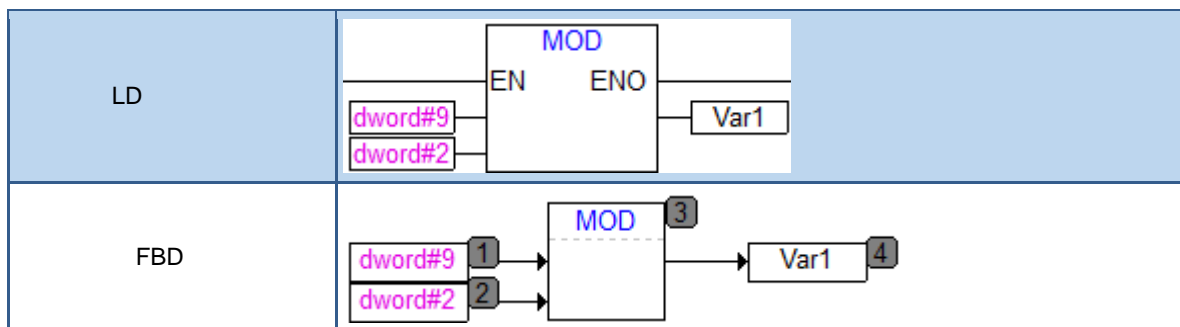
1.

		DWORD DINT
		DWORD DINT

2.

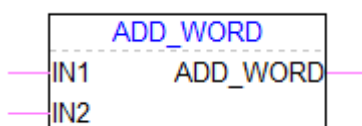
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区



2.2.1.6 ADD_WORD

WORD



6

1.

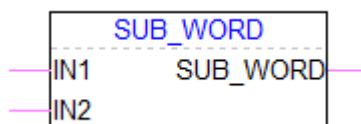
IN1	WORD
IN2	WORD
ADD_WORD	WORD

2.

[2.2.1.1 ADD](#)

2.2.1.7 SUB_WORD

WORD



7

1.

--	--

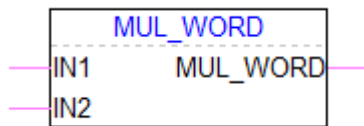
IN1	WORD
IN2	WORD
SUB_WORD	WORD

2.

2.2.1.2 SUB

2.2.1.8 MUL_WORD

WORD



8

1.

IN1	WORD
IN2	WORD
MUL_WORD	WORD

2.

2.2.1.3 MUL

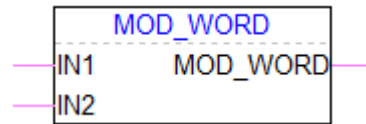
IN1	WORD
IN2	WORD
DIV_WORD	WORD

2.

2.2.1.4 DIV

2.2.1.10 MOD_WORD

WORD



10

1.

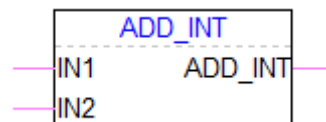
IN1	WORD
IN2	WORD
MOD_WORD	WORD

2.

2.2.1.5 MOD

2.2.1.11 ADD_INT

INT



11

1.

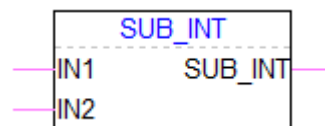
IN1	INT
IN2	INT
ADD_INT	INT

2.

2.2.1.1 ADD

2.2.1.12 SUB_INT

INT



12

1.

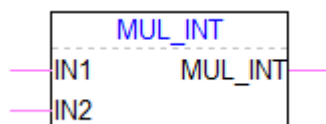
IN1	INT
IN2	INT
SUB_INT	INT

2.

2.2.1.2 SUB

2.2.1.13 MUL_INT

INT



13

1.

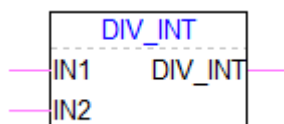
IN1	INT
IN2	INT
MUL_INT	INT

2.

2.2.1.3 MUL

2.2.1.14 DIV_INT

INT



14

1.

IN1	INT
IN2	INT
DIV_INT	INT

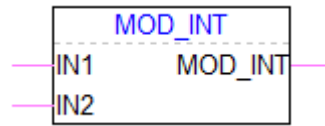
2.

2.2.1.4 DIV



2.2.1.15 MOD_INT

INT



15

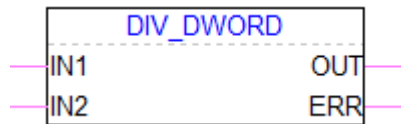
1.

IN1	INT
IN2	INT
MOD_INT	INT

2.

2.2.1.5 MOD

2.2.1.16 DIV_DWORD



16

1.

IN1	DWORD		0	
IN2	DWORD		0	0
OUT	DWORD		0	

		ERR=1	0		
		OUT			

2.

IN2 0

IN2 0

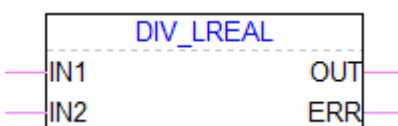
ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	DIV_REAL_1		DIV_REAL		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

LD	
FBD	

2.2.1.19 DIV_LREAL



19

1.

IN1	LREAL		0	
IN2	LREAL		0	0
OUT	LREAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	0	0

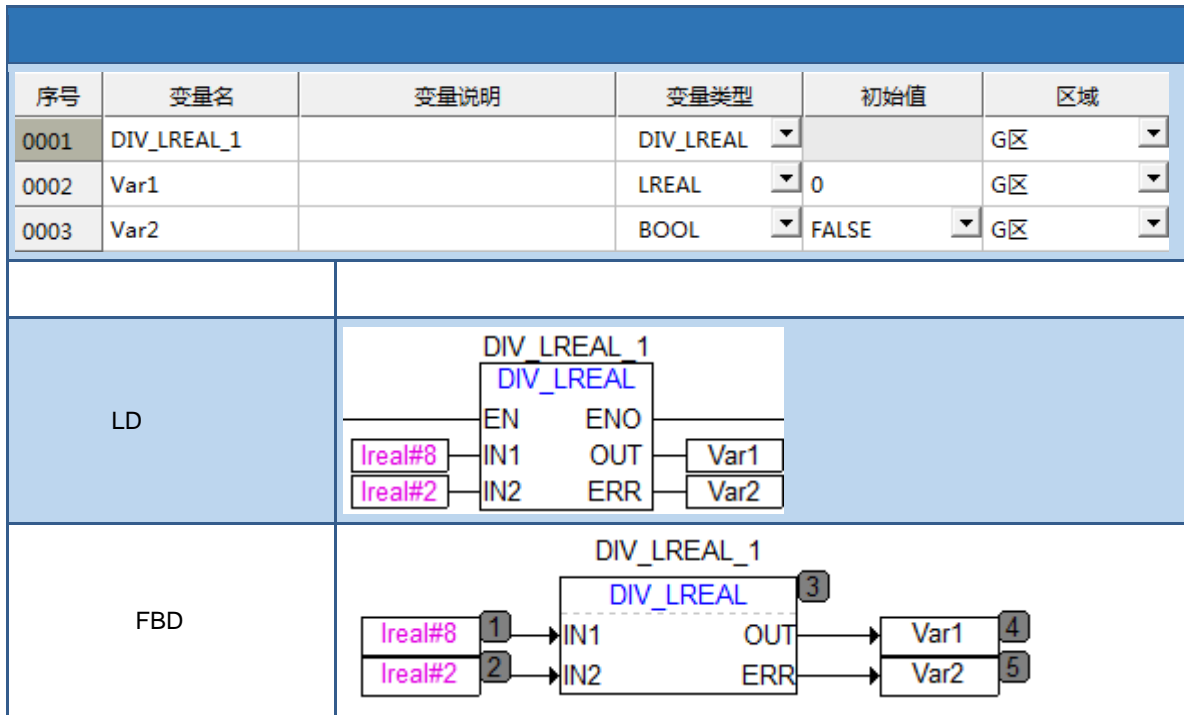
2.

IN2 0

IN2 0

ERR

3.



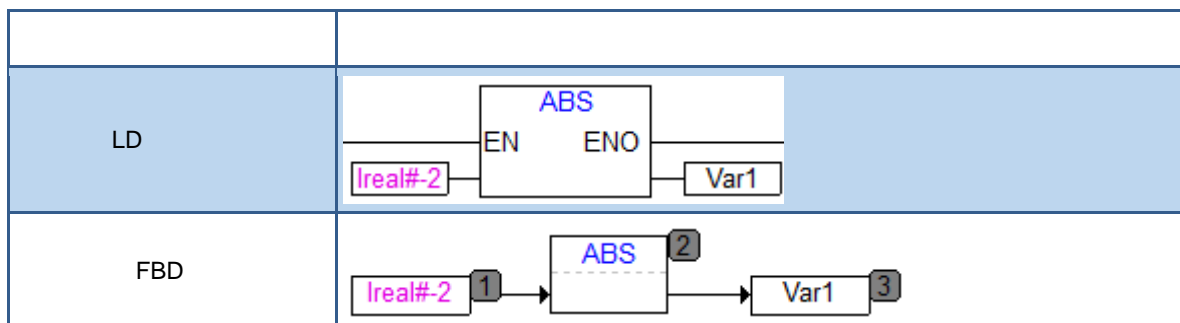
2.2.1.20 ABS



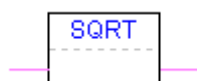
20

1.



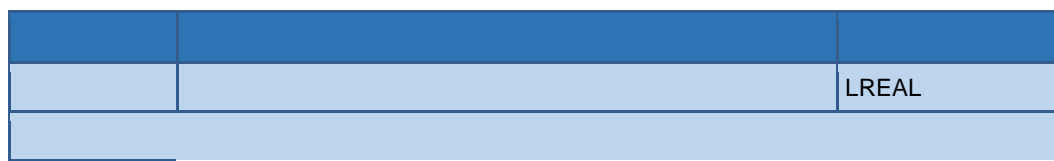


2.2.1.21 SQRT



21

1.



LREAL



1.

		LREAL
		LREAL

2.

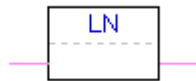
10

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区

LD	
FBD	

2.2.1.23 LN



23

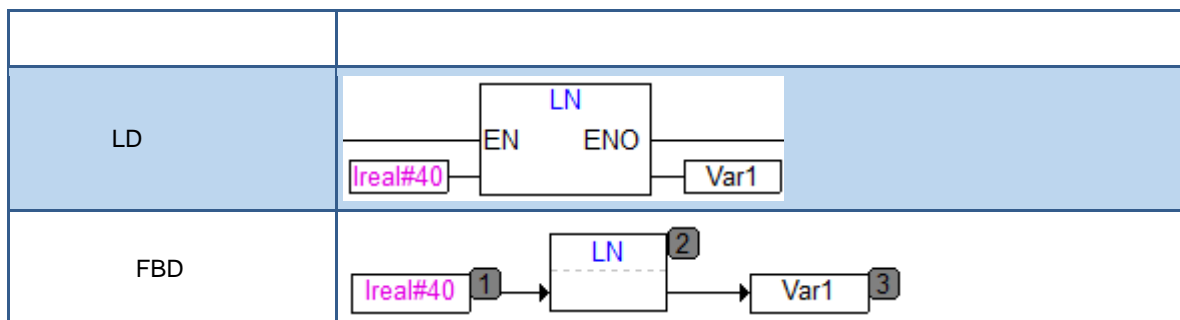
1.

		LREAL
		LREAL

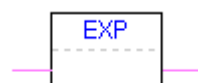
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区



2.2.1.24 EXP



24

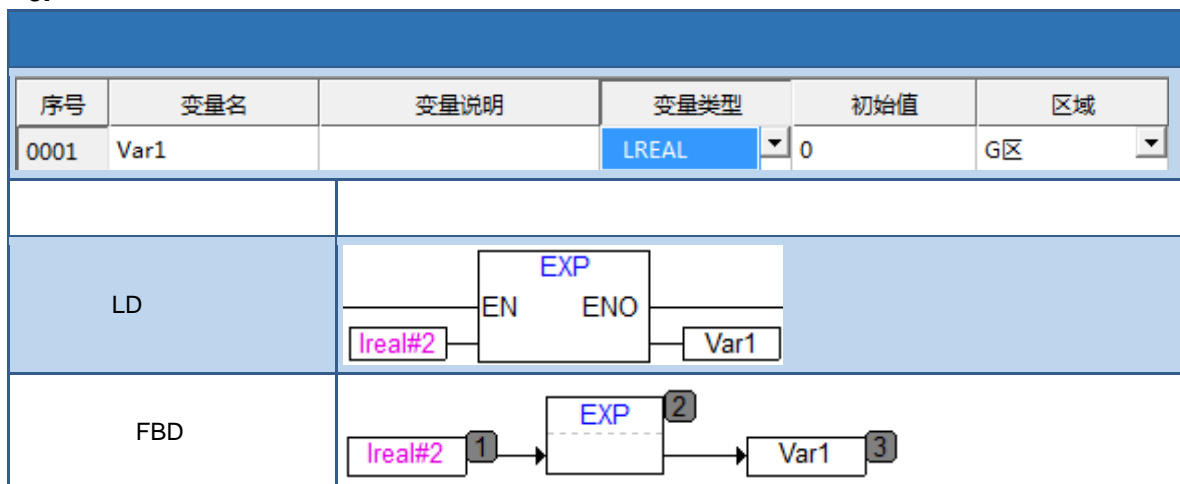
1.

		LREAL
		LREAL

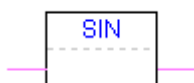
2.

e

3.



2.2.1.25 SIN



25

1.

		LREAL	LREAL	64 bits	52 bits
		LREAL			

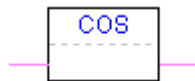
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区

LD	
FBD	

2.2.1.26 COS



26

1.

		LREAL	LREAL	64 bits	52 bits
		LREAL			

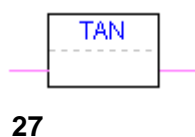
2.

3.



序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区
LD					
FBD					

2.2.1.27 TAN



1.

		LREAL	LREAL	64 bits	52 bits
		LREAL			

2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区
LD					
FBD					



2.2.1.28 ASIN



28

1.

		LREAL	
		LREAL	

2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区
LD					
FBD					

2.2.1.29 ACOS



29

1.

		LREAL	
		LREAL	

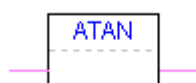
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区

LD	
FBD	

2.2.1.30 ATAN



30

1.

		LREAL	
		LREAL	

2.

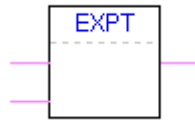
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		LREAL	0	G区

LD	
FBD	



2.2.1.31 EXPT



31

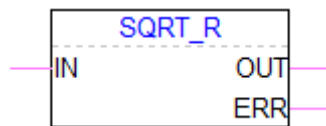
1.

1	1 Y	LREAL
2	2 n	LREAL
		LREAL

2.

1

2.2.1.32 SQRT_R



32

1.

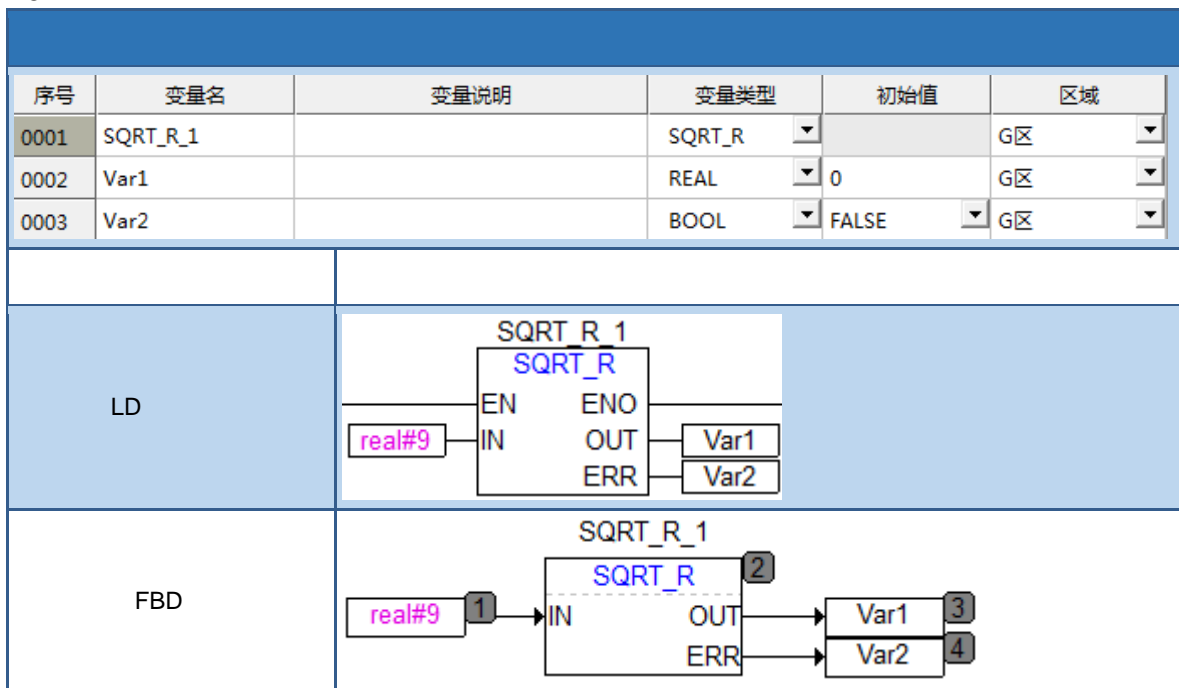
IN	REAL		0	
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	IN	0

2.

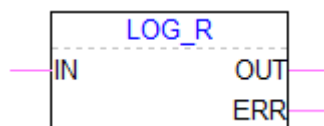
IN >= 0

IN < 0 ERR

3.



2.2.1.33 LOG_R



33 10



1.

IN	REAL		0	
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1	OUT	0

2.

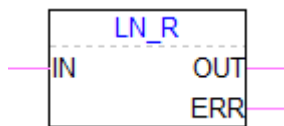
IN>0 10 IN<=0 ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LOG_R_1		LOG_R		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

LD	
FBD	

2.2.1.34 LN_R



34

1.

IN	REAL		0	
----	------	--	---	--

OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	0	

2.

IN>0

IN<=0 ERR

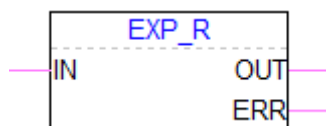
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LN_R_1		LN_R		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

LD

FBD

2.2.1.35 EXP_R



35

1.

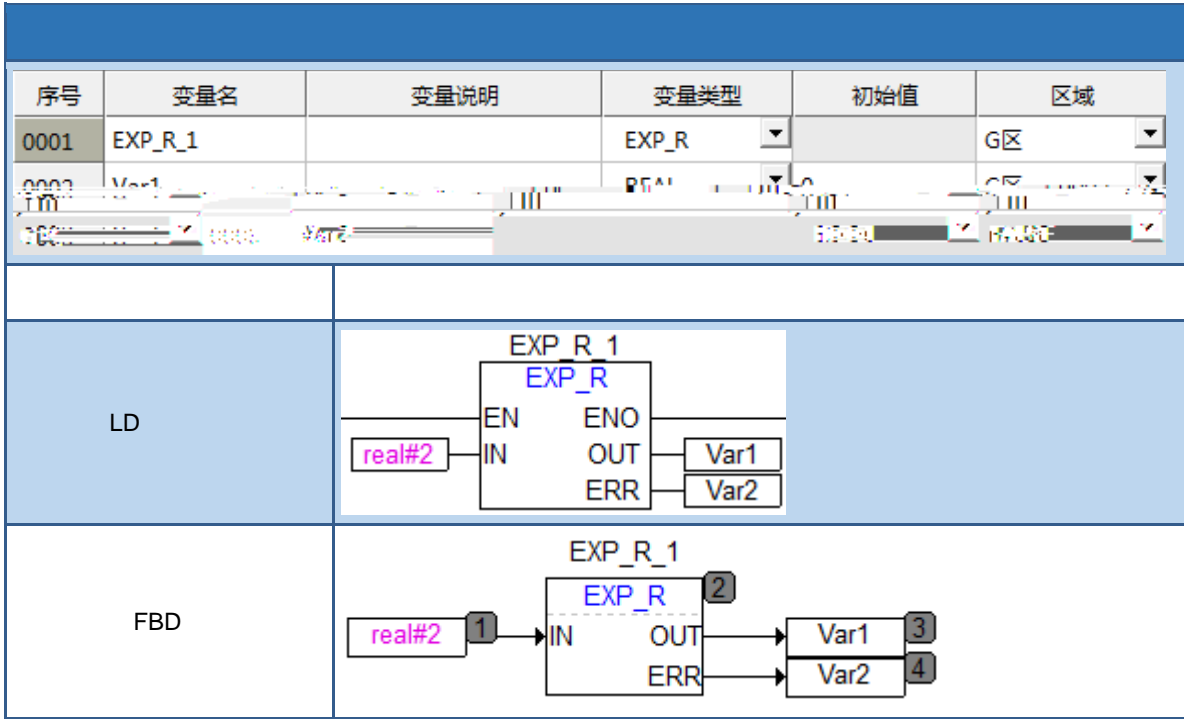
IN	REAL		0	88
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT 88	0	

2.

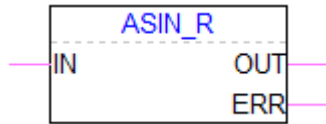
IN<=88 e

IN>88 ERR

3.



2.2.1.36 ASIN_R



36

1.

IN	REAL		0	[-1,1]
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 [-1,1] OUT	0	

2.

-1<=IN<=1

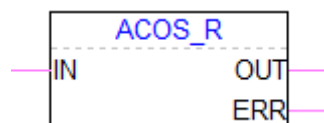
IN>1 IN<-1 ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	ASIN_R_1		ASIN_R		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

LD	
FBD	

2.2.1.37 ACOS_R

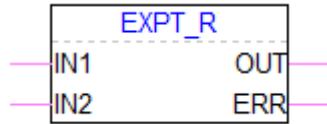


37

序号	变量名	变量说明	变量类型	初始值	区域
0001	ACOS_R_1		ACOS_R		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

LD	
FBD	

2.2.1.38 EXPT_R



38

1.

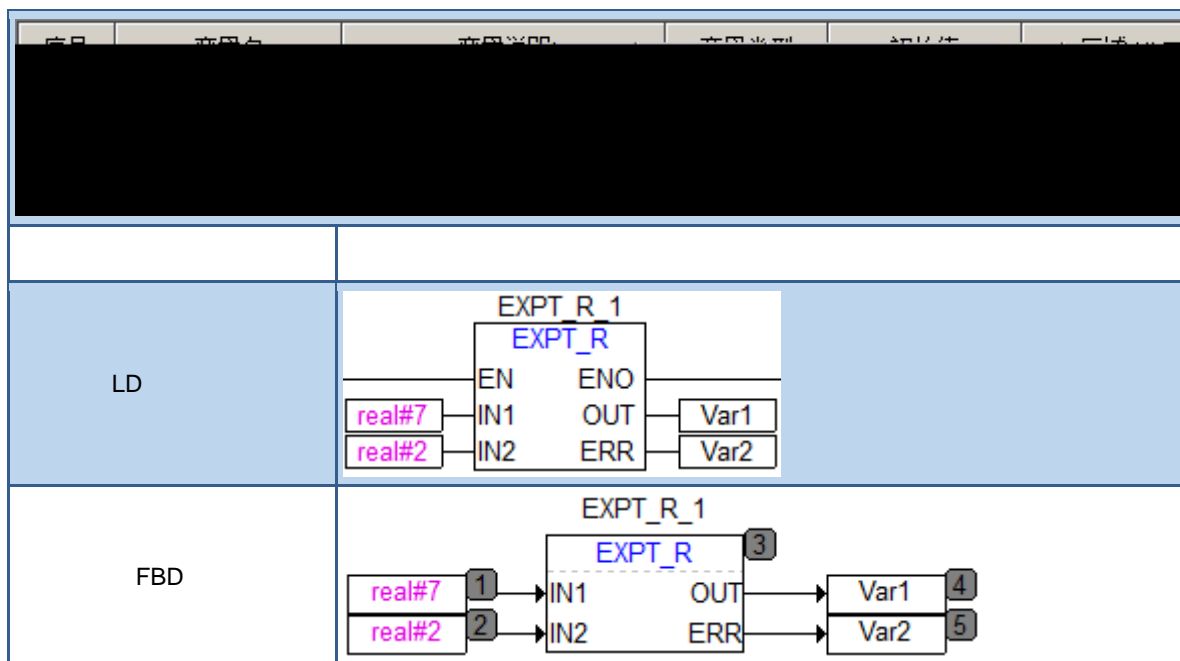
IN1	REAL	1	0	[0, +
IN2	REAL	2	0	
OUT	REAL		0	
ERR	BYTE	ERR=0 ERR=1 ERR=2 ERR=3 OUT	IN1 IN1=0 IN2<=0 ln ln IN1 +ln ln2 >4.466	OUT 0

2.

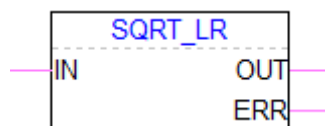
2 1 2 ERR 0 1 2 1

3.





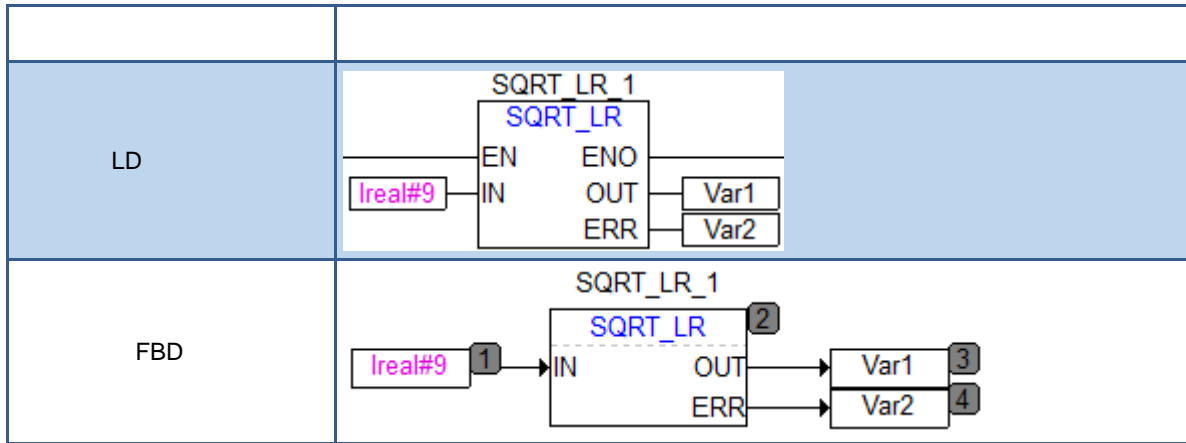
2.2.1.39 SQRT_LR



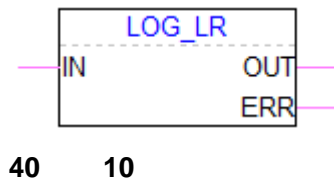
39

1.

IN	LREAL		0	
----	-------	--	---	--

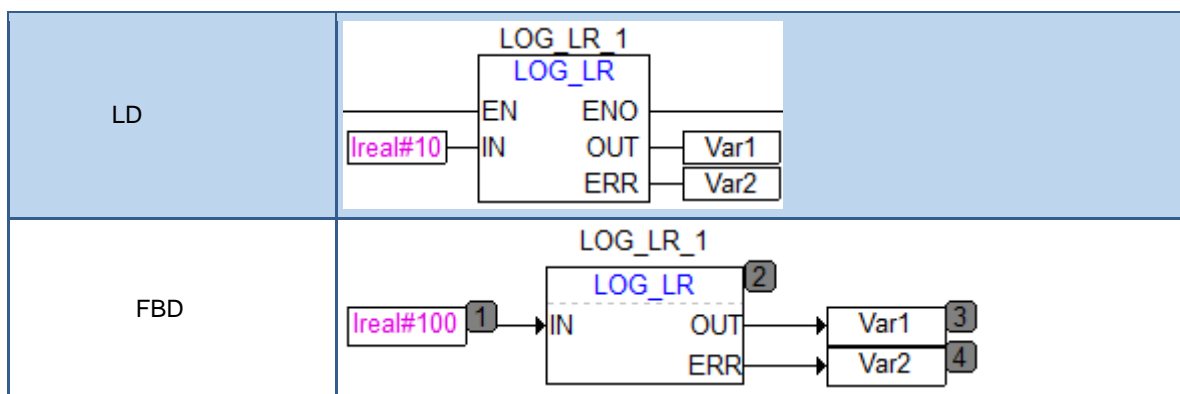


2.2.1.40 LOG_LR

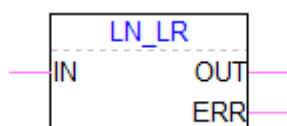


1.





2.2.1.41 LN_LR



41

1.

Port	Variable Type	Initial Value	Other Info
IN	LREAL	0	
OUT	LREAL	0	
ERR	BOOL	0	ERR=0 ERR=1 OUT

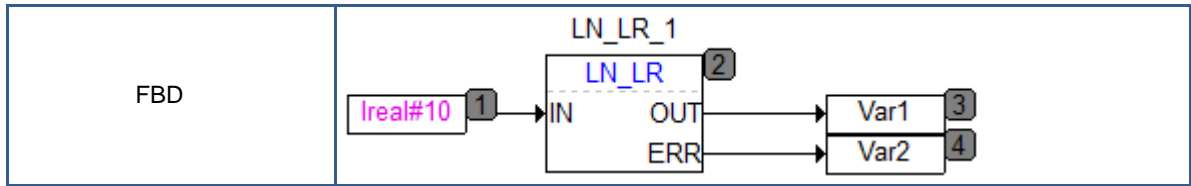
2.

IN>0

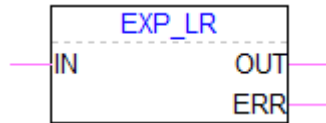
IN<=0 ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LN_LR_1		LN_LR		G区



2.2.1.42 EXP_LR



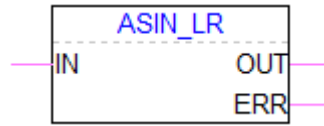
42

1.

IN	LREAL		0	709
OUT	LREAL		0	



2.2.1.43 ASIN_LR



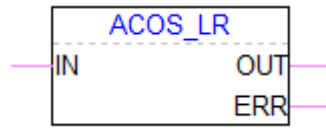
43

1.





2.2.1.44 ACOS_LR

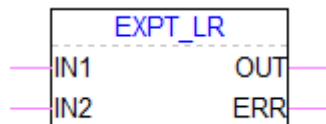


44

1.

IN	LREAL		0	[-1,1]

2.2.1.45 EXPT_LR

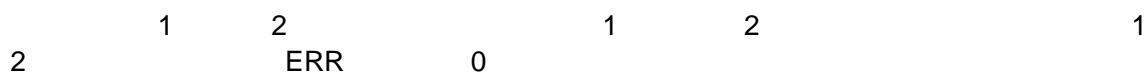


45

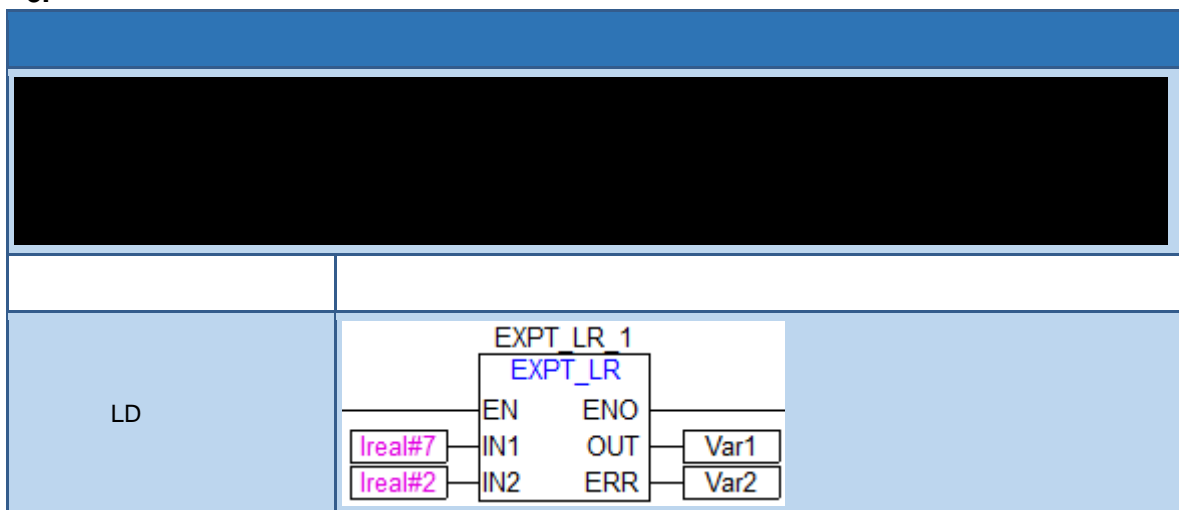
1.

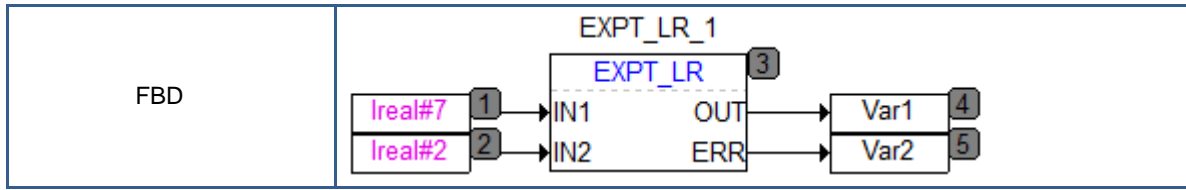
IN1	LREAL	1	0	[0, +
IN2	LREAL	2	0	
OUT	LREAL		0	
ERR	BYTE	ERR=0 ERR=1 IN1 OUT ERR=2 IN1=0 IN2<=0 OUT ERR=3 ln ln IN1 +ln ln2 >6.562 OUT	0	

2.



3.





2.2.1.46 MOVE



46

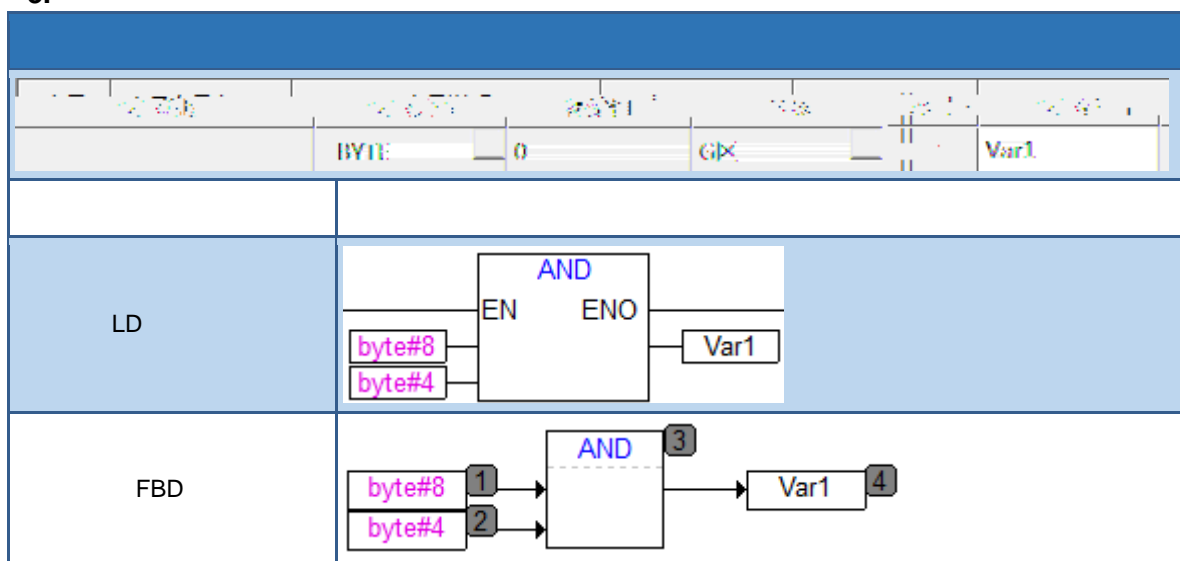
1. en-US

2		BOOL	BYTE	WORD	DWORD
		BOOL	BYTE	WORD	DWORD

	1	2	
0	0	0	
0	1	0	
1	0	0	
1	1	1	

2.

3.



2.2.2.2 OR





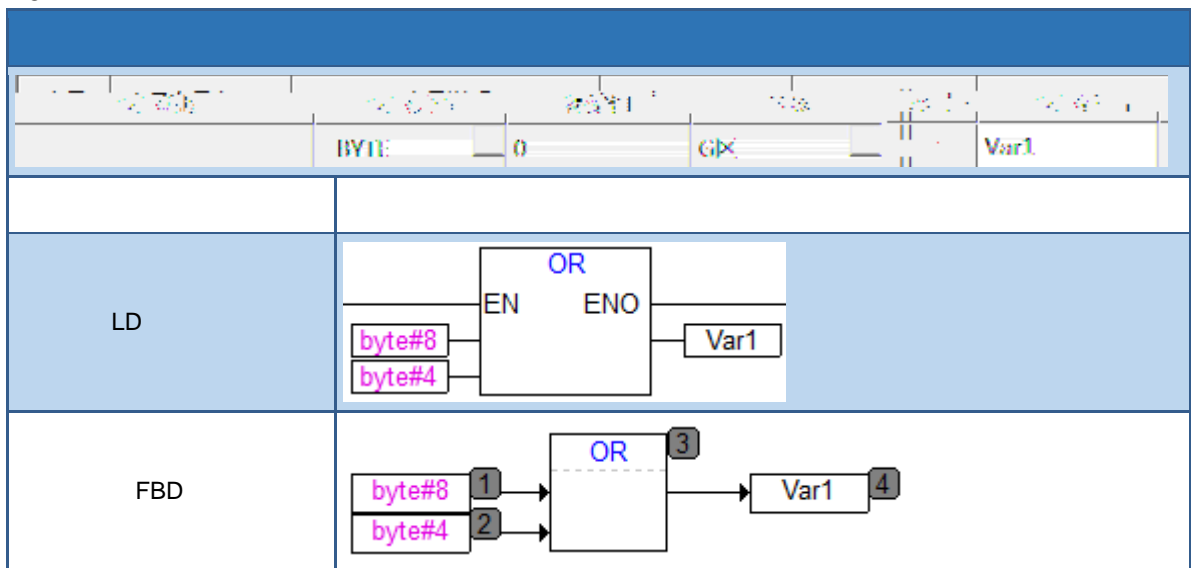
1.

1		BOOL BYTE WORD DWORD
2		BOOL BYTE WORD DWORD
		BOOL BYTE WORD DWORD

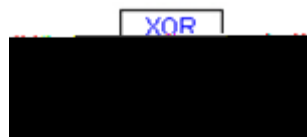
	1	2
0	0	0
0	1	1
1	0	1
1	1	1

2.

3.



2.2.2.3 XOR



49

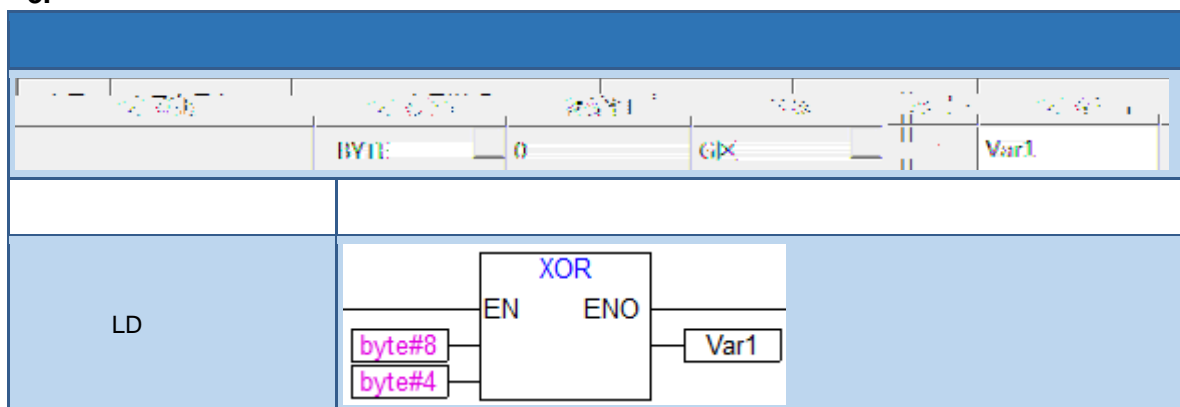
1.

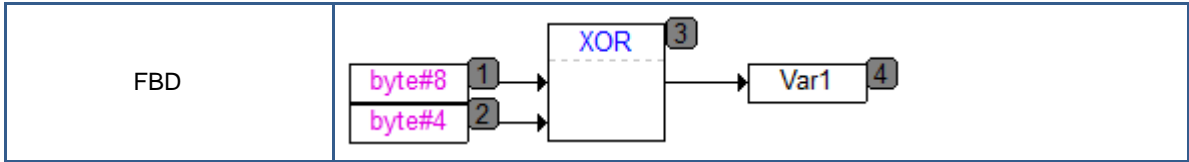
1		BOOL BYTE WORD DWORD
2		BOOL BYTE WORD DWORD
		BOOL BYTE WORD DWORD

	1	2	
0	0	0	0
0	1	1	1
1	0	1	1
1	1	0	0

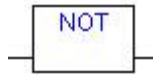
2.

3.





2.2.2.4 NOT



50

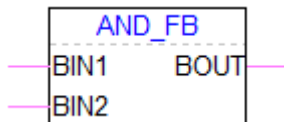
1.

		BOOL	BYTE WORD DWORD
		BOOL	BYTE WORD DWORD

2.

3.

2.2.2.5 AND_FB



51

1.



BIN1	1	BOOL
BIN2	2	BOOL
BOUT		BOOL

1	2	
0	0	0
0	1	0
1	0	0
1	1	1

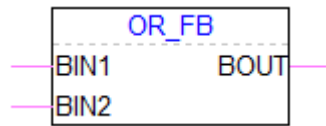
2.

3.

1

序号	变量名	变量说明	变量类型	初始值	区域
0001	AND_FB_1		AND_FB		G区
0002	Var1		BOOL	FALSE	G区

2.2.2.6 OR_FB



52

1.

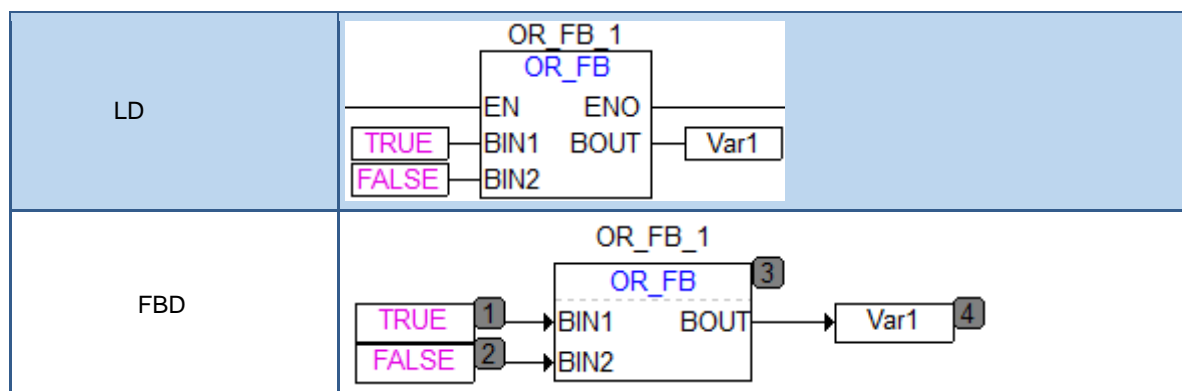
BIN1	1	BOOL
BIN2	2	BOOL
BOUT		BOOL

	1	2	
0	0	0	0
0	1	1	1
1	0	1	1
1	1	1	1

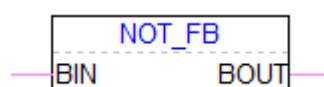
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	OR_FB_1		OR_FB		G区
0002	Var1		BOOL	FALSE	G区



2.2.2.7 NOT_FB



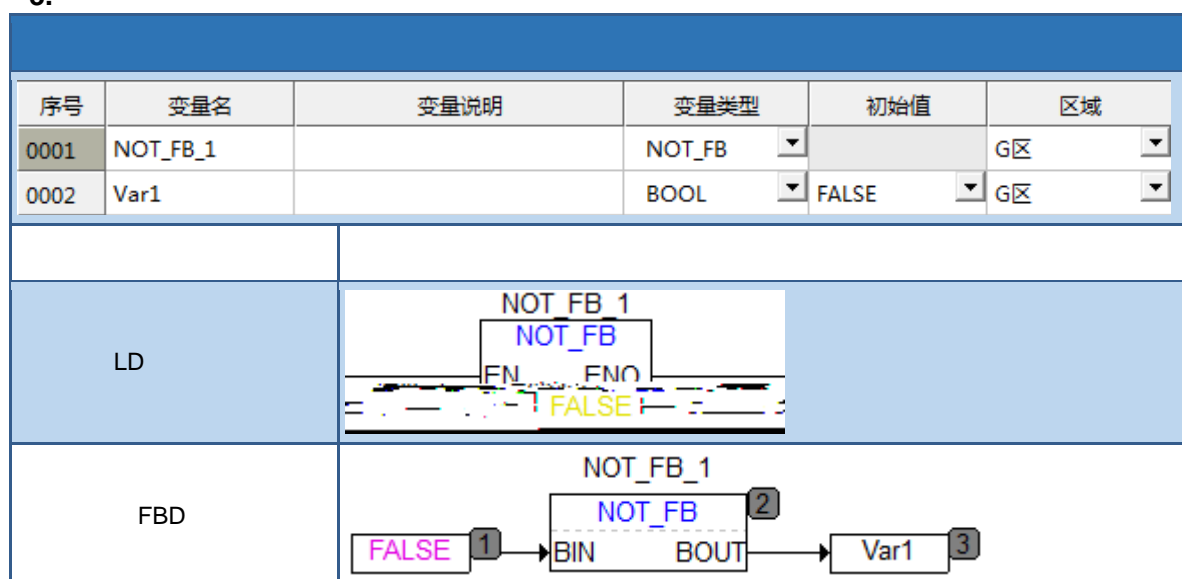
53

1.

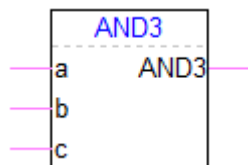
BIN		BOOL
BOUT		BOOL

2.

3.



2.2.2.8 AND3 3



54

1.

a	BOOL	a	0
b	BOOL	b	0
c	BOOL	c	0

2.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

1.

a	BOOL	a	0
b	BOOL	b	0
c	BOOL	c	0

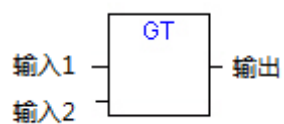
2.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3

2.2.3.1 GT



56

1.

1	BYTE WORD DWORD SINT INT DINT REAL LREAL TIME DATE TOD DT
2	BYTE WORD DWORD SINT INT DINT REAL LREAL TIME DATE TOD DT



		BOOL



2.

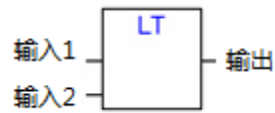
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.2 LT



57

1.

1		BYTE	WORD	DWORD	SINT	INT	DINT	REAL	LREAL	TIME	DATE	TOD	DT
2		BYTE	WORD	DWORD	SINT	INT	DINT	REAL	LREAL	TIME	DATE	TOD	DT
		BOOL											

2.

1	2	TURE
1	2	FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

2.

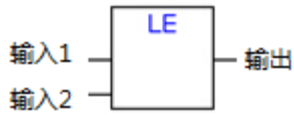
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.4 LE



59

1.

1	BYTE WORD DWORD SINT INT DINT REAL LREAL TIME DATE TOD DT
2	BYTE WORD DWORD SINT INT DINT REAL LREAL TIME DATE TOD DT
	BOOL



2.

1 2 TURE

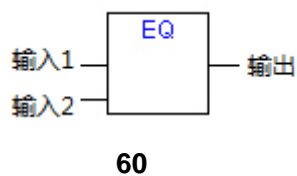
1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.5 EQ



1.

1		BOOL	BYTE	WORD	DWORD	SINT	INT	DINT	TIME	DATE	TOD	DT
2		BOOL	BYTE	WORD	DWORD	SINT	INT	DINT	TIME	DATE	TOD	DT
		BOOL										



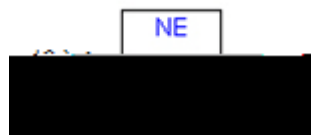
2.

1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	G区
LD					
FBD					

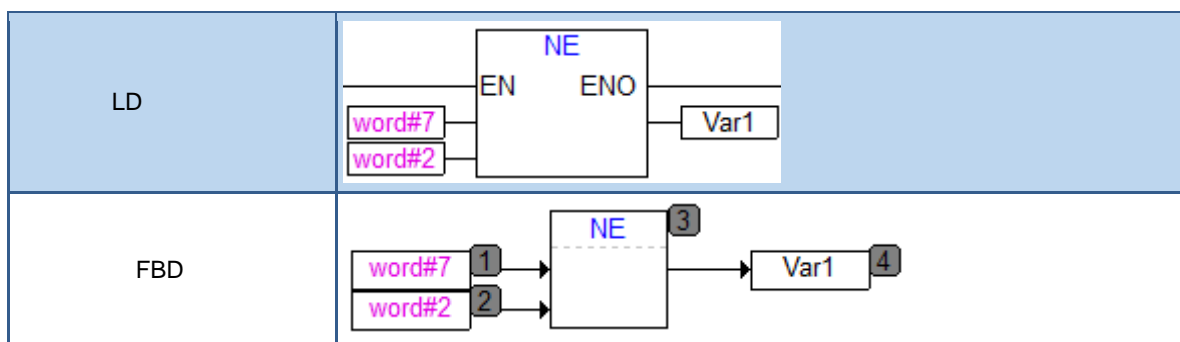
2.2.3.6 NE



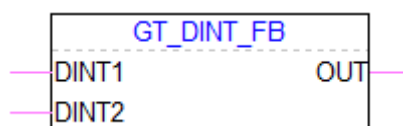
61

1.

1	BOOL BYTE WORD DWORD SINT INT DINT TIME DATE TOD DT
---	---



2.2.3.7 GT_DINT_FB



62

1.

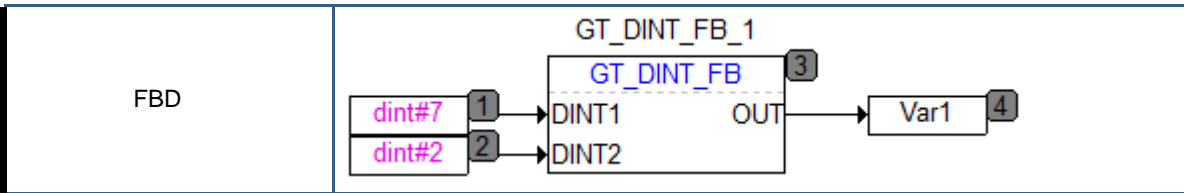
DINT1	1	DINT
DINT2	2	DINT
OUT		BOOL

2.

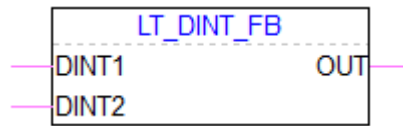
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	GT_DINT_FB_1		GT_DINT_FB		G区
0002	Var1		BOOL	FALSE	G区



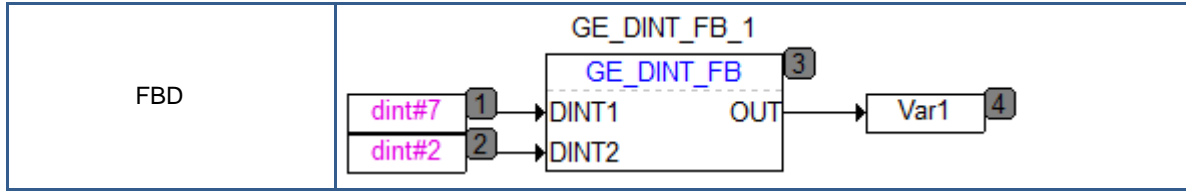
2.3.8 LT_DINT_FB



63

1.





2.2.3.10 LE_DINT_FB



65

1.

DINT1	1	DINT
DINT2	2	DINT
OUT		BOOL

2.

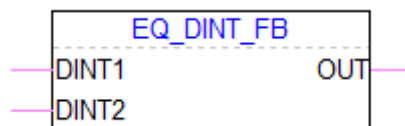
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LE_DINT_FB_1		LE_DINT_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.11 EQ_DINT_FB



66

1.

DINT1	1	DINT
DINT2	2	DINT
OUT		BOOL

2.

1	2	TURE
1	2	FALSE

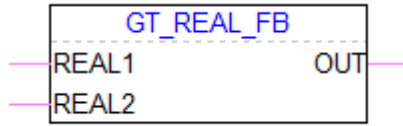
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	EQ_DINT_FB_1		EQ_DINT_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	<p>LD diagram for EQ_DINT_FB_1. The block EQ_DINT_FB_1 is shown with inputs DINT1 and DINT2 connected to dint#7 and dint#2 respectively. The output OUT is connected to Var1. The block name EQ_DINT_FB is also shown inside the block.</p>
FBD	<p>FBD diagram for EQ_DINT_FB_1. The block EQ_DINT_FB_1 is shown with inputs DINT1 and DINT2 connected to dint#7 (labeled 1) and dint#2 (labeled 2) respectively. The output OUT (labeled 3) is connected to Var1 (labeled 4).</p>



2.2.3.12 GT_REAL_FB



67

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

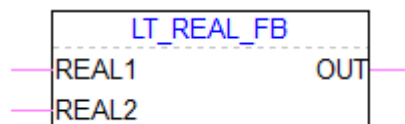
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	GT_REAL_FB_1		GT_REAL_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.13 LT_REAL_FB



68

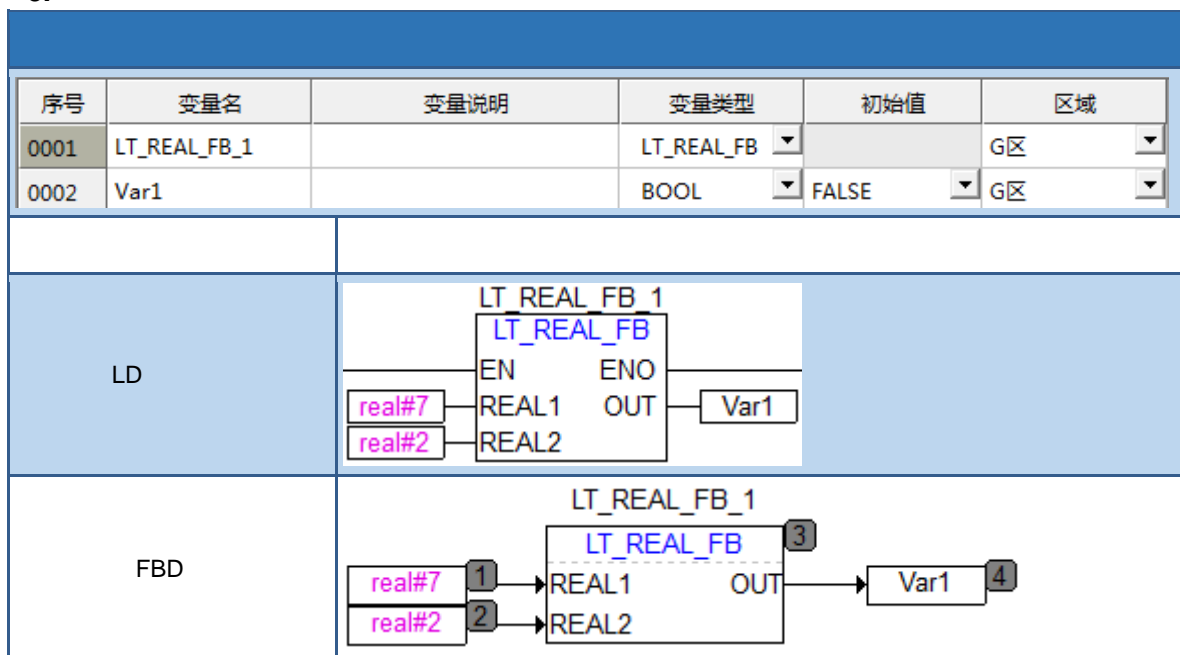
1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

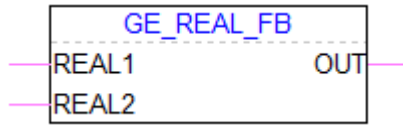
1 2 TURE
 1 2 FALSE

3.





2.2.3.14 GE_REAL_FB



69

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

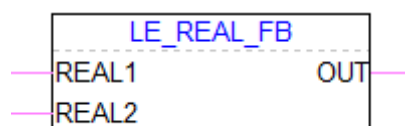
1 2 TURE
 1 2 FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	GE_REAL_FB_1		GE_REAL_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	
FBD	

2.2.3.15 LE_REAL_FB



70

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

1 2 TURE
 1 2 FALSE

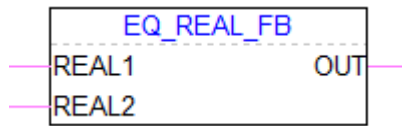
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LE_REAL_FB_1		LE_REAL_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	<p>Diagram showing the LE_REAL_FB_1 block in a Ladder Logic (LD) context. The block is labeled 'LE REAL FB 1' and 'LE_REAL_FB'. It has two input ports: REAL1 (connected to 'real#7') and REAL2 (connected to 'real#2'). It has one output port: OUT (connected to 'Var1').</p>
FBD	<p>Diagram showing the LE_REAL_FB_1 block in a Function Block Diagram (FBD) context. The block is labeled 'LE_REAL_FB_1' and 'LE_REAL_FB'. It has two input ports: REAL1 (connected to '1') and REAL2 (connected to '2'). It has one output port: OUT (connected to '3'). The output '3' is connected to 'Var1' (labeled '4').</p>



2.2.3.16 EQ_REAL_FB



71

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

1 2 TURE
 1 2 FALSE

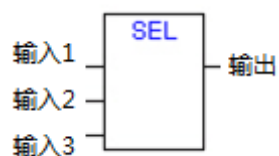
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	EQ_REAL_FB_1		EQ_REAL_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	<p>EQ REAL FB 1 EQ_REAL_FB</p>
FBD	<p>EQ_REAL_FB_1 EQ_REAL_FB</p>

2.2.4

2.2.4.1 SEL



72

1.

序号	变量名	变量说明	变量类型	初始值	区域
1			BOOL		
2					
3					
		1 FALSE 2 1 TRUE			
		3			

2.

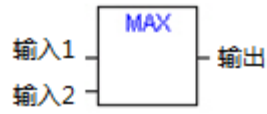
1 FALSE 2 1 TRUE 3

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		WORD	0	G区
LD		<p>The LD diagram shows a SEL block with three inputs on the left: 'TRUE', 'word#7', and 'word#2'. The EN input is connected to the top of the block. The ENO output is connected to a box labeled 'Var1'.</p>			
FBD		<p>The FBD diagram shows a SEL block with three inputs on the left: '1', '2', and '3'. The output '4' is connected to a box labeled 'Var1'.</p>			



2.2.4.2 MAX



73

1.

序号	变量名	变量说明	变量类型	初始值	区域
1		BOOL			
2		BOOL			

2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		WORD	0	G区
LD					
FBD					

2.2.4.3 MIN



74

1.

序号	变量名	变量说明	变量类型	初始值	区域
1		BOOL			
2		BOOL			

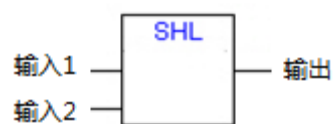
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		WORD	0	G区
LD					
FBD					

2.2.5

2.2.5.1 SHL



75

1.

序号	变量名	变量说明	变量类型	初始值	区域
1		DWORD DINT			
2		BYTE			



		DWORD DINT

2.

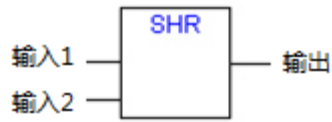
0

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		DWORD	0	G区

LD	
FBD	

2.2.5.2 SHR



76

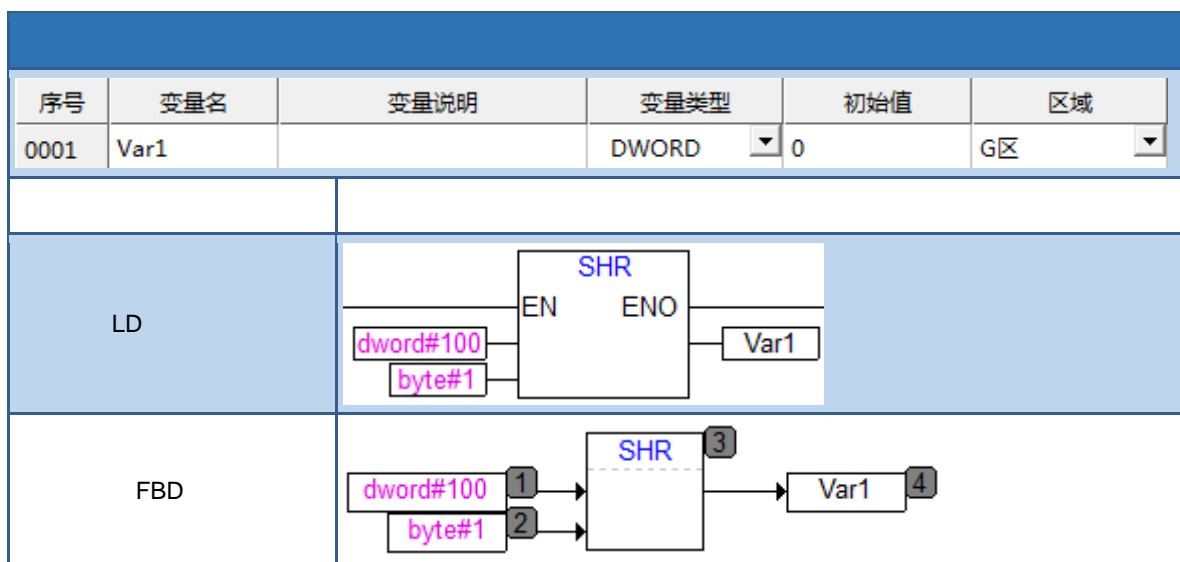
1.

1		DWORD DINT
2		BYTE
		DWORD DINT

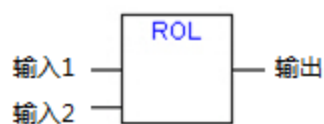
2.

0

3.



2.2.5.3 ROL

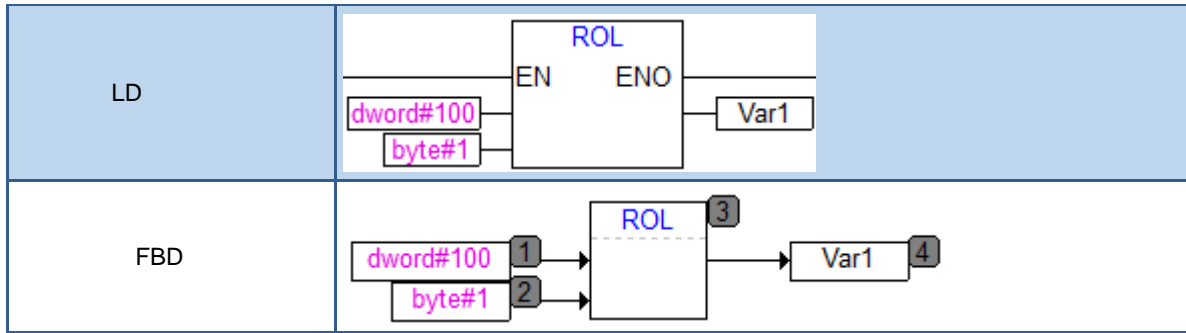


7 EMC /P <</MCID 49>> 57C 02344 57 19>- Tf1 0 0 1 110.06 387.41 Tm103() TET>11<1C

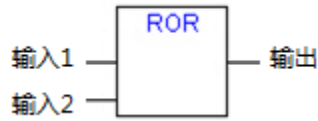
1.

1		DWORD DINT
2		BYTE

DWORD DINT



2.2.5.4 ROR



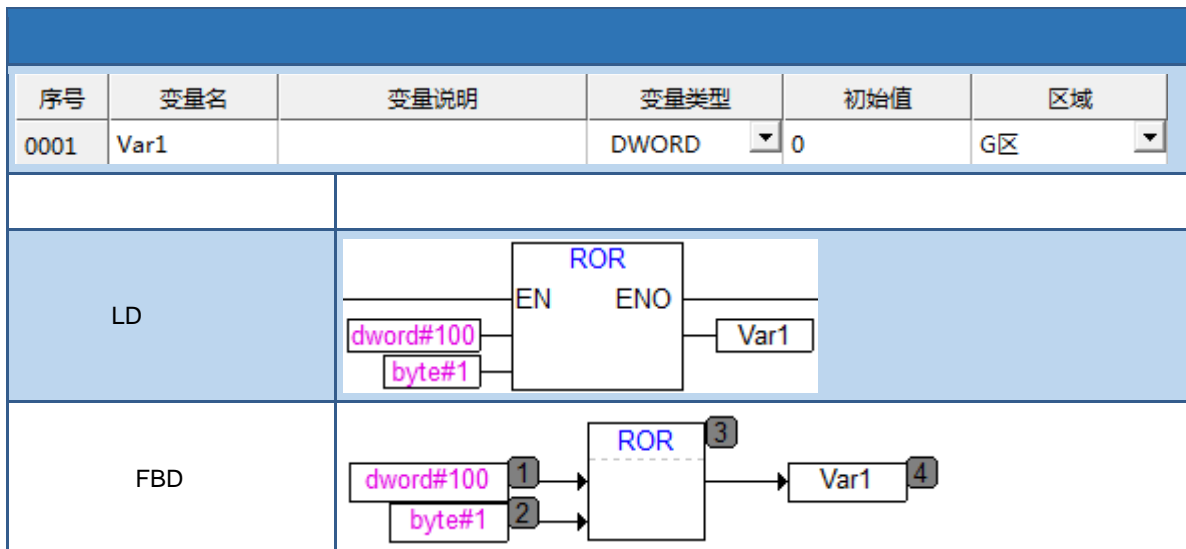
78

1.

1		DWORD DINT
2		BYTE
		DWORD DINT

2.

3.



2.2.6

2.2.6.1 BYTE_TO BYTE

1.

BYTE

2.

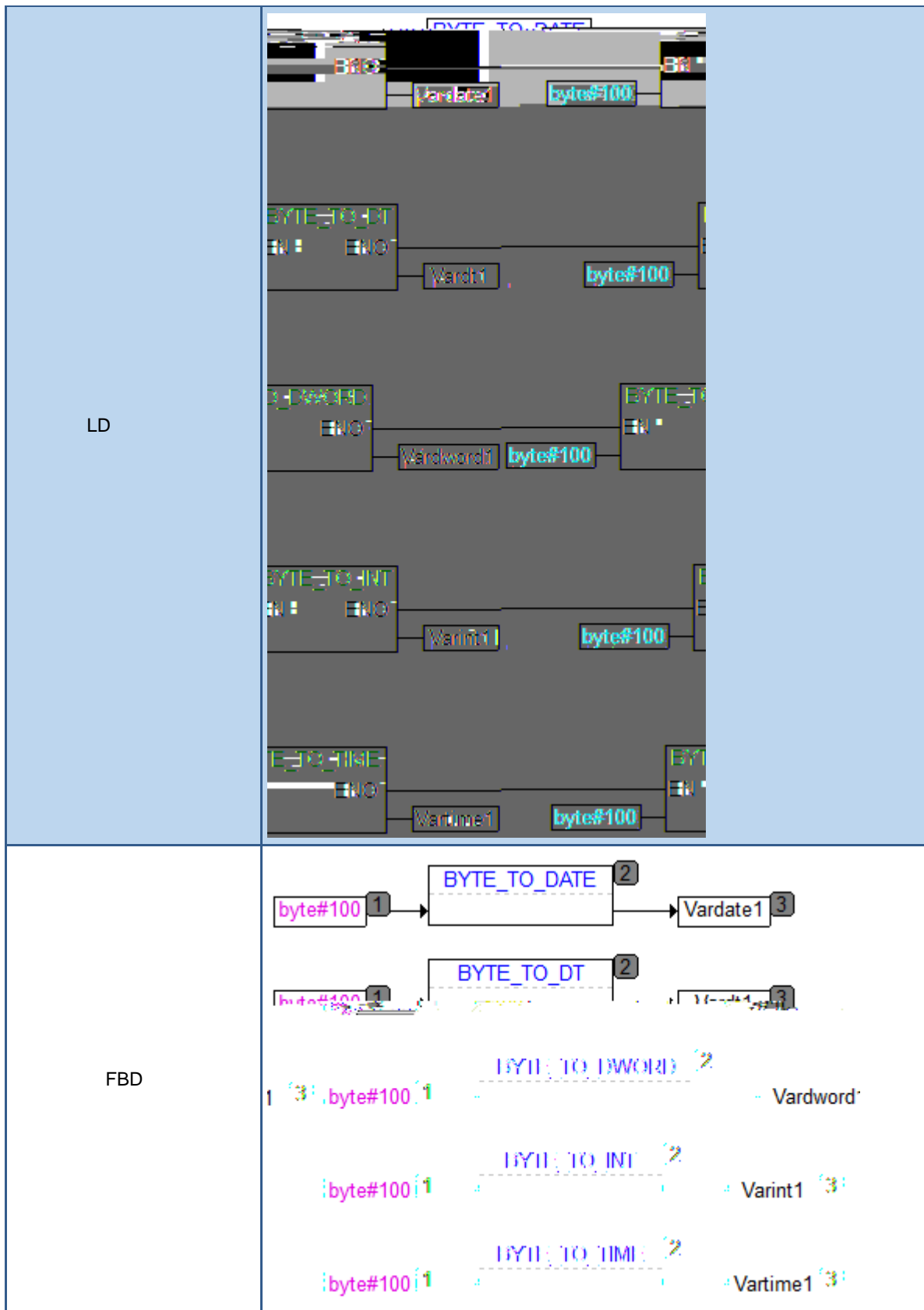
		BYTE
		DATE DINT DT DWORD INT SINT TIME TOD WORD

3.

BYTE_TO_XXX XXX

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Vardate1		DATE	D#1970-01-01	G区
0002	Vardt1		DT	DT#1970-01-0...	G区
0003	Var dword1		DWORD	0	G区
0004	Varint1		INT	0	G区
0005	Vartime1		TIME	T#0MS	G区



2.2.6.2 WORD_TO WORD

1.

WORD

2.

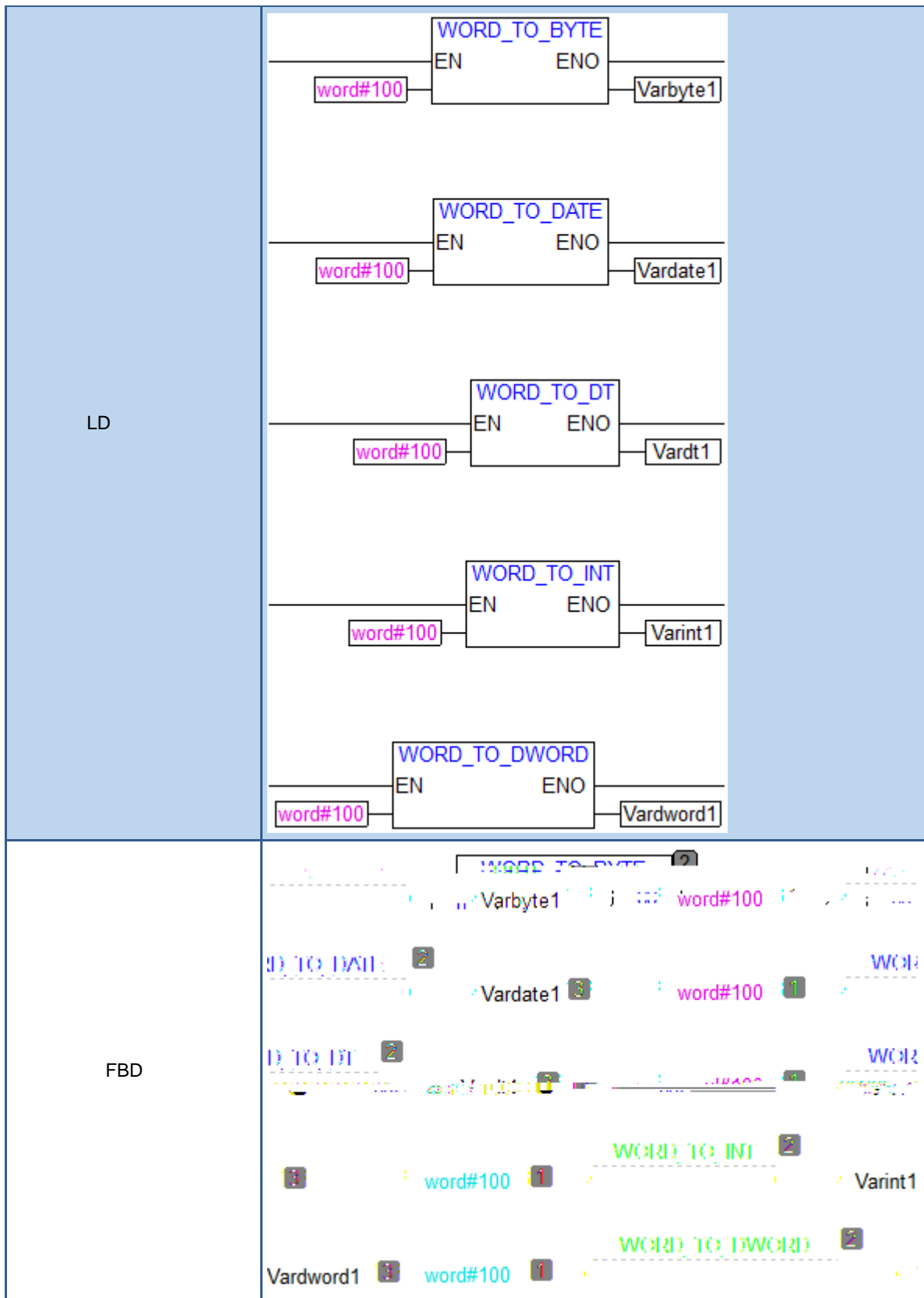
		WORD
		BYTE DATE DINT DT DWORD INT SINT TIME TOD

3.

WORD_TO_XXX xxx

4.

DATE	D#1970-01-01	GPC	0001	Vardate1		
DT	DT#1970-01-0...	GPC	0002	VarDt1		
DWORD	0	GPC	0003	VarDword1		
INT	0	GPC	0004	Varint1		
BYTE	0	GPC	0005	Varbyte1		



2.2.6.3 DWORD_TO DWORD

1.

DWORD

2.

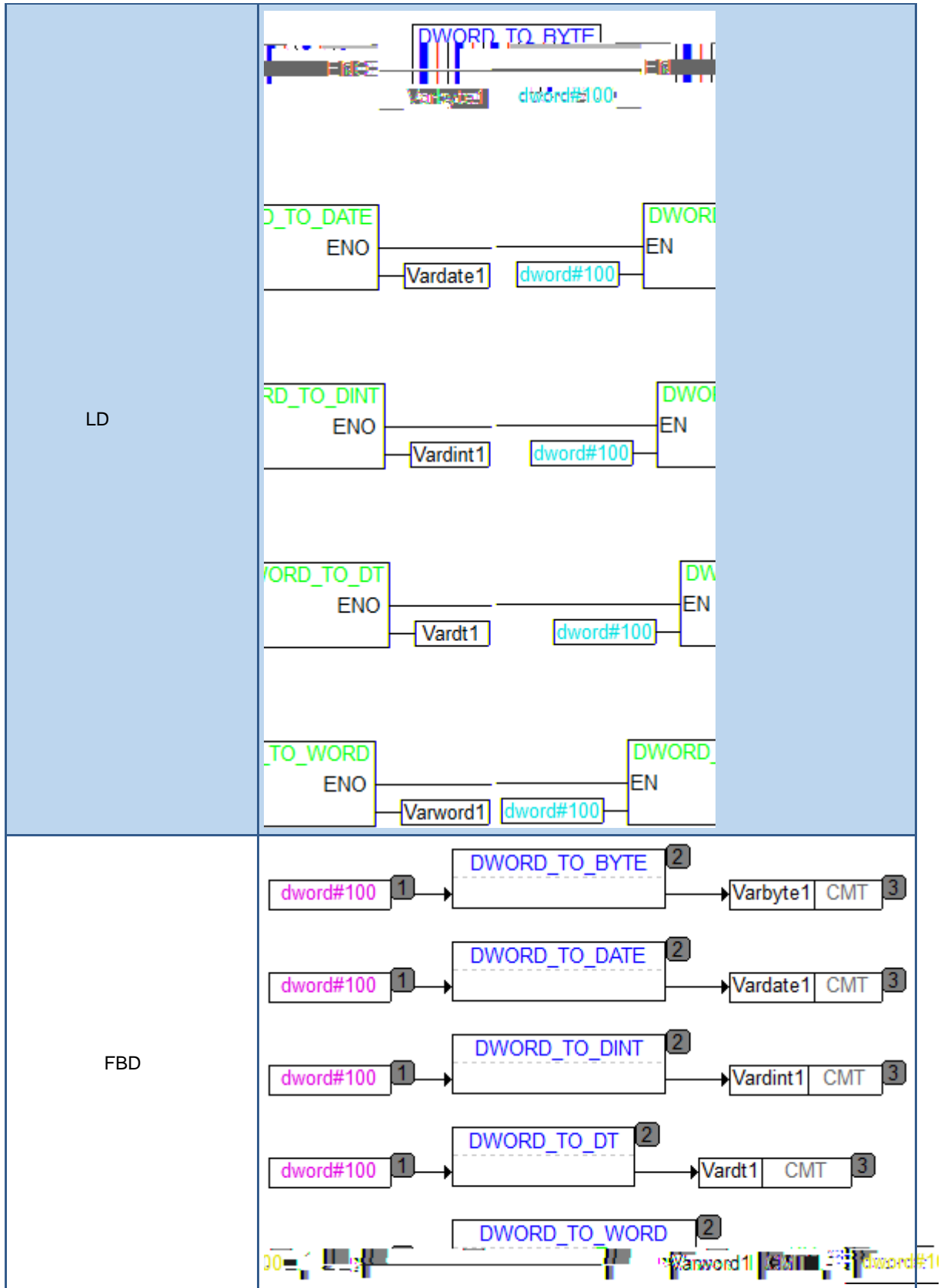
		DWORD
		BYTE DATE DINT DT INT LREAL REAL SINT TIME TOD WORD

3.

DWORD_TO_XXX xxx

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	VarDate1		DATE	#1970-01-01	
0002	VarDt1		DT	DT#1970-01-01 00:00:00	
0003	VarInt1		INT	0	
0004	VarDint1		DINT	0	
0005	VarWord1		WORD	0	





2.2.6.4 SINT_TO SINT

1.

SINT

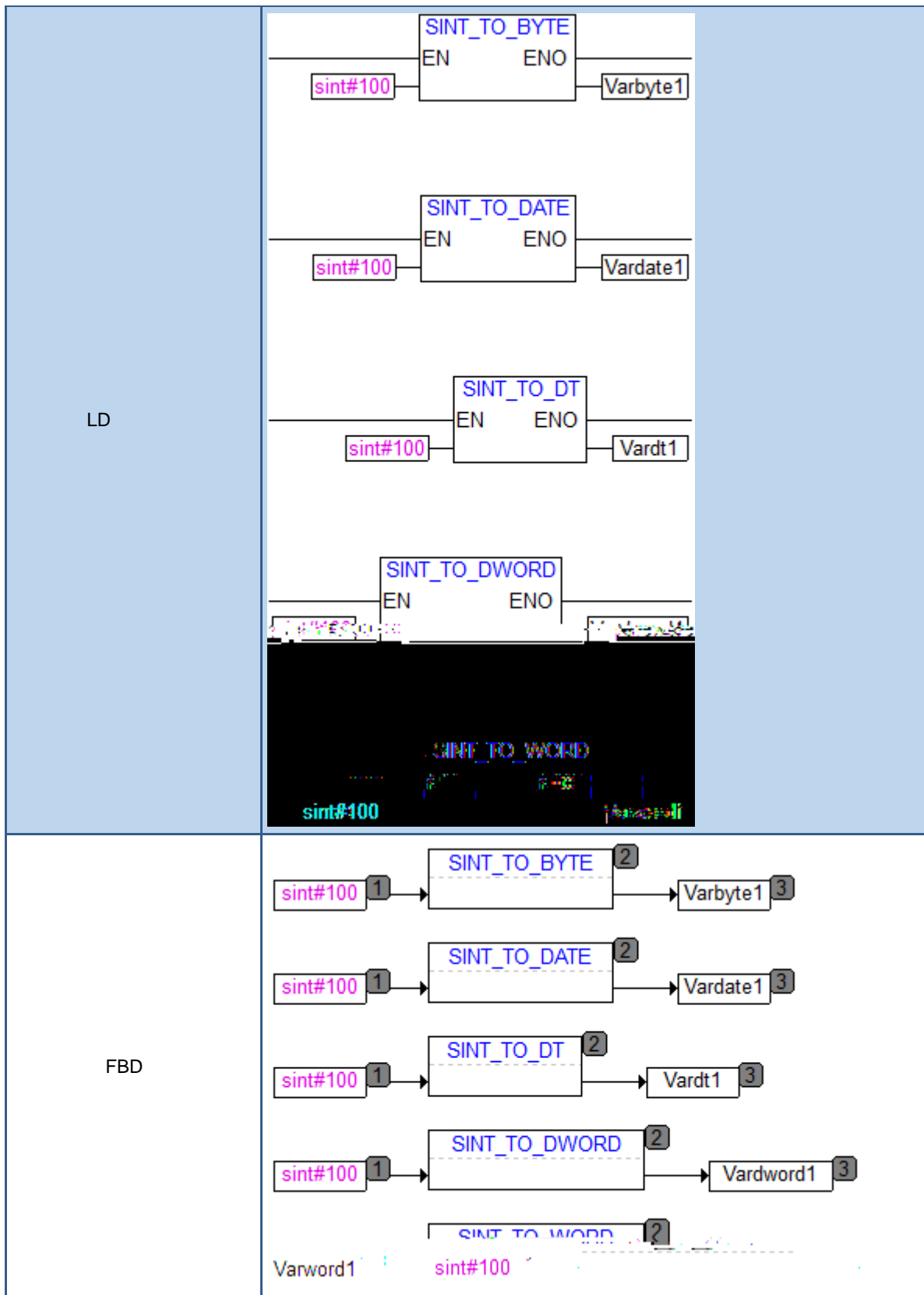
2.

		SINT
		BYTE DATE DINT DT DWORD INT TIME TOD WORD

3.

SINT_TO_xxx xxx

4.





2.2.6.5 INT_TO INT

1.

INT

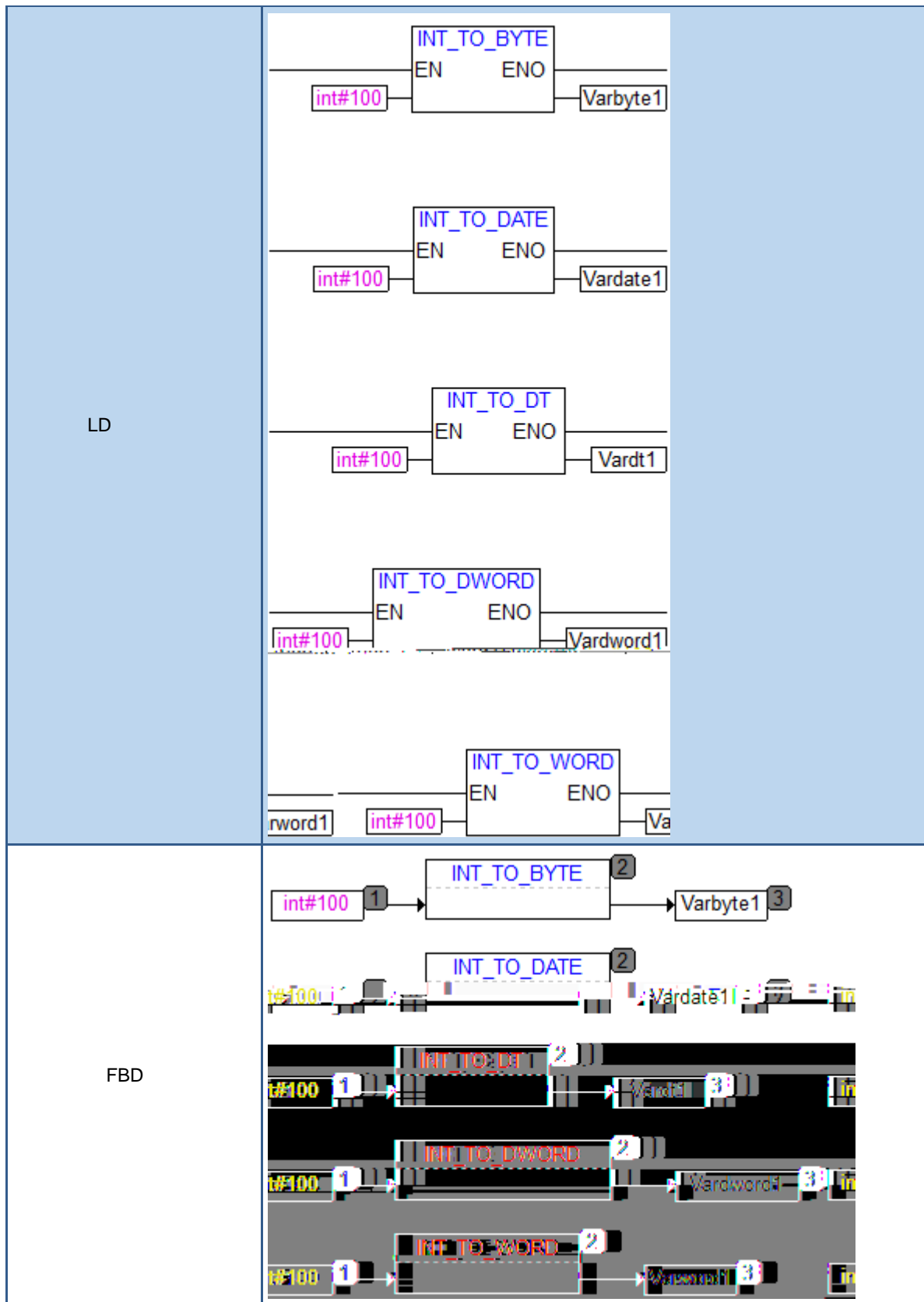
2.

		INT
		BYTE DATE DINT DT DWORD SINT TIME TOD WORD

3.

INT_TO_XXX XXX

4.



2.2.6.6 DINT_TO DINT

1.

DINT

2.

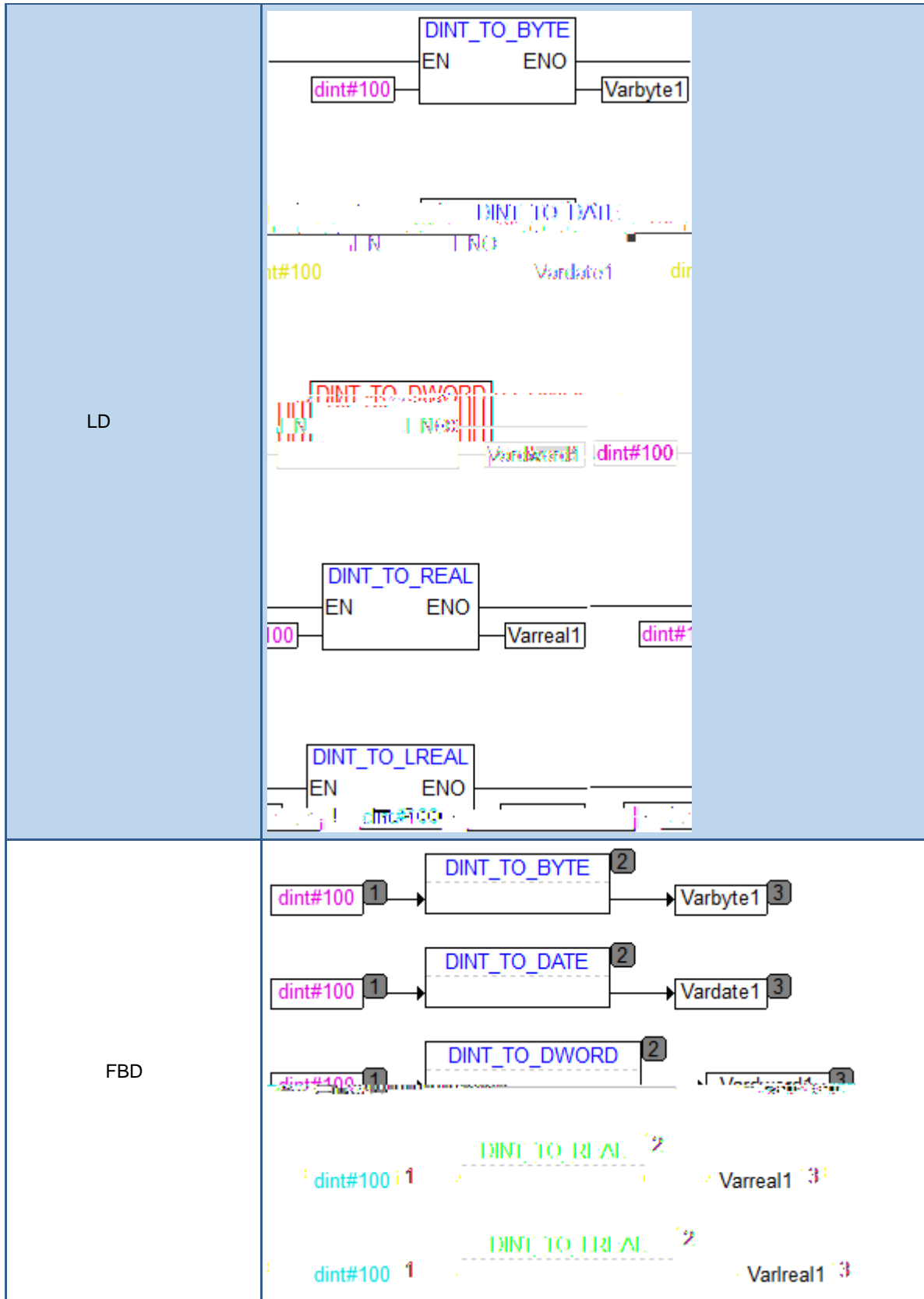
		DINT
		BYTE DATE DT DWORD INT LREAL REAL SINT TIME TOD WORD

3.

DINT_TO_XXX XXX

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Vardate1		DATE	D#1970-01-01	G区
0002	Varbyte1		BYTE	0	G区
0003	Vardword1		DWORD	0	G区
0004	Varreal1		REAL	0	G区
0005	Varlreal1		LREAL	0	G区



2.2.6.7 REAL/LREAL_TO REAL/LREAL

1.

REAL/LREAL

2.

		REAL/LREAL
		DATE DINT DT DWORD TIME TOD REAL LREAL LREAL REAL

3.

REAL/LREAL

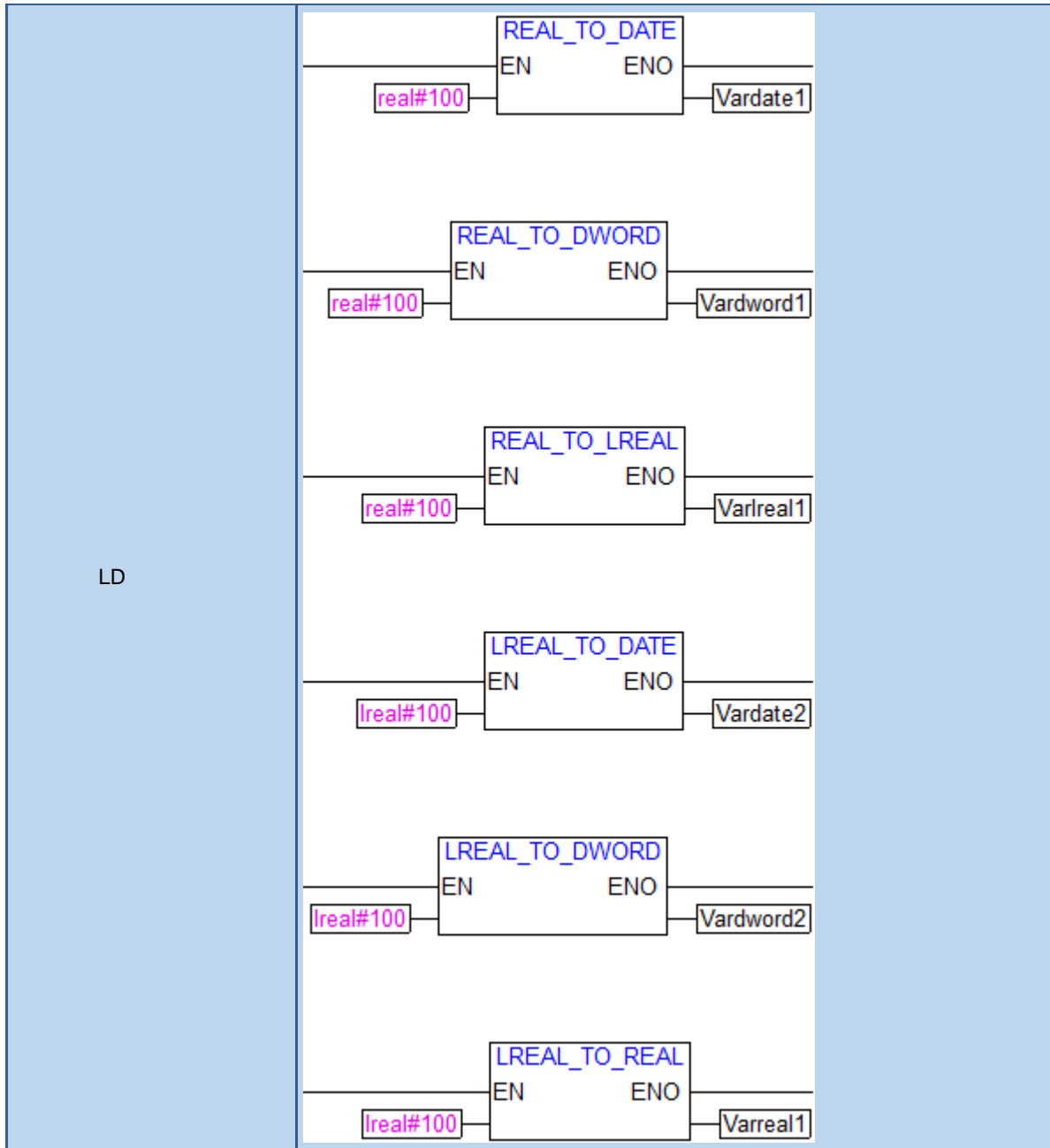
REAL_TO/LREAL_TO_XXX

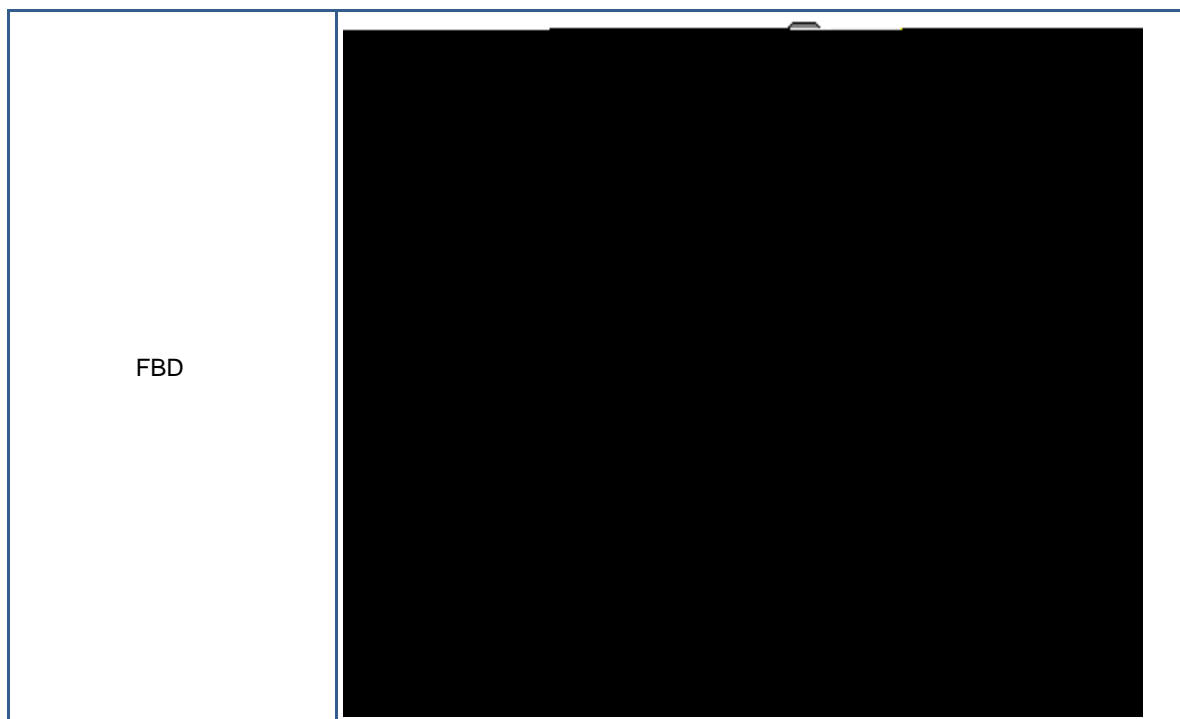
XXX



4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Vardate1		DATE	D#1970-01-01	G区
0002	Vardword1		DWORD	0	G区
0003	Varreal1		REAL	0	G区
0004	Varreal1		LREAL	0	G区
0005	Vardate2		DATE	D#1970-01-01	G区
0006	Vardword2		DWORD	0	G区





2.2.6.8 TIME_TO TIME

1.

TIME

2.

		TIME
		BYTE DINT DWORD INT REAL LREAL SINT WORD

3.

TIME

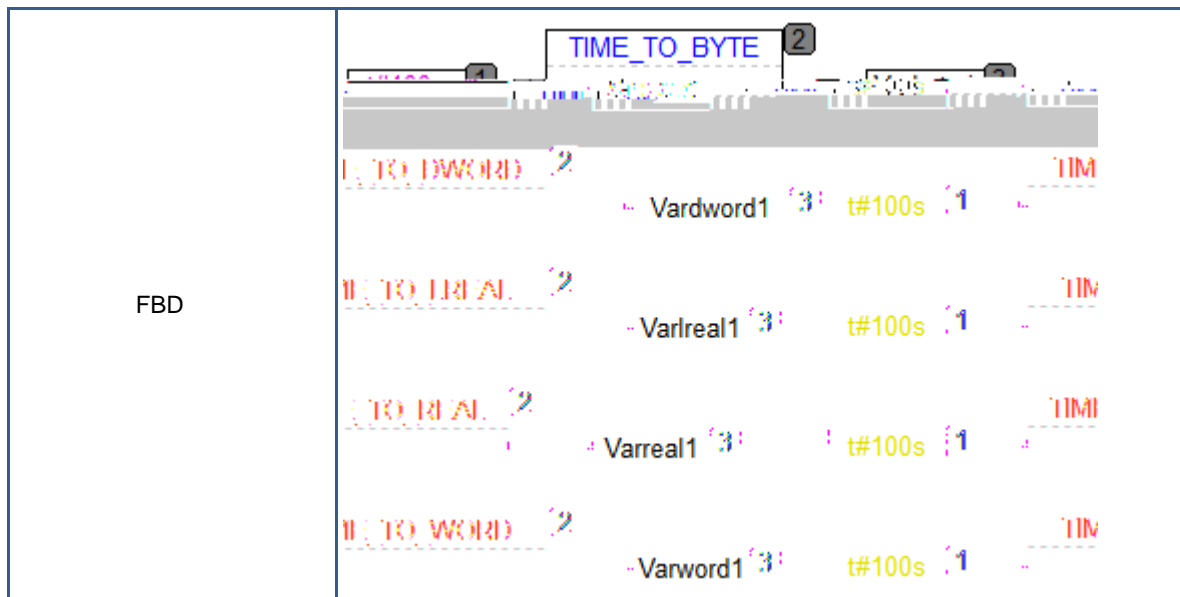
TIME_TO_XXX XXX

TIME

4.



序号	变量名	变量说明	变量类型	初始值	区域
0001	Varbyte1		BYTE	0	G区
0002	Wordword1		DWORD	0	G区
0003					
0004					
0005					
0006					



2.2.6.9 DATE_TO DATE

1.

DATE

2.

		DATE
		BYTE DINT DWORD INT LREAL REAL SINT WORD

3.

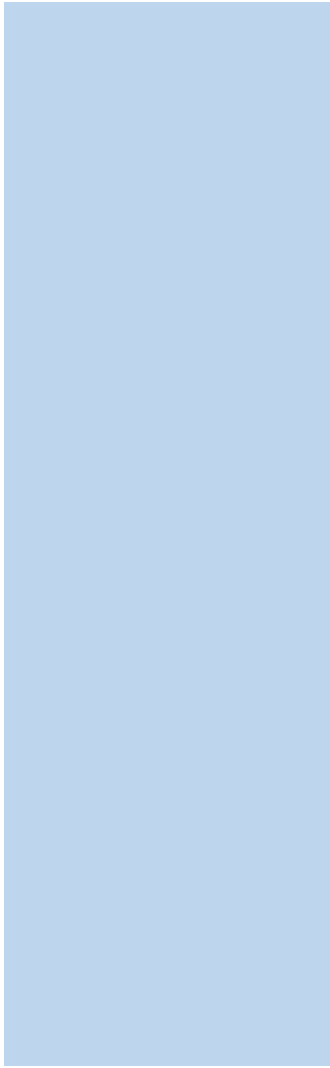
DATE

DATE_TO_XXX XXX

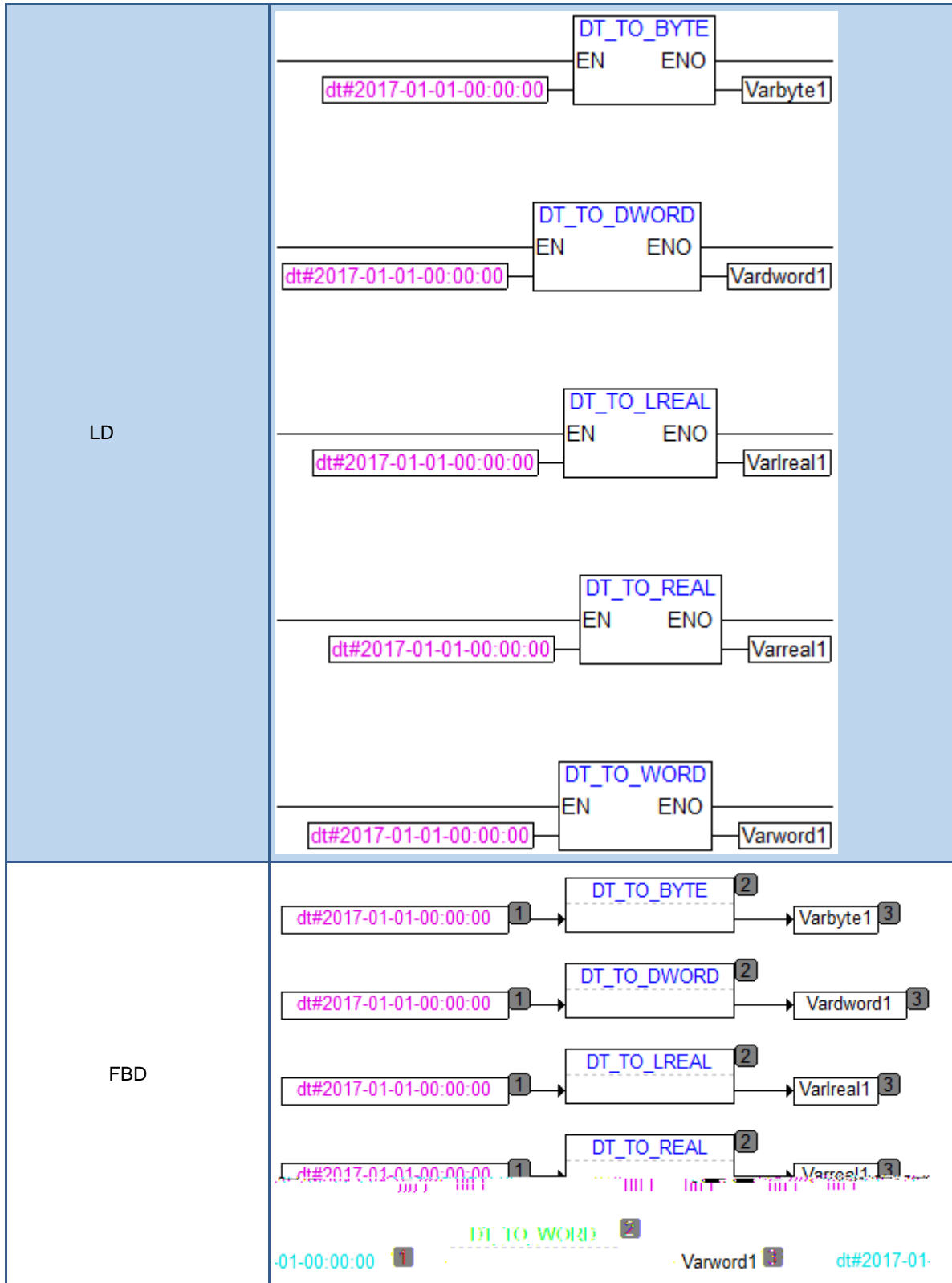
DATE

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Varbyte1		BYTE	0	G区
0002	Var dword1		DWORD	0	G区
0003					
0004					
0005					







2.2.6.11 TOD_TO TOD

- 1.

TOD

2.

		TOD
		BYTE DINT DWORD INT LREAL REAL SINT WORD

3.

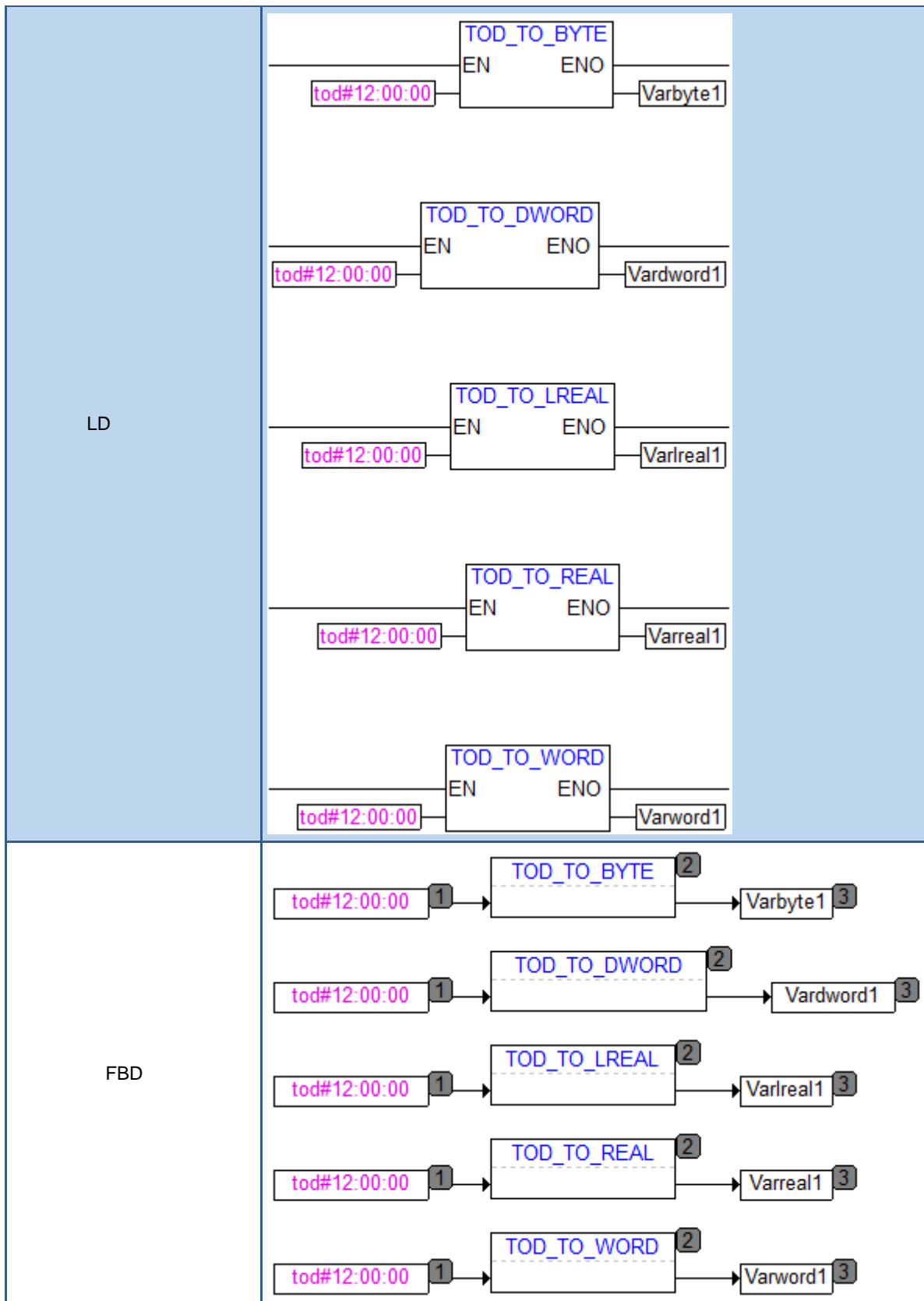
TOD

TOD_TO_xxx xxx

TOD

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Varbyte1		BYTE	0	G区
0002	Var dword1		DWORD	0	G区
0003					
0004					
0005					



1.

CLK	BOOL		0
Q	BOOL		0

2.

	F_TRIG	CLK	CLK	Q	BOOL
Q	CLK	TRUE	FALSE	Q	TRUE
	FALSE				

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	F_TRIG_1		F_TRIG		G区
0002	Q		BOOL	FALSE	G区

Q	BOOL		0

Reset	Set	Q(n+1)
0	0	Q(n)
0	1	1
1	0	0
1	1	1

2.

SR
AND Q) OR Set

Set Reset Q BOOL
RS

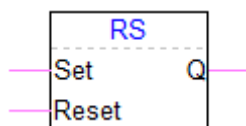
Q =(NOT Reset

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SR_1		SR		G区
0002	Var1		BOOL	FALSE	G区
0003	Var2		BOOL	FALSE	G区
0004	Var3		BOOL	FALSE	G区

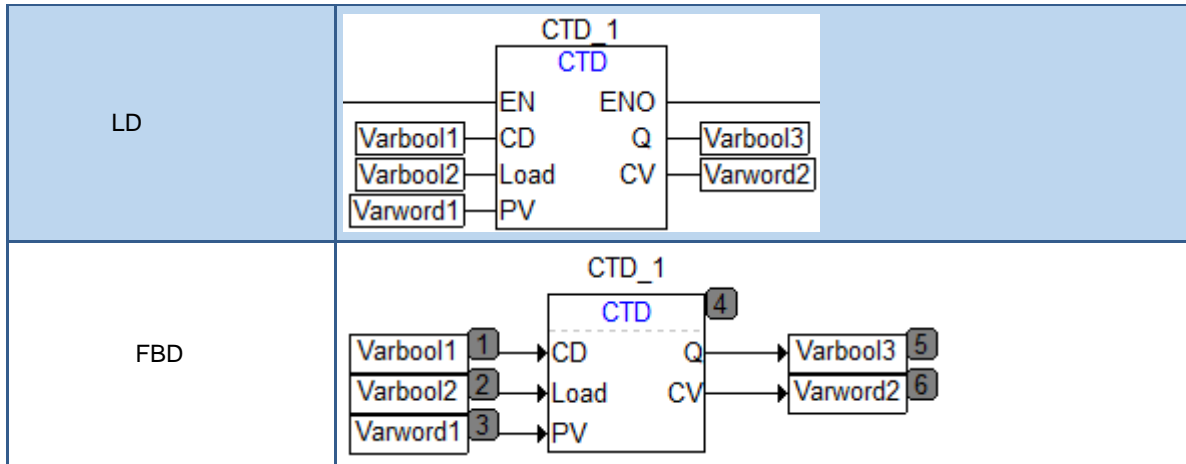
LD	
FBD	

2.2.8.2 RS

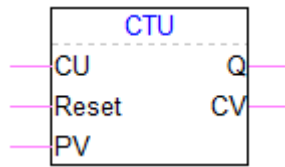


82

1.



2.2.9.2 CTU

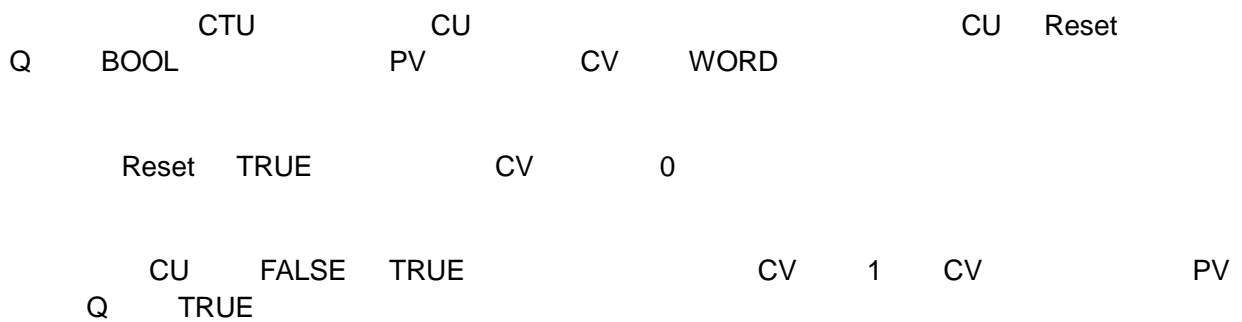


84

1.

CU	BOOL				0
Reset	BOOL	Reset	TRUE	CV	0
		0			
PV	WORD				0
Q	BOOL	CV	TRUE	PV	Q
					0
CV	WORD				0

2.



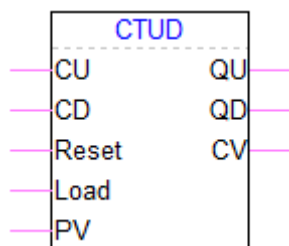
3.



序号	变量名	变量说明	变量类型	初始值	区域
0001	CTU_1		CTU		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varword1		WORD	0	G区
0005	Varbool3		BOOL	FALSE	G区
0006	Varword2		WORD	0	G区

LD	
FBD	

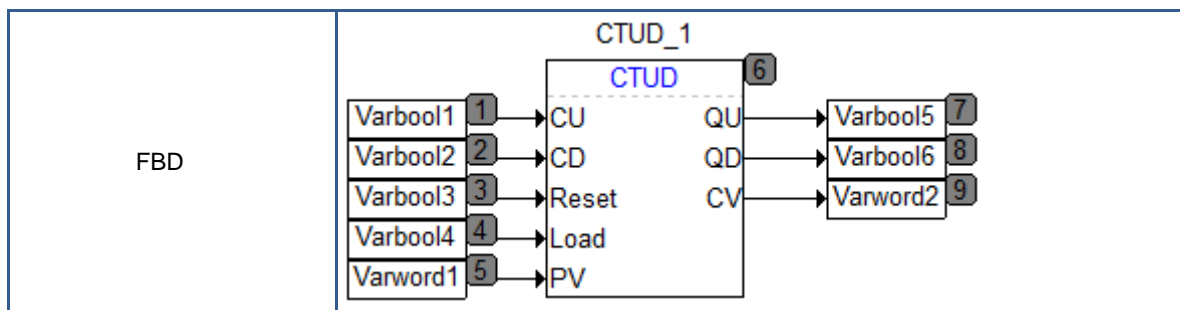
2.2.9.3 CTUD /



85 /

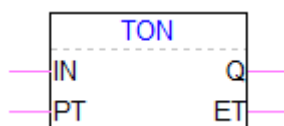
1.

CU	BOOL		0
CD	BOOL		0
Reset	BOOL	Reset TRUE 0	CV 0
Load	BOOL	Load TRUE PV Reset CV=0	CV TRUE 0
PV	WORD		0



2.2.10

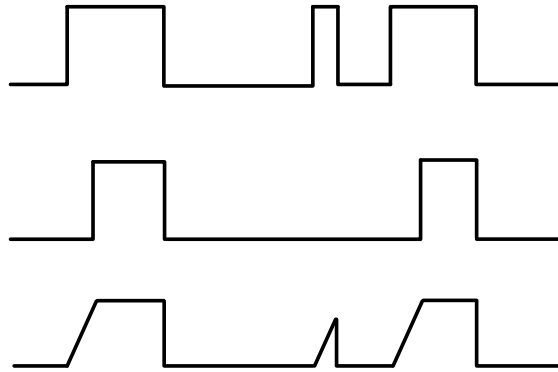
2.2.10.1 TON



86

1.

IN	BOOL		0
PT	TIME		T#0MS
Q	BOOL		0

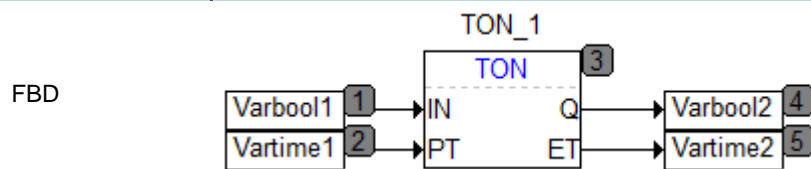


87 TON

3.

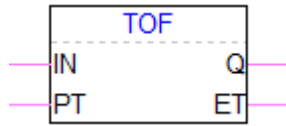
序号	变量名	变量说明	变量类型	初始值	区域
0001	TON_1		TON		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Vartime1		TIME	T#0MS	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Vartime2		TIME	T#0MS	G区

LD	
----	--





2.2.10.3 TOF



89

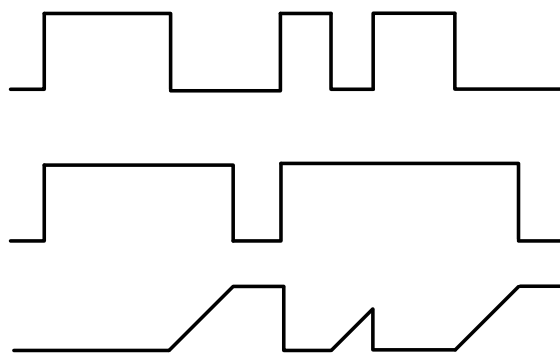
1.

IN	BOOL		0
PT	TIME		T#0MS
Q	BOOL		0
ET	TIME		T#0MS

LD EN EN FALSE TRUE FALSE EN TRUE

2.

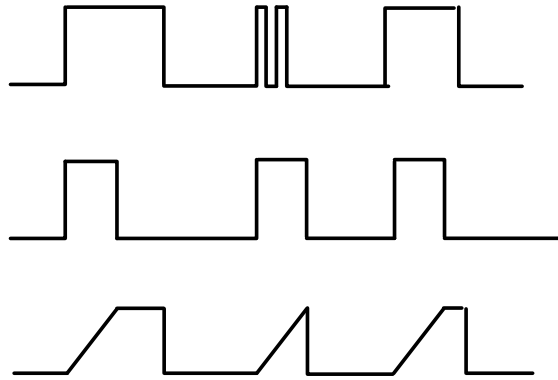
TOF IN Q BOOL PT ET TIME
 PT IN TRUE Q TRUE IN
 ET PT IN TRUE Q TRUE ET >= PT Q FALSE ET = PT



90 TOF

3.





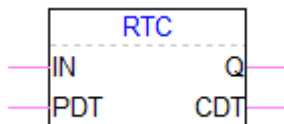
92 TP

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	TP_1		TP		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Vartime1		TIME	T#0MS	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Vartime2		TIME	T#0MS	G区

LD	
FBD	

2.2.10.5 RTC



93 /

1.



IN	BOOL		0
PDT	DT		DT#1970-01-01-00:00:00
Q	BOOL		0
CDT	DT	IN FALSE 1970-01-01-00-00 00 00 IN TRUE PDT	DT#1970-01-01-00:00:00

LD EN EN TRUE FALSE EN TRUE
EN FALSE

2.

CDT PDT RTC IN FALSE CDT 1970-01-01-00:00:00

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	RTC_1		RTC		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Vardt1		DT	DT#1970-01-0...	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Vardt2		DT	DT#1970-01-0...	G区

LD	
FBD	



2.3

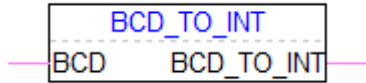
2.3.1 BCD

BCD 0 99 4 4-7
 0-3 BCD 16 BCD 0-99 16
 0-FF
 BCD 4 BCD 51 BCD 5
 59 0101 1001 2#111011 0101 0001
 0101 1 0001 51 BCD 0101 0001

2.3.1.1 BCD_TO_INT BCD

1.

BCD BCD_TO_INT BYTE INT
 BCD



94 BCD_TO_INT

2.

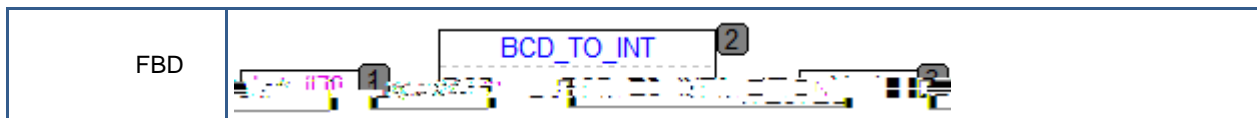
BCD	BYTE	BCD	0
-----	------	-----	---

BCD_TO_INT	INT	INT	BCD	-1	0
------------	-----	-----	-----	----	---

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		INT	0	G区

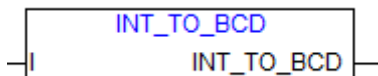
LD



2.3.1.2 INT_TO_BCD BCD

1.

BCD INT_TO_BCD INT BYTE
 BCD BCD 255



95 INT_TO_BCD

2.

I	INT	49	49	0
---	-----	----	----	---

INT_TO_BCD	BYTE	BCD	0
------------	------	-----	---

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BYTE	0	G区

LD	
FBD	

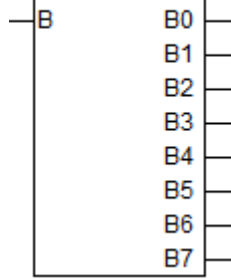
2.3.2

2.3.2.1 UNPACK

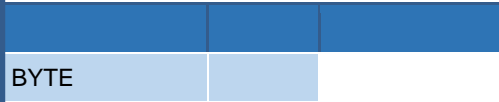
1.

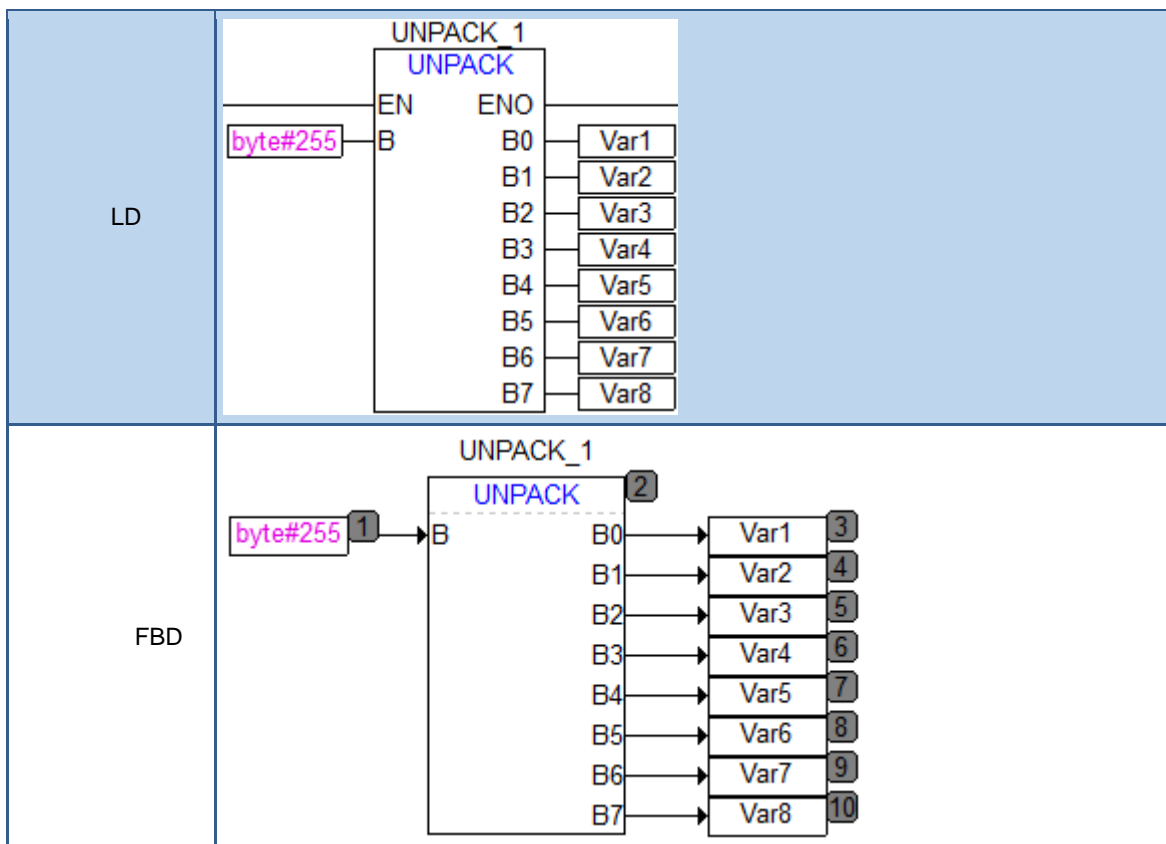
B 7~0 B7~B0 PACK

UNPACK



96 UNPACK

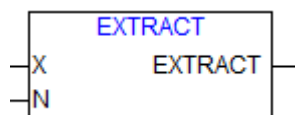




2.3.2.2 EXTRACT

1.

X N



97 EXTRACT

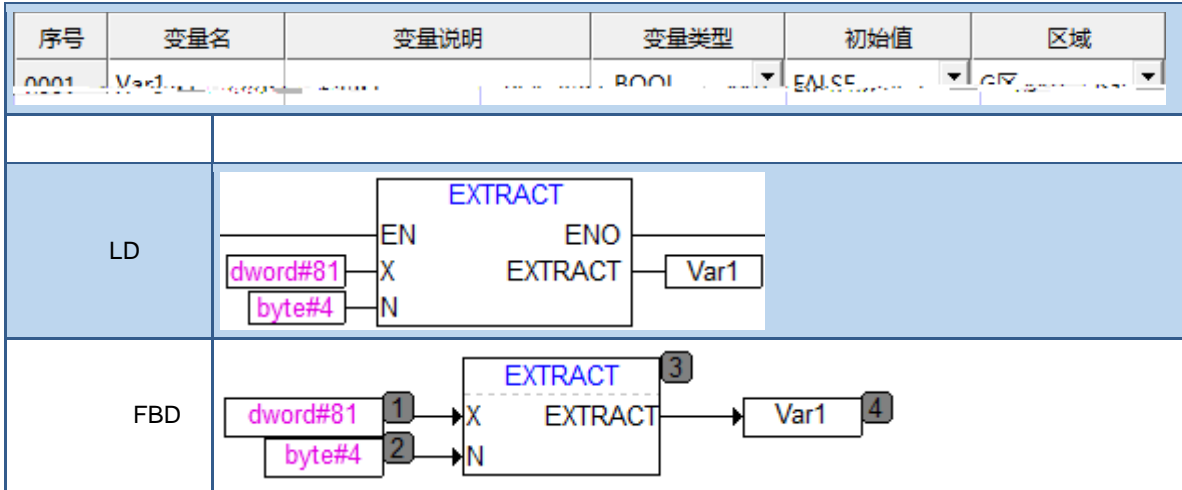
2.

X	DWORD		0
N	BYTE		0

EXTRACT	BOOL		0

3.



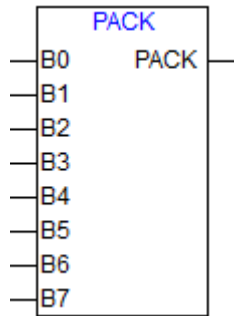


2.3.2.3 PACK

1.

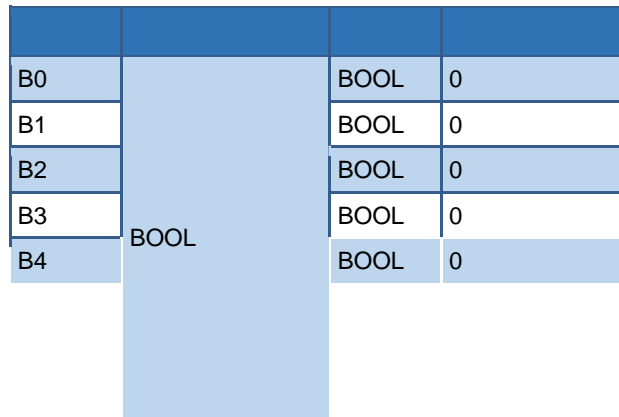
B0-B7 0 7 BYTE

UNPACK



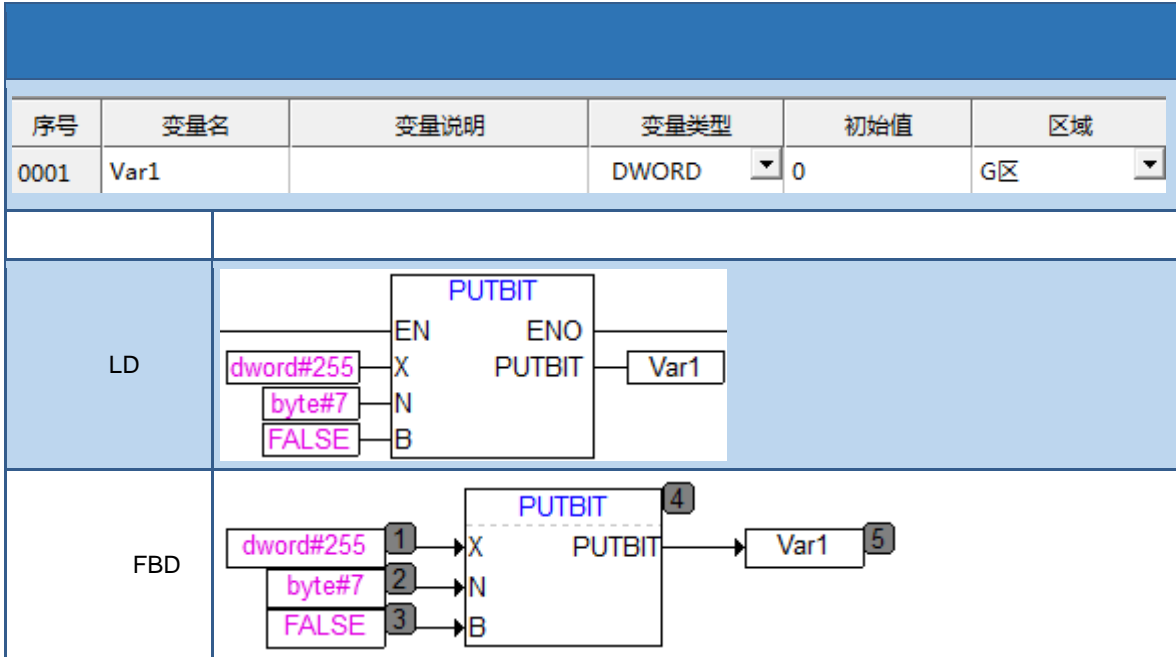
98 PACK

2.



PutBit	DWORD		
--------	-------	--	--

3.

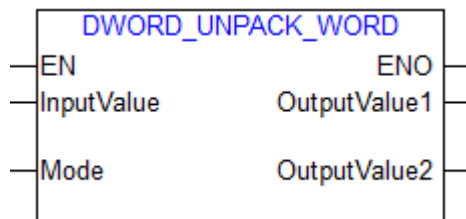


2.3.2.5 DWORD_UNPACK_WORD DWORD WORD

1.

DWORD

WORD



100 DWORD_UNPACK_WORD

2.

InputValue	DWORD			
Mode	BOOL	FALSE	16	16
		TRUE	16	16

OutputValue1	WORD	Mode	FALSE	16
--------------	------	------	-------	----

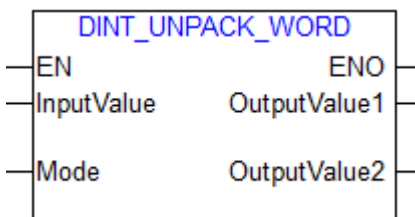
		Mode	TRUE	16
OutputValue2	WORD	Mode	FALSE	16
		Mode	TRUE	16

2.3.2.6 DINT_UNPACK_WORD DINT WORD

1.

DINT

WORD



101 DINT_UNPACK_WORD

2.

InputValue	DINT			
Mode	BOOL	FALSE	16	16
		TRUE	16	16

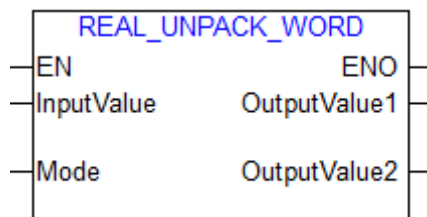
OutputValue1	WORD	Mode	FALSE	16
		Mode	TRUE	16
OutputValue2	WORD	Mode	FALSE	16
		Mode	TRUE	16

2.3.2.7 REAL_UNPACK_WORD REAL WORD

1.

REAL

WORD



102 REAL_UNPACK_WORD

2.





InputValue	REAL			
Mode	BOOL	FALSE	16	16
		TRUE	16	16

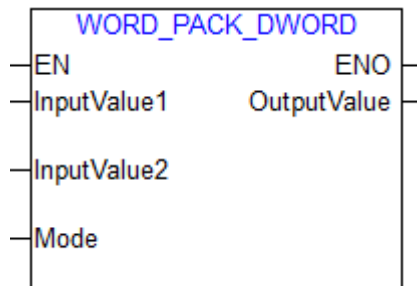
OutputValue1	WORD	Mode	FALSE	16
		Mode	TRUE	16
OutputValue2	WORD	Mode	FALSE	16
		Mode	TRUE	16

2.3.2.8 WORD_PACK_DWORD WORD DWORD

1.

WORD

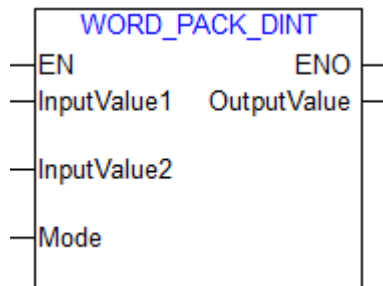
DWORD



103 **WORD_PACK_DWORD**

2.

InputValue1	WORD	1
InputValue2	WORD	2
Mode	BOOL	FALSE InputValue1 16 InputValue2 16 TRUE InputValue1 16 InputValue2 16



104 WORD_PACK_DINT

2.

InputValue1	WORD	1				
InputValue2	WORD	2				
Mode	BOOL	FALSE	InputValue1	16	InputValue2	16
		TRUE	InputValue1	16	InputValue2	16

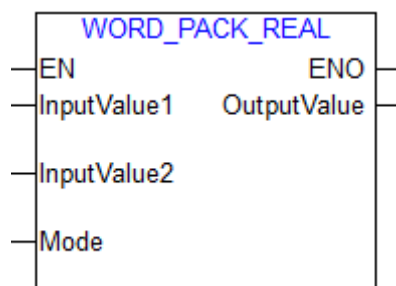
OutputValue	DINT	Mode
-------------	------	------

2.3.2.10 WORD_PACK_REAL WORD REAL

1.

WORD

REAL



105 WORD_PACK_REAL

2.

InputValue1	WORD	1				
InputValue2	WORD	2				
Mode	BOOL	FALSE	InputValue1	16	InputValue2	16
		TRUE	InputValue1	16	InputValue2	16



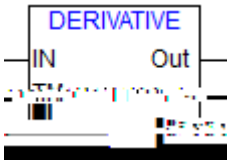
OutputValue	REAL	Mode
-------------	------	------

2.3.3

2.3.3.1 DERIVATIVE

1.

DERIVATIVE



106 DERIVATIVE

2.

$$OUT = \frac{3 * [IN(k) - IN(k - 3)] + IN(k - 1) - IN(k - 2)}{3 * TM(k - 2) + 4 * TM(k - 1) + 3 * TM(k)} * 1000$$

k-3 k-2 k-1 k

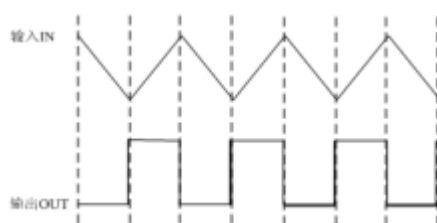
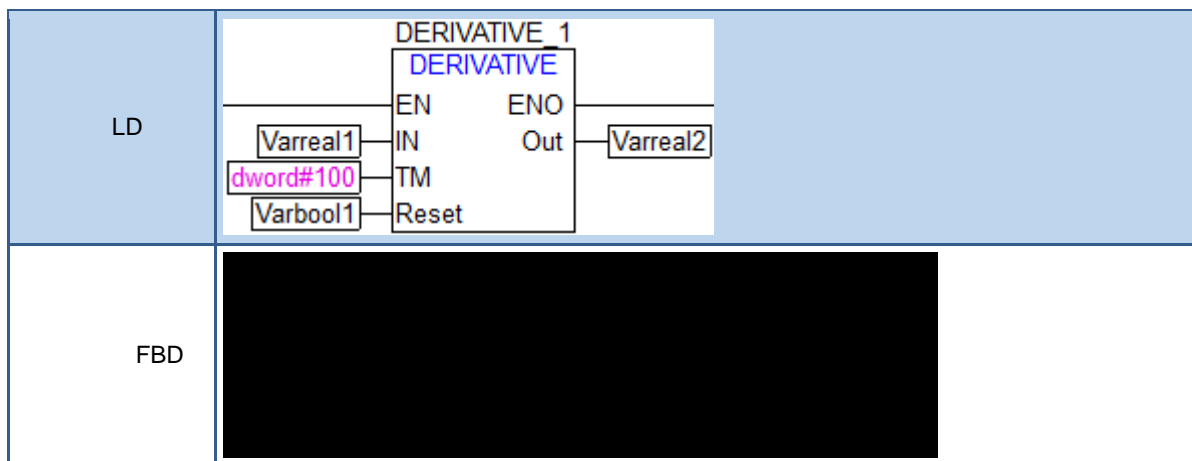
3.

IN	REAL		0
TM	DWORD		0
Reset	BOOL		FALSE

OUT	REAL		0
-----	------	--	---

4.

序号	变量名	变量说明	变量类型	初始值	区域
0001	DERIVATIVE_1		DERIVATIVE		G区
0002	Varreal1		REAL	0	G区
0003	Varbool1		BOOL	FALSE	G区
0004	Varreal2		REAL	0	G区

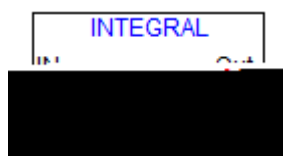


107

2.3.3.2 INTEGRAL

1.

INTEGRAL



108 INTEGRAL

2.

$$OUT(k) = OUT(k-1) + TM * IN(k)$$

k-1 k

3.

IN	REAL	0	FALSE
TM	DWORD	0	TRUE
Reset	BOOL	FALSE	TRUE

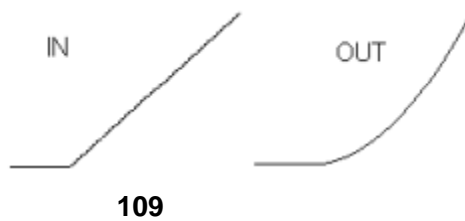
OUT	REAL	0	TRUE
-----	------	---	------

OverFlow	BOOL		FALSE	TRUE
----------	------	--	-------	------

4.

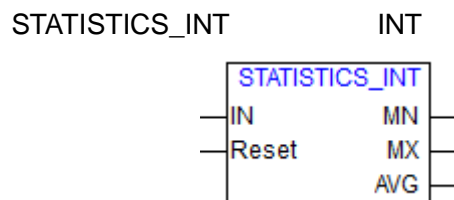
序号	变量名	变量说明	变量类型	初始值	区域
0001	INTEGRAL_1		INTEGRAL		G区
0002	Varreal1		REAL	0	G区
0003	Varbool1		BOOL	FALSE	G区
0004	Varreal2		REAL	0	G区
0005	Varbool2		BOOL	FALSE	G区

LD	
FBD	



2.3.3.3 STATISTICS_INT

1.



110 STATISTICS_INT

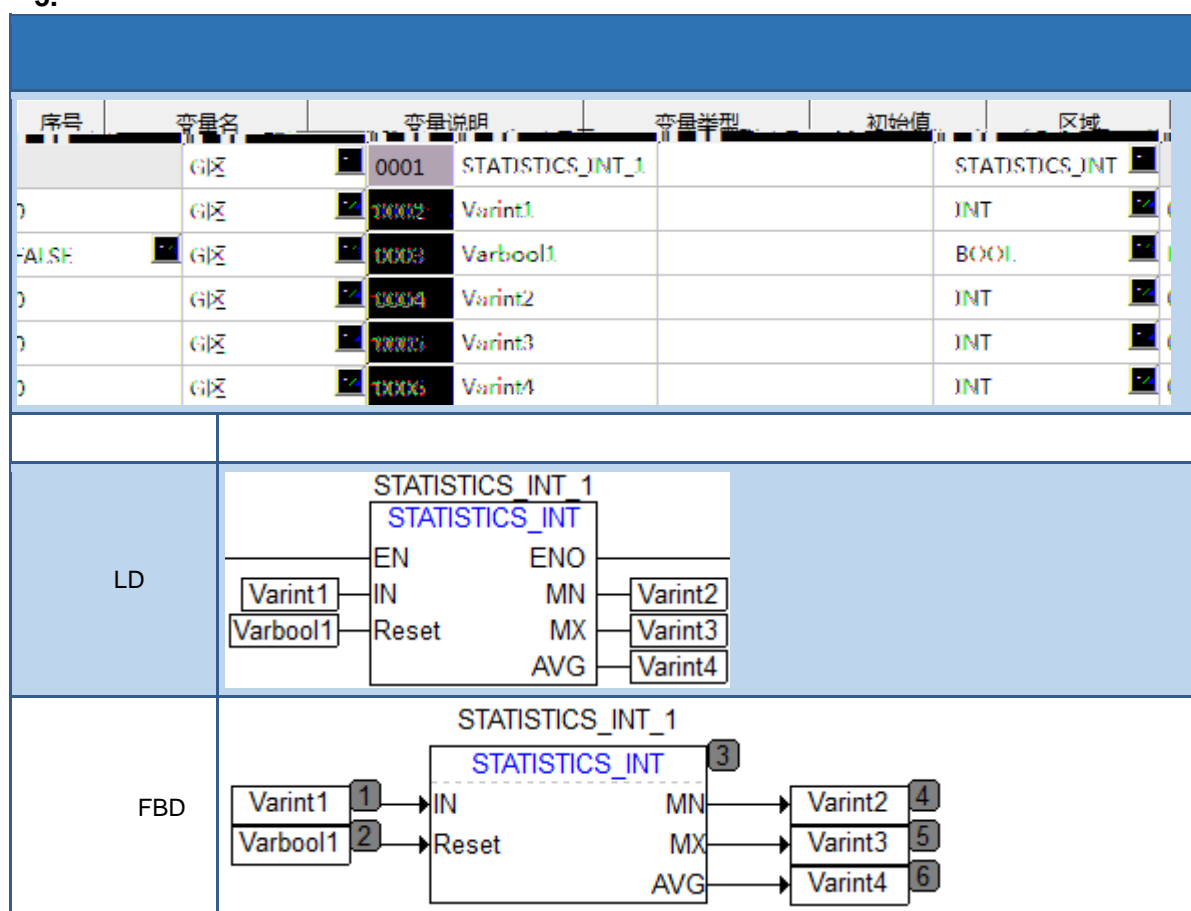
2.



IN	INT		0	FALSE
Reset	BOOL		FALSE	TRUE

MN	INT		32,767	TRUE
MX	INT		-32,768	TRUE
AVG	INT		0	FALSE

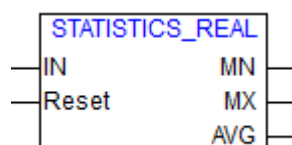
3.



2.3.3.4 STATISTICS_REAL

1.

REAL



111 STATISTICS_REAL

2.

IN	REAL		0	FALSE
Reset	BOOL		FALSE	TRUE

MN	REAL		3.4E+38	TRUE
MX	REAL		3.4E+38	TRUE
AVG	REAL		0	TRUE

3.

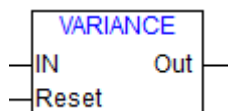
序号	变量名	变量说明	变量类型	初始值	区域
0001	STATISTICS_REAL_1		STATISTICS_REAL		G区
0002	Varreal1		REAL	0	G区
0003	Varbool1		BOOL	FALSE	G区
0004	Varreal2		REAL	0	G区
0005	Varreal3		REAL	0	G区
0006	Varreal4		REAL	0	G区

LD	
FBD	

2.3.3.5 VARIANCE

1.

VARIANCE



112 VARIANCE

2.

IN	REAL		0	FALSE
Reset	BOOL		FALSE	TRUE

Out	REAL		0	FALSE
-----	------	--	---	-------

Z	DWORD	0	TRUE
A	LREAL	0	TRUE
B	LREAL	0	TRUE

3.

VARIANCE						
VARIANCE	<input type="checkbox"/>		GPC	<input type="checkbox"/>	0001	VARIANCE_1
REAL	<input type="checkbox"/>	0	GPC	<input type="checkbox"/>	0002	Varreal1
BOOL	<input type="checkbox"/>	FALSE	GPC	<input type="checkbox"/>	0003	Varbool1
REAL	<input type="checkbox"/>	0	GPC	<input type="checkbox"/>	0004	Varreal2

LD

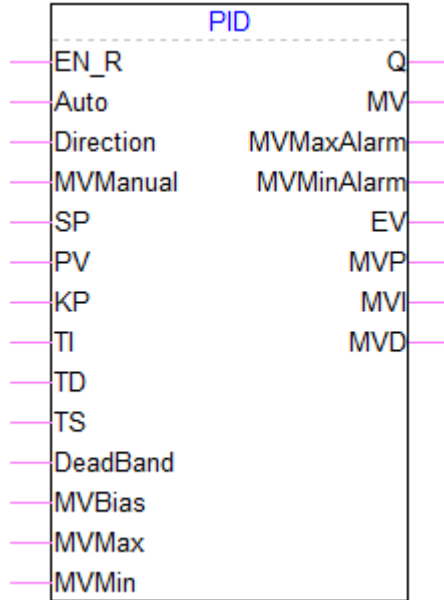


2.3.4

2.3.4.1 PID

1.

PID



113 PID

2.

EN_R	BOOL		FALSE TRUE	FALSE	TRUE
Auto	BOOL		FALSE TRUE	FALSE	TRUE
Direction				EV=SP-PV	

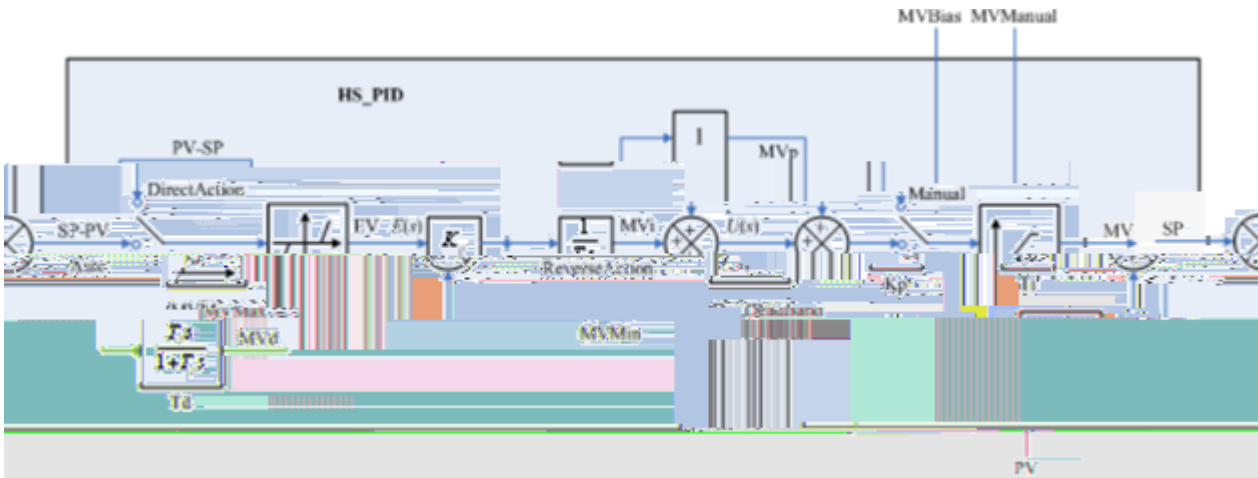


TS	REAL	S	Ts>0	0.1	TRUE
DeadBand	REAL		1 DeadBand>=0 2 DeadBand=0 3 0	0	TRUE
MVBias	REAL			0.0	TRUE
MVMax	REAL			100.0	TRUE
MVMin	REAL			-100.0	TRUE

FALSE

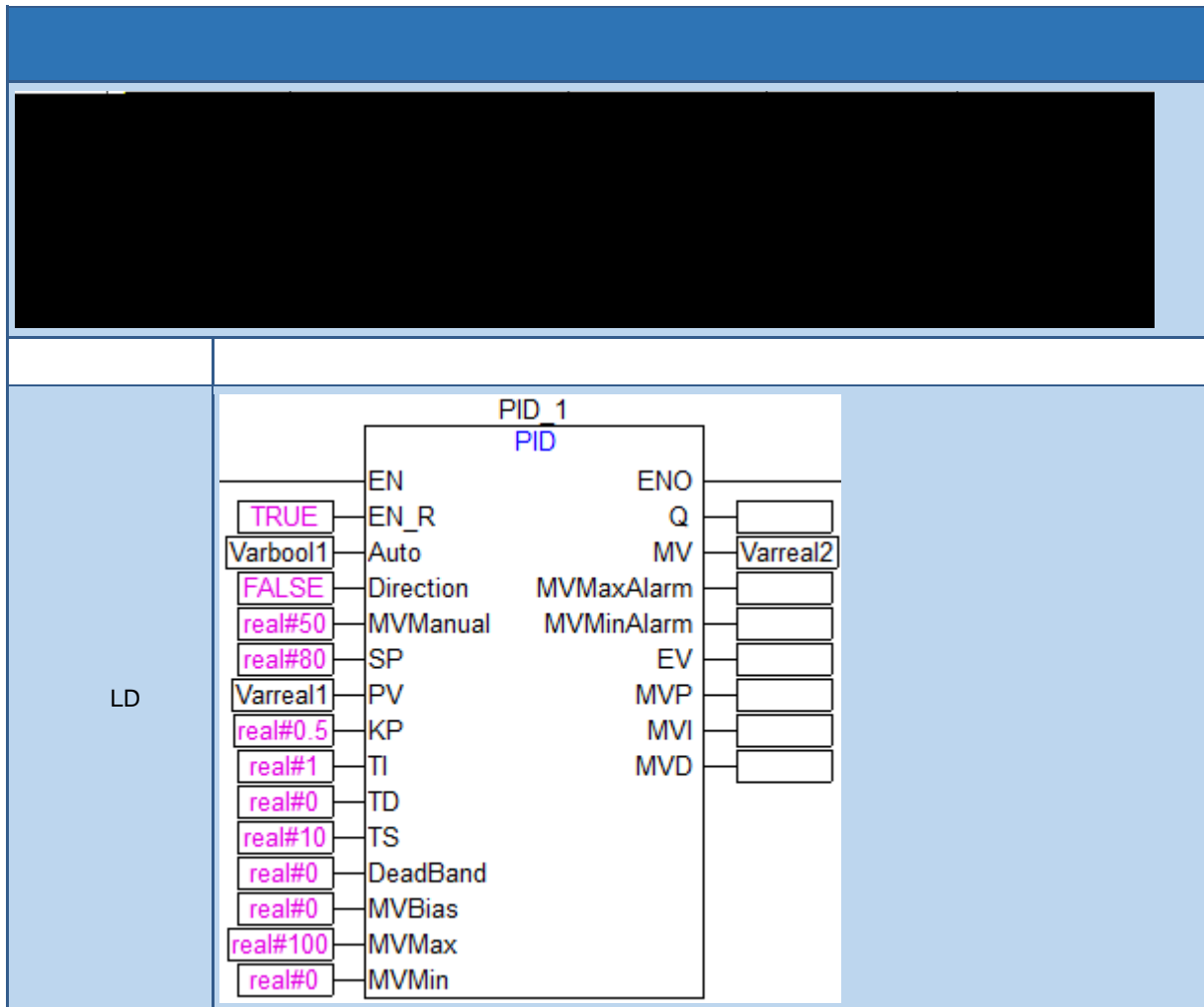
Q	BOOL		FALSE TRUE	FALSE	FALSE
MV	REAL			0	TRUE
MVMaxAlarm	BOOL		FALSE TRUE	FALSE	FALSE
MVMinAlarm	BOOL		FALSE TRUE	FALSE	FALSE
EV	REAL		EV	0	FALSE
MVF	REAL			0	FALSE
MVI				0	

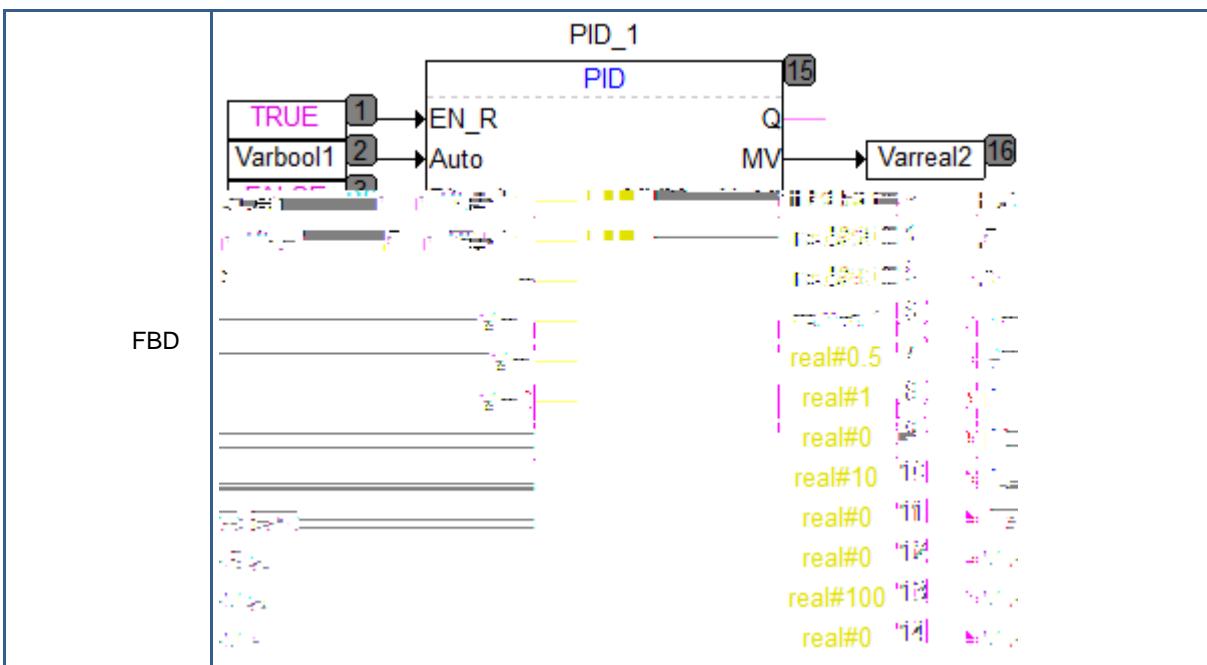
MVp Kp Ti Td MV
 PID MVi MVd MV



114 PID

4.



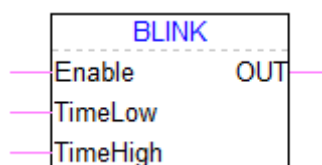


2.3.5

2.3.5.1 BLINK

1.

BLINK

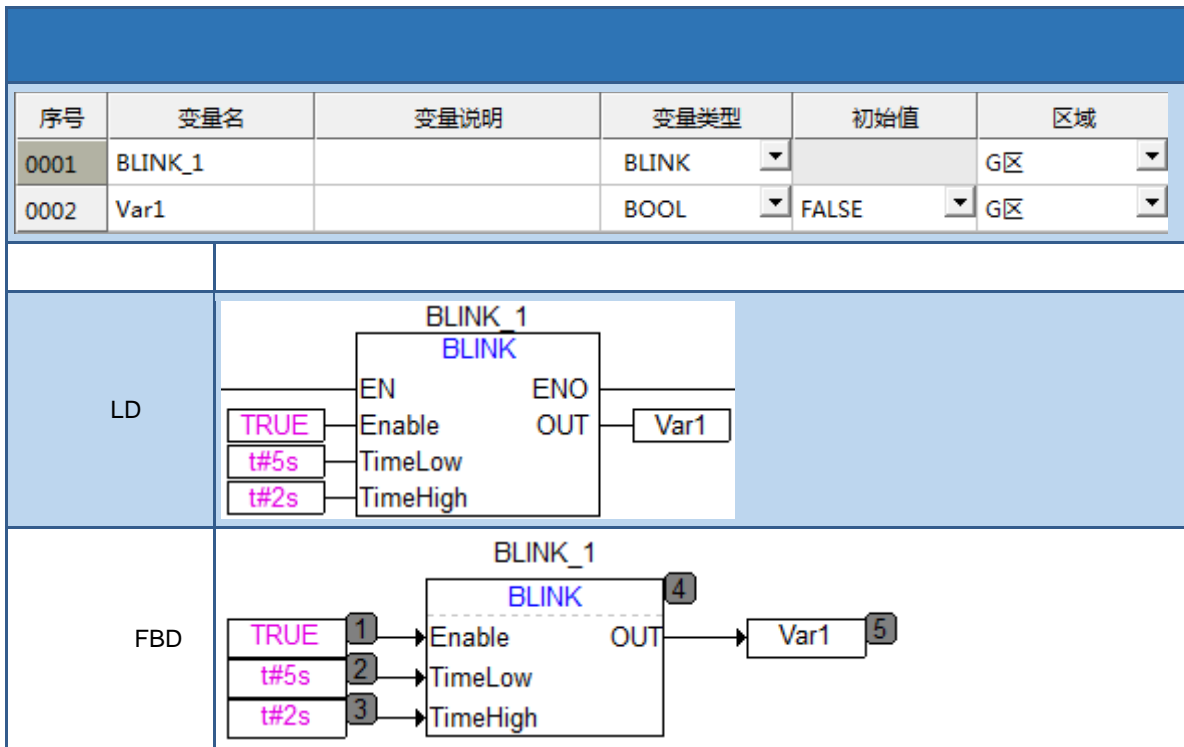


115 BLINK

2.

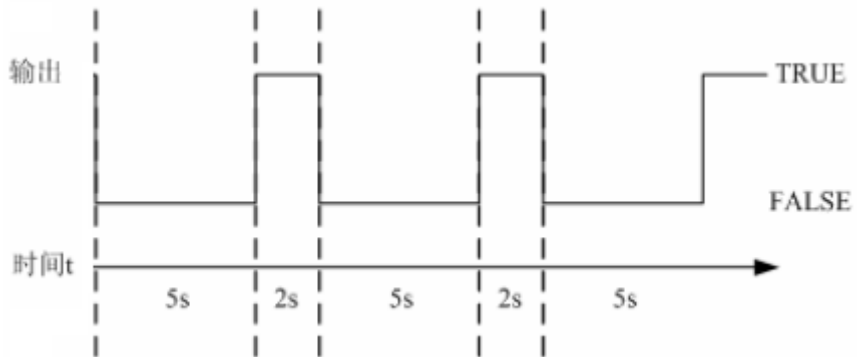
Enable		BOOL	FALSE	TRUE
TimeLow		TIME	T#0S	TRUE
TimeHigh		TIME	T#0S	TRUE

3.



Out

116

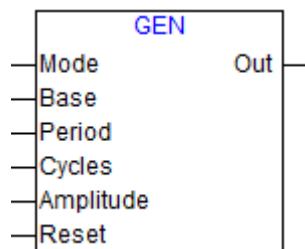


116

2.3.5.2 GEN

1.

GEN



117 GEN

2.

Mode	BYTE		MODE	0	TRUE
		0	TRIANGLE		
		1	TRIANGLE_POS		
		2	SAWTOOTH_RISE		
		3	SAWTOOTH_FALL		
		4	RECTANGLE		
		5	SINUS		
		6	COSINU		
Base	BOOL		BASE TRUE BASE FALSE	FALSE	TRUE
Period	TIME	Base		T#0MS	TRUE
Cycles	DWORD	Base		0	TRUE
Amplitude	INT			0	TRUE
Reset	BOOL		RESET=TRUE 0	FALSE	TRUE
Out		INT		0	TRUE

LD

EN



	EN	TRUE	FALSE		EN	TRUE
EN	FALSE					

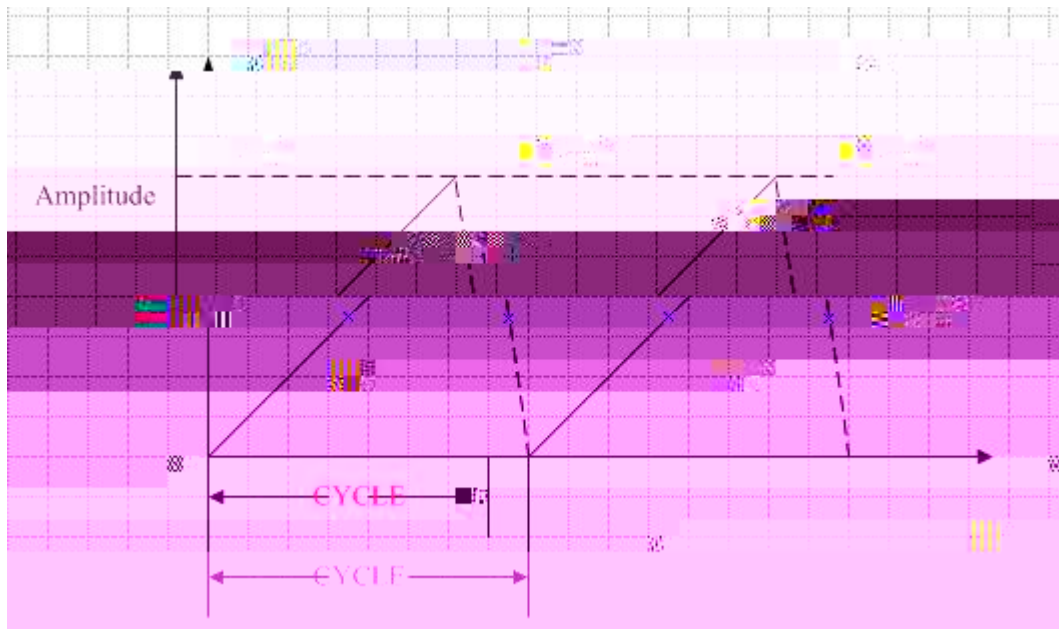
3.

RESET=1

BASE=0	CYCLES PERIOD	AMPLITUDE	MODE	BASE=1
--------	---------------	-----------	------	--------

4.

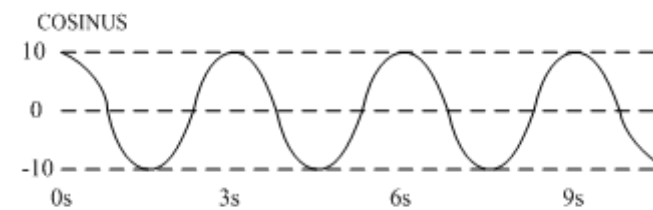
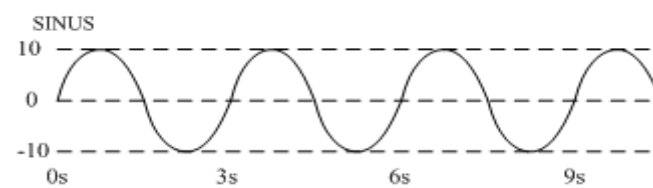
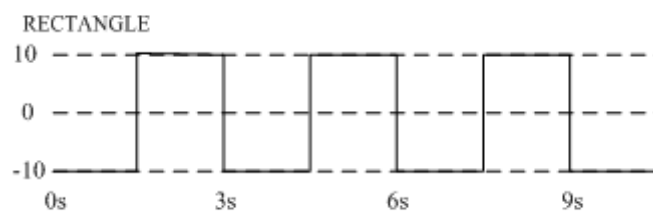
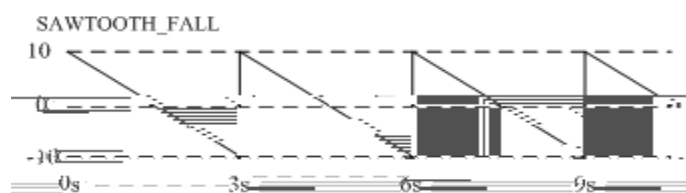
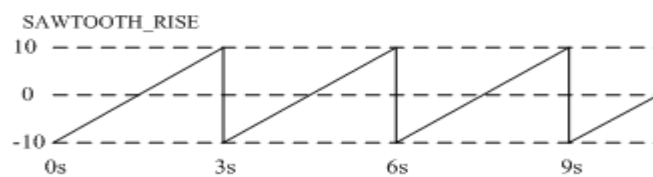
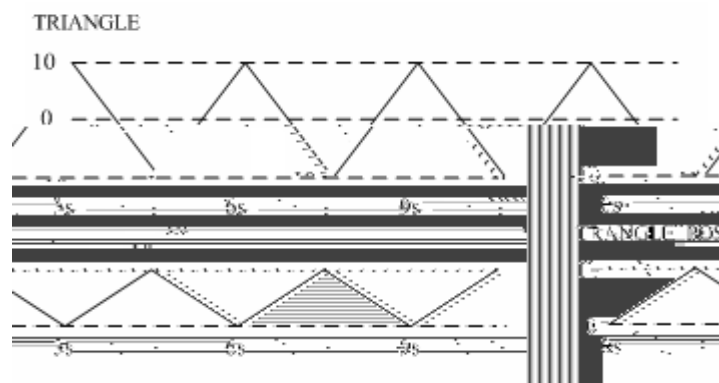
BASE=0	SAWTOOTH_RISE	SAWTOOTH_FALL	CYCLE
118			



118

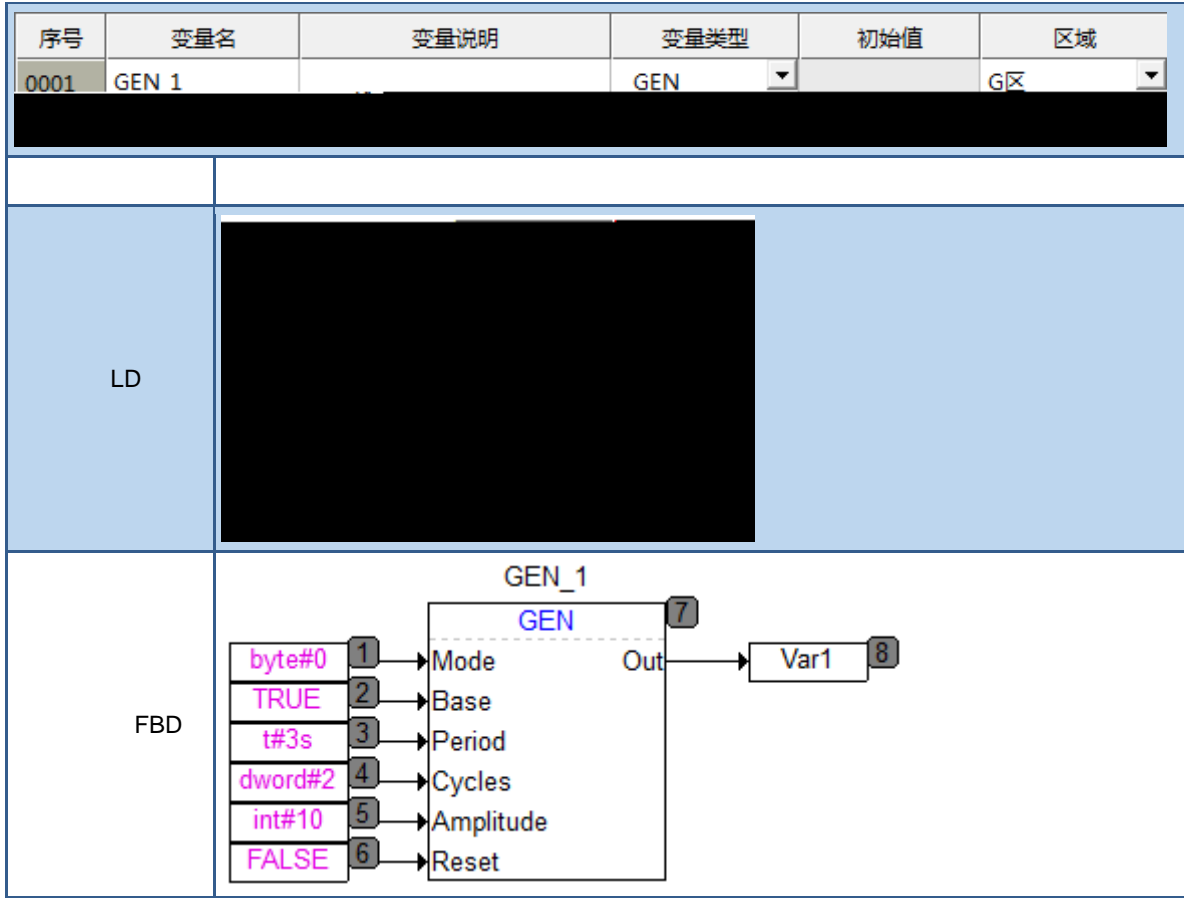
BASE=1	SINUS	COSINUS	IEC	PERIOD
0.1			0.1	

Mode



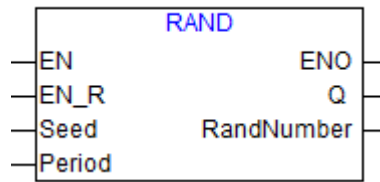
119

5.



2.3.5.3 RAND

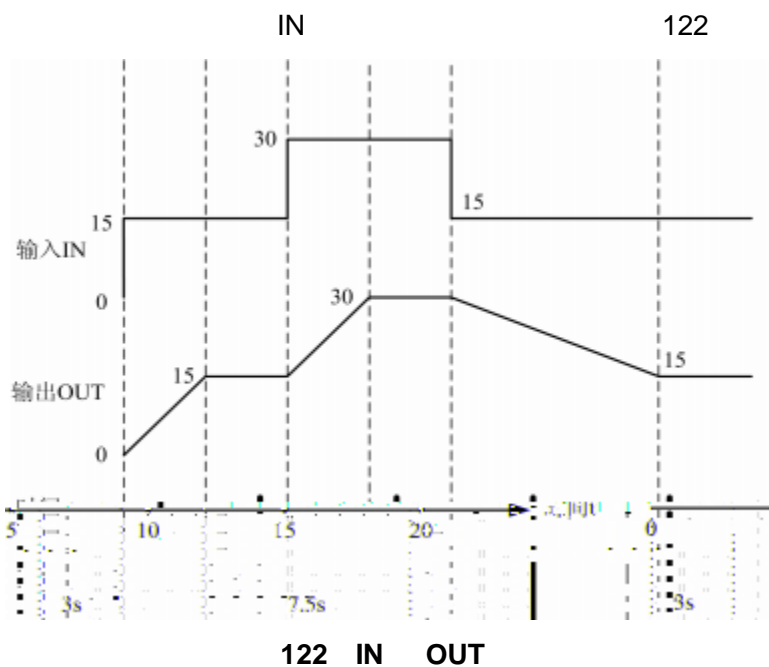
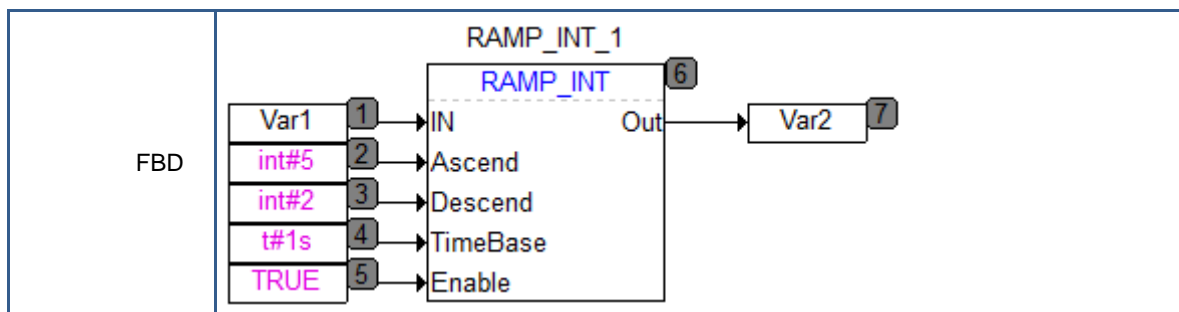
1.



120 RAND

2.

变量名	数据类型	初始值	区域
EN_R	BOOL	0 RandNumber	FALSE FALSE
Seed	WORD	0-65,535	0 FALSE
Period	DWORD	0	0 FALSE

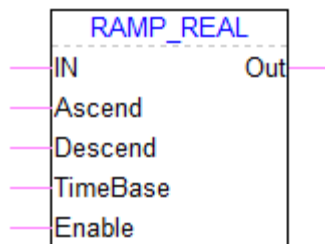


2.3.6.2 RAMP_REAL

1.

RAMP_REAL

OUT	IN	TIMEBASE	t#0s	TIMEBASE	t#0s	ASCEND	DESCEND
DESCEND				ASCEND			
TIMEBASE							



123 RAMP_REAL

2.



IN	REAL		0	FALSE
Ascend	REAL		0	TRUE
DEScend	REAL		0	TRUE
TimeBase	TIME		T#1S	TRUE
Enable	BOOL		TRUE	TRUE

Out	REAL		0	TRUE
-----	------	--	---	------

LD EN
 EN TRUE FALSE EN TRUE
 EN FALSE

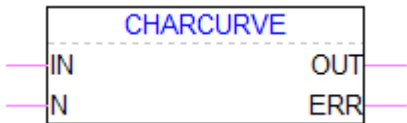
3.

2.3.6.1 RAMP_INT

2.3.6.3 CHARCURVE

1.

IN INT N INT OUT 2=<N<=11 INT ERR
 PX[0..10] PY[0..10]
 PX[0]..PX[N-1] ERR 1 IN<PX[0] ERR=2
 IN>PX[N-1] ERR=3 PY[0] PY[N-1]
 N 2 11 ERR=4



124 CHARCURVE

2.

IN	INT		0	FALSE
N	BYTE		0	TRUE

OUT	INT		0	FALSE
ERR	BYTE		0	FALSE

PX	ARRAY[0..10] OF INT	X	0	TRUE
PY	ARRAY[0..10] OF INT	Y	0	TRUE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	CHARCURVE_1		CHARCURVE		G区
0002	Varint1		INT	0	G区
0003	Varbyte1		BYTE	0	G区

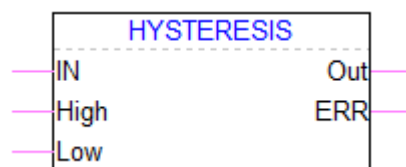
LD	
FBD	

2.3.6.4 HYSTERESIS

1.

TRUE

FALSE



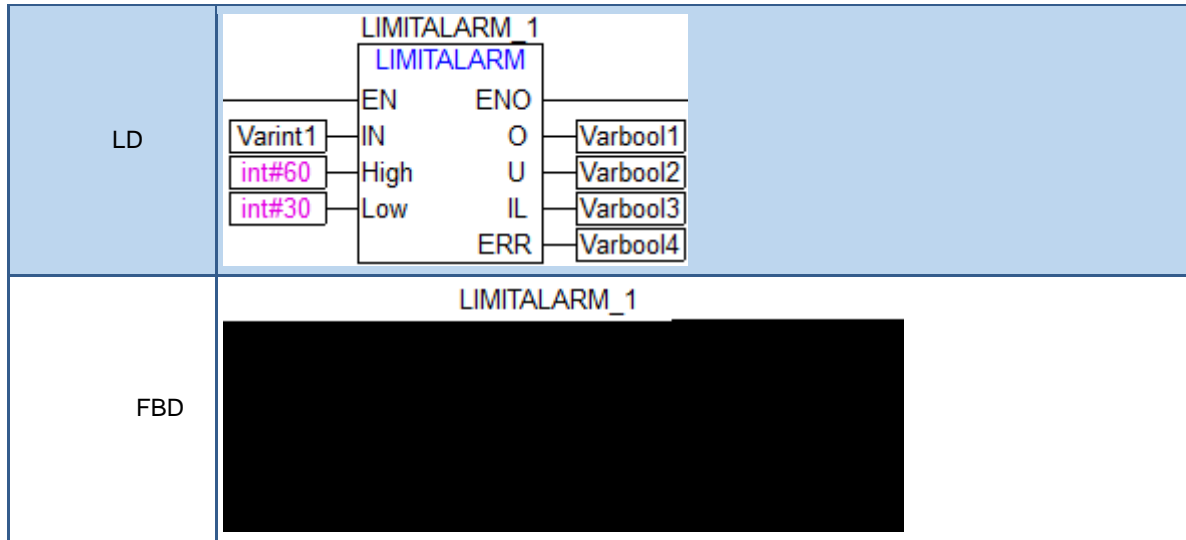
125 HYSTERESIS

2.

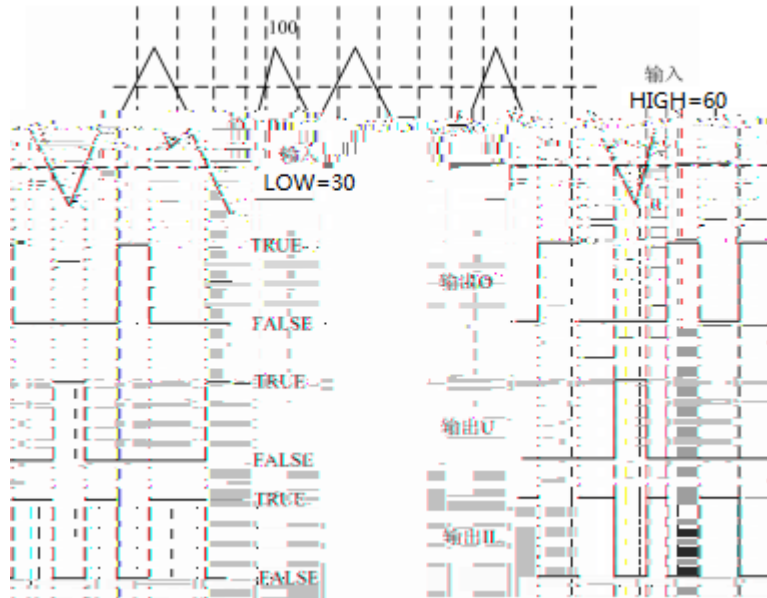
IN	INT		0	FALSE
Low	INT		0	TRUE
High	INT		0	TRUE



Out	BOOL	TRUE	FALSE	TRUE
ERR	BOOL	ERR		FALSE



128

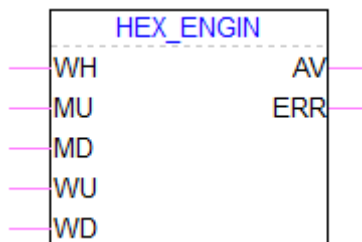


2.3.6.6 HEX_ENGIN 16

1.

WH

AV



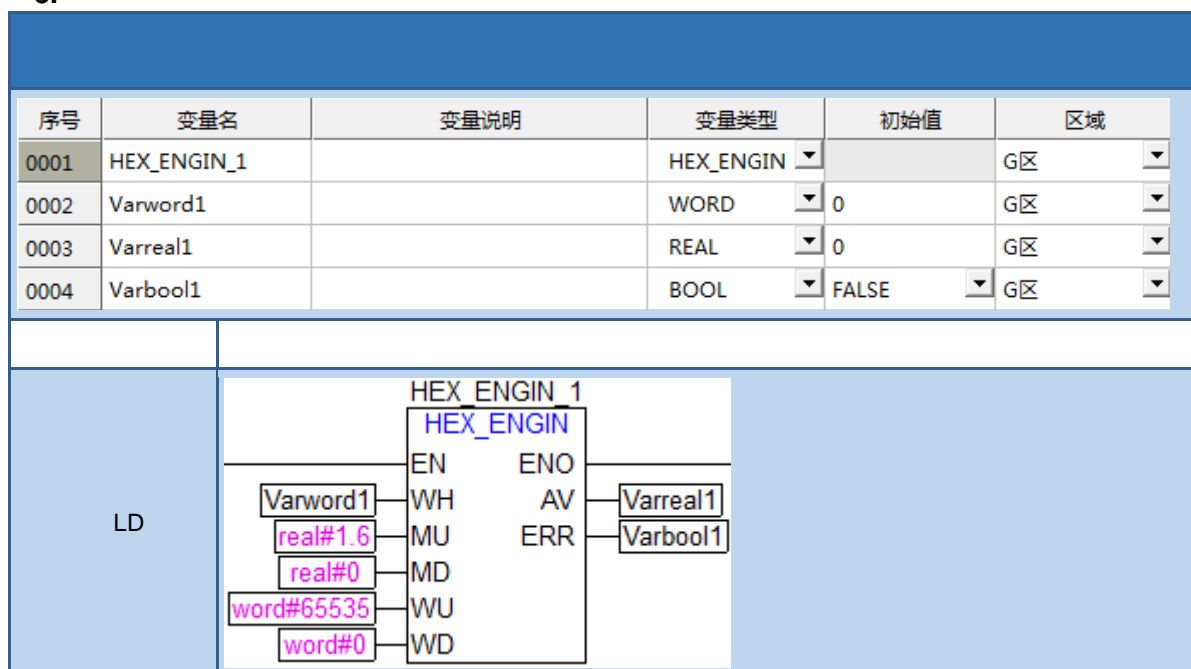
129 HEX_ENGIN

2.

变量名	数据类型	初始值	区域
WH	WORD	0	FALSE
MU	REAL	0	TRUE
MD	REAL	0	TRUE
WU	WORD	0	TRUE
WD	WORD	0	TRUE

变量名	数据类型	初始值	区域
AV	REAL	0	FALSE
ERR	BOOL	FALSE	FALSE

3.



変数	変数名	変数説明	変数タイプ	初期値	属性
EN_HEX		EN	ENGINE_HEX_1		ENGINE
	0	EN	Varreal1		REAL
	0	EN	Varword1		WORD
	FALSE	EN	Varbool1		BOOL

LD	
FBD	

Varword1 50 Hz 32,768 0 Hz EN 0~65,535 Varreal1 Varreal1
 25 Hz

2.4

2.4.1

2.4.1.1 GetTickCnt

1.

0~2³² 0

2.

	GetTickCnt	DWORD	



2.4.1.2 TimeDelay

1.

IEC

2.

	uiTimeDelay	DWORD	0
	TimeDelay	DINT	0 -1

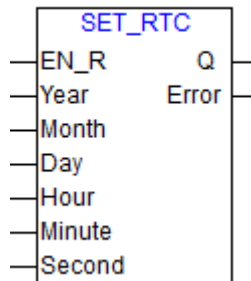
2.4.1.3 SET_RTC

1.

PLC

RTC

RTC



131 SET_RTC

2.

EN_R	BOOL		FALSE TRUE	FALSE
Year	WORD		1971~2036	2011
Month	BYTE		1~12	1
Day	BYTE		1~31	1
Hour	BYTE		0~23	0
Minute	BYTE		0~59	0
Second	BYTE		0~59	0

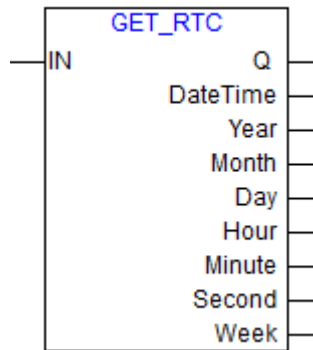
Q	BOOL		0 1	FALSE
Error	BYTE		=0 RTC 0 RTC =1 =2	0



			=3 =4 =5 =6 =200	
--	--	--	------------------------------	--

3.





132 GET_RTC

2.

IN	BOOL		0 1	0

Q	BOOL		0 1	FALSE
DateTime	DT	/	DT#1971-01-01-00:00:00~DT#2036-12-31-23:59:59	DT#1970-01-01-00:00:00
Year	WORD		1971-2036	0
Month	BYTE		1-12	0
Day	BYTE		1-31	0
Hour	BYTE		0-23	0
Minute	BYTE		0-59	0
Second	BYTE		0-59	0
Week	BYTE		1-7	0

3.



序号	变量名	变量说明	变量类型	初始值	区域
0001	GET_RTC_1		GET_RTC		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Vardt1		DT	DT#1970-01-01-00:00:00	G区
0004	Varword1		WORD	0	G区
0005	Varbyte1		BYTE	0	G区
0006	Varbyte2		BYTE	0	G区
0007	Varbyte3		BYTE	0	G区
0008	Varbyte4		BYTE	0	G区
0009	Varbyte5		BYTE	0	G区
0010	Varbyte6		BYTE	0	G区

LD	
FBD	

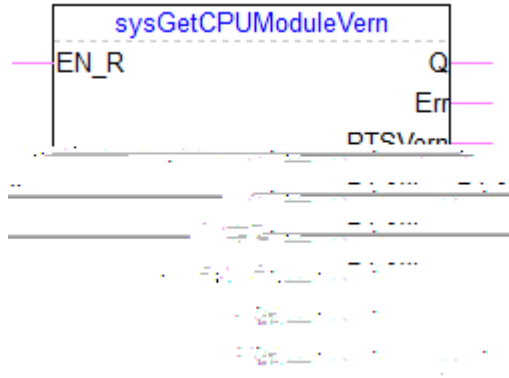
IN DateTime DT PLC Year WORD
Month Date Hour Minute Second Week BYTE
Q TRUE
EN Q FALSE DateTime Year Month Date Hour Minute Second Week



2.4.2

2.4.2.1 sysGetCPUModuleVern

1.



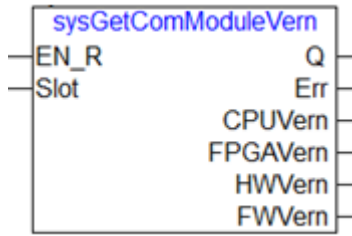
133 sysGetCPUModuleVern

2.

EN_R	BOOL	FALSE TRUE
------	------	---------------

Q	BOOL	TRUE FALSE	FALSE
Err	BYTE	128	0
RTSVern	DWORD	RTS 16	build 1 RTS bulid 16 0 RTS bulid

OSVern DWORD



134 sysGetComModuleVern

2.

EN_R	BOOL	FALSE TRUE
Slot	BYTE	2 1 2-5

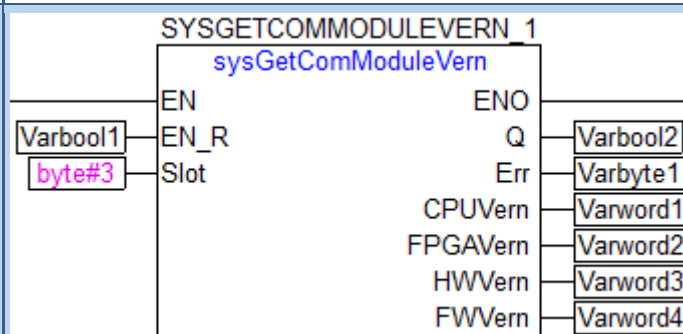
Q	BOOL	TRUE FALSE	FALSE
Err	BYTE	0 1 Slot 128 129 200	0
CPUVern	WORD	CPU	build
FPGAVern	WORD	FPGA	build
HWVern	WORD	1 26	A-Z
FWVern	WORD	LK240S-A01	01

3.




序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETCOMMODULEVERN_1		SYSGETCOMMODULEVERN		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbyte1		BYTE	0	G区
0005	Varword1		WORD	0	G区
0006	Varword2		WORD	0	G区
0007	Varword3		WORD	0	G区
0008	Varword4		WORD	0	G区

LD

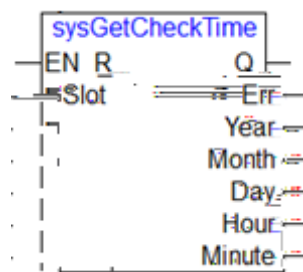


FBD



2.4.2.3 sysGetCheckTime

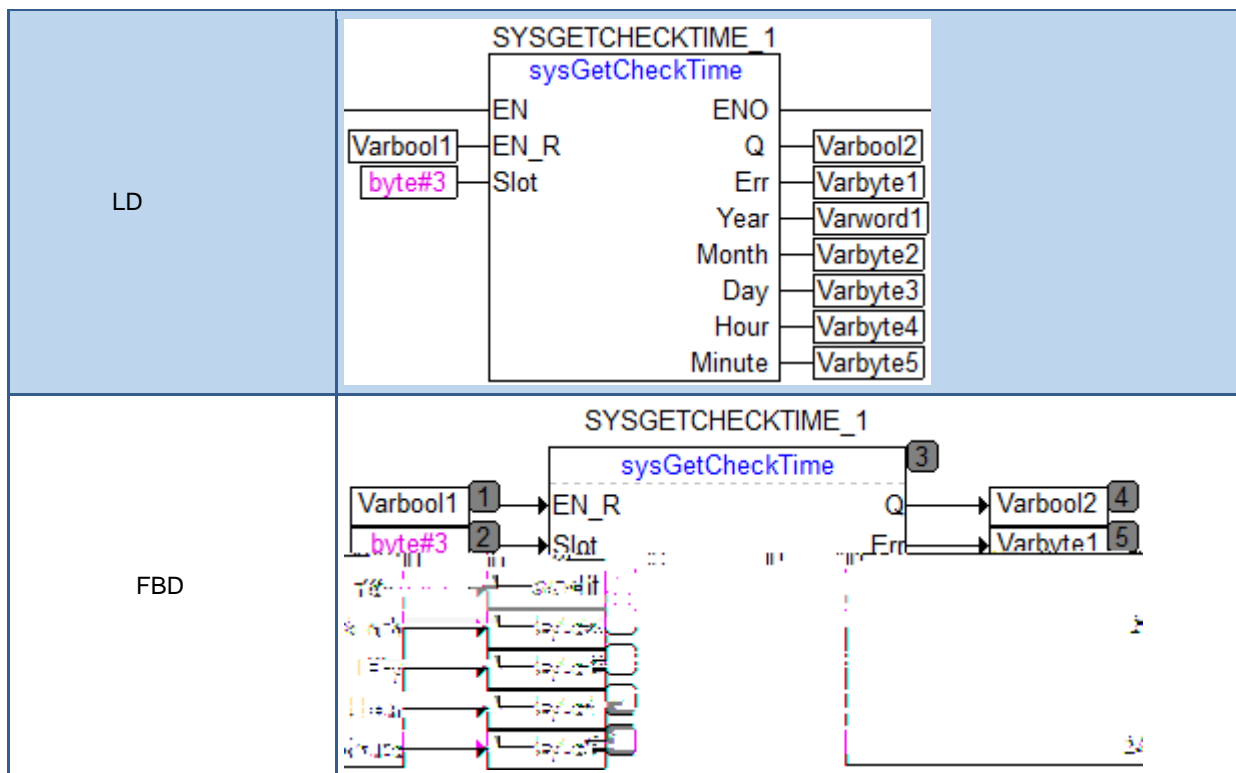
1.



135 sysGetCheckTime

2.

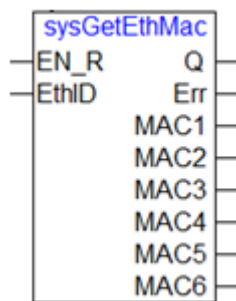




2.4.2.4 sysGetEthMac Mac

1.

Mac



136 sysGetEthMac

2.

EN_R	BOOL	FALSE		
		TRUE		
EthID	BYTE	ID	0	0-1
		0	1	
		1	2	

Q	BOOL	TRUE FALSE	FALSE
Err	BYTE	1 EthID 128 mac 200	0
MAC1	BYTE	MAC	1
MAC2	BYTE	MAC	2
MAC3	BYTE	MAC	3
MAC4	BYTE	MAC	4
MAC5	BYTE	MAC	5
MAC6	BYTE	MAC	6

3.

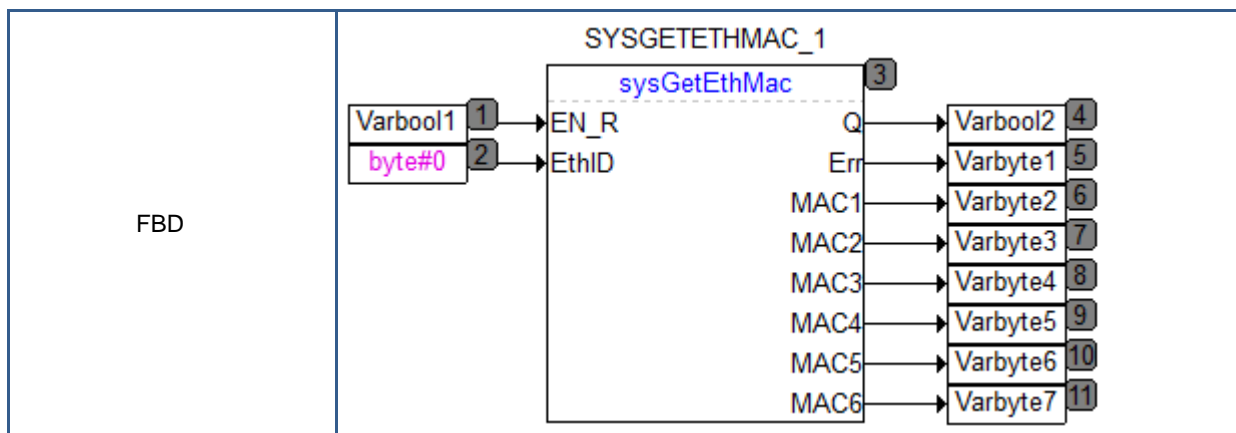
序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETETHMAC_1		SYSGETETHMAC		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbyte1		BYTE	0	G区
0005	Varbyte2		BYTE	0	G区
0006	Varbyte3		BYTE	0	G区
0007	Varbyte4		BYTE	0	G区
0008	Varbyte5		BYTE	0	G区
0009	Varbyte6		BYTE	0	G区
0010	Varbyte7		BYTE	0	G区

SYSGETETHMAC 1

sysGetEthMac

	EN		ENO		
Varbool1	EN_R	byte#0	EthID	Q	Varbool2
			Err		Varbyte1
			MAC1		Varbyte2
			MAC2		Varbyte3
			MAC3		Varbyte4
			MAC4		Varbyte5
			MAC5		Varbyte6
			MAC6		Varbyte7

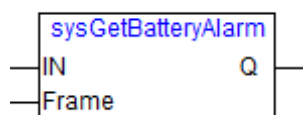
LD



1 MAC

2.4.2.5 sysGetBatteryAlarm

1.



137 sysGetBatteryAlarm

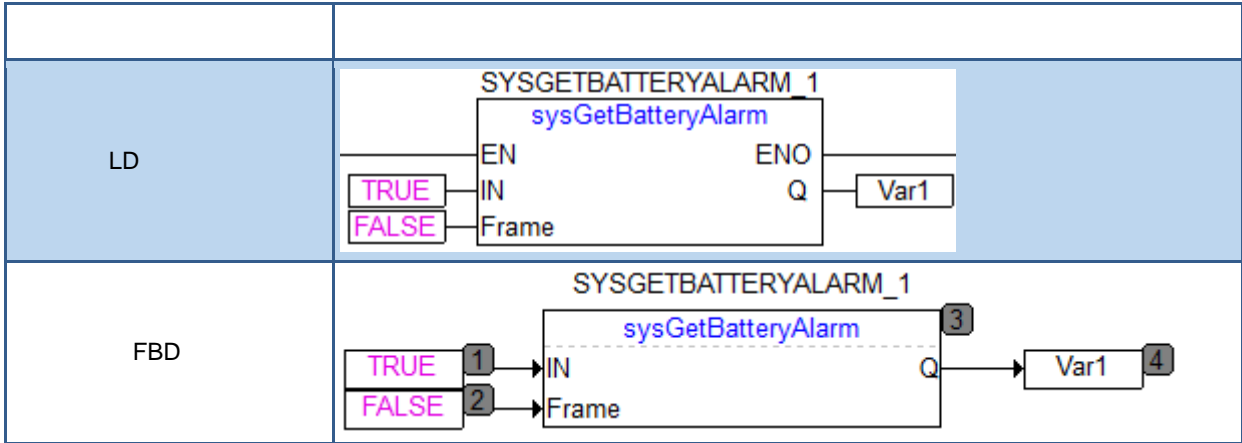
2.

Variable	Type	Initial Value
IN	BOOL	FALSE
Frame	BOOL	FALSE TRUE

Variable	Type	Initial Value
Q	BOOL	TURE FALSE

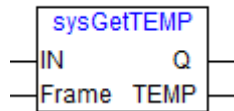
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETBATTERYALARM_1		SYSGETBATTERYALARM		G区
0002	Var1		BOOL	FALSE	G区



2.4.2.6 sysGetTEMP CPU

1.



138 sysGetTEMP

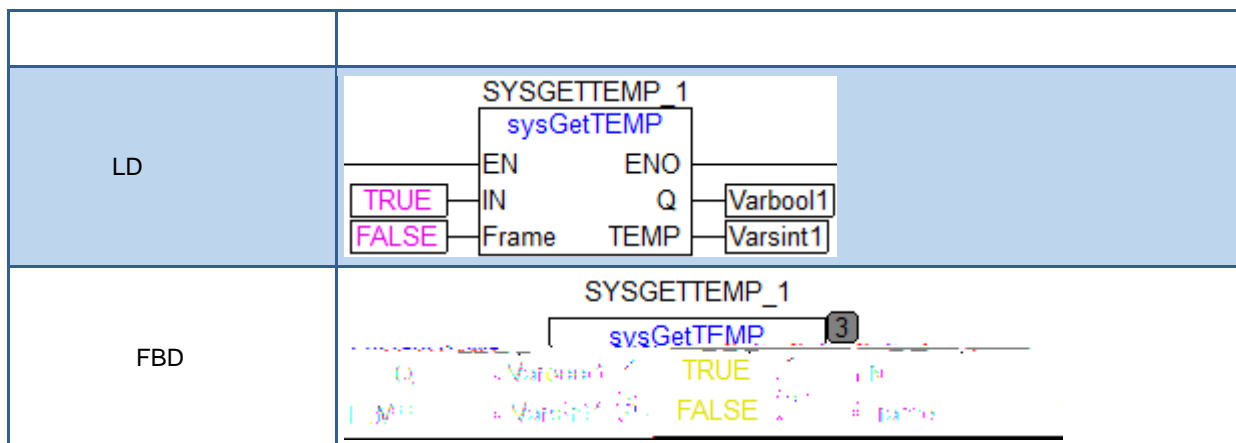
2.

IN	BOOL	FALSE
Frame	BOOL	FALSE TRUE

Q	BOOL	TRUE FALSE	FALSE
TEMP	SINT	0	

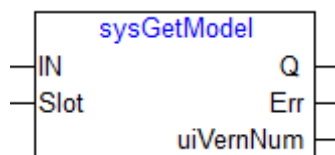
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETTEMP_1		SYSGETTEMP		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varsint1		SINT	0	G区



2.4.2.7 sysGetModel

1.

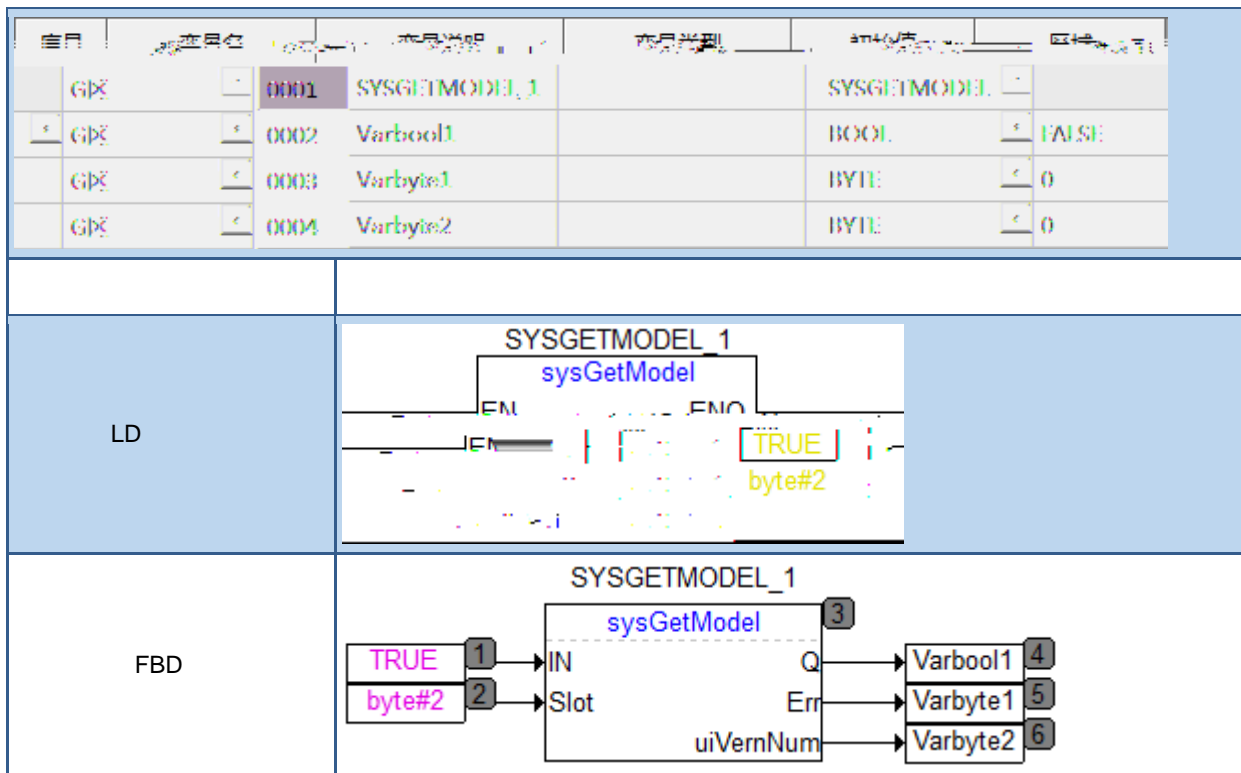


139 sysGetModel

2.

IN	BOOL	FALSE
Slot	BYTE	1 1

Q	BOOL	TRUE FALSE	FALSE
Err	BYTE	1 128	0 slot



2.4.2.8 sysGetModuleSN

1.



140 sysGetModuleSN

2.

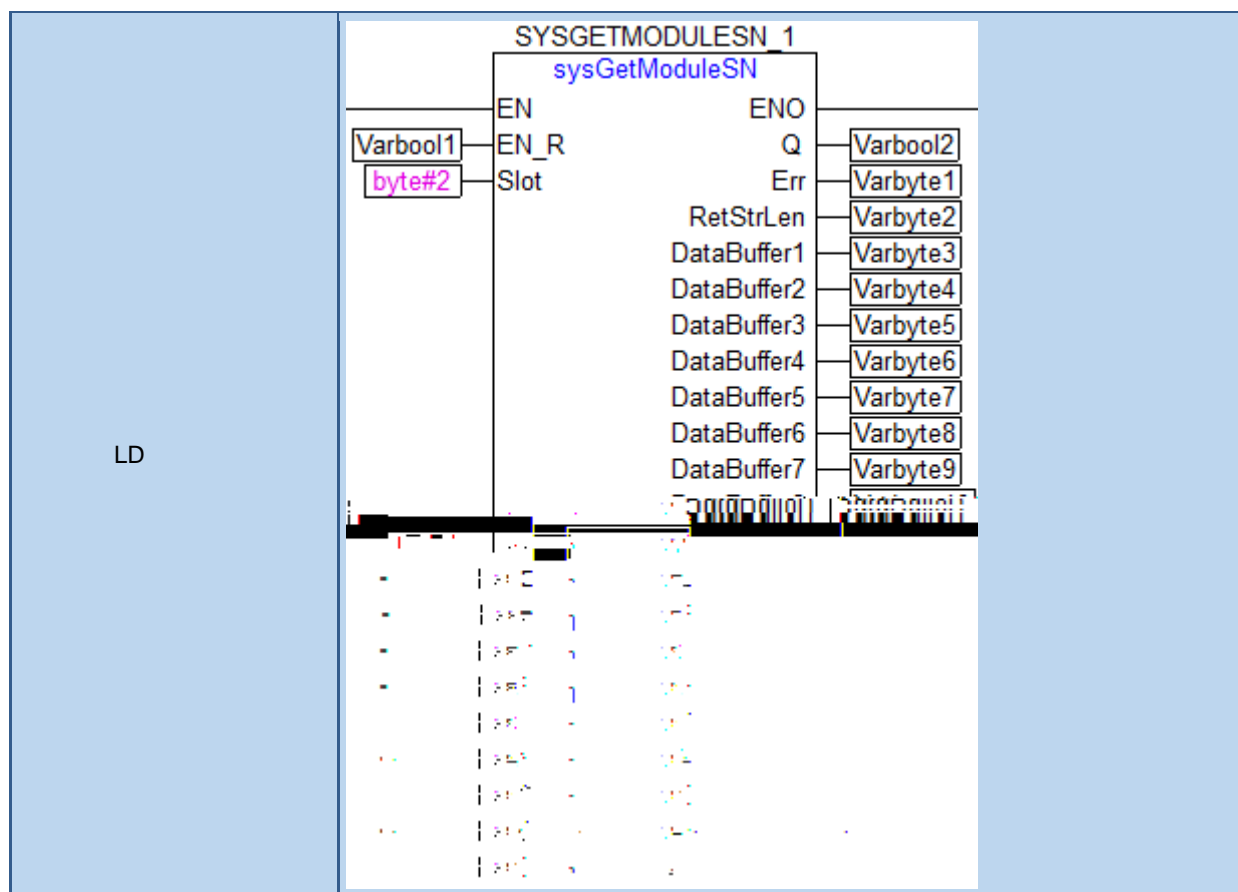
EN_R	BOOL	FALSE TRUE
Slot	BYTE	1 1-5 1

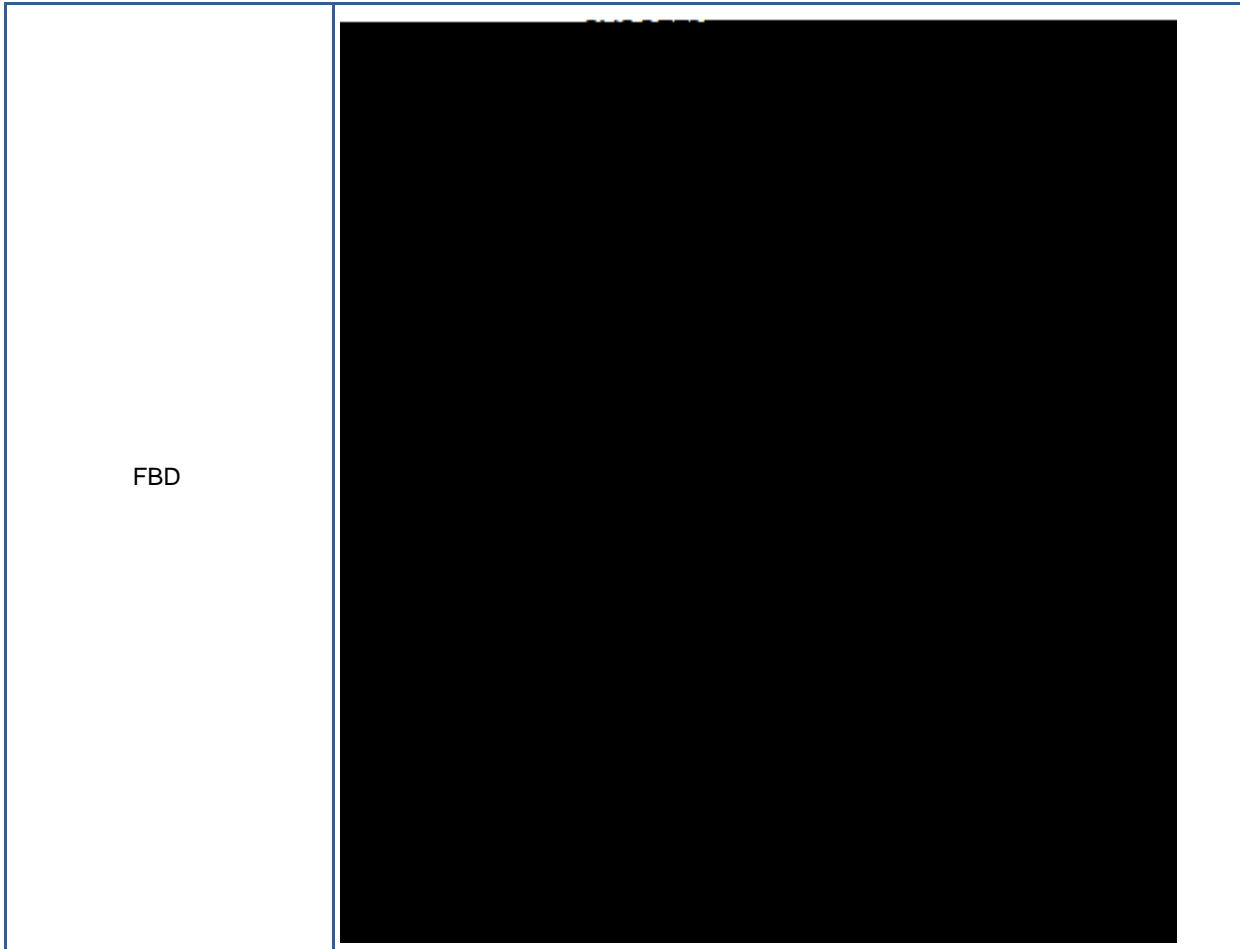
Q	BOOL	TRUE FALSE FALSE
Err	BYTE	0 1 slot 128 130 200 0
RetStrLen	BYTE	ASCII 0 18

uiDataBuffer[1]~ uiDataBuffer[18]	BYTE	ASCII	18
--------------------------------------	------	-------	----

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETMODULESN_1		SYSGETMODULESN		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbyte1		BYTE	0	G区
0005	Varbyte2		BYTE	0	G区
0006	Varbyte3		BYTE	0	G区
0007	Varbyte4		BYTE	0	G区
0008	Varbyte5		BYTE	0	G区
0009	Varbyte6		BYTE		G区
0010	Varbyte7		BYTE		G区
0011	Varbyte8		BYTE		G区
0012	Varbyte9		BYTE		G区
0013	Varbyte10		BYTE		G区
0014	Varbyte11		BYTE		G区
0015	Varbyte12		BYTE		G区
0016	Varbyte13		BYTE		G区
0017	Varbyte14		BYTE		G区
0018	Varbyte15		BYTE		G区
0019	Varbyte16		BYTE		G区
0020	Varbyte17		BYTE		G区
1	Varbyte18		BYTE		G区
2	Varbyte19		BYTE		G区
3	Varbyte20		BYTE		G区

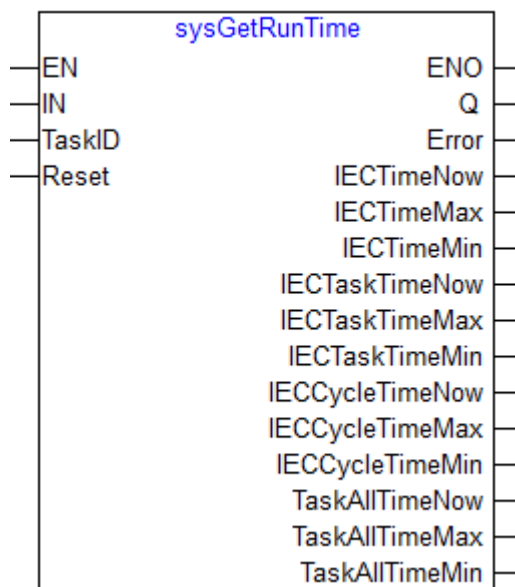




2.4.3

2.4.3.1 sysGetRunTime

1.



141 sysGetRunTime

2.

IN	BOOL	FALSE
TaskID	BYTE	IEC ID 1~8 LK220S IEC ID 1 2~8 9 0
Reset	BOOL	FALSE

Q	BOOL	TRUE FALSE
Error	BYTE	0 1 TaskID
IECTimeNow	DWORD	0
IECTimeMax	DWORD	0
IECTimeMin	DWORD	0
IECTaskTimeNow	DWORD	0
IECTaskTimeMax	DWORD	0
IECTaskTimeMin	DWORD	0
IECCycleTimeNow	DWORD	0
IECCycleTimeMax	DWORD	0
IECCycleTimeMin	DWORD	0



TaskAllTimeNow	DWORD	0
TaskAllTimeMax	DWORD	0
TaskAllTimeMin	DWORD	0

IECTime POU

IECTaskTime

IECCycleTime

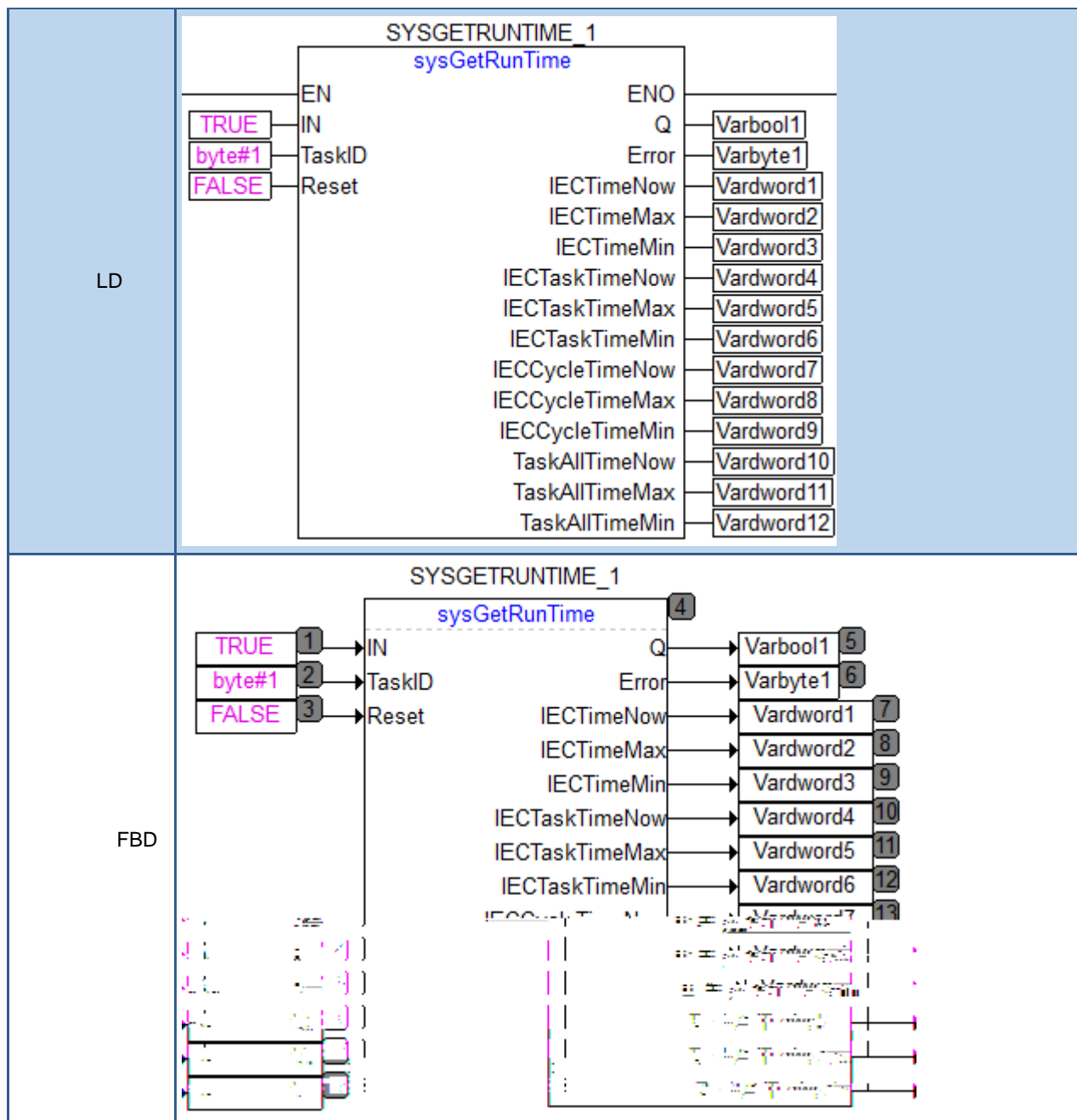
TaskAllTime



Reset	TRUE	AT	AT	AT
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3.

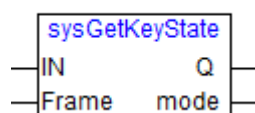
序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETRUNTIME_1		SYSGETRUNTIME		G区
0002	Varbool1		BOOL	EAISF	G区
0003	Varword1		DWORD	0	G区
0004	Varword2		DWORD	0	G区
0005	Varword3		DWORD	0	G区
0006	Varword4		DWORD	0	G区
0007	Varword5		DWORD	0	G区
0008	Varword6		DWORD	0	G区
0009	Varword7		DWORD	0	G区
0010	Varword8		DWORD	0	G区
0011	Varword9		DWORD	0	G区
0012	Varword10		DWORD	0	G区
0013	Varword11		DWORD	0	G区
0014	Varword12		DWORD	0	G区
0015	Varword13		DWORD	0	G区



2.4.3.2 sysGetKeyState

1.

CPU



142 sysGetKeyState

2.

IN	BOOL	FALSE
Frame	BOOL	FALSE TRUE

Q	BOOL	TRUE FALSE	FALSE
Mode	BYTE	1 RUN 2 REM 3 PRG	0

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	IN	0002	Bool	FALSE	DP
0002	Frame	0003	Varbyte1	0	DP

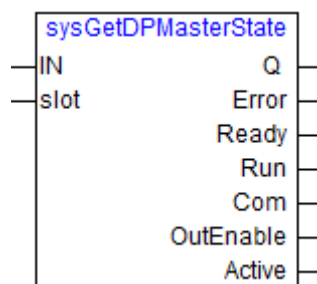
LD

FBD

2.4.3.3 sysGetDPMasterState DP

1.

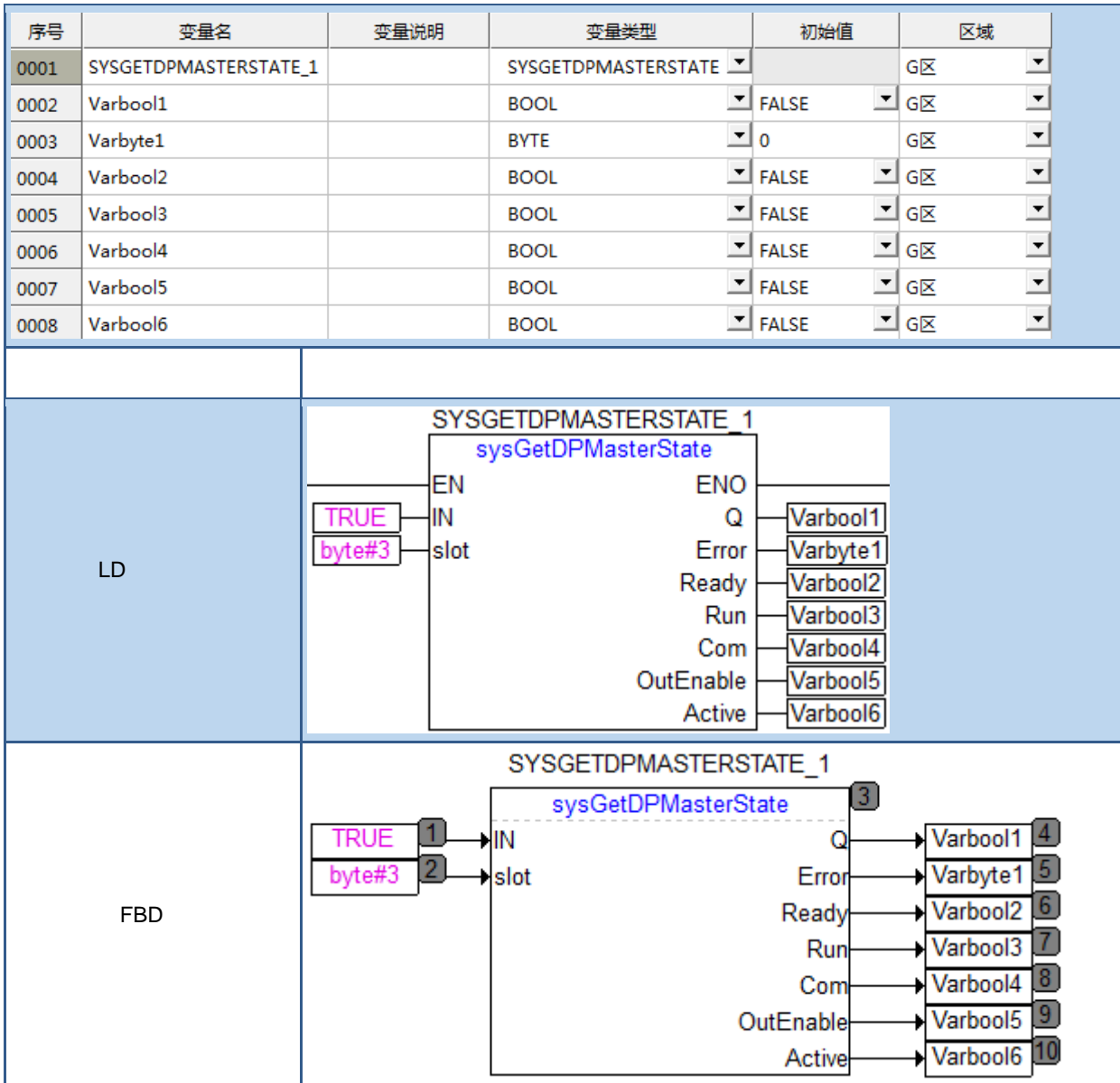
DP



143 sysGetDPMasterState

2.

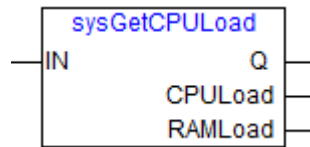
IN	BOOL	FALSE
Slot	BYTE	2 2~5 1



2.4.3.4 sysGetCPULoad

1.

CPU



144 sysGetCPULoad

2.



IN	BOOL	FALSE
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Q	BOOL	TRUE FALSE
CPUload	REAL	CPU 0 %
RAMload	REAL	0 %

CPU DP DP / 100%

RAM /

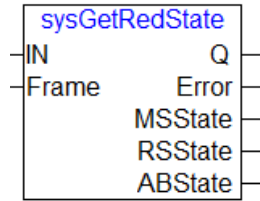
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETCPULOAD_1		SYSGETCPULOAD		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varreal1		REAL	0	G区
0004	Varreal2		REAL	0	G区

LD	
FBD	

2.4.3.5 sysGetRedState

1.



145 sysGetRedState

2.

IN	BOOL	FALSE
Frame	BOOL	FALSE TRUE

Q	BOOL	TRUE FALSE	FALSE
Error	BYTE	128 11 129 130	0 0-6
MSState	BYTE	0 1 2 3 4 5 6 7 8 9 10 11	0 Ready Ready Ready
RSState	BYTE	0 1 2	0
ABState	BYTE	AB 0 1 A 2 B	0

3.



Q	BOOL	TRUE FALSE	FALSE
Error	BYTE	0 128 129 130	PRG

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSMASTERSWITCHTOSLAVE_1		SYSMASTERSWITCHTOSLAVE		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbyte1		BYTE		G区

LD

FBD

2.4.3.7 sysGetDPSlaveState DP

1.

DP

2.

IN	BOOL	FALSE
DPAddr	BYTE	0 2-125
Slot	BYTE	DP

Q	BOOL	TRUE FALSE
---	------	---------------

		FALSE
Error	BYTE	0 1 2 128 dp
ConfigState	BOOL	TRUE FALSE
ComState	BOOL	TRUE FALSE
SlaveID	WORD	ID LKS ID 0x0500~0x05FF
DiagDataLen	BYTE	
DiagData1~		

ETH1Err	BOOL	1	FALSE	TRUE
ETH2Err	BOOL	2	FALSE	TRUE
InterComErr	BYTE	1	0	bit
		bit0=1	2	
		bit1=1	3	
		bit2=1	4	6
		bit3=1	5	6
		bit4~bit7		

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETCPUDIAGINFO_1		SYSGETCPUDIAGINFO		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbool3		BOOL	FALSE	G区
0005	Varbyte4		BYTE	0	G区

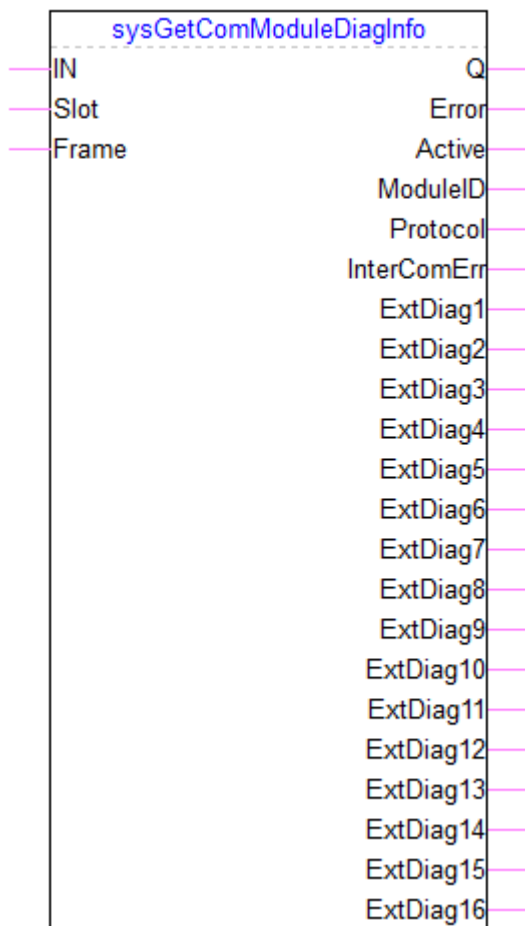
LD

FBD

CPU

2.4.3.9 sysGetComModuleDiagInfo

1.



148 sysGetComModuleDiagInfo

2.

IN	BOOL	FALSE
Slot	BYTE	2 2-5 1
Frame	BOOL	FALSE TRUE



		0 1 Slot 128 129
Active	BOOL	FALSE TRUE 0
ModuleID	BYTE	ID 1 LK220() 2 LK240 3 LK249 4 LK247 5 LK248 6 LK220S () 7 LK240S 8 LK249S
Protocol	BYTE	1 2 DP 3 CANOpen 4 EtherCAT 5 PowerLink 6 ModbusRTU 7
InterComErr	BOOL	0 TRUE
ExtDiag1	BYTE	LK240S 1 1 1 LK249S 1 DP1 1
ExtDiag2	BYTE	LK240S 2 2 1 LK249S 2 DP2 1
ExtDiag3	BYTE	LK240S 3 A/B 1 LK249S 3
ExtDiag4	BYTE	LK240S 4 1 LK249S 4 1
ExtDiag5	BYTE	LK240S 5 LK249S

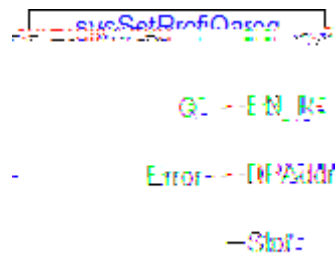
		5		
ExtDiag6	BYTE	LK240S 6 LK249S 6	1	0-100
ExtDiag7	BYTE	LK240S 7 LK249S 7	2	0-100
ExtDiag8~16	BYTE			

2.4.3.10 sysSetProfiOareq

Profisafe

1.

Profisafe



149 sysSetProfiOareq

2.

EN_R	BOOL	FALSE
DPAddr	BYTE	2 2-125
Slot	Byte	DP

Q	BOOL	TRUE FALSE	FALSE
Error	BYTE	0 1 2 3	0 Profisafe



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