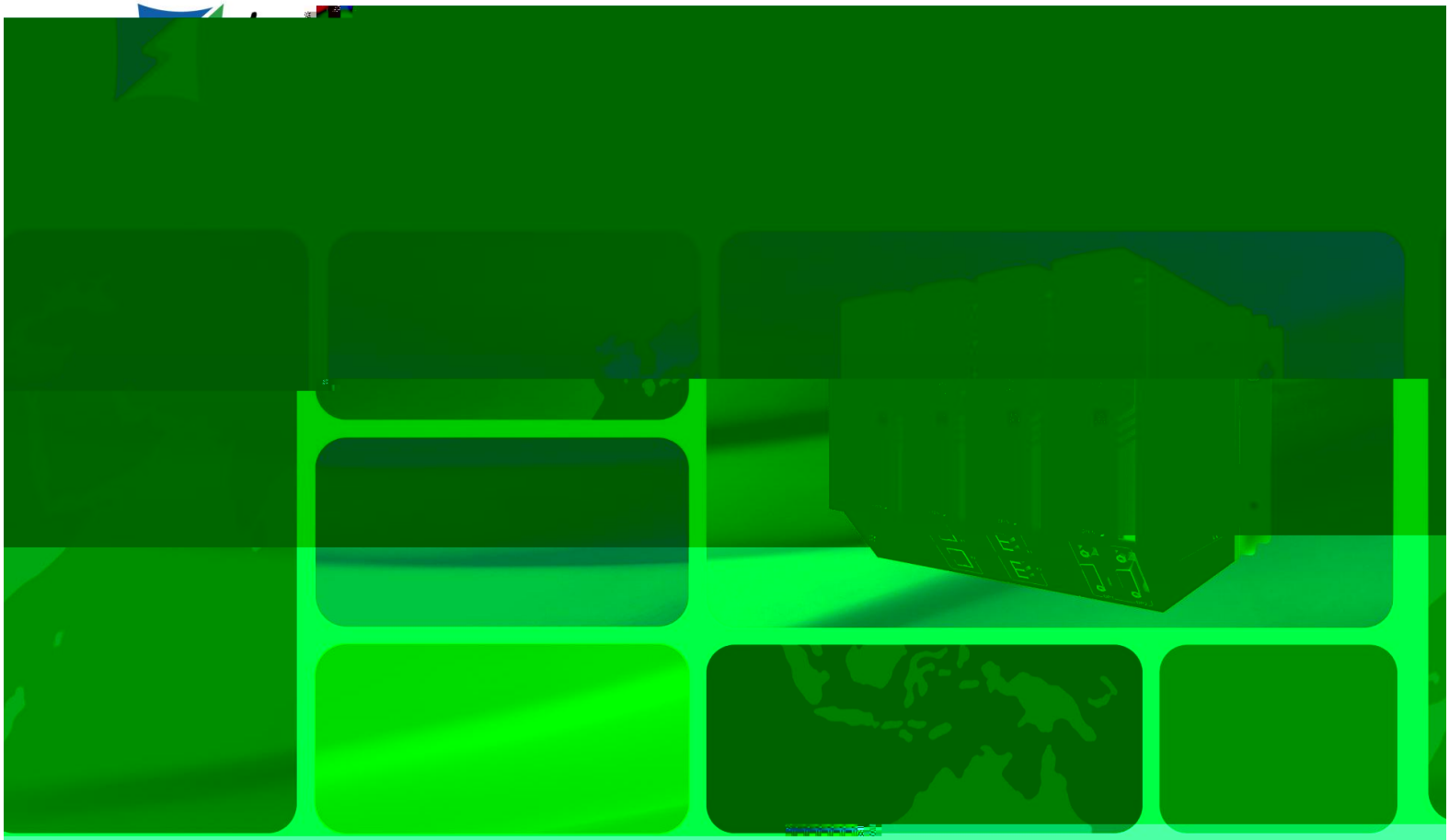


UKS 安全型控制系统指令手册

LKS 安全型控制系统

指令手册

V1.0

2019　06

HollySys

HollySys

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

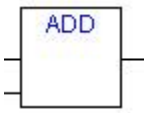
2.1

sysGetDPConfirmState	HS_DPDIAG.HLF
sysGetDPSlaveComState	
DIProc	HS_IOPROC.HLF

2.2

2.2.1

2.2.1.1 ADD



1

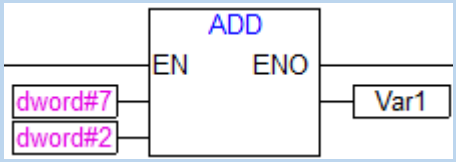
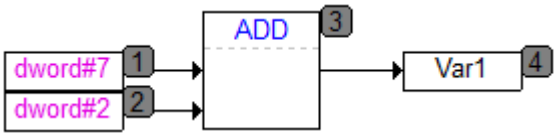
1.

		DWORD DINT REAL LREAL TIME
		DWORD DINT REAL LREAL TIME

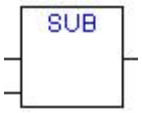
2.

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

LD	
FBD	

2.2.1.2 SUB



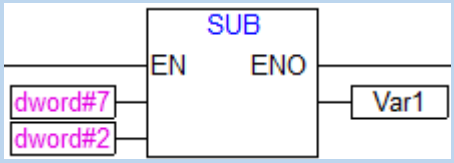
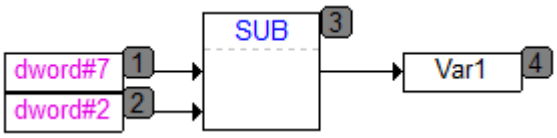
2

1.

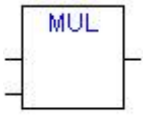
		DWORD DINT REAL LREAL TIME
		DWORD DINT REAL LREAL TIME

2.

3.

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

2.2.1.3 MUL



3

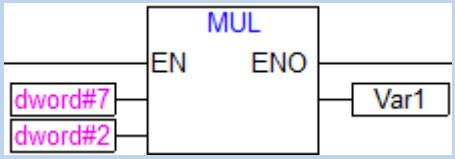
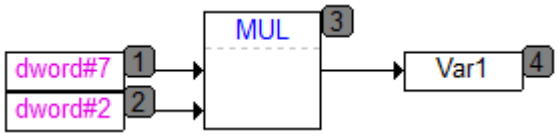
1.

		DWORD DINT REAL LREAL
		DWORD DINT REAL LREAL

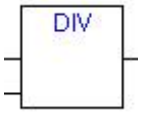
2.

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	

2.2.1.4 DIV



4

1.

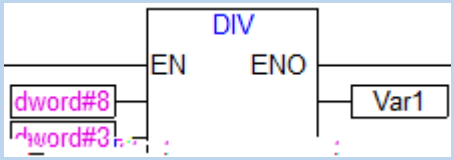
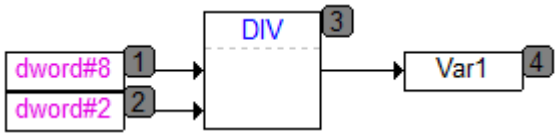
		DWORD DINT REAL LREAL

		DWORD DINT REAL LREAL

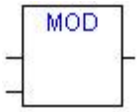
2.

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

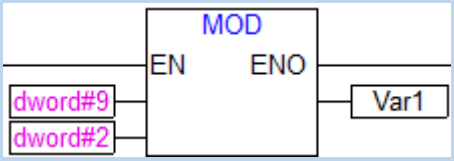
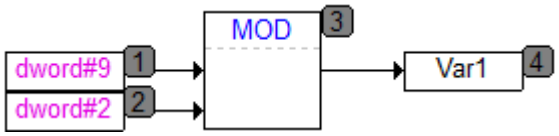
1.

		DWORD DINT
		DWORD DINT

2.

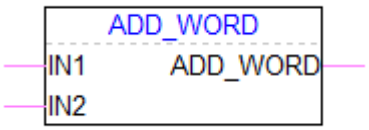
3.

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

LD	
FBD	

2.2.1.6 ADD_WORD

WORD



6

1.

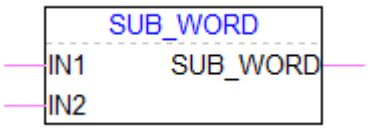
IN1	WORD
IN2	WORD
ADD_WORD	WORD

2.

2.2.1.1 ADD

2.2.1.7 SUB_WORD

WORD



7

1.

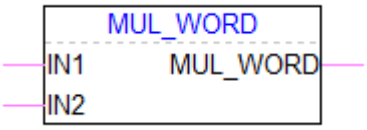
IN1	WORD
IN2	WORD
SUB_WORD	WORD

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

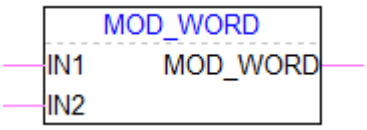
IN1	WORD
IN2	WORD
DIV_WORD	WORD

2.

2.2.1.4 DIV

2.2.1.10 MOD_WORD

WORD



10

1.

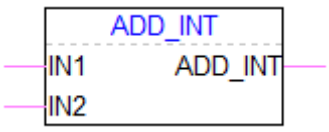
IN1	WORD
IN2	WORD
MOD_WORD	WORD

2.

2.2.1.5 MOD

2.2.1.11 ADD_INT

INT



11

1.

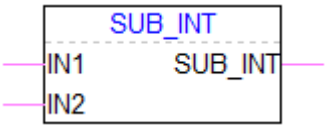
IN1	INT
IN2	INT
ADD_INT	INT

2.

2.2.1.1 ADD

2.2.1.12 SUB_INT

INT



12

1.

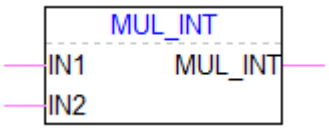
IN1	INT
IN2	INT
SUB_INT	INT

2.

2.2.1.2 SUB

2.2.1.13 MUL_INT

INT



13

1.

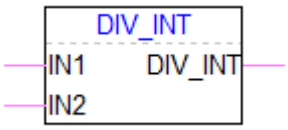
IN1	INT
IN2	INT
MUL_INT	INT

2.

2.2.1.3 MUL

2.2.1.14 DIV_INT

INT



14

1.

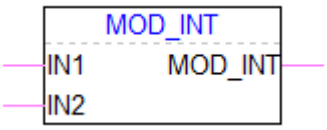
IN1	INT
IN2	INT
DIV_INT	INT

2.

2.2.1.4 DIV

2.2.1.15 MOD_INT

INT



15

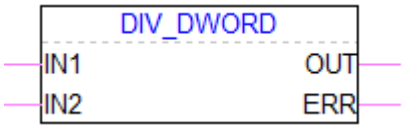
1.

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	

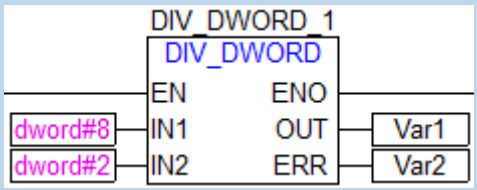
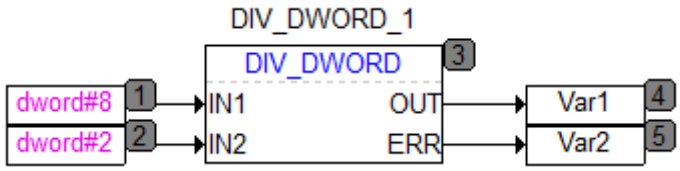
ERR	BOOL	ERR=0 ERR=1 0 OUT	0	

2.

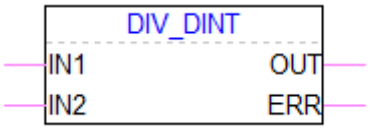
IN2 0 IN2 0
ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	DIV_DWORD_1		DIV_DWORD		G区

LD	
FBD	

2.2.1.17 DIV_DINT



17

1.

IN1	DINT		0	
IN2	DINT		0	0
OUT	DINT		0	

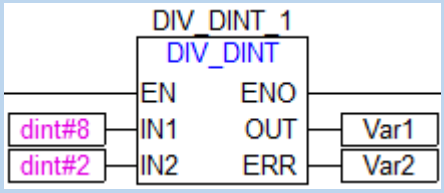
ERR	BOOL	ERR=0 ERR=1 0 OUT	0	

2.

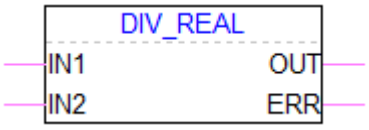
IN2 0 IN2 0
ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	DIV_DINT_1		DIV_DINT		G区
0002					
0003					

LD	
FBD	

2.2.1.18 DIV_REAL



18

1.

IN1	REAL		0	
IN2	REAL		0	0
OUT	REAL		0	
ERR	BOOL	ERR=0	0	

		ERR=1 0 OUT		

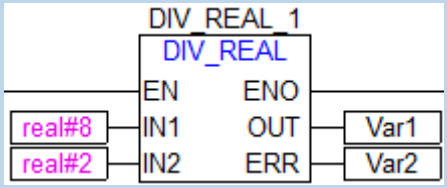
2.

IN2 0 IN2 0
ERR

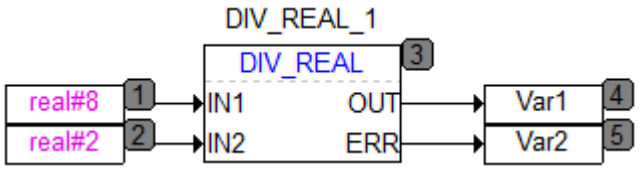
3.

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

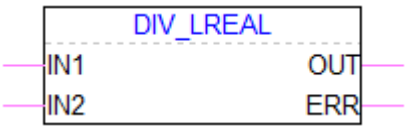
LD



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 0 OUT	0	

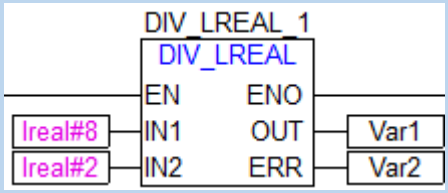
2.

IN2 0 IN2 0
ERR

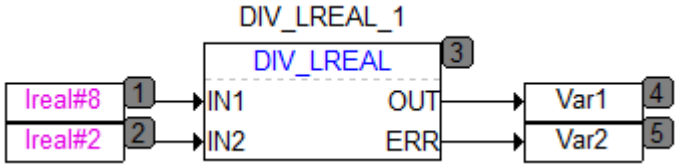
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	DIV_LREAL_1		DIV_LREAL		G区
0002	Var1		LREAL	0	G区
0003	Var2		BOOL	FALSE	G区

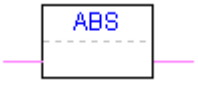
LD



FBD

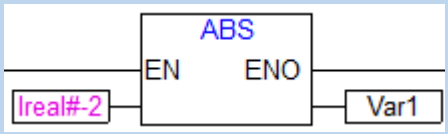
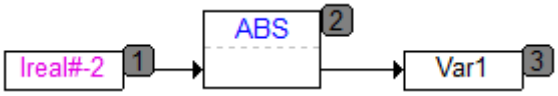


2.2.1.20 ABS

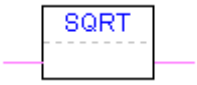


20

1.

LD	
FBD	

2.2.1.21 SQRT



21

1.

		LREAL

LREAL

1.

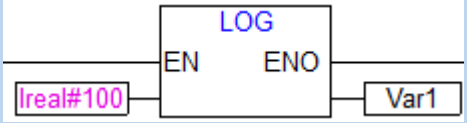
		LREAL
		LREAL

2.

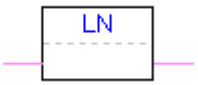
10

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

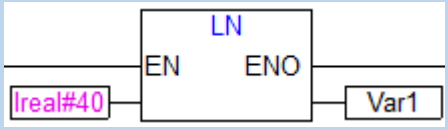
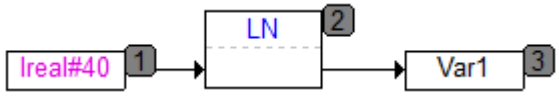
1.

		LREAL
		LREAL

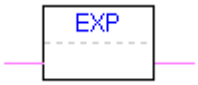
2.

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

LD	
FBD	

2.2.1.24 EXP



24

1.

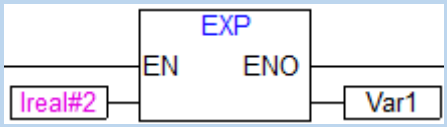
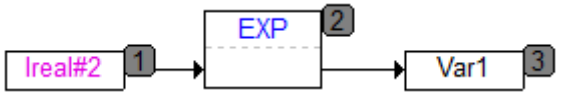
		LREAL
		LREAL

2.

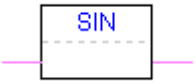
e

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	

2.2.1.25 SIN



25

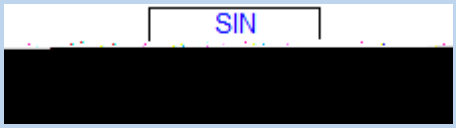
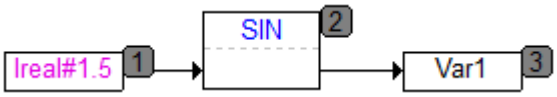
1.

		LREAL	LREAL 52 bits 64 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

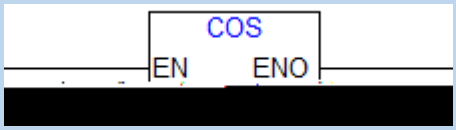
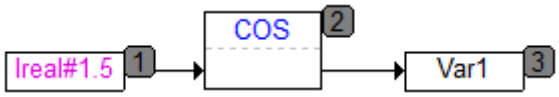
26

1.

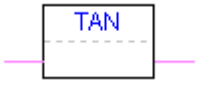
		LREAL	LREAL 52 bits 64 bits
		LREAL	

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



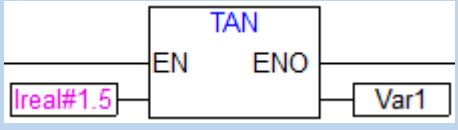
27

1.

		LREAL	LREAL 52 bits 64 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

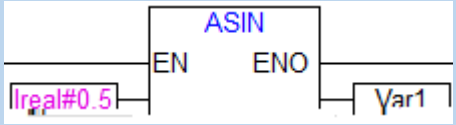
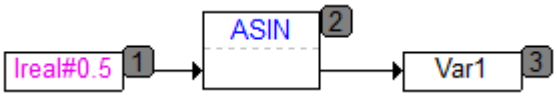
1.

		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

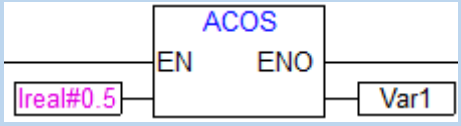
1.

		LREAL	
		LREAL	

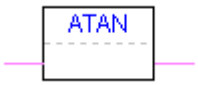
2.

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

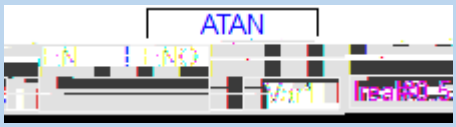
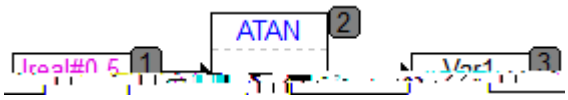
1.

		LREAL	
		LREAL	

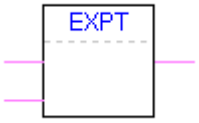
2.

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

1

2.2.1.32 SQRT_R

32

1.

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

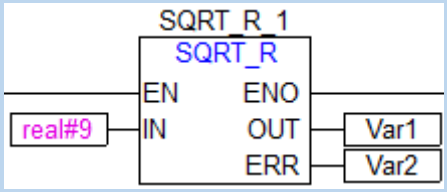
2.

IN>=0 IN<0 ERR

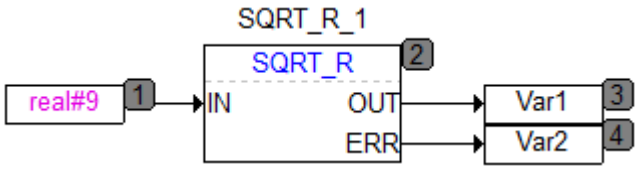
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	SQRT_R_1		SQRT_R		G区
0002	Var1		REAL	0	G区
0003	Var2		BOOL	FALSE	G区

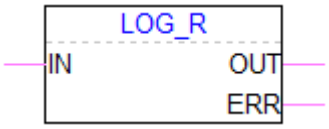
LD



FBD



2.2.1.33 LOG_R



33 10

1.

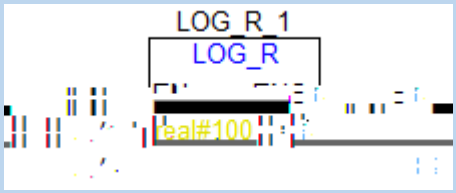
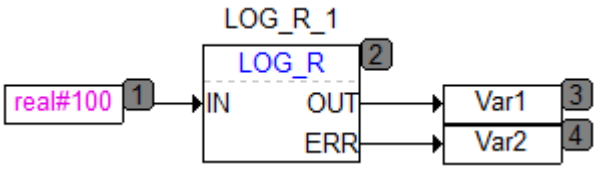
IN	REAL		0	
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	0	

2.

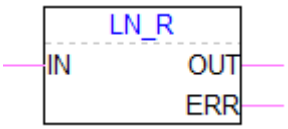
IN>0 10 IN<=0 ERR

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	

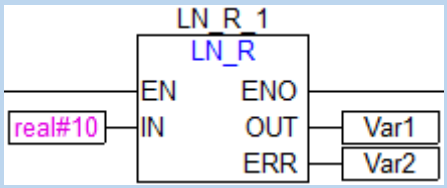
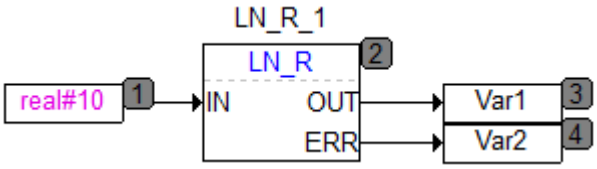
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	0	

2.

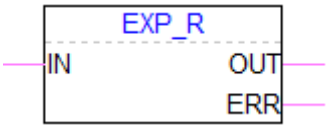
IN>0 IN<=0 ERR

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.

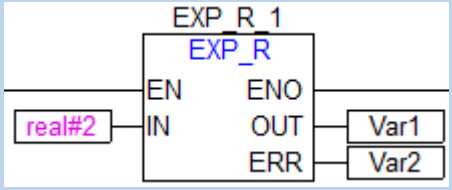
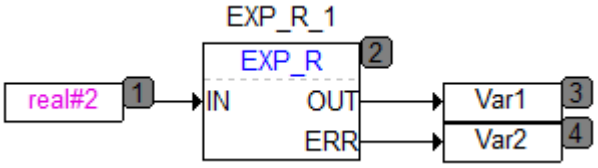
IN	REAL		0	88
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 88 OUT	0	

2.

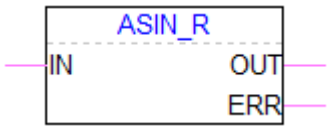
IN<=88 e IN>88 ERR

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	EXP_R_1		EXP_R		G区

LD	
FBD	

2.2.1.36 ASIN_R



36

1.

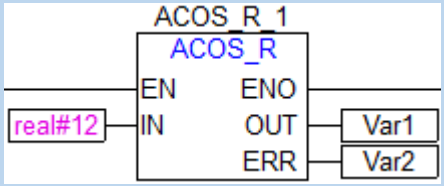
IN	REAL		0	[-1,1]
OUT	REAL		0	
ERR	BOOL	ERR=0 ERR=1 [-1,1] OUT	0	

2.

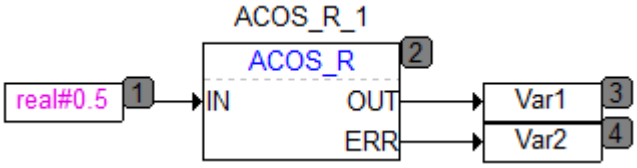
-1<=IN<=1 IN>1 IN<-1 ERR

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

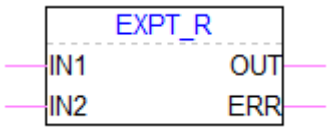
LD



FBD



2.2.1.38 EXPT_R



38

1.

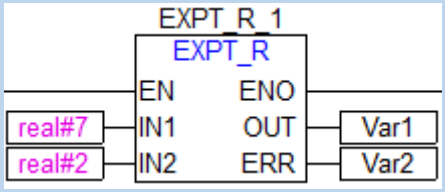
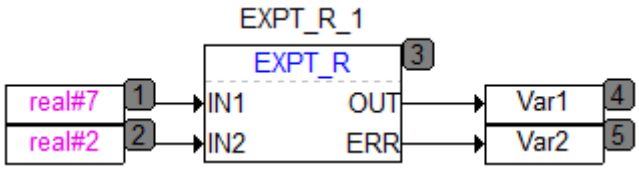
IN1	REAL	1	0	[0, +
IN2	REAL	2	0	
OUT	REAL		0	
ERR	BYTE	ERR=0 ERR=1 IN1 OUT ERR=2 IN1=0 IN2<=0 OUT ERR=3 ln|ln IN1 |+ln|ln2|>4.466 OUT	0	

2.

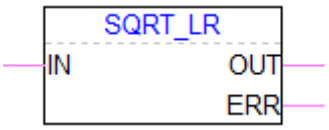
1 2 1 2 1
2 ERR 0

3.

	EXPT_R		G区	0001	EXPT_R_1
	REAL	0	G区	0002	Var1
	BYTE	0	G区	0003	Var2

LD	
FBD	

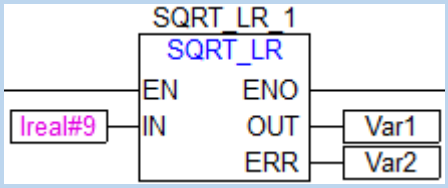
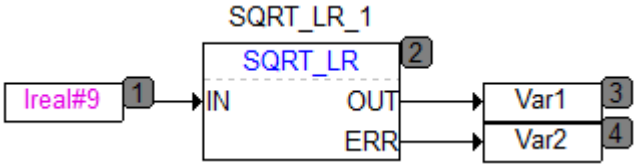
2.2.1.39 SQRT_LR



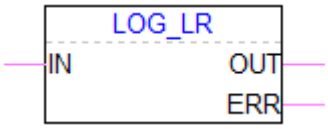
39

1.

IN	LREAL		0	

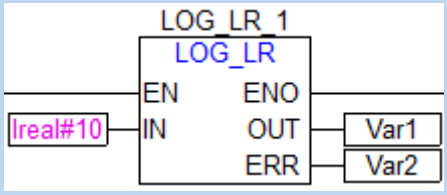
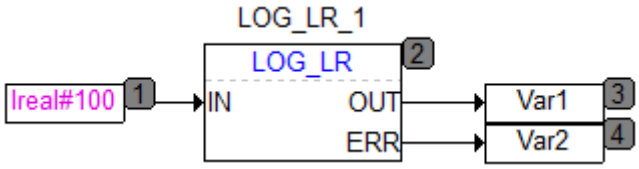
LD	
FBD	

2.2.1.40 LOG_LR

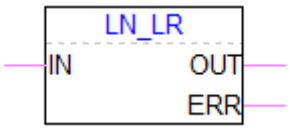


40 10

1.

LD	
FBD	

2.2.1.41 LN_LR



41

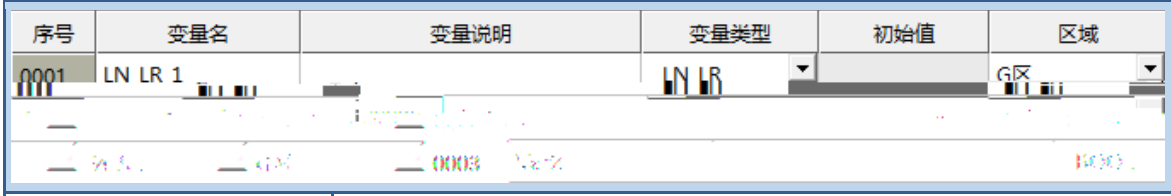
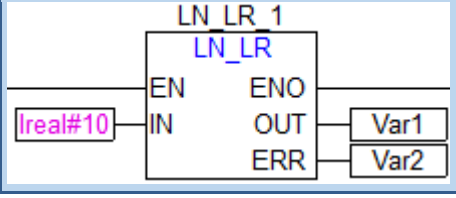
1.

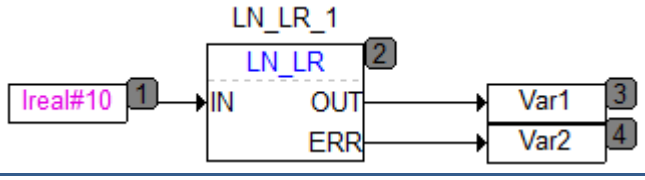
IN	LREAL		0	
OUT	LREAL		0	
ERR	BOOL	ERR=0 ERR=1 OUT	0	

2.

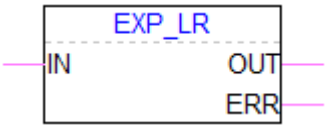
IN>0 IN<=0 ERR

3.

	
LD	

FBD	

2.2.1.42 EXP_LR

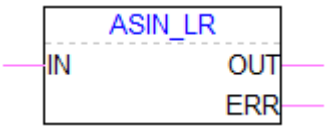


42

1.

IN	LREAL		0	709
OUT	LREAL		0	

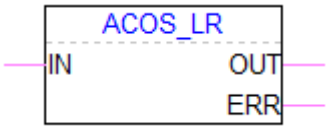
2.2.1.43 ASIN_LR



43

1.

2.2.1.44 ACOS_LR

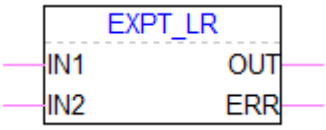


44

1.

IN	LREAL		0	[-1,1]

2.2.1.45 EXPT_LR



45

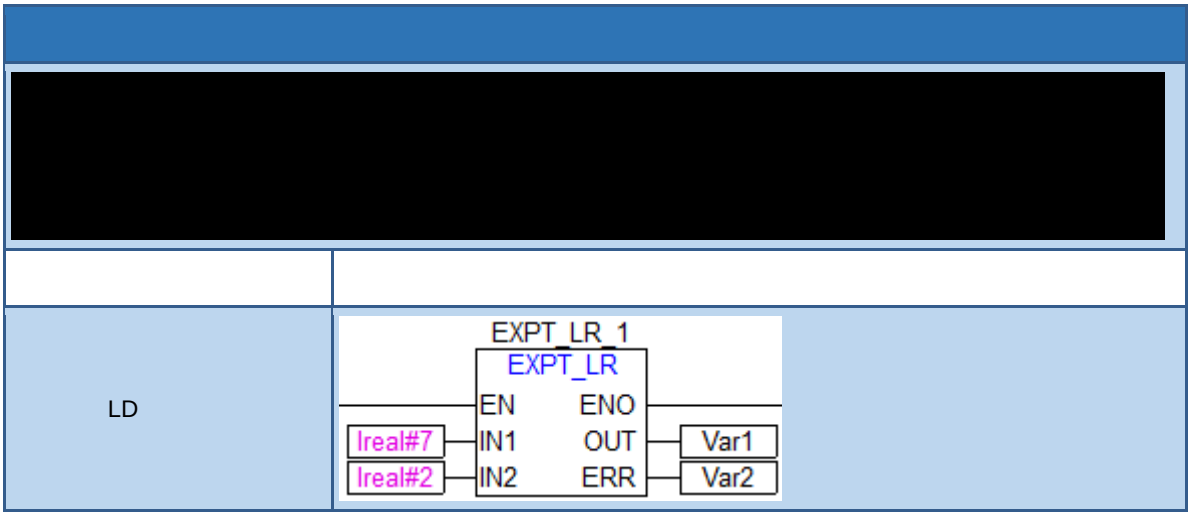
1.

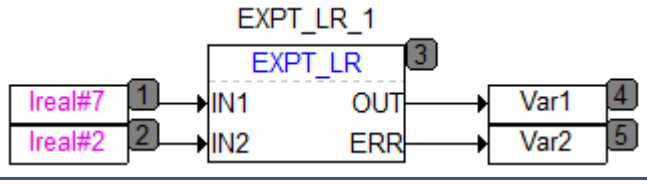
IN1	LREAL	1	0	[0, +
IN2	LREAL	2	0	
OUT	LREAL		0	
ERR	BYTE	ERR=0 ERR=1 IN1 OUT ERR=2 IN1=0 IN2<=0 OUT ERR=3 In|In IN1 |+In|In2|>6.562 OUT	0	

2.

1 2 1 2 1
2 ERR 0

3.



FBD	

2.2.1.46 MOVE

46

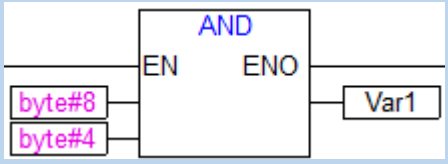
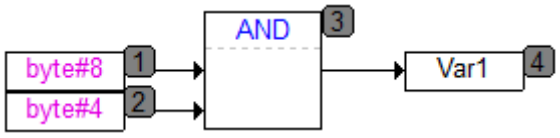
1.

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.

LD	
FBD	

2.2.2.2 OR

48

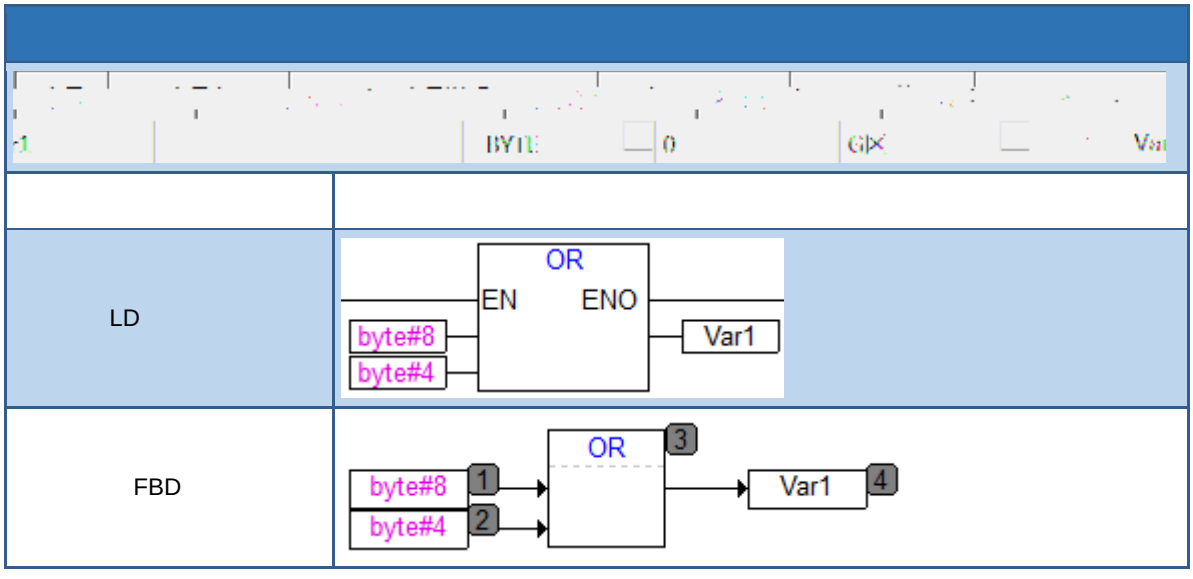
1.

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.

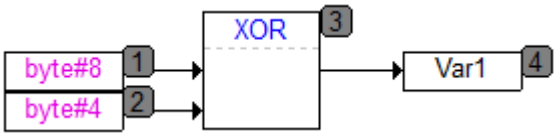
1		BOOL BYTE WORD DWORD
2		BOOL BYTE WORD DWORD
		BOOL BYTE WORD DWORD

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

2.

3.

LD	XOR EN ENO byte#8 byte#4 Var1

FBD	

2.2.2.4 NOT

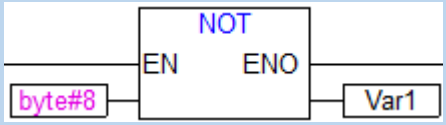
50

1.

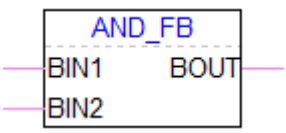
		BOOL BYTE WORD DWORD
		BOOL BYTE WORD DWORD

2.

3.

	
LD	
FBD	

2.2.2.5 AND_FB



51

1.

BIN1	1	BOOL
BIN2	2	BOOL
BOUT		BOOL

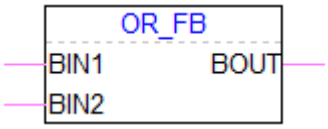
1	2	
0	0	0
0	1	0
1	0	0
1	1	1

2.

3.

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.

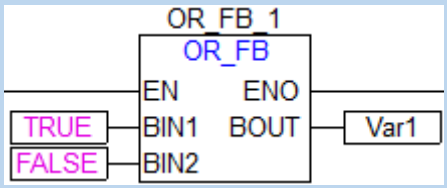
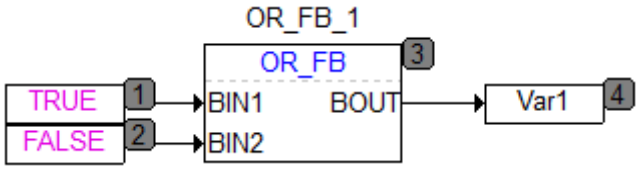
BIN1	1	BOOL
BIN2	2	BOOL
BOUT		BOOL

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

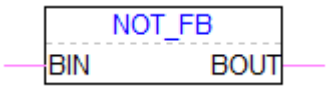
2.

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

LD	
FBD	

2.2.2.7 NOT_FB



53

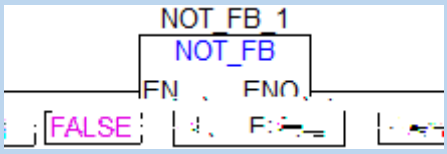
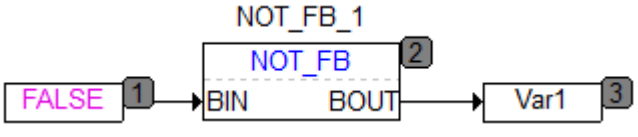
1.

BIN		BOOL
BOUT		BOOL

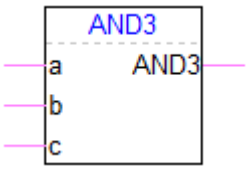
2.

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	NOT_FB_1		NOT_FB		G区
0002	Var1		BOOL	FALSE	G区

LD	
FBD	

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

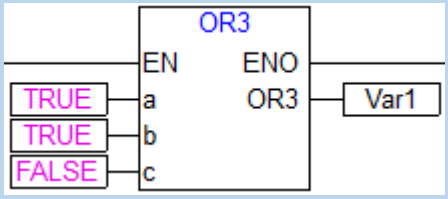
1.

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

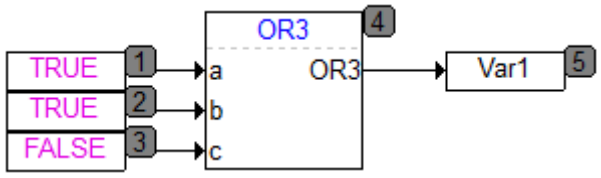
2.

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

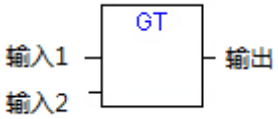


FBD



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

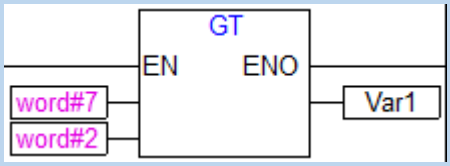
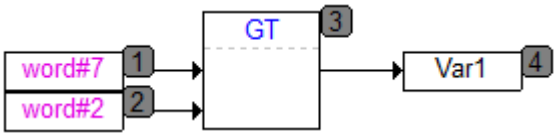
2.

1 2 TURE

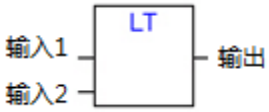
1 2 FALSE

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

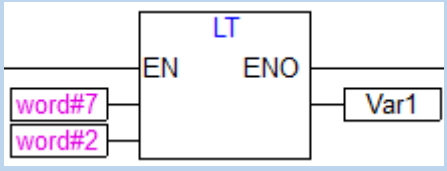
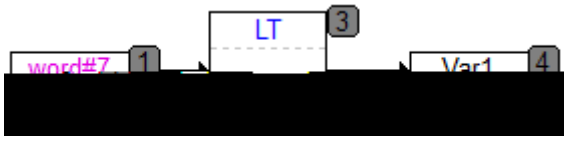
2.

1 2 TURE

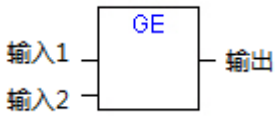
1 2 FALSE

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

LD	
FBD	

2.2.3.3 GE



58

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

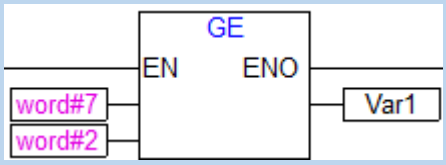
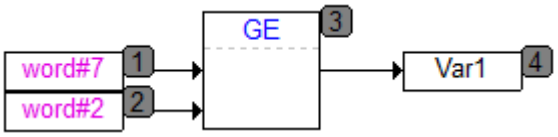
2.

1 2 TURE

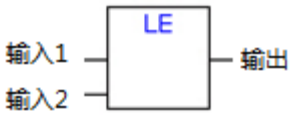
1 2 FALSE

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	

2.2.3.4 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

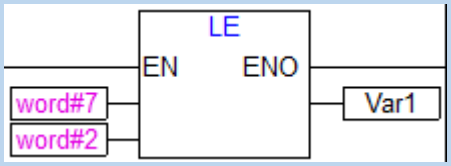
2.

1 2 TURE

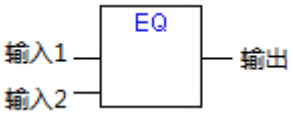
1 2 FALSE

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



60

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

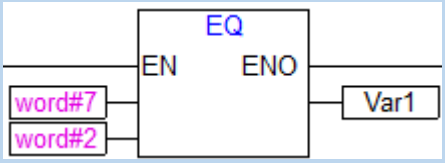
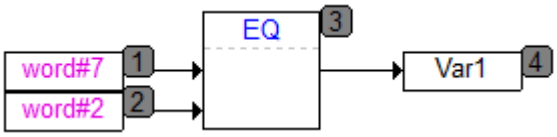
2.

1 2 TURE

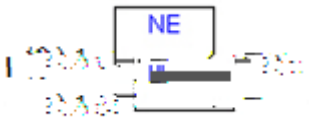
1 2 FALSE

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	

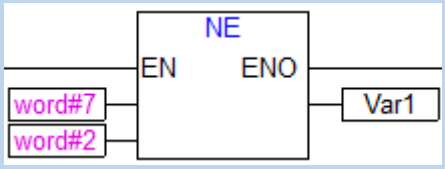
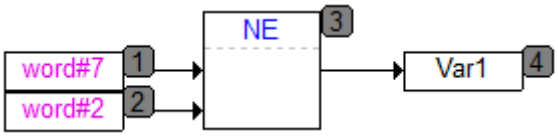
2.2.3.6 NE



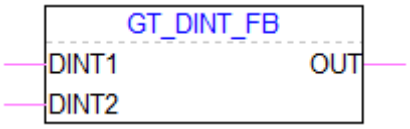
61

1. DT

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

LD	
FBD	

2.2.3.7 GT_DINT_FB



62

1.

DINT1	1	DINT
DINT2	2	DINT
OUT		BOOL

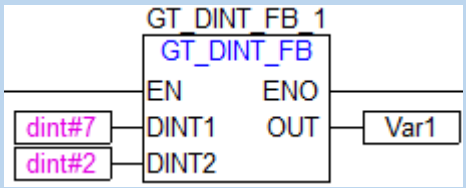
2.

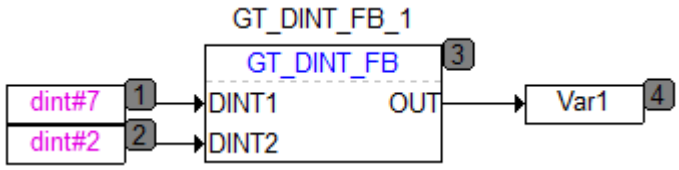
1 2 TURE

1 2 FALSE

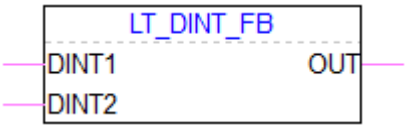
3.

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

LD	

FBD	

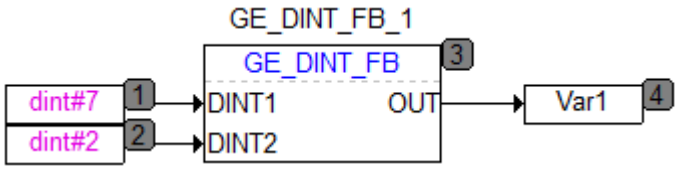
2.2.3.8 LT_DINT_FB



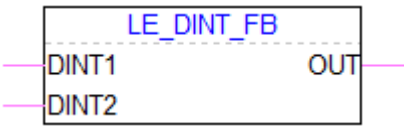
63

1.


HollySys

FBD	

2.2.3.10 LE_DINT_FB



65

1.

DINT1	1	DINT
DINT2	2	DINT
OUT		BOOL

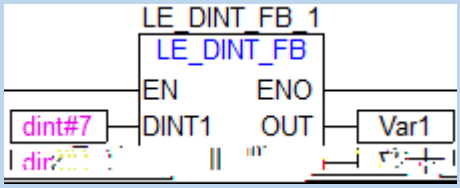
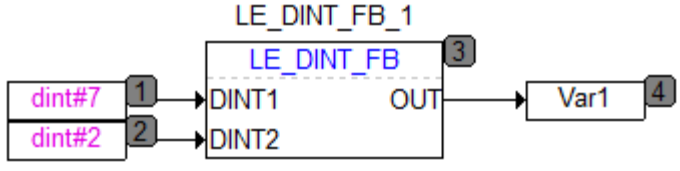
2.

1 2 TURE

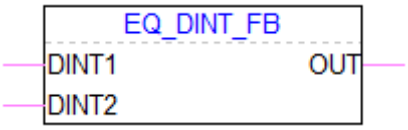
1 2 FALSE

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.

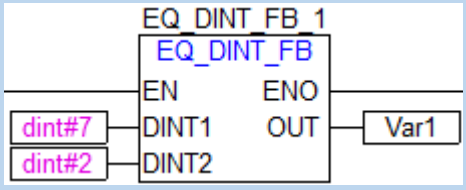
1 2 TURE

1 2 FALSE

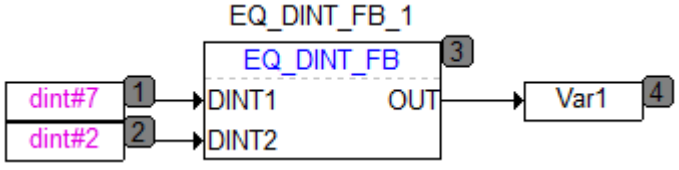
3.

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

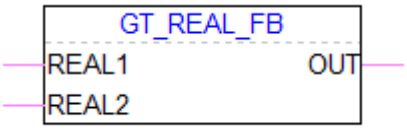
LD



FBD



2.2.3.12 GT_REAL_FB



67

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

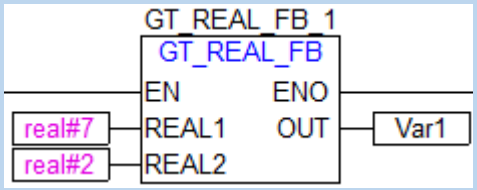
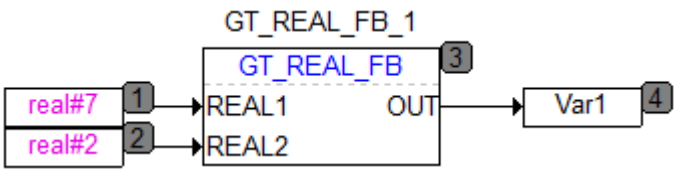
2.

1 2 TURE

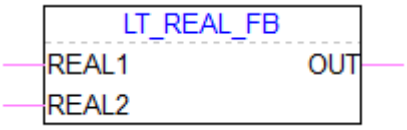
1 2 FALSE

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.

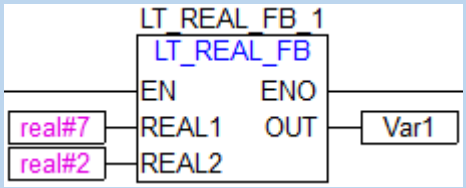
1 2 TURE

1 2 FALSE

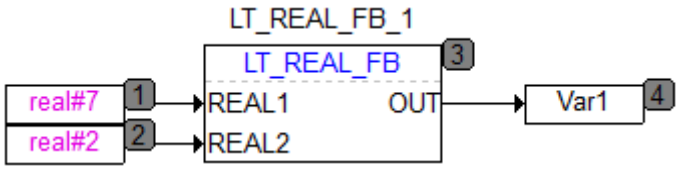
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LT_REAL_FB_1		LT_REAL_FB		G区
0002	Var1		BOOL	FALSE	G区

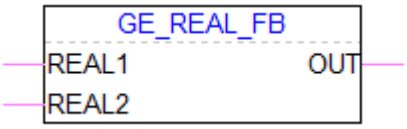
LD



FBD



2.2.3.14 GE_REAL_FB



69

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

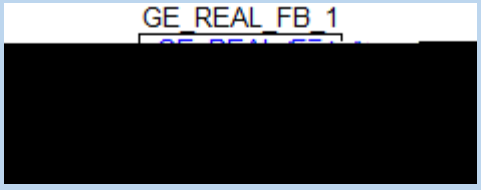
1 2 TURE

1 2 FALSE

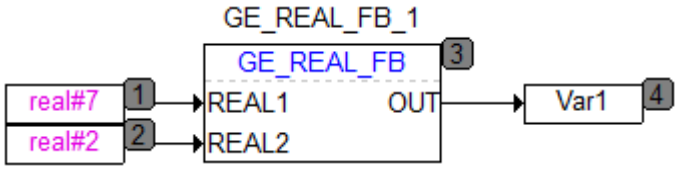
3.

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

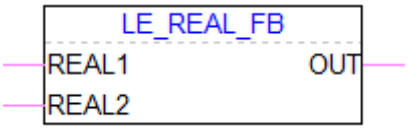
LD



FBD



2.2.3.15 LE_REAL_FB



70

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

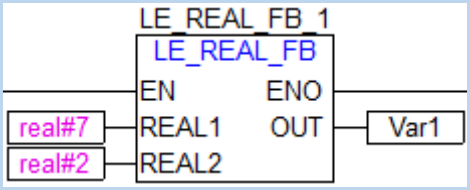
1 2 TURE

1 2 FALSE

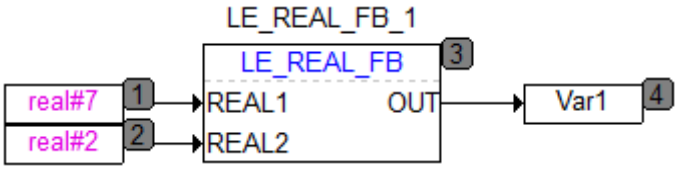
3.

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

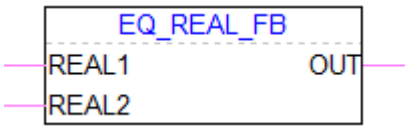
LD



FBD



2.2.3.16 EQ_REAL_FB



71

1.

REAL1		REAL
REAL2		REAL
OUT		BOOL

2.

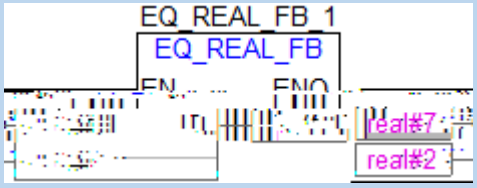
1 2 TURE

1 2 FALSE

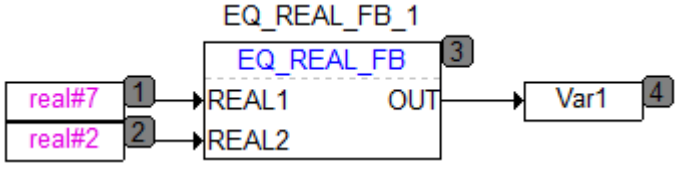
3.

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

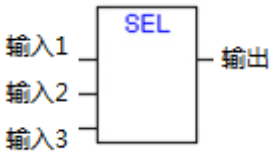


FBD



2.2.4

2.2.4.1 SEL



72

1.

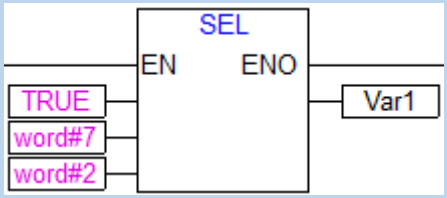
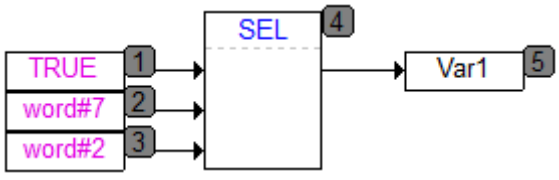
1		BOOL
2		
3		
	1 FALSE 2 1 TRUE 3	

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	
FBD	

2.2.4.2 MAX

73

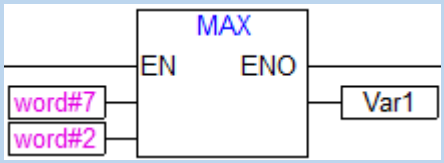
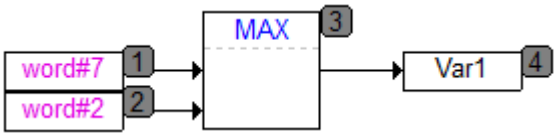
1.

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

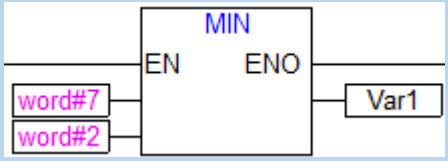
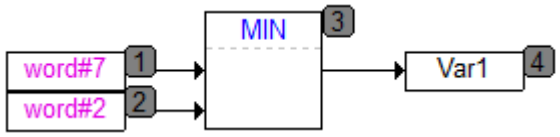
1.

1		BOOL
2		BOOL

2.

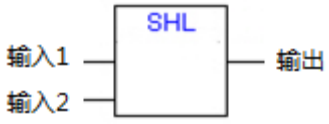
3.

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.

1		DWORD DINT
2		BYTE

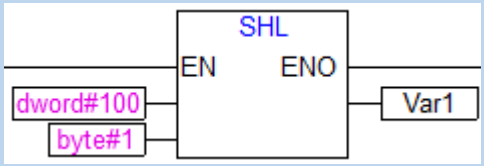
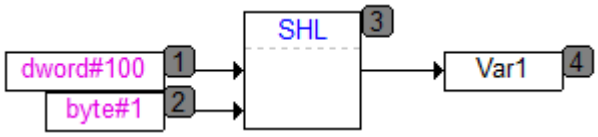
		DWORD DINT

2.

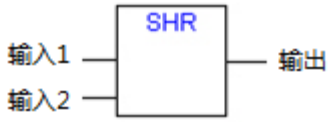
0

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.

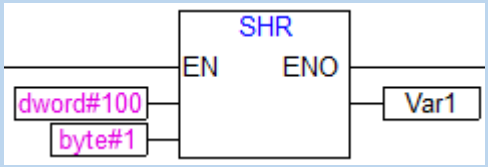
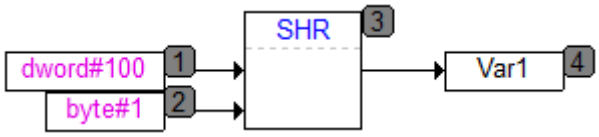
1		DWORD DINT
2		BYTE
		DWORD DINT

2.

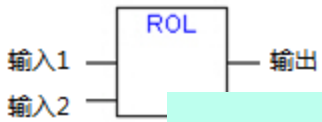
0

3.

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	

2.2.5.3 ROL

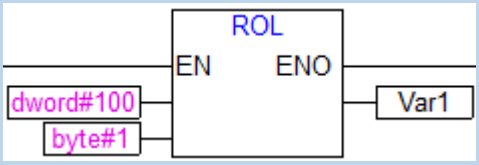
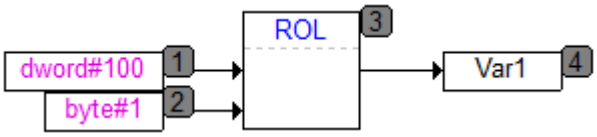


77

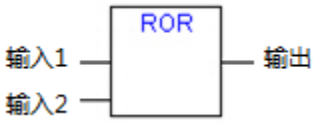
1.

1		DWORD DINT
2		BYTE

DWORD DINT

LD	
FBD	

2.2.5.4 ROR



78

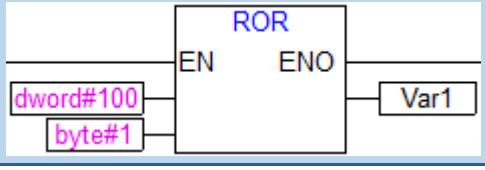
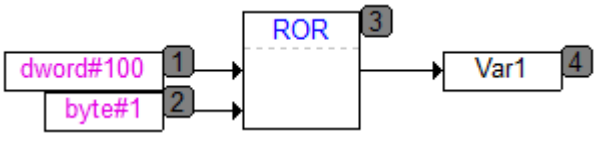
1.

1		DWORD DINT
2		BYTE
		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

LD	
FBD	

2.2.6

2.2.6.1 BYTE_TO BYTE

1.

BYTE

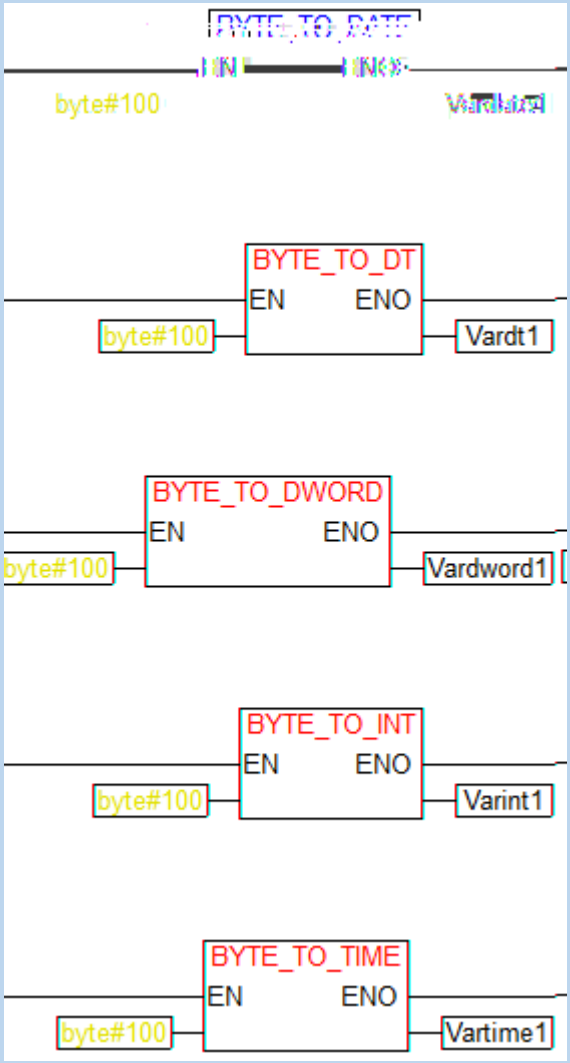
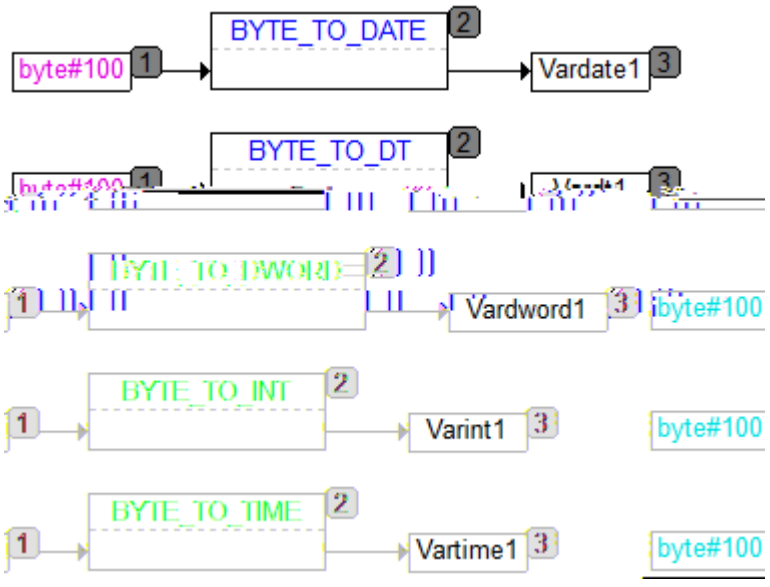
2.

		BYTE
		DATE DINT DT DWORD INT SINT TIME TOD WORD

3.

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	Vardword1		DWORD	0	G区
0004	Varint1		INT	0	G区
0005	Vartime1		TIME	T#0MS	G区

LD	 byte#100 BYTE_TO_DT EN ENO byte#100 Vardt1 BYTE_TO_DWORD EN ENO byte#100 Vardword1 BYTE_TO_INT EN ENO byte#100 Varint1 BYTE_TO_TIME EN ENO byte#100 Vartime1
FBD	 byte#100 1 BYTE_TO_DATE 2 Vardate1 3 BYTE_TO_DT Vardword1 byte#100 BYTE_TO_INT Varint1 byte#100 BYTE_TO_TIME Vartime1 byte#100

2.2.6.2 WORD_TO WORD

1.

WORD

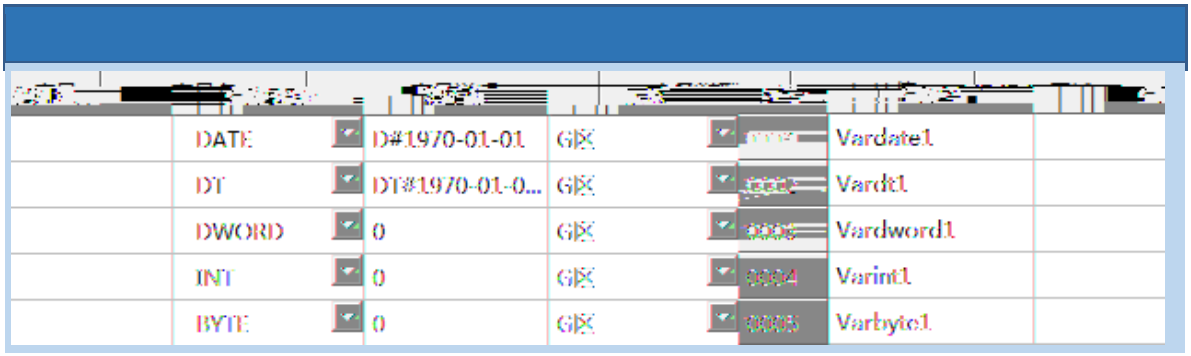
2.

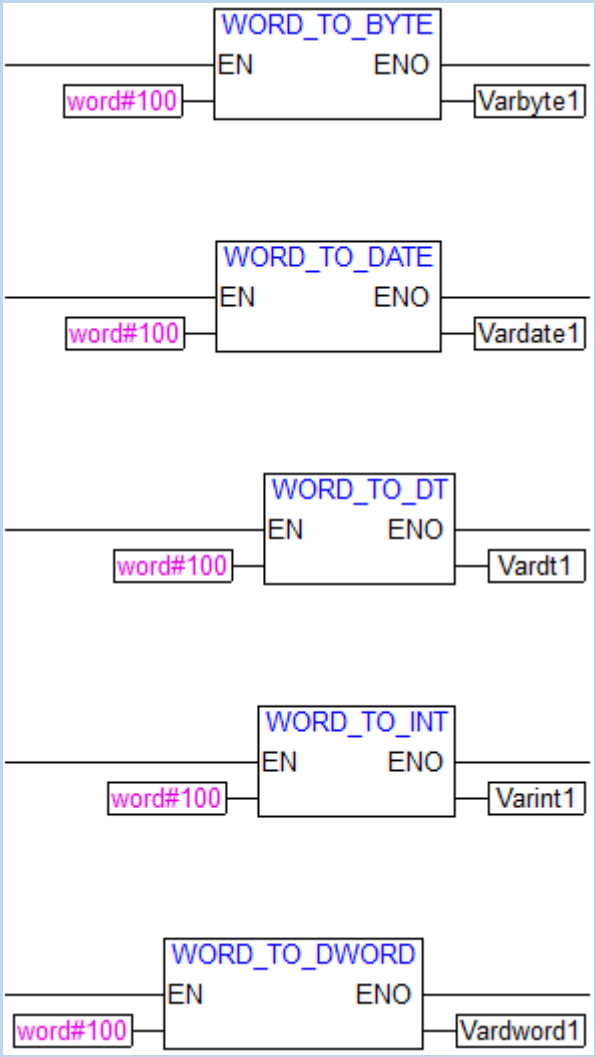
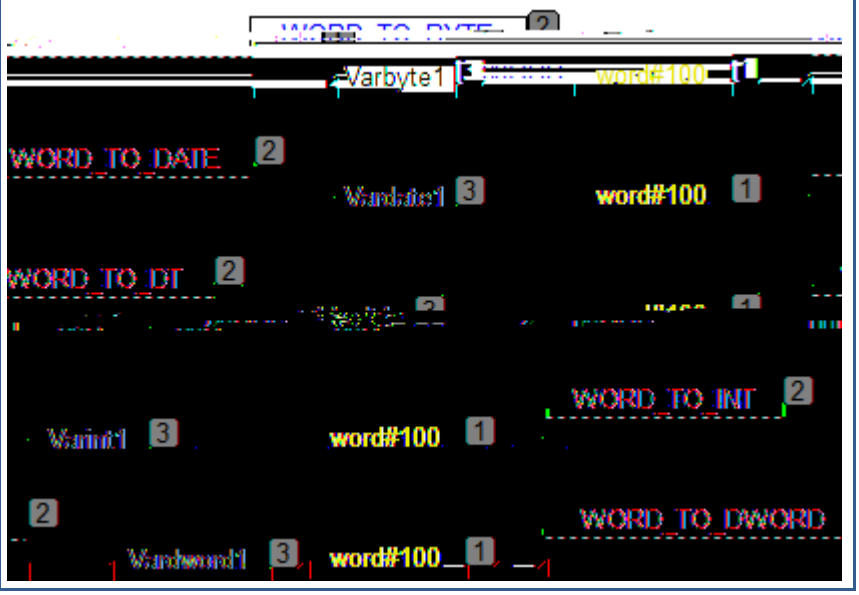
		WORD
		BYTE DATE DINT DT DWORD INT SINT TIME TOD

3.

WORD_TO_xxx xxx

4.



LD	 WORD_TO_BYTE EN ENO word#100 Varbyte1 WORD_TO_DATE EN ENO word#100 Vardate1 WORD_TO_DT EN ENO word#100 Vardt1 WORD_TO_INT EN ENO word#100 Varint1 WORD_TO_DWORD EN ENO word#100 Vardword1
FBD	 Varbyte1 WORD_TO_DATE word#100 WORD_TO_DT WORD_TO_INT word#100 WORD_TO_DWORD word#100

2.2.6.3 DWORD_TO DWORD

1.

DWORD

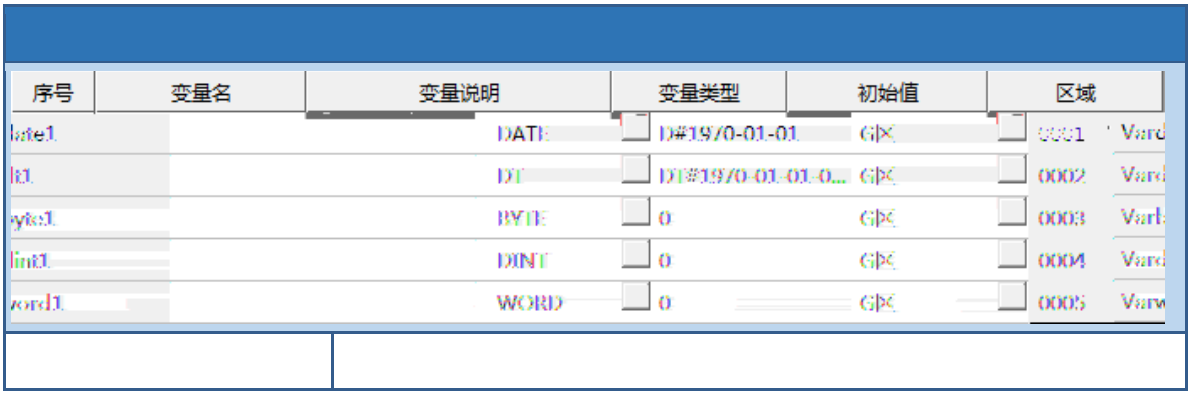
2.

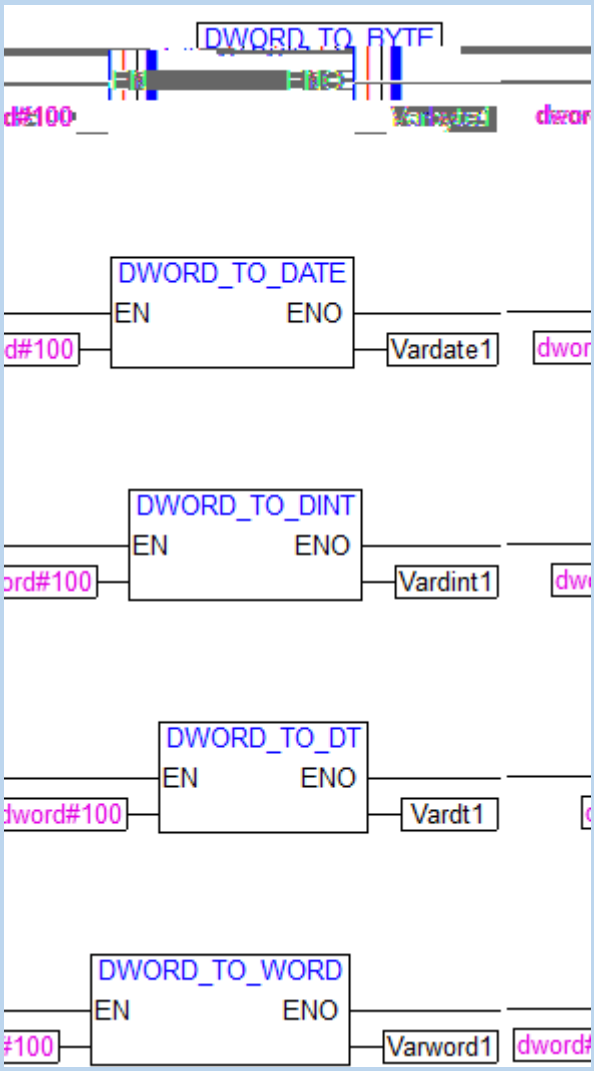
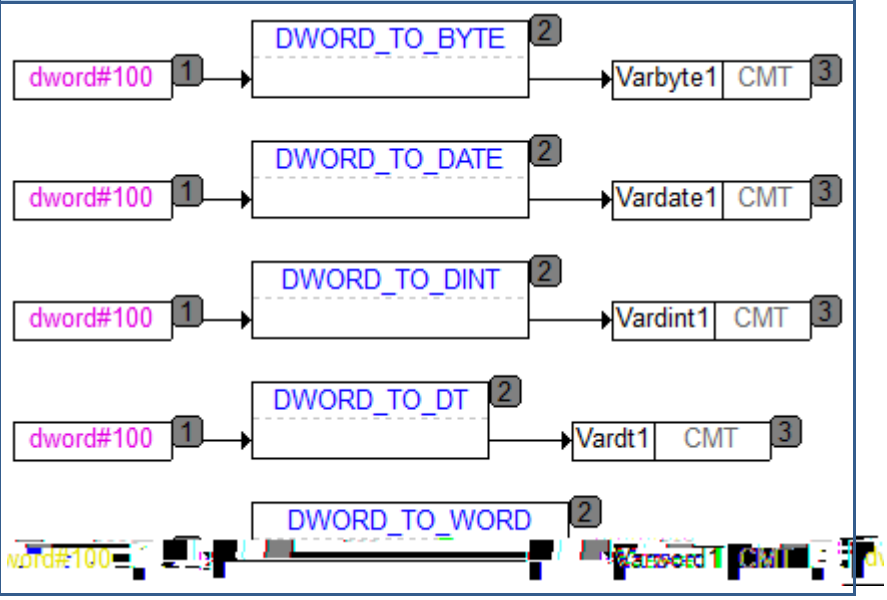
		DWORD
		BYTE DATE DINT DT INT LREAL REAL SINT TIME TOD WORD

3.

DWORD_TO_xxx xxx

4.



LD	 DWORD_TO_DATE EN ENO d#100 Vardate1 DWORD_TO_DINT EN ENO ord#100 Vardint1 DWORD_TO_DT EN ENO dword#100 Vardt1 DWORD_TO_WORD EN ENO #100 Varword1
FBD	 dword#100 1 DWORD_TO_BYTE 2 Varbyte1 CMT 3 dword#100 1 DWORD_TO_DATE 2 Vardate1 CMT 3 dword#100 1 DWORD_TO_DINT 2 Vardint1 CMT 3 dword#100 1 DWORD_TO_DT 2 Vardt1 CMT 3 DWORD_TO_WORD 2

2.2.6.4 SINT_TO SINT

1.

SINT

2.

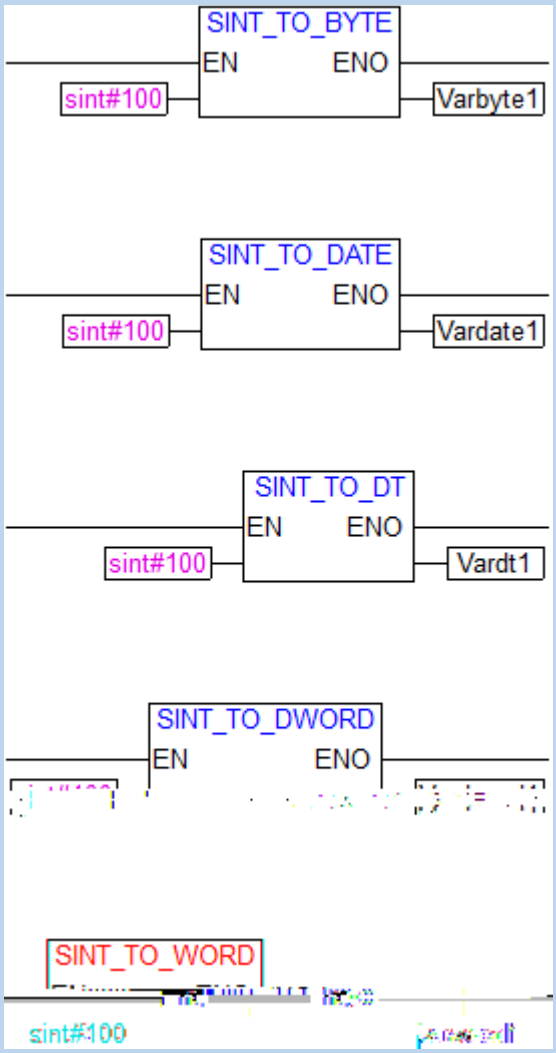
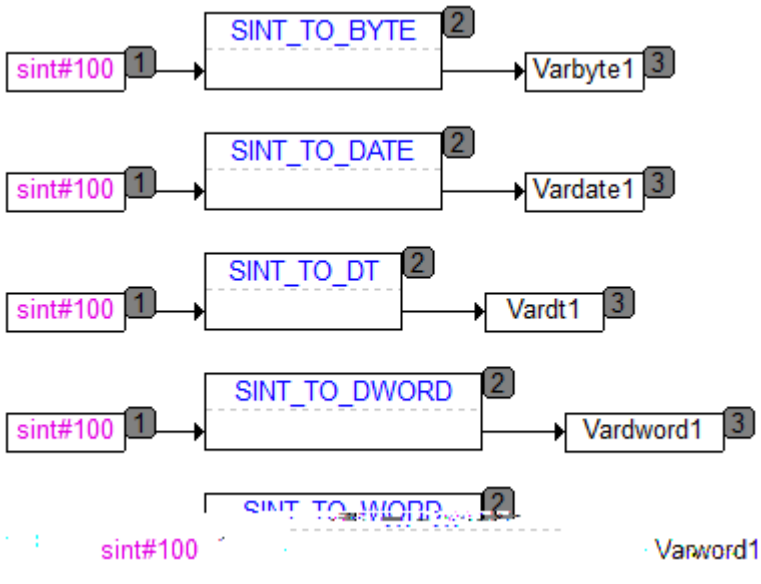
		SINT
		BYTE DATE DINT DT DWORD INT TIME TOD WORD

3.

SINT_TO_xxx xxx

4.

[redacted]

LD	 SINT_TO_BYTE EN ENO sint#100 Varbyte1 SINT_TO_DATE EN ENO sint#100 Vardate1 SINT_TO_DT EN ENO sint#100 Vardt1 SINT_TO_DWORD EN ENO SINT_TO_WORD sint#100
FBD	 SINT_TO_BYTE sint#100 Varbyte1 SINT_TO_DATE sint#100 Vardate1 SINT_TO_DT sint#100 Vardt1 SINT_TO_DWORD sint#100 Vardword1 sint#100 Varword1

2.2.6.5 INT_TO INT

1.

INT

2.

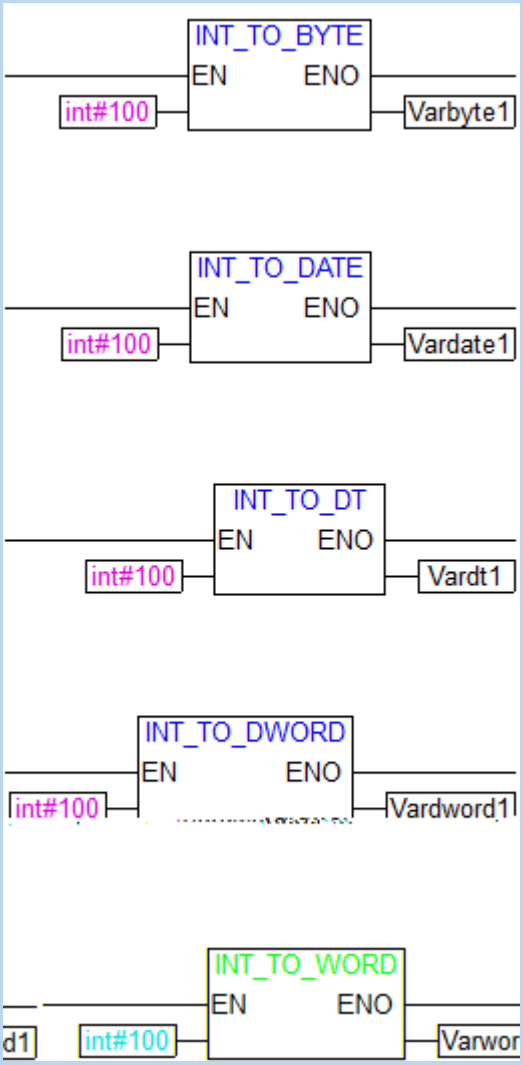
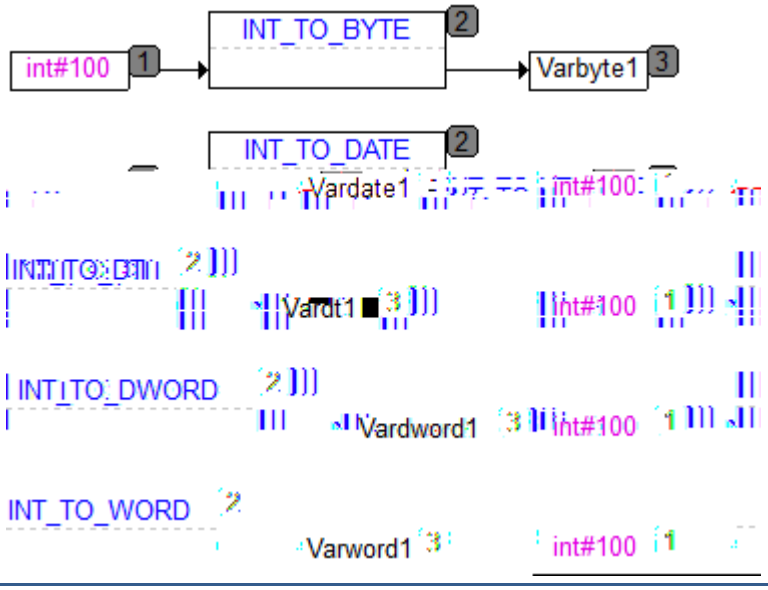
		INT
		BYTE DATE DINT DT DWORD SINT TIME TOD WORD

3.

INT_TO_xxx xxx

4.

[redacted]

LD	 INT_TO_BYTE EN ENO int#100 Varbyte1 INT_TO_DATE EN ENO int#100 Vardate1 INT_TO_DT EN ENO int#100 Vardt1 INT_TO_DWORD EN ENO int#100 Vardword1 INT_TO_WORD EN ENO int#100 Varwor
FBD	 INT_TO_BYTE int#100 Varbyte1 INT_TO_DATE Vardate1 int#100 Vardt1 int#100 INT_TO_DWORD Vardword1 int#100 INT_TO_WORD Varword1 int#100

2.2.6.6 DINT_TO DINT

1.

DINT

2.

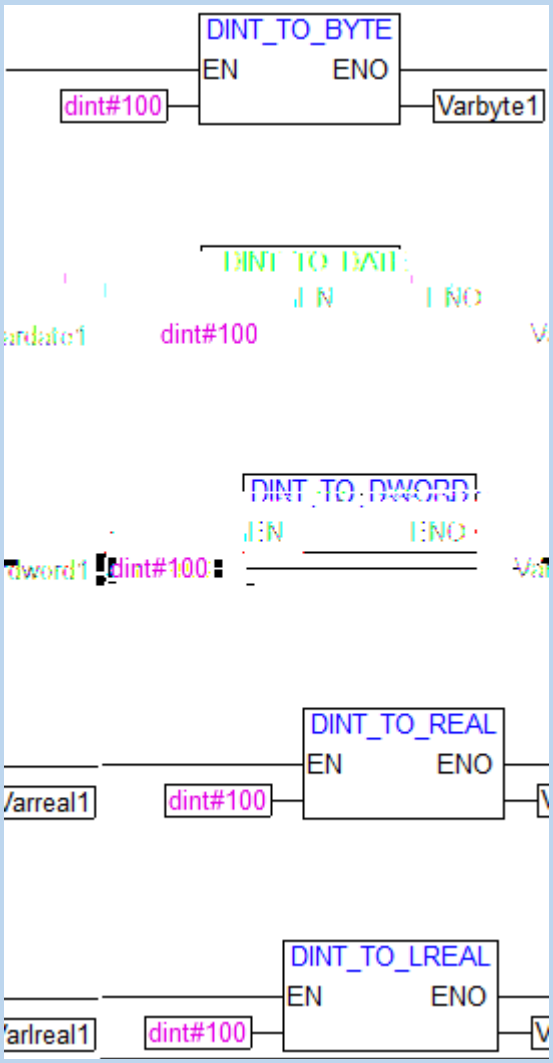
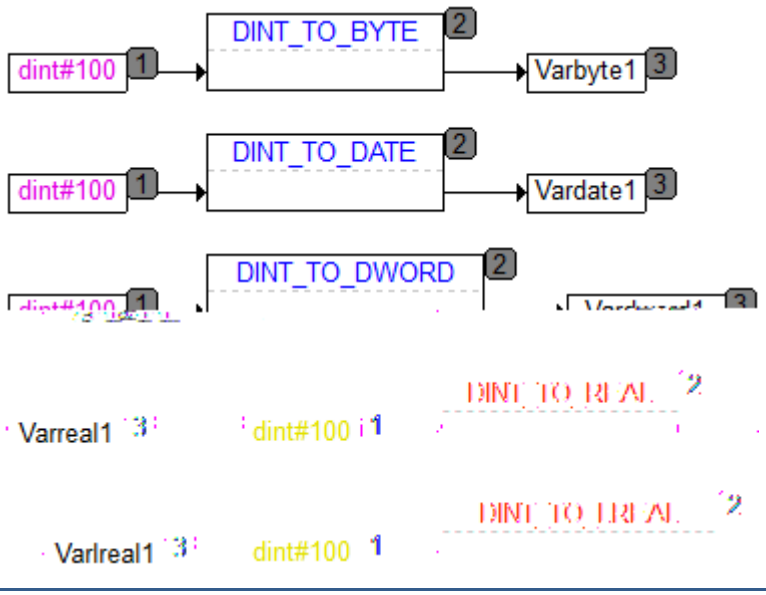
		DINT
		BYTE DATE DT DWORD INT LREAL REAL SINT TIME TOD WORD

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

LD	 DINT_TO_BYTE EN ENO dint#100 Varbyte1 DINT_TO_DWORD dint#100 DINT_TO_REAL EN ENO dint#100 DINT_TO_LREAL EN ENO dint#100
FBD	 dint#100 1 DINT_TO_BYTE 2 Varbyte1 3 dint#100 1 DINT_TO_DATE 2 Vardate1 3 DINT_TO_DWORD 2 Varreal1 3 dint#100 1 Varlreal1 3 dint#100 1

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.

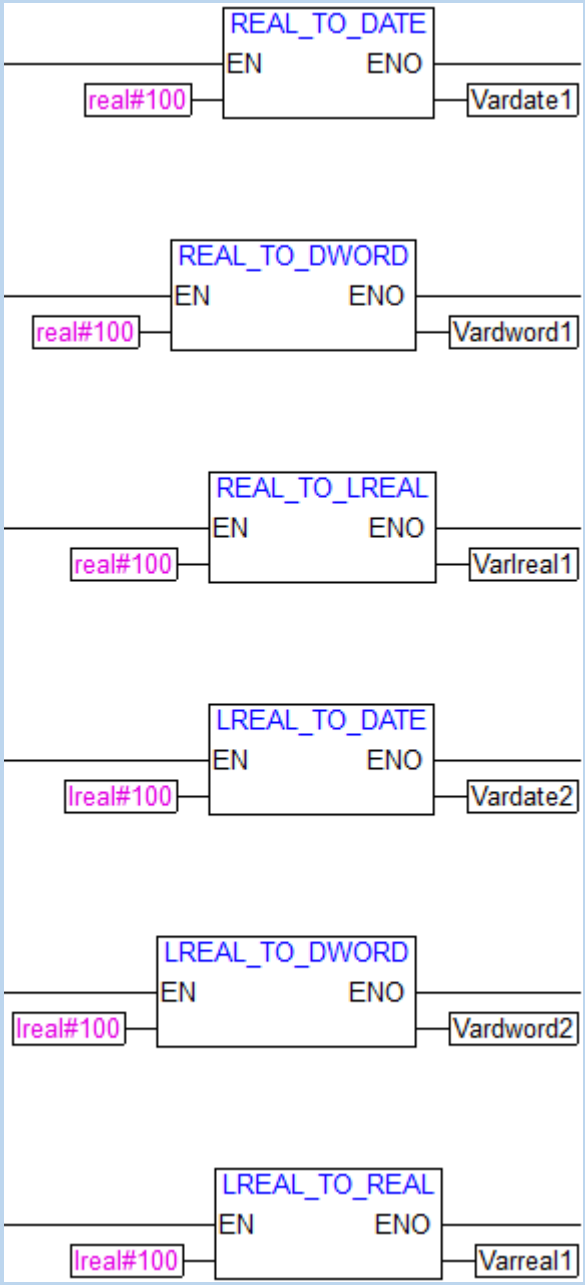
REAL/LREAL REAL_TO/LREAL_TO_xxx

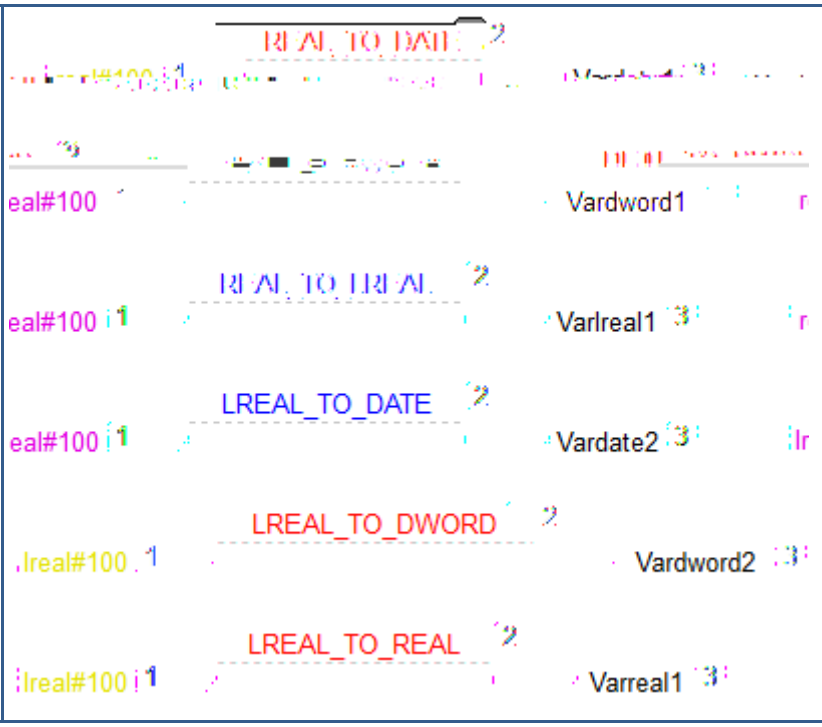
xxx

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	Varlreal1		LREAL	0	G区
0005	Vardate2		DATE	D#1970-01-01	G区
0006	Vardword2		DWORD	0	G区

LD


REAL_TO_DATE
EN
ENO
real#100
Vardate1
REAL_TO_DWORD
EN
ENO
real#100
Vardword1
REAL_TO_LREAL
EN
ENO
real#100
Varlreal1
LREAL_TO_DATE
EN
ENO
lreal#100
Vardate2
LREAL_TO_DWORD
EN
ENO
lreal#100
Vardword2
LREAL_TO_REAL
EN
ENO
lreal#100
Varreal1

FBD	

2.2.6.8 TIME_TO TIME

1.

TIME

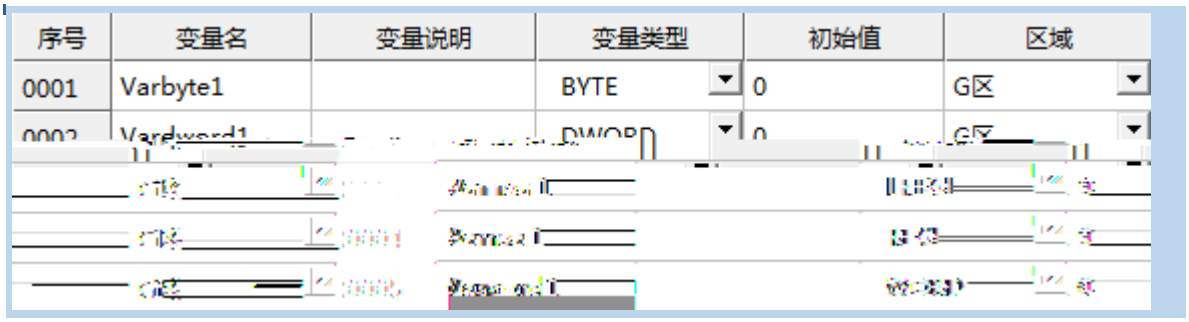
2.

		TIME
		BYTE DINT DWORD INT REAL LREAL SINT WORD

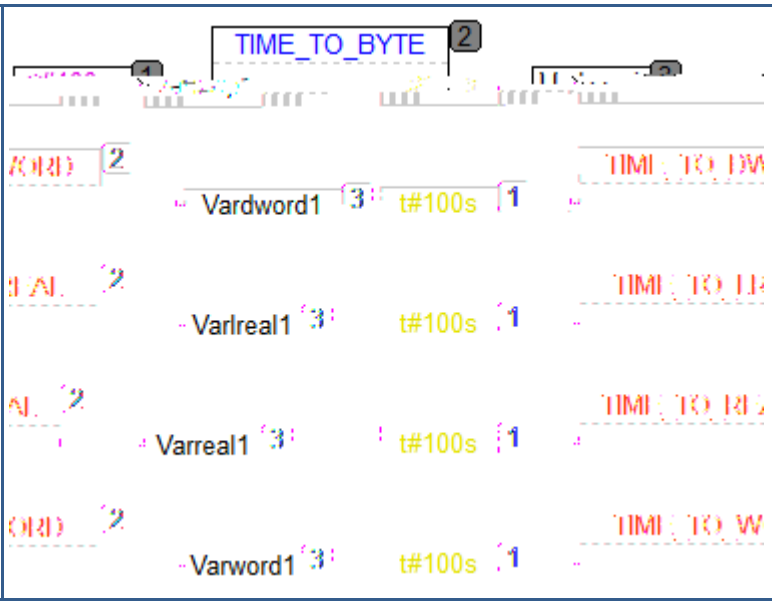
3.

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	Vardword1		DWORD	0	G区

FBD	

2.2.6.9 DATE_TO DATE

1.

DATE

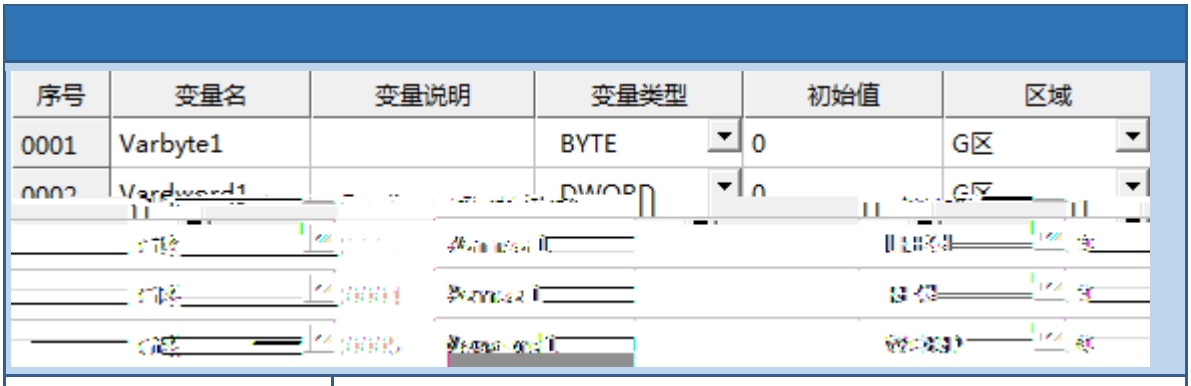
2.

		DATE
		BYTE DINT DWORD INT LREAL REAL SINT WORD

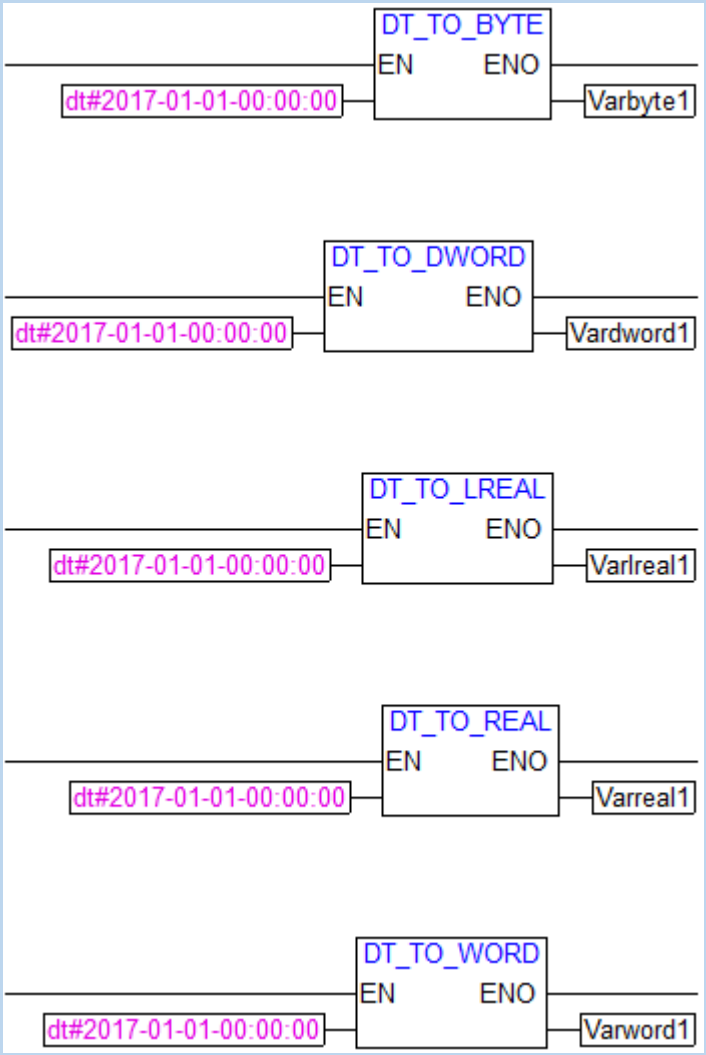
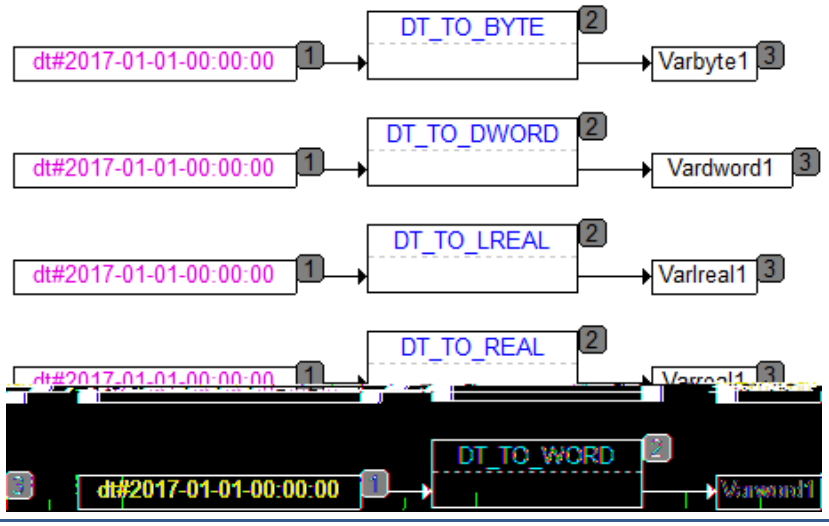
3.

DATE DATE_TO _xxx xxx DATE

4.


HollySys

LD	
FBD	

2.2.6.11 TOD_TO TOD

1.

TOD

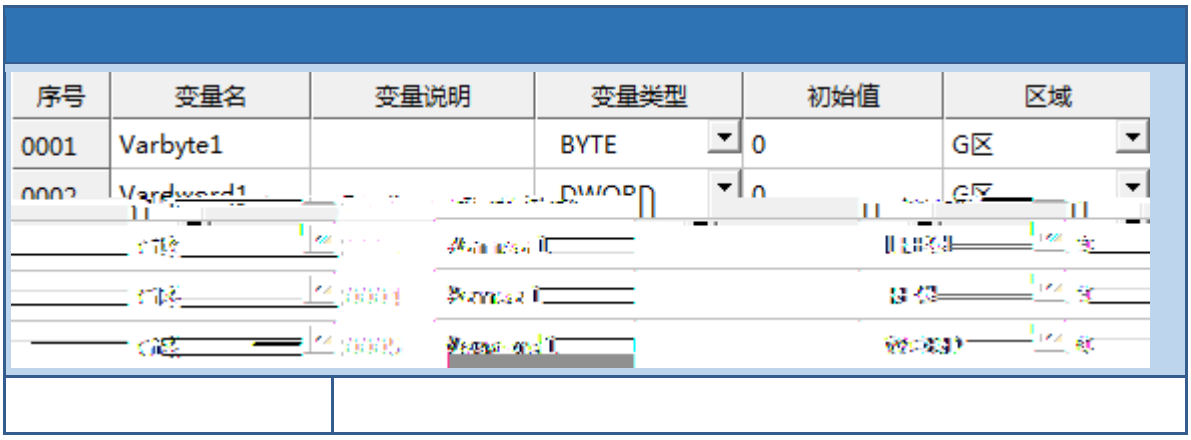
2.

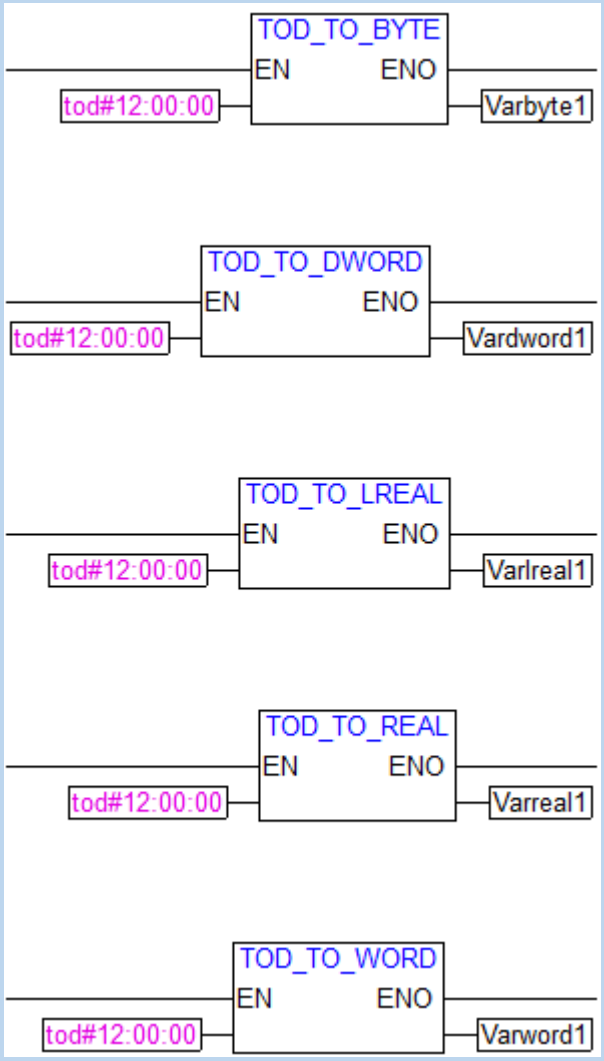
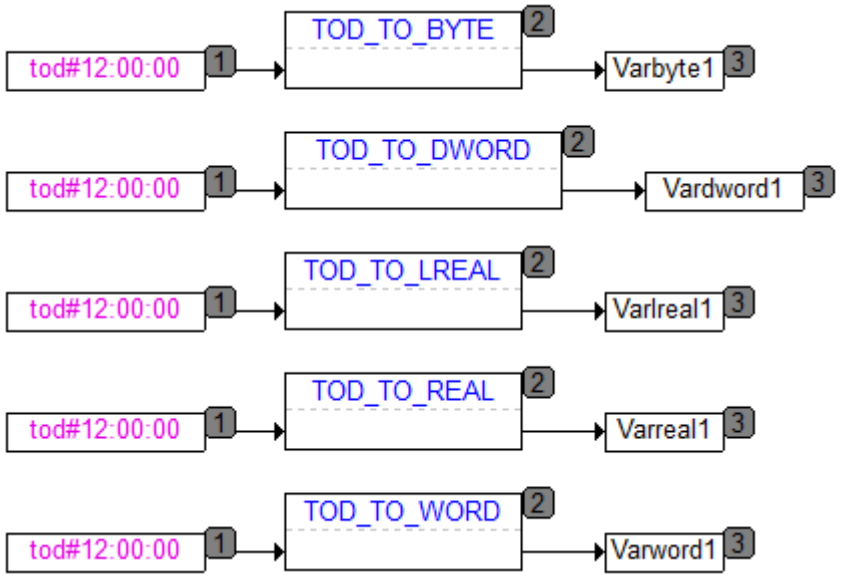
		TOD
		BYTE DINT DWORD INT LREAL REAL SINT WORD

3.

TOD TOD_TO_xxx xxx TOD

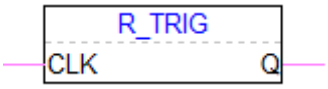
4.



LD	 TOD_TO_BYTE EN ENO tod#12:00:00 Varbyte1 TOD_TO_DWORD EN ENO tod#12:00:00 Vardword1 TOD_TO_LREAL EN ENO tod#12:00:00 Varlreal1 TOD_TO_REAL EN ENO tod#12:00:00 Varreal1 TOD_TO_WORD EN ENO tod#12:00:00 Varword1
FBD	 tod#12:00:00 1 TOD_TO_BYTE 2 Varbyte1 3 tod#12:00:00 1 TOD_TO_DWORD 2 Vardword1 3 tod#12:00:00 1 TOD_TO_LREAL 2 Varlreal1 3 tod#12:00:00 1 TOD_TO_REAL 2 Varreal1 3 tod#12:00:00 1 TOD_TO_WORD 2 Varword1 3

2.2.7

2.2.7.1 R_TRIG



79

1.

1.

CLK	BOOL		0
Q	BOOL		0

2.

F_TRIG CLK CLK Q BOOL

CLK TRUE FALSE Q TRUE Q FALSE

3.

Q	BOOL		0

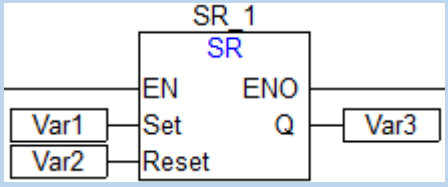
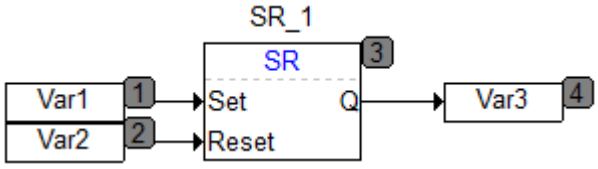
Reset	Set	Q(n+1)
0	0	Q(n)
0	1	1
1	0	0
1	1	1

2.

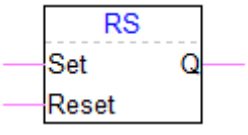
SR Set Reset Q BOOL Q =(NOT Reset AND Q) OR Set RS

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.

Set	BOOL		0
Reset	BOOL		0
Q	BOOL		0

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

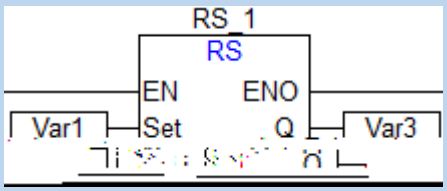
2.

RS Set Reset Q BOOL Q =NOT Reset AND (Q OR Set) RS

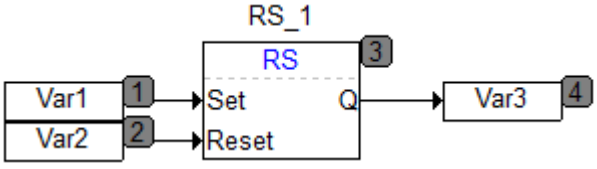
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	RS_1		RS		G区
0002	Var1		BOOL	FALSE	G区
0003	Var2		BOOL	FALSE	G区
0004	Var3		BOOL	FALSE	G区

LD

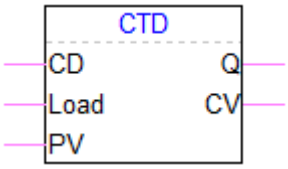


FBD



2.2.9

2.2.9.1 CTD



83

1.

CD	BOOL		0
Load	BOOL	Load TRUE CV PV	0
PV	WORD		0
Q	BOOL	CV 0 Q TRUE	1
CV	WORD		0

2.

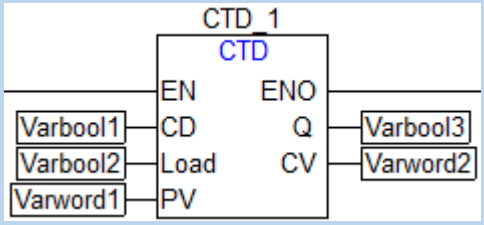
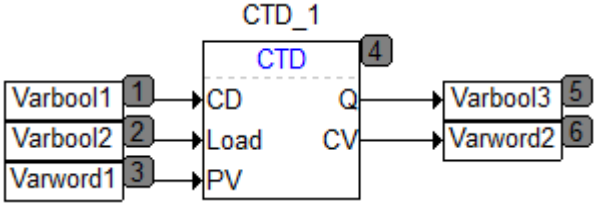
CTD CD CD Load Q BOOL PV CV WORD

Load TRUE CV PV

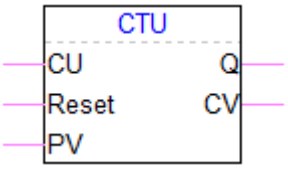
CD FALSE TRUE CV 1 CV 0 Q TRUE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	CTD_1		CTD		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	

2.2.9.2 CTU



84

1.

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

2.

CTU CU CU Reset Q BOOL PV CV WORD

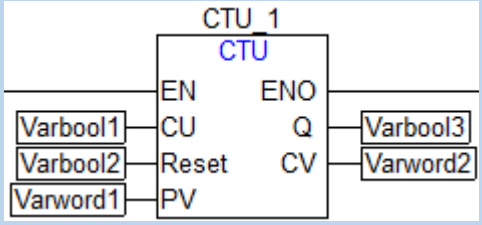
Reset TRUE CV 0

CU FALSE TRUE CV 1 CV PV Q TRUE

3.

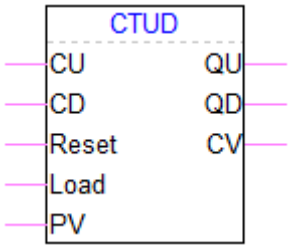
序号	变量名	变量说明	变量类型	初始值	区域
0001	CTU_1		CTU		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varword1		WORD	0	G区
0005	Varbool3		BOOL	FALSE	G区
0006	Varword2		WORD	0	G区

LD



FBD

2.2.9.3 CTUD /



85 /

1.

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

QU	BOOL	CV TRUE PV QU	1
QD	BOOL	CV TRUE 0 QD	1
CV	WORD		0

2.

/ CU CD Reset Load QU QD BOOL PV CV WORD

Reset 1 CV 0 Load 1 CV PV

/

CU FALSE TRUE CV 1 CD FALSE TRUE CV 1 CV 0

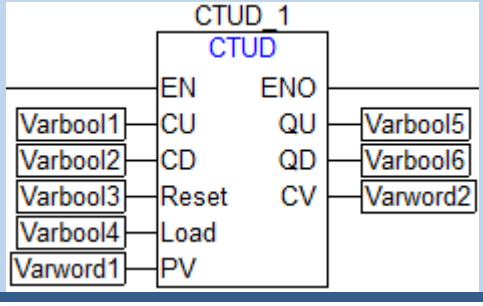
CV PV QU TRUE

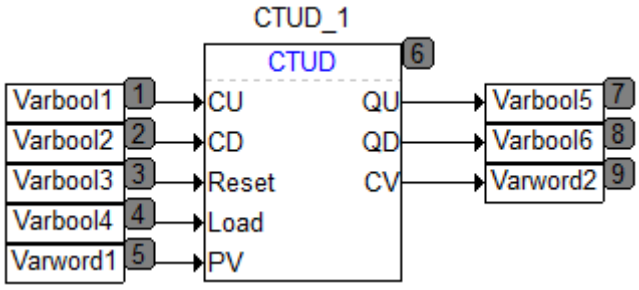
CV 0 QD TRUE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	CTUD_1		CTUD		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbool2		BOOL	FALSE	G区
0004	Varbool3		BOOL	FALSE	G区
0005	Varbool4		BOOL	FALSE	G区
0006	Varword1		WORD	0	G区
0007	Varbool5		BOOL	FALSE	G区
0008	Varbool6		BOOL	FALSE	G区
0009	Varword2		WORD	0	G区

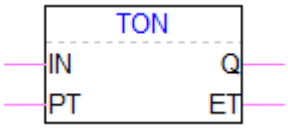
LD



FBD	

2.2.10

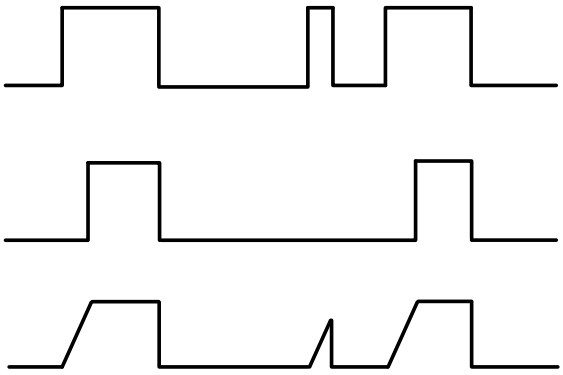
2.2.10.1 TON



86

1.

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

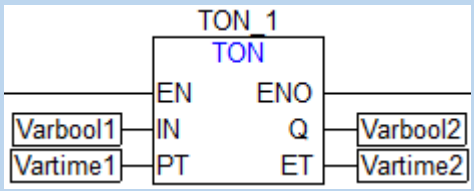


87 TON

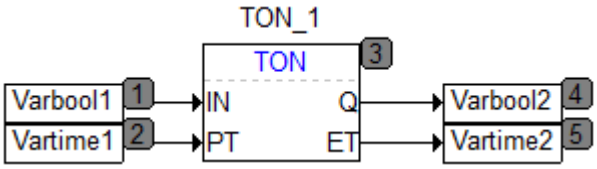
3. 87

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



FBD



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

LD EN

EN TRUE FALSE EN TRUE EN FALSE

2.

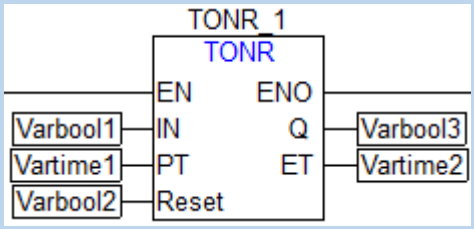
IN TRUE ET ET PT

IN FALSE ET IN TRUE ET ET PT Q RESET 1 FALSE

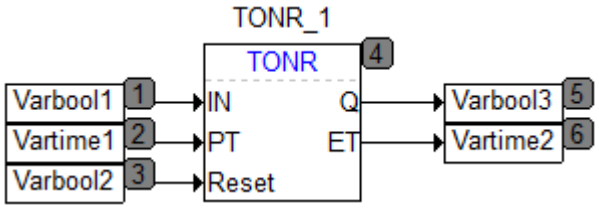
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	TONR_1		TONR		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Vartime1		TIME	T#0MS	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Varbool3		BOOL	FALSE	G区
0006	Vartime2		TIME	T#0MS	G区

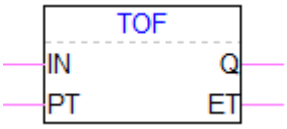
LD



FBD



2.2.10.3 TOF



89

1.

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

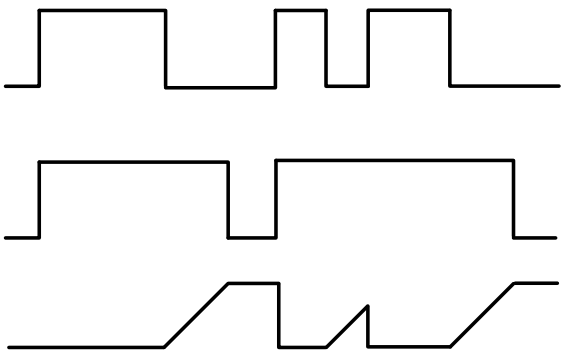
LD EN

EN TRUE FALSE EN TRUE EN FALSE

2.

TOF IN Q BOOL PT ET TIME

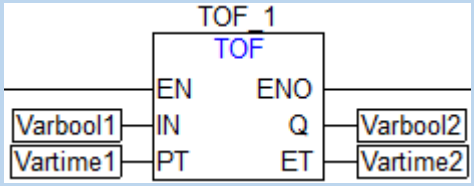
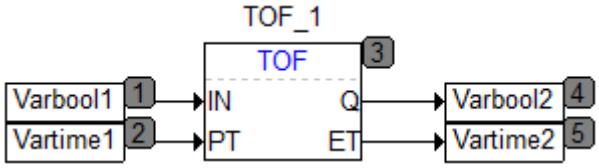
PT IN TRUE Q TRUE IN ET PT IN ET>=PT Q FALSE ET=PT PT IN TRUE Q TRUE ET 0



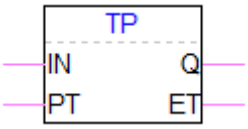
90 TOF

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	TOF_1		TOF		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	

2.2.10.4 TP



91

1.

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

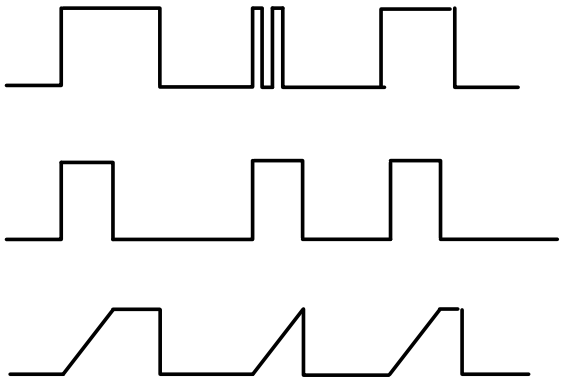
LD EN

EN TRUE FALSE EN TRUE EN FALSE

2.

TP IN Q BOOL PT ET TIME

IN FALSE Q FALSE ET 0 IN TRUE

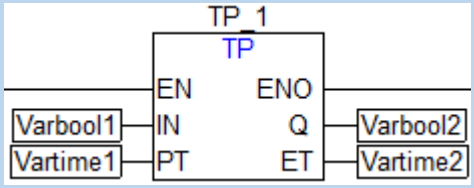


92 TP

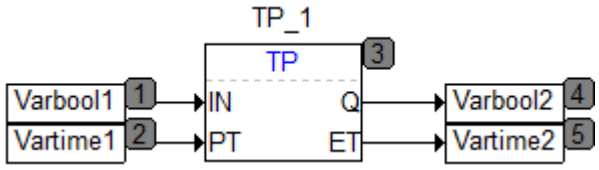
3.

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

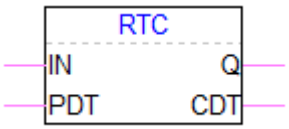
LD



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

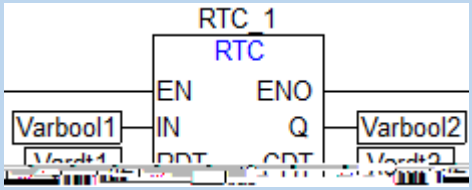
2.

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

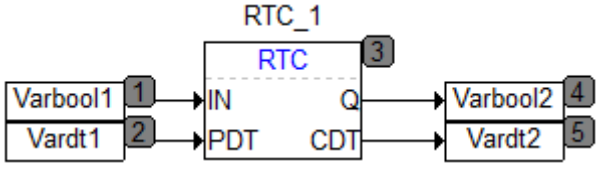
3.

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

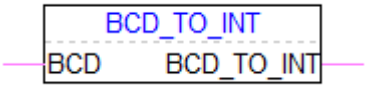
BCD 0 99 4 4-7
0-3 BCD 16 BCD 0-99 16
0-FF

BCD 4 BCD
59 BCD 0101 1001 2#111011 51 BCD 5
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

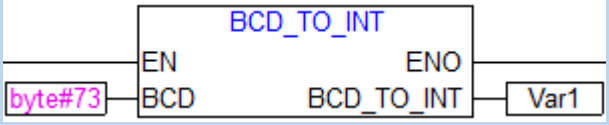
2.

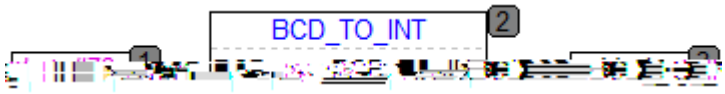
BCD	BYTE	BCD	0

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

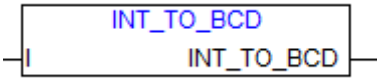
LD	

FBD	

2.3.1.2 INT_TO_BCD BCD

1.

BCD INT_TO_BCD INT BYTE
BCD BCD 255



95 INT_TO_BCD

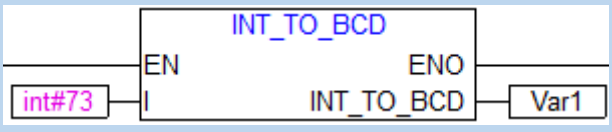
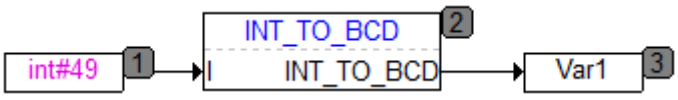
2.

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

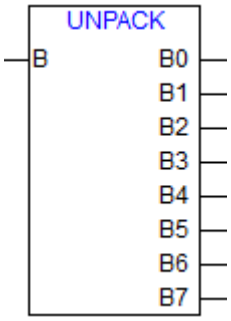
LD	
FBD	

2.3.2

2.3.2.1 UNPACK

1.

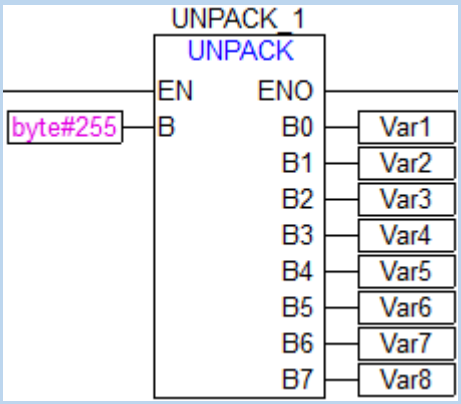
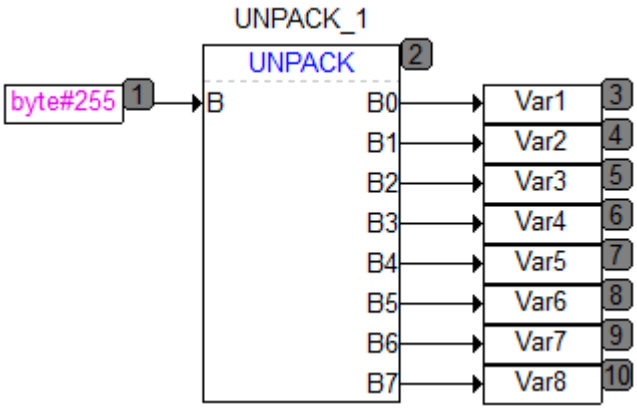
B 7~0 B7~B0 PACK



96 UNPACK

2.

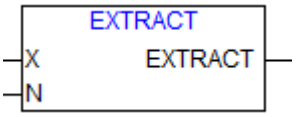
B	BYTE		

LD	
FBD	

2.3.2.2 EXTRACT

1.

X N



97 EXTRACT

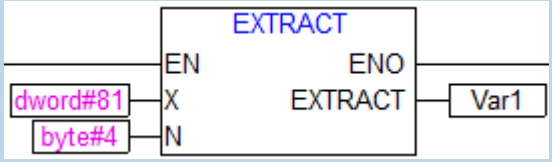
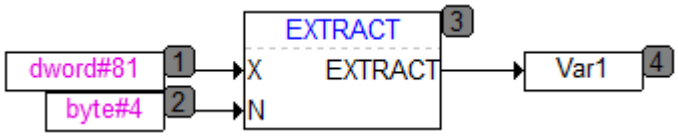
2.

X	DWORD		0
N	BYTE		0

EXTRACT	BOOL		0

3.

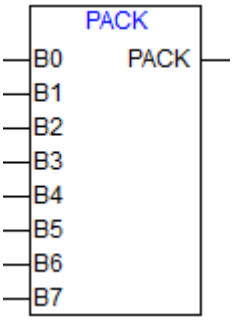
序号	变量名	变量说明	变量类型	初始值	区域
0001	Var1		BOOL	FALSE	全区

LD	
FBD	

2.3.2.3 PACK

1.

B0~B7 0 7 BYTE
UNPACK



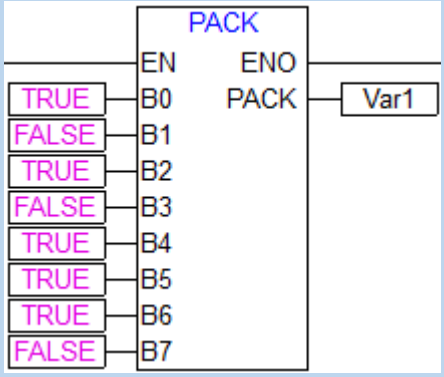
98 PACK

2.

B0	BOOL	BOOL	0
B1		BOOL	0
B2		BOOL	0
B3		BOOL	0
B4		BOOL	0

3.

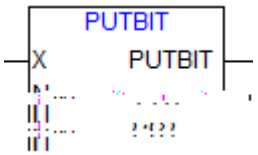
序号	变量名	变量说明	变量类型	初始值	区域
G|X		Var1		BYTE	0

LD	
FBD	

2.3.2.4 PUTBIT

1.

PUTBIT X N B



99 PUTBIT

2.

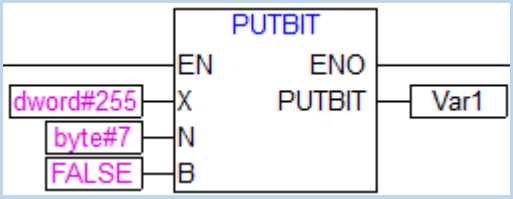
X	DWORD		0
N	BYTE		0
B	BOOL		FALSE

PutBit	DWORD		

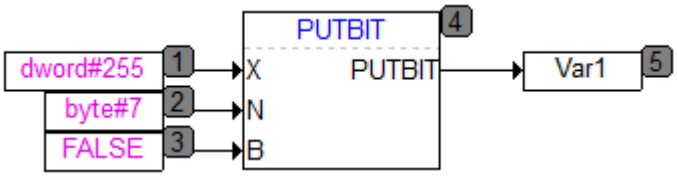
3.

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



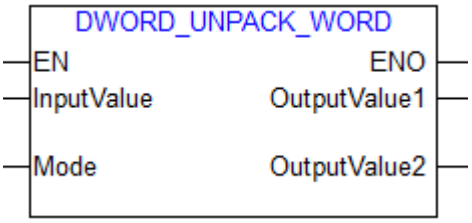
FBD



2.3.2.5 DWORD_UNPACK_WORD DWORD WORD

1.

DWORD WORD



100 DWORD_UNPACK_WORD

2.

InputValue	DWORD	
Mode	BOOL	FALSE 16 16 TRUE 16 16

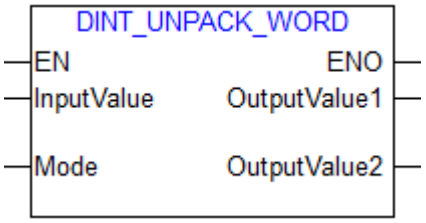
OutputValue1	WORD	Mode FALSE 16

		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.

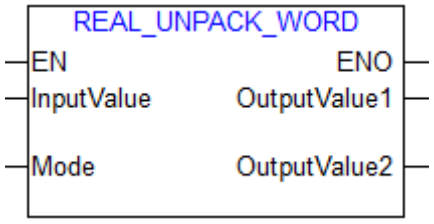
InputValue	DINT	
Mode	BOOL	FALSE 16 16 TRUE 16 16

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.

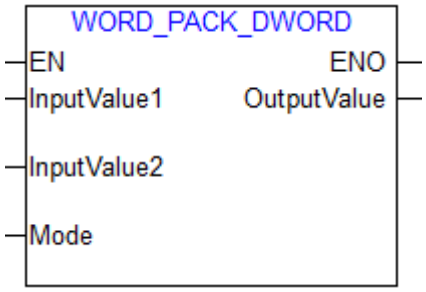
InputValue	REAL	
Mode	BOOL	FALSE 16 16 TRUE 16 16

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.

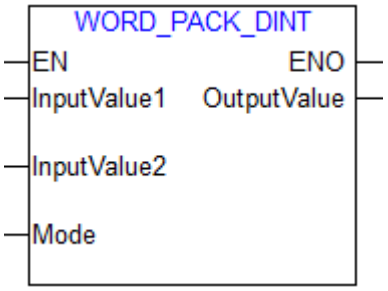
WORD DWORD



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.

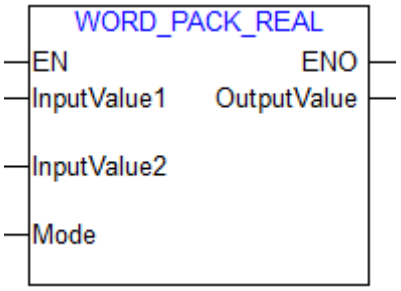
InputValue1	WORD	1
InputValue2	WORD	2
Mode	BOOL	FALSE InputValue1 16 InputValue2 16 TRUE InputValue1 16 InputValue2 16

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

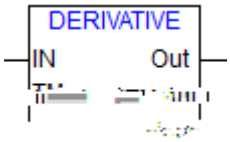
OutputValue	REAL	Mode

2.3.3

2.3.3.1 DERIVATIVE

1.

DERIVATIVE



106 DERIVATIVE

2.

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

k-3 k-2 k-1 k

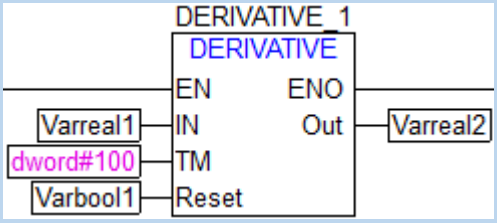
3.

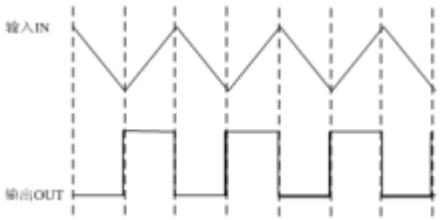
IN	REAL		0
TM	DWORD		0
Reset	BOOL		FALSE

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

LD	
FBD	

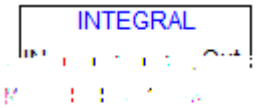


107

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

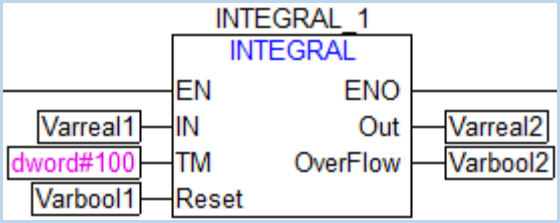
OUT	REAL		0	TRUE

OverFlow	BOOL		FALSE	TRUE

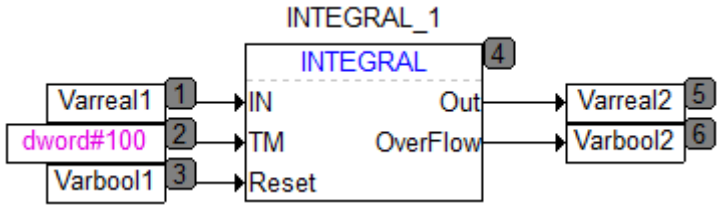
4.

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

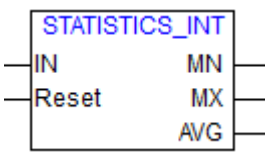


109

2.3.3.3 STATISTICS_INT

1.

STATISTICS_INT INT



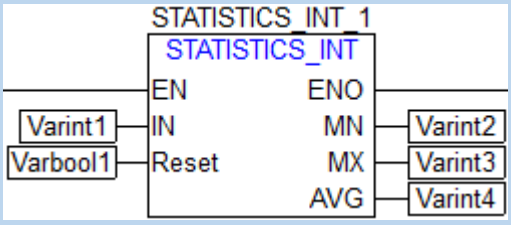
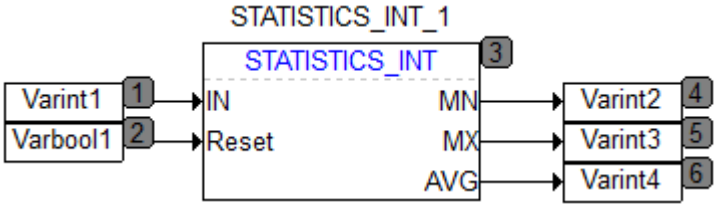
110 STATISTICS_INT

2.

IN	INT		0	FALSE
Reset	BOOL		FALSE	TRUE

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

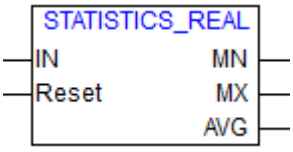
3.

LD	
FBD	

2.3.3.4 STATISTICS_REAL

1.

REAL



111 STATISTICS_REAL

2.

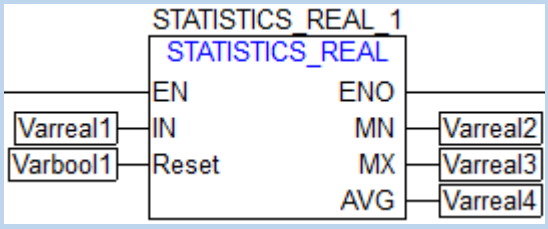
IN	REAL		0	FALSE
Reset	BOOL		FALSE	TRUE

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

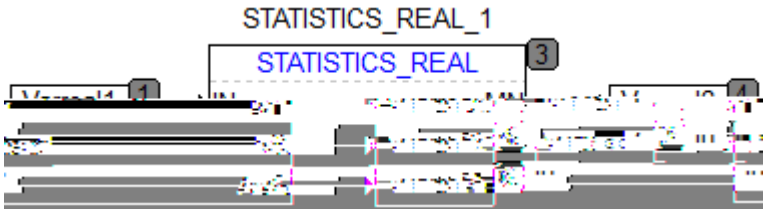
3.

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



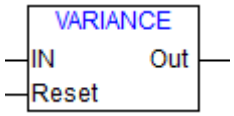
FBD



2.3.3.5 VARIANCE

1.

VARIANCE



112 VARIANCE

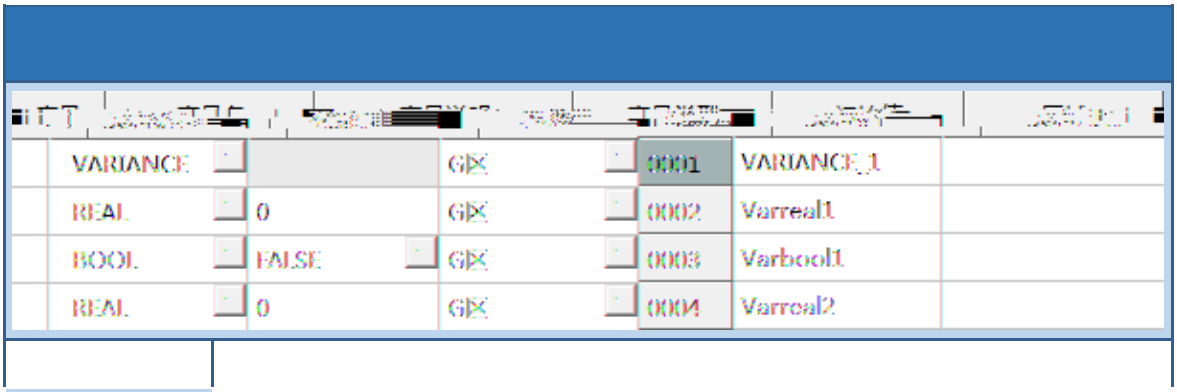
2.

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.



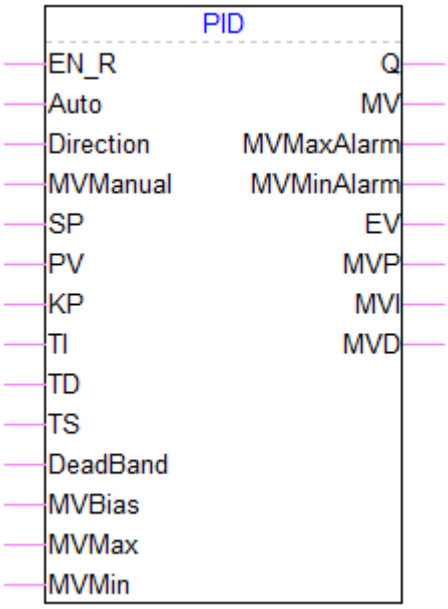
LD

2.3.4

2.3.4.1 PID

1.

PID



113 PID

2.

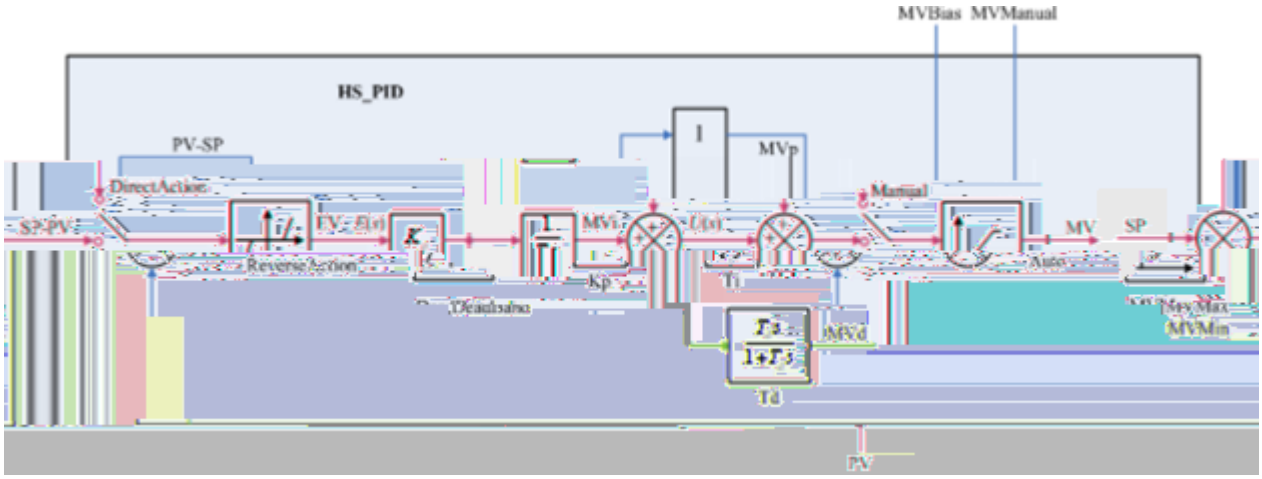
EN_R			FALSE TRUE			
Auto	BOOL		FALSE TRUE		FALSE	TRUE
Direction	BOOL		FALSE	EV=SP-PV		

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

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
MVP	REAL			0	FALSE
MVI	REAL			0	

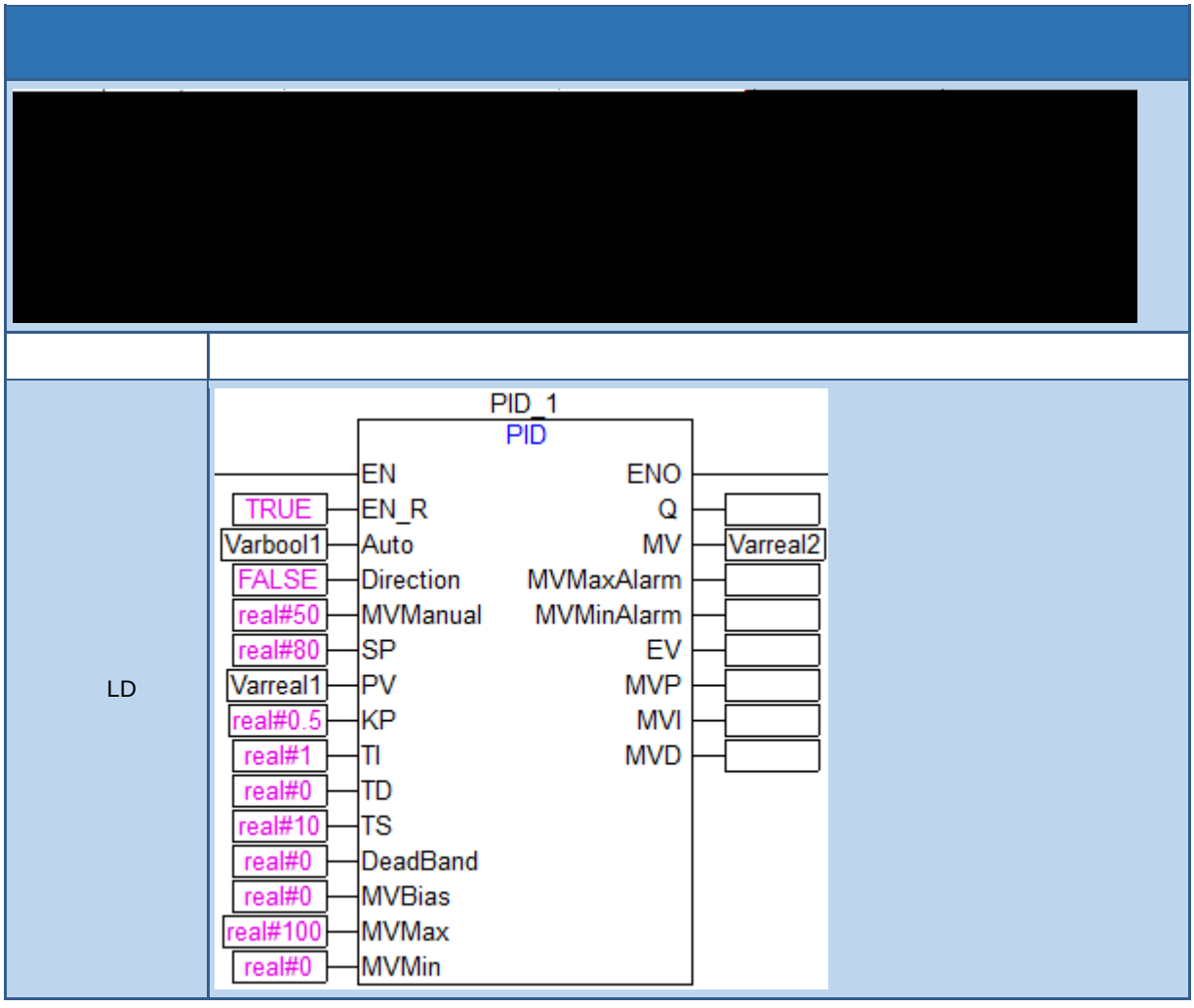
Kp Ti Td
MVp MVi MVd MV

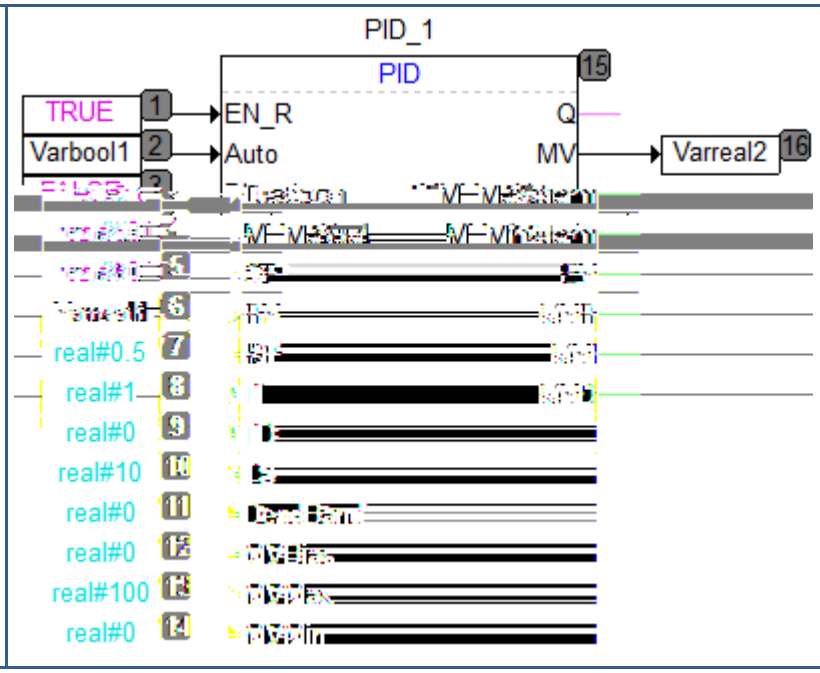
PID 114



114 PID

4.



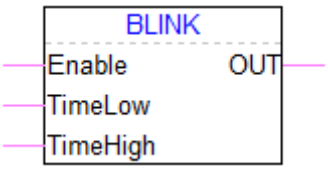
FBD	

2.3.5

2.3.5.1 BLINK

1.

BLINK



115 BLINK

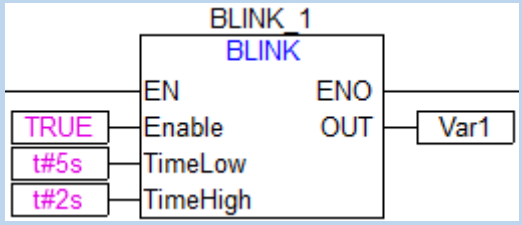
2.

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

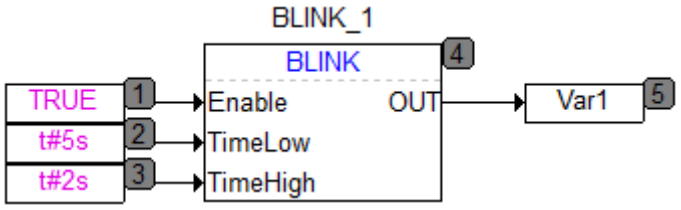
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	BLINK_1		BLINK		G区
0002	Var1		BOOL	FALSE	G区

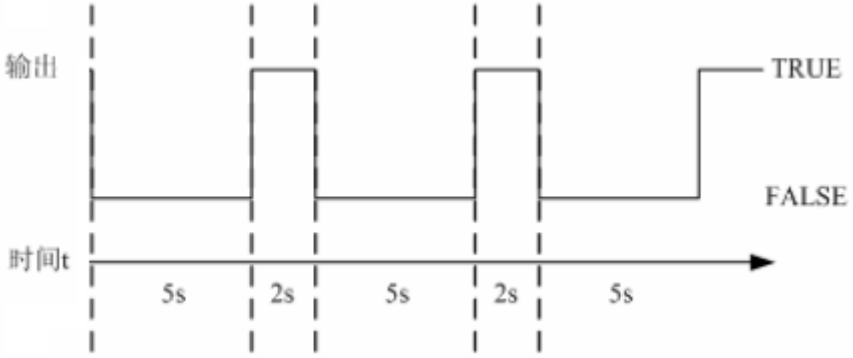
LD



FBD



Out 116

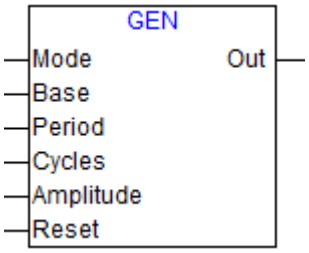


116

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

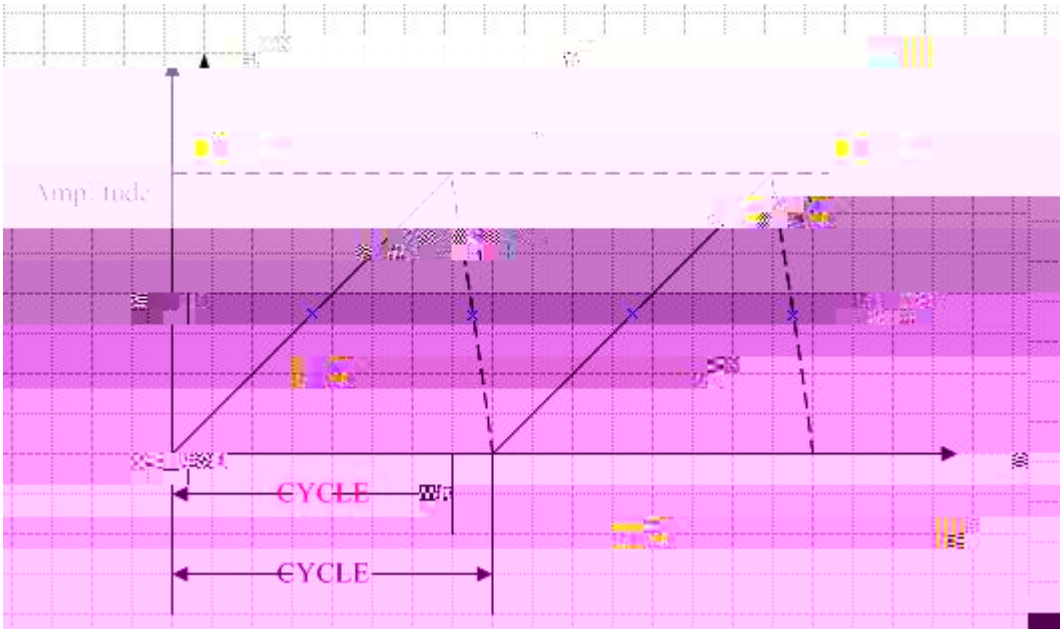
3.

RESET=1

BASE=0 CYCLES AMPLITUDE MODE BASE=1 PERIOD

4.

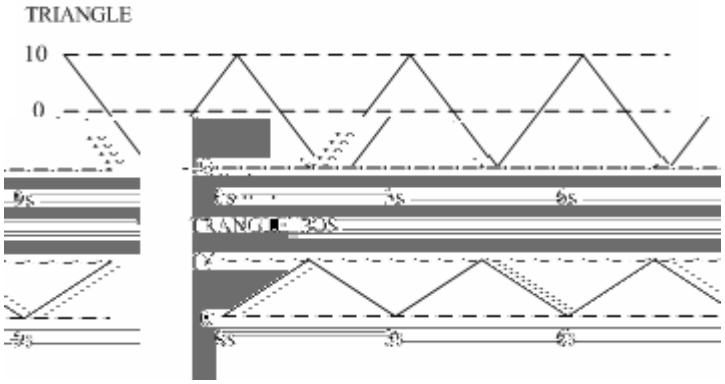
BASE=0 SAWTOOTH_RISE SAWTOOTH_FALL CYCLE 118

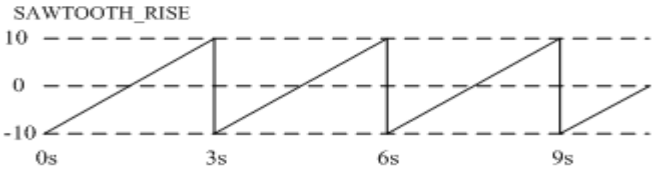


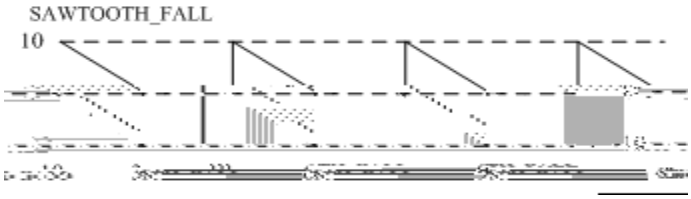
118

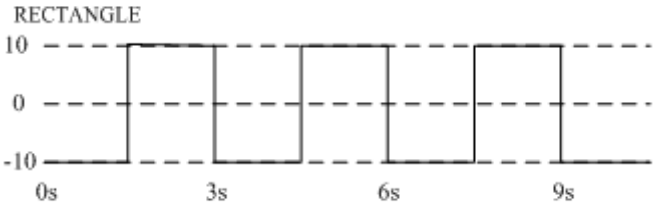
BASE=1 SINUS COSINUS IEC PERIOD 0.1 0.1

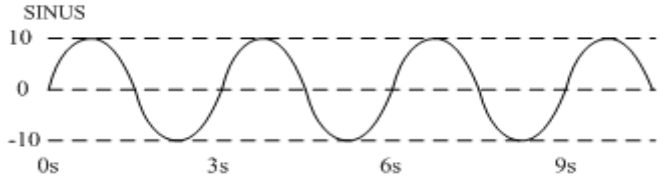
Mode

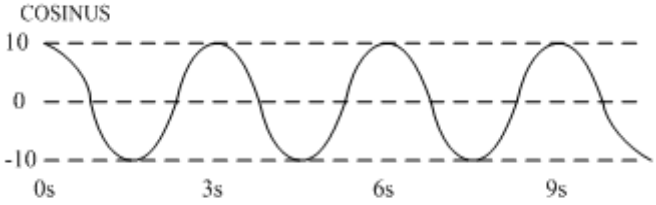

TRIANGLE
10
0


SAWTOOTH_RISE
10
0
-10
0s
3s
6s
9s


SAWTOOTH_FALL
10


RECTANGLE
10
0
-10
0s
3s
6s
9s


SINUS
10
0
-10
0s
3s
6s
9s


COSINUS
10
0
-10
0s
3s
6s
9s

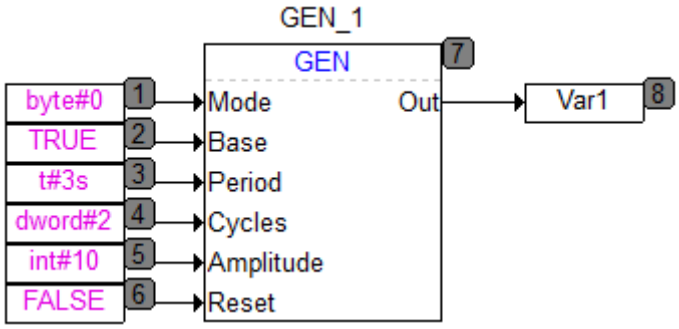
119

5.

序号	变量名	变量说明	变量类型	初始值	区域
0001	GEN 1		GEN		G区

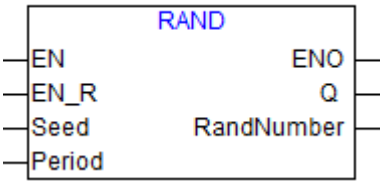
LD

FBD



2.3.5.3 RAND

1.



120 RAND

2.

EN_R	BOOL		0 RandNumber 1	FALSE	FALSE
Seed	WORD		0~65,535	0	FALSE
Period	DWORD		0	0	FALSE

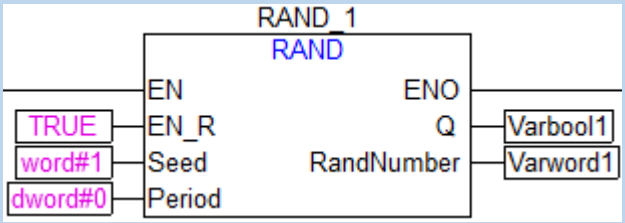
		ms	0 200 200 ms 0~4,294,967,295		

Q	BOOL		0 1	FALSE	FALSE
RandNumber	WORD		0-65,535	0	FALSE

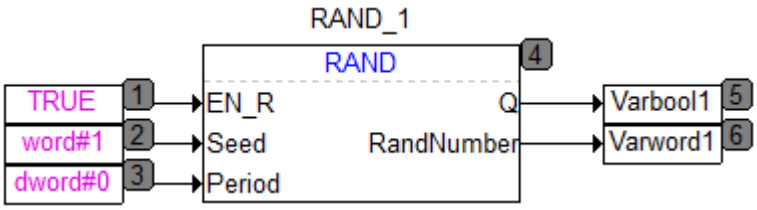
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	RAND_1		RAND		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varword1		WORD	0	G区

LD



FBD



EN_R 1

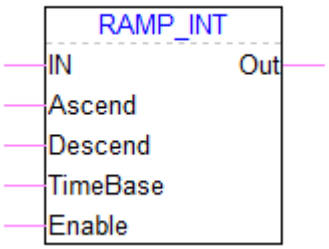
EN_R RandNumber

2.3.6

2.3.6.1 RAMP_INT

1.

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



121 RAMP_INT

2.

IN	INT		0	FALSE
Ascend	INT		0	TRUE
Descend	INT		0	TRUE
TimeBase	TIME		T#1S	TRUE
Enable	BOOL		TRUE	FALSE

Out	INT		0	TRUE

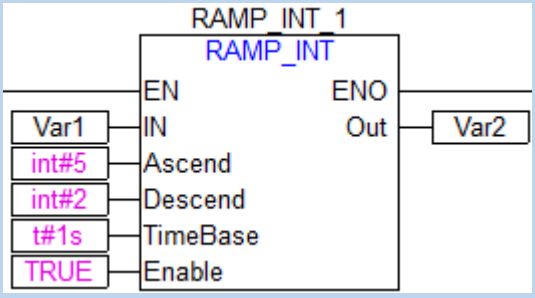
LD EN

EN TRUE FALSE EN TRUE EN FALSE

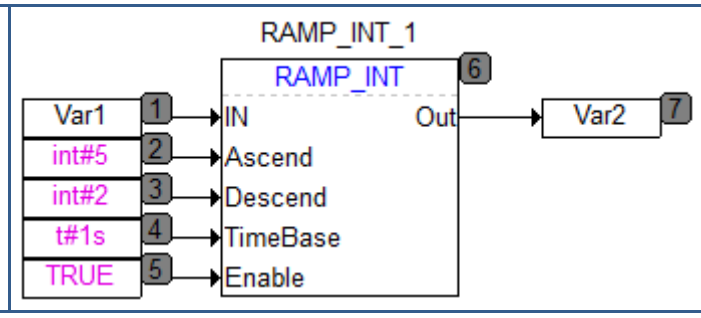
3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	RAMP_INT_1		RAMP_INT		G区
0002	Var1		INT	0	G区
0003	Var2		INT	0	G区

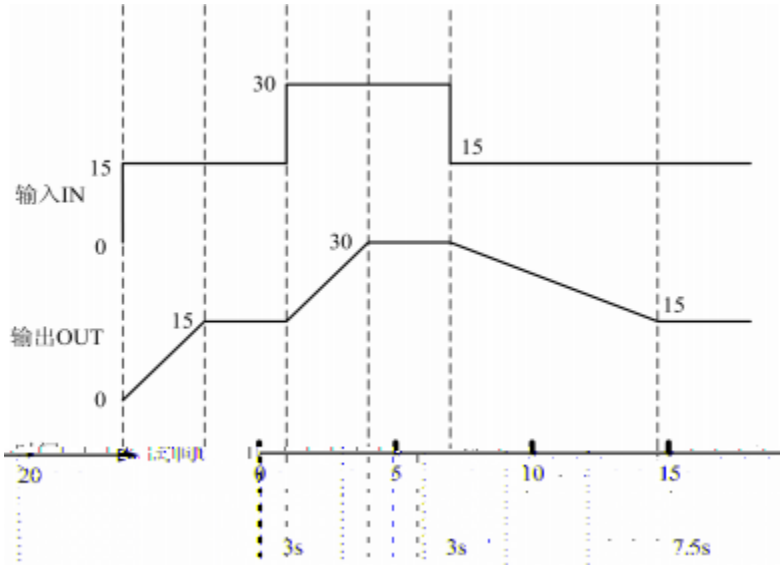
LD



FBD



IN 122



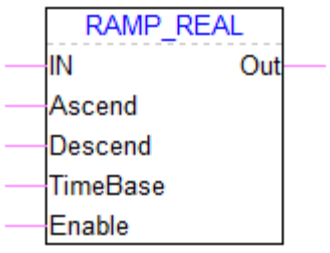
122 IN OUT

2.3.6.2 RAMP_REAL

1.

RAMP_REAL

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

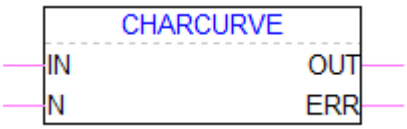
2.3.6.3 CHARCURVE

1.

IN INT N 2=<N<=11 INT PX[0..10] PY[0..10] INT OUT ERR

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

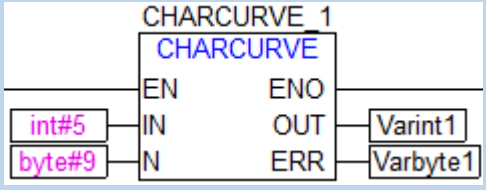
OUT	INT		0	FALSE
ERR	BYTE		0	FALSE

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

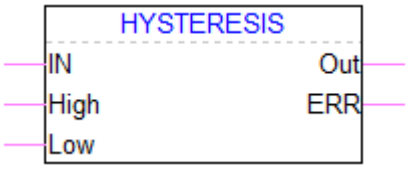


FBD

2.3.6.4 HYSTERESIS

1.

TRUE FALSE



125 HYSTERESIS

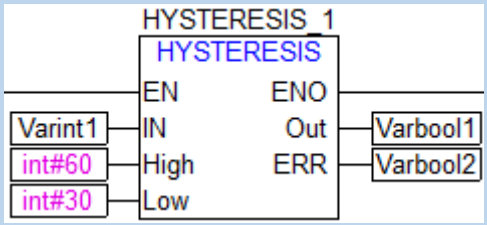
2.

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

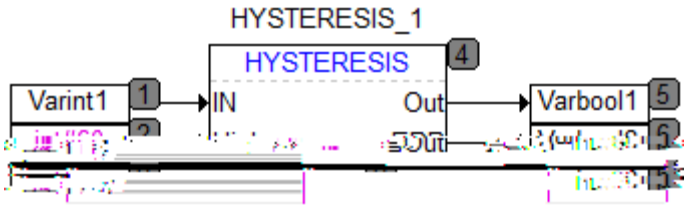
Out	BOOL	TRUE FALSE	TRUE
ERR	BOOL	ERR	FALSE

序号	变量名	变量说明	变量类型	初始值	区域
0001	HYSTERESIS_1		HYSTERESIS		G区
0002	Varint1		INT	0	G区
0003	Varbool1		BOOL	FALSE	G区
0004	Varbool2		BOOL	FALSE	G区

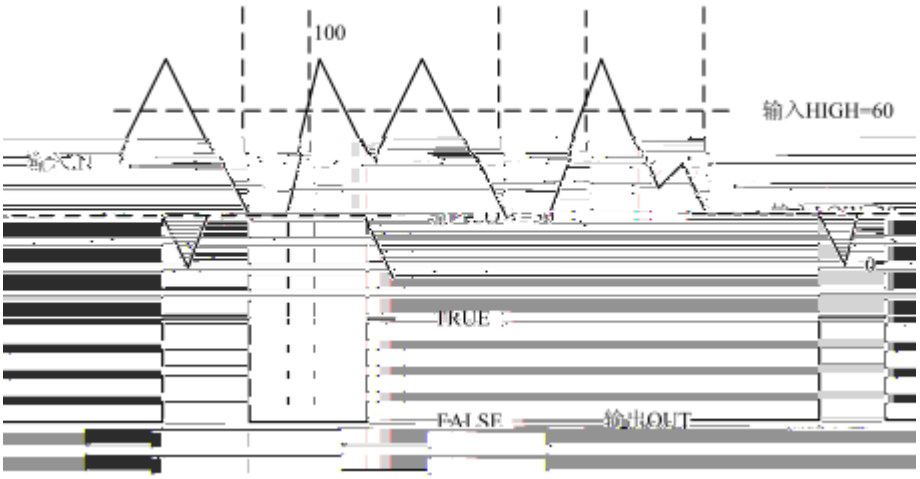
LD



FBD



126

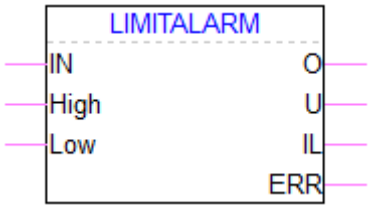


126

2.3.6.5 LIMITALARM

1.

U TRUE O TRUE
IL TRUE



127 LIMITALARM

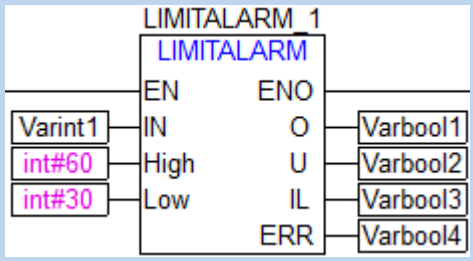
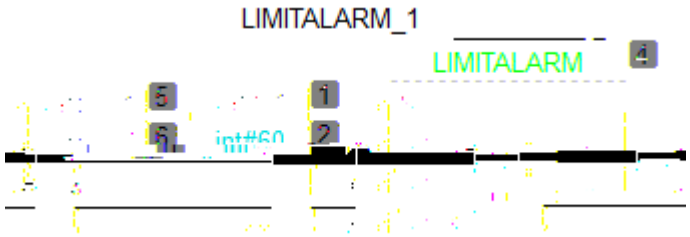
2.

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

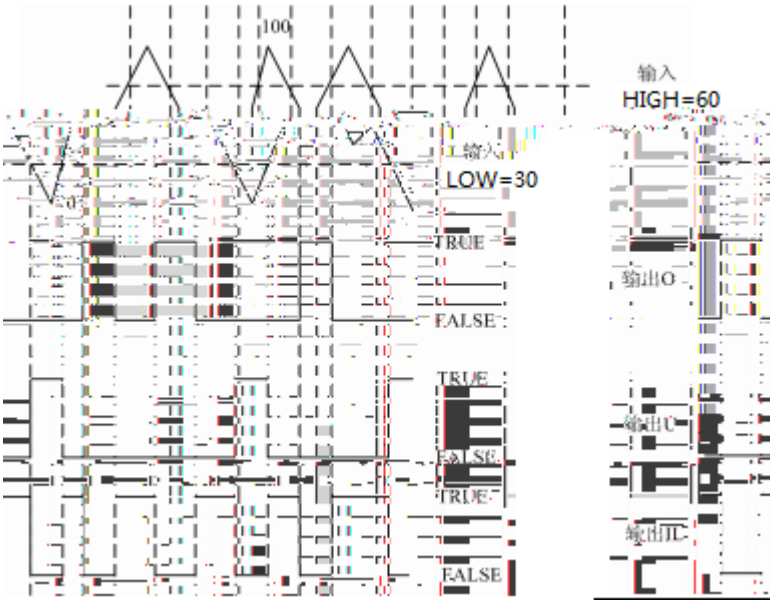
O		BOOL	FALSE	FALSE
U		BOOL	FALSE	FALSE
IL		BOOL	FALSE	FALSE
ERR	ERR	BOOL	FALSE	FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	LIMITALARM_1		LIMITALARM		G区
0002	Varint1		INT	0	G区
0003	Varbool1		BOOL	FALSE	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Varbool3		BOOL	FALSE	G区
0006	Varbool4		BOOL	FALSE	G区

LD	
FBD	

128

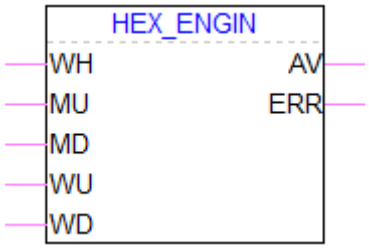


128

2.3.6.6 HEX_ENGIN 16

1.

WH AV



129 HEX_ENGIN

2.

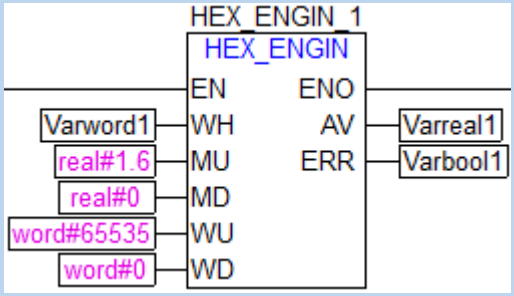
WH		WORD	0	FALSE
MU		REAL	0	TRUE
MD		REAL	0	TRUE
WU	PLC	WORD	0	TRUE
WD	PLC	WORD	0	TRUE

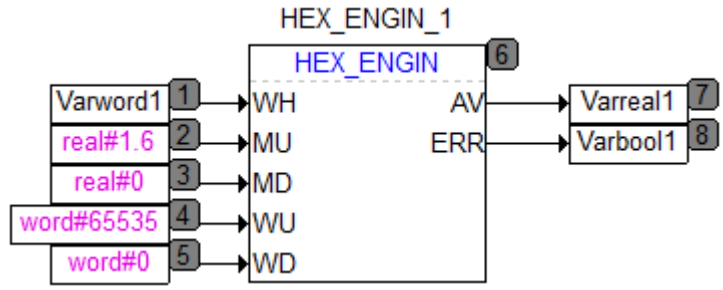
AV		REAL	0	FALSE
ERR	ERR	BOOL	FALSE	FALSE

3.

序号	变量名	变量说明	变量类型	初始值	区域
0001	HEX_ENGIN_1		HEX_ENGIN		G区
0002	Varword1		WORD	0	G区
0003	Varreal1		REAL	0	G区
0004	Varbool1		BOOL	FALSE	G区

LD



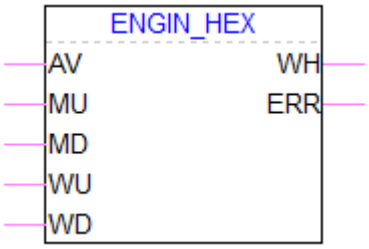
FBD	

EN Varword1 1.6 Mpa 0 Mpa
0-65,535 Varword1 32,767 0.799

2.3.6.7 ENGIN_HEX 16

1.

AV WH



130 ENGIN_HEX

2.

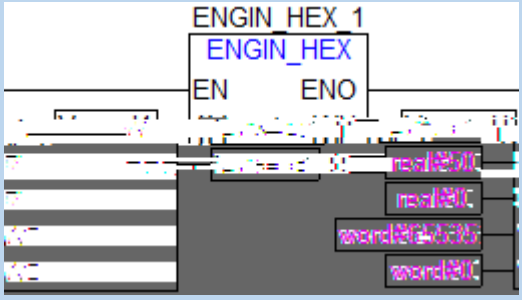
AV		REAL	0	FALSE
MU		REAL	0	TRUE
MD		REAL	0	TRUE
WU	PLC	WORD	0	TRUE
WD	PLC	WORD	0	TRUE

WH		WORD	0	FALSE

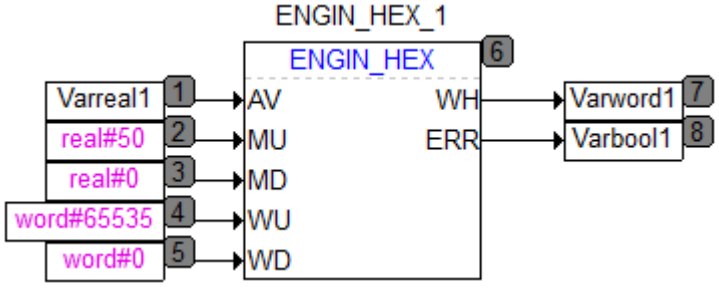
ERR

	GE	0001	ENGIN_HEX_1		ENGIN_HEX
0	GE	0002	Varreal1		REAL
0	GE	0003	Varword1		WORD
FALSE	GE	0004	Varbool1		BOOL

LD



FBD



EN Varreal1

50 Hz 0 Hz 0~65,535 Varreal1 25 Hz

Varword1 32,768

2.4

2.4.1

2.4.1.1 GetTickCnt

1.

$0\sim2^{32}$ 0

2.

	GetTickCnt	DWORD	

2.4.1.2 TimeDelay

1.

IEC

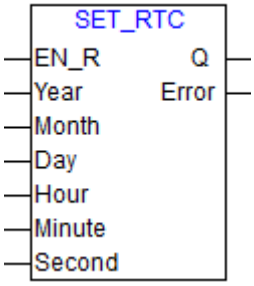
2.

	uiTimeDelay	DWORD	0
	TimeDelay	DINT	0 -1

2.4.1.3 SET_RTC

1.

PLC RTC RTC



131 SET_RTC

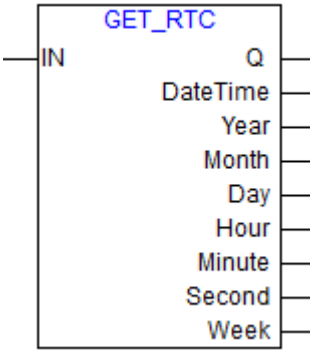
2.

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.

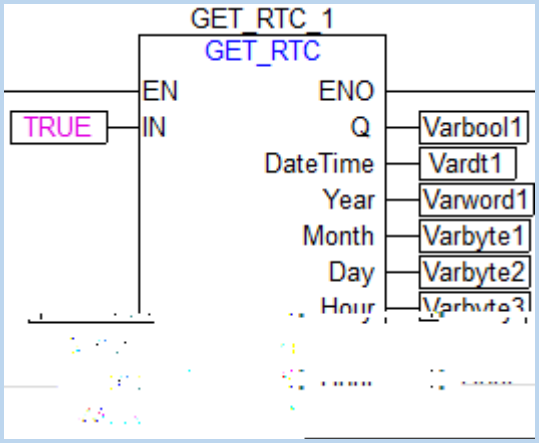
IN	BOOL		0 1	0

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

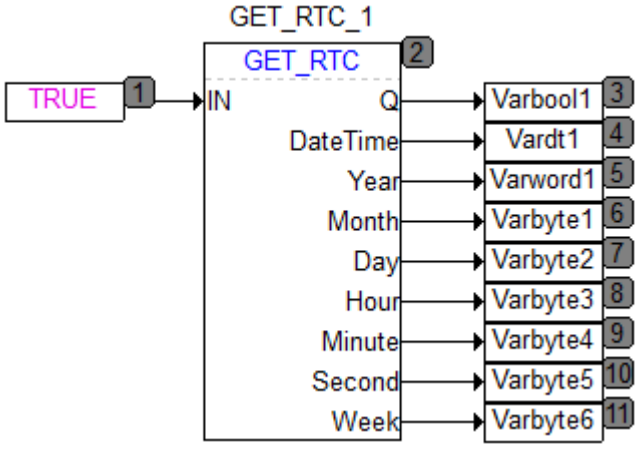
3.

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



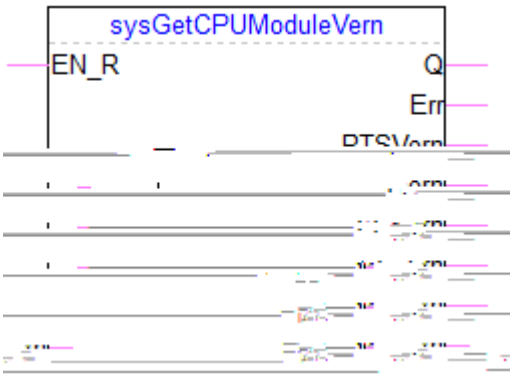
IN DateTime DT PLC Year WORD
Month Date Hour Minute Second Week BYTE
Q TRUE

EN Q FALSE DateTime Year Month Date Hour Minute Second Week

2.4.2

2.4.2.1 sysGetCPUModuleVern

1.



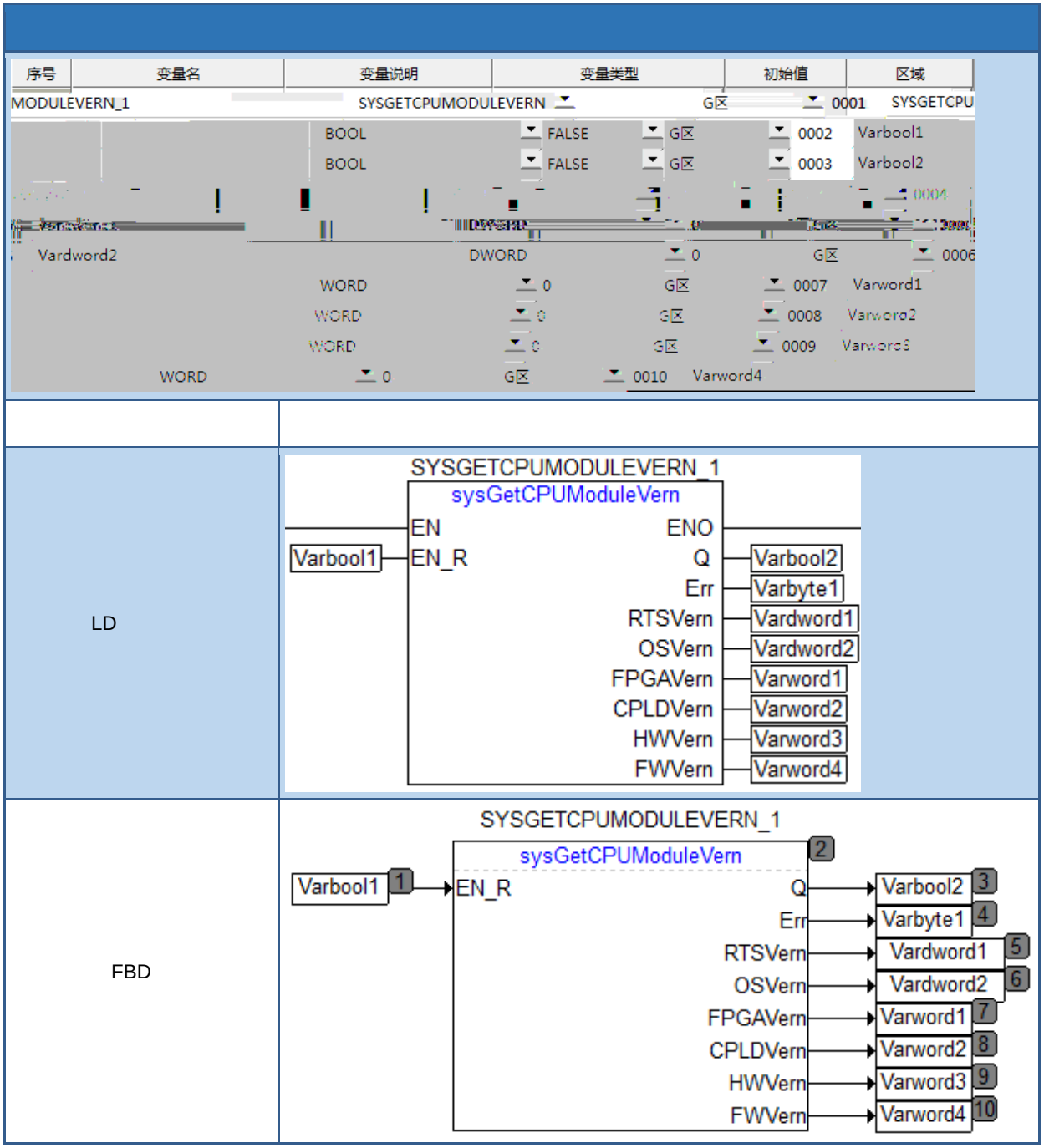
133 sysGetCPUModuleVern

2.

EN_R	BOOL	FALSE TRUE

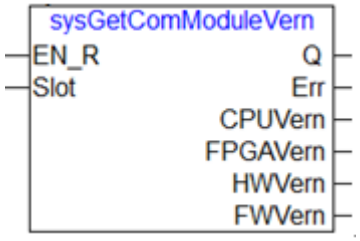
Q	BOOL	FALSE TRUE FALSE
Err	BYTE	0 128
RTSVern	DWORD	RTS build 16 1 RTS bulid 16 0 RTS bulid

OSVern DWORD



2.4.2.2 sysGetComModuleVern

1.



134 sysGetComModuleVern

2.

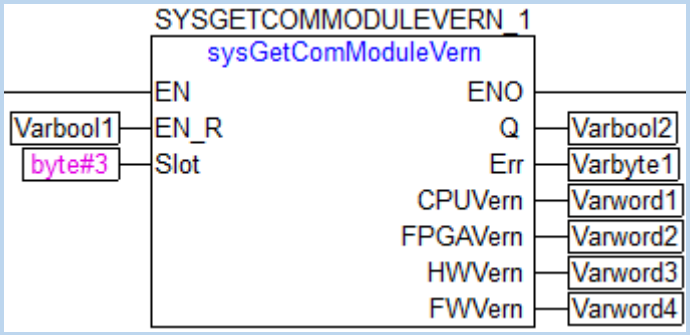
EN_R	BOOL	FALSE TRUE
Slot	BYTE	2 2-5 1

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

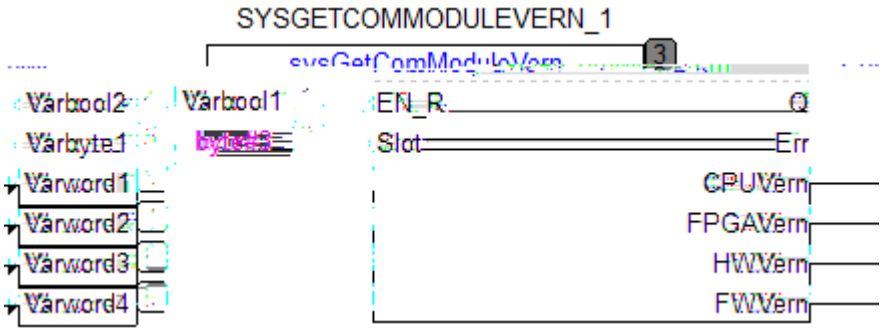
3.

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

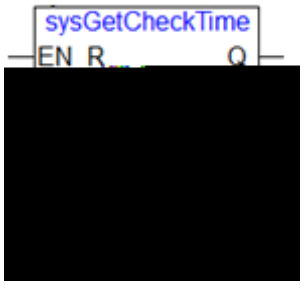


FBD



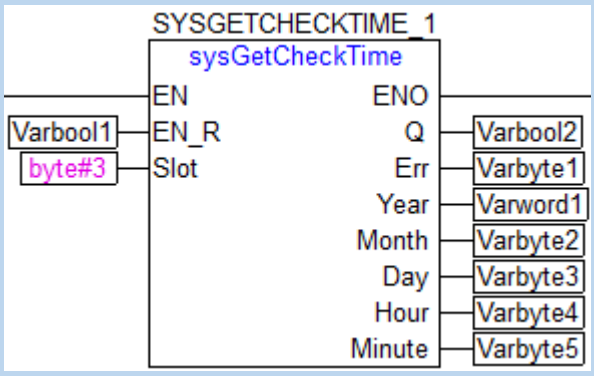
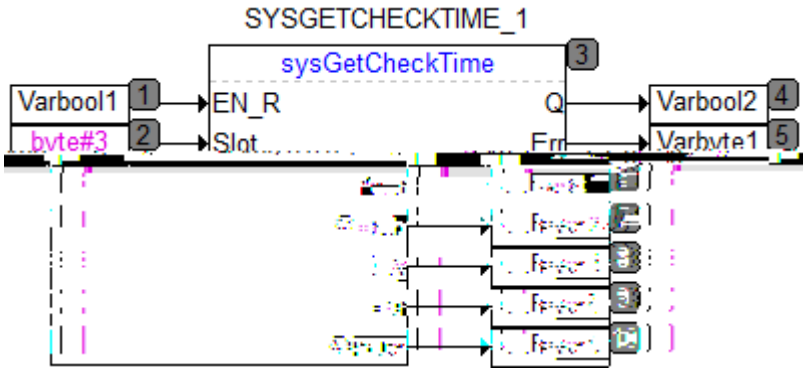
2.4.2.3 sysGetCheckTime

1.



135 sysGetCheckTime

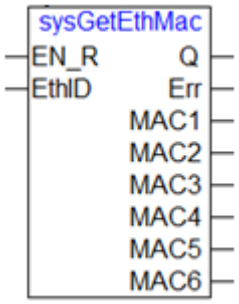
2.

LD	
FBD	

2.4.2.4 sysGetEthMac Mac

1.

Mac



136 sysGetEthMac

2.

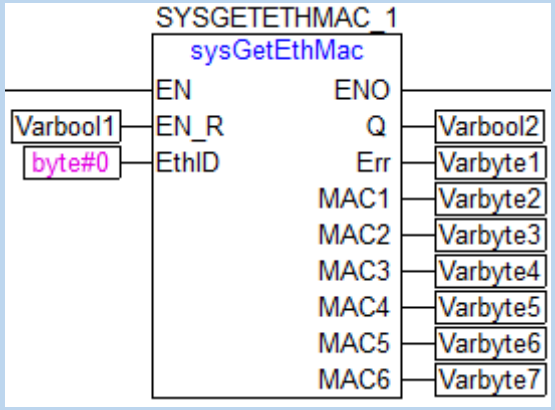
EN_R	BOOL	FALSE TRUE
EthID	BYTE	ID 0 0-1 0 1 1 2

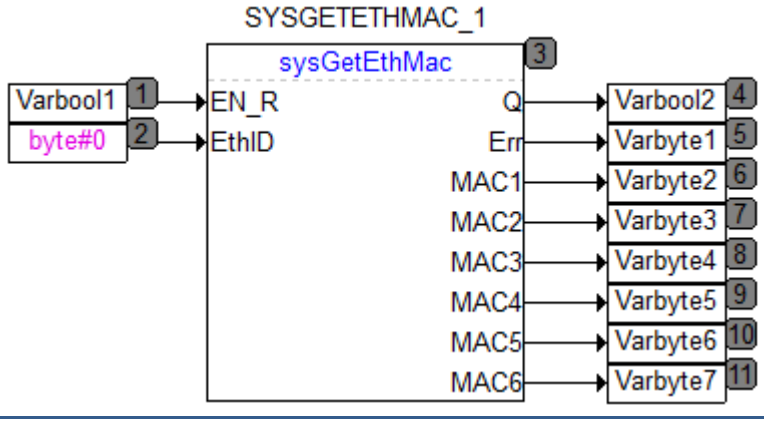
Q	BOOL	FALSE TRUE FALSE
Err	BYTE	0 1 EthID 128 mac 200
MAC1	BYTE	MAC 1
MAC2	BYTE	MAC 2
MAC3	BYTE	MAC 3
MAC4	BYTE	MAC 4
MAC5	BYTE	MAC 5
MAC6	BYTE	MAC 6

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

LD

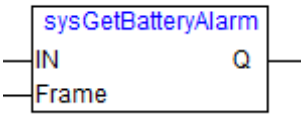


FBD	

1 MAC

2.4.2.5 sysGetBatteryAlarm

1.



137 sysGetBatteryAlarm

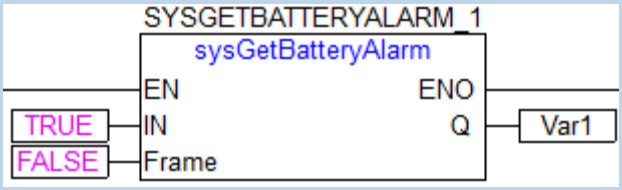
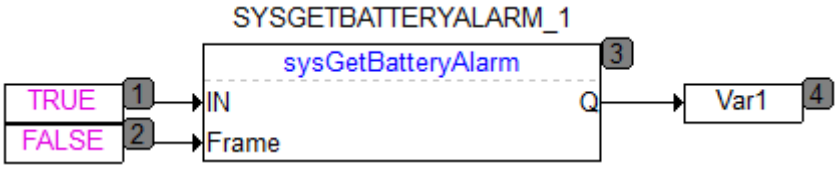
2.

IN	BOOL	FALSE
Frame	BOOL	FALSE FALSE TRUE

Q	BOOL	TURE FALSE

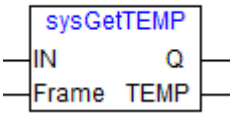
3.

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

LD	
FBD	

2.4.2.6 sysGetTEMP CPU

1.



138 sysGetTEMP

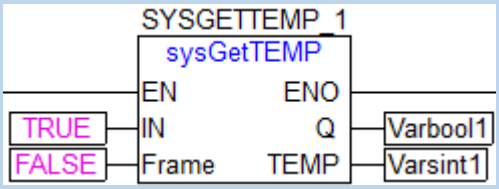
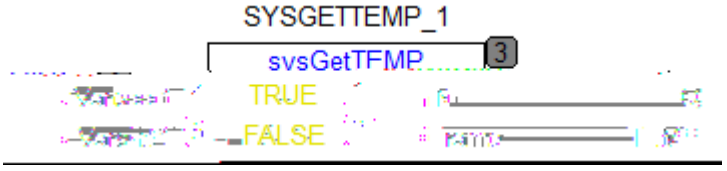
2.

IN	BOOL	FALSE
Frame	BOOL	FALSE FALSE TRUE

Q	BOOL	FALSE TRUE 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

LD	
FBD	

2.4.2.7 sysGetModel

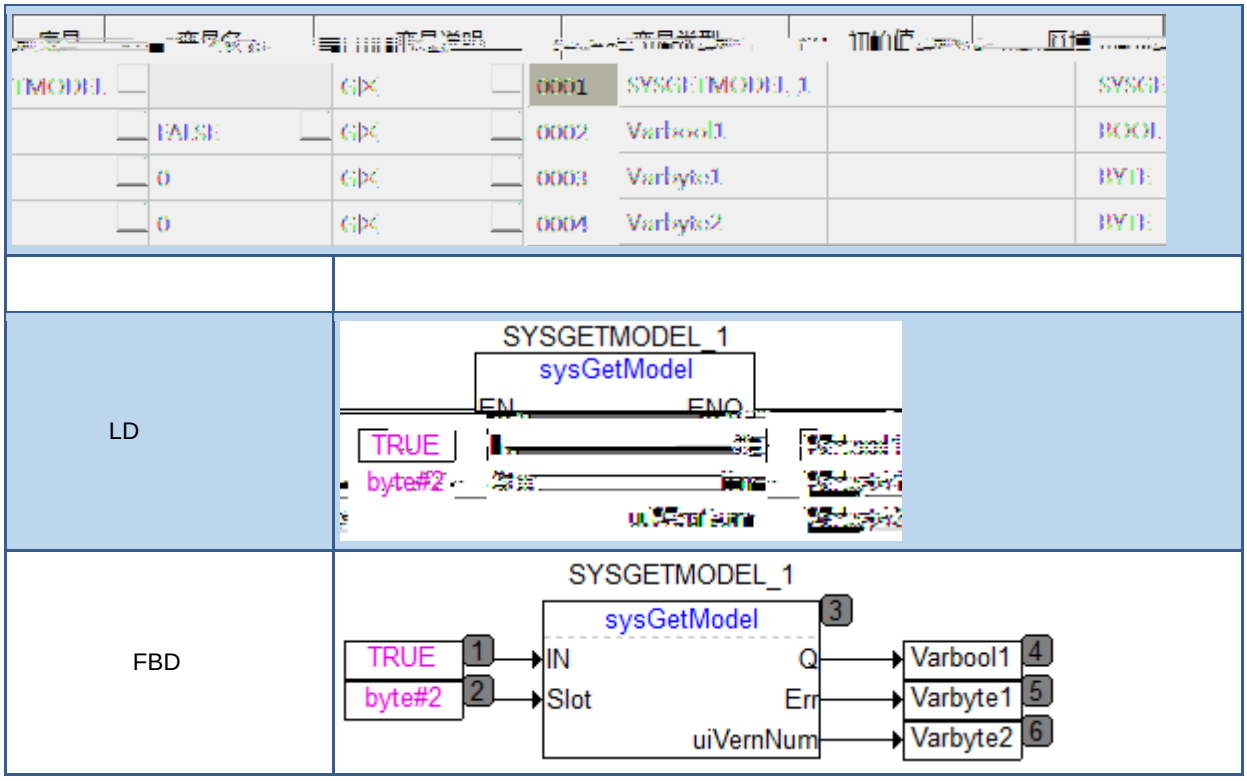
1.

139 sysGetModel

2.

IN	BOOL	FALSE
Slot	BYTE	1 1

Q	BOOL	FALSE TRUE FALSE
Err	BYTE	0 1 slot 128

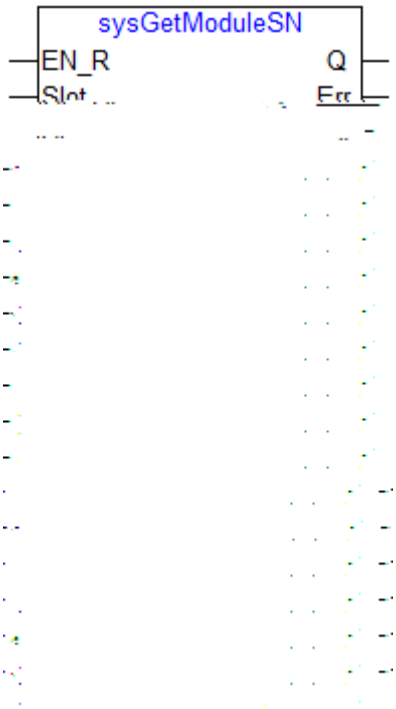


LD

FBD

2.4.2.8 sysGetModuleSN

1.



140 sysGetModuleSN

2.

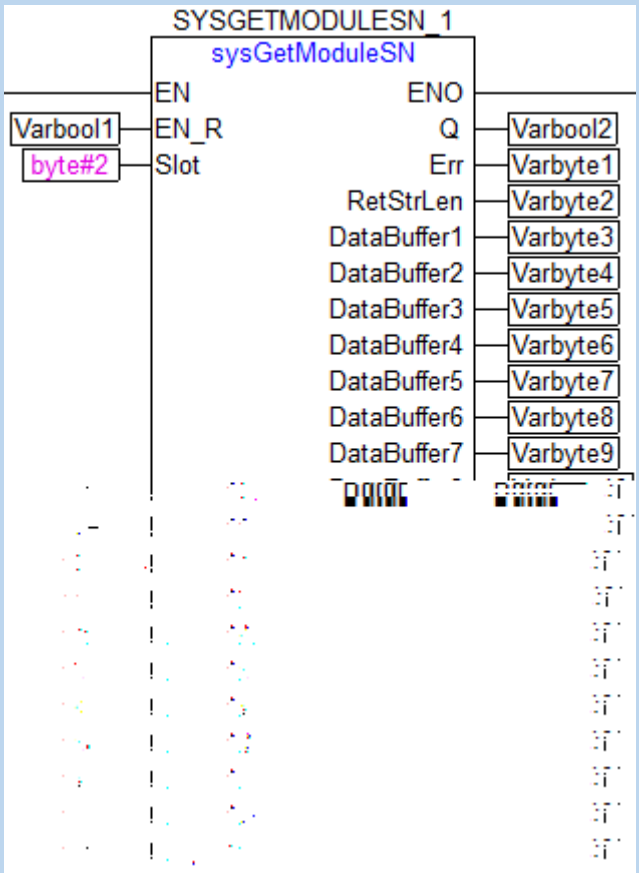
EN_R	BOOL	FALSE TRUE
Slot	BYTE	1 1-5 1

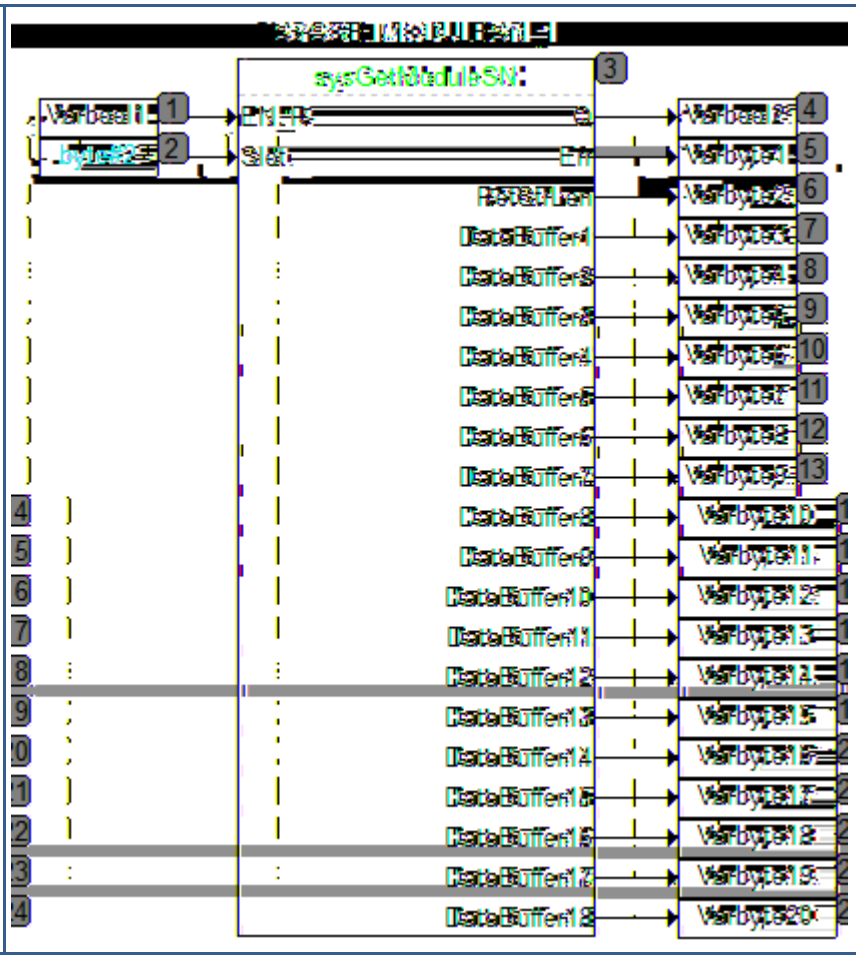
Q	BOOL	FALSE TRUE FALSE
Err	BYTE	0 0 1 slot 128 130 0 200
RetStrLen	BYTE	0 18 ASCII

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

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

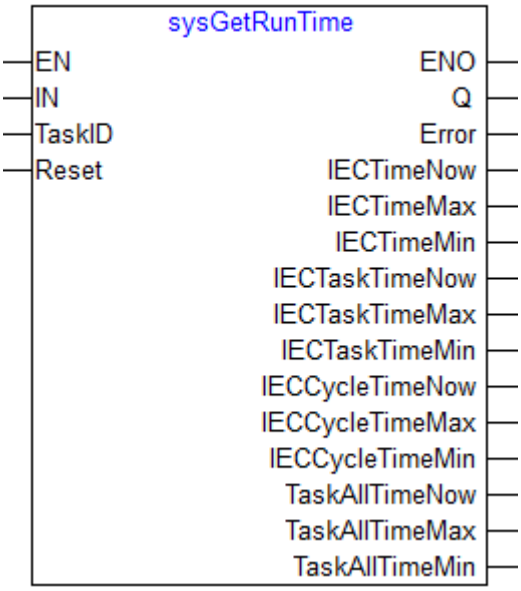
LD	 SYSGETMODULESN_1 sysGetModuleSN EN ENO Varbool1 EN_R Q Varbool2 byte#2 Slot Err Varbyte1 RetStrLen Varbyte2 DataBuffer1 Varbyte3 DataBuffer2 Varbyte4 DataBuffer3 Varbyte5 DataBuffer4 Varbyte6 DataBuffer5 Varbyte7 DataBuffer6 Varbyte8 DataBuffer7 Varbyte9

FBD	

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	FALSE 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

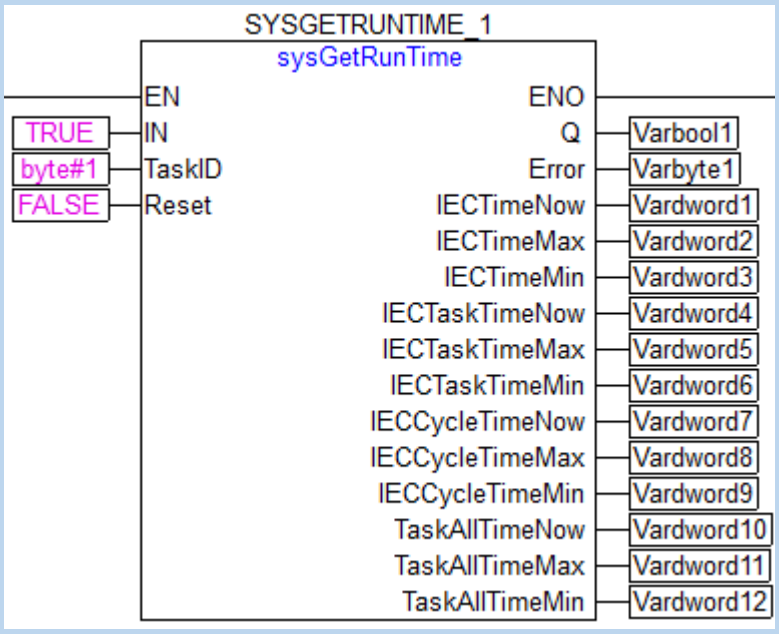
TaskAllTime

Reset TRUE AT AT AT

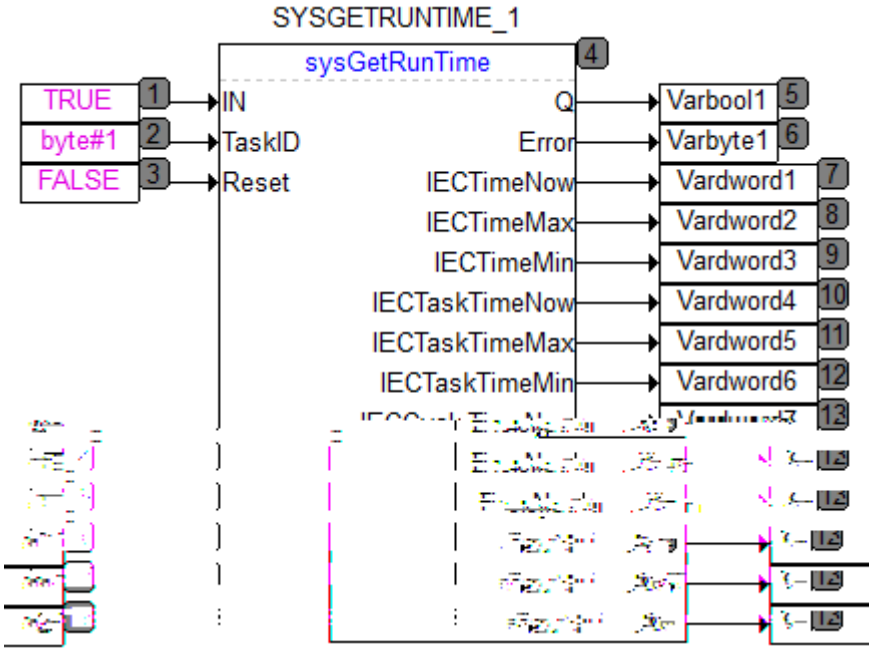
3.

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	FALSE	G区

LD



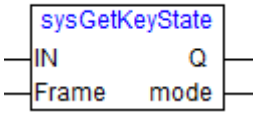
FBD



2.4.3.2 sysGetKeyState

1.

CPU



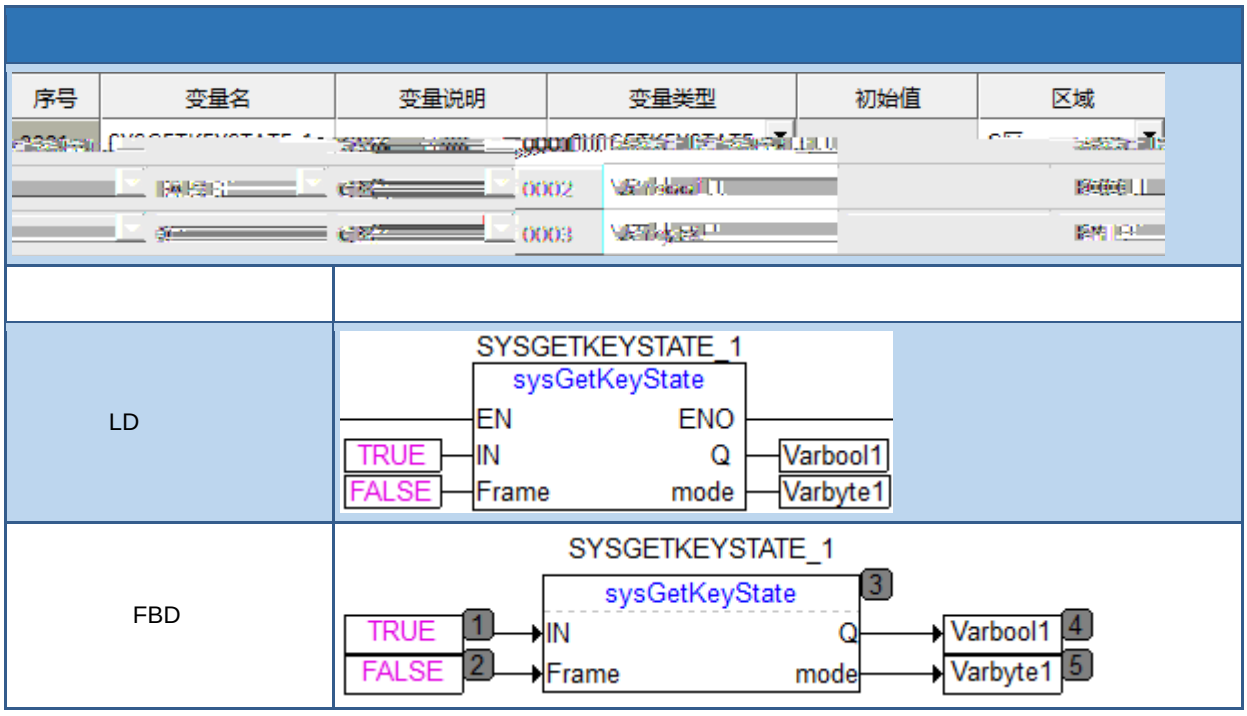
142 sysGetKeyState

2.

IN	BOOL	FALSE
Frame	BOOL	FALSE FALSE TRUE

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

3.



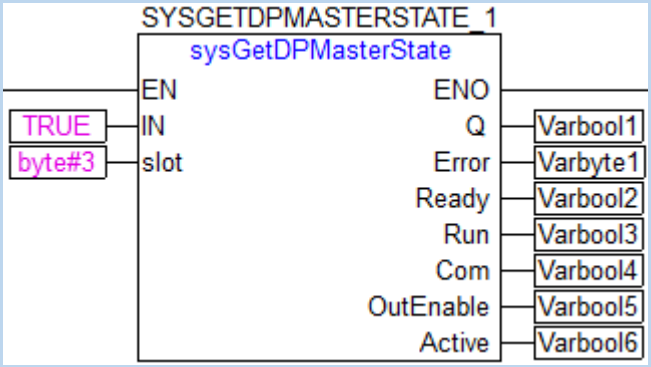
2.4.3.3 sysGetDPMasterState DP

1.

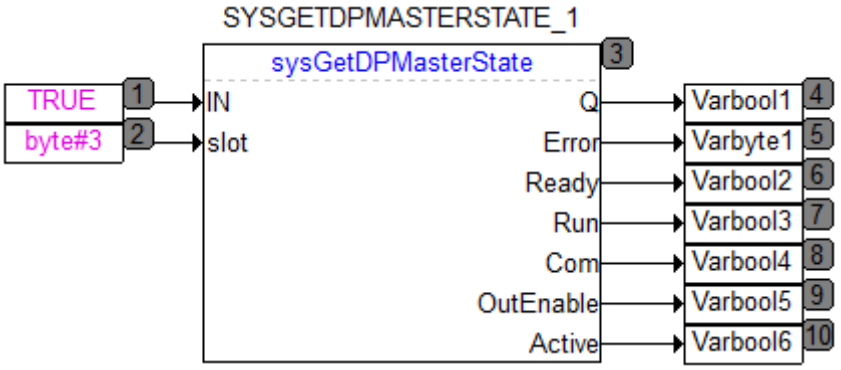
DP

序号	变量名	变量说明	变量类型	初始值	区域
0001	SYSGETDPMASTERSTATE_1		SYSGETDPMASTERSTATE		G区
0002	Varbool1		BOOL	FALSE	G区
0003	Varbyte1		BYTE	0	G区
0004	Varbool2		BOOL	FALSE	G区
0005	Varbool3		BOOL	FALSE	G区
0006	Varbool4		BOOL	FALSE	G区
0007	Varbool5		BOOL	FALSE	G区
0008	Varbool6		BOOL	FALSE	G区

LD



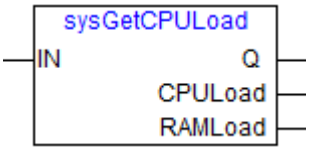
FBD



2.4.3.4 sysGetCPULoad

1.

CPU



144 sysGetCPULoad

2.

IN	BOOL	FALSE

Q	BOOL	FALSE TRUE FALSE
CPULoad	REAL	CPU 0 %
RAMLoad	REAL	0 %

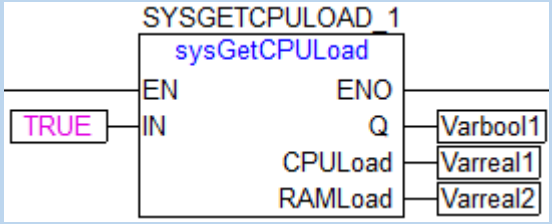
CPU DP DP / 100%

RAM /

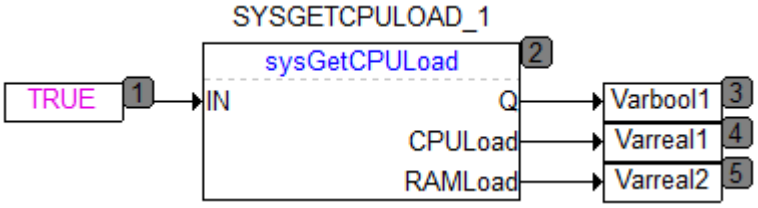
3.

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

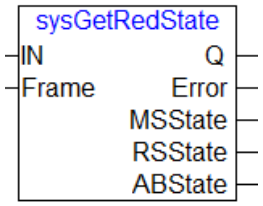


FBD



2.4.3.5 sysGetRedState

1.



145 sysGetRedState

2.

IN	BOOL	FALSE
Frame	BOOL	FALSE FALSE TRUE

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

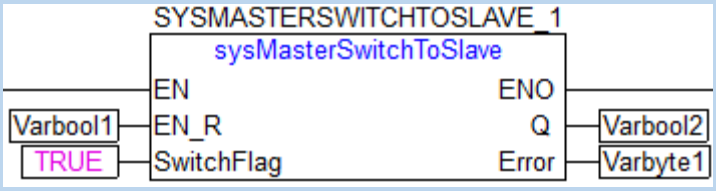
3.

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

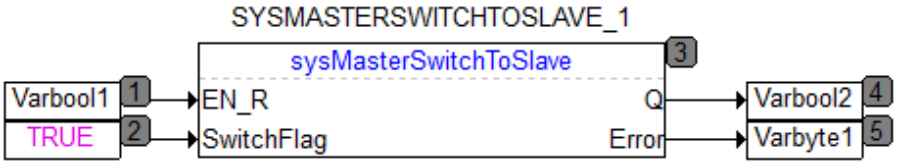
3.

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	

LD



FBD



2.4.3.7 sysGetDPSlaveState DP

1.

DP

2.

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

Q	BOOL	FALSE TRUE

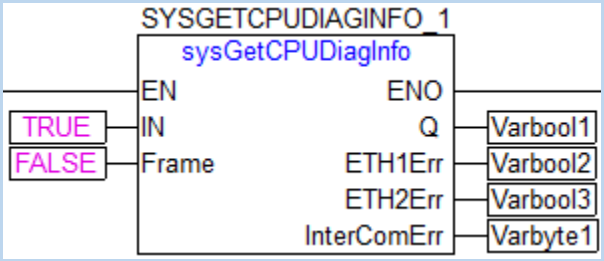
		FALSE
Error	BYTE	0 0 1 2 128 dp
ConfigState	BOOL	TRUE FALSE
ComState	BOOL	TRUE FALSE
SlaveID	WORD	ID LKS ID 0x0500~0x05FF
DiagDataLen	BYTE	
DiagData1~81 647.9		

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

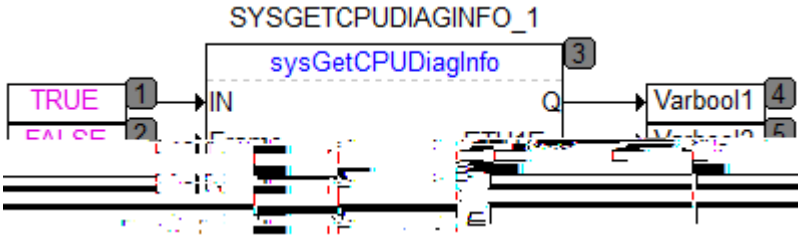
3.

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



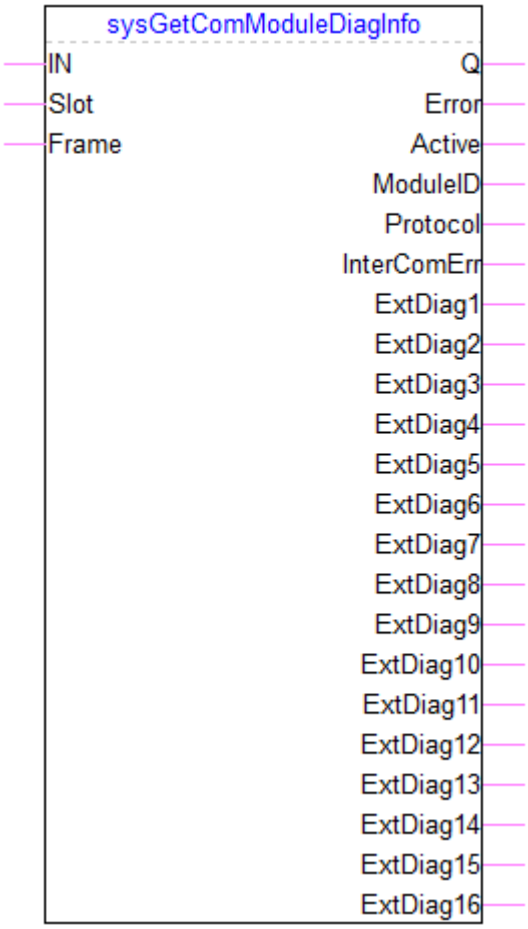
FBD



CPU

2.4.3.9 sysGetComModuleDiagInfo

1.



148 sysGetComModuleDiagInfo

2.

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

		0 1 Slot 128 129
Active	BOOL	0 FALSE TRUE
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	TRUE 0
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	FALSE TRUE FALSE
Error	BYTE	0 0 1 2 3 Profisafe

和利时集团

HollySys Group