Main [OB1]

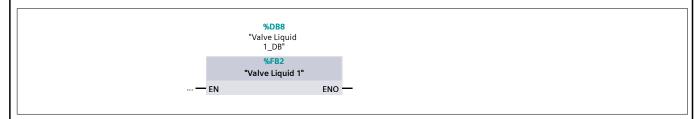
Main Proper	ties				
General					
Name	Main	Number	1	Туре	OB
Language	FBD	Numbering	Automatic		
Information					
Title	"Main Program Sweep (Cycle)"	Author		Comment	
Family		Version	0.1	User-defined ID	

Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
Temp			
Constant			

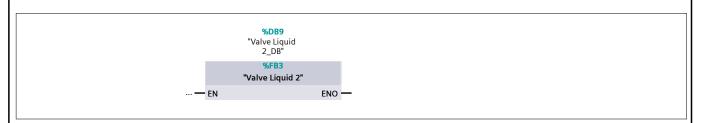
Network 1:

```
"Valve Drain"
... — EN ENO —
```

Network 2:



Network 3:

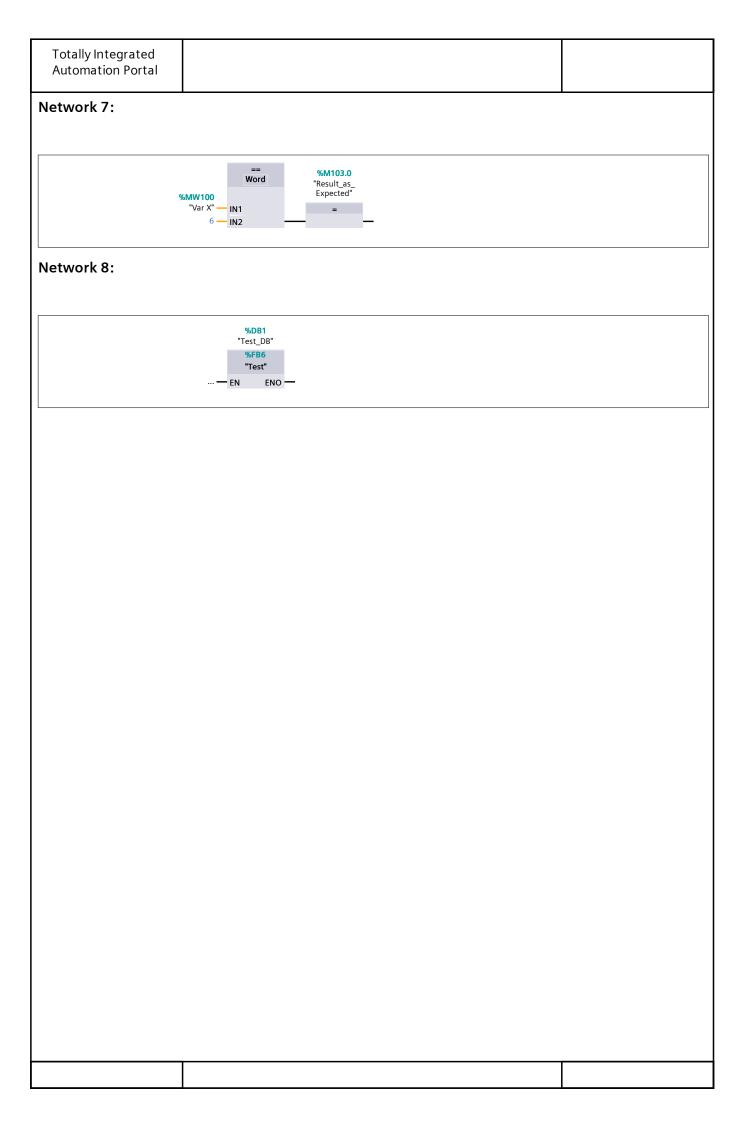


Network 4:

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	%DB2 "Program Logic_ DB"	·
	%FB5 "Program Logic" — EN ENO —	
Network 5:		
	%FC1 "Simulation" — EN ENO —	
Network 6:		

vork 6: (1.1 / 2						
vork 6: (1.1/2	2.1)					
true 🗕	& - da	0 — IN	%MW100 — "Var X"	&		
		ADI Auto (l	6MW100 "Var X" — IN1 0 — IN2	<u> </u>	1	
		%MW100 "Var X" — IN1 1 — IN2	%MW100 OUT — "Var X" ENO	&		
			"Var X" — IN1 1 — IN2	<u> </u>	2	
		#WW100 "Var X" — IN1 2 — IN2	%MW100 OUT — "Var X"		3>	
					4	
<u> </u>	%M102.0 "Alarm_1" S					
> 2	%M102.1 "Alarm_2" S					

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etwork 6: (2.1 / 2.1)		1.1 (Pa	ge1 - 3)	·	
> 3	&				
%MW100 "Var X" — IN1 3 — IN2	Word	%M102.2 "Alarm_3" S	-		
Au MW100 "Var X" — IN1	ADD to (UInt) OUT "Var X"	&			
	** Word **MW100 "Var X" — IN1 6 — IN2	— á –	%M102.3 "Alarm_4" S		



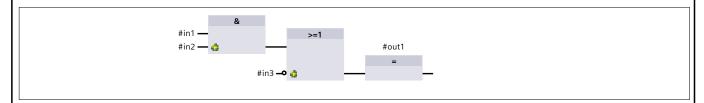
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Block_FBD [FC5]

Block_FBD Pro	operties				
General					
Name	Block_FBD	Number	5	Туре	FC
Language	FBD	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined ID	

Name	Data type	Default value	Comment	
▼ Input				
in1	Bool			
in2	Bool			
in3	Bool			
▼ Output				
out1	Bool			
out2	Bool			
InOut				
Temp				
Constant				
▼ Return				
Block_FBD	Void			

Network 1:



Network 2:



Block_LAD Pr	operties							
General								
Name	Block_LAD		Numb		4		Туре	FC
Language	LAD		Numb	ering	Automatic			
Information	_							
Title			Autho				Comment	
Family			Versio	n	0.1		User-defined ID	
							טוו	
Name		Data t	ype	Defau	lt value	Comm	ent	
▼ Input								
in1		Bool						
in2		Bool						
in3		Bool						
▼ Output								
out1		Bool						
out2		Bool						
InOut		2001						
Temp								
Constant								
▼ Return								
Block_I	AD	Void						
Network 1								
Network 1		#in1 	#in				#out1 ()	•

|--|

Block_SCL [FC3]

Block_SCL Pr	operties				
General					
Name	Block_SCL	Number	3	Туре	FC
Language	SCL	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Default value	Comment	
▼ Input				
in1	Bool			
in2	Bool			
in3	Bool			
▼ Output				
out1	Bool			
out2	Bool			
InOut				
Temp				
Constant				
Return				
Block_SCL	Void			

```
0001 #out1 := (#in1 AND #in2) OR NOT #in3;
0002
0003 #out2 := #in3;
0004
```

J	Address	Type	Comment
#in1		Bool	
#in2 #in3		Bool	
#in3		Bool	
#out1		Bool	
#out2		Bool	

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Block_STL [FC2]

Block_STL Properties						
General						
Name	Block_STL	Number	2	Туре	FC	
Language	STL	Numbering	Automatic			
Information						
Title		Author		Comment		
Family		Version	0.1	User-defined ID		

Name	Data type	Default value	Comment	
▼ Input				
in1	Bool			
in2	Bool			
in3	Bool			
▼ Output				
out1	Bool			
out2	Bool			
InOut				
Temp				
Constant				
▼ Return				
Block_STL	Void			

Network 1:

0001	A (
0002	A	#in1
0003	A	#in2
0004)	
0005	ON	#in3
0006	=	#011±1

Network 2:

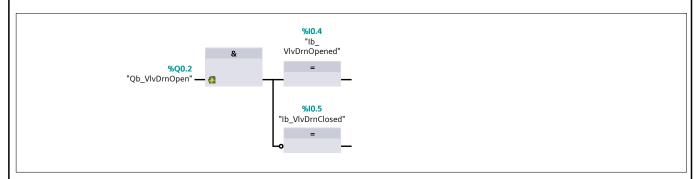
0001	A	#in3
0002	=	#out2

Simulation [FC1]

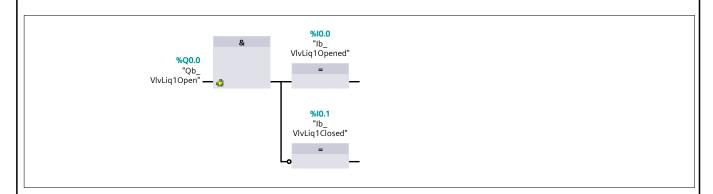
Simulation P	Properties					
General						
Name	Simulation	Number	1	Туре	FC	
Language	FBD	Numbering	Automatic			
Information						
Title		Author		Comment		
Family		Version	0.1	User-defined		
				ID		

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Simulation	Void		

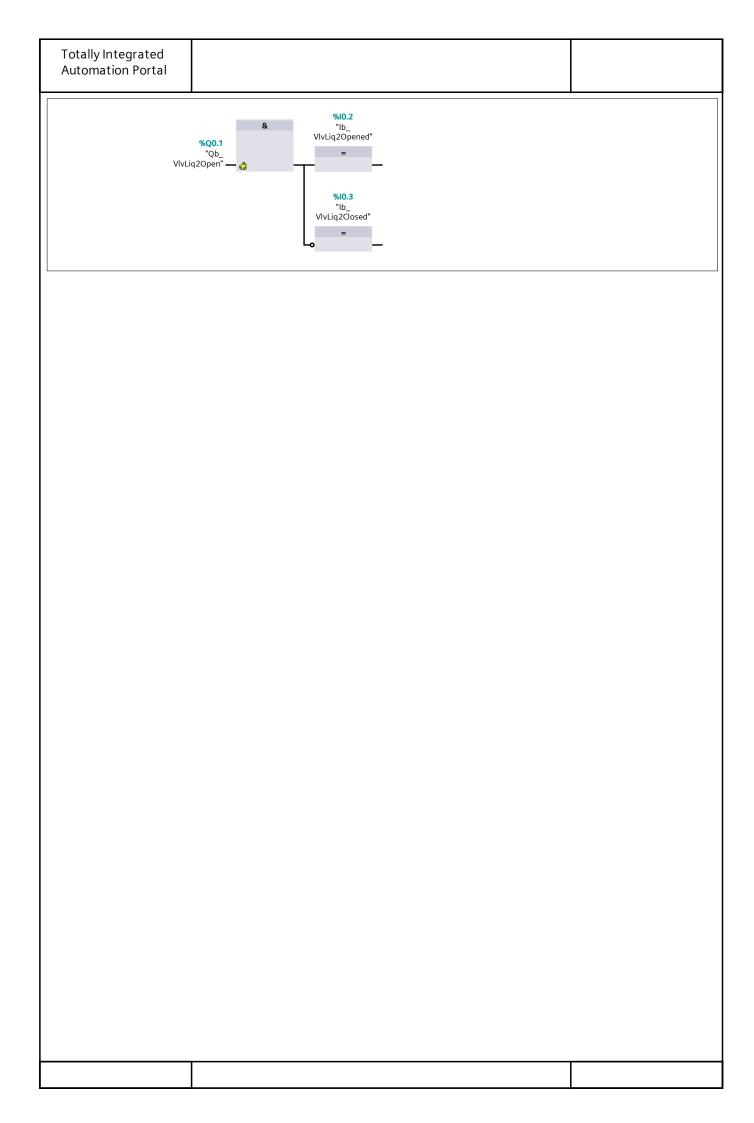
Network 1: Valve drain opened



Network 2: Valve drain opened



Network 3: Valve drain opened



Block_1 [FB1]

Block_1 Prope	rties				
General					
Name	Block_1	Number	1	Туре	FB
Language	GRAPH	Numbering	Automatic	Network lan- guage	LAD
Block version	V6.0		:		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined ID	

ame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
▼ Input									
OFF_SQ	Bool	false	Non-retain	False	Fals e	False	False		Turn sequence of
INIT_SQ	Bool	false	Non-retain	False	e		False		Set sequence to in itial state
ACK_EF	Bool	false	Non-retain	False	Fals e	False	False		Acknowledge all errors and faults
S_PREV	Bool	false	Non-retain	False	Fals e	False	False		Output previous step in parameter S_NO
S_NEXT	Bool	false	Non-retain	False	Fals e	False	False		Indicate next step in parameter S_No
SW_AUTO	Bool	false	Non-retain	False	Fals e	False	False		Automatic mode
SW_TAP	Bool	false	Non-retain	False	Fals e	False	False		Semiautomatic/ switch with transi tion
SW_TOP	Bool	false	Non-retain	False	Fals e	False	False		Semiautomatic/ ignore transition
SW_MAN	Bool	false	Non-retain	False	Fals e	False	False		Manual mode
S_SEL	Int	0	Non-retain	False	e	False	False		Select step to be output to S_NO
S_ON	Bool	false	Non-retain	False	Fals e	False	False		Activate step indi- cated in S_NO
S_OFF	Bool	false	Non-retain	False	Fals e	False	False		Deactivate step in dicated S_NO
T_PUSH	Bool	false	Non-retain	False	Fals e	False	False		Enable transition to switch in semi automatic mode
in1	Bool	false	Non-retain	True	Tru e	True	False		
in2	Bool	false	Non-retain	True	Tru e	True	False		

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
in3	Bool	false	Non-retain	True	Tru e	True	False		
▼ Output									
S_NO	Int	0	Non-retain	False	Fals e	False	False		Step number
S_MORE	Bool	false	Non-retain	False	-	False	False		More steps are available and can be shown in S_NO
S_ACTIVE	Bool	false	Non-retain	False	Fals e	False	False		Step indicated in S_NO is active
ERR_FLT	Bool	false	Non-retain	False	_	False	False		Interlock or super- vision group error
AUTO_ON	Bool	false	Non-retain	False	-	False	False		Automatic mode is active
TAP_ON	Bool	false	Non-retain	False	Fals e	False	False		Semiautomatic mode/step with transition enabled
TOP_ON	Bool	false	Non-retain	False	Fals e	False	False		Semiautomatic mode/ignore tran- sition enabled
MAN_ON	Bool	false	Non-retain	False	Fals e	False	False		Manual mode is active
out1	Bool	false	Non-retain	True	Tru e	True	False		
out2	Bool	false	Non-retain	True	Tru e	True	False		
InOut ▼ Static									
▼ RT_DATA	G7_RTDa-		Non-retain	False		False	True		Internal data area
VERSION	taPlus_V6 String[10]	'V6.0'	Non-retain	False		False	False		Block version
S_DISPLAY	Int	0	Non-retain	False	e Fals e	False	False		Internal display of output parameter S_NO
S_SEL_OLD	Int	0	Non-retain	False	Fals e	False	False		Previous value in S_SEL
S_DISPIDX	USInt	255	Non-retain	False		False	False		Index of the step in S_NO
T_DISPIDX	USInt	255	Non-retain	False	-	False	False		Index of the transi tion displayed in T_NO
▼ MOP_EDGE	G7_MOP- Plus_V6		Non-retain	False	Fals e	False	True		Mode in last cycle
AUTO	Bool	false	Non-retain	False	Fals e	False	False		Status: automatic mode
MAN	Bool	false	Non-retain	False	Fals e	False	False		Status: manual mode

Totally Integra Automation Po									
Name	Data ty	pe Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing	Set- point	Super- vision	Comment
TAP	Bool	false	Non-retain	False	Fals e	False	False		Status: semi auto- matic/switch with transition
TOP	Bool	false	Non-retain	False	Fals e	False	False		Status: semi auto- matic/ignore tran- sition
ACK_S	S Bool	false	Non-retain	False	Fals e	False	False		Request: acknowl- edge step at pa- rameter S_NO
REG_S	Bool	false	Non-retain	False	Fals e	False	False		Request: register step indicated in S_NO
T_PRE	V Bool	false	Non-retain	False	Fals e	False	False		Request: output previous valid transition in T_NO
T_NE	(T Bool	false	Non-retain	False	Fals e	False	False		Request: output next valid transi- tion in T_NO
LOCK	Bool	false	Non-retain	False	Fals e	False	False		Status: interlocks activated
SUP	Bool	false	Non-retain	False	Fals e	False	False		Status: supervi- sions activated
ACKR	EQ Bool	false	Non-retain	False	e	False	False		Status: acknowl- edgment required
SSKIP	Bool	false	Non-retain	False	е	False	False		Status: "Skip steps enabled
OFF	Bool	false	Non-retain	False	Fals e	False	False		Request: deacti- vate all steps
INIT	Bool	false	Non-retain	False	Fals e	False	False		Request: set sequence to initial state
HALT	Bool	false	Non-retain	False	Fals e	False	False		Status: sequence halted
TMS_	HALT Bool	false	Non-retain	False	Fals e	False	False		Status: all internal timers held
OPS_Z	ZERO Bool	false	Non-retain	False		False	False		Status: set all operands processed with N, L, D instructions to 0
SACT_	DISP Bool	false	Non-retain	False	Fals e	False	False		Status: display active steps only
SEF_C	Bool	false	Non-retain	False		False	False		Status: display on- ly steps with error and disrupted steps
SALL_		false	Non-retain	False	e	False	False		Status: display all steps
S_PRE	V Bool	false	Non-retain	False	Fals e	False	False		Request: output previous step to S_NO

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
S_NEXT	Bool	false	Non-retain	False	Fals e	False	False		Request: Output next step at S_NO parameter
S_SELOK	Bool	false	Non-retain	False	Fals e	False	False		Request: output step number from S_SEL to S_NO
S_ON	Bool	false	Non-retain	False	Fals e	False	False		Request: activate step indicated in S_NO
S_OFF	Bool	false	Non-retain	False	Fals e	False	False		Request: deacti- vate step at pa- rameter S_NO
T_PUSH	Bool	false	Non-retain	False	Fals e	False	False		Request: transition switching enabled
REG	Bool	false	Non-retain	False	_	False	False		Request: register all interlock and supervision errors
ACK	Bool	false	Non-retain	False	Fals e	False	False		Request: acknowledge all interlock and supervision errors
IL_PERM	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all interlocks
T_PERM	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all transitions
ILP_MAN	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all interlocks in man- ual mode
LMODE	Bool	false	Non-retain	False	Fals e	False	False		Status: learning mode is acitve
RESET_CRIT	Bool	false	Non-retain	False	Fals e	False	False		Request: reset all initial values recor ded for interlocks and transitions
▼ MOP	G7_MOP- Plus_V6		Non-retain	False	Fals e	False	True		Mode
AUTO	Bool	true	Non-retain	False	Fals e	False	False		Status: automatic mode
MAN	Bool	false	Non-retain	False	Fals e	False	False		Status: manual mode
TAP	Bool	false	Non-retain	False	Fals e	False	False		Status: semi auto- matic/switch with transition
ТОР	Bool	false	Non-retain	False	Fals e	False	False		Status: semi auto- matic/ignore tran- sition

	Integrated ation Portal									
Name		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
	ACK_S	Bool	false	Non-retain	False	Fals e	False	False		Request: acknowledge step at parameter S_NO
	REG_S	Bool	false	Non-retain	False	Fals e	False	False		Request: register step indicated in S_NO
	T_PREV	Bool	false	Non-retain	False	Fals e	False	False		Request: output previous valid transition in T_NO
	T_NEXT	Bool	false	Non-retain	False	Fals e	False	False		Request: output next valid transi- tion in T_NO
	LOCK	Bool	true	Non-retain	False	Fals e	False	False		Status: interlocks activated
	SUP	Bool	true	Non-retain	False	Fals e	False	False		Status: supervi- sions activated
	ACKREQ	Bool	true	Non-retain	False	Fals e	False	False		Status: acknowl- edgment required
	SSKIP	Bool	false	Non-retain	False	Fals e	False	False		Status: "Skip steps enabled
	OFF	Bool	false	Non-retain	False	Fals e	False	False		Request: deacti- vate all steps
	INIT	Bool	true	Non-retain	False	Fals e	False	False		Request: set sequence to initial state
	HALT	Bool	false	Non-retain	False	Fals e	False	False		Status: sequence halted
	TMS_HALT	Bool	false	Non-retain	False	Fals e	False	False		Status: all interna timers held
	OPS_ZERO	Bool	false	Non-retain	False	Fals e	False	False		Status: set all op- erands processed with N, L, D in- structions to 0
	SACT_DISP	Bool	true	Non-retain	False	Fals e	False	False		Status: display active steps only
	SEF_DISP	Bool	false	Non-retain	False	Fals e	False	False		Status: display on ly steps with error and disrupted steps
	SALL_DISP	Bool	false	Non-retain	False	Fals e	False	False		Status: display all steps
	S_PREV	Bool	false	Non-retain	False	Fals e	False	False		Request: output previous step to S_NO
	S_NEXT	Bool	false	Non-retain	False	Fals e	False	False		Request: Output next step at S_NO parameter
	S_SELOK	Bool	false	Non-retain	False	Fals e	False	False		Request: output step number from S_SEL to S_NO

	ntegrated tion Portal									
Name		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HM engi-	Set- point	Super- vision	Comment
	S_ON	Bool	false	Non-retain	False	е	False	False		Request: activate step indicated in S_NO
	S_OFF	Bool	false	Non-retain	False	Fals e	False	False		Request: deacti- vate step at pa- rameter S_NO
	T_PUSH	Bool	false	Non-retain	False	Fals e	False	False		Request: transition switching enabled
	REG	Bool	false	Non-retain	False	Fals e	False	False		Request: register all interlock and supervision errors
	ACK	Bool	false	Non-retain	False	Fals e	False	False		Request: acknowledge all interlock and supervision errors
	IL_PERM	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all interlocks
	T_PERM	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all transitions
	ILP_MAN	Bool	false	Non-retain	False	Fals e	False	False		Status: permanen processing of all interlocks in man- ual mode
	LMODE	Bool	false	Non-retain	False	Fals e	False	False		Status: learning mode is acitve
	RESET_CRIT	Bool	false	Non-retain	False	Fals e	False	False		Request: reset all initial values recor ded for interlocks and transitions
Т	IME_DELTA	Time	T#0ms	Non-retain	False	Fals e	False	False		Cycle time
▼ S	Q_FLAGS	G7_SQFla gsPlus_V6		Non-retain	False	Fals e	False	True		Sequence bit memory
	ERR_FLT	Bool	false	Non-retain	False	Fals e	False	False		Interlock and su- pervision group er ror
	ERROR	Bool	false	Non-retain	False	Fals e	False	False		Interlock group er ror
	FAULT	Bool	false	Non-retain	False	Fals e	False	False		Supervision group error
	RT_FAIL	Bool	false	Non-retain	False	Fals e	False	False		Runtime error
	NO_SNO	Bool	false	Non-retain	False	Fals e	False	False		Requested step
	NF_OFL	Bool	false	Non-retain	False		False	False		Overflow: too many ON or OFF requests
	SA_OFL	Bool	false	Non-retain	False	Fals e	False	False		Overflow: too many steps active

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HM engi-	e Set- I point	Super- vision	Comment
TV_OFL	Bool	false	Non-retain	False	Fals e	False	False		Overflow: too many valid transi- tions
NO_SWI	Bool	false	Non-retain	False	Fals e	False	False		Do not switch in this cycle
CYC_OP	Bool	false	Non-retain	False	Fals e	False	False		Cyclic execution of the sequence after initialization
AS_MSG	Bool	true	Non-retain	False	Fals e	False	False		Alarms during run- time enabled or disabled by in- struction
SQ_BUSY	Bool	false	Non-retain	False	Fals e	False	False		Internal edge memory bit for se- quence processing
SA_BUSY	Bool	false	Non-retain	False	Fals e	False	False		Internal edge memory bit for se- quence processing
PRE_CNT	USInt	1	Non-retain	False	Fals e	False	False		Number of perma- nent instructions preceding the se- quencer
POST_CNT	USInt	1	Non-retain	False	Fals e	False	False		Number of perma- nent instructions after the sequenc- er
SQ_CNT	USInt	1	Non-retain	False	Fals e	False	False		Number of branch paths
S_CNT	USInt	3	Non-retain	False	Fals e	False	False		Number of steps
LOCK_CNT	USInt	0	Non-retain	False	e	False	False		Number of inter- locks
SUP_CNT	USInt	0	Non-retain	False	e	False	False		Number of super- visions
T_CNT	USInt	3	Non-retain	False	е	False	False		Number of transi- tions
SQ_PART_CNT	USInt	1	Non-retain	False	Fals e	False	False		Number of branch es
MAX_TVAL	USInt	1	Non-retain	False	Fals e	False	False		Max. number of si- multaneously valid transitions
MAX_SACT	USInt	1	Non-retain	False	Fals e	False	False		Max. number of si- multaneously ac- tive steps
AS_MSG	Byte	16#65	Non-retain	False	Fals e	False	False		Alarm flags
▼ EXEC_BITS	Ar- ray[0249] of Bool		Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[0]	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m HM I/O PC UA/ We b	engi- neer- ing	point	Super- vision	Comment
	EX- EC_BITS[1]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[2]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[3]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[4]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[5]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[6]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[7]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[8]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[9]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[10]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[11]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[12]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[13]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[14]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[15]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[16]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[17]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[18]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[19]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[20]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[21]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[22]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[23]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[24]	Bool	false	Non-retain	False		False	False		System-internal

	Integrated ation Portal									
ame			Default value	Retain	sible from HMI/OP C UA/We b API	ta- ble fro m HM I/O PC UA/ We b	Visible in HMI engi- neer- ing	point	vision	Comment
	EX- EC_BITS[25]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[26]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[27]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[28]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[29]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[30]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[31]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX-	Bool	false	Non-retain	False	_	False	False		System-internal
	EC_BITS[32]	Bool	false	Non-retain	False	_	False	False		System-internal
	EC_BITS[33] EX- EC_BITS[34]	Bool	false	Non-retain	False	-	False	False		System-internal
	EX- EC_BITS[35]	Bool	false	Non-retain	False		False	False		System-internal
	EX-	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EC_BITS[36] EX-	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EC_BITS[37] EX- EC_BITS[38]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[39]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[40]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[41]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[42]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[43]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX-	Bool	false	Non-retain	False		False	False		System-internal
	EX-	Bool	false	Non-retain	False		False	False		System-internal
	EX-	Bool	false	Non-retain	False		False	False		System-internal
	EC_BITS[46]	Bool	false	Non-retain	False		False	False		System-internal
	EC_BITS[47] EX-	Bool	false	Non-retain	False	e Fals	False	False		System-internal

	Integrated ation Portal									
lame		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
	EX- EC_BITS[49]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[50]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[51]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[52]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[53]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[54]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[55]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[56]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[57]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[58]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[59]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[60]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[61]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[62]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[63]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[64]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[65]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[66]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[67]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[68]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[69]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[70]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[71]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[72]	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame			Default value	Retain	sible from HMI/OP C UA/We b API	ta- ble fro m HM I/O PC UA/ We b	engi- neer- ing	point	vision	Comment
	EX- EC_BITS[73]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[74]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[75]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[76]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[77]	Bool	false	Non-retain	False	-	False	False		System-internal
	EX- EC_BITS[78]	Bool	false	Non-retain	False	-	False	False		System-internal
	EX- EC_BITS[79]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[80]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[81]	Bool	false	Non-retain	False	_	False	False		System-internal
	EX- EC_BITS[82]	Bool	false	Non-retain	False	-	False	False		System-internal
	EX- EC_BITS[83]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[84]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[85]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[86]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[87]	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EX- EC_BITS[88]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[89]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[90]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[91]	Bool	false	Non-retain	False		False	False		System-internal
	EX- EC_BITS[92]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[93]	Bool	false	Non-retain	False		False	False		System-internal
	EX-	Bool	false	Non-retain	False	Fals	False	False		System-internal
	EC_BITS[94] EX-	Bool	false	Non-retain	False		False	False		System-internal
	EC_BITS[95] EX-	Bool	false	Non-retain	False	e Fals	False	False		System-internal

	Integrated ation Portal									
lame		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
	EX- EC_BITS[97]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
		Bool	false	Non-retain	False	Fals e	False	False		System-internal
		Bool	false	Non-retain	False	Fals e	False	False		System-internal
		Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[101	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[102]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[103	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[104]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
		Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[106	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[107	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[108	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[109	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[110	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[111]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[112	Bool	false	Non-retain	False	Fals e	False	False		System-internal
		Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame		Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[114]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[115 l	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[116	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[117	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[118	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[119	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[120	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[121	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[122	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[123	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[124	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[125	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[126	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[127	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[128	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[129	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated lation Portal									
Name		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m HM I/O PC UA/ We b API	in HMI engi- neer- ing	point	Super- vision	Comment
	EX- EC_BITS[130 1	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[131	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[132	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[133	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[134	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[135	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[136	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[137		false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[138	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[139	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[140	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[141	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[142]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[143	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[144	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[145	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
nme		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[146]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[147	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[148	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[149	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[150	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[151	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[152	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[153	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[154	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[155	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[156	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[157	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[158	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[159	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[160	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[161	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
nme		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[162]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[163	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[164	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[165	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[166	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[167	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[168	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[169	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[170	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[171	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[172	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[173	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[174 l	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[175	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[176	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[177	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame		Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[178]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[179 1	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[180	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[181	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[182	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[183	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[184	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[185	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[186	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[187	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[188	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[189	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[190	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[191	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[192	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[193	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
nme		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[194]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[195	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[196	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[197	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[198	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[199	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[200	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[201	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[202	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[203	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[204	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[205	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[206	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[207	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[208	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[209	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame		Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[210]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[211	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[212	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[213	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[214	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[215	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[216	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[217	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[218	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[219	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[220	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[221	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[222	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[223	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[224	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[225	Bool	false	Non-retain	False	Fals e	False	False		System-internal

	Integrated ation Portal									
ame		Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	EX- EC_BITS[226]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[227	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[228	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[229	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[230	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[231	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[232	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[233	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[234	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[235	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[236	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[237	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[238	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[239	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[240	Bool	false	Non-retain	False	Fals e	False	False		System-internal
	EX- EC_BITS[241	Bool	false	Non-retain	False	Fals e	False	False		System-internal

Totally Integrated Automation Portal					s- Wri Visible Set- Super				
lame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HM engi-	Set- point	Super- vision	Comment
EX- EC_BITS[242 1	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[243	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[244 1	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[245	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[246	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[247]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[248]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
EX- EC_BITS[249]	Bool	false	Non-retain	False	Fals e	False	False		System-internal
▼ OFFSETS	G7_Off- sets- Plus_V6		Non-retain	False	Fals e	False	True		Internal offsets
SINI_OFFSET	UInt	0	Non-retain	False	Fals e	False	False		Offset of interna array SINI[]
LSTT_OFF- SET	UInt	2	Non-retain	False		False	False		Offset of interna array LSTT[]
ATAJ_OFF- SET	UInt	5	Non-retain	False	Fals e	False	False		Offset of interna array ATAJ[]
ATAB_OFF- SET	UInt	8	Non-retain	False	Fals e	False	False		Offset of interna array ATAB[]
PSTT_OFF- SET	UInt	11	Non-retain	False	Fals e	False	False		Offset of interna array PSTT[]
NSTT_OFF- SET	UInt	14	Non-retain	False	Fals e	False	False		Offset of interna array NSTT[]
ASSJ_OFF- SET	UInt	17	Non-retain	False	Fals e	False	False		Offset of interna array ASSJ[]
ASSB_OFF- SET	UInt	20	Non-retain	False	Fals e	False	False		Offset of interna array ASSB[]
PTTS_OFF- SET	UInt	23	Non-retain	False	Fals e	False	False		Offset of interna array PTTS[]
NTTS_OFF- SET	UInt	26	Non-retain	False	Fals e	False	False		Offset of interna array NTTS[]
SW_SQTS_O FFSET	UInt	29	Non-retain	False	Fals e	False	False		Offset of interna array SW_SQTS[]

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		Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m HM I/O PC UA/ We b	in HMI engi- neer- ing	point	Super- vision	Comment
SWITCH_OF FSET		32	Non-retain	False	e		False		Offset of internal array SWITCH[]
TVX_OFFSET	UInt	33	Non-retain	False	Fals e	False	False		Offset of internal array TVX[]
TTX_OFFSET	Ulnt	35	Non-retain	False	Fals e	False	False		Offset of internal array TTX[]
TSX_OFFSET	UInt	37	Non-retain	False	Fals e	False	False		Offset of internal array TSX[]
S00X_OFF- SET	UInt	39	Non-retain	False	Fals e	False	False		Offset of internal array SOOX[]
SOFFX_OFF- SET	UInt	41	Non-retain	False	Fals e	False	False		Offset of internal array SOFFX[]
SONX_OFF- SET	UInt	43	Non-retain	False	Fals	False	False		Offset of internal array SONX[]
SAX_OFFSET	UInt	45	Non-retain	False	_	False	False		Offset of internal array SAX[]
SERRX_OFF- SET	UInt	47	Non-retain	False	Fals e	False	False		Offset of internal array SERRX[]
	UInt	51	Non-retain	False	Fals e	False	False		Offset of internal array SMX[]
S0X_OFFSET	UInt	55	Non-retain	False	Fals e	False	False		Offset of internal array SOX[]
S1X_OFFSET	UInt	59	Non-retain	False	Fals e	False	False		Offset of internal array S1X[]
THRESH- OLD_SUP	USInt	0	Non-retain	False	Fals e	False	False		Threshold for step activation time
	USInt	0	Non-retain	False	Fals e	False	False		Threshold for step activation time (warning only)
	G7_GCFla gsPlus_V6		Non-retain	False	Fals e	False	True		Compiler flags
COND_ED	USInt	16#E3	Non-retain	False	Fals e	False	False		Language in net- works
SSKIP_ON	Bool	false	Non-retain	False	Fals e	False	False		Skip steps
ACK_REQ	Bool	true	Non-retain	False	Fals e	False	False		Acknowledgement required for reaction errors
ILP_MAN	Bool	false	Non-retain	False	Fals e	False	False		Permanent pro- cessing of all inter- locks in manual mode
SWM_LOCK ED	Bool	false	Non-retain	False	Fals e	False	False		Lock operating mode selection
SET_ENO	Bool	false	Non-retain	False	Fals e	False	False		Set ENO automatically
IL_CAT	USInt	1	Non-retain	False	Fals e	False	False		Category for inter- lock
IL_SUB- CAT_1	USInt	0	Non-retain	False	Fals e	False	False		Subcategory 1 for interlock

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Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Comment
IL_SUB- CAT_2	USInt	0	Non-retain	False		False	False	Subcategory 2 for interlock
REACT_CAT	USInt	1	Non-retain	False	Fals e	False	False	Category for reaction
REACT_SUB- CAT_1	USInt	0	Non-retain	False	Fals e	False	False	Subcategory 1 for reaction
REACT_SUB- CAT_2	USInt	0	Non-retain	False	Fals e	False	False	Subcategory 2 for reaction
WARN_CAT	USInt	2	Non-retain	False	Fals e	False	False	Category for warn- ings
WARN_SUB- CAT_1	USInt	0	Non-retain	False	Fals e	False	False	Subcategory 1 for warnings
WARN_SUB- CAT_2	USInt	0	Non-retain	False	Fals e	False	False	Subcategory 2 for warnings
CRIT_ON	Bool	false	Non-retain	False	Fals e	False	False	Criteria analysis activated
▼ Trans1	G7_Transi- tion- Plus_V6		Non-retain	False	Fals e	False	True	Transition struc- ture
TV	Bool	false	Non-retain	False	Fals e	False	False	Transition is valid
TT	Bool	false	Non-retain	False	Fals e	False	False	Transition is satis- fied
TS	Bool	false	Non-retain	False	Fals e	False	False	Transition switches
TNO	Int	1	Non-retain	False	Fals e	False	False	Indicates the user- defined transition number
CRIT	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maximum 32 LAD/FBD elements of the transition in the current processing cycle
CRIT_OLD	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maximum 32 LAD/FBD elements of the transition in the previous processing cycle
CRIT_FLT	DWord	16#0	Non-retain	False	Fals e	False	False	Copy of CRIT if an error occurs
▼ Trans2	G7_Transi- tion- Plus_V6		Non-retain	False	Fals e	False	True	Transition struc- ture
TV	Bool	false	Non-retain	False	e		False	Transition is valid
TT	Bool	false	Non-retain	False	e		False	Transition is satis- fied
TS	Bool	false	Non-retain	False	Fals e	False	False	Transition switches

Totally Integrated Automation Portal								
Name	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Comment
TNO	Int	2	Non-retain	False	Fals e	False	False	Indicates the user- defined transition number
CRIT	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maximum 32 LAD/FBD elements of the transition in the current processing cycle
CRIT_OLD	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maxi mum 32 LAD/FBD elements of the transition in the previous process- ing cycle
CRIT_FLT	DWord	16#0	Non-retain	False	Fals e	False	False	Copy of CRIT if an error occurs
▼ Trans3	G7_Transi- tion- Plus_V6		Non-retain	False	Fals e	False	True	Transition struc- ture
TV	Bool	false	Non-retain	False	Fals e	False	False	Transition is valid
TT	Bool	false	Non-retain	False	Fals e	False	False	Transition is satis- fied
TS	Bool	false	Non-retain	False	Fals e	False	False	Transition switches
TNO	Int	3	Non-retain	False	Fals e	False	False	Indicates the user- defined transition number
CRIT	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maxi mum 32 LAD/FBD elements of the transition in the current processing cycle
CRIT_OLD	DWord	16#0	Non-retain	False	Fals e	False	False	Status of the maxi mum 32 LAD/FBD elements of the transition in the previous process- ing cycle
CRIT_FLT	DWord	16#0	Non-retain	False	e	False	False	Copy of CRIT if an error occurs
▼ Step1	G7_Step- Plus_V6		Non-retain		e	False	True	Step structure
S1	Bool	false	Non-retain	False	e	False	False	Step is activated
L1	Bool	false	Non-retain	False	e	False	False	interlock leaving state
V1	Bool	false	Non-retain	False	Fals e	False	False	Supervision enter- ing state

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Name	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
R1	Bool	false	Non-retain	False	Fals e	False	False		Reserved
A1	Bool	false	Non-retain	False	е	False	False		Error is acknowl- edged
S0	Bool	false	Non-retain	False	е	False	False		Step is deactivated
LO	Bool	false	Non-retain	False	e	False	False		Interlock entering state
V0	Bool	false	Non-retain	False	е	False	False		Supervision leav- ing state
X	Bool	false	Non-retain	False	e	False	False		Step is active
LA	Bool	false	Non-retain	False	e	False	False		Interlock is not satisfied
VA	Bool	false	Non-retain	False	е	False	False		Supervision active
RA	Bool	false	Non-retain	False	e	False	False		Reserved
AA	Bool	false	Non-retain	False	е	False	False		Reserved
SS	Bool	false	Non-retain	False	Fals e	False	False		System-internal
LS	Bool	true	Non-retain	False	Fals e	False	False		Direct result of the programmed interlock
VS	Bool	false	Non-retain	False	Fals e	False	False		Direct result of the programmed supervision
SNO	Int	1	Non-retain	False	Fals e	False	False		User step number
T	Time	T#0ms	Non-retain	False	Fals e	False	False		Total step activa- tion time
U	Time	T#0ms	Non-retain	False	Fals e	False	False		Step activation time without disturbance
T_MAX	Time	T#10S	Non-retain	False	Fals e	False	False		Maximal step activation time
T_WARN	Time	T#7S	Non-retain	False	Fals e	False	False		Warning time
CRIT_LOC	DWord	16#0	Non-retain	False	Fals e	False	False		Status of the maximum 32 LAD/FBD elements in the in terlock in the current processing cycle

False

False

Non-retain

Non-retain

Fals False

Fals False

False

False

CRIT_LOC_ERR DWord

SM

Bool

16#0

false

cle

Copy of CRIT_LOC when the interlock

leaves the state

System-internal

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HM engi-	Set- point	Super- vision	Comment
H_IL_ERR	Byte	16#0	Non-retain	False	Fals e	False	False		System-internal
H_SV_FLT	Byte	16#04	Non-retain	False	Fals e	False	False		System-internal
▼ Step2	G7_Step- Plus_V6		Non-retain	False		False	True		Step structure
S 1	Bool	false	Non-retain	False	Fals e	False	False		Step is activated
L1	Bool	false	Non-retain	False	Fals e	False	False		interlock leaving state
V1	Bool	false	Non-retain	False	Fals e	False	False		Supervision entering state
R1	Bool	false	Non-retain	False	Fals e	False	False		Reserved
A1	Bool	false	Non-retain	False	Fals e	False	False		Error is acknowl- edged
SO	Bool	false	Non-retain	False	Fals e	False	False		Step is deactivated
LO	Bool	false	Non-retain	False	Fals e	False	False		Interlock entering state
VO	Bool	false	Non-retain	False	Fals e	False	False		Supervision leav- ing state
Х	Bool	false	Non-retain	False	Fals e	False	False		Step is active
LA	Bool	false	Non-retain	False	Fals e	False	False		Interlock is not sat isfied
VA	Bool	false	Non-retain	False	Fals e	False	False		Supervision active
RA	Bool	false	Non-retain	False	Fals e	False	False		Reserved
AA	Bool	false	Non-retain	False	Fals e	False	False		Reserved
SS	Bool	false	Non-retain	False	Fals e	False	False		System-internal
LS	Bool	true	Non-retain	False	Fals e	False	False		Direct result of the programmed inter lock
VS	Bool	false	Non-retain	False	Fals e	False	False		Direct result of the programmed supervision
SNO	Int	2	Non-retain	False	Fals e	False	False		User step number
Т	Time	T#0ms	Non-retain	False	Fals e	False	False		Total step activa- tion time
U	Time	T#0ms	Non-retain	False	Fals e	False	False		Step activation time without dis- turbance
T_MAX	Time	T#10S	Non-retain	False	Fals e	False	False		Maximal step acti- vation time

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
T_WARN	Time	T#7S	Non-retain	False	Fals e	False	False		Warning time
CRIT_LOC	DWord	16#0	Non-retain	False		False	False		Status of the maximum 32 LAD/FBD elements in the interlock in the current processing cycle
CRIT_LOC_ERR	DWord	16#0	Non-retain	False	Fals e	False	False		Copy of CRIT_LOC when the interlock leaves the state
SM	Bool	false	Non-retain	False		False	False		System-internal
H_IL_ERR	Byte	16#0	Non-retain	False	e Fals e	False	False		System-internal
H_SV_FLT	Byte	16#04	Non-retain	False	Fals e	False	False		System-internal
▼ Step3	G7_Step- Plus_V6		Non-retain	False		False	True		Step structure
S1	Bool	false	Non-retain	False		False	False		Step is activated
L1	Bool	false	Non-retain	False		False	False		interlock leaving state
V1	Bool	false	Non-retain	False		False	False		Supervision enter- ing state
R1	Bool	false	Non-retain	False	-	False	False		Reserved
A1	Bool	false	Non-retain	False		False	False		Error is acknowl- edged
SO	Bool	false	Non-retain	False		False	False		Step is deactivated
LO	Bool	false	Non-retain	False		False	False		Interlock entering state
VO	Bool	false	Non-retain	False		False	False		Supervision leav- ing state
X	Bool	false	Non-retain	False		False	False		Step is active
LA	Bool	false	Non-retain	False	Fals e	False	False		Interlock is not sat
VA	Bool	false	Non-retain	False	-	False	False		Supervision active
RA	Bool	false	Non-retain	False		False	False		Reserved
AA	Bool	false	Non-retain	False		False	False		Reserved
SS	Bool	false	Non-retain	False		False	False		System-internal
LS	Bool	true	Non-retain	False		False	False		Direct result of the programmed inter lock

Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
VS	Bool	false	Non-retain	False		False	False		Direct result of the programmed supervision
SNO	Int	3	Non-retain	False	Fals e	False	False		User step number
Т	Time	T#0ms	Non-retain	False	Fals e	False	False		Total step activa- tion time
U	Time	T#0ms	Non-retain	False	Fals e	False	False		Step activation time without disturbance
T_MAX	Time	T#10S	Non-retain	False	Fals e	False	False		Maximal step acti vation time
T_WARN	Time	T#7S	Non-retain	False	Fals e	False	False		Warning time
CRIT_LOC	DWord	16#0	Non-retain	False	Fals e	False	False		Status of the max mum 32 LAD/FBD elements in the ir terlock in the cur- rent processing co- cle
CRIT_LOC_ERR	DWord	16#0	Non-retain	False	Fals e	False	False		Copy of CRIT_LOC when the interloc leaves the state
SM	Bool	false	Non-retain	False	Fals e	False	False		System-internal
H_IL_ERR	Byte	16#0	Non-retain	False	Fals e	False	False		System-internal
H_SV_FLT	Byte	16#04	Non-retain	False	Fals e	False	False		System-internal
Temp									
Constant Alarms									
Enable alarms		True							
Category	Categor	y enabler			Di	splay c	ass		
Error					0				
Warning					0				
Info					0				
Category 4 Category 5					0				
Category 6					0				
Category 7					0				
Category 8					0				
Category for Error		Subcatego for interlo				Subcat for inte			

Totally Integ Automation	grated Portal			
Category for supervisions	Error	Subcategory 1 for supervi- sions	Sub for sior	category 2 supervi- ns
Category for GRAPH warn- ings	Warning	Subcategory 1 for GRAPH warnings	for	category 2 GRAPH rnings
Symbol	Ad	ddress Type	Comment	
Permanent	pre-instru	ctions		
1:				
	<u> </u>			
Sequences ((1)			
1:				
		нь.···	S2 III	
		н,	Step3	
S1 - [Initial s	step]:Step	o1		
Interlock -(c)-:			
Interlock alarn	n			
Alarm text				
				Interlock ——{ C }——
	<u> </u>			
Supervision				
Supervision ala Alarm text	arm			
	ı			
				Supervision (V)
	ı			

Totally Integrated Automation Porta	1				
Actions:					
Actions:					
Interlock	Event	Qualifier	Action		
		R	#out1		
		_			
		R	#out2		
T1:Trans1					
	#in1	#in2			
	<u> </u>			⊣	
	#in3				
	├ ──- / /				
S2:Step2					
Joseph John Color					
Interlock -(c)-:					
Interlock alarm Alarm text					
Alaim text					
	1			Interlock	
	-			——(c)——	
Supervision -(v)-:					
Supervision alarm					
Alarm text					
riam text					
				Supervision	
				——(v)——	
Actions:	•				
Actions:					
Interlock	Event	Qualifier	Action		
		S	#out1		
T2:Trans2					
	#in3				
	├ ─┤			-1	
S3:Step3					

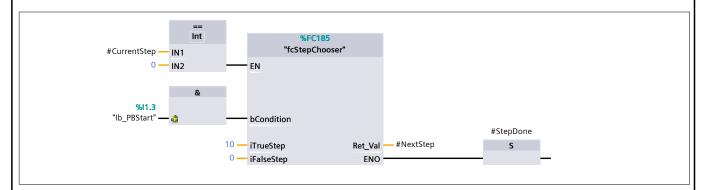
Totally Integrated Automation Portal					
Interlock -(c)-:					
Interlock alarm					
Alarm text					
				Interlock ———(C)———	1
Supervision -(v)-:					
Supervision alarm					
Alarm text					
				Supervision V	1
				• •	
Actions:					
Actions:					
Interlock	Event	Qualifier	Action		
		S	#out2		
T3:Trans3		1	,		
 	1				
				7	
Permanent post-insti	ructions				
	actions				
1:					
					1
	1			Т	

Program Logi General								_			
lame	Program I	Logic	Numbe		5			Type		FB	
anguage nformation	FBD		Numbe	ring	Automatic						
itle			Author					Comm	ent		
amily			Version		0.1			User-de ID			
lame		Data type	Default value	e R	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
Input							AFI				
							_				
Output											
Output InOut Static											
InOut											
InOut											
InOut											
InOut											
InOut											

Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
▼ StepSeq	"fbStepSe- quencer"			True	Tru	True	False		Modified by Ken Brey 2010-08-25 KLB. Added Initialization inputs and logic. Modified by Ken Brey 2006-08-08 Removed initialization of inputs. Initializing inputs doesn't do anything. The input value if un-wired will be the last value set for that input in a different call. The initialized value in the declaration section does not set it back to default if unwired. Allways supply values for all inputs. Modified by Tim Jager 2005-12-13 no block Id in error message Modified by Boris: branched -> simplified version, no errors, no timeout; still have to use static memory for TON/ CurStep (might be fixed later using in/out structure) Modified by Nick Shea: 2012-03-30 Re-instated step mode
▼ Input									
ilnStep	Int	0	Non-retain	False	Fals e	False	False		Constant: current step required for the FB to run
ilnNextStep		0	Non-retain	False	e		False		Next step to go to if step is done
blnStep- Done	Bool	false	Non-retain	False	Fals e	False	False		if step done logic is true, then we move from IN_STEP to

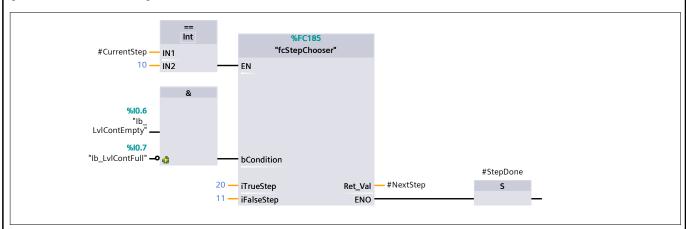
Totally Integrated Automation Portal								
ame	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Comment
tInStepDela <u>r</u>	y Time	T#0ms	Non-retain	False		False	False	After the step done input is true we wait for x sec- onds before mov ing to next
bInStep- Mode	Bool	false	Non-retain	False	Fals e	False	False	Pause sequence a completion of cu rent step
bInStepAdv- ance	Bool	false	Non-retain	False	Fals e	False	False	If paused, trigger next step
blnit	Bool	false	Non-retain	False	Fals e	False	False	
ilnitStep	Int	0	Non-retain	False	Fals e	False	False	
Output								
bOutEnterE- vent	Bool	false	Non-retain	False	Fals e	False	False	
bOutExitE- vent	Bool	false	Non-retain	False	Fals e	False	False	
bOutPaused	Bool	false	Non-retain	False	Fals e		False	Sequence is currently paused.
iOutCurrent Step	- Int	0	Non-retain	False	Fals e	False	False	output current step
InOut								
Static								
▼ TON_Step- Delay	TON_TIME		Non-retain	False	Fals e	False	False	used to delay moing to the next step.
PT	Time	T#0ms	Non-retain	False	e		False	
ET	Time	T#0ms	Non-retain	False	e		False	
IN	Bool	false	Non-retain	False	e		False	
Q	Bool	false	Non-retain	False	е		False	Comment at a control
iCurrentStep		0 false	Non-retain	False False	e		False False	Current step of the sequencer
bAlreadyIn- ThisStep	Bool		Non-retain		e			
CurrentStep	Int	0	Non-retain Non-retain	True True	е	True True	True False	
NextStep StepDone	Bool	false	Non-retain	True	e Tru		False	
Temp					е			
Constant								

Network 1: 0 -- Idle

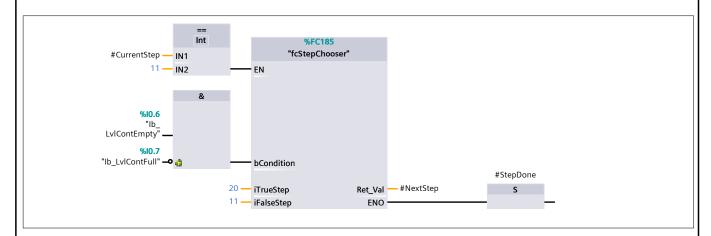


Network 3: 10 -- Controleer bak op aanwezigheid vloeistof

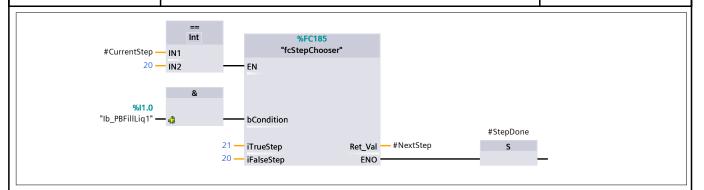
vloeistof aanwezig 10->11 geen vloeistof aanwezig 10->20



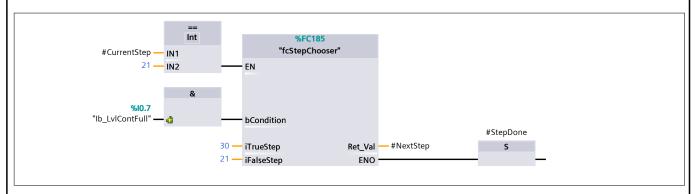
Network 4: 11 -- Vloeistof aanwezig, leeg maken tot bak leeg



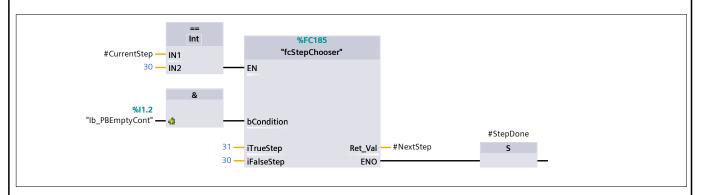
Network 6: 20 -- Aanvraag vloeistof 1



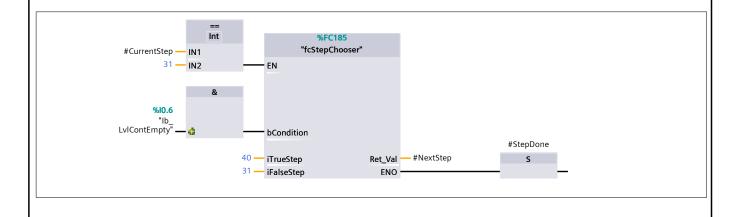
Network 7: 21 -- Vullen bak vloeistof 1 tot bak vol



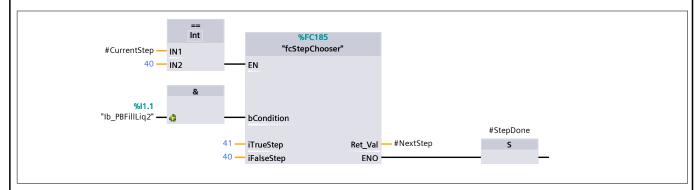
Network 9: 30 -- Aanvraag leegmaken bak vloeistof 1



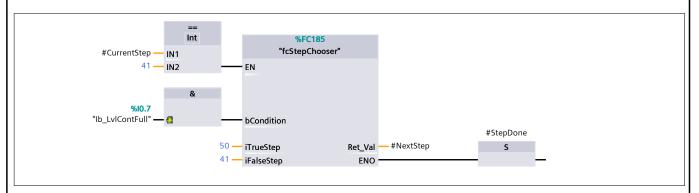
Network 10: 31 -- Leeg maken bak vloeistof 1



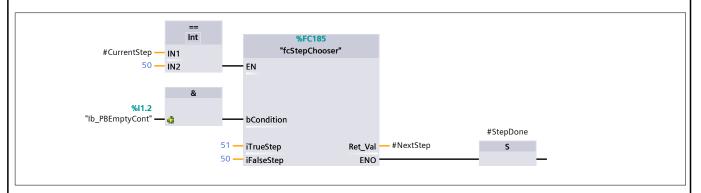
Network 12: 40 -- Aanvraag vloeistof 2



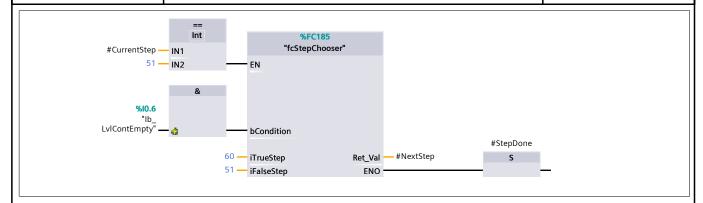
Network 13: 41 -- Vullen bak vloeistof 2



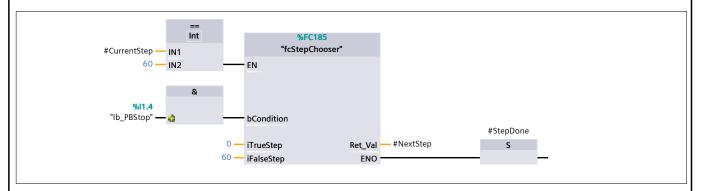
Network 15: 50 -- Aanvraag leegmaken bak vloeistof 2



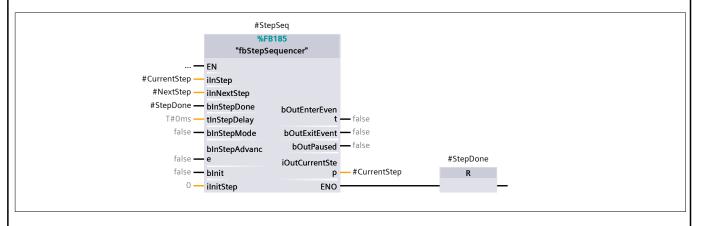
Network 16: 51 -- Leeg maken bak vloeistof 2



Network 18: 60 -- Cyclus klaar



Network 20: Step Sequencer

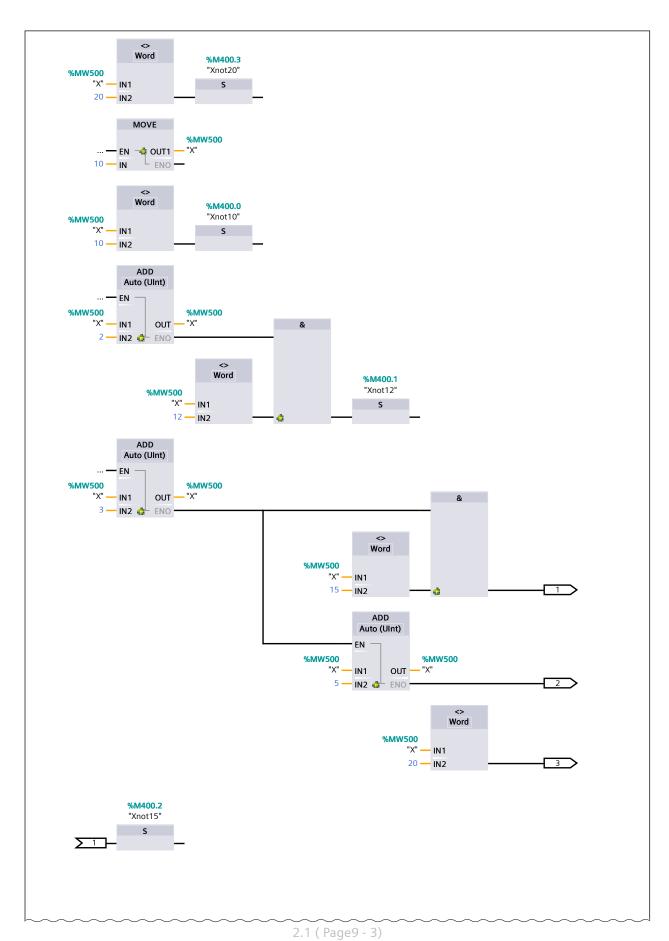


Network 22: Outputs

Totally Integrated Automation Portal #CurrentStep — IN1 >=1 11 — IN2 Int #CurrentStep — IN1 31 — IN2 "DB_ ProgramLogic". VlvDrn_Open == Int #CurrentStep — IN1 51 — IN2 "DB_ ProgramLogic". VlvLiq1_Open Int #CurrentStep — IN1 21 — IN2 "DB_ ProgramLogic". VlvLiq2_Open #CurrentStep — IN1 = 41 — IN2

Language FBD Numbering Automatic Information Title Author Comment	Author A	Tast Proportio	c									
Name Test Number 6	Number 6 Number 6 Number 6 Number 6 Number 6 Numbering Automatic Number Author		S									
Comment Comm	Author Version 0.1 User-defined ID Name Data type Default value Retain Accessible ta-in HMI point from ble engi-HMI/OP fro C UA/W We b API 1/O PC UA/W We b API 1/O PC UA/W We Static Input Output Inout Static Temp Constant	Name								Type	FB	
Title Family Version 0.1 Comment User-defined ID User-defined ID User-defined ID Setting HMI/OP from Default value By Default value Retain Accessible tanging HMI/OP from Default Value By Defaul	Author Version 0.1	Language	FBD			Numbering	Automatic					
Name Data type Default value Retain Accessible table in HMI point sible engineer ing UA/We HM b API I/O PC UA/We b API Input Output Inout Static Temp Constant	Accessible table by the property of the proper					Author				Camana		
Name Data type Default value Retain Accessible sible from HMI/OP fro C m ing UA/We BAPI Input Output InOut Static Temp Constant	Name Data type Default value Retain Accessible sible from HMI/OP fro CUA/We BD API Input Output Inout Static Temp Constant	Family					0.1			User-de		
Input Output InOut Static Temp Constant	Input Output Inout Static Temp Constant Sible ta- in HMI point vision be engi- neer- ing Vision engi											
Input Output InOut Static Temp Constant	Input Output InOut Static Temp Constant	Name		Data type	Defa	ult value	Retain	sible t from k HMI/OP f C r UA/We h b API I	ta- ble fro m HM I/O PC UA/ We b	in HMI engi- neer-	Super- vision	Comment
InOut Static Temp Constant	InOut Static Temp Constant	Input						'	AI I			
Static Temp Constant	Static Temp Constant											
Temp Constant	Temp Constant											
Constant	Constant											
		Temp										
		Network 1:	X != 10									
		Network 1:	X != 10									
		Network 1:	X != 10									
		Network 1:	X != 10									

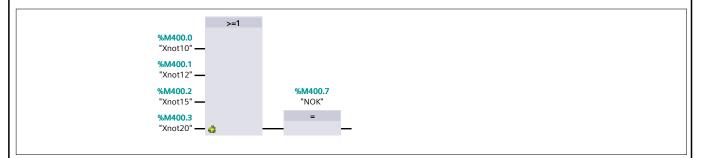
Network 1: X != 10 (1.1 / 2.1)



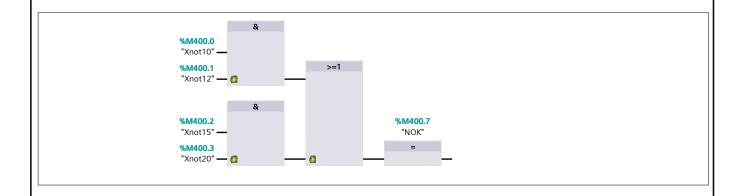
Totally Integrated Automation Portal				
etwork 1: X != 10 (2.1 /	2.1)	1.1 (Paga() 2)	I	
		1.1 (Page9 - 2)	~~~~~	
&				
2				
	%M400.3 "Xnot20" S			
3 - 4		_		



Network 2: Result NOK



Network 3: Result NOK



Valve Drain [FB4]

Valve Drain I	Properties				
General					
Name	Valve Drain	Number	4	Туре	FB
Language	FBD	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
Input									
Output									
InOut ✓ Static									
✓ VIvDrn	"fbValve_S olenoid"			True	Tru e	True	False		
▼ Input									
tlnTimeout	Time	T#0ms	Non-retain	False	Fals e	False	False		Timeout time for an actuator's feed- back to activate before giving a fault
iInMode	Int	0	Non-retain	False	Fals e	False	False		Mode Selection
bInEstop	Bool	false	Non-retain	False	Fals e	False	False		Estop
bInSignal- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback
bInSignal- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback
bInEnable	Bool	false	Non-retain	False	Fals e	False	False		Home and Work Enabled
bInCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	Non-retain	False	Fals e	False	False		Reset Error
bInSimulate	Bool	false	Non-retain	False	Fals e	False	False		Activate device simulation
▼ Output									
bOutCom- mandHome	Bool	false	Non-retain	False	Fals e	False	False		Home position command
bOutCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Work position command

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
bOutActive- Home	Bool	false	Non-retain	False	Fals e	False	False		Valve is in home position
bOutActive- Work	Bool	false	Non-retain	False	Fals e	False	False		Valve is in work position
bOutAuto	Bool	false	Non-retain	False	Fals e	False	False		Block in auto mode
bOutError	Bool	false	Non-retain	False	Fals e	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		Non-retain	False	Fals e	False	False		Valve error struc- ture
NoHome- Feedback		false	Non-retain	False	Fals e	False	False		Home position feedback not active
NoWork- Feedback	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback not ac- tive
Home- Feed- backStil- lActive	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback still ac- tive
Work- Feed- backStil- IActive	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback still ac- tive
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"			False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"			False	Fals e	False	False		Sub-block to han- dle error scroller
▼ Input									
bInEr- ror01	Bool	false	Set in IDB	False	Fals e	False	False		Error 1 In Error Ar ray
blnEr- ror02	Bool	false	Set in IDB	False	Fals e	False	False		Error 2 In Error Ar ray
blnEr- ror03	Bool	false	Set in IDB	False	Fals e	False	False		Error 3 In Error Ar ray
blnEr- ror04	Bool	false	Set in IDB	False	Fals e	False	False		Error 4 In Error Ar
blnEr- ror05	Bool	false	Set in IDB	False	Fals e	False	False		Error 5 In Error Ar ray
blnEr- ror06	Bool	false	Set in IDB	False	Fals e	False	False		Error 6 In Error Ar ray
	Bool	false	Set in IDB	False	Fals e	False	False		Error 7 In Error Ar ray
blnEr- ror08	Bool	false	Set in IDB	False	Fals e	False	False		Error 8 In Error Ar ray

Totally Integrated Automation Portal									
Jame	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
bInEr- ror09	Bool	false	Set in IDB	False	Fals e	False	False		Error 9 In Error Ai ray
blnEr- ror10	Bool	false	Set in IDB	False	Fals e	False	False		Error 10 In Error Array
bInEr- ror11	Bool	false	Set in IDB	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	Set in IDB	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	Set in IDB	False	_	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	Set in IDB	False	_	False	False		Error 14 In Error Array
blnEr-	Bool	false	Set in IDB	False	Fals	False	False		Error 15 In Error
ror15 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 16 In Error
ror16 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 17 In Error
ror17 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 18 In Error
ror18 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 19 In Error
ror19 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 20 In Error
ror20 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 21 In Error
ror21 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 22 In Error
ror22 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 23 In Error
ror23 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 24 In Error
ror24 blnEr-		false	Set in IDB	False	e	False	False		Array Error 25 In Error
ror25		false			е	False	False		Array Error 26 In Error
blnEr- ror26	Bool		Set in IDB	False	e				Array
blnEr- ror27		false	Set in IDB	False	е	False	False		Error 27 In Error Array
blnEr- ror28	Bool	false	Set in IDB		е	False	False		Error 28 In Error Array
blnEr- ror29	Bool	false	Set in IDB	False	Fals e	False	False		Error 29 In Error Array
blnEr- ror30	Bool	false	Set in IDB	False	Fals e	False	False		Error 30 In Error Array
Output									
bOu- tError- Exists	Bool	false	Set in IDB	False	Fals e	False	False		An Error Exists

ame	Data type	Default value	Retain	Acces-	Wri	Visihle	Set-	Super-	Comment
	Suta type	Jeruan value		sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		vision	Comment
iOut- Scrol- lingEr- ror- Num- ber	Int	0	Set in IDB	False	Fals e	False	False		Current Index when scrolling through errors
InOut									
▼ Static ▼ TON_E rror- Delay	TON_TIME		Non-retain	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	_	False	False		
Q	Bool	false	Non-retain	False		False	False		
▼ abEr- rors	Ar- ray[130] of Bool		Set in IDB	False		False	False		
abE rror s[1]		false	Set in IDB		Fals e	False	False		
abE rror s[2]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[3]	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB		Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[8]		false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		

ne	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rroi s[1 0]	Bool	false	Set in IDB	False		False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		

ame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We	ta- ble fro m	in HMI engi-		Super- vision	Comment
				b API	I/O PC UA/ We b API				
abE rror s[2 2]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 3]	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Int	1	Non-retain	False	Fals e	False	False		Index of next error position
iEr- rors- Scroll- Num	Int	1	Non-retain	False	Fals e	False	False		Index of current error position
bScroll ing	Bool	false	Non-retain	False	Fals e	False	False		Indicates we are scrolling
bTON_ Error- Delay	Bool	false	Non-retain	False		False	False		
	TON_TIME		Non-retain	False	Fals e	False	False		Timer for Error Timeout

Totally Integrated Automation Portal			

Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	Fals e	False	False		
Q	Bool	false	Non-retain	False	Fals e	False	False		
iLastMode	Int	0	Non-retain	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	Non-retain	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position en- abled
bEnable- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position ena- bled
bAutoMode	Bool	false	Non-retain	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	Non-retain	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	Non-retain	False	Fals e	False	False		
bTON_Time- Out	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Home	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Work	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Rese- tError	Bool	false	Non-retain	False	Fals e	False	False		
Temp									
Constant									

Network 1:

Totally Integrated **Automation Portal** #VlvDrn %FB110 "fbValve_Solenoid" ... — EN t#2s — tInTimeout 1 — iInMode false — blnEstop %10.5 "lb_VlvDrnClosed" — blnSignalHome %I0.4
"Ib_
VIvDrnOpened" — binSignalWork bOutCommand Home — false true — bInEnable bOutCommand %Q0.2 Work — "Qb_VlvDrnOpen" bOutAuto — false "Ib_PBReset" — bInResetError **bOutError** — false false — bInSimulate ERROR_Valve ------"DB_HMI".VlvDrn — ValveControl ENO —

Totally Integrated Automation Portal	
/ decomation / or tar	

Valve Liquid 1 [FB2]

Valve Liquid	1 Properties				
General					
Name	Valve Liquid 1	Number	2	Туре	FB
Language	FBD	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
Input									
Output									
InOut									
▼ Static ▼ VlvLiq1	"fbValve_S olenoid"			True	Tru e	True	False		
▼ Input									
tInTimeout	Time	T#0ms	Non-retain	False	Fals e	False	False		Timeout time for an actuator's feed- back to activate before giving a fault
iInMode	Int	0	Non-retain	False	Fals e	False	False		Mode Selection
bInEstop	Bool	false	Non-retain	False	Fals e	False	False		Estop
bInSignal- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback
blnSignal- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback
bInEnable	Bool	false	Non-retain	False	Fals e	False	False		Home and Work Enabled
blnCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	Non-retain	False	Fals e	False	False		Reset Error
bInSimulate	Bool	false	Non-retain	False	Fals e	False	False		Activate device simulation
▼ Output									
bOutCom- mandHome	Bool	false	Non-retain	False	Fals e	False	False		Home position command
bOutCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Work position command
	!	1		-	-	!		1	

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
bOutActive- Home	Bool	false	Non-retain	False	Fals e	False	False		Valve is in home position
bOutActive- Work	Bool	false	Non-retain	False	Fals e	False	False		Valve is in work
bOutAuto	Bool	false	Non-retain	False	Fals e	False	False		Block in auto mode
bOutError	Bool	false	Non-retain	False	Fals e	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		Non-retain	False	Fals e	False	False		Valve error struc- ture
NoHome- Feedback		false	Non-retain	False	Fals e	False	False		Home position feedback not ac- tive
NoWork- Feedback	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback not ac- tive
Home- Feed- backStil- lActive	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback still ac- tive
Work- Feed- backStil- IActive	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback still ac- tive
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"			False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"			False	Fals e	False	False		Sub-block to han- dle error scroller
▼ Input									
bInEr- ror01	Bool	false	Set in IDB	False	Fals e	False	False		Error 1 In Error Ar ray
blnEr- ror02	Bool	false	Set in IDB	False	Fals e	False	False		Error 2 In Error Ar ray
blnEr- ror03	Bool	false	Set in IDB	False	Fals e	False	False		Error 3 In Error Ar ray
blnEr- ror04	Bool	false	Set in IDB	False	Fals e	False	False		Error 4 In Error Ar ray
blnEr- ror05	Bool	false	Set in IDB	False	Fals e	False	False		Error 5 In Error Ar ray
blnEr- ror06	Bool	false	Set in IDB	False	Fals e	False	False		Error 6 In Error Ar ray
bInEr- ror07	Bool	false	Set in IDB	False	Fals e	False	False		Error 7 In Error Ar ray
blnEr- ror08	Bool	false	Set in IDB	False	Fals e	False	False		Error 8 In Error Ar ray

Totally Integrated Automation Portal									
lame	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
bInEr- ror09	Bool	false	Set in IDB	False	Fals e	False	False		Error 9 In Error Array
blnEr- ror10	Bool	false	Set in IDB	False	Fals e	False	False		Error 10 In Error Array
bInEr- ror11	Bool	false	Set in IDB	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	Set in IDB	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	Set in IDB	False	_	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	Set in IDB	False	_	False	False		Error 14 In Error Array
blnEr-	Bool	false	Set in IDB	False	Fals	False	False		Error 15 In Error
ror15 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 16 In Error
ror16 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 17 In Error
ror17 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 18 In Error
ror18 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 19 In Error
ror19 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 20 In Error
ror20 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 21 In Error
ror21 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 22 In Error
ror22 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 23 In Error
ror23 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 24 In Error
ror24 blnEr-		false	Set in IDB	False	e	False	False		Array Error 25 In Error
ror25		false			е	False	False		Array Error 26 In Error
blnEr- ror26	Bool		Set in IDB	False	e				Array
bInEr- ror27		false	Set in IDB	False	е	False	False		Error 27 In Error Array
blnEr- ror28	Bool	false	Set in IDB		е	False	False		Error 28 In Error Array
blnEr- ror29	Bool	false	Set in IDB	False	Fals e	False	False		Error 29 In Error Array
blnEr- ror30	Bool	false	Set in IDB	False	Fals e	False	False		Error 30 In Error Array
Output									
bOu- tError- Exists	Bool	false	Set in IDB	False	Fals e	False	False		An Error Exists

ame	Data type	Default value	Retain	Acces-	Wri	Visihle	Set-	Super-	Comment
	Sutu type	Jeruan value	NC COMP	sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		vision	Comment
iOut- Scrol- lingEr- ror- Num- ber	Int	0	Set in IDB	False	Fals e	False	False		Current Index when scrolling through errors
InOut									
▼ Static ▼ TON_E rror- Delay	TON_TIME		Non-retain	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	Fals e	False	False		
Q	Bool	false	Non-retain	False		False	False		
▼ abEr- rors	Ar- ray[130] of Bool		Set in IDB	False		False	False		
abE rror s[1]		false	Set in IDB		Fals e	False	False		
abE rror s[2]		false	Set in IDB	False	Fals e	False	False		
abE rror s[3]		false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB		Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[8]		false	Set in IDB	False	Fals e	False	False		
abE rror s[9]		false	Set in IDB	False	Fals e	False	False		

me	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rror s[1 0]	Bool	false	Set in IDB	False		False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		

ame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We	ta- ble fro m	in HMI engi-		Super- vision	Comment
				b API	I/O PC UA/ We b API				
abE rror s[2 2]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 3]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 4]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 5]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 6]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 7]	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 9]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[3 0]	Bool	false	Set in IDB	False	Fals e	False	False		
iNex- tScroll- Num	Int	1	Non-retain	False	Fals e	False	False		Index of next error position
iEr- rors- Scroll- Num	Int	1	Non-retain	False	Fals e	False	False		Index of current error position
bScroll ing	Bool	false	Non-retain	False	Fals e	False	False		Indicates we are scrolling
bTON_ Error- Delay	Bool	false	Non-retain	False		False	False		3
	TON_TIME		Non-retain	False	Fals e	False	False		Timer for Error Timeout

Totally Integrated Automation Portal			

Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	Fals e	False	False		
Q	Bool	false	Non-retain	False	Fals e	False	False		
iLastMode	Int	0	Non-retain	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	Non-retain	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position en- abled
bEnable- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position ena- bled
bAutoMode	Bool	false	Non-retain	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	Non-retain	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	Non-retain	False	Fals e	False	False		
bTON_Time- Out	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Home	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Work	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Rese- tError	Bool	false	Non-retain	False	Fals e	False	False		
Temp									
Constant									

Network 1:

Totally Integrated **Automation Portal** #VlvLiq1 %FB110 "fbValve_Solenoid" ... — EN t#2s — tInTimeout 1 — iInMode false — bInEstop %10.1 "lb_ VlvLiq1Closed" — blnSignalHome #ID_ VlvLiq1Opened" — binSignalWork true — bInEnable "DB_ ProgramLogic". blnCommandW VlvLiq1_Open — ork bOutCommand "Qb_ Work — VivLiq1Open" bInCommandW %I1.5 **bOutError** — false "Ib_PBReset" — bInResetError "DB_HMI".VlvLiq1 — HMI_ ValveControl ERROR_Valve — ... ENO —

Totally Integrated Automation Portal	
/ decomation / or tar	

Valve Liquid 2 [FB3]

Valve Liquid	2 Properties				
General					
Name	Valve Liquid 2	Number	3	Туре	FB
Language	FBD	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Default value	Retain	from HMI/OP C UA/We	ta- ble fro m	in HMI engi-		Super- vision	Comment
Input									
Output									
InOut									
▼ Static ▼ VlvLiq2	"fbValve_S olenoid"			True	Tru e	True	False		
▼ Input									
tInTimeout	Time	T#0ms	Non-retain	False	Fals e	False	False		Timeout time for an actuator's feed- back to activate before giving a fault
iInMode	Int	0	Non-retain	False	Fals e	False	False		Mode Selection
bInEstop	Bool	false	Non-retain	False	Fals e	False	False		Estop
bInSignal- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback
blnSignal- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback
bInEnable	Bool	false	Non-retain	False	Fals e	False	False		Home and Work Enabled
blnCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	Non-retain	False	Fals e	False	False		Reset Error
bInSimulate	Bool	false	Non-retain	False	Fals e	False	False		Activate device simulation
▼ Output									
bOutCom- mandHome	Bool	false	Non-retain	False	Fals e	False	False		Home position command
bOutCom- mandWork	Bool	false	Non-retain	False	Fals e	False	False		Work position command

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
bOutActive- Home	Bool	false	Non-retain	False	Fals e	False	False		Valve is in home position
bOutActive- Work	Bool	false	Non-retain	False	Fals e	False	False		Valve is in work
bOutAuto	Bool	false	Non-retain	False	Fals e	False	False		Block in auto mode
bOutError	Bool	false	Non-retain	False	Fals e	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		Non-retain	False	Fals e	False	False		Valve error struc- ture
NoHome- Feedback		false	Non-retain	False	Fals e	False	False		Home position feedback not ac- tive
NoWork- Feedback	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback not ac- tive
Home- Feed- backStil- lActive	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback still ac- tive
Work- Feed- backStil- IActive	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback still ac- tive
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"			False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"			False	Fals e	False	False		Sub-block to han- dle error scroller
▼ Input									
bInEr- ror01	Bool	false	Set in IDB	False	Fals e	False	False		Error 1 In Error Ar ray
blnEr- ror02	Bool	false	Set in IDB	False	Fals e	False	False		Error 2 In Error Ar ray
blnEr- ror03	Bool	false	Set in IDB	False	Fals e	False	False		Error 3 In Error Ar ray
blnEr- ror04	Bool	false	Set in IDB	False	Fals e	False	False		Error 4 In Error Ar ray
blnEr- ror05	Bool	false	Set in IDB	False	Fals e	False	False		Error 5 In Error Ar ray
blnEr- ror06	Bool	false	Set in IDB	False	Fals e	False	False		Error 6 In Error Ar ray
bInEr- ror07	Bool	false	Set in IDB	False	Fals e	False	False		Error 7 In Error Ar ray
blnEr- ror08	Bool	false	Set in IDB	False	Fals e	False	False		Error 8 In Error Ar ray

Totally Integrated Automation Portal									
Jame	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
bInEr- ror09	Bool	false	Set in IDB	False	Fals e	False	False		Error 9 In Error Ai ray
blnEr- ror10	Bool	false	Set in IDB	False	Fals e	False	False		Error 10 In Error Array
bInEr- ror11	Bool	false	Set in IDB	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	Set in IDB	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	Set in IDB	False	_	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	Set in IDB	False	_	False	False		Error 14 In Error Array
blnEr-	Bool	false	Set in IDB	False	Fals	False	False		Error 15 In Error
ror15 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 16 In Error
ror16 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 17 In Error
ror17 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 18 In Error
ror18 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 19 In Error
ror19 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 20 In Error
ror20 blnEr-	Bool	false	Set in IDB	False		False	False		Array Error 21 In Error
ror21 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 22 In Error
ror22 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 23 In Error
ror23 blnEr-	Bool	false	Set in IDB	False	e Fals	False	False		Array Error 24 In Error
ror24 blnEr-		false	Set in IDB	False	e	False	False		Array Error 25 In Error
ror25		false			е	False	False		Array Error 26 In Error
blnEr- ror26	Bool		Set in IDB	False	e				Array
blnEr- ror27		false	Set in IDB	False	е	False	False		Error 27 In Error Array
blnEr- ror28	Bool	false	Set in IDB		е	False	False		Error 28 In Error Array
blnEr- ror29	Bool	false	Set in IDB	False	Fals e	False	False		Error 29 In Error Array
blnEr- ror30	Bool	false	Set in IDB	False	Fals e	False	False		Error 30 In Error Array
Output									
bOu- tError- Exists	Bool	false	Set in IDB	False	Fals e	False	False		An Error Exists

ame	Data type	Default value	Retain	Acces-	Wri	Visihle	Set-	Super-	Comment
	Suta type	Jeruan value		sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		vision	Comment
iOut- Scrol- lingEr- ror- Num- ber	Int	0	Set in IDB	False	Fals e	False	False		Current Index when scrolling through errors
InOut									
▼ Static ▼ TON_E rror- Delay	TON_TIME		Non-retain	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	_	False	False		
Q	Bool	false	Non-retain	False		False	False		
▼ abEr- rors	Ar- ray[130] of Bool		Set in IDB	False		False	False		
abE rror s[1]		false	Set in IDB		Fals e	False	False		
abE rror s[2]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[3]	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB		Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[8]		false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		

ne	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rroi s[1 0]	Bool	false	Set in IDB	False		False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		
		false	Set in IDB	False	Fals e	False	False		

ame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We	ta- ble fro m	in HMI engi-		Super- vision	Comment
				b API	I/O PC UA/ We b API				
abE rror s[2 2]	Bool	false	Set in IDB	False	Fals e	False	False		
abE rror s[2 3]	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Bool	false	Set in IDB	False	Fals e	False	False		
	Int	1	Non-retain	False	Fals e	False	False		Index of next error position
iEr- rors- Scroll- Num	Int	1	Non-retain	False	Fals e	False	False		Index of current error position
bScroll ing	Bool	false	Non-retain	False	Fals e	False	False		Indicates we are scrolling
bTON_ Error- Delay	Bool	false	Non-retain	False		False	False		
	TON_TIME		Non-retain	False	Fals e	False	False		Timer for Error Timeout

Totally Integrated Automation Portal					

lame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	Fals e	False	False		
Q	Bool	false	Non-retain	False	Fals e	False	False		
iLastMode	Int	0	Non-retain	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	Non-retain	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	Non-retain	False	Fals e	False	False		Home position en- abled
bEnable- Work	Bool	false	Non-retain	False	Fals e	False	False		Work position ena- bled
bAutoMode	Bool	false	Non-retain	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	Non-retain	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	Non-retain	False	Fals e	False	False		
bTON_Time Out	- Bool	false	Non-retain	False	Fals e	False	False		
bPB_Home	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Work	Bool	false	Non-retain	False		False	False		
bPB_Rese- tError	Bool	false	Non-retain	False	Fals e	False	False		
Temp									
Constant									

Network 1:

Totally Integrated **Automation Portal** #VlvLiq2 %FB110 "fbValve_Solenoid" ... — EN t#2s — tInTimeout 1 — iInMode false — bInEstop %10.3 "lb_ VlvLiq2Closed" — blnSignalHome %I0.2

"Ib_
VlvLiq2Opened" — blnSignalWork
true — blnEnable "DB_ ProgramLogic". blnCommandW VlvLiq2_Open — ork bOutCommand "Qb_ Work — VlvLiq2Open" bInCommandW %I1.5 **bOutError** — false "Ib_PBReset" — bInResetError "DB_HMI".VlvLiq2 — HMI_ ValveControl ERROR_Valve — ... ENO —

Totally Integrated Automation Portal	

DB_HMI [DB3]

DB_HMI Prop	perties				
General					
Name	DB_HMI	Number	3	Туре	DB
Language	DB	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
▼ Static									
▼ VlvLiq1	"udtH- MI_Valve- Control"		False	True	Tru e	True	False		
iMode	Int	0	False	True	Tru e	True	False		Current mode
iErrorCode	Int	0	False	True	Fals e	True	False		Error code
iStatus	Int	0	False	True	Fals e	True	False		Status for HMI display
bPB_ResetError	Bool	false	False	True	Tru e	True	False		PB Reset block errors
bPB_Home	Bool	false	False	True	Tru e	True	False		PB Move to home in manual mode
bPB_Work	Bool	false	False	True	Tru e	True	False		PB Move to work in man- ual mode
bPBEN_ResetEr- ror	Bool	false	False	True	Fals e	True	False		PB Reset error enabled
	Bool	false	False	True	Fals e	True	False		PB Home enabled
bPBEN_Work	Bool	false	False	True		True	False		PB Work enabled
bHomeOn	Bool	false	False	True		True	False		Home command is on
bWorkOn	Bool	false	False	True	Fals e	True	False		Work command is on
bSignalHome	Bool	false	False	True	Fals e	True	False		Home feedback
b Signal Work	Bool	false	False	True	Fals e	True	False		Work feedback
bError	Bool	false	False	True		True	False		Error status
bInterlock	Bool	false	False	True		True	False		Valve interlocked

Totally Integrated Automation Portal									
Name	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	ing		Super- vision	Comment
▼ VlvLiq2	"udtH- MI_Valve- Control"		False	True	Tru e	True	True		
iMode	Int	0	False	True	Tru e	True	False		Current mode
iErrorCode	Int	0	False	True	Fals e	True	False		Error code
iStatus	Int	0	False	True	Fals e	True	False		Status for HMI display
bPB_ResetError	Bool	false	False	True	Tru e	True	False		PB Reset block errors
bPB_Home	Bool	false	False	True	Tru e	True	False		PB Move to home in manual mode
bPB_Work	Bool	false	False	True	Tru e	True	False		PB Move to work in man
bPBEN_ResetEr ror	- Bool	false	False	True	Fals e	True	False		PB Reset error enabled
bPBEN_Home	Bool	false	False	True	Fals e	True	False		PB Home enabled
bPBEN_Work	Bool	false	False	True	Fals e	True	False		PB Work enabled
bHomeOn	Bool	false	False	True	Fals e	True	False		Home command is on
bWorkOn	Bool	false	False	True	Fals e	True	False		Work command is on
bSignalHome	Bool	false	False	True	Fals e	True	False		Home feedback
bSignalWork	Bool	false	False	True	Fals e	True	False		Work feedback
bError	Bool	false	False	True	Fals e	True	False		Error status
bInterlock	Bool	false	False	True	Fals e	True	False		Valve interlocked
▼ VlvDrn	"udtH- MI_Valve- Control"		False	True	Tru e	True	True		
iMode	Int	0	False	True	Tru e	True	False		Current mode
iErrorCode	Int	0	False	True	Fals e	True	False		Error code
iStatus	Int	0	False	True	Fals e	True	False		Status for HMI display
bPB_ResetError	Bool	false	False	True	Tru e	True	False		PB Reset block errors
bPB_Home	Bool	false	False	True		True	False		PB Move to home in manual mode
bPB_Work	Bool	false	False	True		True	False		PB Move to work in man
bPBEN_ResetEr ror	- Bool	false	False	True	Fals e	True	False		PB Reset error enabled

me	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
bPBEN_Home	Bool	false	False	True	Fals e	True	False		PB Home enabled
bPBEN_Work	Bool	false	False	True		True	False		PB Work enabled
bHomeOn	Bool	false	False	True		True	False		Home command is or
bWorkOn	Bool	false	False	True		True	False		Work command is on
bSignalHome	Bool	false	False	True		True	False		Home feedback
bSignalWork	Bool	false	False	True		True	False		Work feedback
bError	Bool	false	False	True		True	False		Error status
bInterlock	Bool	false	False	True		True	False		Valve interlocked

Author Version 0.1 Data type Start value Retain from ble enging ling UA/We b API I/O PC UAA/ We b API I/O API	Author Version 0.1 The property of the part of the pa	Author Version 0.1 Comment User-defined ID Super-Vision S	ame anguage aformation	DB_Prog	gram Logic		Number Numbering	4 Autor	natic			Туре		DB
sible ta- from ble engi- neer- ing VivLiq1_Open Bool False VivLiq2_Open Bool False VivDrn_Open Bool False False False False True False True True True True False True	sible from HMI/O PC UA/We b API I/O PC UA/ We b API VIvLiq1_Open Bool false False True True e VIvLiq2_Open Bool false False True True e True True False VIvDrn_Open Bool false False True True True False True True False True False True False True True False True False True False True True False True True False True False True True True False True True False True True True False True True True True False True True True False True True True True True False True True True True True True True Tru	sible from HMI/O PC UA/We b API Static VIvLiq1_Open Bool False VIvLiq2_Open Bool False VIvDrn_Open Bool False VIvDrn_Open Sible from HMI/O per HM loop in tenging neering neering neering loop in tenging neering neering neering loop in tenging neering neering neering neering loop in tenging neering	itle amily					0.1				User-d		
▼ Static VIvLiq1_Open Bool False False True Tru True False VIvLiq2_Open Bool False False False True True True False True True False True False True True False True False	VIvLiq1_Open Bool false False True True False VIvLiq2_Open Bool false False True True False VIvDrn_Open Bool false False True True True False	VIvLiq1_Open Bool false False True True False VIvLiq2_Open Bool false False True True True False VIvDrn_Open Bool false False True True True False	Name		Data type	Start	value	Retain	sible from HMI/O PC UA/We	ta- ble fro m HM I/O PC UA/ We b	in HMI engi- neer- ing		Super- vision	Comment
VIvLiq2_Open Bool false False True True False VIvDrn_Open Bool false False True True True False	VIvLiq2_Open Bool false False True True False VIvDrn_Open Bool false False True True True False	VIvLiq2_Open Bool false False True True False VIvDrn_Open Bool false False True True True False		0	Dool	falsa		False	True			Falsa		
VIvDrn_Open Bool false False True True False	VIvDrn_Open Bool false False True Tru True False	VIvDrn_Open Bool false False True True False								е				
- ·	- ·	_ ·								e				

General	_DB Prope	rties									
Name	Program L	.ogic_DB		Number	2				Туре		DB
Language	DB			Numbering	Autor	natic					
nformation Fitle				Author					Comme	ent	
amily				Version	0.1				User-de		
									ID		
Name		Data type !	Start	value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
Input											
Output											
InOut											
▼ Static											
▼ StepSeq		"fbStepSe- quencer"			False	True	Tru e	True	False		Modified by Ken Brey 2010-08-25 KLB. Added Initialization inputs and logic. Modified by Ken Brey 2006-08-08 Removed initialization of inputs. Initializing input doesn't do anything. Thinput value if un-wired will be the last value set for that input in a different call. The initialized value in the declaration section does not set it back to default if unwired. Allways supply values for all inputs. Modified by Tim Jager 2005-12-13 no block Id in error message Modified by Boris: branched > simplified version, no errors, no timeout; still have to use static memory for TON/CurStep (might be fixed later using in/out structure) Modified by Nick Shea: 2012-03-30 Re-instated step mode
▼ Input											

me		Data type	Start value	Retain	sible from	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
	iInStep	Int	0	False	False	Fals e	False	False		Constant: current step required for the FB to
	iInNextStep	Int	0	False	False	Fals e	False	False		Next step to go to if sterils done
	bInStep- Done	Bool	false	False	False	Fals e	False	False		if step done logic is tru then we move from IN_STEP to NEXT_STEP
	tInStepDelay	Time	T#0ms	False	False	Fals e	False	False		After the step done inp is true, we wait for x se onds before moving to next
	bInStep- Mode	Bool	false	False	False	Fals e	False	False		Pause sequence at completion of current step
	bInStepAdv- ance	Bool	false	False	False	Fals e	False	False		If paused, trigger next step
	blnit	Bool	false	False	False	Fals e	False	False		-
	iInitStep	Int	0	False	False	Fals e	False	False		
•	Dutput									
	bOutEnterE- vent	Bool	false	False	False	Fals e	False	False		
	bOutExitE- vent	Bool	false	False	False	Fals e	False	False		
	bOutPaused	Bool	false	False	False	Fals e	False	False		Sequence is currently paused.
	iOutCurrent- Step	Int	0	False	False	Fals e	False	False		output current step
	nOut									
	Static	TO:								
	Delay	TON_TIME	T#0	False	False	е	False	False		used to delay moving t the next step.
			T#0ms	False	False	e	False	False		
			T#0ms	False	False	e	False	False		
			false	False	False	e	False	False		
	· 		false	False	False	e	False	False		
	iCurrentStep		0	False	False	e	False	False		Current step of the sequencer
	ThisStep		false	False	False	e	False	False		
	<u> </u>		0	False	True	e	True	True		
Nex	ctStep	Int	0	False	True	Tru	True	False		

Automation Portal	Data type	Start value	Retain	sible from	ta- ble	Visible in HMI engi-	Set- point	Super- vision	Comment
				HMI/O PC UA/We b API	fro m	neer- ing			
StepDone	Bool	false	False	True			False		
		1		1	1.	1	1	1	

Totally Integ Automation	grated Portal										
Test_DB [[
Test_DB Prope General	rties										
Name	Test_DB			Number	1				Туре		DB
Language	DB			Numbering	Autor	natic					
Information Title				Author					Comme	nt	
Family				Version	0.1				User-de ID		
Name		Data type	Start	value	Retain	from HMI/O PC UA/We	ta- ble fro m	in HMI engi- neer-		Super- vision	Comment
Input											
Output InOut											
Static											
		T									

Totally Integrated Automation Portal		
	1	, ·

Valve Drain_DB [DB7]

Valve Drain_[OB Properties				
General					
Name	Valve Drain_DB	Number	7	Туре	DB
Language	DB	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined ID	

lame	Data type	Start value	Retain	sible from	ta- ble fro m			Super- vision	Comment
Input									
Output									
InOut									
▼ Static									
▼ VlvDrn	"fbValve_S olenoid"		False	True	Tru e	True	False		
▼ Input									
tlnTimeout	Time	T#0ms	False	False	Fals e	False	False		Timeout time for an actuator's feedback to activate before giving a faul
iInMode	Int	0	False	False	Fals e	False	False		Mode Selection
bInEstop	Bool	false	False	False	Fals e	False	False		Estop
bInSignal- Home	Bool	false	False	False	Fals e	False	False		Home position feedback
bInSignal- Work	Bool	false	False	False	Fals e	False	False		Work position feedback
bInEnable	Bool	false	False	False	Fals e	False	False		Home and Work Enabled
bInCom- mandWork	Bool	false	False	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	False	False	Fals e	False	False		Reset Error
bInSimulate	Bool	false	False	False	Fals e	False	False		Activate device simula- tion
▼ Output									
bOutCom- mandHome	Bool	false	False	False	Fals e	False	False		Home position comman
bOutCom- mandWork	Bool	false	False	False	Fals e	False	False		Work position command
bOutActive- Home	Bool	false	False	False	Fals e	False	False		Valve is in home position

me	Data type	Start value	Retain	sible from	ta- ble fro m HM I/O PC UA/ We b			Super- vision	Comment
bOutActive- Work	Bool	false	False	False	API Fals	False	False		Valve is in work position
	Bool	false	False	False	_	False	False		Block in auto mode
bOutError	Bool	false	False	False	-	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		False	False		False	False		Valve error structure
NoHome- Feedback		false	False	False	-	False	False		Home position feedback
	Bool	false	False	False	_	False	False		Work position feedbac
	Bool	false	False	False	Fals e	False	False		Home position feedbarstill active
Work- Feed- backStil- IActive	Bool	false	False	False	Fals e	False	False		Work position feedbac still active
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"		False	False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"		False	False	Fals e	False	False		Sub-block to handle er scroller
▼ Input									
bInEr- ror01	Bool	false	False	False	Fals e	False	False		Error 1 In Error Array
blnEr- ror02	Bool	false	False	False	е	False	False		Error 2 In Error Array
blnEr- ror03	Bool	false	False	False	Fals e	False	False		Error 3 In Error Array
bInEr- ror04	Bool	false	False	False	Fals e	False	False		Error 4 In Error Array
bInEr- ror05	Bool	false	False	False	Fals e	False	False		Error 5 In Error Array
bInEr- ror06	Bool	false	False	False	Fals e	False	False		Error 6 In Error Array
blnEr- ror07	Bool	false	False	False	Fals e	False	False		Error 7 In Error Array
bInEr- ror08	Bool	false	False	False	Fals e	False	False		Error 8 In Error Array
bInEr- ror09	Bool	false	False	False	Fals e	False	False		Error 9 In Error Array
blnEr- ror10	Bool	false	False	False	Fals	False	False		Error 10 In Error Array

ame	Data type	Start value	Retain	sible from	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
blnEr- ror11	Bool	false	False	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	False	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	False	False	Fals e	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	False	False	Fals e	False	False		Error 14 In Error Array
blnEr- ror15	Bool	false	False	False	_	False	False		Error 15 In Error Array
blnEr- ror16	Bool	false	False	False	_	False	False		Error 16 In Error Array
blnEr- ror17	Bool	false	False	False	-	False	False		Error 17 In Error Array
bInEr-	Bool	false	False	False	Fals	False	False		Error 18 In Error Array
ror18 blnEr-	Bool	false	False	False		False	False		Error 19 In Error Array
ror19 blnEr-	Bool	false	False	False		False	False		Error 20 In Error Array
ror20 blnEr- ror21	Bool	false	False	False	e Fals e	False	False		Error 21 In Error Array
bInEr-	Bool	false	False	False		False	False		Error 22 In Error Array
ror22 blnEr-	Bool	false	False	False	Fals	False	False		Error 23 In Error Array
ror23 blnEr-	Bool	false	False	False		False	False		Error 24 In Error Array
ror24 blnEr-	Bool	false	False	False		False	False		Error 25 In Error Array
ror25 blnEr-	Bool	false	False	False		False	False		Error 26 In Error Array
ror26 blnEr-	Bool	false	False	False		False	False		Error 27 In Error Array
ror27 blnEr-	Bool	false	False	False		False	False		Error 28 In Error Array
ror28 blnEr-	Bool	false	False	False		False	False		Error 29 In Error Array
ror29 blnEr-	Bool	false	False	False		False	False		Error 30 In Error Array
ror30 ▼ Output					е				
bOu- tError- Exists	Bool	false	False	False	Fals e	False	False		An Error Exists

ame	Data type	Start value	Retain	Acces-					Comment
				sible from HMI/O PC UA/We b API	ble fro m	in HMI engi- neer- ing	point	vision	
iOut- Scrol- lingEr- ror- Num- ber	Int	0	False	False	Fals e	False	False		Current Index when scrolling through error
InOut ▼ Static									
▼ TON_E rrorDe- lay	TON_TIME		False	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	Fals e	False	False		
IN	Bool	false	False	False	Fals e	False	False		
Q	Bool	false	False	False	Fals e	False	False		
▼ abEr- rors	Ar- ray[130] of Bool		False	False	Fals e	False	False		
abE rror s[1]		false	False	False	Fals e	False	False		
abE rror s[2]		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		

e	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rror s[1 0]	Bool	false	False	False		False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
abE rror s[2 0]		false	False	False	Fals e	False	False		
abE rror s[2 1]		false	False	False	Fals e	False	False		

ame	Data type	Start value	Retain	Accessible from HMI/O PC UA/We	ta- ble fro m	in HMI engi-		Super- vision	Comment
				b API	I/O PC UA/ We b				
abE rror s[2 2]	Bool	false	False	False	_	False	False		
abE rror s[2 3]	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
abE rror s[2 5]	Bool	false	False	False	Fals e	False	False		
abE rror s[2 6]	Bool	false	False	False	Fals e	False	False		
abE rror s[2 7]	Bool	false	False	False	Fals e	False	False		
abE rror s[2 8]	Bool	false	False	False	Fals e	False	False		
abE rror s[2 9]	Bool	false	False	False	Fals e	False	False		
abE rror s[3 0]	Bool	false	False	False	Fals e	False	False		
iNex- tScroll- Num	Int	1	False	False	е	False	False		Index of next error pos tion
iEr- rors- Scroll- Num	Int	1	False	False	Fals e	False	False		Index of current error p sition
bScroll ing	Bool	false	False	False	Fals e	False	False		Indicates we are scrolli
bTON_ Error- Delay		false	False	False	е	False	False		
▼ TON_Time- Out	TON_TIME		False	False	Fals e	False	False		Timer for Error Timeou

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Name	Data type	Start value	Retain	Acces- sible from HMI/O PC UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	Fals e	False	False		
IN	Bool	false	False	False	Fals e	False	False		
Q	Bool	false	False	False	Fals e	False	False		
iLastMode	Int	0	False	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	False	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	False	False	Fals e	False	False		Home position enabled
bEnable- Work	Bool	false	False	False	Fals e	False	False		Work position enabled
bAutoMode	Bool	false	False	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	False	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	False	False	Fals e	False	False		
bTON_Time- Out	Bool	false	False	False	Fals e	False	False		
bPB_Home	Bool	false	False	False	Fals e	False	False		
bPB_Work	Bool	false	False	False	Fals e	False	False		
bPB_Rese- tError	Bool	false	False	False	Fals e	False	False		

Valve Liquid 1_DB [DB8]

Valve Liquid	1_DB Properties				
General					
Name	Valve Liquid 1_DB	Number	8	Туре	DB
Language	DB	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Start value	Retain	Acces- sible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
Input									
Output									
InOut									
▼ Static									
➤ VIvLiq1	"fbValve_S olenoid"		False	True	Tru e	True	False		
▼ Input									
tInTimeout	Time	T#0ms	False	False	Fals e	False	False		Timeout time for an actuator's feedback to activate before giving a fault
iInMode	Int	0	False	False	Fals e	False	False		Mode Selection
blnEstop	Bool	false	False	False	Fals e	False	False		Estop
blnSignal- Home	Bool	false	False	False	Fals e	False	False		Home position feedback
blnSignal- Work	Bool	false	False	False	Fals e	False	False		Work position feedback
bInEnable	Bool	false	False	False	Fals e	False	False		Home and Work Enabled
bInCom- mandWork	Bool	false	False	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	False	False	Fals e	False	False		Reset Error
bInSimulate	Bool	false	False	False	Fals e	False	False		Activate device simula- tion
▼ Output									
bOutCom- mandHome	Bool	false	False	False	Fals e	False	False		Home position command
bOutCom- mandWork	Bool	false	False	False	Fals e	False	False		Work position command
bOutActive- Home	Bool	false	False	False	Fals e	False	False		Valve is in home position

me	Data type	Start value	Retain	sible from	ta- ble fro m HM I/O PC UA/ We b			Super- vision	Comment
bOutActive- Work	Bool	false	False	False	API Fals	False	False		Valve is in work position
	Bool	false	False	False	_	False	False		Block in auto mode
bOutError	Bool	false	False	False	-	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		False	False		False	False		Valve error structure
NoHome- Feedback		false	False	False	-	False	False		Home position feedback
	Bool	false	False	False	_	False	False		Work position feedbac
	Bool	false	False	False	Fals e	False	False		Home position feedbarstill active
Work- Feed- backStil- IActive	Bool	false	False	False	Fals e	False	False		Work position feedbac still active
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"		False	False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"		False	False	Fals e	False	False		Sub-block to handle er scroller
▼ Input									
bInEr- ror01	Bool	false	False	False	Fals e	False	False		Error 1 In Error Array
blnEr- ror02	Bool	false	False	False	е	False	False		Error 2 In Error Array
blnEr- ror03	Bool	false	False	False	Fals e	False	False		Error 3 In Error Array
bInEr- ror04	Bool	false	False	False	Fals e	False	False		Error 4 In Error Array
bInEr- ror05	Bool	false	False	False	Fals e	False	False		Error 5 In Error Array
bInEr- ror06	Bool	false	False	False	Fals e	False	False		Error 6 In Error Array
blnEr- ror07	Bool	false	False	False	Fals e	False	False		Error 7 In Error Array
bInEr- ror08	Bool	false	False	False	Fals e	False	False		Error 8 In Error Array
bInEr- ror09	Bool	false	False	False	Fals e	False	False		Error 9 In Error Array
blnEr- ror10	Bool	false	False	False	Fals	False	False		Error 10 In Error Array

ame	Data type	Start value	Retain	sible from	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
blnEr- ror11	Bool	false	False	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	False	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	False	False	Fals e	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	False	False	Fals e	False	False		Error 14 In Error Array
blnEr- ror15	Bool	false	False	False	_	False	False		Error 15 In Error Array
blnEr- ror16	Bool	false	False	False	_	False	False		Error 16 In Error Array
blnEr- ror17	Bool	false	False	False	-	False	False		Error 17 In Error Array
bInEr-	Bool	false	False	False	Fals	False	False		Error 18 In Error Array
ror18 blnEr-	Bool	false	False	False		False	False		Error 19 In Error Array
ror19 blnEr-	Bool	false	False	False		False	False		Error 20 In Error Array
ror20 blnEr- ror21	Bool	false	False	False	e Fals e	False	False		Error 21 In Error Array
bInEr-	Bool	false	False	False		False	False		Error 22 In Error Array
ror22 blnEr-	Bool	false	False	False	Fals	False	False		Error 23 In Error Array
ror23 blnEr-	Bool	false	False	False		False	False		Error 24 In Error Array
ror24 blnEr-	Bool	false	False	False		False	False		Error 25 In Error Array
ror25 blnEr-	Bool	false	False	False		False	False		Error 26 In Error Array
ror26 blnEr-	Bool	false	False	False		False	False		Error 27 In Error Array
ror27 blnEr-	Bool	false	False	False		False	False		Error 28 In Error Array
ror28 blnEr-	Bool	false	False	False		False	False		Error 29 In Error Array
ror29 blnEr-	Bool	false	False	False		False	False		Error 30 In Error Array
ror30 ▼ Output					е				
bOu- tError- Exists	Bool	false	False	False	Fals e	False	False		An Error Exists

ame	Data type	Start value	Retain	Acces-					Comment
				sible from HMI/O PC UA/We b API	ble fro m	in HMI engi- neer- ing	point	vision	
iOut- Scrol- lingEr- ror- Num- ber	Int	0	False	False	Fals e	False	False		Current Index when scrolling through error
InOut ▼ Static									
▼ TON_E rrorDe- lay	TON_TIME		False	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	-	False	False		
IN	Bool	false	False	False		False	False		
Q	Bool	false	False	False	Fals e	False	False		
▼ abEr- rors	Ar- ray[130] of Bool		False	False	Fals e	False	False		
abE rror s[1]		false	False	False	Fals e	False	False		
abE rror s[2]		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
abE rror s[8]		false	False	False	Fals e		False		
abE rror s[9]		false	False	False	Fals e	False	False		

e	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rror s[1 0]	Bool	false	False	False		False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
abE rror s[2 0]		false	False	False	Fals e	False	False		
abE rror s[2 1]		false	False	False	Fals e	False	False		

me	Data type	Start value	Retain	Accessible from HMI/O	ta- ble fro	in HMI engi- neer-		Super- vision	Comment
				PC UA/We b API	m I/O PC UA/ We b	ing			
abE rror s[2 2]	Bool	false	False	False	_	False	False		
abE rror s[2	Bool	false	False	False	Fals e	False	False		
3] abE rror s[2 4]	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
iNex- tScroll- Num	Int	1	False	False	Fals e	False	False		Index of next error potion
iEr- rors- Scroll- Num	Int	1	False	False	Fals e	False	False		Index of current error sition
bScroll ing	Bool	false	False	False	Fals e	False	False		Indicates we are scro
bTON_ Error- Delay	Bool	false	False	False		False	False		
▼ TON_Time- Out	TON_TIME		False	False	Fals e	False	False		Timer for Error Timeo

Totally Integrated Automation Portal					

Name	Data type	Start value	Retain	Acces- sible from HMI/O PC UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	Fals e	False	False		
IN	Bool	false	False	False	Fals e	False	False		
Q	Bool	false	False	False	Fals e	False	False		
iLastMode	Int	0	False	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	False	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	False	False	Fals e	False	False		Home position enabled
bEnable- Work	Bool	false	False	False	Fals e	False	False		Work position enabled
bAutoMode	Bool	false	False	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	False	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	False	False	Fals e	False	False		
bTON_Time- Out	Bool	false	False	False	Fals e	False	False		
bPB_Home	Bool	false	False	False	Fals e	False	False		
bPB_Work	Bool	false	False	False	Fals e	False	False		
bPB_Rese- tError	Bool	false	False	False	Fals e	False	False		

Valve Liquid 2_DB [DB9]

Valve Liquid	2_DB Properties				
General					
Name	Valve Liquid 2_DB	Number	9	Туре	DB
Language	DB	Numbering	Automatic		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined	
				ID	

Name	Data type	Start value	Retain	PC	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
Input									
Output									
InOut									
▼ Static									
▼ VlvLiq2	"fbValve_S olenoid"		False	True	Tru e	True	False		
▼ Input									
tInTimeout	Time	T#0ms	False	False	Fals e	False	False		Timeout time for an actuator's feedback to activate before giving a fault
iInMode	Int	0	False	False	Fals e	False	False		Mode Selection
bInEstop	Bool	false	False	False	Fals e	False	False		Estop
blnSignal- Home	Bool	false	False	False	Fals e	False	False		Home position feedback
blnSignal- Work	Bool	false	False	False	Fals e	False	False		Work position feedback
blnEnable	Bool	false	False	False	Fals e	False	False		Home and Work Enabled
blnCom- mandWork	Bool	false	False	False	Fals e	False	False		Move to work position in automatic mode
bInResetEr- ror	Bool	false	False	False	Fals e	False	False		Reset Error
blnSimulate	Bool	false	False	False	Fals e	False	False		Activate device simulation
▼ Output									
bOutCom- mandHome	Bool	false	False	False	Fals e	False	False		Home position command
bOutCom- mandWork	Bool	false	False	False	Fals e	False	False		Work position command
bOutActive- Home	Bool	false	False	False	Fals e	False	False		Valve is in home position

me	Data type	Start value	Retain	sible from	ta- ble fro m HM I/O PC UA/ We b			Super- vision	Comment
bOutActive- Work	Bool	false	False	False	API Fals	False	False		Valve is in work position
	Bool	false	False	False	_	False	False		Block in auto mode
bOutError	Bool	false	False	False	-	False	False		Error exists
▼ ER- ROR_Valve	"udtEr- ror_Valve"		False	False		False	False		Valve error structure
NoHome- Feedback		false	False	False	-	False	False		Home position feedback
	Bool	false	False	False	_	False	False		Work position feedbac
	Bool	false	False	False	Fals e	False	False		Home position feedbarstill active
Work- Feed- backStil- IActive	Bool	false	False	False	Fals e	False	False		Work position feedbac still active
▼ InOut									
HMI_Valve- Control	"udtH- MI_Valve- Control"		False	False	Fals e	False	False		HMI valve control
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"		False	False	Fals e	False	False		Sub-block to handle er scroller
▼ Input									
bInEr- ror01	Bool	false	False	False	Fals e	False	False		Error 1 In Error Array
blnEr- ror02	Bool	false	False	False	е	False	False		Error 2 In Error Array
blnEr- ror03	Bool	false	False	False	Fals e	False	False		Error 3 In Error Array
bInEr- ror04	Bool	false	False	False	Fals e	False	False		Error 4 In Error Array
bInEr- ror05	Bool	false	False	False	Fals e	False	False		Error 5 In Error Array
bInEr- ror06	Bool	false	False	False	Fals e	False	False		Error 6 In Error Array
blnEr- ror07	Bool	false	False	False	Fals e	False	False		Error 7 In Error Array
bInEr- ror08	Bool	false	False	False	Fals e	False	False		Error 8 In Error Array
bInEr- ror09	Bool	false	False	False	Fals e	False	False		Error 9 In Error Array
blnEr- ror10	Bool	false	False	False	Fals	False	False		Error 10 In Error Array

ame	Data type	Start value	Retain	sible from	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
blnEr- ror11	Bool	false	False	False	Fals e	False	False		Error 11 In Error Array
blnEr- ror12	Bool	false	False	False	Fals e	False	False		Error 12 In Error Array
blnEr- ror13	Bool	false	False	False	Fals e	False	False		Error 13 In Error Array
blnEr- ror14	Bool	false	False	False	Fals e	False	False		Error 14 In Error Array
blnEr- ror15	Bool	false	False	False	_	False	False		Error 15 In Error Array
blnEr- ror16	Bool	false	False	False	_	False	False		Error 16 In Error Array
blnEr- ror17	Bool	false	False	False	-	False	False		Error 17 In Error Array
bInEr-	Bool	false	False	False	Fals	False	False		Error 18 In Error Array
ror18 blnEr-	Bool	false	False	False		False	False		Error 19 In Error Array
ror19 blnEr-	Bool	false	False	False		False	False		Error 20 In Error Array
ror20 blnEr- ror21	Bool	false	False	False	e Fals e	False	False		Error 21 In Error Array
bInEr-	Bool	false	False	False		False	False		Error 22 In Error Array
ror22 blnEr-	Bool	false	False	False	Fals	False	False		Error 23 In Error Array
ror23 blnEr-	Bool	false	False	False		False	False		Error 24 In Error Array
ror24 blnEr-	Bool	false	False	False		False	False		Error 25 In Error Array
ror25 blnEr-	Bool	false	False	False		False	False		Error 26 In Error Array
ror26 blnEr-	Bool	false	False	False		False	False		Error 27 In Error Array
ror27 blnEr-	Bool	false	False	False		False	False		Error 28 In Error Array
ror28 blnEr-	Bool	false	False	False		False	False		Error 29 In Error Array
ror29 blnEr-	Bool	false	False	False		False	False		Error 30 In Error Array
ror30 ▼ Output					е				
bOu- tError- Exists	Bool	false	False	False	Fals e	False	False		An Error Exists

ame	Data type	Start value	Retain	Acces-					Comment
				sible from HMI/O PC UA/We b API	ble fro m	in HMI engi- neer- ing	point	vision	
iOut- Scrol- lingEr- ror- Num- ber	Int	0	False	False	Fals e	False	False		Current Index when scrolling through error
InOut ▼ Static									
▼ TON_E rrorDe- lay	TON_TIME		False	False	Fals e	False	False		Delay between each scroll for a new error
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	-	False	False		
IN	Bool	false	False	False		False	False		
Q	Bool	false	False	False	Fals e	False	False		
▼ abEr- rors	Ar- ray[130] of Bool		False	False	Fals e	False	False		
abE rror s[1]		false	False	False	Fals e	False	False		
abE rror s[2]		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
abE rror s[8]		false	False	False	Fals e		False		
abE rror s[9]		false	False	False	Fals e	False	False		

e	Data type	Start value	Retain	Accessible from HMI/O PC UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abE rror s[1 0]	Bool	false	False	False		False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
		false	False	False	Fals e	False	False		
abE rror s[2 0]		false	False	False	Fals e	False	False		
abE rror s[2 1]		false	False	False	Fals e	False	False		

me	Data type	Start value	Retain	Accessible from HMI/O	ta- ble fro	in HMI engi- neer-		Super- vision	Comment
				PC UA/We b API	m I/O PC UA/ We b	ing			
abE rror s[2 2]	Bool	false	False	False	_	False	False		
abE rror s[2	Bool	false	False	False	Fals e	False	False		
3] abE rror s[2 4]	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
	Bool	false	False	False	Fals e	False	False		
iNex- tScroll- Num	Int	1	False	False	Fals e	False	False		Index of next error potion
iEr- rors- Scroll- Num	Int	1	False	False	Fals e	False	False		Index of current error sition
bScroll ing	Bool	false	False	False	Fals e	False	False		Indicates we are scro
bTON_ Error- Delay	Bool	false	False	False		False	False		
▼ TON_Time- Out	TON_TIME		False	False	Fals e	False	False		Timer for Error Timeo

Totally Integrated Automation Portal					

Name	Data type	Start value	Retain	Acces- sible from HMI/O PC UA/We b API	ta- ble fro m	Visible in HMI engi- neer- ing		Super- vision	Comment
PT	Time	T#0ms	False	False	Fals e	False	False		
ET	Time	T#0ms	False	False	Fals e	False	False		
IN	Bool	false	False	False	Fals e	False	False		
Q	Bool	false	False	False	Fals e	False	False		
iLastMode	Int	0	False	False	Fals e	False	False		Last mode code
bNewMode	Bool	false	False	False	Fals e	False	False		New mode selected
bEnable- Home	Bool	false	False	False	Fals e	False	False		Home position enabled
bEnable- Work	Bool	false	False	False	Fals e	False	False		Work position enabled
bAutoMode	Bool	false	False	False	Fals e	False	False		Auto Mode is active
bManual- Mode	Bool	false	False	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	False	False	Fals e	False	False		
bTON_Time- Out	Bool	false	False	False	Fals e	False	False		
bPB_Home	Bool	false	False	False	Fals e	False	False		
bPB_Work	Bool	false	False	False	Fals e	False	False		
bPB_Rese- tError	Bool	false	False	False	Fals e	False	False		

Open Library V15 / Resources / HMI

fbErrorScroller [FB330] [fbErrorScroller V 3.0.3]

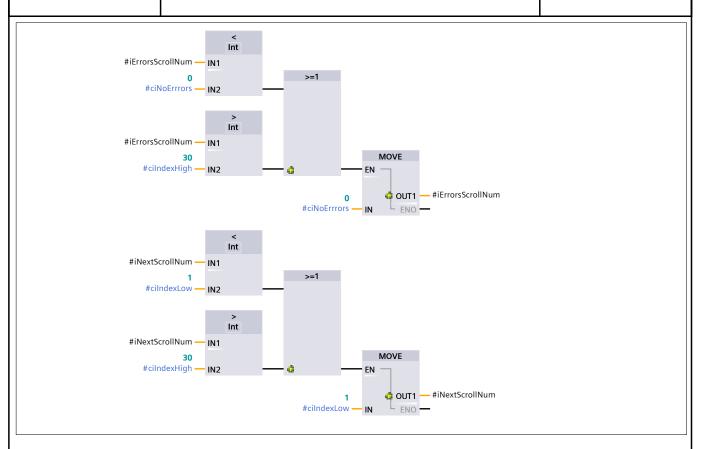
fbErrorScroll	ler Properties				
General					
Name	fbErrorScroller	Number	330	Туре	FB
Language	FBD	Numbering	Manual		
Information					
Title	Scrolls through the error codes for display on the HMI	Author	DMC	Comment	
Family	Error	Version	0.1	User-defined ID	

						טו			
Name	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
▼ Input									
blnError01	Bool	false	Set in IDB	False	Fals e	False	False		Error 1 In Error Array
blnError02	Bool	false	Set in IDB	False	Fals e	False	False		Error 2 In Error Ar ray
blnError03	Bool	false	Set in IDB	False	Fals e	False	False		Error 3 In Error Ar ray
blnError04	Bool	false	Set in IDB	False	Fals e	False	False		Error 4 In Error Ar ray
blnError05	Bool	false	Set in IDB	False	Fals e	False	False		Error 5 In Error Ar ray
blnError06	Bool	false	Set in IDB	False	Fals e	False	False		Error 6 In Error Ar ray
blnError07	Bool	false	Set in IDB	False	Fals e	False	False		Error 7 In Error Ar ray
blnError08	Bool	false	Set in IDB	False	Fals e	False	False		Error 8 In Error Ar
blnError09	Bool	false	Set in IDB	False	Fals e	False	False		Error 9 In Error Ai
blnError10	Bool	false	Set in IDB	False	-	False	False		Error 10 In Error Array
blnError11	Bool	false	Set in IDB	False	-	False	False		Error 11 In Error Array
blnError12	Bool	false	Set in IDB	False		False	False		Error 12 In Error Array
blnError13	Bool	false	Set in IDB	False		False	False		Error 13 In Error Array
blnError14	Bool	false	Set in IDB	False		False	False		Error 14 In Error Array
blnError15	Bool	false	Set in IDB	False		False	False		Error 15 In Error Array
blnError16	Bool	false	Set in IDB	False		False	False		Error 16 In Error Array

Totally Integrated Automation Portal									
lame	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
blnError17	Bool	false	Set in IDB	False	Fals e	False	False		Error 17 In Error Array
bInError18	Bool	false	Set in IDB	False	Fals e	False	False		Error 18 In Error Array
bInError19	Bool	false	Set in IDB	False	Fals e	False	False		Error 19 In Error Array
blnError20	Bool	false	Set in IDB	False	Fals e	False	False		Error 20 In Error Array
blnError21	Bool	false	Set in IDB	False	Fals e	False	False		Error 21 In Error Array
blnError22	Bool	false	Set in IDB	False	Fals e	False	False		Error 22 In Error Array
blnError23	Bool	false	Set in IDB	False	Fals e	False	False		Error 23 In Error Array
bInError24	Bool	false	Set in IDB	False	Fals e	False	False		Error 24 In Error Array
blnError25	Bool	false	Set in IDB	False	Fals e	False	False		Error 25 In Error Array
blnError26	Bool	false	Set in IDB	False	Fals e	False	False		Error 26 In Error Array
blnError27	Bool	false	Set in IDB	False	Fals e	False	False		Error 27 In Error Array
blnError28	Bool	false	Set in IDB	False	Fals e	False	False		Error 28 In Error Array
blnError29	Bool	false	Set in IDB	False	Fals e	False	False		Error 29 In Error Array
blnError30	Bool	false	Set in IDB	False	Fals e	False	False		Error 30 In Error Array
✓ Output									
bOutErrorExists	Bool	false	Set in IDB	False	Fals e	False	False		An Error Exists
iOutScrollingEr- rorNumber	Int	0	Set in IDB	False	Fals e	False	False		Current Index when scrolling through errors
InOut									3
▼ Static	TON: 777.17		NI	F		E 1			D. L L
▼ TON_ErrorDelay	TON_TIME		Non-retain	False	Fals e	False	True		Delay between each scroll for a new error
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False	Fals e	False	False		
Q	Bool	false	Non-retain	False	Fals e	False	False		

lame	Data type	Default value	Retain			Visible in HMI		Super- vision	Comment
				from HMI/OP C	fro	engi- neer- ing			
					HM I/O PC UA/ We b				
▼ abErrors	Ar- ray[#ciln- dex- Low#ciln dexHigh] of Bool		Set in IDB	False	Fals e	False	False		
abErrors[1]	Bool	false	Set in IDB	False	Fals e	False	False		
abErrors[2]	Bool	false	Set in IDB	False	Fals e	False	False		
abErrors[3]	Bool	false	Set in IDB	False	Fals e	False	False		
abErrors[4]	Bool	false	Set in IDB	False		False	False		
abErrors[5]	Bool	false	Set in IDB	False	_	False	False		
abErrors[6]	Bool	false	Set in IDB	False		False	False		
abErrors[7]	Bool	false	Set in IDB	False		False	False		
abErrors[8]	Bool	false	Set in IDB	False		False	False		
abErrors[9]	Bool	false	Set in IDB	False		False	False		
abErrors[10]	Bool	false	Set in IDB	False		False	False		
abErrors[11]	Bool	false	Set in IDB	False	Fals	False	False		
abErrors[12]	Bool	false	Set in IDB	False		False	False		
abErrors[13]	Bool	false	Set in IDB	False		False	False		
abErrors[14]	Bool	false	Set in IDB	False		False	False		
abErrors[15]	Bool	false	Set in IDB	False		False	False		
abErrors[16]	Bool	false	Set in IDB	False		False	False		
abErrors[17]	Bool	false	Set in IDB	False		False	False		
abErrors[18]	Bool	false	Set in IDB	False		False	False		
abErrors[19]	Bool	false	Set in IDB	False		False	False		
abErrors[20]	Bool	false	Set in IDB	False		False	False		
abErrors[21]	Bool	false	Set in IDB	False		False	False		
abErrors[22]	Bool	false	Set in IDB	False	e Fals	False	False		

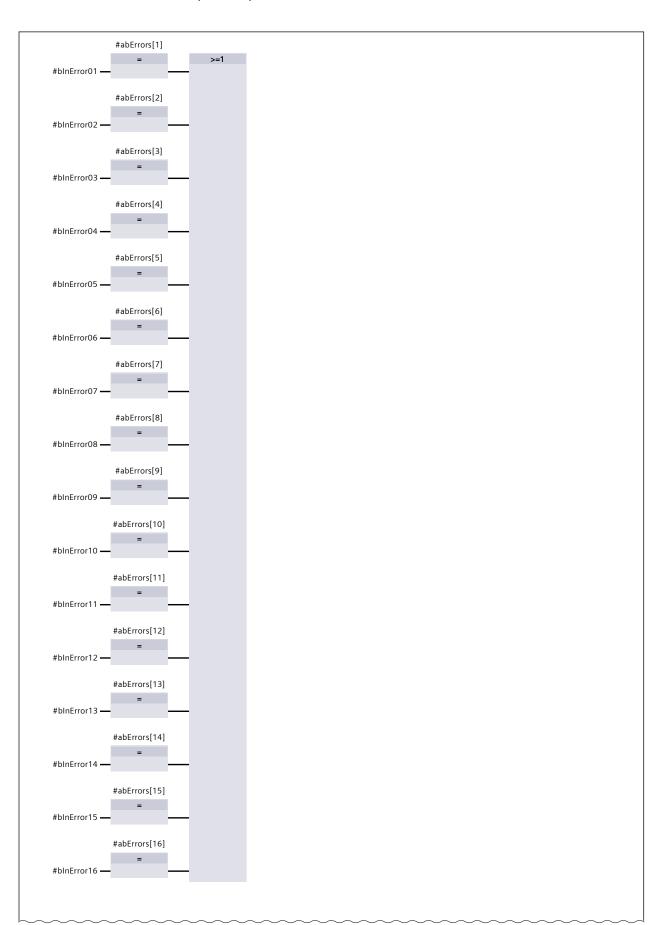
Jame	Data type	Default value	Retain	Accessible from HMI/OF C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Comment
abErrors[23]	Bool	false	Set in IDB	False	Fals	False	False	
abErrors[24]	Bool	false	Set in IDB	False		False	False	
abErrors[25]	Bool	false	Set in IDB	False	e Fals e	False	False	
abErrors[26]	Bool	false	Set in IDB	False	_	False	False	
abErrors[27]	Bool	false	Set in IDB	False		False	False	
abErrors[28]	Bool	false	Set in IDB	False		False	False	
abErrors[29]	Bool	false	Set in IDB	False		False	False	
abErrors[30]	Bool	false	Set in IDB	False	_	False	False	
iNextScrollNum	Int	1	Non-retain	False		False	False	Index of next erro
iErrorsScrollNum	Int	1	Non-retain	False		False	False	Index of current error position
bScrolling	Bool	false	Non-retain	False		False	False	Indicates we are scrolling
bTON_ErrorDelay	Bool	false	Non-retain	False		False	False	- '5
▼ Temp								
bErrorExists	Bool							Error Exists
Constant								
ciNoErrrors	Int	0						
ciIndexLow	Int	1						
cilndexHigh	Int	30						



Network 2: Check if error exists

OR all of the possible errors. If any error Exists, SET bErrorExists

Network 2: Check if error exists (1.1 / 2.1)



Fotally Integrated Automation Portal		
twork 2: Check if error exists (2.1 /	2.1) 1.1 (Page20 - 6)	<u>'</u>
#abErrors[17]	1.1 (Tage20 - 0)	
#blnError17 —		
#abErrors[19] = #bInError19 —		
#abErrors[20] = #bInError20 —		
#abErrors[21] = #bInError21 —		
#abErrors[22] = #bInError22 —		
#abErrors[23] = #bInError23 —		
#abErrors[24] = #bInError24 —		

#bErrorExists =

#bInError25 —

#bInError26 —

#bInError27 —

#bInError28 —

#bInError29 —

#bInError30 —

#abErrors[26]

#abErrors[27]

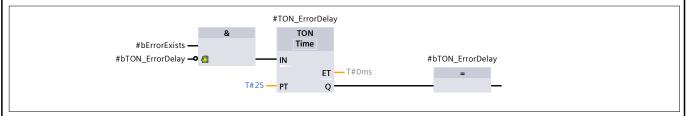
#abErrors[28]

#abErrors[29]

#abErrors[30]

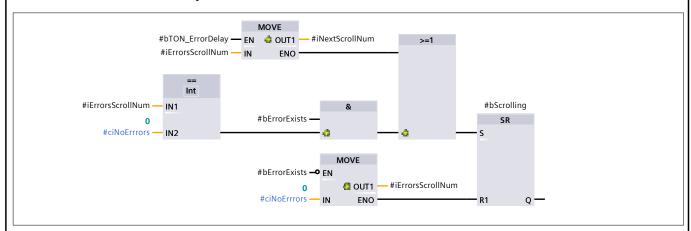
Network 3: Timer to change displayed error

Timed delay



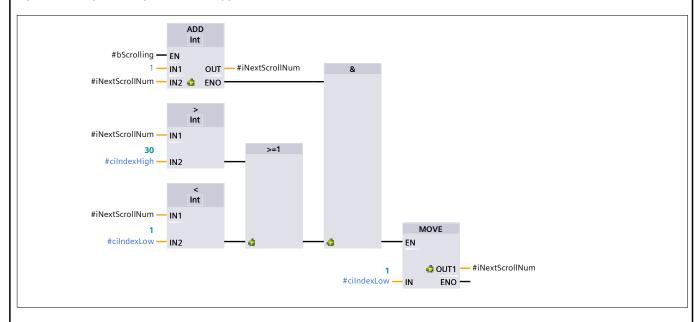
Network 4: Set bit to scroll for the next error

Set a static bit indicating that we are scrolling. Each pass cycle through the function, we will increment. If there is no error, set the scroll num to 0 and turn off scrolling. It scrolls to an error immediately when an error occurs.



Network 5: Increment the error index checked

The function will only increment the scroll num one value per scan. It will scroll until it finds the next active error, then stop scrolling. Roll iNextScrollNum to 0 if it exceeds 30.



Network 6: Check if the next scroll number has an error

If we found an error, stop scrolling.

Totally Integrated **Automation Portal** #bScrolling -#abErrors[#iNext ScrollNum] — 👛 MOVE

OUT1 ─ #iErrorsScrollNum

ENO -

#iNextScrollNum — IN

#bScrolling

R

Network 7: Output: Error

Output the index of the error that exists.

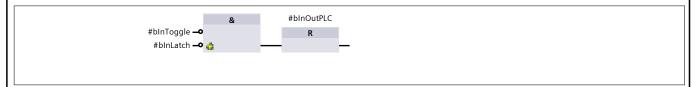


Network 8: Set ENO

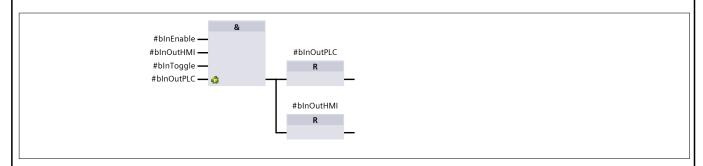


Totally Int								
Automati	Oli Fortal							
Open Li	ibrary V15 /	Reso	urce	s / H	MI			
-								
fcHMIBit	Enable [FC329	9] [fcl	HMIBi	tEna	ble V 3.0.3]			
fcUMIDi+Ena	ble Properties							
General	ible Properties							
Name	fcHMIBitEnable		Numbe	r	329		Туре	FC
Language	FBD		Numbe	ring	Automatic		7.	
Information								
Title	Handles an async of an HMI bit to av race conditions, in an enable bit	void	Author				Comment	
Family			Version	1	0.1		User-defined ID	
Name		Data ty	/pe	Defaul	t value	Comm	nent	
▼ Input			•					
blnTog	gale	Bool						
blnLat		Bool						
blnEna	able	Bool						
Output								
bOutE	nable	Bool						
▼ InOut								
blnOu	tHMI	Bool						
blnOu		Bool						
Temp								
Constant								
▼ Return								
fc LIMI	BitEnable	Void						

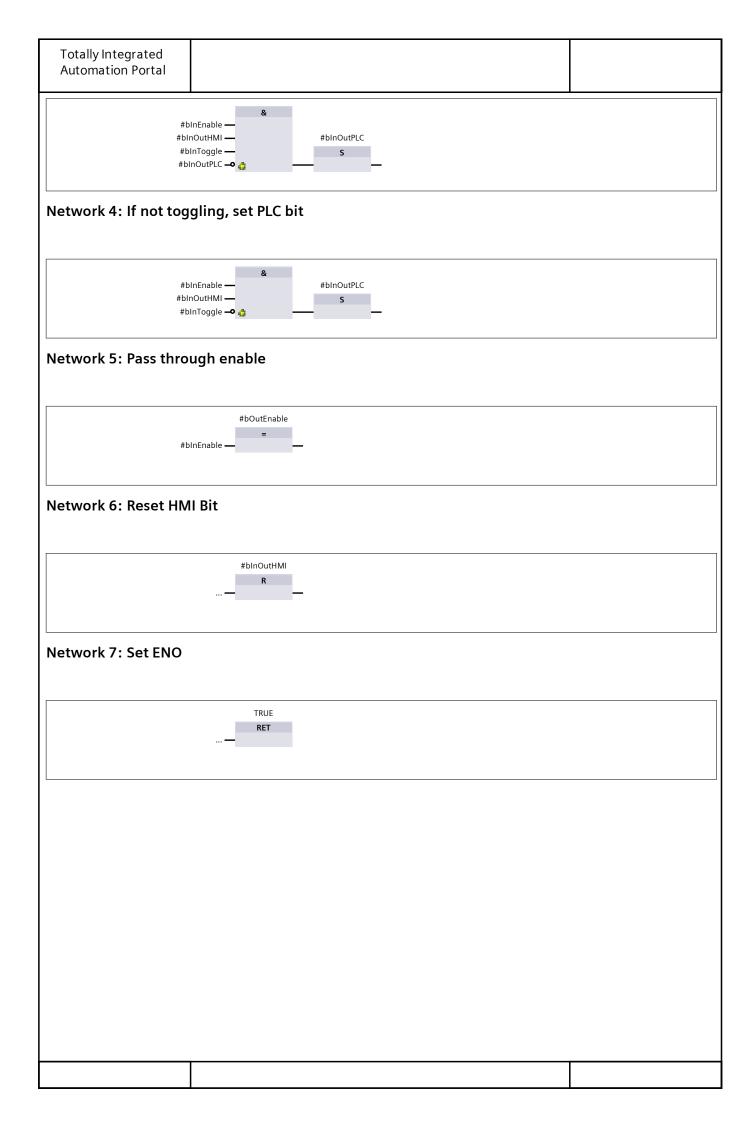
Network 1: If not latching or toggling, reset the PLC bit every scan



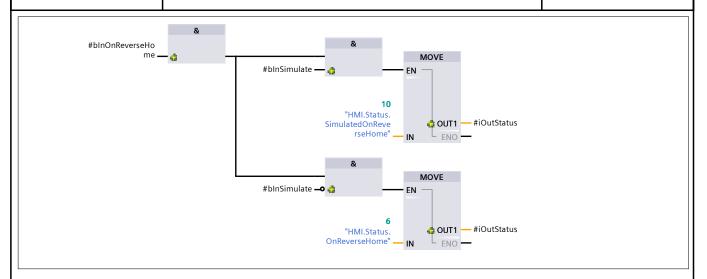
Network 2: Reset PLC bit if on and toggling



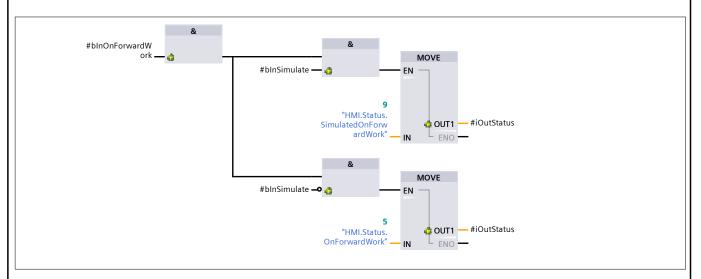
Network 3: Set PLC bit if off and toggling



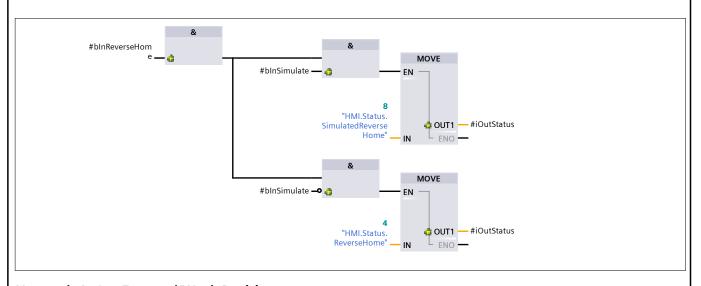
General			-					
Name	fcSetHMIStatusSin tion	nula-	Numb	er	333		Туре	FC
Language	FBD		Numb	ering	Automatic			
Information Title	Sets HMI Status		Autho				Comment	Wrapper function for set
Family			Versio	n	0.1		User-defined	ting the HMI status of a device In order of priority: 1. E-stop 2. Error 3. Forward/Work Position 4. Reverse/Home Position 5. Forward/Work On 6. Reverse/Home On 7. None
Name ✓ Input		Data ty	ype	Default	tvalue	Comm	ent	
·		DI						
blnEstop		Bool						
blnError		Bool Bool						
bInForwa bInRever		Bool						
	orwardWork	Bool						
	everseHome	Bool						
blnSimul		Bool						
▼ Output	iute	500.						
iOutStatu		Int						
InOut	us	IIIL						
Temp								
Constant								
▼ Return								
		\						



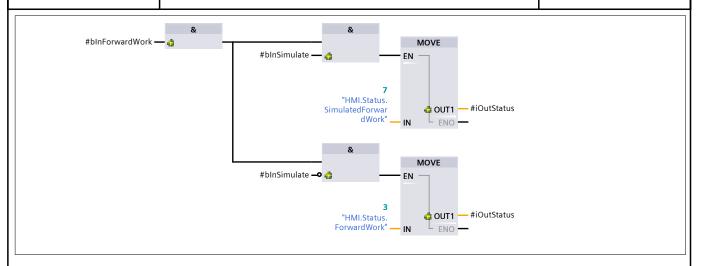
Network 2: Set Forward/Work On



Network 3: Set Reverse/Home Position



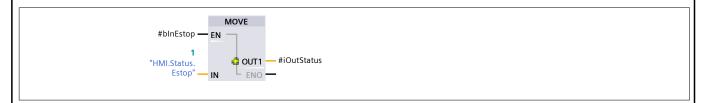
Network 4: Set Forward/Work Position



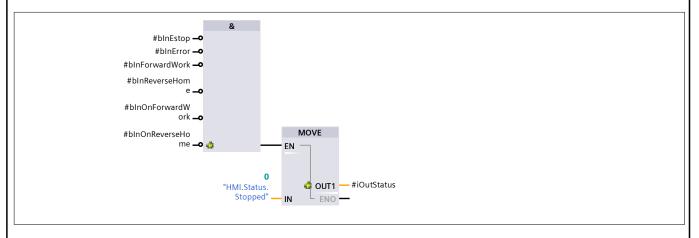
Network 5: Set Error



Network 6: Set Estop



Network 7: Set to none/stopped if nothing is selected



Network 8: Set ENO

Totally Integrated Automation Portal		
	TRUE	

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al	

b In Simulate

bOutCommand-

bOutCommand-

bOutActiveHome

bOutActiveWork

bOutAuto

Output

Home

Work

Bool

Bool

Bool

Bool

Bool

Bool

false

false

false

false

false

false

Open Li	brary \	V15 / D	evi	ces							
-	_				Solenoid \	/ 3.0.6	in t	test]			
fh\/alva Sala	noid Pron	rtios		_							
fbValve_Sole	enoia Prope	erues									
General	fb\/al\.a	Colonoid		Muumbau	110			Tyma		ΓD	
Name		Solenoid		Number	110			Type		FB	
Language Information	FBD			Numbering	Manual						
Title	Controls gle-actin	a double- o	r sin-	Author				Comm	ent	Т	
Family	gie detiii	g varve		Version	0.1			User-d ID	efined		
Name		Data type	Defa	ult value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi- neer- ing		Super- vision	Comment
▼ Input											
tlnTim	eout	Time	T#0r	ns	Non-retain	False	Fals e	False	False		Timeout time for an actuator's feed- back to activate before giving a fault
ilnMod	de	Int	0		Non-retain	False	Fals e	False	False		Mode Selection
blnEst	ор	Bool	false		Non-retain	False	Fals e	False	False		Estop
blnSig	nalHome	Bool	false		Non-retain	False	Fals e	False	False		Home position feedback
blnSig	nalWork	Bool	false		Non-retain	False	Fals e	False	False		Work position feedback
blnEna	able	Bool	false		Non-retain	False	Fals e	False	False		Home and Work Enabled
bInCor Work	nmand-	Bool	false		Non-retain	False	Fals e	False	False		Move to work position in automatic mode
bInRes	etError	Bool	false		Non-retain	False	Fals e	False	False		Reset Error

False

False

False

False

False

False

Fals False

Fals False

Fals False

Fals False

Fals False

Fals False

e

False

False

False

False

False

False

Non-retain

Non-retain

Non-retain

Non-retain

Non-retain

Non-retain

Activate device

Home position

Work position

Valve is in home position

Valve is in work position

Block in auto

mode

simulation

command

command

lame	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
bOutError	Bool	false	Non-retain	False	Fals e	False	False		Error exists
▼ ERROR_Valve	"udtEr- ror_Valve"		Non-retain	False	Fals e	False	False		Valve error struc- ture
NoHomeFeed- back	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback not active
NoWorkFeed- back	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback not ac- tive
HomeFeed- backStillActive	Bool	false	Non-retain	False	Fals e	False	False		Home position feedback still active
WorkFeedback- StillActive	Bool	false	Non-retain	False	Fals e	False	False		Work position feedback still ac- tive
▼ InOut									
▼ HMI_ValveControl	"udtH- MI_Valve- Control"			False	Fals e	False	False		HMI valve control
iMode	Int			False	Fals e	False	False		Current mode
iErrorCode	Int			False	Fals e	False	False		Error code
iStatus	Int			False	Fals e	False	False		Status for HMI dis play
bPB_ResetError	Bool			False	Fals e	False	False		PB Reset block er- rors
bPB_Home	Bool			False	Fals e	False	False		PB Move to home in manual mode
bPB_Work	Bool			False	e		False		PB Move to work in manual mode
bPBEN_Rese- tError	Bool			False	e		False		PB Reset error ena bled
bPBEN_Home	Bool			False	e		False		PB Home enabled
bPBEN_Work	Bool			False	e		False		PB Work enabled
bHomeOn	Bool				е		False		Home command i on
bWorkOn	Bool				e		False		Work command is on
bSignalHome	Bool			False	e		False		Home feedback
bSignalWork	Bool			False	e		False		Work feedback
bError	Bool			False	Fals e	False	False		Error status

Totally Integrated Automation Portal									
Name	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
▼ Static									
▼ ErrorScroller	"fbErrorSc- roller"			False	Fals e	False	True		Sub-block to han- dle error scroller
✓ Input									
bInError01	Bool	false	Set in IDB	False	e	False	False		Error 1 In Error Ar ray
bInError02	Bool	false	Set in IDB	False	Fals e	False	False		Error 2 In Error Ar ray
bInError03	Bool	false	Set in IDB	False	Fals e	False	False		Error 3 In Error Ar ray
blnError04	Bool	false	Set in IDB	False		False	False		Error 4 In Error Ar
bInError05	Bool	false	Set in IDB	False	Fals	False	False		ray Error 5 In Error Ar
blnError06	Bool	false	Set in IDB	False		False	False		ray Error 6 In Error Ar
bInError07	Bool	false	Set in IDB	False	e Fals e	False	False		ray Error 7 In Error Ar ray
blnError08	Bool	false	Set in IDB	False		False	False		Error 8 In Error Ar
bInError09	Bool	false	Set in IDB	False	Fals	False	False		ray Error 9 In Error Ar
blnError10	Bool	false	Set in IDB	False	e Fals e	False	False		ray Error 10 In Error Array
blnError11	Bool	false	Set in IDB	False		False	False		Error 11 In Error Array
blnError12	Bool	false	Set in IDB	False		False	False		Error 12 In Error Array
blnError13	Bool	false	Set in IDB	False	Fals	False	False		Error 13 In Error
blnError14	Bool	false	Set in IDB	False		False	False		Array Error 14 In Error
blnError15	Bool	false	Set in IDB	False		False	False		Array Error 15 In Error
blnError16	Bool	false	Set in IDB	False		False	False		Array Error 16 In Error
blnError17	Bool	false	Set in IDB	False		False	False		Array Error 17 In Error
bInError18	Bool	false	Set in IDB	False		False	False		Array Error 18 In Error
blnError19	Bool	false	Set in IDB	False		False	False		Array Error 19 In Error
blnError20	Bool	false	Set in IDB	False		False	False		Array Error 20 In Error
blnError21	Bool	false	Set in IDB	False		False	False		Array Error 21 In Error
blnError22	Bool	false	Set in IDB	False	e Fals e	False	False		Array Error 22 In Error Array

Totally Integrated Automation Portal								
Name	Data type	Default value	Retain	from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Comment
blnError23	Bool	false	Set in IDB	False	Fals e	False	False	Error 23 In Error Array
bInError24	Bool	false	Set in IDB	False		False	False	Error 24 In Error Array
bInError25	Bool	false	Set in IDB	False		False	False	Error 25 In Error Array
bInError26	Bool	false	Set in IDB	False		False	False	Error 26 In Error Array
bInError27	Bool	false	Set in IDB	False		False	False	Error 27 In Error Array
blnError28	Bool	false	Set in IDB	False		False	False	Error 28 In Error Array
blnError29	Bool	false	Set in IDB	False		False	False	Error 29 In Error Array
blnError30	Bool	false	Set in IDB	False		False	False	Error 30 In Error Array
▼ Output					-			Tillay
bOutError- Exists	Bool	false	Set in IDB	False	Fals e	False	False	An Error Exists
iOutScrollin- gErrorNum- ber	Int	0	Set in IDB	False	Fals e	False	False	Current Index when scrolling through errors
InOut								
▼ Static								
▼ TON_Error- Delay	TON_TIME		Non-retain	False	Fals e	False	True	Delay between each scroll for a new error
PT	Time	T#0ms	Non-retain	False	Fals e	False	False	
ET	Time	T#0ms	Non-retain	False	Fals e	False	False	
IN	Bool	false	Non-retain	False	Fals e	False	False	
Q	Bool	false	Non-retain	False	Fals e	False	False	
▼ abErrors	Ar- ray[130] of Bool		Set in IDB	False	Fals e	False	False	
abEr- rors[1]	Bool	false	Set in IDB	False	Fals e	False	False	
abEr- rors[2]	Bool	false	Set in IDB	False	Fals e	False	False	
abEr- rors[3]	Bool	false	Set in IDB	False	Fals e	False	False	
abEr- rors[4]	Bool	false	Set in IDB	False	_	False	False	
abEr- rors[5]	Bool	false	Set in IDB	False	_	False	False	

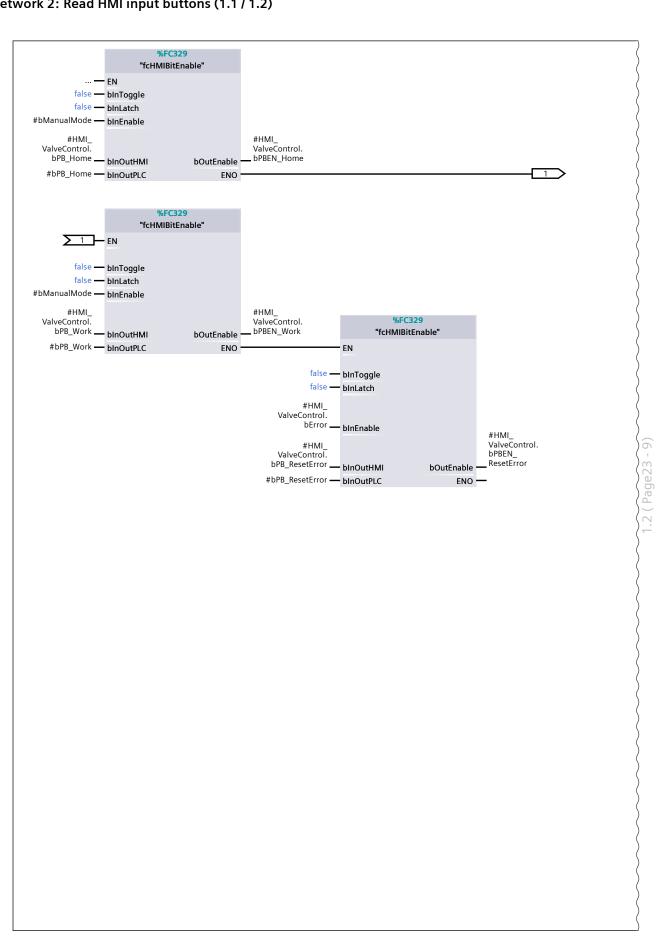
	itegrated ion Portal									
Jame		Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
	abEr-	Bool	false	Set in IDB	False	Fals	False	False		
	rors[6] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[7] abEr-	Bool	false	Set in IDB	False	e Falc	False	False		
	rors[8]	5001				e	uise	i uisc		
	abEr- rors[9]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False	Fals	False	False		
	rors[10] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[11]				i aise	e	i uise	aise		
	abEr- rors[12]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False	Fals	False	False		
	rors[13] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[14]					e				
	abEr- rors[15]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False	Fals	False	False		
	rors[16] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[17]					e				
	abEr- rors[18]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False	Fals	False	False		
	rors[19] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[20]					e				
	abEr- rors[21]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False		False	False		
	rors[22] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[23]					е				
	abEr- rors[24]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False		False	False		
	rors[25] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[26]					е				
	abEr- rors[27]	Bool	false	Set in IDB	False	Fals e	False	False		
	abEr-	Bool	false	Set in IDB	False		False	False		
	rors[28] abEr-	Bool	false	Set in IDB	False	e Fals	False	False		
	rors[29]					е				

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Name	Data type	Default value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	in HMI engi-		Super- vision	Comment
abEr- rors[30]	Bool	false	Set in IDB	False	e	False	False		
iNextScroll- Num	Int	1	Non-retain	False	e	False	False		Index of next erro position
iErrorsScroll- Num	Int	1	Non-retain	False	Fals e	False	False		Index of current error position
bScrolling	Bool	false	Non-retain	False	e	False	False		Indicates we are scrolling
bTON_Error- Delay	Bool	false	Non-retain	False	Fals e	False	False		
▼ TON_TimeOut	TON_TIME		Non-retain	False	e	False	True		Timer for Error Timeout
PT	Time	T#0ms	Non-retain	False	e	False	False		
ET	Time	T#0ms	Non-retain	False	e	False	False		
IN	Bool	false	Non-retain	False	e	False	False		
Q	Bool	false	Non-retain	False	e		False		
iLast Mode	Int	0	Non-retain	False	e		False		Last mode code
bNewMode	Bool	false	Non-retain	False	e	False	False		New mode selected
bEnableHome	Bool	false	Non-retain	False	e	False	False		Home position en abled
bEnableWork	Bool	false	Non-retain	False	Fals e	False	False		Work position ena bled
bAutoMode	Bool	false	Non-retain	False	Fals e	False	False		Auto Mode is active
bManualMode	Bool	false	Non-retain	False	Fals e	False	False		Manual Mode is active
bReset	Bool	false	Non-retain	False	Fals e	False	False		
bTON_TimeOut	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Home	Bool	false	Non-retain	False	Fals e	False	False		
bPB_Work	Bool	false	Non-retain	False	Fals e	False	False		
bPB_ResetError	Bool	false	Non-retain	False	Fals e	False	False		
▼ Temp									
tTimeoutElapsed	Time								Elapsed time for TON_Timeout
bTemp	Bool								
Constant									

Totally Integrated Automation Portal		
Network 1:	Inputs	
Network 2: Read HM	input buttons	

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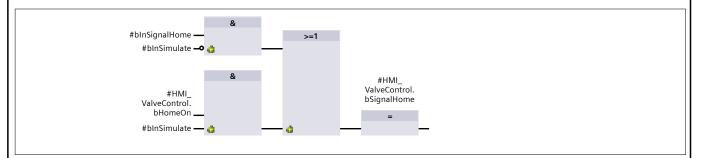
Network 2: Read HMI input buttons (1.1 / 1.2)



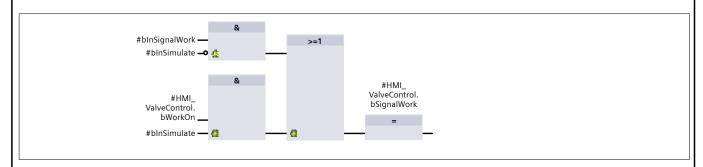
Totally Integrated Automation Portal									
Network 2: Read HMI in	Network 2: Read HMI input buttons (1.2 / 1.2)								
(8 - 8)									
.1 (Page23 - 8)									
1.1									
(

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Network 3: Update the signal home bit

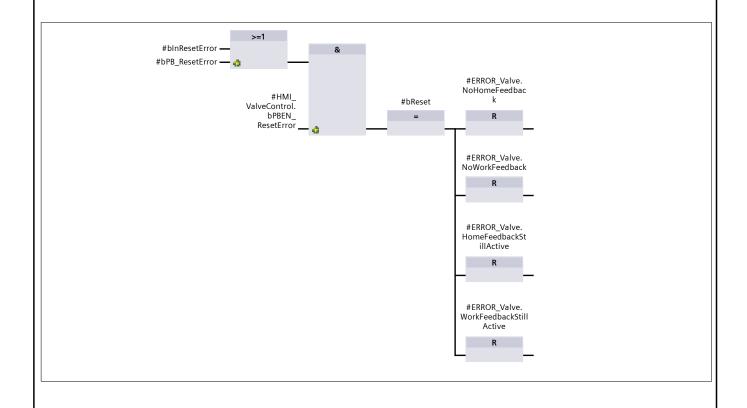


Network 4: Update the signal work bit

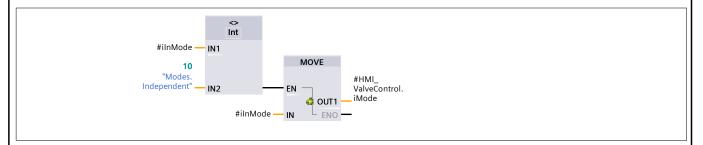


Network 5: ----- Control Logic

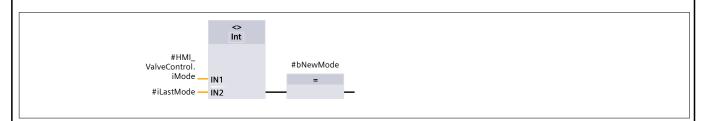
Network 6: Clear all errors



Network 7: Override HMI mode selection



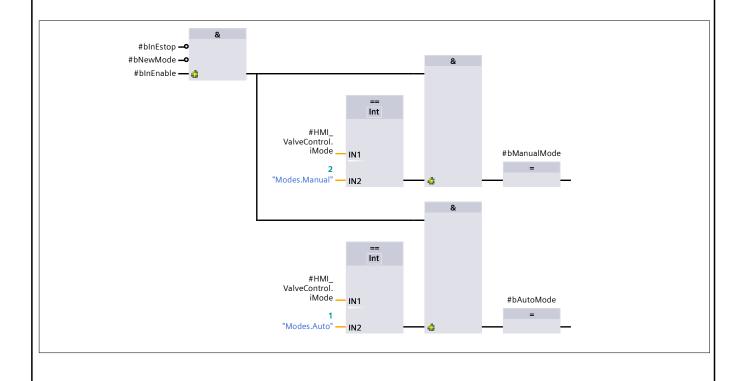
Network 8: Detect change in mode



Network 9: Keep track of last mode



Network 10: Determine if auto or manual mode is active

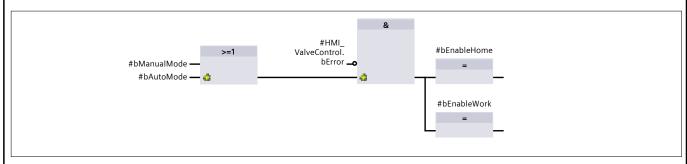


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Network 11: Enable Home & Work Positions

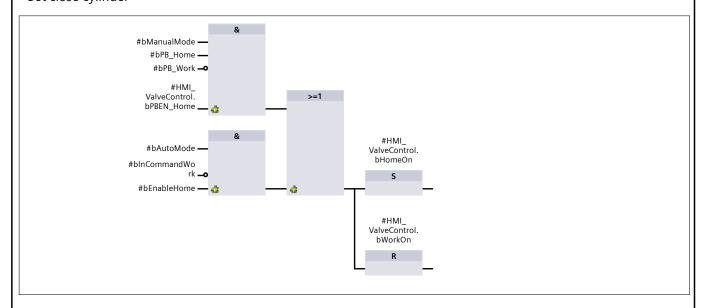
IF manual mode AND no estop AND not a new mode AND enabled =>

- --if no cylinder errors, enable move to Home and Work
- --enable home and work HMI buttons only in manual mode



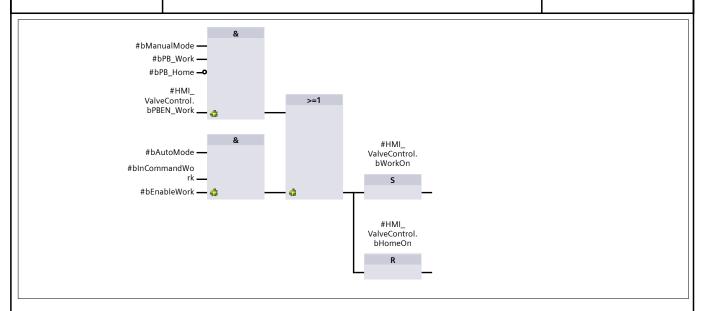
Network 12: Move to Home Position (Retracted)

IF manual mode and home button is pressed => --Set close cylinder



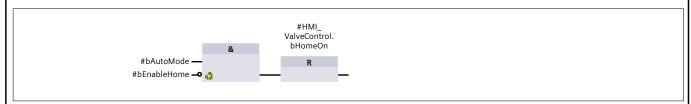
Network 13: Move to Work Position (Extended)

IF manual mode and work button button is pressed => --Set open cylinder



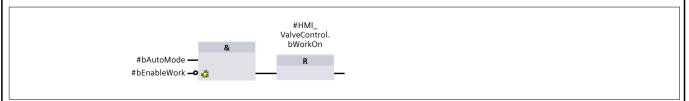
Network 14: Reset home on if not enabled

IF in auto AND home is not enabled => RESET home command



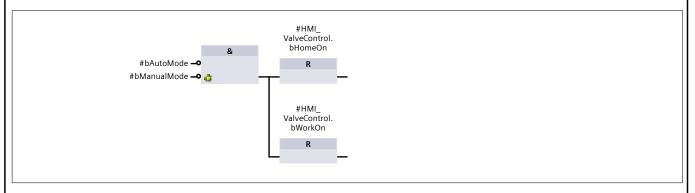
Network 15: Reset work on if not enabled

IF in auto AND work is not enabled => RESET work command



Network 16: Reset both home and work if not in auto or manual

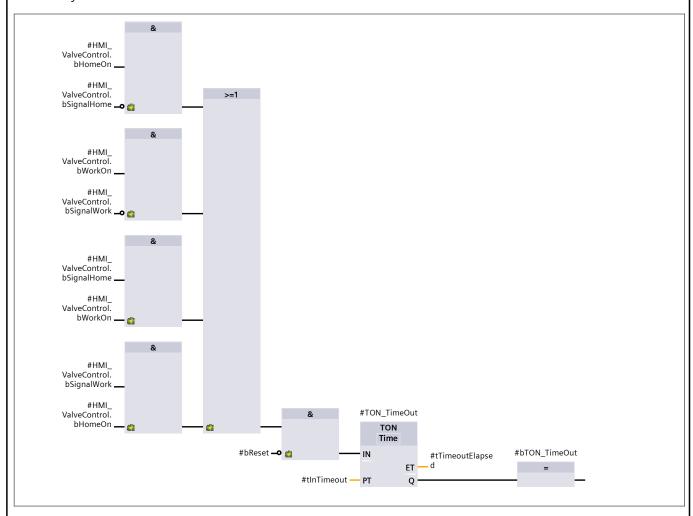
IF not in auto AND not in manual => RESET home and work commands



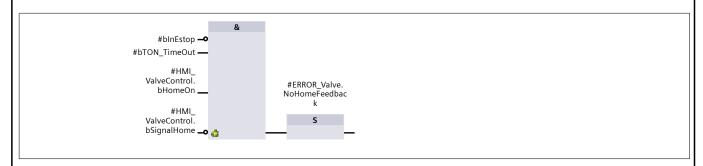
Network 17: ----- Error

Network 18: Timeout timer

Time delay for errors

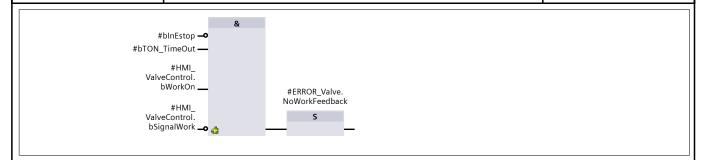


Network 19: Error: Home position feedback not active



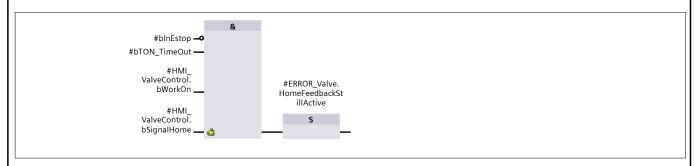
Network 20: Error: Work position feedback not active

Not reach work position



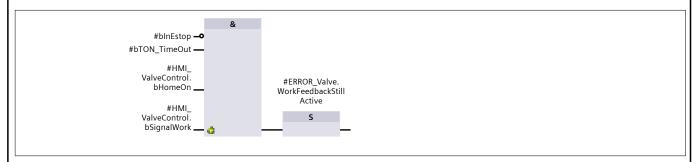
Network 21: Error: Home position feedback still active

Home position still active



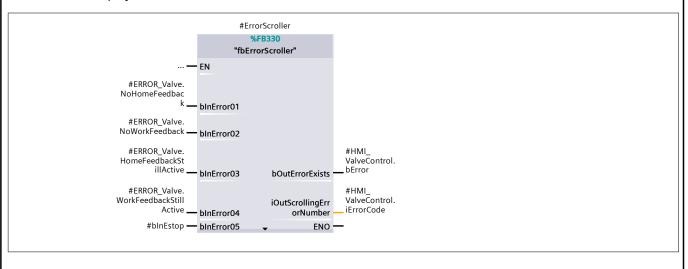
Network 22: Error: Work position feedback still active

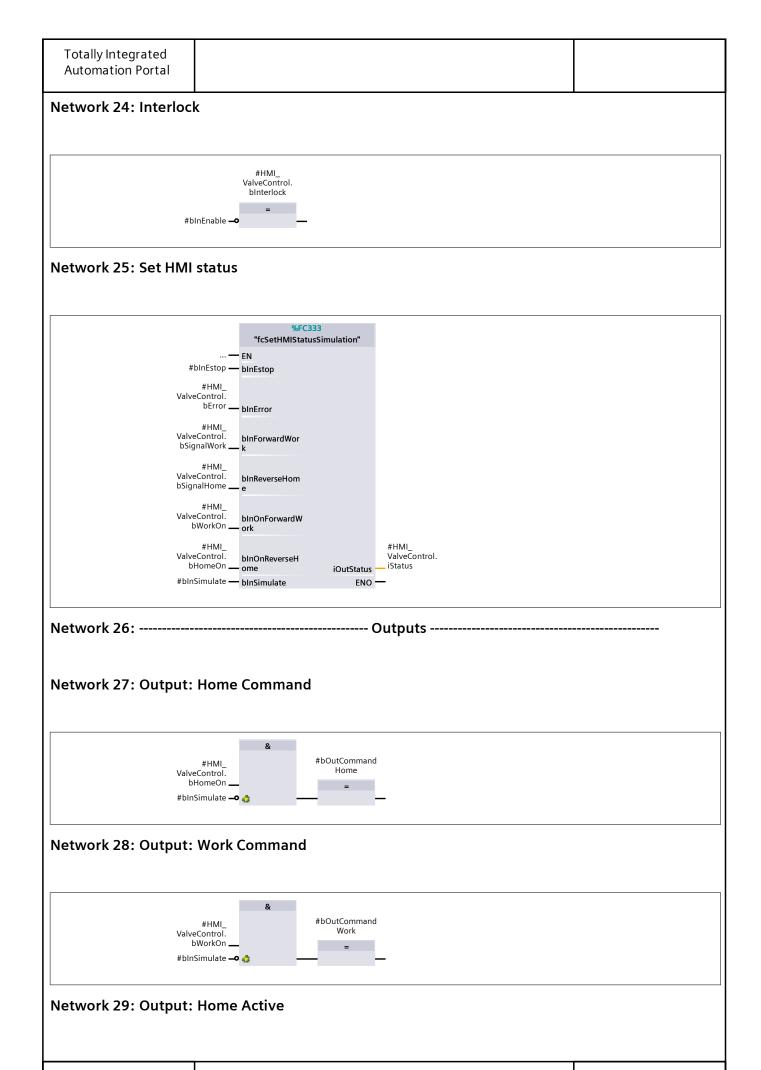
Work position still active



Network 23: Error scroller

Call the Error-Scroller which cyles through all possible errors and checks their state for display on the HMI





Totally Integrated **Automation Portal** #HMI_ ValveControl. bHomeOn . #bOutActiveHom #HMI_ ValveControl. bSignalHome Network 30: Output: Work Active #HMI_ ValveControl. bWorkOn _ #bOutActiveWork #HMI_ ValveControl. bSignalWork _ = Network 31: Output: Auto Int #HMI_ ValveControl. iMode IN1 #bOutAuto "Modes.Auto" -IN2 Network 32: Output: Error #bOutError#HMI_ ValveControl. bError Network 33: Set ENO TRUE RET

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Open Library V15 / Process

fbStepSequencer Properties

fbStepSequencer [FB185] [fbStepSequencer V 3.0.1]

										_	
Name	fbStepSeq	uencer		Number	185			Type		FB	
Language	SCL			Numbering	Manual						
nformation	1-			l -				_			
Title	Step seque	ence contr	oller		Boris			Lisor d		2010-Initiali logic. Modif 2006-tializa alizing anythi if un-velast value section back to if unwell branch wersion timeo static CurStelater Lure) Modif	r that input in a dictall. The initialized in the declaration in does not set it o default vired. Allways suplues for all inputs ied by Tim Jager 12-13 no block Iddor message ied by Boris: hed -> simplified in, no errors, no ut; still have to us memory for TON/ep (might be fixed ising in/out structied by Nick Shea: 03-30 Re-instated
Family				Version	4.0			User-d ID	efined		
Name		Data type	Defa	ult value	Retain	Acces- sible from HMI/OP C UA/We b API	ta- ble fro m	Visible in HMI engi-			Comment
▼ Input							PC UA/ We b API				
+ mpac		nt	0		Non v=+=:	Fals-	Fals	Fals-	Fala-		Constant
iInStep		nt	0		Non-retain	False	Fals e	False	False		Constant: current step required for

Totally Integrated Automation Portal									
ime	Data type	Default value	Retain	Accessible from HMI/OP C UA/We b API	ta- ble fro m	engi-	Set- point	Super- vision	Comment
ilnNextStep	Int	0	Non-retain	False	Fals e	False	False		Next step to go to if step is done
blnStepDone	Bool	false	Non-retain	False		False	False		if step done logic is true, then we move from IN_STEP to NEXT_STEP
tInStepDelay	Time	T#0ms	Non-retain	False	е	False	False		After the step done input is true we wait for x sec- onds before mov ing to next
bInStepMode	Bool	false	Non-retain	False	Fals e	False	False		Pause sequence a completion of current step
bInStepAdvance	Bool	false	Non-retain	False	Fals e	False	False		If paused, trigger next step
blnit	Bool	false	Non-retain	False		False	False		onc stop
ilnitStep	Int	0	Non-retain	False		False	False		
Output									
bOutEnterEvent	Bool	false	Non-retain	False	Fals e	False	False		
bOutExitEvent	Bool	false	Non-retain	False	Fals e	False	False		
bOutPaused	Bool	false	Non-retain	False		False	False		Sequence is currently paused.
iOutCurrentStep	Int	0	Non-retain	False		False	False		output current step
InOut									•
Static									
▼ TON_StepDelay	TON_TIME		Non-retain	False	Fals e	False	True		used to delay moing to the next step.
PT	Time	T#0ms	Non-retain	False	Fals e	False	False		•
ET	Time	T#0ms	Non-retain	False	Fals e	False	False		
IN	Bool	false	Non-retain	False		False	False		
Q	Bool	false	Non-retain	False	_	False	False		
iCurrentStep	Int	0	Non-retain	False		False	False		Current step of t
bAlreadyInThis- Step	Bool	false	Non-retain	False		False	False		_ 34 2011001
Temp									
bNoStepDelay	Bool								step delay disabl

Totally Integrated **Automation Portal** Super- Comment Name Retain Acces- Wri Visible Set-Data type Default value sible ta- in HMI point vision from ble engi-HMI/OP fro neerm ing UA/We HM b API I/O PC UA/ We b API Constant 0001 0002 0003 // ****** 0004 // INSTRUCTION SECTION 0005 ENO:=false; //init variables 0006 #bOutExitEvent :=false; 0007 #bOutEnterEvent:=false; 0008 0009 IF (#iInStep=#iCurrentStep) THEN 0010 IF NOT #bAlreadyInThisStep THEN 0011 #bOutEnterEvent:=true; 0012 #bAlreadyInThisStep:=true; 0013 END IF; 0014 IF #bInStepDone THEN 0015 //Run Step done Timer 0016 #TON StepDelay(IN:=(TRUE),PT:=#tInStepDelay); 0017 0018 //check if we are using a step delay 0019 #bNoStepDelay:= (#tInStepDelay<=T#0MS);</pre> 0020 //We can move to the next step if (STEP DONE and StepDelay timer complete) 0021 0022 // AND 0023 //(we are in step mode and the step advance is true, or if we are not in step mode // AND 0024

0025 //It is not the first scan of this step 0026 IF ((#TON StepDelay.Q OR #bNoStepDelay) AND (NOT #bInStepMode OR (#bIn-StepMode AND #bInStepAdvance)) AND NOT #bOutEnterEvent) THEN 0027 #iCurrentStep := #iInNextStep; //move to next step 0028 //Reset Step done Timer 0029 #TON StepDelay(IN:=(false), PT:=#tInStepDelay); 0030 #bOutExitEvent:=true; 0031 #bAlreadyInThisStep:=false; 0032 END IF; 0033 END IF; #bOutPaused := #bInStepDone AND (#TON StepDelay.Q OR #bNoStepDelay) AND 0034 (#bInStepMode AND NOT #bInStepAdvance); 0035 //Only set this if we are ok and in the right step 0036 ENO:= true; 0037 END_IF; 0038 IF (#bInit) THEN #iCurrentStep := #iInitStep; 0040 #bInit:=false; //Clear so that if it is unwired on the next call, it is not run. 0041 #bAlreadyInThisStep:=false;

```
0042 END_IF;
0043

0044 //Set output variables
0045 #iOutCurrentStep := #iCurrentStep;
0046 #tInStepDelay := T#0MS;
0047
```

Symbol	Address	Туре	Comment
#bAlreadyInThisStep		Bool	
#blnit		Bool	
#bInStepAdvance		Bool	If paused, trigger next step
#bInStepDone		Bool	if step done logic is true, then we move from IN_STEP to NEXT_STEP
#bInStepMode		Bool	Pause sequence at completion of current step
#bNoStepDelay		Bool	step delay disabled
#bOutEnterEvent		Bool	
#bOutExitEvent		Bool	
#bOutPaused		Bool	Sequence is currently paused.
#iCurrentStep		Int	Current step of the sequencer
#ilnitStep		Int	
#iInNextStep		Int	Next step to go to if step is done
#iInStep		Int	Constant: current step required for the FB to run
#iOutCurrentStep		Int	output current step
#tInStepDelay		Time	After the step done input is true, we wait for x seconds before moving to next
#TON_StepDelay		IEC_Timer	used to delay moving to the next step.
#TON_StepDelay.Q		Bool	

Open Library V15 / Process

fcStepChooser [FC185] [fcStepChooser V 3.0.1]

fcStepChooser Properties									
General									
Name	fcStepChooser	Number	185	Туре	FC				
Language	SCL	Numbering	Manual						
Information									
Title		Author		Comment					
Family		Version	0.0	User-defined					
				ID					

Name	Data type	Default value	Comment	
▼ Input				
bCondition	Bool			
iTrueStep	Int			
iFalseStep	Int			
Output				
InOut				
▼ Temp				
iResult	Int			
Constant				
▼ Return				
fcStepChooser	Int			

Symbol	Address	Туре	Comment
#bCondition		Bool	
#fcStepChooser		Int	
#iFalseStep		Int	
#iResult		Int	
#iTrueStep		Int	