

Main_Program [OB1]

Main_Program Properties

General

Name	Main_Program	Number	1	Type	OB
Language	STL	Numbering	Manual		

Information

Title	"Main Program Sweep (Cycle)"	Author		Comment	Example 13.4 - Simple operator interface and alarm for tank level control Copyright (c) 2022 Dogwood Valley Press, LLC
Family		Version	0.1	User-defined ID	

Name	Data type	Offset	Default value	Comment
▼ Temp				
OB1_EV_CLASS	Byte	0.0		Bits 0-3 = 1 (Coming event), Bits 4-7 = 1 (Event class 1)
OB1_SCAN_1	Byte	1.0		1 (Cold restart scan 1 of OB 1), 3 (Scan 2-n of OB 1)
OB1_PRIORITY	Byte	2.0		Priority of OB Execution
OB1_OB_NUMBR	Byte	3.0		1 (Organization block 1, OB1)
OB1_RESERVED_1	Byte	4.0		Reserved for system
OB1_RESERVED_2	Byte	5.0		Reserved for system
OB1_PREV_CYCLE	Int	6.0		Cycle time of previous OB1 scan (milliseconds)
OB1_MIN_CYCLE	Int	8.0		Minimum cycle time of OB1 (milliseconds)
OB1_MAX_CYCLE	Int	10.0		Maximum cycle time of OB1 (milliseconds)
OB1_DATE_TIME	Date_And_Time	12.0		Date and time OB1 started
Constant				

Network 1: Example 13.3 conversion

```
0001
0002 // Do conversion of transducer reading to level in feet.
0003     L      "LT428_MEAS"
0004     ITD                      // Int to double
0005     DTR                      // double to real
0006     L      5530.0
0007     -R                      // subtract 5530
0008     L      22118.0
0009     /R                      // divide by 22118
0010     T      "TmpR"          // Save for later multiply
0011     L      15.0
0012     L      1.0
0013     -R                      // do 15 - 1
0014     L      "TmpR"
0015     *R                      // mult by result of first divide
0016     L      1.0
```

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0017	+R	// add 1
0018	T	"LT428_Val"
0019		
Network 2: Example 13.3 control		
0001	// Control of tank level	
0002	L	"LT428_Val"
0003	L	"T428_Min"
0004	<R	// On when drop below minimum
0005	O	"XV427_OPEN"
0006	A(
0007	L	"LT428_Val"
0008	L	"T428_Max"
0009	<=R	// Keep on while <= maximum
0010)	
0011	A	"T428_Cntrl"
0012	=	"XV427_OPEN"
0013		
Network 3: Example 13.4		
0001	// Check for T428_Min less than min or greater than maz	
0002	L	"T428_Min"
0003	L	2.1
0004	<R	// Check for less than 2.1
0005	JCN	TUpr
0006	L	2.1
0007	T	"T428_Min"
0008	TUpr: L	"T428_Min"
0009	L	13.4
0010	>R	// Check for greater than 13.4
0011	JCN	DoAdd
0012	L	13.4
0013	T	"T428_Min"
Network 4:		
0001	// Max level is min level + 1.5	
0002	DoAdd: L	"T428_Min"
0003	L	1.5
0004	+R	
0005	T	"T428_Max"
0006		
Network 5: Low level indication		
0001	// Low alarm lamp when level < 4	
0002	L	"LT428_Val"

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0003	L	4.0
0004	<R	
0005	=	"T428_LOLA"
0006		
Network 6: Alm_Ack transition detection		
0001	A	"Alm_Ack"
0002	FP	"Ack_Ons"
0003	=	"AckTrig"
0004		
Network 7: Horn active		
0001	// Level below 2.0 causes horn to be activated	
0002	L	"LT428_Val"
0003	L	2.0
0004	<R	
0005	=	"T428_Hrn_Act"
0006		
Network 8: Low level alarm horn		
0001	// Horn activated when level drops below 2.0 or has remained below 2.0	
0002	// for 5 minutes. Acknowledge button transition silences it.	
0003	FP	"Hrn_Ons"
0004	O	"Ack_Tmr_Q"
0005	O(
0006	A	"T428_HORN"
0007	AN	"AckTrig"
0008)	
0009	=	"T428_HORN"
0010		
0011		
Network 9:		
0001	// Time level stays below 2.0 after horn acknowledged	
0002	A	"AckTrig"
0003	O	"Ack_Tmr_En"
0004	A	"T428_Hrn_Act"
0005	AN	"Ack_Tmr_Q"
0006	=	"Ack_Tmr_En"
0007	CALL	TON , "Ack_Tmr"
0008	Time	
0009	IN	:= "Ack_Tmr_En"
0010	PT	:= T#5M
0011	Q	:= "Ack_Tmr_Q"
0012	ET	:=
0013		

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0014		