

OB1 - <offline>

"Cycle Execution"

Name:

Author:

Time stamp Code:

Lengths (block/logic/data):

Family:

Version: 0.1

Block version: 2

12/27/2015 07:26:20 AM

Interface: 02/15/1996 04:51:12 PM

00632 00492 00026

Name	Data Type	Address	Comment
TEMP		0.0	
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

Block: OB1    "Main Program Sweep (Cycle)"

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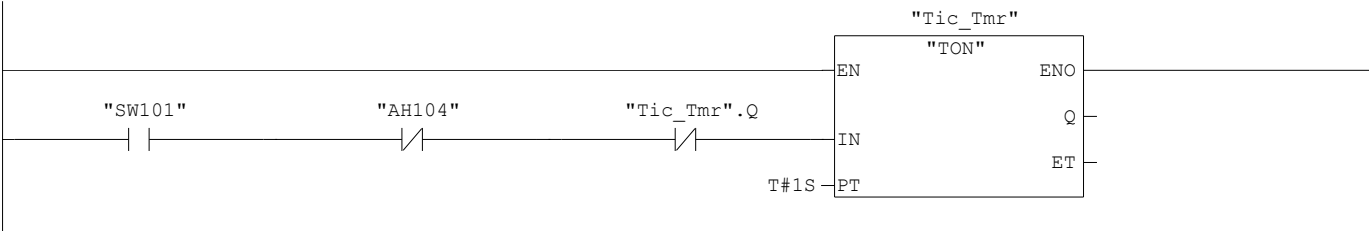
Problem SP7-4 Revised Plant Waterer of SP5-6

Internal memory from SP5-6:

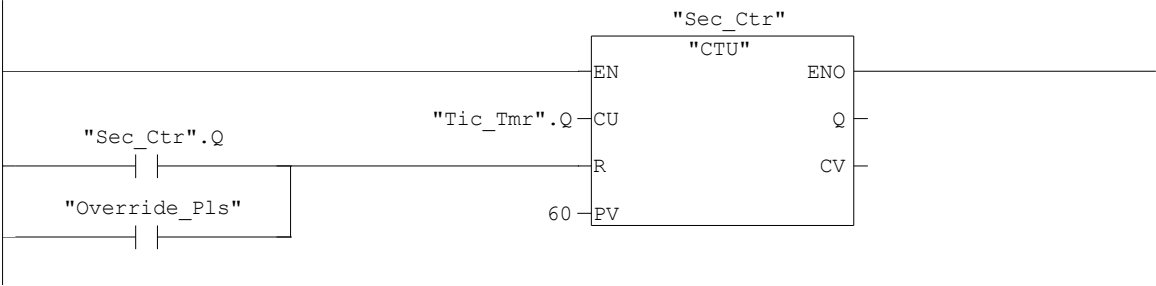
Symbol	Address	
Sec_Ctr	DB4 (SFB0)	Seconds counter for clock
Min_Ctr	DB5 (SFB0)	Minutes counter for clock
Hour_Ctr	DB6 (SFB0)	Hours counter for clock
Tic_Tmr	DB1 (SFB4)	Generates 1 second tic for clock
Max_Wtr_Tmr	DB2 (SFB4)	Times maximum watering interval
Onsl_Bit	M5.0	One-shot storage bit
Start_Pump	M6.0	Start pump command from timer or operator
Override_Pls	M6.1	Override pulse to reset counters, start pump

Network: 1        Clock

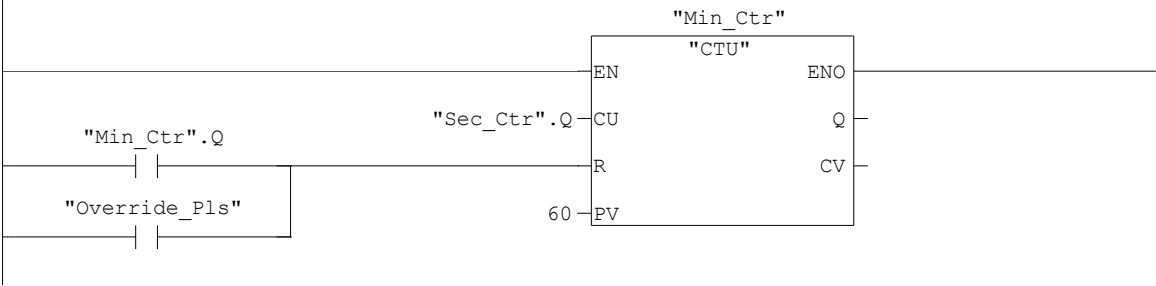
Generate a tick every second that is counted for seconds.  
When 60 seconds counted, increment minutes.  
When 60 minutes counted, increment hours.



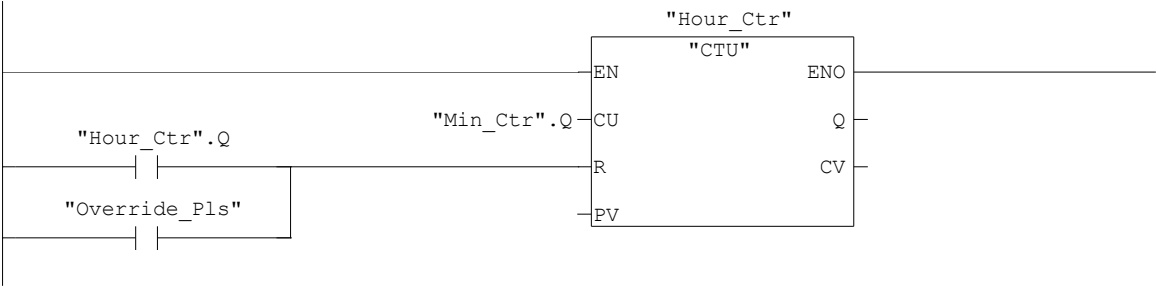
Network: 2



Network: 3

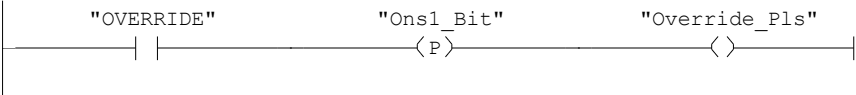


Network: 4



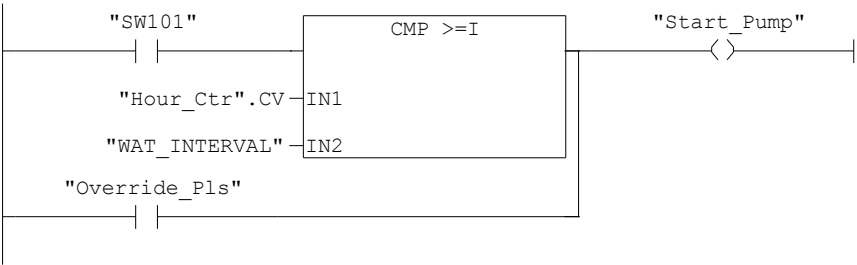
Network: 5

Generate override start and reset for counters on override positive transition.



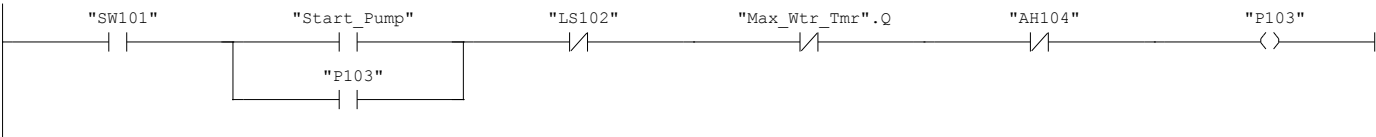
Network: 6Start pump command from clock or operator

\*\*\*\* Revised P7-16 \*\*\*\*  
Start pump command when reached desired hours or operator override.

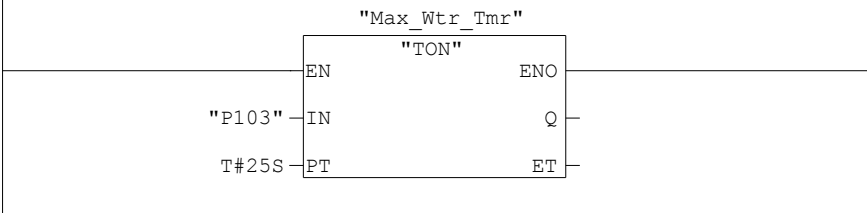


Network: 7Control P103 Pump

Turns off when level correct, maximum water time, or alarm.

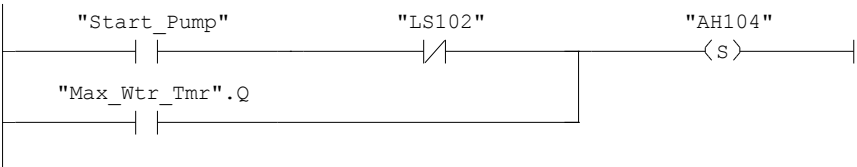


Network: 8Pump Timer



Network: 9Alarm

Alarm if level switch off when attempting to start pump or if maximum watering time reached.  
Set/reset used instead of "sealing" so that only positive transition of override clears alarm. Alarm will reactivate if alarm conditions met.



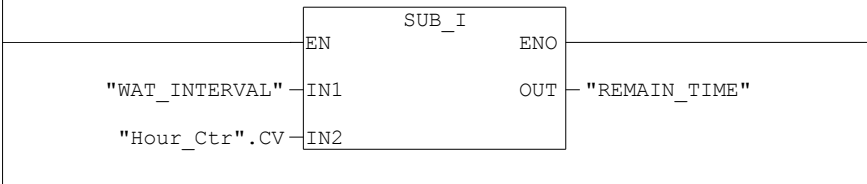
Network: 10

Alarm horn



Network: 11

\*\*\*\* Revised for P7-16 \*\*\*\*  
Calculate remaining time



Network: 12

Bit 0 of time to next watering for display

Copy lower 4 bits of remaining time to output bits



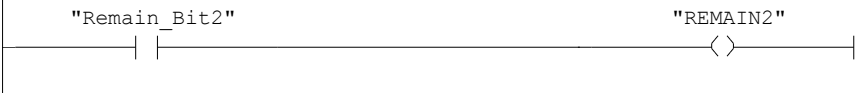
Network: 13

Bit 1 of time to next watering for display



Network: 14

Bit 2 of time to next watering for display



Network: 15

Bit 3 of time to next watering for display

