

Main Properties

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Name	Main	Number	1	Type	OB
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Language	LAD	Numbering	Manual	
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Information									
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Title	"Main Program Sweep (Cycle)"	Author		Comment	
Family		Version	0.1	User-defined ID	

Name	Data type	Default value
▼ Temp		
OB1_EV_CLASS	Byte	
OB1_SCAN_1	Byte	
OB1_PRIORITY	Byte	
OB1_OB_NUMBR	Byte	
OB1_RESERVED_1	Byte	
OB1_RESERVED_2	Byte	
OB1_PREV_CYCLE	Int	
OB1_MIN_CYCLE	Int	
OB1_MAX_CYCLE	Int	
OB1_DATE_TIME	Date_And_Time	
Constant		

Network 1: SP7-4

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Problem SP7-4 Revised Plant Waterer from SP5-6

Internal memory from SP5-6:

Tag Address	
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Sec_Ctr %DB4 IEC_COUNTER Seconds counter for clock
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Min_Ctr %DB5 IEC_COUNTER Minutes counter for clock

Hour_Ctr %DB6 IEC_COUNTER Hours counter for clock

Tic_Tmr %DB1 IEC_TIMER Generates 1 second tic for clock

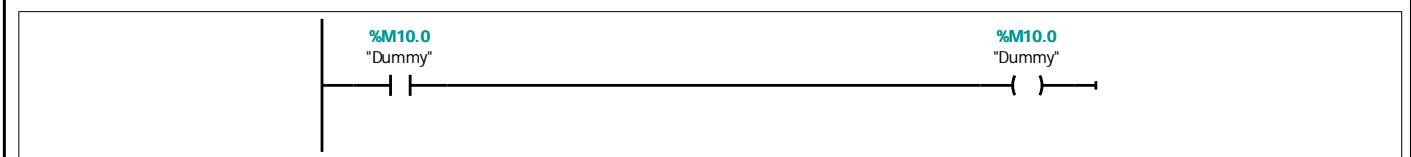
Max_Wtr_Tmr %DB2 IEC_TIMER Times maximum watering interval
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Ons1_Bit	%M5.0	BOOL	One-shot storage bit
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Tic_Tmr_Q %M5.5 BOOL Tic timer output

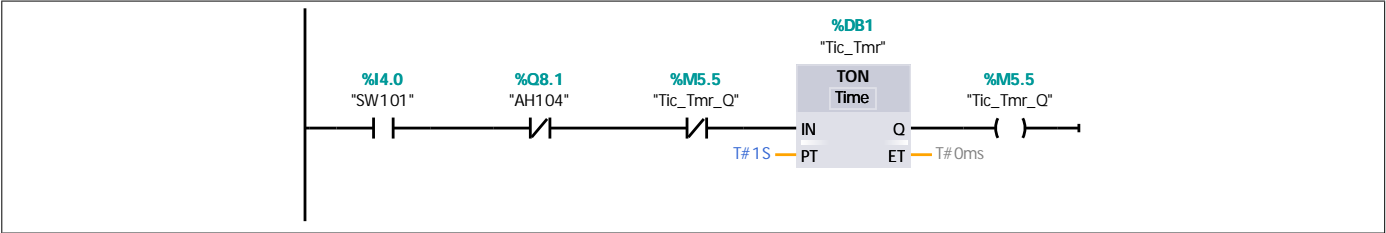
Start_Pump %M6.0	BOOL	Start pump command from timer or operator
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Override_Pls %M6.1 BOOL Override pulse to reset counters, start pump

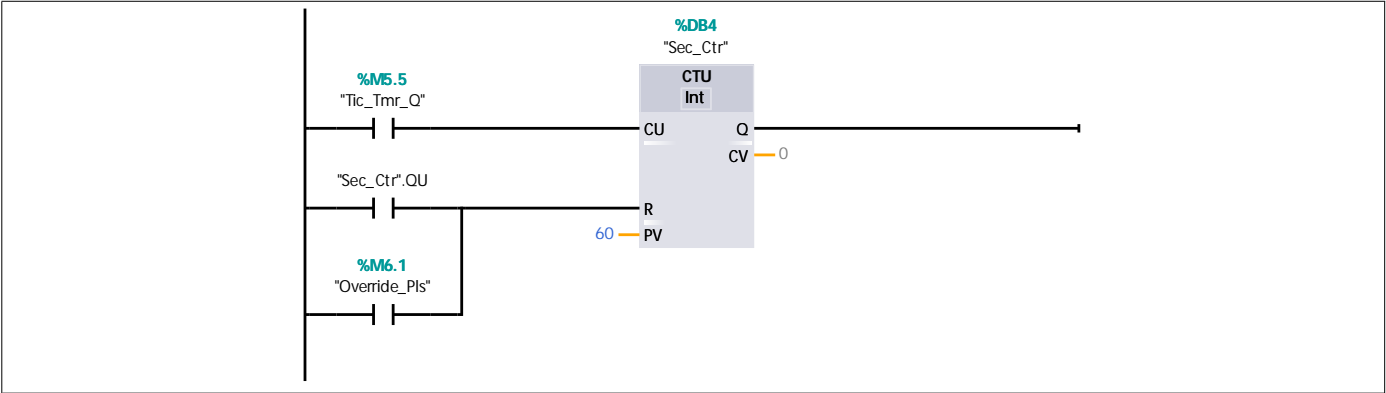


Network 2: Clock

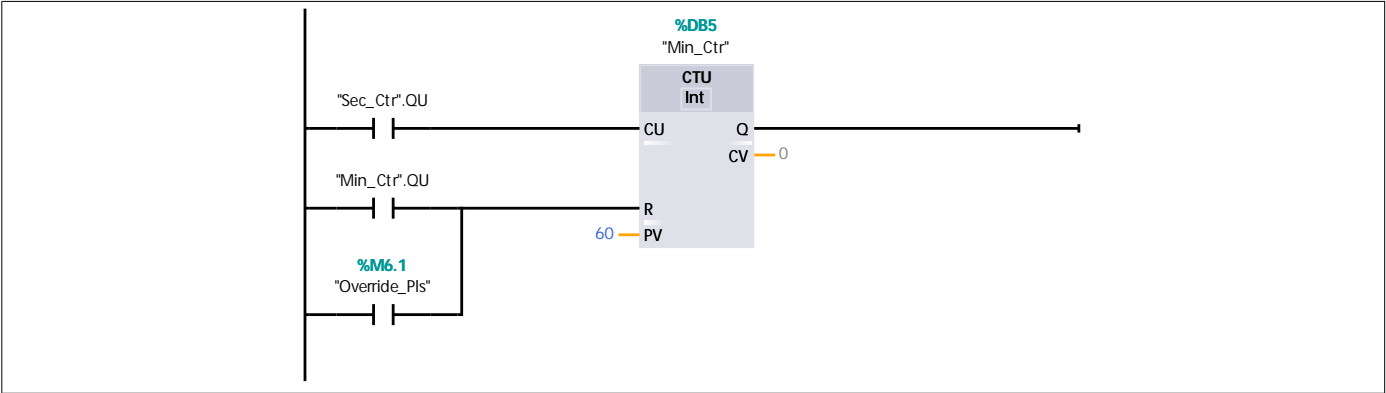
Generate a tick every second that is counted for seconds.
When 60 seconds counted, increment minutes.
When 60 minutes counted, increment hours.



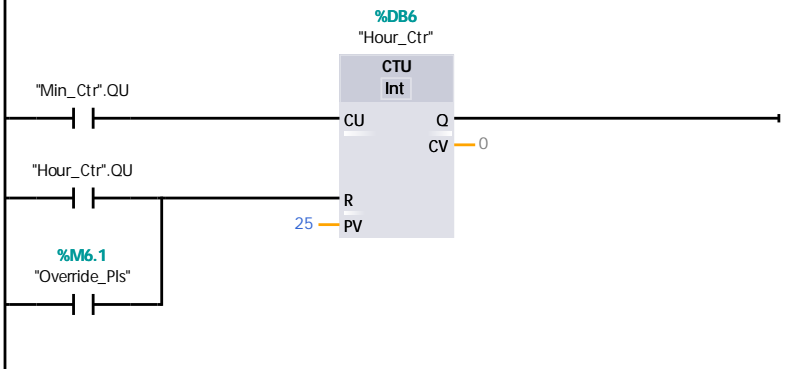
Network 3:



Network 4:

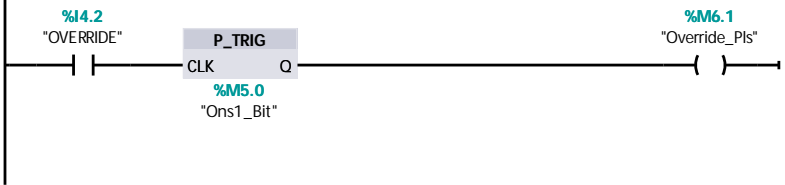


Network 5:



Network 6:

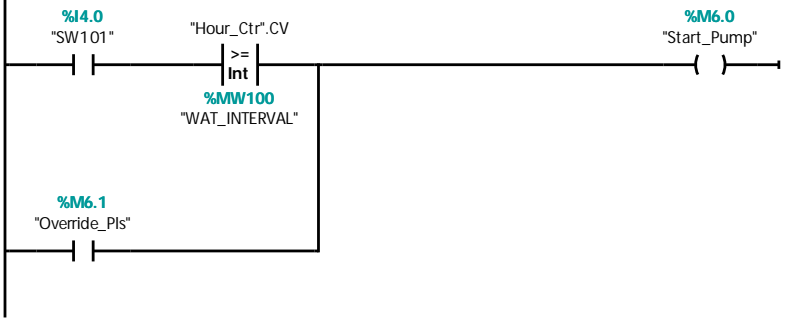
Generate override start and reset for counters on override positive transition.



Network 7: Start pump command from clock or operator

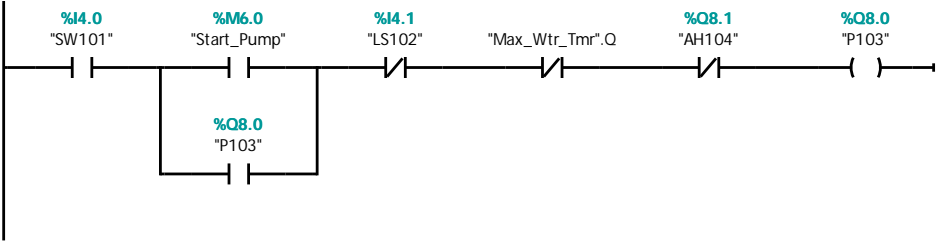
**** Revised P7-16 ****

Start pump command when reached desired hours or operator override.

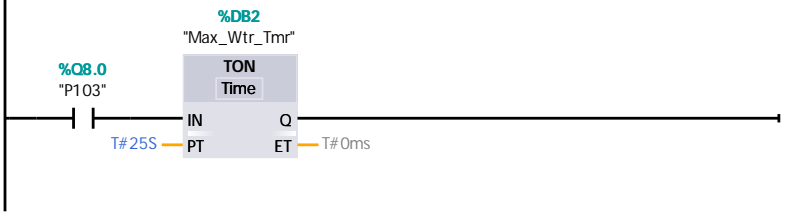


Network 8: Control P103 Pump

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

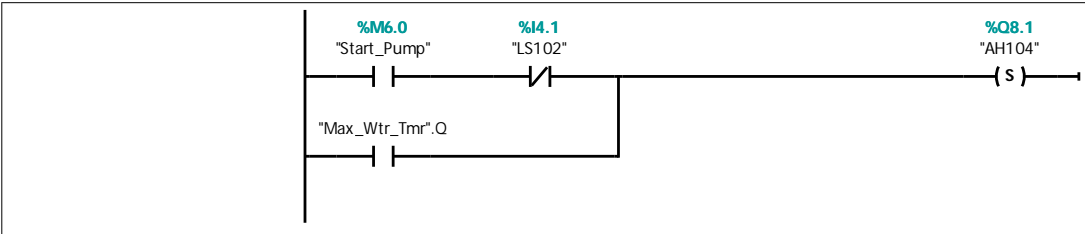


Network 9: Pump Timer

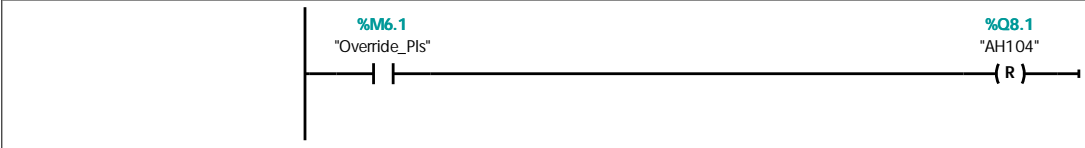


Network 10: Alarm

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.

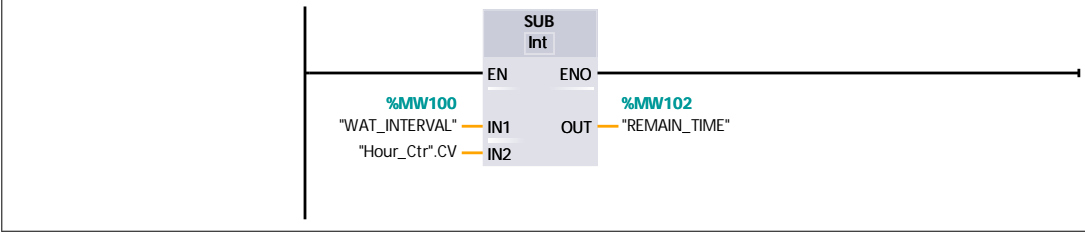


Network 11: Alarm horn



Network 12: ** Revised for SP7-4 ******

Calculate remaining time



Network 13: Copy lower 4 bits of remaining time to output bits

Bit 0 of time to next watering for display



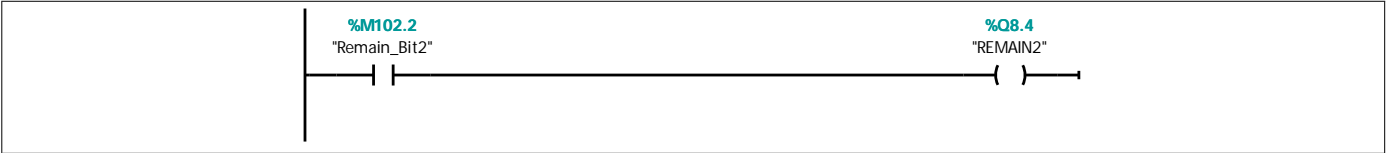
Network 14:

Bit 1 of time to next watering for display



Network 15:

Bit 2 of time to next watering for display



Network 16:

Bit 3 of time to next watering for display

