

Main_Program [OB1]

Main_Program Properties

General

Name	Main_Program	Number	1	Type	OB
Language	LAD	Numbering	Manual		

Information

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

Sec_Ctr DB4 CTU_SFB Seconds counter for clock

Min_Ctr DB5 CTU_SFB Minutes counter for clock

Hour_Ctr DB6 CTU_SFB Hours counter for clock

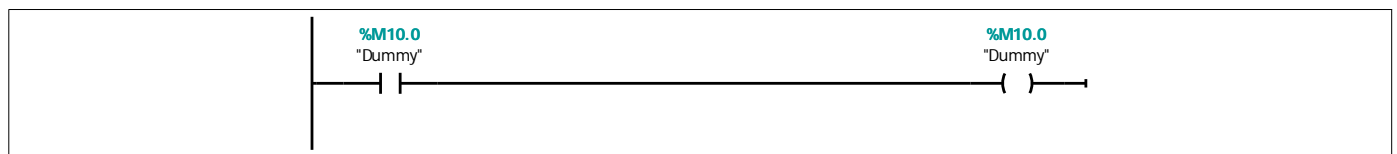
Tic_Tmr DB1 TON_SFB Generates 1 second tic for clock

Max_Wtr_Tmr DB2 TON_SFB Times maximum watering interval

Ons1_Bit M5.0 BOOL One-shot storage bit

Start_Pump M6.0 BOOL Start pump command from timer or operator

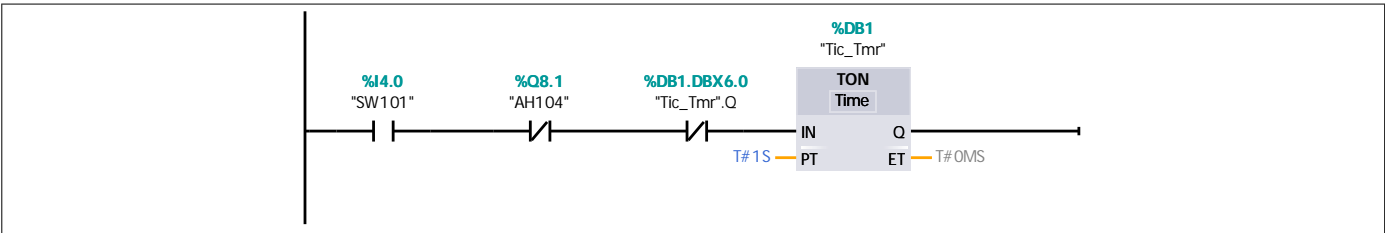
Override_Pls M6.1 BOOL Override pulse to reset counters, start pump



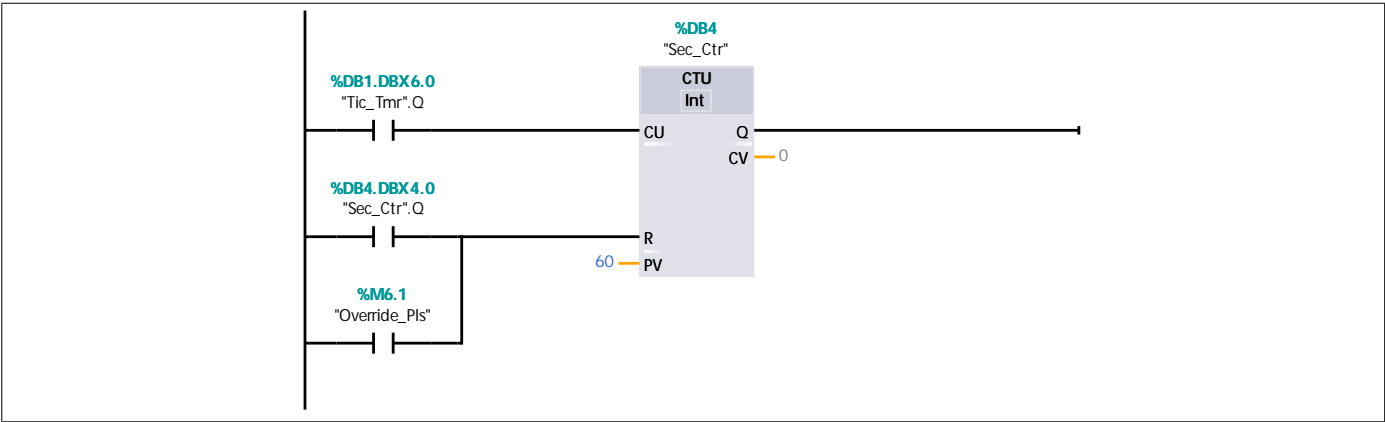
Network 2: Clock

Generate a tick every second that is counted for seconds.

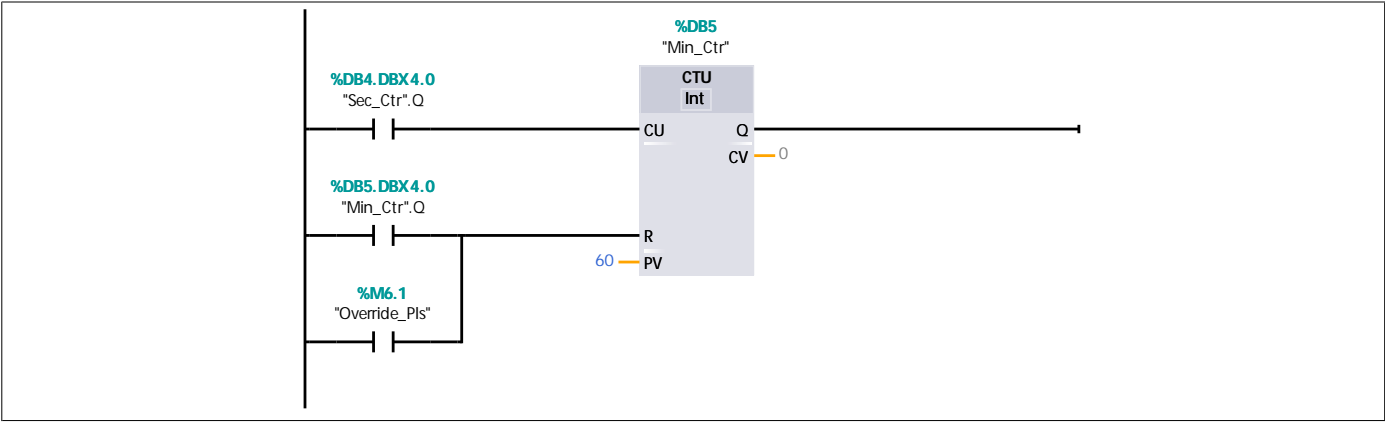
When 60 seconds counted, increment minutes.
When 60 minutes counted, increment hours.



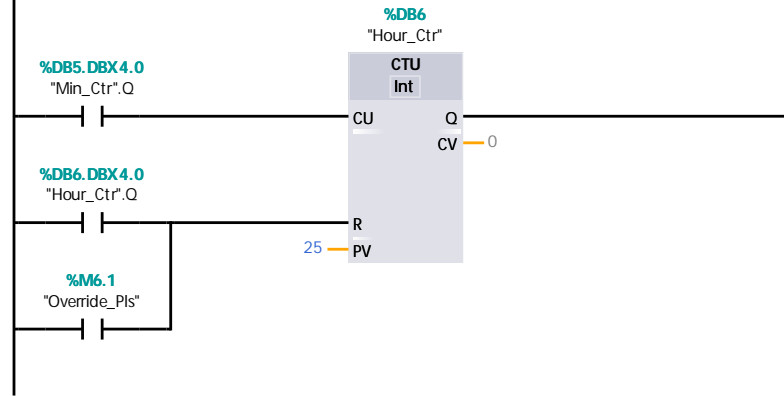
Network 3:



Network 4:

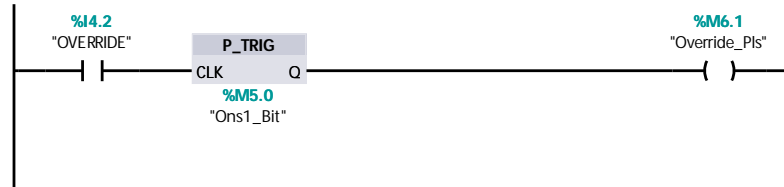


Network 5:



Network 6:

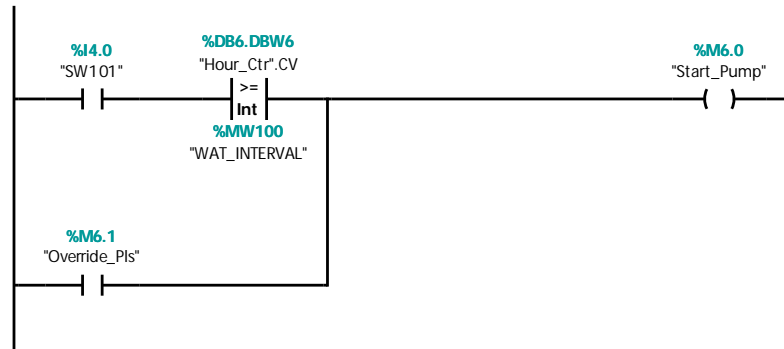
Generate override start and reset for counters on override positive transition.



Network 7: Start pump command from clock or operator

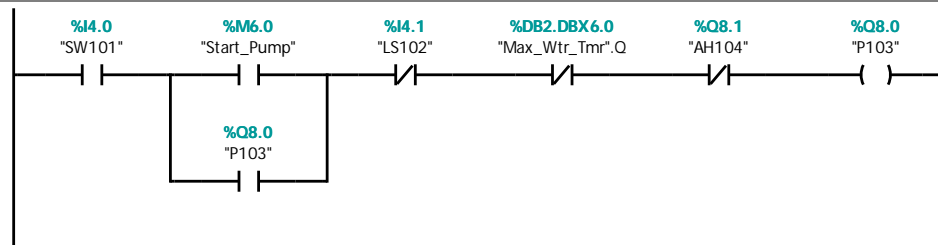
**** Revised P7-16 ****

Start pump command when reached desired hours or operator override.

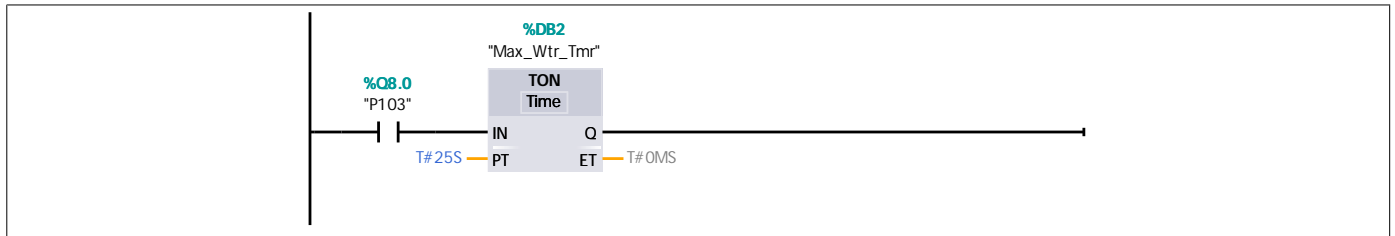


Network 8: Control P103 Pump

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



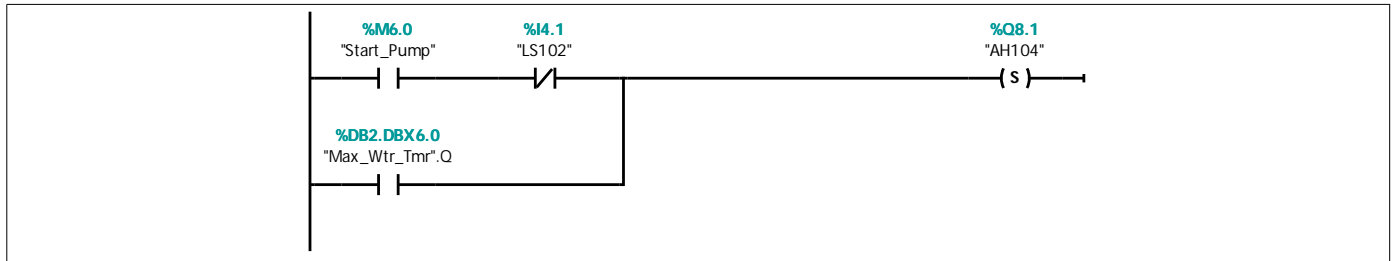
Network 9: Pump Timer



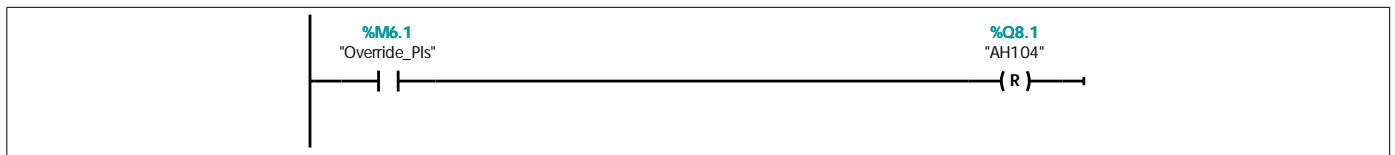
Network 10: Alarm

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.

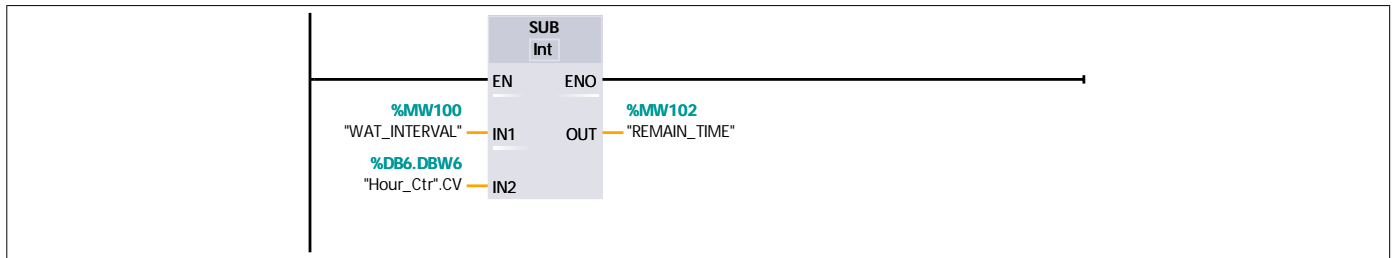


Network 11: Alarm horn



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

Totally Integrated Automation Portal		
	<div><div><div><div><div><div></div></div></div><div><div><div><div><div><div>%M102.0</div><div>"Remain_Bit0"</div></div></div><div><div><div><div><div>%Q8.2</div><div>"REMAIN0"</div></div></div></div></div></div></div></div></div></div></div>	
Network 14: Bit 1 of time to next watering for display		
	<div><div><div><div><div><div></div></div></div><div><div><div><div><div>%M102.1</div><div>"Remain_Bit1"</div></div></div><div><div><div><div><div>%Q8.3</div><div>"REMAIN1"</div></div></div></div></div></div></div></div></div></div>	
Network 15: Bit 2 of time to next watering for display		
	<div><div><div><div><div><div></div></div></div><div><div><div><div><div>%M102.2</div><div>"Remain_Bit2"</div></div></div><div><div><div><div><div>%Q8.4</div><div>"REMAIN2"</div></div></div></div></div></div></div></div></div></div>	
Network 16: Bit 3 of time to next watering for display		
	<div><div><div><div><div><div></div></div></div><div><div><div><div><div>%M102.3</div><div>"Remain_Bit3"</div></div></div><div><div><div><div><div>%Q8.5</div><div>"REMAIN3"</div></div></div></div></div></div></div></div></div></div>	