

Main

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Rung1 Diagram

SP7-4 Revised Plant Waterer Copyright (c) 2023, Dogwood Valley Press, LLC
Internal memory from SP5-6 (no additional internal memory is needed)

Tag Data Type

Additional internal memory:

Tag Data Type

Sec_Count CTU Seconds counter for clock

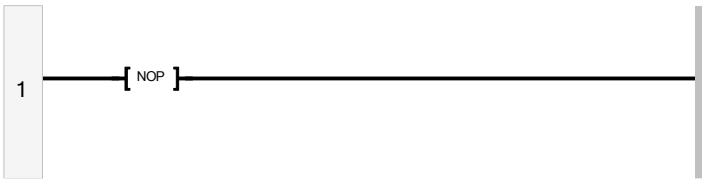
Min_Count CTU Minutes counter for clock

Hour_Count CTU Hours counter for clock

Sec_Timer TON Generates 1 second tic for clock

Max_Water_Tmr TON Times maximum watering interval

Start_Pump BOOL Start pump command from timer or operator

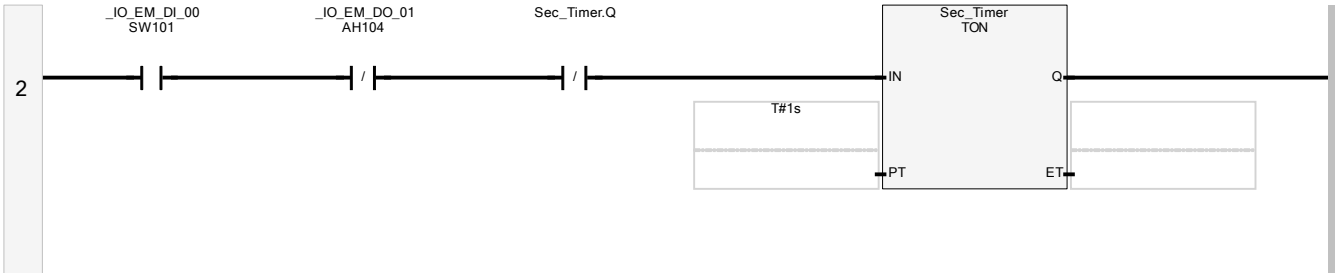


Rung2 Diagram

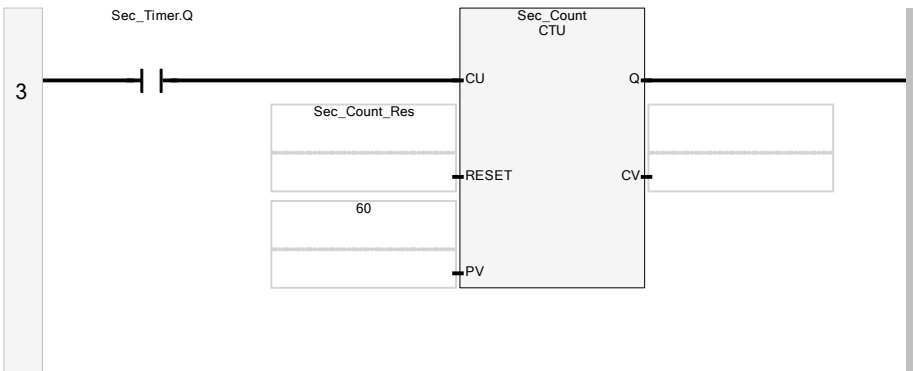
Clock. Generate a tick every second that is counted for seconds.

When 60 seconds counted, increment minutes.

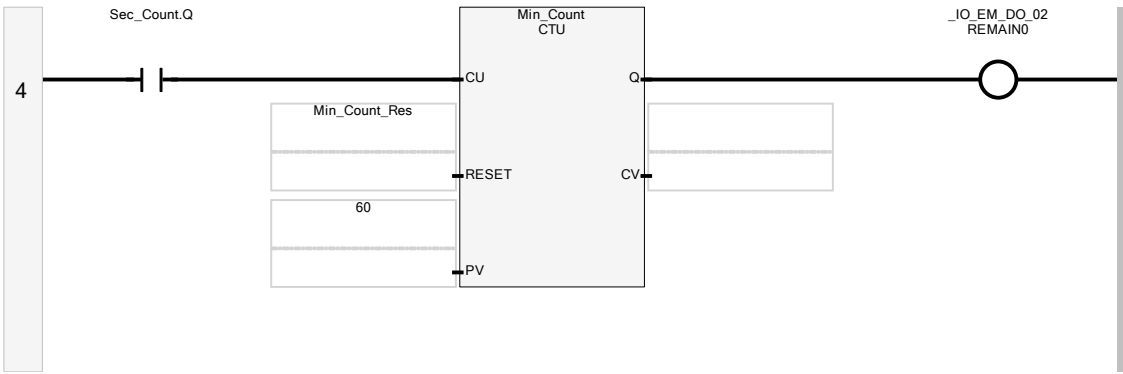
When 60 minutes counted, increment hours.



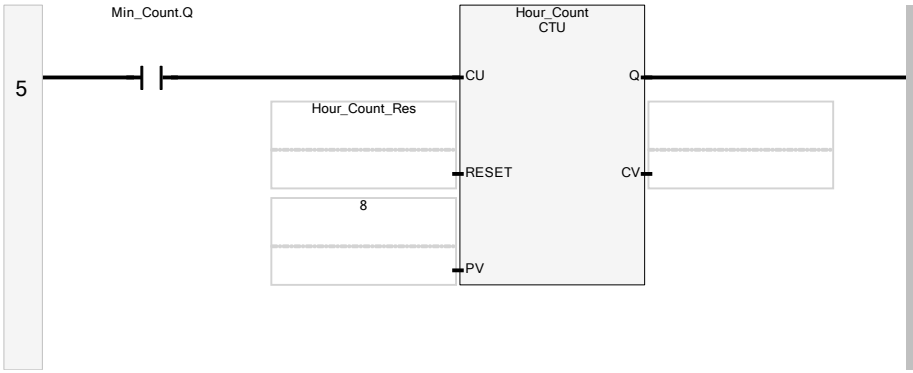
Rung3 Diagram



Rung4 Diagram

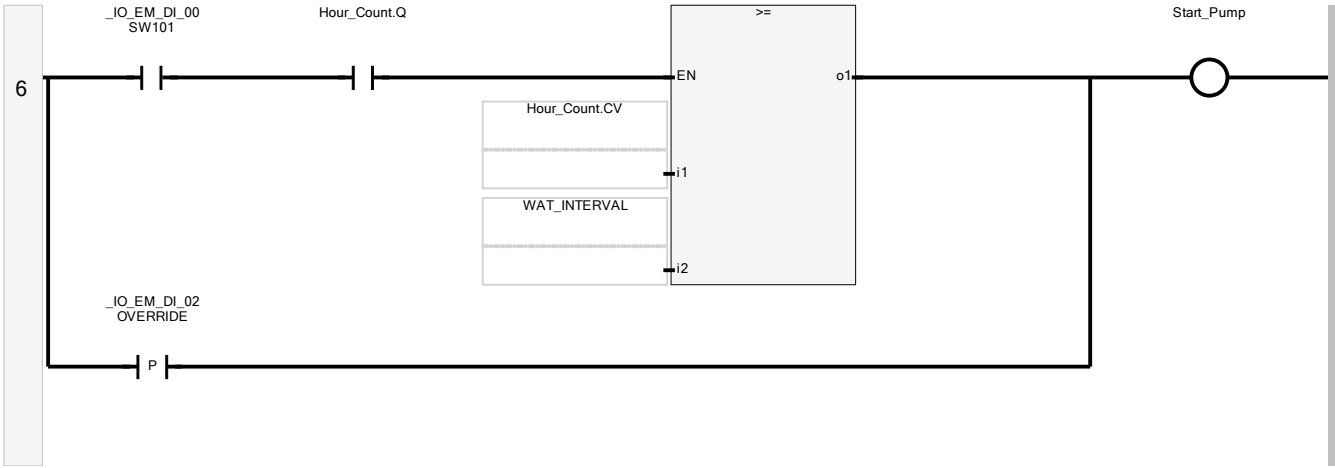


Rung5 Diagram



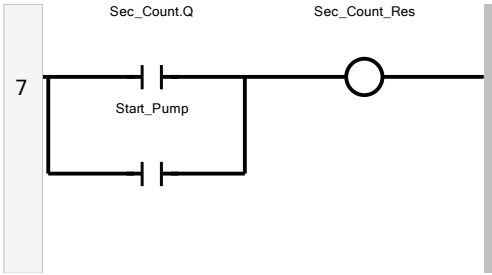
Rung6 Diagram

Start pump command when reached 8 hours or operator override.

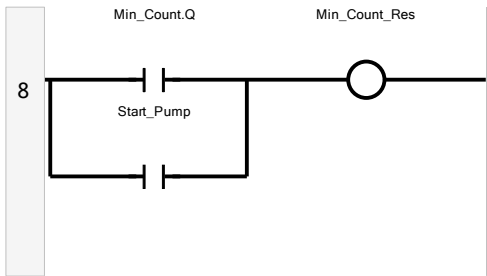


Rung7 Diagram

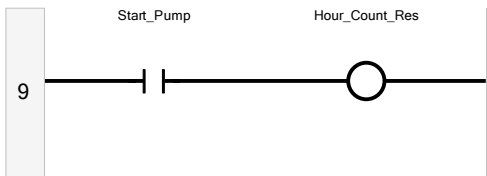
Counter resets



Rung8 Diagram

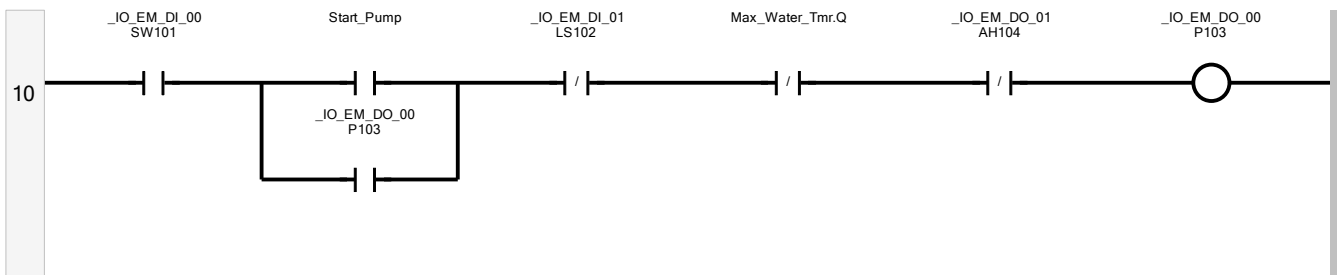


Rung9 Diagram



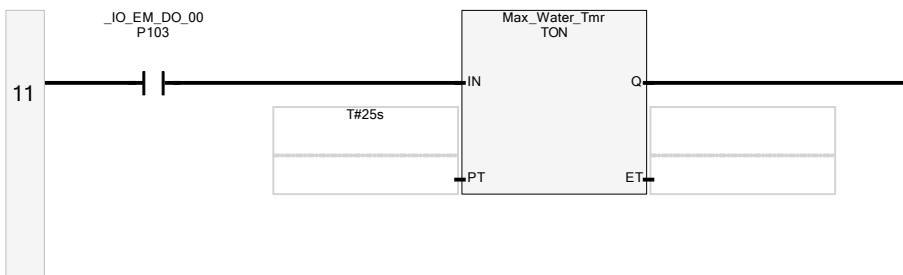
Rung10 Diagram

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



Rung11 Diagram

When pump has been on for 25 seconds, turn off pump and turn on alarm.

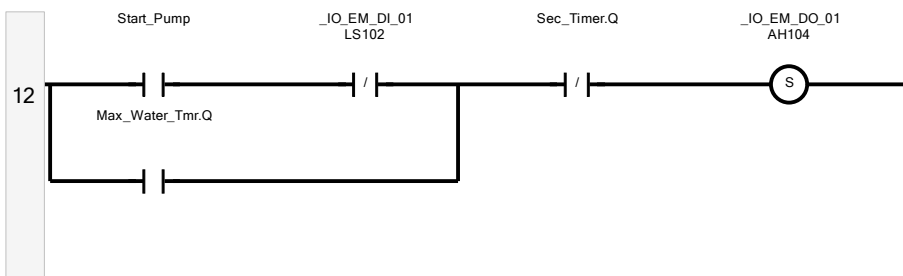


Rung12 Diagram

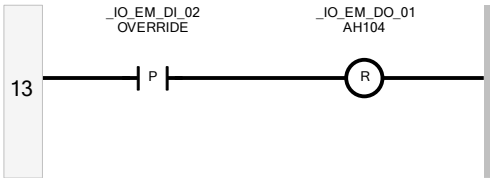
Alarm if level switch off when attempting to start pump or if maximum watering time reached.

Set/reset used instead of "sealing" so that only positive transition of override clears

alarm. Alarm will reactivate if alarm conditions met.



Rung13 Diagram



Rung14 Diagram

***** Added for SP7-4 *****

Calculate remaining time and then copy it to the 4 output bits.

