

Totally Integrated Automation Portal

Main [OB1]

Main Properties

General

Name	Main	Number	1	Type	OB
Language	LAD	Numbering	Manual		

Information

Title	SP21-4	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: SP21-4

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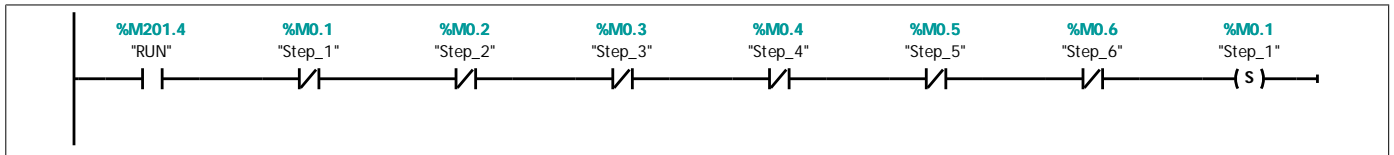
SP21-4 Valve Leak Check Station Control with Simulation

Additional internal memory:
Tag Address
Int_Reset %M5.1 BOOL Internal reset
Ret_Val %MW12 WORD Return value from SCALE block
Run_Trans %M61.0 BOOL Run has changed
Run_PTrans %M61.1 BOOL Bit for Run neg transition
Run_NTrans %M61.2 BOOL Bit for Run pos transition
OP_Zeroed %M61.3 BOOL Operation paused
Reset_Trans %M61.4 BOOL Reset_PB transition to start-kick
SFC
ResetPB_PTrans %M61.5 BOOL Bit for Reset_PB pos trans

%M2.0
"Dummy"

%M2.0
"Dummy"

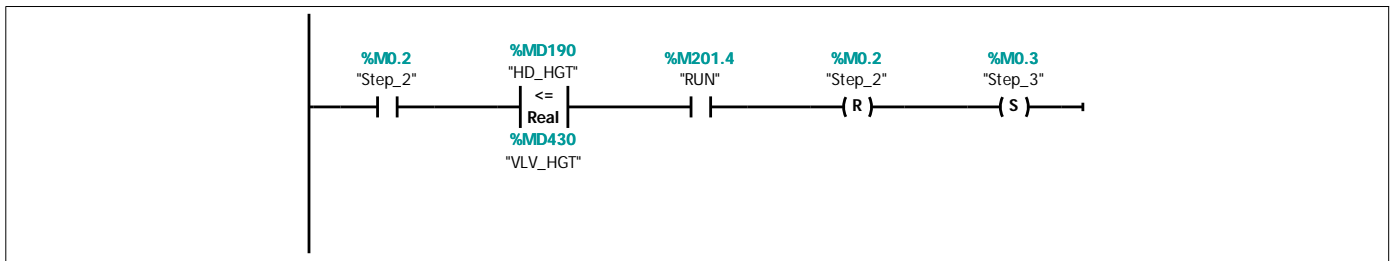
Network 2: Initial Start



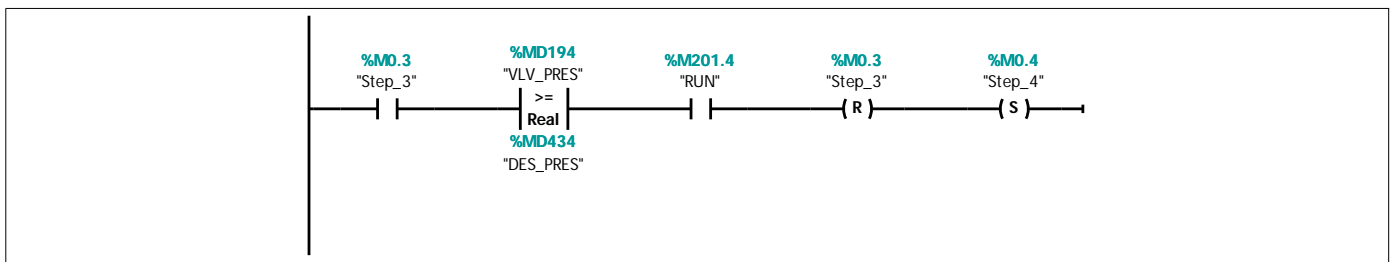
Network 3: Step 1 Wait for valve



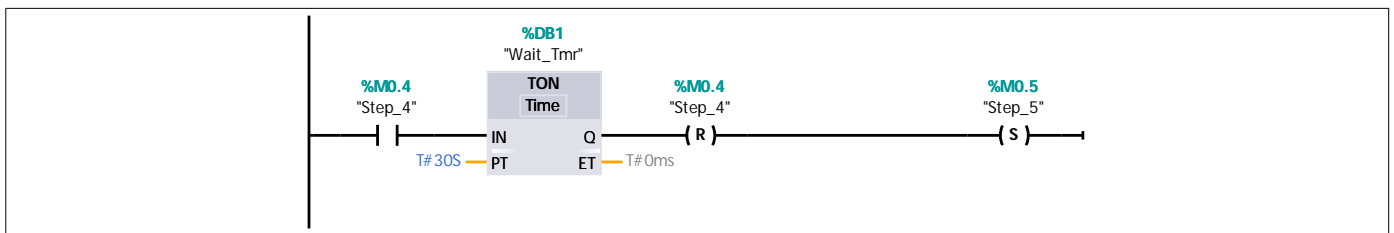
Network 4: Step 2 Head down



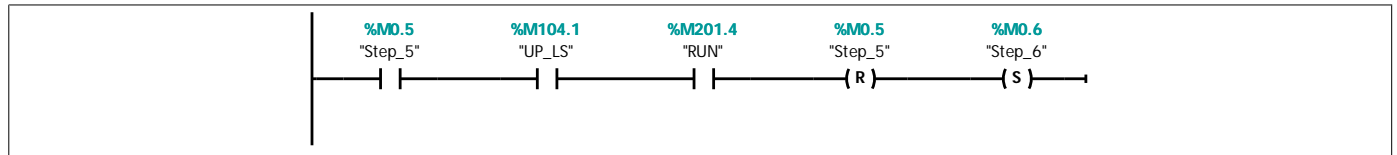
Network 5: Step 3 Pressurize



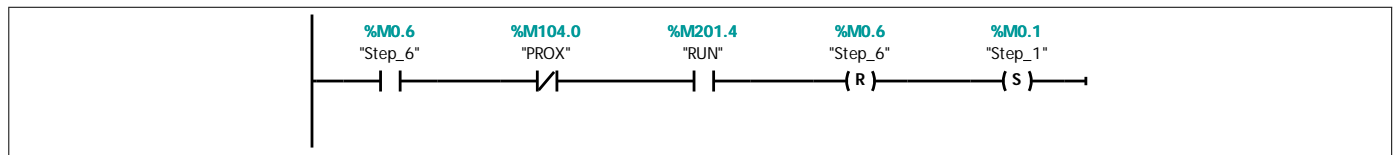
Network 6: Step 4 - Wait for pressure check



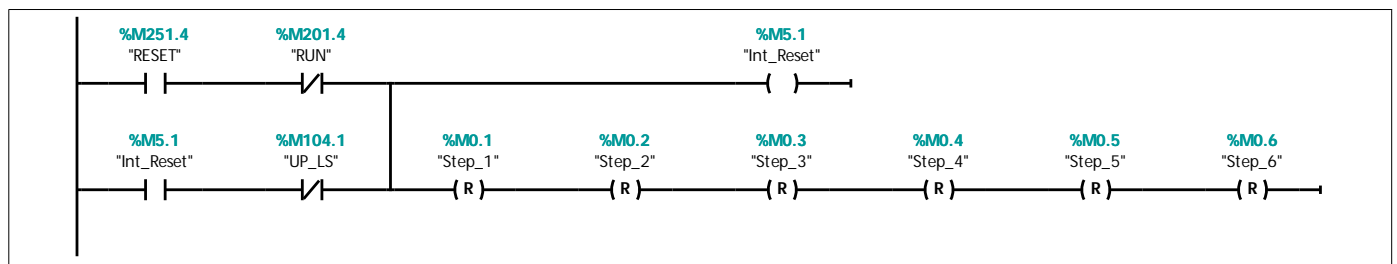
Network 7: Step 5 Head up



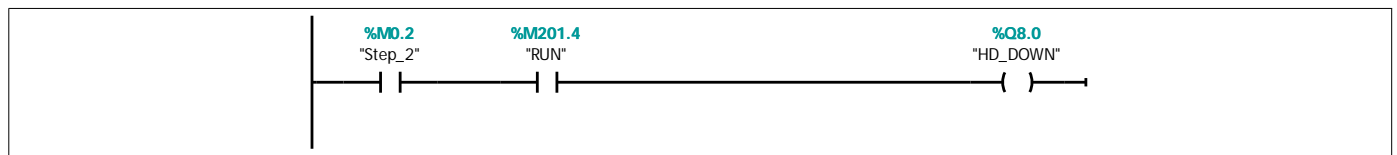
Network 8: Step 6 - Push to conveyor



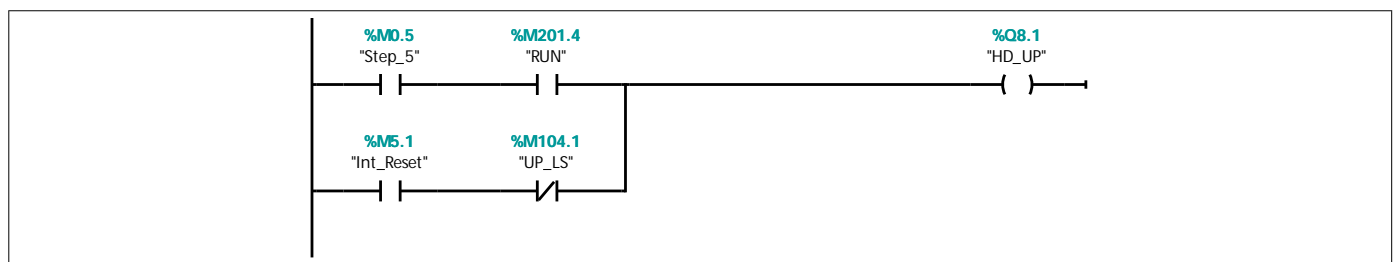
Network 9: Reset



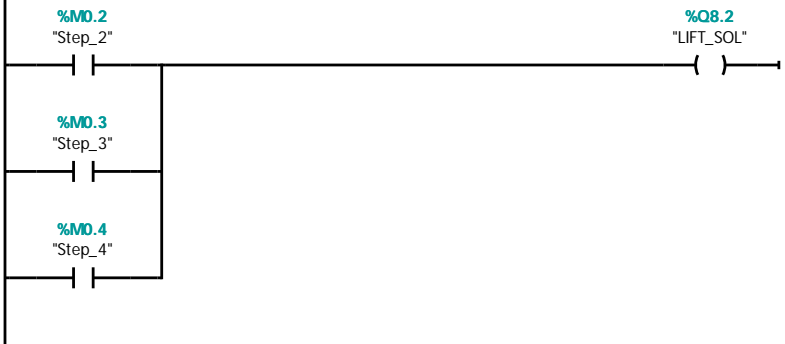
Network 10: Head Raise/Lower



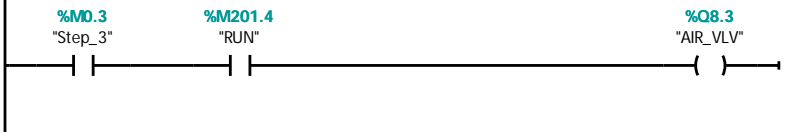
Network 11: PCYL controls



Network 12: Lift Solenoid. Must remain on when paused

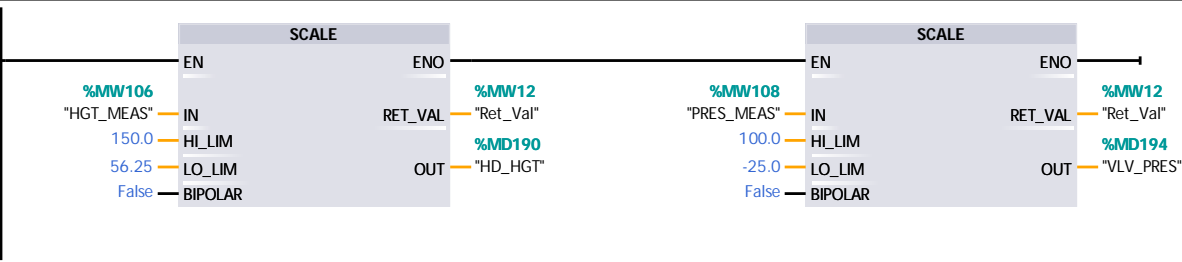


Network 13: Air Valve



Network 14: Convert height and pressure measurements using SCALE

Convert height measurement to mm and pressure measurement to psi.
Uses SCALE block. Note that the lo_lim input is 25% lower than zero weight to account for this block assuming the minimum value of the analog in is zero rather than the 5530 (which corresponds to 4 mA).

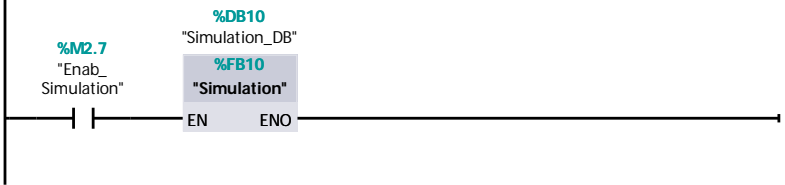


Network 15: Set if valve is to be rejected because it will not hold pressure

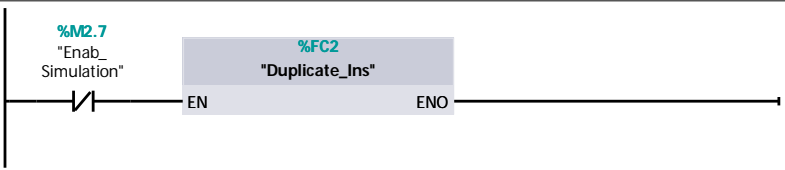
Check valve pressure during step 4. If falling, set reject bit.



Network 16: Simulation



Network 17: Copy real inputs to input image if not simulating



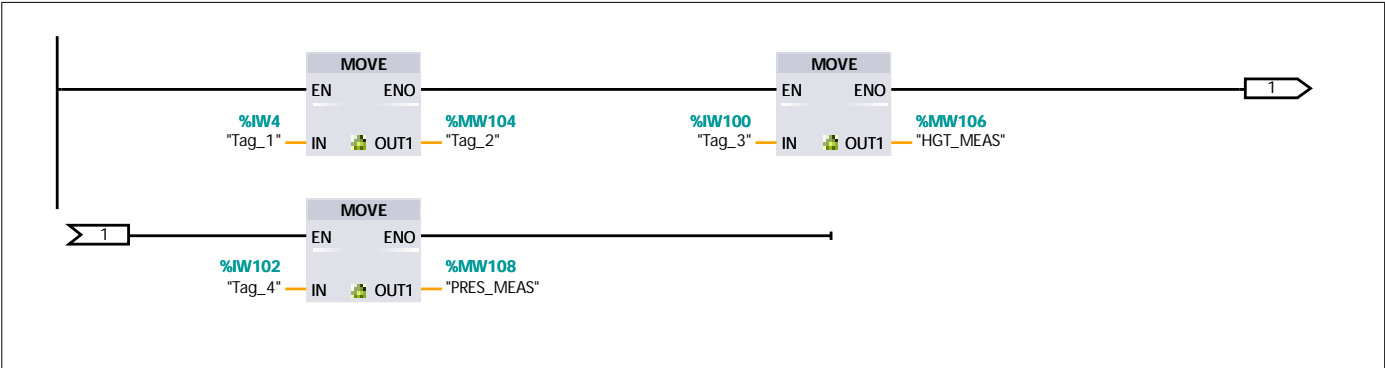
Duplicate_Ins [FC2]

Duplicate_Ins Properties

General					
Name	Duplicate_Ins	Number	2	Type	FC
Language	LAD	Numbering	Manual		
Information					
Title		Author		Comment	
Family		Version	0.1	User-defined ID	

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Duplicate_Ins	Void	

Network 1:



Simulation [FB10]

Simulation Properties

General

Name	Simulation	Number	10	Type	FB
Language	LAD	Numbering	Manual		

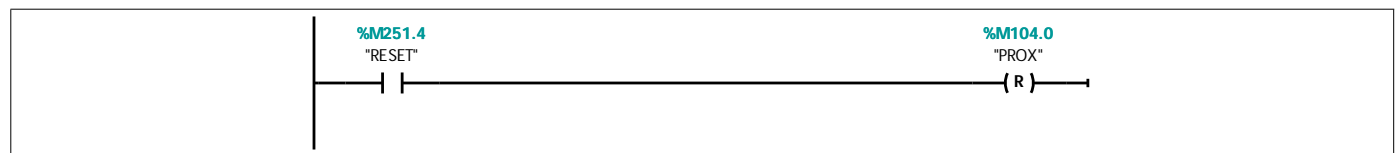
Information

Title		Author		Comment	Copyright (c) 2011 Dog-wood Valley Press, LLC SIMULATION LOGIC
Family		Version	0.1	User-defined ID	

Name	Data type	Default value
Input		
Output		
InOut		
▼ Static		
Sim_Tmr0	TON_TIME	
Sim_Tmr1	TON_TIME	
Sim_Tmr2	TON_TIME	
Sim_Tmr3	TON_TIME	
Sim_Tmr4	TON_TIME	
Sim_Tmr5	TON_TIME	
Sim_Tmr6	TON_TIME	
Sim_Tmr7	TON_TIME	
Sim_Tmr1_IN	Bool	false
HD_Up_NTrans	Bool	false
Sim_Tmr4_Q	Bool	false
Sim_Tmr5_Q	Bool	false
Sim_Tmr6_Q	Bool	false
Sim_Tmr7_Q	Bool	false
Sim_TmpInt	Int	0
Temp		
Constant		

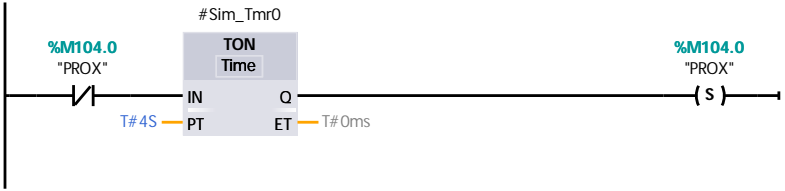
Network 1:

On reset, reset PROX

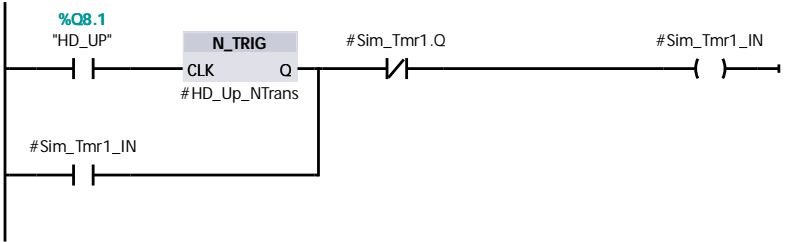


Network 2:

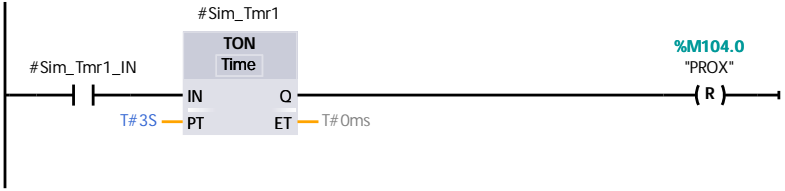
PROX simulation: Set when PROX off for 4 secs.
Reset 3 secs after HD_UP transitions off



Network 3:

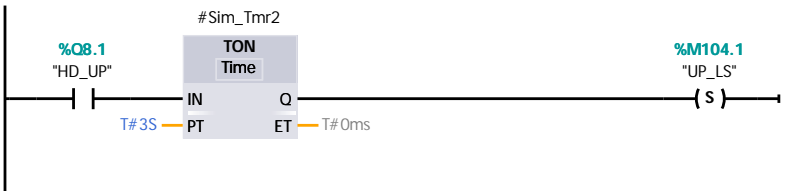


Network 4:

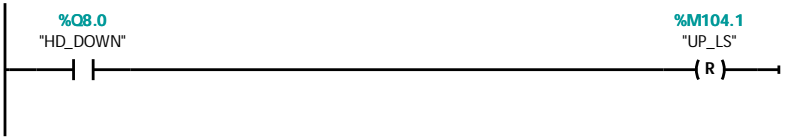


Network 5: Limit switch that closes (on) when pressurizing head is fully up

UP_LS simulation: Latch when HD_UP on for 3 sec. Unlatch when HD_DOWN



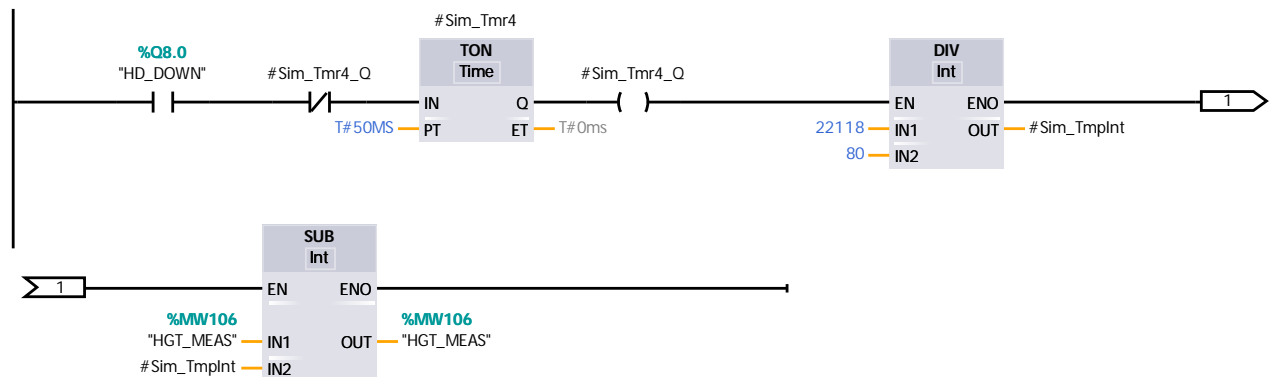
Network 6: Limit switch that closes (on) when pressurizing head is fully up



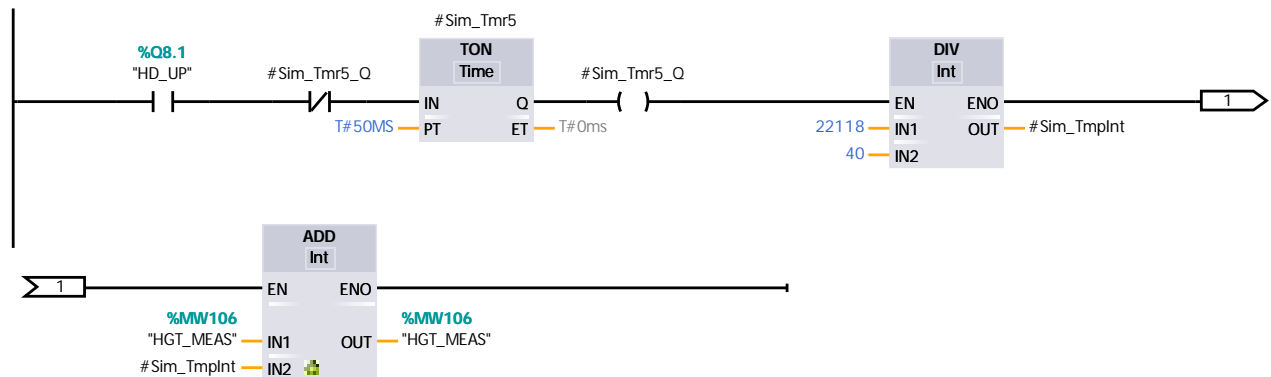
Network 7:

HGT_MEAS Simulation: When HD_DOWN, decrement every 50 ms by 22118/80, meaning it goes from high to low in 4 sec. Also make sure no less than 5530.

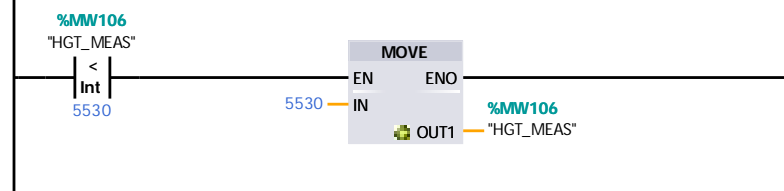
When HD_UP increment every 50 ms by 22118/40 meaning it goes to high in at most 2 sec, and then make sure not larger than 27648



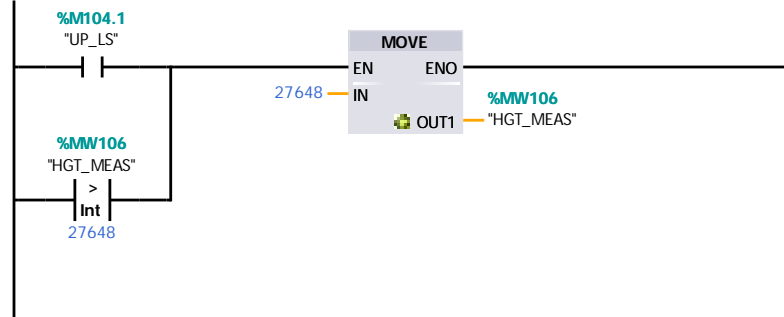
Network 8:



Network 9:



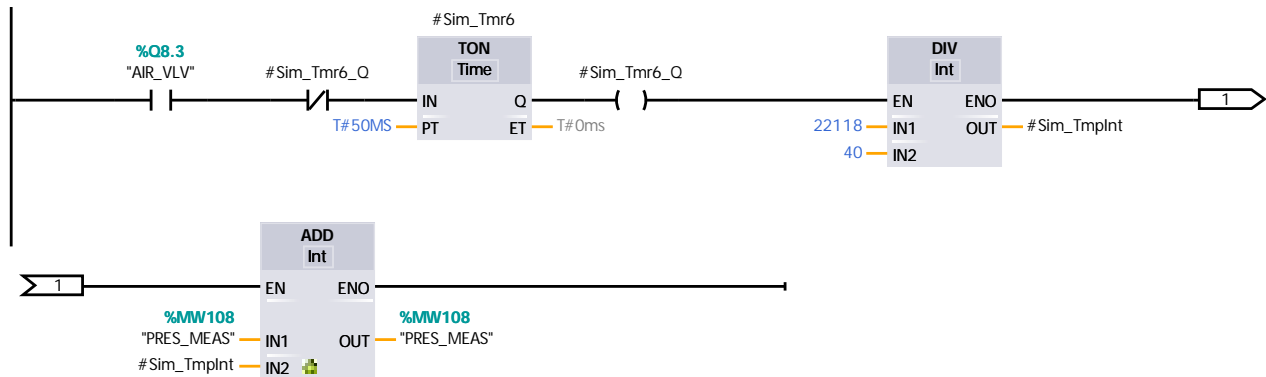
Network 10:



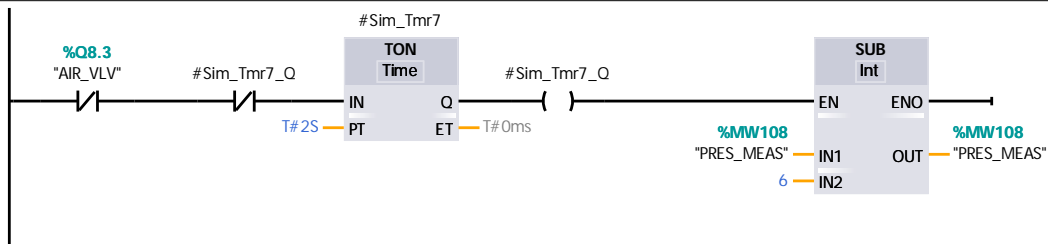
Network 11:

PRESS_MEAS Simulation: When AIR_VLV, increment every 50 ms by 22118/40, meaning it goes from low to high in 4 sec.

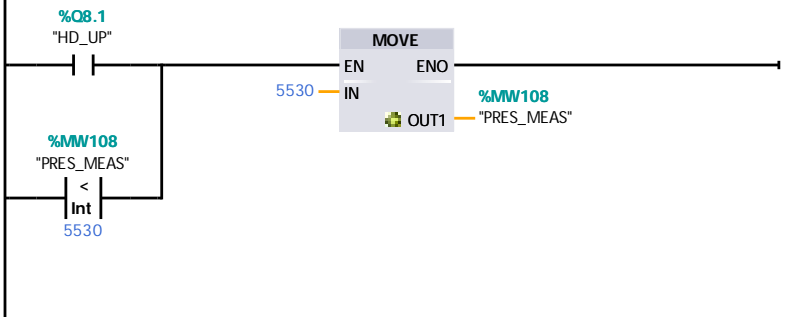
When AIR_VLV off, decrement every 2 sec by 6 meaning a slow leak, and then make sure not less than zero. HD_UP also resets it.



Network 12:



Network 13:



Network 14:

