

Totally Integrated Automation Portal		
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Main [OB1]

Main Properties

General

Name	Main	Number	1	Type	OB
Language	LAD	Numbering	Manual		

Information

Title	SP21-3	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: SP21-3

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SP21-3 Erbia Can Tipper/Rotator Control with simulation

Additional internal memory:
Tag Address
Run %M5.0 BOOL On while station running
Int_Reset %M5.1 BOOL Internal reset
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

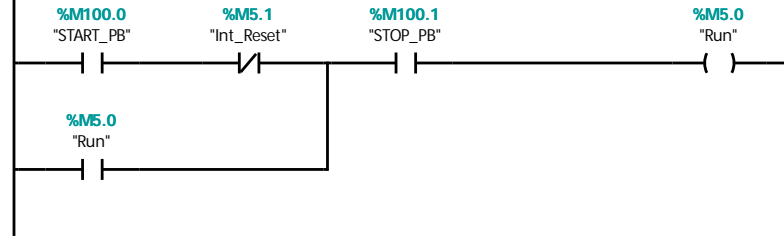
%M10.0
"Dummy"

%M10.0
"Dummy"

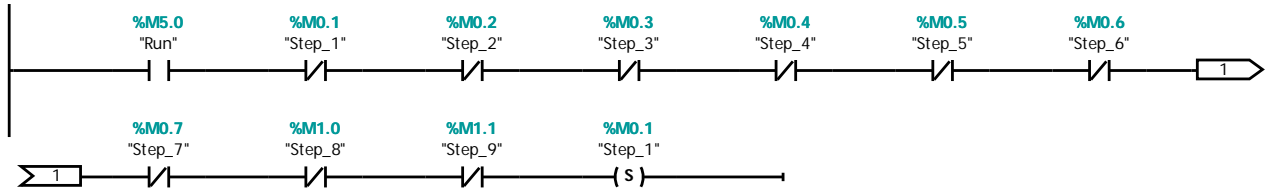
Network 2: Start/stop

During reset prevent start

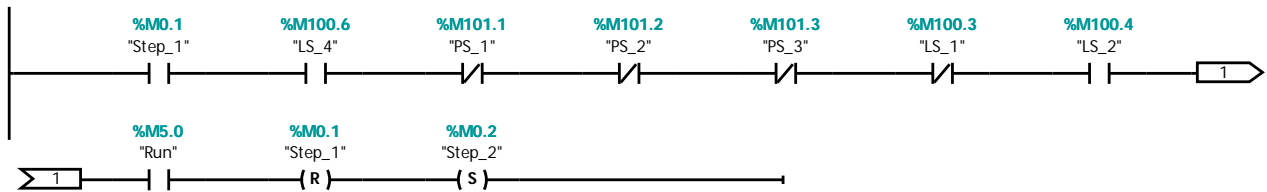
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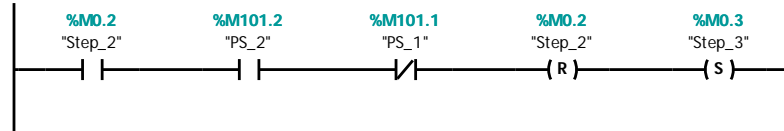
Network 3: Initial start



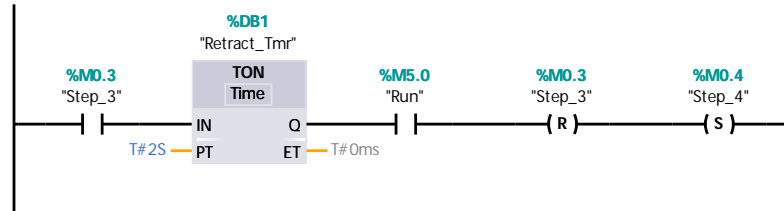
Network 4: Step 1 Wait for can



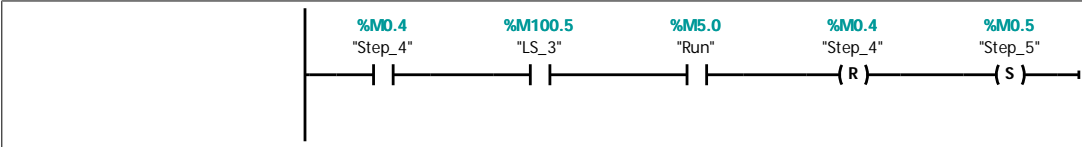
Network 5: Step 2 Push can into tipper.



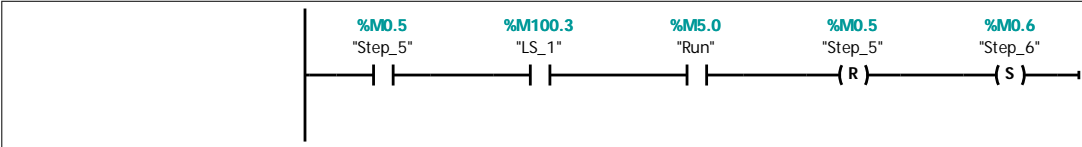
Network 6: Step 3 Wait for CYL_4 to retract



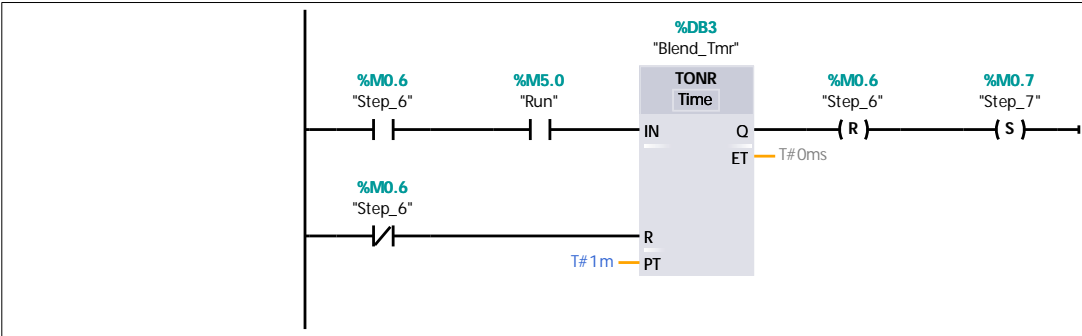
Network 7: Step 4 Clamp can



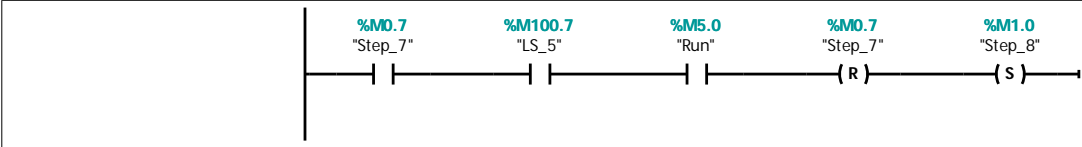
Network 8: Step 5 Tip rotator



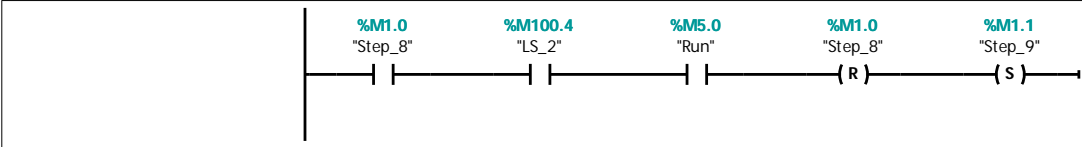
Network 9: Step 6 Blend



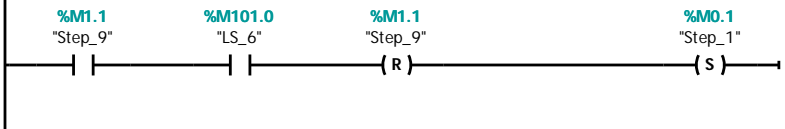
Network 10: Step 7 Untip



Network 11: Step 8 Unclamp

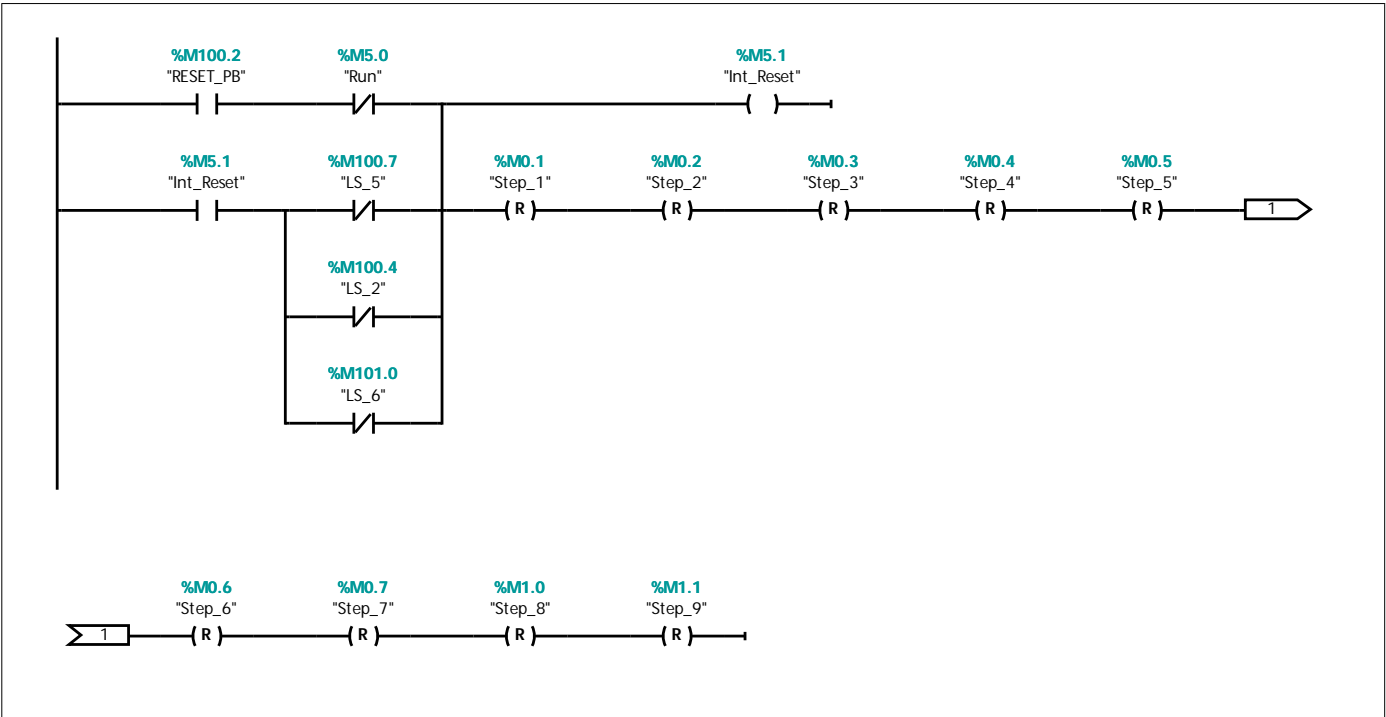


Network 12: Step 9 - Push out



Network 13: Reset

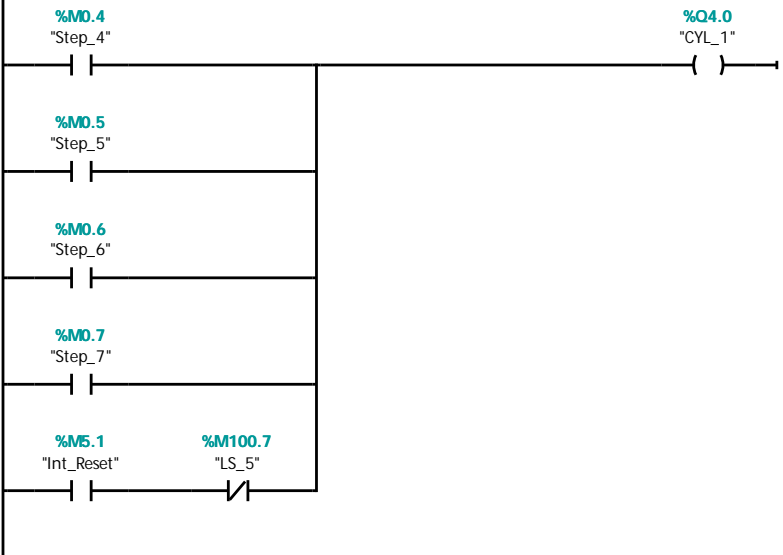
Keep internal reset on until can unclamped, vertical and out of station.



Network 14: Physical Outputs

Gate cylinder controls. Cannot turn off CYL_1 to CYL_3 when paused.

On reset, do not unclamp until vertical.

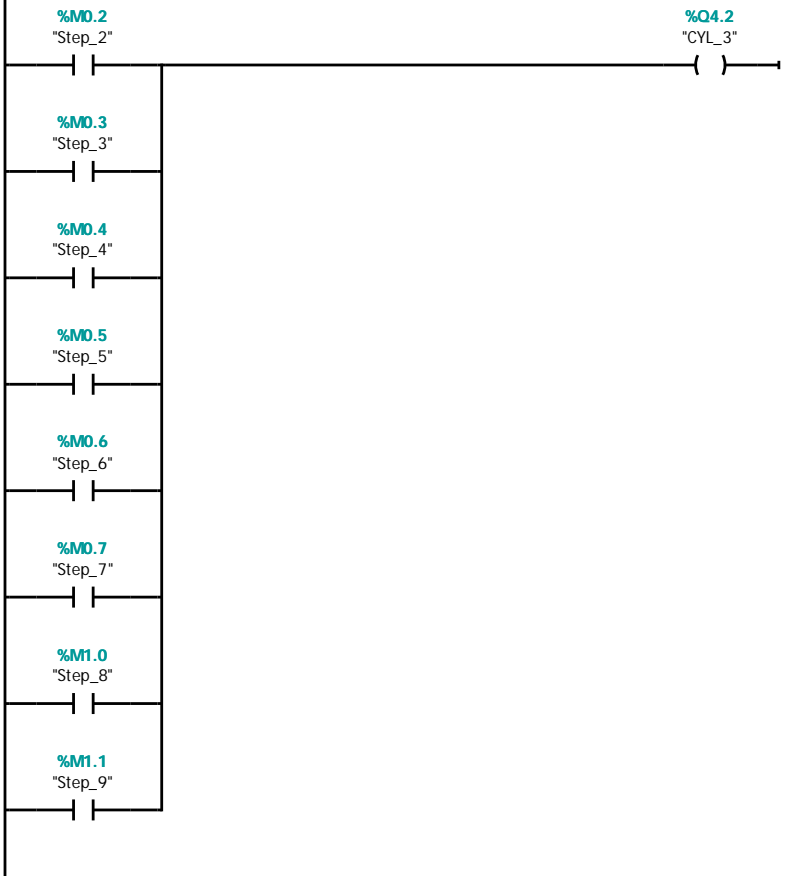


Network 15: CYL_2 control



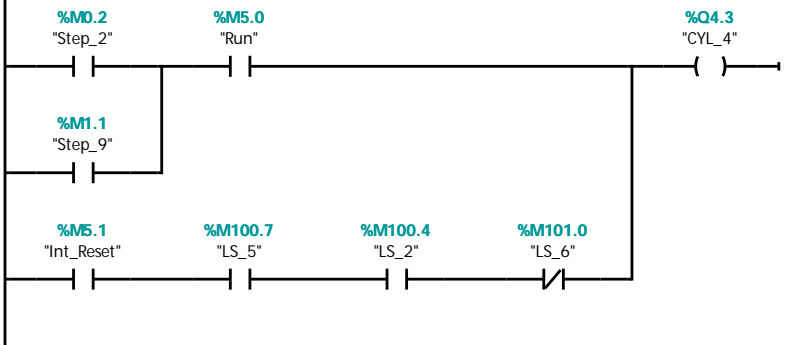
Network 16: CYL_3 control

Retract on reset



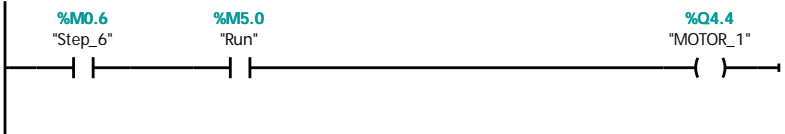
Network 17: CYL_4 control

On reset, do not push out until in vertical position and unclamped.



Network 18: Rotator motor control

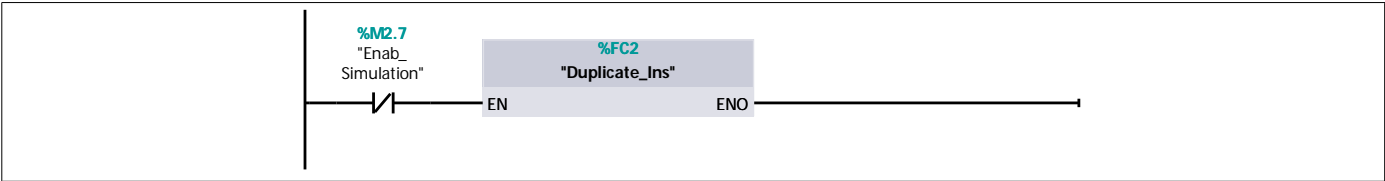
Retract on reset



Network 19: Simulation



Network 20: Copy real inputs to input image if not simulating



Duplicate_Ins [FC2]

Duplicate_Ins Properties

General

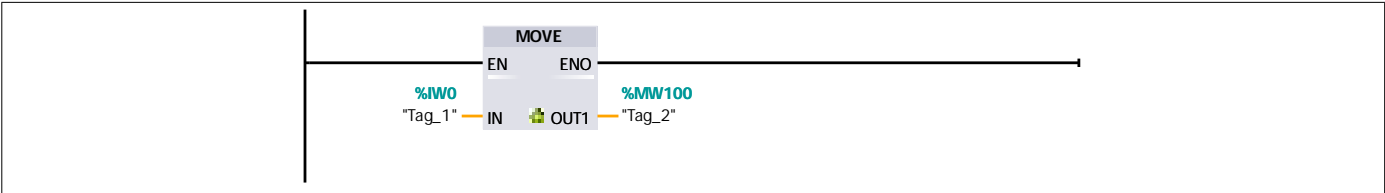
Name	Duplicate_Ins	Number	2	Type	FC
Language	LAD	Numbering	Manual		

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		

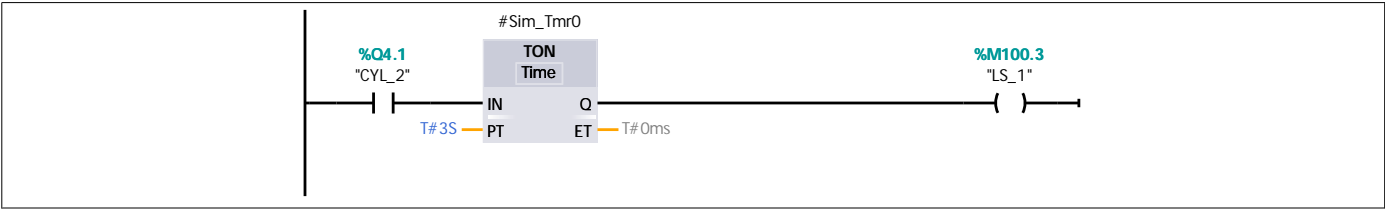
Information

Title	Simulation	Author		Comment	Copyright (c) 2023 Dog-wood Valley Press, LLC SIMULATION LOGIC
Family		Version	0.1	User-defined ID	

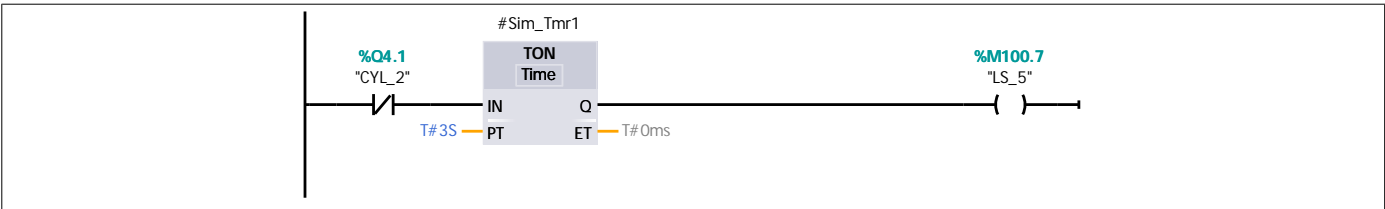
Name	Data type	Default value
Input		
Output		
InOut		
▼ Static		
Sim_Tmr0	TON_TIME	
Sim_Tmr1	TON_TIME	
Sim_Tmr2	TON_TIME	
Sim_Tmr3	TON_TIME	
Sim_Tmr4	TON_TIME	
Sim_Tmr5	TON_TIME	
Sim_Tmr_4_ET	DInt	0
Sim_Tmr_5_IN	Bool	false
Temp		
Constant		

Network 1: Limit switch that closes when feeder ram is retracted.

Horizontal/vertical limit switch simulation: Turn on LS_1 when CYL_2 on for 3 secs. Turn on LS_5 when CYL_2 off for 3 secs.



Network 2: Vertical position limit switch



Network 3: Holder clear limit switch

Tieback for clamped can limit switches
Clamped can limit switch simulation: Turn on LS_3 when CYL_1 on for 3 secs.
Turn on LS_2 when CYL_1 off for 3 secs.

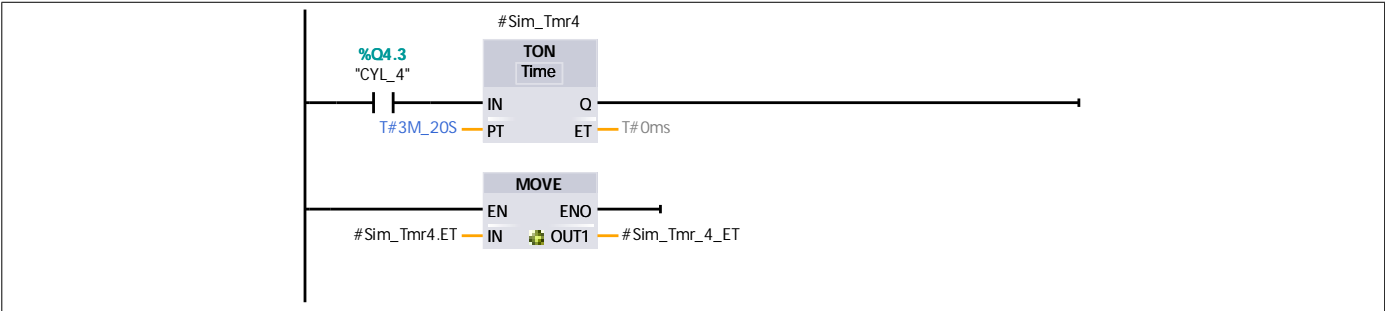


Network 4: Holder clear limit switch

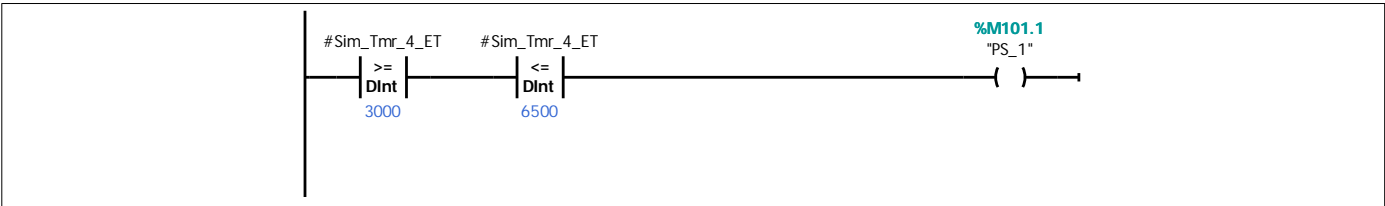


Network 5:

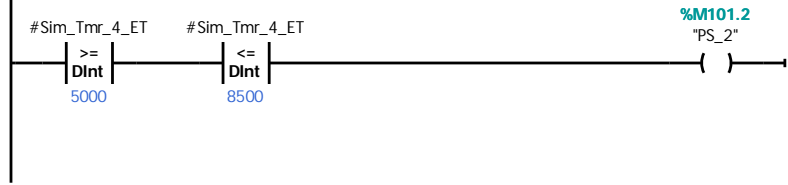
Switches that change because of CYL_4 extension are driven based on time that
CYL_4 control is on.



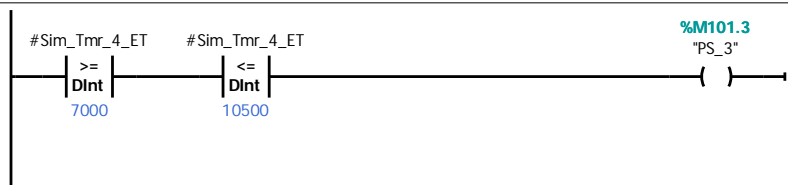
Network 6: Left can photoelectric switch



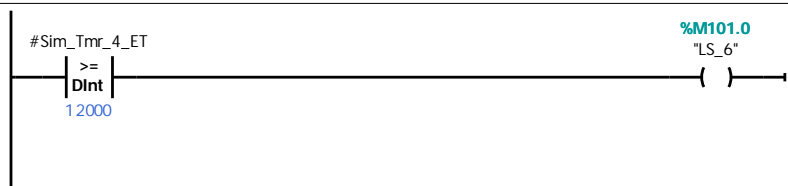
Network 7: Middle can photoelectric switch



Network 8: Right can photoelectric switch



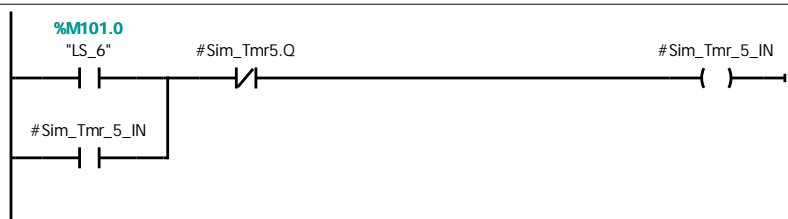
Network 9: Cylinder CYL_4 fully extended limit switch



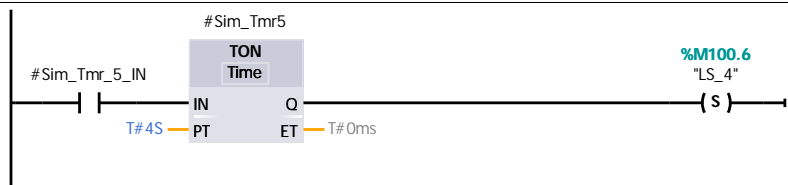
Network 10:

Simulate next one in 4 sec after LS_6 is activated.
Reset 2 seconds after CYL_4 activated.

This will also generate first one in after reset since LS_6 is always activated to push one out.



Network 11: Can present on input conveyor limit switch



Network 12: Can present on input conveyor limit switch

