

Main_Program [OB1]

Main_Program Properties

General

Name	Main_Program	Number	1	Type	OB
Language	LAD	Numbering	Manual		

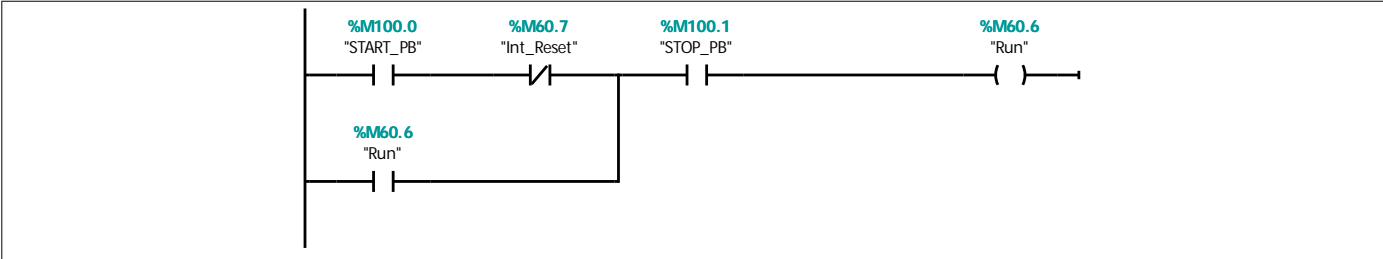
Information

Title	"Main Program Sweep (Cycle)"	Author		Comment	Example 9.1 Engine Inverter with move-based sequencer Copyright (c) 2022 Dogwood Valley Press, LLC
Family		Version	0.1	User-defined ID	

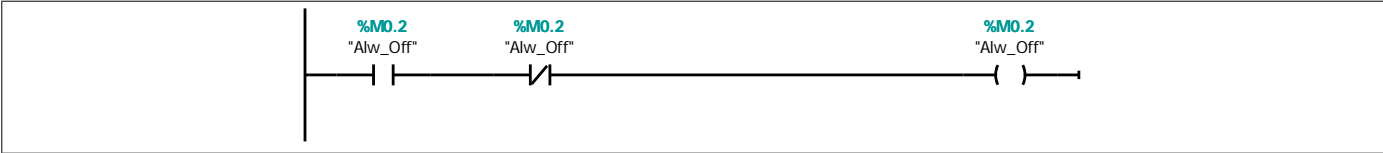
Name	Data type	Default value
▼ Temp		
OB1_EV_CLASS	Byte	
OB1_SCAN_1	Byte	
OB1_PRIORITY	Byte	
OB1_OB_NUMBR	Byte	
OB1_RESERVED_1	Byte	
OB1_RESERVED_2	Byte	
OB1_PREV_CYCLE	Int	
OB1_MIN_CYCLE	Int	
OB1_MAX_CYCLE	Int	
OB1_DATE_TIME	Date_And_Time	
Constant		

Network 1: Start/stop/pause.

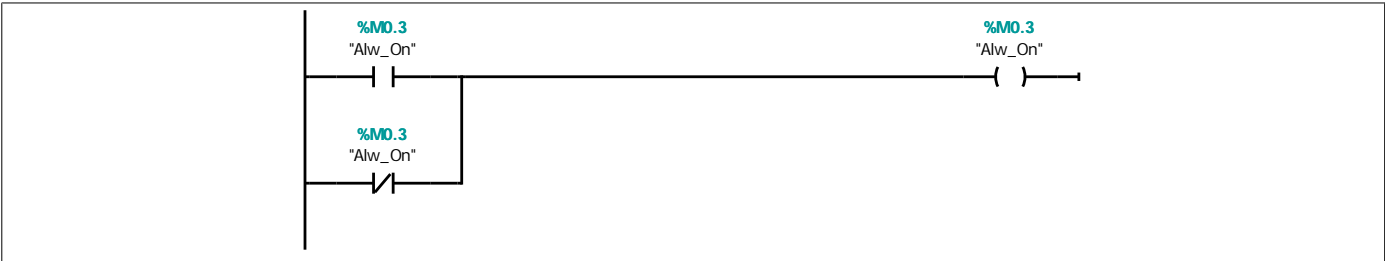
Start prevented if reset in progress.



Network 2: Always Off Logic

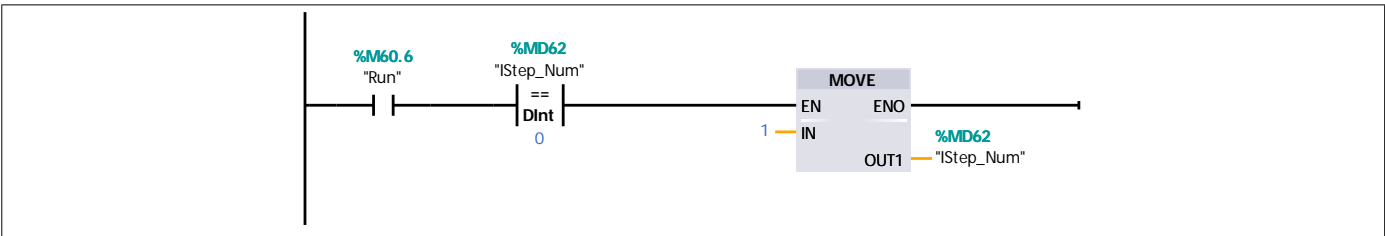


Network 3: Always On Logic

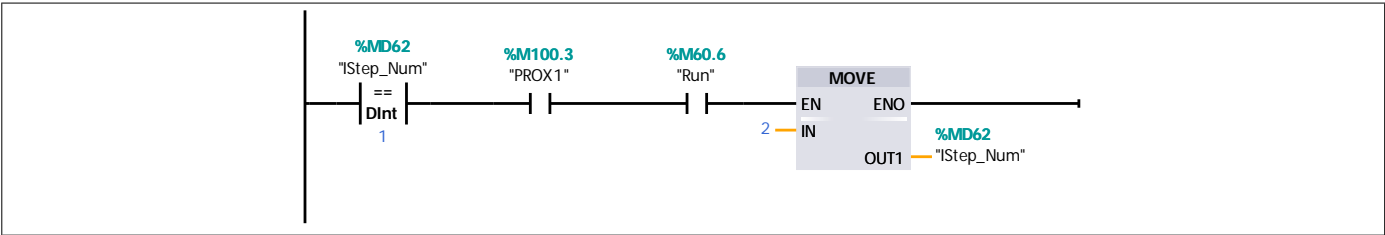


Network 4: First Start

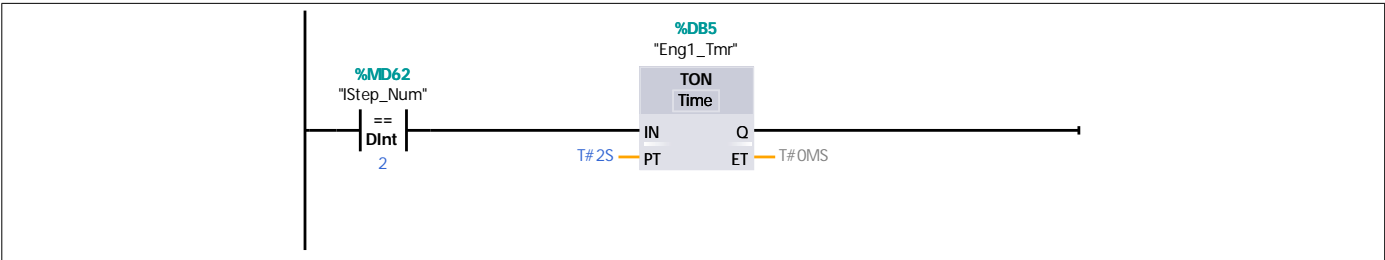
Transition out of initial step to step 1.



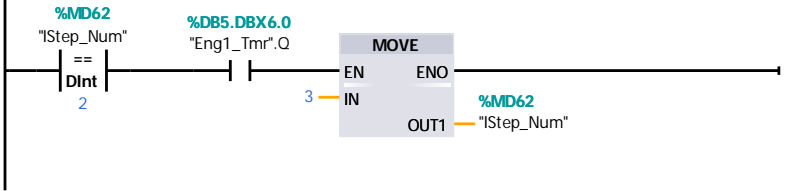
Network 5: Step 1 - Wait for pallet.



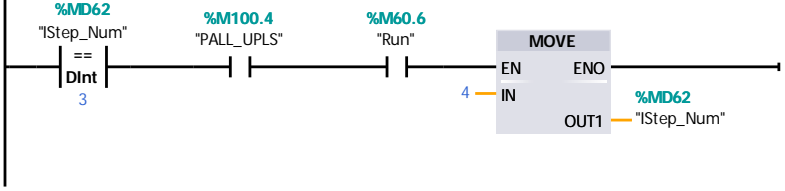
Network 6: Step 2 - Move to hook 2



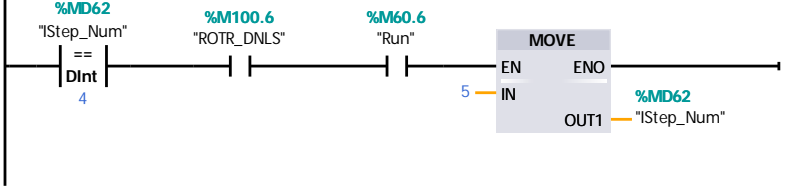
Network 7:



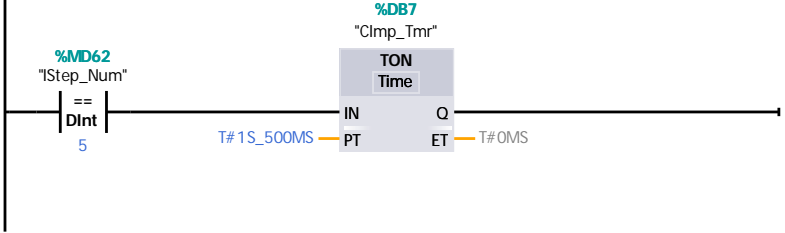
Network 8: Step 3 - Raise pallet



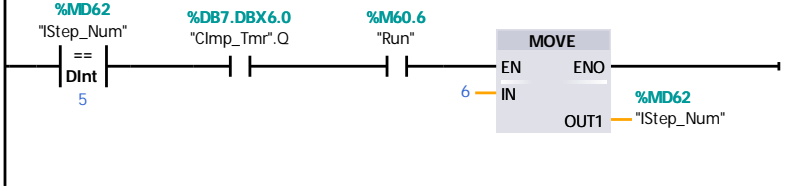
Network 9: Step 4 - Lower rotator



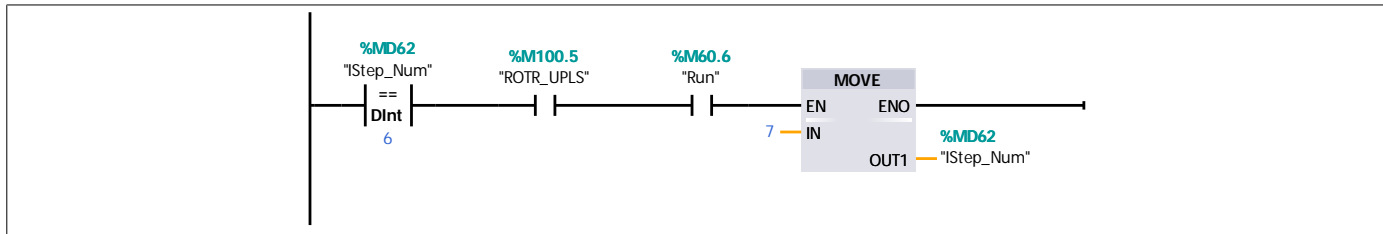
Network 10: Step 5 - Timer



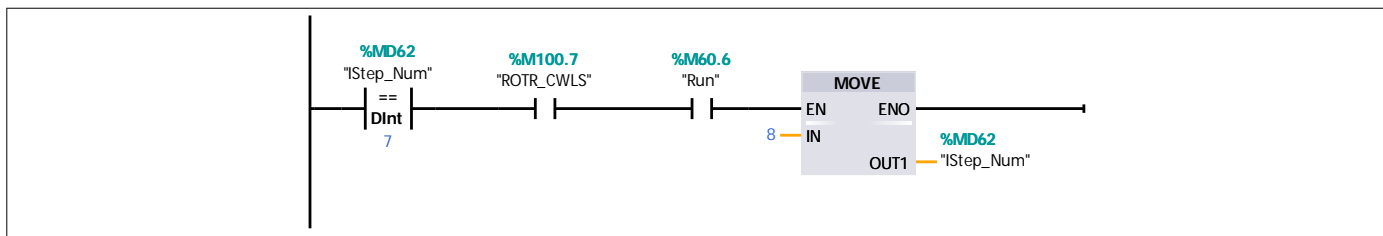
Network 11: Step 5 - Clamp



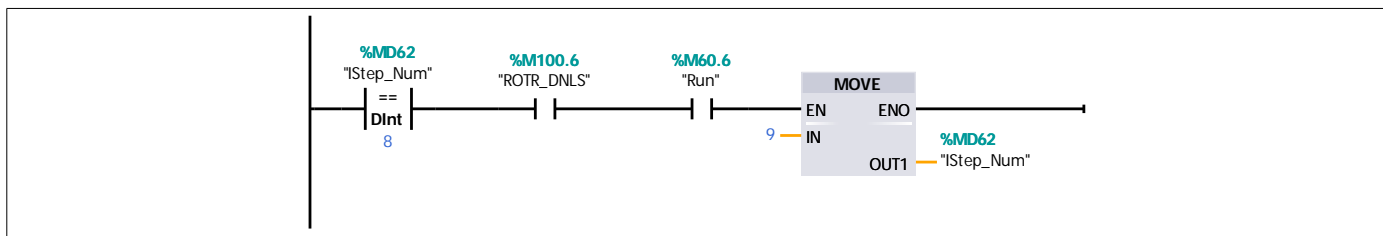
Network 12: Step 6 - Raise rotator



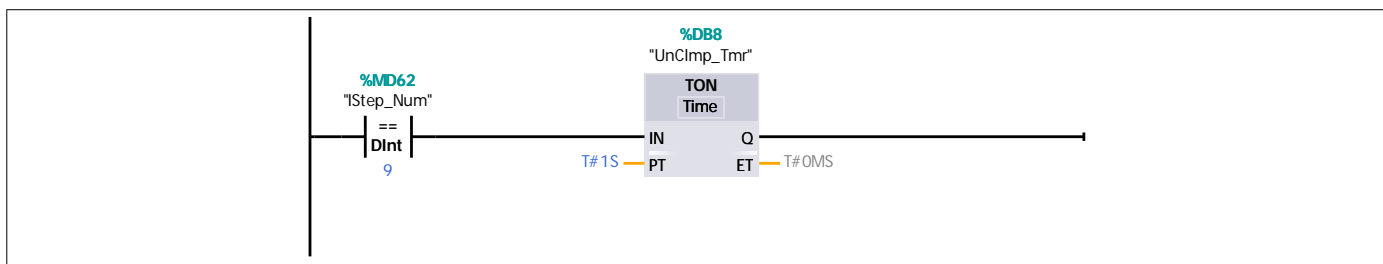
Network 13: Step 7 - Rotate CW



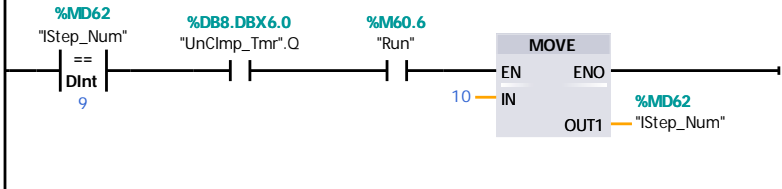
Network 14: Step 8 - Lower rotator



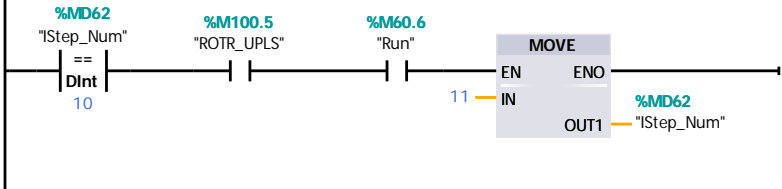
Network 15: Step 9 - Unclamp timer.



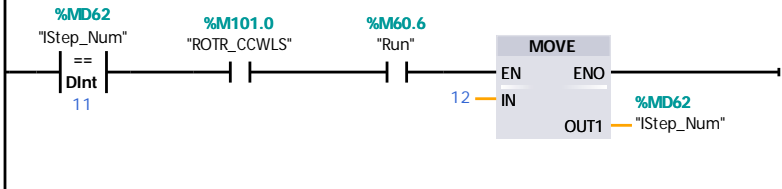
Network 16: Step 9 - Unclamp engine.



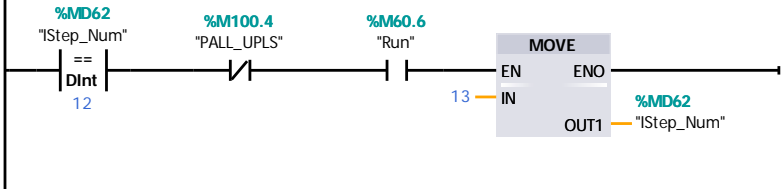
Network 17: Step 10 - Raise rotator.



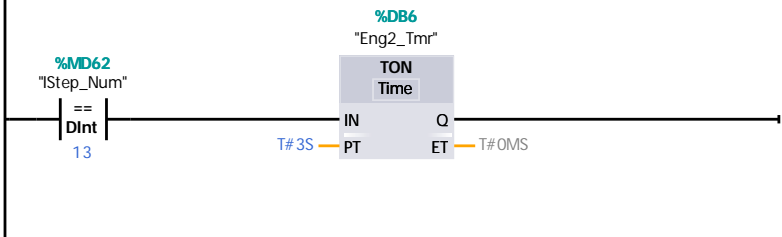
Network 18: Step 11 - Rotate CW



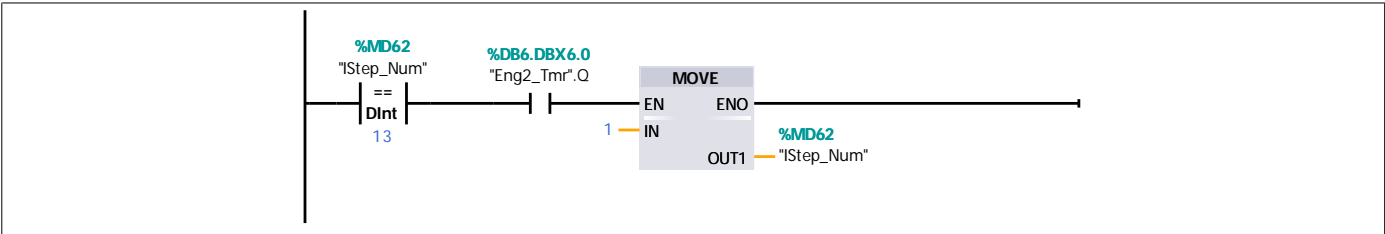
Network 19: Step 12 - Drop engine.



Network 20: Step 13 - Timer

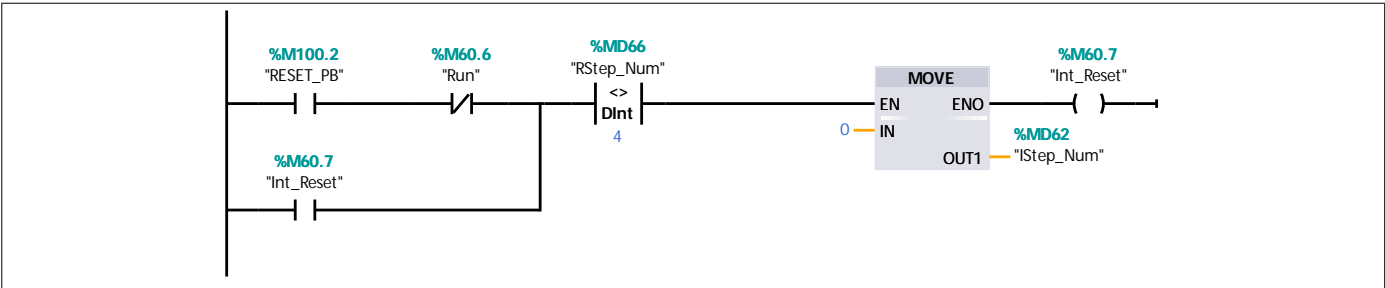


Network 21: Step 13 - Move out pallet, then jump to step 1

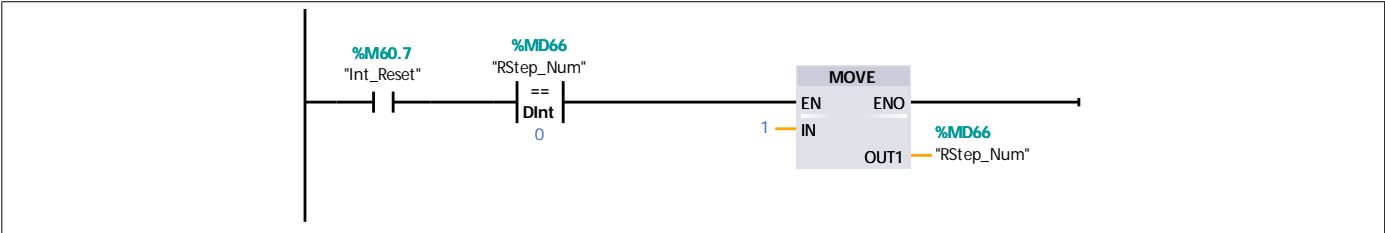


Network 22: Start/stop for reset operation.

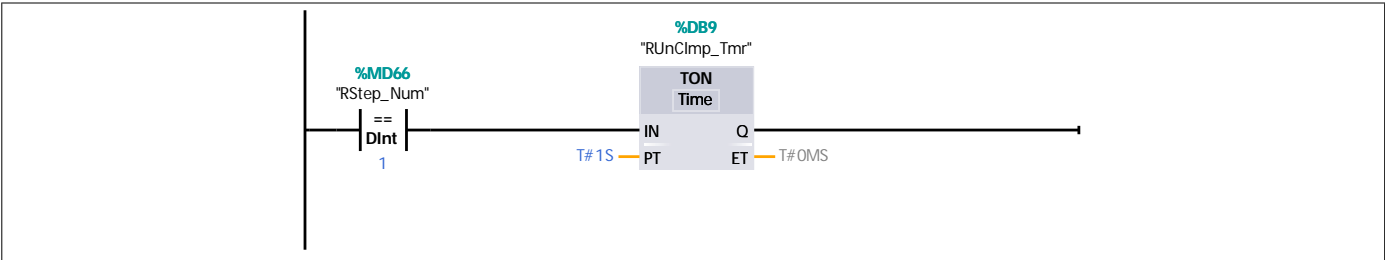
Reset pb starts, reset step 4 stops it.



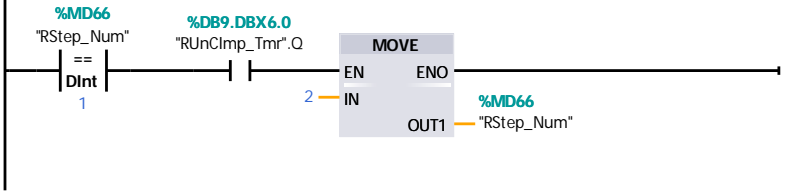
Network 23: First press of reset pb starts reset



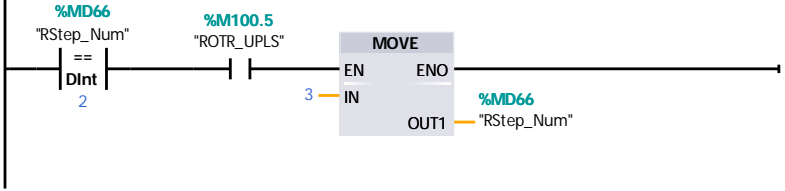
Network 24: Reset step 1 - Unclamp timer



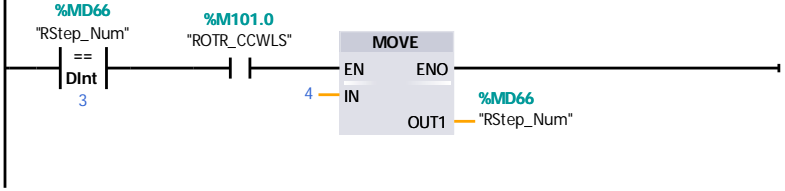
Network 25: Reset step 1 - Unclamp.



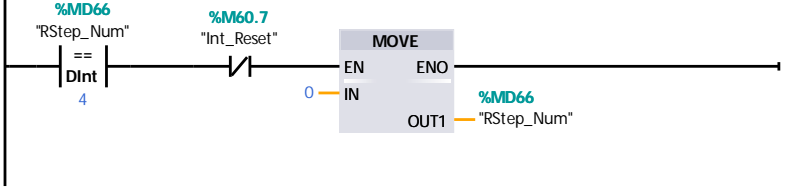
Network 26: Reset step 2 - Raise mechanism.



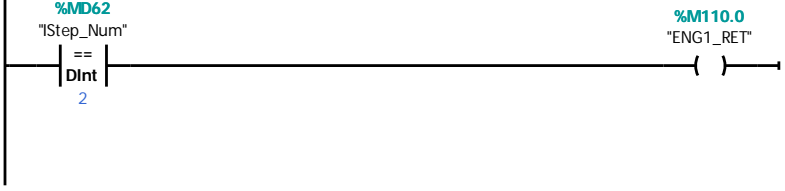
Network 27: Reset step 3 - Rotate CCW.



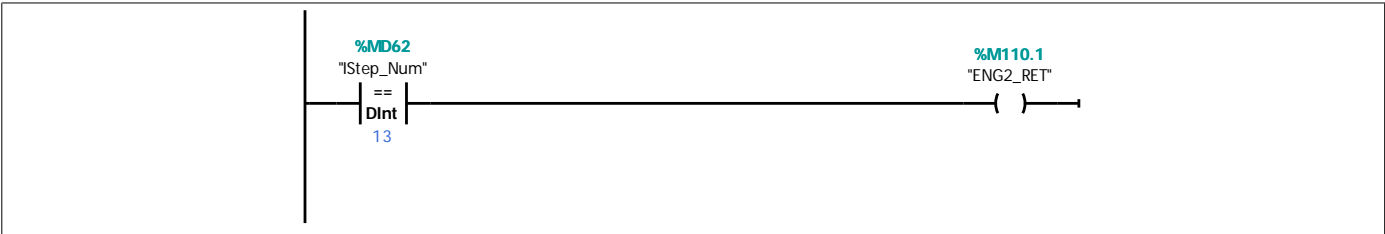
Network 28:



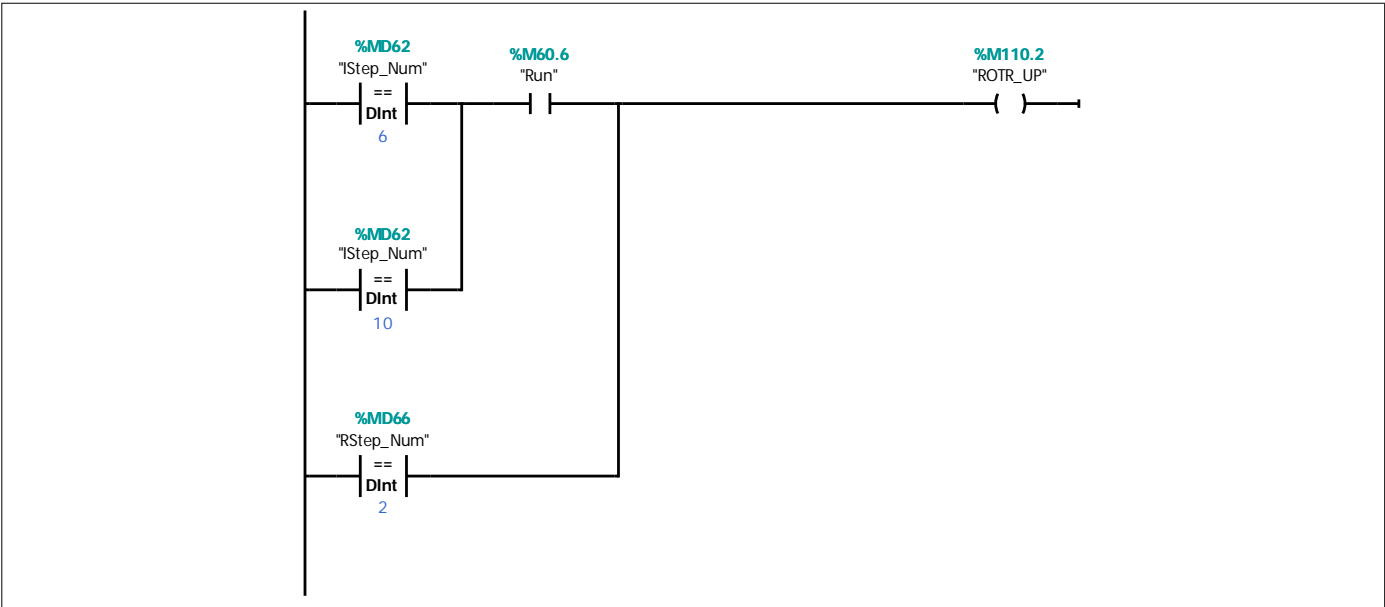
Network 29: Engaging hooks control



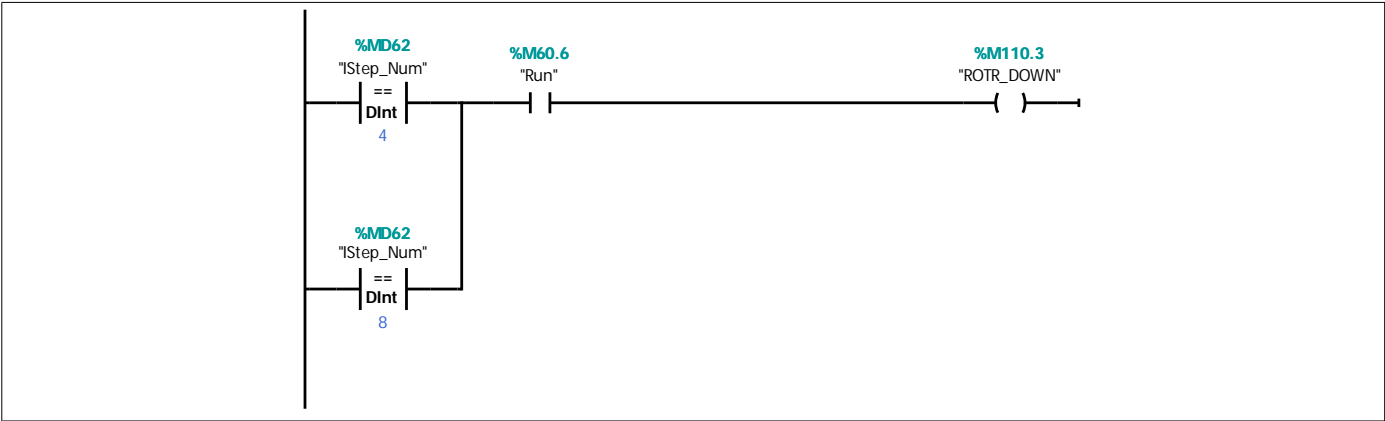
Network 30:



Network 31: Rotating mechanism up/down control.



Network 32:



Network 33: Rotation Control

Totally Integrated Automation Portal		
<div><div></div><div><div><div>%MD62 "IStep_Num"</div><div>==</div><div>DInt</div><div>7</div></div><div><div>%M60.6 "Run"</div><div> </div></div><div><div>%M110.4 "ROTAT_CW"</div><div>()</div></div></div></div>		
Network 34:		
<div><div></div><div><div><div>%MD62 "IStep_Num"</div><div>==</div><div>DInt</div><div>11</div></div><div><div>%M60.6 "Run"</div><div> </div></div><div><div>%M110.5 "ROTAT_CCW"</div><div>()</div></div></div><div><div><div>%MD66 "RStep_Num"</div><div>==</div><div>DInt</div><div>3</div></div><div><div> </div></div><div><div> </div></div></div></div>		
Network 35: Gripper Control		
<div><div></div><div><div><div>%MD62 "IStep_Num"</div><div>>=</div><div>DInt</div><div>5</div></div><div><div>%MD62 "IStep_Num"</div><div><=</div><div>DInt</div><div>8</div></div><div><div>%M110.6 "GRIP_CLOS"</div><div>()</div></div></div></div>		
Network 36: Pallet Up Control		
<div><div></div><div><div><div>%MD62 "IStep_Num"</div><div>>=</div><div>DInt</div><div>3</div></div><div><div>%MD62 "IStep_Num"</div><div><=</div><div>DInt</div><div>11</div></div><div><div>%M110.7 "PALL_UPCTL"</div><div>()</div></div></div></div>		
Network 37: Call simulation		

Simulation [FB10]

Simulation Properties

General

Name	Simulation	Number	10	Type	FB
Language	LAD	Numbering	Manual		

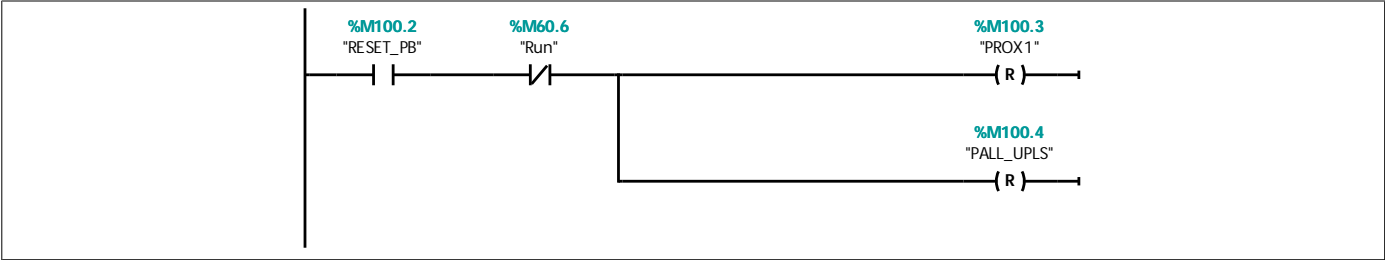
Information

Title	SIMULATION	Author		Comment	
Family		Version	0.1	User-defined ID	

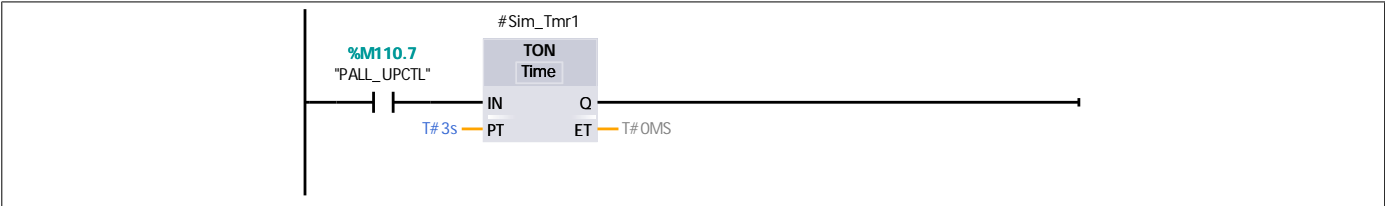
Name	Data type	Default value
Input		
Output		
InOut		
▼ Static		
Sim_Tmr1	TON	
Sim_Tmr2	TON	
Sim_Tmr3	TON	
Sim_Tmr4	TON	
Sim_Tmr5	TON	
Sim_Tmr6	TON	
Sim_Tmr7	TON	
Sim_Tmr8	TON	
Temp		
Constant		

Network 1: Reset

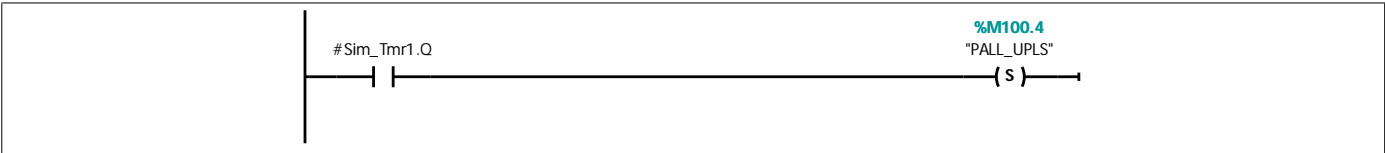
When reset, forget there is anything at hook 1.



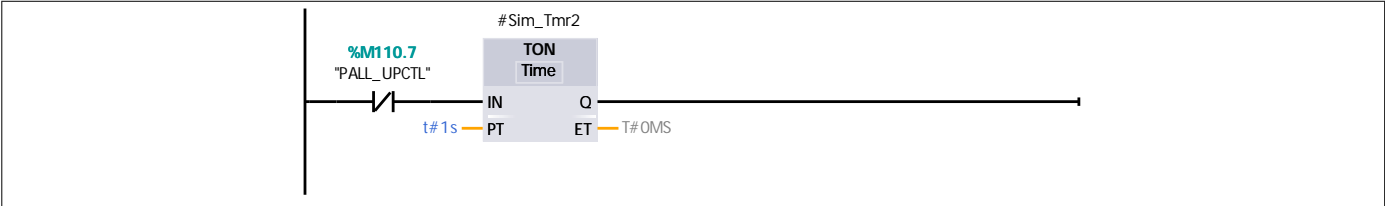
Network 2: Simulate pallet up indication



Network 3:



Network 4:

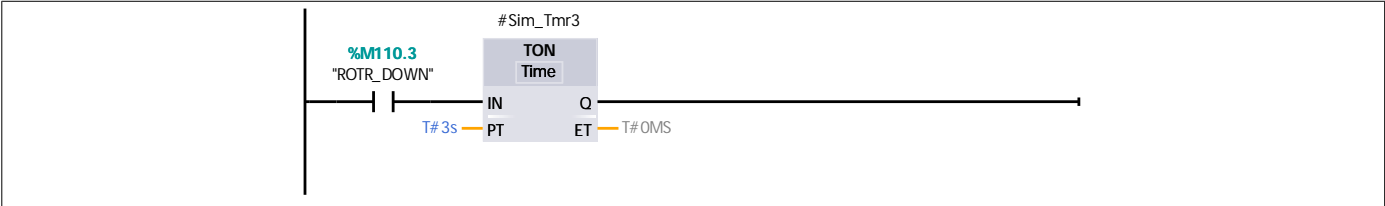


Network 5:



Network 6: Simulate rotator up/down control.

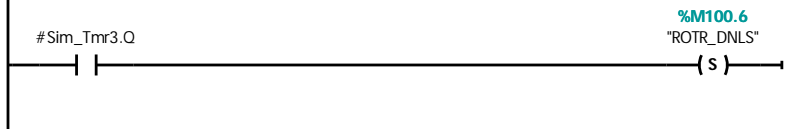
When moved up, the down Is is immediately unlatched off. After 3 secs, the up Is is latched on.
When moved down, the up Is is immediately unlatched off. After 3 secs, the down Is is latched on.



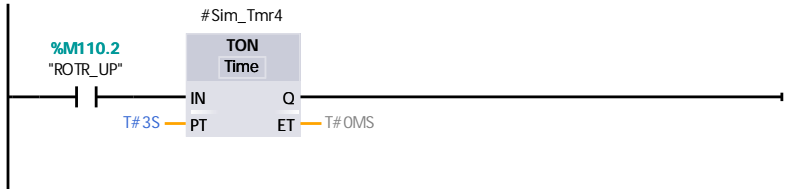
Network 7:



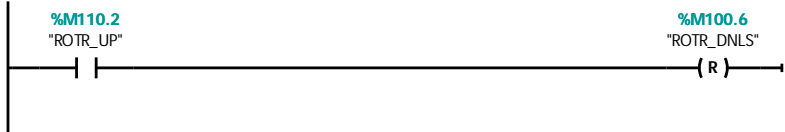
Network 8:



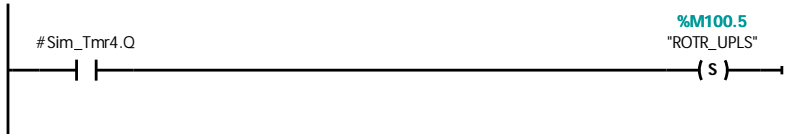
Network 9:



Network 10:

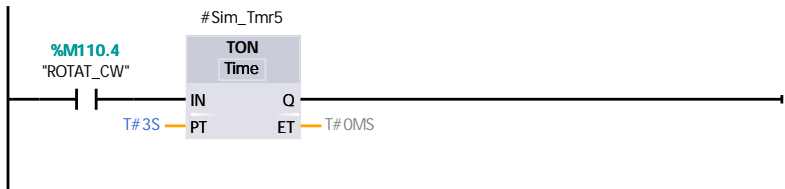


Network 11:



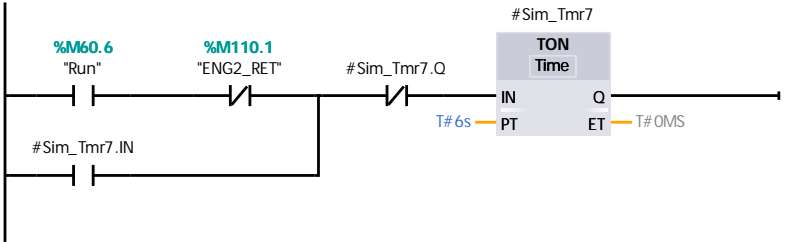
Network 12: Simulate rotator rotating control.

When rotated CW, the CCW Is is immediately unlatched off. After 3 secs, the CW Is is latched on.
When rotated CCW, the CW Is is immediately unlatched off. After 3 secs, the CCW Is is latched on.



Network 13:

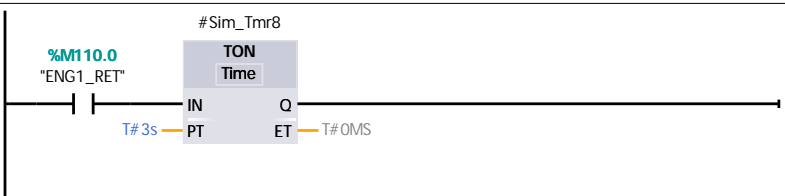
Totally Integrated Automation Portal		
<div><div></div><div><div><div>%M110.4 "ROTAT_CW"</div></div><div><div>%M101.0 "ROTR_CCWLS"</div></div></div><div></div></div>		
Network 14:		
<div><div></div><div><div><div>#Sim_Tmr5.Q</div></div><div><div>%M100.7 "ROTR_CCWLS"</div></div></div><div></div></div>		
Network 15:		
<div><div></div><div><div><div>#Sim_Tmr6</div><div><div>TON Time</div></div></div><div><div>%M110.5 "ROTAT_CCW"</div><div><div>T#3S</div></div></div><div><div>IN</div><div>PT</div><div>Q</div><div>ET</div></div><div><div>T#0MS</div></div></div><div></div></div>		
Network 16:		
<div><div></div><div><div><div>%M110.5 "ROTAT_CCW"</div></div><div><div>%M100.7 "ROTR_CCWLS"</div></div></div><div></div></div>		
Network 17:		
<div><div></div><div><div><div>#Sim_Tmr6.Q</div></div><div><div>%M101.0 "ROTR_CCWLS"</div></div></div><div></div></div>		
Network 18: Simulate Pallet Prox		
Latch it on 6 seconds after one has left the station. Latch it off 3 second after new one retained.		



Network 19:



Network 20:



Network 21:

