

Totally Integrated Automation Portal		
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Main_Program [OB1]

Main_Program Properties

General

Name	Main_Program	Number	1	Type	OB
Language	LAD	Numbering	Manual		

Information

Title	SP9-5	Author		Comment	Copyright (c) 2011, 2015 Dogwood Valley Press, LLC ----- SP9-5 Erbia Can Tipper/Ro- tator with counter-based sequencer
Family		Version	0.1	User-defined ID	

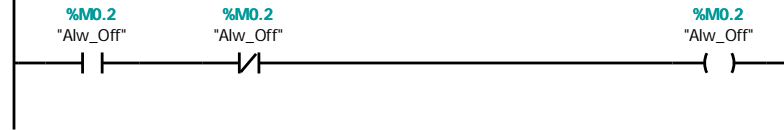
Name	Data type	Default value
▼ Temp		
OB1_EV_CLASS	Byte	
OB1_SCAN_1	Byte	
OB1_PRIORITY	Byte	
OB1_OB_NUMBR	Byte	
OB1_RESERVED_1	Byte	
OB1_RESERVED_2	Byte	
OB1_PREV_CYCLE	Int	
OB1_MIN_CYCLE	Int	
OB1_MAX_CYCLE	Int	
OB1_DATE_TIME	Date_And_Time	
Constant		

Network 1: Start/stop/pause. Start prevented if reset in progress.

```
graph LR; A["%M100.0  
START_PB"] --> B["%M0.1  
Int_Reset"]; B --> C["%M100.1  
STOP_PB"]; C --> D["%M0.0  
Run"]
```

Network 2: Always Off Logic

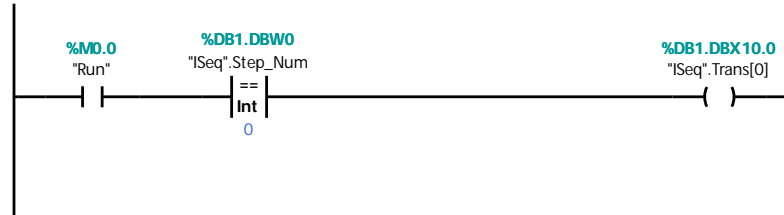
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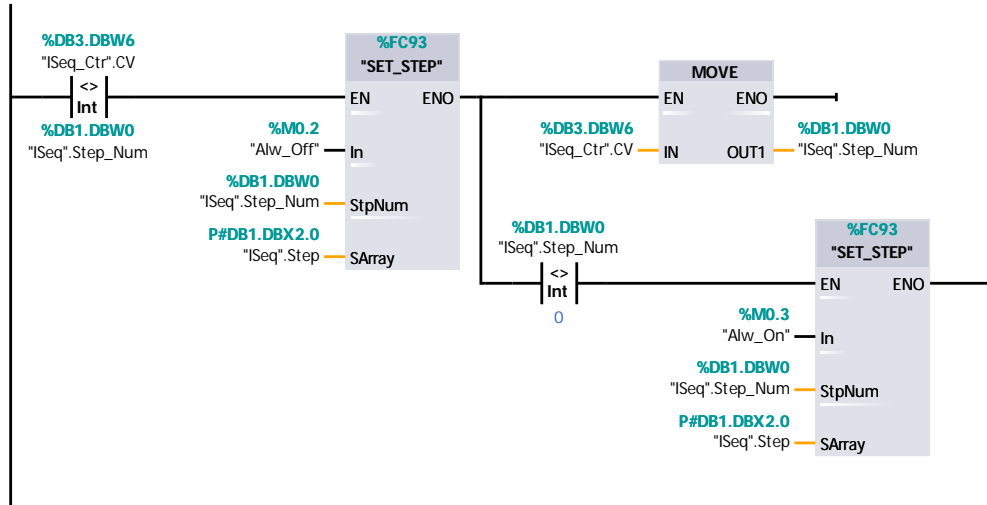
Network 3: Always On Logic



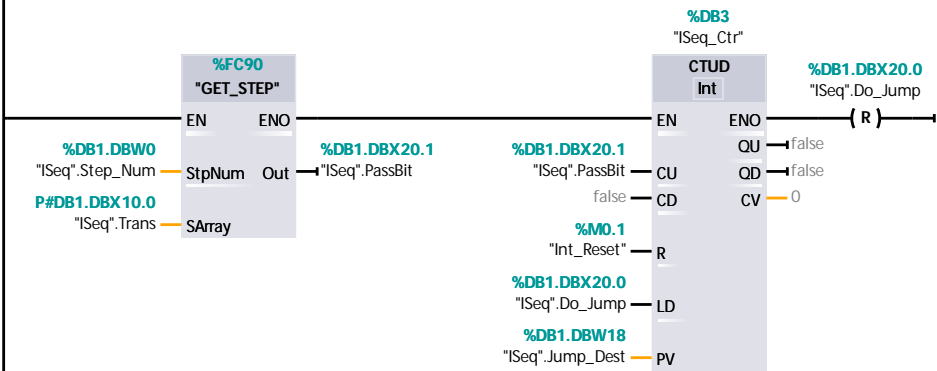
Network 4: First Start - transition out of initial step to step 1.



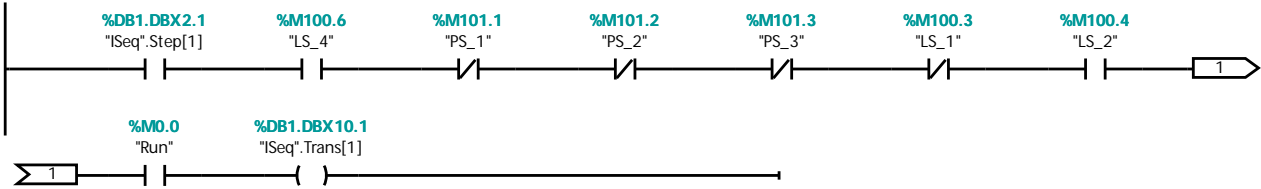
Network 5: Change step-in-progress bit when step changes.



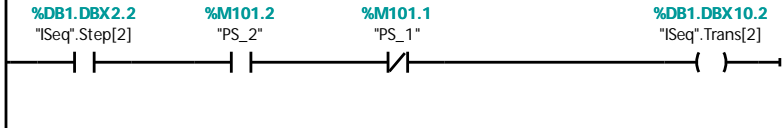
Network 6: Increment to next step when step-done bit set. Also handle jumps.



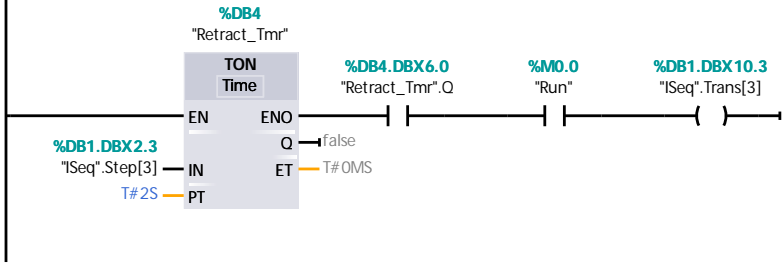
Network 7: Step 1 - Wait for can.



Network 8: Step 2 - Push can into tipper



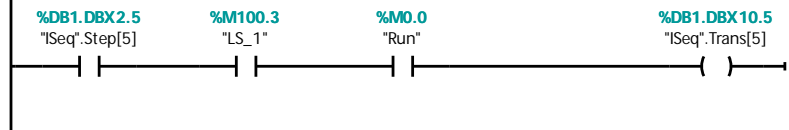
Network 9: Step 3 - Wait for CYL_3 to retract



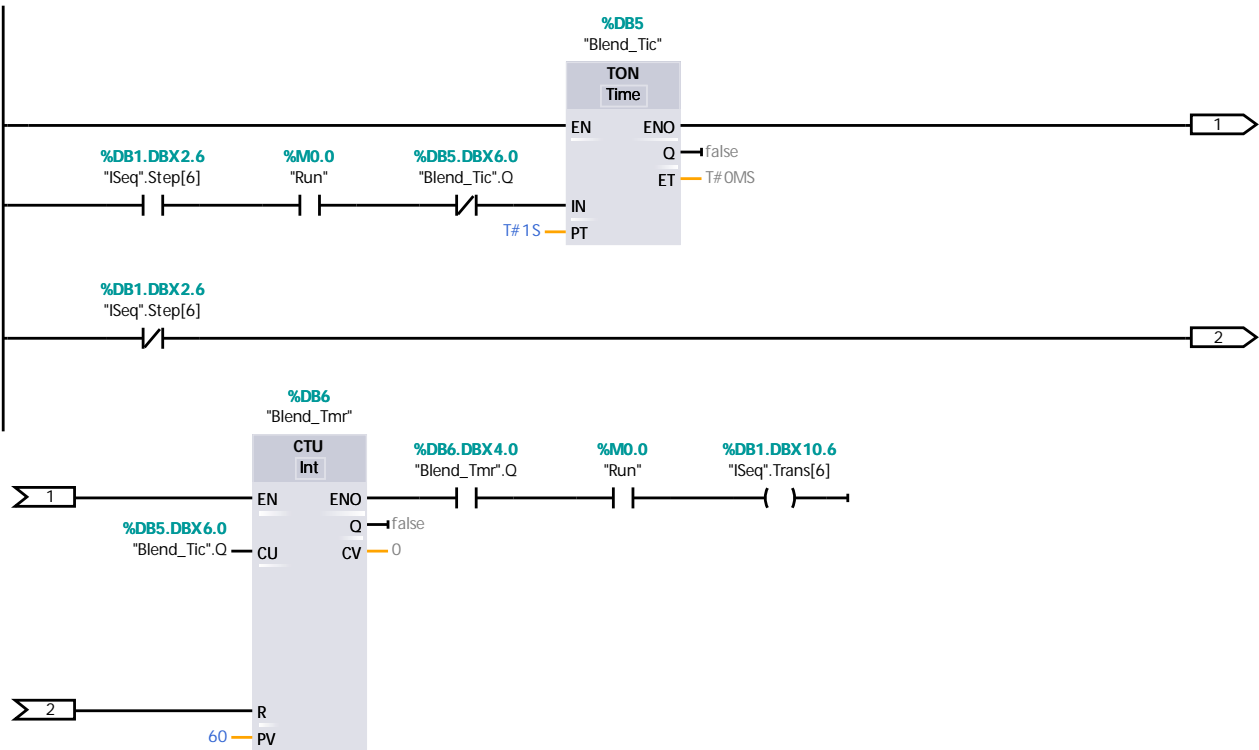
Network 10: Step 4 - Clamp can



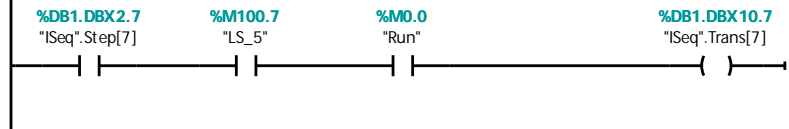
Network 11: Step 5 - Tip rotator



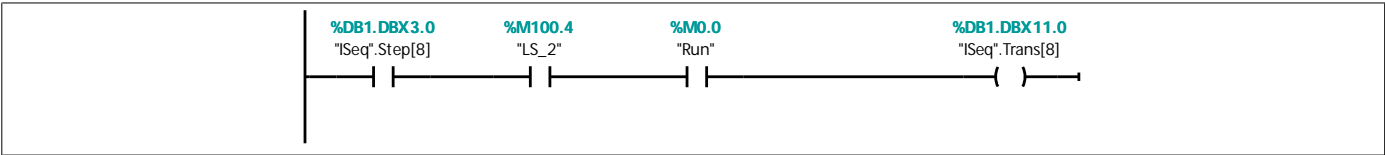
Network 12: Step 6 - Blend



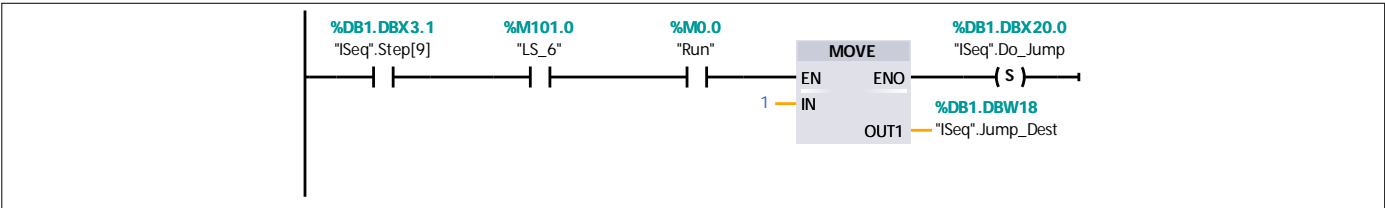
Network 13: Step 7 - Untip



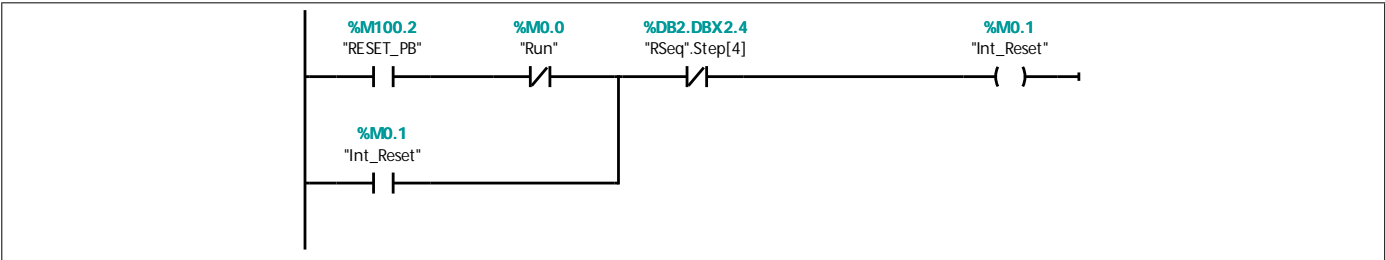
Network 14: Step 8 - Unclamp



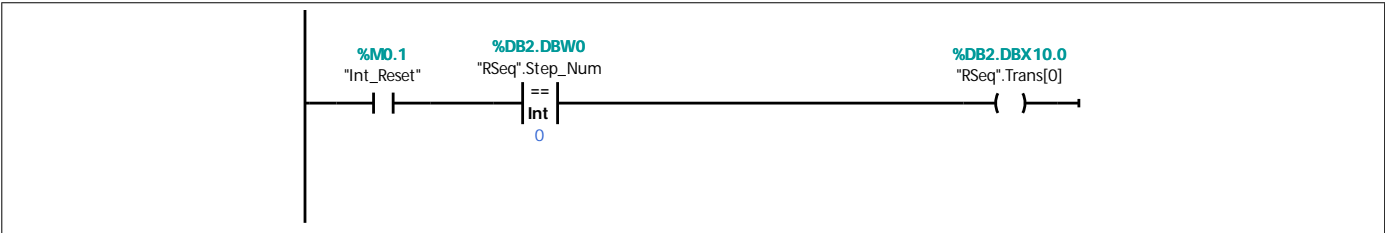
Network 15: Step 9 - Push out



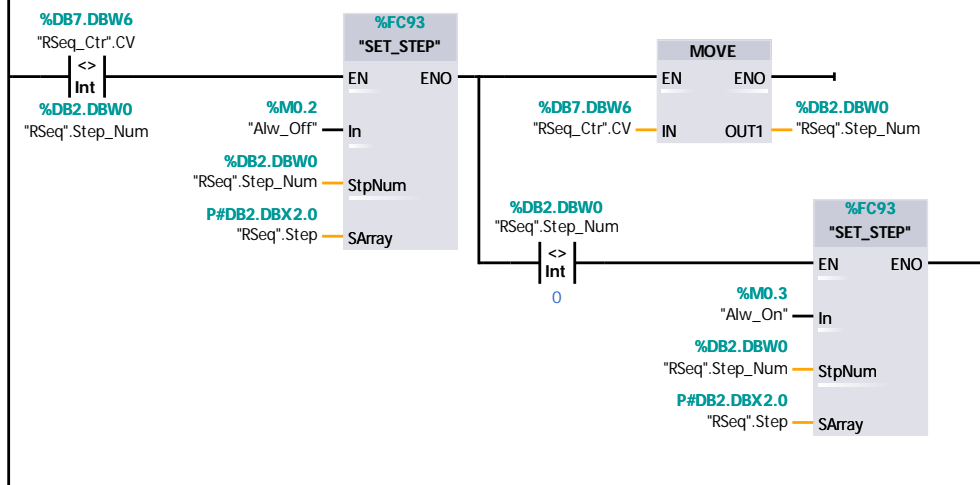
Network 16: Start/stop for reset operation. Reset pb starts, reset step 4 stops it.



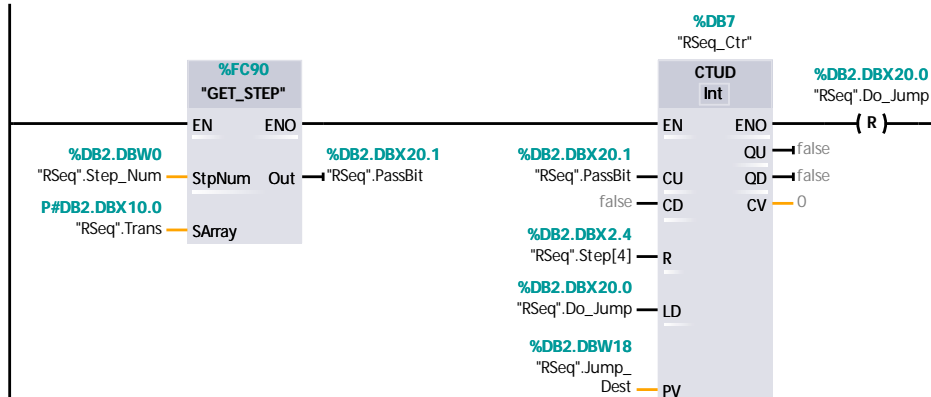
Network 17: First press of reset pb starts reset



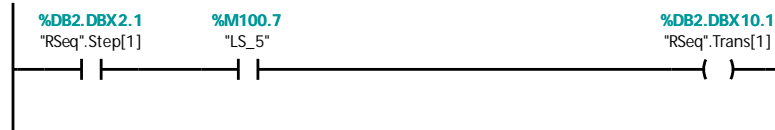
Network 18: Change reset step-in-progress bit when step changes.



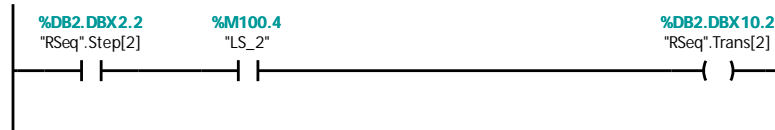
Network 19: Increment to next step when step-done bit set.



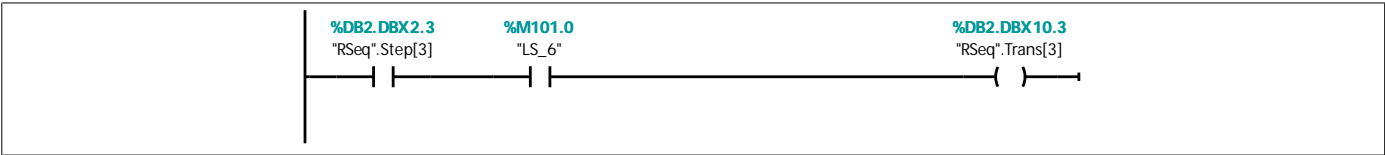
Network 20: Reset step 1 - Untip.



Network 21: Reset step 2 - Unclamp.

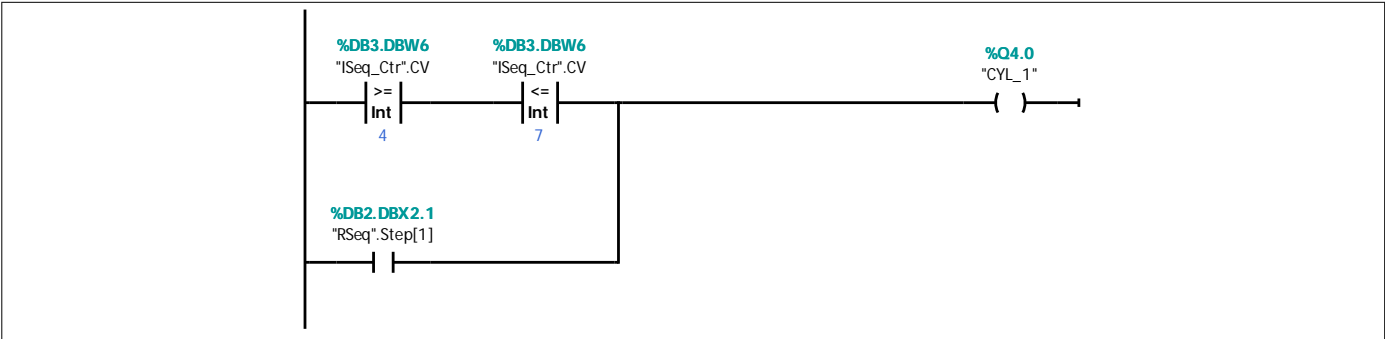


Network 22: Reset step 3 - Push Out.

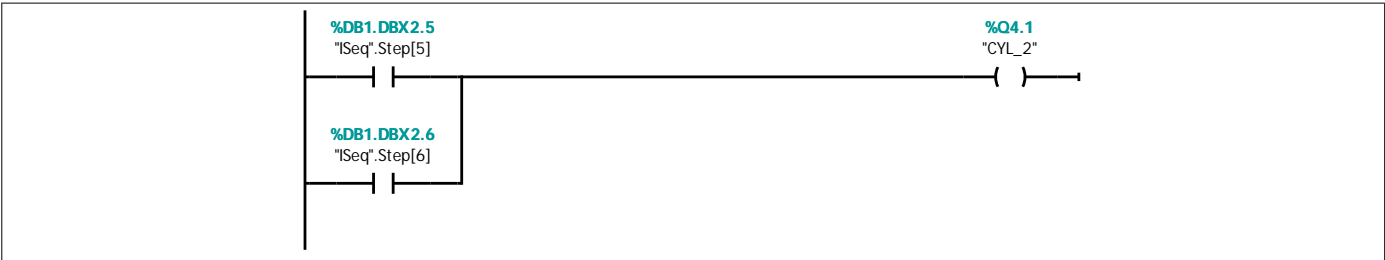


Network 23: Can holder cylinder control

Cylinder controls
Cannot turn off CYL_1 to CYL_3 when paused.

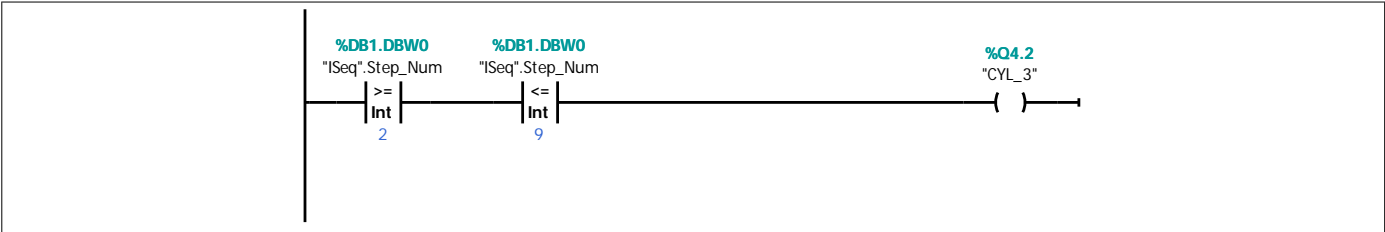


Network 24: Tipper cylinder control



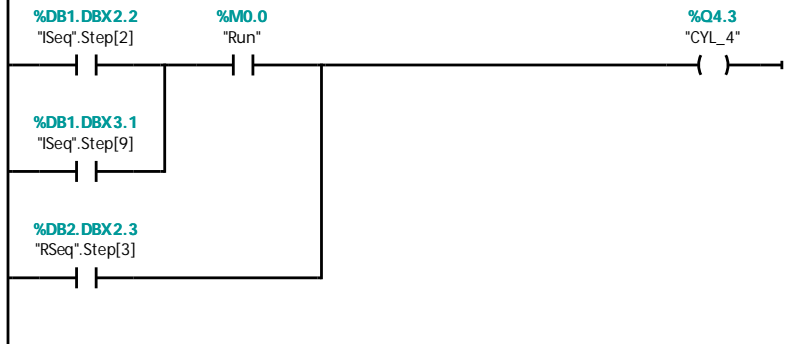
Network 25: Gate cylinder control

Gripper Control

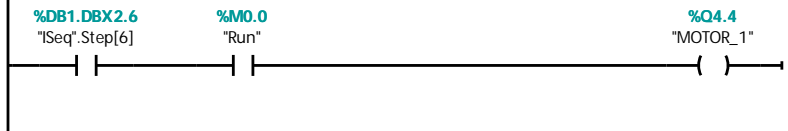


Network 26: Can pusher cylinder control

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



Network 27: Rotation motor control



GET_STEP [FC90]

GET_STEP Properties

General

Name	GET_STEP	Number	90	Type	FC
Language	SCL	Numbering	Manual		

Information

Title		Author		Comment	
Family		Version	0.0	User-defined ID	

Name	Data type	Default value
▼ Input		
StpNum	Int	
SArray	Array[0..63] of Bool	
▼ Output		
Out	Bool	
InOut		
Temp		
Constant		
▼ Return		
GET_STEP	Void	

```
0001
0002   #Out := #SArray[#StpNum];
0003   ENO := TRUE;
0004
```

SET_STEP [FC93]

SET_STEP Properties

General

Name	SET_STEP	Number	93	Type	FC
Language	SCL	Numbering	Manual		

Information

Title		Author		Comment	
Family		Version	0.0	User-defined ID	

Name	Data type	Default value
▼ Input		
In	Bool	
StpNum	Int	
Output		
▼ InOut		
SArray	Array[0..63] of Bool	
Temp		
Constant		
▼ Return		
SET_STEP	Void	

```
0001
0002   #SArray[#StpNum] := #In;
0003   ENO := TRUE;
0004
```