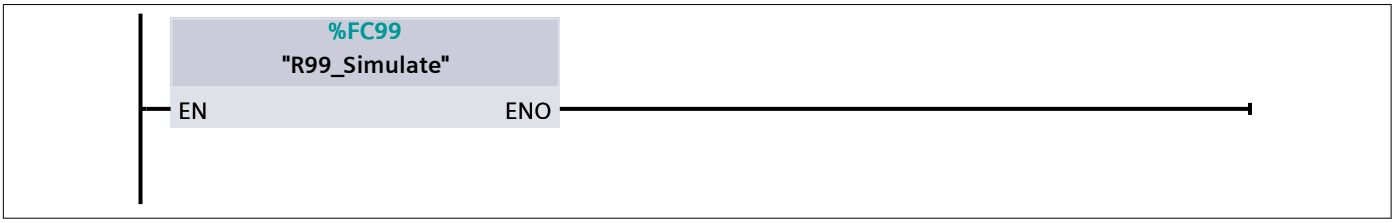
Main [OB1]

Main Properties					
General					
Name	Main	**Number**	1	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value
Input		
Initial_Call	Bool	
Remanence	Bool	
Temp		
Constant		

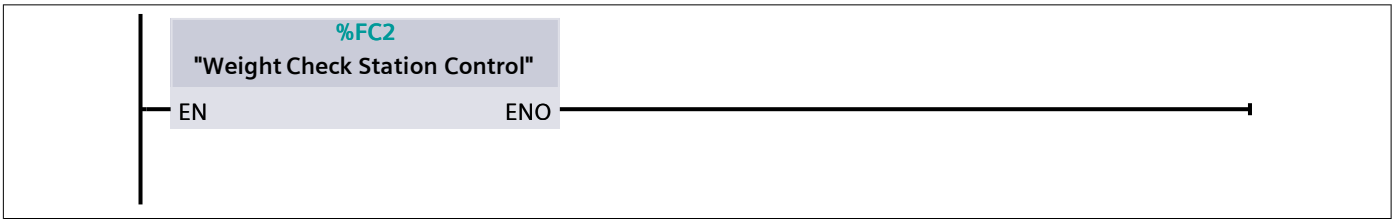
Network 1: SIMULATE LOGIC - DO NOT CHANGE

Make sure this is always Network 1 and do not add anything else to this rung.

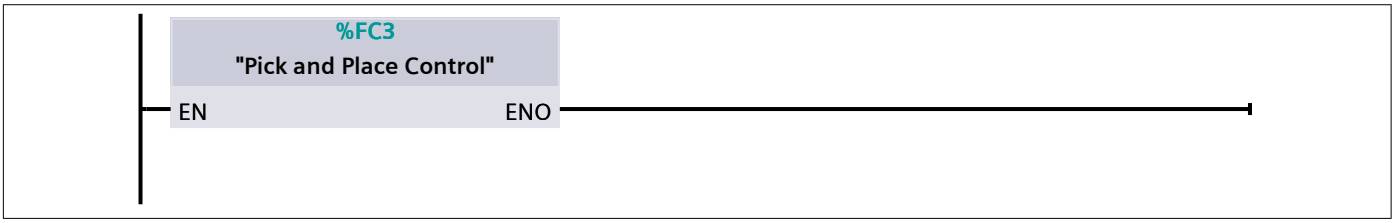


Network 2:

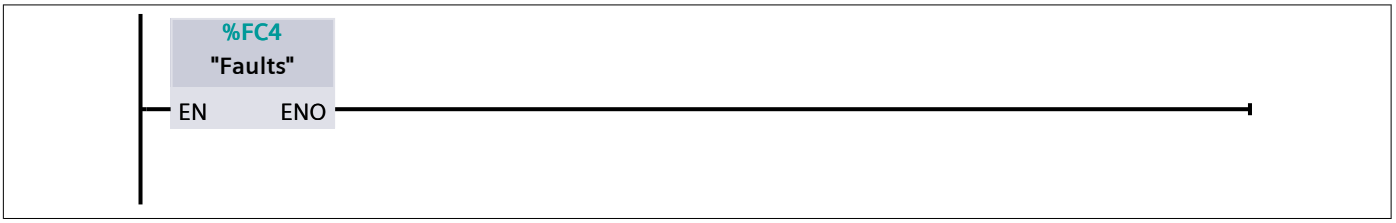
Network 3:



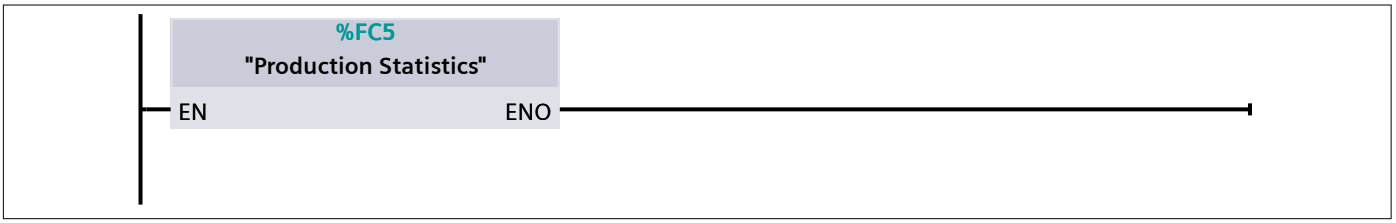
Network 4:



Network 5:



Network 6:



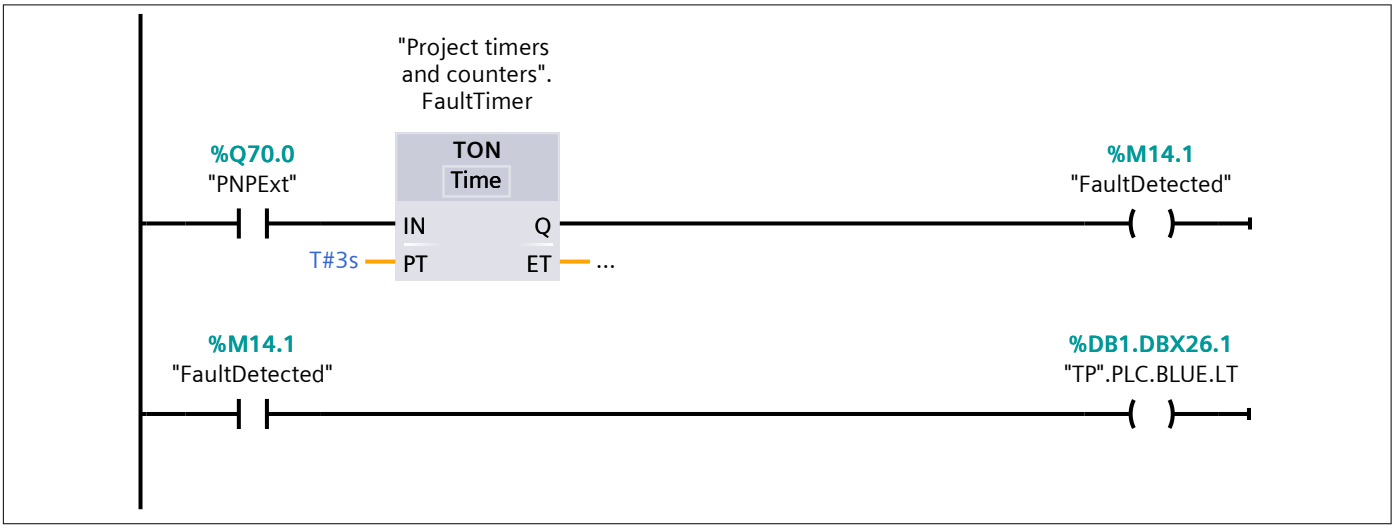
Faults [FC4]

Faults Properties					
General					
Name	Faults	**Number**	4	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

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

Network 1:

using ton timer to find the faults , when extendion is not done in three seconds fault is detected



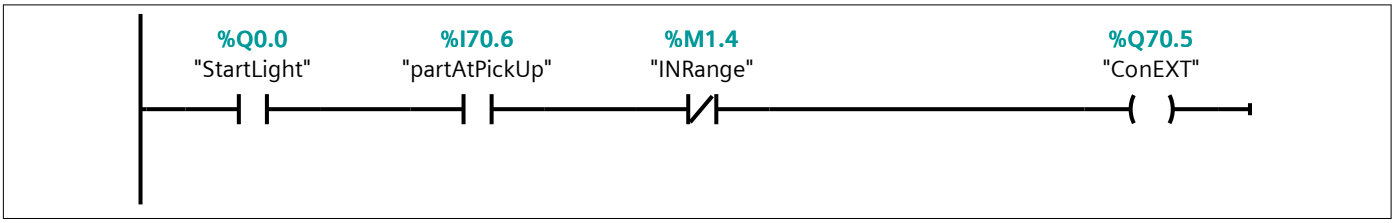
Pick and Place Control [FC3]

Pick and Place Control Properties					
General					
Name	Pick and Place Control	**Number**	3	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Pick and Place Control	Void	

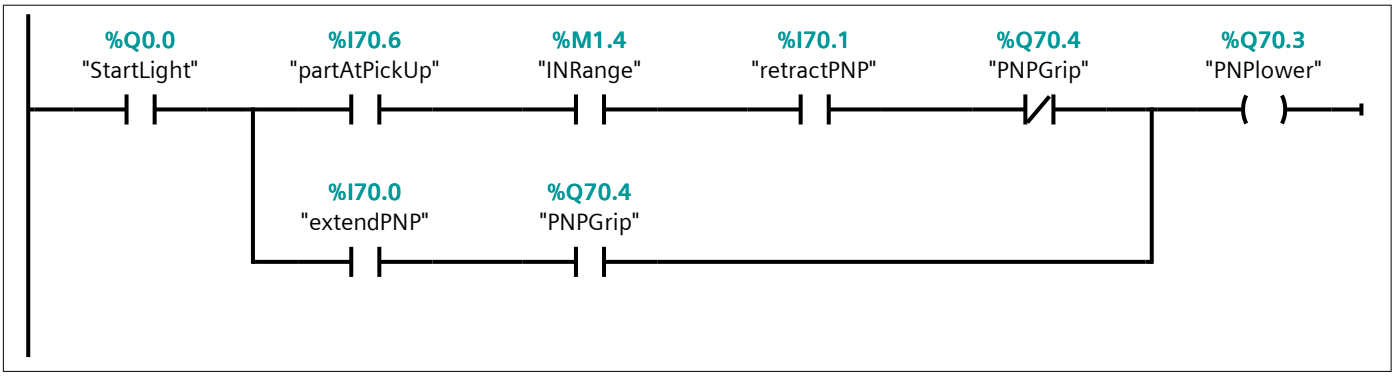
Network 1:

To extedn reject sol , cycle time should be active , part is partpickup and value in not in range



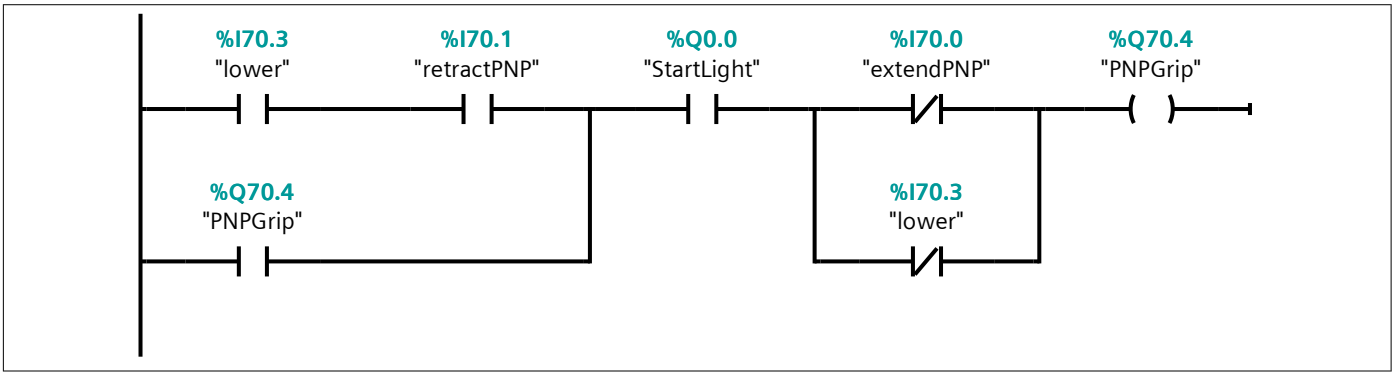
Network 2:

To lower the soli, Part should be there , value should be in range , pNP should be retract positon and gripper i s in active



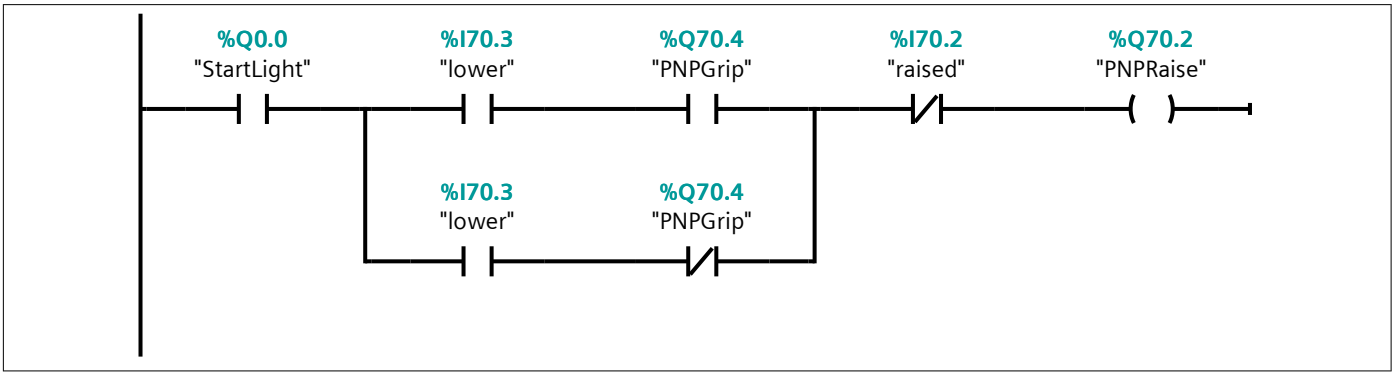
Network 3:

TO Activate the gripper , solenoid is in lower position , pnp retracted positon , cycle time should be actve, not in extended position



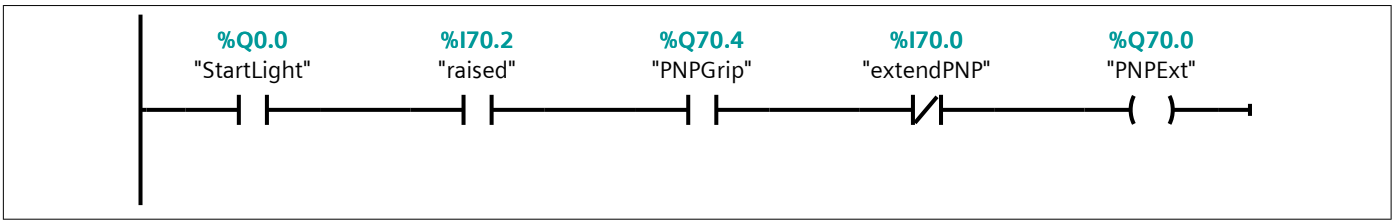
Network 4:

To raise the solenoid the start light should be active , in lower position,PNP Grip should be activated position , not in rasied position then PNP raise



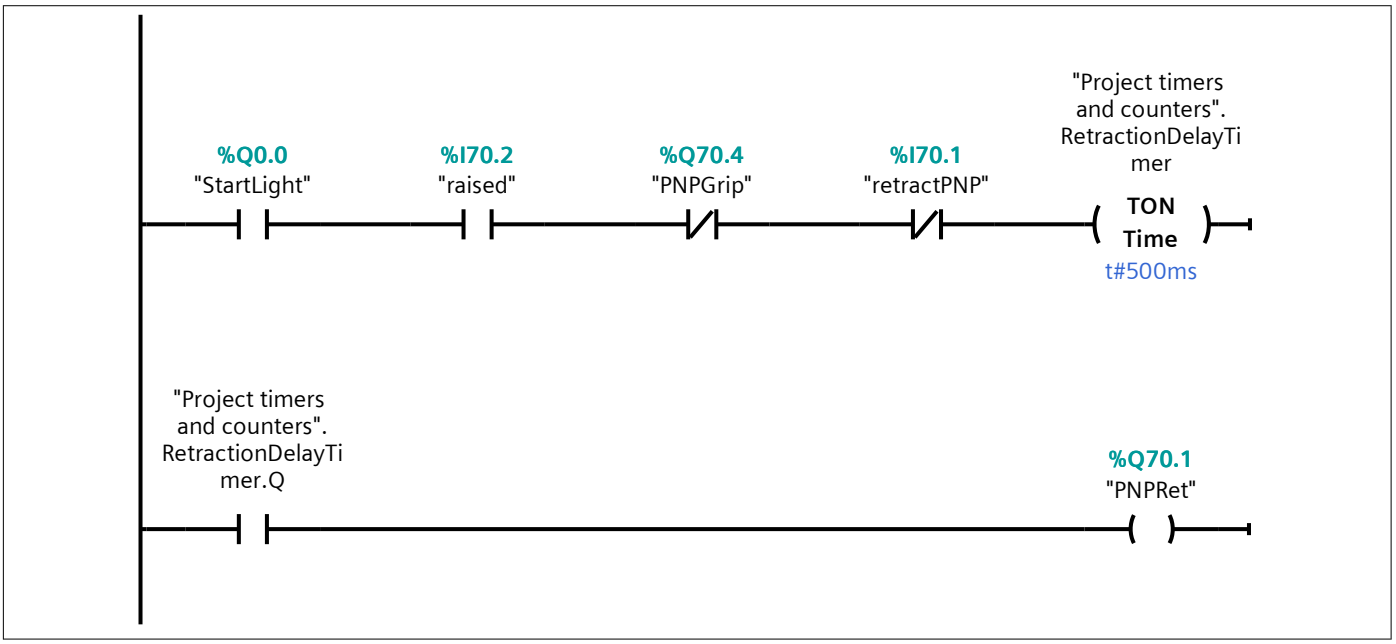
Network 5:

To extend, the cylce should be active, should be in raised poistion, gripper should be active, PNP should not be Extended



Network 6:

Using delay timer , retraction is delayed by half and second , when cylcle is active, raised position,PNP Grip Active ,Retracted position


%Q0.0
"StartLight"
%I70.2
"raised"
%Q70.4
"PNPGrip"
%I70.1
"retractPNP"
"Project timers and counters". RetractionDelayTimer
TON
Time
t#500ms
"Project timers and counters". RetractionDelayTimer.Q
%Q70.1
"PNPRet"

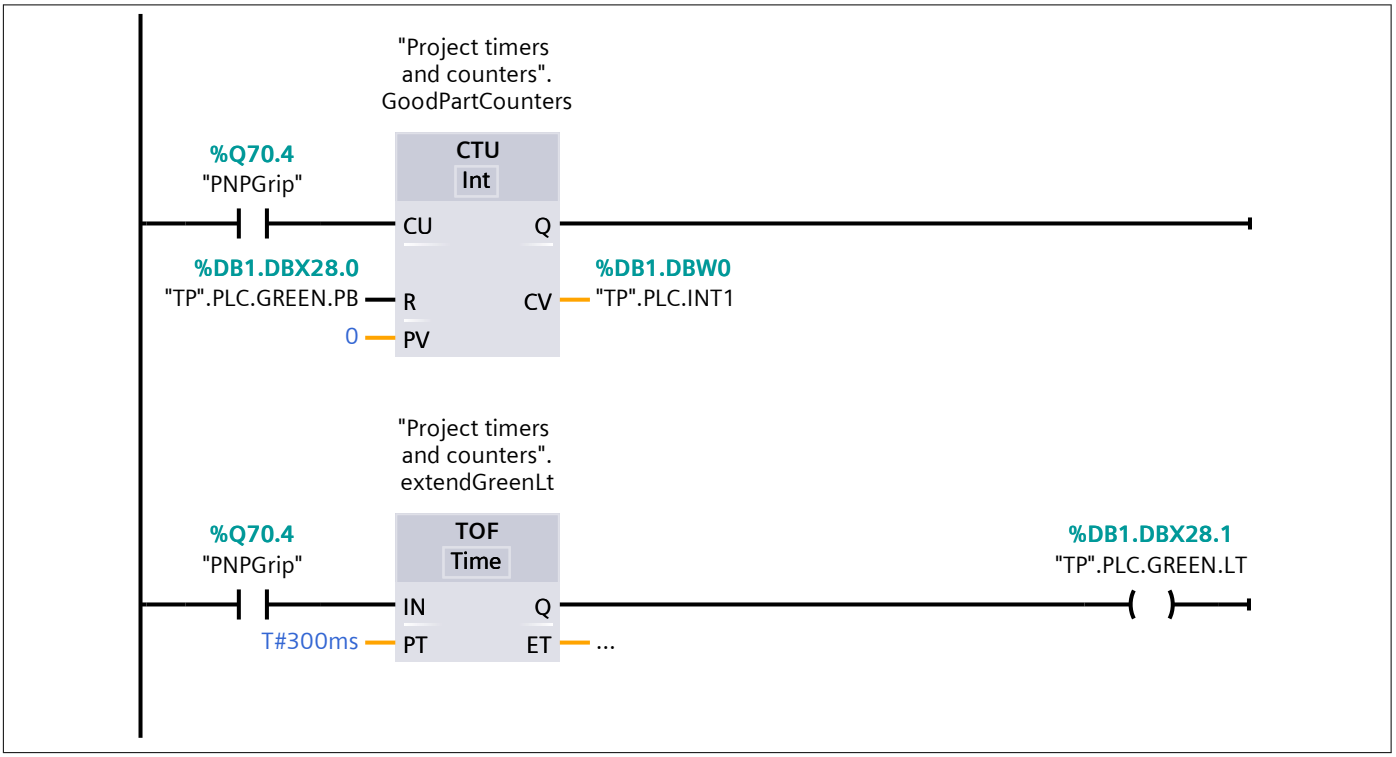
Production Statistics [FC5]

Production Statistics Properties					
General					
Name	Production Statistics	**Number**	5	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

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

Network 1:

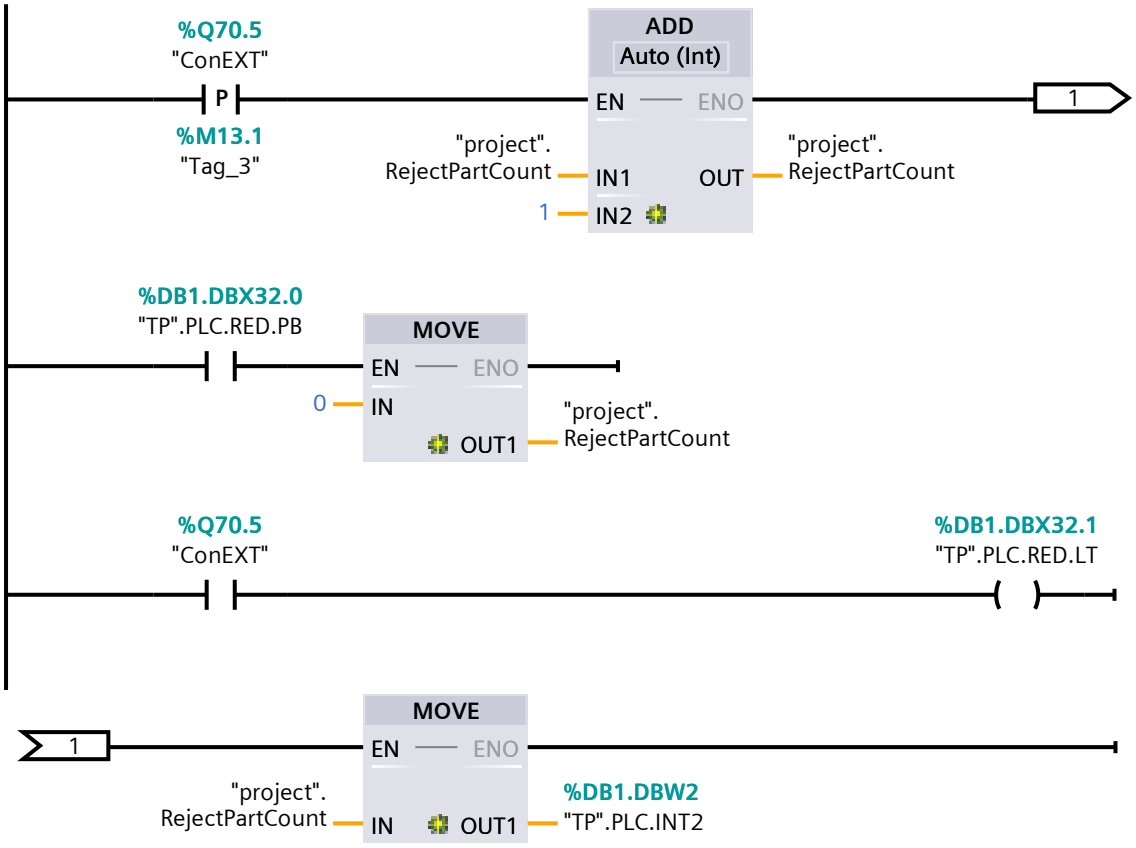
Using a CTU counter instruction calculated the total number of good parts



Network 2:

TO calculate the reject parts using add and move fuction and displayed in int 2

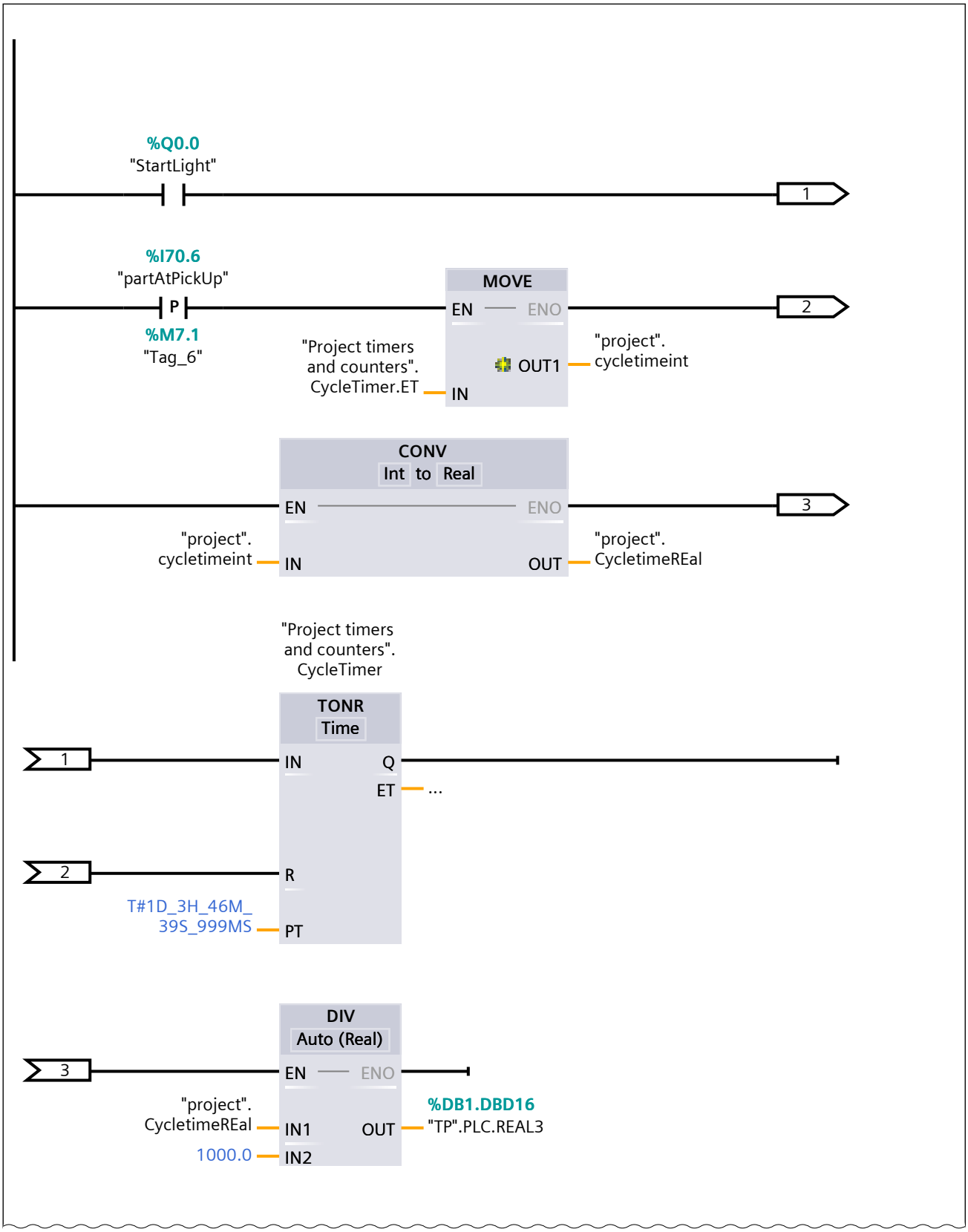
Network 2:



Network 3:

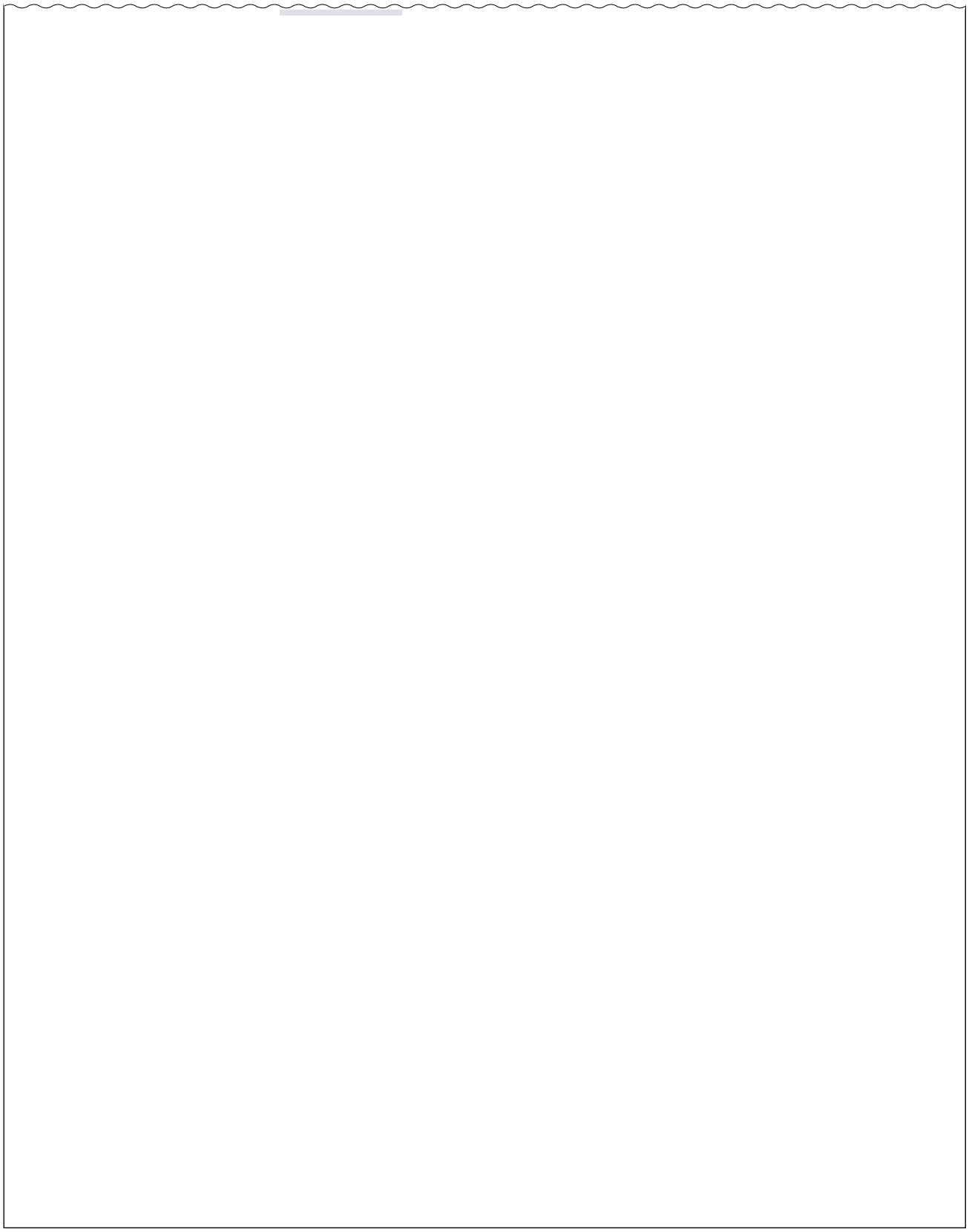
To calculate cylce timeo part pick up , using TONR (retentive timer), and displayed in real 3

Network 3: (1.1 / 2.1)



Network 3: (2.1 / 2.1)

1.1 (Page4 - 3)

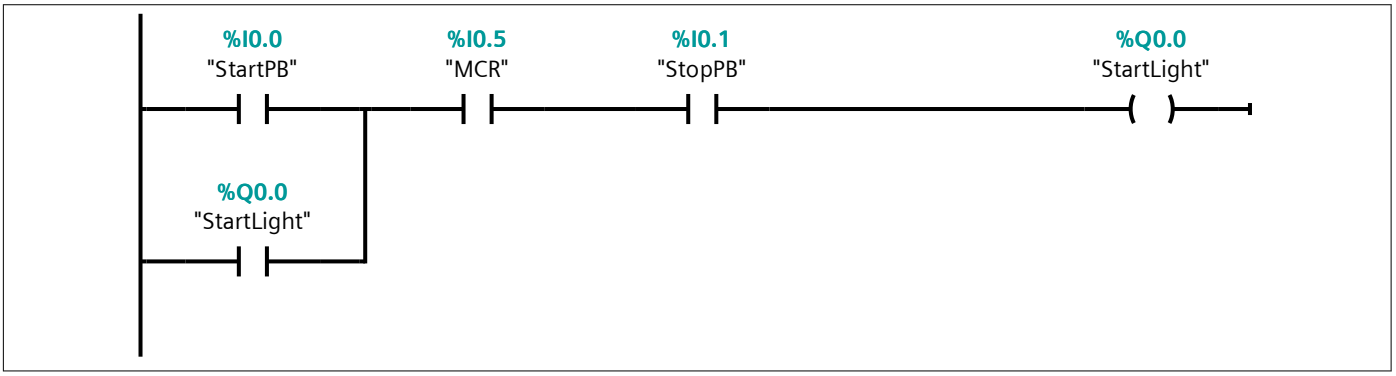


System Control [FC1]

System Control Properties					
General					
Name	System Control	**Number**	1	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	To Active cycle time, Press start PB , turn on MCR, the stop the it press PB
Family		**Version**	0.1	**User-defined ID**	

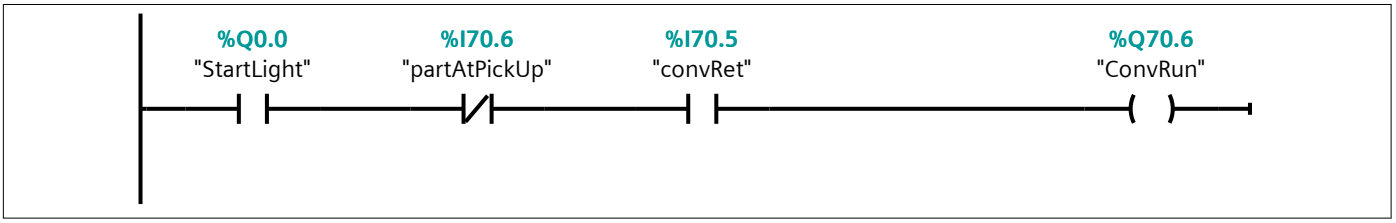
Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
System Control	Void	

Network 1:



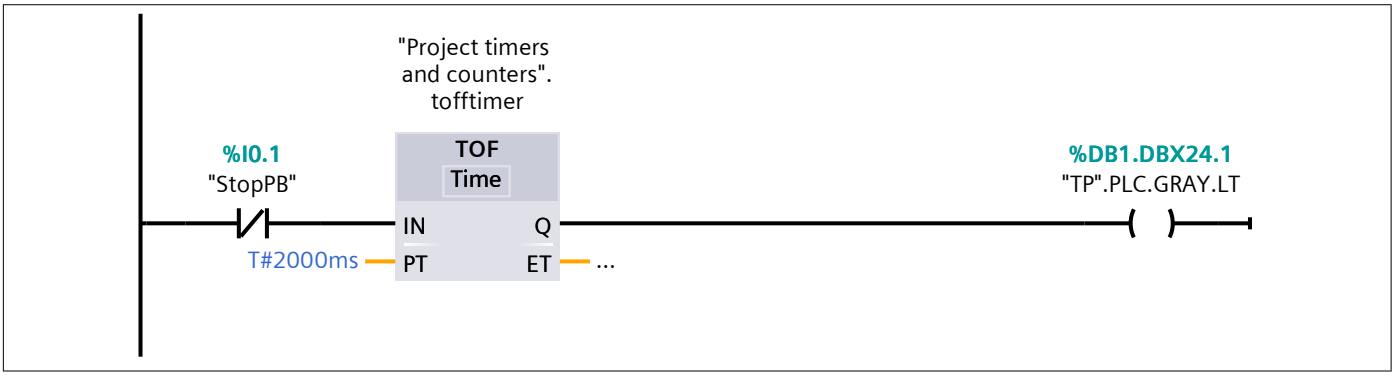
Network 2:

To run the conveyor turn on start light , part is not present at pickup , reject sol is in retracted position



Network 3:

when stop push button is pressed the toff timer extend the singal , to indicate that gray light turns on


"Project timers
and counters".
tofftimer
%I0.1
"StopPB"
TOF
Time
IN
Q
T#2000ms
PT
ET
...
%DB1.DBX24.1
"TP".PLC.GRAY.LT

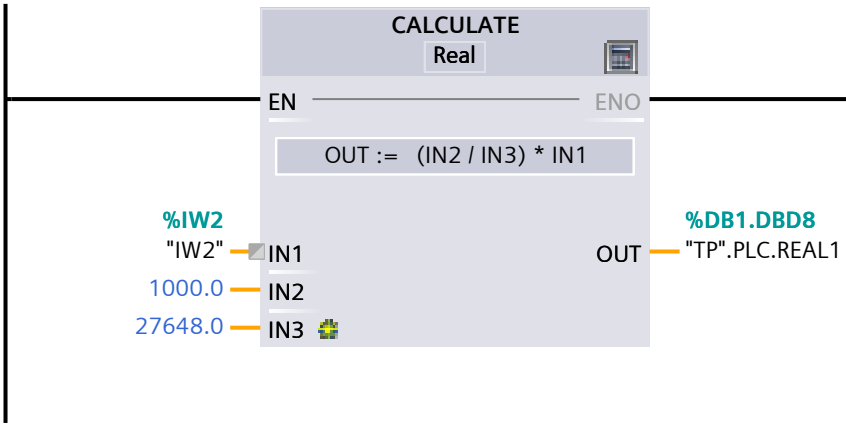
Weight Check Station Control [FC2]

Weight Check Station Control Properties					
General					
Name	Weight Check Station Control	**Number**	2	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Weight Check Station Control	Void	

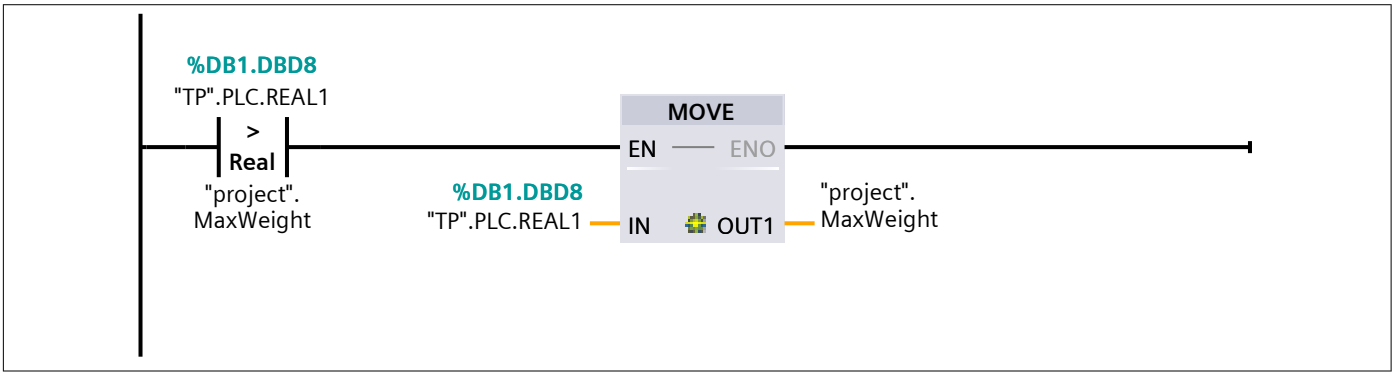
Network 1:

To calculate the weight we need to convert the Analog value to the real weight in gms and displayed in real 1



Network 2:

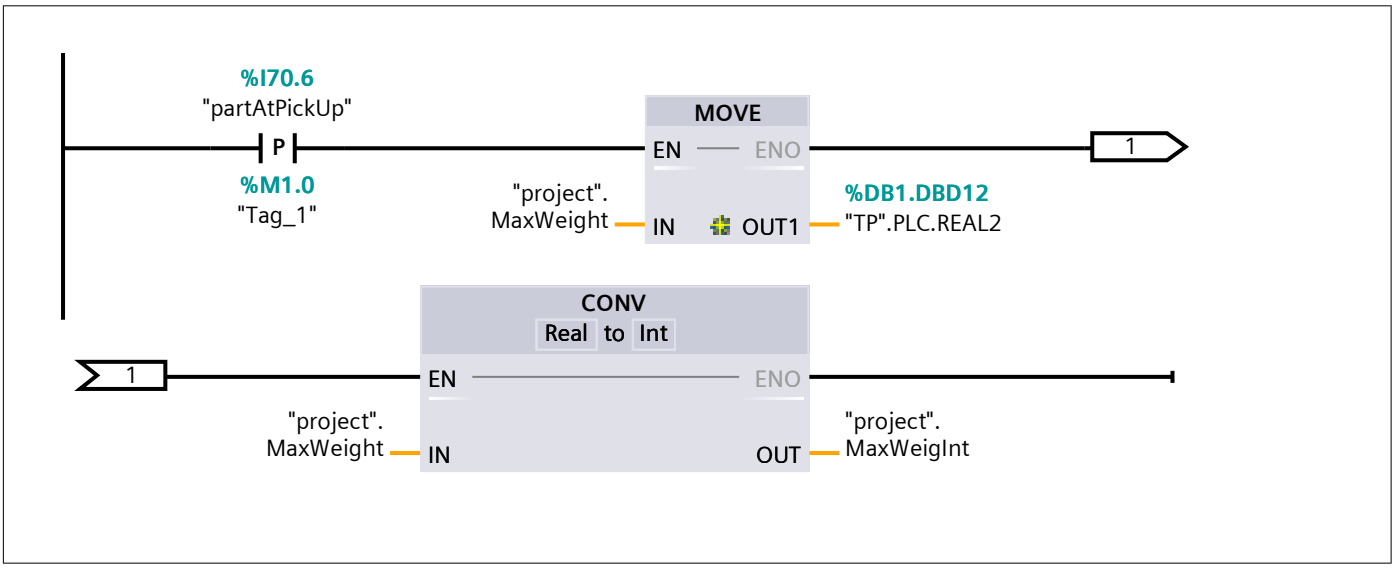
Using the greater than fundtion to calculate maximum height



Network 3:

using move function and Conv function calculate the max weight and covert the real value to int value

Network 3:



Network 4:

using in range function to find the good part and store in range as bool