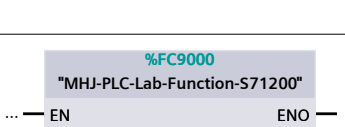
PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

Main [OB1]

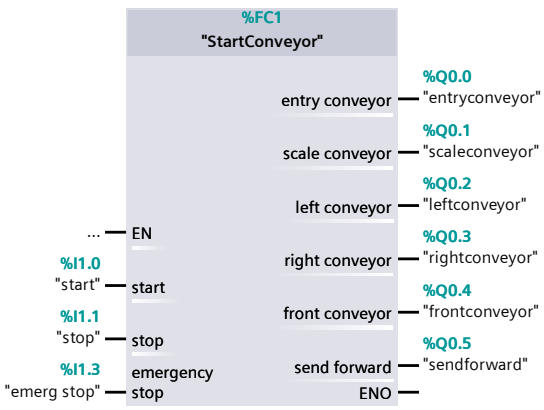
Main Properties							
General							
Name	Main	**Number**	1	**Type**	OB	**Language**	FBD
Numbering	Automatic						
Information							
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value	Comment
Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
Temp			
Constant			

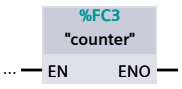
Network 1:



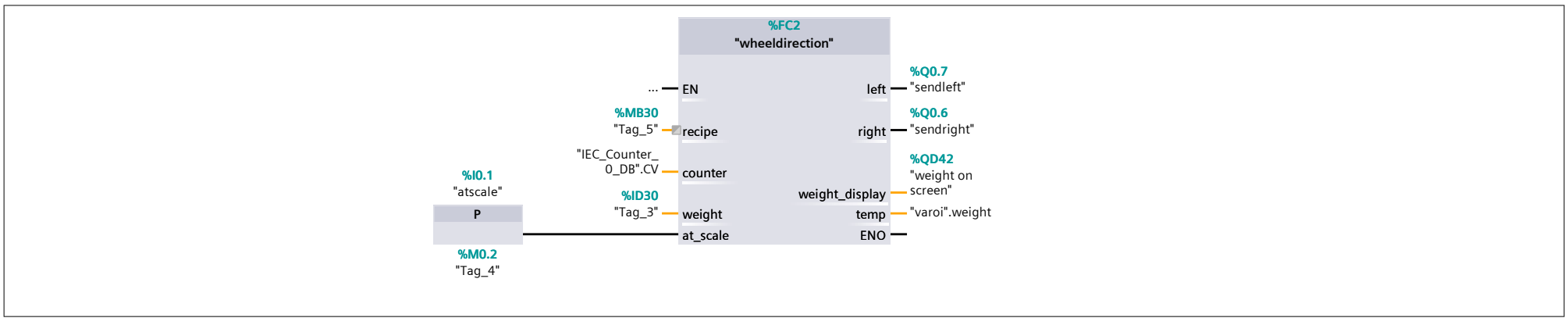
Network 2:



Network 3:



Network 4:



Network 5:

PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

MHJ-PLC-Lab-Function-S71200 [FC9000]

MHJ-PLC-Lab-Function-S71200 Properties							
General							
Name	MHJ-PLC-Lab-Function-S71200	**Number**	9000	**Type**	FC	**Language**	SCL
Numbering	Manual						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
▼ Temp			
rdTimeReturn	Int		
▼ outputTime	DTL		
YEAR	UInt		
MONTH	USInt		
DAY	USInt		
WEEKDAY	USInt		
HOUR	USInt		
MINUTE	USInt		
SECOND	USInt		
NANOSECOND	UDInt		
SyncVal	Byte		
forVal	Int		
forVal_2	Int		
Value	Byte		
▼ Constant			
CompVal	Byte	16#34	
Value_01	Byte	16#11	
Value_01_DW	DWord	16#A165_D992	
Value_02_DW	DWord	16#58BE_4401	
▼ Return			
MHJ-PLC-Lab-Function-S71200	Void		

```
0001
0002 #Value:=PEEK(area := 16#82,
0003    dbNumber := 0,
0004    byteOffset := 511);
0005 #Value := #Value + 1;
0006
0007 POKE(area := 16#82,
0008    dbNumber := 0,
0009    byteOffset := 511,
0010    value := #Value);
0011
0012 POKE(area:=16#81,
0013    dbNumber:=0,
0014    byteOffset:=1016,
0015    value:=#Value_01_DW);
0016 POKE(area := 16#81,
0017    dbNumber := 0,
0018    byteOffset := 1020,
0019    value := #Value_02_DW);
0020
0021 POKE(area := 16#81,
0022    dbNumber := 0,
0023    byteOffset := 511,
0024    value := B#16#00);
0025
0026 FOR #forVal := 0 TO 120 DO
0027   FOR #forVal_2:=0 TO 10 DO
0028     #rdTimeReturn:=RD_SYS_T(#outputTime);
0029     #rdTimeReturn := WR_SYS_T(#outputTime);
0030     #rdTimeReturn := RD_SYS_T(#outputTime);
0031     #rdTimeReturn := WR_SYS_T(#outputTime);
0032   END_FOR;
0033   #SyncVal:= PEEK(area := 16#81,
0034            dbNumber := 0,
0035            byteOffset := 511);
0036   IF #SyncVal = #CompVal THEN
0037      GOTO M_1;
0038   END_IF;
0039 END_FOR;
0040 RETURN;
0041
0042 M_1:
0043 POKE(area := 16#81,
```

```
0044     dbNumber := 0,
0045     byteOffset := 511,
0046     value := B#16#0);
0047
0048
0049
```

Symbol	Address	Type	Comment
#CompVal	16#34	Byte	
#forVal		Int	
#forVal_2		Int	
#outputTime		DTL	
#rdTimeReturn		Int	
#SyncVal		Byte	
#Value		Byte	
#Value_01_DW	16#A165_D992	DWord	
#Value_02_DW	16#58BE_4401	DWord	

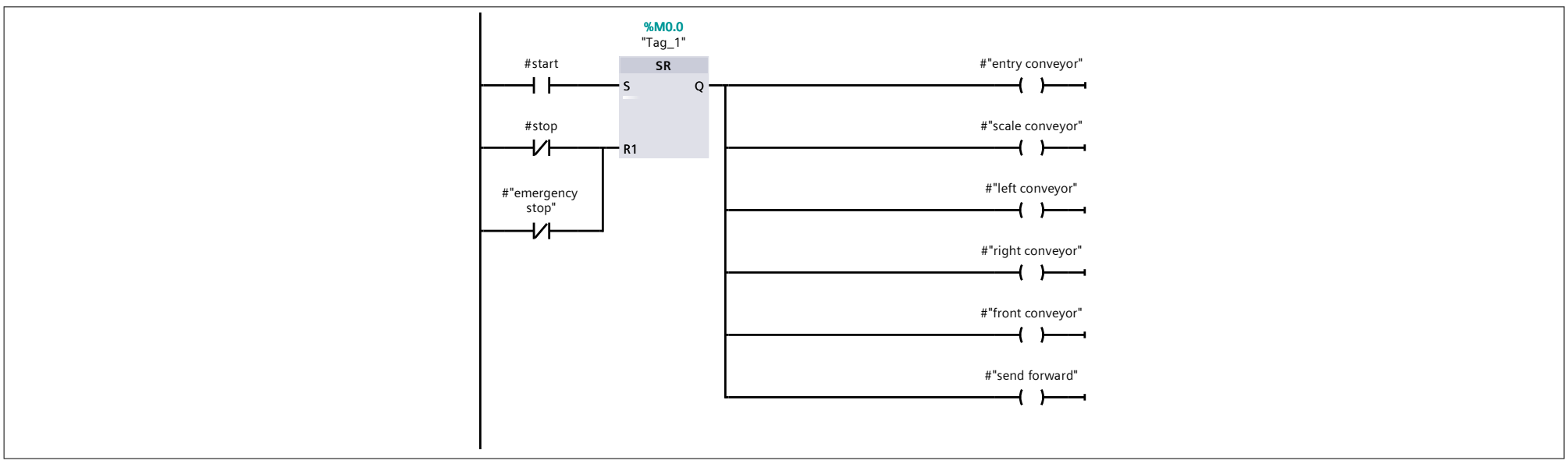
PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

StartConveyor [FC1]

StartConveyor Properties							
General							
Name	StartConveyor	**Number**	1	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value	Comment
▼ Input			
start	Bool		
stop	Bool		
emergency stop	Bool		
▼ Output			
entry conveyor	Bool		
scale conveyor	Bool		
left conveyor	Bool		
right conveyor	Bool		
front conveyor	Bool		
send forward	Bool		
InOut			
Temp			
Constant			
▼ Return			
StartConveyor	Void		

Network 1:



PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

varoi [DB1]

varoi Properties							
General							
Name	varoi	**Number**	1	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA	Writable from HMI/OPC UA	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
▼ weight	Array[0..2] of Real		False	True	True	True	False		
weight[0]	Real	0.0	False	True	True	True	False		
weight[1]	Real	0.0	False	True	True	True	False		
weight[2]	Real	0.0	False	True	True	True	False		

PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

wheeldirection [FC2]

wheeldirection Properties							
General							
Name	wheeldirection	**Number**	2	**Type**	FC	**Language**	SCL
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value	Comment
▼ Input			
recipe	Int		select the recipe (0,1,2)
counter	Int		
weight	Real		
at_scale	Bool		
▼ Output			
left	Bool		
right	Bool		
weight_display	DInt		
▼ temp	Array[0..2] of Real		temporary table
temp[0]	Real		temporary table
temp[1]	Real		temporary table
temp[2]	Real		temporary table
InOut			
▼ Temp			
▼ sort	Array[0..5] of Bool		
sort[0]	Bool		
sort[1]	Bool		
sort[2]	Bool		
sort[3]	Bool		
sort[4]	Bool		
sort[5]	Bool		
Constant			
▼ Return			
wheeldirection	Void		

```
0001 CASE #recipe OF
0002   0:
0003     #sort[0] := 0;
0004     #sort[1] := 0;
0005     #sort[2] := 0;
0006     #sort[3] := 1;
0007     #sort[4] := 1;
0008     #sort[5] := 0;
0009   1:
0010     #sort[0] := 0;
0011     #sort[1] := 1;
0012     #sort[2] := 1;
0013     #sort[3] := 0;
0014     #sort[4] := 0;
0015     #sort[5] := 0;
0016   2:
0017     #sort[0] := 1;
0018     #sort[1] := 0;
0019     #sort[2] := 0;
0020     #sort[3] := 0;
0021     #sort[4] := 0;
0022     #sort[5] := 1;
0023   ELSE
0024     #recipe := 0;
0025
0026
0027 END_CASE;
0028
0029
0030 IF #at_scale = 1 THEN
0031   #temp[#counter] := #weight;
0032 END IF;
0033
0034
0035
0036
0037 //big boxes
0038 IF #temp [#counter]> 6.4 AND #temp [#counter] < 8.5 THEN
0039   #left := #sort[0];
0040   #right := #sort[1];
0041 END_IF;
0042 //medium boxes
0043 IF #temp [#counter]> 4.5 AND #temp [#counter] < 6.4 THEN
0044   #left := #sort[2];
```

```
0045    #right := #sort[3];
0046  END_IF;
0047  //small boxes
0048  IF #temp[#counter] > 3.0 AND #temp[#counter] < 4.5 THEN
0049    #left := #sort[4];
0050    #right := #sort[5];
0051  END_IF;
0052  //----------------------------
0053  #weight_display := REAL_TO_DINT(#weight);
0054
```

Symbol	Address	Type	Comment
#at_scale		Bool	
#counter		Int	
#left		Bool	
#recipe		Int	select the recipe (0,1,2)
#right		Bool	
#sort[0]		Bool	
#sort[1]		Bool	
#sort[2]		Bool	
#sort[3]		Bool	
#sort[4]		Bool	
#sort[5]		Bool	
#temp[*]		Real	temporary table
#weight		Real	
#weight_display		DInt	

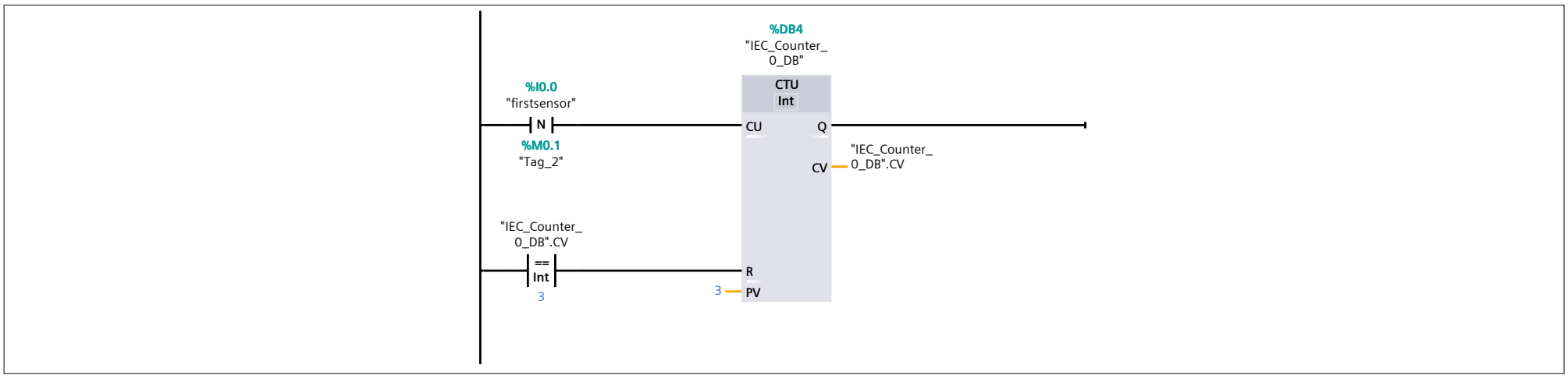
PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

counter [FC3]

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

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

Network 1:



PLC_1 [CPU 1211C DC/DC/DC] / Program blocks

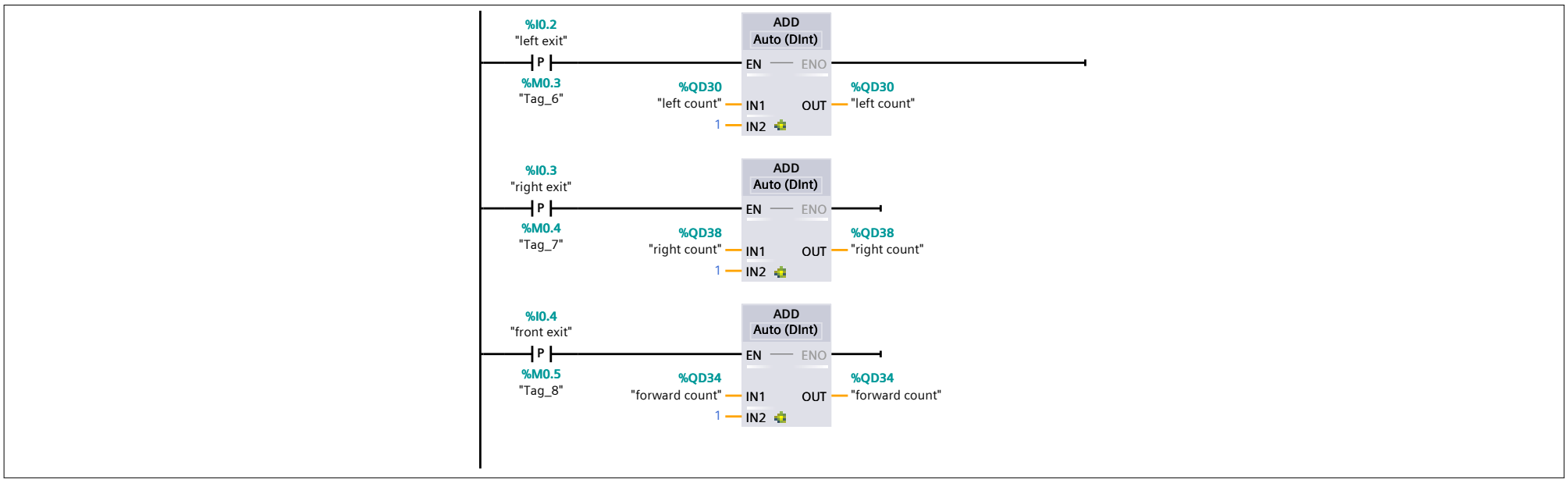
count blocks [FC4]

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

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
count blocks	Void		

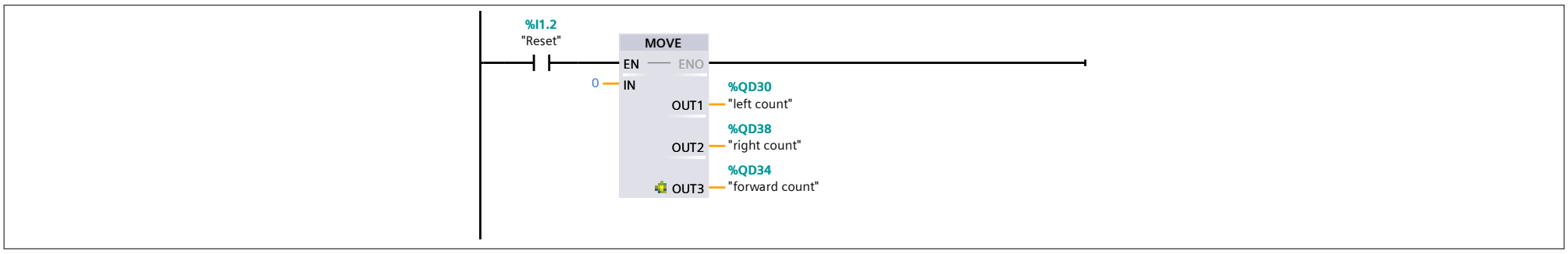
Network 1:

deixnei stis othones ston pinaka posa koutia perasan



Network 2:

reset the counts



PLC_1 [CPU 1211C DC/DC/DC] / Program blocks / System blocks / Program resources

IEC_Counter_0_DB [DB4]

IEC_Counter_0_DB Properties							
General							
Name	IEC_Counter_0_DB	**Number**	4	**Type**	DB	**Language**	DB
Numbering	Manual						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	CNTR				

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA	Writable from HMI/OPC UA	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

PLC_1 [CPU 1211C DC/DC/DC] / PLC tags / Standard-Variablentabelle [57]

PLC tags

PLC tags

	Name	Data type	Address	Retain	Accessible from HMI/OPC UA	Writable from HMI/OPC UA	Visible in HMI engineering	Supervision	Comment
	start	Bool	%I1.0	False	True	True	True		
	stop	Bool	%I1.1	False	True	True	True		
	firstsensor	Bool	%I0.0	False	True	True	True		
	atscale	Bool	%I0.1	False	True	True	True		
	entryconveyor	Bool	%Q0.0	False	True	True	True		
	scaleconveyor	Bool	%Q0.1	False	True	True	True		
	leftconveyor	Bool	%Q0.2	False	True	True	True		
	rightconveyor	Bool	%Q0.3	False	True	True	True		
	frontconveyor	Bool	%Q0.4	False	True	True	True		
	sendforward	Bool	%Q0.5	False	True	True	True		
	sendright	Bool	%Q0.6	False	True	True	True		
	sendleft	Bool	%Q0.7	False	True	True	True		
	Tag_1	Bool	%M0.0	False	True	True	True		
	Tag_2	Bool	%M0.1	False	True	True	True		
	Tag_3	Real	%ID30	False	True	True	True		
	Tag_4	Bool	%M0.2	False	True	True	True		
	Tag_5	Byte	%MB30	False	True	True	True		
	left exit	Bool	%I0.2	False	True	True	True		
	right exit	Bool	%I0.3	False	True	True	True		
	front exit	Bool	%I0.4	False	True	True	True		
	Tag_6	Bool	%M0.3	False	True	True	True		
	left count	DInt	%QD30	False	True	True	True		
	forward count	DInt	%QD34	False	True	True	True		
	right count	DInt	%QD38	False	True	True	True		
	weight on screen	DInt	%QD42	False	True	True	True		
	Tag_7	Bool	%M0.4	False	True	True	True		
	Tag_8	Bool	%M0.5	False	True	True	True		
	Reset	Bool	%I1.2	False	True	True	True		
	emerg stop	Bool	%I1.3	False	True	True	True		

PLC_1 [CPU 1211C DC/DC/DC] / Watch and force tables

Watch table_1

Name	Address	Display format	Modify value	Comment
"Tag_3"	%ID30	Floating-point number		
"varoi".weight[0]		Floating-point number		
"varoi".weight[1]		Floating-point number		
"varoi".weight[2]		Floating-point number		
"IEC_Counter_0_DB".CV		DEC+/-		
"sendright"	%Q0.6	Bool		
"sendleft"	%Q0.7	Bool		