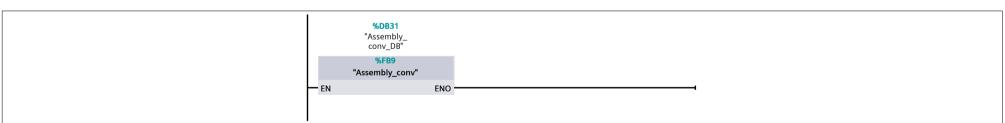
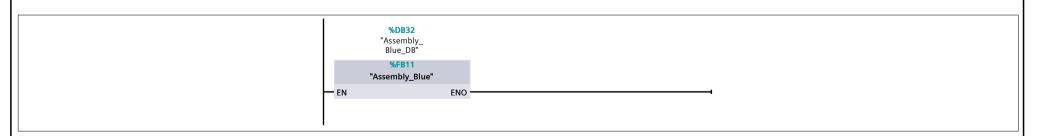
Totally Inte Automation							
Project / Main [OB	PLC_2 [CPU 319-3	PN/DP] / Pro	ogram bl	ocks			
Main Properti	es						
General							
Name	Main	Number	1	Type	ОВ	Language	LAD
Numbering	Manual						
nformation						lle u	
Title Title	"Main Program Sweep (Cy-cle)"	Author		Comment		Family	
/ersion	0.1	User-defined ID					
		0001 00111100 12					
/lain		_					
Name		Data type	Offset	Default value	Cor	mment	
▼ Temp							
OB1_EV		Byte	0.0			0-3 = 1 (Coming event), Bits 4-7	
OB1_SC		Byte	1.0			Cold restart scan 1 of OB 1), 3 (Sca	an 2-n of OB 1)
OB1_PR		Byte	2.0			ority of OB Execution	
	_NUMBR	Byte	3.0			Organization block 1, OB1)	
	SERVED_1	Byte	4.0			erved for system	
	SERVED_2	Byte	5.0			erved for system	
	EV_CYCLE	Int	6.0			le time of previous OB1 scan (mil	
	N_CYCLE	Int	8.0			nimum cycle time of OB1 (millisec	
	AX_CYCLE	Int	10.0			ximum cycle time of OB1 (millised	conds)
OB1_DA	TE_TIME	Date_And_Time	12.0		Dat	e and time OB1 started	
Constant							
		— ЕМ	%DB13 "LID PRODUCTION_ DB" %FB2 "LID PRODUCTION"	ENO			
Network 2:	BASE_PRODUCTION_STA	ATION					
		— EN	*DB17 "base_ production_fb_ DB" *FB5 base_production_fb"	ENO -			
Network 3:	Assembly_conv						



Network 4: Assembly_Blue



Network 5: Assembly_Green

Totally Integrated Automation Portal			
	%DB33 "Assembly_ Green_DB" %FB10 "Assembly_Green" EN ENO	- 1	
Network 6:			
		-1	
Network 7:			
	"A_COUNTER_ DB_1" "FB12 "A_COUNTER" EN ENO	- 1	
Network 8:			
	%DB34 "Assembly_ Emergency_DB_ 1" %FB13 "Assembly_Emergency" EN ENO	- 1	

Totally Integrated Automation Portal	
--------------------------------------	--

PICK_UP_BASE_ROBOT [FB6]

PICK_UP_BASE_ROBOT Properties										
General										
Name	PICK_UP_BASE_ROBOT	Number	6	Type	FB	Language	LAD			
Numbering	Automatic									
Information										
Title	Title Comment Family									
Version	0.1	User-defined ID								

PICK_UP_BASE_ROBOT								
Name	Data type	Offset	Default value	HMI/OPC UA	able	HMI engi-	Supervi- sion	Comment
Input								
Output								
InOut								
Static								
Temp								
Constant								

Network 1: BASE_PICKUP_ROBOT_LOWERING_Z_AXIS

Network 2: BASE_PICKUP_OPERATE_SUCCTION

```
%M0.0
                              %Q1.1
                                                           %15.2
                                                                                      %I1.0
                                                                                                                  %Q1.3
"state_of_
start_base"
                          "base_pickup_
x_axis"
                                                     "BASE_MOVE_
Z_SENSOR"
                                                                                 "base_gripper_
detected"
                                                                                                            "base_sucction_
gripper"
                                                           \exists \, \mathsf{N} \, \mathsf{F}
                                                                                                                   -( s )-
                                                          %M2.1
                                                       "DUMMY4"
                                                                                                                  %Q1.2
                                                                                                            "base_pickup_
z_axis"
                                                                                                                   -(R)-
```

Network 3: PICK_UP_BASE_GO_TO_FEEDING

```
%M0.0
                              %I1.0
                                                        %Q1.1
                                                                                  %Q1.2
                                                                                                            %Q1.3
                                                                                                                                        %I5.2
                                                                                                                                                                  %Q1.1
"state_of_
start_base"
                        "base_gripper_
detected"
                                                   "base_pickup_
x_axis"
                                                                              "base_pickup_
z_axis"
                                                                                                                                   "BASE_MOVE_
Z_SENSOR"
                                                                                                                                                             "base_pickup_
x_axis"
                                                                                                       "base_sucction_
                                                                                                           gripper"
                                                                                                                                        \exists \, \mathsf{N} \, \mathsf{F}
                                                                                                                                                                   -( s )-
                                                                                                                                       %M2.0
                                                                                                                                     "DUMMY3"
```

Network 4: LID_PICK_UP_LOWERING_Z_AXIS_IN_FEEDING

```
%I5.1
  %M0.0
                       %Q1.3
                                            %Q1.2
                                                                                      %Q1.2
"state_of_
start_base"
                                                              "BASE_MOVE_
X_SENSOR"
                                                                                   "base_pickup_
z_axis"
                   "base_sucction_
                                        "base_pickup_
                                           z_axis"
                      gripper"
                                                                  \neg
                                                                                       -( s )-
                                                                 %M1.7
                                                                "DUMMY2"
```

Network 5: LID_RETURN_TO_ORIGIN_PICKUP

Totally Integrated **Automation Portal** %I5.2 "BASE_MOVE_ Z_SENSOR" %M0.0 "state_of_ start_base" %Q1.1 "base_pickup_ x_axis" %I1.1 "start_base_ raw_feeding" %Q1.2 "base_pickup_ z_axis" N | %M1.6 "DUMMY1" **%Q1.1**"base_pickup_x_axis" **%M0.1**"state_of_
start_LID" _(R)_ %Q1.3
"base_sucction_
gripper" _(R)_

Totally Integrated	
Automation Portal	

BASE_execess_remove_station [FB7]

BASE_execess_remove_station Properties									
General									
Name	BASE_execess_remove_station	Number	7	Туре	FB	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

BASE_execess_remove_station										
Name	Data type	Offset	Default value	HMI/OPC UA	able	HMI engi- neering		Supervi- sion	Comment	
Input										
Output										
InOut										
Static										
Temp										
Constant										

Network 1: LID_BELT_EXECESS_CONVYR_HANDLER

```
%I1.3
"stop_base_ machining_ state_of_ start_base"

TOF Time EXESS_CONV*

WM5.0
"base_into_cnc"

WDB22
"IEC_Timer_0_ DB_10"

State_of_ Start_base"

TOF EXESS_CONV*

IN Q
PT ET ...
```

Network 2: COUNTING NO OF BLUE MATERIAL OF EXECCES

```
*MB23
"Be_raw_blue_exes__
vision"

CU

CV

*M0.3

*Are_we_
there_base_
raw_blue

CU

CV

...

*M0.3

*Are_we_
there_base_
raw_blue

CU

CV

...

*M0.3

*Are_we_
there_base_
raw_blue

Family

*M0.3

*Are_we_
there_base_
raw_blue

*Are_we_
there_base_
raw_blue

*Are_we_
there_base_
raw_blue

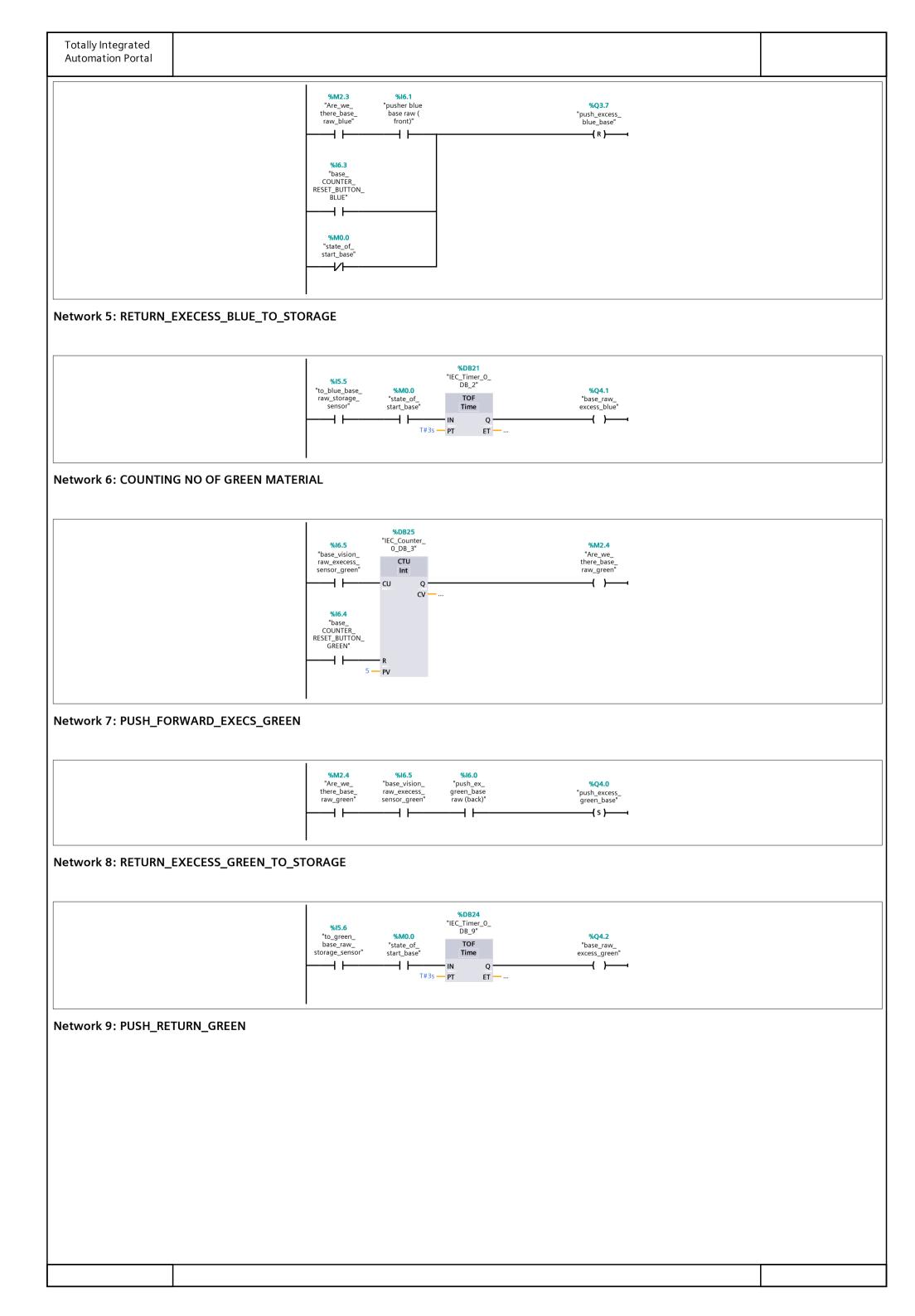
*M0.3

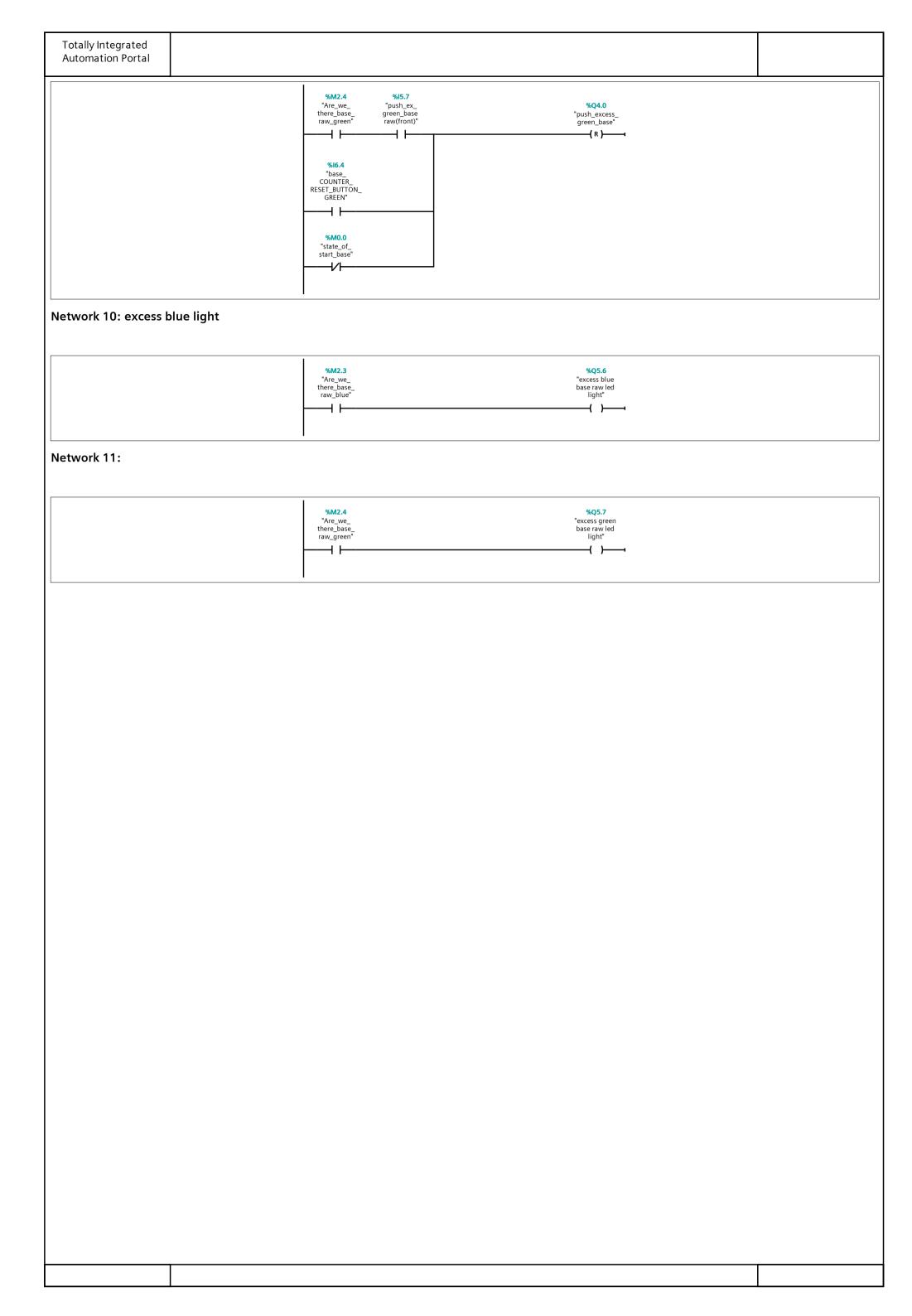
*Are_we_
there_base_
raw_blue

*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
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raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base_
raw_blue
*Are_we_
there_base
```

Network 3: PUSH_FORWARD_EXECS_BLUE

Network 4: PUSH_RETURN_EXECESS_BLUE





Totally Integrated Automation Portal		
Project / PLC_2	CPU 319-3 PN/DP] / Program blocks	

base_p	production_	_fb [FB5]	

base_production_fb Properties									
General									
Name	base_production_fb	Number	5	Type	FB	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

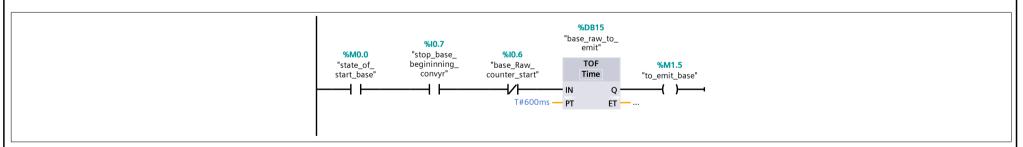
base_production_fb									
Name	Data type	Offset	Default value	Accessible from HMI/OPC UA	able	HMI engi-	Setpoint	Supervi- sion	Comment
Input									
Output									
InOut									
Static									
Temp									
Constant									

Network 1: base_production_station

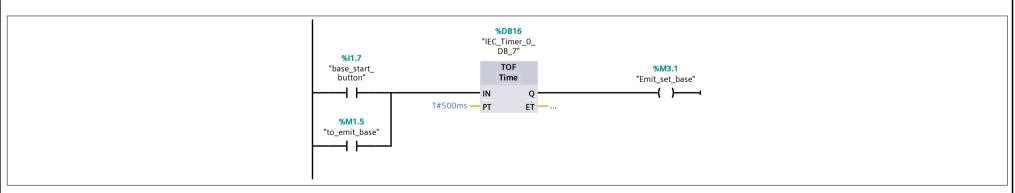
```
%I1.7
                               %I2.0
                                                          %I1.6
                                                                                     %I2.1
                                                                                                               %Q1.4
                                                                                                                                          %M0.0
                                                                                                                                                                                           "base_stop_
button_1_light"
                                                                                 "base_
emergency"
                                                                                                          "base_start_
button_1_light"
"base_start_
button"
                           "base_stop_
button"
                                                  "lid_emergency_
button"
                                                                                                                                        "state_of_
start_base"
                                                                                                                                                                     ⊣ иот ⊢
   %M0.0
"state_of_
start_base"
```

Network 2: base_begin_convyer

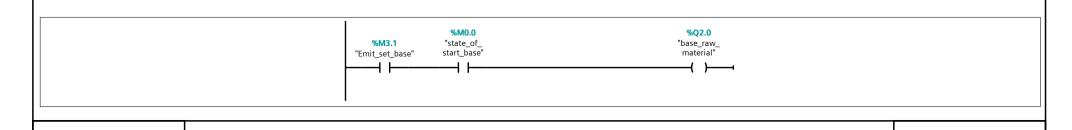
Network 3: emit_base_handler



Network 4: emitting_base



Network 5: Emit emergency handle base



```
Totally Integrated
  Automation Portal
Network 6: FEEDING_CONVYER_HANDLER_BASE
                                                                                                                                                 %Q0.7
"base_raw_
feeding_
conveyr"
                                                                                              %M0.0
                                                                                            "state_of_
start_base"
                                                                           %M1.4
                                                                                                               %M1.4
                                                                                                           "is_base_exsist"
                                                                        "is_base_exsist"
                                                                            %Q0.7
                                                                          "base_raw_
feeding_
conveyr"
Network 7: base_machinning_handle
                                                                                                                                                 %Q1.0
"base_to_
machinning_
conveyr"
                                                                                              %M0.0
                                                                                           "state_of_
start_base"
                                                                            %M1.4
                                                                                                               %M1.4
                                                                        "is_base_exsist"
                                                                                                            "is_base_exsist"
                                                                        %Q1.0
"base_to_
machinning_
conveyr"
Network 8: base_raw_into_cnc
                                                                                          %DB18
"IEC_Timer_0_
DB_8"
                                                                                               TOF
                                                                            %15.0
                                                                                                                                                    %M1.4
                                                                        "base_into_cnc"
                                                                                              Time
                                                                                                                                                "is_base_exsist"
                                                                                          - IN
                                                                                                     Q-
                                                                               T#500ms — PT
Network 9: BASE_KEEP_DISTANCE
                                                                                          %Q4.4
"Stop_blade4"
                                                                                                                                                 %Q4.5
"Stop_blade5"
                                                                           %M1.4
                                                                        "is_base_exsist"
Network 10: base_excess
                                                                                "BASE_execess_
remove_station_
DB"
                                                                                     %FB7
                                                                         "BASE_execess_remove_station"
                                                                        EN
                                                                                                   ENO ·
Network 11: CNC_BASE
                                                                                                                                               %Q4.3
"MachineCenter2
                                                                           %M1.4
                                                                                                                                                 _base_start"
                                                                        "is_base_exsist"
                                                                                                                                                    Network 12: pick_and_place_base
                                                                                 %DB20
"PICK_UP_
BASE_ROBOT_
DB_1"
                                                                             "PICK_UP_BASE_ROBOT"
```

Totally Integrated Automation Portal		
Network 13: Base so	rting	
	%DB28 "BASE_SORTING_ STATION_DB" %FB8 "BASE_SORTING_STATION" EN ENO	

|--|

BASE_SORTING_STATION [FB8]

BASE_SORTING_STATION Properties									
General									
Name	BASE_SORTING_STATION	Number	8	Туре	FB	Language	LAD		
Numbering	Numbering Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

BASE_SORTING_STATION									
Name	Data type	Offset	Default value	Accessible from HMI/OPC UA	able	HMI engi-	Setpoint	Supervi- sion	Comment
Input									
Output									
InOut									
Static									
Temp									
Constant									

Network 1: BEGIN SORTING CONVYER

Network 2: Conv base sorting handle

```
*Q4.6 *Q4.7 *Q5.0 *Q5.3

"BEGIN_ "BEGIN_ "BEGIN_ "BEGIN_
SORTING_ SORTING_ SORTING_
"Conv_sorting_ "state_of_ STATION_BASE_ STATION_BASE_ STATION_BASE_ STATION_BASE_
set_base" start_base" 1" 2" 3" 4"
```

Network 3: GREEN BASE PUSH FRONT

Network 4: GREEN PUSHER SORTING RETURN

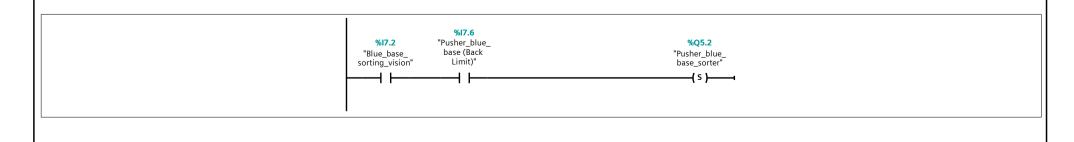
```
%I7.3

"Pusher_green_
base (Front
Limit)"

%M0.0

"state_of_
start_base"
```

Network 5: BLUE PUSHER SORTING PUSH



Totally Integrated Automation Portal			
Network 6: BLUE_PUSHER_SORTING	i_RETURN		·
	%I7.5 "Pusher_blue_base (Front Limit)"	%Q5.2 "Pusher_blue_base_sorter" (R)	
Network 7: light_blue			
	%Q5.2 "Pusher_blue_base_sorter"	%Q6.2 "blue base sorting light" ()	
Network 8: light green			
	%Q5.1 "Pusher_green_ base_sorter"	%Q6.3 "green base sorting light"	

Totally Integ Automation									
Project / PLC_2 [CPU 319-3 PN/DP] / Program blocks PICK_UP_LID_ROBOT [FB1] PICK_UP_LID_ROBOT Properties									
General	ROBOT Properties								
Name	PICK_UP_LID_ROBOT	Number	1		Туре	FB	L	anguage	LAD
Numbering	Automatic				, ,				
Information									
Title		Author			Comment		F	amily	
Version	0.1	User-def	ined ID				'		
PICK_UP_LID_F	ROBOT								
Name		Data type	Offset	Default value	Accessible	Writ- Visible in		Supervi-	Comment

%I0.1"stop_
beginning_lid_
sensor"

P | %M0.5
"item_ready_
to_picked"

%Q0.3"Lid_pickup_x_
axis"

%Q0.3"Lid_pickup_x_
axis"

%Q0.5
"lid_sucction_
gripper"

%I2.4

"LID_moving_

z_sensor"

N

%M0.6"movin_lid_z_
mem"

%Q0.4"lid_pickup_z_
axis"

%Q0.4"lid_pickup_z_
axis"

%10.3

"LID_detected_

%Q0.5 "lid_sucction_

gripper"

%l2.5"LID_moving_ x_sensor"

H۱۲

%M0.3 "dummy"

%M0.1

"state_of_ start_LID"

%M0.1 "state_of_ start_LID"

%I0.3"LID_detected_ grip"

%M0.1 "state_of_ start_LID"

%M0.1"state_of_ start_LID"

Input
Output
InOut
Static
Temp
Constant

Network 1: LID_PICKUP_ROBOT_LOWERING_Z_AXIS

Network 2: LID_PICKUP_OPERATE_SUCCTION

Network 3: PICK_UP_LID_GO_TO_FEEDING

Network 4: LID_PICK_UP_LOWERING_Z_AXIS_IN_FEEDING

Network 5: LID_RETURN_TO_ORIGIN_PICKUP

HMI/OPC UA from neering HMI/ OPC UA

%Q0.4

"lid_pickup_z_ axis"

%Q0.5
"lid_sucction_
gripper"

-(s **)**-

%Q0.4
"lid_pickup_z_
axis"

%I2.4 "LID_moving_

z_sensor"

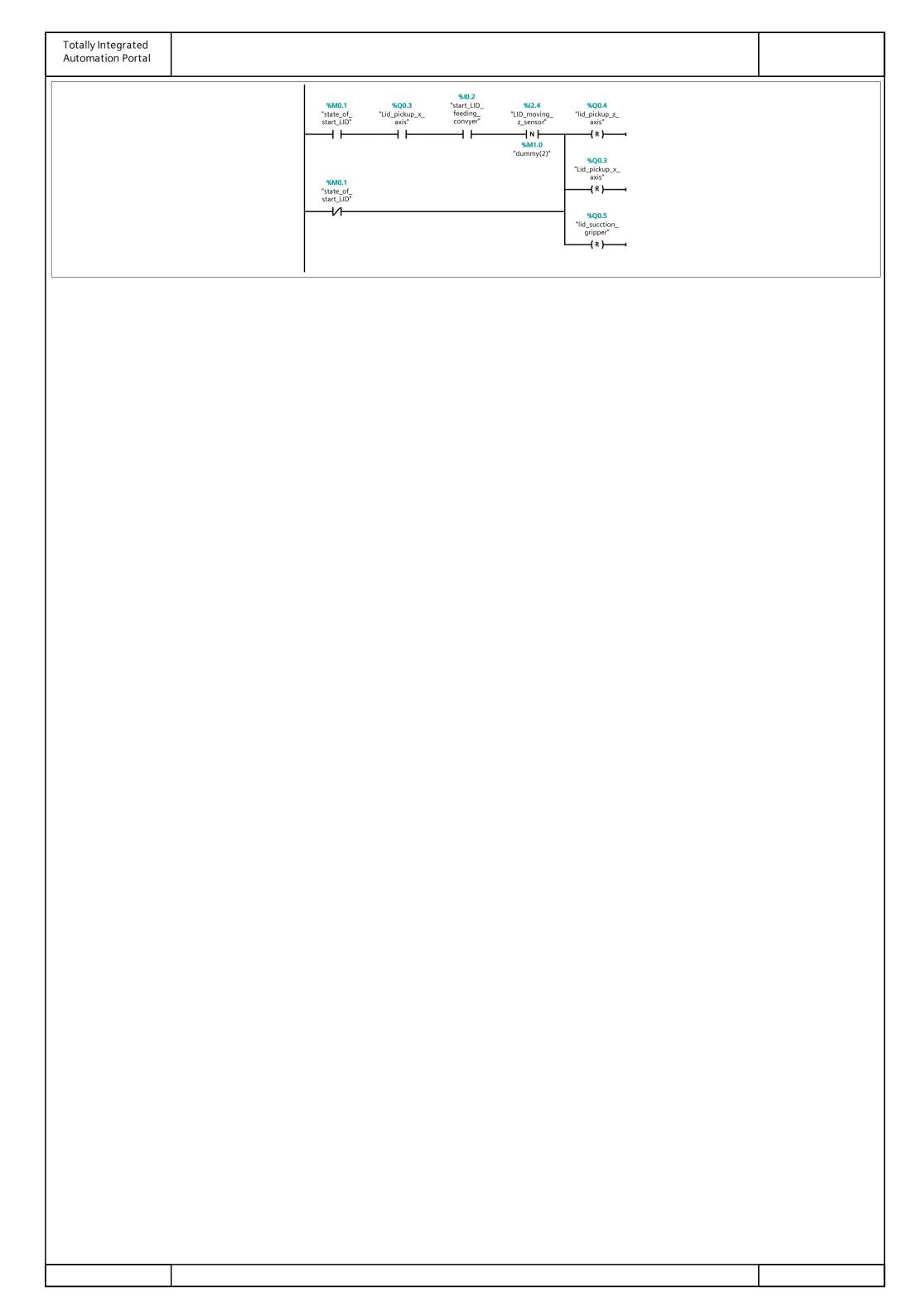
%M0.7 "dummy(1)"

%Q0.4"lid_pickup_z_
axis"

(s)-

%Q0.3"Lid_pickup_x_
axis"

-(s **)**-



Totally Integrated Automation Portal

LID_execess_remove_station [FB4]

LID_execess_remove_station Properties									
General									
Name	LID_execess_remove_station	Number	4	Туре	FB	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

LID_execess_remove_station								
Name	Data type	Offset	Default value	HMI/OPC UA	able	HMI engi-	Supervi- sion	Comment
Input								
Output								
InOut								
Static								
Temp								
Constant								

Network 1: LID_BELT_EXECESS_CONVYR_HANDLER

```
%IO.5

"LID_machining_ entrance_ sensor"

"state_of_ start_LID"

Time

WQ2.2

"lid_belt_ convyer_excess"

N Q T#500ms PT ET ...
```

Network 2: COUNTING NO OF BLUE MATERIAL OF EXECCES

```
**M1.2

**IEC_Counter_
0_D8"

**ARE_WE_
THERE_YET_
BLUE_lid"

CU Q
CV ....

**ID_COUNTER_
RESET_BUTTON_
BLUE"

R

5 — PV
```

Network 3: PUSH_FORWARD_EXECS_BLUE

```
*M1.2

"ARE_WE_
THERE YET_
BLUE_lid"

"Blue_vision_lid"

"Blue_vision_lid"

WDB7

"IEC_Timer_O_
DB.3"

"TOF
Time

TOF
Time

IN Q
T#3S
PT ET ...
```

Network 4: PUSH_RETURN_EXECESS_BLUE

Totally Integrated **Automation Portal** %M1.2 "ARE_WE_ THERE_YET_ BLUE_lid" %13.0 %Q2.3 "front_blue_ push_lid" "push_excess_ blue_lid" -(R)-%I3.5

"LID_COUNTER_
RESET_BUTTON_
BLUE" %M0.1 "state_of_ start_LID" **Network 5: COUNTING NO OF GREEN MATERIAL** %DB9
"IEC_Counter_
0_DB_1" **%M1.3**"ARE_WE_
THERE_YET_
GREEN_lid" CTU %I2.7 "green_vision_lid" Int CU CV — ... %I4.0

"LID_COUNTER_
RESET_BUTTON_
GREEN" 5 — PV Network 6: PUSH_FORWARD_EXECS_GREEN **%M1.3**"ARE_WE_
THERE_YET_
GREEN_lid" %13.3 %Q2.4 "back_green_ push_lid" "push_excess_ green_lid" **%I2.7** "green_vision_lid" %DB8 "IEC_Timer_0_ DB_6" %Q3.0 "TO_STORAGE_ GREEN_ CONVYER_lid" TOF Time - IN Q-T#3S — PT ET Network 7: PUSH_RETURN_GREEN "ARE_WE_ THERE_YET_ GREEN_lid" **%I3.2** %Q2.4 "front_green_ push_lid" "push_excess_ green_lid" **-(** R **)**-%I4.0

"LID_COUNTER_
RESET_BUTTON_
GREEN" %M0.1 "state_of_ start_LID" Network 8: light blue if reached **%M1.2**"ARE_WE_
THERE_YET_
BLUE_lid" %Q5.4 "excess blue lid raw led light" Network 9: light green if reached

Totally Integrated Automation Portal				
	%M1.3 "ARE_WE_ THERE_YET_ GREEN_lid"	"e	%Q5.5 xcess green lid raw led light"	
	—— I I————————————————————————————————		-(}	

Totally Integr Automation F									
Project / PLC_2 [CPU 319-3 PN/DP] / Program blocks LID PRODUCTION [FB2]									
LID PRODUCTIO	N Properties								
General	General								
Name	LID PRODUCTION	Number	2	Type	FB	Language	LAD		
Numbering	Automatic								

Numbering	Automatic								
Information									
Title		Author			Comment		Fa	mily	
Version	0.1	User-de	fined ID						
LID PRODUCTI	ON								
Name		Data type	Offset	Default value	from HMI/OPC UA	Writ- Visible in able HMI engi- from neering HMI/ OPC UA	Setpoint	Supervi- sion	Comment
Input									

Network 1: LID STARTING HANDLE

Output
InOut
Static
Temp
Constant

```
#I1.6 #12.1 #01.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #01.6 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5 #13.5
```

Network 2: LID_BEGINNING_COVNVYER

Network 3: LID_EMITTER_HANDLER

```
      %I0.1
      "Stop_
      "IEC_Timer_O_DB"

      "state_of_
      beginning_lid_
      %IO.0
      TOF
      %MO.4

      start_LID"
      sensor"
      "lid_detection"
      "To_emit_lid"

      T#500ms
      PT
      ET
      ...
```

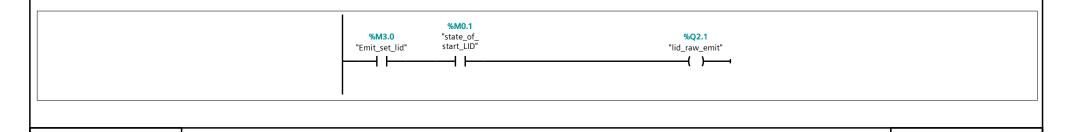
Network 4: FIRST LID TO EMIT

```
%DB2
"IEC_Timer_O_
DB_1"

NH.4
"Iid_start_button"

T#600ms — T#600
```

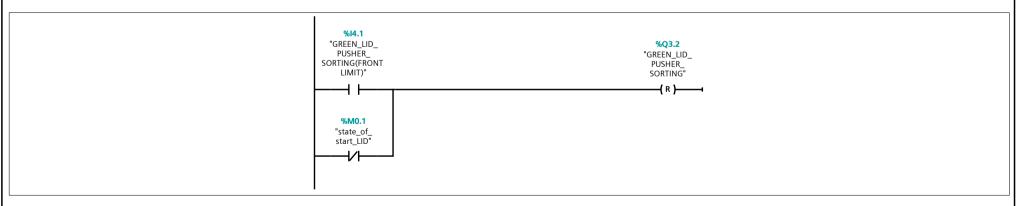
Network 5: Emit emergency handle lid



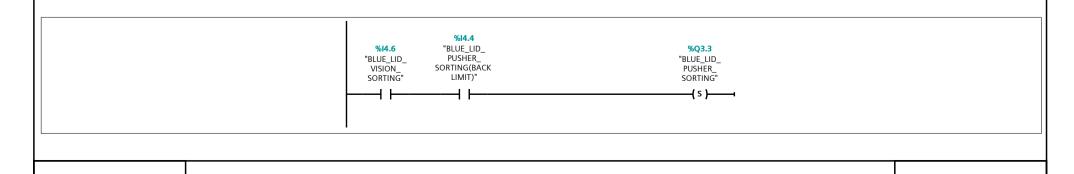
```
Totally Integrated
  Automation Portal
Network 6: LID_PICKUP_ROBOT
                                                                              %DB11
                                                                            "PICK_UP_LID_
ROBOT_DB"
                                                                              %FB1
                                                                        "PICK_UP_LID_ROBOT"
                                                                                           ENO
                                                                  - EN
Network 7: FEEDING_CONVYER_HANDLER_LID
                                                                                                                                      %Q0.1
"lid_feeding_
conveyr"
                                                                                       %M0.1
                                                                                     "state_of_
start_LID"
                                                                      %M1.1
                                                                  "CNC_lid_empty"
Network 8: LID_MACHINNING_CONVYER
                                                                                       %M0.1
                                                                                     "state_of_
start_LID"
                                                                                                                                     "lid-machinning_
conveyr"
                                                                      %M1.1
                                                                  "CNC_lid_empty"
Network 9: DETECT_IS_ANY_PART_IN_CNC_LID
                                                                                       %DB6
                                                                                    "IEC_Timer_0_
DB_5"
                                                                      %I3.4
                                                                   "into_cnc_lid_
sensor"
                                                                                        TOF
                                                                                                                                         %M1.1
                                                                                                                                     "CNC_lid_empty"
                                                                         T#500MS — PT
                                                                                             ET -
Network 10: LID_KEEP_DISTANCE
                                                                  %M1.1 %Q2.6
"CNC_lid_empty" "KEEP_DISTANCE"
                                                                                                                                    %Q2.5
"ONE_OBJECT_IN"
Network 11: LID_execess_station
                                                                              %DB14
                                                                          "LID_execess_
remove_station_
DB"
                                                                               %FB4
                                                                     "LID_execess_remove_station"
                                                                                            ENO
                                                                   EN
Network 12: CNC
                                                                                                                                     %Q3.6
"MachineCenter1
                                                                                  %Q3.5
"MachineCenter1
_lid_start"
                                                                                                                                      _lid_
produceLids"
                                                                      %M1.1
                                                                  "CNC_lid_empty"
Network 13: SORTING_STATION
                                                                           %DB12
"LID_SORTING_
STATION_DB"
                                                                              %FB3
                                                                       "LID_SORTING_STATION"
                                                                                           ENO -
```

: + /	DI C 2 [CDI 24	10. 2. DN1/E	D1 / D								•
roject/	PLC_2 [CPU 31	9-3 PN/L	P] / Prog	Jram blocks							
ID_SORTI	NG_STATION [F	B3]									
D SORTING	STATION Properties										
eneral	- поположение										
ame	LID_SORTING_STATIO	N Numb	er 3		Type	F	В		La	inguage	LAD
lumbering	Automatic										
nformation itle		Autho	<u> </u>		Comr	mont			E-	mily	
rtie ersion	0.1		efined ID		Collii	nent			Гс	illily	
ID_SORTING_	STATION		255	5 6 1.						-	
lame		Data type	Offset	Default value		Accessible from HMI/OPC UA	able	HMI engi-	Setpoint	Supervi- sion	Comment
Input							UA				
Output											
InOut											
Static											
Temp											
Constant											
			%I4.5 "BEGIN_ SORTING_ STATION_LII	"SC COVY "state of	GDB10 ORTING_ ER_TIMER" TOF Time Q ET		"(%M2.7 Conv_sorting_ set_lid"			
Network 2:											
			%M2.7 "Conv_sortin set_lid"	g_ "state_of_ start_LID"				%Q3.1 "SORTING_ ONVYER_LID"			

Network 4: GREEN PUSHER SORTING RETURN



Network 5: BLUE PUSHER SORTING PUSH



Totally Integrated Automation Portal			
Network 6: BLUE_PUSHER_SORTING_RETURN	N		
	%I4.3 "BLUE_LID_ PUSHER_ SORTING(FRONT LIMIT)" %M0.1 "state_of_ start_LID"	%Q3.3 "BLUE_LID_ PUSHER_ SORTING" ———————————————————————————————————	
Network 7: green lid if blue	I		
	%Q3.2 "GREEN_LID_ PUSHER_ SORTING"	%Q6.1 "green lid sorting light"	
Network 8: blue lid			
	%Q3.3 "BLUE_LID_ PUSHER_ SORTING"	%Q6.0 "blue lid sorting light"	

Totally Integrated	
ation Portal	
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Assembly_conv [FB9]

Assembly_conv Properties									
General									
Name	Assembly_conv	Number	9	Туре	FB	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

Assembly_conv										
Name	Data type	Offset		Accessible from HMI/OPC UA	able	HMI engi-	Setpoint	Supervi- sion	Comment	
Input										
Output										
InOut										
Static										
Temp										
Constant										

Network 1:

```
"Green_Lid_
conv_timer"
    %18.0
                                               %M5.2
                                                                                          %M4.3
"Assembly
green lid start"
                                           "G_Detected_
Memory"
                                                                                      "move_green_
lid_conv"
                          %18.6
                                                                S_ODT
                    "G_lid_clamped"
                                                                                          -( s )-
                                                                             Q-
                                                    S5T#3S — TV
                                                                             ВІ — ...
                                                                           BCD — ...
    %M5.3
  "G_Reset"
```

Network 2:

```
"Blue_Lid_
conv_timer"
    %18.1
                                            %M5.4
                                                                                    %M4.5
"Assembly blue
lid start"
                                                                                 "move_blue_
lid_conv"
                        %19.4
                                         "B_Detected_
                                                             S_ODT
                    "B_lid_clamped"
                                          Memory"
                                                                        Q-
                                                                                    -( s )-
                                                 S5T#3S — TV
                                                                        ВІ — ...
                                                                      BCD — ...
    %M5.5
   "B_Reset"
     +
```

Network 3:

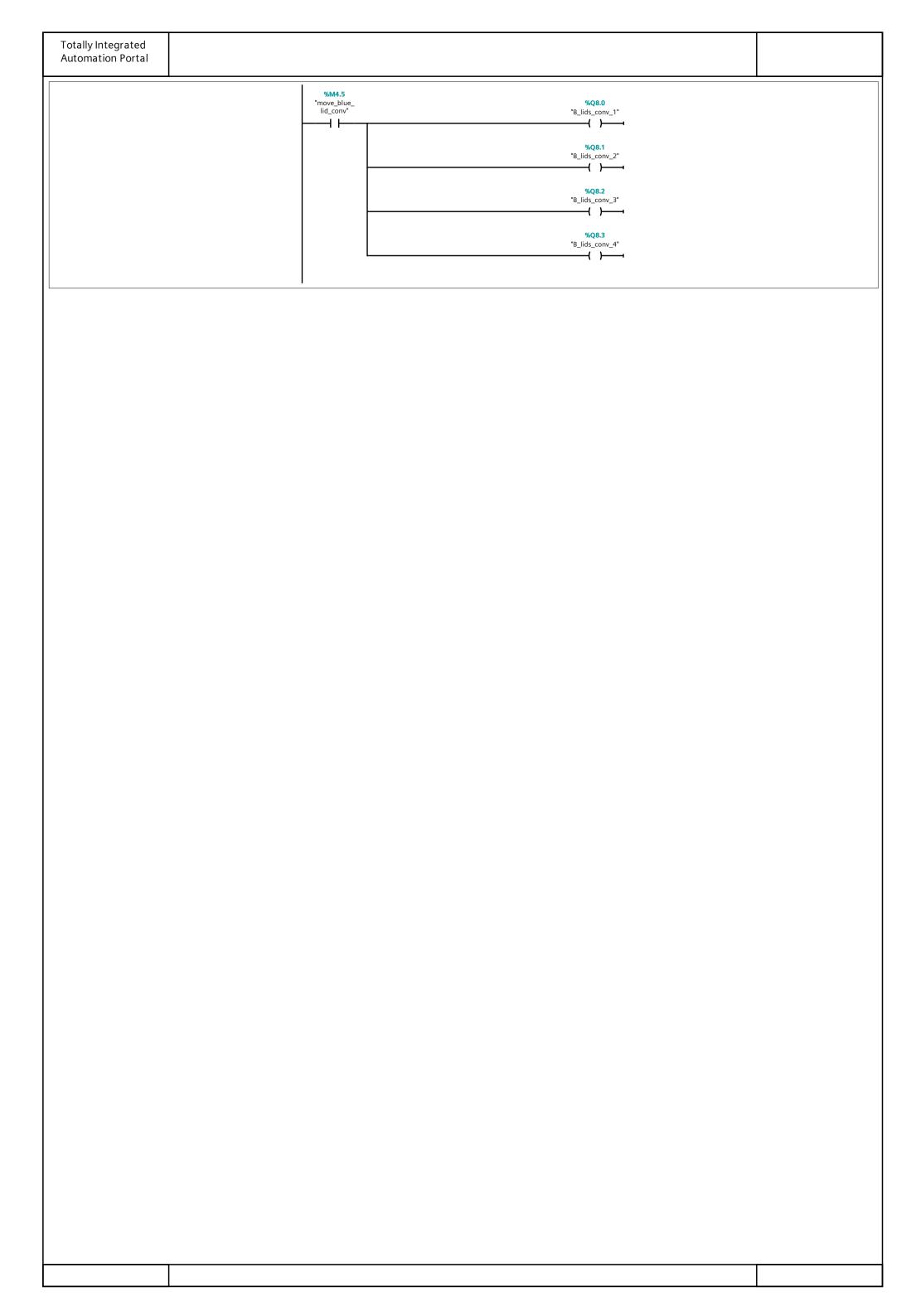
```
%l8.2
"Assembly green base start"
                                                                      %T8
                                                                  "Green_Base_
conv_timer"
                         %18.7
                                               %M5.2
                                                                                           %M4.4
                       "G_base_
clamped"
                                                                                        "move_green_
base_conv"
                                           "G_Detected_
                                             Memory"
                                                                  S_ODT
                                                                                            -( s )-
                                                                              Q-
                                                     S5T#3S — TV
                                                                              ВІ — ...
                                                                            BCD — ...
   %M5.3
 "G_Reset"
```

Network 4:

```
"Blue_Base_
conv_timer"
    %18.3
                        %19.5
                                           %M5.4
                                                                                   %M4.6
                                                                              "move_blue_
base_conv"
                      "B_base_
clamped"
"Assembly blue
                                        "B_Detected_
                                          Memory"
  base start"
                                                           S_ODT
                                                                       Q _____
                                                                                   -( s )-
                                                S5T#3S — TV
                                                                     BCD — ...
    %M5.5
   "B_Reset"
     -| |-
```

Network 5:

```
Totally Integrated
  Automation Portal
                                                                        %M4.3
                                                                     "move_green_
lid_conv"
                                                                                                                                         %Q7.0
"G_lids_conv_1"
                                                                                                                                             →
                                                                                                                                         %Q7.1
"G_lids_conv_2"
                                                                                                                                             →
                                                                                                                                        %Q7.2
"G_lids_conv_3"
———( )———
                                                                                                                                            %Q7.3
                                                                                                                                         "G_lids_conv_4"
                                                                                                                                             %Q7.4
"G_lids_conv_5"
                                                                                                                                             →
                                                                                                                                         %Q7.5
"G_lids_conv_6"
                                                                                                                                         %Q7.6
"G_lids_conv_7"
                                                                                                                                             %Q7.7
                                                                                                                                         "G_lids_conv_8"
                                                                                                                                            \prec \longrightarrow
Network 6:
                                                                       %M4.4
                                                                     "move_green_
base_conv"
                                                                                                                                        %Q8.4
"G_base_conv_1"
                                                                                                                                             %Q8.5
"G_base_conv_2"
                                                                                                                                             %Q8.6
                                                                                                                                        "G_base_conv_3"
                                                                                                                                             %Q8.7
"G_base_conv_4"
                                                                                                                                            %Q9.0
                                                                                                                                         "G_base_conv_5"
                                                                                                                                            →
                                                                                                                                        %Q9.1
"G_base_conv_6"
                                                                                                                                             → →
Network 7:
                                                                        %M4.6
                                                                      "move_blue_
base_conv"
                                                                                                                                        %Q9.2
"B_base_conv_1"
                                                                        \dashv \vdash
                                                                                                                                            %Q9.3
                                                                                                                                         "B_base_conv_2"
                                                                                                                                            %Q9.4
                                                                                                                                        "B_base_conv_3"
                                                                                                                                        %Q9.5
"B_base_conv_4"
Network 8:
```



Totally Integrated	
ation Portal	
, , , , , , , , , , , , , , , , , , , ,	

Assembly_Blue [FB11]

Assembly_Blue Properties									
General									
Name	Assembly_Blue	Number	11	Туре	FB	Language	LAD		
Numbering	Automatic								
Information									
Title		Author		Comment		Family			
Version	0.1	User-defined ID							

Assembly_Blue										
Name	Data type	Offset			able	HMI engi-	Setpoint	Supervi- sion	Comment	
Input										
Output										
InOut										
Static										
Temp										
Constant										

Network 1: Clamp when blue lid in place

```
"B_lid in place"

CLK

WM4.7

"B_Negative
Trig_1"

WM4.5

"move_blue_lid_conv"

(R)
```

Network 2: Clamp when blue base in place

```
"B_base in place"

CLK

WM5.0

"B_Negative_Trig_2"

WM4.6

"move_blue_base_conv"

(R)
```

Network 3: move Z and Grab when Base and Lid clamped

Network 4: unclamp when item detected, raise z and extend x

Totally Integrated **Automation Portal %I9.7**"B_item_detect" %Q10.4 "B_clamp_lid" **-(** R **)**-%Q10.5 "B_clamp_base" -(R)-**%Q10.6** "B_move Z" **-(** R **)**− **%Q11.0**"B_move X" **-(** s **)**-**%M5.4**"B_Detected_
Memory" **-(** s **)**-Network 5: lower z after 3 s **%T3** "B_Timer_1" %M5.4 "B_Detected_ Memory" **%Q10.6** "B_move Z" S_ODT **-(** s **)-**ВІ — ... BCD — ... %M5.5 "B_Reset" Network 6: ungrab, raise z and unextend x after 5s **%T4** "B_Timer_2" **%M5.4**"B_Detected_
Memory" **%Q10.7** "B_grab" S_ODT **-(** R **)**-Q-S5T#5S — **TV** ВІ — ... **%M5.5**"B_Reset" BCD — ... **%Q10.6** "B_move Z" **-(** R **)**-%Q11.0 "B_move X" -(R)-Network 7: turn conv on and raise post after 6 s **%T5** "B_Timer_3" **%M5.4**"B_Detected_
Memory" **%M4.6**"move_blue_base_conv" S_ODT Q-S5T#6S — TV ві — ... **%M5.5**"B_Reset" BCD — ... %M4.5 "move_blue_ lid_conv" %Q11.1 "B_pos.Raise_ bases" **-(** s **)**-Network 8: lower post after part leaves %Q11.1 "B_pos.Raise_ bases" "B_part_leaving" N_TRIG CLK Q - %M5.1 "B_Negative_ Trig_3" %M5.4 "B_Detected_ Memory" _(R)_ **%M5.5**"B_Reset"

Totally Integrated Automation Portal

Assembly_Green [FB10]

Assembly_Green Properties										
General										
Name	Assembly_Green	Number	10	Туре	FB	Language	LAD			
Numbering	Automatic									
Information										
Title		Author		Comment		Family				
Version	0.1	User-defined ID								

Assembly_Green										
Name	Data type	Offset	Default value	HMI/OPC UA	able	HMI engi-		Supervi- sion	Comment	
Input										
Output										
InOut										
Static										
Temp										
Constant										

Network 1:

```
%I8.4

"G_lid in place"

N_TRIG

CLK

%M4.0

"G_Negative_Trig_1"

MM4.3

"move_green_lid_conv"

(R)
```

Network 2:

```
%I8.5

"G_base in place"

CLK

%M4.1

"G_Negative_
Trig_2"

%M4.4

"move_green_
base_conv"

(R)
```

Network 3:

Network 4:

```
Totally Integrated
   Automation Portal
                                                                            %I9.1
"G_item_detect"
                                                                                                                                                          %Q9.6
"G_clamp_lid"
                                                                                                                                                              -( R }--
                                                                                                                                                             %Q9.7
                                                                                                                                                         "G_clamp_base"
                                                                                                                                                              _( R )___
                                                                                                                                                           %Q10.0
"G_move Z"
                                                                                                                                                              _( R )__
                                                                                                                                                           %Q10.2
"G_move X"
                                                                                                                                                             -( s )-
                                                                                                                                                          %M5.2
"G_Detected_
Memory"
                                                                                                                                                              -( s )-
Network 5:
                                                                                                %T0
"G_Timer_1"
                                                                                %M5.2
                                                                             "G_Detected_
Memory"
                                                                                                                                                           %Q10.0
"G_move Z"
                                                                                               S_ODT
                                                                                                                                                              -( s )-
                                                                                                %M5.3
"G_Reset"
                                                                                                         BCD — ...
                                                                                  \dashv \vdash
Network 6:
                                                                                                 %T1
"G_Timer_2"
                                                                              %M5.2
"G_Detected_
Memory"
                                                                                                                                                            %Q10.1
"G_grab"
                                                                                               S_ODT
                                                                                               -( R )-
                                                                                    S5T#5S — TV
                                                                                                         BCD — ...
                                                                               %M5.3
"G_Reset"
                                                                                                                                                           %Q10.0
"G_move Z"
                                                                                                                                                             —( R )—
                                                                                                                                                            %Q10.2
                                                                                                                                                           "G_move X"
                                                                                                                                                              _( R )_
Network 7:
                                                                                                 %T2
"G_Timer_3"
                                                                              %M5.2
"G_Detected_
Memory"
                                                                                                                                                             %M4.4
                                                                                                                                                          "move_green_
base_conv"
                                                                                               S_ODT
                                                                                                                                                              -( s )-
                                                                                                           Q-
                                                                                     S5T#6S — TV
                                                                                                          ві — ...
                                                                                                         BCD — ...
                                                                               %M5.3
"G_Reset"
                                                                                                                                                             %M4.3
                                                                                                                                                          "move_green_
lid_conv"
                                                                                                                                                          %Q10.3
"G_pos.Raise_
bases"
                                                                                                                                                              -( s )-
Network 8:
                                                                                                                                                             %Q10.3
                                                                                                                                                          "G_pos.Raise_
bases"
                                                                            "G_part_leaving"
                                                                                               N_TRIG
                                                                                                CLK Q -
                                                                                                "G_Negative_
Trig_3"
                                                                                                                                                             %M5.2
                                                                                                                                                          "G_Detected_
Memory"
                                                                                                                                                             _( R )_
                                                                                                                                                            %M5.3
"G_Reset"
```

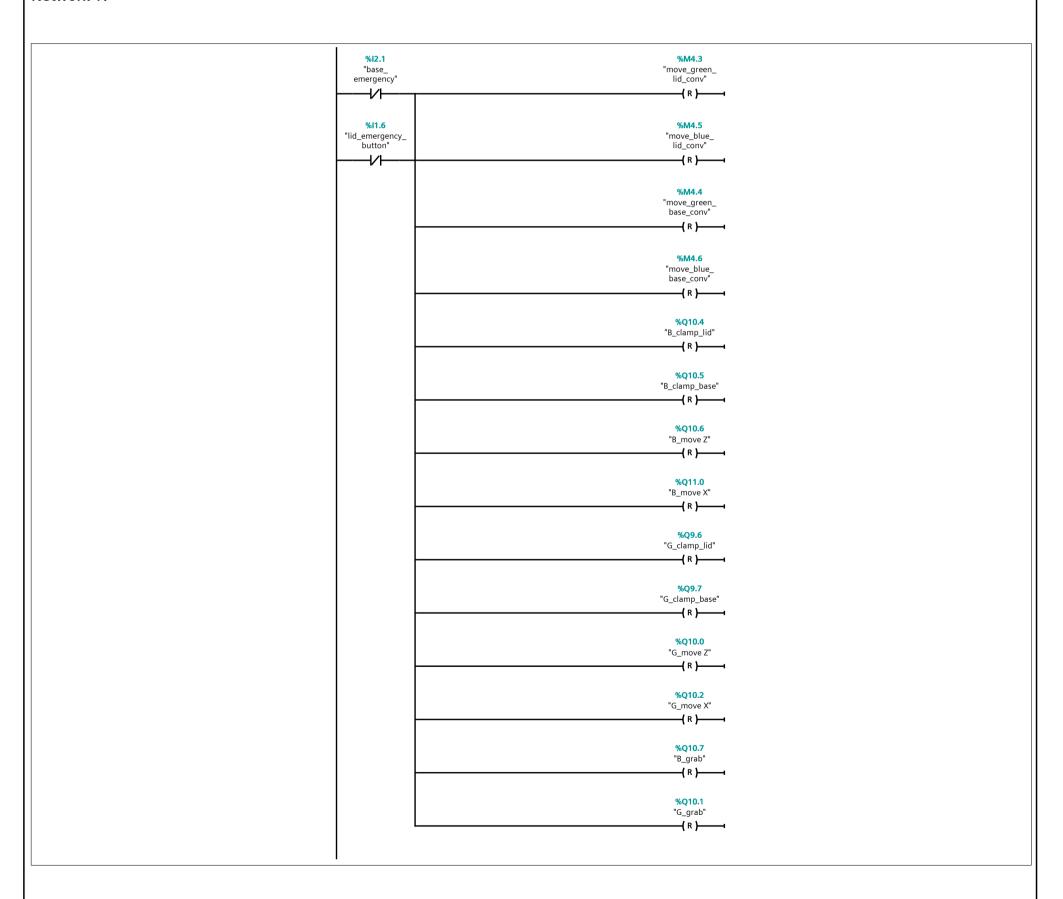
Totally Integrated	
utomation Portal	

Assembly_Emergency [FB13]

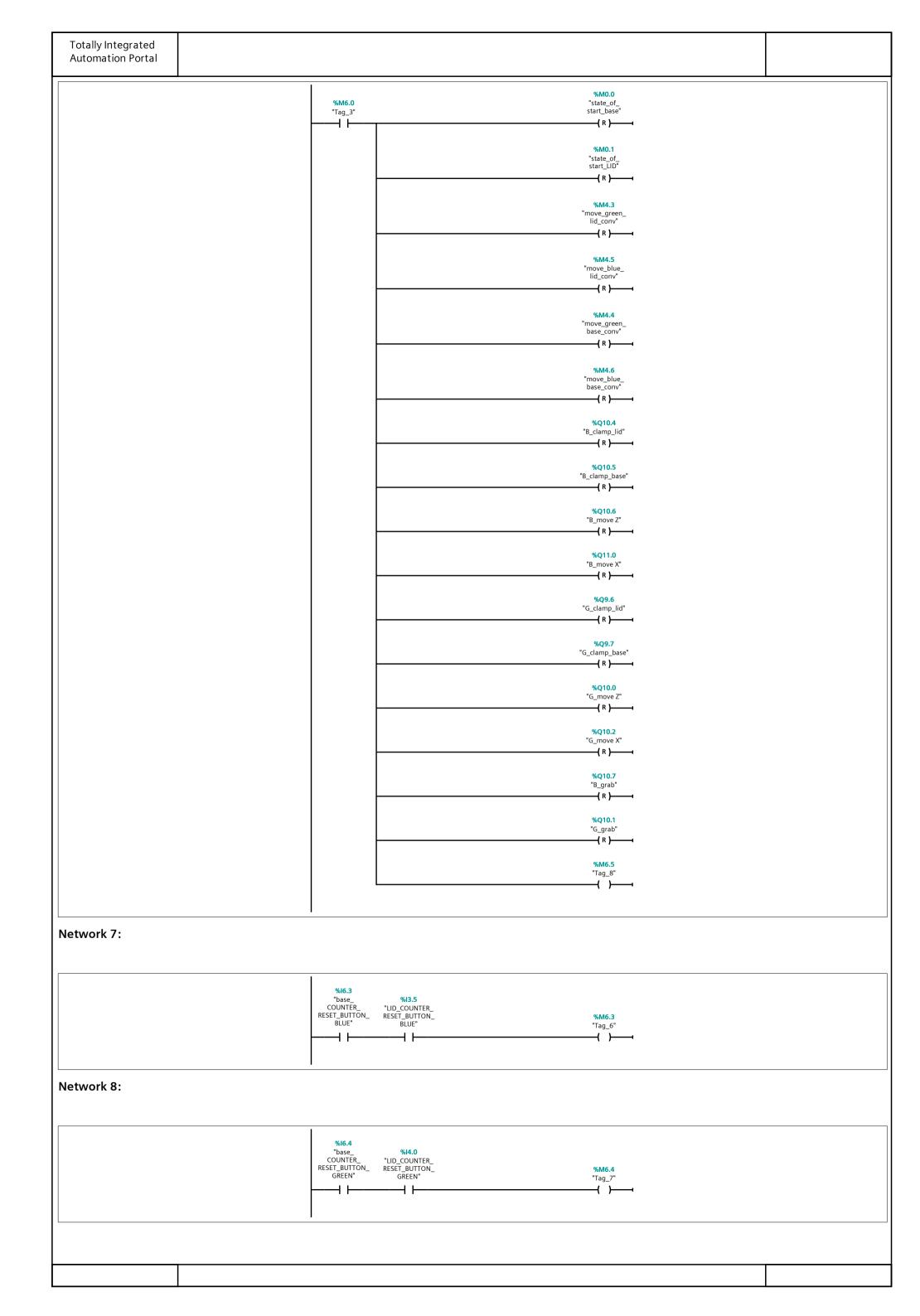
Assembly_Emer	gency Properties						
General							
Name	Assembly_Emergency	Number	13	Туре	FB	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Assembly_Emergency								
Name	Data type	Offset	HMI/OPC UA	able	HMI engi-	Setpoint	Supervi- sion	Comment
Input								
Output								
InOut								
Static								
Temp								
Constant								

Network 1:



eneral ame umbering	A_COUNTER Automatic	Numb	er 12		Type F	В	L	anguage	LAD
formation tle	Automatic	Autho	r		Comment		F	amily	
ersion	0.1		lefined ID						
COUNTER		Data type	Offset	Default value	from	Writ- Visible ii	Setpoint i-	Supervi- sion	Comment
					нмі/ОРС ОА	from neering HMI/ OPC			
Input						UA			
Output InOut									
Static Temp									
Constant									
twork 1:			ı	%.DB30					
			%i10.0 "CCC1"	Int		%M5.6 "Tag_1"			
				false — R CV — 5 — PV		()	-1		
etwork 2:			·						
			%110.1	%DB37 "IEC_Counter_ 0_DB_6" CTU		%M5.7			
			"CCC2"	false — R CV —		"Tag_2"	-1		
etwork 3:									
			%M5.7 "Tag_2'			%M6.1 "Tag_4"			
						(s)	-1		
etwork 4:									
			% M5.6 "Tag_1'			%M6.2 "Tag_5" (s)	-1		
etwork 5:			ı						
			%M6.2 "Tag_5'			%M6.0 "Tag_3"			
						(s)			



Totally Integrated
Automation Portal

Project / PLC_2 [CPU 319-3 PN/DP]

PLC tags

N	lame	Data type	Address	Retain	ble from HMI/OPC		HMI engi-	Supervision	Comment
-01	lid_detection	Bool	%10.0			True	True		
	stop_beginning_lid_sensor	Bool	%IO.1		True	True	True		
	start_LID_feeding_convyer	Bool	%10.2		True	True	True		
01	LID_detected_grip	Bool	%10.3		True	True	True		
70	stop_LID_Feeding	Bool	%10.4		True	True	True		
	LID_machining_entrance_sensor	Bool	%I0.5		True	True	True		
	base_Raw_counter_start	Bool	%IO.6		True	True	True		
20	stop_base_begininning_convyr	Bool	%IO.7		True	True	True		
	base_gripper_detected	Bool	%I1.0		True	True	True		
OI)	start_base_raw_feeding	Bool	%11.1		True	True	True		
01	stop_base_raw_feeding	Bool	%I1.2		True	True	True		
(F)	stop_base_machining_convyr	Bool	%I1.3		True	True	True		
	lid_start_button	Bool	%I1.4		True	True	True		
(M)	lid_stop_button	Bool	%I1.5		True	True	True		
00)	lid_emergency_button	Bool	%I1.6		True	True	True		
1	base_start_button	Bool	%I1.7		True	True	True		
31	base_stop_button	Bool	%12.0		True	True	True		
70	base_emergency	Bool	%I2.1		True	True	True		
70	Lid_beginning_conveyr	Bool	%Q0.0		True	True	True		
00	lid_feeding_conveyr	Bool	%Q0.1		True	True	True		
	Lid_pickup_x_axis	Bool	%Q0.3		True	True	True		
	lid_pickup_z_axis	Bool	%Q0.4		True	True	True		
	lid_sucction_gripper	Bool	%Q0.5		True	True	True		
EII .			·						
80	base_beginning_conveyr	Bool	%Q0.6		True	True	True		
0	lid-machinning_conveyr	Bool	%Q0.2		True	True	True		
91	base_raw_feeding_conveyr	Bool	%Q0.7		True	True	True		
(P)	base_to_machinning_conveyr	Bool	%Q1.0		True		True		
01	base_pickup_x_axis	Bool	%Q1.1		True	True	True		
(F)	base_pickup_z_axis	Bool	%Q1.2		True	True	True		
	base_sucction_gripper	Bool	%Q1.3		True	True	True		
OI)	base_start_button_1_light	Bool	%Q1.4		True	True	True		
ON)	base_stop_button_1_light	Bool	%Q1.5		True	True	True		
01	lid_start_light	Bool	%Q1.6		True	True	True		
ON)	lid_stop_button_1_light	Bool	%Q1.7		True	True	True		
00	base_raw_material	Bool	%Q2.0		True	True	True		
80	 Iid_raw_emit	Bool	%Q2.1		True	True	True		
	state_of_start_base	Bool	%M0.0		True		True		
=	state_of_start_LID	Bool	%M0.1		True	True	True		
01		Bool	%M0.2			True	True		
	state_of_lid				True				
0	dummy	Bool	%M0.3			True	True		
01	To_emit_lid	Bool	%M0.4		True	True	True		
70	item_ready_to_picked	Bool	%M0.5		True	True	True		
80	movin_lid_z_mem	Bool	%M0.6		True	True	True		
EI .	LID_moving_z_sensor	Bool	%12.4		True	True	True		
00	LID_moving_x_sensor	Bool	%12.5		True	True	True		
00	dummy(1)	Bool	%M0.7		True	True	True		
20	dummy(2)	Bool	%M1.0		True	True	True		
1	lid_belt_convyer_excess	Bool	%Q2.2		True	True	True		
7	push_excess_blue_lid	Bool	%Q2.3		True	True	True		
1	push_excess_green_lid	Bool	%Q2.4		True	True	True		
3	Blue_vision_lid	Bool	%I2.6			True	True		
00	green_vision_lid	Bool	%I2.7		True	True	True		
_	front_blue_push_lid	Bool	%I3.0		True	True	True		
01	<u> </u>	Bool	%I3.1				True		
	back_blue_push_lid								
	front_green_push_lid	Bool	%13.2			True	True		
700	back_green_push_lid	Bool	%13.3		True		True		
OII.	into_cnc_lid_sensor	Bool	%I3.4		True	True	True		

N	lame	Data type	Address	Retain	ble from HMI/OPC	from	HMI engi-	Comment
•	CNC_lid_empty	Bool	%M1.1				True	
4	ONE_OBJECT_IN	Bool	%Q2.5		True	True	True	
4	KEEP_DISTANCE	Bool	%Q2.6		True	True	True	
-61	ARE_WE_THERE_YET_BLUE_lid	Bool	%M1.2		True	True	True	
-63	ARE_WE_THERE_YET_GREEN_lid	Bool	%M1.3		True	True	True	
-600		Bool	%I3.5		True	True	True	
_	TON_BLUE TO_STORAGE_BLUE_CONVYER_lid	Rool	%Q2.7		True	True	True	
a			%Q3.0				True	
-61	ER_lid	5001	7.003.0		Truc	Truc	Truc	
•	TO_STORAGE_BLUE_SENSOR_lid	Bool	%I3.6		True	True	True	
-600	TO_STORAGE_GREEN_SENSOR_lid		%13.7		True	True	True	
-	LID_COUNTER_RESET_BUT- TON_GREEN	Bool	%I4.0		True	True	True	
•		Bool	%14.1		True	True	True	
4	GREEN_LID_PUSHER_SORT-	Bool	%14.2		True	True	True	
40	ING(BACK LIMITT) BLUE_LID_PUSHER_SORT-	Bool	%14.3		True	True	True	
	ING(FRONT LIMIT)							
40	BLUE_LID_PUSHER_SORTING(BACK LIMIT)	ROOI	%14.4		True	True	True	
•	BEGIN_SORTING_STATION_LIDS	Bool	%14.5		True	True	True	
•	BLUE_LID_VISION_SORTING		%14.6		True	True	True	
	GREEN_LID_VISION_SORTING	Bool	%14.7		True	True	True	
•	SORTING_CONVYER_LID	Bool	%Q3.1		True	True	True	
400	GREEN_LID_PUSHER_SORTING	Bool	%Q3.2		True	True	True	
-030	BLUE_LID_PUSHER_SORTING	Bool	%Q3.3		True	True	True	
-68	CNC_base_empty		%M2.5		True	True	True	
4	to_emit_base		%M1.5				True	
4			%15.0				True	
4			%I5.1				True	
			%I5.2				True	
4			%M1.6				True	
-61			%M1.7				True	
-83			%M2.0				True	
400			%M2.1				True	
40			%M2.2				True	
40			%Q3.4				True	
4			%M2.3				True	
4			%M2.4				True	
-61			%I5.3 %I5.4				True	
-61			%I5.4 %I5.5				True True	
a	to_blue_base_raw_storage_sensor		%I5.6				True	
40	to_green_base_raw_storage_sen- sor				True	nuc	TTUE	
-61	1 3 - \ \ /		%15.7		True	True	True	
-81			%16.0		True	True	True	
•	<u>'</u> ', ',		%16.1				True	
•			%16.2				True	
•			%Q3.5				True	
40	MachineCenter1_lid_produceLids		%Q3.6				True	
400			%Q3.7				True	
-61			%Q4.0				True	
-61	TON_BLUE		%16.3				True	
4	TON_GREEN		%16.4				True	
-81			%Q4.1				True	
a			%Q4.2				True	
•	sor_green		%l6.5 %l6.6				True True	
-63	sor_blue							
•	MachineCenter2_base_start		%Q4.3		True	True	True	
40			%M1.4		True		True	
•	Stop_blade4	Bool	%Q4.4		True	True	True	

Na	ame	Data type	Address	Retain	ble from	Writable from HMI/OPC UA	HMI engi-	Supervision	Comment
•	Stop_blade5	Bool	%Q4.5			True	True		
•	MACHINE1_BUSY	Bool	%16.7		True	True	True		
•	BEGIN_SORTING_STA-	Bool	%17.0		True	True	True		
	TION_BASE_SENSOR	D I	0/ 0.4 6		T	T	T		
-	BEGIN_SORTING_STA- TION_BASE_1	Bool	%Q4.6		True	True	True		
a	BEGIN_SORTING_STA- TION_BASE_2	Bool	%Q4.7		True	True	True		
a	BEGIN_SORTING_STA- TION_BASE_3	Bool	%Q5.0		True	True	True		
40	Green_base_sorting_vision	Bool	%I7.1		True	True	True		
-61	Blue_base_sorting_vision	Bool	%17.2		True	True	True		
-61	Pusher_green_base (Front Limit)	Bool	%17.3		True	True	True		
•	Pusher_green_base (Back Limit)	Bool	%17.4		True	True	True		
•	Pusher_blue_base (Front Limit)	Bool	%17.5		True	True	True		
•	Pusher_blue_base (Back Limit)	Bool	%17.6		True	True	True		
•	Pusher_blue_base_sorter	Bool	%Q5.2		True	True	True		
•	Pusher_green_base_sorter	Bool	%Q5.1		True	True	True		
	Conv_sorting_set_base	Bool	%M2.6			True	True		
-63	BEGIN_SORTING_STA-	Bool	%Q5.3			True	True		
-81	TION_BASE_4		,,,,,,,						
•	Conv_sorting_set_lid	Bool	%M2.7		True	True	True		
-	Emit_set_lid	Bool	%M3.0		True	True	True		
-61	Emit_set_base	Bool	%M3.1		True	True	True		
-61	Blue count	Int	%MW4		True	True	True		
•	excess blue lid raw led light	Bool	%Q5.4		True	True	True		
•	excess green lid raw led light	Bool	%Q5.5		True	True	True		
•	excess blue base raw led light	Bool	%Q5.6		True	True	True		
•	excess green base raw led light	Bool	%Q5.7		True	True	True		
•	blue lid sorting light	Bool	%Q6.0		True	True	True		
-61	green lid sorting light	Bool	%Q6.1		True	True	True		
-61	blue base sorting light	Bool	%Q6.2			True	True		
-a	green base sorting light	Bool	%Q6.3			True	True		
a	Assembly green lid start	Bool	%18.0			True	True		
	Assembly blue lid start	Bool	%I8.1			True	True		
40	Assembly green base start	Bool	%I8.2			True	True		
	Assembly blue base start	Bool	%I8.3			True	True		
40		Bool	%I8.4			True	True		
-61	G_lid in place								
-61	G_base in place	Bool	%18.5			True	True		
•	G_lid_clamped	Bool	%I8.6			True	True		
•	G_base_clamped	Bool	%18.7			True	True		
•	G_part_leaving	Bool	%19.0			True	True		
4	G_item_detect	Bool	%I9.1			True	True		
-61	B_lid in place	Bool	%19.2			True	True		
-61	B_base in place	Bool	%19.3			True	True		
-61	B_lid_clamped	Bool	%19.4			True	True		
•	B_base_clamped	Bool	%19.5			True	True		
-	B_part_leaving	Bool	%19.6			True	True		
-	B_item_detect	Bool	%19.7		True	True	True		
•	G_Negative_Trig_1	Bool	%M4.0		True	True	True		
-61	G_Negative_Trig_2	Bool	%M4.1		True	True	True		
-60	G_Negative_Trig_3	Bool	%M4.2		True	True	True		
•	move_green_lid_conv	Bool	%M4.3		True	True	True		
-	move_green_base_conv	Bool	%M4.4		True	True	True		
•	move_blue_lid_conv	Bool	%M4.5		True	True	True		
•	move_blue_base_conv	Bool	%M4.6		True	True	True		
•	B_Negative_Trig_1	Bool	%M4.7		True	True	True		
-83	B_Negative_Trig_2	Bool	%M5.0			True	True		
-83	B_Negative_Trig_3	Bool	%M5.1			True	True		
•	G_Detected_Memory	Bool	%M5.2			True	True		
a	G_Reset	Bool	%M5.3			True	True		
Comments of the Comments of th		Bool	%M5.4			True	True		
	B Detected Memory	DUUI			HIUC				
a	B_Reset	Bool	%M5.5			True	True		

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 me	Data type	Address	Retain		Writable from HMI/OPC UA	HMI engi-	Supervision	Comment
G_Timer_1	Timer	%ТО		True	True	True		
G_Timer_2	Timer	%T1		True	True	True		
G_Timer_3	Timer	%T2		True	True	True		
B_Timer_1	Timer	%T3		True	True	True		
B_Timer_2	Timer	%T4		True	True	True		
B_Timer_3	Timer	%T5		True	True	True		
Green_Lid_conv_timer	Timer	%T6		True	True	True		
Blue_Lid_conv_timer	Timer	%T7		True	True	True		
Green_Base_conv_timer	Timer	%T8		True	True	True		
Blue_Base_conv_timer	Timer	%T9		True	True	True		
G_lids_conv_1	Bool	%Q7.0		True	True	True		
G_lids_conv_2	Bool	%Q7.1		True	True	True		
G_lids_conv_3	Bool	%Q7.2		True	True	True		
G_lids_conv_4	Bool	%Q7.3		True	True	True		
G_lids_conv_5	Bool	%Q7.4		True	True	True		
G_lids_conv_6	Bool	%Q7.5		True	True	True		
G_lids_conv_7	Bool	%Q7.6		True	True	True		
G_lids_conv_8	Bool	%Q7.7		True	True	True		
B_lids_conv_1	Bool	%Q8.0		True	True	True		
B_lids_conv_2	Bool	%Q8.1		True	True	True		
B_lids_conv_3	Bool	%Q8.2		True	True	True		
B_lids_conv_4	Bool	%Q8.3		True	True	True		
G_base_conv_1	Bool	%Q8.4		True	True	True		
G_base_conv_2	Bool	%Q8.5		True	True	True		
G_base_conv_3	Bool	%Q8.6		True	True	True		
G_base_conv_4	Bool	%Q8.7		True	True	True		
G_base_conv_5	Bool	%Q9.0		True	True	True		
	Bool	%Q9.1		True	True	True		
G_base_conv_6								
B_base_conv_1	Bool	%Q9.2		True	True	True		
B_base_conv_2	Bool	%Q9.3		True	True	True		
B_base_conv_3	Bool	%Q9.4		True	True	True		
B_base_conv_4	Bool	%Q9.5		True	True	True		
G_clamp_lid	Bool	%Q9.6		True	True	True		
G_clamp_base	Bool	%Q9.7		True	True	True		
G_move Z	Bool	%Q10.0		True	True	True		
G_grab	Bool	%Q10.1		True	True	True		
G_move X	Bool	%Q10.2		True	True	True		
G_pos.Raise_bases	Bool	%Q10.3		True	True	True		
B_clamp_lid	Bool	%Q10.4		True	True	True		
B_clamp_base	Bool	%Q10.5		True	True	True		
B_move Z	Bool	%Q10.6		True	True	True		
B_grab	Bool	%Q10.7		True	True	True		
B_move X	Bool	%Q11.0		True	True	True		
	Bool	%Q11.0 %Q11.1		True	True	True		
B_pos.Raise_bases								
CCC1	Bool	%I10.0		True	True	True		
CCC2	Bool	%I10.1		True	True	True		
Tag_1	Bool	%M5.6		True	True	True		
Tag_2	Bool	%M5.7		True	True	True		
Tag_3	Bool	%M6.0		True	True	True		
Tag_4	Bool	%M6.1		True	True	True		
Tag_5	Bool	%M6.2		True	True	True		
Tag_6	Bool	%M6.3		True	True	True		
Tag_7	Bool	%M6.4		True	True	True		
Tag_8	Bool	%M6.5		True	True	True		
Tag_9	Bool	%M6.6		True	True	True		