# PLC_1 [CPU 1214C DC/DC/DC]

| PLC_1 | | | |
|---|---|---|---|
| **Project information** | | | |
| **Name** | PLC_1 | **Author** | huuda |
| **Comment** | | **Slot** | 1 |
| **Rack** | 0 | | |
| **Catalog information** | | | |
| **Short designation** | CPU 1214C DC/DC/DC | **Description** | Work memory 100 KB; 24VDC power supply with DI14 x 24VDC SINK/SOURCE, DQ10 x 24VDC and AI2 on board; 6 high-speed counters and 4 pulse outputs on-board; signal board expands on-board I/O; up to 3 communication modules for serial communication; up to 8 signal modules for I/O expansion; PROFINET IO controller, I-device, transport protocol TCP/IP, secure Open User Communication, S7 communication, Web server, OPC UA: Server DA |
| **Article number** | 6ES7 214-1AG40-0XB0 | **Firmware version** | V4.5 |
| | False | | |

**Connection resources**

| | Station resources - Reserved - Maximum | Station resources - Reserved - Configured | Station resources - Dynamic - Configured | Module resources - PLC_1 [CPU 1214C DC/DC/DC] - Configured |
|---|---|---|---|---|
| Maximum number of resources: | | 34 | 34 | 68 |
| | Maximum | Configured | Configured | Configured |
| PG communication: | 4 | - | - | - |
| HMI communication: | 12 | 1 | 0 | 1 |
| S7 communication: | 8 | 0 | 0 | 0 |
| Open user communication: | 8 | 0 | 0 | 0 |
| Web communication: | 2 | - | - | - |
| OPC UA client/server communication: | 0 | - | - | - |
| Other communication: | - | - | 0 | 0 |
| Total resources used: | | 1 | 0 | 1 |
| Available resources: | | 33 | 34 | 67 |

| Overview of addresses\Overview of addresses\Overview of addresses | | | |
|---|---|---|---|
| **Inputs** | True | **Outputs** | True |
| **Address gaps** | False | **Slot** | True |

| Type | Addr. from | Addr. to | Module | PIP | Device name | Device number | Size | Master / IO system | Rack | Slot |
|---|---|---|---|---|---|---|---|---|---|---|
| I | 0 | 1 | DI 14/DQ 10_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 1 |
| O | 0 | 1 | DI 14/DQ 10_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 1 |
| I | 64 | 67 | AI 2_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 2 |
| I | 1000 | 1003 | HSC_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 16 |
| I | 1004 | 1007 | HSC_2 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 17 |
| I | 1008 | 1011 | HSC_3 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 18 |
| I | 1012 | 1015 | HSC_4 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 19 |
| I | 1016 | 1019 | HSC_5 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 20 |
| I | 1020 | 1023 | HSC_6 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 21 |
| O | 1000 | 1001 | Pulse_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 32 |
| O | 1002 | 1003 | Pulse_2 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 33 |
| O | 1004 | 1005 | Pulse_3 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 34 |
| O | 1006 | 1007 | Pulse_4 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 35 |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

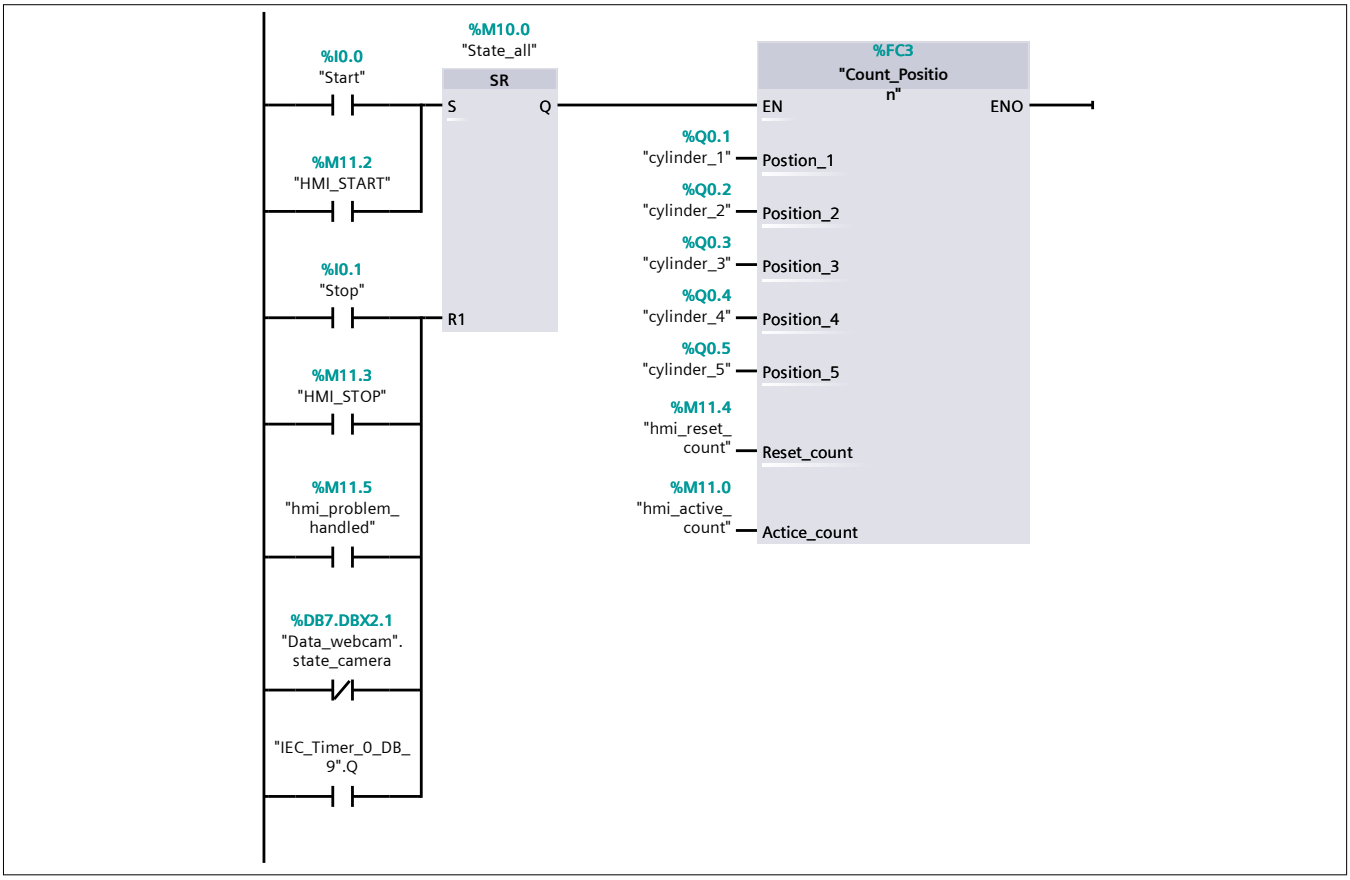
## Main [OB1]

| 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 |
|---|---|---|
| Temp | | |
| Constant | | |

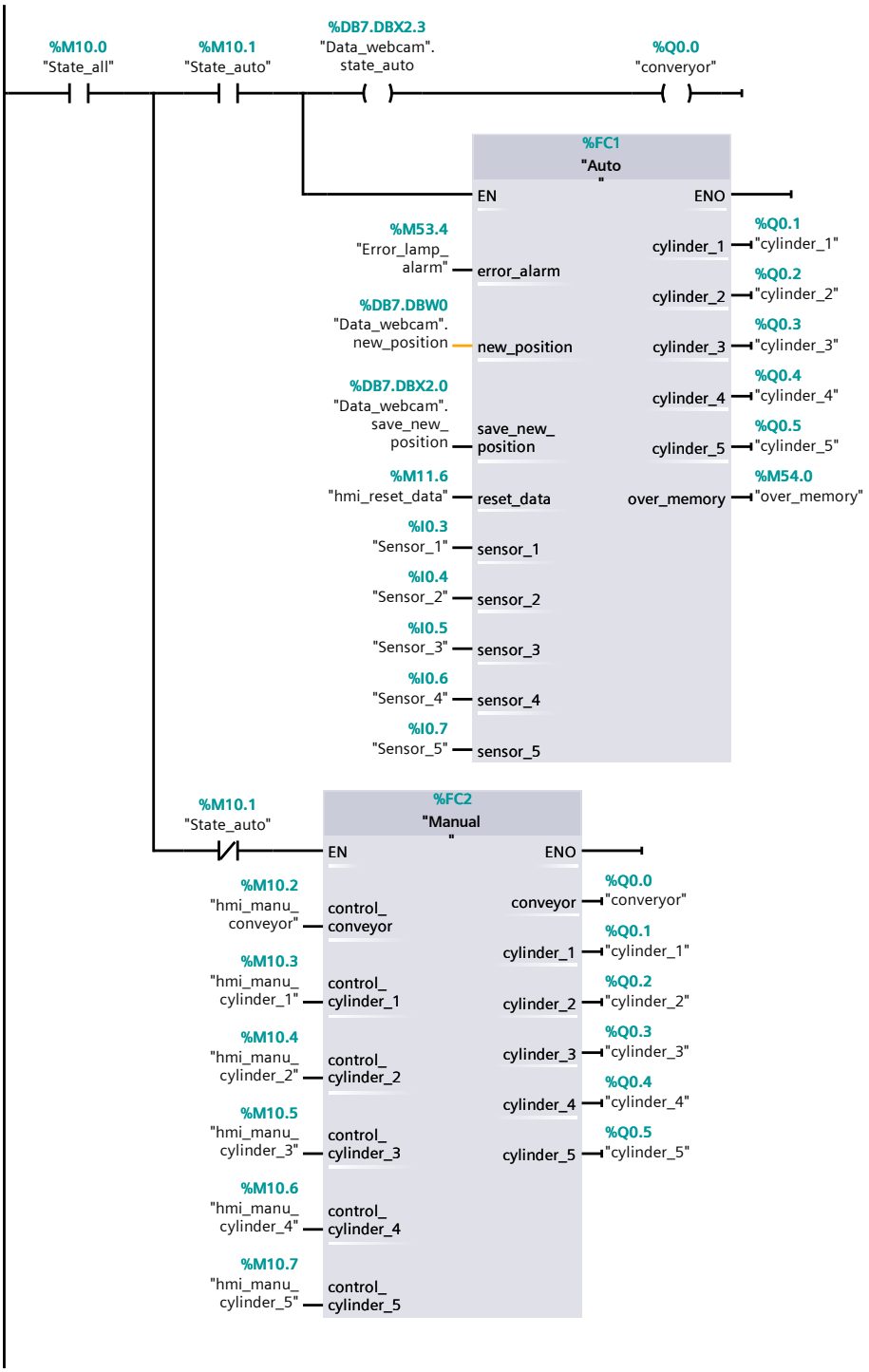
### Network 1: ON/OFF System

Bat tat toan bo he thong



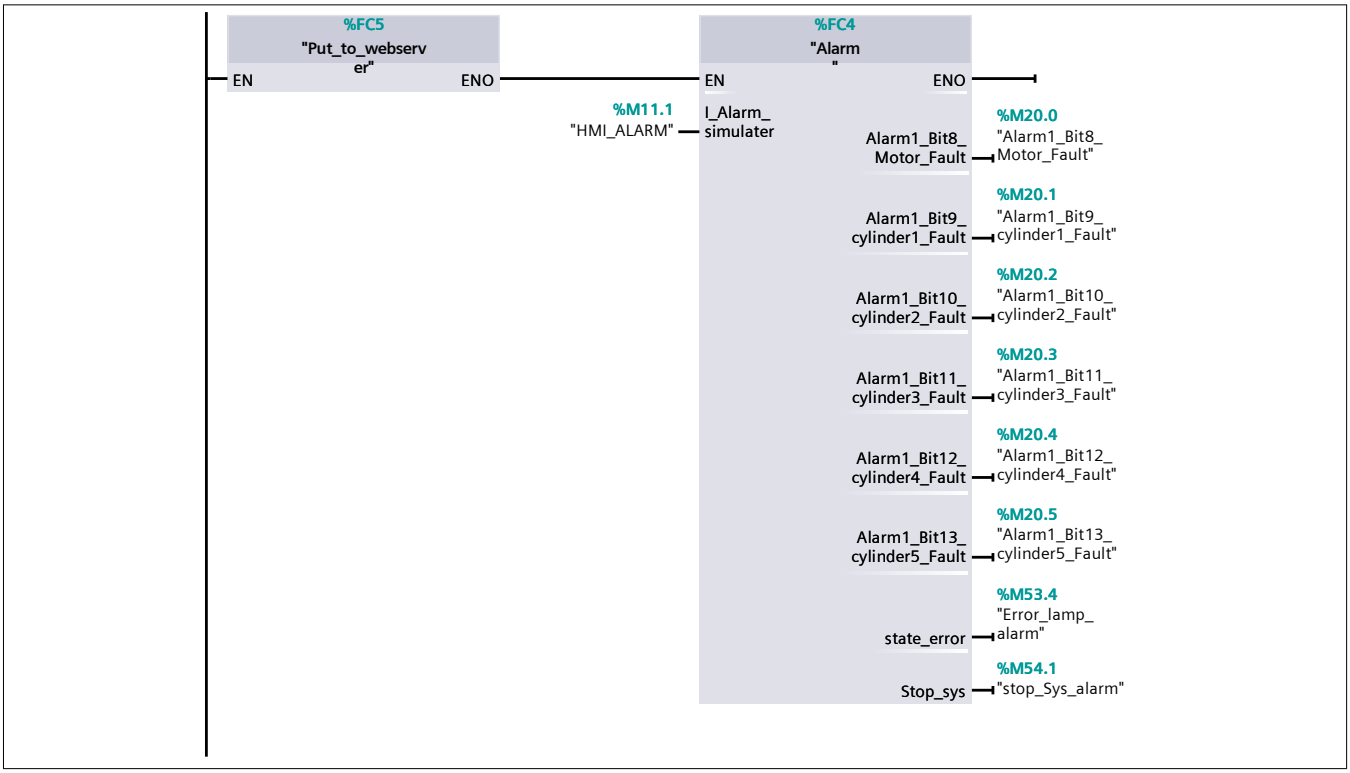

### Network 2: Select mode

Chon che do chay



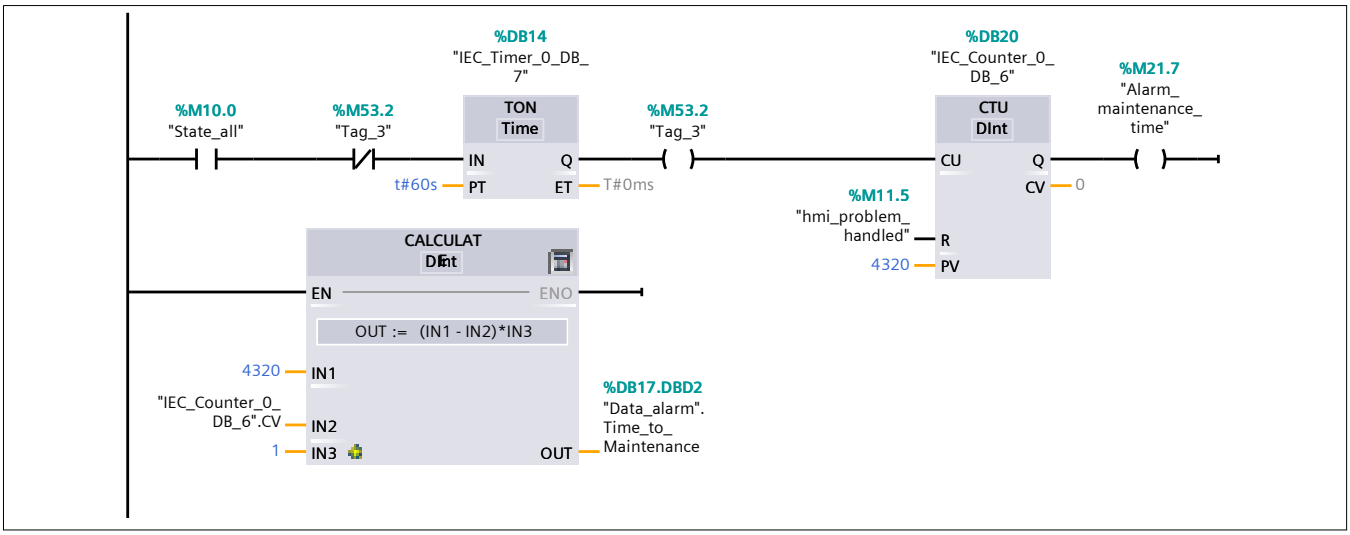

## Network 3: connect to function

ket noi cac function con lai



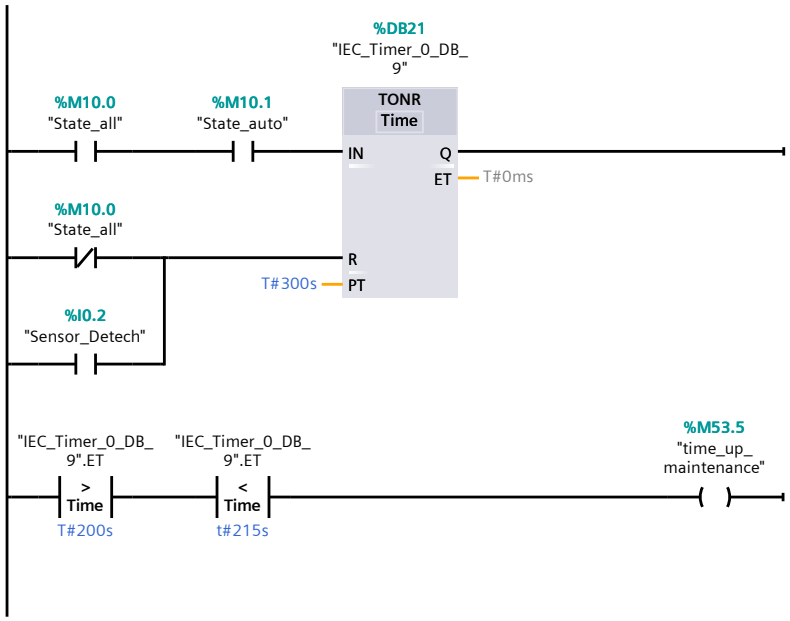

## Network 4: calculater time to maintenance

tinh thoi gian bao tri



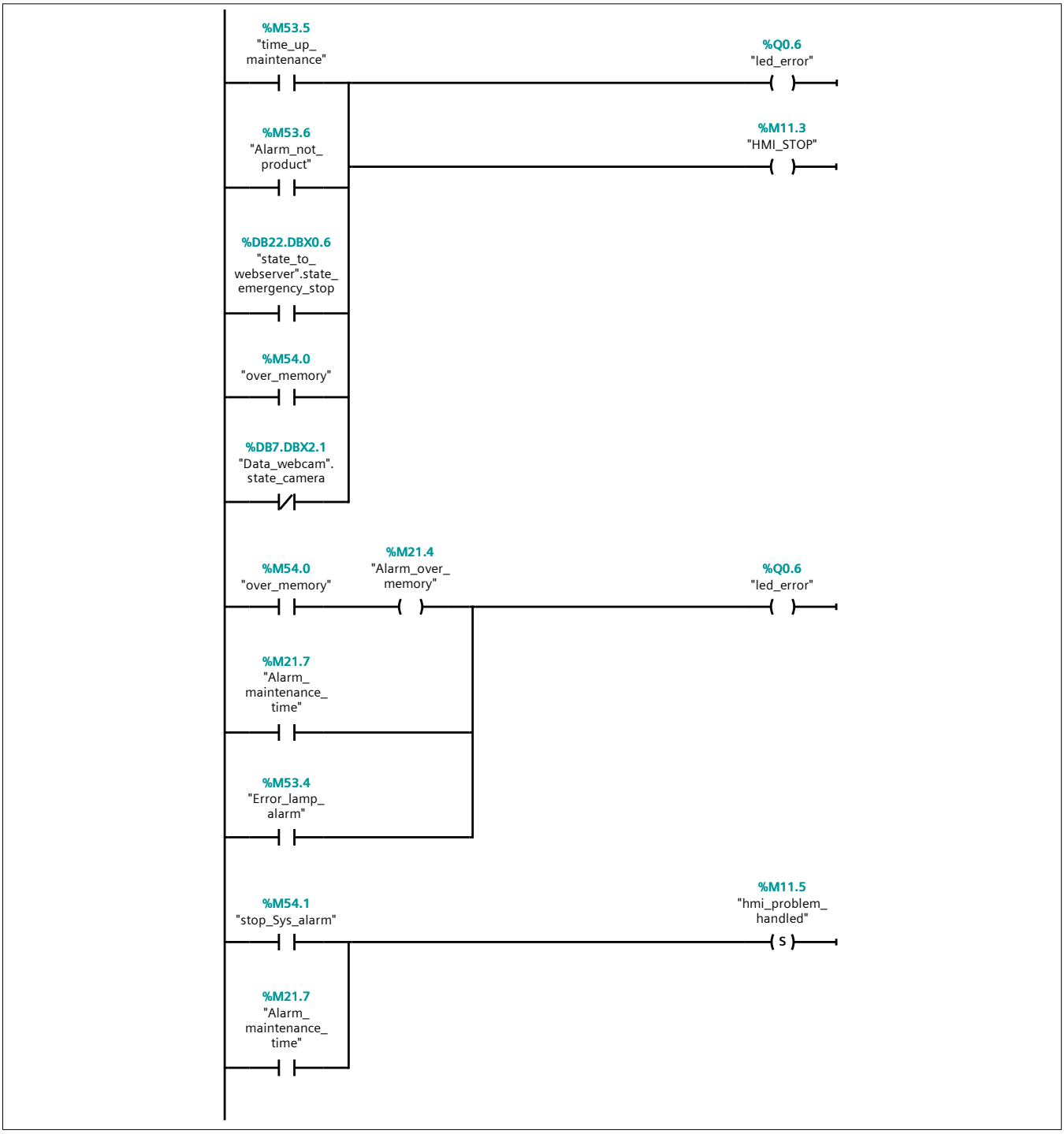

## Network 5: Auto off system if not product in 300s

tu dong tat khi o che do auto trong 300s




## Network 6: Alarm lamp

den canh bao


%M53.5
"time_up_
maintenance"
%Q0.6
"led_error"
%M53.6
"Alarm_not_
product"
%M11.3
"HMI_STOP"
%DB22.DBX0.6
"state_to_
webserver".state_
emergency_stop
%M54.0
"over_memory"
%DB7.DBX2.1
"Data_webcam".
state_camera
%M54.0
"over_memory"
%M21.4
"Alarm_over_
memory"
%Q0.6
"led_error"
%M21.7
"Alarm_
maintenance_
time"
%M53.4
"Error_lamp_
alarm"
%M54.1
"stop_Sys_alarm"
%M11.5
"hmi_problem_
handled"
S
%M21.7
"Alarm_
maintenance_
time"

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## Array_threading [DB1]

| Array_threading Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Array_threading | **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 |
|---|---|---|---|
| ▼ Static | | | |
| array_threading_1 | Array[0..20] of Int | | False |
| array_threading_2 | Array[0..20] of Int | | False |
| array_threading_3 | Array[0..20] of Int | | False |
| array_threading_4 | Array[0..20] of Int | | False |
| array_threading_5 | Array[0..20] of Int | | False |
| last_run_1 | Bool | false | False |
| last_run_2 | Bool | false | False |
| last_run_3 | Bool | false | False |
| last_run_4 | Bool | false | False |
| last_run_5 | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## Auto [FC1]

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

| Name | Data type | Default value |
|---|---|---|
| ▼ Input | | |
| error_alarm | Bool | |
| new_position | Int | |
| save_new_position | Bool | |
| reset_data | Bool | |
| sensor_1 | Bool | |
| sensor_2 | Bool | |
| sensor_3 | Bool | |
| sensor_4 | Bool | |
| sensor_5 | Bool | |
| ▼ Output | | |
| cylinder_1 | Bool | |
| cylinder_2 | Bool | |
| cylinder_3 | Bool | |
| cylinder_4 | Bool | |
| cylinder_5 | Bool | |
| over_memory | Bool | |
| InOut | | |
| ▼ Temp | | |
| loop_element | Int | |
| last_child_array_1 | Int | |
| last_child_array_2 | Int | |
| last_child_array_3 | Int | |
| last_child_array_4 | Int | |
| last_child_array_5 | Int | |
| trigger_sensor_1 | Bool | |
| trigger_sensor_2 | Bool | |
| trigger_sensor_3 | Bool | |
| trigger_sensor_4 | Bool | |
| trigger_sensor_5 | Bool | |
| Constant | | |
| ▼ Return | | |
| Auto | Void | |

### Network 1: Program main

chuong trinh dieu khien

```
0001 // ========================
0002 // Reset trạng thái khi save_new_position = 0 hoặc cảm biến = 0
```

```
0003 // ========================
0004 IF #save_new_position = FALSE THEN
0005     "Data_webcam".last_save_new_position := FALSE;
0006 END_IF;
0007
0008 IF #sensor_1 = FALSE THEN
0009     "Data_webcam".last_state_sensor_1 := FALSE;
0010 END_IF;
0011
0012 IF #sensor_2 = FALSE THEN
0013     "Data_webcam".last_state_sensor_2 := FALSE;
0014 END_IF;
0015
0016 IF #sensor_3 = FALSE THEN
0017     "Data_webcam".last_state_sensor_3 := FALSE;
0018 END_IF;
0019
0020 IF #sensor_4 = FALSE THEN
0021     "Data_webcam".last_state_sensor_4 := FALSE;
0022 END_IF;
0023
0024 IF #sensor_5 = FALSE THEN
0025     "Data_webcam".last_state_sensor_5 := FALSE;
0026 END_IF;
0027
0028 // ========================
0029 // Xử lý khi có sản phẩm mới
0030 // ========================
0031 IF (#save_new_position = TRUE) AND ("Data_webcam".last_save_new_posi-
     tion = FALSE) AND (#error_alarm = False) THEN
0032     "Data_webcam".last_save_new_position := TRUE;
0033
0034     // Tìm vị trí cuối cùng của mỗi mảng
0035     #last_child_array_1 := -1;
0036     #last_child_array_2 := -1;
0037     #last_child_array_3 := -1;
0038     #last_child_array_4 := -1;
0039     #last_child_array_5 := -1;
0040
0041     FOR #loop_element := 0 TO 20 DO
0042         IF ("Array_threading".array_threading_1[#loop_element] = 1) OR ("Ar-
     ray_threading".array_threading_1[#loop_element] = 2) THEN
0043             #last_child_array_1 := #loop_element;
0044         END_IF;
0045         IF ("Array_threading".array_threading_2[#loop_element] = 1) OR ("Ar-
     ray_threading".array_threading_2[#loop_element] = 2) THEN
0046             #last_child_array_2 := #loop_element;
0047         END_IF;
0048         IF ("Array_threading".array_threading_3[#loop_element] = 1) OR ("Ar-
     ray_threading".array_threading_3[#loop_element] = 2) THEN
0049             #last_child_array_3 := #loop_element;
0050         END_IF;
0051         IF ("Array_threading".array_threading_4[#loop_element] = 1) OR ("Ar-
     ray_threading".array_threading_4[#loop_element] = 2) THEN
0052             #last_child_array_4 := #loop_element;
0053         END_IF;
0054         IF ("Array_threading".array_threading_5[#loop_element] = 1) OR ("Ar-
     ray_threading".array_threading_5[#loop_element] = 2) THEN
0055             #last_child_array_5 := #loop_element;
```

```
0056          END_IF;
0057      END_FOR;
0058
0059      // Gán vị trí mới (tránh tràn mảng)
0060      CASE #new_position OF
0061          1:
0062              IF #last_child_array_1 < 20 THEN
0063                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 1;
0064              END_IF;
0065
0066          2:
0067              IF #last_child_array_1 < 20 AND #last_child_array_2 < 20 THEN
0068                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 2;
0069                  "Array_threading".array_threading_2[#last_child_ar-
      ray_2 + 1] := 1;
0070              END_IF;
0071
0072          3:
0073              IF #last_child_array_1 < 20 AND #last_child_ar-
      ray_2 < 20 AND #last_child_array_3 < 20 THEN
0074                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 2;
0075                  "Array_threading".array_threading_2[#last_child_ar-
      ray_2 + 1] := 2;
0076                  "Array_threading".array_threading_3[#last_child_ar-
      ray_3 + 1] := 1;
0077              END_IF;
0078
0079          4:
0080              IF #last_child_array_1 < 20 AND #last_child_array_2 < 20 AND
0081                  #last_child_array_3 < 20 AND #last_child_array_4 < 20 THEN
0082                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 2;
0083                  "Array_threading".array_threading_2[#last_child_ar-
      ray_2 + 1] := 2;
0084                  "Array_threading".array_threading_3[#last_child_ar-
      ray_3 + 1] := 2;
0085                  "Array_threading".array_threading_4[#last_child_ar-
      ray_4 + 1] := 1;
0086              END_IF;
0087
0088          5:
0089              IF #last_child_array_1 < 20 AND #last_child_array_2 < 20 AND
0090                  #last_child_array_3 < 20 AND #last_child_array_4 < 20 AND
0091                  #last_child_array_5 < 20 THEN
0092                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 2;
0093                  "Array_threading".array_threading_2[#last_child_ar-
      ray_2 + 1] := 2;
0094                  "Array_threading".array_threading_3[#last_child_ar-
      ray_3 + 1] := 2;
0095                  "Array_threading".array_threading_4[#last_child_ar-
      ray_4 + 1] := 2;
0096                  "Array_threading".array_threading_5[#last_child_ar-
      ray_5 + 1] := 1;
0097              END_IF;
0098
```

```
0099          6:
0100              IF #last_child_array_1 < 20 AND #last_child_array_2 < 20 AND
0101                  #last_child_array_3 < 20 AND #last_child_array_4 < 20 AND
0102                  #last_child_array_5 < 20 THEN
0103                  "Array_threading".array_threading_1[#last_child_ar-
      ray_1 + 1] := 2;
0104                  "Array_threading".array_threading_2[#last_child_ar-
      ray_2 + 1] := 2;
0105                  "Array_threading".array_threading_3[#last_child_ar-
      ray_3 + 1] := 2;
0106                  "Array_threading".array_threading_4[#last_child_ar-
      ray_4 + 1] := 2;
0107                  "Array_threading".array_threading_5[#last_child_ar-
      ray_5 + 1] := 2;
0108              END_IF;
0109      END_CASE;
0110  END_IF;
0111
0112  // Báo tràn bộ nhớ phân loại
0113  IF #last_child_array_1 = 20 OR #last_child_array_2 = 20 OR
0114      #last_child_array_3 = 20 OR #last_child_array_4 = 20 OR
0115      #last_child_array_5 = 20 THEN
0116      #over_memory := TRUE;
0117  END_IF;
0118
0119  // ========================
0120  // Xử lý từng cảm biến khi phát hiện sản phẩm
0121  // ========================
0122  // ==== SENSOR 1 ====
0123  IF (#sensor_1 = TRUE) AND (#sensor_1 <> "Data_webcam".last_state_sen-
      sor_1) AND "Array_threading".last_run_1 = FALSE THEN
0124      // Set trigger cho TOF
0125
0126      IF "Array_threading".array_threading_1[0] = 1 THEN
0127          #trigger_sensor_1 := TRUE;
0128      END_IF;
0129
0130      FOR #loop_element := 0 TO 19 DO
0131          "Array_threading".array_threading_1[#loop_element] := "Array_thread-
      ing".array_threading_1[#loop_element + 1];
0132      END_FOR;
0133      "Array_threading".array_threading_1[20] := 0;
0134      "Data_webcam".last_state_sensor_1 := TRUE;
0135  END_IF;
0136
0137  // ==== SENSOR 2 ====
0138  IF (#sensor_2 = TRUE) AND (#sensor_2 <> "Data_webcam".last_state_sen-
      sor_2) AND "Array_threading".last_run_2 = FALSE THEN
0139      IF "Array_threading".array_threading_2[0] = 1 THEN
0140          #trigger_sensor_2 := TRUE;
0141      END_IF;
0142
0143      FOR #loop_element := 0 TO 19 DO
0144          "Array_threading".array_threading_2[#loop_element] := "Array_thread-
      ing".array_threading_2[#loop_element + 1];
0145      END_FOR;
0146      "Array_threading".array_threading_2[20] := 0;
0147      "Data_webcam".last_state_sensor_2 := TRUE;
0148  END_IF;
```

```
0149
0150 // ==== SENSOR 3 ====
0151 IF (#sensor_3 = TRUE) AND (#sensor_3 <> "Data_webcam".last_state_sen-
     sor_3) AND "Array_threading".last_run_3 = FALSE THEN
0152     IF "Array_threading".array_threading_3[0] = 1 THEN
0153         #trigger_sensor_3 := TRUE;
0154     END_IF;
0155
0156     FOR #loop_element := 0 TO 19 DO
0157         "Array_threading".array_threading_3[#loop_element] := "Array_thread-
     ing".array_threading_3[#loop_element + 1];
0158     END_FOR;
0159     "Array_threading".array_threading_3[20] := 0;
0160     "Data_webcam".last_state_sensor_3 := TRUE;
0161 END_IF;
0162
0163 // ==== SENSOR 4 ====
0164 IF (#sensor_4 = TRUE) AND (#sensor_4 <> "Data_webcam".last_state_sen-
     sor_4) AND "Array_threading".last_run_4 = FALSE THEN
0165     IF "Array_threading".array_threading_4[0] = 1 THEN
0166         #trigger_sensor_4 := TRUE;
0167     END_IF;
0168
0169     FOR #loop_element := 0 TO 19 DO
0170         "Array_threading".array_threading_4[#loop_element] := "Array_thread-
     ing".array_threading_4[#loop_element + 1];
0171     END_FOR;
0172     "Array_threading".array_threading_4[20] := 0;
0173     "Data_webcam".last_state_sensor_4 := TRUE;
0174 END_IF;
0175
0176 // ==== SENSOR 5 ====
0177 IF (#sensor_5 = TRUE) AND (#sensor_5 <> "Data_webcam".last_state_sen-
     sor_5) AND "Array_threading".last_run_5 = FALSE THEN
0178     IF "Array_threading".array_threading_5[0] = 1 THEN
0179         #trigger_sensor_5 := TRUE;
0180     END_IF;
0181
0182     FOR #loop_element := 0 TO 19 DO
0183         "Array_threading".array_threading_5[#loop_element] := "Array_thread-
     ing".array_threading_5[#loop_element + 1];
0184     END_FOR;
0185     "Array_threading".array_threading_5[20] := 0;
0186     "Data_webcam".last_state_sensor_5 := TRUE;
0187 END_IF;
0188
0189 // ======== TIMER ON DELAY ========
0190 "IEC_Timer_0_DB".TOF(IN:=#trigger_sensor_1,PT:=T#3s);
0191 "IEC_Timer_0_DB_1".TOF(IN:=#trigger_sensor_2,PT:=T#3s);
0192 "IEC_Timer_0_DB_2".TOF(IN :=#trigger_sensor_3,PT := T#3s);
0193 "IEC_Timer_0_DB_3".TOF(IN :=#trigger_sensor_4,PT:=T#3s);
0194 "IEC_Timer_0_DB_4".TOF(IN:=#trigger_sensor_5,PT:=T#3s);
0195
0196 IF ("IEC_Timer_0_DB".ET >= T#1s) AND ("IEC_Timer_0_DB".ET < T#2s) THEN
0197     #cylinder_1 := TRUE;
0198 ELSE
0199     #cylinder_1 := FALSE;
0200 END_IF;
0201
```

```
0202 IF ("IEC_Timer_0_DB_1".ET >= T#1s) AND ("IEC_Timer_0_DB_1".ET < T#2s) THEN
0203     #cylinder_2 := TRUE;
0204 ELSE
0205     #cylinder_2 := FALSE;
0206 END_IF;
0207
0208 IF ("IEC_Timer_0_DB_2".ET >= T#1s) AND ("IEC_Timer_0_DB_2".ET < T#2s) THEN
0209     #cylinder_3 := TRUE;
0210 ELSE
0211     #cylinder_3 := FALSE;
0212 END_IF;
0213
0214 IF ("IEC_Timer_0_DB_3".ET >= T#1s) AND ("IEC_Timer_0_DB_3".ET < T#2s) THEN
0215     #cylinder_4 := TRUE;
0216 ELSE
0217     #cylinder_4 := FALSE;
0218 END_IF;
0219
0220 IF ("IEC_Timer_0_DB_4".ET >= T#1s) AND ("IEC_Timer_0_DB_4".ET < T#2s) THEN
0221     #cylinder_5 := TRUE;
0222 ELSE
0223     #cylinder_5 := FALSE;
0224 END_IF;
0225
0226
0227 // ======== RESET DATA ========
0228 IF #reset_data = TRUE THEN
0229     FOR #loop_element := 0 TO 20 DO
0230         "Array_threading".array_threading_1[#loop_element] := 0;
0231         "Array_threading".array_threading_2[#loop_element] := 0;
0232         "Array_threading".array_threading_3[#loop_element] := 0;
0233         "Array_threading".array_threading_4[#loop_element] := 0;
0234         "Array_threading".array_threading_5[#loop_element] := 0;
0235     END_FOR;
0236 END_IF;
0237
```

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

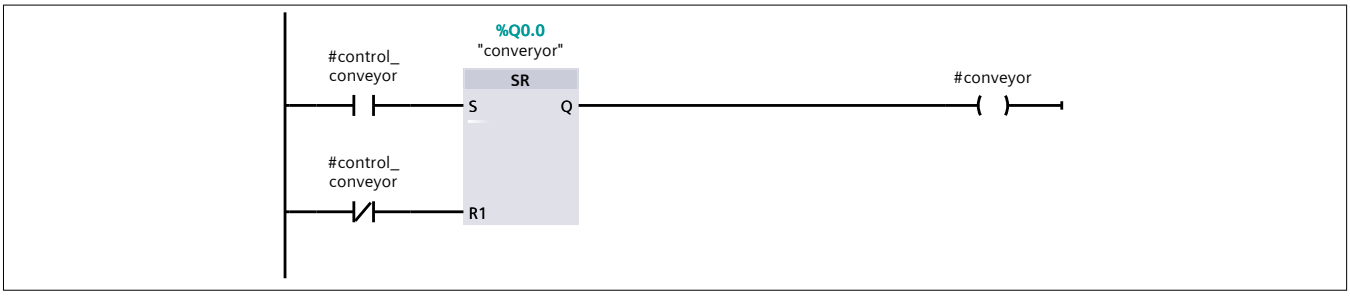
## Manual [FC2]

| Manual Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Manual | **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 | | |
| control_conveyor | Bool | |
| control_cylinder_1 | Bool | |
| control_cylinder_2 | Bool | |
| control_cylinder_3 | Bool | |
| control_cylinder_4 | Bool | |
| control_cylinder_5 | Bool | |
| Output | | |
| conveyor | Bool | |
| cylinder_1 | Bool | |
| cylinder_2 | Bool | |
| cylinder_3 | Bool | |
| cylinder_4 | Bool | |
| cylinder_5 | Bool | |
| InOut | | |
| Temp | | |
| Constant | | |
| Return | | |
| Manual | Void | |

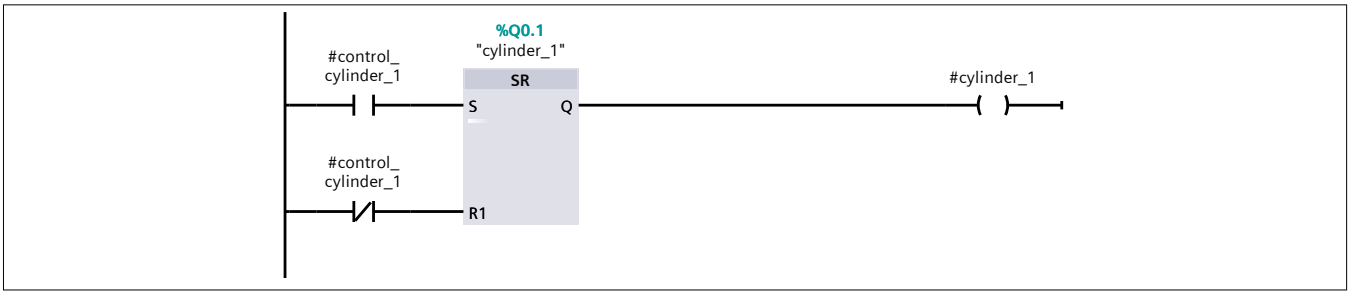
### Network 1: Program manual conveyor

chuong trinh dieu khien bang tay bang tai



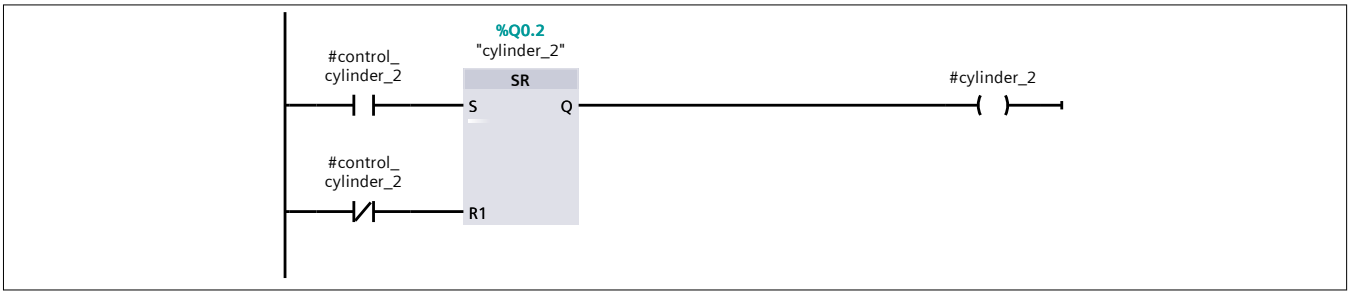

### Network 2: Program manual cylinder 1

chuong trinh dieu khien bang tay xi lanh 1



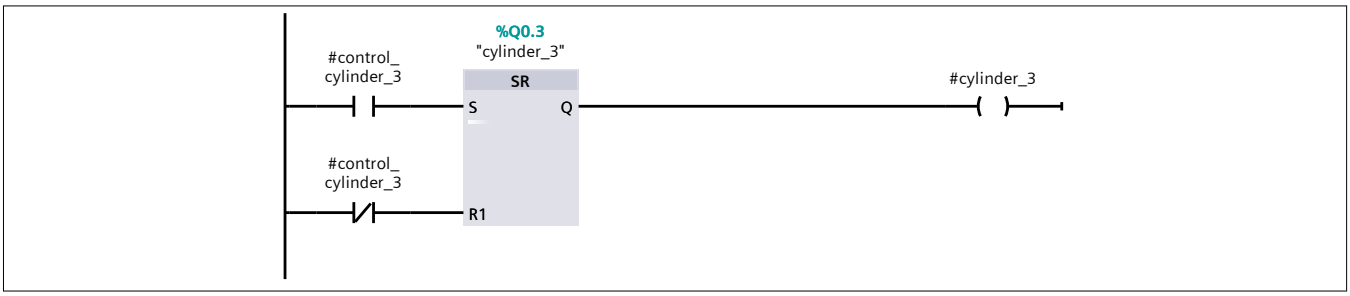

## Network 3: Program manual cylinder 2

chuong trinh dieu khien bang tay xi lanh 2



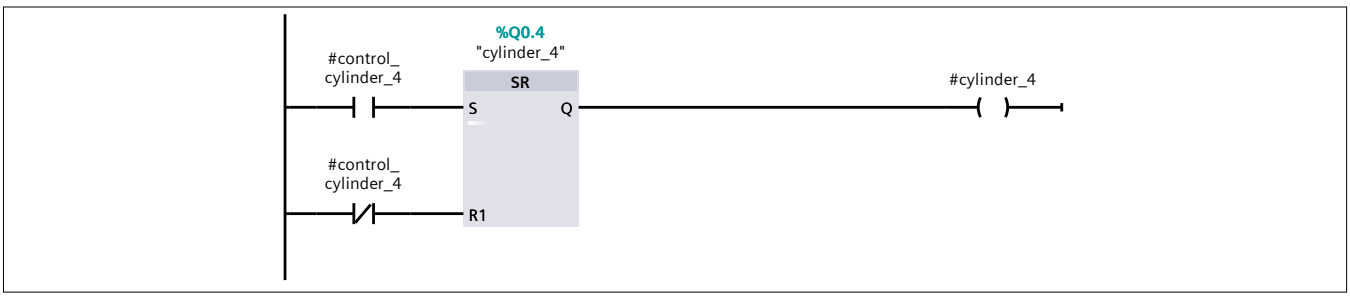

## Network 4: Program manual cylinder 3

chuong trinh dieu khien bang tay xi lanh 3



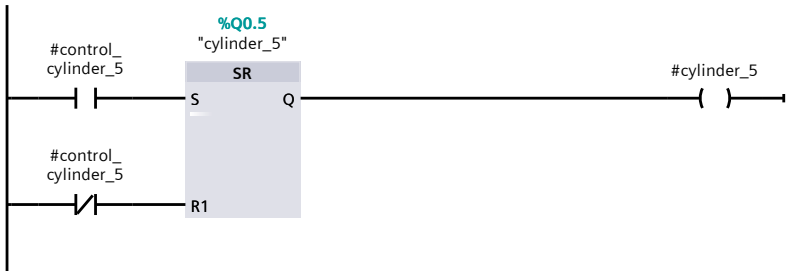

## Network 5: Program manual cylinder 4

chuong trinh dieu khien bang tay xi lanh 4




## Network 6: Program manual cylinder 5

chuong trinh dieu khien bang tay xi lanh 5


%Q0.5
"cylinder_5"
#control_
cylinder_5
SR
S
Q
#cylinder_5
#control_
cylinder_5
R1

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## Data_webcam [DB7]

| Data_webcam Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Data_webcam | **Number** | 7 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| new_position | Int | 0 | False |
| save_new_position | Bool | false | False |
| state_camera | Bool | true | False |
| alarm_error | Bool | false | False |
| state_auto | Bool | false | False |
| last_state_sensor_1 | Bool | false | False |
| last_state_sensor_2 | Bool | false | False |
| last_state_sensor_3 | Bool | false | False |
| last_state_sensor_4 | Bool | false | False |
| last_state_sensor_5 | Bool | false | False |
| last_save_new_position | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## Data_count_Position [DB8]

| Data_count_Position Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Data_count_Position | **Number** | 8 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| Adress_1 | Real | 0.0 | False |
| Adress_2 | Real | 0.0 | False |
| Adress_3 | Real | 0.0 | False |
| Adress_4 | Real | 0.0 | False |
| Adress_5 | Real | 0.0 | False |
| Adress_6 | Real | 0.0 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

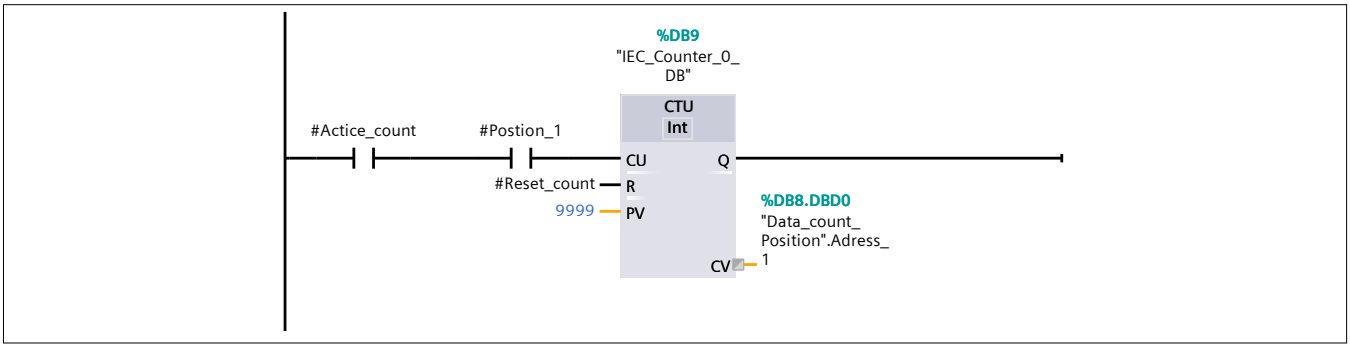
## Count_Position [FC3]

| Count_Position Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Count_Position | **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 | | |
| Postion_1 | Bool | |
| Position_2 | Bool | |
| Position_3 | Bool | |
| Position_4 | Bool | |
| Position_5 | Bool | |
| Reset_count | Bool | |
| Actice_count | Bool | |
| Output | | |
| InOut | | |
| Temp | | |
| Constant | | |
| Return | | |
| Count_Position | Void | |

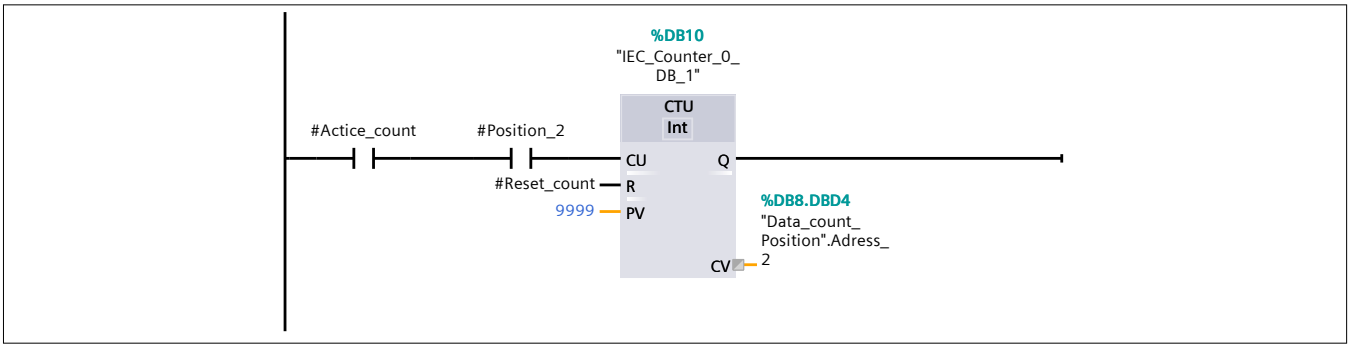
### Network 1: Count position 1

Đếm vị trí phân loại 1



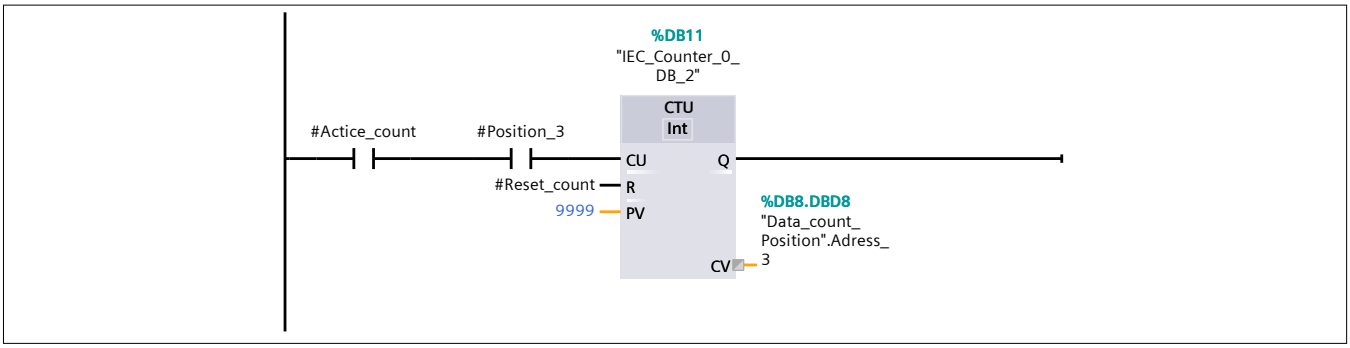

### Network 2: Count position 2

Đếm vị trí phân loại 2



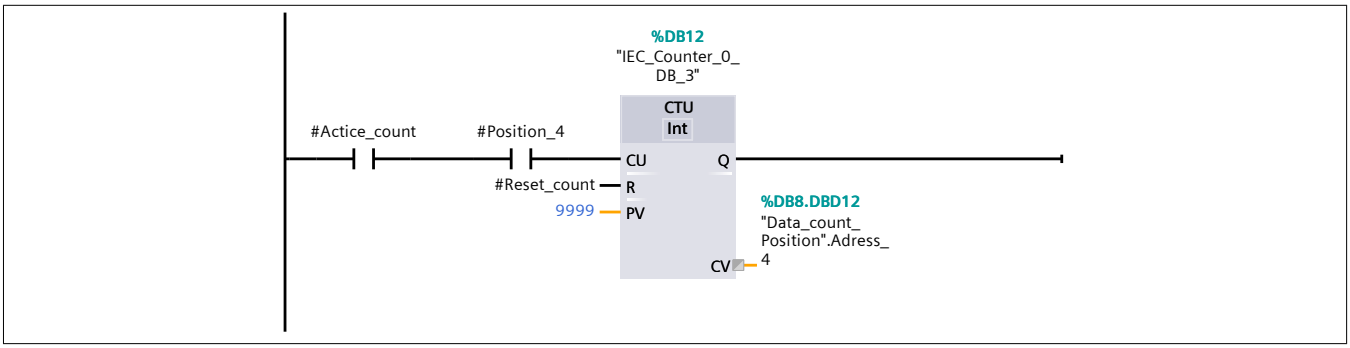

## Network 3: Count position 3

Đếm vị trí phân loại 3



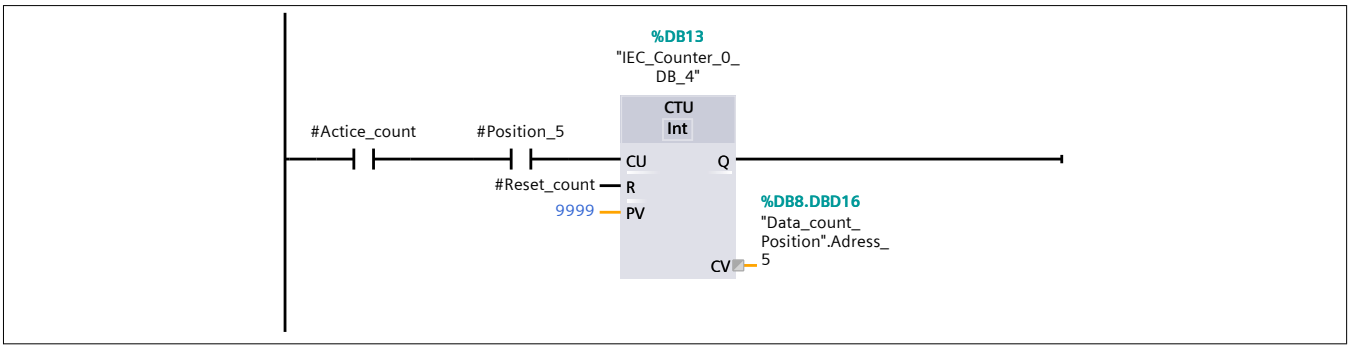

## Network 4: Count position 4

Đếm vị trí phân loại 4




## Network 5: Count position 5

Đếm vị trí phân loại 5



# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

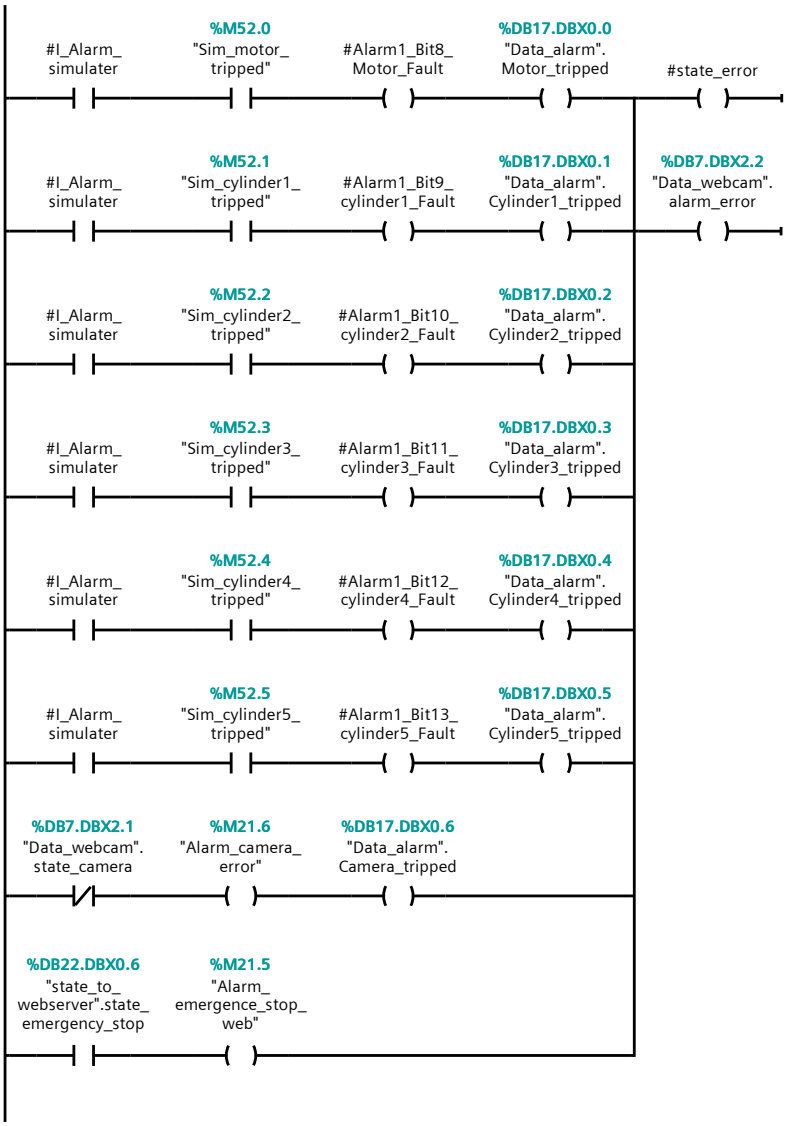
## Alarm [FC4]

| Alarm Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Alarm | **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 | | |
| I_Alarm_simulater | Bool | |
| ▼ Output | | |
| Alarm1_Bit8_Motor_Fault | Bool | |
| Alarm1_Bit9_cylinder1_Fault | Bool | |
| Alarm1_Bit10_cylinder2_Fault | Bool | |
| Alarm1_Bit11_cylinder3_Fault | Bool | |
| Alarm1_Bit12_cylinder4_Fault | Bool | |
| Alarm1_Bit13_cylinder5_Fault | Bool | |
| state_error | Bool | |
| Stop_sys | Bool | |
| InOut | | |
| ▼ Temp | | |
| count | Int | |
| loop_element | Int | |
| Constant | | |
| ▼ Return | | |
| Alarm | Void | |

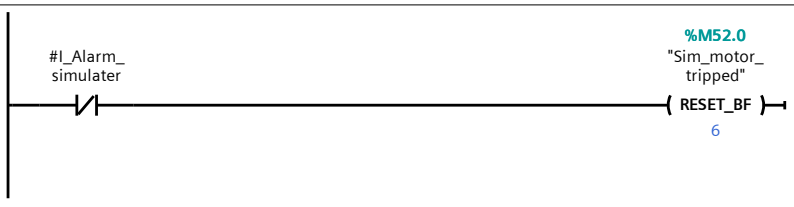
### Network 1: Alarm program

chuong trinh alarm




## Network 2: reset simulater cases

reset cac truong hop mo phong




## Network 3: troubleshoot system

Xử lí sự cố

```
0001 IF  (#Alarm1_Bit9_cylinder1_Fault = FALSE) AND
0002     (#Alarm1_Bit10_cylinder2_Fault = FALSE) AND
0003     (#Alarm1_Bit11_cylinder3_Fault = FALSE) AND
0004     (#Alarm1_Bit12_cylinder4_Fault = FALSE) AND
0005     (#Alarm1_Bit13_cylinder5_Fault = FALSE) THEN
0006     "Array_threading".last_run_1 := FALSE;
0007     "Array_threading".last_run_2 := FALSE;
0008     "Array_threading".last_run_3 := FALSE;
0009     "Array_threading".last_run_4 := FALSE;
```

```
0010      "Array_threading".last_run_5 := FALSE;
0011  ELSE
0012      IF "Array_threading".array_threading_1[0] = 0 AND "Array_threading".ar-
      ray_threading_2[0] = 0 AND
0013          "Array_threading".array_threading_3[0] = 0 AND "Array_threading".ar-
      ray_threading_4[0] = 0 AND
0014          "Array_threading".array_threading_5[0] = 0 THEN
0015          #Stop_sys := True;
0016      END_IF;
0017  END_IF;
0018
0019  // Kiểm tra motor lỗi
0020  IF #Alarm1_Bit8_Motor_Fault = TRUE THEN
0021      #Stop_sys := TRUE;
0022      // Kiểm tra xi lanh 1
0023  ELSIF #Alarm1_Bit9_cylinder1_Fault = TRUE THEN
0024      IF "Array_threading".array_threading_1[0] = 1 THEN
0025          "Array_threading".last_run_1 := True;
0026      END_IF;
0027
0028      IF "Array_threading".last_run_1 = TRUE AND "Sensor_1" = TRUE THEN
0029          #Stop_sys := True;
0030      END_IF;
0031      // Kiểm tra xi lanh 2
0032  ELSIF #Alarm1_Bit10_cylinder2_Fault = TRUE THEN
0033      IF "Array_threading".array_threading_2[0] = 1 THEN
0034          "Array_threading".last_run_2 := True;
0035      END_IF;
0036
0037      IF "Array_threading".last_run_2 = TRUE AND "Sensor_2" = TRUE THEN
0038          #Stop_sys := True;
0039      END_IF;
0040  // Kiểm tra xi lanh 3
0041  ELSIF #Alarm1_Bit11_cylinder3_Fault = TRUE THEN
0042      IF "Array_threading".array_threading_3[0] = 1 THEN
0043          "Array_threading".last_run_3 := True;
0044      END_IF;
0045
0046      IF "Array_threading".last_run_3 = TRUE AND "Sensor_3" = TRUE THEN
0047          #Stop_sys := True;
0048      END_IF;
0049  // Kiểm tra xi lanh 4
0050  ELSIF #Alarm1_Bit12_cylinder4_Fault = TRUE THEN
0051      IF "Array_threading".array_threading_4[0] = 1 THEN
0052          "Array_threading".last_run_4 := True;
0053      END_IF;
0054
0055      IF "Array_threading".last_run_4 = TRUE AND "Sensor_4" = TRUE THEN
0056          #Stop_sys := True;
0057      END_IF;
0058  // Kiểm tra xi lanh 5
0059  ELSIF #Alarm1_Bit13_cylinder5_Fault = TRUE THEN
0060      IF "Array_threading".array_threading_5[0] = 1 THEN
0061          "Array_threading".last_run_5 := True;
0062      END_IF;
0063
0064      IF "Array_threading".last_run_5 = TRUE AND "Sensor_5" = TRUE THEN
0065          #Stop_sys := True;
0066      END_IF;
```

```
0067 END_IF;
0068
0069
```

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## Data_alarm [DB17]

| Data_alarm Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Data_alarm | **Number** | 17 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| Motor_tripped | Bool | false | False |
| Cylinder1_tripped | Bool | false | False |
| Cylinder2_tripped | Bool | false | False |
| Cylinder3_tripped | Bool | false | False |
| Cylinder4_tripped | Bool | false | False |
| Cylinder5_tripped | Bool | false | False |
| Camera_tripped | Bool | false | False |
| Time_to_Maintenance | DInt | 0 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

## state_to_webserver [DB22]

| state_to_webserver Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | state_to_webserver | **Number** | 22 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| state_sensor_1 | Bool | false | False |
| state_sensor_2 | Bool | false | False |
| state_sensor_3 | Bool | false | False |
| state_sensor_4 | Bool | false | False |
| state_sensor_5 | Bool | false | False |
| state_sensor_detech | Bool | false | False |
| state_emergency_stop | Bool | false | False |
| state_cylinder_1 | Int | 0 | False |
| state_cylinder_2 | Int | 0 | False |
| state_cylinder_3 | Int | 0 | False |
| state_cylinder_4 | Int | 0 | False |
| state_cylinder_5 | Int | 0 | False |
| state_motor | Int | 0 | False |
| state_auto | Int | 0 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks

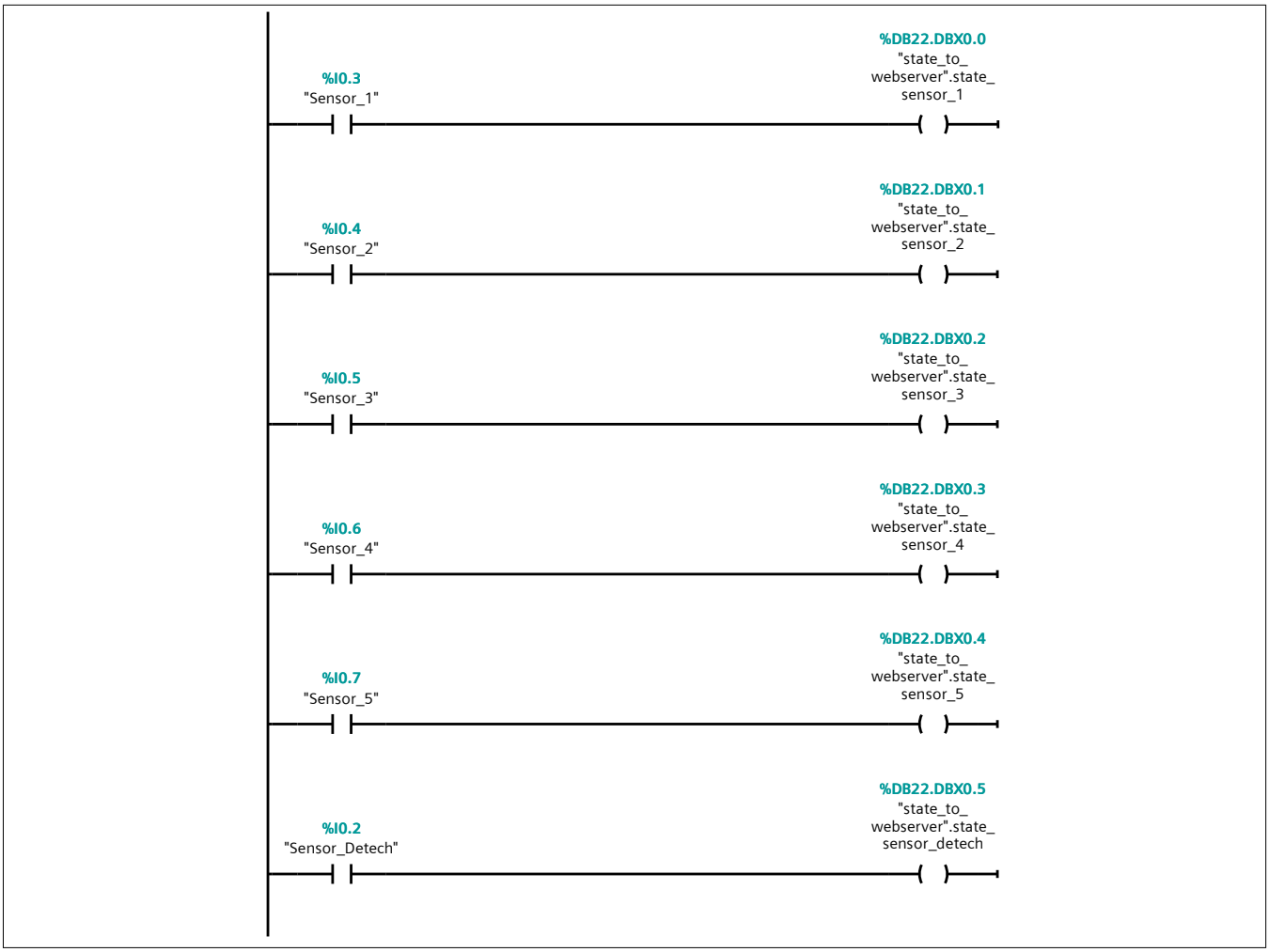
## Put_to_webserver [FC5]

| Put_to_webserver Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Put_to_webserver | **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 | | |
| Put_to_webserver | Void | |

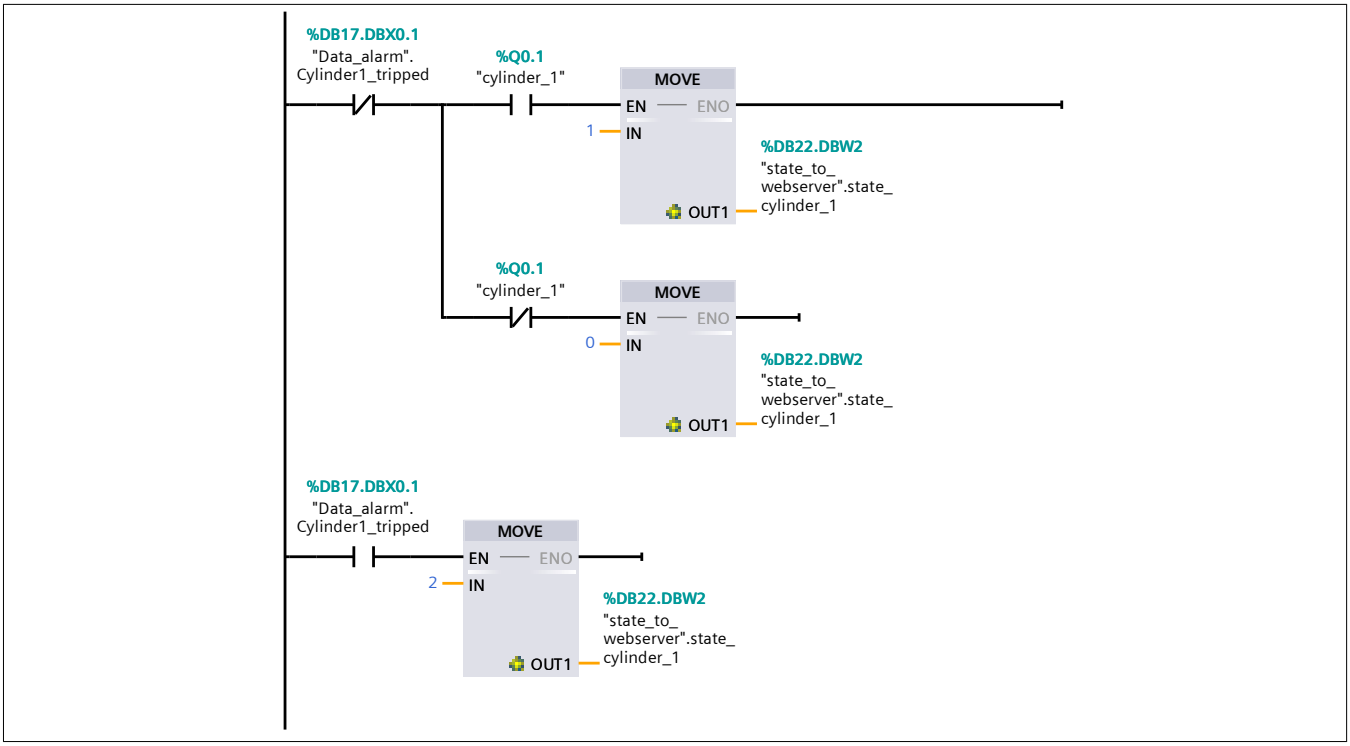
### Network 1: state sensor

trang thai cam bien



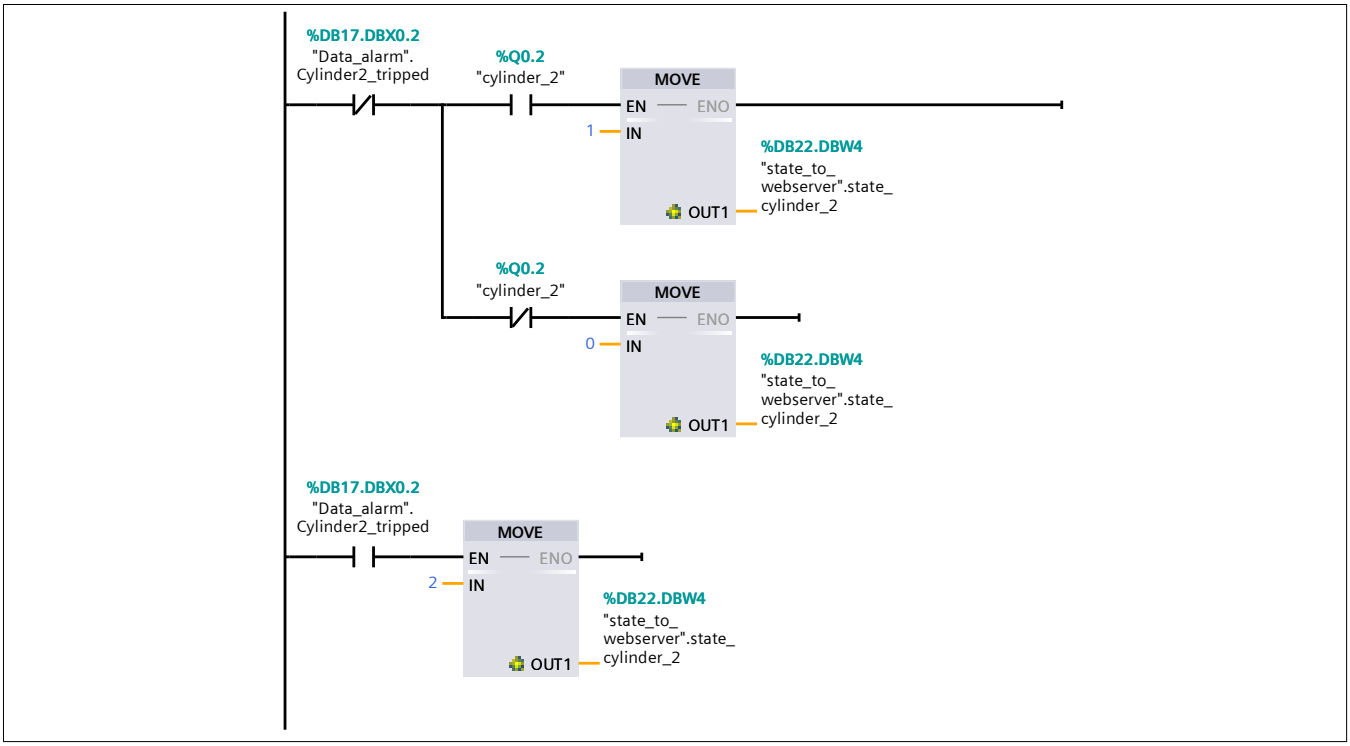
## Network 2: state cylinder 1

trang thai xi lanh 1



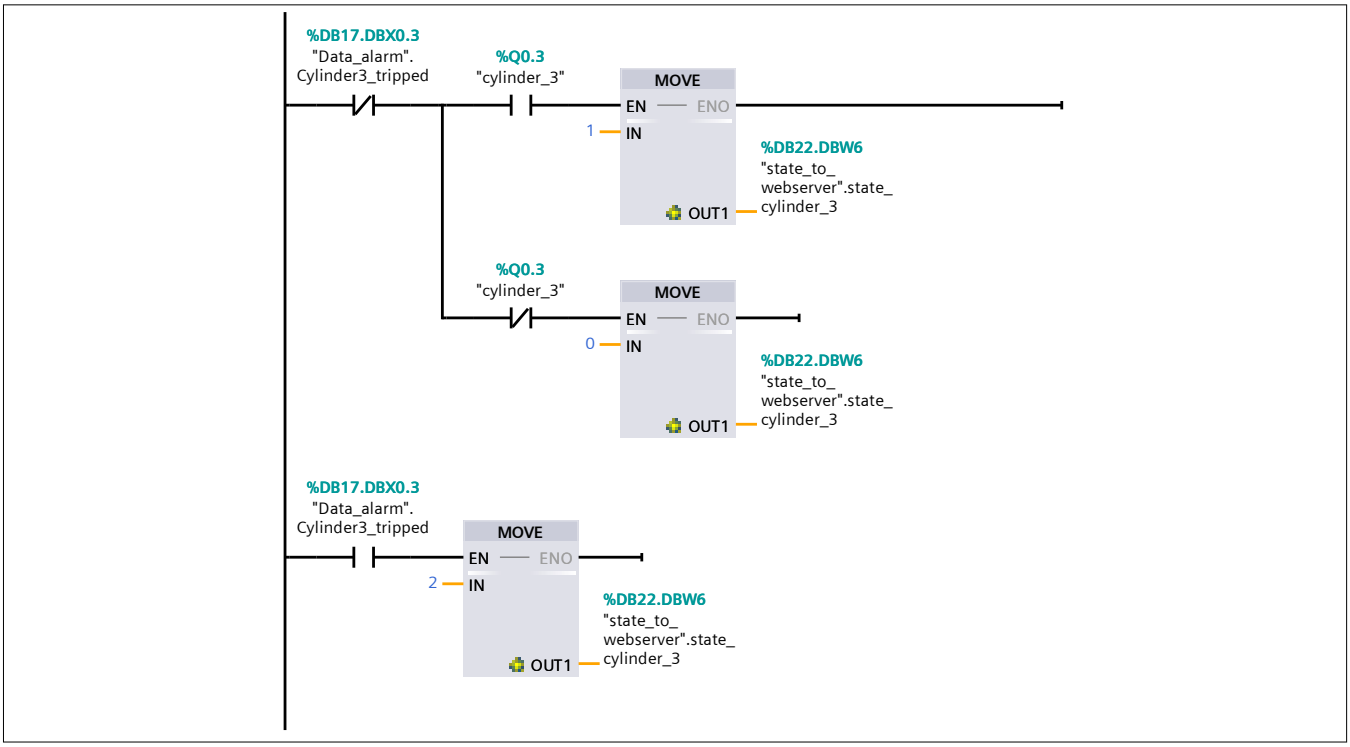

## Network 3: state cylinder 2

trang thai xi lanh 2



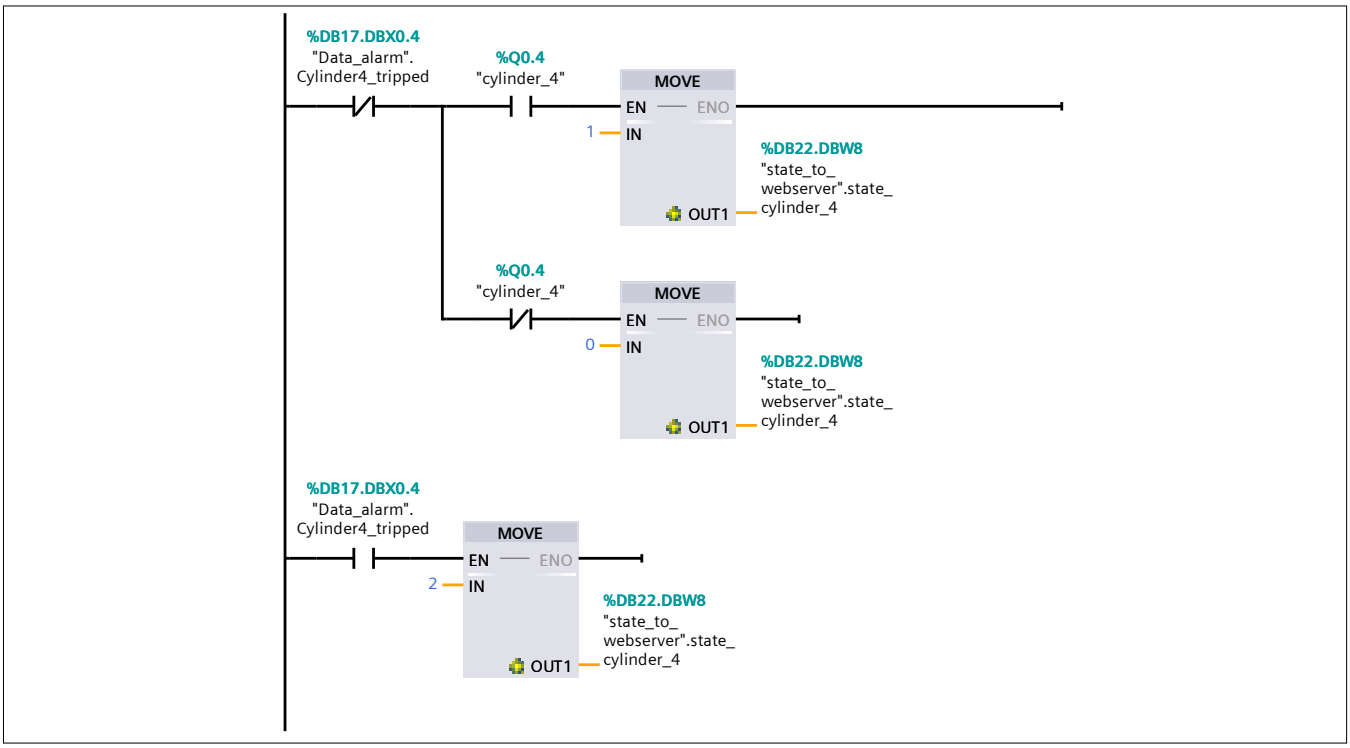

## Network 4: state cylinder 3

trang thai xi lanh 3



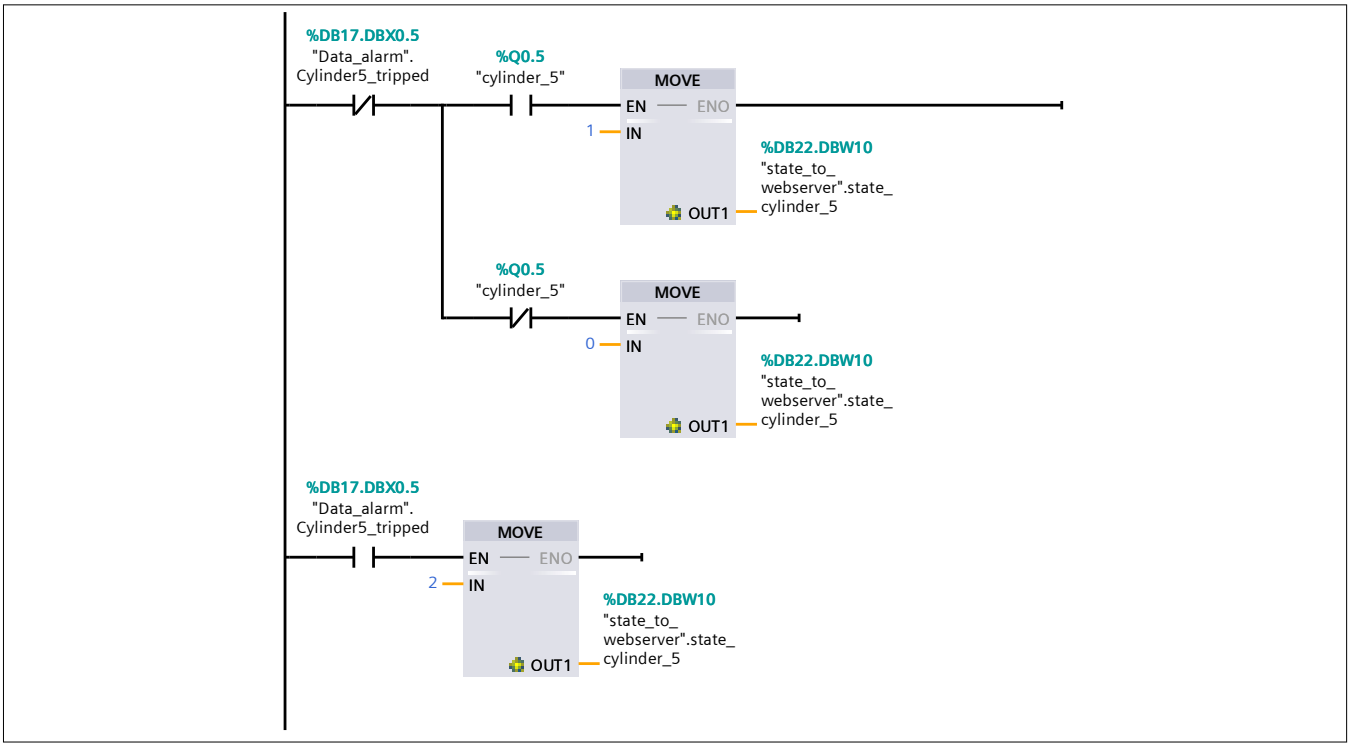

## Network 5: state cylinder 4

trang thai xi lanh 4



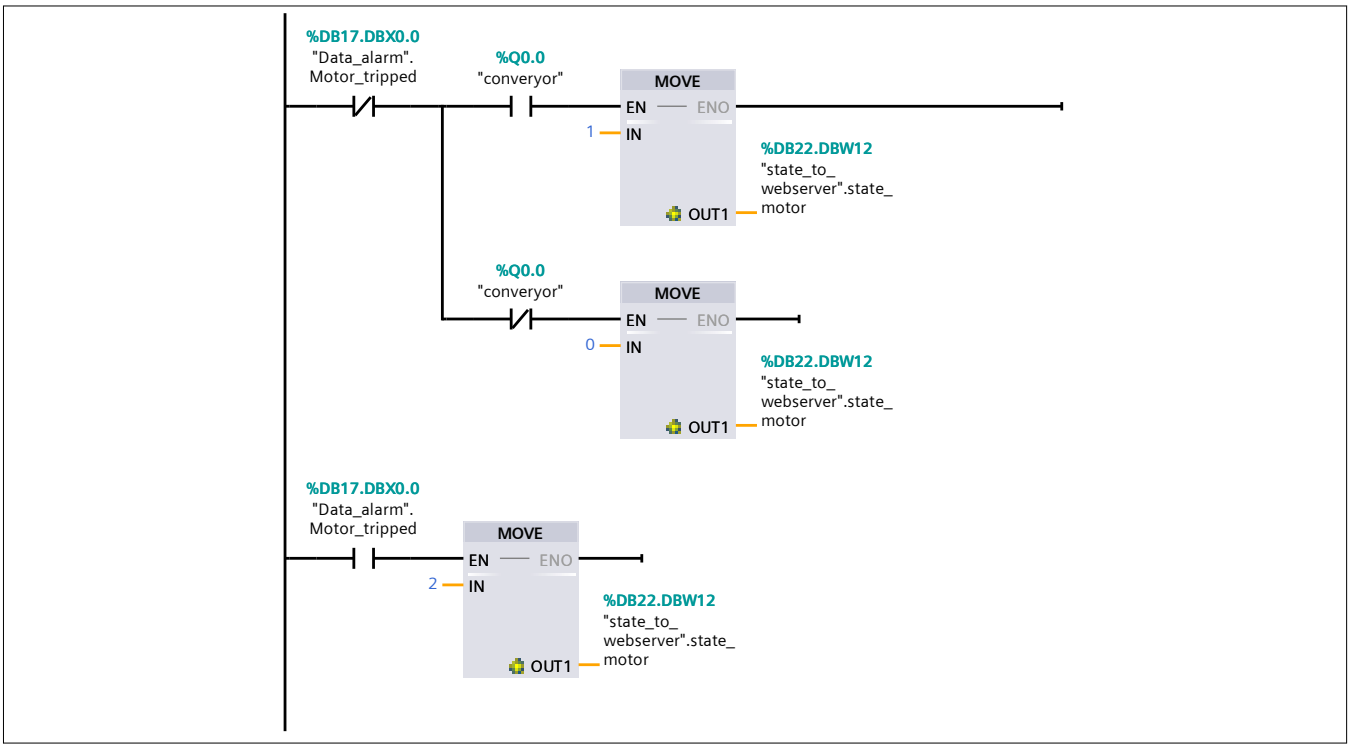

## Network 6: state cylinder 5

trang thai xi lanh 5



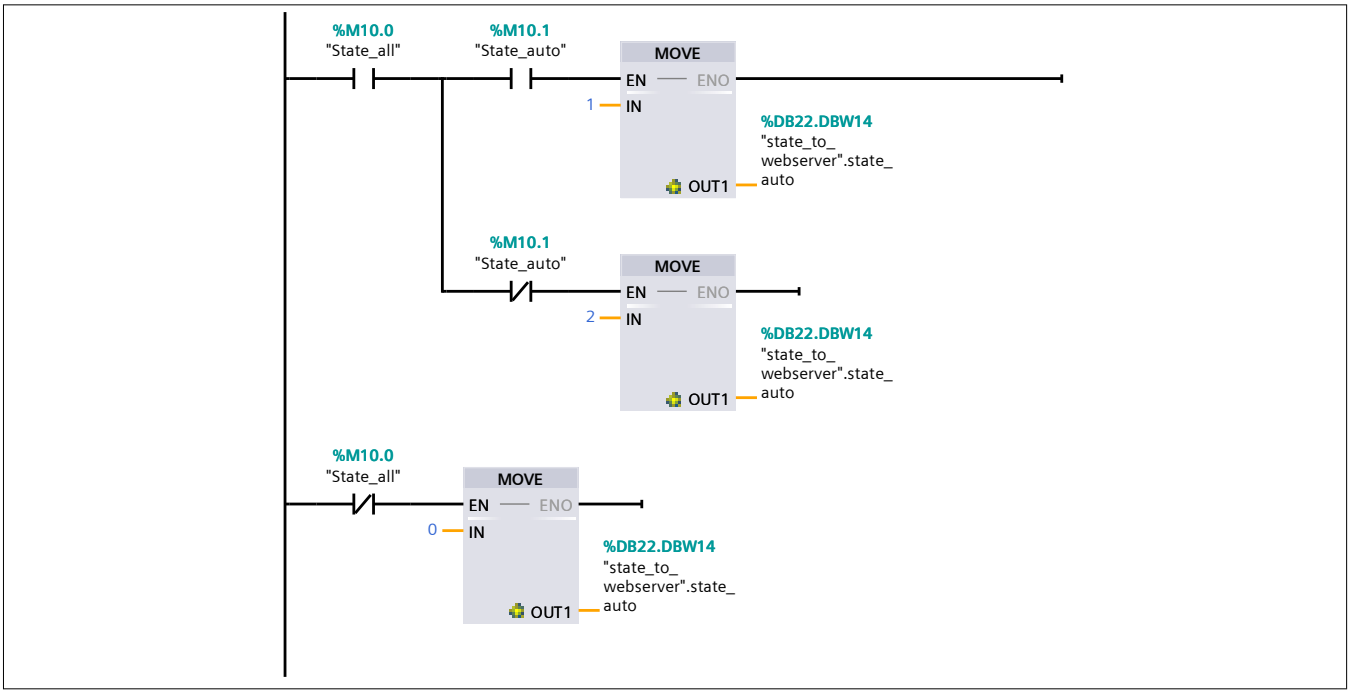

## Network 7: state motor conveyor

trang thai dong co bang tai




## Network 8: state system

trang thai he thong


%M10.0
"State_all"
%M10.1
"State_auto"
MOVE
EN
ENO
1
IN
OUT1
%DB22.DBW14
"state_to_
webserver".state_
auto
%M10.1
"State_auto"
MOVE
EN
ENO
2
IN
OUT1
%DB22.DBW14
"state_to_
webserver".state_
auto
%M10.0
"State_all"
MOVE
EN
ENO
0
IN
OUT1
%DB22.DBW14
"state_to_
webserver".state_
auto

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB [DB9]

| IEC_Counter_0_DB Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB | **Number** | 9 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | CNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | Int | 0 | True |
| CV | Int | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB_1 [DB10]

| IEC_Counter_0_DB_1 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB_1 | **Number** | 10 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | CNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | Int | 0 | True |
| CV | Int | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB_2 [DB11]

| IEC_Counter_0_DB_2 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB_2 | **Number** | 11 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | CNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | Int | 0 | True |
| CV | Int | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB_3 [DB12]

| IEC_Counter_0_DB_3 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB_3 | **Number** | 12 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | CNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | Int | 0 | True |
| CV | Int | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB_4 [DB13]

| IEC_Counter_0_DB_4 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB_4 | **Number** | 13 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | CNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | Int | 0 | True |
| CV | Int | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_7 [DB14]

| IEC_Timer_0_DB_7 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_7 | **Number** | 14 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Counter_0_DB_6 [DB20]

| IEC_Counter_0_DB_6 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Counter_0_DB_6 | **Number** | 20 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | SIMATIC | **Comment** | |
| **Family** | IEC | **Version** | 1.2 | **User-defined ID** | DCNTR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| CU | Bool | false | True |
| CD | Bool | false | True |
| R | Bool | false | True |
| LD | Bool | false | True |
| QU | Bool | false | True |
| QD | Bool | false | True |
| PV | DInt | 0 | True |
| CV | DInt | 0 | True |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_9 [DB21]

| IEC_Timer_0_DB_9 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_9 | **Number** | 21 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB [DB2]

| IEC_Timer_0_DB Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB | **Number** | 2 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_1 [DB3]

| IEC_Timer_0_DB_1 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_1 | **Number** | 3 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_2 [DB4]

| IEC_Timer_0_DB_2 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_2 | **Number** | 4 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_3 [DB5]

| IEC_Timer_0_DB_3 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_3 | **Number** | 5 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC] / Program blocks / System blocks / Program resources

## IEC_Timer_0_DB_4 [DB6]

| IEC_Timer_0_DB_4 Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | IEC_Timer_0_DB_4 | **Number** | 6 | **Type** | DB |
| **Language** | DB | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | Simatic | **Comment** | |
| **Family** | IEC | **Version** | 1.0 | **User-defined ID** | IEC_TMR |

| Name | Data type | Start value | Retain |
|---|---|---|---|
| ▼ Static | | | |
| PT | Time | T#0ms | False |
| ET | Time | T#0ms | False |
| IN | Bool | false | False |
| Q | Bool | false | False |

# PLC_1 [CPU 1214C DC/DC/DC]

## Technology objects

This folder is empty.

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Default tag table [37]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | Name | Data type | Address | Retain |
| | Tag_1 | Bool | %M53.0 | False |
| | Reset_ctu_alarm | Bool | %M53.3 | False |
| | Tag_2 | Bool | %M53.1 | False |
| | Tag_3 | Bool | %M53.2 | False |
| | Error_lamp_alarm | Bool | %M53.4 | False |
| | time_up_maintenance | Bool | %M53.5 | False |
| | Alarm_not_product | Bool | %M53.6 | False |
| | Tag_4 | Bool | %M100.0 | False |
| | Tag_5 | Bool | %M100.1 | False |
| | over_memory | Bool | %M54.0 | False |
| | stop_Sys_alarm | Bool | %M54.1 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Default tag table [37]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Alarm [17]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | **Name** | **Data type** | **Address** | **Retain** |
| | Alarm1 | Word | %MW20 | False |
| | Alarm1_Bit8_Motor_Fault | Bool | %M20.0 | False |
| | Alarm1_Bit9_cylinder1_Fault | Bool | %M20.1 | False |
| | Alarm1_Bit10_cylinder2_Fault | Bool | %M20.2 | False |
| | Alarm1_Bit11_cylinder3_Fault | Bool | %M20.3 | False |
| | Alarm1_Bit12_cylinder4_Fault | Bool | %M20.4 | False |
| | Alarm1_Bit13_cylinder5_Fault | Bool | %M20.5 | False |
| | Alarm1_Bit14 | Bool | %M20.6 | False |
| | Alarm1_Bit15 | Bool | %M20.7 | False |
| | Alarm1_Bit0 | Bool | %M21.0 | False |
| | Alarm1_Bit1 | Bool | %M21.1 | False |
| | Alarm1_Bit2 | Bool | %M21.2 | False |
| | Alarm1_Bit3 | Bool | %M21.3 | False |
| | Alarm_over_memory | Bool | %M21.4 | False |
| | Alarm_emergence_stop_web | Bool | %M21.5 | False |
| | Alarm_camera_error | Bool | %M21.6 | False |
| | Alarm_maintenance_time | Bool | %M21.7 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Alarm [17]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / HMI [13]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | Name | Data type | Address | Retain |
| | hmi_manu_cylinder_1 | Bool | %M10.3 | False |
| | hmi_manu_cylinder_2 | Bool | %M10.4 | False |
| | hmi_manu_cylinder_3 | Bool | %M10.5 | False |
| | hmi_manu_cylinder_4 | Bool | %M10.6 | False |
| | hmi_manu_cylinder_5 | Bool | %M10.7 | False |
| | hmi_active_count | Bool | %M11.0 | False |
| | HMI_ALARM | Bool | %M11.1 | False |
| | hmi_manu_conveyor | Bool | %M10.2 | False |
| | HMI_START | Bool | %M11.2 | False |
| | HMI_STOP | Bool | %M11.3 | False |
| | hmi_reset_count | Bool | %M11.4 | False |
| | hmi_problem_handled | Bool | %M11.5 | False |
| | hmi_reset_data | Bool | %M11.6 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / HMI [13]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Input_control [2]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | Name | Data type | Address | Retain |
| | Start | Bool | %I0.0 | False |
| | Stop | Bool | %I0.1 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Input_control [2]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Output [7]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | Name | Data type | Address | Retain |
| | cylinder_1 | Bool | %Q0.1 | False |
| | cylinder_2 | Bool | %Q0.2 | False |
| | cylinder_3 | Bool | %Q0.3 | False |
| | cylinder_4 | Bool | %Q0.4 | False |
| | cylinder_5 | Bool | %Q0.5 | False |
| | converyor | Bool | %Q0.0 | False |
| | led_error | Bool | %Q0.6 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Output [7]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Sensor [6]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | Name | Data type | Address | Retain |
| | Sensor_1 | Bool | %I0.3 | False |
| | Sensor_2 | Bool | %I0.4 | False |
| | Sensor_3 | Bool | %I0.5 | False |
| | Sensor_4 | Bool | %I0.6 | False |
| | Sensor_5 | Bool | %I0.7 | False |
| | Sensor_Detech | Bool | %I0.2 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Sensor [6]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Simulater [6]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | **Name** | **Data type** | **Address** | **Retain** |
| | Sim_motor_tripped | Bool | %M52.0 | False |
| | Sim_cylinder1_tripped | Bool | %M52.1 | False |
| | Sim_cylinder2_tripped | Bool | %M52.2 | False |
| | Sim_cylinder3_tripped | Bool | %M52.3 | False |
| | Sim_cylinder4_tripped | Bool | %M52.4 | False |
| | Sim_cylinder5_tripped | Bool | %M52.5 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / Simulater [6]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / State_system [2]

## PLC tags

| PLC tags | | | | |
|---|---|---|---|---|
| | **Name** | **Data type** | **Address** | **Retain** |
| | State_all | Bool | %M10.0 | False |
| | State_auto | Bool | %M10.1 | False |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC tags / State_system [2]

## User constants

| User constants | | | |
|---|---|---|---|
| | Name | Data type | Value |

# PLC_1 [CPU 1214C DC/DC/DC] / PLC data types

## System data types

This folder is empty.

# PLC_1 [CPU 1214C DC/DC/DC] / Watch and force tables

## Force table

| Name | Address | Display format | Force value |
|---|---|---|---|
| "Sensor_Detech":P | %I0.2:P | Bool | TRUE |

# PLC_1 [CPU 1214C DC/DC/DC]

## Traces

| Name |
| --- |

# PLC_1 [CPU 1214C DC/DC/DC] / Traces

## Measurements

This folder is empty.

# PLC_1 [CPU 1214C DC/DC/DC] / Traces

## Combined measurements

| Name |
| --- |

# PLC_1 [CPU 1214C DC/DC/DC] / OPC UA communication

## Server interfaces

This folder is empty.

# PLC_1 [CPU 1214C DC/DC/DC]

## PLC alarm text lists

This folder is empty.

# PLC_1 [CPU 1214C DC/DC/DC] / Local modules

## PLC_1 [CPU 1214C DC/DC/DC]

| PLC_1 | | | |
|---|---|---|---|
| **Project information** | | | |
| **Name** | PLC_1 | **Author** | huuda |
| **Comment** | | **Slot** | 1 |
| **Rack** | 0 | | |
| **Catalog information** | | | |
| **Short designation** | CPU 1214C DC/DC/DC | **Description** | Work memory 100 KB; 24VDC power supply with DI14 x 24VDC SINK/SOURCE, DQ10 x 24VDC and AI2 on board; 6 high-speed counters and 4 pulse outputs on-board; signal board expands on-board I/O; up to 3 communication modules for serial communication; up to 8 signal modules for I/O expansion; PROFINET IO controller, I-device, transport protocol TCP/IP, secure Open User Communication, S7 communication, Web server, OPC UA: Server DA |
| **Article number** | 6ES7 214-1AG40-0XB0 | **Firmware version** | V4.5 |
| | False | | |

**Connection resources**

| | Station resources - Reserved - Maximum | Station resources - Reserved - Configured | Station resources - Dynamic - Configured | Module resources - PLC_1 [CPU 1214C DC/DC/DC] - Configured |
|---|---|---|---|---|
| Maximum number of resources: | | 34 | 34 | 68 |
| | Maximum | Configured | Configured | Configured |
| PG communication: | 4 | - | - | - |
| HMI communication: | 12 | 1 | 0 | 1 |
| S7 communication: | 8 | 0 | 0 | 0 |
| Open user communication: | 8 | 0 | 0 | 0 |
| Web communication: | 2 | - | - | - |
| OPC UA client/server communication: | 0 | - | - | - |
| Other communication: | - | - | 0 | 0 |
| Total resources used: | | 1 | 0 | 1 |
| Available resources: | | 33 | 34 | 67 |

| Overview of addresses\Overview of addresses\Overview of addresses | | | |
|---|---|---|---|
| **Inputs** | True | **Outputs** | True |
| **Address gaps** | False | **Slot** | True |

| Type | Addr. from | Addr. to | Module | PIP | Device name | Device number | Size | Master / IO system | Rack | Slot |
|---|---|---|---|---|---|---|---|---|---|---|
| I | 0 | 1 | DI 14/DQ 10_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 1 |
| O | 0 | 1 | DI 14/DQ 10_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 1 |
| I | 64 | 67 | AI 2_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 2 |
| I | 1000 | 1003 | HSC_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 16 |
| I | 1004 | 1007 | HSC_2 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 17 |
| I | 1008 | 1011 | HSC_3 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 18 |
| I | 1012 | 1015 | HSC_4 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 19 |
| I | 1016 | 1019 | HSC_5 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 20 |
| I | 1020 | 1023 | HSC_6 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 4 Bytes | - | 0 | 1 21 |
| O | 1000 | 1001 | Pulse_1 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 32 |
| O | 1002 | 1003 | Pulse_2 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 33 |
| O | 1004 | 1005 | Pulse_3 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 34 |
| O | 1006 | 1007 | Pulse_4 | Automatic update | PLC_1 [CPU 1214C DC/DC/DC] | - | 2 Bytes | - | 0 | 1 35 |