# Project Documentation

File: Cena09.project

Date: 27/12/2024

Profile: CODESYS V3.5 SP8 Patch 1

# Table of Contents

# 1 Device: Device

**Users and Groups**

**Users:**

**Groups:**

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**Information**

| | |
|---|---|
| Name: | CODESYS Control Win V3 |
| Vendor: | 3S - Smart Software Solutions GmbH |
| Groups: | PLCs |
| Type: | 4096 |
| ID: | 0000 0001 |
| Version: | 3.5.8.10 |
| Order number: | 305021 |
| Description: | CODESYS V3 Soft-PLC for Windows with non realtime capabilities (CODESYS Control Win V3) |

## *1.1 Plc Logic: Plc Logic*

### 1.1.1 Application: Application

#### 1.1.1.1 Library Manager: Library Manager

#IoStandard
- Base Interfaces, * (System)
- SysTypes2 Interfaces, * (System)
- CmpErrors2 Interfaces, * (System)

#3SLicense
- #CmpLog
  - SysTypes2 Interfaces, * (System)
- #CAA Types
  - #SysCpuHandling
    - #SysMem
      - SysTypes2 Interfaces, * (System)
    - SysTypes2 Interfaces, * (System)
    - CmpErrors2 Interfaces, * (System)
- #Standard
- #Component Manager
  - #CmpEventMgr
    - SysTypes2 Interfaces, * (System)
    - CmpErrors2 Interfaces, * (System)
  - #CmpApp
    - SysTypes2 Interfaces, * (System)
    - #CmpEventMgr

```
            CmpErrors2 Interfaces, * (System)
        SysTypes2 Interfaces, * (System)
    #CmpApp
        SysTypes2 Interfaces, * (System)
        #CmpEventMgr
            SysTypes2 Interfaces, * (System)
            CmpErrors2 Interfaces, * (System)
    #CmpCodeMeter
        SysTypes2 Interfaces, * (System)
        CmpErrors2 Interfaces, * (System)
    CmpErrors2 Interfaces, * (System)
    SysTypes2 Interfaces, * (System)
#Standard
#BreakpointLogging
    #CmpLog
        SysTypes2 Interfaces, * (System)
    SysTypes2 Interfaces, * (System)
#IecVarAccess
    #CmpIecVarAccess
        #Collections
            #SysMem
                SysTypes2 Interfaces, * (System)
            #Standard
            Collections Interfaces, * (System)
            Base Interfaces, * (System)
            CmpErrors2 Interfaces, * (System)
        Base Interfaces, * (System)
        Collections Interfaces, * (System)
        SysTypes2 Interfaces, * (System)
        IecVarAccess3 Interfaces, * (System)
    #Component Manager
        #CmpEventMgr
            SysTypes2 Interfaces, * (System)
            CmpErrors2 Interfaces, * (System)
        #CmpApp
            SysTypes2 Interfaces, * (System)
            #CmpEventMgr
                SysTypes2 Interfaces, * (System)
                CmpErrors2 Interfaces, * (System)
        SysTypes2 Interfaces, * (System)
    #Collections
        #SysMem
            SysTypes2 Interfaces, * (System)
        #Standard
        Collections Interfaces, * (System)
        Base Interfaces, * (System)
        CmpErrors2 Interfaces, * (System)
    #Standard
    #SymbolicVarsBase
        #CmpApp
            SysTypes2 Interfaces, * (System)
            #CmpEventMgr
                SysTypes2 Interfaces, * (System)
                CmpErrors2 Interfaces, * (System)
        #Collections
            #SysMem
                SysTypes2 Interfaces, * (System)
```

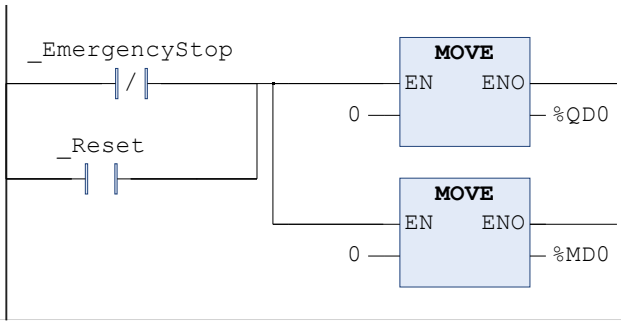
Collections Interfaces, * (System)
Base Interfaces, * (System)
CmpErrors2 Interfaces, * (System)
#Standard
#SysMem
SysTypes2 Interfaces, * (System)
#SysCpuHandling
#SysMem
SysTypes2 Interfaces, * (System)
SysTypes2 Interfaces, * (System)
CmpErrors2 Interfaces, * (System)
Base Interfaces, * (System)
Collections Interfaces, * (System)
SysTypes2 Interfaces, * (System)
CmpErrors2 Interfaces, * (System)
IecVarAccess3 Interfaces, * (System)
Base Interfaces, * (System)
Collections Interfaces, * (System)
Data Server Interfaces, * (System)
SysTypes2 Interfaces, * (System)
CmpErrors2 Interfaces, * (System)
#SysMem
SysTypes2 Interfaces, * (System)
IecVarAccess3 Interfaces, * (System)

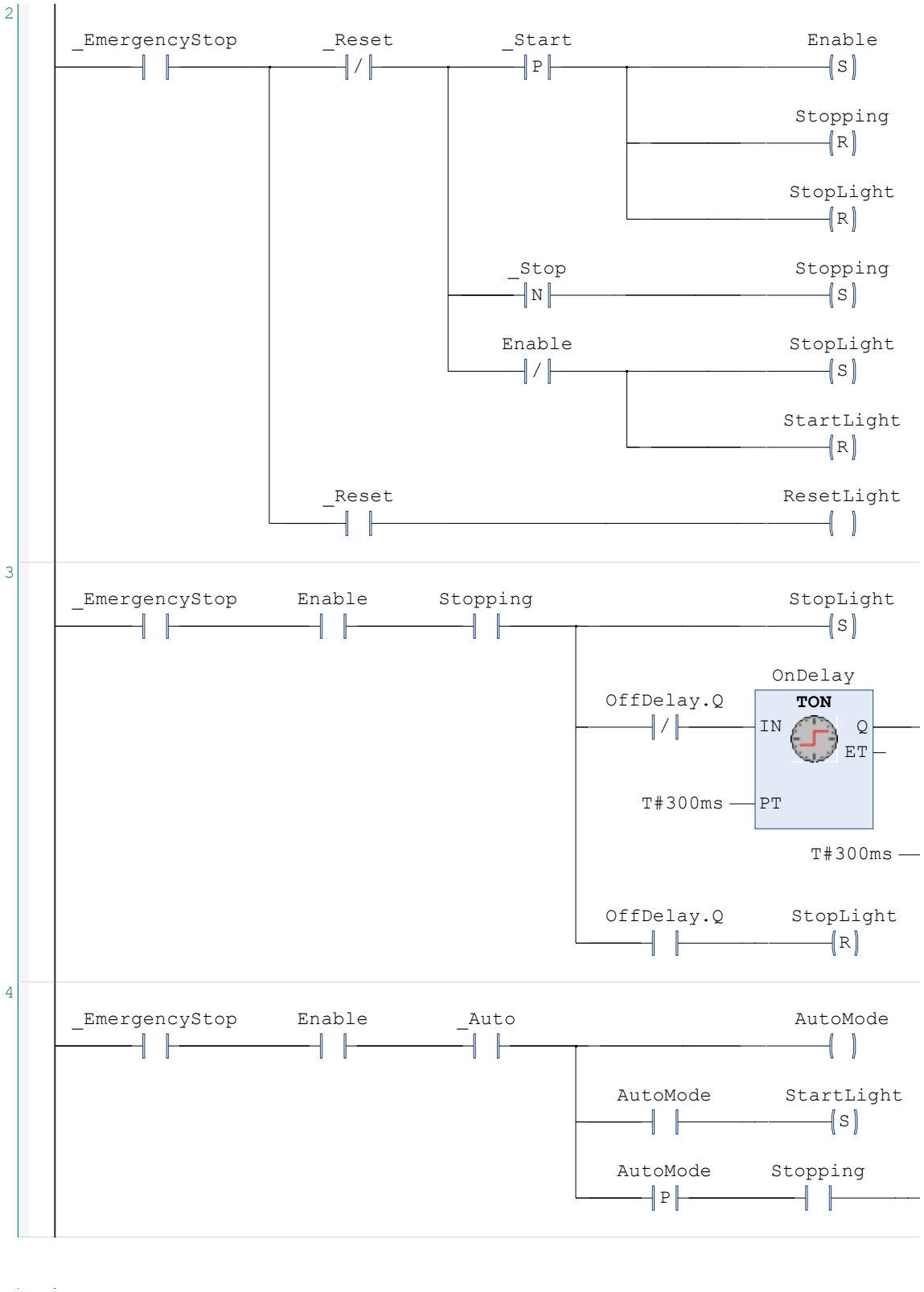
## 1.1.1.2 POU: PLC_PRG

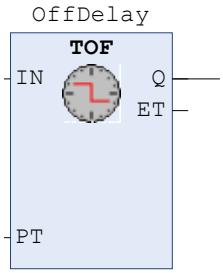
```
1   PROGRAM PLC_PRG
2   VAR
3       //Entradas
4       _Auto : BOOL;
5       _BaseAtPlace : BOOL;
6       _BaseClamped : BOOL;
7       _EmergencyStop : BOOL;
8       _ItemDetected : BOOL;
9       _LidAtPlace : BOOL;
10      _LidClamped : BOOL;
11      _Manual : BOOL;
12      _MovingX : BOOL;
13      _MovingZ : BOOL;
14      _PartLeaving : BOOL;
15      _PosAtLimitBases : BOOL;
16      _PosAtLimitLids : BOOL;
17      _Reset : BOOL;
18      _Start : BOOL;
19      _Stop : BOOL;
20
21      //Saidas
22      BasesConveyor : BOOL;
23      ClampBase : BOOL;
24      ClampLid : BOOL;
25      Counter : WORD;
26      Grab : BOOL;
27      LidsConveyor : BOOL;
28      MoveX : BOOL;
29      MoveZ : BOOL;
```

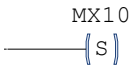
```
30          PosRaiseBase :  BOOL ;
31          PosRaiseLids :  BOOL ;
32          ResetLight :  BOOL ;
33          StartLight :  BOOL ;
34          StopLight :  BOOL ;
35          BasesEmitter :  BOOL ;
36
37          //Sinais
38          Enable :  BOOL ;
39          Stopping :  BOOL ;
40          OnDelay :  TON ;
41          OffDelay :  TOF ;
42          AutoMode :  BOOL ;
43          MX10 :  BOOL ;
44          ManualMode :  BOOL ;
45          MX20 :  BOOL ;
46          MX21 :  BOOL ;
47          MX11 :  BOOL ;
48          F_TRIG_0 :  F_TRIG ;
49          MX12 :  BOOL ;
50          F_TRIG_1 :  F_TRIG ;
51          MX13 :  BOOL ;
52          F_TRIG_2 :  F_TRIG ;
53          MX14 :  BOOL ;
54          F_TRIG_3 :  F_TRIG ;
55          MX15 :  BOOL ;
56          F_TRIG_4 :  F_TRIG ;
57          MX16 :  BOOL ;
58          F_TRIG_5 :  F_TRIG ;
59      END_VAR
60
```

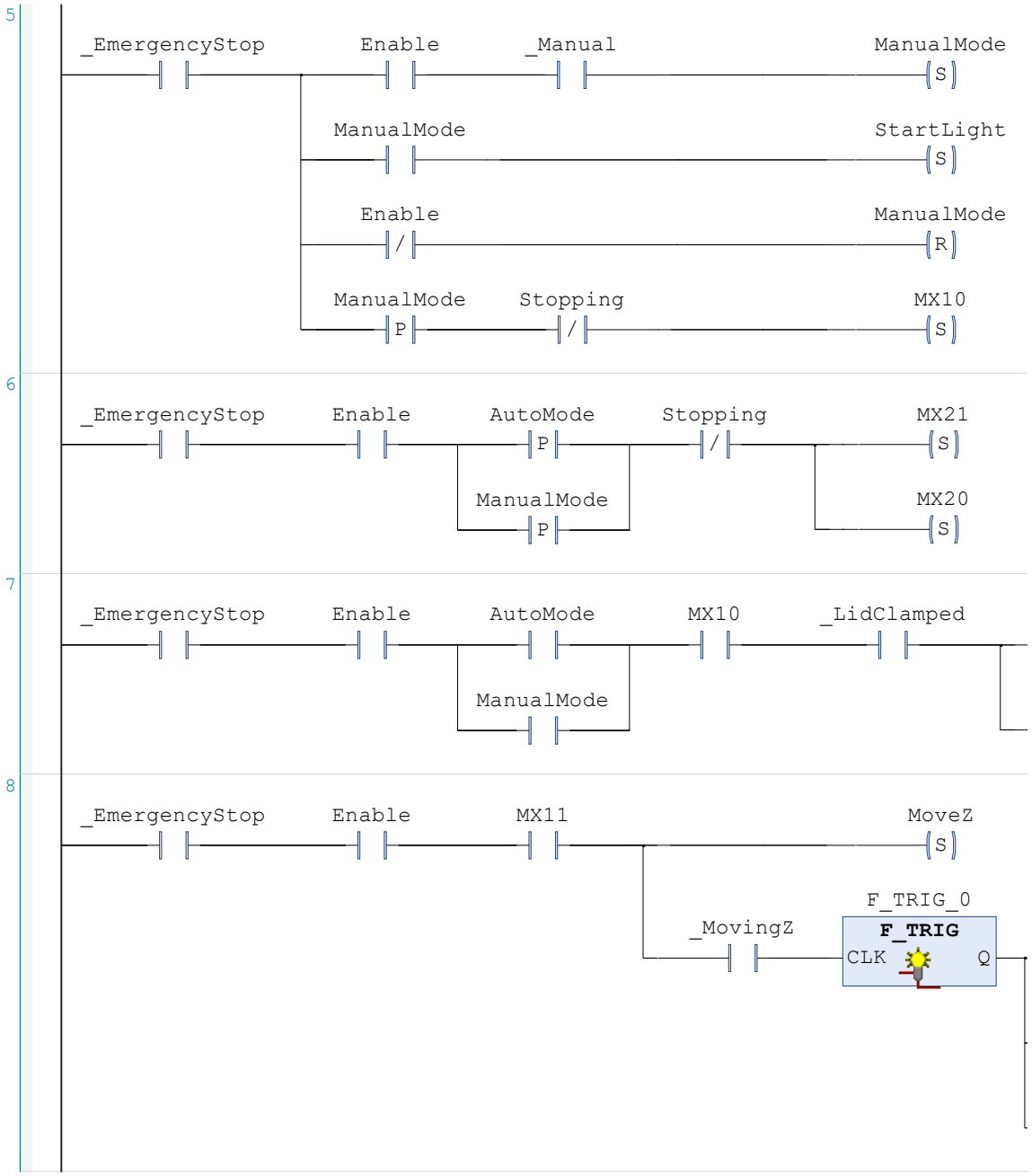
1

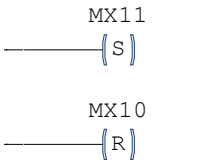


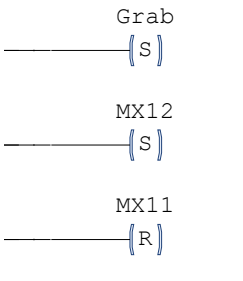

2
_EmergencyStop
_Reset
_Start
Enable
S
Stopping
R
StopLight
R
_Stop
N
Stopping
S
Enable
/
StopLight
S
StartLight
R
_Reset
ResetLight
3
_EmergencyStop
Enable
Stopping
StopLight
S
OnDelay
TON
OffDelay.Q
/
IN
Q
ET
T#300ms
PT
T#300ms
OffDelay.Q
StopLight
R
4
_EmergencyStop
Enable
_Auto
AutoMode
AutoMode
StartLight
S
AutoMode
P
Stopping

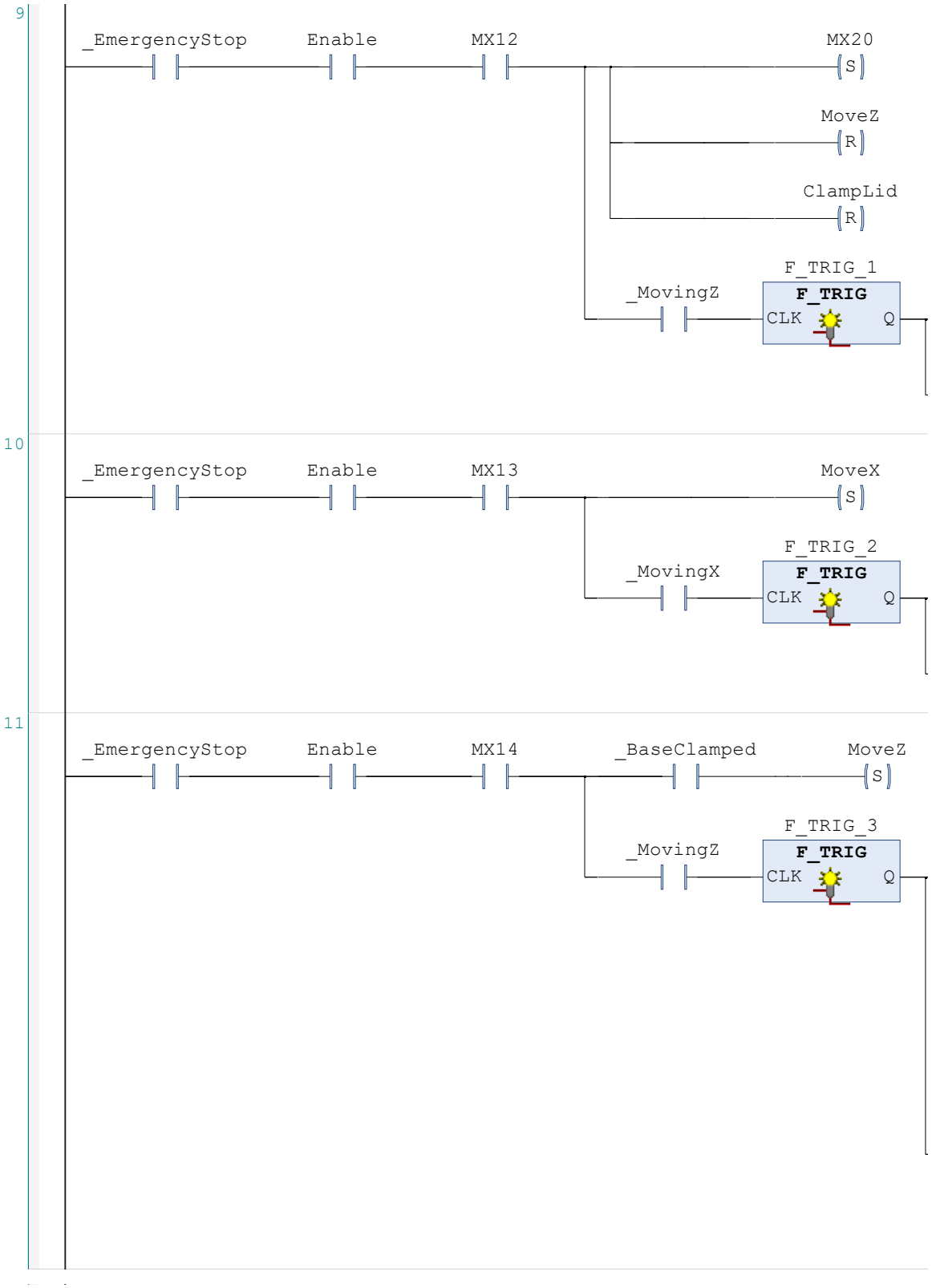

OffDelay
TOF
IN
Q
ET
PT

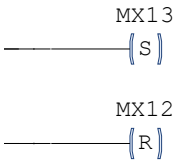

MX10
S

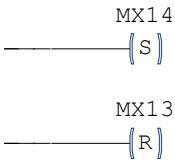

5
_EmergencyStop
Enable
_Manual
ManualMode
S
ManualMode
StartLight
S
Enable
ManualMode
/
R
ManualMode
Stopping
MX10
P
/
S
6
_EmergencyStop
Enable
AutoMode
Stopping
MX21
P
/
S
ManualMode
MX20
P
S
7
_EmergencyStop
Enable
AutoMode
MX10
_LidClamped
ManualMode
8
_EmergencyStop
Enable
MX11
MoveZ
S
F_TRIG_0
_MovingZ
F_TRIG
CLK
Q

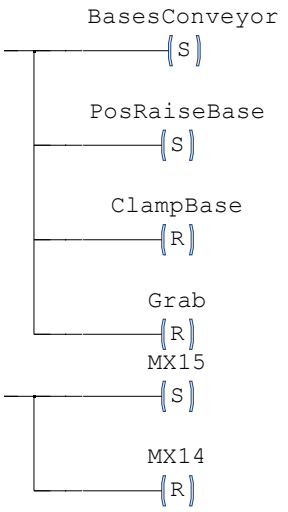

MX11
S
MX10
R

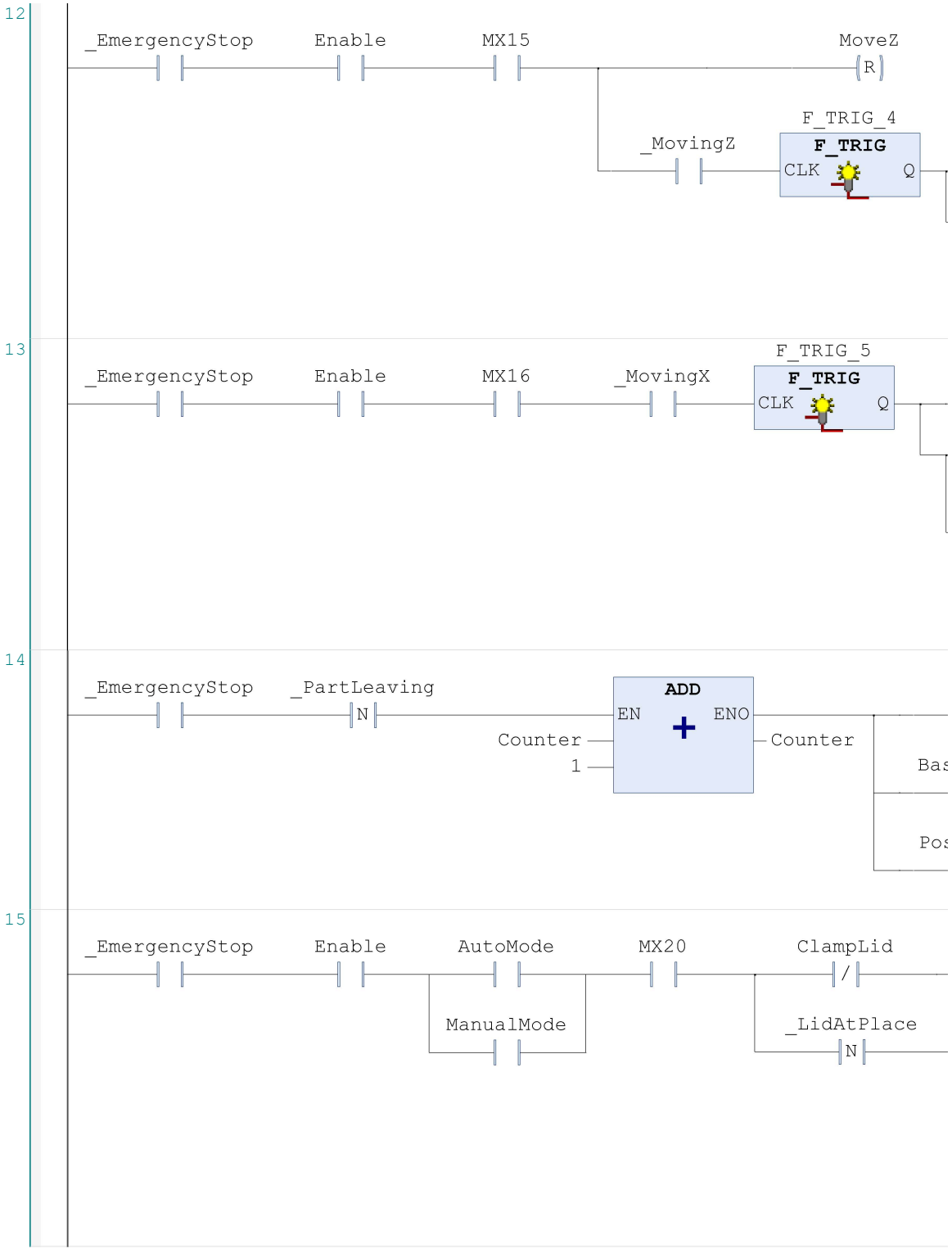

Grab
S
MX12
S
MX11
R

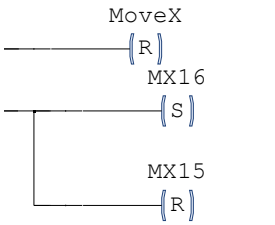

9
_EmergencyStop
Enable
MX12
MX20
S
MoveZ
R
ClampLid
R
F_TRIG_1
_MovingZ
F_TRIG
CLK
Q
10
_EmergencyStop
Enable
MX13
MoveX
S
F_TRIG_2
_MovingX
F_TRIG
CLK
Q
11
_EmergencyStop
Enable
MX14
_BaseClamped
MoveZ
S
F_TRIG_3
_MovingZ
F_TRIG
CLK
Q

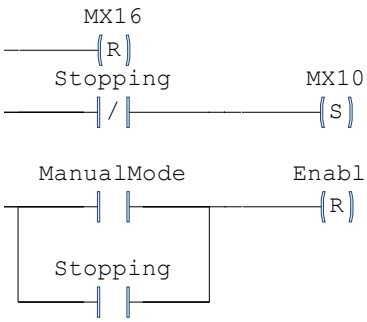

MX13
S
MX12
R

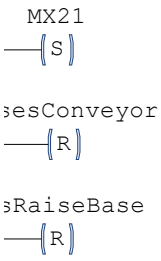

MX14
S
MX13
R

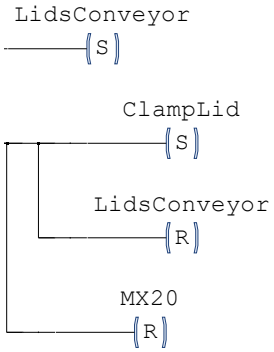

BasesConveyor
S
PosRaiseBase
S
ClampBase
R
Grab
R
MX15
S
MX14
R

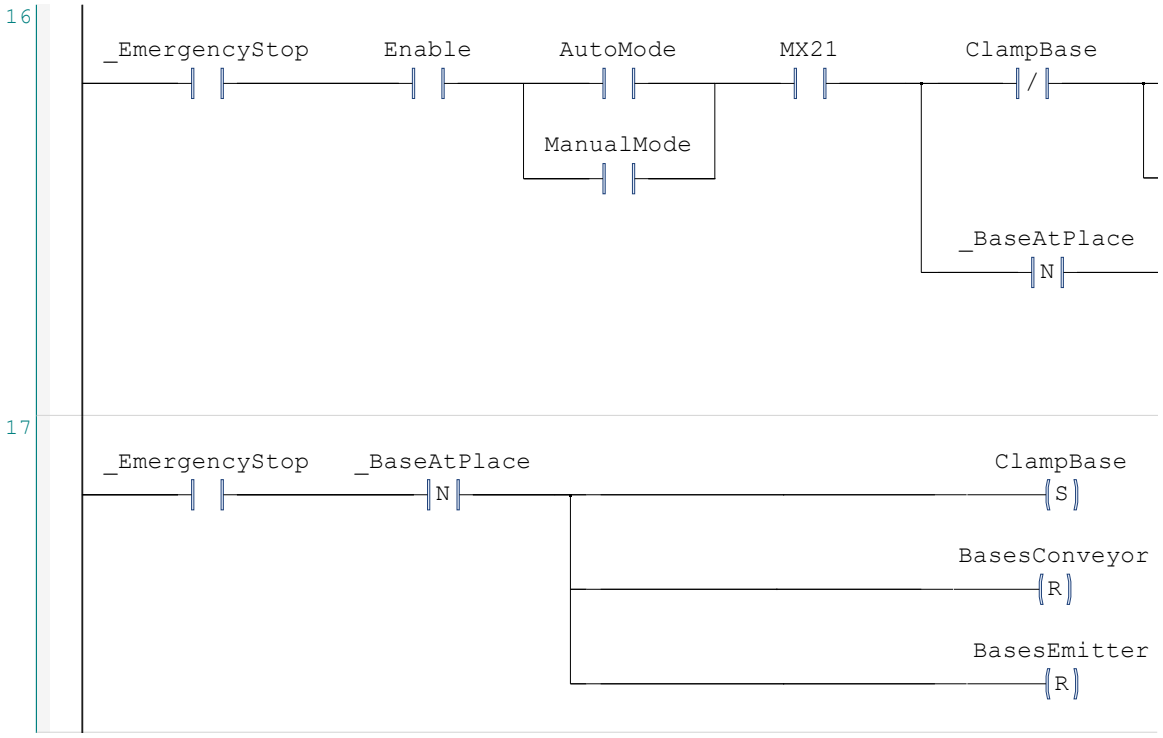

12
_EmergencyStop
Enable
MX15
MoveZ
R
F_TRIG_4
_MovingZ
F_TRIG
CLK
Q
13
F_TRIG_5
_EmergencyStop
Enable
MX16
_MovingX
F_TRIG
CLK
Q
14
_EmergencyStop
_PartLeaving
N
ADD
EN
ENO
Counter
1
Counter
15
_EmergencyStop
Enable
AutoMode
MX20
ClampLid
/
ManualMode
_LidAtPlace
N

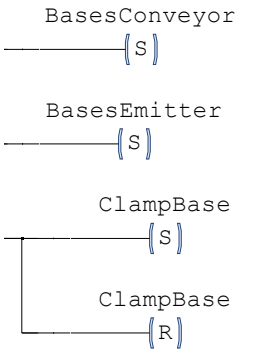

MoveX
R
MX16
S
MX15
R


MX16
R
Stopping
/
MX10
S
ManualMode
Enable
R
Stopping


MX21
S
sesConveyor
R
sRaiseBase
R


LidsConveyor
S
ClampLid
S
LidsConveyor
R
MX20
R


16
_EmergencyStop
Enable
AutoMode
MX21
ClampBase
/
ManualMode
_BaseAtPlace
N
17
_EmergencyStop
_BaseAtPlace
N
ClampBase
S
BasesConveyor
R
BasesEmitter
R


BasesConveyor
S
BasesEmitter
S
ClampBase
S
ClampBase
R

### 1.1.1.3 Symbol configuration: Symbols

### 1.1.1.4 Task Configuration: Task Configuration

Max. number of tasks: 100
Max. number of cyclic tasks: 100
Max. number of freewheeling tasks: 100
Max. number of event tasks: 100
Max. number of status tasks: 100

System Events:

#### 1.1.1.4.1 Task: MainTask

Priority: 1
Type: Cyclic
Interval: t#20ms  Unit: ms
Watchdog: Inactive
POUs: PLC_PRG

##### 1.1.1.4.1.1 Program call: PLC_PRG

## 2 : Project Settings

Static Analysis Light:

Unused variables (#33): 0
Overlapping memory areas (#28): 0
Concurrent access (#6): 0
Multiple write access on output (#4): 0
Multiple usage of name (#27): 0