

**FC2 - <offline>**

"Box Entry Station"

**Nombre:****Familia:****Autor:****Versión:** 0.1**Versión del bloque:** 2**Hora y fecha Código:**

25/08/2022 16:24:35

**Interface:**

18/08/2022 09:55:58

**Longitud (bloque / código / datos):** 00392 00258 00000

Nombre	Tipo de datos	Dirección	Comentario
IN		0.0	
OUT		0.0	
IN_OUT		0.0	
TEMP		0.0	
RETURN		0.0	
RET_VAL		0.0	

**Bloque: FC2 FEEDER AND ENTRY CONVEYOR MANGEMENT**

Segm.: 1

```
/////////////////////////////////////////////////////////////////
//***** ENTRY CONVEYORS FINITE STATE MACHINE (FSM) *****/
/////////////////////////////////////////////////////////////////

// If Systeme is Active => Enter into the State machine
U      "systemActive"                                M10.0
SPBN   _010

L      "conveyorsState"                              MW22

SPL    _001

SPA    CERO                                // SET FEEDER CONVEY
SPA    ONE                                // SET ENTRY CONVEY
SPA    TWO                                // SET BUSY TABLE
SPA    THRE                                // RESET ENTRY CONVEY
SPA    FOUR                                // BOX CHECKER

_001: SPA    OUT

//***** SET FEEDER CONVEYOR *****/
CERO: R      "Var System Outputs".entryConvey          DB2.DBX0.1

//If Entry Sensor => New state
U      "Var System Inputs".entrySensor                DB1.DBX0.4      -- Variabl
                                                    e comodin provisional
FP     "OnsBoxEntry"                                  M252.4
SPBN   _002
L      1
T      "conveyorsState"                              MW22
_002: NOP    0
SPA    END

//***** SET ENTRY CONVEYOR *****/
ONE: S      "Var System Outputs".entryConvey          DB2.DBX0.1
R      "tableBusyBit"                                M10.7

// If Turn Table Negative Edge => New State
U      "Var System Inputs".turnTableEntry            DB1.DBX0.7
FN     "OnsTurnTable"                                M255.6
SPBN   _003
L      2
T      "conveyorsState"                              MW22
_003: NOP    0
SPA    END

//***** SET TABLE BUSY BIT *****/
TWO: S      "tableBusyBit"                            // activates Timer in FC9    M10.7
```

```
// If Turn Table positive edge a box has arrived before timer => New State
U      "tableBusyBit"                      M10.7
U      "Var System Inputs".turnTableEntry  DB1.DBX0.7
FP     "OnsStopAtTable"                    M255.5
SPBN   _004
L      3
T      "conveyorsState"                    MW22
_004: NOP 0

// If timer output active, box hasnt arrived on time => New State
U      "TimerPath"                          // Timer output bit, activation T0
                                           in FC9

U      "Var System Inputs".loadPosition     DB1.DBX1.1      -- "NC"
SPBN   _005
L      4
T      "conveyorsState"                    MW22
_005: NOP 0

SPA    END

//***** RESET ENTRY CONVEYOR *****//
THRE: R      "Var System Outputs".entryConvey  DB2.DBX0.1

//If Turn Table positive edge => State 1
U      "Var System Inputs".loadPosition     DB1.DBX1.1      -- "NC"
FP     "OnsBoxReEntry"                     M252.3
SPBN   _006
L      1
T      "conveyorsState"                    MW22
_006: NOP 0

SPA    END

//***** BOX COUNTER CHECKING *****//
// If timer has elapsed and no box has arrived to turn table entry sensor
// check counter to confirm whether there is a box on convey or not
FOUR: R      "tableBusyBit"                  M10.7

// If not table busy an boxes on conveyor => State "1"
UN     "tableBusyBit"                        M10.7
U(
L      "NumberOfBoxes"                      MW28
L      0
>I
)
SPBN   _007
L      1
T      "conveyorsState"                    MW22
_007: NOP 0

// If not table busy and no boxes on conveyor => State "0"
UN     "tableBusyBit"                        M10.7
U(
L      "NumberOfBoxes"                      MW28
L      0
<=I
)
SPBN   _008
L      0
T      "conveyorsState"                    MW22
_008: NOP 0
SPA    END

//***** VALUE OUT OF RANGE *****//
OUT: L      0
T      "conveyorsState"                    MW22
SPA    END

//***** IF JUMP TO END LOOP OUT *****//
END: BEA

_010: NOP 0
```