

# TECHNICAL DOCUMENTATION

## Example 9\_1

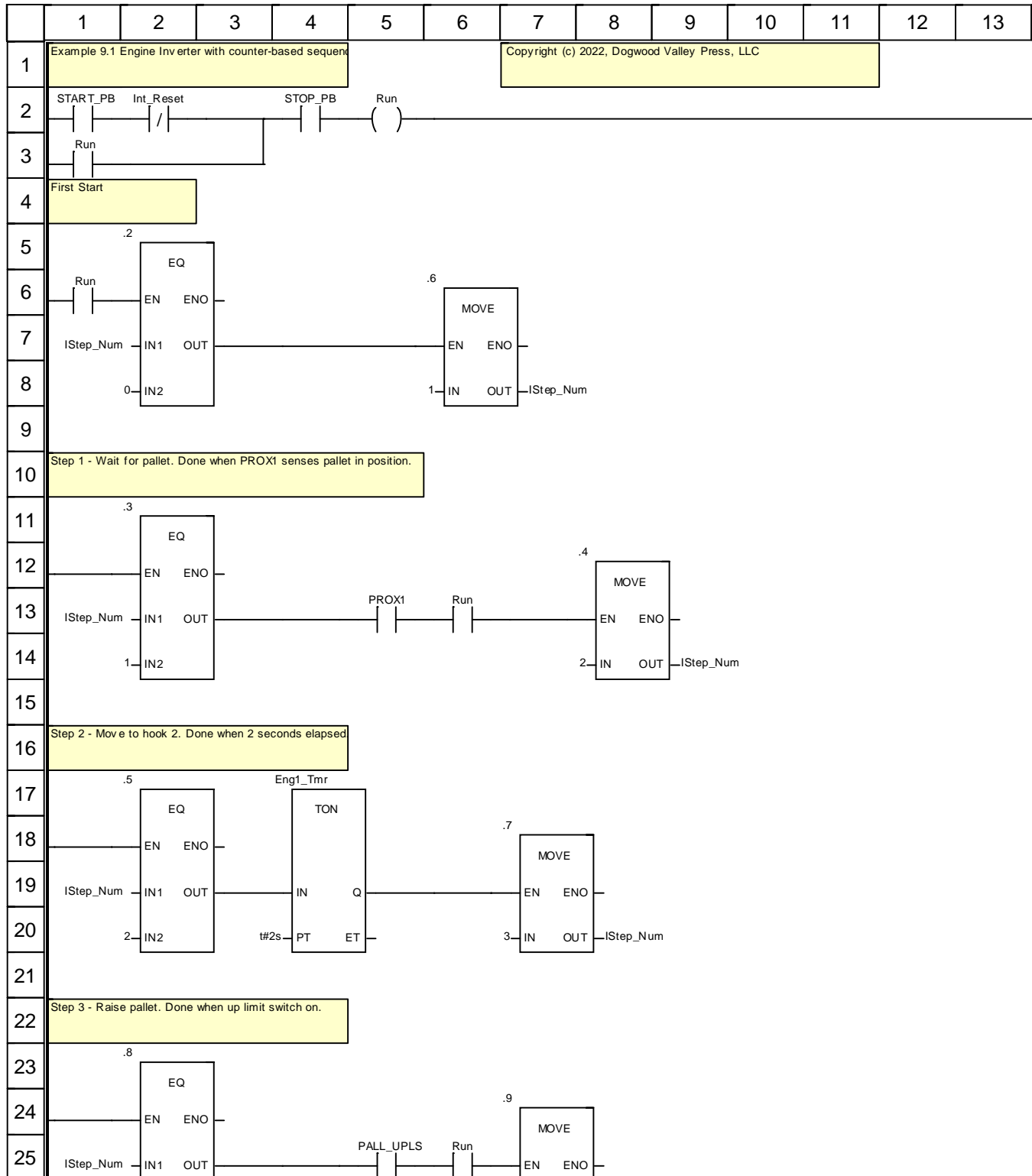
Project	Example 9_1
Designer	
Application	example_9_1.stu
Software Version	ControlExpert V15.0-SP1
Creation Date	6/15/2023 9:04:50 PM
Last Modification Date	6/15/2023 9:08:24 PM
Target PLC	BMX P34 1000 02.00CPU 340-10 Modbus

# MAST

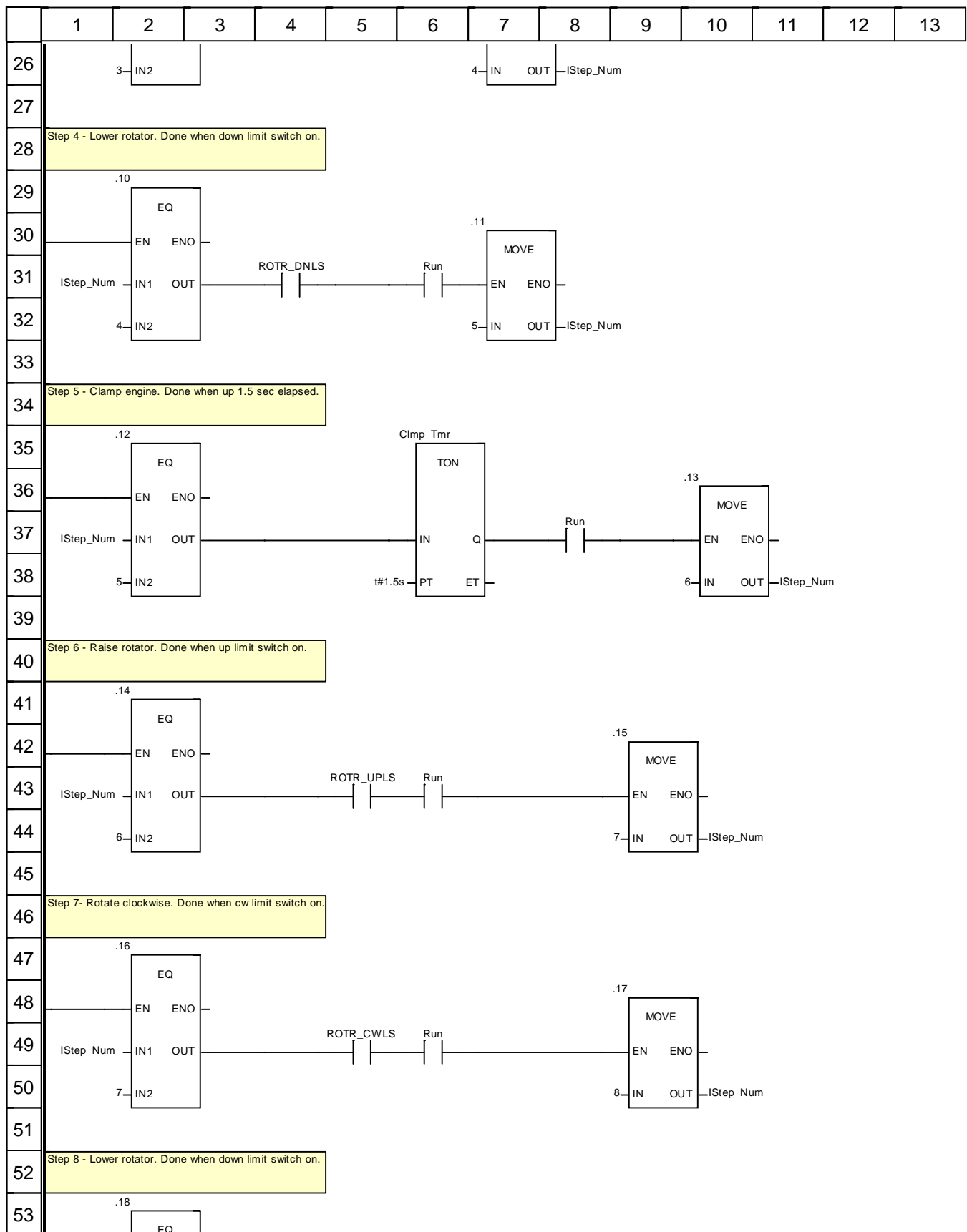
**Specific properties**

Configuration	Cyclic
Task period configuration	0
Watchdog time configuration	250

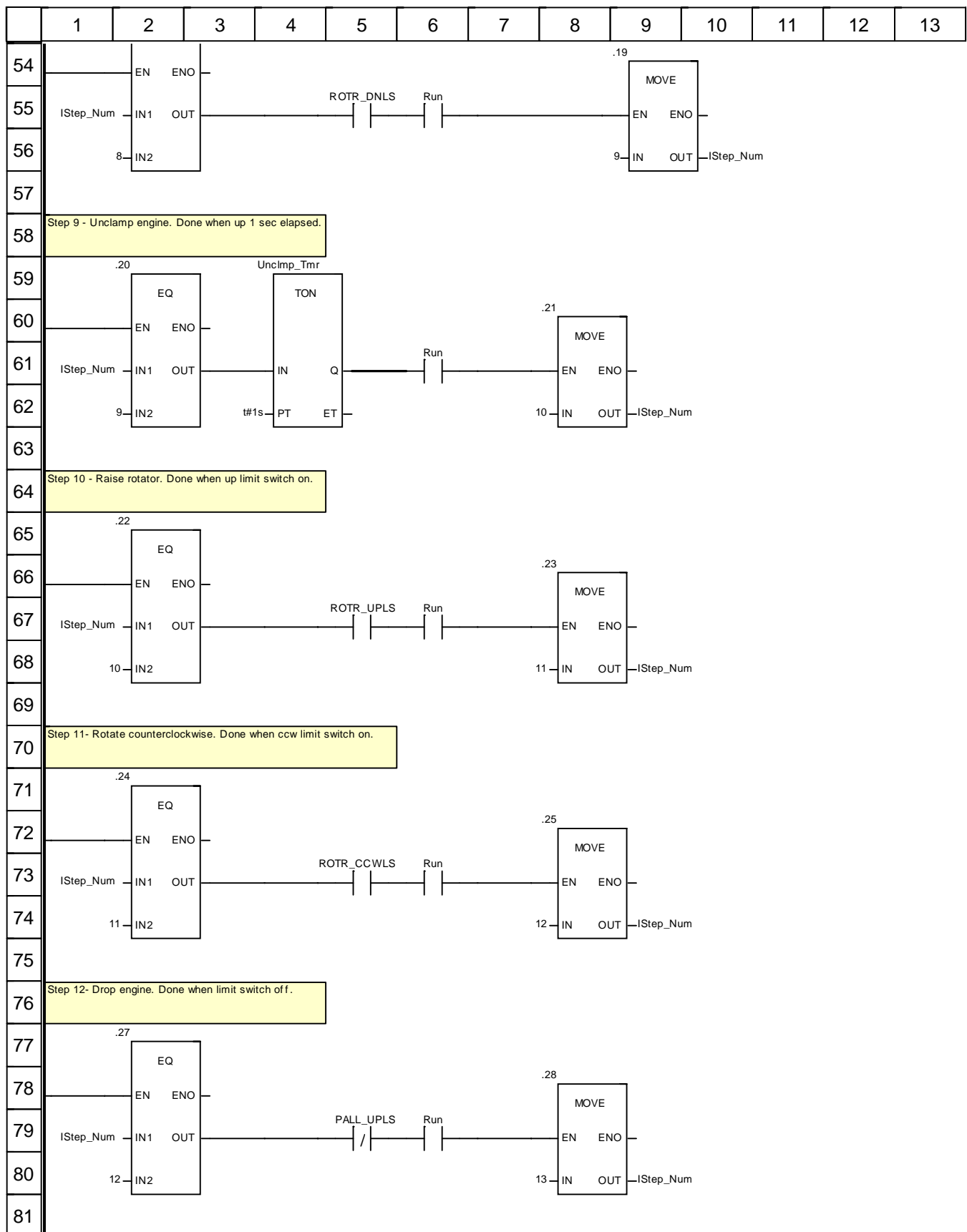
**Main : [MAST]**



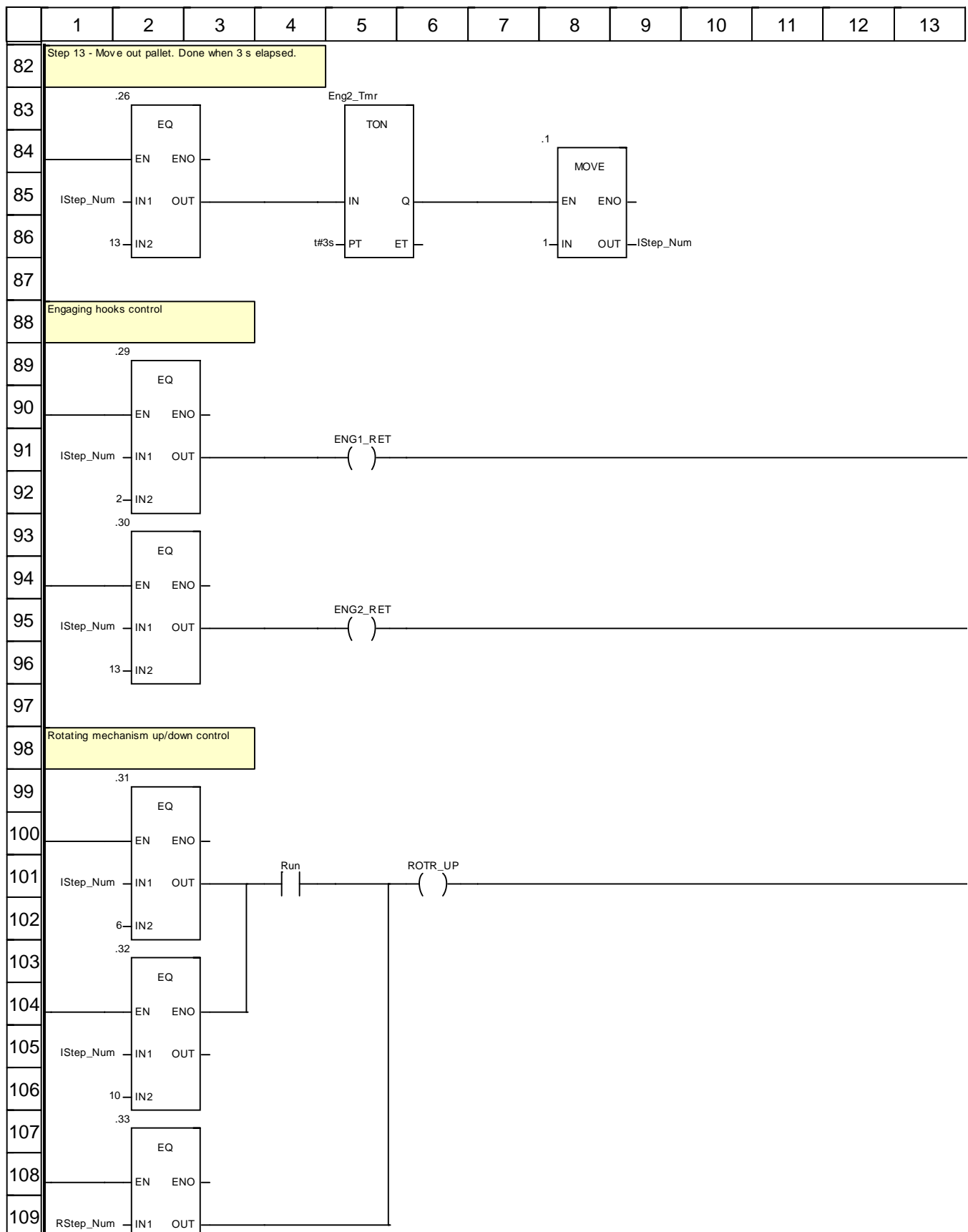
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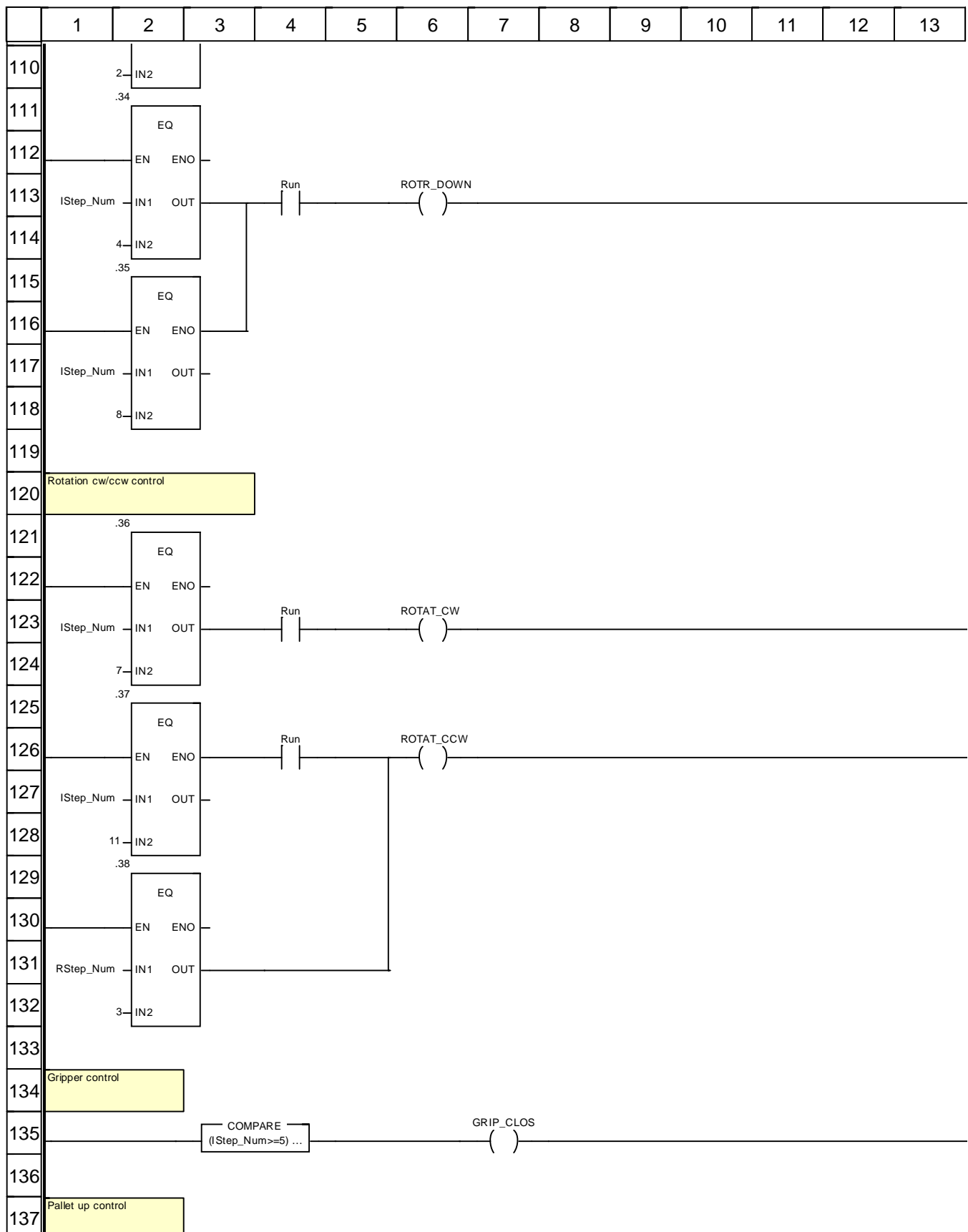
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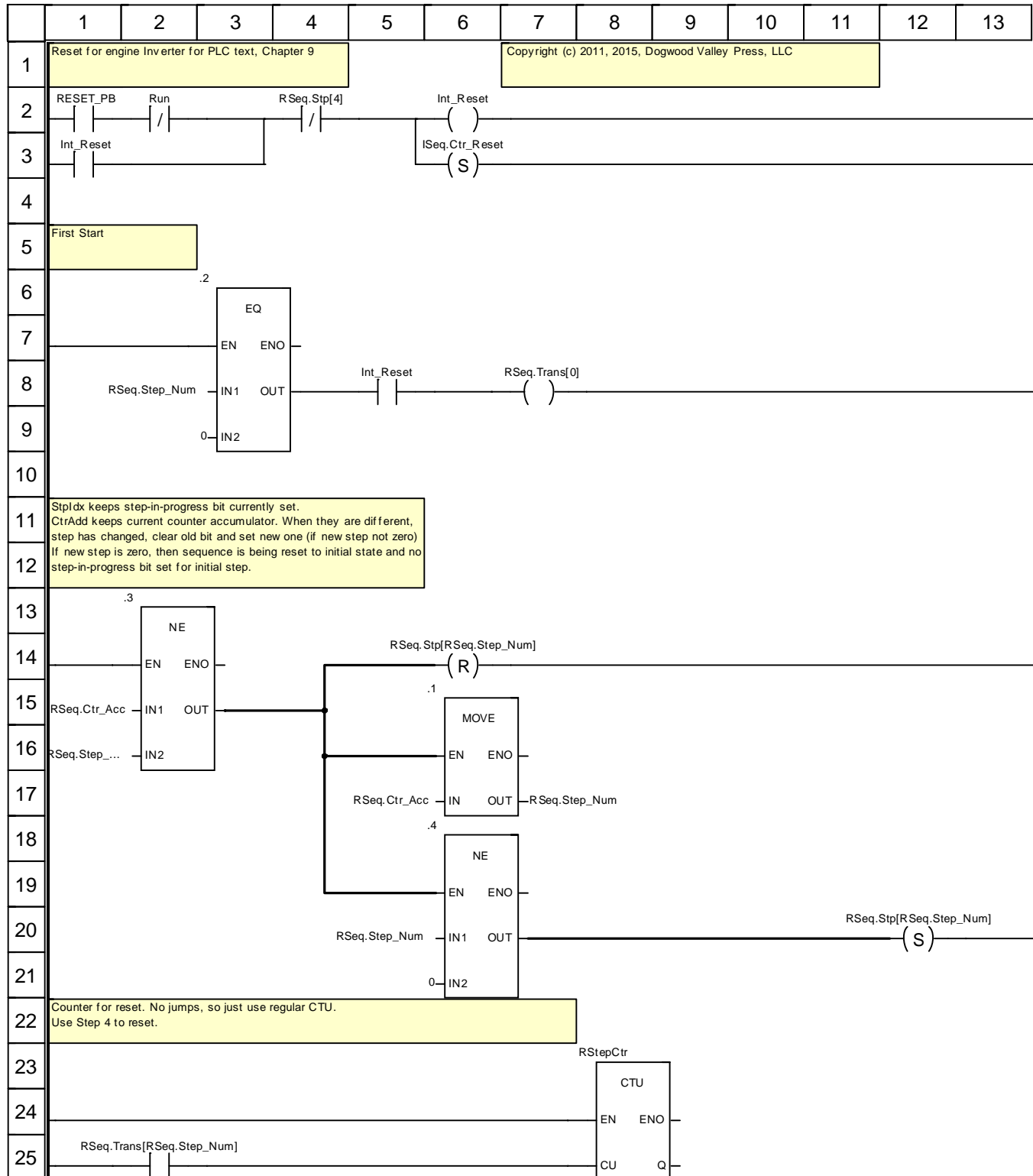
	1	2	3	4	5	6	7	8	9	10	11	12	13
138			COMPARE (!Step_Num>=3) ...				PALL_UPCTL ( )						

	14	15	16
138			

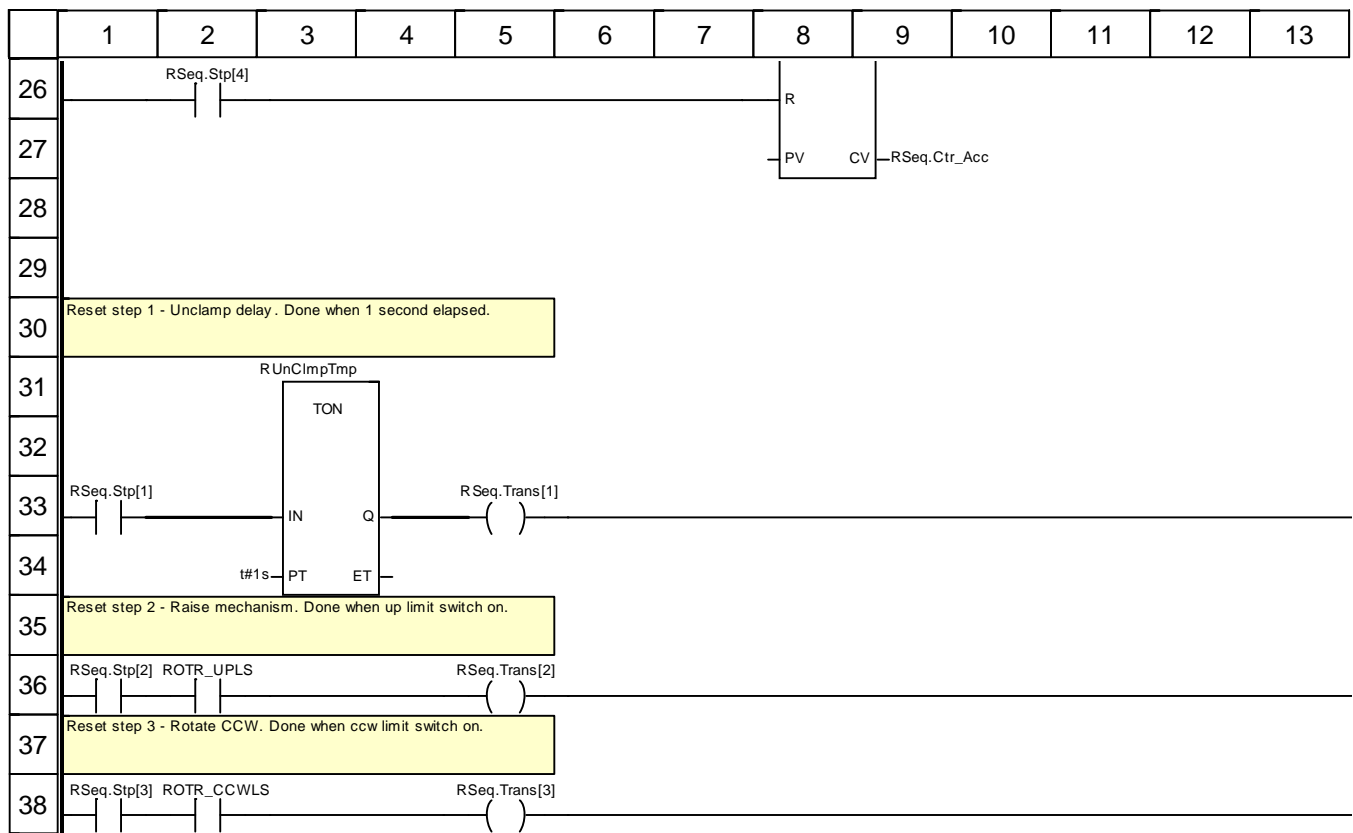
**Truncated labels:**

Label	Position(s)
(IStep_Num>=3) AND (IStep_Num<=11)	(3, 138)
(IStep_Num>=5) AND (IStep_Num<=8)	(3, 135)

# Reset : [MAST]

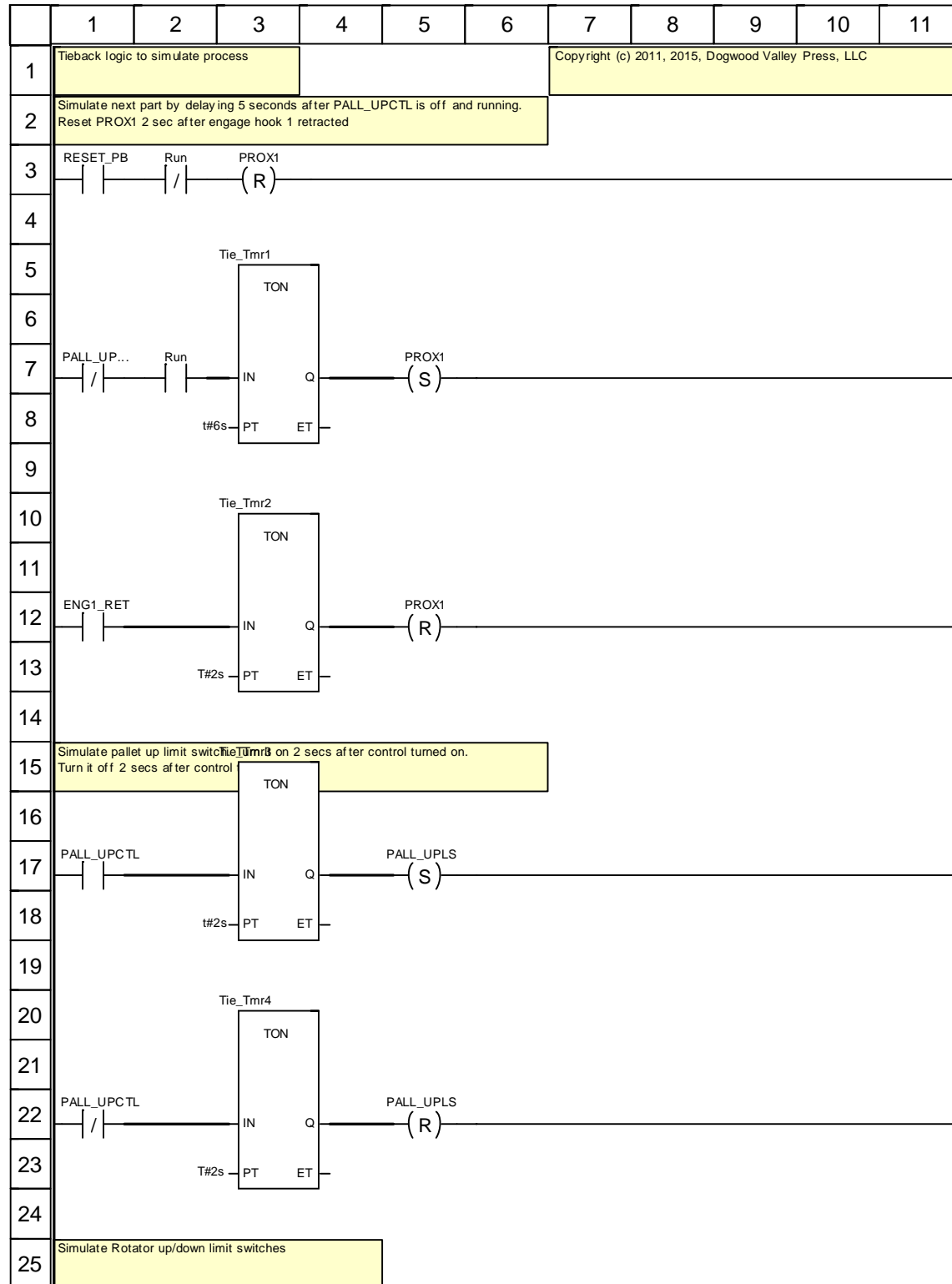


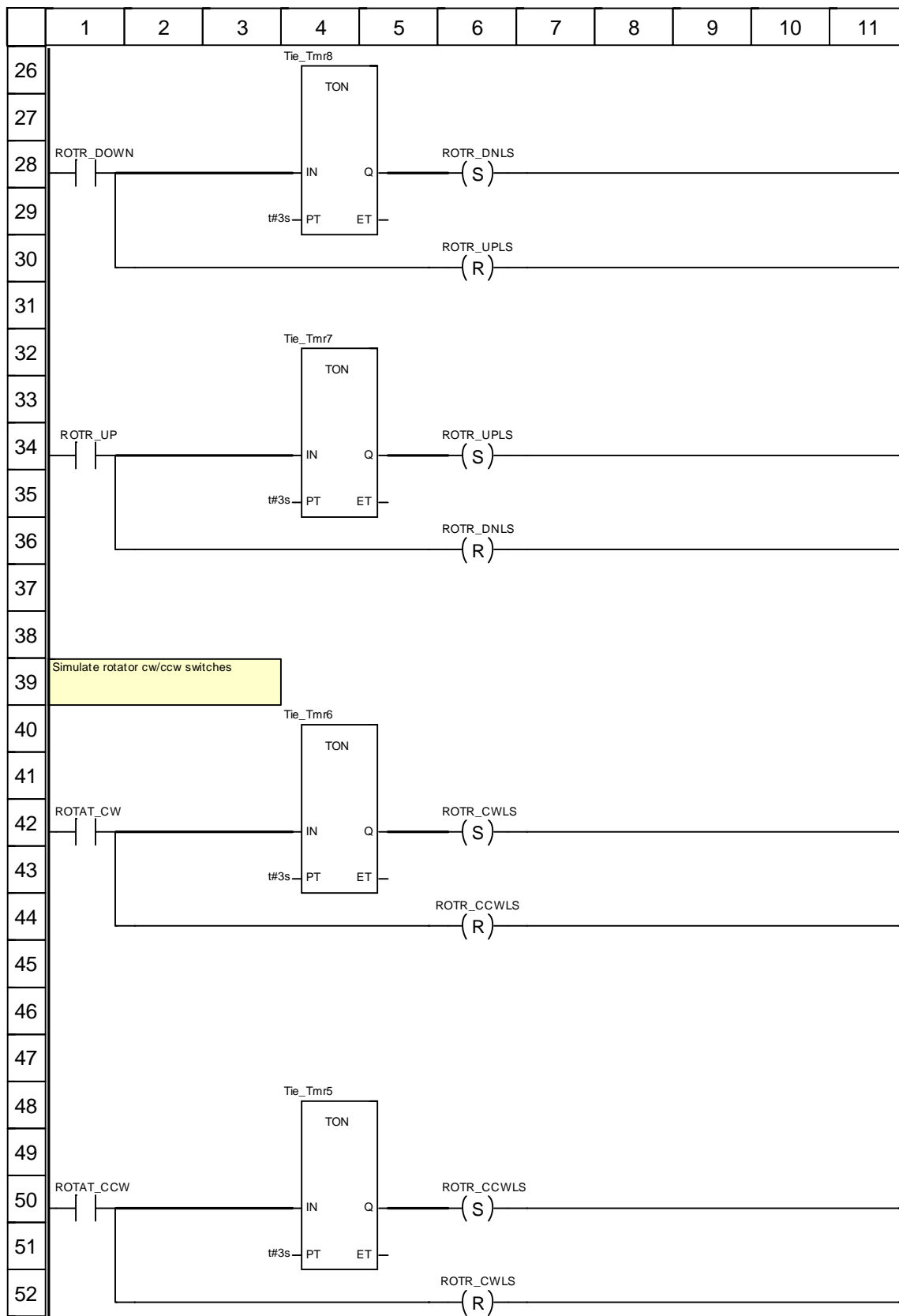
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# Simulation : [MAST]





**Truncated labels:**

Label	Position(s)
PALL_UPCTL	(1, 7)

# FAST

**Specific properties**

Configuration	Periodic
Task period configuration	5
Watchdog time configuration	100

# Cross References

## Application:

### Addresses

Object	Referred into	Location	Usage
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### Variables or FB instances

Object	Referred into	Location	Usage
Clmp_Tmr	Main : [MAST]	(l 35, c: 6)	FC
ENG1_RET	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 91, c: 5)	W
	Simulation : [MAST]	(l 12, c: 1)	R
Eng1_Tmr	Main : [MAST]	(l 17, c: 4)	FC
ENG2_RET	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 95, c: 5)	W
Eng2_Tmr	Main : [MAST]	(l 83, c: 5)	FC
GRIP_CLOS	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 135, c: 7)	W
Int_Reset	Main : [MAST]	(l 2, c: 2)	R
	Reset : [MAST]	(l 2, c: 6)	W
		(l 3, c: 1)	R
		(l 8, c: 5)	R
ISeq	<Screen>Screen		R/W ( x1 )
	Reset : [MAST]	(l 3, c: 6)	W
IStep_Num	Main : [MAST]	(l 5, c: 2)	R
		(l 6, c: 6)	W
		(l 11, c: 2)	R
		(l 12, c: 8)	W
		(l 17, c: 2)	R
		(l 18, c: 7)	W
		(l 23, c: 2)	R
		(l 24, c: 7)	W
		(l 29, c: 2)	R
		(l 30, c: 7)	W
		(l 35, c: 2)	R
		(l 36, c: 10)	W
		(l 41, c: 2)	R
		(l 42, c: 9)	W
		(l 47, c: 2)	R
		(l 48, c: 9)	W
		(l 53, c: 2)	R
		(l 54, c: 9)	W
		(l 59, c: 2)	R
		(l 60, c: 8)	W
		(l 65, c: 2)	R
		(l 66, c: 8)	W
		(l 71, c: 2)	R
		(l 72, c: 8)	W
		(l 77, c: 2)	R
		(l 78, c: 8)	W
		(l 83, c: 2)	R
		(l 84, c: 8)	W
		(l 89, c: 2)	R

# Cross References

Object	Referred into	Location	Usage
		(l 93, c: 2)	R
		(l 99, c: 2)	R
		(l 103, c: 2)	R
		(l 111, c: 2)	R
		(l 115, c: 2)	R
		(l 121, c: 2)	R
		(l 125, c: 2)	R
		(l 135, c: 3)	R
		(l 135, c: 3)	R
		(l 138, c: 3)	R
		(l 138, c: 3)	R
PALL_UPCTL	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 138, c: 7)	W
	Simulation : [MAST]	(l 7, c: 1)	R
		(l 17, c: 1)	R
		(l 22, c: 1)	R
PALL_UPLS	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 25, c: 5)	R
		(l 79, c: 5)	R
	Simulation : [MAST]	(l 17, c: 5)	W
		(l 22, c: 5)	W
PROX1	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 13, c: 5)	R
	Simulation : [MAST]	(l 3, c: 3)	W
		(l 7, c: 5)	W
		(l 12, c: 5)	W
RESET_PB	Simulation : [MAST]	(l 3, c: 1)	R
	Reset : [MAST]	(l 2, c: 1)	R
ROTAT_CCW	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 126, c: 6)	W
	Simulation : [MAST]	(l 50, c: 1)	R
ROTAT_CW	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 123, c: 6)	W
	Simulation : [MAST]	(l 42, c: 1)	R
ROTR_CCWLS	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 73, c: 5)	R
	Simulation : [MAST]	(l 44, c: 6)	W
		(l 50, c: 6)	W
	Reset : [MAST]	(l 38, c: 2)	R
ROTR_CWLS	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 49, c: 5)	R
	Simulation : [MAST]	(l 42, c: 6)	W
		(l 52, c: 6)	W
ROTR_DNLS	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 31, c: 4)	R
		(l 55, c: 5)	R
	Simulation : [MAST]	(l 28, c: 6)	W
		(l 36, c: 6)	W
ROTR_DOWN	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 113, c: 6)	W
	Simulation : [MAST]	(l 28, c: 1)	R
ROTR_UP	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 101, c: 6)	W
	Simulation : [MAST]	(l 34, c: 1)	R
ROTR_UPLS	<Screen>Screen		R ( x1 )

## Cross References

Object	Referred into	Location	Usage
	Main : [MAST]	(l 43, c: 5)	R
		(l 67, c: 5)	R
	Simulation : [MAST]	(l 30, c: 6)	W
		(l 34, c: 6)	W
	Reset : [MAST]	(l 36, c: 2)	R
RSeq	<Screen>Screen		R/W ( x1 )
	Reset : [MAST]	(l 2, c: 4)	R
		(l 6, c: 3)	R
		(l 8, c: 7)	W
		(l 13, c: 2)	R
		(l 13, c: 2)	R
		(l 14, c: 6)	R
		(l 14, c: 6)	W
		(l 15, c: 6)	R
		(l 15, c: 6)	W
		(l 18, c: 6)	R
		(l 20, c: 12)	R
		(l 20, c: 12)	W
		(l 23, c: 8)	W
		(l 25, c: 2)	R
		(l 25, c: 2)	R
		(l 26, c: 2)	R
		(l 33, c: 1)	R
		(l 33, c: 5)	W
		(l 36, c: 1)	R
		(l 36, c: 5)	W
		(l 38, c: 1)	R
		(l 38, c: 5)	W
RStep_Num	Main : [MAST]	(l 107, c: 2)	R
		(l 129, c: 2)	R
RStepCtr	Reset : [MAST]	(l 23, c: 8)	FC
Run	<Screen>Screen		R ( x1 )
	Main : [MAST]	(l 2, c: 5)	W
		(l 3, c: 1)	R
		(l 6, c: 1)	R
		(l 13, c: 6)	R
		(l 25, c: 6)	R
		(l 31, c: 6)	R
		(l 37, c: 8)	R
		(l 43, c: 6)	R
		(l 49, c: 6)	R
		(l 55, c: 6)	R
		(l 61, c: 6)	R
		(l 67, c: 6)	R
		(l 73, c: 6)	R
		(l 79, c: 6)	R
		(l 101, c: 4)	R
		(l 113, c: 4)	R
		(l 123, c: 4)	R
		(l 126, c: 4)	R
	Simulation : [MAST]	(l 3, c: 2)	R
		(l 7, c: 2)	R
	Reset : [MAST]	(l 2, c: 2)	R
RUnClmpTmp	Reset : [MAST]	(l 31, c: 3)	FC
START_PB	Main : [MAST]	(l 2, c: 1)	R

## Cross References

Object	Referred into	Location	Usage
STOP_PB	Main : [MAST]	(l 2, c: 4)	R
Tie_Tmr1	Simulation : [MAST]	(l 5, c: 3)	FC
Tie_Tmr2	Simulation : [MAST]	(l 10, c: 3)	FC
Tie_Tmr3	Simulation : [MAST]	(l 15, c: 3)	FC
Tie_Tmr4	Simulation : [MAST]	(l 20, c: 3)	FC
Tie_Tmr5	Simulation : [MAST]	(l 48, c: 4)	FC
Tie_Tmr6	Simulation : [MAST]	(l 40, c: 4)	FC
Tie_Tmr7	Simulation : [MAST]	(l 32, c: 4)	FC
Tie_Tmr8	Simulation : [MAST]	(l 26, c: 4)	FC
Unclmp_Tmr	Main : [MAST]	(l 59, c: 4)	FC

### EF objects

Object	Referred into	Location	Usage
eq	Main : [MAST]	(l 23, c: 2)	FC
		(l 59, c: 2)	FC
		(l 11, c: 2)	FC
		(l 99, c: 2)	FC
		(l 111, c: 2)	FC
		(l 41, c: 2)	FC
		(l 35, c: 2)	FC
		(l 5, c: 2)	FC
		(l 65, c: 2)	FC
		(l 83, c: 2)	FC
		(l 103, c: 2)	FC
		(l 107, c: 2)	FC
		(l 53, c: 2)	FC
		(l 89, c: 2)	FC
		(l 77, c: 2)	FC
		(l 125, c: 2)	FC
		(l 129, c: 2)	FC
		(l 71, c: 2)	FC
		(l 29, c: 2)	FC
		(l 47, c: 2)	FC
		(l 17, c: 2)	FC
		(l 93, c: 2)	FC
		(l 121, c: 2)	FC
		(l 115, c: 2)	FC
	Reset : [MAST]	(l 6, c: 3)	FC
eq_dint	Main : [MAST]	(l 23, c: 2)	FC
		(l 59, c: 2)	FC
		(l 11, c: 2)	FC
		(l 99, c: 2)	FC
		(l 111, c: 2)	FC
		(l 41, c: 2)	FC
		(l 35, c: 2)	FC
		(l 5, c: 2)	FC
		(l 65, c: 2)	FC
		(l 83, c: 2)	FC
		(l 103, c: 2)	FC
		(l 107, c: 2)	FC
		(l 53, c: 2)	FC
		(l 89, c: 2)	FC
		(l 77, c: 2)	FC
		(l 125, c: 2)	FC

## Cross References

Object	Referred into	Location	Usage
		(l 129, c: 2)	FC
		(l 71, c: 2)	FC
		(l 29, c: 2)	FC
		(l 47, c: 2)	FC
		(l 17, c: 2)	FC
		(l 93, c: 2)	FC
		(l 121, c: 2)	FC
		(l 115, c: 2)	FC
eq_int	Reset : [MAST]	(l 6, c: 3)	FC
move	Main : [MAST]	(l 66, c: 8)	FC
		(l 78, c: 8)	FC
		(l 42, c: 9)	FC
		(l 48, c: 9)	FC
		(l 36, c: 10)	FC
		(l 72, c: 8)	FC
		(l 12, c: 8)	FC
		(l 18, c: 7)	FC
		(l 24, c: 7)	FC
		(l 30, c: 7)	FC
		(l 60, c: 8)	FC
		(l 6, c: 6)	FC
		(l 84, c: 8)	FC
		(l 54, c: 9)	FC
	Reset : [MAST]	(l 15, c: 6)	FC
ne	Reset : [MAST]	(l 13, c: 2)	FC
		(l 18, c: 6)	FC
ne_int	Reset : [MAST]	(l 13, c: 2)	FC
		(l 18, c: 6)	FC

# Cross References

## Seq\_Trans:

Variables or FB instances

Object	Referred into	Location	Usage
Sequence	Main <DFB> : [Seq_Trans]	(l 2, c: 4)	R
		(l 2, c: 25)	R
		(l 3, c: 18)	R
		(l 3, c: 5)	W
		(l 4, c: 26)	R
		(l 4, c: 5)	W
		(l 5, c: 8)	R
		(l 6, c: 22)	R
		(l 6, c: 9)	W
		(l 9, c: 30)	R
		(l 9, c: 15)	R
		(l 11, c: 6)	R
		(l 12, c: 8)	R
		(l 13, c: 8)	R
		(l 15, c: 1)	W
		(l 16, c: 1)	W
StepCtr	Main <DFB> : [Seq_Trans]	(l 9, c: 1)	FC