

OB1 - <offline>

""

Name:

Family:

Author:

Version: 0.1

Block version: 2

Time stamp Code:

12/31/2015 10:27:34 AM

Interface:

02/15/1996 04:51:12 PM

Lengths (block/logic/data): 01450 01254 00030

Name	Data Type	Address	Comment
TEMP		0.0	
OB1_EV_CLASS	Byte	0.0	Bits 0-3 = 1 (Coming event), Bits 4-7 = 1 (Event class 1)
OB1_SCAN_1	Byte	1.0	1 (Cold restart scan 1 of OB 1), 3 (Scan 2-n of OB 1)
OB1_PRIORITY	Byte	2.0	Priority of OB Execution
OB1_OB_NUMBR	Byte	3.0	1 (Organization block 1, OB1)
OB1_RESERVED_1	Byte	4.0	Reserved for system
OB1_RESERVED_2	Byte	5.0	Reserved for system
OB1_PREV_CYCLE	Int	6.0	Cycle time of previous OB1 scan (milliseconds)
OB1_MIN_CYCLE	Int	8.0	Minimum cycle time of OB1 (milliseconds)
OB1_MAX_CYCLE	Int	10.0	Maximum cycle time of OB1 (milliseconds)
OB1_DATE_TIME	Date_And_Time	12.0	Date and time OB1 started

Block: OB1 "Main Program Sweep (Cycle)"

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SP7-16 Part Height Sorter Control with Parallel Branching

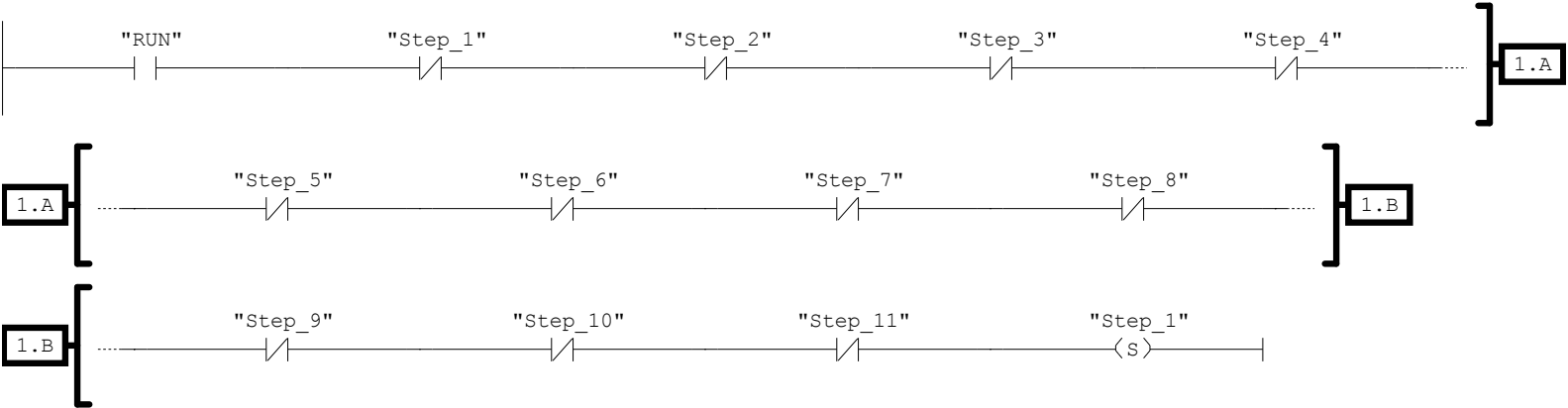
Additional internal memory:

Symbol	Address		
Step_1 to Step_11	M0.1 to M1.3	BOOL	Step-in-progress bits
Down_Tmr	DB1	SFB4	Times lowering of measuring ram
Bin1_Tmr	DB3	SFB4	Times eject pulse for bin 1
Bin2_Tmr	DB4	SFB4	Times eject pulse for bin 2
Bin3_Tmr	DB5	SFB4	Times eject pulse for bin 3
Bin4_Tmr	DB6	SFB4	Times eject pulse for bin 4
LVDT_Val	MD116	REAL	LVDT measurement in mm
Height_60	M20.0	BOOL	Height in range of 56 - 64
Height_75	M20.1	BOOL	Height in range of 71 - 79
Height_90	M20.2	BOOL	Height in range of 86 - 94
Height_Other	M20.3	BOOL	Height in range not one of above
TmpI	MW118	INT	Temporary integer
TmpDI	MD120	DINT	Temporary double integer
TmpR	MD124	REAL	Temporary real
Ret_Val	MW12	WORD	Return value from SCALE block
Always_Off	M10.0	BOOL	Always off bit for SCALE block

Conversion formulas:
UX1_VAL = (UX1_MEAS-5530)/22118.0) * (100.0-15.0) + 15.0
LVDT_VAL = (HGT_MEAS-5530)/22118.0) * (100.0)
HGT_VAL = 150 - LVDT_VAL (calculated on transition from Step_2 to Step_3)

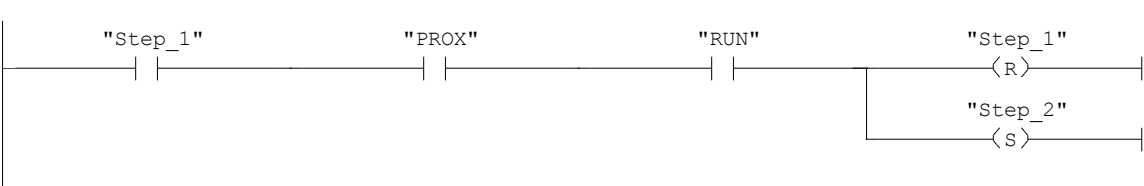
Network: 1

Initial Start



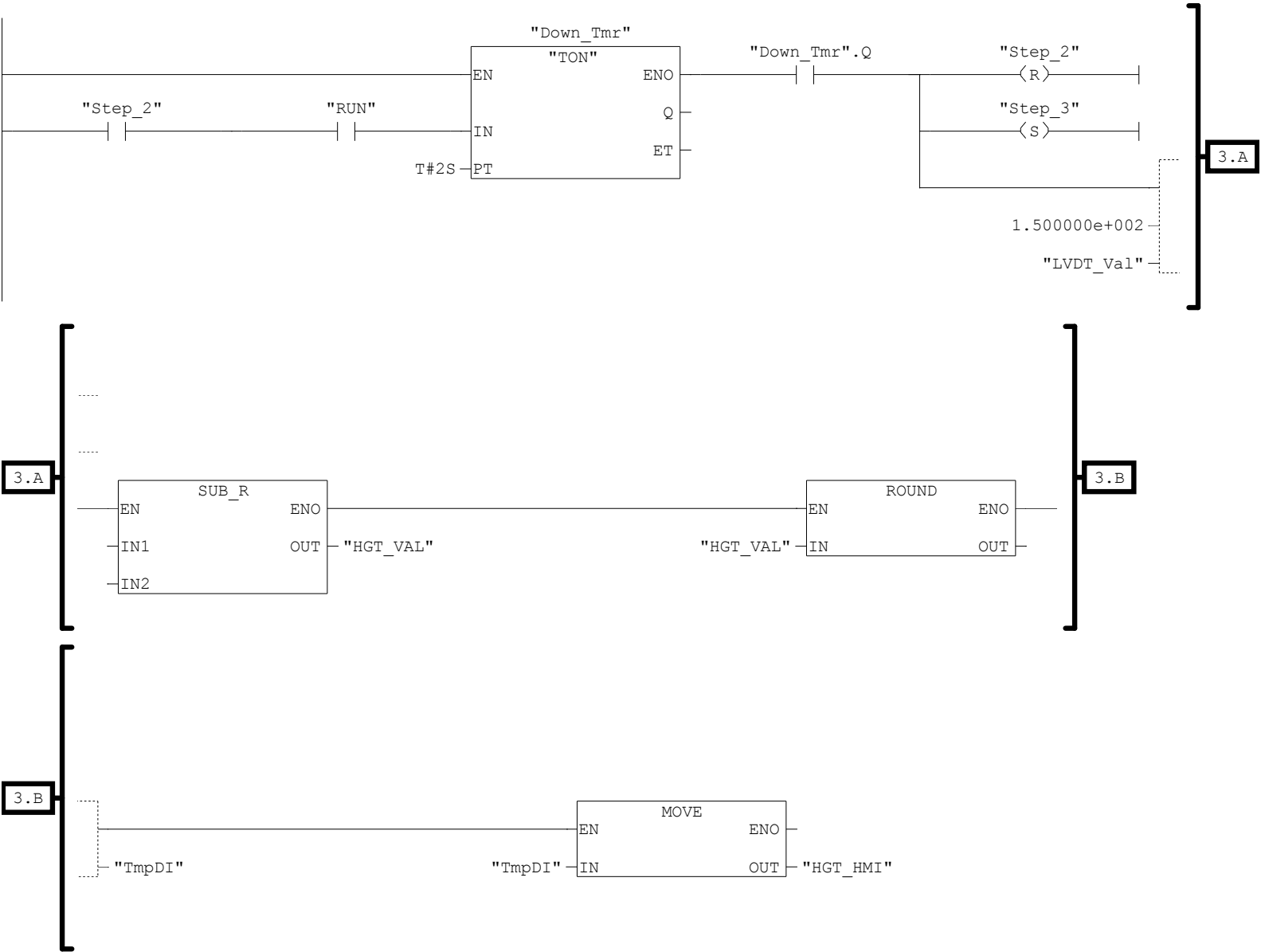
Network: 2

Step 1 Wait for piece

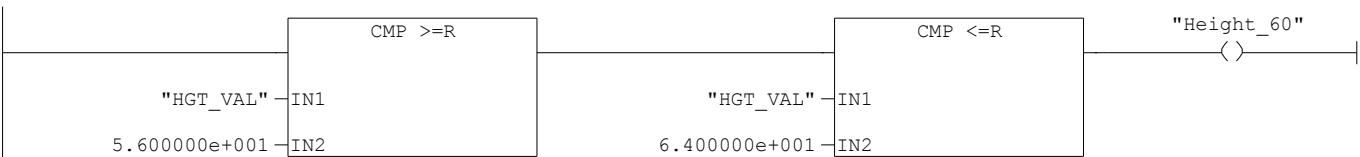


Network: 3 Step 2 Move down

Measure height on transition.
Also convert to integer for display.

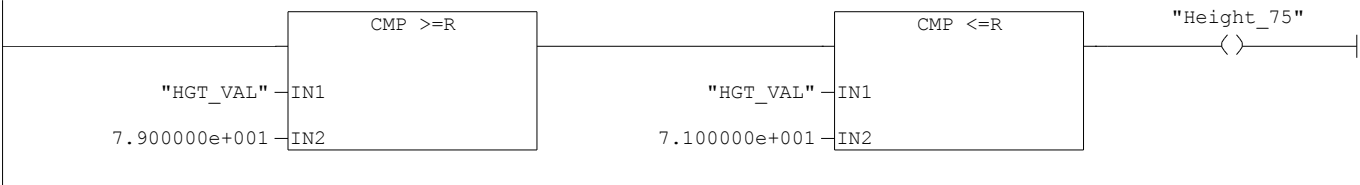


Network: 4 Size range for 60 mm part



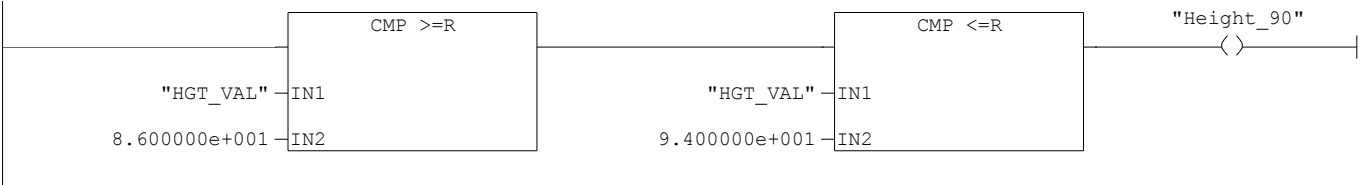
Network: 5

Size range for 75 mm part



Network: 6

Size range for 90 mm part



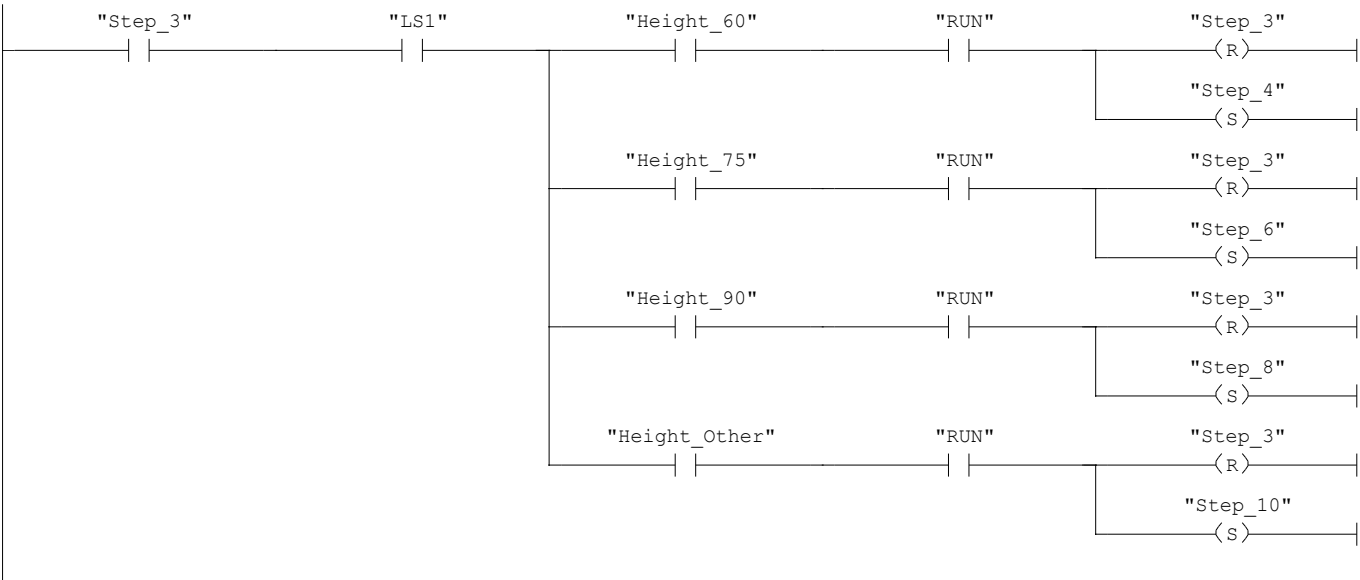
Network: 7

Height not in one of above ranges



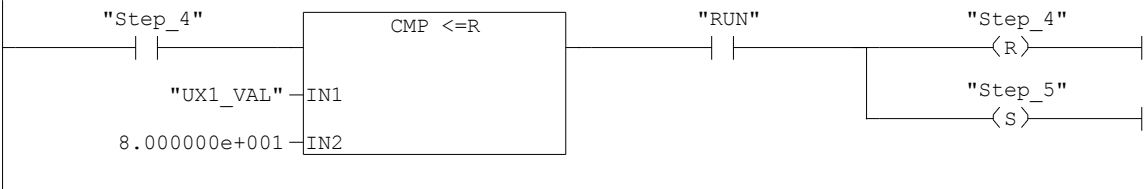
Network: 8

Step 3 Move up



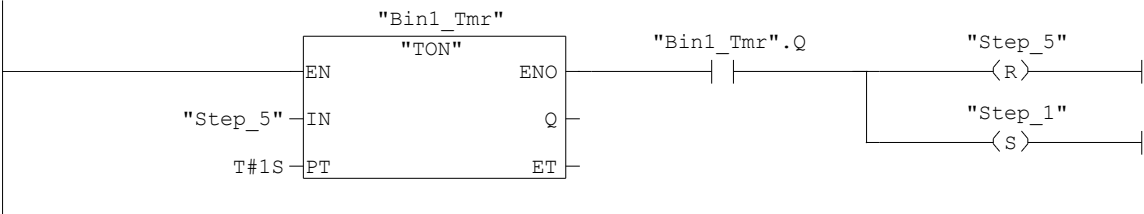
Network: 9

Step 4 - Move to bin 1 eject position



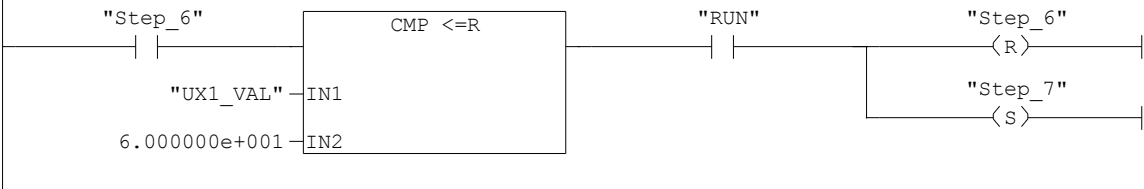
Network: 10

Step 5 Eject part into bin 1



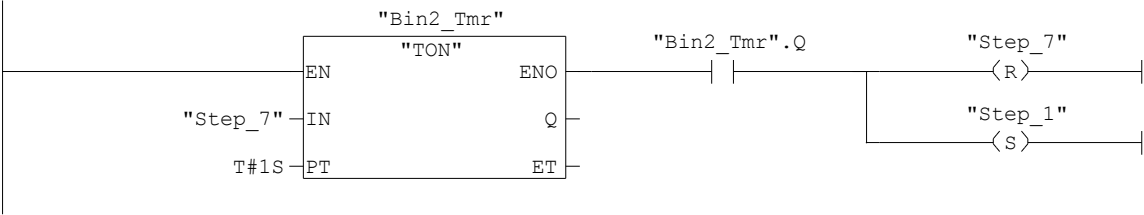
Network: 11

Step 6 - Move to bin 2 eject position



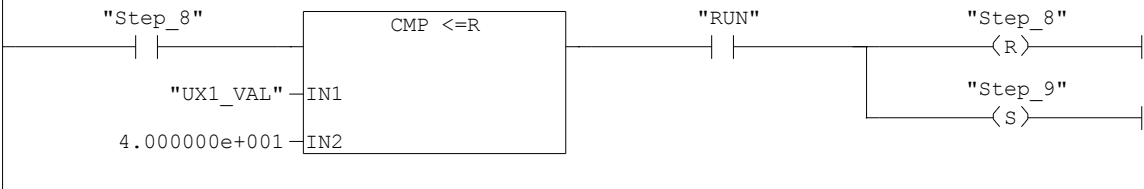
Network: 12

Step 7 Eject part into bin 2



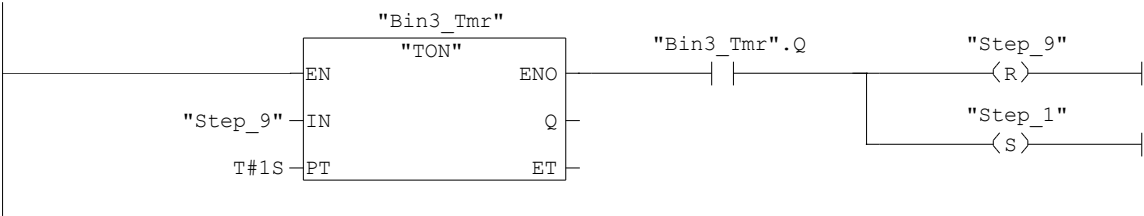
Network: 13

Step 8 - Move to bin 3 eject position



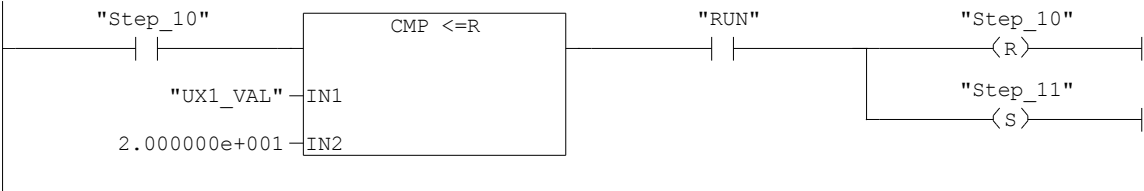
Network: 14

Step 9 Eject part into bin 3



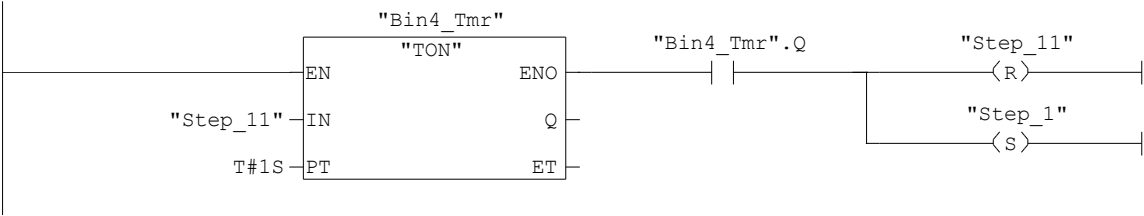
Network: 15

Step 10 - Move to bin 4 eject position



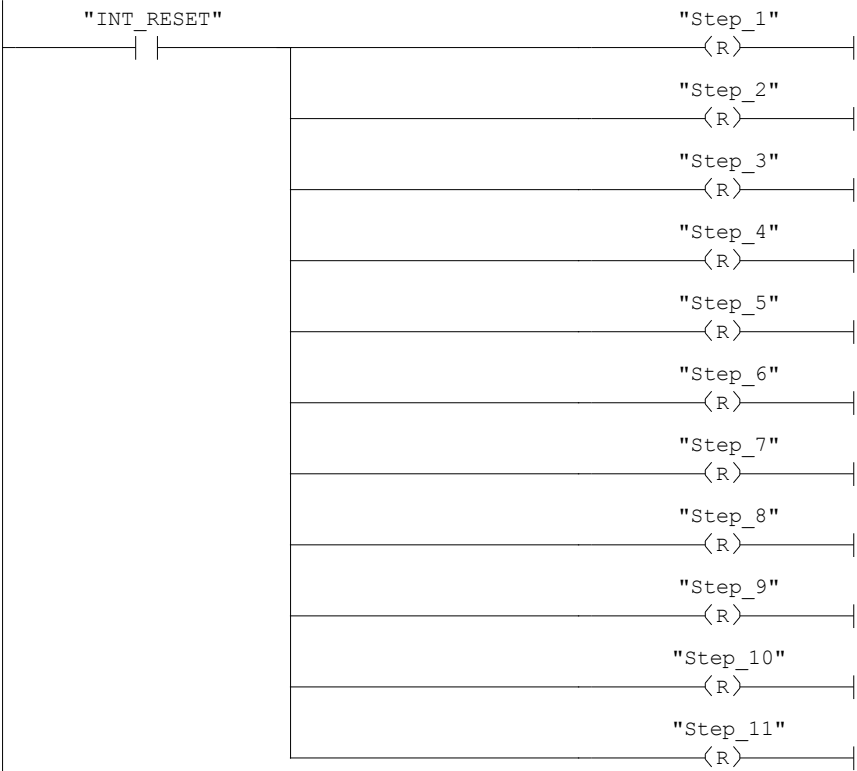
Network: 16

Step 11 Eject part into bin 4



Network: 17

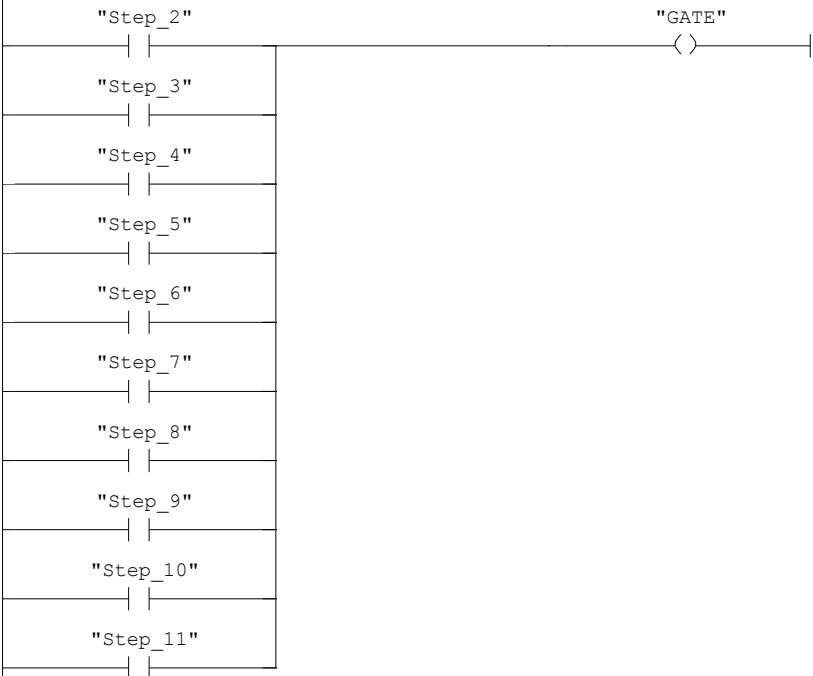
Reset



Network: 18

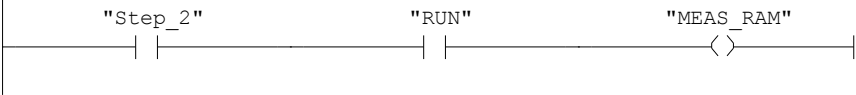
Gate

Do not turn off when paused

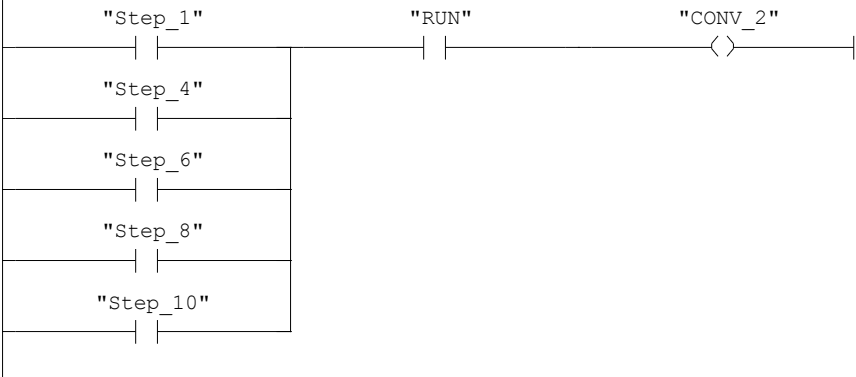


Network: 19Measuring ram

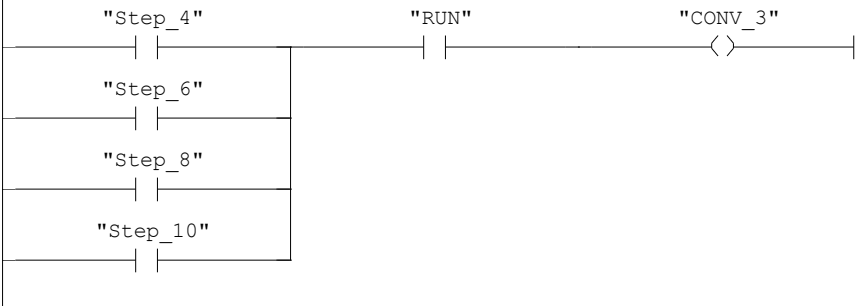
When paused it is off. This is no problem because when paused, timer is reset, so when step is resumed, timing starts over.



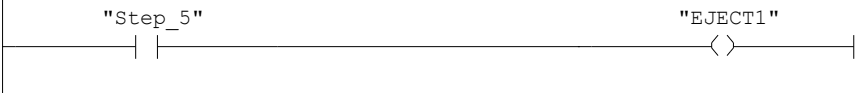
Network: 20Conveyor Controls



Network: 21Main cylinder extension control



Network: 22Eject solenoids - selected on height of part



Network: 23On to operate cylinder to eject part onto OUTCONV_2

Must remain on when paused.



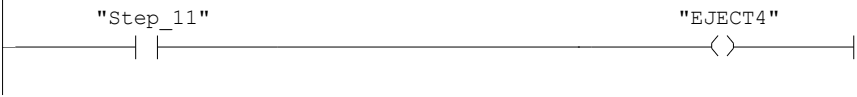
Network: 24

On to operate cylinder to eject part onto OUTCONV_3



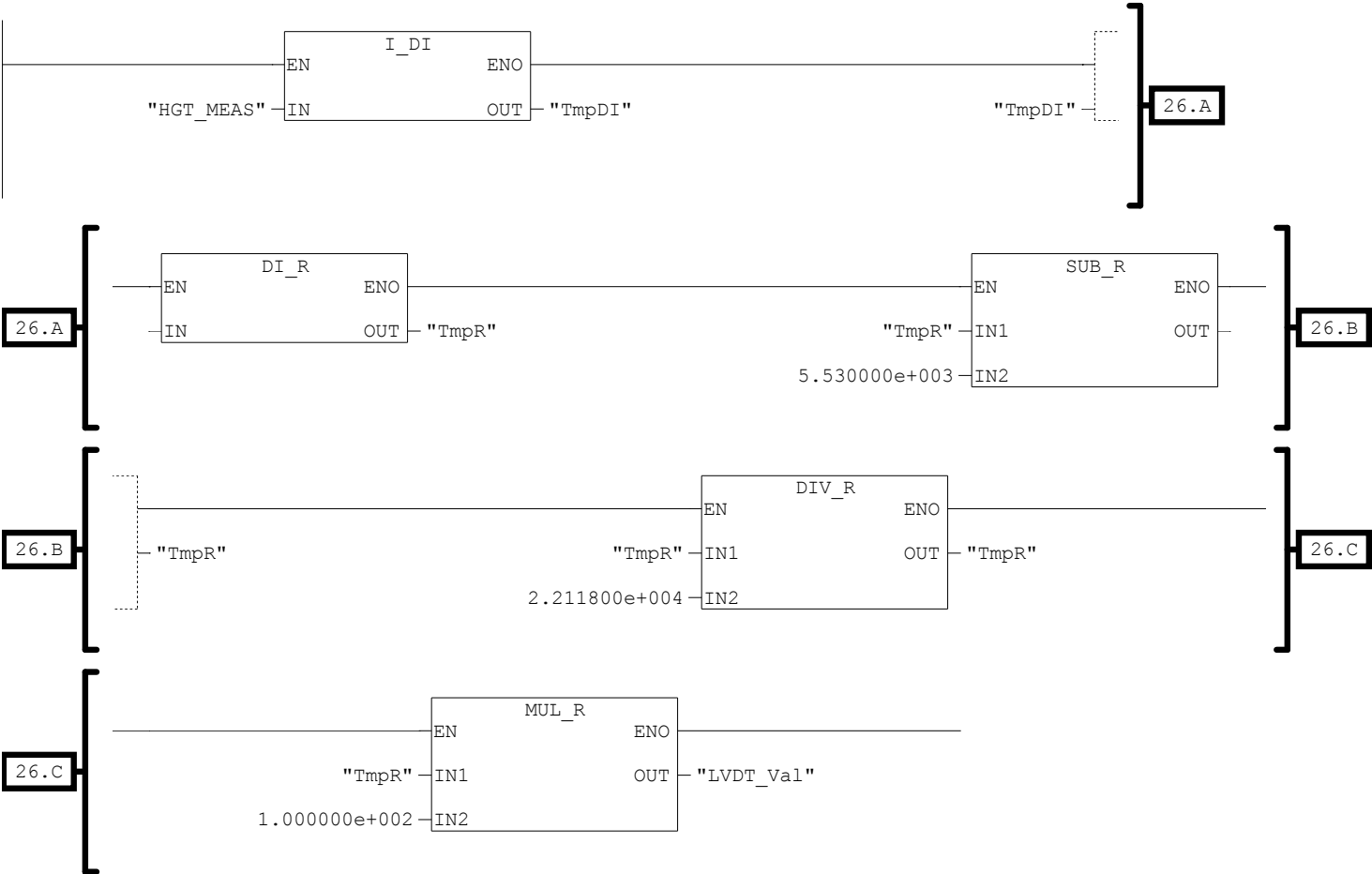
Network: 25

On to operate cylinder to eject part onto OUTCONV_4



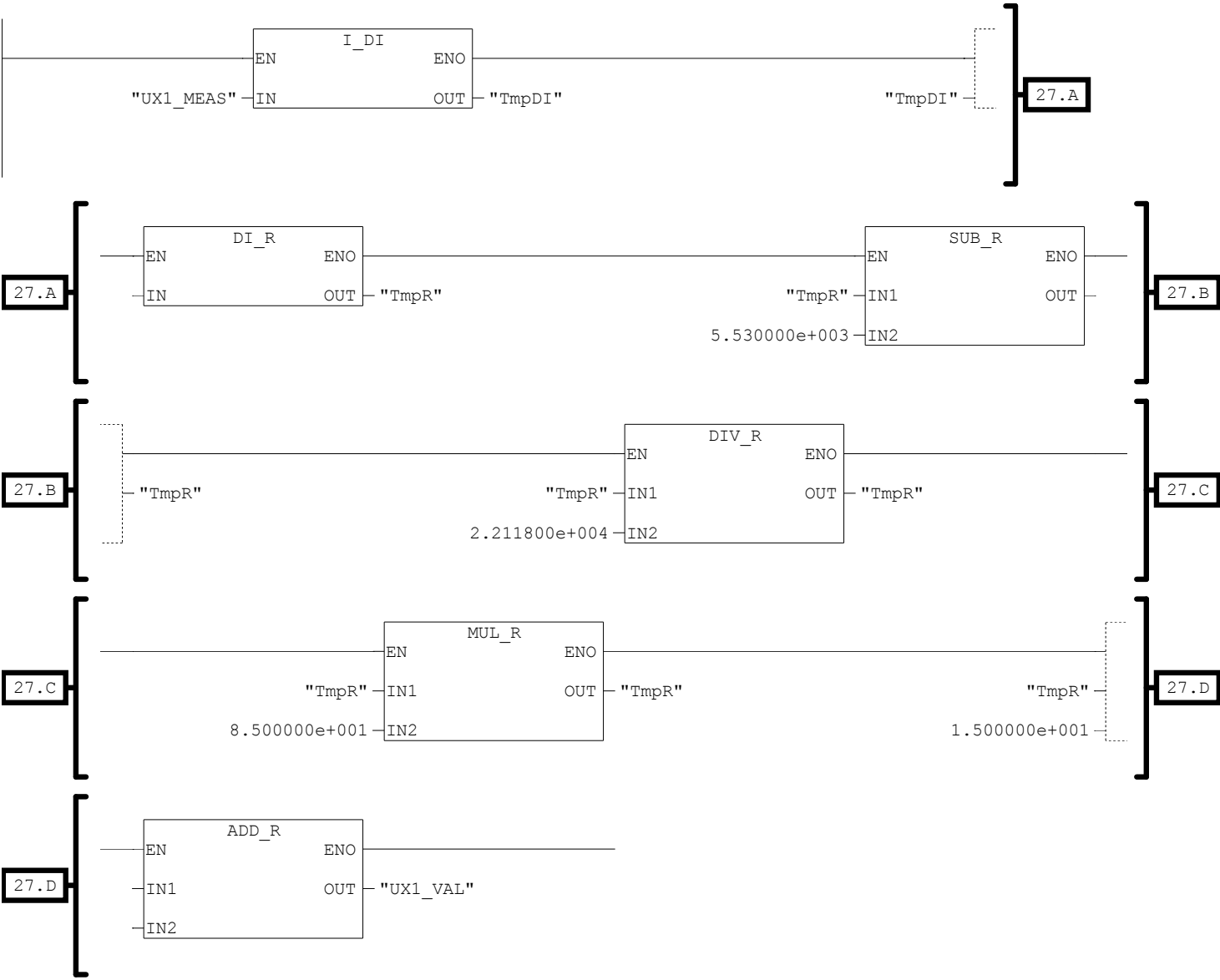
Network: 26

Convert LVDT measurement to mm.
Uses individual computation blocks.

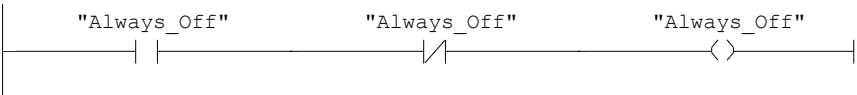


Network: 27

Convert UX1 measurement to cm.
Uses individual computation blocks.



Network: 28 Always Off



Network: 29

Convert LVDT and UX1 measurements.
Uses SCALE block. Note that the lo_lim input is 25% lower than zero weight to account for this block assuming the minimum value of the analog in is zero rather than the 5530 (which corresponds to 4 mA).

