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***** Part Height Sorter Control *****

Additional internal memory:

Tag	Data Type	
Step_1 to Step_5	BOOL	Step-in-progress bits
Down_Tmr	TIMER	Times lowering of measuring ram
Eject_Tmr	TIMER	Times eject pulse
LVDT_Val	REAL	LVDT measurement in mm
Tmp_Int	INT	Needed to convert height into BCD
Tmp_BCD	INT	BCD conversion result
Height_60	BOOL	Height in range of 56 - 64
Height_75	BOOL	Height in range of 71 - 79
Height_90	BOOL	Height in range of 86 - 94
Height_Other	BOOL	Height in range not covered above

Conversion formulas

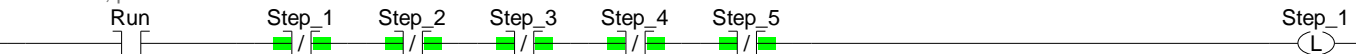
$UX1_VAL = (UX1_MEAS/100) * (100-15) + 15$

$LVDT_VAL = (LVDT_MEAS/100) * (100-0) + 0$

$HGT_VAL = 150 - LVDT_VAL$ (calculated on transition for Step_2 to Step_3)

Initial start

When on, allow
station to run. When
off, pause.



Conversion of LVDT reading to height in mm.

Could be a simple MOV, but if sensor range changes, then the CPT would need to be restored.

LVDT value converted
to 0 - 100 mm

CPT	
Dest	LVDT_VAL
	0.0
Expression	(HGT_MEAS/100.0)*(100-0)+0

Conversion of distance reading to distance in cm.

Distance, in cm

CPT	
Dest	UX1_VAL
	0.0
Expression	(UX1_MEAS/100.0)*(100-15)+15

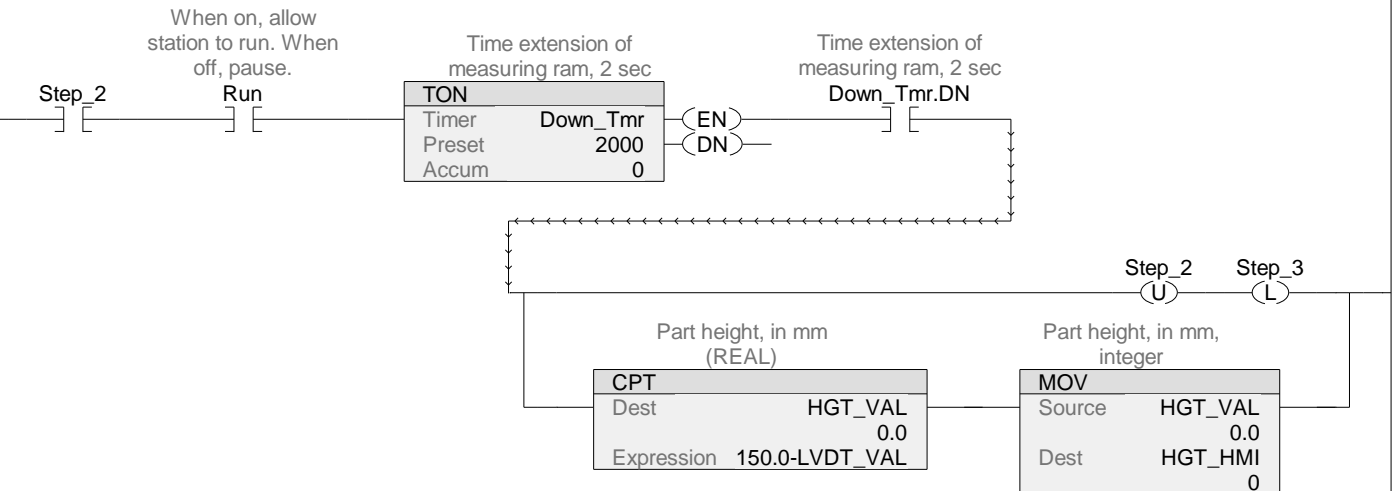
Step 1. Wait for part in measure position.

Proximity sensor
that is on when part
is in position for
height measurement

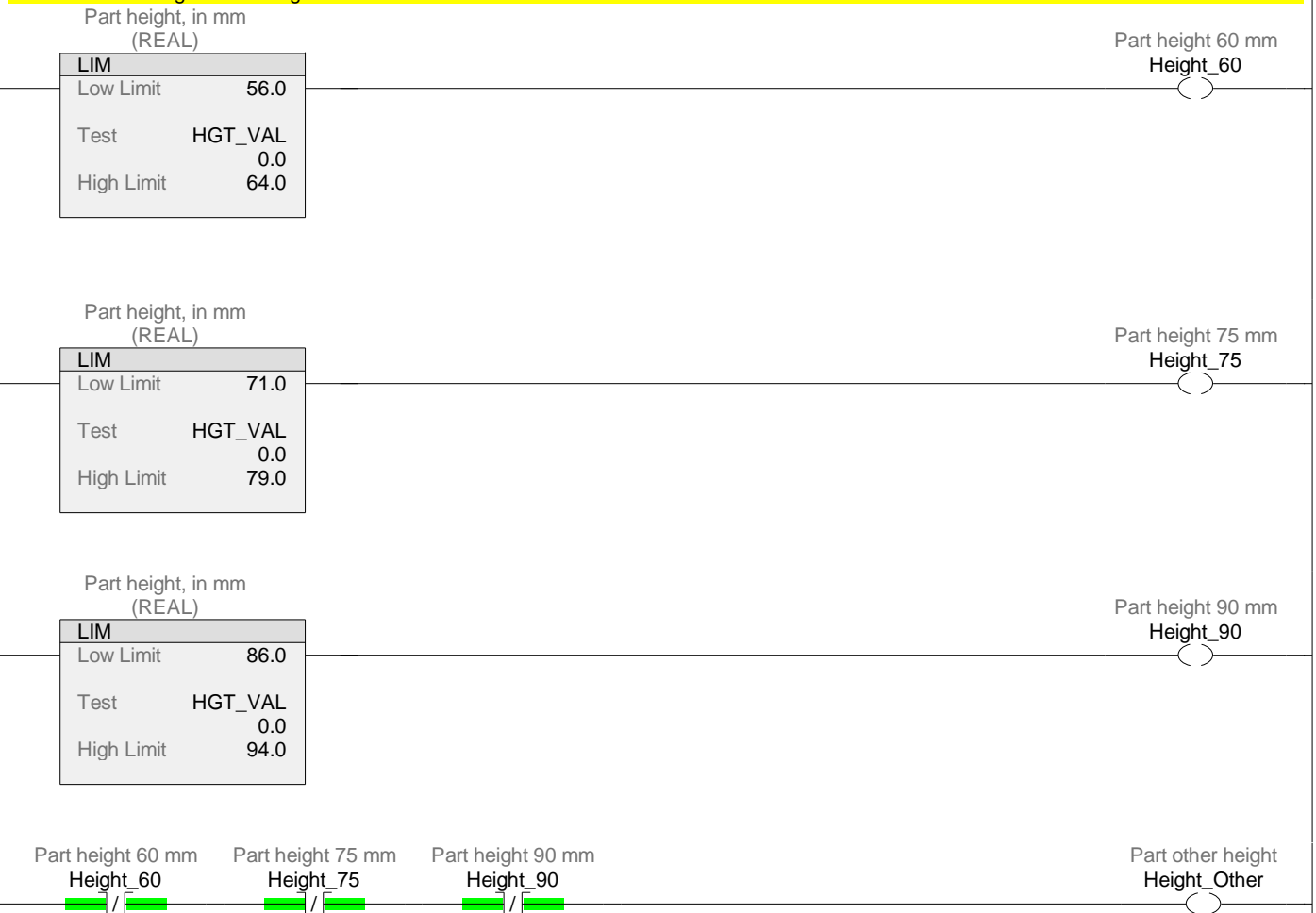
When on, allow
station to run. When
off, pause.



Step 2. Move Down. Measure height on transition.



Determine size ranges for sorting.

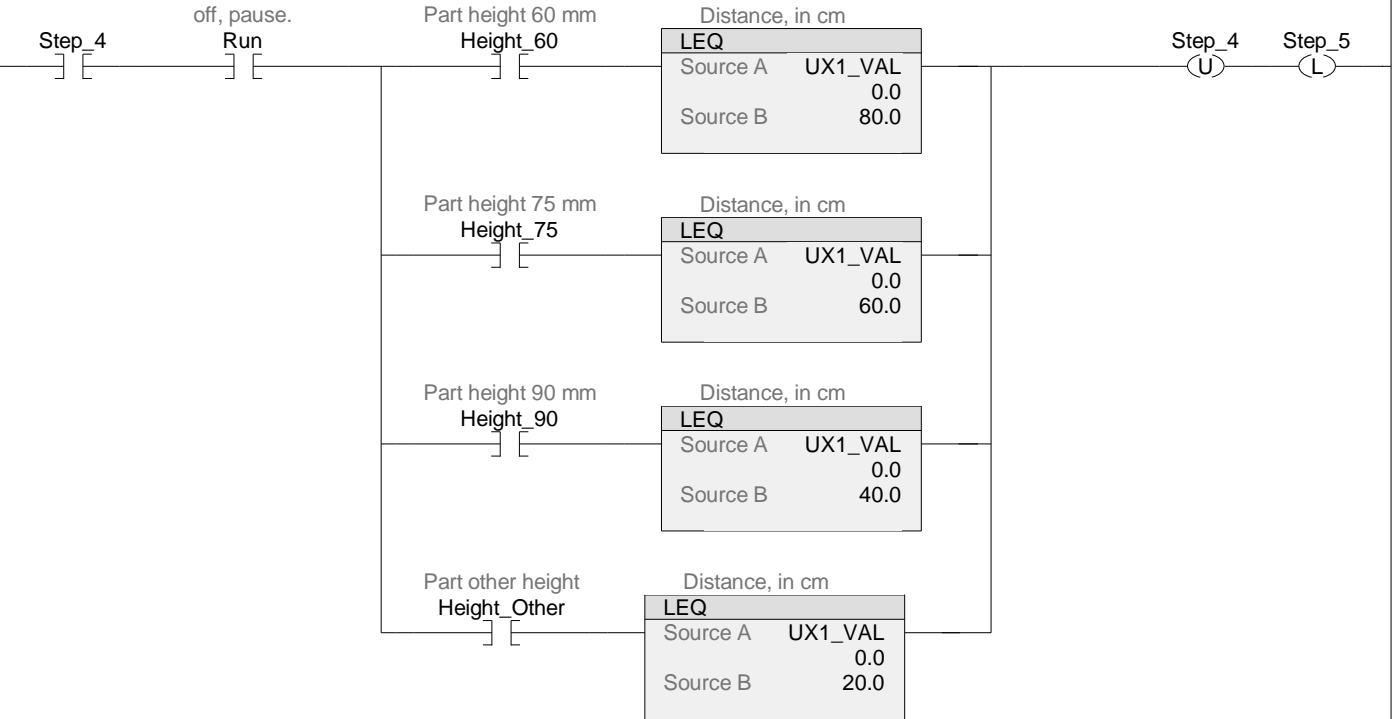


Step 3. Move up.

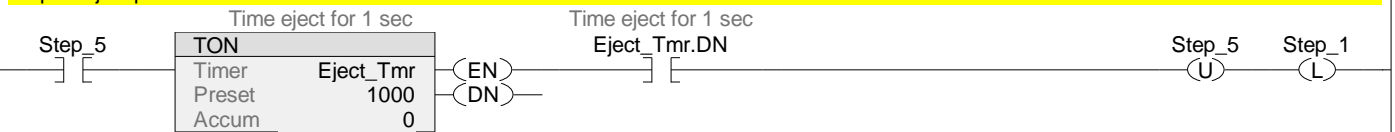


Step 4. Move to eject position.

When on, allow
station to run. When
off, pause.



Step 5. Eject part.



Reset

When on resets
operation of station



Outputs.

Gate - Do not turn off when paused.

