

## Main\_Program [OB1]

### Main\_Program Properties

#### General

<b>Name</b>	Main_Program	<b>Number</b>	1	<b>Type</b>	OB
<b>Language</b>	LAD	<b>Numbering</b>	Manual		

#### Information

<b>Title</b>	SP7-9	<b>Author</b>		<b>Comment</b>	
<b>Family</b>		<b>Version</b>	0.1	<b>User-defined ID</b>	

Name	Data type	Offset	Default value	Comment
▼ Temp				
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
Constant				

### Network 1: SP7-9

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SP7-9 Valve Leak Check Station Control

Additional internal memory:

Tag Address

Int\_Reset M5.1 BOOL Internal reset

Step\_1 to Step\_6 M0.1 to M0.6 BOOL Step-in-progress bits

Wait\_Tmr DB1 TON\_SFB Times leak test

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:

$HD\_HGT = (HGT\_MEAS - 5530) / 22118.0 * (150.0 - 75.0) + 75.0$

$VLV\_PRES = (PRES - 5530) / 22118.0 * (100.0)$

%M2.0  
"Dummy"

%M2.0  
"Dummy"

Network 2: Initial Start

%M201.4  
"RUN"

%M0.1  
"Step\_1"

%M0.2  
"Step\_2"

%M0.3  
"Step\_3"

%M0.4  
"Step\_4"

%M0.5  
"Step\_5"

%M0.6  
"Step\_6"

%M0.1  
"Step\_1"

Network 3: Step 1 Wait for valve

%M0.1  
"Step\_1"

%I4.0  
"PROX"

%M201.4  
"RUN"

%M0.1  
"Step\_1"

%M0.2  
"Step\_2"

Network 4: Step 2 Head down

%M0.2  
"Step\_2"

%MD190  
"HD\_HGT"

<=  
Real

%MD430  
"VLV\_HGT"

%M201.4  
"RUN"

%M0.2  
"Step\_2"

%M0.3  
"Step\_3"

Network 5: Step 3 Pressurize

%M0.3  
"Step\_3"

%MD194  
"VLV\_PRES"

>=  
Real

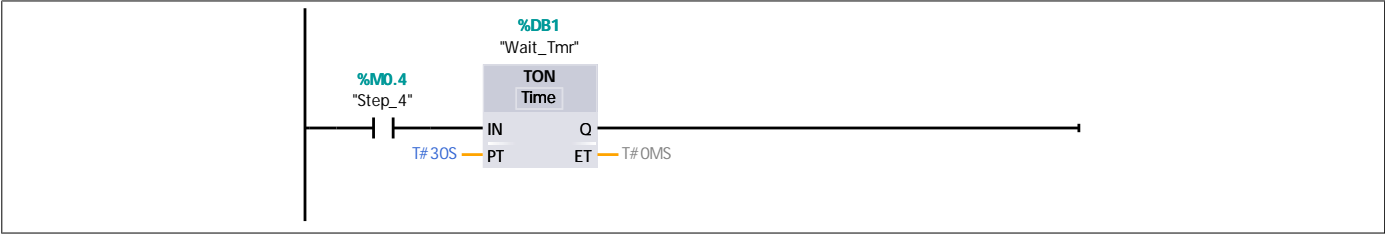
%MD434  
"DES\_PRES"

%M201.4  
"RUN"

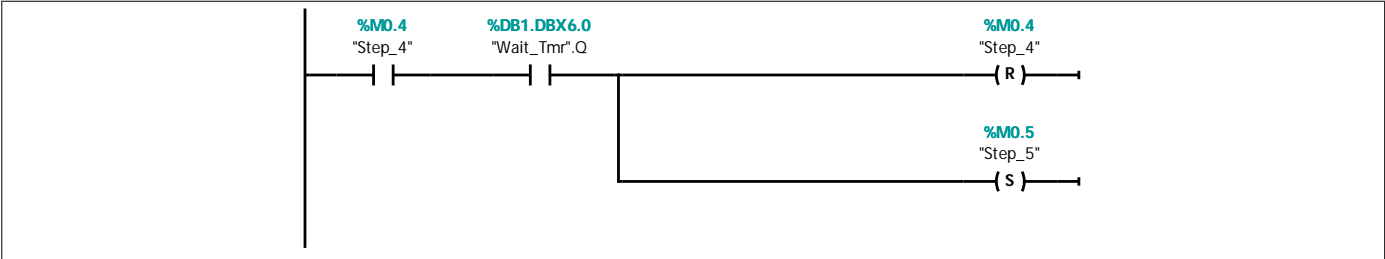
%M0.3  
"Step\_3"

%M0.4  
"Step\_4"

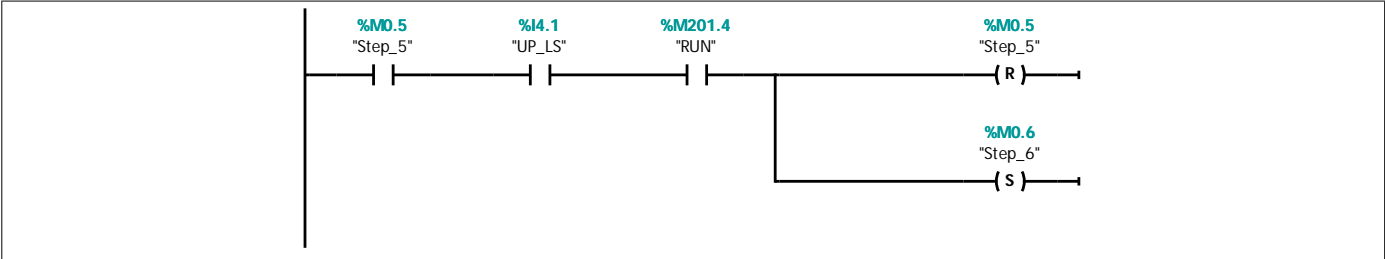
Network 6: Step 4 timer



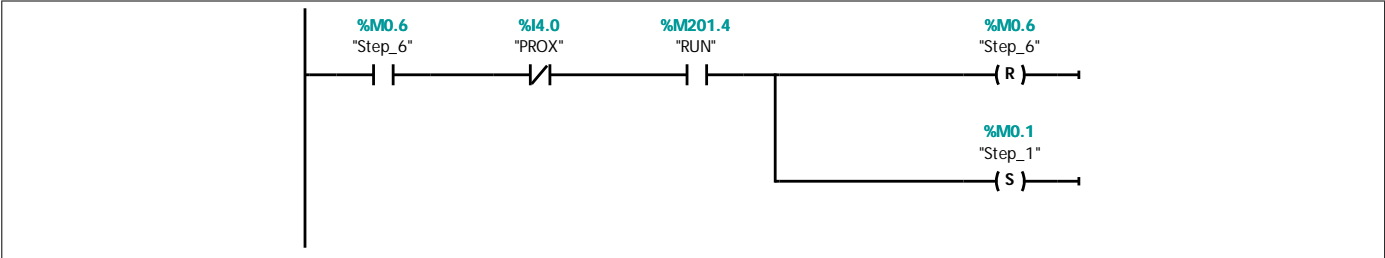
Network 7: Step 4 - Wait for pressure check



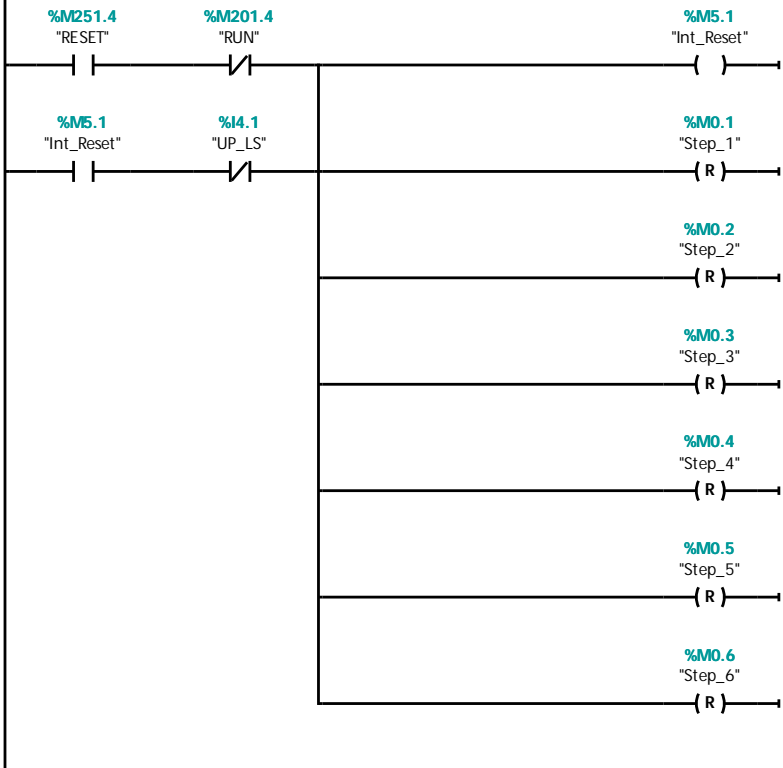
Network 8: Step 5 Head up



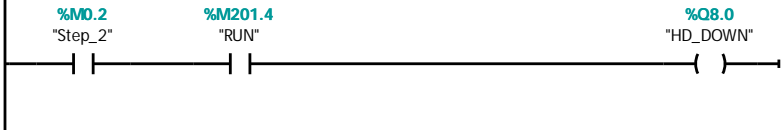
Network 9: Step 6 - Push to conveyor



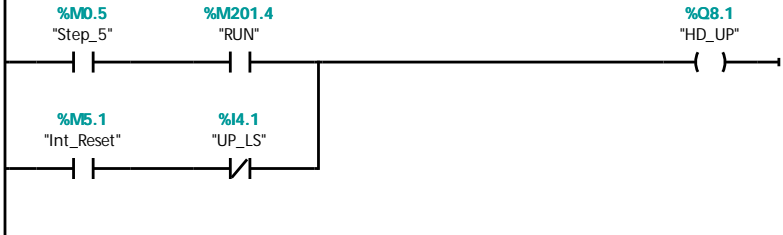
Network 10: Reset



Network 11: Head Raise/Lower



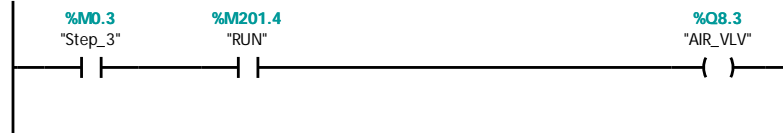
Network 12: PCYL controls



Network 13: Lift Solenoid. Must remain on when paused

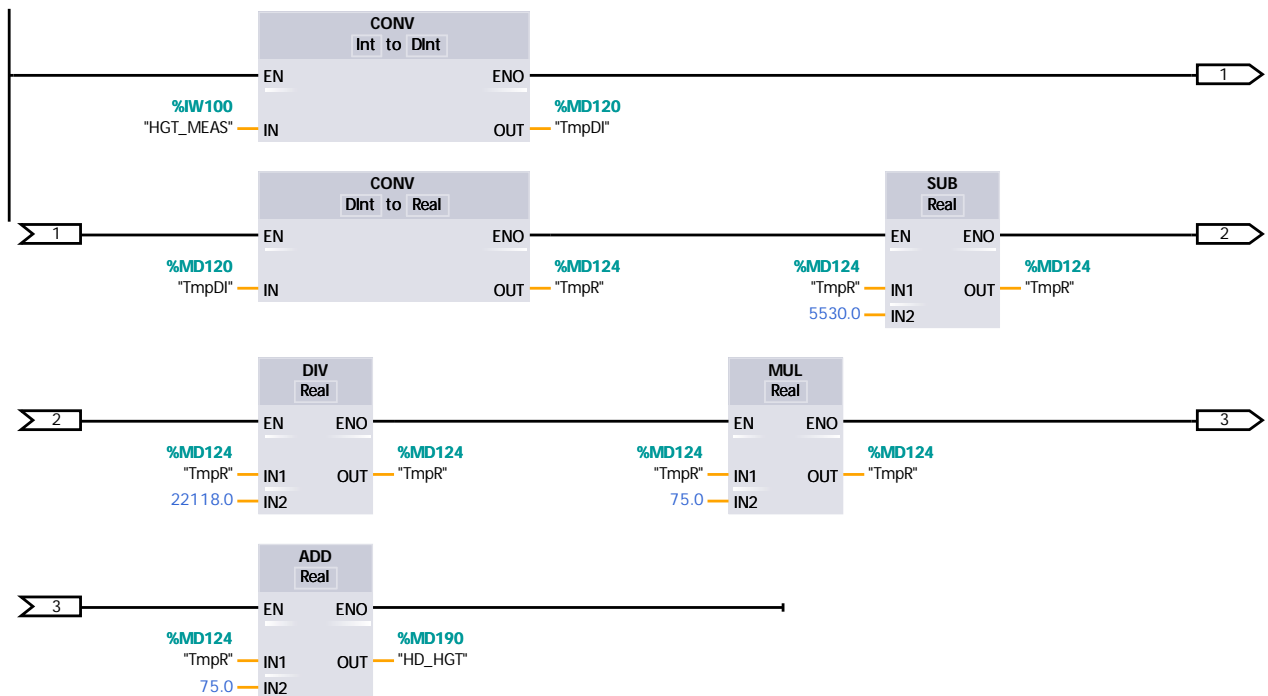


### Network 14: Air Valve



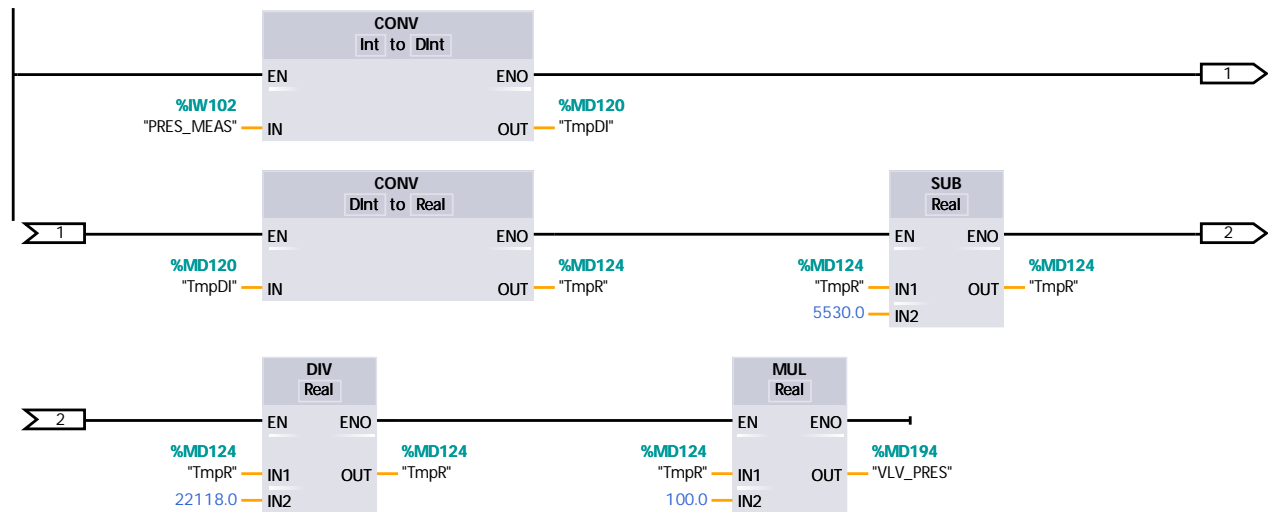
### Network 15: Convert height measurement using comp blocks

Convert height measurement to mm.  
Uses individual computation blocks.

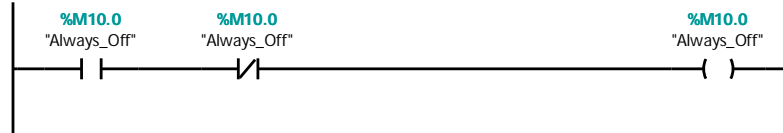


### Network 16: Convert pressure measurement using comp blocks

Convert pressure measurement to psi.  
Uses individual computation blocks.

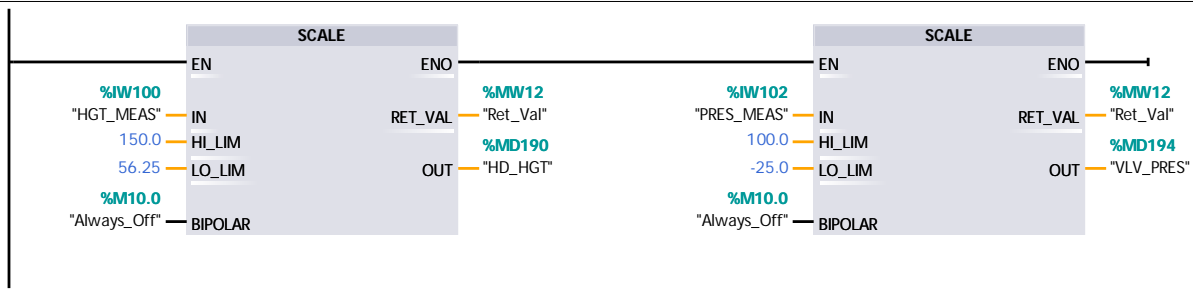


### Network 17: Always Off



### Network 18: Convert height and pressure measurements using SCALE

Convert height measurement to mm and pressure measurement to psi.  
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).



### Network 19: Set if valve is to be rejected because it will not hold pressure

Check valve pressure during step 4. If falling, set reject bit.

