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2

3 Valve Leak Check Station Control - With Simulation

4 Additional internal variable declarations:

Variables	Data Type	
Int_Reset	BOOL	Internal reset
Step_1 to Step_6	BOOL	Step-in-progress bits
Wait_Tmr	TON	Times leak test
Fail_Pres	REAL	Pressure at which valve is defective

Conversion formulas

HD_HGT = (HGT_MEAS / 32000) * (150 - 75) + 75

VLV_PRES = (PRES_MEAS / 32000) * (100)

5 Initial start.

6 Run | Step_1 | Step_2 | Step_3 | Step_4 | Step_5 | Step_6 → Step_1 (S)

7 Step 1 - Wait for valve.

8 Step_1 | PROX | Run → Step_1 (R), Step_2 (S)

9 Step 2 - Head down.

10 Step_2 | LE REAL (HD_HGT → IN1, VLV_HGT → IN2, Q) → Step_2 (R), Step_3 (S)

11 Step 3 - Pressurize

12 Step_3 | GE REAL (VLV_PRES → IN1, DES_PRES → IN2, Q) → Step_3 (R), Step_4 (S)

13 Step 4 - Wait for pressure check.

14 TON Wait_T... (IN, Q, PT = 30000, ET); Step_4 | IN → Step_4 (R), Step_5 (S)

15 Step 5 - Head up.

16 Step_5 UP_LS Run → Step_5 (R), Step_6 (S)

17 Step 6 - Allow to move out.

18 Step_6 PROX Run → Step_6 (R), Step_1 (S)

19 Reset

20 RESET Run / Int_Reset UP_LS → Int_Reset (M), Step_1 (R), Step_2 (R), Step_3 (R), Step_4 (R), Step_5 (R), Step_6 (R)

21 Physical Outputs -

Head raise/lower. Off when paused. Raise when reset.

22 Step_2 Run → HD_DOWN (M)

23 Step_5 Run / Int_Reset UP_LS → HD_UP (M)

24 Lift Solenoid. Must remain on when paused.

25 Step_2 / Step_3 / Step_4 → LIFT_SOL (M)

26 Air Valve.

27 Step_3 Run → AIR_VLV (M)

28 Calculate Height of Head in mm

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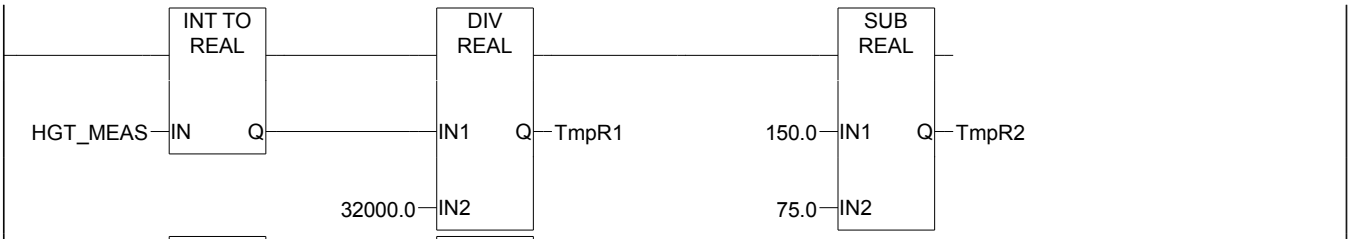
29


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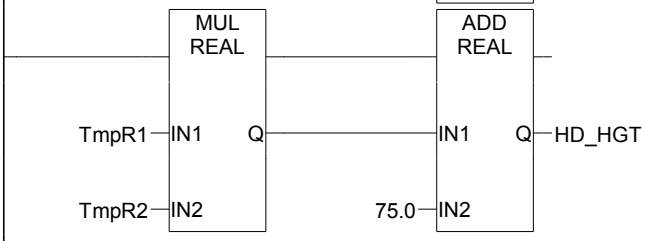
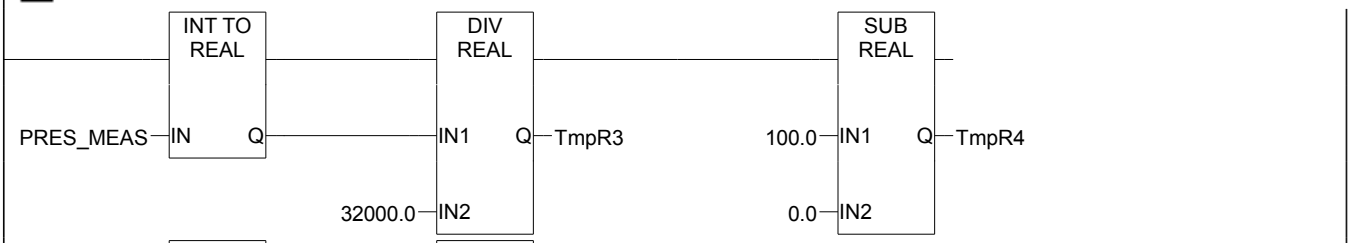


31 Calculate Pressure in psi

32


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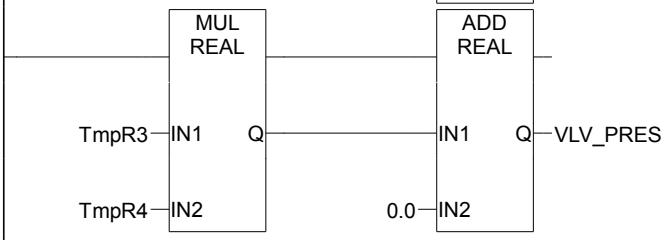
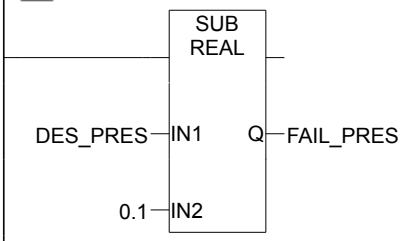
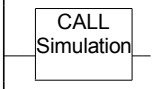


34 Check valve pressure, if falling latch reject bit.

35


36

37 Call simulation

38


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