AMERICAN ONSITE CONTROLS

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DP1-SERIES TROUBLE SHOOTING GUIDE

FIG: 1 - SOLENOID VALVE (N.C OR N.O.)

THE SOLENOID VALVE MUST BE MEASURED 2 WAYS. IF THE READINGS DISPLAYED BELOW ARE NOT CLOSE TO WHAT IS ACTUALLY BEING MEASURED, THE SOLENOID VALVE IS BAD. REMEMBER, THE VALVE CAN ONLY BE MEASURED WHEN IT IS DISCONNECTED FROM ALL OTHER SYSTEM WIRES.

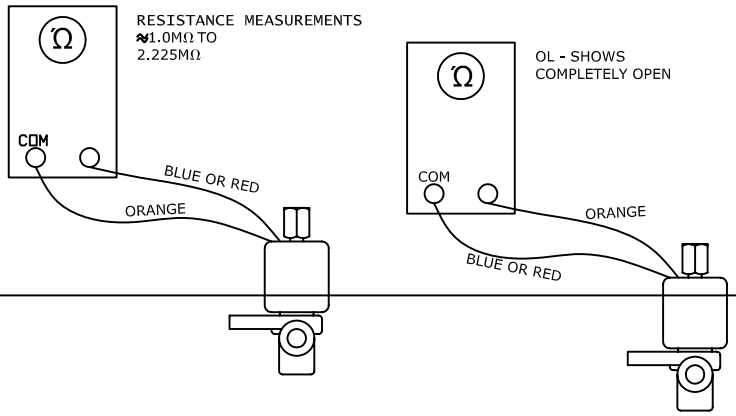


FIG: 2 - VOLTAGE OUT TO SOLENOID VALVES

CHECK VOLTAGE TO THE FIELD ON TB2(BOTTOM MIDDLE OF DPCB1 BOARD). SET VOLT METER TO A RANGE THAT WILL INCLUDE 24VAC. MEASURE FROM 24- TO THE APPROPRIATE TERMINAL WITH THE SYSTEM RUNNING IN AUTO (IN A DOSE) OR FORCED ON BY PLACING THE H-O-A SWITCH OF THE RESPECTIVE SOLENOID VALVE TO THE HAND POSITION.

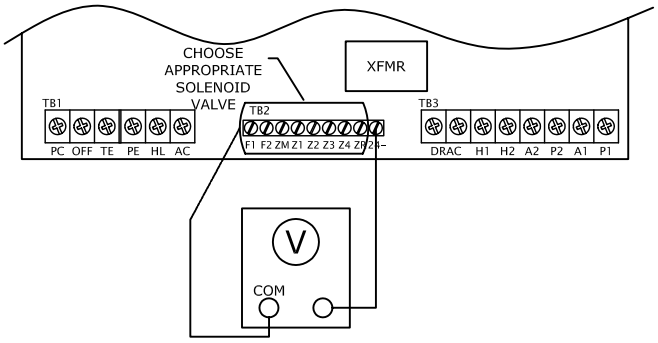


FIG: 3 - CHECKING FLOATS

MAKE SURE THE FLOAT IS SUBMERGED IN THE TANK OR MANUALLY RAISE THE FLOATS TO THE UP POSITION BEFORE TESTING. SET THE VOLT METER TO MEASURE 120VAC.

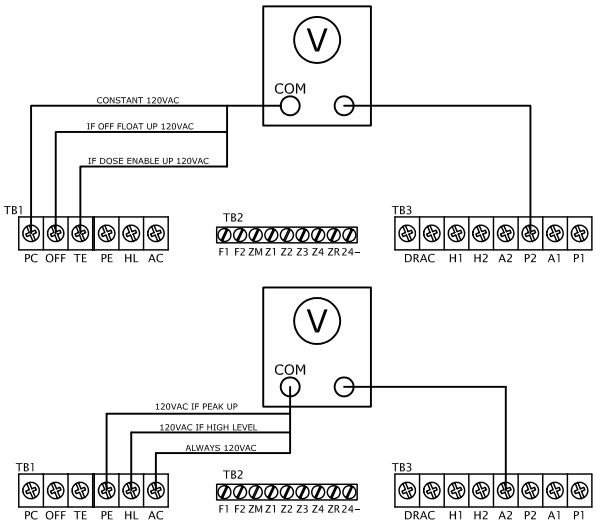


FIG: 4 - HEATER TERMINALS

H1 & H2 SHOULD ALWAYS HAVE 120VAC. SET THE VOLT METER FOR A RANGE TO INCLUDE 120VAC. MEASURE FROM H1 TO H2.

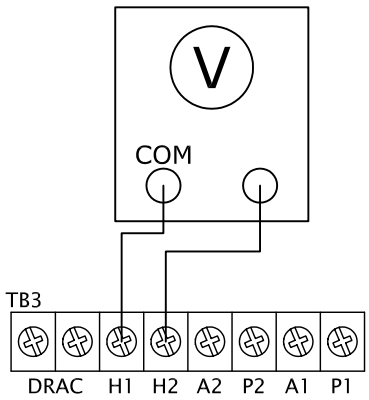


FIG: 5 - CHECK DOOR FUSES

SET VOLT METER TO MEASURE 120VAC. MEASURE FROM P2 TO EACH WIRE ON THE CORRESPONDING FUSE. (EACH FUSE HOLDER HAS 2 WIRES)

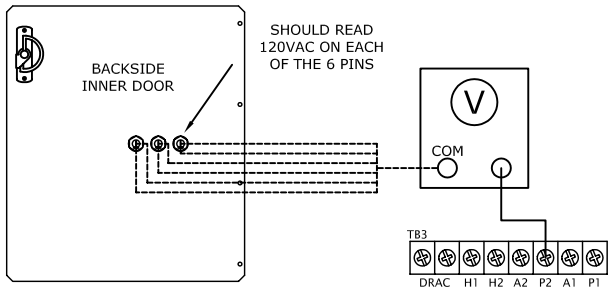


FIG: 6 - ALARM FUSE

SET VOLT METER TO READ 120VAC. MEASURE TO EACH SIDE OF FUSE FROM A2. (THIS FUSE IS LABELED F2 AND IS LOCATED ON THE LOWER RIGHT PORTION OF THE DPCB1 BOARD).

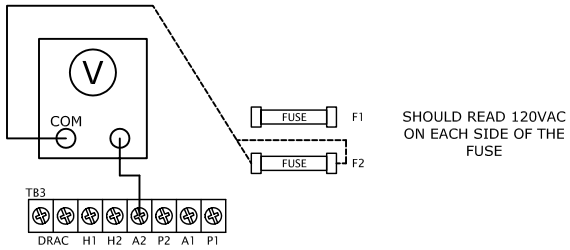


FIG: 7 - TRANSFORMER FUSE

SET VOLT METER TO READ24VAC. MEASURE 24-(ON TB2) TO EACH SIDE OF FUSE.
(THE FUSE IS LABELED F1 AND IS LOCATED ON BOTTOM RIGHT SIDE OF DPCB1 BOARD)

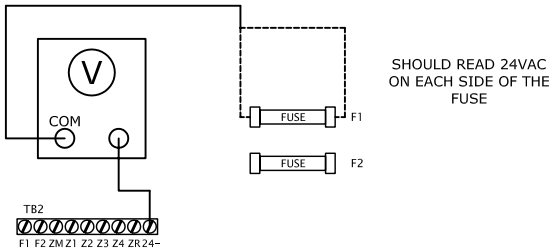


FIG: 7 - CHECK TRANSFORMER.

TURN OFF ALL POWER TO THE PANEL. SET THE METER TO MEASURE RESISTANCE (OHMS). MEASURE 24-(TB2) TO THE FUSE HOLDER LABELED PRIMARY. (VERIFY THAT THE FUSE IS GOOD BEFORE PERFORMING THIS TEST

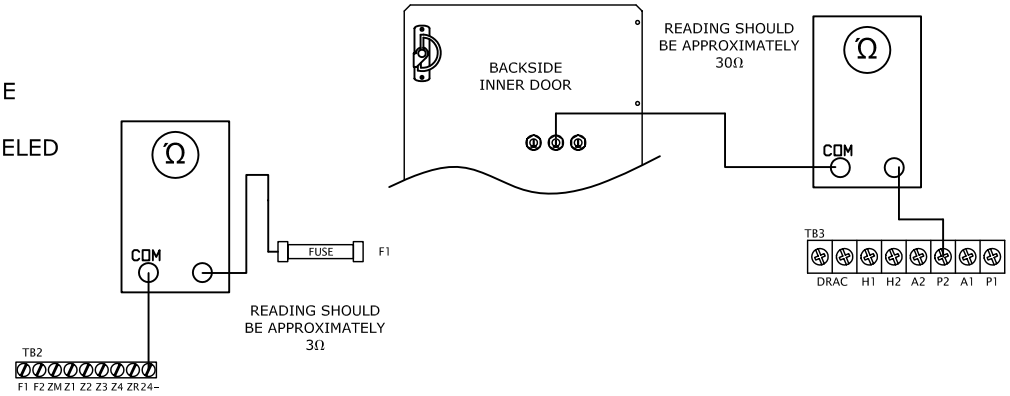


FIG: 9 - CHECK PROCESSOR FEED

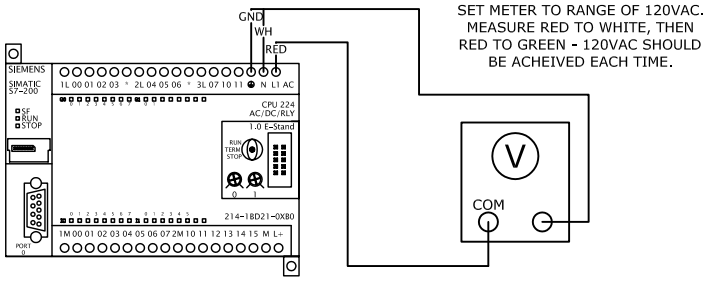


FIG: 10 - CHECK PLC OUTPUT VOLTAGE

MEASURE FROM 24- TO 1L THEN 24- TO 2L. SET METER RANGE TO 24VAC. THERE SHOULD BE APPROXIMATELY 24VAC EACH TIME. IF THE PANEL IS IN A DOSE CONTROLLED BY THE PLC, MEASURE FROM 24- TO THE OUTPUT THAT IS ON. 24VAC SHOULD ALSO BE MEASURED. IF IT CAN NOT, AN OUTPUT RELAY ON THE PLC MAY BE BAD.

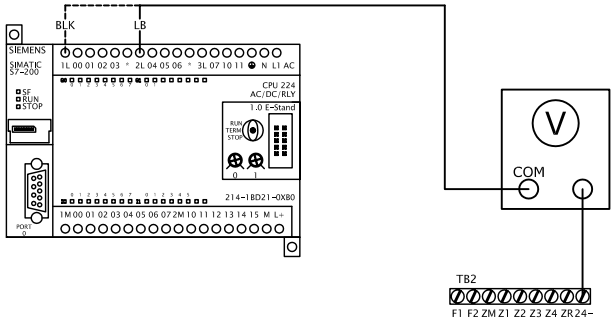


FIG: 11 - CHECK PLC DC SUPPLY

SET METER TO 24V DC. MEASURE FROM L+ TO M THEN L+ TO GND. 24VDC SHOULD BE MEASURED EACH TIME.

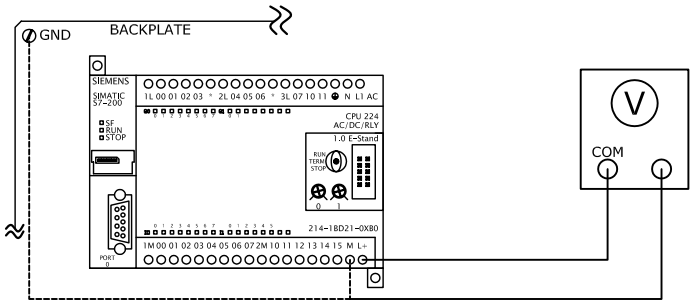
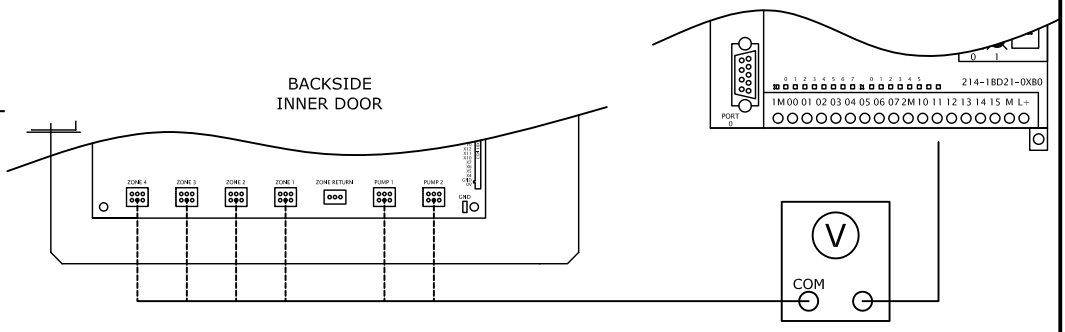


FIG: 12 - CHECK ALL DC INPUTS TO SWITCHES

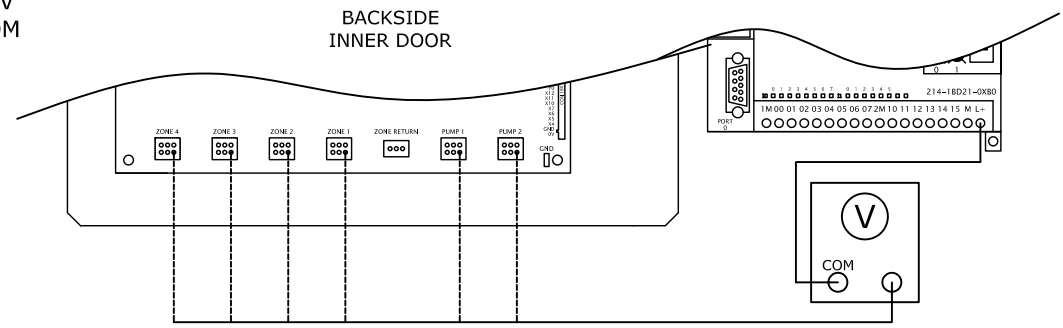
PLACE ALL HOA SWITCHES IN OFF, AND SET VOLT METER TO A RANGE OF 24VDC. MEASURE FROM THE CENTER BOTTOM PIN OF EACH SWITCH TO M. 24VDC SHOULD BE READ. THIS VERIFIES VOLTAGE TO DOOR BOARD IS GOOD FOR AUTOMATIC OPERATION.

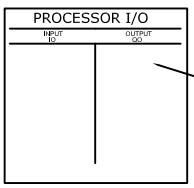


NOTE: ALL CORRESPONDING INPUTS SHOULD BE LIT UP ON PLC - THIS VERIFIES SWITCH IS WORKING.

FIG: 13 - CHECK DC OUT ON HOA SWITCHES

WITH ALL THE HOA SWITCHES IN AUTO, SET VOLT METER TO A RANGE INCLUDING 24V DC. MEASURE FROM L+ TO EACH BOTTOM RIGHT PIN ON EACH SWITCH. 24VDC SHOULD BE MEASURED.





NOTE: REFER TO I/O LAYOUT LABEL PRINTED ON THE BACKSIDE OF THE HINGED INNERDOOR. INPUTS ARE IN THE LEFT COLUMN AND OUTPUTS ARE IN THE RIGHT.

FIG: 14 - CHECK HAND VOLTAGES ON DOOR BOARD

SET VOLT METER TO A RANGE OF 24VAC. MEASURE FROM 24- TO EACH SHOWN PIN ON EACH SWITCH. 24VAC SHOULD BE READ ON EACH SWITCH.

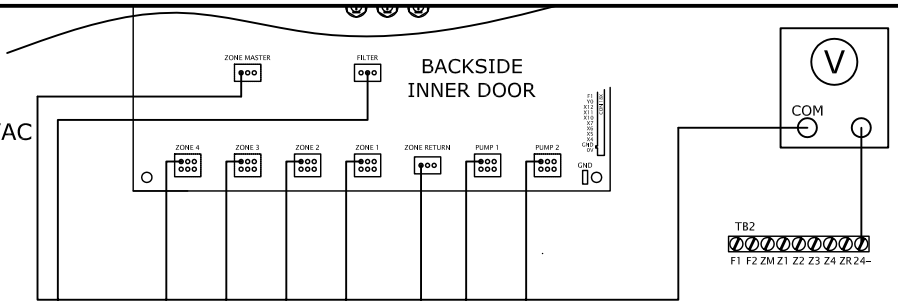


FIG: 15 - VERIFY HAND OPERATION OF SWITCH

PLACE ALL HOA SWITCHES IN HAND. SET VOLT METER TO A RANGE OF 24VAC. MEASURE FROM 24- TO PIN PLACEMENT SHOWN ON INNER DOOR - SET METER TO A RANGE OF 24VAC. TAKE NOTE TO TOGGLE THE FILTER SWITCH AS NEEDED FOR MEASUREMENT TAKING.

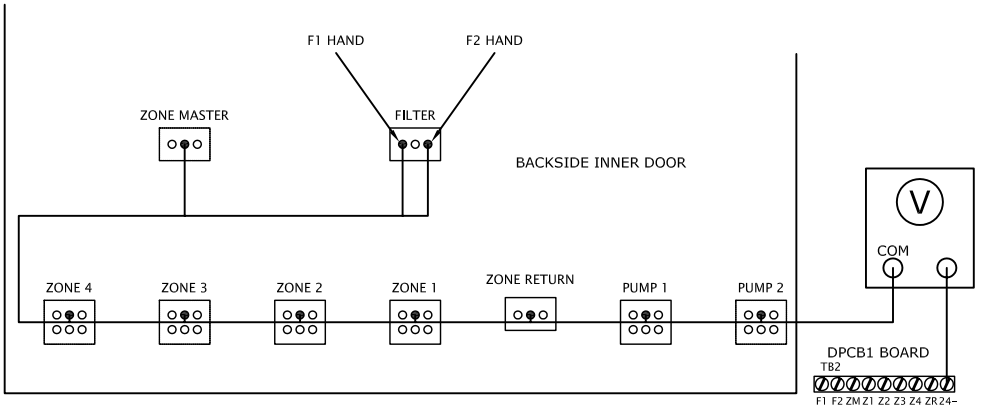
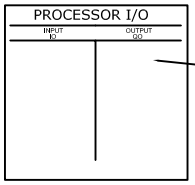


FIG: 16 - VERIFY VOLTAGE PATH CONTROLLED BY PLC.

WHEN ALL SWITCHES ARE IN AUTO AND THE PLC IS CONTROLLING THE OUTPUTS (IN A DOSE), SET THE METER TO A RANGE OF 24VAC, AND MEASURE THE CORRESPONDING POINTS BELOW WHEN THE PROCESS IS CALLING FOR THE RESPECTIVE COMPONENT.



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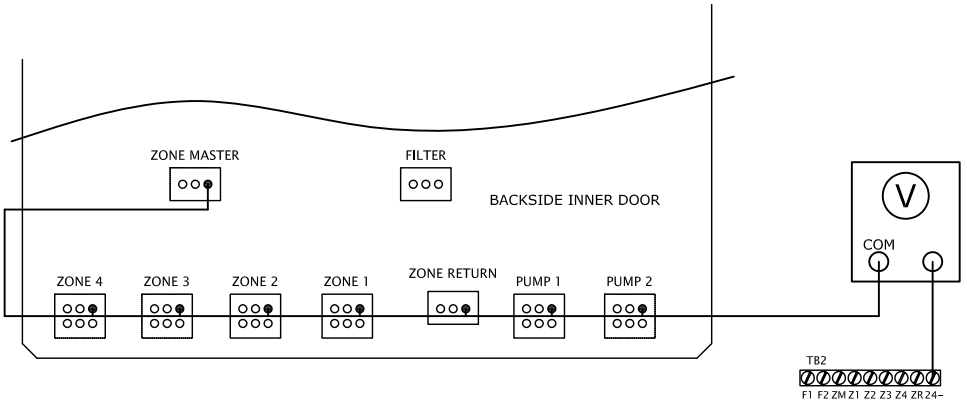
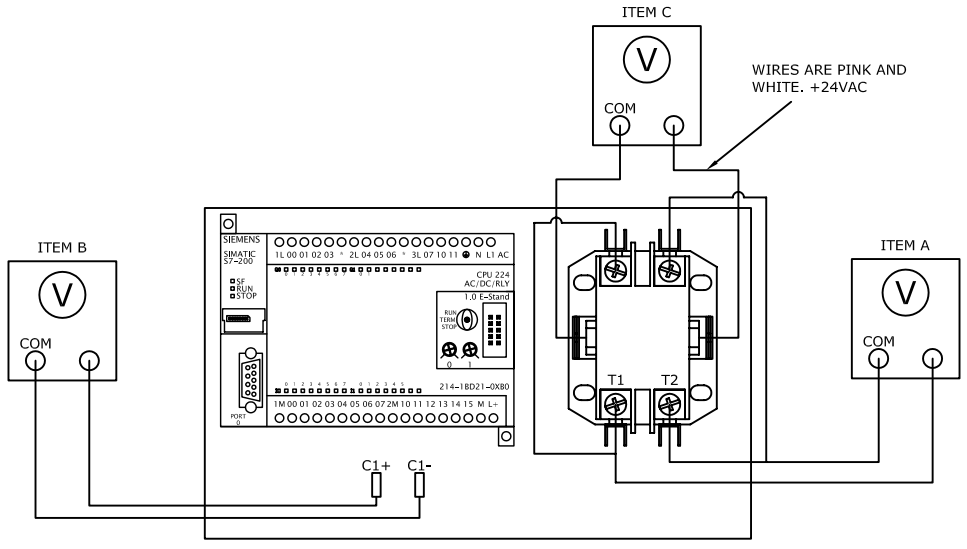


FIG: 17 - PUMP IS NOT RUNNING

IF PUMP IS CALLED FOR EITHER IN AUTO BY THE PLC OR FORCED ON BY PLACING PUMP H-O-A INTO HAND AND PUMP IS NOT RUNNING. FIRST, MEASURE PUMP VOLTAGE (120VAC OR 230VAC) @ 1T1 & 1T2 (ITEM A). IF OV IS FOUND, MEASURE TERMINALS DIRECTLY ACROSS FROM 1T1 & 1T2. IF OV IS AGAIN ACHEIVED, CHECK 1L1 AND 1L2. IF STILL NO VOLTAGE, LOOK TO THE MAIN DISTRIBUTION PANEL BREAKERS. IF CORRECT PUMP VOLTAGE IS READ AT T1 AND T2, BUT THE PUMP IS STILL NOT RUNNING, MEASURE FOR 24VAC @ (ITEM B) C1+ & C1-. IF YOU HAVE 24VAC, MEASURE 24VAC @ CONTACTOR (ITEM C). IF 24VAC IS MEASURED HERE, AND THE PUMP WILL NOT ENGAGE, THERE IS A BAD CONTACTOR. IF NO VOLTAGE IS FOUND AT @ ITEM B, CONTACT A TRAINED AMERICAN MANUFACTURING TECHNICIAN FOR MORE TROUBLESHOOTING.



FINAL NOTES:

1). ALWAYS MEASURE VOLTAGE FROM EACH NEUTRAL TO GROUND. IF THE VOLTAGE IS NOT CLOSE TO ZERO, CONTACT AN ELECTRICIAN FOR DISTRIBUTION SYSTEM ISSUES.

2). ALWAYS MEASURE HOT TO NEUTRAL THEN HOT TO GROUND - BOTH MEASUREMENTS SHOULD ALWAYS BE ROUGHLY THE SAME. IF VALVES ARE NOT CLOSE, THERE IS AN ISSUE WITH THE POWER DISTRIBUTION SYSTEM. CONTACT A LICENSED ELECTRICIAN.

3). FOR FURTHER VOLTAGE MEASUREMENTS WHILE TROUBLESHOOTING, PLEASE CONTACT A TRAINED AMERICAN MANUFACTURING TECHNICIAN. 800-345-3132