Quest 506 Diagnostics

SERVICE DOCUMENT

QUEST

Quest 506-230v: #4036600
Quest 506-277v: #4036610

VERIFY conditions and complaint before testing to rule out user errors.

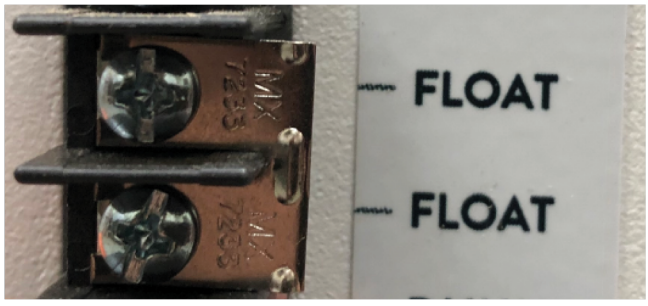
- Verify temperature – Unit operates between room conditions of 56°F to 95°F degrees.
- Verify specific humidity – Units operates down to a 40°F dew point.
- Verify air is able to flow thru the unit.
- Power supply – Should be 220 volts to 240 volts single phase.
- Verify complaint – Run unit to produce failure described by customer.

FUNCTION TEST runs through all operations of the dehumidifier. This process will help identify what is and is not functioning.

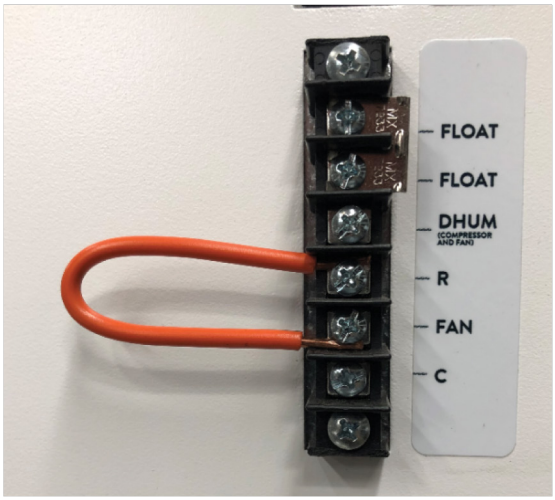
1. Remove any exterior controls hooked to the terminal block.
   A. Exterior controls are often the cause of improper dehumidifier function.
2. Plug unit in to known good power outlet.
3. Place unit power switch into the ON position

4. Press is on 3 amp circuit breaker to reset. (24v Control Reset)

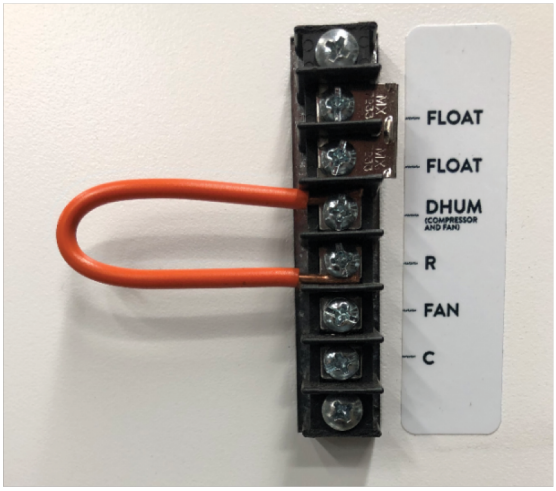
5. Install jumper between FLOAT terminals.



6. Place wire between R and FAN terminal. Fan should turn on.



7. Place wire between R and DHUM terminal. Fan should come on and compressor should come on after 1 minute.

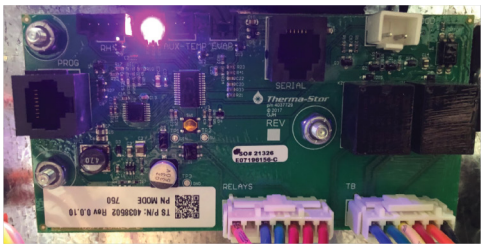


8. Run the unit for 10 minutes and take a temperature measurement to see the temperature rise of the air coming out. Outlet should be 10F to 25F higher than the inlet.
   A. For a more precise test collect and measure the water the unit produces in a 24 hour period.
9. If problems occur see below for further testing. If no problem occurs the unit is most likely working properly. Check exterior controls or other possible causes of the issue.

DIAGNOSTICS -Light on control board illuminates different colors to show status. Control board is behind angled access panel.

1. Green light indicates a call for dehumidification only. Fan and compressor should be on.
   A. If compressor not running after 1 minute then low or high pressure switch is open.

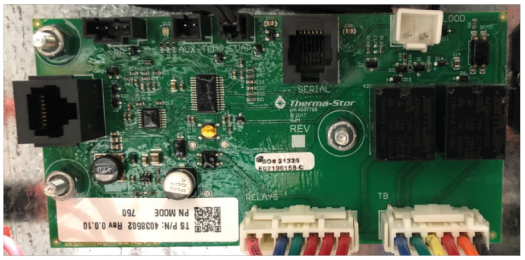
2. Purple light indicates float terminals are open.



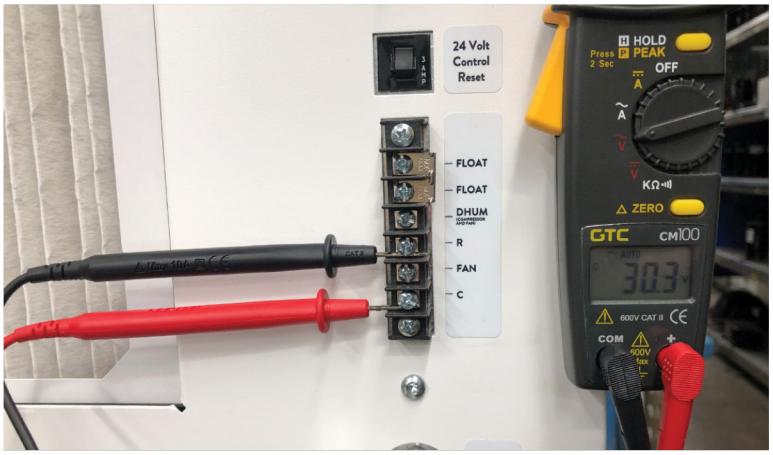
3. Blue light indicates unit in defrost. Fan on but compressor off.
   A. If unit is always in defrost then ambient temp too low or thermistor is off calibration.

4. Red light indicates thermistor open or short.

5. No light may indicate unit is off, no call for dehumidification, no power to the unit, open circuit breaker, bad transformer or bad control.
   A. Note: No light is illuminated when just a call for fan. See function test 6

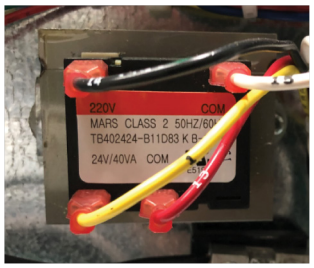


6. Check for 24 volt power at R and C terminal with unit plugged in and power switch on. Voltage reading will be between 20 volts and 30 volts AC.



   A. If no voltage at terminal then:
      I. Reset or replace 3amp breaker

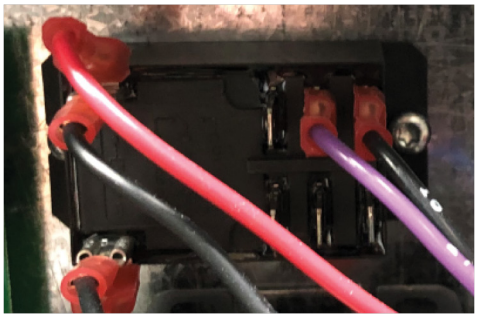
      II. Replace transformer



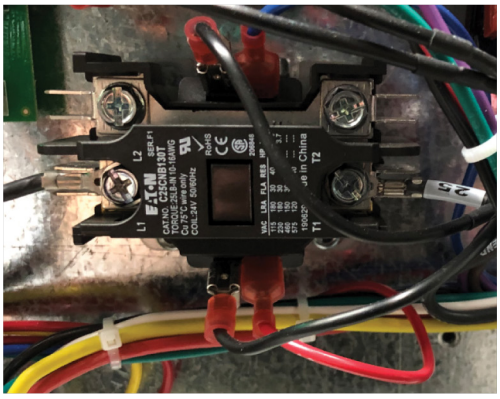
INSTRUCTIONS:

1. Tripped circuit breaker at electrical panel.
   A. Check for intermittent fan operation or blocked airflow. Lack of air can cause compressor to over amp.
      I. Change filters
      II. Replace fan capacitor. Check for less than 220 volt supply as root cause.
   B. If circuit breakers trips when compressor is activated a bad compressor can be suspect.
2. Tripped 3 amp circuit breaker on unit.
   A. R (24v+) and C (24v-) terminal shorted together.
      I. Adjust control wiring to fix
   B. Multiple units R wire hooked in daisy change.
      I. Only one R wire should be connected in daisy chain between master unit and control.
   C. Too many units or consumers hooked to the master unit. 6 units max
   D. Bad circuit breaker
   E. Bad internal relay coil or control.
   F. Excessively high voltage applied to the unit cord. Example 480v
   G. Excessively high voltage applied to the terminal block. Example 120v
   H. Exterior 24v power source applied to terminal block.
3. Fan noise - Could be normal or impeller rubbing on inlet ring.
   A. To test, run fan but block inlet completely. Cardboard or plastic sheeting works well.
      I. If noise goes away then noise is normal. High volume of air movement makes noise.
      II. If noise remains then impeller is likely rubbing on inlet ring.
         a. Verify the unit is level.
         b. Adjust fan bracket to relieve rubbing if needed.
4. Slow fan speed, intermittent fan or no fan operation.
   A. Fan capacitor bad. Replace capacitor and check for less than 220 volt supply.

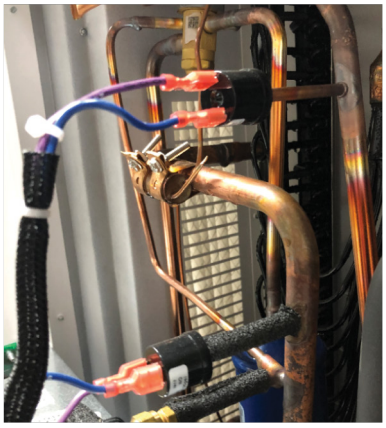
B. Bad fan along with bad capacitor.
C. Bad fan relay.



5. Fan runs but compressor does not after 1 minute delay. Green light on control.
   A. Compressor relay bad



   B. Low or high pressure switch open.
      I. To bypass connect 2 blue wires for testing only. DO NOT RUN FOR EXTENDED PERIODS
      II. Low pressure switch open indicates low charge
      III. High pressure switch open could indicate restriction or bad switch.



If further assistance is required please contact Therma-Stor Service Department. Please have the serial number and/or model number ready when calling in. Our Technicians will happy to help you with diagnosing problems, repair solutions and obtaining parts.

TS-Phone Tech Support: ts-phone-tech-support@Thermastor.com
Tech Department: 800-533-7533 option #4, then option #2
TS-Parts Department: ts-parts@thermastor.com
Parts Department: 800-533-7533 option #4, then option #1