

Testo 550 Common Questions and Answers

Table of Contents

1. The up and down arrows do not do anything, what am I doing wrong?
2. Do I have to re zero the instrument every time that I use it?
3. Why does the superheat or subcooling calculation show ----- (all dashes)
4. I only purchased one probe with my 550, how do I switch from superheat to subcooling?
5. Why doesn't the 550 calculate superheat and subcooling at the same time?
6. Does the 550 read negative pressures?
7. Can I measure vacuum with the Testo 550?
8. How do I use the differential temperature test?
9. The superheat numbers are not stable, is there a problem with the meter?
10. What are the "snow flake" and "flame" modes for?
11. As soon as I power up the instrument it shuts off again, what is wrong?
12. ----- is lit up instead of a measurement parameter in the display, what is wrong?
13. oooo is lit up on the display, what is wrong?
14. Is the 550 water proof?
15. I have dropped my 550, do I need to send it in for service?
16. The temperature pressure charts do not agree with my 550, why?
17. The EVaporating and COndensing displays both show dashes and the unit will not calculate superheat or subcooling what is wrong?
18. Both sides of the gauge show the same pressure with the system running. What is wrong?
19. What do I need to do when switching types of refrigerants?
20. What is the warranty on the 550?
21. What does EV and CO stand for?
22. In the setup menu, what is the inHg for?
23. During operation of the instrument it flashes "Load" on the display and the CO and EV switch sides, what is wrong?
24. What does Min/Max/Mean record or how does it work?
25. What is the pressure drop test and how is it used?

Testo 550 Common Questions and Answers

- 1. The up and down arrows do not do anything, what am I doing wrong?**
 - a. The probes have to be installed in the instrument before you power it up. Make sure the probes are firmly seated and then power up the instrument.

- 2. Do I have to re zero the instrument every time that I use it?**
 - a. Yes, because it is good practice. While frequent re zeroing may not seem to be required, we do recommend that you perform this each time at power up or at least daily depressurize the instrument and confirm the sensors are at 0.

- 3. Why does the superheat of subcooling calculation show -----?**
 - a. When there is no subcooling or superheat, the instrument shows dashes. In order to have superheat or subcooling you must be above or below the saturation temperature of the refrigerant respectively. Superheat and subcooling are always positive. Systems that indicate no superheat can be damaged by refrigerant flood back. Use caution.

- 4. I only purchased one probe with my 550, how do I switch from superheat to subcooling?**
 - a. In order to switch from superheat to subcooling, you will need to remove the probe and insert it on the opposite side then cycle power on the instrument (eg. turn it off, move probe, turn it on). Testo recommends that you purchase a second probe to take full advantage of the 550.

- 5. Why doesn't the 550 calculate superheat and subcooling at the same time?**
 - a. Calculating superheat and subcooling simultaneously requires two pipe clamp or strap on temperature probes. If you do not have two probes, you will need to purchase a second to take advantage of this feature.

- 6. Does the 550 read negative pressures?**
 - a. Yes, the 550 reads in a vacuum and indicates vacuum in inches of mercury ("Hg) It will not however read in microns and the use of a micron gauge is recommended for proper evacuation.

- 7. Can I measure vacuum with the Testo 550?**
 - a. While the 550 can be used during the evacuation process, and the 550 will indicate vacuum more accurately than a standard compound gauge, it does not have the vacuum resolution of a micron gauge. We still recommend using a micron gauge during the evacuation process. Testo does not manufacture or sell a stand-alone micron gauge at this time. Consult your testo distributor for options.

8. How do I use the differential temperature test?

- a. Differential temperature testing requires two temperature probes. Using the up and down arrows cycle through the readings until you see the delta T symbol. (ΔT = Change in temperature) Depending on the type of probe used, you can measure pipe, surface or air temperatures.

9. The superheat numbers are not stable, is there a problem with the meter?

- a. The problem is not with the 550, most likely the AC/refrigeration system is not stable or hunting. This is a common problem during periods of low load. Use the Min/Max/Mean key to see the average superheat and to verify that the system is not periodically flooding. This is especially helpful when verifying superheat on TXV systems.

10. What are the “snow flake” and “flame” modes for?

- a. The snowflake and flame modes signify heat-pump mode (flame), cooling mode(snowflake) or auto change-over mode (flame/snowflake) . For typical USA operation, for both A/C and heat pumps, you will only use the cooling or (snowflake mode) as typical units have a connection at the compressor suction line and the liquid line. The heat pump mode (flame) switches the high and low side calculations during reverse operation to eliminate the need to change hose configuration on some European and Asian made heat pumps or mini split systems.

11. As soon as I power up the instrument it shuts off again, what is wrong?

- a. The batteries are too low to power the instrument, change the batteries.

12. ----- is lit up instead of a measurement parameter in the display, what is wrong?

- a. The probe is defective or broken. Contact Testo for a replacement. Probes are replaced due to manufacturing defects not abuse.

13. oooo is lit up on the display, what is wrong?

- a. The probe is most likely loose in the connector. Make sure the probe is firmly seated in the instrument.

14. Is the 550 water proof?

- a. No. The 550 is water resistant, but not water proof. Excessive amounts of moisture could damage the instrument. Handle like you would any electronic instrument.

15. I have dropped my 550, do I need to send it in for service?

- a. The simple answer is yes, you cannot see the extent of the damage to the instrument, and there could be damage to the brass sections of the refrigerant hose connections or the valve handles that are not apparent from the outside. To insure safety, pressure and vacuum tightness, the instrument should be sent in for inspection/repair.

16. The temperature pressure charts do not agree with my 550, why?

- a. For critical charging applications, the 550 allows for altitude compensation of the P/T chart during setup. Like a standard gauge, the 550 senses relative pressure when there is no pressure on the gauge. The atmospheric pressure can influence the readings when the instrument is zeroed at elevations above sea-level. To compensate for these changes, in the setup menu, adjust the barometric pressure in inches of mercury to your current pressure. If desired, the pressure can be left at its default (sea-level) of 29.92" hg. A standard T/P chart is referenced to atmospheric pressure.

17. The evaporating and condensing both show dashes and the unit will not calculate superheat or subcooling what is wrong?

- a. There is no refrigerant selected. Press the R/Start/Stop key and use the up/down arrows to select the refrigerant type.

18. Both sides of the gauge show the same pressure with the system running. What is wrong?

- a. Verify that the blue and red handles are closed. The 550 works like a conventional gauge set. The handles are only to be opened when you are adding and removing refrigerant.

19. What do I need to do when switching types of refrigerants?

- a. At minimum, you need to vent the residual refrigerant from your hoses and install and purge the hoses with the refrigerant type that is in the installed system. While not required, Testo recommends that you consider using two sets of hoses, one for POE and one for mineral oils, or consider the purchase of a second gauge set to avoid cross contamination of systems. This also is a recommendation and not a requirement.

20. What is the warranty on the 550?

- a. The warranty period due to manufacturing defects is two years for the instrument and probes

21. What does EV and CO stand for?

- a. EV and CO stand for Evaporating and Condensing Temperature. This is the actual temperature that the refrigerant is evaporating (boiling) and condensing (turning back to liquid) and, therefore, the actual temperatures of the coils themselves.

22. In the setup menu, what is the inHg for?

- a. For critical charging applications, the 550 allows for altitude compensation of the programmed P/T chart during setup. Like a standard gauge, the 550 senses relative pressure when there is no pressure on the gauge. The atmospheric pressure can influence the readings when the instrument is zeroed at elevations above sea-level. To compensate for these changes, in the setup menu, adjust the barometric pressure in inches of mercury to your current pressure. If desired, the pressure can be left at its default (sea-level) of 29.92" Hg. A standard P/T chart is referenced to atmospheric pressure (or PSIG: PSI: Gauge)

23. During operation of the instrument it flashes "Load" on the display and the CO and EV switch sides, what is wrong?

- a. The 550 is in auto change over mode, (Snowflake and flame shown on the display.) In this mode, the superheat is calculated on the side with the lower pressure and the subcooling on that with the higher. If the suction side is connected before the liquid side, the gauge will switch the sides that the superheat and subcooling are calculated on. To stop this action, in the setup menu, select A/C mode or Snowflake as the chosen measurement mode.

24. What does Min/Max/Mean record or how does it work?

- a. Min and Max record the actual minimum and maximum temperature without respect to time. The mean however is calculated on a time weighted average that is started when the min/max/mean button is pressed. *To get an accurate reflection of the actual mean temperatures, pressures, superheat and or subcooling, the interval must be reset by the user by pressing the p=0 (? !)button (typically after stabilization of operation)* This will throw out the initial high and low readings and calculate the mean with respect to time during actual operation. This feature is typically is used for accurate low ambient charging, All readings and calculations including temperature, pressure and superheat and subcooling are dynamic. This means the mean will still be calculated even after the pressure is removed from the system. Disregard the calculated Min and Max superheat as they are calculated from Min and Max temperatures and pressures that may not have occurred simultaneously.

25. What is the pressure drop test and how is it used?

- a. The pressure drop test is used to determine if a system is leaking after final assembly. You can run a pressure drop test only, (typically 10 minutse) and no temperature probe required, or a temperature compensated test by using a connected temperature probe. (recommended for long term testing, example 1 hour to 24 hours)

Connect to both the high and low sides of the system. This is especially on TXV equipped systems. **Using nitrogen only for temperature compensated testing**; pressurize the system to the manufacturer's recommended test pressure. Let the system stabilize for Approximately 5 minutes then close both the high and low side valves. Press the mode key on time to enter the timed pressure drop menu. Press the R/Start/Stop to start the test. Typically the minimum amount of time required is 10 minutes. *Consult manufacturer's instructions or local jurisdiction having authority on large piping systems.* The initial pressure will be shown on the left side of the screen and the final on the right. The change in pressure will be shown in the upper right hand corner of the display as ΔP . During a temperature compensated test, the 550 measures the initial pressure and temperature when the test starts and compensates for changes in pressure due to temperature. You can have a change in pressure ΔP without a loss of pressure on the gauge due to a change in temperature during the test. Press the R/Start/Stop key again to stop the test at the end of the desired testing period. You can scroll through the menus to see the final and initial temperatures and pressures. The display will show the initial pressure and flash the final pressure on and off. A negative ΔP indicates a system loss in pressure (possible leak), a positive ΔP indicates an increase in pressure, most likely due to an increase in temperature. Consult the manufacturer for acceptable leakage rates. *Small changes in pressure can be considered normal as the system stabilizes.* A system that continually drops most likely has a leak. *NOTE: the low side sensor is not active during the pressure drop test.* Pressing the mode key again will switch the instrument to evacuation mode for rough vacuum measurement. For precise vacuum measurement a micron gauge is required.