



VOLTAGE TESTER FAQs

Q: WHAT IS THE DIFFERENCE BETWEEN THE NEW SOUTHWIRE VOLTAGE TESTERS AND A “WIGGY”?

A: A “wiggy” is a solenoid voltmeter which uses a spring-loaded solenoid and pointer to indicate voltage. Higher voltage creates a higher magnetic field which pulls the solenoid against the spring. The pointer indicates the relative voltage on a scale. Solenoid voltmeters are not precision instruments. Southwire’s new 41151S, 41161N, and 41171N voltage testers are digital electronic devices which measure AC and DC voltage the same way a multimeter or clamp meter does.

Q: CAN YOU TEST CONTINUITY WITH THE VOLTAGE TESTER?

A: Yes, the Southwire 41161N and 41171N voltage testers indicate continuity with both visual and audible indication.

Q: WHAT IS THE DIFFERENCE BETWEEN THE 41161N VOLTAGE TESTER AND THE 41171N VOLTAGE TESTER?

A: Both voltage testers have the same features and functions. The primary difference is that the 41161N displays voltage and continuity using LED’s whereas the 41171N displays voltage and continuity using an LCD display.

Q: ARE THE SOUTHWIRE VOLTAGE TESTERS USEFUL FOR MEASURING DC BATTERY VOLTAGES?

A: Actually, they’re great for that task. All three voltage testers are useful for testing 12V car batteries, 12V and 9V alkaline batteries. The 41171N is also useful for measuring 1.5V alkaline batteries .

Q: CAN YOU ATTACH A MAGNETIC STRAP TO THESE VOLTAGE TESTERS?

A: Yes, we know how electricians love hanging straps so we made it possible for all three voltage testers to accept the attachment of a hanging magnetic strap. The Southwire model number for the hanging magnetic strap is 60151R.

Q: I NEED TO REPLACE A CEILING LIGHT FIXTURE? WILL THESE VOLTAGE TESTERS HELP ME DETECT IF THE ELECTRICITY HAS BEEN TURNED OFF?

A: These voltage testers are the perfect tool for confirming that the electricity has been turned off before working on a light fixture or electrical outlet. The built-in non-contact voltage detector is great for detecting the presence of voltage in an electrical outlet or in wires. In the Voltage Test mode and use the test probes to confirm whether or not voltage is present.



VOLTAGE TESTER FAQs

CONTINUED

Q: DO THE NEW SOUTHWIRE VOLTAGE TESTERS HAVE A LOW BATTERY INDICATOR?

A: The 41151S voltage tester needs no batteries but both the 41161N and 41171N voltage testers use two AAA batteries. Both the 41161N and 41171N will display a low battery LED indicator when the voltage level of the batteries is approximately 2.7V.

Q: WHAT IS THE VOLTAGE DETECTION RANGE OF THE NON-CONTACT VOLTAGE (NCV) DETECTOR IN THE 41161N AND 41171N?

A: The NCV will detect voltage from 100V AC to 1000V AC.

Q: HOW CAN I BE CONFIDENT THAT THE NON-CONTACT VOLTAGE (NCV) DETECTOR IN THE 41161N AND 41171N IS WORKING CORRECTLY?

A: The 41161N and 41171N voltage testers have a patented NCV self-test function. The self-test is activated every few seconds to ensure that the NCV antenna, beeper, and LED's are working correctly and that the battery voltage is sufficient. If a fault in any one of these areas is detected, the NCV will become inoperable. You will notice that when the voltage tester is in the NCV Mode, the green LED will flash periodically, indicating that the self-test is active.

Q: I'VE NOTICED THAT NOT ALL VOLTAGE TESTERS ON THE MARKET ARE UL TESTED AND LISTED. ARE THE NEW SOUTHWIRE VOLTAGE TESTERS UL LISTED?

A: Southwire is committed to providing the safest meters and testers possible so you can be confident that all of our meters and testers are UL listed.



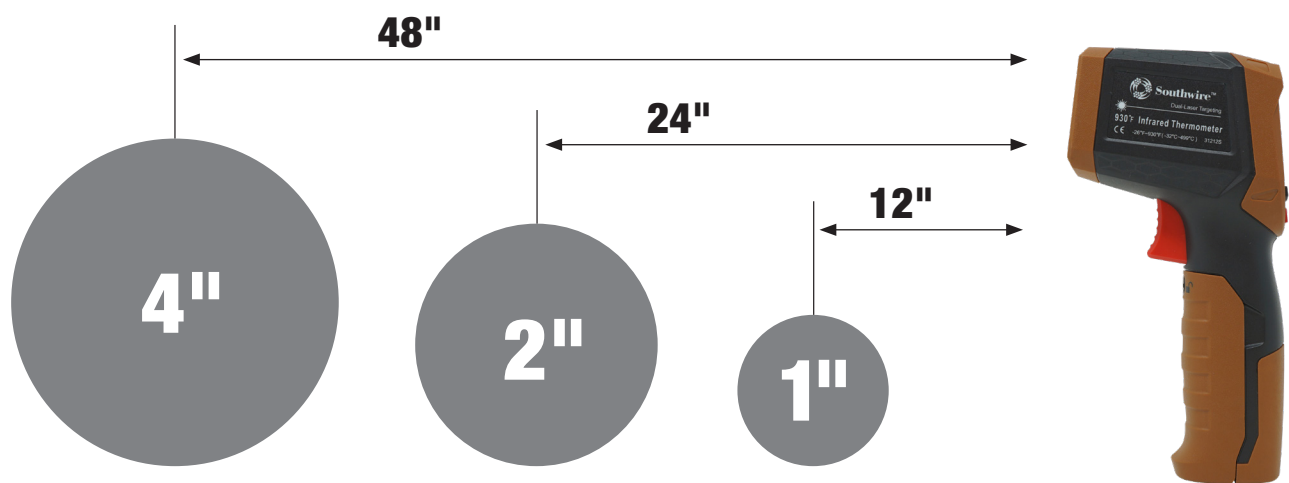
IR THERMOMETER FAQs

Q: HOW DOES AN IR THERMOMETER WORK?

A: Radiation is the transmission of energy in the form of waves or particles through space. One type of radiation is electromagnetic radiation which includes visible light, radio waves, microwaves, and infrared (IR). You cannot see IR radiation but you can feel it as heat. It behaves like visible light — it can be focused, reflected, or absorbed. With few exceptions, all objects emit IR radiation. When you point an IR thermometer at an object, it uses a lens to gather the IR radiation emitted by that object and focuses it on a detector. The detector converts the IR radiation into electricity which can then be displayed as a temperature measurement.

Q: HOW LARGE OF AN AREA IS THE IR THERMOMETER MEASURING?

A: Every IR thermometer has a “distance-to-spot” ratio which tells you the diameter of the area being measured compared to how far the IR thermometer is from the target. For example, the 31212S IR thermometer has a distance-to-spot ratio of 12:1. Let’s say you wish to measure the temperature of a wall. If you hold the IR thermometer 12-inches from the wall and squeeze the trigger, the IR thermometer will measure the temperature of a round circle on the wall 1-inch in diameter. (12-inches is the “distance” and 1-inch is the “spot”). The “spot” will get larger the further you move from the wall. If you move the IR thermometer 24-inches from the wall, the size of the spot being measured increases to 2 inches.



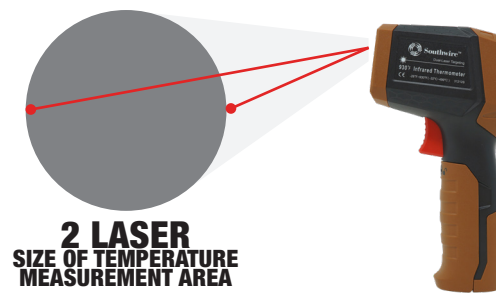
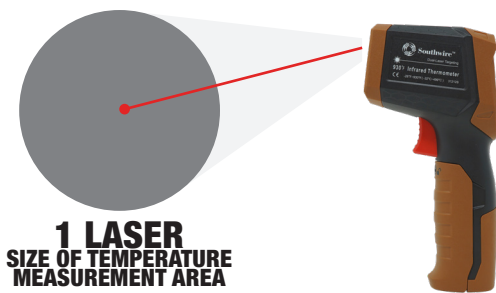
SIZE OF TEMPERATURE MEASUREMENT AREA



IR THERMOMETER FAQs CONTINUED

Q: WHAT ARE THE LASERS FOR?

A: Depending on the model, your southwire ir thermometer is equipped with one or two lasers to assist with aiming the thermometer. Depending on how far you are from the object being measured, the laser shows you either the center of the measurement area (like the image below on the left) or, if two lasers are used, the approximate diameter of the temperature measurement area (like the image below on the right) the laser beam is not measuring temperature. The purpose of the laser beam is only to help you aim the thermometer and estimate the size of the temperature measurement area.



Q: WHAT IS EMISSIVITY AND HOW DO I USE IT?

A: Emissivity is a number which describes a materials ability to EMI (release or discharge) infrared (IR) radiation. It is a number between 0.1 and 1. A material with an emissivity of 0.1 is a reflector (like aluminum foil) of IR radiation whereas the number 1 represents a very good emitter of ir radiation (like black cloth). The Southwire 31212S allows you to adjust the emissivity setting of the thermometer to match the material being measured. Using the correct emissivity setting will ensure that your temperature measurements are as accurate as possible. Your IR thermometer was set at the factory with an emissivity setting of 0.95. Most materials have an emissivity number between 0.90 and 0.98 So the factory setting will be accurate for most measurements. Generally, polished or highly reflective surfaces have lower emissivity numbers. If you want to achieve the most accurate measurement possible you should adjust the emissivity setting of the IR thermometer for these types of materials. Your Southwire IR thermometer instruction manual provides emissivity numbers for common materials.



IR THERMOMETER FAQs

CONTINUED

Q: WILL THIS IR THERMOMETER TELL YOU THE INTERNAL TEMPERATURE OF A STEAK?

A: An IR thermometer reads surface temperature so it will only tell you the temperature on the outside surface of the steak.

Q: CAN THIS BE USED TO SEARCH FOR COLD AIR ENTERING A HOUSE, SUCH AS AROUND DOORS AND WINDOWS?

A: As described above under the question “How large of an area is the IR thermometer measuring?”, the IR thermometer gives you the average temperature within a circular area that it is focused on. To get a good idea of air infiltration around doors and windows, you need to hold the IR thermometer as close to the gap as possible and read the temperature as you move it along the door or window gap.

Q: CAN THE IR THERMOMETER BE USED TO DETERMINE THE TEMPERATURE ACCURACY OF AN OVEN?

A: Yes but the IR thermometer will tell you the surface temperature of the inside of the oven, not the air temperature within the oven. It also won't tell you the temperature of the oven through the glass window in the door. Therefore, you will need to open the oven door and quickly measure the temperature of the inside surface of the oven.