



PROD. NO. 027591

MOD. NO. IRT-520

Non-Contact Infrared Thermometer

Operator's Manual



www.itctoolscanada.com

Features:

- Allows accurate measurement of temperature without contact
- Gives instant readouts
- Selectable laser pointer for accurate aim
- Backlit display for easy reading
- Automatic data hold

Applications:

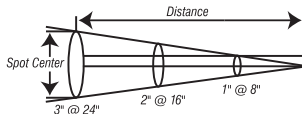
Ideal for use in inaccessible areas and where moving parts or high heat make contact measurement dangerous.

A variety of uses including: automotive applications, food and beverage industries, chemical industries, cement plants, road building, HVAC, pool maintenance, etc.

Field of View:

The meter's field of view is 8 : 1 meaning that if the meter is 8" away from the target, the diameter of the object under test must be at least 1".

figure 1



Field of view (distance : spot size)

8 : 1

Safety:

- Use extreme caution when the laser beam is turned on.
- Do not let the beam enter your eye, another person's eye or the eye of an animal.
- Be careful not to let the beam on a reflective surface strike your eye.
- Do not allow the laser light beam to impinge upon any gas which can explode.

General Specifications:

Display: 3-1/2 digit (1999 count) LCD with backlighting

Measuring range: -20°C to 520°C / -4°F to 968°

Repeatability: 2% or 3°F

Accuracy: +/- 2°C or 2% of reading

Operating Temperature: 0°C to 41°C / 32°F to 105°F

Response time: 1 sec. approx.

Field of view (distance : spot size): 8:1

Spectral response: 7 – 18μm

Emissivity: 0.95 fixed

Relative humidity (operating): 10 - 95%

Power OFF: Automatic shutoff

Power supply: 9V battery

Front Panel Description:

1. Battery power display
2. LCD display
3. Backlight
4. °F / °C select button
5. Laser select button



Measurement Operation:

- (1) Press and hold the measurement trigger to turn the meter ON.
- (2) Select the unit of temperature (°C or °F)
- (3) Release the Trigger and the HOLD display icon will appear on the LCD indicating that the reading is being held.
- (4) The meter turns OFF automatically after measurement trigger is released.

Battery Replacement:

When battery power is not sufficient, LCD will display. You will need a new 9V battery.



How it Works

Infrared thermometers measure the surface temperature of an object. The meter's optics sense the energy emitted, reflected or transmitted from an object and collects and focuses it onto a detector. The electronics then translate the information into a temperature reading, which is displayed on the LCD. In thermometers with a laser beam, the laser is used for aiming purposes only.

Field of View

Make sure that the target is larger than the meter's spot size. The smaller the target, the closer you should be to it. When accuracy is critical, make sure the target is at least twice as large as the spot size.

Distance and Spot Size

As the distance (D) from the object increases, the spot size (S) of the area measured by meter becomes larger (see figure 1).

Locating a Hot Spot

To find a hot spot, aim the meter outside the area of interest, then scan across with an up and down motion until you locate hot spot.

Reminders

- Not recommended for use in measuring any shiny or polished metal surfaces (stainless steel, aluminum etc.).
- The meter cannot measure through transparent surfaces such as glass. It will measure the surface temperature of the glass instead.
- Steam, dust, smoke etc. can prevent accurate measurement by obstructing the meter's optics.

Emissivity:

Most (90% of typical applications) organic materials and painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate, cover the surface to be measured with a masking tape or flat black paint. Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.



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