



10:1 INFRARED THERMOMETER

USER'S MANUAL



IRT217

Please read these instructions carefully and thoroughly before using the product.

INTRODUCTION

Thank you for purchasing General Tools & Instruments' (General's) IRT217 Infrared Thermometer (IRT). The instrument uses an IR sensor to measure the temperature of a surface or object from a distance by quantifying its thermal radiation. This noncontact measurement capability allows you to safely determine the temperature of very hot or cold surfaces, hard-to-reach or moving objects, and toxic substances. A red laser with a targeting ring precisely outlines the area being measured. Readings, in °F or °C, are displayed on a liquid-crystal display (LCD).

The IRT217 has:

- A 10:1 distance-to-spot (D:S) ratio
- A high-visibility, 4-digit white-on-black backlit LCD
- A measurement range of -4° to 689°F (-20° to 365°C)
- Automatic reading hold
- A 7-second Auto Power Off (APO) function

WHAT'S IN THE PACKAGE

The IRT217 comes on a blister-packed card along with two "AAA" Alkaline batteries.

PRODUCT OVERVIEW

Fig. 1 shows the key components of the IRT217. Fig. 2 shows all possible display icons and indications. Use Fig. 1 to familiarize yourself with the position and function of all components before moving on to the safety, setup and operating instructions.

Fig. 1. The IRT217's key components

- A. Laser pointer exit
- B. Infrared sensor
- C. Measurement trigger
- D. Battery compartment
- E. Backlit 4-digit white-on-black LCD
- F. button. Turns laser pointer on and off
- G. °C/°F button. Toggles between measurement units

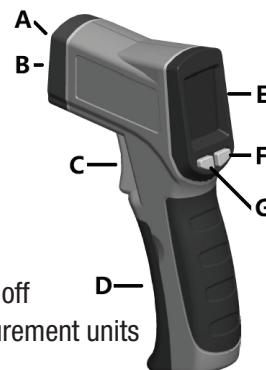
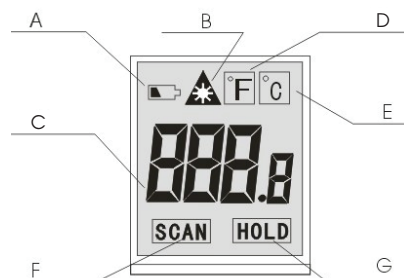


Fig. 2. All possible display indications



- A. Low battery charge indicator
- B. Laser pointer "on" icon
- C. Temperature readout
- D. Indicates that temperature readouts are in °F
- E. Indicates that temperature readouts are in °C
- F. Indicates operation in scan mode (flashes with the trigger squeezed)
- G. Indicates last reading is being held (after the trigger has been released)

SAFETY INSTRUCTIONS

CAUTION!

- The IRT217's Class 3R laser pointer emits less than 3mW of radiation at 630 to 660nm (nanometers). However, **avoid looking directly at the laser, and never point it at people or animals.** Eye protection is normally afforded by the blink reflex. U.S. law prohibits pointing a laser beam at aircraft; doing so is punishable by a fine of up to \$10,000 and imprisonment.
- **Never allow children to operate the instrument.**
- **Do not** operate the IRT217 in explosive environments containing flammable liquids, gases or dust. Doing so may create sparks that can ignite the dust or fumes.
- **Keep the IRT away from cardiac pacemakers.** A magnet inside the instrument generates an electromagnetic field that can impair their function. Likewise keep the tool away from magnetic data storage media, whose contents may be erased by the magnetic field.

SETUP INSTRUCTIONS

INSTALL BATTERIES


The IRT217 is ready to use after you install two “AAA” batteries. To open the battery compartment (Fig. 1, Callout D), place the tips of your thumb and index finger in the cutouts on the sides of the compartment cover and pull to swing it down. Install the batteries in series according to the polarity marks on the inside of the compartment. Then swing the cover up and snap it shut.

OPERATING INSTRUCTIONS


To make a temperature measurement, begin by squeezing the IRT’s trigger (Fig. 1, Callout C) to activate its laser pointer. The display will come to life by showing a temperature reading, as well as the flashing word **SCAN** (Fig. 2, Callout F). Note that the reading changes as you change the target with the trigger squeezed.

Next, while continuing to squeeze the trigger, choose your target area—the area whose temperature you wish to measure—and aim the gun at it. **Move closer to or further from the target so the visible targeting ring produced by the IRT exactly covers the target area.** Be sure the ring does not extend beyond the target area—in which case the measurement might include hotter or colder surfaces outside its perimeter, producing an erroneous reading.

Once you’ve defined the target area, release the trigger. Doing so changes **SCAN** to **HOLD** (Fig. 2, Callout G) and “freezes” the readout at the temperature of the target for seven seconds. After seven seconds, the IRT217 (including the laser pointer) automatically powers off to extend battery life. The seven-second hold enables you to take the temperature of surfaces you cannot see (under or behind objects, for example) and then read the display after returning the gun to eye level.

To change the measurement unit from Celsius to Fahrenheit, press the °C/°F button (Fig. 1, Callout G.). To turn off the laser pointer, press the  button (Fig. 1, Callout F).

OPERATING/MAINTENANCE TIPS

- The display indicates **OH** if the temperature of a target is above 689°F (365°C), and **OL**— if its temperature is below -4°F (-20°C).
- While making measurements, the brightness of the laser and the display backlight will gradually decrease along with battery charge. This will not affect the accuracy of measurements.
- When the batteries become critically short of power, the  icon will automatically appear on the screen. When it does, replace both batteries.
- The IRT217 may not be able to measure the temperature of computer/TV monitors because they absorb IR radiation. Similarly, attempting to measure the temperature of a target behind glass, plastic or steam may produce erroneous results.
- To avoid having old or unused batteries leak acid and ruin the instrument, remove both batteries when you do not expect to use the IRT217 for a long period of time (several months, for example).
- Clean the lens of the infrared sensor lens (Fig. 1, Callout B) often with compressed air or a moist cotton cloth. Never use a solvent or an abrasive cleaner. To clean the housing, use a soft, damp cloth.

- Abrupt temperature changes will cause condensation and possible vapor penetration. Clean the LCD after the vapor evaporates.
- Keep the IRT217 away from water, extreme temperatures, corrosive gases and strong electromagnetic fields (such as produced by arc welders and induction heaters).

SPECIFICATIONS

Distance-to-spot (D:S) ratio: 10:1

Measurement range: -4° to 689°F (-20° to 365°C)

Measurement accuracy:

±3.6°F (2°C) or ±2% of reading above 32°F (0°C)

±5.4°F (3°C) or ±2% of reading below 32°F (0°C)

Response time: 500 milliseconds for 95% response

Emissivity: Fixed at 0.95

Display resolution: ±0.1° (F or C)

Laser wavelength: 630 to 660nm

Laser class: 3R (<3 mW)

Auto power off trigger: No activity for seven seconds

Power source: Two “AAA” batteries (included)

Operating temperature (ambient): 32° to 104°F (0° to 40°C)

Product dimensions: 5.9 x 2.9 x 1.3 in. (150 × 73 × 32mm)

Product weight: ~2.5 oz. (70g), without batteries

WARRANTY INFORMATION

General Tools & Instruments (General) warrants its instruments and accessories, and digital tools products against defects in material or workmanship for one year from the date of purchase unless otherwise stated on the packaging, user’s manual, and/or marketing materials.

This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the product. It also does not cover products purchased from unauthorized distributors. A proof of purchase must accompany each warranty claim.

Any implied warranties arising from the sale of a General product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. General shall not be liable for loss of use of the product or other incidental or consequential damages, expenses, or economic loss, or for any claim of such damage, expenses, or economic loss. State laws vary. The above limitations or exclusions may not apply to you.

For more details or to file a warranty claim, contact General Tools & Instruments Technical Support at techsupport@generatools.com.

RETURN FOR REPAIR POLICY

Every effort has been made to provide you with a reliable product of superior quality. However, in the event your instrument requires repair, please contact our Customer Service to obtain an RGA (Return Goods Authorization) number before forwarding the unit via prepaid freight to the attention of our Service Center at this address:



General Tools & Instruments
75 Seaview Drive
Secaucus, NJ 07094
212-431-6100

(800) 697-8665 e-mail: sales@generalttools.com

IRT217 User’s Manual 10/22/20