



IRT650

USER'S MANUAL



12 to 1 Wide-range Infrared Thermometer



99 Washington Street
Melrose, MA 02176
Phone 781-665-1400
Toll Free 1-800-517-8431



INTRODUCTION:

Thank you for purchasing this Infrared Thermometer. This is a non-contact infrared temperature measuring instrument. Features include a 4 digits backlit LCD, scan/hold/auto function and auto power off (6 seconds). To measure a temperature, point the unit at the desired object, pull the measuring trigger and hold till the end of the shot. Make sure the target area is larger than the unit's spot size.

FEATURES:

- High performance for general purposes
- Ultra low power consumption in shutdown mode
- Extended long time measuring reliability
- Laser sighting On/Off is switchable
- Backlit LCD display
- °F or °C selectable
- Electronic trigger lock


APPLICATIONS:

- Manufacturing processes of semiconductor technology
- Automotive repair and maintenance
- Food safety and processing
- HVAC energy audits
- Electrical troubleshooting
- Testing terminals on circuits
- Scientific experiment
- Air conditioning

SAFETY INFORMATION:

Read the following safety information carefully before attempting to operate or service the meter. Only qualified personnel should perform repairs or services not covered in this manual.



LASER WARNING NOTE!

 Do not point laser directly at eyes.
Use caution around reflective surfaces.
Keep out of reach of children!

CAUTIONS!

DO NOT submerge the unit in the water.
This product is not designed for use in medical evaluations.
The product can only be used to measure body temperature for reference. It is meant for industrial and scientific purposes.

SAFETY SYMBOLS

 Dangerous, refer to this manual before using the meter.
 CE Certification


This instrument conforms to the following standards:
EN61326: Electrical equipment for measurement, control and laboratory use.

IEC61000-4-2: Electrostatic discharge immunity test.

IEC61000-4-3: Radiated, radio-frequency, Electromagnetic field immunity test.

IEC61000-4-8: Power frequency magnetic field immunity test.

Tests were conducted using a frequency range of 80-1000MHz with the instrument in three orientations. The average error for the three orientations is ± 1.0 °F (± 0.5 °C) at 3V/m throughout the spectrum. However, between 781-1000MHz at 3V/m, the instrument may not meet its stated accuracy.

 The device may not be disposed in the trash. It promotes the re-use recycling and other forms of recovery of used materials and components, and to improve the environmental performance of all operators (manufacturers, traders, treatment facilities) involved in the life cycle of products. Dispose of the product appropriately in accordance with relevant regulations.

SPECIFICATIONS:

Distance/Spot Ratio: 12:1

Temperature Range: -25° to 999°F (-32° to 535°C)

Accuracy(@ ambient temperature of 77°F/25°C):
±5°F (±3°C) within -25° to -4°F (-32° to -20°C)
±3°F (±2°C) within -4° to 212°F (-20° to 100°C)
±2% within 212° to 999°F (100° to 535°C)

Thermopile: 5 ~ 14µm

Repeatability: ±2°F (±1°C)

Resolution: 0.1°F (0.1°C)

Response Time: 500 ms.

Operating Temperature: 32° to 122°F (0° to 50°C),
10 to 90%RH

Auto Power Off: Automatically after approx. 6 seconds

Emissivity: Fixed at 0.95

°F/°C Switchable: YES

Backlight: YES

Laser Sight Switchable: YES

Dimensions: 6.69" x 5.23" x 1.77" (170 x 133 x 45mm)

Battery Type: "9V" battery

Battery Life: 16 hours

Weight: 5.8 oz. (163 g) Approx.

Accessory: "9V" battery, Instruction Manual,
Soft Carrying Case

OPERATIONS OF INSTRUMENT

QUICK START:

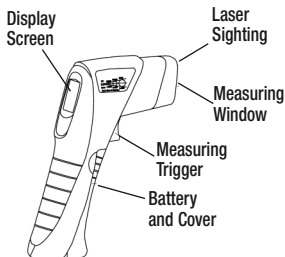
To measure a temperature, point the unit at the target that you want to measure, pull the measuring trigger and hold. In SCAN mode, the LCD displays either the current temperature in Celsius or Fahrenheit.

The unit will HOLD the last reading for about 6 seconds after the trigger is released; the word HOLD appears.

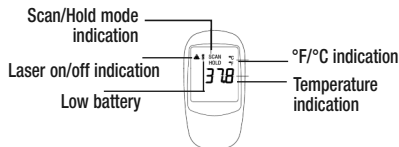
Be sure to consider the target area that is inside the angle of vision of this instrument.

The single spot of laser is used for aiming only.


UNIT DIAGRAM:

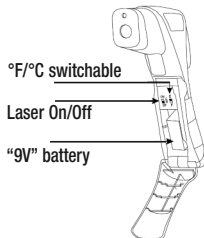


LCD DISPLAY:



°F/°C AND BATTERY CHANGE:

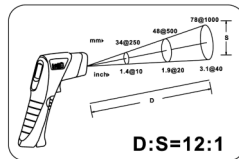
The unit is powered by "9V" battery and displays temperature in either °F/°C. The user has to replace the battery when the battery voltage drops below the voltage for reliable operation and at the same time the low battery symbol  will appear. To change the "9V" battery, pull and open the unit's handle by using the finger. Change the "9V" battery with a new one and push the battery cover back in place.



TECHNIQUES OF INFRARED THERMOMETER:

FIELD OF VIEW (FOV) RATIO = DISTANCE TO DIAMETER (DS) RATIO

The field of view is the angle of vision at which the instrument operates and it is determined by the optics of the unit. The FOV is the ratio of the distance from the target to the target diameter. The smaller the target, the closer you should be to it. When the target diameter is small, it is important to bring the thermometer closer to the target to insure that only the target is measured, excluding the surroundings.



EMISSIVITY:

Emissivity is the ability of an object to emit or absorb energy. Perfect emitters have an emissivity of 1, emitting 100% of incident energy. An object with an emissivity of 0.8 will absorb 80% and reflect 20% of the incident energy.

Emissivity is defined as the ratio of the energy radiated by an object at a given temperature to the energy emitted by a perfect radiator at the same temperature. All values of emissivity fall between 0.0 and 1.0.

Non-contact temperature sensors measure IR energy emitted by the target, have fast response, and are commonly used to measure moving and intermittent targets, targets in a vacuum, and targets that inaccessible due to hostile environments, geometry limitations, or safety hazard.

The cost is relatively higher, although in some cases it is comparable to contact devices.

MAINTENANCE:

Cleaning the lens: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a moist cotton swab. The swab may be moistened with water.

NOTE:

DO NOT USE SOLVENTS TO CLEAN THE LENS.

CLEANING THE HOUSING: Use soap and water on a damp sponge or soft cloth.



Specialty Tools & Instruments

**Test Equipment
Depot**



1-800-517-8431

99 Washington Street
Melrose, MA 02176
Phone 781-665-1400
Toll Free 1-800-517-8431



Visit us at www.TestEquipmentDepot.com

Specifications subject to change without notice

©2014 GENERAL TOOLS & INSTRUMENTS

NOTICE - WE ARE NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

MAN# IRT650

6/12/14



General Tools & Instruments



GeneralToolsNYC