**Meterman** **IR610 Operating Instructions**

P/N 1638847

## WARRANTY

The IR610 Digital Infrared Thermometer is warranted against any defects of material or workmanship within a period of one (1) year following the date of purchase of the thermometer by the original purchaser or original user. Any thermometer claimed to be defective during the warranty period should be returned with proof of purchase to an authorized Meterman Test Tools Service Center or to the local Meterman Test Tools dealer or distributor where your thermometer was purchased. See maintenance section for details. Any implied warranties arising out of the sale of a Meterman Test Tools thermometer, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the above stated one (1) year period. Meterman Test Tools shall not be liable for loss of use of the thermometer or other incidental or consequential damages, expenses, or economical loss or for any claim or claims for such damage, expenses or economical loss. Some states do not allow limitations on how long implied warranties last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## CERTIFICATIONS AND PRECAUTIONS

■ The IR610 instrument is EN60825 Class II –1 mW certified for Laser Safety. ■ Do not use any damaged part. ■ Do not operate instrument in an explosive atmosphere. It is recommended that you read the safety and operation instructions before using the infrared thermometer. The symbol on the instrument indicates that the operator must refer to an explanation in this manual.

### DANGER

Pressing the button that turns the laser marker on and off. Exercise extreme care and do not allow the laser beam to enter your eye or those of any other person or animal. ■ Do not look directly into the laser light. ■ When measuring the temperature of an object which has a mirror finish, be careful not to allow the laser light beam to be reflected off the surface into your eyes or those of another person. ■ Do not allow the laser light beam to impinge upon any object or gas which can explode.

### CAUTION

■ Do not use the unit near any device which generates strong electromagnetic radiation or near a static electrical charge, as these may cause errors.

■ Do not keep or use this unit in an environment where it will be directly illuminated by sunshine, or where it will be exposed to high temperatures, high humidity or condensation. If you do, it may be deformed, its insulation may be damaged, or it may no longer function according to specification due to sensor damage.

■ Do not contact the lens against the object whose temperature is to be measured, or get it dirty, allow it to be scratched, or allow any foreign material to adhere to it. Doing so may cause errors.

■ Do not touch or hold by the front cone. Temperature reading can be affected by heat from hand.

■ If the meter is exposed to significant changes in ambient temperature (hot to cold or cold to hot). Allow 20 minutes for temperature stabilization, before taking measurement.

■ Condensation may form on the lens when going from a cold to hot environment. Wait 10 minutes for condensation to dissipate before taking measurements.

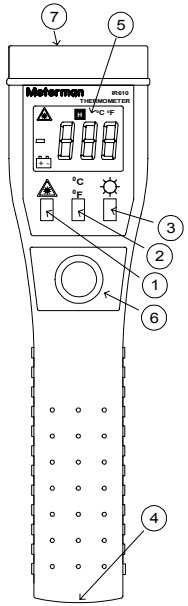
■ This unit is not constructed to be water proof or dustproof, so do not use it in a very dusty or wet environment.

## EXPLANATION OF SYMBOLS

Laser Beam - Do not stare into Laser beam or direct it toward the eyes.

## INTRODUCTION

The IR610 is a portable easy use 3½ digit, compact- sized digital Infrared thermometer capable of measuring °C and °F temperature. Its controls are: 1. Sighting Laser On/Off button. 2. °C/°F selector. 3. LCD Backlight On/Off button. 4. mV Output jack. 5. LCD Display. 6. Measure button. 7. Laser output and Thermopile input lens.




**Display Back-Light Button:** Press (☼) button to toggle between turn on and turn off the Back-Light.

**Laser Marker Button:** Press (▲) button to toggle between turn on and turn off the Laser Marker annunciator and laser marker beam.

**Measure Button:** Depress button ⑥ to turn on the meter for measuring temperature. Release the button to stop measuring temperature and automatically hold the display reading, the meter turns off automatically after 15 seconds.

**Auxiliary output:** The microphono jack (2.5 mm) connector output ④ is active as long as the light meter is turned on.

## MEASURING PROCEDURES

1. When the power is off, pressing the ⑥ button turns on the power.
2. Use (☼) button to select turn on or turn off the display Back-Light.
3. Use (▲) button to select turn on or turn off the Laser Marker.
4. Point the lens at the object whose temperature is to be measured.
5. Press the ⑥ button. The display is updated as long as the ⑥ button is kept pressed.
6. Aim the laser beam at the object whose temperature is to be measured.

NOTE: Although the field of measurement (or Field of View) and the spot almost coincide, actually the field of measurement corresponds to the diameter for 90% optical response. The object whose temperature is to be measured needs to be larger than the measurement diameter (spot of size) by an adequate margin at least 1.5 to 2 times larger.

7. Read the display.

## MAINTENANCE

**In Case of Difficulties:** In the case of improper operation of the thermometer, first review the operating instructions for possible errors in operation. Check the condition of the batteries. The battery " " symbol appears when the voltage falls below the level where accuracy is guaranteed. Replace the batteries immediately.

### Battery Replacement

To replace the batteries ( 4 – AAA) unscrew the battery hatch screw and remove the old batteries. Install the new batteries observing the diagram in the battery area.

### Cleaning Procedure

Gently wipe dirt from the surface of the unit with a soft cloth moistened with a small amount of water or neutral cleanser. Do not use benzene, alcohol, acetone, ether, paint thinner, lacquer or ketone solvents on the units, under any circumstances as these may cause deformation or discoloration.

## REPAIR

Read the warranty located at the front of this manual before requesting warranty or non-warranty repairs. For warranty repairs, any thermometer claimed to be defective can be returned to any Meterman Test Tools authorized distributor or to a Meterman Test Tools Service Center for an over-the-counter exchange for the same or like product. Non-warranty repairs should be sent to a Meterman Test Tools Service Center. Please call Meterman Test Tools or enquire at your point of purchase for the nearest location and current repair rates. All thermometers returned for warranty or non-warranty repair or for calibration should be accompanied by the following information or items: company name, customer's name, address, telephone number, proof of purchase (warranty repairs), a brief description of the problem or the service requested, and the appropriate service charge (for non-warranty repairs). Service charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Meterman Test Tools or to the specific service center. For minimum turn-around time on out-of-warranty repairs please phone in advance for service charge rates. The thermometer should be shipped with transportation charges prepaid to one of the following addresses or to a service center:

| in U.S.A. | in Canada | in Europe |
|---|---|---|
| Meterman Test Tools | Meterman Test Tools | Meterman Test Tools |
| 1420 75th Street SW | 400 Britannia Rd. E.Unit #1 | 52 Hurricane Way |
| Everett, WA 98203 | Mississauga, ON L4Z 1X9 | Norwich, NR6 6JB, U.K. |
| Tel: 1-877-596-2680 | Tel: (905) 890-7600 | Tel: int + 44-1603-404824 |
| Fax: 425-446-6390 | Fax: (905) 890-6866 | Fax: int + 44-1603-482409 |

The instrument will be returned with the transportation charges paid by Meterman Test Tools.

## SPECIFICATIONS

### General Specifications

Display: 3½ digit (LCD) with maximum reading of 1999
Overrange: (OL) or (-OL) is displayed
Low battery indication: " ". Change batteries immediately.
Measurement rate: 2.5 times per second, nominal.
Operating Environment: 0 °C to 50 °C (32 °F to 122 °F) at < 75% R.H.
Storage Temperature: -20 °C to 60 °C (-4 °F to 140 °F), 0 to 80 % R.H. with batteries removed
Environment: Indoor use, Altitude up to 2000 m.
Battery: 4 pcs 1.5V (AAA size) UM-4, R03
Battery Life: 100 hours carbon-zinc battery
Auto power off: approximately 15 seconds
Standby current: <1 μA
Dimensions: 170 x 44 x 40 mm
Weight: 160g including batteries
EMC: Conforms to EN61326-1. This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

### Operational Specifications

Accuracy: at 23°C ± 5°C (73°F ± 9°F), < 75 % relative humidity
Temperature Range: - 20 °C to 260 °C; 0 °F to 500 °F
Display Resolution: 1 °C; 1 °F
Accuracy: ± 3% of reading or ± 3 °C / ± 6 °F, whichever is greater @ 18 to 28°C ambient.
Temperature Coefficient: ± 0.2 % of reading or ± 0.2 °C, whichever is greater, per °C, > 28°C or < 18°C
Response Time: 1 second
Spectral Response: 6 to 14μm nominal
Emissivity: Pre-set 0.95
Detection Element: Thermopile
Optical Lens: Fresnal Lens
Field of View: 100 mm Ø at 1000 mm
Sighting: 1 - Laser beam marker < 1 mW (670nm) Class 2
Analog output: 1 mV / °C or 1mV / °F , nominal, continuous output