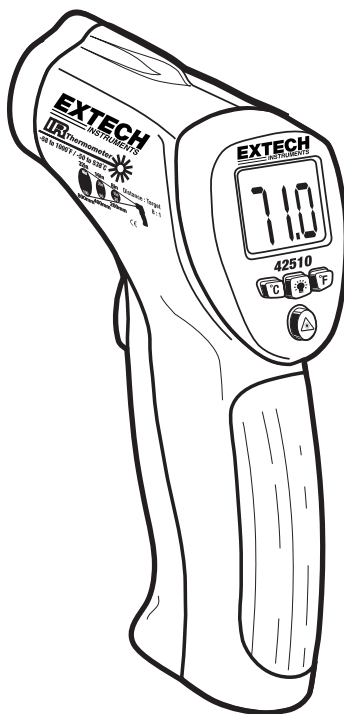


User's Manual



Wide Range Mini InfraRed Thermometer with Laser Pointer

MODEL 42510



Introduction

Congratulations on your purchase of the Model 42510 IR Thermometer. This thermometer measures and displays non-contact (infrared) temperature readings at the touch of a button. The built-in laser pointer increases target accuracy while the backlit LCD and handy push-buttons combine for convenient, ergonomic operation. Proper use and care of this meter will provide years of reliable service.

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for three (3) years from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

Safety

- Use extreme caution when the laser pointer beam is on
- Do not point the beam toward anyone's eye or allow the beam to strike the eye from a reflective surface
- Do not use the laser near explosive gases or in other potentially explosive areas



Specifications

Infrared Thermometer Specifications

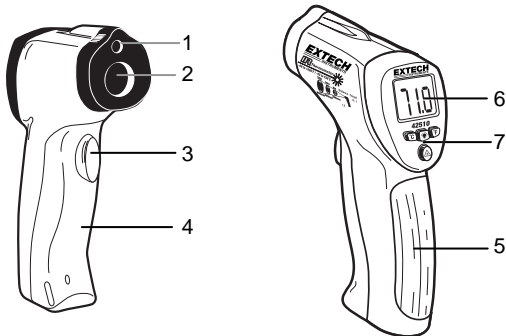
| | | |
|--------------------|---|------------|
| Range / Resolution | -58 to 200°F (-50 to 200°C) 200°F to 1000°F (200°C to 538°C) | 0.1° 1° |
| Accuracy | ± 1% of reading or ± 1.8°F (1°C) whichever is greater, from 60 to 113°F (15 to 50°C) ± 2% of reading or ± 4°F (2°C) whichever is greater, for remainder of range: -58 to 1000°F (-50 to 537°C) Note: Accuracy is specified for the following ambient temperature range: 64 to 82°F (18 to 28°C) | |
| Emissivity | 0.95 fixed value | |
| Field of View | D/S = Approx. 8:1 ratio (D = distance; S = spot) | |
| Laser power | Less than 1mW | |
| Spectral response | 6 to 14 μm (wavelength) | |

General Specifications




| | |
|-----------------------|---|
| Display | Backlit LCD display with function indicators |
| Display update rate | 1 second approx. |
| Operating Temperature | 32°F to 122°F (0°C to 50°C) |
| Operating Humidity | Max. 80% RH. |
| Power Supply | 9V battery |
| Automatic Power Off | Meter shuts off automatically after 6 seconds |
| Weight | 6.4 oz. / 180g |
| Dimensions | 3.2 x 1.6 x 6.3" (82 x 42 x 160mm) |

Meter Description

1. Laser pointer beam
2. IR Sensor
3. Measurement trigger
4. Battery compartment cover
5. Handle grip
6. LCD Display
7. Function Buttons



Operating Instructions

1. Hold the meter by its Handle Grip and point it toward the surface to be measured.
2. Pull and hold the orange Trigger to turn the meter on and begin testing. The temperature reading, the 'SCAN' icon, the emissivity icon ($E=0.95$), and the unit of measure will appear. Note: Replace the battery if the display does not light.
3. While continuing to pull the Trigger:
 - a. Push the laser button  to turn on the laser pointer. When the laser is ON the laser icon  will appear on the LCD over the temperature reading. Aim the red beam approximately a half inch above the point of test (pressing the laser button again turns the laser off).
 - b. Select the temperature units using the $^{\circ}\text{C}$ or $^{\circ}\text{F}$ button.
 - c. Push the backlight button  to turn on the LCD backlighting function.
4. Release the Trigger and the reading will hold for approximately 6 seconds (HOLD will appear on the LCD) and then the meter will automatically shut off.

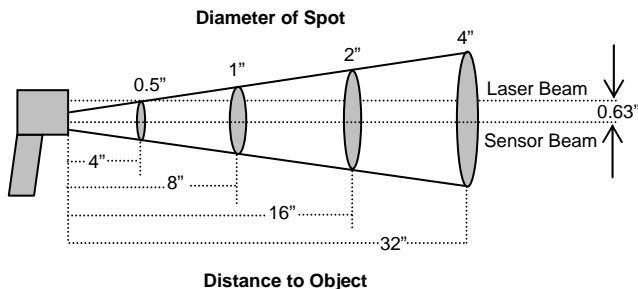
Over-range Indicator

If the temperature measurement exceeds 1000°F (538°C), the thermometer will display dashes in place of a temperature reading.

Field of View

The meter's field of view is 8:1. For example, if the meter is 16 inches from the target (spot), the diameter of the target must be at least 2 inches. Other distance ratios are shown below in the field of view diagram.


Note that measurements should normally be made less than 2 feet from the target. The meter can measure from further distances but the measurement may be affected by external sources of light. In addition, the spot size may be so large that it encompasses surface areas not intended to be measured.



Measurement Notes

1. The object under test should be larger than the spot (target) size calculated by the field of view diagram.
2. If the surface of the object under test is covered with frost, oil, grime, etc., clean before taking measurements.
3. If an object's surface is highly reflective, apply masking tape or flat black paint to the surface before measuring.
4. The meter may not make accurate measurements through transparent surfaces such as glass.
5. Steam, dust, smoke, etc. can obscure measurements.
6. The meter compensates for deviations in ambient temperature. It can, however, take up to 30 minutes for the meter to adjust to extremely wide ambient temperature changes.
7. To find a hot spot, aim the meter outside the area of interest then scan across (in an up and down motion) until the hot spot is located.

Battery Replacement

When the low battery symbol  appears on the lower left side of the display, replace the meter's battery (9V). The battery compartment is located behind the light green panel that surrounds the meter's trigger (see diagram). Open the compartment by pulling the light green panel down from the trigger area. Replace the 9V battery and close the battery compartment cover.



Calibration and Repair Services

Extech offers repair and calibration services for the products we sell. Extech also provides NIST certification for most products. Call the Customer Service Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.



Support line (781) 890-7440

Technical support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

For the latest version of this User's Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com
Extech Instruments Corporation, 285 Bear Hill Rd., Waltham, MA 02451

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