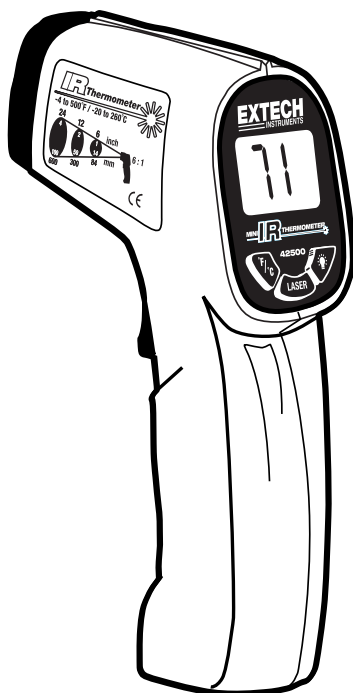# Mini InfraRed Thermometer
with Laser Pointer

MODEL 42500

$C\epsilon$

Introduction

Congratulations on your purchase of the Model 42500 IR Thermometer. This thermometer makes non-contact (infrared) temperature measurements 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. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this User Guide, Product Updates, and Customer Support.

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

CAUTION

LASER RADIATION
DO NOT STARE INTO BEAM

DIODE LASER
<1mW Output at 675nm
CLASS II LASER PRODUCT

Meter Description

1. LCD Display
2. Function Buttons
3. Handle Grip
4. IR Sensor
5. Laser pointer beam
6. Measurement Trigger
7. Battery Compartment
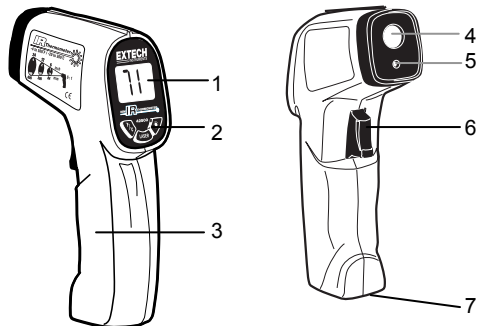
Operating Instructions

1. Hold the meter by its Handle Grip and point it toward the surface to be measured. Read the Field of View section below for distance to target ratio information.

2. Pull and hold the Trigger to turn the meter on and begin testing. The display will light if the battery is good. Replace the battery if the display does not light.

3. While continuing to pull the Trigger:

    a. Push the **Laser** button to switch the laser pointer ON. 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 below the point of test (pressing the Laser button again turns the laser off).

    b. Select the temperature units using the **°C** / **°F** button.

    c. Push the **backlight** button to switch ON the LCD backlighting function.

4. Release the Trigger; the reading will hold for approximately 6 seconds, after which the meter will automatically shut off.

5. The meter defaults to the programmed conditions in use when the meter was last switched off. For example, if the laser is set to ON and the temperature units are set to °F at the time the unit is switched OFF, the unit will switch ON and use the same settings.

Over-range Indicator

If the temperature measurement exceeds 500°F (260°C), the thermometer will display dashes in place of a temperature reading.

Field of View

The meter's field of view is 6:1. For example, if the meter is 30cm (approx.12") from the target (spot), the diameter of the target must be at least 5cm (approx. 2"). Other distances are shown below in the field of view diagram.

Note that measurements should normally be made closer than 60cm (approx. 2') 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.

Diameter of Spot

Distance to Object
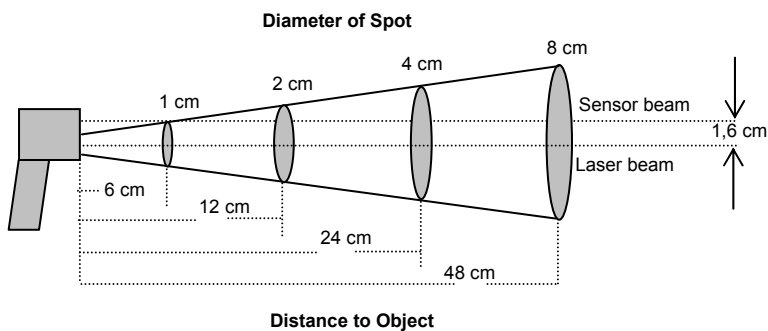
Measurement Notes

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 LCD, replace the meter's 9V battery. The battery compartment is located on the bottom of the meter's handle. Open the compartment by sliding the battery compartment cover off in the direction of the arrow. Replace battery and re-install the battery compartment cover.

You, as the end user, are legally bound (**EU Battery ordinance**) to return all used batteries, **disposal in the household garbage is prohibited!** You can hand over your used batteries / accumulators at collection points in your community or wherever batteries / accumulators are sold!

Disposal: Follow the valid legal stipulations in respect of the disposal of the device at the end of its lifecycle

Specifications

Infrared Thermometer Specifications

Range / Resolution	-20 to 260°C (-4 to 500°F)	1°C/F
Accuracy	± 2% of reading or ±2°C (4°F) whichever is greater, from 15 to 50°C (60 to 113°F)	
	± 3% of reading or ±3°C (6°F) whichever is greater, for remainder of range: -20 to 260°C (-4 to 500°F)	
	Note: Accuracy is specified for the following ambient temperature range: 18 to 28°C (64 to 82°F)	
Emissivity	0.95 fixed value	
Field of View	D/S = Approx. 6:1 ratio (D = distance, S = spot)	
Laser power	Less than 1mW	
Spectral response	6 to 14 μm (wavelength)	

General Specifications

Display	1999 count, backlit LCD display with function indicators
Display rate	1 second approx.
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	Max. 80% RH
Power Supply	9V battery
Automatic Power Off	Meter shuts off automatically after 6 seconds
Weight	140g (4.9 oz.)
Dimensions	170 x 44 x 40mm (6.7 x 1.7 x 1.6")