

High Temperature InfraRed Thermometer with Laser Pointer

MODEL 42545

Introduction

Congratulations on your purchase of the Model 42545 IR Thermometer. The 42545 is capable of 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 meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

Operating Instructions

Basic IR Measurements

1. Hold the meter by its handle and point it toward the surface to be measured.
2. Pull and hold the trigger to turn the meter on and begin testing. The temperature reading, the flashing 'SCAN' icon, the emissivity, and the unit of measure will appear. Note: Replace the 9V battery if the display does not switch on.
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The MODE button options

The MODE button is used to access the programming functions of the instrument. The selected function is displayed on the bottom line of the LCD. Each parameter is listed below with an explanation for its use. Press the MODE button to step from one parameter to the next.

EMS (Emissivity Value)

To change the emissivity value, use the UP and DOWN arrows (the range is 0.

IR Measurement Notes

1. The object under test should be larger than the spot (target) size calculated by the field of view diagram (printed on the side of the meter and in this guide).
2. Before measuring, be sure to clean surfaces that are covered with frost, oil, grime, etc.
3. If an object's surface is highly reflective, apply masking tape or flat black paint to the surface before measuring. Allow time for the paint or tape to adjust to the temperature of the surface it is covering.
4. Measurements through transparent surfaces such as glass may not be accurate.
5. Steam,

Emissivity and IR Measurement Theory

IR Thermometers measure the surface temperature of an object. The thermometer's optics sense emitted, reflected, and transmitted energy. The thermometer's electronics translate the information into a temperature reading which is then displayed on the LCD.

The amount of IR energy emitted by an object is proportional to an object's temperature and its ability to emit energy. This ability is known as emissivity and is based upon the material of the object and its surface finish. Emissivity values range from 0.1 for a very reflective object to

Specifications

Infrared Thermometer Specifications

Range / Resolution	-50 to 1000°C (-58 to 1832°F)	0.1°C/F
Accuracy (of reading)	$\pm$ (2% of reading + 9°F/4°C) <	