

MiniIR

Pocket Size Infrared Thermometer

This is capable of non-contact IR (infrared) temperature measurements with the touch of a button. Pocket-sized and easy to use — just point, shoot and read the temperature on the LCD display. When you need a fast, easy, safe way to measure surface temperature, you need a this non-contact thermometer. Use it at home, work, anywhere.

Features

- 1-year warranty
- Maximum and minimum temperature reading
- Auto power off to save battery power
- Selectable °C or °F units
- Low battery indication



do you know?

How does IR thermometers work?

IR thermometers capture the invisible infrared energy naturally emitted from all objects warmer than absolute zero (0° Kelvin). Infrared radiation is part of the electromagnetic spectrum which includes radio waves, microwaves, visible light, ultraviolet, gamma, and X-rays. Any object emits energy somewhere within that range.

Infrared falls between the visible light of the spectrum and radio waves. Infrared wavelengths are usually expressed in microns with the infrared spectrum extending from 0.7 microns to 1000 microns. In practice, the 0.7 to 14 micron band is used for IR temperature measurement as illustrated by the picture bellow.

Will infrared sensors measure air?

No. An infrared thermometer needs a surface to measure. In fact IRtek specifically design so that the air between the sensor and target does not affect the measurement.

Can infrared sensors measure water or ice?

Yes. Any object warmer than absolute zero emits energy.

Does color affect infrared measurement?

No. However, a different surface characteristic, called emissivity does. This is a primarily a concern for metallic materials and can be easily solved by adjusting the sensor. Most IRtek sensors have adjusted emissivity. (See Emissivity)

Why use non-contact infrared thermometers?

Non-contact infrared (IR) thermometers use infrared technology to quickly and conveniently measure the surface temperature of objects. They provide fast temperature readings without physically touching the object. You simply aim, pull the trigger and read the temperature on the LCD display.

Lightweight, compact, and easy-to-use, IR thermometers can safely measure hot, hazardous, or hard-to-reach surface without contaminating or damaging the object. Also, IR thermometers can provide several readings per second, as compared to contact methods where each measurement can take several minutes.

How close do I have to be to an object to take its temperature?

Distance does not affect the measurement. However, infrared sensors measure the energy from a circular spot on target. The size of that spot is a function of the distance between the sensor and target. The farther away from the target the sensor is, the larger the spot. Consequently, distance is only limited by the size of the object you want to measure. Thus, when measure the surface temperature, we have to be careful on determining the distance. (See Field of view)



Basic knowledge for using IR thermometer

Emissivity

An emissivity factor is used to account for reflected versus emitted radiation. An item with no reflective property would be said to have an emissivity of 1. Reflective items have lower emissivity levels. If you want to adjust emissivity on a thermometer, you can use figures from a reference table supplied with thermometers.



Laser

These red sighting lasers have come down in cost over the last few years, and are now available on even lower cost units. They may emit a single beam which accurately indicates the center of the target area, or they may effectively draw a "circle" around the target, removing any doubt about your measurement area. In bright or outdoor light, or over long working distances, the laser may not be visible, so keep this in mind.

Spectral response

The wavelength of infrared energy used for temperature measurement ranges from 0.65 to 14µm. General purpose thermometers respond to a wide band, typically the entire spectrum from 8 to 14µm. However there are specific narrow wavelengths which are better suited for certain applications. For example: A spectral response of 1.0 to 1.06 µm is preferred for high temperature measurements of metals, and will read through glass (instead of reading the glass itself). A spectral response of 4.8 to 5.2 µm is preferred for measuring glass and ceramic surfaces.

Field of view

The farther an IR thermometer is from its target, the larger the target area will be. This relationship between distance and target size is normally expressed as the distance to spot, or D:S ratio. As an example, a D:S ratio of 50:1 would indicate that at a distance of 50 feet, the target "spot" would be 1 foot in diameter.

Specifications

Temperature Range	-50°C ~ 220°C (-58°F ~ 428°F)
Distance : Spot	1 : 1
Resolution	0.1°
Accuracy	±0.6°C (±1.1°F) for 15°C ~ 35°C; ±2% of reading or ±2°C (±4°F) whichever is greater
Emissivity	adjustable 0.05 ~ 1.00
Response Time	1 second
Power	CR2032 battery
Size	H39 x D76.8 x W19.3 mm
Weight	32g
Standard Accessories	Aluminum Case • Operation Manual • Battery • Neck Strap • Warranty Card

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