MESTEK IR02C-orange

MESTEK IR02C Infrared Thermometer User Manual

Model: IR02C-orange

Introduction

The MESTEK IR02C Infrared Thermometer is a versatile and precise tool designed for non-contact temperature measurement, complemented by a K-type probe for internal temperature readings. It features advanced sensors for accurate readings of surface temperature, ambient temperature, humidity, dew point, and spoilage temperature. Its ergonomic design ensures comfortable long-term use across various applications, including cooking, HVAC, automotive maintenance, and industrial settings. This manual provides detailed instructions to ensure safe and effective operation of your device.



Figure 1: MESTEK IR02C Infrared Thermometer with accessories.

Key Features

- **Dual Measurement Modes:** Non-contact infrared and K-type probe for versatile applications.
- **Wide Temperature Range:** -58°F (-50°C) to 1472°F (800°C) for infrared, 14°F (-10°C) to 932°F (500°C) for K-type probe.
- **Adjustable Emissivity:** Range 0.10 to 1.00 for improved accuracy on various surfaces.
- **Multi-functional Display:** Color LCD screen with backlight showing ambient temperature, humidity, dew point, and spoilage temperature.
- **Alarm Function:** Spoilage alarm mode for detecting temperature differences.
- **Fast Response Time:** Less than 0.5 seconds for quick readings.
- **Safety Features:** Non-contact measurement, EN61010-1, EN60825 & CE certified.



Figure 2: Overview of MESTEK IR02C key features.

Setup

1. Battery Installation

The MESTEK IR02C requires 2 AAA batteries (included). To install:

1. Locate the battery compartment cover on the handle of the device.
2. Slide the cover downwards to open the compartment.
3. Insert the 2 AAA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Slide the cover back into place until it clicks securely.

2. K-Type Probe Connection

For contact temperature measurement, connect the K-type thermocouple probe:

1. Locate the probe interface port on the side of the thermometer.
2. Insert the K-type probe's jack firmly into the port.
3. The device will automatically switch to K-probe measurement mode or allow selection via the MODE button.



Figure 3: Device overview with battery and probe connection points.

Operating Instructions

1. Non-Contact Infrared Measurement

To measure surface temperature using the infrared sensor:

1. Point the infrared sensor (front of the device) towards the target object.
2. Press and hold the measurement trigger. The laser pointer will activate to indicate the measurement area.
3. The temperature reading will be displayed instantly on the color LCD screen.
4. Release the trigger to hold the reading on the display. The device will automatically shut off after 30 seconds of inactivity to conserve battery.



Figure 4: Non-contact measurement with 13 laser points for precision.

2. K-Type Probe Measurement

For internal temperature measurement (e.g., food, liquids):

1. Ensure the K-type probe is securely connected.
2. Press the MODE button until the K-probe icon is displayed on the screen.
3. Insert the metal tip of the probe into the substance or object you wish to measure.
4. The internal temperature will be displayed on the screen.



Figure 5: Using the K-type probe for internal temperature measurement.

3. Mode Selection and Settings

Use the **MODE** button to cycle through different display modes and functions:

- **Surface Temperature:** Default infrared measurement.
- **Ambient Temperature/Humidity:** Displays current room temperature and humidity.
- **Dew Point/Spoilage Temperature:** Provides dew point and activates spoilage alarm mode.
- **Adjustable Emissivity:** Allows manual adjustment of emissivity (0.10-1.00) for different materials. Use the up/down arrows to change the value.
- **Unit Switch (°C/°F):** Toggle between Celsius and Fahrenheit.



Figure 6: Navigating through measurement modes and settings.

4. Spoilage Alarm Mode

This mode is useful for detecting potential mold or spoilage by comparing surface temperature to ambient temperature. If the difference exceeds 5°C, an alarm will sound.



Figure 7: Spoilage alarm function for temperature difference detection.

Maintenance

- **Cleaning:** Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or immerse the device in water.
- **Storage:** Store the thermometer in its carrying bag in a cool, dry place when not in use. Remove batteries if storing for extended periods.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display.

Troubleshooting

- **No Display/Power:** Check battery installation and ensure batteries are not depleted. Replace if necessary.
- **Inaccurate Readings:**
  - Ensure the target object is within the specified distance-to-spot ratio (12:1).
  - Adjust emissivity setting for the material being measured.
  - Ensure the K-type probe is fully inserted and making good contact.
- **Laser Not Working:** Check if the laser function is enabled via the MODE button.

Specifications

Feature	Specification
Product Dimensions	5.9 x 3.9 x 1.4 inches; 3.84 ounces
Item Model Number	IR02C-orange
Batteries	2 AAA batteries (included)
Infrared Temperature Range	-58°F (-50°C) to 1472°F (800°C)
K-Type Probe Temperature Range	14°F (-10°C) to 932°F (500°C)
Distance Spot Ratio (D:S)	12:1
Response Time	<0.5 s
Emissivity	Adjustable (0.10-1.00)
Display Type	Digital Color LCD with Backlight
Safety Certifications	EN61010-1, EN60825 & CE

Safety Information

- **Laser Safety:** Do not stare directly into the laser beam or point it at people or animals. Laser radiation can cause eye damage.
- **Not for Medical Use:** This device is not a medical thermometer and should not be used to measure human or animal body temperature. It measures surface temperature only.
- **Handling:** Avoid dropping the device or subjecting it to strong impacts.
- **Environment:** Do not expose the device to extreme temperatures, humidity, or corrosive environments.



Figure 8: Important safety notice: Not for human use.

Warranty and Support

MESTEK provides 24 months after-sale service and technical support. For any issues or inquiries, please contact customer service. If the temperature gun is damaged within 24 months of purchase, contact us for a replacement. **Contact Information:** Refer to the contact details provided with your purchase or visit the official MESTEK website.

Your browser does not support the video tag.

Video: Official MESTEK Infrared Thermometer overview, demonstrating features and usage.

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