VOLTCRAFT IR 2201-50D

VOLTCRAFT IR 2201-50D USB Infrared Thermometer

Model: IR 2201-50D | Brand: VOLTCRAFT

INTRODUCTION

This manual provides essential information for the safe and effective operation of your VOLTCRAFT IR 2201-50D USB Infrared Thermometer. Please read these instructions thoroughly before using the device and retain them for future reference. This device is designed for non-contact temperature measurement across a wide range, featuring a dual laser for precise targeting and a USB interface for data transfer.

SAFETY INSTRUCTIONS

- **Laser Safety:** Do not look directly into the laser beam or point it at people or animals. The laser is used for targeting only.

- **Eye Protection:** Always wear appropriate eye protection when operating the device in environments where laser exposure is a concern.

- **Temperature Limits:** Do not expose the device to extreme temperatures outside its operating range.

- **Battery Handling:** Ensure correct battery polarity. Remove batteries if the device will not be used for an extended period. Dispose of batteries according to local regulations.

- **Maintenance:** Only perform maintenance as described in this manual. Refer all other servicing to qualified personnel.

- **Environmental Conditions:** Avoid using the device in high humidity, dusty, or explosive environments.

PACKAGE CONTENTS

Verify that all items listed below are present and in good condition upon unpacking.

Image: Complete kit for the VOLTCRAFT IR 2201-50D Infrared Thermometer.

- VOLTCRAFT IR 2201-50D Infrared Thermometer
- Hard Carrying Case
- Mini Tripod
- USB Connection Cable
- K-Type Temperature Probe
- Software CD
- User Manual (this document)

PRODUCT OVERVIEW

The VOLTCRAFT IR 2201-50D is a high-precision infrared thermometer designed for non-contact temperature measurements. Key features include:

- **Dual Laser Targeting:** Provides accurate aiming for precise measurement areas.

- **Wide Temperature Range:** Measures from -50 °C to 2200 °C (-58 °F to 3992 °F).

- **High Optical Resolution (D:S):** 50:1 distance-to-spot ratio for measuring small targets from a distance.

- **Fast Response Time:** 150 ms for quick readings.

- **Adjustable Emissivity:** Range from 0.1 to 1.0, allowing for accurate measurements on various surfaces.

- **USB Interface:** For data logging and connection to a computer (software included).

- **K-Type Input:** Supports external K-type thermocouples for contact temperature measurements.

Image: Front view of the thermometer, highlighting the measurement lens and laser emitters.

Image: Side view of the thermometer, showing the display and controls.

Setup

1. **Battery Installation:** Open the battery compartment (usually located in the handle). Insert one 9V battery, ensuring correct polarity. Close the compartment securely.

2. **Power On:** Press the trigger to power on the device. The display will illuminate.

3. **Unit Selection:** If necessary, use the 'MODE' button to cycle through settings and select your preferred temperature unit (°C or °F). Refer to the on-screen indicators.

4. **Emissivity Adjustment:** For accurate readings, adjust the emissivity setting (E) to match the surface being measured. Consult a standard emissivity table for common materials. Use the up/down arrow buttons to change the value.

5. **K-Type Probe Connection (Optional):** If using the K-type probe, insert its connector into the designated K-type input port on the side of the thermometer.

6. **USB Connection (Optional):** To connect to a computer for data logging, use the provided USB cable. Install the software from the included CD before connecting the device.

OPERATING INSTRUCTIONS

1. **Non-Contact Measurement:**
   - Point the thermometer at the target surface.
   - Press and hold the trigger. The dual lasers will indicate the measurement area.
   - The temperature reading will appear on the display. Release the trigger to hold the reading.
   - Maintain the specified distance-to-spot ratio (50:1) for optimal accuracy. For example, at 50 inches distance, the measurement spot diameter is 1 inch.

2. **K-Type Probe Measurement:**
   - Ensure the K-type probe is securely connected.
   - Select the K-type measurement mode using the 'MODE' button.
   - Place the tip of the K-type probe in contact with the surface or substance to be measured.
   - The temperature reading from the probe will be displayed.

3. **Data Logging (via USB):**
   - Connect the thermometer to your computer using the USB cable.
   - Launch the installed software.
   - Follow the software instructions to configure data logging parameters and start/stop recording measurements.

4. **Display Functions:** The display may show various indicators such as MAX/MIN temperature, average temperature, differential temperature, and emissivity settings. Use the 'MODE' button to navigate these functions.

MAINTENANCE

- **Cleaning:**
  - Wipe the device casing with a soft, damp cloth. Do not use abrasive cleaners or solvents.
  - Clean the infrared lens gently with a soft cloth or cotton swab and a small amount of isopropyl alcohol. Avoid scratching the lens.

- **Storage:** Store the thermometer in its hard carrying case in a cool, dry place when not in use. Remove batteries if storing for extended periods.

- **Battery Replacement:** Replace the 9V battery when the low battery indicator appears on the display.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed battery.	Replace the 9V battery or check its polarity.

Problem	Possible Cause	Solution
Inaccurate temperature readings.	Incorrect emissivity setting; dirty lens; target too far or too small.	Adjust emissivity for the target material. Clean the lens. Ensure the target fills the measurement spot.
Laser not visible.	Laser function disabled; low battery.	Check device settings to enable laser. Replace battery.
USB connection not recognized.	Software not installed; faulty cable; driver issue.	Install the software from the CD. Try a different USB port or cable. Consult software documentation for driver installation.

SPECIFICATIONS

Parameter	Value
Model Number	1599565
Temperature Range (IR)	-50 °C to 2200 °C (-58 °F to 3992 °F)
Optical Resolution (D:S)	50:1
Response Time	150 ms
Emissivity	Adjustable 0.1 to 1.0
Laser Type	Dual Laser
Connectivity	USB
Power Supply	9V Battery (not included)
Dimensions (L x W x H)	15.5 x 5.2 x 20.4 cm (6.1 x 2.0 x 8.0 inches)
Weight	320 grams (0.7 lbs)
Material	Plastic

WARRANTY AND SUPPORT

VOLTCRAFT products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the documentation included with your purchase or visit the official VOLTCRAFT website. Please have your model number (IR 2201-50D) and serial number (if applicable) ready when contacting support.

Manufacturer: VOLTCRAFT

Care Instructions: Clean the device as described in the Maintenance section.