BTMETER BT-1800

BTMETER BT-1800 Digital Infrared Thermometer User Manual

Model: BT-1800 | Brand: BTMETER

1. Introduction

This manual provides detailed instructions for the safe and effective operation of your BTMETER BT-1800 Digital Infrared Thermometer. This non-contact device is designed for accurate surface temperature measurement across a wide range, from -58°F to 3272°F (-50°C to 1800°C). It features a 50:1 distance-to-spot ratio, dual laser pointers for precise targeting, and various measurement modes including MAX/MIN/AVG/DIF, along with high/low temperature alarms. Please read this manual thoroughly before use and retain it for future reference.

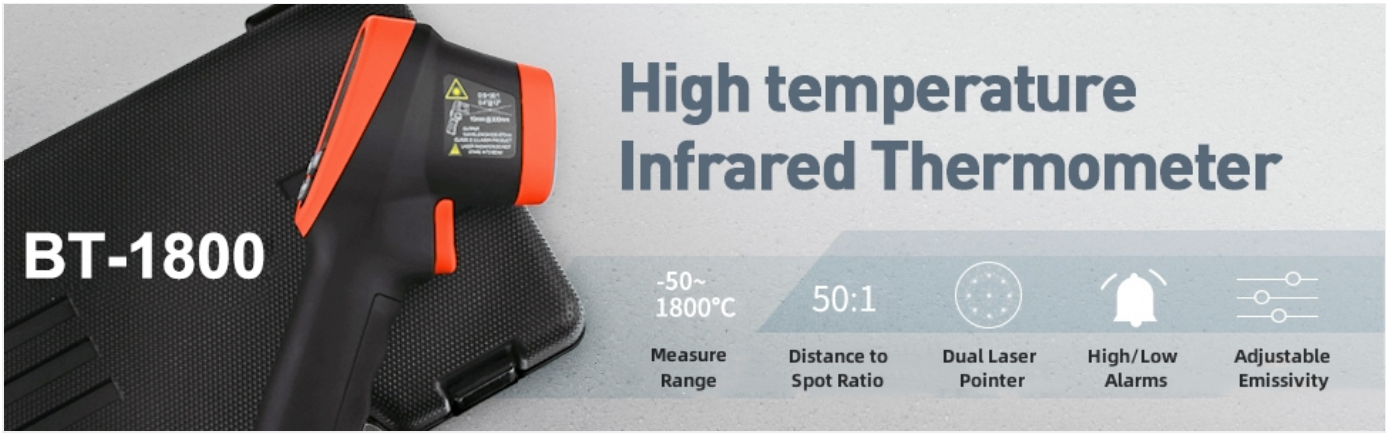

Image: The BTMETER BT-1800 infrared thermometer being used to measure high temperatures in various industrial and baking settings, highlighting its versatility.

2. Safety Information

- **Caution:** This device is an industrial thermometer intended for lifeless surface measurement only. It is not designed for human body temperature measurement.
- **Laser Safety:** Do not look directly into the laser beam or point it at people or animals. The laser output is less than 0.5mW with a wavelength of 630-670nm.
- **Eye Protection:** Always wear appropriate eye protection when working in environments where high temperatures

are present.

- **Handling:** Avoid dropping the device or subjecting it to strong impacts.
- **Storage:** Store the thermometer in a dry, clean environment away from extreme temperatures and humidity.

3. Product Overview

3.1 Included Components

The BTMETER BT-1800 package includes the following items:

- 1 x BTMETER BT-1800 Infrared Thermometer
- 1 x User Manual (this document)
- 1 x Fabric Storage Case
- 1 x 9V Battery
- 1 x Small Screwdriver (for battery compartment)
- 1 x Carabiner (for portability)

Image: All items included in the BTMETER BT-1800 package, neatly arranged: the infrared thermometer, a fabric storage case, the user manual, a 9V battery, a small screwdriver, and a carabiner clip.

3.2 Device Layout and Buttons

Familiarize yourself with the main parts and controls of the BT-1800 thermometer:

Image: A detailed diagram of the BTMETER BT-1800 infrared thermometer, showing the LCD screen, MODE button, Laser Pointer button, Trigger, Backlit/Flashlight button, °C/DN button, °F/UP button, and Battery door.

1. **LCD Screen:** Displays temperature readings, mode indicators, emissivity, and battery status.
2. **MODE Button:** Cycles through measurement modes (MAX/MIN/AVG/DIF/LAL/HAL). Long press to select Emissivity or High/Low Temperature Alarm settings.
3. **Laser Pointer Button:** Toggles the dual laser pointers on/off.
4. **Trigger:** Press and hold to initiate temperature measurement.
5. **Backlight/Flashlight Button:** Press to turn on/off the backlight. Press with the trigger to activate the front flashlight.
6. **°C/DN Button:** Switches between Celsius and Fahrenheit. In alarm/emissivity settings, decreases the value.

7. **°F/UP Button:** Switches between Fahrenheit and Celsius. In alarm/emissivity settings, increases the value.
8. **Battery Door:** Access point for battery installation.

4. Setup

4.1 Battery Installation

The BT-1800 requires one 9V battery (included). Follow these steps to install the battery:

1. Locate the battery door at the bottom of the handle.
2. Use the provided screwdriver to loosen the screw securing the battery door.
3. Open the battery door and connect the 9V battery to the terminal.
4. Place the battery into the compartment, ensuring correct polarity.
5. Close the battery door and tighten the screw.

Your browser does not support the video tag.

Video: This video demonstrates the installation of the 9V battery into the BTMETER BT-1800 infrared thermometer, showing how to open the battery compartment, connect the battery, and secure the cover. The video also illustrates button functions, laser use, backlight/flashlight, measurement modes, and package contents.

5. Operating Instructions

5.1 Basic Temperature Measurement

1. Point the thermometer at the target surface.
2. Press and hold the **Trigger** to begin measurement. The temperature reading will appear on the LCD screen.
3. Release the **Trigger** to hold the reading. The "HOLD" icon will appear.
4. The device will automatically power off after approximately 30 seconds of inactivity to conserve battery.

Image: The BTMETER BT-1800 thermometer in action, measuring the temperature of a high-heat source from a safe distance, illustrating its 50:1 distance-to-spot ratio for precise readings.

5.2 Laser Pointers

The BT-1800 features dual laser pointers to help you accurately target the measurement area. Press the**Laser Pointer Button** (labeled with a laser icon) to turn the lasers on or off. The lasers will indicate the approximate center of the measurement spot.

Image: A visual representation of the BTMETER BT-1800's dual circular laser pointers for precise targeting, contrasted with a single laser, and an illustration of the 50:1 distance-to-spot ratio.

5.3 Backlight and Flashlight

To improve visibility in low-light conditions:

- Press the **Backlight/Flashlight Button** (labeled with a lightbulb icon) to turn the LCD backlight on or off.
- To activate the front flashlight, press and hold the **Backlight/Flashlight Button** simultaneously with the **Trigger**.

5.4 Unit Switching (°C/°F)

To switch between Celsius (°C) and Fahrenheit (°F) temperature units, press the **°C/DN** or **°F/UP** button.

5.5 Measurement Modes (MAX/MIN/AVG/DIF/LAL/HAL)

Press the **MODE Button** to cycle through different measurement modes:

- **MAX:** Displays the maximum temperature measured during the current scan.
- **MIN:** Displays the minimum temperature measured during the current scan.

- **AVG:** Displays the average temperature measured during the current scan.
- **DIF:** Displays the difference between the maximum and minimum temperatures measured.
- **LAL (Low Alarm):** Allows setting a low temperature alarm. If the measured temperature falls below this value, an alarm will sound.
- **HAL (High Alarm):** Allows setting a high temperature alarm. If the measured temperature exceeds this value, an alarm will sound.

To set LAL or HAL values, long press the**MODE Button** until "LAL" or "HAL" flashes. Use the**°F/UP** and **°C/DN** buttons to adjust the desired temperature threshold.

5.6 Emissivity Adjustment

Emissivity (ε) is a measure of an object's ability to emit infrared energy. Different materials have different emissivity values. For accurate readings, adjust the emissivity setting (0.1 to 1.0) to match the target material.
To adjust emissivity, long press the **MODE Button** until "ε" flashes. Use the**°F/UP** and **°C/DN** buttons to change the value. Refer to a standard emissivity table for common materials if needed.

6. Maintenance

- **Cleaning:** Wipe the device clean with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Lens Care:** The infrared lens is a delicate part. Clean it gently with a soft cloth or cotton swab and rubbing alcohol, or a lens cleaning solution. Avoid touching the lens directly.
- **Battery Replacement:** Replace the 9V battery when the low battery indicator appears on the LCD screen.

7. Troubleshooting

If you encounter issues with your BT-1800 thermometer, consider the following common solutions:

- **No Display/Device Not Turning On:**
  - Check if the battery is installed correctly with the right polarity.
  - Replace the 9V battery with a new one.
- **Inaccurate Readings:**
  - Ensure the emissivity setting matches the target material.
  - Verify the distance-to-spot ratio is appropriate for your measurement.
  - Clean the infrared lens if it appears dirty.
  - Allow the thermometer to stabilize to ambient temperature if moved from a significantly different temperature environment.
- **Laser Not Working:**
  - Press the **Laser Pointer Button** to ensure it is activated.
  - Check battery level.

If problems persist, please contact BTMETER customer support.

8. Specifications

Feature	Specification

Feature	Specification
Model Number	BT-1800
Temperature Range	-58°F to 3272°F (-50°C to 1800°C)
Accuracy	+/- 2%
Distance Spot Ratio (D:S)	50:1
Emissivity	Adjustable 0.1 to 1.0
Response Time	0.25 seconds
Laser Type	Dual Laser Pointers (Output <0.5mW, Wavelength 630-670nm)
Display Type	LCD with Backlight
Power Source	9V Battery
Auto Power Off	30 seconds of inactivity
Product Dimensions	19.3 x 9.4 x 6.35 cm
Item Weight	320 g
Material	Acrylonitrile Butadiene Styrene (ABS)
Special Features	Max/Min/Avg/Dif modes, High/Low Temperature Alarm, Flashlight

9. Warranty and Support

The BTMETER BT-1800 Infrared Thermometer comes with a**1 Year Manufacturer Warranty**. For technical support, warranty claims, or any questions regarding the product, please contact BTMETER customer service through their official channels or the retailer where the product was purchased.
Manufacturer Contact Information: BTMETER