BTMETER 980G

BTMETER 980G Non-Contact Digital Infrared Thermometer User Manual

Model: 980G

1. INTRODUCTION

This manual provides instructions for the safe and effective use of your BTMETER 980G Non-Contact Digital Infrared Thermometer. This device is designed for measuring surface temperatures from a distance, making it suitable for various applications such as cooking, automotive maintenance, HVAC, and industrial tasks. It is important to note that this thermometer is **not intended for measuring human body temperature**.

2. SAFETY INFORMATION

- **Laser Safety:** The thermometer emits a Class 2 laser. Do not stare directly into the laser beam or direct it at other people or animals. Avoid direct eye exposure.

- **Not for Human Temperature:** This device is designed for industrial and household surface temperature measurements only. It is not calibrated for medical use or for measuring human body temperature.

- **Operating Environment:** Do not use the thermometer in environments with explosive gas, vapor, or dust.

- **Maintenance:** Do not attempt to disassemble or modify the device. Refer to the maintenance section for cleaning instructions.

- **Battery Handling:** Follow proper battery installation and disposal guidelines. Remove batteries if the device will not be used for an extended period.

3. PRODUCT OVERVIEW

Familiarize yourself with the components of your BTMETER 980G Infrared Thermometer:

Image: Labeled diagram showing the thermometer's laser, probe, trigger, battery compartment, and LCD display with indicators for battery, data hold, emissivity, laser pointer, unit selection, and MAX/MIN/AVG/HAL/LAL display.

- **Thermometer Probe:** The sensor that detects infrared radiation.

- **Laser to Aim:** A red laser dot to help pinpoint the measurement area.

- **Trigger:** Press to initiate a temperature scan.

- **LCD Display:** Shows temperature readings, mode indicators, and settings.

- **Mode Button:** Cycles through measurement modes (MAX/MIN/AVG/HAL/LAL).

- **Up/Down Buttons:** Adjust emissivity or alarm thresholds.

- **°C/°F Button:** Toggles between Celsius and Fahrenheit units.

- **Laser/Backlight Button:** Toggles the laser pointer and display backlight.

- **Battery Cover:** Located in the handle, for 9V battery access.

4. SETUP

4.1 Battery Installation

The BTMETER 980G requires one 9V battery (included). To install:

1. Open the battery compartment cover located at the bottom of the handle.

2. Connect the 9V battery to the terminal clips, ensuring correct polarity (+ to + and - to -).

3. Place the battery into the compartment and close the cover securely.

Image: The BTMETER 980G Infrared Thermometer shown alongside a 9V battery, indicating the power source.

5. OPERATION

5.1 Taking a Measurement

1. Point the thermometer at the target surface.

2. Press and hold the trigger to begin scanning. The laser pointer will activate (if enabled) to help aim. The display will show the current temperature.

3. Release the trigger to hold the reading on the display for approximately 7 seconds. The 'HOLD' icon will appear.

Press, Scan & Lock

Press the trigger, temp reading shows on LCD screen instantly
Release the trigger , automatically hold the reading for easy recording

▼

Hold & Scan

Release & Data Hold

Image: Visual guide showing the action of holding the trigger to scan and releasing it to hold the temperature reading on the display.

5.2 Distance-to-Spot Ratio (D:S)

The BTMETER 980G has a D:S ratio of 16:1. This means that at a distance of 16 units, the measurement spot diameter will be 1 unit. For accurate readings, ensure the target area is larger than the spot size. Measuring closer to the object will result in a smaller spot size and more precise readings.

Further measuring distance.

Keep you far away from heat and dangerous

D:S = 16:1

3.42 in

6.95 in

67 mm @ 500 mm 120 mm @ 960 mm 190 mm @ 1500 mm

Ø 2.6 ″ @ 19.6 ″   Ø 4.7 ″ @ 37.8 ″   Ø 7.7 ″ @ 59 ″

S

D

Net Weight	0.34 lb
Response Time	0.5S
Resolution	0.1℃ or 1℉
Temp Range	-50℃ to 550℃(-58 to10220F)
Accuracy	±3% of reading ±30F, -58 to 320F (-30℃ to 0℃) ±3% of reading ±30F, -58 to 320F (-30℃ to 0℃) ±3% of reading ±30F, -58 to 320F (-30℃ to 0℃)

Image: Diagram illustrating the relationship between measurement distance (D) and the diameter of the measurement spot (S) for a 16:1 ratio.

5.3 Emissivity Adjustment

Emissivity (ε) is the ability of a material to emit thermal energy. Different materials have different emissivity values. For accurate measurements, adjust the emissivity setting (0.1 to 1.0) to match the target material. The default setting is 0.95, which is suitable for many organic materials and painted surfaces.

- Press the 'MODE' button until 'EMS' appears on the display.
- Use the Up/Down buttons to adjust the emissivity value.

High Precise with Adjustable Emissivity

▼

Stainless steel and
Aluminum

Emissivity:0.3

Water

Emissivity:0.96

The default emissivity setting is 0.95, however emissivity should be different based on different subject. With 0.1 to 1.0 adjustable emissivity, you'll be able to measure various subject.(Manual of **Emissivity for Different Material is Included**)

Image: Examples showing recommended emissivity values for different materials like stainless steel (0.3) and water (0.96).

5.4 Unit Selection (°C/°F)

Press the °C/°F button to switch between Celsius and Fahrenheit temperature units.

5.5 Mode Functions (MAX/MIN/AVG/HAL/LAL)

Press the 'MODE' button repeatedly to cycle through the following functions:

- **MAX:** Displays the maximum temperature recorded during the current scan.
- **MIN:** Displays the minimum temperature recorded during the current scan.
- **AVG:** Displays the average temperature recorded during the current scan.
- **HAL (High Alarm):** Set a high temperature threshold. If the measured temperature exceeds this value, an alarm will sound and 'H' will display.
- **LAL (Low Alarm):** Set a low temperature threshold. If the measured temperature falls below this value, an alarm will sound and 'L' will display.

To set HAL or LAL values:

1. Select HAL or LAL mode using the 'MODE' button.
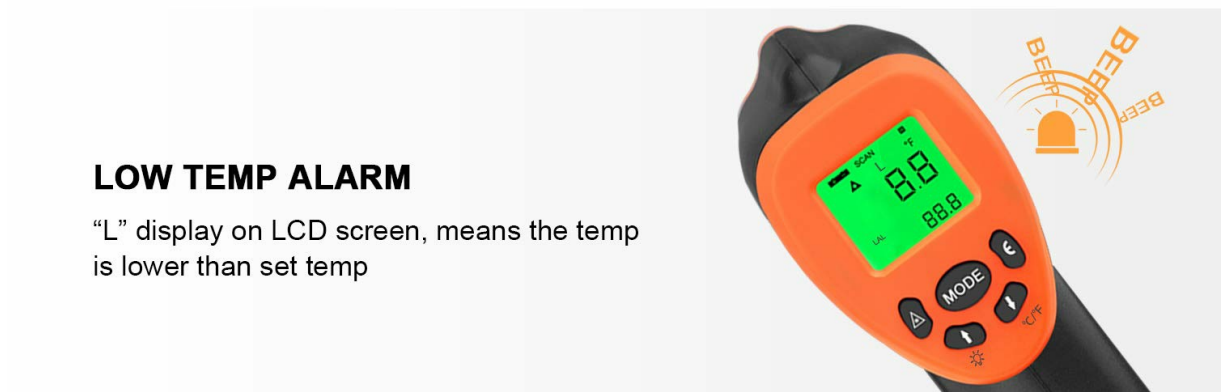2. Use the Up/Down buttons to adjust the desired alarm temperature.

HIGH / LOW TEMP ALARM

Press "MODE" to select "HAL" for high temp alarm, "HAL"for low temp alarm

HIGH TEMP ALARM

"H"display on LCD screen, means the temp has exceeded the set temp

LOW TEMP ALARM

"L" display on LCD screen, means the temp is lower than set temp

Image: The thermometer's display indicating a high temperature alarm ('H' and 'HAL') and a low temperature alarm ('L' and 'LAL').

5.6 Auto Shut-off

The thermometer will automatically shut off after approximately 10 seconds of inactivity to conserve battery life.

6. MAINTENANCE

6.1 Cleaning

To clean the thermometer, wipe the casing with a damp cloth. Do not use abrasive cleaners or immerse the device in water. Keep the lens of the infrared sensor clean for accurate readings.

6.2 Battery Replacement

When the battery indicator on the LCD display shows low power, replace the 9V battery as described in Section 4.1. Dispose of used batteries responsibly.

7. TROUBLESHOOTING

- **No Display/Device Not Turning On:** Check if the 9V battery is installed correctly and has sufficient charge. Replace the battery if necessary.
- **Inaccurate Readings:**
  - Ensure the target surface is larger than the measurement spot size.
  - Verify the emissivity setting matches the material being measured.
  - Check for obstructions or dirt on the infrared sensor lens.
  - Ensure the distance to the target is appropriate for the 16:1 D:S ratio.
- **Laser Not Working:** Check if the laser pointer is enabled using the Laser/Backlight button.
- **Display Backlight Not Working:** Check if the backlight is enabled using the Laser/Backlight button.

8. SPECIFICATIONS

Feature	Specification
Temperature Range	-58°F to 1292°F (-50°C to 700°C)
Accuracy	±3% of reading ±30°F (-58 to 320°F) ±3% of reading ±30°F (-30°C to 0°C)
Distance Spot Ratio (D:S)	16:1
Response Time	500ms (95% response)
Emissivity	Adjustable 0.1 to 1.0
Display Type	LCD with Backlight
Auto Shut-off	10 seconds (approx.)
Power Supply	1 x 9V Battery
Material	Plastic
Product Dimensions	Approximately 6.95 x 3.42 inches

9. WARRANTY AND SUPPORT

BTMETER provides a **365-day guarantee** for this digital infrared thermometer. For any product inquiries, technical support, or warranty claims, please contact BTMETER customer service through the retailer where the product was purchased or visit the official BTMETER website for contact information.

Related Documents - 980G

[BTMETER BT-1500 Non-Contact Infrared Thermometer User Manual](#)

User manual for the BTMETER BT-1500 non-contact infrared thermometer, covering its introduction, how it works, safety warnings, quick start guide, maintenance procedures, and detailed specifications.

[BTMETER BT-1500 Quick Start Guide](#)

A quick start guide for the BTMETER BT-1500 infrared thermometer, covering battery installation, basic operation, and display interpretation.

[BTMETER BT-570CAPP Bluetooth Connection Guide](#)

Step-by-step instructions for connecting the BTMETER BT-570CAPP clamp meter to your smartphone via Bluetooth.

[Digital Multimeter Operator's Manual - BTMETER BT-39K](#)

Operator's manual for the BTMETER BT-39K Digital Multimeter, detailing its features, specifications, operating instructions, safety precautions, and maintenance.

[6000 Digits Clamp Multimeter Operation Manual](#)

Operation manual for the 6000 Digits AC/DC Auto Cal Clamp Multimeter, detailing safety information, specifications, measuring instructions, and maintenance.

[Intelligent Digital Multimeter Operator's Manual - BTMETER BT-90EPD](#)

Comprehensive operator's manual for the BTMETER BT-90EPD Intelligent Digital Multimeter. Covers detailed specifications, safety guidelines, operating instructions for measuring voltage, current, resistance, capacitance, frequency, duty cycle, temperature, and battery testing. Features include a 4000-count LCD, auto/manual ranging, auto backlight, and Bluetooth connectivity for mobile app data logging and analysis.