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› BTMETER BT-1600APP Digital Infrared Thermometer Gun User Manual

BTMETER BT-1600APP

BTMETER BT-1600APP Digital Infrared Thermometer Gun User Manual

Model: BT-1600APP | Brand: BTMETER

1. INTRODUCTION

The BTMETER BT-1600APP is a high-precision digital infrared thermometer gun designed for non-contact temperature measurement in various industrial applications. It features a wide temperature range, dual laser pointers for accurate targeting, multiple measurement modes, and Bluetooth connectivity for data logging and remote monitoring via a mobile application. This manual provides essential information for safe and effective use of the device.

2. SAFETY INFORMATION

WARNING: This device is not intended for human temperature measurement.

- Do not point the laser directly at eyes or indirectly off reflective surfaces.
- Exercise caution when measuring high-temperature surfaces. The device measures surface temperature, and objects may remain hot long after the measurement.
- Do not use the device in environments with explosive gas, vapor, or dust.
- Keep the device away from strong electromagnetic fields.
- Ensure the battery is correctly installed before use.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Digital Thermometer Gun (BT-1600APP)
- USB Charging Cable
- Small Screwdriver (for battery compartment)
- Portable Carrying Case
- User Manual



Figure 3.1: Package Contents


4. PRODUCT OVERVIEW AND FEATURES


The BT-1600APP thermometer is designed for precision and ease of use in demanding environments.

- **Precise and Rapid Response:** Measures temperatures from -50°C to 1600°C (-58°F to 2912°F) with an accuracy of $\pm 4^{\circ}\text{C}/7.2^{\circ}\text{F}$ or $\pm(2\%$ of reading $+2^{\circ}\text{C}/3.6^{\circ}\text{F}$) and a response time under 0.25 seconds.
- **30:1 Distance-to-Spot Ratio:** Allows accurate measurement of high temperatures from a safe distance using dual infrared laser pointers.
- **Adjustable Emissivity:** Features 0.1 to 1.0 adjustable emissivity for accurate readings on various surface types.
- **Multifaceted Measurement Modes:** Includes REC (Record), MAX (Maximum), MIN (Minimum), DIF (Difference), AVG (Average), HAL (High Alarm), and LAL (Low Alarm).
- **Data Logging & Export:** Built-in Bluetooth module for mobile phone/tablet connectivity, remote control, monitoring, and data export in TXT format.
- **User-Friendly Design:** Backlit screen, dual laser with on/off function, sensitive touchscreen buttons, Celsius/Fahrenheit switching, and USB rechargeable.

Dual Laser Pointers Pro Temperature Sensor



 **Response time**
Within 0.25s

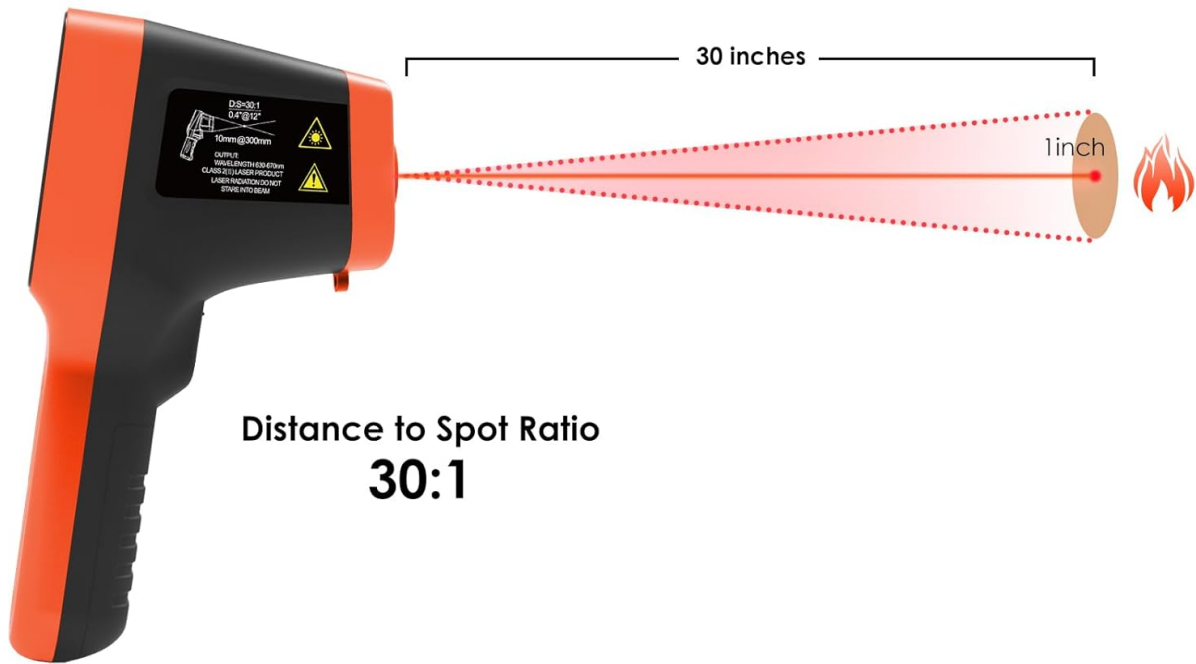
 **Measurement range**
-58°F to 2912°F (-50°C to 1600°C)

 **High Accuracy**
±4°C/7.2°F, -58°F to 32°F (-50°C ~ 0°C)
±2% reading + 2°C/3.6°F, ≥32°F or 0°C

Figure 4.1: Key Features of the BT-1600APP

Safer Measurement

No need have to measure closer, yet still accurate.
Keep you away from heat danger



Distance to Spot Ratio
30:1

Figure 4.2: Distance-to-Spot Ratio (30:1)

5. SETUP

5.1 Battery Connection

Before first use, connect the internal rechargeable battery:

1. Unscrew the battery cover using the provided screwdriver.
2. Connect the battery line to the designated port inside the compartment.
3. Tighten the battery cover securely.



Figure 5.1: Battery Connection Steps

5.2 Charging the Device

The device is USB rechargeable. Connect the provided USB charging cable to the device's USB-C port and a suitable USB power source.

Video 5.1: Overview of the BTMETER Digital Infrared Thermometer Gun BT-1600APP, demonstrating its features and charging process.

6. OPERATING INSTRUCTIONS

6.1 Basic Temperature Measurement

To take a temperature reading, press the 'TEST' button. Briefly pressing it will take a single reading, while holding it down will continuously scan the temperature. The measured temperature will be displayed on the backlit LCD screen.

6.2 Button Functions

The device features sensitive touchscreen buttons for various functions:

- **Laser Pointer Button:** Toggles the dual laser pointers on/off for precise targeting.
- **MODE Button:** Selects different measurement modes (REC, MAX, MIN, DIF, AVG, HAL, LAL).
- **E/Flash Button:** Adjusts emissivity settings or activates the flashlight function.
- **TEST Button:** Initiates temperature measurement.
- **T/DN Button:** Switches between Celsius (°C) and Fahrenheit (°F) temperature units.
- **UP Button:** Activates the backlight for the LCD display.

PACKING LIST



Figure 6.1: Device Buttons and Functions

7. MEASUREMENT MODES

The BT-1600APP offers several measurement modes for comprehensive temperature analysis:

- **MAX/MIN:** Measures and displays the maximum and minimum temperatures detected during a scan.
- **AVG:** Calculates and displays the average temperature.
- **DIF:** Shows the difference between the maximum and minimum temperatures.
- **HAL (High Temperature Alarm):** Alerts the user if the measured temperature exceeds a preset high limit.
- **LAL (Low Temperature Alarm):** Alerts the user if the measured temperature falls below a preset low limit.
- **REC (Record):** Stores temperature readings, supporting up to 12 sets of data.

7 Measurement Modes

Max/Min Measure maximum and the minimum

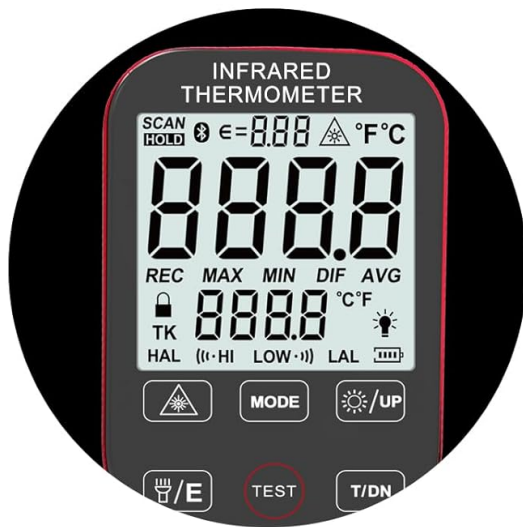
AVG Measure average temperature

DIF Difference between Max and Min

HAL High temperature alarm mode

LAL Low temperature alarm mode

REC Data storage mode to record temperature reading up to 12 sets



2.36inch Backlit LCD Display



Figure 7.1: Seven Measurement Modes

8. EMISSIVITY ADJUSTMENT

Emissivity (ϵ) is a crucial factor for accurate infrared temperature measurement. The BT-1600APP allows adjustment from 0.1 to 1.0 to match the surface being measured. Different materials have different emissivities (e.g., oil: 0.94, asphalt: 0.9, water: 0.96). Adjusting this setting ensures higher accuracy.

0.1~1.0 Emissivity Adjustable

Not just enlarge applications, but also ensure high Accuracy.



Figure 8.1: Emissivity Adjustment Examples

9. BLUETOOTH CONNECTIVITY AND DATA LOGGING

The BT-1600APP includes a Bluetooth module for connecting to a mobile phone or tablet. This allows for remote control, real-time monitoring, and data export in TXT format. Download the companion app (refer to the user manual for app details and QR code) to utilize these features.



Figure 9.1: Bluetooth Connectivity and App Interface

10. MAINTENANCE

To ensure the longevity and accuracy of your BTMETER BT-1600APP thermometer:

- Wipe the device clean with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Keep the lens clean and free from dust or debris. Use a soft brush or compressed air for cleaning.
- Store the device in its portable carrying case when not in use to protect it from damage.
- Ensure the battery is charged regularly, especially if not used frequently, to prevent deep discharge.

11. TROUBLESHOOTING

If you encounter issues with your BT-1600APP thermometer, consider the following:

- **Device not powering on:** Ensure the internal battery is properly connected and charged. Connect the USB charging cable and allow it to charge for at least 30 minutes.
- **Inaccurate readings:** Verify the emissivity setting matches the material being measured. Ensure the target is within the optimal distance-to-spot ratio. Check for obstructions or damage to the lens.
- **Battery drains quickly:** The device may have internal leakage causing faster battery drain when not in use. Ensure the device is fully charged before each use, especially if it has been stored for a period.

- **Bluetooth connectivity issues:** Ensure Bluetooth is enabled on your mobile device and the thermometer. Restart both devices and try pairing again. Refer to the app's instructions for specific pairing steps.
- **Device shuts off unexpectedly:** The device has an automatic shutdown function. If it shuts off too quickly, check the automatic shutdown time settings in the mobile app.

12. SPECIFICATIONS

Feature	Specification
Brand	BTMETER
Model Name	BT-1600APP
Special Feature	Non-Contact
Color	Orange
Display Type	Digital
Connectivity Technology	Bluetooth
Power Source	Battery Powered (USB Rechargeable)
Measurement Range	-50°C to 1600°C (-58°F to 2912°F)
Accuracy	±4°C/7.2°F or ±(2% of reading +2°C/3.6°F)
Response Time	0.25 seconds
Distance-to-Spot Ratio	30:1
Emissivity	0.1 ~ 1.0 Adjustable
Item Weight	8.1 ounces
Item Length	7 Inches
Indoor/Outdoor Usage	Indoor
Included Components	Digital Thermometer Gun

13. WARRANTY AND SUPPORT

The BTMETER BT-1600APP Digital Infrared Thermometer Gun comes with a 365-day quality warranty and lifetime technical support. For assistance, please refer to the contact information provided in your product packaging or visit the official BTMETER website.