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UNI-T UT303D+

UNI-T UT303D+ Industrial Infrared Digital Thermometer User Manual

Model: UT303D+

For detailed instructions on your UNI-T UT303D+ Infrared Thermometer.

1. Introduction

This manual provides comprehensive instructions for the safe and effective operation of the UNI-T UT303D+ Industrial Infrared Digital Thermometer. This non-contact thermometer is designed for industrial applications, offering precise temperature measurements from a distance. Please read this manual thoroughly before using the device to ensure proper functionality and safety.



Figure 1: Front view of the UNI-T UT303D+ Infrared Digital Thermometer.

2. Safety Instructions

To prevent electric shock or personal injury, please read the following safety instructions before using the thermometer:

- Do not point the laser directly at eyes or indirectly off reflective surfaces.
- Do not look directly into the laser emitter.
- Do not use the thermometer near explosive gas, vapor, or dust.
- The thermometer should only be repaired by qualified professional personnel using original replacement parts.
- Do not use the thermometer if the battery compartment is not securely closed.
- Do not use the thermometer if it is damaged or operating abnormally.
- Avoid exposing the thermometer to extreme temperatures, high humidity, or strong electromagnetic fields.
- Clean the thermometer with a damp cloth and mild detergent; do not use abrasives or solvents.

3. Product Overview

The UT303D+ features a robust design suitable for industrial environments, offering precise and reliable temperature measurements. Key features include a wide temperature measurement range, EBTN color screen, and advanced laser positioning.

3.1 Wide Temperature Measurement Range

The UT303D+ model is capable of measuring temperatures from -32°C to 1100°C (-25.6°F to 2012°F), making it suitable for a variety of industrial applications.



Figure 2: Overview of temperature ranges for UT302A+/C+/D+ series, highlighting the UT303D+ capabilities.

3.2 EBTN Color Screen

The device is equipped with an EBTN (Enhanced Black Twisted Nematic) color screen, which provides clear readability of measurements under various lighting conditions and is energy efficient.

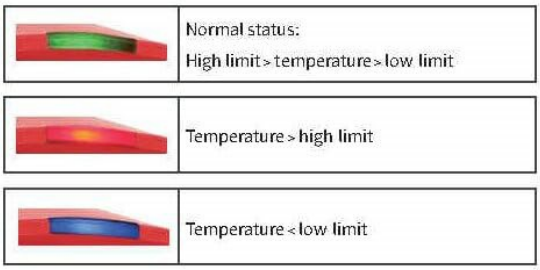


Figure 3: Close-up of the EBTN color screen displaying temperature readings.

3.3 Laser Positioning

The UT303D+ features a dual laser system for accurate targeting, ensuring the measurement is taken from the intended spot. This helps in precisely identifying the object to be measured.

- ±1.5°C temperature measurement accuracy
- User defined visual and audio alarm
- High contrast EBTN color display
- MAX/MIN/AVG/DIFF/Hold modes
- Dual lasers **(UT302D+/UT303D+)**
- Temperature recording up to 99 groups **(UT302C+/UT303C+/UT302D+/UT303D+)**
- Date/time display **(UT302C+/UT302D+/UT303C+/UT303D+)**
- Time scheduled measurement **(UT302C+/UT303C+/UT302D+/UT303D+)**



	UT302A+	UT302C+	UT302D+	UT303A+	UT303C+	UT303D+
Temperature range (°C)	-32°C~700°C	-32°C~1100°C	-32°C~1100°C	-32°C~800°C	-32°C~1300°C	-32°C~1300°C
Temperature range (°F)	-25.6°F~1292°F	-25.6°F~2012°F	-25.6°F~2012°F	-25.6°F~1472°F	-25.6°F~2372°F	-25.6°F~2372°F
Accuracy (°C)	±1.5°C or ±1.5%					
Accuracy (°F)	±3.0°F or ±1.5%					
Repeatability	0.7°C or 0.7% (1.5°F or 0.7%)					
D:S ratio	20:1			30:1		
Response time	250ms					
Emissivity	0.1~1.0 (adjustable, stores 5 sets of preset values)					
Spectral response	8um~14um					
Laser signal	Single	Ring	Double	Single	Ring	Double
Laser power	< 1mW	< 3mW	< 1mW	< 1mW	< 3mW	< 1mW
Features						
Auto power off	√					
Low battery indication	√					
LCD display	Color EBTN					
High/low LED alarm	√					
High/low audible alarm	√					
Data hold	√					
°C/°F selection	√					
MAX/MIN/AVG/DIF mode	√					
Lock measurement	√					
Data storage	–	99	99	–	99	99
Scheduled measurement	–	√	√	–	√	√
Backlight	√					
Operating temperature	0°C~50°C (32°F~122°F)					
Storage temperature	-20°C~60°C (-4°F~140°F)					
Operating humidity	<90%RH (non-condensing)					
Tripod mounting hole	√					
Power	9V battery					
Display	35mm x 35mm					
Product color	Red and grey					
Product net weight	310g					
Product size	172mm x 113.5mm x 53mm					
Standard accessories	Battery, carrying bag					
Standard individual packing	Gift box, blister, English manual					
Standard quantity per carton	10pcs					
Standard carton measurement	425mm x 335mm x 365mm					
Standard carton gross weight	6.65kg					

Figure 4: Illustration of laser positioning for accurate targeting.

3.4 Durability

The UT303D+ is designed with double protection, including a 1-meter drop test rating, providing anti-vibration and dustproof capabilities for enhanced durability in industrial environments.



Figure 5: Depiction of the thermometer's durability and drop protection.

4. Setup

4.1 Battery Installation

The UT303D+ requires one 9V battery (included). To install or replace the battery:

1. Locate the battery compartment cover on the handle of the thermometer.
2. Open the cover.
3. Insert the 9V battery, ensuring correct polarity.
4. Close the battery compartment cover securely.



Figure 6: Product packaging showing the included 9V battery.

5. Operating Instructions

5.1 Taking a Measurement

To take a temperature measurement:

1. Point the thermometer at the target object.
2. Press and hold the trigger. The laser will activate (for UT303D+, dual lasers).
3. The temperature reading will be displayed on the EBTN screen.
4. Release the trigger to hold the reading on the display.

5.2 Mode Settings

Use the **MODE** button to cycle through various display modes and settings. Refer to the on-screen indicators for the current mode.

5.3 Emissivity Adjustment

Emissivity (ε) is crucial for accurate infrared temperature measurement. The UT303D+ allows for adjustable emissivity from 0.1 to 1.0. It also includes 5 sets of preset values for common materials. Adjust emissivity via the **SET** button or specific menu options to match the surface being measured.

5.4 Scheduled Measurement (UT302D+/UT303D+)

The UT303D+ supports scheduled measurements. This feature allows you to set a start time and interval for automatic

measurements. The device will turn on at the start time, perform a measurement, then turn off, and repeat the procedure. The interval range can be set from 1 minute to 96 hours, and up to 99 sets of measurement data can be stored.



Figure 7: Display showing scheduled measurement settings and ring laser feature.

6. Maintenance

6.1 Cleaning

To clean the thermometer, use a soft, damp cloth with a mild detergent. Do not use abrasive cleaners or solvents. Ensure the lens is clean and free of dust or debris for accurate readings.

6.2 Storage

When not in use, store the thermometer in a dry, cool place, away from direct sunlight and extreme temperatures. Remove the battery if the device will not be used for an extended period.

7. Troubleshooting

- **No Display:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **Inaccurate Readings:**
  - Verify the emissivity setting matches the target material.
  - Ensure the lens is clean.
  - Check the distance-to-spot ratio (D:S) and ensure the target fills the measurement spot.
  - Allow the thermometer to stabilize to ambient temperature if moved from a significantly different temperature environment.
- **Laser Not Working:** Check battery level. If the laser is still not working, contact customer support.

8. Specifications

The following table details the technical specifications for the UNI-T UT303D+ Infrared Digital Thermometer:

Parameter	UT303D+ Specification
Temperature Range (°C)	-32°C ~ 1100°C
Temperature Range (°F)	-25.6°F ~ 2012°F
Accuracy	±2.0°C or ±2.0%
Repeatability	0.5°C or 0.5% (1.5°C or 0.2%)
D:S Ratio	30:1
Response Time	250ms
Emissivity	0.1~1.0 (adjustable, stores 5 sets of preset values)
Spectral Response	8μm~14μm
Laser Type	Dual
Power	9V Battery
Display	EBTN Color Screen
Product Color	Red and Grey
Product Net Weight	310g
Product Size	172mm x 115.5mm x 53mm
Operating Temperature	0°C~50°C (32°F~122°F)
Storage Temperature	-20°C~60°C (-4°F~140°F)
Operating Humidity	≤90% RH (non-condensing)
Tripod Mounting Hole	Yes
Standard Accessories	Battery, Carrying bag



Figure 8: Comprehensive specifications for the UT302+/303+ series, including UT303D+.

9. Warranty and Support

UNI-T products are designed and manufactured to the highest quality standards. For warranty information and technical

support, please refer to the warranty card included with your product or visit the official UNI-T website. Keep your purchase receipt as proof of purchase for warranty claims.
For further assistance, please contact UNI-T customer service.

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