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Inkbird INK-IFT01

Inkbird Infrared Thermometer INK-IFT01 User Manual

Model: INK-IFT01

1. Introduction

This manual provides detailed instructions for the safe and effective use of your Inkbird INK-IFT01 Infrared Thermometer. Please read this manual thoroughly before operation and retain it for future reference.



Figure 1: Inkbird INK-IFT01 Infrared Thermometer and 9V battery.

Product Features:

- Non-contact temperature measurement.
- Wide temperature range: -58°F to 1022°F (-50°C to 550°C).
- Adjustable emissivity (0.1-1.0) for various surfaces.
- Distance to Spot Ratio (D:S) of 12:1 for accurate readings at a distance.
- Color LCD screen with backlight.
- MAX / HOLD data function.

- Switchable units: Celsius (°C) / Fahrenheit (°F).
- Low battery indicator.
- 30-second automatic shutdown.

Important Safety Information:

- **This infrared thermometer is designed for measuring surface temperatures only.It is NOT for human body temperature measurement.**
- **Do not irradiate human eyes directly or indirectly with the laser at any time.**
- **Avoid pointing the laser at reflective surfaces, as the reflected beam could cause eye injury.**
- **Do not use the device in environments with explosive gas, steam, or dust.**
- **Keep the device away from electromagnetic fields generated by arc welders, induction heaters, etc.**

2. Product Overview



Figure 2: Component Diagram of the INK-IFT01.

1. **Laser Hole:** Emits the targeting laser.
2. **Infrared Sensor:** Detects infrared radiation for temperature measurement.
3. **LCD Screen:** Displays temperature readings and settings.
4. **°C/°F / Down Button:** Toggles between Celsius and Fahrenheit, or decreases values in settings.
5. **Function Button (MODE):** Cycles through measurement modes and settings.
6. **Laser / Up Button:** Toggles the laser on/off, or increases values in settings.
7. **Trigger:** Activates temperature measurement.
8. **Battery Compartment:** Houses the 9V battery.

3. Setup and Battery Installation

Battery Installation:

1. Locate the battery compartment cover on the handle of the thermometer.
2. Gently pull the cover downwards to open the compartment.
3. Insert one 9V battery, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.



Figure 3: Battery Installation Steps.

A standard 9V battery provides approximately 12 hours of continuous use.

4. Operating Instructions

Taking a Measurement:

1. Point the infrared thermometer at the target surface.
2. Pull and hold the trigger to begin measurement. The laser pointer will activate (if enabled) to indicate the measurement area.
3. For optimal accuracy, hold the trigger for 2-3 seconds.
4. Release the trigger to hold the current reading on the display. The device will automatically shut off after 30 seconds of inactivity.



Figure 4: Taking a Temperature Reading.

Distance to Spot Ratio (D:S):

The INK-IFT01 has a D:S ratio of 12:1. This means that at a distance of 12 units, the measurement spot diameter is 1 unit. For example, at a distance of 36 cm (approximately 14.17 inches), the spot size is 3 cm. Measuring closer to the object will result in a smaller measurement spot and potentially more accurate readings for smaller targets.
The best distance between the thermometer and the object of measurement is approximately 14.17 inches (36 cm).

Unit Conversion (°C/°F):

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

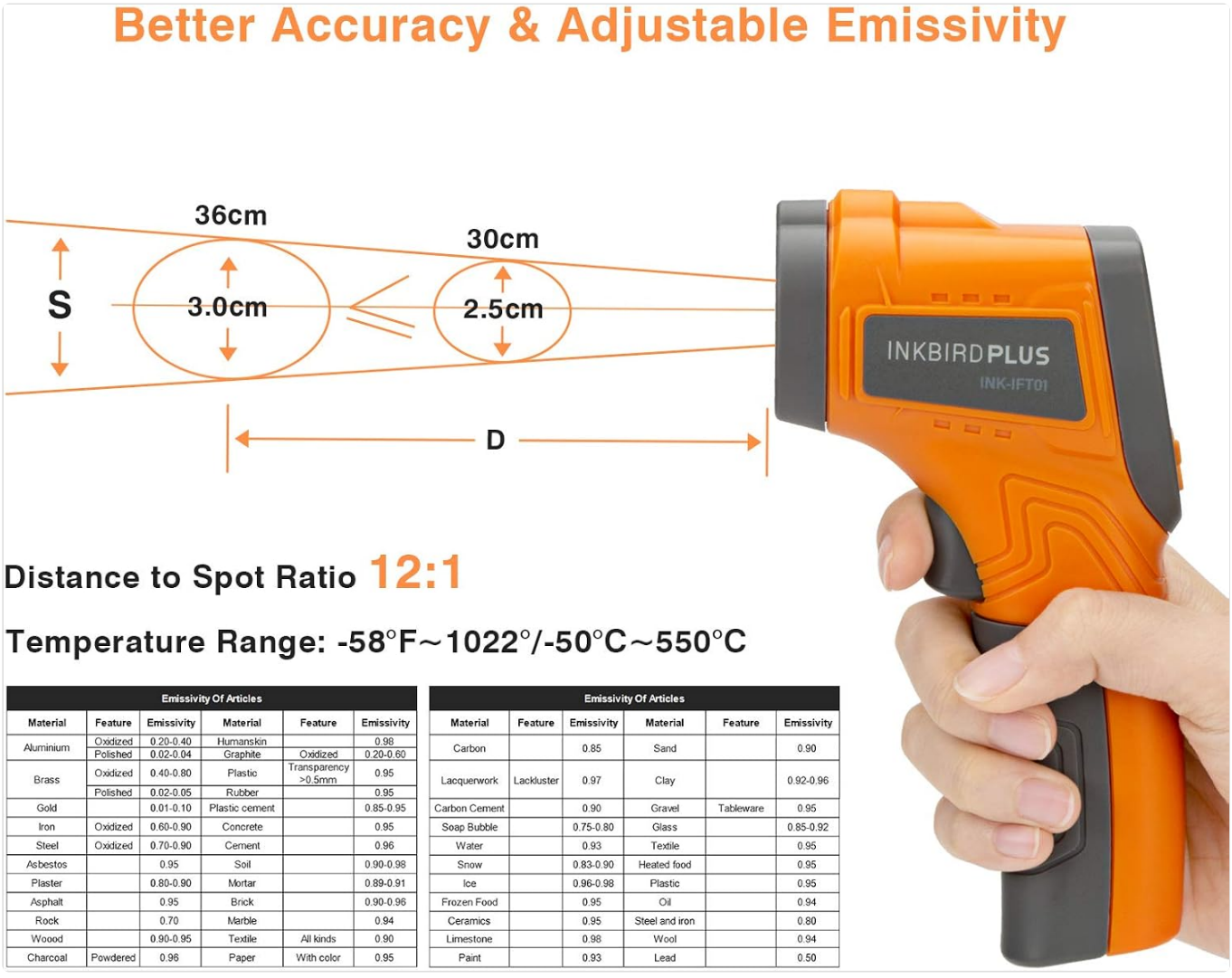
Laser On/Off:

Press the **Laser / Up** button to toggle the laser pointer on or off.

Adjustable Emissivity:

Emissivity (ε) is a measure of an object's ability to emit infrared energy. Different materials have different emissivities. For accurate measurements, adjust the emissivity setting (range 0.1-1.0) to match the material being measured.
To adjust emissivity:

1. Press the **MODE** button until "ε" appears on the display.
2. Use the **Up** and **Down** buttons to adjust the emissivity value.
3. Press **MODE** again to confirm and exit.



Emissivity Of Articles

Material	Feature	Emissivity	Material	Feature	Emissivity
Aluminium	Oxidized	0.20-0.40	Humanskin		0.98
	Polished	0.02-0.04	Graphite	Oxidized	0.20-0.60
Brass	Oxidized	0.40-0.80	Plastic	Transparency >0.5mm	0.95
	Polished	0.02-0.05	Rubber		0.95
Gold		0.01-0.10	Plastic cement		0.85-0.95
Iron	Oxidized	0.60-0.90	Concrete		0.95
Steel	Oxidized	0.70-0.90	Cement		0.96
Asbestos		0.95	Soil		0.90-0.98
Plaster		0.80-0.90	Mortar		0.89-0.91
Asphalt		0.95	Brick		0.90-0.96
Rock		0.70	Marble		0.94
Woood		0.90-0.95	Textile	All kinds	0.90
Charcoal	Powdered	0.96	Paper	With color	0.95

Emissivity Of Articles

Material	Feature	Emissivity	Material	Feature	Emissivity
Carbon		0.85	Sand		0.90
Lacquerwork	Lackluster	0.97	Clay		0.92-0.96
Carbon Cement		0.90	Gravel	Tableware	0.95
Soap Bubble		0.75-0.80	Glass		0.85-0.92
Water		0.93	Textile		0.95
Snow		0.83-0.90	Heated food		0.95
Ice		0.96-0.98	Plastic		0.95
Frozen Food		0.95	Oil		0.94
Ceramics		0.95	Steel and iron		0.80
Limestone		0.98	Wool		0.94
Paint		0.93	Lead		0.50

Figure 5: Distance to Spot Ratio and Emissivity Table.

Refer to the table in Figure 5 for common emissivity values. If the emissivity of the target material is unknown, a default setting of 0.95 is often suitable for many non-metallic surfaces.

Applications:

The Inkbird INK-IFT01 is suitable for a wide range of surface temperature measurements, including:

- Cooking (e.g., pizza ovens, grills, frying pans)

- HVAC systems (checking vents, insulation)
- Automotive maintenance (engine parts, tires)
- Reptile enclosures (terrarium temperature)
- Industrial applications (machinery, electrical components)
- Home energy audits (identifying drafts, insulation gaps)



Figure 6: Examples of INK-IFT01 Applications.

5. Maintenance

Cleaning:

- To clean the lens: Use clean compressed air to blow off loose particles. Gently wipe the surface with a cotton swab or soft cloth moistened with water or medical alcohol.
- To clean the casing: Wipe with a damp sponge or soft cloth and mild soap.
- Do not immerse the device in water.

- Do not use abrasive cleaners.

Battery Replacement:

When the low battery indicator appears on the display, replace the 9V battery as described in the "Setup and Battery Installation" section.

Storage:

Store the thermometer in a cool, dry place when not in use. Remove the battery if storing for extended periods to prevent leakage.

6. Troubleshooting

- **Device does not power on:**
  - Check if the 9V battery is installed correctly with the correct polarity.
  - Replace the battery with a new one.
- **Inaccurate readings:**
  - Ensure the distance to spot ratio (D:S) is appropriate for the target size. The optimal distance is approximately 14.17 inches (36 cm).
  - Verify that the emissivity setting matches the material being measured. Adjust if necessary (refer to Figure 5).
  - Ensure the lens is clean and free from obstructions.
  - Avoid measuring through glass or other transparent surfaces, as infrared thermometers measure the surface temperature of the glass itself.
  - Allow the thermometer to stabilize to ambient temperature if moved from a significantly different temperature environment.
- **Laser not working:**
  - Press the **Laser / Up** button to ensure the laser is enabled.

7. Specifications

Feature	Specification
Model	INK-IFT01
Temperature Range	-58°F to 1022°F (-50°C to 550°C)
Accuracy	±1.5% or ±1.5°C (±2.7°F)
Distance Spot Ratio (D:S)	12:1
Emissivity	Adjustable 0.1-1.0
Response Time	500 Milliseconds
Spectral Response	8-14 µm

Feature	Specification
Power Source	1 x 9V Battery (included)
Automatic Shutdown	30 seconds
Display Type	Digital LCD with Backlight
Operating Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Dimensions	7.64 x 4.33 x 1.61 inches (approx.)
Weight	6.3 ounces (approx.)

8. Warranty and Support

Inkbird products are designed for reliability and performance. This product is covered by a manufacturer's warranty. For specific warranty details, please refer to the documentation included with your purchase or visit the official Inkbird website.

If you encounter any issues or have questions regarding your Inkbird INK-IFT01 Infrared Thermometer, please contact Inkbird Customer Support for assistance. Contact information can typically be found on the product packaging or the official Inkbird website.

Manufacturer: Inkbird

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