PEAKMETER PM6530D

PEAKMETER PM6530D Non-Contact Infrared Thermometer User Manual

Introduction

This manual provides instructions for the safe and effective operation of your PEAKMETER PM6530D Non-Contact Infrared Thermometer. This device is designed for reliable surface temperature measurement and includes additional features such as K-type thermocouple input, ambient temperature, humidity, and dew point measurements.

Safety Information

Laser Safety

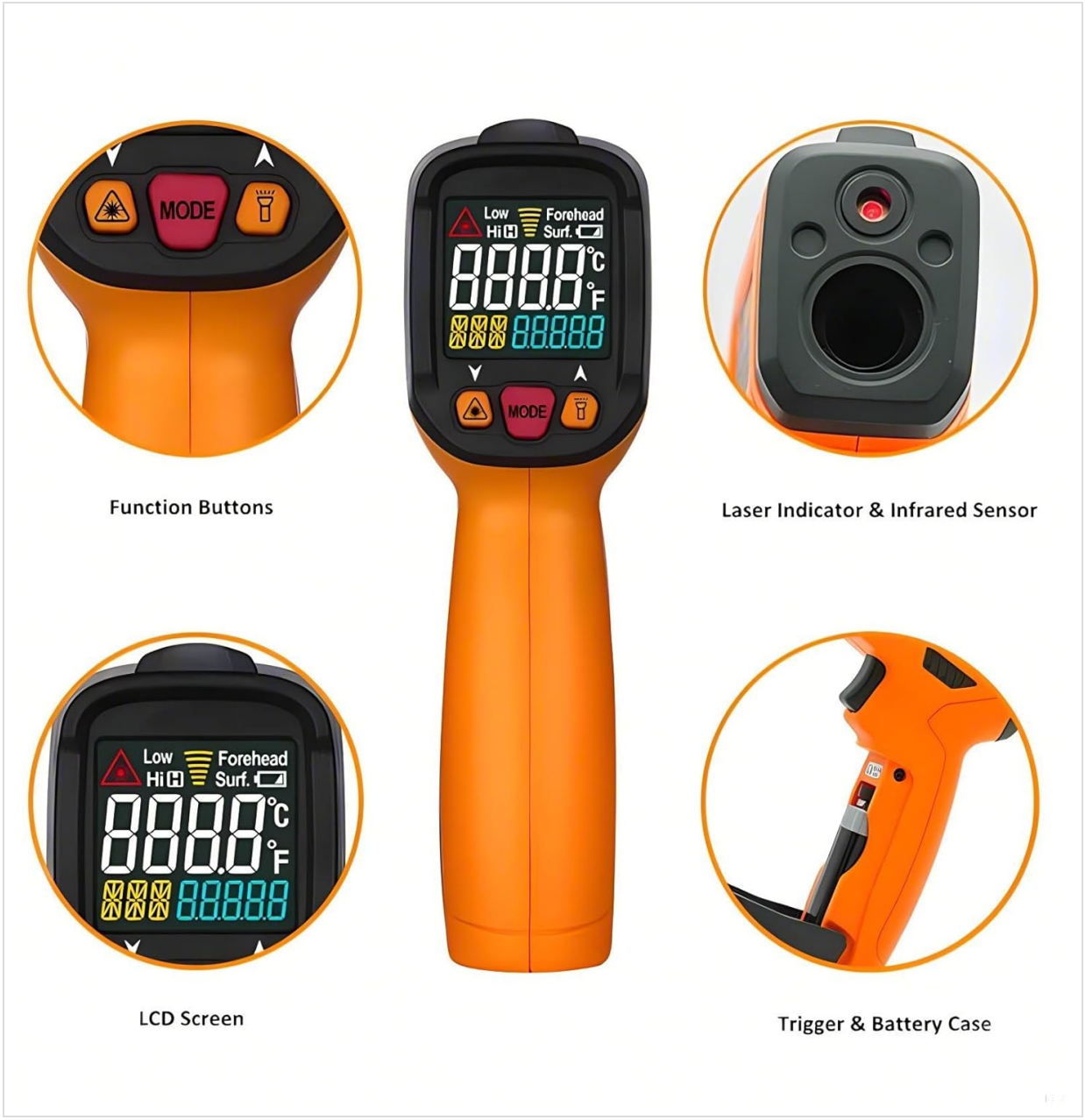
CAUTION: Do not stare directly into the laser beam. Avoid direct eye exposure. The laser is used for targeting only and should not be pointed at people or animals.

General Safety

Do not immerse the unit in water. Do not use the thermometer in environments with explosive gas, steam, or dust. Keep the device away from strong electromagnetic fields. Replace batteries promptly when the low battery indicator appears.

Product Overview

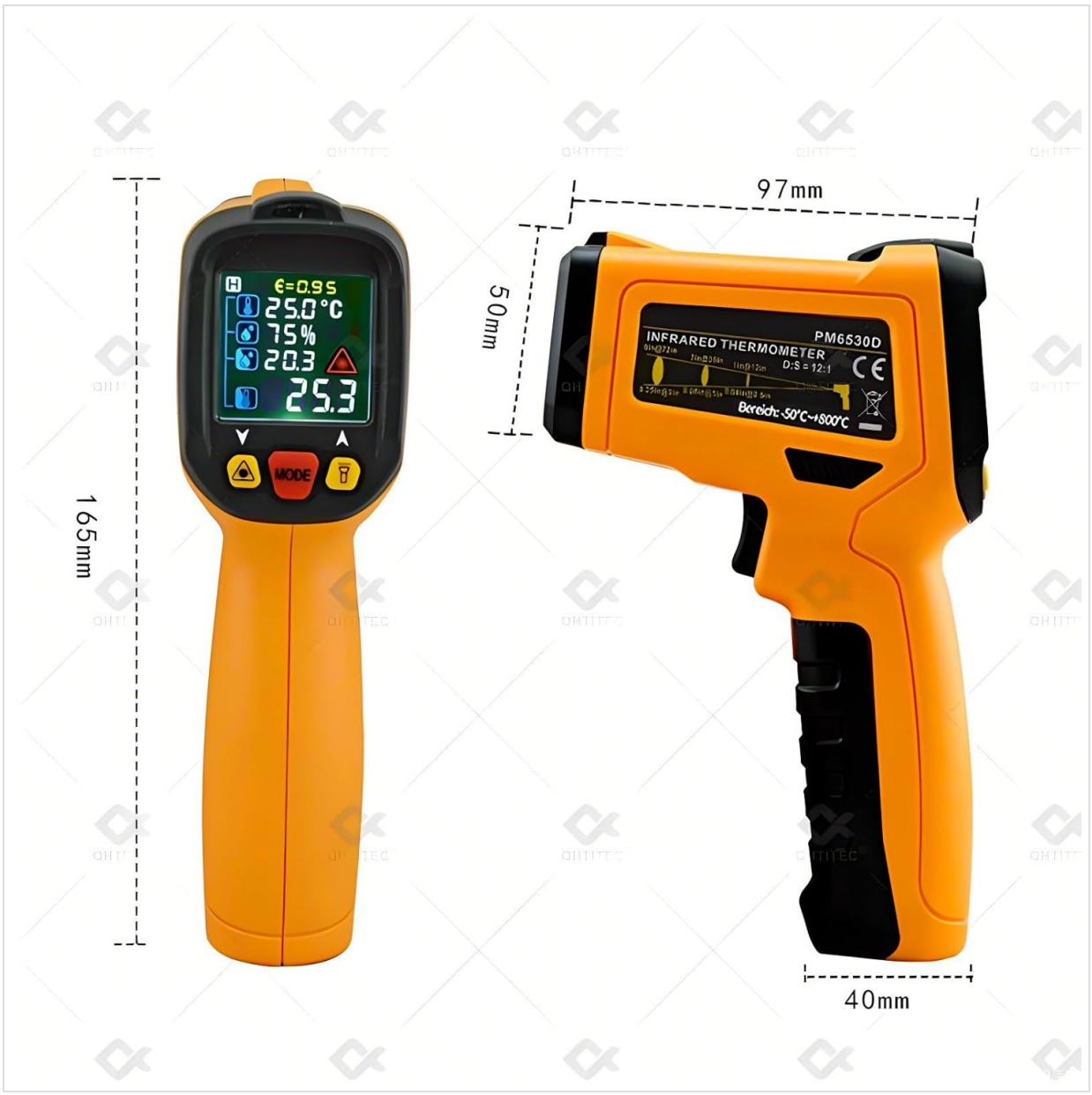
The PEAKMETER PM6530D is a versatile infrared thermometer with multiple functions. Familiarize yourself with its components:



This image illustrates the main components of the PEAKMETER PM6530D thermometer. It highlights the function buttons for mode selection and unit switching, the clear LCD screen displaying temperature and other readings, the laser indicator and infrared sensor for non-contact measurements, and the trigger with the integrated battery case.

Key Components

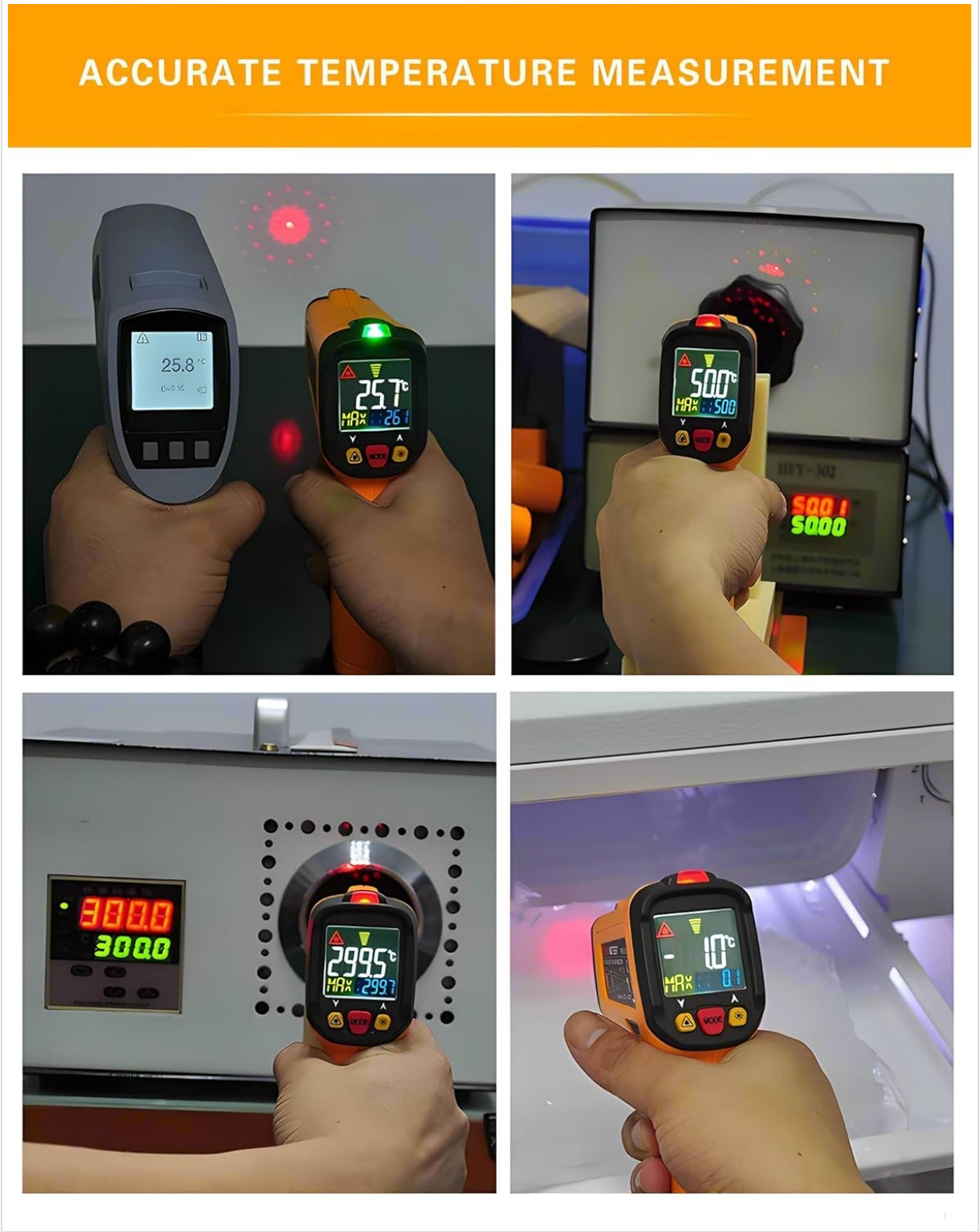
- **Function Buttons:** Used for navigating modes and settings.
- **LCD Screen:** Displays temperature readings, mode indicators, and other data.
- **Laser Indicator & Infrared Sensor:** The laser assists in targeting the measurement area, while the infrared sensor detects surface temperature.
- **Trigger & Battery Case:** The trigger activates measurement, and the handle houses the battery compartment.



This image shows the side view of the thermometer, detailing the temperature and humidity sensor, the external temperature probe connection, and the color display interface. The display provides comprehensive information including emissivity, ambient temperature, relative humidity, and dew point.

Additional Sensors and Display

- **Temperature and Humidity Sensor:** Measures ambient air temperature and relative humidity.
- **Temperature Probe (K-type):** Port for connecting an external K-type thermocouple for contact temperature measurements.
- **Color Display:** Provides a clear, multi-color interface for all readings and settings.



This image demonstrates the connection point for the K-type thermocouple probe on the side of the PEAKMETER PM6530D. The probe allows for contact temperature measurements, expanding the thermometer's utility beyond non-contact infrared readings.

Thermocouple Probe Connection

- **Thermocouple Probe:** Connects to the device for direct contact temperature measurement.

Setup

Battery Installation

1. Locate the battery compartment in the handle of the thermometer.
2. Open the battery cover.

3. Insert one 9V battery (6F22 type) according to the polarity indicators inside the compartment.
4. Close the battery cover securely.

Operating Instructions

Non-Contact Infrared Temperature Measurement

1. Point the thermometer at the target surface.
2. Press and hold the trigger to activate the laser pointer and begin measurement. The measured temperature will appear on the LCD screen.
3. Release the trigger to hold the reading on the display (Data Hold function).
4. Ensure the distance-to-spot ratio (D:S) of 12:1 is considered for accurate readings.

K-Type Thermocouple Measurement

1. Connect the K-type thermocouple probe to the designated port on the side of the thermometer.
2. Select the K-type measurement mode using the "MODE" button.
3. Place the tip of the thermocouple probe in direct contact with the object to be measured.
4. Read the temperature displayed on the screen.

Adjusting Emissivity

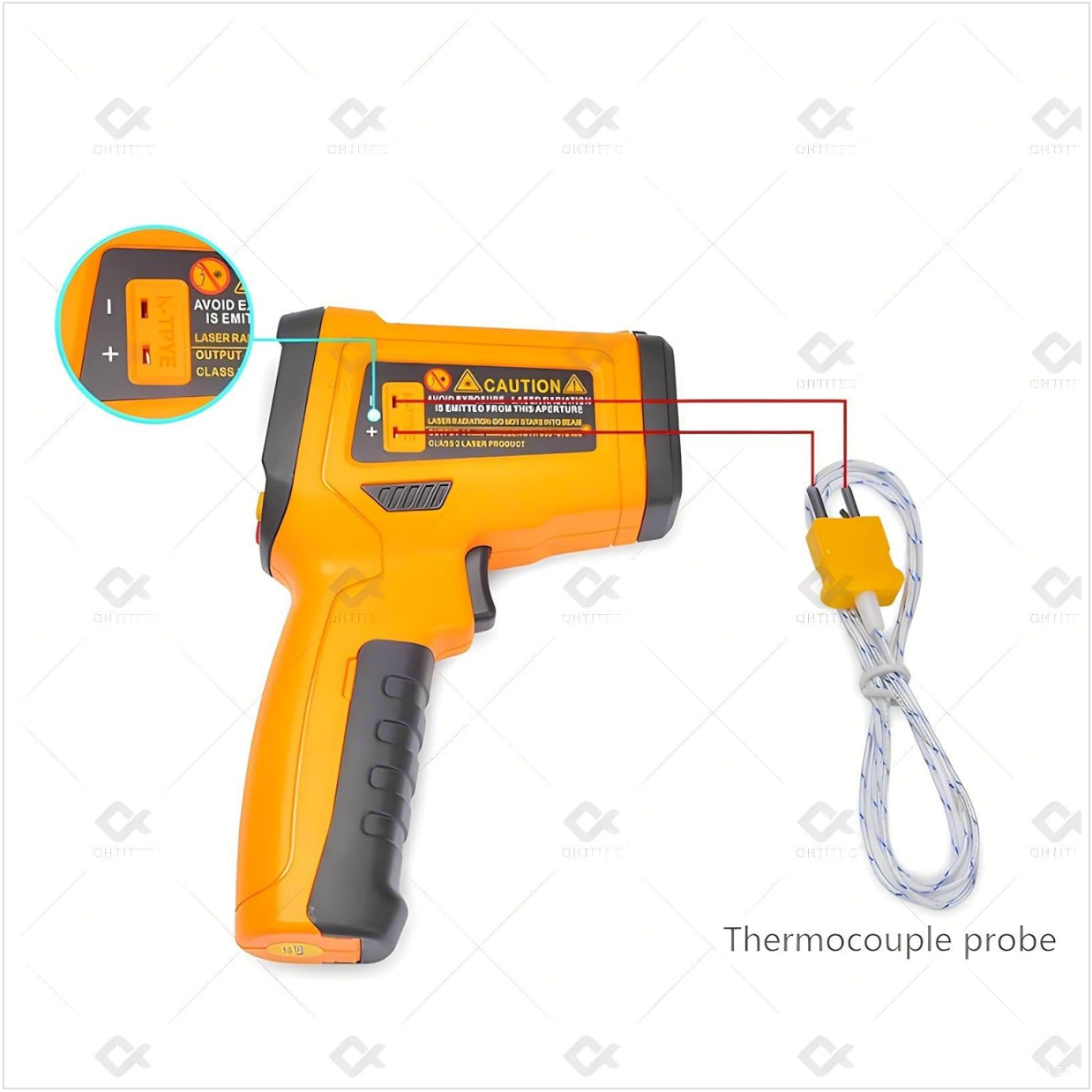
Emissivity (ε) is a measure of an object's ability to emit infrared energy. Different materials have different emissivity values. For accurate readings, adjust the emissivity setting to match the target material. Refer to common emissivity tables for typical values. The PM6530D allows adjustment from 0.10 to 1.00.

Unit Selection (°C/°F)

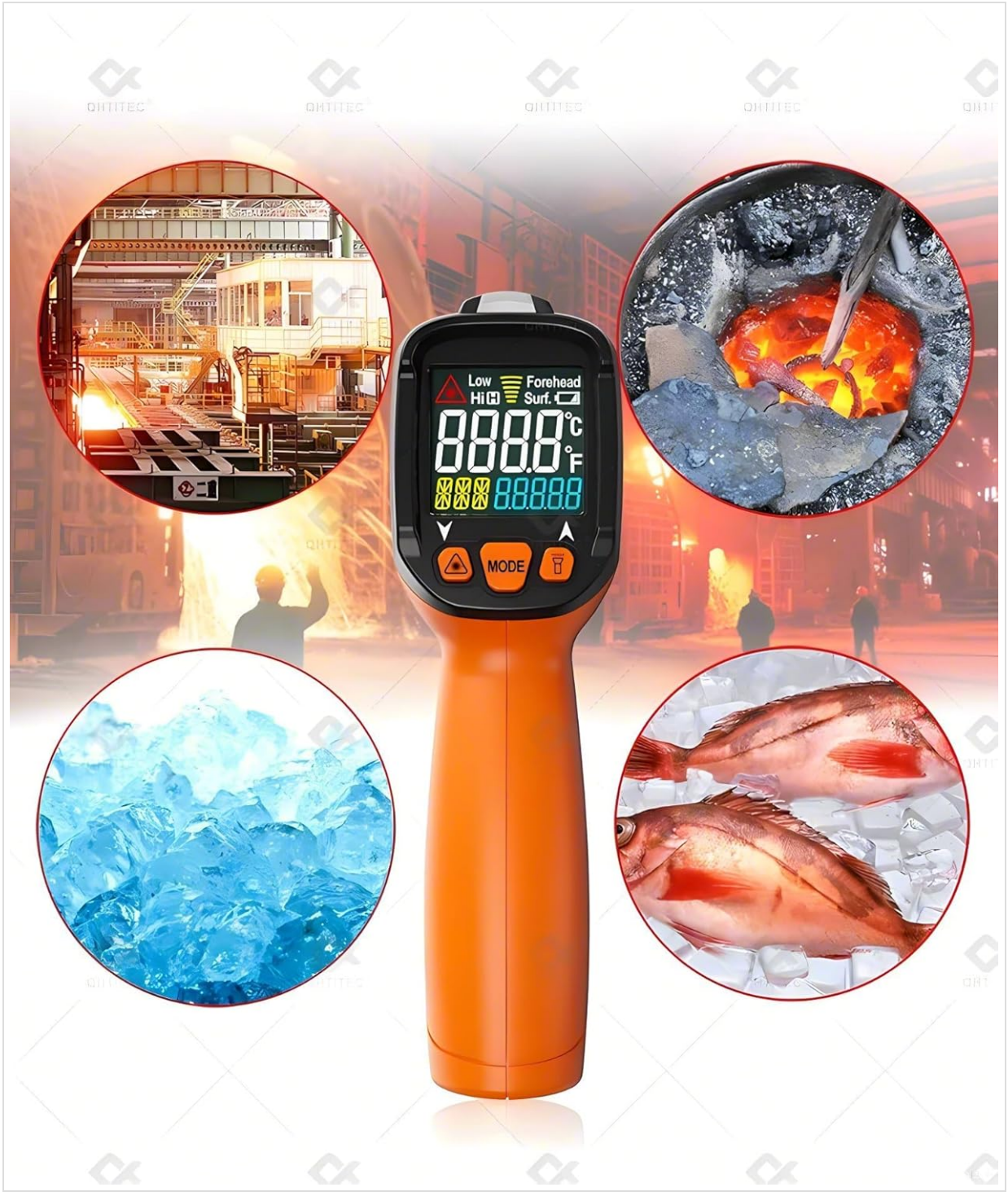
Press the dedicated unit button (often labeled with °C/°F) to switch between Celsius and Fahrenheit temperature units.

Additional Functions

- **Backlight:** The display backlight can be toggled for visibility in various lighting conditions.
- **Auto Power Off:** The device will automatically power off after a period of inactivity to conserve battery life.
- **Ambient Temperature, Relative Humidity, Dew Point:** These values are displayed automatically or can be accessed via the MODE button.
- **Mold Alarm:** An indicator (Red/Yellow/Green LED) may alert to conditions conducive to mold growth based on humidity and temperature.
- **UV Light:** Activate the UV light for specific inspection tasks.



This image displays various scenarios where the PEAKMETER PM6530D can be used for accurate temperature measurement. It shows the device measuring temperatures of different surfaces and objects, demonstrating its versatility in industrial and domestic settings.



This image illustrates common applications for the infrared thermometer, including industrial processes (molten metal, machinery) and household uses (refrigeration, cooking). It highlights the broad utility of the device for both high and low-temperature measurements.

Maintenance

Cleaning

Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or solvents. Keep the infrared lens clean and free from dust or debris.

Battery Replacement

When the low battery indicator appears on the display, replace the 9V battery as described in the "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.

Troubleshooting

- **No Power:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **"Hi" or "Lo" on Display:** The measured temperature is outside the device's specified range.
- **Inaccurate Readings:** Ensure the emissivity setting is correct for the target material. Check for obstructions on the infrared sensor lens. Maintain appropriate distance to the target.
- **Laser Not Working:** Check battery level. Ensure the laser is not obstructed.

Specifications

Parameter	Range/Value	Accuracy
IRT Temperature	-50℃ 800℃ (-58℉ 1472℉)	±1.5%
K-type Temperature	-40℃ 500℃ (-40℉ 932℉)	±1.5%
Ambient Temperature	-20℃ 60℃ (-4℉ 140℉)	±0.5℃/1.0℉
Relative Humidity	0% 100%RH	±4.0%RH (20% 80%), ±5.0%RH (0% 20%, 80% 100%)
Distance to Spot Ratio (D:S)	12:1	N/A
Emissivity	0.10 1.00 (Adjustable)	N/A
Spectral Response	8 14um	N/A
Response Time	<0.5s	N/A
Laser Target Pointer	<1mW 630nm-650nm (Circle)	N/A
Power Supply	6F22 9V Battery	N/A
Weight	130g	N/A
Dimensions	163mm × 97mm × 33mm	N/A
Safety Rating	EN61326, EN60825	N/A