



MEFE
MITCHELL ENGINEERING
FOOD EQUIPMENT PTY LTD

Instruction Manual



Digital Infrared Thermometer Body & Surface

CAT 65 868

Revision 1

Intended Use

This Digital Infrared Thermometer is intended for non-contact temperature measurement based on the relationship between temperature and measurable infrared radiation. It is suitable for forehead temperature measurement at home or in hospital for infants, children and adults. It is also capable of surface temperature readings of objects, including liquids.

Simply aim the probe towards the surface to be measured to obtain a quick and accurate reading. To ensure proper use of this thermometer, please read this Instruction Manual carefully before use, paying close attention to the Safety Precautions.

How Does It Work?

Any object above absolute zero temperature emits a certain percentage of infrared radiation energy based on its temperature. The amount of radiation energy and the distribution of the wavelength have a close relationship. For example, when a person's forehead has a temperature of 36—37°C, it emits a wavelength of 9-013um of infrared radiation. Based on this principle, the thermometer is able to measure the actual temperature through measuring the surface temperature.

Safety Precautions

Warning:

- Use of this thermometer is not intended as a substitute for consultation with your physician. It is dangerous for the user to perform a self-evaluation and self-treatment based on the measuring result. Be sure to always follow your doctor's instructions.
- Keep the thermometer out of reach of children. For accidental swallow of battery or other component, please consult the doctor at once.

Notice:

- This device is a precision instrument. Please treat with care and do not drop or use heavy force on the thermometer. Do not touch the lens of the probe. Do not attempt to disassemble, repair, or modify the device.
- Do not immerse the device in water or any other liquid or expose to any chemical solvents.
- Do not expose the device to direct sunlight for a long time as this may damage the batteries.

Caution When Measuring:

- Before measuring forehead temperature, make sure hair is removed and any sweat dried. After exercising, eating, or bathing please stay still in room temperature for 30 minutes before measurement.
- If you are taking continuous measures please note there may be some slight error between readings. For the most accurate result, we recommend you measure yourself once every 60 seconds 3 times and take the average reading.
- There is no absolute standard on the temperature of a person, so please collect the average recorded temperature for the person as a reference.
- Do not measure over areas of scarred tissue or tissue compromised by skin disorders as this may affect the accuracy of the reading. Do not measure the forehead temperature if that area has trauma.
- Do not measure if the person has been treated with drugs that may affect the reading.
- Do not use a mobile phone near the device when measuring as this may affect the reading.
- When measuring surface temperatures of any liquid please avoid directly measuring the surface or placing the probe over hot steam. This may condense or fog the sensor lens and affect the reading.
- For heat-insulated objects, do not measure the surface.
- For safety reasons, infants and children's temperature must be measured by a parent or adult.

Multi-function Mode and Temperature Range

This infrared thermometer has the following modes:

1. Body or forehead temperature mode—measure the temperature of the forehead accurately
2. Object or surface temperature mode—measure the surface temperature of an object such as ambient bathwater, milk, water, and any other surface

Normal temperature range for different measuring positions

Measuring position	Normal temperature (°C)	Normal temperature (°F)
Anus	36.6-38.0	97.9-100.4
Oral	35.5-37.5	95.9-99.5
Armpit	34.7-37.3	94.5-99.1
Forehead	35.8-38.0	96.4-100.4

Normal forehead temperature range for different ages

Ages	Normal temperature (°C)	Normal temperature (°F)
0-2 years old	36.4-38.0	97.5-100.4
3-10 years old	36.1-37.8	97.0-100.0
11-65 years old	35.9-37.6	96.6-99.7
> 65 years old	35.8-37.5	96.4-99.5

NOTE: Average temperatures are individual. To define your normal temperature, please measure your temperature for at least 2 weeks at the same position (ear canal, forehead, etc.) and under similar circumstances (i.e., environment, air temperature).

Features

Precise non-contact measurement	Automatic selection range and display resolution 0.1°C (0.1°F)
Switchable between °C and °F	Body mode 3 colour backlit display with Fever Alarm
Set alarm temperature value	2 measure modes: forehead (body) and surface mode
Automatic memory storage (99 readings)	Compatible with reading liquid temperatures

Advice for First Use: Calibration

The device will automatically calibrate. For the most stable and reliable results we recommend you follow these steps when first using the thermometer.

1. Take the temperature of the person with a conventional thermometer. As an example, you will get 37.5°C (99.5°F).
2. Take the temperature again of the same person using the digital infrared thermometer and compare the measurement to ensure accuracy. If you get 37.5°C (99.5°F) the device is properly set and ready for use.

If you get a different temperature: For example, 36.4°C (97.5°F), you should adjust the temperature of the device by adding the difference 1.1°C (2.2°F).

To adjust the temperature on the device, press the MODE button for 2 seconds. The screen will display F1, press the MODE button again until you get F3. Press the (-) DOWN button or (+) UP button to adjust for the difference.

Battery Install and Operation

1. Install 2 x AAA batteries. For first use or if changing the batteries, please wait about 10 minutes for the apparatus to warm up before turning on by pulling the measurement trigger. Secure the battery cover using the screw supplied.
2. If the device has not been used for a long time, when you turn it on again it will automatically measure the room temperature first and delay turning on for 1—2 seconds. If leaving the device for a long time, remove the batteries.
3. Select the body mode, aim towards the chosen surface (usually forehead) keeping 2—5 cm sensing range, and pull the measuring trigger once. The temperature will display accompanied by a single beep.
4. If the measurement temperature is 38.0°C or higher indicating a fever, the device should emit 6 rapid beep sounds to alert the user. The backlit display will be red. **NOTE:** If you have manually adjusted your default alarm threshold for alerting a fever, this will only occur at your new setting. Please refer to the Setting function F2.
5. To turn off the device, simply do not touch it. It will automatically turn off after 15 seconds.

Setting Functions and Operation

CAUTION: We recommend you leave the default settings. To restore to **Factory Default** hold down MODE for 7 seconds.

	Mode	Function	Operation Step
1	F1	Set °C / °F	Press MODE button for 2 seconds, the screen will display F1 on the bottom right. Press (+) UP or (-) DOWN button to change the temperature unit.
2	F2	Set alarm temperature	Press MODE button for 2 seconds, the screen will display F1, press MODE again to get to F2. Select (+) UP to increase the threshold by 0.1°C (0.1°F). The alarm threshold default value is 38°C (100.4°F).
3	F3	Set difference	Press MODE button for 2 seconds, press again twice to cycle through to F3. Select (+) UP to increase the difference by 0.1°C (0.1°F) or (-) DOWN to reduce it by 0.1°C/F. In the case of seasonal or environmental change, please verify and adjust according to the operation instructions in this manual.
4	F4	Set buzzer on/off	Press MODE button for 2 seconds, press again three times to cycle through to F4. Select (+) UP to turn on the buzzer, press (-) DOWN to turn it off.
5		Measurement mode	There are 2 measurement modes for this device. Body (forehead) mode: Range = 32.0—43.0°C (86.0-109.4°F) Surface (object) mode: Range = 0—100°C (32.0-212.0°F)
6		3 colours backlight	In body mode, the device will display a different colour depending on the reading. Green (Normal) = 32.0—37.4°C (86.0—99.3°F) Orange (Slight Fever) = 37.5—37.9°C (99.5-100.2°F) Red (Fever) = 38.0-43.0°C (100.4-109.4°F) In surface mode, the backlight will always display green.
7		Data memory	The device will automatically store body data memory after temperature measurements, with up to 99 readings stored. To display the last reading or cycle through data memory, press the (+) UP or (-) DOWN buttons. The device cannot save readings on surface mode.

Care and Cleaning

The probe tip (lens) is the most fragile part of the thermometer. It is essential you keep it clean at all times and avoid exposure to hot steam, water, and dirt.

Cleaning the lens:

Very gently wipe the surface with a cotton swab or soft cloth moistened with an alcohol solution. And allow to dry out completely. Please avoid cleaning the lens unless strictly necessary.

Cleaning the body:

Use a soft, dry cloth to clean the thermometer display and body. If very dirty, use a soft cloth with an alcohol solution.

DO NOT USE ABRASIVE CLEANERS, SOLUTIONS, OR SUBMERGE IN WATER.

Trouble-shooting

Fault	Checklist	Solution
No response / automatically reset	<ol style="list-style-type: none">1. Check the batteries2. Poor battery contact	<ol style="list-style-type: none">1. Replace the batteries2. Check the battery polarity is correct
The thermometer is showing the symbol "Hi"	<p>In forehead measurement mode "Hi" > 43.0°C;</p> <ol style="list-style-type: none">1. The temperature readings are too close together2. The device is measuring interference i.e. environment temperature, sunlight, fireplace heat. <p>In surface measurement mode "Hi" > 100.0°C;</p> <ol style="list-style-type: none">1. The temperature readings are too close together2. The object temperature is higher than 100.0°.	Please leave the status for at least 30 minutes then re-measure after adjusting as necessary.
The thermometer is showing the symbol "Lo"	<p>In forehead measurement mode "Lo" < 32.0°C;</p> <ol style="list-style-type: none">1. The measuring distance is too far2. The device is measuring interference i.e. environment temperature, air conditioner air. <p>In surface measurement mode "Lo" < 0°C;</p> <ol style="list-style-type: none">1. The measuring distance is too far2. There is water vapour condensation on the lens	Please leave the status for at least 30 minutes then re-measure after adjusting as necessary.
"Err" Error symbol is displaying	<ol style="list-style-type: none">1. The ambient temperature is beyond the range of measurement (10.0°C—40.0°C)2. The sensor or hardware is damaged	<ol style="list-style-type: none">1. Keep the thermometer where it is and allow 30 minutes to adjust to the ambient temperature or change locations2. Contact manufacturer to trouble-shoot
Low battery symbol	The battery is low	Replace the batteries

Specifications

Measurement Mode	Body (forehead) and Surface (object)	Room temperature operating range	10—40°C, relative humidity 15-85%, 70-106KPa
Power supply	3V, 2 x AAA battery	Storage conditions	-25—50°C, relative humidity < 95%, 70-106KPa
Measuring range	Forehead: 32.0—43.0°C Surface: 0—100°C	Device dimensions	149 x 95 x 45mm
Measuring accuracy (laboratory conditions)	Forehead: ± 0.2 during 35.5—42.0°C ± 0.3 during 32.0—35.4°C and 42.1—43.0°C	Weight	145g (including batteries)
Clinical repeatability	Within ±0.3°C	Default fever alarm measurement	> 38°C
Resolution of display	0.1°C/0.1°F	Waterproof grade	IP22

Parts

