Infrared
ThermoScope
Non-Contact Measurement

MC-301
Manual

Compliant to EN60601-1, EN12470-5Manual instruction
Please read this manual instruction thoroughly before use.

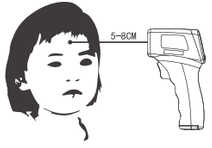
MEDICARE

Version: V2.0 Date: 2020.02.20

Operating instructions

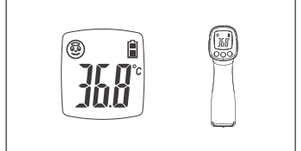
Distinguish the positive and negative poles of the battery

1.Take out the thermometer and open the battery lid to install 2AAA batterirs



2. Keep distance at 5cm to 8cm from thermometer probe to the middle of forehead, please do not contact forehead directly

3.Select measurement mode and click the measurement button to start taking temperature



4. Reading displays on the screen after successful measurement

Instruction Manual

1.Introduction & classification

This is a non-contact infrared thermometer applicable to forehead measurement. The thermometer measures body temperature by collecting heat radiation emitting from forehead. New probe structure is adopted in this thermometer. It's simply operational, hygeian, reliable and highly accurate. Users can get precise reading within one second by one touch. This thermometer is cost-effective and is widely used in schools, customs, hospitals and for family use.

This thermometer is also capable of measuring object temperature ranging from 0℃-93℃ (32℉ ~ 199.4℉) .

This thermometer is classified as a Class II Medical Device, sorted as internally- powered equipment and type B application device. Water proof rating is: IPX0. It's prohibited to use this thermome ter in flammable anesthetic gas or gas mixture of air and oxygen or nitrous oxide. This is a continuous operation equipment. It's classified as II a by EU.

2.Working principle

Any object can generate certain proportion of infrared radiant energy as per its own temperature. The radiant energy and its wavelength distribution are subjected to its surface temperature. Based on this principle, this thermometer is designed to detect infrared radiation at 5~14um by highly precise infrared sensor made in Germany. By adopting this high quality sensor plus special calculation and calibration, this thermometer is able to take accurate body temperature.

3.Features

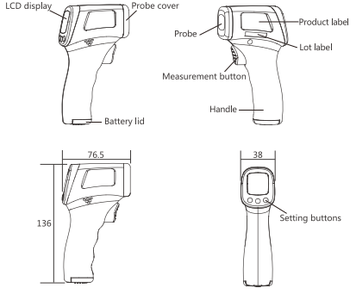
- Adopting reliable sensor made in Germany ;
- All-new & patented probe design to ensure high accuracy ;
- Excellent adaption to ambient temperature. Accurate and reliable even under complicated surrounding ;
- Measurement mode for human body and object available,one button to switch measurement mode ;
- Beeper for fever or high temperature
- ℃/℉ reading available ;
- Automatic shut off
- Storage of last 10 readings
- 3 Colors Backlight LCD for easy reading

4.Technical parameters

Effective distance	5cm ~ 8cm	
Measurement method	Non-contact	
Range	Human body	35.0℃ ~ 42.9℃ (95.0℉ ~ 109.2℉) ≤35.0℃/95℉, "LO" displays >42.9℃/109.9℉, "HI" displays
	Object	0℃ ~ 93℃ (32.0℉ ~ 199.4℉) <0℃/32℉, "LO" displays >93℃/199.4℉, "HI" displays
Accuracy	Human body	±0.2℃/0.4℉
	Object	±1.0℃/1.8℉
Resolution	0.1℃/0.1℉	
Working condition	16℃ ~ 40℃ (60.8℉ ~ 104℉) RH≤85%Non-condensing "ERR" displays when it' s not used under working condition	
Storage condition	-20℃ ~ 55℃ (-4℉ ~ 131℉) RH≤85%Non-condensing	

Measurement time	<1 second
Power supply	d.c. 3V 2 AAA alkaline Battery
Power consumption	When off≤10uW
	When measurement≤30mW
Power level indicator	Indication for low power level
Memory	Storage of last 10 readings
Display	3 Colors Backlight LCD (red, green, orange)
Reading scale	Celsius or Fahrenheit
Automatic shut off	In 30 seconds
Dimensions	136mm×76.5mm×38mm
Net weight	75g
Standards	EN60601-1、EN 12470-5 、ASTM 1965-98

5.Illustration



Size: 360 x 100 (mm)

6.Display & icons

Function definition	Icon	Details	
Battery level		When it is visible	The battery is in low level, but the thermometer is still functional properly.Please replace battery asap
		When it flashes	The battery is exhausted and thermometer can not function properly. Please replace battery immediately
		When it is visible	Battery power is sufficient. and it functions properly.
Measurement mode		Human Body mode	
		Object mode	
Reading scale	°C	Celsius reading	
	°F	Fahrenheit reading	
Reading display	1888	Temperature value	
Memory	M	Temperature value of previous measurement	

7.Function definition of buttons

Buttons	Description
Mode	To switch measurement mode between human body and object
MEM	To track last 10 readings
C/F	To switch unit of temperature reading

8.Setting

User can change reading scale between Celsius and Fahrenheit, and change measurement mode between human body mode and object mode .

Measurement mode setting:

When thermometer is on, it displays current measurement mode (fig.8.1). Press the "Mode" button to change measurement mode(fig.8.2).


(fig.8.1)


(fig.8.2)

Reading scale setting:

When thermometer is on, it displays current Reading scale. Press the "C/F" button to select reading scale.

Notice:

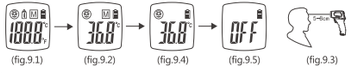
1.Temperature under human body mode is obtained from dynamic compensation of environmental temp and forehead surface temp.

2. Object temperature mode is to test surface temperature of an object. The temperature get from forehead under this mode is merely temperature of forehead surface but not body temperature.

9.Measurement

9.1 Body temperature

- Press measurement button to turn on thermometer and it displays boot screen (fig.9.1). After POST and two beeps, it will display value of last reading and be ready for measurement (fig.9.2).
- Make sure the thermometer is under body mode.
- Keep distance at 5cm to 8cm from thermometer probe to the middle of forehead (fig.9.3). Press measurement button and then it gives a"beep" to indicate measurement is finished and value will be displayed (fig.9.4). If measurement value exceeds alarm value(Defaulted value is 38℃),it gives"beep. beep. beep"as a indication.
- After measurement, if the thermometer is idle for 30 seconds, it will display "OFF" (fig.9.5) and gives a"beep"and shut off automatically.


(fig.9.1) (fig.9.2) (fig.9.4) (fig.9.5)

(fig.9.3)

Notice:

1.Keep the sensor and probe cavity clean before use and after use.

2.To ensure the accuracy of measurement, it is recommended to start measurement ten minutes after carrying the thermometer to a new environment.

3.Wait for 10 minutes to measure body temperature after measuring extremely high temperature or extremely low temperature objects.

4.Wait for 5 minutes to start a measurement when a measuring target (object or human) is from an environment with enormous difference in temperature.

5.Breeze, water, sweating, cosmetic on forehead may affect measurement. Do not measure body temperature within 30 minutes after exercise, bath or meals.

9.2 Object temperature

- Press measurement button to turn on thermometer (fig.9.6).
- Make sure the thermometer is under object mode.
- Keep vertical distance at 5cm to 8cm from object to measurement probe. Press measurement button and then it gives a "beep" to indicate measurement is finished and value will be displayed (fig.9.7).
- After measurement, if the thermometer is idle for 30 seconds, it will display "OFF" (fig.9.8) and gives a "beep" and shut off automatically.


(fig.9.6) (fig.9.7) (fig.9.8)

Notice:

1.The value under this mode is object surface temperature instead of core temperature.

2.The default value of edinfrared emissivity is 0.95. The reading will deviate from the real temperature because of different emissivity. For example, the reading on stainless steel is obviously lower than real temperature. BE CAUTIOUS FOR SCALDING.

9.3 Exceeding measurement range

Body mode:

When measurement value is lower than 35.0℃, it displays Lo (fig.9.9) and gives "beep. beep.beep.beep" , with the color of backlight turning red.

When measurement value is higher than 42.9 ℃, it displays Hi (fig.9.10) and gives "beep. beep.beep.beep" , with the color of backlight turning red.

Object mode:

When measurement value is lower than 0.2 ℃, it displays Lo (fig.9.11) and gives "beep. beep.beep.beep" ,with the color of backlight turning red.

When measurement value is higher than 93℃, it displays Hi (fig.9.12) and gives "beep. beep.beep.beep" ,with the color of backlight turning red.

Notice:

When surrounding temperature is lower than 16.0℃ or higher than 40.0℃, it displays Err(fig.9.13) and gives "beep.beep.beep.beep" , with the color of backlight turning red. Under this condition, it' s not allowed to use this thermometer or accuracy is not assured.


(fig.9.9) (fig.9.10) (fig.9.11) (fig.9.12) (fig.9.13)

10. Battery replacement

- Open the battery lid and take out exhausted battery.
- Put into 2 AAA alkaline batteries and close up battery lid. After new battery is installed, the color of backlight turns in the order of green , orange and red , each of them flashing one time respectively, with a "beep" heard. If no beep is heard, please check if the positive and negative pole is correct (see fig.10.1).


(fig.10.1)

Notice:

1.Take out battery in case the thermometer is not used for a long time. Don't put the battery to fire.

2.Dispose battery according to local regulations.

11. Maintenance & tips

- Make sure the sensor and probe cavity is clean otherwise it will affect accuracy. Cleaning method for probe:
  1.Use the cotton stick or soft cloth with water or alcohol to wipe the casing.
  2.Use the cotton stick or soft cloth with alcohol to wipe the sensor surface or probe cavity gently. Don't use thermometer before alcohol is vaporized.
- Read this manual book thoroughly before use. Make sure battery is well installed. It is not allowed to put the thermometer in any liquid or expose to strong sunlight or extremely low temperature.
  Strong crash or hit to the product will cause its damage.
  Do not dismantle this thermometer by yourself.
- Keep the thermometer from children's reach.
- Do not use the thermometer under circumstance of strong electromagnetic interfere.
- The measurement results are probably fluctuating due to improper measurement ways.
- Please practice adequate measurements in order to improve your skill.
- The measurement results can not supersede a doctor's diagnosis.
- Special maintenance is unnecessary for this thermometer. Please contact distributor or manufacturer in case of malfunction.

12. Trouble shooting

Description	Solutions
LCD display "LO" or "HI"	1.Breeze, water, sweating, cosmetic on forehead may affect measurement. 2.While if the testing environmental temp changes so enormously or if the thermometer is used directly from high -temp object to very low-temp one, the measurement difference will happen.The thermometer should be kept in a relatively stable environment for 10 minutes to get heat balance before starting a new measurement. 3.Ensure measurement distance is 5cm to 8cm.
No response when pressing measurement button	1.Take out and reassemble battery.
No display or improper display	1.Take out battery and install battery again.
Shut off right after switching on	1.Check battery level or take out the battery and install the battery again.

13. Quality commitment & after-sale service

One year guarantee is available since purchasing.

Any damage caused by illegal use or product disassemble will not be covered by guarantee.

Notice:

Please keep your guarantee card and purchase receipt for future repair.

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www.medicare-l-tac.com.sg

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Customer Service:
63342273

Guarantee Card

Dear customer, thanks for purchasing our products. Please fill in this card for further service.

For customer			
Name:		Tel:	
Address:			
Product:	Infrared thermometer	Model:	
Purchasing date:			
S/N:			
Repair record:	Date	Remarks	

Remarks:

1. It's entitled one year limited guarantee from purchasing date. Accessory if any is excluded from guarantee.
2. Damages caused by dismantlement by users or daily use will be not covered by guarantee.
3. You need to pay for replaced components and labor cost if the product doesn't work when it is beyond guarantee period.
4. Please contact us in case of malfunction of this product.

For distributor			
Name:		Tel:	
Address:			
Product:	Infrared thermometer	Model:	
Purchasing date:			
S/N:			
Repair record:	Date	Remarks	