

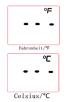
Gima S.p.A.

Via Marconi, 1 - 20060 Gessate (MI) Italy gima@gimaitaly.com - export@gimaitaly.com www.gimaitalv.com

# A200 INFRARED NON CONTACT **THERMOMETER**

## Please note:

This medical instrument must be used according To instructions to ensure accurate readings.



## Turn ON/OFF the Led Light

This meter provides Led Light to help users placing the thermometer at the correct posi-



Be sure the thermometer is OFF before turn ON/OFF the Led Light.

Long-press the Measure-

ment Button for 5 seconds

until the signal -- °C or °F

displayed on the LCD panel

as figure shown. Re-press

the Measurement Button to

select °C or °F unit.



ment Button for seconds until Signal -- °C or °F displayed on the LCD panel. 2 Release the measurement

button, then short-press the ON/OFF Button, the signal -- Led or OFF will displayed on the LCD panel as figure shown.



3 Quick press the measurement button, and select Led or OFF to turn ON/OFF the Led Light.

## Replacing the Battery

The meter will display " to alert you when the meter power is getting low, please follow the steps below to replace new batteries immediately

#### System Owner

Thank you for purchasing the A200 Infrared Thermometer. Please read this instruction manual first, so you can use this thermometer safely and correctly. Please keep this instruction manual for future reference. This innovative medical device uses advanced infrared (IR) technology to measure temperature instantly and accurately on the forehead or object.

#### **IMPORTANT SAFETY INSTRUCTIONS READ BEFORE USE**

The following basic safety precautions should always be taken.

- 1. Close supervision is necessary when the thermometer is used by, on, or near children, handicapped persons or invalids.
- 2. Use the thermometer only for the intended use described in this manual
- 3. Do not use the thermometer if it is not working properly, or if it has suffered any damage.

#### KEEP THESE INSTRUCTIONS AT A SAFE PLACE

K

NOTE:

sult.

of time.

dren's reach

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As an Object Measurement Thermometer	

1. Remove the battery cover as

2. Remove the old batteries

and replace with two 1.5V

AAA size alkaline batteries.

Taking care to match the

Positive (+) and Negative

3. Close the battery cover as

the arrow direction accord-

( - ) indications

ingly.

change the batteries to obtain an accurate re-

2. Remove the batteries if stored for a long period

3. The batteries should be kept away out of chil-

If they are swallowed, promptly see a doctor

the arrow direction accord-

MEMORY Recalling the Memory..... . 11 Clear the memory...... MAINTENANCE. 12 Care & Cleaning.. ... 12 FAULT INDICATION. .... 12 SYMBOL INFORMATION ..... .. 13 SPECIFICATIONS 14 DISPOSAL OF DEVICE 15 REFERENCE OF STANDARDS.. 15 Device Standards: . Classification: .. Electromagnetic Compatibility: ... WARRANTY.. . 17 MANUFACTURER'S DECLARATION 21 OF THE EMC.

## **BEFORE YOU BEGIN**

#### Cautions and Warnings

- As with any thermometer, proper technique is crucial to obtaining accurate temperature readings. Please read this manual thoroughly and carefully before using.
- · Always operate the thermometer in an operating temperature range 10°C to 40°C (50°F to 104°F), and relative humidity15 to 95%
- Always store the thermometer in a cool and dry place -25°C to 55°C (-13°F to 131°F) and relative humidity 15% to 95%.
- The device requires no calibration. The product has been calibrated before the factory inspec-
- The device contains no user serviceable parts. . The user must check that the equipment func-
- tions safely and see that it is in proper working condition before being use
- · The manufacturer does not require such preventive inspections by other persons.
- · No modification of this equipment is allowed.
- . The device is not suitable for use in the presence of flammable anesthetic mixtures with air or with oxygen or nitrous oxide.
- · Manufacturer will provide circuit diagrams, component part lists, descriptions, calibration

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vary from one individual/person to next. It also varies by location on the body and time of day. Below shows the statistical normal ranges from different sites. Please keep in mind that temperatures measured from different sites, even at the same time, should not be directly compared. Fever indicates that the body temperature is higher than normal. This symptom may be caused by infection, overdressing or immunization. Some people may not experience fever even when they are ill. These include, but are not limited to, infants younger than 3 months old, persons with compromised immune systems, persons taking antibiotics, steroids or antipyretics (aspirin, ibuprofen, acetaminophen), or persons with certain chronic illnesses. Please consult your physician

when you feel ill even if you do not have fever. 1. Although the thermometer works when "-", Table\*1 Normal Temperature Range of various appearing, we still recommend that you

body sites

Ora	I	0.6°C (1°F) or more above or below 37°C (98.6°F)					
Rec	tal/ear	0.3°C to 0.6°C (0.5°F to 1°F) higher than oral temperature					
Axill (arm	lary npit)	0.3°C to 0.6°C (0.5°F to 1°F) lower than oral temperature					

# **DETAILED INFORMATION**

**About Normal Body Temperature & Fever** 

The temperature in the forehead and temple area differs from the internal temperature, which is taken orally or rectally. Vasoconstriction, an effect which constricts the blood vessels and cools the skin, can occur during the early stages of a fever. In this case, the temperature measured by the A200 Infrared thermometer may be unusually low. If the measurement therefore does not match the patient's own perception or is unusually low, repeat the measurement every 15 minutes. As a reference, you can also measure the internal body temperature using a conventional oral or rectal thermometer. Body temperature can

# As a Body Measurement Thermometer



Press "ON/OFF" Button to turn



Push the Mode switch to select Body mode

instructions to assist to SERVICE PERSONNEL in parts repair

- . Do not clean or maintenance the device is in · Avoid direct sunlight.
- Avoid dropping the thermometer, if it happens and you think the thermometer may be damaged, please contact customer services immediately
- . Do not touch the lens.
- · Do not disassemble the thermometer.
- · Basic safety precautions should always be observed, especially when the thermometer is used on or near children and disabled persons.
- This thermometer is not intended to substitute for a consultation with your physician.
- · This thermometer and the subject must remain in a stable environment for at least 30 minutes before measuring the temperature.
- · When the measured temperature falls within the fever temperature range of ≥37.8°C (100 04°F) and <42 9°C (109 22°F) as indicated by the red LED on display, please consult with your physician immediately.

#### Restrictions of Use

This thermometer is clinically proven to produce accurate temperature measurements. However, please be advised that the accuracy can not be ensured when the thermometer is not clean. Check that the probe is clean before taking a measurement

#### Intended Use

A200 Infrared Thermometer is intended for the intermittent measurement and monitoring of human body temperature from forehead measurement at home, clinics and hospital.

A control measurement using a conventional thermometer is recommended in the following

- 1. If the reading is surprisingly low.
- 2. For new-born infants, up to 100 days old.
- 3. For children under three years of age who have a weakened immune system or who react unusually in the presence or absence of fever.

. The thermometer will automatically turn off if left idle for 30 seconds.

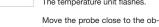
## As an Object Measurement Thermometer



Press "ON/OFF" Switch to turn on the thermometer first.



Push the Mode switch to select Object mode. The temperature unit flashes.





ject and take measurements. Make sure the probe is flat and close to the object, not at an angle. Perform a measurement with a distance within 3 cm. When ready, push measurement button to take measurements.

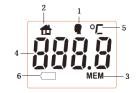
# Read the result.



The measurement result will be done in 1 second. The reading is shown together with LED lighting and one long beep informs about the temperature measurement. and after a while another short beep, confirming the saving of the result to the memory and readiness for the next measurement.

Press the "ON/OFF" button to turn off the unit. or leave it idle for 30 seconds, the unit will switch off automatically.

#### Display Screen



- 1. Body mode indication

- 6. Battery indication

#### Display Mode



1.Body Mode





2.Object Mode

This mode is used to measure the object temperature

## Select the Temperature Unit

This meter provides two measurement units used for indicating the body/object temperature, °C or °F, for your preferred selection.



is OFF before selecting the temperature unit.

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## **Recalling the Memory**

This thermometer stores 25 most recent readinas



Be sure the thermometer is OFF before recalling this



ory mode.



Memory Button, a result will be displayed in the order of dates (latest result shown first), together with "MEM" LED in green or red will appear according to the mem-



the new one added. When the last record displayed in the display, press Memory Button again to return the first record.



Exit the memory. Press ON/OFF Button to exit

the memory or keep the meter in idle for 30 seconds to switch off automatically.

## Clear the memory



Delete the record by unplugging the battery and power off

PERFORM THE TEST



on the thermometer first.



The temperature unit flashes.

Move the probe close to the forehead and take measurements

Make sure the probe is flat and close to the forehead, not at an angle. Perform a forehead measurement with a distance within 3 cm

## Read the result.

38.9

The measurement result will be done in 1 second. The reading is shown together with LED lighting and one long beep informs about the temperature measurement, and after a while another short beep, confirming the saving of the result to the memory and readiness for the next measurement.

Press the "ON/OFF" button to turn off the unit. or leave it idle for 30 seconds the unit will switch off automatically.

#### NOTE:

- · As the forehead measurement temperature is likely to be affected by sweat, oil and the surroundings, the reading shall be taken as a reference only.
- If the probe is placed at an angle close to the forehead measurement, the reading will be affected by surrounding temperature. Babies' skin reacts very quickly to the ambient temperature. Therefore, do not take their temperature with the A200 Infrared thermometer during or after breastfeeding, because the skin temperature may then be lower than the internal body temperature.
- If the measured temperature is < 32°C (89.6°F),</li> the display will show with LO symbol. If the reading is ≥ 37.8°C (100.04°F) and <</li>
- 42.9°C (109.22°F), the display will show together with red LED and six short beeps.

How does it work The thermometer measures the infrared heat generated by the surface of the skin over the vessel and its surrounding tissue. The thermometer then converts it into a temperature value.

The thermometer does not emit any infrared en-

Automatically power off if left idle for 30 sec-

Memory function allows you to recall previous

· Easy to read LCD with green backlight in a dark

· Color visible of fever (red) and measurement in

results up to 25 previous results.

**Highlighted Features** 

onds.

environment

Meter Overview

1. nfrared Sensor

3. Display Screen

4. Measurement /

5. ON/OFF Button

Memory Button

6. Mode Switch

7. Battery Cover

2 Led Light

progress (green).

#### · Measurement that does not require probe cover, thereby saving cost of replacement.

- 2. Object mode indication
- 3. Memory indication 4. Temperature reading
- 5. Temperature unit

Two modes can be selected.



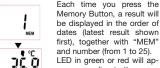


Be sure the thermometer

MEMORY



Press (6) to enter the mem-



and number (from 1 to 25). ory reading. When the memory is full, the oldest result is deleted as



9 10 11 7 8

## Care & Cleaning

- The probe is not waterproof. Please wipe with a clean and dry cotton swab to clean the probe on the inside.
- The body of the thermometer is not water-resistant. Never put the thermometer under a running tap or submerge it into water. Use a soft and dry cloth to clean it. Do not use abrasive cleaners.
- · Store the thermometer in a cool and dry location. Free from dust and away from direct

#### **FAULT INDICATION**

FAULT OR FAULT SYMBOL	FAULT DESCRIPTION	COR- RECTIIVE MEASURE	
No display On the LCD pane	The battery has run out. Incorrect battery polarity.	Replace the battery. Please note: The (+) side of the battery must face upwards.	
Measurement not possible (or an abnor- mal value is displayed)	The thermometer is not ready.	Wait until the °C symbol is displayed.	
An abnormal temperature value is displayed.	The probe tip is dirty or damaged. Did you hear the beep after pressing the ON button?	Clean the probe tip or get it repaired. Wait until you hear the beep before removing the thermometer from the ear or forehead	

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± 8 kV

contact

+ 15 kV

Floors should be

wood, concrete or

floors are covered

ceramic tile. If

± 8 kV

contact

Guidance and manufacturer's declaration -

electromagnetic immunity - for EQUIPMENT

and SYSTEM that are not LIFE-SUPPORTING

Electro-

(ESD)

static

burst

Surge IEC

Voltage

interrup-tions and

variations

on power supply

input lines

61000-

Power

frequency

(50/60 Hz)

field IEC

61000-4-8

NOTE UT is the a. c.

tion of the test level

voltage

dips, short

transient /

61000-4-4

61000-4-5

static discharge

61000-4-2

LO or HI symbol is displayed	The temperature measured is outside the measuring Range. LO-temperature <32°C (89.6°F). HI-temperature ≥42.9°C (109.22°F).	Check that the probe tip is clean and that the thermometer is properly placed on the forehead.
Symbol is displayed	The battery has run out.	Replace the battery.
Err Symbol is displayed	The ambient temperature is outside the operating temperature range or is changing too fast.	To ensure accurate measurement, let the thermometer rest at operating temperature for 30 minutes prior to use.

SYMBOL INFORMATION							
A	Caution: read instructions (warnings) carefully	CE	Medical Device complies with Directive 93/42/ EEC				
<del>*</del>	Keep in a cool, dry place	漆	Keep away from sunlight				
	Manufacturer	$_{\text{M}}$	Date of manufacture				
REF	Product code	LOT	Lot number				
<b>③</b>	Follow instructions for use	⅓	Type BF applied part				
SN	Serial number	A	WEEE disposal				
EC REP	Authorized representative in the European community						

#### **SPECIFICATIONS**

Model	A200					
Measurement range	Body/Forehead: 32.0~42.9°C (89.6°F~109.22°F) Object: 0.0°C to 99.9°C (32°F to 211.8°F)					
Display resolution	0.1°C / 0.1°F					
Accuracy	For body mode: ±0.2°C (±0.4°F) from36.0°C (96.8°F) to 39.0°C (102.2°F) ±0.3°C (±0.5°F) from 32.0°C (89.6°F) to 35.9°C (96.6°F) and from 39.1°C (102.4°F) to 42.9°C (109.22°F)					
	For object mode ±4"C (±7.2"F) from 0°C (32°C) to 4.9°C (40.8"F) ±1"C (±2°F) from 5°F (41°C) to 60°C (140.0"F) ±4"C (±7.2"F) from 60.1°C (140.1°F) to 100°C (212°F)					
Indicator light	Green light for temperature lower than 37.8°C(100.4°F) Red light for temperature higher than 37.8°C(100.4°F)					
Voice	Power on and ready for working: a short beep.					
	Measurement finished: 1 long beep equal or lower than 37.8°C (100.4°F) 6 short beeps higher than 37.8°C (100.4°F)					
Memory	Storage of 25 measurements					
Operating conditions	10°C to 40°C (50°F to 104°F), Humidity: 15 to 95% R.H.					
Air pressure	86Kpa-106Kpa					
Storage and transport environment	Temperature: -25°C to 55°C (-13°F to 131°F)F Storage humidity: 15% to 95% RH					
Auto shut-off	About 30 seconds after no using					
Battery	2pcs 1.5V AAA Alkaline Battery					
Size	170 x 47 x 53 mm					
Weight	75g					

## REFERENCE OF STANDARDS

## **Device Standards:** Device Corresponds to the requirements of the

standard for infrared thermometers IEC 60601-1-2: 2014 IFC 60601-1: 2012 ISO 80601-2-56: 2017

#### Classification:

Anti-electric Shock Type: Internally powered equipment Applied part: Type BF

Mode of operation: Continuous Operation

EMC: type B class I Enclosure Degree of ingress protection: IP22 IP22 means shell of this product can withstand the water dropping to the surface when the shell deviate 15 degree from horizontal surface.

## **Electromagnetic Compatibility:**

Device fulfills the stipulations of the standard IEC 60601-1-2

The stipulations of EU-Directive 93/42/EEC for Medical Devices Class II a have been fulfilled. \* Technical alterations reserved!

Software identify no.: A200 V1.1.0

# WARRANTY

- This thermometer is guaranteed for 18 months from the date of purchase against any manufacturing defect, conditional upon normal household use
- . The intended service life of the product is 24
- · This product to be free of defects in workmanship and materials for a period on 18 months from the date of purchase
- During the warranty period, if this product is found to be defective, you may bring it together with the purchase receipt and Warranty Certificate on a carry-in basis to manufacturer's office during normal business hours for warranty service.

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• We will then repair or replace defective parts or exchange the whole product as we select, at no charge to the original owner. After such repair, replacement or exchange, the product will be warranted from the date of purchase.

- · This warranty is valid only if the Warranty Certificate and Warranty Registration Card are duly complete with date of purchase, serial number and dealer's stamp, and if the Warranty Registration Card is sent to local distributor office not later than 14 days from the date of purchase.
- · This warranty is void if this product has been repaired or serviced by unauthorized person. This warranty does not cover defects caused by misuse, abuse, accident, tampering, poor maintenance, fire or any other acts beyond human control.
- · Except as stated in the above paragraphs, A200 Infrared Thermometer disclaims all other warranties, implied or expressed, including the warranties of merchantability of fitness for a particular purpose with respect to the use of this product. Manufacturer shall not be liable for any direct, consequential or incidental damages arising out of the use or inability to use

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#### **MANUFACTURER'S DECLARATION** OF THE EMC

Guidance and manufacturer's declaration electromagnetic emission - for all EQUIPMENT AND SYSTEMS

Guidance and manufacturer's declaration electromagnetic emission The A200 Infrared Thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of A200 Infrared Thermometer should assure that it is used in such an environment.

Emissions test	Compli- ance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The A200 Infrared Thermometer uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emis- sions CISPR 11	mometer use in all including lishments ly connec low-voltage	The A200 Infrared Ther- mometer is suitable for use in all establishments,
Harmonic emissions IEC 61000-3-2		including domestic estab- lishments and those direct- ly connected to the public low-voltage power supply network that supplies
Voltage fluctuations / flicker emissions IEC 61000-3-3	N/A	buildings used for domes- tic purposes.

Guidance and manufacturer's declaration electromagnetic immunity -for all EQUIPMENT and SYSTEMS

Guidance and manufacturer's declaration electromagnetic immunity

The A200 Infrared Thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of the A200 Infrared Thermometer should assure that it is used in such an environment.

IEC 60601 Com-test level pliance environment level

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Guidance and manufacturer's declaration - electromag-The A200 Infrared Thermometer is intended for use in

cur in the vicinity of

equipment marked

lowing symbol:

	± 15 kV air	air	with synthetic ma- terial, the relative humidity should	customer of should ass	or the user our that it is	of the A200 I used in such	specified below. The infrared Thermometer an environment.
4	011//	N1/A	be at least 30%.	Immunity test	IEC 60601 test level	Compli- ance level	Electromagnetic envi- ronment - guidance
	± 2 kV for power supply lines ± 1 kV for input/ output lines	N/A	Mains power quality should be that of a typical commercial or hospital environment.	Conducted RF IEC 61000-4-6 Radiated	3 Vrms 150 kHz to 80 MHz 6Vrms in	N/A 10 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the A200 Infra- red Thermometer, in- cluding cables, than
	± 1 kV dif- ferential mode ± 2 kV common mode	N/A	Mains power quality should be that of a typical commercial or hospital environment.	IEC 61000-4-3	ISM banda between 150 kHz to 80 MHz 80 MHz to 2.7 GHz		the recommended se- paration distance cal- culated from the equa- tion applicable to the frequency of the trans- mitter. Recommended sepa-
	0% UT; 0,5 cycle 9) At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% UT; 1 cycle and 70% UT; 25/30 cycles at 0° 0% UT; 250/300 cycle	N/A	Mains power quality should be that of a typical commercial or hospital environment. If the user of the A200 Infrared Thermometer requires continued operation during power mains interruptions, it is recommended that the A200 Infrared Thermometer be powered from an uninterruptible power	0.000 . 0	2 02		ration distance $d=\frac{3.5}{ V }\sqrt{P}$ $d=\frac{3.5}{ E }\sqrt{P}$ 80 MHz to 800 MHz $d=\frac{7}{ E }\sqrt{P}$ 800 MHz to 2.5 GHz Where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer manufacturer and d is the recommend of the recommendation of
	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.				mended separation distance in metres (m).b Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the com-
	s the a. c. ma est level.	ains voltag	ge prior to applica-				pliance level in each frequency range. b Interference may oc-

NOTE 1 At 80 MHz and 800 MHz, the higher frequency

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range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast can not be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the A200 Infrared Thermometer is used exceeds the applicable RF compliance level above, the A200 Infrared Thermometer should be observed to verify normal opera-tion. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the A200 Infrared Thermometer.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Recommended separation distances between portable and mobile

RF communications equipment and the EQUIP-MENT or SYSTEM -for EQUIPMENT and SYS-TEMS that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the A200 Infrared Thermometer

The A200 Infrared Thermometer is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of theA200 Infrared Thermometer can help prevent electromagnetic interference by naintaining a minimum distance between portable and mobile RE communications equipment (transmitters) and the A200 Infrared Thermometer as recommended below, according to the maximum output power of the communications equipment

Rated maxi- num output	Separation distance according to frequency of transmitter m					
of transmitter V	150KHz to 80MHz	80MHz to 800MHz	800MHz to 2.5GHz			
	$d = \left[\frac{3.5}{V^{1}}\right]\sqrt{P}$	$d = \left[\frac{3.5}{E^{-1}}\right] \sqrt{P}$	$d = \left[\frac{7}{E^{-1}}\right]\sqrt{P}$			
0.01	/	0.12	0.23			
0.1	/	0.38	0.73			
1	/	1.2	2.3			
10	/	3.8	7.3			
400	,	40	00			

For transmitters rated at a maximum output power not listed above the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the

NOTE 1 At 80 MHz and 800 MHz, the separation distance for

the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.



Disposal: The product must not be disposed of along with other domestic waste. The users must dispose of this equipment by bringing it to a specific recycling point for electric and electronic equipment.

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25582 / A200



Shenzhen Aeon Technology Co., Ltd. RM6H02, Block 27-29, Tianxia IC Industrial Park, Majialong, No.133 of Yiyuan road, Nantou Street, Nanshan District, Shenzhen, China Made in China



Shanghai International Trading Corp GmbH Eiffestrasse 80, 20537 Hamburg, Germany

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