Scanéo

"AViTA" Infrared Ear Thermometer

Bluetooth™

Model: TS28B

User's Manual

Please read this instruction manual carefully before using your ear thermometer

Contents

Included in delivery
- Thermometer
- 2 X 1.5V AAA size alkaline batteries
- These Instructions for Use

Please read through these Instructions for Use carefully and retain them for future reference; make them available to other users and observe the information they contain.

General advice

When using this product, please be sure to follow all the notes listed below. Any action against these notices may cause injury or affect the accuracy.

Note 1:
Do not disassemble, repair, or remodel the thermometer.

Note 2:
Be sure to clean the thermometer lens each time after usage.

Note 3:
Do not touch the probe tip with fingers.

Note 4:
Do not use the thermometer while the ear canal is wet.

Note 5:
It is recommended that user may take 3 temperatures. If they are different, use the highest reading.

Note 6:
Do not expose the ear thermometer to extreme temperature, very high humidity, or direct sunlight.

Note 7:
Avoid extreme shock or dropping the device.

Note 8:
Avoid measuring temperature in 30 minutes after exercise, bathing, or returning from outdoor.

Note 9:
For continuous measurements, maintain at least 10 seconds between each measurement.

Note 10:
To protect the environment, dispose of empty batteries at appropriate collection sites according to national or local regulations.

Note 11:
Under any circumstances, the temperature taking result is ONLY for reference. Before taking any medical action, please consult your physician.

Product Overview

Thank you very much for choosing this product. Utilizing infrared technology, this thermometer takes temperatures in seconds by measuring heat generated by the forehead. Its advantages include:

Wireless: Bluetooth class 2 enabled for convenience.

One-second Reading

Large LCD Display: Equipped with a large LCD display, results are easy to read.

10-memory Recall: 10 sets memory function & easy-to- read LCD (Liquid Crystal Display) display give convenience all in one finger touch.

°C/°F Switchable: Temperature reading at Celsius (°C) or Fahrenheit (°F) at user's own choice.

Accurate and Reliable

Probe Cover Free

Waterproof Probe Design: Waterproof probe tip and easy to clean. It enables temperature readings, designed for sanitary conditions, cleanliness, and convenience.

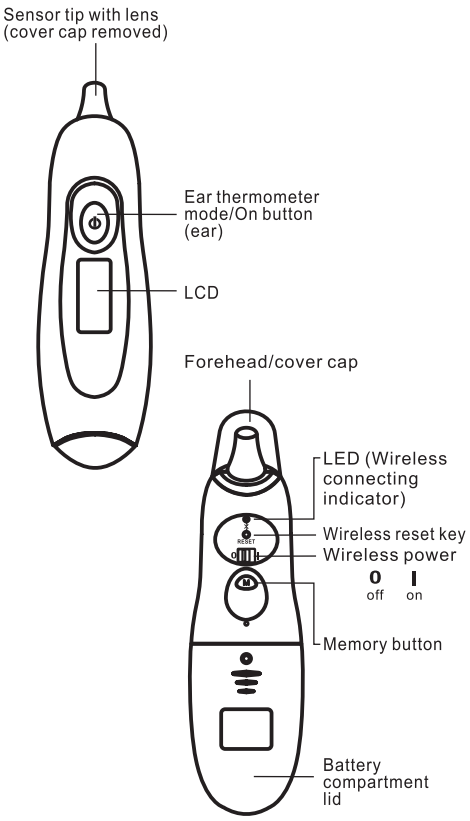
Low-battery Indicator

Power Saving-Auto Power Off

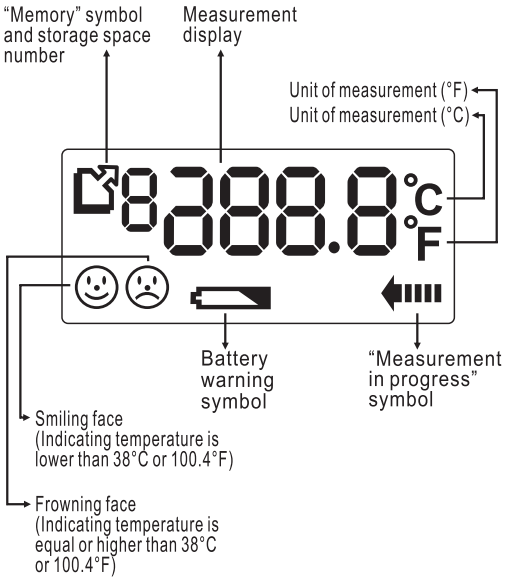
Compact: Small and light design is ideal for home- use and traveling.

Note: For long durations of non-operation, please remove all batteries from the device. Batteries should be disposed of in accordance with local environmental and institutional policies.

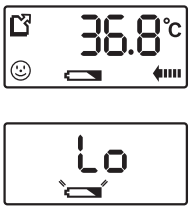
Device Description



Symbol key


"Memory" symbol and storage space number
Measurement display
Unit of measurement (°F)
Unit of measurement (°C)
88.8
°C
°F
Battery warning symbol
"Measurement in progress" symbol
Smiling face (Indicating temperature is lower than 38°C or 100.4°F)
Frowning face (Indicating temperature is equal or higher than 38°C or 100.4°F)

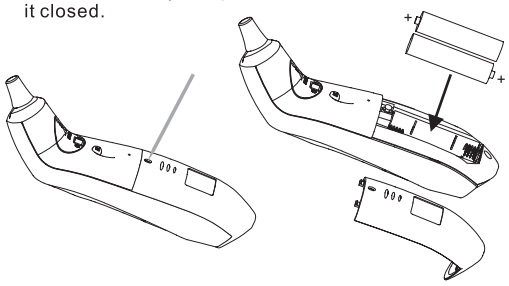
Replacing the battery



When the batteries get weak, the battery warning symbol appears "". It is still possible to measure temperature. The batteries must be replaced. When the battery symbol flashes"" and Lo appears in the display, the batteries must be replaced. If the batteries are too flat, then the thermometer will switch off automatically.

NOTE:
- When changing the batteries, use batteries of the same type, make and capacity.
- Always replace all batteries at the same time.
- Do not use rechargeable batteries.
- Use batteries free from heavy metals.

1. Loosen the screw on the battery compartment lid and pull the lid off downwards.
2. Remove the used batteries and insert two new batteries in the direction indicated.
3. Place the battery compartment lid back on and screw it closed.



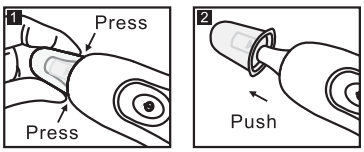
Dispose of used batteries in accordance with the applicable legal regulations. Never dispose of batteries in the normal household waste.

Operating Thermometer

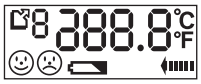
Take your ear temperature.

Before each use, please check that the lens is intact. If it is damaged, please contact your retailer or the service address. Bear in mind that the thermometer needs to have been in the room in which the measurement is taken for at least 30 minutes before use.

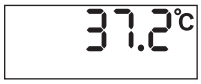
1. **Remove the front cover:** Remove the cap by gently pushing it up (1) and then pulling it off forwards (2).



2. **Turn On:** Press and release the button "⏻". All segments are displayed for 1 second (Figure 1). A short beep will occur and the last temperature measured appears (Figure 2).



All segments
Figure 1

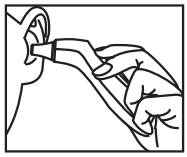


Previous Temp.
Figure 2

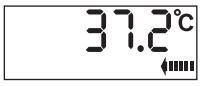
Operating Thermometer

3. Make sure that the sensor tip and also the ear canal are clean. As the ear canal is slightly curved, you have to pull the ear slightly up and backwards before inserting the sensor tip. This is important so that the sensor tip can be pointed directly at the eardrum.

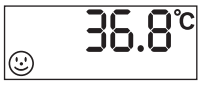
4. Gently pull ear up and back to straighten the ear canal. Insert the thermometer until the probe tip seals the ear canal.
• **For children under 1 year:** Pull the ear straight back.
• **Children ages 1 year to adult:** Pull the ear up and back.



5. Press the button "⏻", then fit the probe into the ear canal; hear a Beep sound to finish the measurement by releasing the button "⏻" and waiting for seconds.
Take the probe out to read the value of measurement. (Figure 3 and Figure 4).



Measuring in Progress
Figure 3

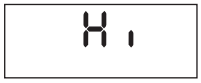


Temperature
Figure 4

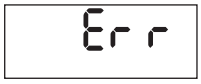
Operating Thermometer

FEVER ALERT NOTE:
If patient has an elevated temperature 38°C (100.4°F) or above, the ☹ icon will appear and multiple beeps will sound.

The LCD screen displays "Lo" or "Hi"
When the temperature measured is outside of the thermometer's operating environment range.

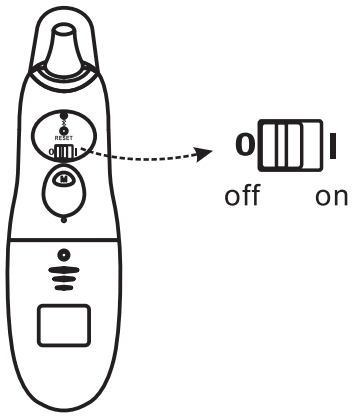


The mark "Err" appears
If the operating environment temperature is outside of the permissible range.



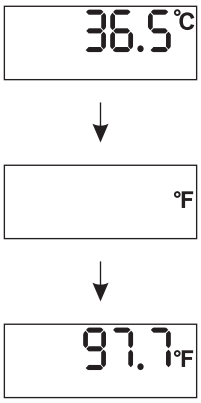
Operating the bluetooth function

1. Turn the ear thermometer to the back side.
2. Turn on the wireless power (From "0" to "1"), while the thermometer searches for other Bluetooth compatible devices, the LED (connection indicator) will flash. When the device connects successfully to health monitoring devices and Bluetooth-capable devices, such as a computer, PDA, or mobile phone, the LED will remain lit. At conclusion of temperature measurement, the reading will be sent to the health monitoring device and the reading will automatically stored in memory.
3. To disconnect from health monitoring devices, turn off the wireless power (From "1" to "0"), and the LED will no longer be lit.



Changing from Fahrenheit to Celsius

1. Every time a reading is obtained, press the On button "⏻" without releasing it and then press the Memory button to make the switch.
2. If you would like to get the last reading before conversion, simply press the Memory button to show the last memory record, and the memory index will be zero.



Trouble-shooting

1. Consistent low temperature readings

- **The probe is not positioned properly.**
  The tip of the probe must be snagged and fully seated against the opening of the ear canal. Failure to properly position the probe may lead to a low temperature reading.
- **The probe lens is dirty.**
  Clean the lens with a piece of soft, alcohol-moistened cotton clothe thoroughly.(see page 6 “Operating Thermometer”)

2. Temperature taken is not within the measuring range.

- Scanning sequences are not operated in the ear canal.
- It may occur if you operate the ear or forehead thermometer under ambient temperature.(see page 14 “Technical Specifications”)

3. Low battery warning.

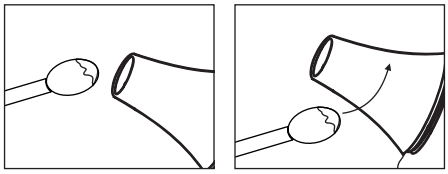
- Battery power is too low to take the measurement.
- Replace the battery(see page 5 “Replacing the battery”)

4. Doesn’t work as press On/Scan Button to take temperature.

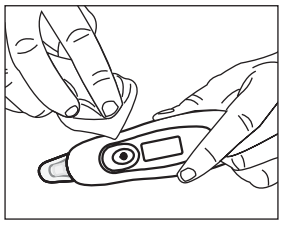
- Battery might have some problem. Please reinstall the battery and try again.(see page 5 “Replacing the battery”)

Storage and maintenance

• Clean the probe and tip with an alcohol swab before and after each measurement.



• Use a soft, dry cloth to clean thermometer body. Never use abrasive cleaning agents, thinners or benzene for cleaning. Do not scratch the surface of the probe lens or the display. Do not expose the thermometer to extreme temperatures, humidity, direct sunlight, or shock.
Store at room temperature.



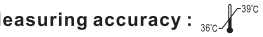
Applied Standards

This product conforms to the provisions of the EC directive MDD(93/ 42/ EEC). The following standards apply to design and/or manufacture of the products:

- **ASTM E 1965- 98**
  Standard Specification for infrared thermometers for intermittent determination of patient temperature.
- **EN 980**
  Graphical symbols for use in the labeling of medical devices.
- **IEC/EN 60601-1**
  Medical electrical equipment-
  Part 1: General requirement for safety
- **IEC/EN 60601-1-2**
  Medical electrical equipment-
  Part 2: Collateral standard:
  Electromagnetic compatibility - Requirements and tests
- **EN ISO 14971**
  Medical devices-Application of risk management to medical devices.
- **Classification according to IEC/ EN 60601-1**
  - Internally powered equipment
  - IPX0
  - Not suitable for use in the presence of a flammable anaesthetic mixture
  - Continuous operation

Technical Specifications

- **Range of Measurement :** 

Body Temperature: 34°C ~43°C (93.2°F ~ 109.4°F)
- **Measuring accuracy :** 

±0.2°C(0.4°F): from 36°C to 39°C (96.8°F to 102.2°F)
±0.3°C(0.5°F): outside the range
- **Operating environment :**
16°C~35°C (60.8°F~95°F) 

with relative humidity up to 95% (non condensing)
- **Storage/ Transportation environment :**
-20°C ~ +50°C (-4°F ~ +122°F) 

with relative humidity up to 95% (non condensing)
- **Display resolution :** 0.1°C or °F
- **Power supply :** 2 X 1.5V AAA size alkaline batteries
- **Weight :** 70g (exclude batteries)
- **Dimensions :** 158.5mmX44.5mmX54.3mm (L×W×H)
- **Wireless Communication :**
  - Bluetooth specification V2.0.
  - Carrier Frequency : 2.4 ~ 2.4835 GHz
  - Operation Range : up to 10m (class 2)
  - Peak output power : 3.0dBm typ.
  - BlueMod+B20 (stollmann)


Caution, consult accompanying documents


Type BF equipment


The device shall be disposed in accordance with national laws after their useful lives


This device includes RF transmitter (with wireless communication)

FCC Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures :

* Reorient or relocate the receiving antenna.
* Increase the separation between the equipment and receiver.
* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
* Consult the dealer or an experienced adio/TV technician for help.

FCC Statement

* FCC Caution: To assure continued compliance, (example – use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

* This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

* This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

EMC Tables

Guidance and manufacturer's declaration- electromagnetic emissions

The **TS28B IR Thermometer** is intended for use in the electromagnetic environment specified below. The customer or the user of the **TS28B IR Thermometer** should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment- guidance**
RF emissions CISPR 11	Group 1	The **TS28B IR 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 emissions CISPR 11	Class B	The **TS28B IR Thermometer** is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

EMC Tables

Guidance and manufacturer's declaration-electromagnetic immunity

The **TS28B IR Thermometer** is intended for use in the electromagnetic environment specified below.
The customer or the user of the **TS28B IR Thermometer** should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE UT is the a.c. mains voltage prior to application of the test level.

EMC Tables

Guidance and manufacturer's declaration- electromagnetic immunity

The **TS28B IR Thermometer** is intended for use in the electromagnetic environment specified below.
The customer or the user of the **TS28B IR Thermometer** should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the **TS28B IR Thermometer**, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d=1.2\sqrt{P}$ $d=1.2\sqrt{P}$ 80 MHz to 800 MHz $d=2.3\sqrt{P}$ 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 and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1 At 80 MHz and 800 MHz, 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.

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 cannot 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 **TS28B IR Thermometer** is used exceeds the applicable RF compliance level above, the **TS28B IR Thermometer** should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the **TS28B IR Thermometer**.

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

EMC Tables

Recommended separation distances between portable and mobile RF communications equipment and the TS28B IR Thermometer

The **TS28B IR Thermometer** is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the **TS28B IR Thermometer** can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the **TS28B IR Thermometer** as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	80 MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

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 transmitter manufacturer.
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.

EC REP EU Representative:
Golden Star Computer (UK) Ltd.,
Unit 39, Rainbow Industrial Estate,
Trout Road, West Drayton,
Middx. UB7, 7RN, United Kingdom

AViTA Corporation
9F, No.78, Sec.1, Kwang-Fu Rd.,
San-Chung, Taipei County,
Taiwan

No.858, Jiao Tong Road,
Wujiang Economic Development Zone
Jiangsu Province, P.R.C.
Postcode: 215200
Made in China

72-T28MN-072
2010/09/28