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12cm

Model:TF-903

Infrared Thermometer

USER MANUAL

1.Product Introduction

Thank you for choosing our thermometer TF-903
You made the right choice and you will not regret this purchase.
Your thermometer indeed has many advantages:

Principle of the thermometer

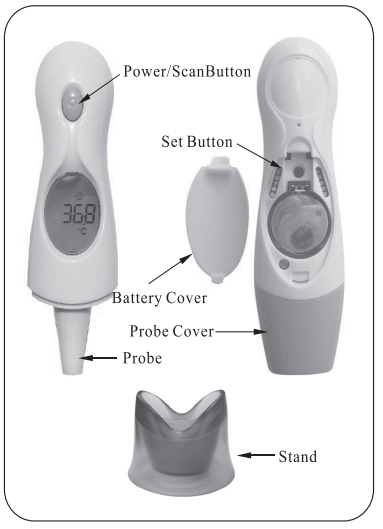
Any object with a temperature above absolute zero emits infrared radiation wavelength. The wavelength transmitted by human body is 5~13 ūm. According to this principle, it is possible to determine the human body temperature from the forehead temperature or ear temperature by selecting the appropriate measuring mode of the device.

Mesurement	Axillary	Forehead	Oral	Ear	Rectal
Everage temperature(℃)	36.1 ℃	36.5℃	36.6 ℃	37.0℃	37.3 ℃

1.Multi-function
Digital measuring ear, forehead, object and ambient temperature, also including time display function.
2.Hygiene, practical and easy to use
Only need clean the probe before and after measuring the temperature, no need Disposable Probe Cover for Ear Thermometer.
3.Fast and accurate
Adopt the 3'rd generation temperature measurement technology which will be more accurate to measure body temperature with the measuring frequency 512 times per second.
4.Automatically display latest measurement.
The latest body temperature memory will show on the screen when power on.
5.Color screen display according the temperature.
When measuring, the backlight will be:
Green if measured temperature in the arrange of 32.0-37.4℃;
Orange if the range of 37.5-38.0℃;
Red in the range of 38.0-42.9℃.
The backlight will keep 15s.
6.Temperature offset function
The user can adjust the temperature difference with a reference temperature using the calibration function, to obtain a more

accurate result. It is advisable to regularly and absolutely do before using a calibration of the instrument. for example during this test indicates the TF-903 35.9 ° C while the body temperature of the person measured with a digital thermometer or ear is 36.6 ° C, simply enter 0.7 in the F-4 and so the device will apply this correction on each measurement.

2.Fundamental Component and shape structure (see figure)



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3.Definition of Symbols

888.8	View Sample Data
	Measuring in progress
	Ear temperature mode
	Forehead temperature mode
	Fever
	Celsius scale
	Fahrenheit scale
	Clock
	Low battery
	Memory of last body temperature

4.Setting

If you need to set the functions, power on the device, open the battery cover, press the "SET" button to enter in function setting mode, continuous operation for the next option, wait for 2 seconds it will enter into the submenu automatically
The function list as follows:

NAME	FUNCTION	DESCRIPTION
F-1	Celsius/ Fahrenheit unit option	Select the temperature unit
F-2	Body/Object temperature selection	Ear/Forehead mode or Ear/Object mode selection. “body” means body tempearature mode, “FACE”means object temperature mode.
F-3	Time setting	When you set time,the room temperature and time will display alternately
F-4	Offset setting	Set the temperature offset according to one’s need as there maybe difference when skin color difference.
F-5	Orange backlight temperature range setting.	The system default temperature range is 37.5°C -37.9°C
F-6	Red backlight temperature range setting.	The system default temperature is 38.0℃; the user can set from 37.6℃ to 42.9℃ ; it will display priority red backlight when the temperature range overlap with the range of orange backlight

5. Temperature measurement

When put on the probe cover and the LCD displays “”, it switch into forehead measuring mode, when take off the probe cover, it switch into ear measuring mode and the LCD display “”
1.Forehead temperature
Power on, point the device to the forehead, Press down the “ Power/Scan” button, Keep the probe cover contacting with the skin, scan it across the forehead from one side to the other side for 2-3 seconds,
Release the “Power/Scan “button, then the device makes a sound “beep” the measurement is completed.
2.Ear temperature
Power on, take off the probe cover and put the probe in the ear where you feel comfortable, Press the “Power/Scan” button, then the device makes a sound “beep”, the measurement is completed.
3.Ambient temperature
Place the thermometer in the stand when the logo“” will no longer appear about 2 minutes, the mode will be activated and the ambient temperature shows with the time alternately.
4. Object temperature
Put on the probe cover and the LCD don’t display , it switch into object measuring mode.
When powered on, point the device near an object within 1cm, Press down the “Power/Scan” button,scan it for 2-3 seconds, Then release the “Power/Scan” button, then the device make a sound “beep”, the test is completed.

6. Battery Replacement

Low battery: When the battery comes to low, the icon of low battery will appear on the bottom of screen
Please replace the battery as soon as possible, however, the thermometer will continue to operate for some times. (Fig6.1)
No battery:When the battery reaches its lowest level,the battery symbol flashes,the “Lo”display appears and beep(Fig6.2), then power off automatically.

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(Fig 6.1)

(Fig 6.2)


(Fig 6.3)


(Fig 6.4)

Battery replacement

1.Open the battery cover and take out the old battery(Fig6.3)
2.Put a new CR2032 button battery with cathode downward into the battery seat.(Fig6.4)
Note:
To deal with the old battery and the whole thermometer,please comply with the local law and regulations.

7.Precautions

1.When first use this thermometer, please put the battery into the thermometer.
2.With a water tight probe, after each use, the thermometer may clean with a disinfectant wipe or cotton wool soaked in alcohol.
3.The body of the thermometer is not waterproof,do not immerse it into any liquid.
4.Do not expose the device to the extreme temperatures for along time
5.Avoid violent impacts and do not drop the thermometer.
6.Avoid direct contact the top of the probe with fingers.
7.Do not try to diassemble the device.
8.The device is designed without ear caps,which are not necessary. Keep the probe clean,and protect it from earwax,sweat and oil stains. Otherwiese,the infrared measurement function will not be accurate
9.Do not measure body temperature witihin 30 minutes after sports or bath.
10.When the enviroment changes a lot(for example,from indoor tooutdoor),please wait in the new envionment for about 30 minutes before measuring the new temperature.
11.The intervals should be 10 seconds when measuring body temperature

8.Tronble shooting

Description	Meaning
Hi	The measured body temperature > 42.9°C
Lo	The measured body temperature < 32.0°C
Err	When measures body temperature, the room temperature is exceed the working temperature range 10.0°C-40.0°C

9.Product Specifications

Model	TF-903
Temperature Range	Body:32.0°C -42.9°C（89.6°F-109.2°F）
	Objec:0°C-100°C(32°F-212°F)
Precision	Body : ±0.2°C/0.4°F
	Object:±0.5°C/0.9°F
Resolution	0.1°C/0.1°F
Operating conditions	Body : 10.0°C-40.0°C(50.0°F-104.0°F) Rh≤80%
	Object :0°C-50°C(32°F-122°F) Rh≤80%
Storage conditions	-25.0°C-55.0°C (-13.0°F-131.0°F)Rh≤95%
Battery	1× 3V CR2032 button battery
Warranty	1 year from the date of purchasing The distributor has the choice of repairing and replacement. The guarantee does not apply if the problem follows a misuse resulting from not reading the manual, accident, misuse or unintended, Product opening attempt. Leave the label bearing the serial number (S / N) of the product to facilitate traceability

CE 0434	Product complies with the European Directive on medical devices MDD 93/42/ EEC

10. Content of the kit:

1xThermometer
1xStand
1XCR2032 battery
1xUser's manual

INFORMATION OF ELECTROMAGNETIC COMPATIBILITY

Table 1

Guidance and manufacturer 's declaration-electromagnetic emissions		
The TF-903 is intended for use in the electromagnetic environment specified below. The customer or the user of the TF-903 should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment-guidance**
RF emissions CISPR 11	Group 1	The TF-903 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause and interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The TF-903 is suitable for use in all establishments other than domestic 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	N/A	
Voltage fluctuations /flicker emissions IEC 61000-3-3	N/A	

Table 2

Guidance and manufacturer 's declaration-electromagnetic immunity			
The TF-903 is intended for use in the electromagnetic environment specified below. The customer or the user of the TF-903 should assure that it is used in such an environment.			
Immunity test	**IEC60601 test level**	**Compliance level**	**Electromagnetic environment -guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±2,±4,±6kV for Contact discharge ±2,±4,±8kV air discharge	±2,±4,±6kV for Contact discharge ±2,±4,±8kV air discharge	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	±2 kV for a.c. power lines ±1 kV for d.c. power lines	N/A	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	N/A	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations in power supply input lines IEC 61000-4-11	<5%***UT*** (>95 dip in ***UT***) for 0.5 cycle 40% ***UT*** (60% dip in ***UT***) for 5 cycles 70% ***UT*** (30% dip in ***UT***) for 25 cycles <5% ***UT*** (>95% dip in ***UT*** for 5	N/A	Mains power quality should be that of a typical commercial or hospital environment. If the user of the TF-903 requires continued operation during power mains interruptions, it is recommended that the TF-903 be powered from an uninterruptible power supply or a battery
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristc 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.			

Table 3

Guidance and manufacturer 's declaration-electromagnetic immunity			
The TF-903 is intended for use in the electromagnetic environment specified below. The customer or the use			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment-guidance**
Conducted RF IEC 61000-4-6	3Vrms 150kHz to 80MHz	N/A	Portable and mobile RF communications equipment should be used no closer to any part of the TF-903, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** d=1.2 P
Radiated RF IEC 61000-4-3	3V/m 80kHz to 2.5GHz	3V/m	d=1.2 P 80MHz to 800MHz d=2.3 P 800MHz to 2.5MHz Here 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 meters (m). Field strengths form fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance b level in each frequency range. Interference may occur in the vicinity of equipment marked with the symbol:
NOTE 1 At 90MHz and 800MHz, 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,anelectromagnetic site survey should be considered. If the measured field strength in the location in which the TF-903 is used exceeds the applicable RF compliance level above, the TF-903 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the TF-903 b Over the frequency range 150kHz to 80MHz, field strengths should be less than 3V/m.			

Table 4

Recommended separation distances between portable and mobile RF communications equipment and the TF-903			
The TF-903 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the TF-903 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the TF-903 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**		
Rated maximum output power	**150kHz to 80MHz** d=1.2 P	**80MHz to 800MHz** d=1.2 P	**800MHz to** 2.5GHz d=2.3 P
0.01	0.01	0.12	0.23
0.1	0.1	0.38	0.73
1	1	1.2	2.3
10	10	3.8	7.3
100	100	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (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 80MHz and 800MHz, 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.			

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