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**For products purchased
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www.radioshack.com



RadioShack Cat. No.
2201005

Instruction Manual

RS-8806S

Stock No:2010210

Non-Contact Forehead IR Thermometer

EN





1. General Description

Non-Contact Forehead IR Thermometer is specially designed to take the body temperature of a person regardless of room temperature. Depending on various skin types and thickness, there may be temperature difference.

2. Safety Information

- This device must only be used for the purposes described in this instruction manual
- This device must only be used in an ambient temperature range between 10 and 40°C
- Do not expose this thermometer to electric shocks.
- Do not expose this thermometer to extreme temperature conditions of >50°C or <0°C
- Do not use the device in relative humidity higher than 85%.
- Do not use the device near large electromagnetic fields such as found with cordless or cell phones.
- Keep the device away from water and heat, including direct sunlight.
- Do not drop or knock the device, and do not use if damaged.
- It may affect the accuracy of measurements when the forehead is covered by hair, perspiration, cap or scarf. (See Part 10-4)
- Keep the Measuring distance as 1cm-10cm (0.39in-3.9in). (See Part 10-4)
- When the body infrared thermometer should be left in that room during 15 to 20 minutes before using.
- It may affect the accuracy of measurements when the forehead is covered by perspiration or other factors, please take the temperature behind the ear lobe. (See Part 10-5)
- Clean the glass with a cotton bud lightly moistened with 70% alcohol.



Importance:

- Before taking of the temperature make sure to remove hair and perspiration from the forehead.
- Selecting **"Body"** mode to measure the body temperature; Selecting **"Surface"** mode to measure the surface temperature.
- Use of this thermometer is not intended as a substitute for consultation with your physician.
- Should a problem occur with your device, please contact your retailer. Do not attempt to repair the device yourself.
- According to EMC standard, the medical electronic products should be maintained specially.

3.Features

- Precise non-contact measurements
- User selectable °C or °F
- Selectable Body and Surface temp
- Set Alarm value
- Memorization of the last 32 measurements
- Automatic Data Hold & Auto power off
- Display Resolution 0.1°C(0.1°F)
- Backlight LCD display



4.Intended Use

Non-Contact Forehead IR Thermometer is designed for body surface and forehead temperature measurement for infants and adults without contact to human body.

Non-Contact Forehead IR Thermometer can also be used to measure the temperature of a baby-bottle or bath, or room temperature (by using the Surface Temp function).

Normal Temperatures According To Measurement Method

Measurement Method	Normal Temp °C	Normal Temp °F
Rectal	36.6 to 38	97.8 to 100.4
Oral	35.5 to 37.5	95.9 to 99.5
Axillary	34.7 to 37.3	94.4 to 99.1
Ear	35.8 to 38	96.4 to 100.4

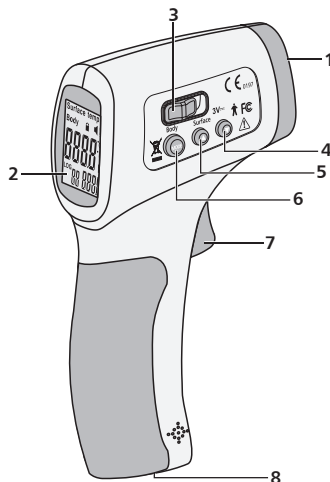
The temperature of the human body varies throughout the day. It can also be influenced by numerous external factors: age, sex, type and thickness of skin...

Normal Temperatures According To Age

Age	Temp °C	Temp °F
0-2 years	36.4 to 38.0	97.5 to 100.4
3-10 years	36.1 to 37.8	97.0 to 100.0
11-65 years	35.9 to 37.6	96.6 to 99.7
>65 years	35.8 to 37.5	96.4 to 99.5

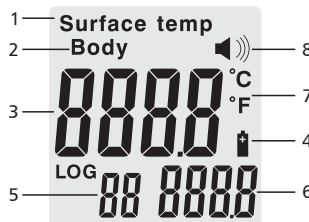
5.Configuration

- 1-IR Sensor
- 2-LCD Display
- 3-Mode Selection
- 4-Down Button
- 5-Up Button
- 6-Mode Button
- 7-Measurement Trigger
- 8-Battery Cover



6.Indicator

- 1-Surface mode Symbol
- 2-Body mode Symbol
- 3-Digital readout
- 4-Battery Symbol
- 5-The order number
- 6-Save data readout
- 7-Temperature °C(Celsius)/ °F(Fahrenheit) Scale
- 8-Buzzer symbol



7.Technical Specifications

Normal Conditions of Use	
Display Resolution	0.1°C (0.1°F)
Operating Temperature	10 to 40°C (50 to 104°F)
Storage Temperature	0 to 50°C (32 to 122°F)
Humidity Rate	≤85%
Power	DC 3V (2 x "AAA" batteries)
Size	128 x 74x 36 mm / 5x 2.9 x 1.4 in (L x W x H)
Weight	Gross 125.4g / Net 104.5g

Measuring Range	
In Body Mode	32.0 to 42.5°C (90 to 108°F)
In Surface Temp Mod	0 to 60°C (32 to 140°F)
Accuracy	±0.3°C (0.54°F)
Emissivity	Fixed at 0.99
Measuring Distance	1 cm – 10 cm (0.39 in – 3.9 in)
Automatic Stop	7 sec.

Non-contact Body Infrared Thermometer Precision

32 to 35.9°C / 93.2 to 96.6°F	±0.3°C / 0.5°F	According to ASTM Standard E1965-1998 (2003)
36 to 39°C / 96.8 to 102.2°F	±0.2°C / 0.4°F	
39 to 42.5°C / 102.2 to 108.5°F	±0.3°C / 0.5°F	



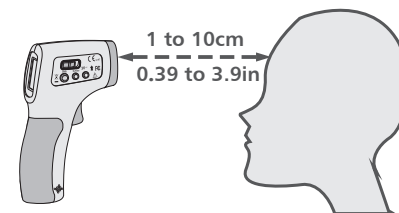
8. Description of Symbols

	The device is in accordance with Medical Device Directive 93/42/EEC
	The device is in accordance with FCC Part 15 Subpart B:2007/Radio Frequency Devices IC Regulation ICEC-003: 2004 Interference-causing Equipment Standard-Digital Apparatus
	3V DC power supply
	Type B equipment
	In order to protect the environment, please recycle the battery according to the local regulations
	Indication of Mode
	Attention, consult accompanying documents

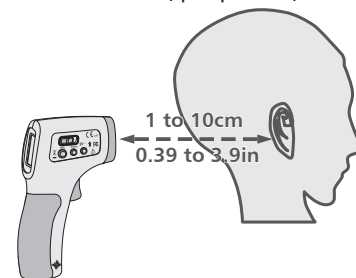


9. Use

- 9-1. Install battery
- 9-2. For the first use or when inserting new batteries wait between 10 minutes for the warm-up of the apparatus and when inserting the new batteries.
- 9-3. If the device is not used for a long time, once you turn it on again, the device will test the room temperature first and will delay turning on for one or two seconds.
- 9-4. Aim towards the forehead (see the diagram below for the positioning), from a distance of 5cm(2in), press the measuring key, the temperature is displayed immediately. Making sure there is no hair, perspiration, cosmetic or cap covered on the forehead.



- 9-5. When the room temperature is significantly different, or there is perspiration on the forehead, You can take the temperature behind the ear lobe. Making sure there is no hair, perspiration, cosmetic or cap covered.





10.Measuring Operation

10-1.Choosing The Temperature Unit – F1 Function

Press **"MODE"** button for 2 seconds, the screen displays: F1. Select **"DOWN"** for degrees Celsius, **"UP"** for degrees Fahrenheit.

10-2.Alarm Setup – F2 Menu

Press **"MODE"** touch for 2 seconds, the screen displays: F1. Press twice **"MODE"** touch to get F2. Select **"UP"** to increase the threshold by 0.1°C (0.1°F), **"DOWN"** to reduce it by 0.1°C (0.1°F).

Note: The alarm threshold default value is 38°C (100.4°F).

10-3.Total Difference – F3 Menu

To adjust the total variation of your the Non-contact Body Infrared Thermometer.

Press **"MODE"** button for 2 seconds, the screen displays: F1. Press **"MODE"** button two times to get F3. Select **"UP"** to increase the difference by 0.1°C (0.1°F), **"DOWN"** to reduce it by 0.1°C (0.1°F). In the cases of seasonal or environmental changes a verification and adjustment should be carried out.

Note: This function is only effective - Body

10-4.Buzzer ON/OFF – F4(F3) Menu

Press **"MODE"** button for 2 seconds, the screen displays: F1. Press three(two) times **"MODE"** button to get F4(F3).

Select **"UP"** to open the buzzer (a sound icon "🔊" is displayed on the LCD screen), press **"DOWN"** to stop it (the icon disappear).

10-5.Exiting The Setting Mode

Press **"MODE"** button until the screen turns off.



10-6.The Non-contact Body Infrared Thermometer is specially designed to take the body temperature of a human being. For this, use the Body mode. Measurement range for Body mode: 32 to 42.5°C (86 to 108°F)

You can also use the Non-contact Body Infrared Thermometer to measure the temperature of an area or an object, a food, a liquid or a room temperature. For this, use the Surface mode. Measurement range for Surface mode: 0 to 60°C (32 to 140°F)

Important: The area temperature differs from the internal body temperature. To obtain the internal temperature always use the Body mode.

Please make sure to select the Body mode for an internal temperature reading and the Surface mode for an external area reading (bottle, bath, room...).

10-7.Data Memory

Data memory automatically after temperature measurements, which will display at the right corner of LCD. Press **"UP"** or **"DOWN"** button to display the last temperature measurement.

Under the condition of power off, press **"UP"** and **"DOWN"** button together for two seconds, to display the last temperature measurement. At this mode if change the order number to 0 and press **"MODE"** button, then delete all memory data.

10-8.Changing The Batteries

Display: when the LCD screen displays "🔋", the battery is used.

Operation: Open the lid and change the batteries, taking great care with the correct positioning. A mistake with this could cause damage to the apparatus and compromise the guarantee of your Non-contact Body Infrared Thermometer. Never use rechargeable batteries. Use only batteries for single usage.

Remove the battery from the instrument if it is not required for extended periods of time in order to avoid damage to the thermometer resulting from a leaking battery.



10-9.Longevity Use

The Non-contact Body Infrared Thermometer was conceived for an intense and professional use, its longevity is guaranteed for 40000 takings.

11.Advice

- The protective glass over the lens is the most important and fragile part of the thermometer, please take great care of it.
- Do not recharge non rechargeable batteries, do not throw in fire.
- Do not expose the thermometer to sunlight or water.

12.Maintenance and Cleaning

- The Infrared Sensor is the most precise part, must be protected carefully.
- Clean the device with a cotton bud lightly moistened with 70% alcohol.
- Do not clean the device with corrosive detergent.
- Keep the device away from water or other liquid.
- Store the device in a dry environment, and keep it away from dust and direct sunlight.



13.Troubleshooting

If you happen to have one of the following problems while using the non-contact forehead IR thermometer please refer to this breakdown service guide to help resolve the problem. If the problem persists please contact our customer service.

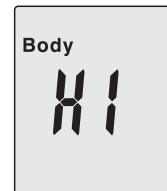
The screen displays the body temperature inferior to 32°C (89.6°F)

If you're on Surface mode the 32°C(89.6°F) temperature displayed is showing the external temperature that your body releases.

The screen displays the message "HI"

When using the Non-contact Body Infrared Thermometer the message HI can show on the screen.

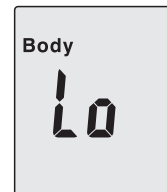
The analysis is above the measurement range selected, either superior to 42.5°C (108°F) in Body mode or superior to 60°C (140°F) in Surface mode.



The screen displays the message "LO"

When using the Non-contact Body Infrared Thermometer the message Lo can show on the screen.

The temperature analyzed is under the measuring range selected, either less than 32°C (90°F) in Body mode or less than 0°C (32°F) in Surface mode.





This message displays in various cases – please find below a list of the main cases.

Reasons for "LO" or "HI" message display	Advice
Temperature reading hampered by hair, perspiration...	Make sure that there is no obstruction prior to taking a temperature.
Temperature hampered by an air flux.	Make sure there is no air flux as this could interfere with the infrared system.
The measuring distance is too far.	Please respect the measuring distance (between 1 to 10cm – 0.39 to 3.9 in).
From high/low temperature condition to room temperature	Waiting for 10 minutes before taking the body temperature

14. This appliance conforms to the following standards:

- EN 980: Graphical symbols for use in the labeling of medical devices
- EN 1041: Information supplied by the manufacturer with medical devices
- EN 60601-1: Medical electrical equipment Part 1: General requirements for safety (IEC:60601-1:1998)
- EN 60601-1-2: Medical electrical equipment Part 1-2: General requirements for safety Collateral standard Electromagnetic compatibility Requirements and test (IEC 60601-1-2:2001)

EMC Statement

This device has been tested and homologated in accordance with EN60601-1-2:2007 for EMC. This does not guarantee in any way that the device will not be affected by electromagnetic interference. Avoid using the device in high electromagnetic environment.



The MEDICAL DELECTRICAL EQUIPMENT needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

The manufacturer reserves the right to alter the specifications of the product without prior notification.

The manufacturer allows himself the right to modify without any preliminary opinion the technical specifications of the product.

Table 201 –Declaration - electromagnetic emissions

Guidance and manufacturer's declaration - electromagnetic emissions		
The Model Number or Type Number - by manufacturer is intended for use in the electromagnetic environment specified below. The customer or the user of the Model Number or Type Number - by manufacturer should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 2	The Model Number or Type Number - by manufacturer must emit electromagnetic energy in order to perform its Intended function. Nearby electronic equipment may be affected.
RF emissions CISPR11	Class B	
Harmonic emissions IEC 61000-3-2	Not applicable	The Model Number or Type Number - by manufacturer 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.
Voltage fluctuations / flicker emissions IEC 61000-3-3	Not applicable	

**Table 202 - Declaration - electromagnetic immunity**

Guidance and manufacturer's declaration — electromagnetic immunity			
The Model Number or Type Number - by manufacturer is intended for use in the electromagnetic environment specified below. The customer or the user of the Model Number or Type Number - by manufacturer 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 %.

Table 204 - Declaration - electromagnetic immunity

Guidance and- manufacturer's declaration. Electromagnetic immunity			
The Model Number or Type Number - by manufacturer is intended for use in the electromagnetic environment specified below. The customer or the user of the Model Number or Type Number - by manufacturer should assure that it is used in such an environment.			
Immunity test	IEC 60501 test level	Compliance level	
Electromagnetic environment - guidance			
Portable and mobile RF communications equipment should be used no closer to any part of the Model Number or Type Number - by manufacturer, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.			
		Recommended separation distance	
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 Mhz	3 Vrms	$d = 1,2\sqrt{p}$

Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1,2\sqrt{p}$, 80MHz to 800MHz
			$d = 2,3\sqrt{p}$, 800MHz to 2,5MHz

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 meters (m).
Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range
Interference may occur In the vicinity of equipment marked with the following symbol:



NOTE 1 At 80 MHz end 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.

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 Model Number or Type Number - by manufacturer is used exceeds the applicable RF compliance level above, the Model Number or Type Number - by manufacturer should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Model Number or Type Number - by manufacturer.

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



Table 206 - Recommended separation distances between portable and mobile

RF communications equipment and the Model Number or Type Number - by manufacturer

Recommended separation distances between portable and mobile RF communications equipment and the Model Number or Type Number - by manufacturer			
The Model Number or Type Number - by manufacturer is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Model Number or Type Number - by manufacturer can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Model Number or Type Number - by manufacturer 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 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) accordable 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.			