

Screen Termometro Infrarossi

Infrared Thermometer

User Manual

REF: 971664331	English
CATALOGUE NR: JPD-FR202	English

PRODUCT INFORMATIO

Product Name: Infrared Thermometer

Model: JPD-FR202 Software version:1.0.0

Manufacturer: Shenzhen Jumper Medical Equipment Co., Ltd

Address: D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen, Guangdong, China,518103

COPYRIGHT

Copyright © Jumper Medical. All rights reserved.

STATEMENT

Shenzhen Jumper Medical Equipment Co., Ltd. owns and reserves all of the rights comprised in the copyright of this document. No part of this document may be changed, excerpted, copied, reproduced, or imitated in any form or by any means without the prior consent of Shenzhen Jumper Medical Equipment Co., Ltd.

All statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied. The information in this document is subject to change without notice. Shenzhen Jumper Medical Equipment Co., Ltd. reserves the right of final interpretation of this document.

INTRODUCTION

Thank you for purchasing this Infrared Thermometer. Please read the Instruction Manual carefully to make sure safe and proper use of this thermometer. Please read and fully understand the Safety Precautions before use. Keep the Instruction Manual with this thermometer for future reference.

UNPACKING CHECK

Please open the package carefully before use, check whether all accessories are available or not and whether any component is damaged during transportation, and perform installation and operation following this user manual. In case of any damage or operation problem, please contact the dealer or contact Jumper directly. You will need the following information when making your claim: device model, serial number, purchase date, and your contact information and address.

PACKAGE CONTENTS

No.	Name	Quantity
1	Infrared Thermometer	1
2	Pouch	1
2	Battery (AAA)	2
2	Instruction Manual	1

SAFETY PRECAUTIONS

Read the following precautions carefully before using the thermometer.

Attention

- Take care of the temperature probe lens, which is fragile.
- No service /maintenance while the equipment is in use.
- Dispose used batteries with care. To protect the environment, you are recommended to send the used batteries to a designated collection point.
- The thermometer doesn't need recalibration.
- Make sure that the thermometer is not exposed to lint, dust, light (including sunlight), etc.
 Please note the effects of degraded sensors that can degrade performance or
- cause other problems
- Make sure that the thermometer is not exposed to pets, pests.
- If the thermometer is soiled or its infrared optical components is damaged, please stop using it.
- The lay operator or lay responsible organization should contact the manufacturer or manufacturer's representative on the following issues: -assistance in setting up, using, or maintaining the me equipment or me system when needed, or to
 - report unexpected operation or events.
- The IR thermometer is identified as intended for consumer use.
 The patient is an intended operator.
- The effect that the following actions could be unsafe as applicable: use of accessories, detachable parts, and materials not described in the instructions for use or modification of the equipment.
- The hazards that can result from unauthorized modification of the me equipment.
- The manufacture can provide the circuit diagram, component part list, description and calibration instructions to assist service personal for parts repair.
- Do not subject the thermometer to vibration or impact.
- Do not take body temperature readings within 20 minutes after you do physical exercises or get excited.
- Do not use the thermometer for continuous temperature monitoring purposes.
- Do not use the thermometer for purposes that are not specified in this User Manual. Follow the instructions in the "Measurement Process" chapter and carefully operate the thermometer when measuring children's temperature.
- Do not immerse the thermometer into water or other liquid. Clean and disinfect the thermometer as described in the "Cleaning and Disinfection" chapter.
- Do not touch the tip of the temperature probe, on which a precise temperature sensor resides.
- Keep the temperature probe clean to make sure accurate readings.
- The ambient temperature must not be extremely high or low. To make sure accurate readings, keep the thermometer under room temperature for more than 30 minutes before use.
- Do not use the thermometer under an ambient temperature higher than 40°C (104°F) or lower than 10°C (50°F), which is beyond the operating temperature range of the thermometer.

- Risk of pollution! The user is recommended to send the overdue thermometer to local garbage disposal site or send it back to us.
- 2 AAA batteries of 1.5V are the only replaceable accessories of the thermometer.
 Please do not use the batteries of other voltages or specifications.

WARNING

	Warning
•	The thermometer is not intended to diagnose or treat any health problem or disease. The measurement results are for reference only.
•	It is dangerous to make a self-diagnosis or self-treatment based on the obtained measurement results. For such purposes, please consult a physician or other medical professionals.
\oslash	Do not charge an alkaline dry-cell battery or throw it in fire. Otherwise, the battery may explode.
\bigcirc	Do not disassemble the thermometer or attempt to repair it. Otherwise, the thermometer may be damaged permanently.
\oslash	Do not take temperature measurements on body parts other than forehead. Otherwise, the temperature readings may be inaccurate.
\bigcirc	During measurement, do not use a mobile phone or any other device that may cause electromagnetic interference.
\oslash	Do not use the thermometer in an environment where flammable anesthetic mixture with air or with oxygen, or nitrous oxide is available.
\bigcirc	Please keep the thermometer out of the reach of children.
\bigcirc	The result may be inaccurate if you use the overdue thermometer.

SYMBOLS

Symbol	Description	
Ŕ	Type BF applied part.	
\triangle	Attention must be paid.	
\otimes	The action is prohibited.	
	Information about the manufacturer.	
	Date of manufacture.	
	Consult the instructions for use.	
CE 0598	This product complies with the MDR 2017/745 requirements.	
MD	Medical Device	
	Waste electrical materials should be sent to a dedicated	
X	collection point for recycling.Must contact its local authorities to	
	determine the proper method of disposal of potentially bio hazardous parts and ACCESSORIES.	
IP22	Degree of protection against the Ingress of water.	

Symbol	Description	
	A personal injury or damage to the thermometer may occur if the thermometer is not used correctly.	
Attention	Inaccurate reading or damage to the thermometer may occur if the thermometer is not used correctly.	

BODY TEMPERATURE BASICS

. The normal body temperature is a range

• The normal range varies from person to person and can fluctuate throughout the day.

• The normal range also varies by body site. Therefore, measurements

from different sites should not be compared directly. To determine if an individual is experiencing an elevated body temperature and/or having a fever, it is critical to know the individual's normal body temperature when he/she is well. Take multiple readings to obtain the normal body temperature range and note the specific body site measured, for example: forehead or eardrum temperature.

Body Part	Normal Temperature Range
Forehead	34.7°C–37.3°C / 94.5°F–99.1°F
Ear canal	35.8°C-38.0°C / 96.4°F-100.4°F
Mouth	35.3°C–37.5°C / 95.9°F–99.5°F
Armpit	34.7°C–37.3°C / 94.5°F–99.1°F
Anus	36.6°C–38.0°C / 97.9°F–100.4°F

The normal body temperature range slightly varies with age and gender. Generally, newborns or children have higher body temperature than adults, and adults have higher body temperature than the elderly. Women's body temperature are appropriately 0.3° C (0.5° F) higher than men's.

VARIATION IN BODY TEMPERATURE



fluctuates throughout the day and is also affected by external factors. The body temperature of an individual is the lowest between 2:00 a.m. and 4:00 a.m. and the highest between 2:00 p.m. and 8:00 p.m. An individual's body temperature typically changes by less than 1°C (1.8°F) each day.

Normal body temperature

PRODUCT DESCRIPTION

1) Overview

Infrared Thermometer JPD-FR202 measures the human body or an object temperature based on the infrared energy emitted by the forehead or an object (such as milk and water). You can quickly get measurement results after pointing the temperature probe to the target. 2) Structure

 \dot{The} thermometer consists of a shell, an LCD, buttons, a beeper, an infrared temperature sensor, and a Microprocessor.

3) Operating principle

The infrared temperature sensor collects infrared energy emitted by the forehead. After being focused by a lens, the energy is converted into a temperature reading by the thermopiles and the measurement circuit.

4) Intended use

The Infrared Thermometers take human body temperature via the forehead for both professional and home use. Intended patient population Forehead mode applies to all age group.

Contraindications

The device has no side-effects if administered correctly and residual risk is acceptable

FEATURES

1. Good safety

- · Passive infrared receiving technology
- Non-contact measurement, preventing cross-infection
- 2. Easy operation
 - Handheld design, easy operation
 - One-click automatic temperature measurement
- 3. Quick response
 - 1-second measurement
- 4. High accuracy
 - Advanced infrared temperature sensor, with high sensitivity
 - Enhanced accuracy with automatic temperature calibration
- 5. Diverse functions

6.

- 20 temperature readings stored in memory
- Forehead/Object temperature measurement
- · Fever alert, with a configurable alert threshold
- Switching between °C and °F
- Switching between mute/un-mute mode (measuring sound notification)
- Automatic power-off, power-saving
- Extensive application scope
- Applicable to all groups of people

PRODUCT STRUCTURE

Ω

]68℃

40

RMP

5

6

8



- 1、IR sensor (applied part)
- 2、Power-on button / Measure button
- 3、Battery cover
- 4、LCD display
- 5、Mute / Un-mute button
- 6、Mode button
- 7、Celsius / Fahrenheit Switch button

8、Handgrip

DISPLAY DESCRIPTION

- Object temperature mode
 Forehead temperature mode
- 3. Temperature unit (°C / °F)
- 4. Low power indicator 5.Mute / un-mute
- 6. Memory recall
- 7. Temperature value



SOUNDS AND BACKLIGHT INSTRUCTIONS

Range	Sounds	Backlight
Forehead temperature		
22.0°C-37.5°C/71.6°F-99.5°F	A long beep	Green
37.6°C-43°C/99.6°F-109.4°F	3 short double beeps	Red
Object temperature		
0°C-100°C/32.0°F-212.0°F	A long beep	White

Note: When the forehead temperature is between 22.0°C/71.6°F and 37.5°C/99.5°F, there will be a long beep and a green backlight. This indicates that your body temperature is normal.

When the forehead temperature is between 37.6°C/99.6°F and 43.0°C/109.4°F, there will be 3 short double beeps and a red backlight. This indicates that the body temperature is a little high and you may have a fever. Please consult your doctor if you are not sure.

DISPLAY AND OPERATING INSTRUCTIONS

Screen Display	Operating Instructions/ Displayed State	Description
Measuring Forehea	d temperature	
ີ 36.5 ° ະ •»	In a power-off state, point the IR sensor to the center of the forehead. Move the thermometer towards the forehead. For effective measurement, the distance between the thermometer and the forehead must be 1- 3 cm. Press and release the Measure button . The forehead temperature will be displayed on the screen.	See the table in the "Sounds and Backlight Instructions" section
Measuring Object te	emperature	

Screen Display	Operating Instructions/ Displayed State	Description
	In a power-on state, press the " Mode button ", the thermometer enters the Object mode .	
	Point the IR sensor to the center of the object, then press and release the Measure button . the object temperature will be displayed on the screen.	See the table in the "Sounds and Backlight Instructions" section

Out of the measuring range display

۲ ۲ ۳	In Object mode, a temperature reading of more than 100°C (212.0°F) In Forehead mode, a temperature reading of more than 43.0°C (109.4°F)	A long beep and a green backlight for 3 seconds.
	In Object mode, a temperature reading of less than 0°C (32.0°F) In Forehead mode, a temperature reading of less than 22.0°C (71.6°F)	A long beep and a green backlight for 3 seconds.

Switching between °C and °F







	Screen Display	Operating Instructions/ Displayed State	Description
	Er[An error occurs when data is being read from or written to the memory, or the temperature correction is not complete.	A long beep and a red backlight for 3 seconds.
		When the battery voltage is lower than $2.5V \pm 0.1V$, the low battery symbol will appear on the display. Please replace the batteries.	Silent
F	Power-off	•	•

In any mode, if there is no operation in 10 seconds, the thermometer will power off automatically.

Power-off

In any mode, if there is no operation in 10 seconds, the thermometer will power off automatically.

DISPLAY AND OPERATING INSTRUCTIONS

- 1. Select the measurement mode.
- Press the Measure button to power on the thermometer. Select the measurement mode using the Mode button.
- The Ω symbol indicates the Forehead temperature mode. The □ symbol indicates the Object temperature mode.

2. Press the Measure button to start a measurement.

- When taking the forehead temperature, point the IR sensor to the center of the forehead. Move the thermometer towards the forehead. the distance between the thermometer and the forehead must be 1-3cm. Press and release the Measure button. The forehead temperature will be displayed on the screen.
- When taking the object temperature, Point the IR sensor to the center of the object. The distance between the thermometer and the object must be 1-3 cm. Press and release the Measure button. The object temperature will be displayed on the screen.



3. After a measurement

- After each measurement, clean the thermometer with a dry soft cloth, and put the thermometer in a dry and well-ventilated place.
- The thermometer automatically powers off if it is not used in 10 seconds.

convection between the thermometer and the target. For example, winds from a fan, an air-conditioner, or a heater.

- (2) Do not hold the thermometer for a long time, because it is sensitive to the ambient temperature.
- (3) Make sure the sense head is free of foreign matters before use;
- (4) Make sure the forehead has no sweat and no hairs covered before measure the
 - forehead temperature; otherwise, the result could be incorrect;
- (5) No intense emotion or strenuous exercises before measuring;

REPLACING BATTERIES

- 1) Slide the battery cover off along the marked direction. Insert the two AAA batteries into the compartment correctly.
- 2) If the low-battery symbol is displayed on the screen, replace the batteries.



Ake sure that the batteries are installed correctly. Otherwise, the thermometer may be damaged.

Batteries of a same type should be used. Dispose the used batteries in accordance with the local environmental policies.

The thermometer is provided with batteries that were installed in the factory. When you start to use it in the first time, open the battery cover, then remove the insulating piece.

CLEANING AND DISINFECTION

Cleaning

Recommended detergents:

- * Medical detergents;
- * Home use mild detergents;

Cleaning steps:

- 1) Take the batteries out before cleaning.
- Clean the temperature with a soft cloth. Clean the lens of the temperature probe with a cotton swab.
- 3) Wipe the thermometer body with a slightly damp soft cloth.



Keep water off the lens during the cleaning process. Otherwise, the lens may be damaged.

The lens may be scratched if it is cleaned with a piece of tissue paper, which might result in inaccurate readings.

Do not clean the thermometer with corrosive cleansers. During the cleaning process, do not touch the lens using hard objects, do not immerse any part of the thermometer into liquid, or allow liquid to penetrate the thermometer.

Disinfection

Recommended disinfectants:

- * Isopropyl alcohol solution (concentration: 70%)
- * Medicinal alcohol (concentration: 75%)
- * Sodium hypochlorite solution (concentration: 3%)

Disinfecting steps:

- Wet the clean soft cloth with a small quantity of disinfectant, wipe the thermometer and quickly dry it.
- Disinfect the thermometer body with a cloth slightly moistened with 75% medical alcohol.

Do not use hot steam or ultraviolet radiation for disinfection. Otherwise, the thermometer may be damaged or quickly aged.

Clean and disinfect the thermometer under the temperature of +10°C~+40°C(50°F-104°F), the relative humidity of 15%~85%RH (no condensation) and the barometric pressure of 86kPa~106kPa.

MAINTENANCE

Preventive inspection & maintenance period

- Ensure the safety of thermometer, and check whether it has potential safety hazards in normal use each week, e.g. whether the lens is broken, the shell has cracks and the sensing head is polluted. Do not use the thermometer with potential safety hazard. Clean the thermometer if not used for a long time.
- Store the thermometer in a dry, dust-free, and well-ventilated place. Make sure that the thermometer is not exposed to sunlight. Make sure that the storage and transportation environments meet the requirements.
- 3) Remove the batteries if the thermometer will not be used for more than two months.

TROUBLESHOOTING

Problem	Possible Cause	Solution
	Low battery	Change the batteries.
The thermometer	Polarities of the	Make sure that the batteries are
fails to power on	batteries are reversed.	installed correctly.
	The thermometer is	Contact the manufacturer.
	damaged.	
	The ambient	Take a measurement under an
	temperature is lower	ambient temperature between
"Er1" is displayed.	than 10°C (50.0°F) or	10°C (50.0°F) and 40°C (104°F).
	higher than 40°C	
	(104°F).	
	The lens of the	Clean the lens using a cotton
	temperature probe is	swab.
	dirty.	
The temperature	The distance between	Move the thermometer closer to
reading is lower	the temperature probe	the target.
than the typical	and the target is too	
body temperature	long.	
range.	The thermometer is	Wait for more than 30 minutes
	used within 30 minutes	after the thermometer is moved
	after being taken from	into the measurement
	a cold environment.	environment.
The temperature	The temperature probe	Contact the manufacturer.
reading is higher	is damaged.	
than the typical		
body temperature		
range.		

SPECIFICATIONS

Product Name	Infrared Thermometer	
Product Model	JPD-FR202	
Power Supply Mode	Internal power supply	
Operating Voltage	DC 3V	
Battery Model	AAA x 2	
Operating Mode	Continuous operating	
Display	Segment LCD	
Measure time	About 1 second	
Latency Time	About 1 second	
Measuring Distance	1 to 3 cm	
Measuring Range	Forehead mode: 22.0°C–43.0°C (71.6°F–109.4°F)	
	Object mode:0.0°C-100.0°C (32.0°F-212.0°F)	
Accuracy (Laboratory)	Forehead mode: ±0.2°C (36.0°C-39.0°C) ; ±0.3°C (22.0°C-36.0°C / 39.0°C~43.0°C); Object mode: ±1.0°C/±2.0°F	
Resolution	0.1°C (0.1°F)	
Accuracy (Clinical)	±0.3°C (±0.6°F)	
Measuring Site	Forehead (keep distance 1~3 cm from forehead)	
Reference Body Site	Armpit	
Mode of Operation	Adjusted mode	

Memory	20 temperature readings	
Low-battery Alert	The low-battery symbol is displayed if the power voltage is lower than $2.5 V \pm 0.1 V$.	
Automatic Power-off	The thermometer automatically powers off if it is not used in 10±1 seconds.	
Dimensions (mm)	150×88.2×40.6	
Weight (g)	109.5 g (with batteries)	
Service Life	2 years	
Battery Life	Alkaline dry battery for around 20000 measurements	
Operating Environment	Temperature: 10°C–40°C (50°F–104°F)	
	Humidity: 15%–90% Relative humidity, non-condensing	
	Atmospheric pressure: 86–106 kPa	
Storage and Transportation	Temperature: -20°C to 50°C (-4°F–122°F)	
	Humidity:15%- 90% Relative humidity, non-condensing	
	Atmospheric pressure: 50–106 kPa	
Manufacturing date	see the label	

The infrared thermometer has been tested and conforms to the standard ASTM E1965-98. ASTM laboratory accuracy requirements in the display range of 98°F to102°F (37°C-39°C) for skin IR thermometers is ±0.5°F (±0.3°C). Note that for mercury-in-glass and electronic thermometers, the requirement per ASTM Standards E667-86 and E1112-86 is ±0.2°F (±0.1°C).

SECURITY CLASS

- Type of protection against electric shock: internally powered equipment.
- Degree of protection against electric shock: Type BF applied part
- Degree of protection against ingress of water:IP22
- Safety degree of using in flammable anesthetic gas blending with air, oxygen or nitrous oxide: Non-AP/APG
- No application parts of the thermometer prevents defibrillation charge effect.
- No application parts of the thermometer output signal.
- The thermometer is impermanent installed device.

STORAGE AND TRASPORTATION

1) Transportation

The thermometer can be transported using general transportation tools. Severe vibration, shock, or rain must be avoided during transportation.

2) Storage

The thermometer must be packaged and then stored in a well-ventilated room without corrosive gas. The ambient temperature must be between -20° C and $+50^{\circ}$ C (-4°F-122°F), the relative humidity must be 15%-90%R.H. (non-condensing), and the atmospheric pressure must be 50–106 kPa.

Temperature

-20°C ~ +50°C



RH: 15% ~ 90%

non-condensing



501Pa

50kPa ~ 106kPa

Atmospheric pressure

EMC INFORMATION-GUIDANCE AND MANUFACTURE'S DECLARATION

1* WARNING: Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

2* WARNING: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

3* WARNING: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the ME equipment, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Table 1				
declaration - electromagnetic emission				
Emissions test	Compliance			
RF emissions CISPR 11	Group 1			
RF emissions CISPR 11	Class B			
Harmonic emissions IEC 61000-3-2	Not applicable			
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable			

Table 2				
declaration - electromagnetic immunity				
Immunity test	IEC 60601 test level	Compliance level		
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air		
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	Not applicable		
Surge IEC 61000-4-5	\pm 0.5kV, \pm 1 kV line(s) to lines \pm 0.5kV, \pm 1 kV, \pm 2 kV line(s) to earth	Not applicable		
Voltage dips, short interruptions and voltage	0 % UT; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°and 315°	Not applicable		
power supply input lines IEC 61000-4-11	0 % UT; 25/30 cycles Single phase: at 0° 0 % UT; 250/300 cycles			
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m		
NOTE: UT is the a.c. mains voltage prior to application of the test level.				

Table 3					
Immunity test	IEC 60601 test level Compliance level				
minuncy test		oompliance level			
Conducted RF IEC 61000-4-6	3 V 0.15 MHz to 80 MHz 6 V in ISM bands between 0.15 MHz and 80 MHz	Not applicable			
Radiated RF IEC 61000-4-3	10V/m 80 MHz to 2.7 GHz	10V/m			

Table 4 declaration - IMMUNITY to proximity fields from RF wireless communications equipment Immuni IEC60601 test level Compliance ty test level Modulatio Maxim Test Immunity frequency level n um power Radiate 385 MHz **Pulse 1.8W 27 V/m 27 V/m d RF Modulatio IEC n: 18Hz 61000-4-3 450 MHz *FM+ 5Hz 2 W 28 V/m 28 V/m deviation: 1kHz sine 710 MHz **Pulse 0.2 W 9 V/m 9 V/m 745 MHz Modulatio 780 MHz n: 217Hz 810 MHz **Pulse 2 W 28 V/m 28 V/m 870 MHz Modulatio 930 MHz n: 18Hz 1720 MHz **Pulse 28 V/m 28 V/m 2 W

1845 MHz

1970 MHz

2450 MHz

5240 MHz

5500 MHz

5785 MHz

case.

signal.

Modulatio

**Pulse

Modulatio n: 217Hz

**Pulse

Modulatio

n: 217Hz

2 W

0.2 W

Note* - As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst

Note** - The carrier shall be modulated using a 50 % duty cycle square wave

28 V/m

9 V/m

28 V/m

9 V/m

n: 217Hz

WARRANTY AND AFTER-SALE SERVICE

The device is under warranty for one year from the date of purchase.

The batteries, the packaging, and any damage caused by improper use are not covered

by the warranty.

Excluding the following user-caused failures:

1. Failure resulting from unauthorized disassembly and modification.

2. Failure resulting from an unexpected dropping during application or transportation.

3. Failure resulting from not following the instructions in the user's manual.



Shenzhen Jumper Medical Equipment Co., Ltd. Address: D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen, Guangdong, China

(E0598

EC REP Medpath GmbH Mies-van-der-Rohe-Strasse 8, 80807 Munich,

Dstributed by: Screen Italia Srl Via dell'Artigianato, 16 06089 - Torgiano - Perugia - Italia www.screenpharma.it - info@screenpharma.it