

ADVANCE IR>>

TSCAN-450

Non-Contact Infrared Thermometer

Model: NT17



INSTRUCTION MANUAL

Please read this instruction manual carefully before using your TSCAN-450 forehead thermometer

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Introduction

Utilizing infrared technology, the TSCAN-450 provides temperature readings in seconds by measuring the surface temperature of the skin of the forehead or other objects.

This product conforms to the provisions of the EC directive MDD(93/42/EEC).

Features:

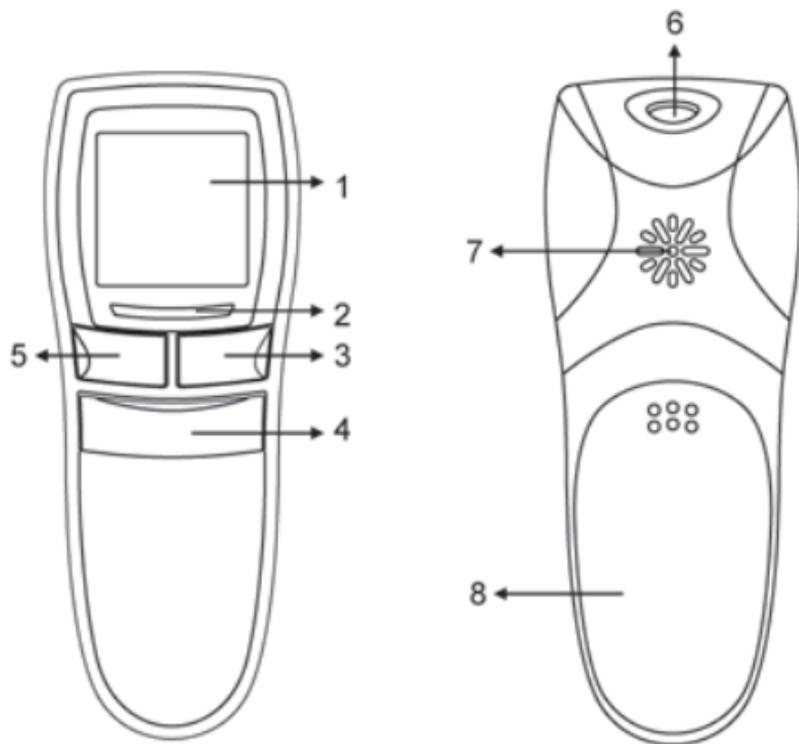
- **Multi-Function**
Human Body/Object/Night Mode/Fever Alarm/30-User Memory/Backlight
- **Night Mode**
Switch to Night Mode to reduce noise interference while sleeping.
- **Fever Alarm**
When in Human Body Mode, this device uses an LED light to provide indication when a reading above 38°C is obtained.
- **30-User Memory**
- **Illuminated Backlight Display**
- **°C/°F Switchable Function**
- **1-Second Reading**
- **Auto Power Off (after 30 seconds)**
- **Low Battery Indicator**
Provides indications for battery condition and measuring range.
- **Large LCD Display**

Important Information Before Use

When using this product, please be sure to follow all notes listed below. Any actions otherwise may cause injury or affect accuracy.

1. Do not disassemble, repair, or remodel the thermometer.
2. Be sure to clean the thermometer lens after each use.
3. Avoid direct finger contact with the lens.
4. Do not modify the equipment in any way.
5. It is recommended that user may take 3 temperatures. If they are different, use the highest reading.
6. Do not expose the thermometer to extreme temperature, high humidity, or direct sunlight.
7. Avoid extreme shock or dropping the device.
8. Before measurement, patients and thermometer should stay in steady state room condition for at least 30 minutes.
9. Avoid measuring temperature within 30 minutes after exercise, bathing, or returning from outdoors.
10. To protect the environment, dispose of empty batteries at appropriate collection sites according to national or local regulations.
11. It is ill-advised to disassemble the thermometer.
12. Please use the thermometer solely for its intended purpose.
13. Carefully hold the device when in use to avoid dropping the device.
14. Allow one minute between successive measurements as slight variations may occur if measurements are taken over a short period of time. Use average temperatures instead.
15. There are no absolute body temperature standards. Keep reliable records of your personal temperature to serve as a reference for judging a fever.
16. Under any circumstances, temperature measurement results are **ONLY** for reference. Before taking any medical action, please consult your physician.
17. It is recommended to calibrate the device annually.

Product Identification



- 1 LCD Display
- 2 LED Light
- 3 Human/Object Button
- 4 Power and Measure Button
- 5 Memory Button
- 6 Infrared Sensor
- 7 Buzzer
- 8 Battery Compartment Lid

Description of LCD Display

	Degree of measurement
	Measuring sequence in process
	Night Mode (Mute Mode)
	Human Mode
	Object Mode
	Celsius Scale
	Fahrenheit Scale
	Low battery indicator
	Frowning Face (temperature is equal or higher than 38°C)
	Smiling Face (temperature is lower than 38°C)
	Memory Symbol and sets of records

Battery Installation

Low Battery Warning:

When the battery power becomes low, the low battery symbol will appear on the display. The thermometer can still be used during this time, but the batteries should be replaced as soon as possible. If the batteries run out completely, “Lo” will be displayed along with the low battery symbol. In this case, the batteries will need to be replaced before using the thermometer again.

Replacing the Battery:

1. Gently slide the battery cover back.
2. Carefully remove the old batteries and properly discard.
3. Insert new batteries (2x 1.5V AAA Alkaline) according to the proper polarity.
4. Slide the battery cover back on.



NOTE: Battery-Operated

1. ***Please properly dispose of the batteries away from small children and heat.***
2. ***It is recommended to remove the batteries if the unit will not be used for an extended period of time.***
3. ***For long durations of non-operation, please remove all batteries from the device.***
4. ***Batteries must be disposed of in accordance with local environmental and institutional policies.***
5. ***Dispose of used batteries in accordance with the applicable legal regulations. Never dispose of batteries in the normal household waste.***

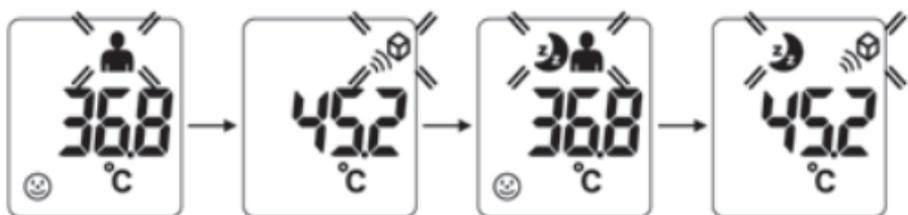
Switching Between Fahrenheit & Celsius

Your thermometer can display results in either degrees Celsius ($^{\circ}\text{C}$) or degrees Fahrenheit ($^{\circ}\text{F}$).

To switch between Celsius and Fahrenheit, while the unit is on, press and hold both the Human/Object Button and the Memory Button for approximately 3 seconds. This will change the mode to either $^{\circ}\text{C}$ or $^{\circ}\text{F}$. Once the thermometer beeps, the mode has been changed, and you may release the buttons.

Switching Between Scan Modes

1. Under power on status, press the Human/Object Button to switch between the different scan modes. There are four scan modes available, including Human, Object, Human/Night, and Object/Night Mode (in order).
2. The beep sounds will be muted when in Human/Night Mode and Object/Night Mode, and the Moon Symbol will appear on the LCD display when in both Night Modes.



NOTE:

With each press of the button, a beep will sound to ensure the setting is activated (except when in Night Modes).

Tips for Measuring Human Temperature

Keep in mind that the thermometer needs to have been in the room in which the measurement is taken for at least 30 minutes prior to use.

NOTE:

- ***Attempting to take temperature readings from sites on the body other than the forehead may produce inaccurate results.***
- ***The patient should remain still while the reading is being taken.***
- ***Infrared forehead temperature readings are equivalent to oral temperature readings. In all of these cases, please consult your doctor.***
- ***Readings taken while asleep should not be compared directly to readings taken while awake, as body temperature during sleep is typically lower.***
- ***Do not take body temperature readings within 30 minutes of being outdoors, exercising or bathing.***

Measuring Human Temperature

Taking a Measurement

1. Press the Measure Button to power the thermometer on. The unit will run a self-test, and the LCD will briefly display all of its symbols during this time. When the device is ready, '- -' will appear on the screen.
2. Select the desired mode by pressing and releasing the Human/Object Button.
3. Position the thermometer approx 3cm (1 inch) from the center of the patient's forehead with the sensor aimed between the eyebrows.
4. Press and release the Measure Button.
5. A short beep will sound to indicate that the temperature reading has been completed, accompanied with a backlight.
6. If the temperature measurement is below 38°C, a "Smiling Face" will be appear next to the reading. If the reading is 38°C or above, a "Frowning Face" will be displayed and the LED will light up.
7. Approximately 30 seconds after use, the thermometer will automatically beep and shut off.

Fever Alarm:

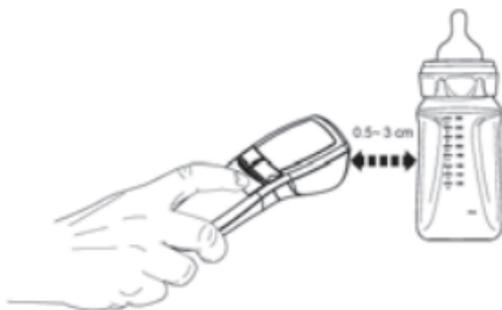
Only in Human Mode and Human/Night Mode

Note:

- ***When taking a patient's temperature, ensure that the thermometer is in Human Mode; the Human Symbol " " will appear on the display.***
- ***If the patient's skin is covered with hair, sweat, or dirt, clean the area and wait 10 minutes before taking a measurement.***
- ***Ensure that the thermometer is held firmly during measurement, and that the patient does not move until the measurement is complete. Movement may impact the measurement.***

Measuring Object/Liquid Temperature

1. Press the Power Button to turn the thermometer on. All symbols on the display will momentarily appear.
2. Ensure that the thermometer is in Object Mode; the Object Symbol will appear on the display. To alternate between modes, press and release the Human/Object Mode Button until you see the desired measurement symbol on the display.



3. Position the thermometer approx 3cm (1 inch) from the object.
4. Press and release the Power/Measure Button, and the temperature reading will be displayed.
5. Approximately 30 seconds after use, the thermometer will automatically beep and shut off.

Memory Function

Memory Recall:

You can recall up to 30 measurements currently stored in memory to share with your physician or trained healthcare professional.

1. When the device is on, briefly press the Memory Button once. Then, press it again to show the last measurement.
2. The Human Mode Symbol or Object Mode Symbol will appear with each measurement stored in memory to indicate whether a person or object temperature was taken.
3. Each press of the same button recalls a previous measurement.

Memory Deletion:

1. Under power on status, press and hold the Memory Button for 3 seconds to delete all the readings.
2. You will see "- -" on the display, and a beep will sound. This means that the memory has been cleared.

Note:

All the readings will be cleared, regardless of whether in Human Mode or Object Mode.

Clinical Accuracy Validation Method

This device is an adjusted mode clinical thermometer. The validated information for clinical accuracy in each adjusted mode are:

GroupA1: $\Delta_{cb} = -0.01^{\circ}\text{C}$, $L_A = 0.18$, $\sigma_r = \pm 0.08^{\circ}\text{C}$

GroupA2: $\Delta_{cb} = 0.06^{\circ}\text{C}$, $L_A = 0.22$, $\sigma_r = \pm 0.08^{\circ}\text{C}$

GroupB: $\Delta_{cb} = -0.01^{\circ}\text{C}$, $L_A = 0.20$, $\sigma_r = \pm 0.07^{\circ}\text{C}$

GroupC: $\Delta_{cb} = -0.01^{\circ}\text{C}$, $L_A = 0.18$, $\sigma_r = \pm 0.07^{\circ}\text{C}$

Δ_{cb} : CLINICAL BIAS

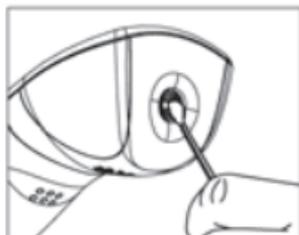
L_A : LIMITS OF AGREEMENT

σ_r : CLINICAL REPEATABILITY

Cleaning and Disinfecting

For home use device disinfection, 75% Ethanol or Isopropyl alcohol (available in the pharmacy) can be used.

- Clean the measuring sensor after each use. To do so, use a clean cloth or cotton bud that can be moistened with 75% alcohol.
- To clean the entire device, please use a soft cloth slightly moistened with a mild soapy solution. Under no circumstances may liquid enter the device. Do not use the device again until it is completely dry.



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:

ISO 80601-2-56

Medical electrical equipment -- Part 2-56: Particular requirements for basic safety and essential performance of clinical thermometers for body temperature measurement

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

Error Codes

When a malfunction or incorrect temperature measurement occurs, an error message will appear as described below.

LCD Display	Cause	Solution
Lo	<p>The temperature measured is lower than:</p> <ol style="list-style-type: none">1. Human thermometer mode: 34°C (93.2°F)2. Object temperature mode: 0°C (32°F)	<p>Operate the thermometer only between the specified temperature ranges. If necessary, clean the sensor tip.</p> <p>In the event of a repeated error message, contact your retailer or Customer Services.</p>
H	<p>The temperature measured is higher than:</p> <ol style="list-style-type: none">1. Human thermometer mode: 43°C (109.4°F)2. Object temperature mode: 100°C (212.0°F)	
Err	<p>The operating temperature is not in the range</p> <p>16°C ~40°C (60.8°F ~104°F)</p>	<p>Operate the thermometer only between the specified temperature ranges.</p>

Operating the Bluetooth Function

- **Measurement Range:**

Human Body : 34°C~43°C (93.2°F ~109.4°F)

Object : 0°C~100°C (32.0°F ~212.0 °F)

- **Calibration Accuracy:**

Human Body:

±0.2°C (±0.4°F): from 34°C to 43°C (93.2°F to 109.4°F)

Object: ≤20°C ±1°C ; >20°C ±5%

- **Display Resolution: 0.1°C**

- **Measurement Body Site:** Forehead

- **Reference Body Site:** Ear

- **Operating Environment:**

16°C ~ 40°C (60.8°F ~ 104°F)

With relative humidity up to 95% (non condensing)

- **Storage/Transportation Environment:**

-25°C to 55°C (-13°F to 131°F)

With relative humidity up to 95% (non condensing)

- **Power Supply:**

2 x 1.5V AAA size alkaline batteries

- **Weight:**

Approx 80g (with batteries)

- **Dimensions:**

Approx 128.5mm x 48.83mm x 38.85mm (LxWxH)

- **Operating Distance:**

0.5 cm ~ 3 cm

EMC Tables

Advance IR TSCAN-450 is intended for use in the electromagnetic environment specified below. The customer or the user of Advance IR TSCAN-450 must make sure that it is used in such an environment.			
Guidance and manufacturer's declaration - Electromagnetic emissions			
Phenomenon	Professional healthcare facility environment a)	HOME HEALTHCARE ENVIRONMENT a)	
Conducted and radiated RF EMISSIONS	a)	CISPR 11 Group 1 Class B	
Harmonic distortion	Not applicable		
Voltage fluctuations and flickering	Not applicable		
<p>a) The equipment is suitable for use in Home Health Environments and Professional Health Care Environments limited to patient rooms and respiratory treatment facilities in hospital or clinics. The more restrictive acceptance limits of Group 1 Class B (CISPR 11) have been considered and applied. The equipment is suitable for use in the mentioned environments when directly connected to the Public Mains Network.</p> <p>b) The test is not applicable in this environment unless the ME EQUIPMENT and ME SYSTEM used will be connected to the PUBLIC MAINS NETWORK and the power input is otherwise within the scope of the Basic EMC standard.</p>			
Guidance and manufacturer's declaration - Electromagnetic immunity - Enclosure port			
Phenomenon	Basic EMC standard or test method	Immunity test levels	
		Professional healthcare facility environment	HOME HEALTHCARE ENVIRONMENT
ELECTROSTATIC DISCHARGE	IEC 61000-4-3	± 8kV contact ± 2 kV, ±4kV ±, ±8 kV, ±15 kV air	
Radiated RF EM fields	IEC 61000-4-3	a)	10 V/m b) 80MHz - 2.7 GHz 80% AM at 1kHz
Proximity fields from RF wireless communications equipment	IEC 61000-4-3	<p>COMPLIANT</p> <p>NOTE: Further information about distances to be maintained between portable and mobile RF communications equipment (transmitters) and the TSCAN-450 can be requested from Advance IR using the contact information provided in this manual. However, it is advisable to keep the electromechanical aerosol equipment at an adequate distance of, at least, 0.5m from mobile phones or other RF communications transmitters to minimise possible interference.</p>	
RATED power frequency magnetic fields.	IEC 61000-4-8	30 A/m c) 50 Hz or 60 Hz	
<p>a) The equipment is suitable for use in Home Health Environments and Professional Health Care Environments limited to patient rooms and respiratory treatment facilities in hospital or clinics. The more restrictive IMMUNITY acceptance limits have been considered and applied.</p> <p>b) Before modulation is applied.</p> <p>c) This test level assumes a minimum distance of at least 15 cm between the ME EQUIPMENT or ME SYSTEM and sources of power frequency magnetic fields.</p>			

Explanation of Symbols

	<p>The CE marking with the Registration Number of the Notified Body. This denotes the compliance of European Medical Device Directive 93/42/EEC</p>
	<p>Follow instructions for use</p>
	<p>Disposal information: Should you wish to dispose of the article, do so in accordance with current regulations. Details are available from your local authority</p>
	<p>Type of protection of applied part against electric shock, body floating</p>
<p>IP 22</p>	<p>This product meets the basic safety and essential performance requirements indicated in the IP22 conditioning test (protection against solid foreign objects of 12.5mm Ø and greater and against vertically falling water drops when enclosure tilted up to 15°)</p>
	<p>Temperature limits</p>
	<p>European Authorized Representative</p>
	<p>Manufacturer's name and address</p>
	<p>SN YYMWWWXXXXX SN: Product Serial Number YY: year, M:month, WWW: working sheet, XXXXX: serial no.</p>
	<p>The empty, completely flat batteries must be disposed of through specially designated collection boxes, recycling points or electronics retailers. You are legally required to dispose of the batteries.</p>
<p>RoHS</p>	<p>This product fulfilling the requirements of the RoHS Directive 2011/65/EU.</p>
<p>REACH</p>	<p>This product fulfilling the requirements of the REACH Directive EC 1907/2006 and its amendments, do not contain Substances of Very High Concern in concentration above the limit of 0.1 %. No substance(s) is/are present in the parts of the product above the concentration of 0.1 % weight by weight.</p>

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TSCAN-450

Model: NT17

Amphenol Thermometrics, Inc.
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Manufacturer: AVITA (WuJiang) Co. LTD.
Standard: GB/T 21417.1-2008
Registration Certificate(s): SXZZ20182200808
China Manufacturing License(s): SSYJXSCX20040018

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Suzhou City, Jiangsu Province, P.R.C.

AIR-INS5780A TSCAN-450 09/2020