

TECHNICAL CHARACTERISTICS	
THERMOFOCUS® 0700A2 mod. 01500A3 mod.	
Non-contact infrared thermometer	

Resolution: 0.1

Body temperature readings
Measurement range: 34.0/42.5°C (93.2-108.5°F)
Room temperature working range: 10/40°C
55/104.0°F

Accuracy °C	from 34.0 to 35.9°C: ±0.3°C	from 36.0 to 39.0°C: ±0.2°C ⁽¹⁾	from 39.1 to 42.5°C: ±0.3°C
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Accuracy °F	from 93.2 to 96.7°F: ±0.5°F	from 96.8 to 102.2°F: ±0.4°F ⁽¹⁾	from 102.3 to 108.5: ±0.5°F
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Other readings ⁽²⁾
Measurement range: 1.0/55.0°C (33.8-131°F)
Room temperature working range: 10/40°C
55/104.0°F

Accuracy °C	from 1.0 to 19.9°C: ±1.0°C	from 20.0 to 35.9°C: ±0.3°C	from 36.0 to 39.0°C: ±0.2°C	from 39.1 to 42.5°C: ±0.3°C	from 42.5 to 55°C: ±1.0°C
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Accuracy °F	from 33.8 to 67.9°F: ±1.8°F	from 68.0 to 96.7°F: ±0.5°F	from 96.8 to 102.2 °F: ±0.4°F	from 102.3 to 108.5°F: ±0.5°F	from 108.7 to 131 °F: ±1.8°F
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⁽¹⁾ The ASTM E1965-98-2009 standard requires ±0.2°C (±0.4°F) accuracy for infrared thermometers in the 37-39°C (98.6-102.2°F) temperature range while the ASTM E967-98 and E1112-96 standards require ±0.1°C (±0.2°F) precision for mercury and electronic thermometers in that same temperature range.

⁽²⁾ Only with 0700A2 model: subtract 2°C (3°F) from the temperature shown on the display to get a rough value. If the thermometer is set in rectal or internal temperature, subtract 3°C (5°F).

⁽³⁾ Thermofocus can also take surface temperatures in rooms where the temperature is lower than 10°C (55°F) although accuracy and the operating range are not guaranteed and the display shows "Lo.5" and the value alternately.

Power supply:	4 AAA (LR03) alkaline batteries - 1.5 V
Life of high quality batteries:	up to 3 years or 10,000 readings (depending on use)
Dimensions:	m 165 x 40 x 22 (6.5 x 1.45 x 0.86 inches) - including cap
Weight:	gr. 92 (3.17 oz.) - batteries included

Distance from the subject: **calculated using an optical aiming system** (approximately 3 cm / 1.2 inches).

Large, clearly visible display.

Atmospheric pressure range of operating conditions: from 700 hPa to 1,060 hPa.
Relative humidity range of operating conditions: from 15 % to 93 %, non-condensing.

Keep in a clean, dry place, preferably at a temperature ranging between +16 and +40°C (60.8 and 104°F). Store at a temperature included between -10 and +60°C (14 and 140°F) and in any case not lower than -18°C (0.4°F) or higher than +70°C (158°F).

Expected life: 10 years.

Thermofocus is a class II medical device (IIa as per 93/42/EEC Directive and subsequent amendments and integrations) tested in hospitals, private clinics and medical offices.
Contact the manufacturer for clinical tests.

Tecnimed srl, P.le Cocchi, 12 - 21040 Vedano Olona (VA) - Italy undertakes full responsibility for this product's compliance with the reference standards.

Thermofocus is compliant with the pertinent ASTM standard (E1965-98:2009) and CEI EN 60601-1, CEI EN 60601-1-11 standards.

Internally powered equipment for continuous operation.

The aiming LEDs of Thermofocus emit low luminous radiation largely under the level foreseen from IEC 60825-1:1993+A1:1997+A2:2001 Standard for Class I lights (class I, wavelength: 610 nm; maximum power: Pmax<1mW).

	Follow instructions for use
	ATTENTION: read the warnings
	Device designed for continuous use
	Applied part: type BF
	Recyclable material

Dispose of the device in compliance with applicable legislation regarding electrical equipment and batteries.



Thermofocus®

0700A2 model / modèle
01500A3 model / modèle

Non contact thermometer
Thermomètre sans contact

EN

USER MANUAL
Read carefully the instruction before using the thermometer

FR

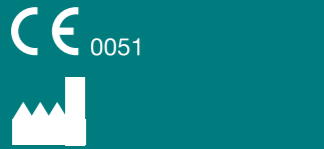
MODE D'EMPLOI
Lire attentivement les instructions avant d'utiliser le thermomètre



See also the multi-language instructional movie at / *Voir aussi le film d'explication multi-langue sur le site: www.tecnimed.it/movie.html*

THERMOFOCUS®
0700A2 / 01500A3 mod.

Class IIa medical device, clinically tested / *Dispositif médical de la classe IIa, testé cliniquement*
Patents / *brevets* no. MI 1.284.119, EP 0909.377, US 6.196.714, IL 127.876, JP 504769/98, EP 1.283.983, US 7.001.066 and others international Patents Pending / *et plusieurs d'autres brevets internationaux déposés et en cours d'examen*



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Cod. 915A6/EF- r.00 140828

INDICATION FOR USE

Thermofocus is an infrared thermometer intended for intermittent measurement of human body temperature in people of all ages.

1. INTRODUCTION

Dear Customer, thank you for buying **Thermofocus®, the world's first non-contact thermometer**. Thermofocus is truly easy to use. It is capable of measuring a child or adult's temperature without ever coming into contact with the skin: just bring it close to the forehead, at the distance that the thermometer itself will tell you. The Thermofocus thermometer does not need to be placed in any parts of your child's body. If your baby is sleeping, you can use Thermofocus without waking him up; and, if the child is awake, Thermofocus will not bother him.

2. WARNINGS

Read carefully before using Thermofocus

2.1 Precautions

- Use Thermofocus in a room that is draft-free, at a steady temperature between 10 and 40°C (55-104°F).
- If the thermometer was stored in another room (or even in a drawer, cabinet, etc.), before using it, run the manual calibration procedure (MQCS, only 01500A3 mod.). Alternatively, without touching the unit, wait at least 5 minutes for the temperature to stabilize or until the countdown on the display has been completed (see par. #8).
- Do not take a temperature reading if the person is sitting in a draft or if the subject has:
 - been walking, running or exercising;
 - come from another room that was ventilated or at a different temperature than the room where the thermometer is used;
 - been cool sponged on the forehead;
 - been wearing a cap, hat or scarf;
 - been exposed to agents that could alter forehead temperature, e.g. shower, shampoo, hair-drier, sponging, etc.; even touching the forehead can alter the temperature. In all the above cases, wait a few minutes for the forehead temperature to stabilize.
- Changing the reading point will give different results. Therefore, always aim the two lights on the same spot, precisely at the **center of the forehead** (midway between the top of the nose and the hairline) and keep the thermometer **perpendicular** to the forehead. Do not take measurements on areas other than the center of the forehead, except for the case at #4.2.
- The temperature reading is taken in the area with a radius of 2 cm (3/4 inches) around the point of light. It is of major importance to make sure that this area does not include eyebrows, hair or clothing. If necessary, brush away any hair from the forehead but remember, this must be done a few minutes beforehand or the temperature reading will be higher than the real body temperature.
- When taking a temperature reading, remember that if oils, make-up or an oxygen mask are present, and in the case of elderly, the temperature detected may be lower than the real body temperature.
- The forehead temperature reading

can be affected by profuse sweating, superficial wounds or head injury.

- Do not use the thermometer on a sweaty forehead**, since the temperature reading would be unreliable. Read the par.#4.2.
- The gilt waveguide (see figure 1) is the most delicate part of the device. It is composed of a gold-plated concave mirror that must be kept clean, crystal clear and intact. Any damage, dust or dirt will alter the temperature reading.

- Do not handle the thermometer, and in particular the tip (fig. 1), for longer than strictly necessary before taking the reading.
- Do not use the thermometer in direct contact with the ear or other parts of the body.
- Do not use the thermometer in direct contact with objects or liquids. Do not submerge the thermometer in water or other liquids and keep it away from sources of heat and out of direct sunlight. If water seeps into the thermometer, contact your Dealer immediately for Technical Service.
- To prevent dust or dirt infiltrations in the tip, always close the cap.
- Do not use the device on a subject making a call with a mobile or cordless telephone or in the presence of strong electromagnetic fields.
- To correctly judge a fever, you need to know the normal temperatures of your family members when they are in good health condition and at various times of the day.

2.2. Attention

- Failure to observe the above-mentioned precautions may lead to very low or very high temperature readings, which cannot be attributed to product malfunctions.**
- The aiming lights meet the photo-biological safety requirements.
- The unit is a delicate measurement instrument and must not be used by small children. It is not a toy. Keep it out of the reach of children or persons with limited sensorimotor skills. Small parts can be ingested or inhaled.
- Using this thermometer may not substitute medical consultation. Tell your physician what type of thermometer you are using and where on the body the temperature reading was taken.
- If the child's fidgeting makes it difficult to take a correct reading, turn the aiming lights on before bringing the thermometer close to the forehead.
- When taking your own temperature, use a mirror; or, if you have a child over six years of age, you can teach him to use Thermofocus.
- Since it never comes into contact with the body, Thermofocus does not require any "disposable" protection covers.

3. HOW IT WORKS

Thermofocus detects the infrared radiation coming from the human body. The forehead is an ideal site for taking a temperature reading, as it is crossed by the temporal artery and in direct contact with the brain. Finally, the head is the first part of the body to change temperature as a fever rises and falls. With each temperature measurement, in just a few hundredths of a second your Thermofocus takes a series of 125 readings. Its sophisticated microprocessor then amplifies and processes this information along with the room temperature and shows the correct body temperature on the display.

It is important to remember that there is not a single "normal" temperature

valid for everyone: moreover, individual temperature varies according to the measurement's site and throughout the day, also in response to physical or mental effort (for example a baby's crying). Moreover, the body temperature can be affected by the outside temperature and, depending on the type of reading taken, other factors may also come into play.

Due to heat dispersion from uncovered parts of the body, the actual temperature at the forehead is generally lower than that in covered zones. Therefore, the Thermofocus software automatically applies a correction factor and thus the resulting value is comparable to that given by other more usual temperature reading sites — axillary, oral or rectal reading — commonly used in the countries where the unit is sold. Nevertheless, the reference value can be changed. Remember, an "oral" reading is generally 0.2°C (0.4°F) higher than an axillary reading while a "rectal" reading is 0.8°C (1°F) higher (see par. #7).

The Thermofocus temperature reading taken on the forehead of a healthy person can range between 35 and 37.5°C (95 and 99.5°F) although, in an adult it may even be below 35°C (95°F) (in axillary mode).

To help you with this, you can fill out the table at www.thermofocus.com, FAQ no. 7. and keep it as a reference.

4. HOW TO USE IT

4.1 Body temperature

- Open the protective cap by rotating it 90° (fig. 2).
- Press the "face" button (01500A3 mod.) or the "on" button (0700A2 mod.) and hold it down. The thermometer will switch on and the aiming lights will turn on.
- Hold the thermometer **perpendicular to the middle of the forehead** and move it closer to or further from the forehead until a single point of light appears. If the thermometer is too far away from the forehead, you will see two blurred points of light (fig. 3). If the thermometer is too close, you will see two separate points of light (fig. 4). When you see a **single point of light** on the subject's forehead, the thermometer is at the correct distance for an accurate temperature reading to be taken (fig. 5).
- Release the button and hold the device steady until the lights flash.
- Read the value shown on the display. If necessary, you may take another reading immediately.
- Close the protective cap.

The display will show the last reading for some seconds, after which it will show the ambient temperature for 4 hours (01500A3 mod.) or for 5 seconds (0700A2 mod.), before turning itself off automatically.

4.2 In case of sweating: reading on the eyelid

At times, the forehead can show signs of sweat, for example as a fever drops, and this can result in a low reading. Dry the forehead if not enough. In this case, you can take the temperature reading, again from a distance, by taking a close-up scan of the closed eyelid (fig. 6). No need to worry that your child could open its eyes while you are taking the reading: the lights are harmless.

Precision is not guaranteed, but such reading can be considered a valid approximation of one's body temperature. In adults, such reading is also indicated when one has oil or make-up on the forehead; moreover it is also valid for the elderly.

4.3 Other readings

Thermofocus can also be used to read the temperature of objects, liquids and other surfaces in the 1-55°C (33.8-131°F) temperature range. For example:

- temperature of a baby's feed bottle (fig. 7), food, bath, etc. In this case, remember to mix the liquid well before taking the reading (with hot liquids or foods, take the reading quickly to prevent condensation from forming on the lens and wait 30 min. before taking another reading);

- room temperature by pointing the thermometer against a wall or a piece of furniture (see also par. #6);
- temperature of a wound, inflammation, scar (for medical use).

01500A3 model:
Proceed as you would for a forehead reading but use the "home" button.

0700A2 model:
Proceed as you would for a forehead reading and **subtract the value written on the label** placed on the back of the device from the temperature shown on the display. The resulting value roughly represents the object / liquid / surface's temperature.

In all these cases, should the taken temperature be lower than 34°C (93.2°F) or higher than 40°C (104.4°F), the given value will be displayed in alternation respectively with "Lo.3" or "Hi.2". These signs just inform the user that the taken values are outside the usual range of use (measurement on the body temperature).

5. MEMORY FUNCTION

The memory function lets you call up the last 9 temperature readings. To activate this function, press the "Mem" button: the value of the last reading will be shown on the display, accompanied by the number 1 and the symbol RE. Pressing the button again calls up the second to last, third to last reading and so on, accompanied by the numbers 2, 3, etc.

6. AMBIENT TEMPERATURE

01500A3 model: when the thermometer is in stand-by mode ("Peak Performance" - see par. 7), the room temperature and the symbol flashing remain displayed for 4 hours after the last reading is taken. If the display is off, press once one button and wait for 20 seconds; the room temperature will appear on the display.

0700A2 model: press and release the "Mem" button. The display will show the last reading for 4 seconds (see #5), after which it will show the ambient temperature for 6 seconds.

7. HOW TO CHANGE the SETTINGS

Depending on where it is to be sold, your thermometer leaves the factory preset to Celsius ("C") or Fahrenheit ("F"), and referred to axillary ("AX."), oral ("ORAL") or rectal ("RECTAL") temperature readings, or only to internal temperature readings (no symbol will be shown). The 01500A3 model can be preset also with display off (off "Energy Savings") or display on (on "Peak Performance") when in stand-by mode (4 hours after the last reading).

If necessary, these settings can be modified as follows:

- while the thermometer is off or in stand-by mode, press and hold the "Mem" button; after about 8 seconds the display changes, showing the settings in sequence: °C; °F; AX.; ORAL; RECTAL; "on" ; "off" .
- When the desired setting appears, release the button. Only one setting can be modified at a time.

Note:

- if the thermometer was produced with the sole internal temperature setting, the AX., ORAL and RECTAL settings would not be available for changing.
- "on" and "off" settings are only available for 01500A3 model.

8. ROOM TEMPERATURE CALIBRATION

If the device is handled at length or if there is a significant temperature difference with respect to the room temperature, a countdown may appear on the display. At this point you have the following options:

1. Automatic Quick Calibration System (AQCS): without touching the thermometer, wait until the countdown has run its course and automatic quick calibration is completed. The countdown will continue updating as long as differences in temperature are detected (for example, because the thermometer has been handled). You can take a reading before the countdown has run its course, although, in this case, accuracy cannot be guaranteed, particularly if the temperature is rising.

2. Manual Quick Calibration System (MQCS) - only 01500A3 mod.: the alternative is to promptly correct the thermometer temperature, adapting it to the real temperature of the room where the reading is to be taken. Proceed as follows (the room temperature must be in the 10-40°C (55-104°F) temperature range):

- press the "face" and "home" buttons (fig. 8) simultaneously: the symbol CAL will appear on the display.
- within 10 seconds open the cap and focus the thermometer on an internal wall (not the inside of an external wall) or wardrobe with uniform temperature and at a point approximately 80/150 cm (30 to 60 inches) from the floor. Press the "home" button (fig. 9);
- release the button the lights flash slowly and the display shows the room temperature. To ensure a reliable temperature reading, do not focus the thermometer on an outside wall, window, source of heating or cooling (radiator, air conditioner, lamp, computer, surface in contact with the human body, etc.).
- The thermometer is ready to take a reading.

Manual quick calibration (MQCS) can also be performed without the countdown if, for example, you need to move between rooms at different temperatures.

Both AQCS and MQCS enable the thermometer to take sufficiently accurate readings. When "RE" appears on the display, indicating that AQCS or MQCS have been performed.

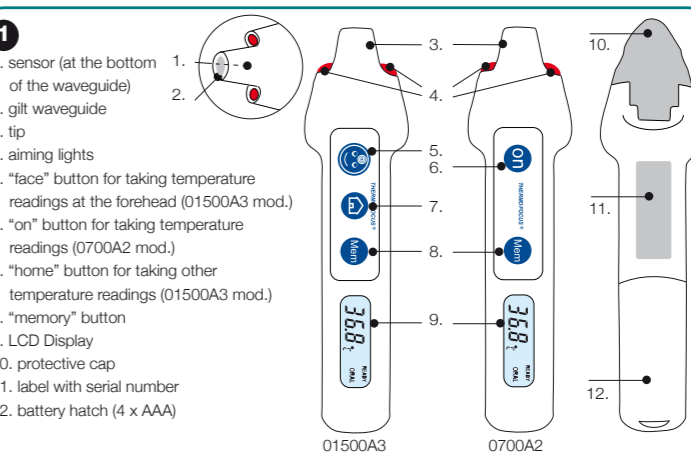
3. Normal calibration: to achieve optimal readings, or to perform clinical tests, let the thermometer stabilize on its own. This requires waiting 10-30 minutes, depending on the difference in temperature.

9. MEANING of DISPLAY MESSAGES

ITEM DISPLAYED	DESCRIPTION	PROBLEM	REMEDY
	During normal operation, the battery symbol appears on the display.	The batteries are low but many measurements may be taken still.	Obtain new batteries for changing them when the signal E.1 (below) appears.
	"E.1" and the battery symbol appear on the display, or the unit does not turn on at all.	The batteries are dead.	Remove the batteries immediately and replace them when necessary (see par. #11).
	"Hi.4" appears on the display.	The room temperature is too high (above 40°C/104°F).	Move to another, cooler site.
	The display shows "Lo.5" and the value alternately.	The room temperature is below 10°C (55°F).	The temperature reading can be taken but accuracy is not guaranteed.
	The display reads "Lo.5".	The room temperature is too low (under the device's operative range).	Move to another, warmer room.
	The display shows "Hi.2" and the value alternately.	Temperature of 40°C/104°F or more. It indicates a very high fever.	Seek medical attention.
	The display reads "Hi.2".	The body temperature appears too high. The surface temp. exceeds the limit for unit operation (>55°C/131°F).	Make sure that the instructions have been followed. The temperature reading cannot be taken.
	The display shows "Lo.3" and the value alternately (0700A2 mod.).	If a body temperature is being taken, it means that the body temperature appears to be too low (<=34°C/93.2°F).	Check that the guide wave is not dirty or damaged, and that the subject has not just come from a location with a lower temperature.
	The display reads "Lo.3".	The body temperature appears too low. The surface temp. is below the operating limit (<1°C/33.8°F).	Make sure that the instructions have been followed. The temperature reading cannot be taken.
	The display shows a countdown, in minutes and seconds.	The device is stabilising at the ambient temperature (AQCS).	Wait for automatic calibration AQCS, without touching the device, or do the MQCS (par. 8).
	The room temperature displayed is accompanied by the symbol RE.	The thermometer has undergone automatic or manual calibration (AQCS or MQCS).	Precision is guaranteed, but to ensure a quiet reading, wait until normal thermometer calibration has been completed (10/30 minutes).
	The display reads "E.6".	The temperature of the thermometer is changing too fast.	Wait for the calibration of the device.
	The display reads "E.8".	The thermometer was moved before the light started flashing, or the area is subject to and/or strong electromagnetic fields.	Wait until the light starts flashing before moving the thermometer; make certain that there are no mobile or cordless telephones in the vicinity.

10. TROUBLESHOOTING

- The display does not turn on:
 - the batteries are completely dead or incorrectly inserted; replace or reinsert them (par. #11).
- Two bright points of light are visible on the subject's forehead:
 - the distance from the device to the forehead is incorrect; move the thermometer closer or further away until you see a single bright point of light (fig. 5).
- The point of light is hard to see:
 - there is too much light in the room; cast a shadow over the subject.
- The waveguide (fig. 1) is damaged or water has seeped into the thermometer:
 - contact your Dealer for technical service.
- The thermometer temperature reading is too low:
 - make certain that the conditions outlined in the warnings (par. #2) have been met;
 - check that the waveguide (fig. 1) is not soiled or damaged; if it is, clean it as indicated in par. #12 or contact your Dealer for technical service.
 - check that the thermometer is perpendicular to the forehead as indicated in figure 5.
 - The thermometer temperature reading is too high:
 - make certain that the conditions outlined in the warnings have been met (par. #2).
 - The thermometer appears blocked, does not turn off/does not go on standby or the aiming LEDs remain on after the button is released:
 - reset the thermometer by removing and reinserting the batteries.



11. REPLACING the BATTERIES

- Use your nail as showed in figure 10, or a pen and press inside the hole on the back side of the device or insert the edge of a small coin in the crevice and apply a gentle leverage.
- Remove the battery hatch.
- Remove the old batteries and dispose of them as required in the containers provided for this purpose.
- Insert 4 new AAA - LR03 batteries, preferably alkaline, carefully complying with the position indicated in their housing.
- Close the hatch.
- After changing the batteries, let the thermometer stabilize for 20 minutes before taking a temperature reading or perform the MQCS.
- **Remove the batteries if you do not expect to use the thermometer for a long time.**

12. CLEANING

CLEANING THE WAVEGUIDE
The thermometer waveguide is very delicate. Therefore, when the thermometer is not being used, we recommend that you always keep the cap on. However, if you need to remove dust or dirt from the waveguide or sensor at its base, use a cotton swab that has been slightly dampened with alcohol. Remove all dirt and make certain that nothing accumulates at the bottom of the waveguide where the sensor is located. Do not use any other objects or liquids as the surface of the waveguide or sensor could easily be scratched or damaged. Never let any excess liquid penetrate into the waveguide and sensor.

CLEANING THE THERMOMETER BODY: use a soft cloth dampened with soap and water and possibly re-wipe with a sodium hypochlorite disinfectant.

DO NOT USE the thermometer for at least 30 minutes after cleaning.

WARRANTY

Tecnimed s.r.l. guarantees this product against any lack of conformity for 24 months as of the date of purchase (indicated on the cash register receipt or other fiscal document). Follow the instructions given by your Dealer for the technical service procedures.

This warranty does not cover the batteries and any damage caused by defective or run down batteries or damage to the casing due to carelessness or improper use. The warranty is also voided if:

- the product is tampered with, damaged or used improperly.
- the label on the back bearing the serial number is removed, damaged or rendered illegible.
- the product is opened or repaired by unauthorized personnel.
- the product has been damaged due to non-compliance with the instructions given in this manual.

If Technical Service is required, contact the Manufacturer or your Dealer. In case the Product was purchased through an Online-store, warranty service can only be provided through the Internet Seller, where the product was purchased.

In case of any lack of conformity, the product will be either repaired or replaced, as decided by the Manufacturer or Dealer, at their sole discretion. Any repaired or replaced product does not extend the original warranty beyond the period of 2 years from original date of purchase. If, after technical evaluation, the Product is found not to be covered by the terms and conditions of this Warranty (because no lack of conformity are found), Tecnimed reserves the right to charge a handling fee for technical verification and delivery. Under no circumstance may Tecnimed be held responsible for damages related to the improper use of the product or for costs exceeding the original price of the product.