FeverScan™ I.R.

Non-Contact Infrared Thermometer

Model: 016-662

NOTE: The user must check that the equipment functions safely and see that it is in proper working condition before being used.

CONTENTS

THE MANUFACTURER RESERVES THE RIGHT TO ALTER THE SPECIFICATIONS OF THE PRODUCT WITHOUT PRIOR NOTIFICATION.

I. FEATURES

1. Special design to take the Human Body Temperature with a 3-5cm (1.2-2 in) distance from forehead.
2. Reliable and stable measurement, thanks to the advantage Infrared Detection System.
3. Audible alarm if temperature is more than 38℃ (100.4℉).
4. Memorize the last 32 temperature measurement.
5. Three color backlits LCD digital display screen.
6. Temperature unit can be displayed in either Celsius or Fahrenheit.
7. Automatic power-off (<30 secs) to conserve energy.
8. Longevity use（ 100,000 readings）.
9. Practical, easy to use.

II. INTENDED USE

The device is an infrared thermometer intended to measure forehead temperature of infants and adults without contacting human body. It can be used by consumers in household environment and doctor in clinic as reference.

Ⅲ. SAFETY PRECAUTIONS

- Follow the maintenance advice stipulated in this instruction manual.
- This device may be used for professional purposes or for personal home use.
- 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 of between 10℃ and 40℃.
- This device must be always kept in a clean, dry area.
- Do not expose this thermometer to electric shocks.
- Do not expose this thermometer to extreme temperature conditions of >55℃ or＜-20℃.
- Do not use this device in relative humidity higher than 85%.
- The protective glass over the lens is the most fragile part of the thermometer.
- Do not touch the glass of the infrared lens with your fingers.
- Clean the glass with a cotton bud lightly moistened with 95° alcohol.
- Do not expose the thermometer to sunlight or to water.
- Never drop the device.
- Should a problem occur with your device, please contact your retailer. Do not attempt to repair this device yourself.

It is essential to use the FeverScan I.R.Non-Contact Infrared Thermometer Model 016-662. You are therefore advised to read this instruction manual and the safety precautions carefully before use.
The FeverScan I.R. Non-Contact Infrared Thermometer Model 016-662 is pre-set at the factory.
It is not necessary to calibrate the device when starting it up. However, in order to obtain reliable and stable results, you are advised each time there is a significant change in the ambient temperature due to a change in environment to allow the 016-662 to acclimatize this ambient temperature
for 15 to 20 minutes before using it.
It is important to allow a 3~5 seconds interval between two measurements.

Ⅳ. How the Fever Scan I.R. Non-Contact Infrared Thermometer Works

All objects, solid, liquid or gas, emit energy by radiation. The intensity of this energy depends on the temperature of the object. The FeverScan I.R. infrared thermometer is therefore able to measure the temperature of a person by the energy the person emits. This measurement can be taken thanks to an external temperature probe on the device which permanently analyses and registers the ambient temperature. Therefore, as soon as the operator holds the thermometer near the body and activates the radiation sensor, the measurement is taken instantly by detection of the infrared heat generated by the arterial blood flow. Body heat can therefore be measured without any interference from the heat of the surrounding environment.

Use the FeverScan I.R. Non-Contact Infrared Thermometer Model 016-662:

- When you have reason to believe you are sick.
- When you are recovering from surgery, illness or exhaustion.
- For monitoring body temperatures.
- When exercising, hiking, or doing strenuous physical activity.
- When traveling or when you are under abnormal stress.

Ⅴ. HOW TO TAKE A TEMPERATURE

Aim at the FOREHEAD, over the right temporal region, from a distance of about 3-5cm, press the thermometer's measurement button and the temperature is instantly displayed.

The reliability of the measurement cannot be guaranteed if the temperature is measured over another part of the body (e.g. arm, torso…)

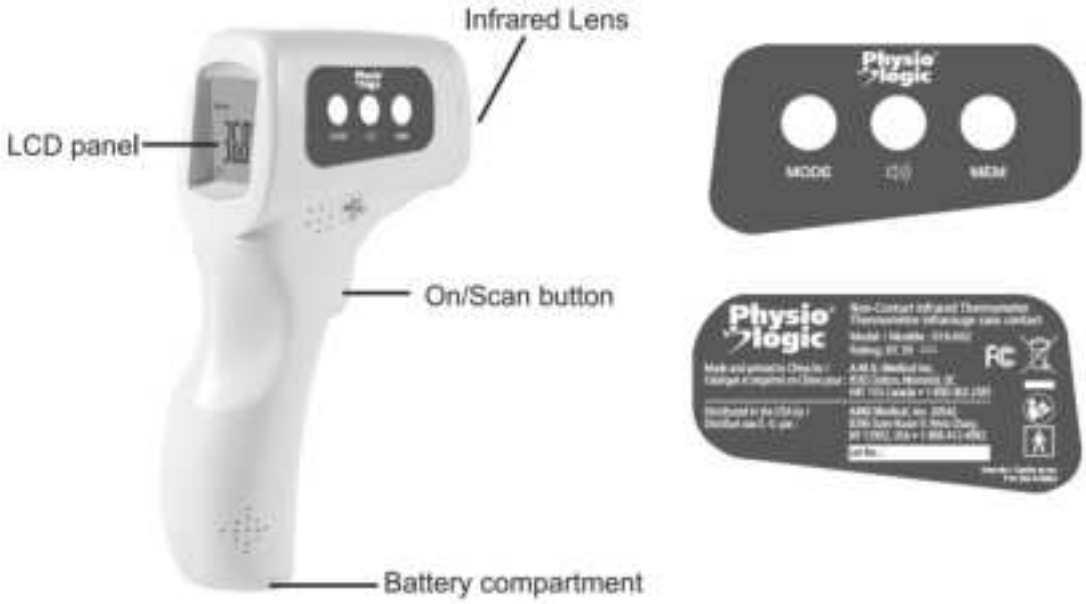
Notice

Please observe the following before any temperature measurement to ensure a stable and reliable result:

- Push back hair from the forehead.
- Wipe away any perspiration from the forehead.
- Avoid any drafts (e.g. from nasal specs, air conditioning...)
- Allow a 3-5 seconds interval between two measurements.
- Each time there is a significant change in the ambient temperature due to a change in environment, to allow the 016-662 to acclimatize to this ambient temperature for at least 15 minutes before using it.

Ⅵ. Basic Instrument

The type BF applied part: Sensor.



Symbol	Reference
Physio logic	Trade mark
	IEC 60417-5333,Type BF applied part
	IEC 60417-5031 Direct current
IP22	Protected against access to hazardous parts with a finger and against vertically falling water drops when enclosure tilted up to 15°
	Refer to instruction manual / booklet
	DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
	This symbol shall be accompanied by the name and the address of the manufacturer
SN	Specifies serial number

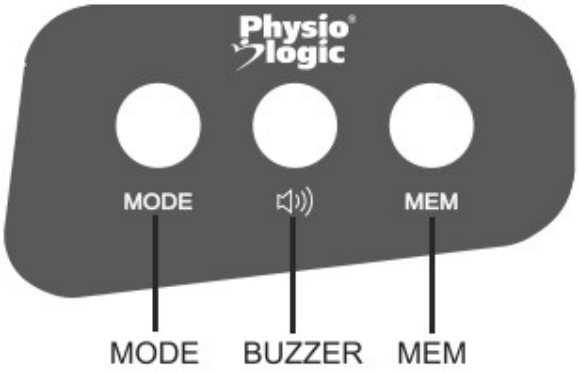
Ⅶ. Instructions

1. Install battery.
2. For the first use or when inserting new batteries, wait from 10-15 minutes for the warm-up of the unit. This will allow the unit to become acclimated to the temperature of the room.
3. Press On/Scan button, aim towards the forehead (see the diagram below for the 016-662 positioning), from a distance of 3cm~5cm, When press the “On/Scan” button in the standby mode, the measuring is done when the temperature is showing in the screen or the beep is anouncing, measuring time is one second.

Tips: Do not move the position of the thermometer before the testing is done.

4. Before taking the temperature, make sure to remove hair and perspiration from the forehead

Ⅷ. Setting And Function Of Menu



1. SWITCH ON THE DEVICE

Press the “On/Scan” button, one second after the screen panel in full display, it will enter the standby mode with the sign “---℃” or “---℉”.

Then press the “On/Scan” button again, you will get the measuring result in 1 second. But if there is no more operation, it will turn off in 30 seconds automatically.

2. TEMPERATURE MODE SETTING

a. Press “MODE” button, and the screen will display: Body ...℃.

b. Press again “MODE” button and the screen will display : Room ...℃.

c. Press again “MODE” button and the screen will display: Surface Temp ...℃.

Note: The thermometer default is set to BODY mode.

Important!

The surface temperature differs from the internal body temperature. To obtain the internal temperature, always use the “BODY” mode. Please make sure to select “SURFACE TEMP” mode for an external area reading.

3. F1:CHOOSING THE TEMPERATURE UNIT

In the switch on state, press “MODE” button for 2 seconds, the screen will display “F1”, the press “MODE” button to transfer between degree Celsius and Fahrenheit, Confirm by pressing “MEM” button.

4. F2:ALARM SETUP

In the switch on state, press “MEM” (Memory) button, which will then display the last temperature, and allows for a view of the last 32 measurements.

In the switch on state, Press “MEM” button again, the display will show “CLr”

5. In the switch on state, press the “MEM” button, the screen will display the last measured data, and can review up to 32 groups of the data. Press the “MEM” button for 5 seconds, all current memory data will be cleared, and restore to the factory setting.

6. In the switch on state, press “ ” can open or close the buzzer.

When the screen shows “ON”, the buzzer opened.

When the screen shows “OFF”, the buzzer closed.

7. Recalibration of device via the F4 MENU

When there is the difference between 016-662 and mercury thermometer, and you believe mercury

thermometer from its temperature but it is not convenient to use. You can use recalibration function to adjust the FeverScan I.R. to make it the same test result with mercury thermometer after recalibration. Besides,, when you use FeverScan I.R. for the people with different skin color (For example: the yellow race, black people and so on) you can use recalibration too.

Instruction for recalibration:

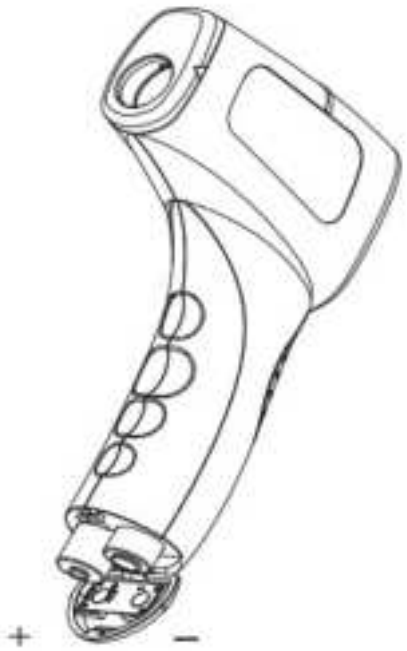
In the switch on state, Press “MODE” button for 2 seconds,, the screen will display “F1”, then press “MEM” button twice, the screen will display “F4”, press “MODE” button to choose the offset value from -3℃ to 3℃(-5.4℉ to 5.4℉), Confirm by pressing ”MEM” button.

In the cases of seasonal or environmental changes a verification and adjustment should be carried out.

Ⅸ. Changing the Battery

Display: When the LCD screen displays the flashed symbol “▭”, 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 unit and compromise the guarantee of your FeverScan I.R. Never use rechargeable batteries. Use only batteries for single usage.



Ⅹ. Technical Specifications

1. Normal using condition
   Ambient temperature: 10℃ ～40℃ (50℉ ～104°F)
   Relative humidity： ≤ 85%
2. Batteries: DC 3V (2pcs AA batteries)
3. Unit size: 155×100×40mm (L x W x H)
4. Unit weight (without battery): 105 g

5. Temperature display resolution: 0.1° C (0.1°F)

6. Measuring range:
   In body mode: 32.0℃ ~ 43.0℃ (89.6℉ ~ 109.4°F)
   Under body mode, there is three color backlits
   Green color backlit: ≦37.3℃ (99. 1℉), means normal temperature.
   Orange color backlit: 37.4℃ ~ 37.9℃ (99.3℉ ~ 100.2℉), means low fever.
   Red color backlit: ≧38℃ (100.4℉), means high fever.
   In surface temp mode: 0℃ ~ 60℃ (32℉~ 140℉)
   In room mode: 0℃ ~ 40℃ (32℉~ 104°F)

8. Precision:

32.0℃~ 34.9℃（89.6℉ ~ 94.8℉）	±0.3℃（±0.6℉）
35.0℃~ 42.0℃（95℉~ 107.6℉ ）	±0.2℃（±0.4℉）
42.1℃~ 43.0℃（107.8℉~ 109.4℉ ）	±0.3℃（±0.6℉）

9. Consumption: ≤ 300mW

10. Accuracy：±0.3℃（±0.6°F）

11. Measuring distance: 3cm ~ 5cm (1.2 ~ 2 in)

12. Automatic power-off: <30 secs.

13.Memory: 32 sets

※Note: The FeverScan I.R. Non-Contact Infrared Thermometer Model 016-662 can take temperature readings below 32.0℃ or above 43.0℃ (89.6℉to 109.4°F) but precision is not guaranteed outside of this range.

Longevity of the Product：

The FeverScan I.R. was conceived for an intense and professional use. Its longevity is guaranteed for 100,000 takings.

The device is valid for five years.

XI. Maintenance of the Product

- The protective glass over the lens is the most important and fragile part of the thermometer, please take great care of it.
- Clean the glass with cotton fabric, wet with 95° alcohol.
- Do not use other batteries than mentioned batteries, do not recharge non rechargeable batteries, do not throw in fire.
- Remove the batteries when thermometer is not used for an extended period of time.
- Do not expose the thermometer to sunlight or water.
- An impact will damage the product.

XIIX. Accessories

-User manual in English: 1 pc

- AA Alkaline batteries: 2 pcs

XII. Guidelines

This device complies with the EU Directive 93/42/EEC concerning medical products, the ISO80601-2-56 and the European Standard EN60601-1-2 and is subject to particular precautions with regard to electromagnetic compatibility.

XIV. Classification

1.Internally powered equipment;
2.Type Bf applied part;
3.IP22;
4. Sterilization or disinfection: N/A;
5. Category AP / APG equipment: N/A;
6. Continuous operation;

XV. Troubleshooting

If you have problems while using your thermometer, please refer to this guide to help resolve the problem. If the problem persists, please contact our customer service.

THE SCREEN DISPLAYS TEMPERATURE HIGHER THAN 43.0℃ (109.4°F):

The temperature is in Fahrenheit. Change the measurement to Celsius.

THE SCREEN DISPLAYS TEMPERATURE LOWER THAN 32℃ (89.6°F):

To take the surface temperature, press the button “MODE” button and set to the reading called “Body”. If the device is in Surface Temp Mode, the 32℃ (89.6°F) temperature displayed is showing the external temperature of your body, rather than the internal.

THE SCREEN DISPLAYS THE MESSAGE HI

When using : The FeverScan I.R. Thermometer, the message “HI” can show on the screen. In this case, the temperature is above the measurement range selected, In this case, the temperature ia above the measurement range selected, either above 43.0℃ (109.4°F) in Body Mode.

THE SCREEN DISPLAYS THE MESSAGE LO

When using the : The FeverScan I.R. Thermometer, the message “LO” can show on the screen. In this case, the temperature analyzed is under the measuring range selected, either less than 32℃ (89.6°F) in Body Mode.
This message displays for various reasons. Please find below a list of the main issues:

Reasons for LO message display	Advice
Temperature reading hampered by hair or perspiration.	Make sure there is no obstruction or dampness prior to taking temperature.
Temperature hampered by an air draft or dramatic change in ambient temperature.	Make sure there is no air blowing in the area of use, this could affect the infrared reading.

Temperature readings are too close together, and the thermometer did not have time to reboot.	Pause for 3-5 seconds minimum between readings; a 15 seconds pause is recommended.
The measuring distance is too far.	Take measurements at the recommended distance (app. 3-5 cm ; 1.2in-2in).

XVI. EMC Declaration

The ME EQUIPMENT or ME SYSTEM is suitable for home healthcare and clinic environments.

Warning：Don't near active HF surgical equipment and the RF shielded room of an ME system for magnetic resonance imaging, where the intensity of EM disturbances is high.

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.

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."

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 equipment 016-662, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

1， All necessary instructions for maintaining BASIC SAFETY and ESSENTIAL PERFORMANCE with regard to electromagnetic disturbances for the excepted service life.

Portable and mobile RF communication equipment may affect the performance of the 016-662, avoiding strong electromagnetic interference when used, such as near mobile phones, microwave ovens, etc.

2， Guidance and manufacturer's declaration -electromagnetic emissions and Immunity

Guidance and manufacturer's declaration -electromagnetic emissions and Immunity

Table 1

Guidance and manufacturer's declaration - electromagnetic emissions	
Emissions test	**Compliance**
RF emissions CISPR 11	Group 1
RF emissions	Class B

CISPR 11	
Harmonic emissions IEC 61000-3-2	Not application
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not application

Table 2

Guidance and manufacturer's declaration - electromagnetic Immunity		
Immunity Test	**IEC 60601-1-2** **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	Not application	Not application
Surge IEC 61000-4-5	Not application	Not application
Voltage dips, short interruptions and voltage variations	Not application	Not application

on power supply input lines IEC 61000-4-11		
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz
Conduced RF IEC61000-4-6	Not application	Not application
Radiated RF IEC61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz
NOTE U_T is the a.c. mians voltage prior to application of the test level.		

Table 3

Guidance and manufacturer's declaration - electromagnetic Immunity							
Radiated RF IEC61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment)	Test Frequency (MHz)	Band (MHz)	Service	Modulation	Modulation	Distance (m)	IMMUNITY TESTLEVEL (V/M)
	385	380-390	TETRA 400	Pulse modulation 18 Hz	1.8	0.3	27
	450	430-470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
	710	704-787	LTE Band 13,17	Pulse modulation 217 Hz	0.2	0.3	9
	745						
	780						
	810	800-960	GSM800/900, TETRA800,	Pulse modulation	2	0.3	28
	870						

	930		CDMA850, LTE Band 5	18 Hz			
	1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1,3,4,25;UMTS	Pulse modulation 217 Hz	2	0.3	28
	1845						
	1970						
	2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28
	5240	5100-5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9
	5500						
	5785						

Manufactured and printed in China for: **A.M.G. Medical Inc.**
8505 Dalton, Montréal, QC H4T 1V5
Canada • 1-800-363-2381

Distributed in the USA by:
AMG Medical, Inc. (USA)
8396 State Route 9, West Chazy, NY 12992
USA • 1-888-412-4992

Model: **016-662**
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