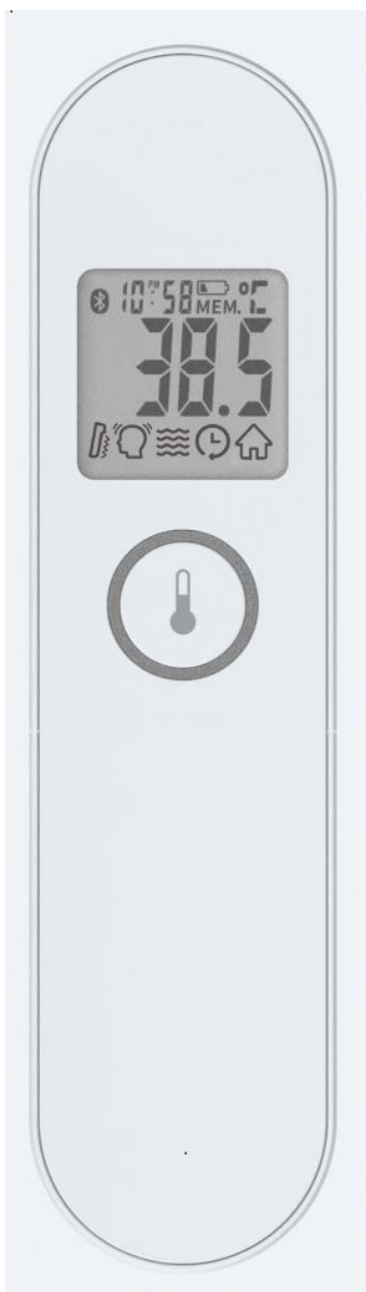


Instruction Manual

Non-Contact Infrared Thermometer



Model No. HL710H

Table of Contents

About Infrared Thermometer	03
About Forehead Temperature.....	04
Important Safety Instructions.....	05
Product Description.....	06
Symbol Definitions.....	07
Feature.....	08
Installing Battery.....	09
Cleaning and Disinfection.....	10
Bluetooth Transmission.....	12
Measurement Procedure.....	14
Memory Function.....	19
Storage and Maintenance.....	20
Troubleshooting.....	21
Warranty & Recalibration.....	23
Specifications	24
Note.....	25
Appendix.....	27

About Infrared Thermometer

◆ Intended Use

The HL710H non-contact infrared thermometer is intended for the intermittent measurement of human body temperature from the forehead. The device is indicated for use by people of all ages in the home and in clinic as reference.

Important Notice:

It's important to clean and disinfect HL710H, before and after each use. See "Cleaning and Disinfection" page for details.

About Forehead Temperature

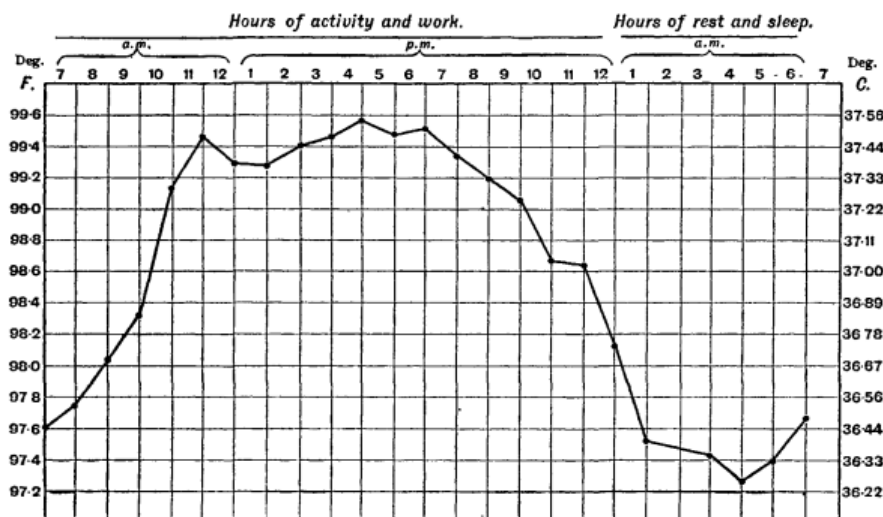
Normal body temperature differs by body parts, time and age. Here are 2 tables for your reference:

1. Normal Body Temperature Range

Site \ Age	0 – 2 years old	3 – 10 years old	11 – 65 years old	> 65 years old
Oral	N/A	95.9 ~ 99.5 °F 35.5 ~ 37.5 °C	97.6 ~ 99.6 °F 36.4 ~ 37.6 °C	96.4 ~ 98.5 °F 35.8 ~ 36.9 °C
Rectal	97.9 ~ 100.4 °F 36.6 ~ 38.0 °C	97.9 ~ 100.4 °F 36.6 ~ 38.0 °C	98.6 ~ 100.6 °F 37.0 ~ 38.1 °C	97.1 ~ 99.2 °F 36.2 ~ 37.3 °C
Axillary	94.5 ~ 99.1 °F 34.7 ~ 37.3 °C	96.6 ~ 98.0 °F 35.9 ~ 36.7 °C	95.3 ~ 98.4 °F 35.2 ~ 36.9 °C	96.0 ~ 97.4 °F 35.6 ~ 36.3 °C
Ear	97.5 ~ 100.4 °F 36.4 ~ 38.0 °C	97.0 ~ 100.0 °F 36.1 ~ 37.8 °C	96.6 ~ 99.7 °F 35.9 ~ 37.6 °C	96.4 ~ 99.5 °F 35.8 ~ 37.5 °C
Core	97.5 ~ 100.4 °F 36.4 ~ 38.0 °C	97.5 ~ 100.0 °F 36.4 ~ 37.8 °C	98.2 ~ 100.2 °F 36.8 ~ 37.9 °C	96.6 ~ 98.8 °F 35.8 ~ 37.1 °C

Source: Official Health Central, <http://www.officialhealthcentral.com>.

2. Figure: Diurnal Variations in Body Temperature



Source: 1911, Encyclopedia Britannica, 11th edition, Volume 2, Part 1, Slice 1, p95.

Important Safety Instructions

1. HL710H is for home use only.
2. Do not take HL710H as a replacement for medical advice. consulting your doctor, if you have any concerns.
3. Do not immerse HL710H in water or any other liquid.
4. Do not drop HL710H, and avoid any violent impact.
5. Do not move or shake your body during measurements.
6. Do not operate by off label use. The manufacturer is not liable for misuse herein.
7. Do not modify this equipment without authorization of the manufacturer.
8. HL710H can measure six times a day. To know your normal body temperature range, we suggest you measure regularly.
9. If any damage on the sensor inside the probe tip, or on the unit itself, please return the goods to our local distributor.
10. Keep HL710H away from children. Do not let them use HL710H on their own either. They may choke on battery, or tiny component parts by accident.
11. Only fill in new 2 AAA (LR03) Alkaline Batteries, when energy is low. Other battery may lead to inaccurate results, or unable to power up.
12. It's very important to clean and disinfect HL710H before each use. See "Cleaning and Disinfection" page for details.
13. Without regular recalibration, results may not be as accurate. We have every HL710H calibrated right after production. See "Warranty and Recalibration" for details.
14. For details of environmental conditions, refer to "Specification" page. Outside stated range may lead to inaccurate results, or unable to power up.
15. The patient is an intended operator.
16. The clinical thermometer is an adjusted mode.

Product Description

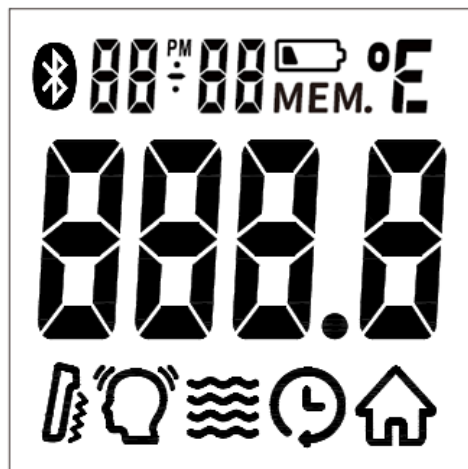


Accessory :

2 AAA (LR03) Alkaline Batteries

Note: Any artificial changes to the original goods may result in measurement error.

Symbol Definitions



1		Measuring Result. Displaying result in Fahrenheit or Celsius unit.
2		Low Battery Symbol. Remind our user to change new battery by flashing. Constant show-up means the battery is overly low. Please fill in new battery as soon as possible.
3		Commutable Temperature Unit. Our default unit is Celsius. By adjust settings, user can have Celsius or Fahrenheit unit as they see fit. See "Setting the temperature unit" page for details.
4		Memory Mode Symbol. With this symbol, LCD screen currently displays previous result.
5		Date/Time Display
6		Forehead Mode Human body temperature measurement
7		Object Mode Object surface measurement
8		Continuous Sensing Mode Object surface continuous measurement
9		Ambient Mode Room temperature measurement
10		Unstable Measurement function movement on thermometer or forehead measurement
11		Bluetooth Symbol LCD displays this symbol when Bluetooth is active.

Feature

◆ Fever Notice

HL710H has a built-in “Fever Notice” feature.

To user who have a fever between 37.5 ~ 43.0 °C (99.5 °F ~ 109.4 °F), “Fever Notice” function will inform them with: Flashing result, red LED backlight, and a series of ‘beep’ sound.

NOTE:

**Do not take HL710H as a replacement for medical advice.
Seek your doctor, if you have any concerns.**

Installing Battery

HL710H need 2 AAA (LR03) Alkaline Batteries to work. Other battery may lead to inaccurate results, or unable to power up. HL710H will remind user to replace old one with:

- Flashing  Symbol: User can still measure, but we suggest user replace a new battery as soon as possible.
- Constant show-up  Symbol: Battery power is too low to measure, please change battery as soon as possible.

NOTE: Keep HL710H away from children. Do not let them use HL710H by themselves either. They may choke on battery, or tiny component parts by accident.

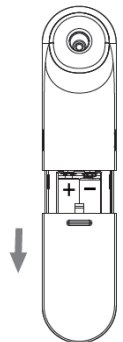
◆ Tips for New Users

We already put 2 AAA (LR03) Alkaline Batteries inside HL710H. Open battery cap as the figure below.

◆ To Replace worn-out Battery

Replace all worn-out batteries with new ones and do not mix new and used batteries. Do not mix standard (carbon-zinc) or rechargeable (cadmium) batteries either. Such action may shorten the battery life or cause the device to malfunction.

Slide the battery cover and insert 2 AAA (1.5V, LR03) alkaline batteries into the battery compartment as shown on the figure below. Make sure the polarities “+” and “-” ends are coinciding with similar markings engraved on the battery housing.



NOTE: Please dispose of worn-out device and batteries per local regulations.

Cleaning and Disinfection

User needs to clean and disinfect HL710H before and after each use. If user wishes to share HL710H with others, please follow the steps below thoroughly.

◆ Preparation

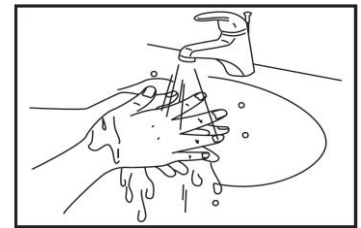
1. Cotton Bud: Available in super marts.
2. 75 % Concentration Alcohol Swab: Available in super marts.

NOTE:

Dispose of used cotton bud and alcohol swab per local regulation.

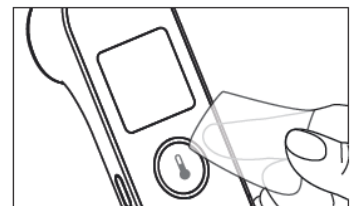
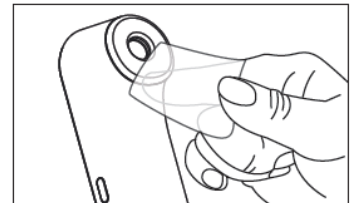
NOTE:

Be sure to clean device up before disinfection. Please wash your hands with soap and water before disinfection.



◆ Cleaning : Probe & Exterior Area

1. Apply one clean cotton bud to wipe any visible dirt or earwax off. Gently wipe the area clean.
2. Apply one alcohol swab to clean the probe area in a circular motion for 15 seconds (around 20 times).
3. Afterwards, use the same alcohol swab to clean exterior area back and forth for another 15 seconds (around 20 times).
4. Wait for at least 30 seconds, until device is totally dry.



NOTE:

1. The most delicate and sensitive part of device is the sensor inside the probe. Poking it with force may cause damage to device. When cleaning, please take extra care.
2. Do not use detergent or any strong chemicals on device.

Cleaning and Disinfection

◆ Signs of Deterioration

During Cleaning and Disinfection, beware of following signs of deterioration:

- No reaction at all toward operating.
- Indelible water stain on the LCD screen.
- Unable to measure.

If any signs listed above occur, please contact your local distributor.

Bluetooth Transmission

◆ Bluetooth Transmission

HL710H features a Bluetooth transmission function, which enables the device automatically transmit measured results to paired Bluetooth-enabled device after measurement.

When connection established, the device would transmit measured temperature results with time to the Bluetooth enabled device.

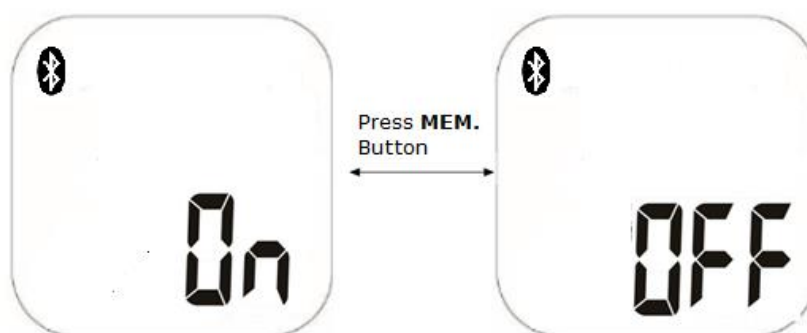
Before attempting to sync the thermometer with your Bluetooth enabled device, make sure Bluetooth function is turned ON in both your Bluetooth enabled device and the thermometer.

And make sure your Bluetooth-enabled device have downloaded the App. See the "App for Bluetooth" section for details.

◆ Turn the Bluetooth function ON/OFF

This function default setting is on. Under Date/Time Setting mode(See page 14), user can switch the function ON or OFF, after the date & time setting are done.

1. Press **MEM.** button to select ON or OFF.
2. If Bluetooth function is turned off, the transmission function will not be active and can't be searched by your Bluetooth enabled device.



3. If Bluetooth function is turned ON, the Bluetooth symbol  will show on the screen. when the thermometer is power ON. When the thermometer is shut off, Bluetooth function will automatically turn off.

Bluetooth Transmission

◆ Transmit Readings

1. When the thermometer Bluetooth function is turned ON and connection established with your Bluetooth enabled device, Bluetooth symbol will flash on the thermometer screen.



2. After the measurement is completed, HL710H will send the measured value to the Bluetooth enabled device through the APP.

◆ App for Bluetooth

Download and install "**DailyChek®**" app on your smart device from Google Play or App store.

System requirement of the Bluetooth-enabled device

- ☐ Bluetooth 4.2 for Android 6.0 or above
- ☐ Bluetooth 4.2 for iOS 7.0 or above

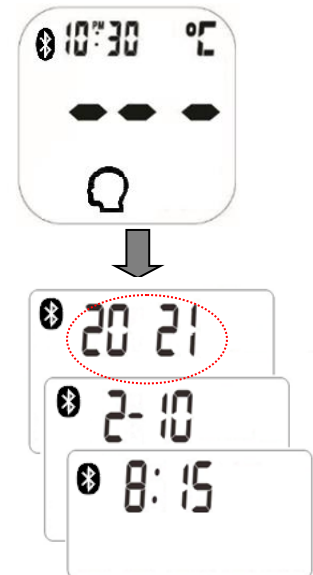
NOTE:

- HL701H is subject to and complies with electromagnetic compatibility (EMC) standard of IEC 60601-1-2, EN 301 489-1, EN 301 489-17, EN 300 328 and U.S. federal guidelines, Part 15 of the FCC (Federal Communications Commission) rules for devices with RF capability. These guidelines help ensure that your device will not affect the operation of other nearby devices. Additionally, other devices should not affect the use of your device.
- Make sure HL710H and paired Bluetooth-enabled device are within acceptable distance (no more than 10 meters) with each other. If not, put them closer.
- Be sure to select the correct User on the LCD screen before your temperature measurement begins.

Measurement Procedure

◆ Date/Time Setting

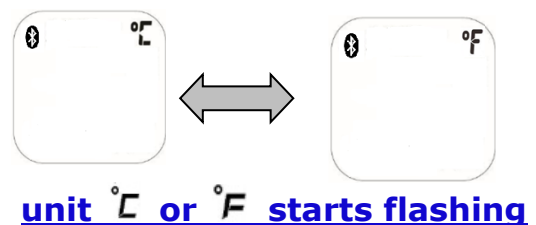
1. Press  button to start HL710H up, holding **MODE** button until HL710H enter to Date/Time Setting Mode. When YEAR digits flash, press **MEM.** button to select current year. When done, press **MODE** button to confirm.



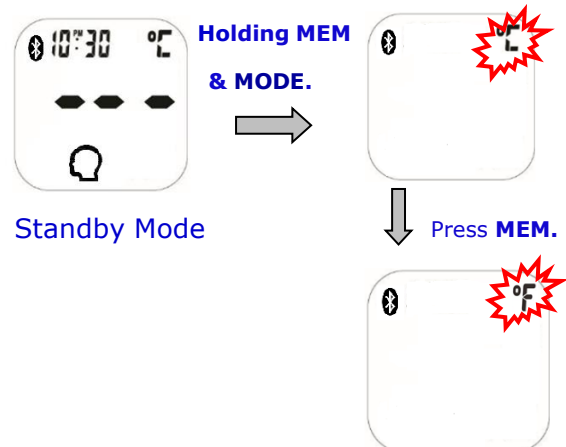
◆ Unit Setting

- ◆ This unit is set in °C as default.

1. Measurement unit is degrees Celsius $^{\circ}\text{C}$ or degrees Fahrenheit $^{\circ}\text{F}$.



2. Under Standby Mode, Holding **MEM & MODE.** button about 6 sec. to enter unit setting mode, the unit will flash on the screen.



3. Press **MEM.** button to select the unit you want, Press  button to save the settings

4. HL710H restarts automatically and ready to measure with one beep sound.

Measurement Procedure

◆ Backlight Indication Function

To indicate which mode the user current used, the device equips the backlight indication function. There are 4 modes provided to utilize and user can recognize each mode by the colors of backlight. The corresponding between modes and colors shows below.

- Forehead mode: green
- Object mode: blue
- Object continuous sensing mode: purple
- Ambient mode: blue-green

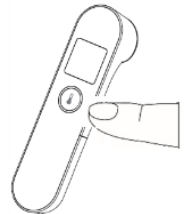
Important Notice before Measuring

- Make your temple clean and exposed before measuring.
- The measuring results took from left or right temple differs slightly. We suggest you measure at the same side.
- Before measuring, users and HL710H should be in a steady room for at least 30 minutes. User should also take a 30-minutes-rest after exercising beforehand.

◆ Forehead Measurement Mode

1. Follow steps in "Cleaning and Disinfection" section to clean HL710H up

2. Press  button. LCD screen displays all digital segments with green backlight.



3. If HL710H has your previous measuring result saved, LCD screen automatically display the latest one.

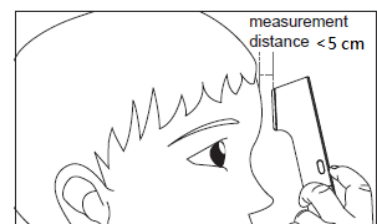


4. Contact the probe tip with your Forehead. Press  button and hold steady until you hear a long beep.

***Measuring site: Forehead**

Each measurement takes about 1 ~ 2 seconds.

Forehead measurement distance <5 cm

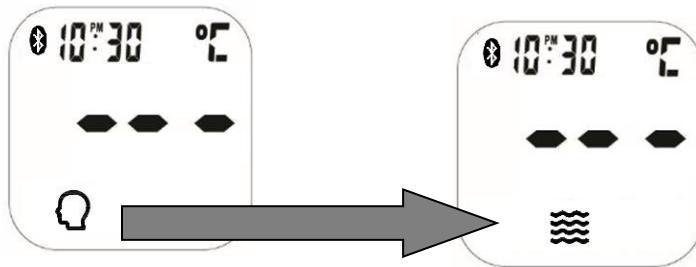


Measurement Procedure

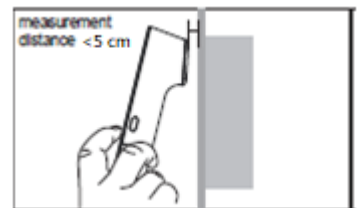
- LCD displays latest measuring result. Without any operation for 1 minute, HL710H will automatically shut off.

◆ Object Measurement Mode

- The user needs to press the **MODE** button to switch to the object measurement mode.



- Place the HL710H close to the object to be measured. Press the  button to start the measurement, after hearing a long beep, you can remove the device.



- The screen displays the measured surface temperature of the object. HL710H will automatically shut down after one minute of inactivity to save power.



Object measurement takes about 1 ~ 3 seconds.

Object measurement distance < 5 cm

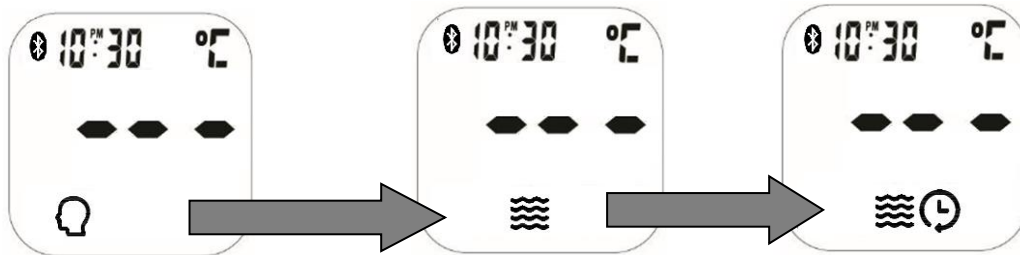
Note: The object measurement mode is not for diagnostic purposes and should not be used to measure human body temperature.

Note: Measurements taken in object temperature mode are not stored.

Measurement Procedure

◆ Object Continuous Sensing Mode

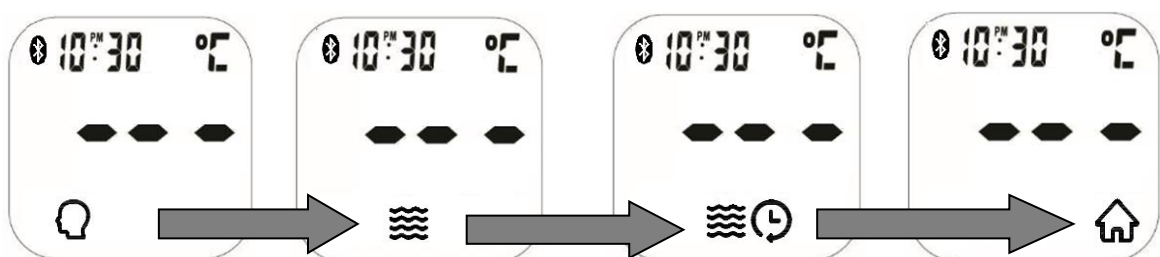
1. The user needs to press the **MODE** button to switch to the continuous object measurement mode.



2. Press the  button to start the measurement and read the real-time object temperature on the LCD.
3. In this mode, when pressing the  button the thermometer will begin to sense the temperature of target area automatically and continuously with 1 second interval. User could focus on move the probe into the target area and do not need pressing the measurement every time. The device will turn off if do not press measurement for 1 minute.

◆ Ambient Temperature Mode

1. The user needs to press the **MODE** button to switch to the room temperature measurement mode.



Press the  button to start the measurement and read the ambient temperature on the LCD.

Note: Measurements taken in ambient temperature mode are not stored.

Measurement Procedure

◆ Unstable Measurement Indication

It is important to hold the thermometer and forehead / object surface steady during measurement. Either movement on thermometer or forehead / object surface may lead to deviated reading. HL710H equips the Unstable Measurement Indication function that can detect the unstable measurement raising from the movement of thermometer or forehead / object surface.

When the unstable measurement is detected during measurement,

the icon  or  will show on the display. The user can take the measurement again while making sure the thermometer and forehead / object surface get steady.

Memory Function

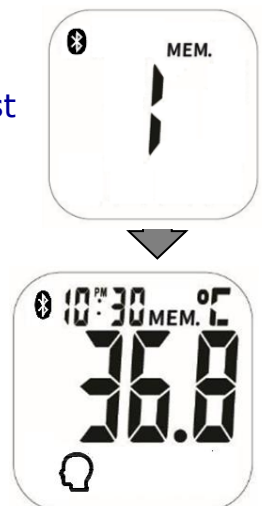
Memory Storage

HL710H can store up to 12 measuring records in its memory sets. When the memory is full, the new record will override the oldest one.

Next time when you start up, LCD screen automatically displays last measuring result, with flickering **MEM.** Symbol.

◆ Memory Recall

1. Under sleeping or standby mode, press and release **MEM.** button to enter Memory Recall Mode.
2. Press **MEM.** button again. LCD screen displays first memory set number with the latest measuring result.
3. By keep pressing **MEM.** button, user can scroll through all stored results in a loop. (Date & Time display cycles automatically)



◆ Memory Erasing

1. Under sleeping or standby mode, press and release **MEM.** button to enter Memory Recall Mode.
2. When LCD displays previous measuring result, holding **MODE** button 3 sec., LCD screen displays "d E L", press **MODE** button, the data will erase.
3. To check whether the deletion succeeds or not, turns HL710H off, and enters Memory Recall Mode again.



Note: Once deleted, your data can NOT be restored.

Storage and Maintenance

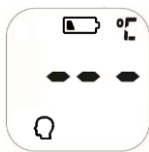
◆ Storage

1. If user will not use device for over 2 months, please take out battery from its compartment.
2. Always store device in its container after use.
3. Do not dip it in water, or any other liquid.
4. Keep device away from:
 - Extreme temperatures.
 - Overly humid or dry environment,
 - Directly under sunlight.
 - Dusty places.
5. For details of environmental conditions, refer to "Specification" page. Outside stated range may lead to inaccurate results, or unable to power up.

◆ Maintenance

1. Do not disassemble or change any parts of HL710H.
2. Do not drop HL710H, and avoid any violent impact.

Troubleshooting

LCD screen	Description & Solution
	Flashing  Battery power is weak, but HL710H can still measure. → Take out worn-out battery. And fill in 2 AAA (LR03) Alkaline Batteries as soon as possible. Without enough energy, HL710H cannot function as it should.
	Constant show-up  Battery power is too low to measure. → Take out worn-out battery. And fill in 2 AAA (LR03) Alkaline Batteries as soon as possible.
	Too high ambient temperature. Ambient temperature is higher than 40.0 °C (104.0 °F) → Leave HL710H in a room around 10.0 °C ~ 40.0 °C (50.0 °F ~ 104.0 °F) for 30 minutes. Then measure again.
	Too low ambient temperature. Ambient temperature is lower than 10 °C (50.0 °F) → Leave HL710H in a room around 10 °C ~ 40.0 °C (50.0 °F ~ 104.0 °F) for 30 minutes. Then measure again.
	Outside displayed temperature range of forehead measurement mode I. Measuring result is higher than 43.0 °C (109.4 °F). → User should rest in a steady room for at least 30 minutes. Then measure again.
	Outside displayed temperature range of forehead measurement mode II. Measuring result is lower than 22.0 °C (71.6 °F). → User should rest in a steady room for at least 30 minutes. Then measure again.
	Outside displayed temperature range of object mode I. Measuring result is higher than 100 °C (212 °F).
	Outside displayed temperature range of object mode II. Measuring result is lower than 0 °C (32 °F).
	Error Symbol II. Memory error happens while measuring. → Repeat measuring steps again. When it's to no avail, please return HL710H to local distributor.

Troubleshooting

thermometer cannot communicate with Bluetooth-enabled device	Paring has not been completed.	Please re-pairing the thermometer and Bluetooth -enabled device with each other.
	Bluetooth function is not turn on.	See the "the Bluetooth Transmission" section to turn on Bluetooth function.
	The distance between BPM and Bluetooth-enabled device is out of transmitting range.	Please make sure the acceptable distance (≤ 10 meters) with each other.
	Use an incompatible Bluetooth-enabled device.	Please refer to P.12 "Bluetooth transmission" & P.24 "Specification"
	Use non-Bluetooth-enabled device.	
	Unexpected loss of electrical/mechanical integrity.	Re-insert the batteries and try again. Return the device to your local distributor or importer.

Warranty & Recalibration

◆ **Warranty For Two Years From Manufacturing Date**

HEALTH & LIFE CO., Ltd grant 2 years warranty on the product commencing on the date of purchase. Within the limited time, we will eliminate any defects in the appliance resulting from faults in the material or workmanship free of charge.

Please note that this service does not cover damage caused by misuse or abuse; accident; the attachment of any unauthorized accessory; alteration to the product; improper installation; unauthorized repairs or modifications; improper use of electrical/power supply; loss of power; dropped product; malfunction or damage of an operating part from failure to provide manufacturer's recommended maintenance; transportation damage; theft; neglect; vandalism; or environmental conditions; loss of use during the period the product is at a repair facility or otherwise awaiting parts or repair; or any other conditions whatsoever that are beyond the control of importers or distributors.

◆ **Recalibration Notice**

Each piece of HL710H is properly calibrated right after its production. As soon as the device is out of 2-year warranty or be doubted about accuracy performance.

user(s) may contact your local distributor(s) or after service agent for recalibration service.

The related expenses of service, shipping and handling shall be charged accordingly.

Specifications

Model Number	HL710H	
Measurement Method	Infrared	
Dimension Size (L x W x H)	147 mm x 37 mm x 34 mm 5.78 x 1.45 x 1.33 inch	
Unit Weight (Battery Excluded)	62.1 g ± 10 g (2.44 g ± 0.35 oz)	
Displayed Temperature Range	Forehead Mode Range	22.0°C~43.0°C(71.6°F~ 109.4°F)
	Object Mode Range	0 °C ~ 100 °C (32 °F ~ 212°F)
	Continuous Sensing Mode Range	0 °C ~ 100 °C (32 °F ~ 212°F)
	Ambient Mode Range	10 °C ~ 40 °C (50 °F ~ 104°F)
Operating Ambient Condition	10.0 °C ~ 40.0 °C (50.0 °F ~ 104.0 °F) , 15 % ~ 95 % R.H., 700~1060 hPa	
Storage / Transportation Conditions	-25.0 °C ~ 70.0 °C (-13.0 °F ~ 158.0 °F) , ≤ 95 % R.H.	
Display Resolution	0.1 °C or 0.1 °F	
Maximum Permissible Range	35.0 °C ~ 42.0 °C (95.0 °F ~ 107.6 °F) : ± 0.2 °C / ± 0.4 °F Other Range : ± 0.3 °C / ± 0.5 °F	
Clinical Accuracy (Repeatability)	± 0.3 °C / ± 0.5 °F	
Display	Liquid Crystal Display (with green , blue , purple and blue-green backlight)	
Memory Sets	12	
Power Supply	2 AAA (1.5V,LR03) Alkaline Batteries	
Battery Life	1000 times	
Product Life	5 Years (Approximately 2-3 times usage per day)	
Sleeping Mode	No operation over 1 minute	
Accessory	2 AAA (LR03) Alkaline Batteries	
RF Type	Bluetooth 4.2 BLE	
System requirement of the Bluetooth-enabled device	Bluetooth 4.2 for Android 6.0 or above Bluetooth 4.2 for iOS 7.0 or above	

***The contents and specifications in this manual are subject to change for improvement without notice.**

Note

◆ Regulatory & Manufacturer Information

This thermometer complies to following standards (included but not limited):

Safety standard:

EN 60601-1 Medical electrical equipment part 1: General requirements for safety

EMC standard:

EN 60601-1-2 Medical electrical equipment part 1-2: General requirements for safety- Collateral standard: Electromagnetic compatibility- Requirements and tests/ **ISO 80601-2-56**

Performance standards: ASTM E1965-98, Standard Specification for Infrared Thermometers for Intermittent Determination of Patient Temperature.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

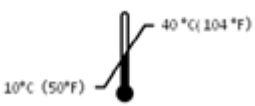
This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio/TV technician for help.

Explanation of symbols :

Symbol	Explanation	Health & Life Information
	Refer to instruction manual/booklet	-
	TYPE BF Applied Part	-
	To avoid inaccurate results caused by electromagnetic interference	Warning: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30cm (12 inches) to any part of the device, Otherwise, degradation of the performance of this equipment could result.
	Waste of electrical and electronic equipment (WEEE)	Discard the used product to the recycling collection point according to local regulations.
	Serial number	 YYMMXXXXXX
IP22	Ingress Protection Rating	First characteristic numeral- Degree of protection against access to hazardous parts and against solid foreign objects N1=2 (Protected against solid foreign objects of 12.5 mm Ø and greater) Second characteristic numeral- Degree of protection against ingress of water N2=2 (Protected against vertically falling water drops when ENCLOSURE tilted up to 15°)
	Temperature limit	Temperature: 10.0 °C ~ 40.0 °C (50.0 °F ~ 104.0 °F)
	Non-ionizing electromagnetic radiation	-

Device information:

- Internally powered equipment
- Not suitable for use in presence of flammable anesthetic mixture with air or with Oxygen or nitrous oxide
- Continuous operation with short-time loading

Manufacturer: HEALTH & LIFE CO., LTD.
 9F, No. 186, Jian Yi Road, Zhonghe District 23553, New Taipei City,
 Taiwan
www.healthandlife.com.tw

Appendix

◆ Guidance and manufacturer's declaration – electromagnetic emissions

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	RF energy is used only to maintain device's operation. Therefore, its RF emissions are so low that it's not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments, and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not Applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not Applicable	

◆ Guidance and manufacturer's declaration – electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact discharge ± 15 kV air discharge	± 8 kV contact discharge ± 15 kV air discharge	In the case of air discharge testing, the climatic conditions shall be within the following ranges: Ambient Temperature: 15°C~35°C, Relative Humidity: 30%~60%.
Power frequency (50 or 60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 or 60 Hz	30 A/m 50 or 60 Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Appendix

◆ Guidance and manufacturer's declaration – electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3V rms At 0.15-80 MHz 6V rms At ISM & Radio Amateur Freq.	Not Applicable	Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC 61000-4-3 Proximity fields from RF wireless communications equipment IEC 61000-4-3	10 V/m at 80-2700 MHz AM Modulation And 9-28V/m at 385-6000MHz,Pulse Mode and other Modulation. The system shall be tested as specified in IEC60601-1-2 Table 9 for proximity fields from RF wireless communications equipment using the test methods specified in IEC 61000-4-3	10 V/m at 80-2700 MHz AM Modulation And 9-28V/m at 385-6000MHz,Pulse Mode and other Modulation. The system shall be tested as specified in IEC60601-1-2 Table 9 for proximity fields from RF wireless communications equipment using the test methods specified in IEC 61000-4-3	Recommended separation distance Considering to reduce the minimum separation distance, based on RISK MANAGEMENT, and using higher IMMUNITY TEST LEVELS that are appropriate for the reduced minimum separation distance. Minimum separation distances for higher IMMUNITY TEST LEVELS shall be calculated using the following equation: $E = 6/d \sqrt{P}$ where P is the maximum power in W, d is the minimum separation distance in m, and E is the IMMUNITY TEST LEVELS in V/m. Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1 At 80 MHz and 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. a. 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 device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device. b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Appendix

Test specifications for enclosure port immunity to RF wireless communications equipment.

Test frequency (MHz)	Modulation	IMMUNITY TEST LEVEL (V/m)
385	Pulse modulation 18 Hz ^{a)}	27
450	FM ± 5 kHz deviation 1kHz sine ^{b)}	28
710	Pulse modulation 217 Hz ^{a)}	9
745		
780		
810	Pulse modulation 18 Hz ^{a)}	28
870		
930		
1720	Pulse modulation 217 Hz ^{a)}	28
1845		
1970		
2450	Pulse modulation 217 Hz ^{a)}	28
5240	Pulse modulation 217 Hz ^{a)}	9
5500		
5785		
NOTE: If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m, The 1 m test distance is permitted by IEC 61000-4-3.		
a). The carrier shall be modulated using a 50% duty cycle square wave signal. b). 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 case.		

Appendix

◆ Clinical Data Sheet

To prove the accuracy of HL710H, we perform clinical experiments at one hospital by professionals on 3 groups of test subjects: new born to 1-year-old for Group A, 1-year-old to 5-year-old for Group B, and 5-year-old or above for Group C.

Each group consists of 50 effective test subjects, and at least 30 % of them are febrile, with the exception for those who are under 3-month-old.

All clinical test procedures are performed in compliance with EN 12470-5 and ISO 80601-2-56.

Statistic of subjects for Infrared Forehead Thermometer

EN12470-5			
Statistic of Subjects	Repeatability(≤ 0.3)	Mean bias($\leq \pm 0.2$)	SD(≤ 0.4)
Group A	0.124	-0.043	0.284
Group B	0.131	0.030	0.259
Group C	0.115	0.078	0.211

ISO 80601-2-56 for Infrared Forehead Thermometer				
Statistic of Subjects		CLINICAL REPEATABILITY (σ_r)	CLINICAL BIAS (Δ_{cb})	LIMITS OF AGREEMENT (L_A)
Group A	ALL	0.130	-0.043	0.221
	A1	0.142	0.130	0.262
	A2	0.124	-0.132	0.200
Group B		0.134	0.030	0.230
Group C		0.132	0.073	0.206

Unit: °C

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