



Infrared Ear Thermometer Gentle Temp[®] 520 (MC-520-E) Instruction Manual

All for Healthcare

English

Français

Deutsch

Italiano

Español

Nederlands

Русский

Türkçe

العربية

Contents

Thank you for purchasing the OMRON Gentle Temp 520 Infrared Ear Thermometer.

Intended Use:

The OMRON Gentle Temp 520 offers comfortable, safe, accurate and quick temperature measurement from the eardrum. Designed to be used on people of all ages.

Intended Operator:

At least 11 years old (5 years intensive reading experience), no maximum.

It is mainly designed for household use.

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Please read this instruction manual thoroughly before using this unit.

Please keep for future reference. For specific information about your own temperature, CONSULT YOUR DOCTOR.

Important Safety Information

To assure the correct use of the product basic safety measures should always be followed including the precautions listed below.

Warning:

- Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- Conducting self-diagnosis based on the measurement results and/or treatment can be dangerous. Please follow the instructions of your doctor. Self-diagnosis may worsen the symptoms.
- A high or prolonged fever requires medical attention, especially for small children. Please contact your doctor.
- Please keep still during measurement.
- Do not forcibly insert the probe in the ear.
- If you feel discomfort such as a pain during the measurement, stop using the unit immediately. It may injure the external auditory canal.
- Do not use this unit if suffering from ear disease such as otitis externa or otitis media. It may worsen the condition.
- Do not use this unit when the external auditory canal is wet such as after swimming or taking a bath. It may injure the external auditory canal.
- Do not use this unit without attaching a probe cover.
- Please ensure that the ear canal is clean and free of earwax.
- If the probe cover becomes dirty with earwax or other substances, replace it with a new one.
- Do not use a probe cover after someone else has used it. This can lead to cross infections such as otitis externa.
- Correct measurement result may not be obtained if dirty probe covers are used.
- Proper installation of the probe cover ensures accurate measurements.
- When the infrared sensor becomes dirty, wipe it lightly with a soft dry cloth or a cotton swab. Do not wipe the infrared sensor with tissue paper or a paper towel.
- Do not use more than one probe cover at a time.
- If there is any temperature difference between the places where the unit is stored and where you are going to measure, leave the unit in the room where you are going to use it for more than 30 minutes to allow it to reach room temperature first, then measure.
- If the ear is cold, wait until the ear is warmed up before taking a temperature measurement. The measured result may indicate low when you use an ice bag or an ice pack or immediately after coming in from the outside in winter.
- Do not touch the infrared sensor with a finger or breathe on it.

Important Safety Information

- Do not attempt measurements when the unit is wet as inaccurate readings may result.
- Check the symbol on the display before and after the measurement so that the measurement is taken in the appropriate mode.
- Keep the unit out of children's reach.
- Avoid children trying to measure themselves or others as they may damage the ear.
- Contains small parts that may cause a choking hazard if swallowed by infants.
- Do not throw batteries into a fire. The battery may explode.
- Remove the battery when the unit will not be used for 3 months or more. Failure to do so may lead to fluid leakage, heat generation or bursting, resulting in damage to the unit.
- During measurement, make sure that no mobile phone or any other electrical devices that emit electromagnetic fields is within 30cm of this device. This may result in incorrect operation of the device and/or cause an inaccurate reading.

General Precautions

- Do not use this unit other than for measuring the temperature in the human ear.
- Do not apply a strong shock to, drop, step on, or vibrate the main unit.
- The main unit is not waterproof. Be careful when handling this unit so that no liquid (alcohol, water, or hot water) will get into the main unit. When the unit is wet with vapor, wait until it dries or wipe it lightly with a soft dry cloth.
- Do not disassemble, repair, or modify the unit.
- When you inform your doctor of your temperature, make sure you state that you measured the temperature in the ear.

1. Overview

Main unit:

- Infrared sensor
- Probe
- Probe cap
- Probe cover detector

Display

ON/MEM button

Battery cover pick hole

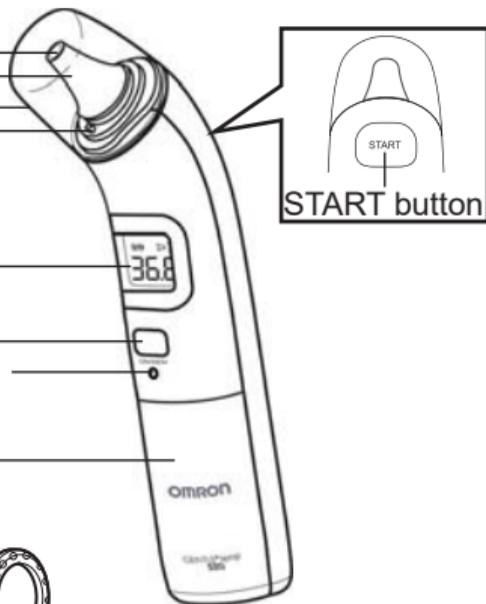
Battery compartment



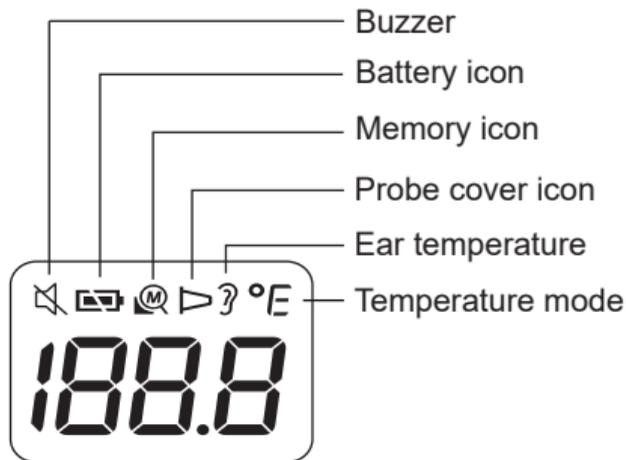
Connection ring



Probe cover



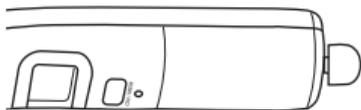
Display:



2. Preparation

2.1 Removing the Insulating Tape

Pull the insulating tape out from the battery compartment by catching hold of the outer part for the first time.



2.2 Switching between °C and °F

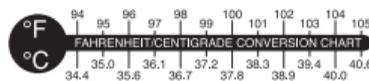
This unit is set in °C as default.

1. While the power is off, press and hold the **START** button.
2. While holding it down, press and hold the **ON/MEM** button until °F appears on the display with 2 beeps.



Notes:

- To select the °C mode, start from step 1.
- When the unit is switched between °C and °F, all the readings stored in the memory are deleted.



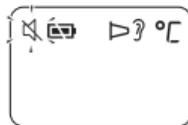
2.3 Setting the Buzzer

The buzzer is set on as default.

1. Press the ON/MEM button to turn on the unit.

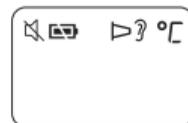
2. Press and hold the ON/MEM button for 3 seconds.

The “” symbol flashes on the display.



3. Release the ON/MEM button.

The “” symbol remains lit and the buzzer is set to off.



Notes:

- If the ON/MEM button is pressed down for more than 5 seconds after the “” flashing, the unit turns off without setting the buzzer.
- To turn the buzzer on, start from step1.

2.4 Attaching a Probe Cover

Always use a new and undamaged Probe Cover MC-EP2 (MC-EP2-E).



1. Gently twist off the probe cap.

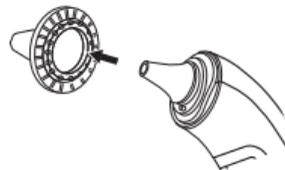
Note: Do not forcibly remove the probe cap.

2. Place a new probe cover on the connection ring.

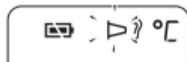
Note: The adhesive side of probe cover should be upward.



3. Insert the probe into the probe cover on the connection ring until it clicks.



Note: When the probe cover is not attached correctly, the probe cover symbol "" will flash on the display and a measurement can't be taken.



3. Using the Unit

3.1 Taking a Reading

Notes:

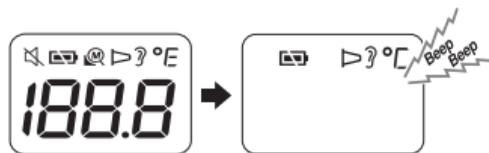
- Make sure the probe cover is attached correctly.
- It is recommended that you measure 3 times with the same ear. If the 3 measurements are different, select the highest temperature.

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1. Press the ON/MEM button.

All symbols appear on the display.

Then the display shown at the right will appear with 2 beeps.



2. Insert the probe into the ear as far as it comfortably goes in the direction of the eardrum.

Notes:

- Gently pull the ear back to straighten the ear canal and position the probe into the ear so it is snug, aiming towards the membrane of the eardrum to obtain an accurate reading.
- Holding the unit too long may cause a higher ambient temperature reading of the probe. This could make the body temperature measurement lower than usual.



3. Using the Unit

Measuring the temperature of an infant

Measuring on a lying baby.



Lightly support the child's body.

Measuring on a sitting baby.



Lightly support the child's body and slightly pull the ear towards the back.

The ear is too small to insert the probe.



While slightly pulling the ear back, cover the external auditory canal with the probe without forcibly trying to insert the probe.

3. Press the START button.

The measurement is complete in 1 second with a long beep.

The “?” symbol will flash for 5 seconds.

Note: You can take another measurement after 2 beeps. Make sure “?” symbol remains lit.



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4. Remove the unit from the ear and check the measurement result.

Note: If your measurement result is over 37.5°C (99.5°F), the buzzer will beep three times after a long beep.

After each Ear Measurement, the unit needs 5 seconds to be ready for next measurement. During this 5 seconds waiting time, the ear icon will be flashing.



5. Press and hold the ON/MEM button until “OFF” appears on the display to turn off the unit.

The unit automatically stores the measurement in its memory. It will automatically turn off after 1 minute.

3.2 Using the Memory Function

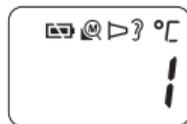
This unit automatically stores the results up to 9 sets after each measurement.

Note: If the memory is full, the unit will delete the oldest reading.

1. Press the ON/MEM button to turn on the unit.

2. Press the ON/MEM button again.

The memory number appears on the display.



3. Release the ON/MEM button.

The most recent result will appear on the display.

Press the ON/MEM button repeatedly to view the older results.



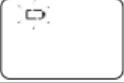
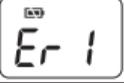
4. Press and hold the ON/MEM button until “OFF” appears on the display to turn off the unit.

It will automatically turn off after 1 minute.

4. Troubleshooting and Maintenance

4.1 The Icons and Error Messages

In case of any of the below problems occur during measurement, first check that no other electrical device is within 30cm. If the problem persists, please refer to the table below.

Error Display	Cause	Remedy
	Device stabilization in process.	Wait until  stops flashing.
	Battery is low.	Replace the battery. (Refer to section 4.3)
	Probe cover is not attached correctly.	Attach the probe cover again until  stops flashing.
	Measurement before device stabilization.	Wait until  stops flashing.
	The device is showing a rapid ambient temperature change.	Allow the thermometer to rest in a room for at least 30 minutes at room temperature: 10°C and 40°C (50°F - 104°F).
	The ambient temperature is not within the range between 10°C and 40°C (50°F - 104°F).	Allow the thermometer to rest in a room for at least 30 minutes at room temperature: 10°C and 40°C (50°F - 104°F).

4. Troubleshooting and Maintenance

Error Display	Cause	Remedy
	Error 5-9, the system is not functioning properly.	Remove the battery, wait for 1 minute and repower it. If the message reappears, please contact the OMRON retail outlet or distributor for having the device checked.
	Temperature taken is higher than 42.2°C (108.0°F).	Check the integrity of the probe cover and take a new temperature measurement.
	Temperature taken is lower than 34.0°C (93.2°F).	Make sure the probe cover is clean and take a new temperature measurement.
	Device can not be powered on to the ready stage.	Change to a new battery. (Refer to section 4.3)

4.2 Maintenance

- Please check the device if damaged after it is dropped. If unsure, please contact the OMRON retail outlet or distributor for having the device checked.
- The probe is the most delicate part of the unit. Use care when cleaning the Infrared sensor to avoid damage.
- If the unit is accidentally used without the probe cover, clean the probe as follows:
 - a. After measurement, use a cotton swab moistened with alcohol (70% concentration) to clean the probe and probe lens.
 - b. Allow at least 1 minute for the probe to fully dry.
- If the unit is dirty, use a cotton swab or cloth moistened with alcohol (70% concentration) to clean it.
- Do not store the unit in the following types of places. Doing so may damage the unit.
 - Wet locations.
 - Locations with high heat and humidity or those that are exposed to direct sunlight. Areas close to heating equipment, dusty locations, or environments where there are high salt concentrations in the air.
 - Locations where the unit will be subjected to leaning over, falling, shock or vibration.
 - Pharmaceutical storage areas or locations where corrosive gases are present.

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4.3 Replacing the Battery

Battery: CR2032 Lithium Button Battery

Use the battery within recommended period mentioned to it.

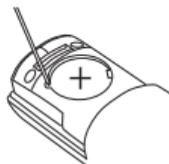
Note: To protect the environment, discard the used batteries in accordance with the local regulations regarding waste disposal procedure. Disposal can be done at your retail store or at appropriate collection sites.

1. **Insert a pointed object into the battery cover pick hole.
Slide and remove the battery cover with your thumb.**



2. Remove the battery with a pointed object.

Note: Do not use metal tweezers or a screwdriver.



3. Insert the new battery under the metal hook on the left side and press the right side of the battery down until it clicks.

Note: Replace the new battery with the plus (+) side on the top.



metal hook

4. Replace the battery cover.

5. Technical Data

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Product Category:	Ear Thermometers
Product Description:	Infrared Ear Thermometer
Model (code):	Gentle Temp 520 (MC-520-E)
Sensing Unit:	Thermopile
Temperature Display:	4-digit, °F display in 0.1 degree increments 3-digit, °C display in 0.1 degree increments
Measurement Accuracy:	± 0.2°C (± 0.4°F) within 35.5°C to 42.0°C (95.9°F to 107.6°F), ± 0.3°C (± 0.5°F) for other range
Measurement Range:	34.0°C (93.2°F) to 42.2°C (108.0°F)
Measurement Time:	Fast 1 Second Measurement
Memory:	9 Memories
Power Supply:	3.0V DC, 1 CR2032 Lithium Button Battery
Power Consumption:	0.015 W
Durable Period:	5 years
Battery Life:	With a new battery approx. 2,500 measurements or more (Ambient environment 25±15°C, 50±40%RH)
Operating Environment Temp and Humidity and Air Pressure:	10°C (50°F) to 40°C (104°F), 0 ≤ RH ≤ 85% (non-condensing), 70 to 106,0 kPa
Storage Environment Temp and Humidity:	-20°C (-4°F) to 50°C (122°F), 0 ≤ RH ≤ 85% (non-condensing)
Transport Environment Temp and Humidity:	-20°C (-4°F) to 70°C (158°F), 10% ≤ RH ≤ 95% (non-condensing)

5. Technical Data

Protection against electric shock:	Internally powered ME equipment
IP Classification:	IP22
Applied Part:	 = type BF (Probe cover)
Weight:	Approx. 85g (with battery installed)
Outer Dimensions:	36 mm (w) × 161 mm (h) × 56 mm (d)
Package Content:	Main Unit, Test Battery (Lithium Button Battery CR2032), probe cap, 21 probe covers MC-EP2 (MC-EP2-E), connection ring, instruction manual, warranty card.

*IP classification is degrees of protection provided by IEC 60529.

This device is protected against solid foreign objects of 12.5 mm diameter and greater such as a finger.

This device is protected against oblique falling water drops which may cause issues during a normal operation.

Notes:

- The specification may be changed without prior notice.
- This OMRON product is produced under the strict quality system of OMRON HEALTHCARE Co. Ltd., Japan.
- This device fulfills the provisions of the European Standard EN12470:2003, Clinical thermometers - Part 5: Performance of infra-red ear thermometers (with maximum device).
- The thermometer is calibrated at the time of manufacture. If at any time you question the accuracy of temperature measurements, please contact your authorised OMRON distributor. In General it is recommended to have the device inspected every 2 years to ensure correct functioning and accuracy.
- Please report to the manufacturer and the competent authority of the Member State in which you are established about any serious incident that has occurred in relation to this device.

5. Technical Data

Description of symbols that, depending on a model, can be found on the product itself, product sales package or IM					
	Applied part - Type BF Degree of protection against electric shock (leakage current)		Need for the user to consult the instructions for use		Atmospheric pressure limitation
IP XX	Ingress protection degree provided by IEC 60529		Serial number		Do not re-use
	CE Marking		LOT number		Medical Device
	GOST-R symbol		Temperature limitation		Date of Manufacture
	Symbol of Eurasian Conformity		Humidity limitation		

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CE0197

OMRON Infrared Ear Thermometer

Model (code): Gentle Temp 520 (MC-520-E)

Important information regarding Electromagnetic Compatibility (EMC)

MC-520-E manufactured by OMRON HEALTHCARE Co., Ltd. conforms to EN60601-1-2:2015 Electromagnetic Compatibility (EMC) standard.

Further documentation in accordance with this EMC standard is available at OMRON HEALTHCARE EUROPE at the address mentioned in this instruction manual or at www.omron-healthcare.com. Refer to the EMC information for MC-520-E on the website.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

This product does not contain any hazardous substances. Disposal of used batteries should be carried out in accordance with the national regulations for the disposal of batteries.



6. Some Useful Information

6.1 Temperature measurements taken within the ear

The Gentle Temp 520 Infrared Ear Thermometer detects the infrared heat given off by the eardrum and surrounding tissues, and it converts this heat into an equivalent ear temperature.

The Gentle Temp 520 is less threatening to a child than a rectal thermometer. It's faster, safer and easier to use than an oral thermometer.

Being Infrared, there's no worry about the hazard of broken glass or mercury ingestion. Measurements can even be taken while a child is sleeping.

For adults, the Gentle Temp 520 Infrared Ear Thermometer offers fast, convenient and accurate readings without the delay of a conventional thermometer.

Clinical research has shown that the ear is an ideal site for taking body temperature. The eardrum shares blood vessels with the hypothalamus, the part of the brain that controls body temperature. Therefore, the ear is an accurate indicator of internal (core) body temperature. An ear temperature, unlike an oral temperature, is unaffected by factors such as talking, drinking, and smoking.

6.2 Normal and raised temperature

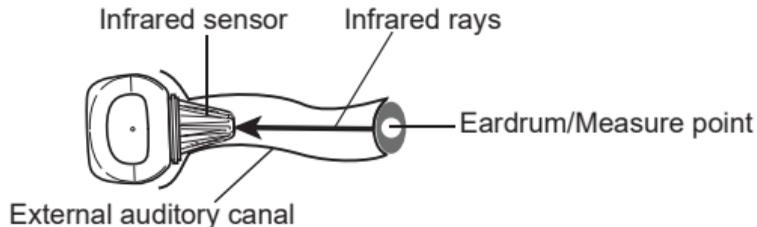
We recommend that you practice with the Gentle Temp 520 on yourself and family members.

This way you can improve your technique and feel more confident of the measurements you take when a family member is ill. You will also be able to tell when a reading is higher than normal.

6. Some Useful Information

As ambient temperature, sweat, or saliva easily affects body temperature measured under the arm or the tongue, readings may be lower than the core temperature.

Tympanic temperature measurement accurately reflects the brain temperature and can lead to a quicker detection of fever.



In order to make a correct judgement of suspected fever conditions, it is important to learn the normal temperatures of family members by measuring their temperatures when they are in good physical condition.

The temperature measured in the ear is different to that measured rectally.

Please use the normal as the standard for understanding the temperature difference during fever.

One speaks of normal body temperature if the measurement value lies within a certain range. Body temperature varies however according to age.

Age	Normal ear temperature in °C and °F	
Babies	36.4°C - 37.5°C	97.5°F - 99.5°F
Children	36.1°C - 37.5°C	97°F - 99.5°F
Teens/Adults	35.9°C - 37.5°C	96.6°F - 99.5°F
Elderly	35.8°C - 37.5°C	96.4°F - 99.5°F

6.3 Ear temperature compared to other types of body temperature

The normal temperature varies according to different locations on the body.

The "Clinical Bias" is $-0.2 \sim -0.4^{\circ}\text{C}$.

The "Limits of Agreement" is 0.58.

The "Repeatability" is 0.17°C .

The thermometer is an adjusted mode thermometer that converts the ear temperature to display its "oral equivalent".

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6.4 Questions and answers

How many times can I measure consecutively?

You can measure consecutively up to three times. The main unit will then be warmed up and may not be able to measure correctly. If you are going to measure more than three times, wait for 10 minutes, then measure again.

The temperature indicated is rather high.

- 1 The probe cover may be faulty.
- 2 You may have used the thermometer that has been stored in a cool or cold place. Measure the temperature after leaving the unit in the room where you are going to use it for more than 30 minutes. If you store the unit in the room where you are going to measure the temperature, you can promptly use the thermometer.

Is the temperature measured in the right ear different from that measured in the left ear?

Among healthy people, there should be no significant difference in the measurement results. Differences may be caused by the following reasons:

- 1) The infrared sensor is not inserted in the same way.
- 2) Measurement is not conducted by inserting the unit in a stable manner in the same angle. Try to measure in the ear that consistently shows a higher measurement.

The temperature shown is rather low.

- 1 The probe cover is dirty.
- 2 The infrared sensor is dirty.
- 3 You removed the unit from the ear before the measurement is finished.
- 4 The ear is cold. The temperature tends to indicate low when you use an ice bag or an ice pack, or immediately after coming in from the cold in winter.
- 5 The thermometer is not inserted deep enough in the ear.

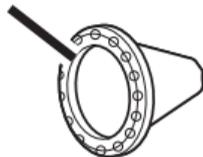
7. Optional Accessories

Optional Medical Accessories

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Probe Cover MC-EP2 (MC-EP2-E)
(Including 40 probe covers and 1 connection ring)

Probe Cover



Connection Ring



Note: Please check with your local OMRON representatives for appropriate optional accessories.

Manufacturer 	Fabricant Hersteller Fabricante Produttore	Fabrikant Производитель Üretici الشركة المُصنعة	OMRON HEALTHCARE Co., Ltd. 53, Kunotsubo, Terado-cho, Muko, KYOTO, 617-0002 JAPAN
EU-representative 	Mandataire dans l'UE EU-Repräsentant Representante en la UE Rappresentante per l'UE	Vertegenwoordiging in de EU Представитель в ЕС AB temsilcisi جهة التمثيل بالاتحاد الأوروبي	OMRON HEALTHCARE EUROPE B.V. Scorpius 33, 2132 LR Hoofddorp, THE NETHERLANDS www.omron-healthcare.com
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 تاريخ الإصدار

: 2021-02-24

Made in China
 Fabriqué en Chine
 Hergestellt in China
 Fabricado en China

Prodotto in Cina
 Geproduceerd in China
 Сделано в Китае
 Çin'de Üretilmiştir
 صنع في الصين