

emporia INFRARED THERMOMETER

Contactless temperature measurement



QUICK-START GUIDE

02 WELCOME

Thank you for choosing the Emporia
›Infrared thermometer‹.

To use this product properly, please read
the instructions and safety precautions
carefully before use.

Scope of delivery

- Infrared thermometer
- 2 × 1.5V AAA batteries
- Quickstart Guide

> **Note**

*Keep the packaging materials in a safe place in case you
need to transport the unit later. Keep the receipt, it is your
warranty.*

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Intended use

Infrared Forehead Thermometer intended to measure human body temperature by measuring ear canal or forehead.

Scope of application

It is suitable for displaying the body temperature of the measured object by measuring the heat radiation in the ear canal or forehead.

Features

- Non-touching type infrared temperature measurement.
- Display with multiple colours and backlight: white, green, orange and red.
- Memory for 9 measurements.
- Measurement selectable in degrees Fahrenheit (°F) or Celsius (°C). (Celsius is factory setting).
- Instant measurement within 1 second.
- Convenient and economical design without earmuff, which can save subsequent use costs.
- Sound can be switched on and off.
- The machine idle time of 30 seconds, turn off power automatically.

> Note

The measurement results of this device are not a substitute for a medical diagnosis by a professional doctor. If you have any questions about the results of your measurement, please contact your doctor and follow the instructions.

Depending on the measurement method used, different values are obtained. Therefore, the WHO provides reference values for the ›normal‹ human body temperature.

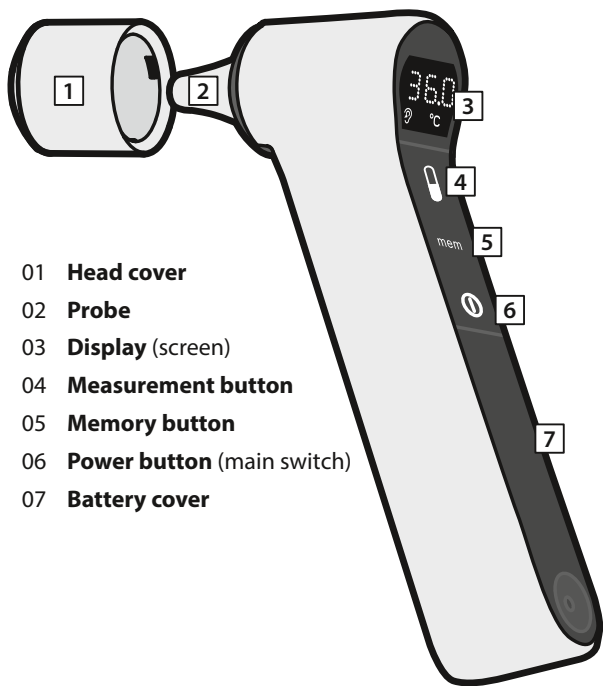
Measurement methods	Normal body temperature
Anal temperature:	36.6 ~ 38°C
Oral temperature:	35.5 ~ 37.5°C
Axillary temperature:	34.7 ~ 37.3°C
Cochlear temperature:	35.8 ~ 38°C

The human body temperature

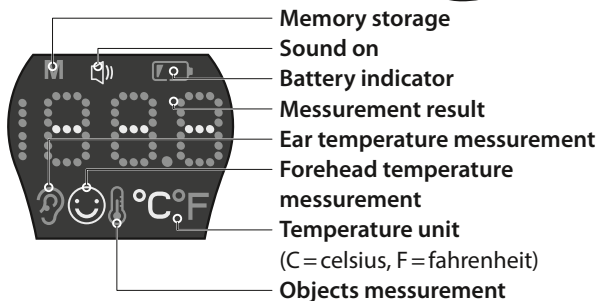
Human body temperature is basically constant, but it is not completely unchanging. It changes constantly in the course of a day, the details as follows.

- **At night:**
Body temperature is at its lowest (below 37°C) due to sleep and decreasing activity.
- **In the morning:** Higher.
From warm bed to cool room, muscles contract and produce heat.
- **Midday:** Highest.
After lunch, the human body reaches its highest temperature and the body naturally adjusts.
- **Three or four in the afternoon:** Lower.
Due to physical exertion, blood sugar drops.
- **Evening:** Lowest.
Due to the sunset, the room temperature drops.

06 DEVICE DESCRIPTION

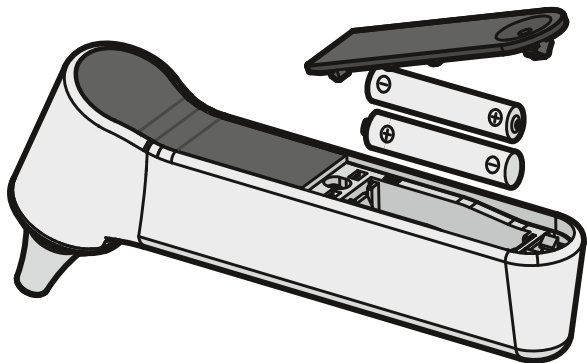


- 01 **Head cover**
- 02 **Probe**
- 03 **Display** (screen)
- 04 **Measurement button**
- 05 **Memory button**
- 06 **Power button** (main switch)
- 07 **Battery cover**



The procedure

1. Press the indentation at the bottom of the battery cover, it should automatically spring open.
2. To remove inserted batteries, press firmly on the upper end of the battery >-<.
3. Insert two 1.5V AAA batteries. Pay attention to the polarity.



Insufficient voltage warning

If the battery voltage is insufficient, the LCD display will show >LO< and the battery symbol will light up continuously. You should replace the battery soon.

> Note



If you do not use the unit for a long time, please remove the battery. The batteries may discharge and/or leak liquid.

It is recommended to use alkaline batteries.

Dispose of used batteries according to local regulations.

08 SETTINGS

Sound function: switch on/off

1. Press the **Memory button** when the unit is switched on to switch the sound on or off.
The screen shows  icon, i.e. the sound is switched on, a short beep sounds to confirm.
2. Press the **Memory button** again, the  icon disappears, i.e. the sound is switched off.

Switching the temperature unit

- With the unit switched off, press and hold the **Memory button** for 6 seconds. °F or °C flashes on the display.
- Press the **Memory button** again to change the unit.
- The thermometer switches off automatically if there is no input or press the **Power button** to switch off.

Memory function

- If you press the **Memory button** when the thermometer is switched off, the unit can read and store 9 sets of readings in sequence.
- The thermometer switches off automatically if there is no input or press the **Power button** to switch off.

Backlight

- When the measured temperature is **< 34**, the background is illuminated **red** and indicates **LO**.
- When the measured temperature value is **34 ~ 37.1 °C**, the background is illuminated **green**.
- When the measured temperature value is **37.2 ~ 38.1 °C**, the background is illuminated **orange**.
- When the measured temperature value is **38.2 ~ 43.0 °C**, the background is illuminated **red**.
- When the measured temperature value is **> 43.0 °C**, the background is illuminated **red** and indicates **HI**.

Measuring the ear temperature

1. Remove the **Head cover**.
2. Press the **Power button** to switch on.
 - The display shows the last measured value.
 - The 📶 icon appears on the display.
3. Carefully insert the thermometer into your ear canal and press the **Measurement button**.
 - After a short time you will hear a signal tone and you can see the measurement result.

Measuring the forehead temperature

1. Put the **Head cover** on the device.
2. Press the **Power button** to switch it on.
 - The display shows the last measured value.
 - The 😊 icon appears on the display.
3. Hold the thermometer in front of your forehead at a distance of 0~5 mm and press the **Measurement button**.
 - After a short time you will hear a signal tone and you can see the measurement result.


Measuring objects

1. Put the **Head cover** on the device.
2. Press and hold the **Power button** for 6 seconds to switch on.
 - The display shows the last measured value.
 - The 📶 icon appears on the display.
3. Point the thermometer at the object and press the **Measurement button**.
 - After a short time you will hear a signal tone and you can see the measurement result.

> Note

If you do not hear the beep, the temperature measurement is not yet complete. Do not remove the thermometer yet.

Frequently asked questions

Display	Reasons	Solutions
HI	If the temperature of the target object is higher than the measuring range (higher than 43°C for the ear), the display shows HI .	If the sensor is not properly placed in the ear canal or the measurement distance is too far during measurement, the measurement result may be too low.
Lo	If the temperature of the target object is lower than the measuring range (lower than 34° for the ear), the display shows Lo .	If the sensor is contaminated, the reading may be too low; the sensor should be cleaned with an alcohol swab.
Er.H	The operating temperature of this unit is limited upwards to 40°C. If the ambient temperature exceeds this point, the display shows an error message Er.H .	When using this product, the ambient temperature should not be higher than 40°C.
Er.L	The operating temperature of this unit is limited to 10°C at the bottom. If the ambient temperature falls below this point, the display shows an error message Er.H .	When using this product, the ambient temperature should not be lower than 10°C.
Err	If the ambient temperature changes rapidly by 5 degrees, an error message is displayed during measurement in the object temperature mode, then the unit switches off automatically.	If Err is displayed, place the unit in the room where measurement is to be taken for more than 30 minutes before taking the next measurement.
	If mishandled, a beep will be heard when the sound setting is active. (a short tone will be heard)	

Troubleshooting

Problems	Reasons	Solutions
There is no display when the unit is switched on.	The battery is empty.	Replace the batteries.
	The polarity of the batteries is wrong.	The polarity of the batteries corresponds to that in the battery compartment.
The measurement temperature is low.	The measurement position is not correct.	Measure the temperature correctly according to the instructions.
	There is dirt in the sensor or ear.	Remove the contamination before measuring.
Large temperature changes during continuous measurement.	The measurement interval is too short.	The interval between measurements should be more than 10 seconds.

Cleaning and maintenance

This thermometer uses highly sensitive technology to determine the temperature of the target object.

Contamination (dust, dandruff, ...) can affect the measurement accuracy and bacterial injections could occur.

We therefore recommend cleaning after each use.

> Sensor

Use an alcohol swab (without water) to clean the sensor. This prevents the transfer of germs after the end of the temperature measurement (note: never wash the product directly under the water pipe).

> Housing

Wipe the product with a soft and dry cloth so that it does not get scratched. Do not clean directly with water.

Service Centre

- **Emporia Service Centre**
service@emporiatelecom.co.uk
Monday-Friday, 12⁰⁰-4⁰⁰ pm
- **United Kingdom · EN**
www.emporiatelecom.co.uk/support/contact
+44 1923 947778
- **Ireland · EN**
www.emporiatelecom.ie/support/contact
+353 0818 000 102
- **Please have your proof of purchase ready.**

Warranty

The consumer (customer) is granted a durability guarantee under the following conditions, without prejudice to his claims for defects against the seller:

- This guarantee applies to new devices purchased in the European Union. The guarantor is **emporia telecom GmbH + CoKG, Industriezeile 36, A-4020 Linz.**
- New devices and their components that show a defect due to manufacturing and/or material faults within **12 months** of purchase will be replaced or repaired free of charge with a device that corresponds to the state of the art.
- This guarantee does not apply if the defect in the equipment is due to improper handling and/or failure to observe the operating instructions.
- The proof of purchase, with the date of purchase, is valid as proof of guarantee.
- To redeem this guarantee, please contact our hotline.

Precautions

- Depending on the activated mode, the device measures only the body temperature or the surface of objects.
- Ask your doctor to explain the measured value of your body temperature.
- Do not use the device for any purpose other than taking body temperature.
- Do not use mobile phones near this product.
- Do not apply devices that generate electromagnetic fields near this product.
- Do not attempt to disassemble or repair this unit yourself.
- Do not subject the unit to strong mechanical stress such as bending or stretching. Do not apply strong pressure to the unit or drop it to the floor.
- This device cannot be used for diagnosing diseases. It cannot be used in emergency medicine or for continuous measurement during surgery.
- Keep children away from the device. For children up to 12 years of age, the measurement must be taken by an adult.
- Patients must not self-diagnose and self-treat based on the reading, this must be done by instructions from a doctor.
- Children under 12 years of age and persons who cannot articulate their feelings must not use the device.
- Do not use the device on persons suffering from inflammation of the external auditory canal, otitis media or other diseases of the ears.

Conditions of use

Temperature: from +10° to +40° C

Humidity: from 15 % to 93 % relative humidity

Storage conditions

Temperature: from -25 to +55

Humidity: from 0 % to 93 % relative humidity

Proper use

1. It can be dangerous for patients to make treatment decisions based on measurement results; please follow the doctor's instructions.
 - Independent decisions by the patient could lead to a worsening of the condition.
2. Do not touch the infrared sensor with your hands or blow air on it with your mouth.
 - If the infrared sensor is damaged or contaminated, false readings could result.
3. If there is a temperature difference between the storage place and the room where the measurement is taken, place the unit in the room where the measurement is to be taken for more than 30 minutes before taking the next measurement.
 - Incorrect measurement results may result.
4. Keep the product out of the reach of children.
 - If a child tries to take a measurement on its own, it could injure its ear. If a battery or the transparent cover is swallowed, contact your doctor immediately.
5. Do not take a body temperature reading near an air conditioner.
 - Avoid a negative influence on the measurement accuracy.
6. Use an alcohol swab to clean the surface of the sensor before and after each use. (If you see stains, cloudiness or water drops on the infrared sensor glass, clean it carefully with an alcohol swab).
 - Using toilet paper and pads for the face could scratch the infrared sensor, resulting in inaccurate results.
 - Avoid transmitting ear disease and affecting the accuracy of the measurement.
7. The product has been mechanically damaged.
 - There is a possibility that the measurement result is not correct.
8. If the device comes into contact with water or is even submerged, dry it completely before use. Especially water on the surface of the sensor must be removed with a cotton swab.
 - The priority is to avoid compromising safety and reducing measurement accuracy.

Caution

1. Do not use this product on people suffering from external inflammation of the ear canals, otitis media or any other ear condition.
 - It would be possible to cause an aggravation by doing so.
2. Do not use this product immediately after swimming, bathing or if there is water in the ear.
 - It is possible that lower readings will be displayed.
3. Do not place a dead battery in an exposed location.
 - The battery could break.
4. If the ear temperature is measured, the product must be switched to ear temperature mode.
 - Inaccurate readings could result.

Recommendations

1. Inform your doctor that the temperature was taken with an ear thermometer.
2. Ensure that the product is not subjected to intensive mechanical influences, is not dropped on the floor, stepped on or shaken.
3. Do not disassemble, repair or modify the product.
4. Avoid the entry of liquids (such as alcohol, water drops, hot water, etc.) into the unit, as it is not waterproof.
5. The product must be kept clean in a dry place.
6. Contact your dealer if any problems occur; you cannot repair the product yourself.
7. Do not use the product in the presence of electromagnetic fields.
8. Dispose of waste and residues of this product according to local laws and regulations.

Technical data

- **Model:** EMP-THERMO-22 (PG-IRT1603)
- **Dimension:** 31 × 175 × 72 mm
- **Weight:** approx. 77 g (without batteries)
- **Measuring range:** 34°-43°C (93.2-109.4°F)
- **Object temperature:** 0°-93.2°C (32-199.7°F)
- **Resolution ratio:** 0.1°C/°F
- **Measurement location:** Laboratory
- **Accuracy:** ± 0.2°C (35°-42°C)
± 0.4°F (95°-107.9°F)
other temperature ± 0.3°C
- **Operating environment:** 10°-40°C (50°-104°F),
relative maximum humidity
15%-93% RH
- **Air pressure:** 70-106 kPa
- **Transport and storage:** -25° to +55°C (-13° to 131°F)
relative maximum humidity 0%-93% RH
- **Air pressure:** 50-106 kPa
- **Display:** LCD display,
4 bit numbers and special symbols
- **Sounds and signals:**
 - A short beep is heard when the unit is switched on and when the unit is ready to measure.
 - The measurement is terminated with a simultaneous long beep.
 - System error or malfunction: 3 × short beep.
 - Fever alarm: 10 × short beeps to emphasise the urgency.
- **Memory:** The last 9 measurement results can be stored in the memory.
- **Automatic switch-off:** If no input is made, the thermometer automatically switches off after 30 seconds.
- **Battery:** 2 × 1.5V AAA batteries,
Alkaline batteries are recommended
- **Expected lifetime:** 5 years

Declaration of conformity

Manufacturer:	Shenzhen Pango Medical Electronics Co., Ltd; No.25 1st Industry Zone, Fenghuang Road, Xikeng Village, Henggang Town, Longgang District, Shenzhen, 518115 Guang- dong, P.R. CHINA
Importer:	EMPORIA Telecom GmbH & Co. KG Industriezeile 36 · 4020 Linz · Austria
Website:	www.emporia.eu
Model:	EMP-THERMO-22 (PG-IRT1603)
Product description:	Infrared thermometer

TÜV-Rheinland LGA Products GmbH (0197), Tillystraße 2, 90431 Nürnberg, Germany has issued the following EU type-examination certificates (Report Nr: 10918551-100 & 10918835-100):

The item described above complies with the relevant Union harmonisation legislation:

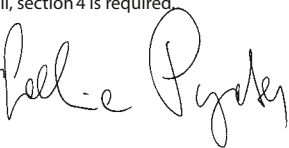
- Directive 93/42/EEC concerning medical devices, Annex II excluding (4)
- EN ISO 13485 (2016)

The requirements of Annex II, excluding Section 4 of Directive 93/42/EEC, for the devices listed are met.

That the manufacturer referred to above has established and applies a quality system such that periodic surveillance is carried out in accordance with Annex II, Section 5 of the Directive referred to above. For the placing on the market of class III devices covered by this certificate, an EC design-examination certificate according to Annex II, section 4 is required.

For the accuracy of the information

Eveline Pupeter, CEO, emporia Telecom
01.10.2022



Manufacturer directive and declaration

> Electromagnetic emission

This infrared thermometer (EMP-THERMO-22) can be used in an electromagnetic environment specified below. The customer or user must ensure that the product is used in the appropriate environment.

Directive	Compliance	Electromagnetic Environment – Directive
RF Emissionen CISPR 11	Group 1	The EMP-THERMO-22 uses RF energy only for internal functions. Therefore, RF emissions are very low and interference with nearby electronic equipment is unlikely to occur.
RF Emissionen CISPR 11	Class B	The EMP-THERMO-22 is used indoors. The power source is DC 3V
Harmonic emissions IEC 61000-3-2	—	
Voltage fluctuations/ spurious emissions IEC 61999-3-3	—	

> Electromagnetic immunity

This infrared thermometer (**EMP-THERMO-22**) can be used in an electromagnetic environment specified below. The customer or user must ensure that the product is used in the appropriate environment.

Immunity test	Test level IEC 60601 (as amended)	Compliance level	Electromagnetic environment – directive
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	Floors should be made of wood, concrete or ceramic tiles. If floors are covered with synthetic materials, the relative humidity should be at least 30%.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	30 A/m, 50/60Hz	30 A/m, 50/60Hz	Magnetic fields should correspond in energy frequency to characteristic fields in a commercial or hospital environment.

Note: UT is the AC mains voltage before applying the test level.

RF performed IEC 61000-4-6	3Vrms 150 kHz - 80 MHz 6Vrms 150 kHz - 80 MHz outside ISM bandsa	—	Portable and mobile RF communication equipment should be used no closer than the recommended distance from the infrared thermometer determined by the applied equation applicable to the frequency of the transmitter.
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Radiated RF IEC 61000-4-3	10V/m 80 MHz-2.7 GHz	10V/m	<p>Recommended distance: $d = [\frac{3.5}{V_1}] \sqrt{P}$ $d = [\frac{3.5}{E_1}] \sqrt{P}$ 80-800 MHz $d = [\frac{7}{E_1}] \sqrt{P}$ 800 MHz-2.7 GHz</p> <p>If P is the maximum emitted energy of the transmitter in watts (W) specified by the manufacturer, then d is the recommended distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, determined from electromagnetic monitoring, should be less than the compliance levels in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol.</p>
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Note:

- For 80 MHz and 800MHz, the higher frequency range may be used.
- These guidelines may not correspond to all situations.
- Electromagnetic transmission is affected by absorption and reflection from structures, objects and people.

1. The ISM (Industrial, Scientific and Medical) bandwidths between 0.15 MHz and 80 MHz are 6.765 MHz to 6.795 MHz; 13.553 MHz to 13.567 MHz; 26.957 MHz to 27.283 MHz; and 40.66 MHz to 40.70 MHz. Amateur wave bandwidths between 0.15 MHz and 80 MHz are 1.8 MHz to 2.0 MHz. 3.5 MHz to 4.0 MHz. 5.3 MHz to 5.4 MHz. 7 MHz to 7.3 MHz. 10.1 MHz to 10.15 MHz. 14 MHz to 14.2 MHz. 18.07 MHz to 18.17 MHz. 21.0 MHz to 21.4 MHz. 24.89 MHz to 24.99 MHz. 28.0 MHz to 29.7 MHz and 50.0 MHz to 54.0 MHz.

2. The compliance levels in the ISM frequency ranges between 150 kHz and 80 MHz and in the frequency range from 80 MHz to 2.7 GHz are intended to reduce the likelihood of a mobile/portable communication device causing interference if it is accidentally brought into patient areas. Therefore, an additional factor of $10^{1/3}$ was incorporated into the formula used to calculate the recommended distance for transmitters in these frequency ranges.
3. Field strengths from stationary transmitters, such as base stations for mobile and cordless radiotelephones and land mobile radio systems, amateur radios, AM and FM radios and televisions, cannot theoretically be predicted with accuracy. To assess the electromagnetic environment due to stationary RF transmitters, an electromagnetic site survey should be considered. If the measured field strength at the location where the **Infrared Thermometer (EMP-THERMO-22)** is used exceeds the RF compliance levels specified above, the Model **EMP-THERMO-22 (PG-IRT1603)** should be observed to verify normal operation. If abnormal operation is observed, additional measures may be necessary, such as realignment or relocation of the model **EMP-THERMO-22 (PG-IRT1603)**.
4. Over the frequency range of 150 kHz to 80 MHz, field strengths should be less than 3V/m.

> Recommended distances

This **Infrared Thermometer (EMP-THERMO-22)** is intended for use in an electromagnetic environment where RF interference is controlled. The customer or user can help avoid electromagnetic interference by maintaining a minimum distance between the portable and mobile RF communication device (transmitter) and the **Infrared Thermometer (EMP-THERMO-22)** as recommended below, according to the maximum radiated energy of the communication device.

Evaluation of the max. radiant energy of the transmitter W	Distance according to the frequency of the transmitter		
	150 kHz-80 MHz $d = [^{3.5}/_{V_1}] \sqrt{P}$	80-800 MHz $d = [^{3.5}/_{E_1}] \sqrt{P}$	800 MHz-2.7 GHz $d = [^7/_E_1] \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at maximum radiant energy but not listed here, the recommended distance can be estimated by applying an equation according to the frequency of the transmitter, where **P** represents the maximum radiant energy of the transmitter in watts (**W**), according to the transmitter manufacturer.

Note:

- For 80 MHz and 800 MHz, the higher frequency range may be used.
- These guidelines may not correspond to all situations.
- Electromagnetic transmission is affected by absorption and reflection from structures, objects and people.

Importer:	Emporia Telecom GmbH & Co KG Industrizeile 36 · 4020 Linz · AUSTRIA
 EC-Representative:	Lotus NL B.V. Koningin Julianaplein 10, 1e Verd, 2595AA, The Hague, NETHERLANDS
 Manufactur:	Shenzhen Pango Medical Electronics Co., Ltd No.25 1 st Industry Zone, Fenghuang Road, Xikeng Village, Henggang Town, Longgang District, Shenzhen, Guangdong CHINA

- DE Bedienungsanleitung in anderen Sprachen finden Sie hier:
- EN Operating instructions in other languages can be found here:
- FR Vous trouverez ici le mode d'emploi dans d'autres langues :
- IT Le istruzioni per l'uso in altre lingue sono disponibili qui:
- NL Gebruiksaanwijzingen in andere talen vindt u hier:



[https://www.emporiamobile.com/
manual/emp-thermo-22](https://www.emporiamobile.com/manual/emp-thermo-22)

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