



USER MANUAL

WARMIE
WM-1020
Temperature monitoring system

ENG

Poznan, 2020-11-16



READ CAREFULLY THE ENTIRE USER
MANUAL, BECAUSE IT CONTAINS
INFORMATION THAT IS IMPORTANT FOR THE
USER

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1 INTRODUCTION

1.1 About this manual

This manual is an integral part of the WARMIE WM-1020 temperature monitoring system.

WARMIE Sp. z o.o. shall not bear any liability nor grant any warranties in connection with the damage (also indirect damage) which occurred as a consequence of failure to observe this user manual.

- Before using the medical device, please read this manual carefully, paying particular attention to issues related to the product's safety.
- Keep the manual in a safe place throughout the period of use of the device.
- The user manual must be delivered to each subsequent owner or user of the device.
- This manual must be updated on the basis of every supplement received from the manufacturer.

The aim of this manual is the description of a medical device, that is, the WARMIE temperature measuring system, with a particular consideration of:

- the operation of the device in accordance with its intended use,
- the safety of use,
- the troubleshooting
- the maintenance and disposal.

1.2 Index of changes




Table 1.1:

Version of the application	Date of issue
1.5.X/Y	30 July 2020

1.3 Scope of application

This manual applies to the WARMIE temperature monitoring system, in the version specified in table 1.1.

1.4 Symbols, markings and terms used in the manual

	Warnings and safety measures, non-compliance with which may result in personal harm, including serious injuries.
	Warnings and safety measures, non-compliance with which may cause damage to the device or its malfunctioning.
	Guidelines or information useful to the user.

The meaning of the terms frequently used in this manual has been provided below

WARMIE System, Medical device, product	The system which is the subject of this manual, and which consists of the WARMIE Sensor and the WARMIE24 application delivered by the manufacturer and activated on the user smartphone. This manual is also a part of the product.
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WARMIE sensor, sensor, device, thermometer	An electronic device used to measure temperature and to transmit the results into the WARMIE application. The sensor is attached to the user's body using a band. After the sensor is activated, it transmits the temperature measurement results to the WARMIE application
WARMIE application, WARMIE24, application	The software that is used to collect, process and display the results of measurements carried out by the WARMIE Sensor. The software is downloaded from the Google Play store / AppStore and installed on the user's mobile phone. The mobile phone must meet specific requirements.
activation	A simple activity which is aimed at putting the WARMIE Sensor into the state in which it performs measurements and transmits the results to the WARMIE Application. The sensor is delivered to the user in a non-active state and may be activated and deactivated by the user. It may also deactivate itself, if it is not in use for a longer period of time.
pairing	A sequence of activities which creates a permanent connection between a specific WARMIE Sensor and a specific WARMIE24 application on the user's smartphone. The paired elements – the sensor and the application – are capable of reconstructing the connection after it is broken, e.g. because of the loss of coverage.
probe	The metal element on the casing of the device, under which there is a transmitter which measures the temperature.
manufacturer	WARMIE Sp. z o.o.

2 PRODUCT CHARACTERISTICS

2.1 Intended use

The WARMIE medical device is a battery-powered wireless thermometer designed for the continuous measurement and monitoring of the human body temperature. The measured temperature value is transmitted wirelessly to the application installed on a user's smartphone, which enables the reading of the temperature and the registration of its changes. The battery life allows for the continuous temperature monitoring for many weeks.

2.2 Indications

An indication for using the product is:

- a) monitoring of the body temperature:
 - in the course of systemic infections,
 - in the course of parasitic infestations,
 - in the course of the menstruation cycle,
- b) telehealth monitoring.

2.3 Counterindications



Do not use the device, if wounds or abrasions are present at the application site.

2.4 Possible undesirable effects and product safety



Pay attention to the effects of the prolonged contact between the sensor and the skin, especially if you are allergic to nickel and chromium – the metals included in the sensor probe material. In the case of an allergic reaction, stop using the device and seek medical attention.



Leaving the device on your body for a period longer than 30 days may lead to the development of pressure sores. Control the condition of your body at the site where the product comes into contact with the skin and change the application site maximum every 7 days.

2.5 Precautions and warnings



The product must be used in accordance with this manual. Read the manual before you start using the product.



Using the device does not replace an appointment with the doctor.



The device contains small parts which may be swallowed or cause choking. The swallowing of the battery may result in dangerous internal injuries, developing within a few hours.



If you swallow the sensor or its parts, you must contact seek medical attention immediately. In the case of choking, provide first aid immediately.



Because of the risk of swallowing, the device is intended for children above the age of 3, however, special attention and constant supervision are also recommended for older children.



If the device is used in children or persons with reduced cognitive abilities or consciousness, maintain particular caution and ensure constant supervision of an adult person.



Make sure that the band is not attached to the limb too tightly as this may lead to a reduction in the blood supply to the distal part of the limb.



Before using the device in patients with a pacemaker, consult your doctor.



The device functions properly only with the WARMIE24 app installed on the mobile provided with a compliant operating system. List of systems – see [section 4.1](#). Combination with other applications – see [section 4.2](#).



The radio transmitter emits electromagnetic waves. Before using the device in patients with a pacemaker, consult your doctor.



Do not use either near devices which produce strong electromagnetic interferences or near devices which are particularly sensitive to such interferences. Other radio devices (including their antennas) should not be placed closer than 30 cm to the WARMIE sensor.



The battery may only be replaced with a battery of the type indicated by the manufacturer. The use of different battery type may lead to a short-cut or improper operation of the device. See table [6.1](#) for a list of approved batteries.



Use the device at an ambient temperature ranging between 0°C and 50°C.



Do not expose the device to temperatures above 60°C or below -25°C.



Do not use the device when relative humidity is higher than 95% RH.



Do not expose the device to any chemicals which have not been listed in this manual, to direct sunlight and high temperatures.



Do not modify or open the thermometer for purposes other than battery replacement.



Do not immerse the device in water or other liquids. The casing of the device is water-proof only to a limited extent.



Protect the device against shocks and falls.



Store the product in a clean and dry place.



Store the product in its original, closed packaging, out of reach and sight of children.



If you notice any irregularities in the operation of the thermometer or that it is damaged, stop using the device and contact the authorised service centre indicated by the manufacturer - see section [9](#).



Do not repair and/or modify the product on your own. Any repairs must be performed by the service centre indicated by the manufacturer – see section [9](#).



If leaking electrolyte comes into contact with mucosa (e.g. eye mucosa), wash it with plenty of water for at least 15 minutes. If the electrolyte comes into contact with skin, wash it with water and soap and wipe dry.

2.6 Additional information



The medical device is designed for repeated use.



The device is designed both for domestic and professional use.



The device is not sterile and must not be sterilised. The casing of the device may only be disinfected with agents indicated by the manufacturer – see section [6](#).



The device does not contain any parts which the user may replace on their own, except the battery.



Keep this manual for future reference, if necessary.




In the case of any doubts related to the use of the product, contact the manufacturer (see section [9](#)).













The device cannot recharge the battery.

2.7 Product classification

Classification	Class
Class according to MDD 93/42/EEC	Class IIb, rule 10
Power supply	Internal battery supply, replaceable battery
Type of used application parts	BF type 
Ingress protection rating for solids and water	IP54
Sterility	Non-sterile product not intended for sterilisation
Operating mode	continuous

2.8 Marking

The meaning of symbols marked on the device as well as used on the packaging and in the accompanying documentation has been presented below.

	Manufacturer
	Before using the device, read the user manual thoroughly.
	Batch number
	The CE mark which confirms the compliance of the product with the principal requirements of EU Directives regarding the product, including the number of the Notified Body which participated in the compliance assessment process.
	CAUTION! IMPORTANT! Warnings against risks described in the accompanying text.
	Disposal of waste electrical and electronic equipment – the product must be disposed of in accordance with the national regulations concerning the waste electrical and electronic equipment.
	BF application parts
IP54	Ingress protection rating for water and solids
	Storage temperature range
	Usage temperature range
	Non-sterile

2.9 Product label



2.10 Environmental working, storage and transport conditions

2.10.1 Working conditions

Ambient temperature	from 0°C to 50°C
Relative humidity	from 5% to 90% RH
Atmospheric pressure (corresponds to the height above sea level)	700 hPa ~ 1060 hPa (up to 2000 m above sea level)
Required time of acclimatisation of the device after its application on skin and before commencing the interpretation of the read results	until the device reaches the body temperature (at least 15 minutes).
Electromagnetic field strength (within the frequency range)	up to 10V/m, in the range between 80MHz and 2.7GHz up to 3V/m, in the range between 2.7 and 6GHz

2.10.2 Storage and transport conditions

Ambient temperature	from -25°C to 60°C
Relative humidity	from 5% to 90 % (without condensation)
Atmospheric pressure (corresponds to the height above sea level)	700 hPa ~ 1060 hPa (up to 3000 m above sea level)

3 DESIGN AND OPERATION

3.1 Equipment

The WARMIE system consists of:

- the device per se - the WARMIE temperature sensor, Fig. 5a
- the band (size: S/M and L) - a silicone cover is provided on a single band, Fig. 5b
- the user manual
- the warranty card

Fig. 5a



Fig. 5b



Fig. 5 WARMIE sensor with the marked temperature transmitter probe

4 INSTALLATION AND OPERATION OF THE PRODUCT

The elements necessary for the operation of the WARMIE medical device are as follows:

- the WARMIE sensor with a clamping band,
- the mobile (smartphone) and the Android or iOS operating system,
- the free WARMIE24 app installed and activated on the smartphone.

The WARMIE sensor with the armband measures the temperature and registers the results for a short time. Then, these results are transmitted through Bluetooth to the WARMIE24 app installed on the user's smartphone, with which it is paired.

The WARMIE24 app may be started on any type of a smartphone provided by any manufacturer, if the smartphone works under the control of the operating system mentioned in table 4.1 below.

4.1 Supported operating systems of smartphones

Table 4.1: Supported operating systems of smartphones

Operating system	The lowest compliant version	The highest compliant version
Android	5	10
iOS	13	13

WARMIE Sp. z o.o. shall not guarantee the proper operation of the WARMIE24 app. on devices with an incompatible version of the operating system. The application will not operate properly, if the version of the operating system is lower than the one given in the second column of the table.

The third column contains the highest number of the system's version with which the manufacturer has tested the device. The application should also work properly with higher versions of the system, but the manufacturer cannot guarantee this. The manufacturer will conduct tests for each newly appearing version of the system and will publish information about its compliance on the manufacturer's website www.warmie.eu. If any non-compliance is identified, the manufacturer will try to introduce the necessary improvements and make its newer version available.



If the version of the system on your smartphone is higher than the one listed in the column entitled The highest tested version, check the up-to-date information at www.warmie.eu or contact the manufacturer.

4.2 WARMIE24 application

1. Before using the thermometer, download the WARMIE24 app from:
 - the Google Play store, and then install it on your mobile with the Android 5.0 system or any other higher version, or
 - the AppStore, and then install it on your mobile with the iOS 13 system or any other higher version





The use of the WARMIE sensor with the applications whose manufacturers have not obtained a written confirmation from WARMIE Sp. z o.o. regarding their compliance means that the medical device is used in a manner that does not comply with its intended use. The manufacturer shall not be held liable for the consequences of such use.

2. Before starting the application, activate the WARMIE sensor and put it into the pairing state - this is described in section [4.3](#) below.
3. During the first start-up, the WARMIE24 app performs the Bluetooth scan in search of Bluetooth Low Energy devices which communicate the data that identify the device as the WARMIE sensor - especially the string of WARMIE characters.
4. The scan is carried out until the device which was put into the pairing state or the previously connected device saved in the application's memory is detected.
5. After the successful pairing, the application automatically shows the current temperature on the main screen, transmitted by the sensor with which it is connected. If the pairing is unsuccessful, the screen will keep showing the information about the missing connection until it is established.



The established connection is maintained until it is broken as a result of losing radio coverage, or switching off the device. If the connection is broken by a system event, the application automatically seeks to resume it.



The device, which is not used to perform measurements for a period longer than 7 days, is automatically deactivated and its repeated activation in a manner described in [4.3](#) is required.

The application will signal such a necessity by a message on the screen just as is the case with the first use of the device.

4.3 Activation, deactivation of the connection – pairing of devices

The proper operation of the device requires the establishment of a permanent Bluetooth radio connection between the WARMIE sensor and the smartphone, on which the WARMIE24 app is installed, i.e. the pairing of the WARMIE sensor with the smartphone. The user performs the pairing of these two devices in a simple manner described below. If the sensor is used continuously, or with short breaks, the pairing procedure is only conducted before the first use, then the devices establish the connection automatically each time it is broken.

The repeated pairing of the devices by the user is necessary only after the manual deactivation of the connection or a very long period when the communication between the devices is not available (lack of coverage).

4.3.1 Activation of the connection – pairing of devices

Before the connection between the sensor and the smartphone is activated, start the WARMIE24 application on your smartphone. The application must not be paired with any sensor. Whether the application is paired, can be checked in the "Settings" menu: the number of the sensor with which the application is paired is displayed on the DATA bar in the menu. In such a case, the current connection must be broken in a manner described in section [4.3.2](#).

In order to activate the connection, press the centre of the casing with your finger. The easiest way in which this can be done is to grab the casing between your thumb and index finger and press the casing with your fingers.

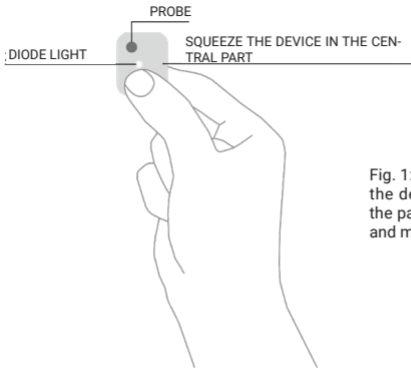


Fig. 1: Activation of the device to start the pairing process and measurements

The activation of the device will be confirmed by a short flash of the LED installed inside the casing. Note! The flash will be invisible in strong light.

4.3.2 Deactivation of the connection

The connection of the smartphone with the sensor may be interrupted manually from the level of the WARMIE24 app, e.g. in order to establish a connection with another sensor or to stop the measurements for a longer period of time. The connection is interrupted (deactivated) from the following menu: Settings >> Clear

data, in a manner described in section [4.12](#).

The connection of the sensor with the WARMIE24 app is subject to automatic interruption, if the sensor cannot connect with the smartphone for a long time (lack of coverage). This mechanism is aimed at saving the battery, when the sensor is not in use. Time after which the connection is interrupted, depends on whether the sensor has measured the body temperature at least once (above 31°C). If this is the case, the sensor maintains the connection for approx. 7 days, and if not, the sensor breaks the connection after about one hour.

4.4 Placement of the sensor on the patient's body

The only correct place for placing the sensor to monitor the body temperature is inside the armpit (see [Fig. 2](#)).

The sensor has been optimised for the measurement of temperature inside the armpit. Although it is possible to measure the temperature at another anatomical location using the WARMIE sensor, it must not be used to determine the patient's body temperature.



The placement of the sensor at another location than the one that is compliant with its intended use (the armpit), may lead to mistaken temperature readings.

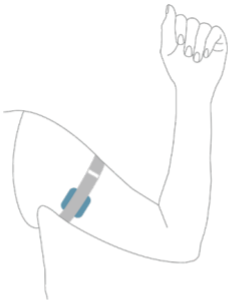


Fig. 2: The place to attach the sensor on your body

Placement of the sensor:

1. The WARMIE sensor must be placed on your body using a band attached to the set. The band must not be overtightened so as to prevent the restriction of blood supply
2. In order to ensure correct body temperature readings, make sure that the sensor is in contact with the skin and is located on the inside of or around your armpit, at a distance of maximum 3 cm.
3. After placing the sensor in your armpit, it is recommended that you wait for minimum 15 minutes until the sensor begins to provide the correct temperature measurement results. At this time, the sensor temperature rises quickly and the results provided by the device may differ from the real ones.
4. In order to obtain the correct measurements it is important that the once attached device should not be moved from the armpit and that constant measurement conditions are ensured for at least 15 minutes.



Leaving the thermometer on your body for a period longer than 30 days may lead to the development of pressure sores. Control the condition of your body under the dressing and change the application site maximum every 7 days.

4.5 Connection of the WARMIE sensor with the WARMIE24 app in the smartphone

1. In order to establish a connection to a mobile device, an application whose installation has been described in section [4.2](#) is required.
2. Make sure that your mobile phone has Bluetooth enabled and that all permits necessary for working with the sensor are granted to the application during the installation process.
3. The application will immediately start the procedure of establishing a connection with the WARMIE sensor.
4. In the case of the first connection of the device or after a longer period of inactivity, the screen will display a message about the need to activate the device – see section [4.3](#).
5. After the connection is established, the application begins to display the current results of the temperature measurement – this is described in section [4.6](#).

4.6 Measurement of temperature and collection of results



Before proceeding with the measurements, both the WARMIE sensor and the patient must remain in stable ambient temperature conditions for at least 15 minutes.

1. Before starting the measurements, the system should be in the following state:
 - sensor in the active state and paired with the WARMIE24 application (see section [4.3](#)),
 - sensor placed on your body by means of a band according to the description

from section [4.4](#).

- it is recommended that the sensor and user's body are in the state of thermal balance (i.e. approx. 15 minutes have passed since the attachment of the sensor).
- 2. Start the WARMIE24 application.
- 3. The application begins to monitor the temperature of your body. The application receives the current results and collects them in its register. If the "Download measurements in the background", is enabled in the application settings, the application downloads the results also after it is closed (see section [4.7.2](#)). The results collected by the application can be viewed on a chart and exported into a file.
- 4. If the connection between the application and the sensor is broken, the measurement results are not lost for a certain period of time, as the sensor has its own register in which the results can be collected for several hours. The results will be read after reconnecting the application with the sensor.
- 5. It is possible to start interpreting the provided results after the readings are stabilised, i.e. after approx. 15 - 20 minutes. The previously read results may differ from the actual body temperature.



Check regularly whether the sensor probe is in good and permanent contact with the skin surface. Otherwise measurement errors may appear.



Sudden movements and effort of the user may lead to inaccurate measurement results.



The range of temperature readings regarded as normal for the measurements taken under the armpit is 34.7 - 37.3°C.

4.7 User settings

The user has the possibility of changing the following application para-

meters at their disposal:

- Enable disconnection and connection notifications
- Download the measurements in the background
- Measurement settings

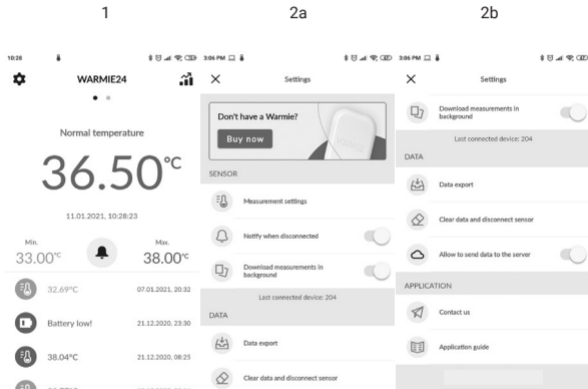


Fig. 3: Main screen of the WARMIE24 app after it is connected with the sensor and the setting screen (upper and lower part – not visible entirely on the screen).

4.7.1 Enable disconnection and connection notifications

This setting determines whether the application is to present the push notification in the case of losing the connection with the sensor, and similarly, in the case of its connection.

4.7.2 Download measurements in the background

This setting determines whether the WARMIE24 application maintains the connection and downloads the measurements when the application is not active. When the option is enabled, the Bluetooth connection to the WARMIE24 thermometer is active also when the application is minimised. Otherwise, the connection is terminated every time the application is exited.

4.7.3 Measurement settings

In this section the user can change the measurement unit using the available options: degrees Celsius and degrees Fahrenheit. The user can also change the type of measurement between the measurement of surface temperature and body temperature. In the second case, the result is compensated so as to make it as close to the body temperature as possible.

4.8 Measurement registration

The current result of the temperature measurement is always presented on the main screen of the WARMIE24 application. Furthermore, the temperature measurements from the thermometer applied to the body (i.e. exceeding 31°C) are additionally registered for future reference. The continuity of the measuring section is maintained, as long as the break resulting either from the temperature lower than 31°C or the interruption of the connection is no longer than 5 minutes.

4.9 Measurement viewing

Measurements can be viewed on a chart representing the relationship

between the registered temperature and time. In order to access the view of the chart, press the pictogram of the chart on the main screen of the application or anywhere in the current measurement field. The temperature values displayed in the upper part of the window indicate the Highest temperature and Average temperature in the selected period (Day, 12 hours, 6 hours or 1 hour).

4.10 Temperature threshold settings

The application presents notifications regarding the excessively high or low body temperatures as well as technical notifications, e.g. when the battery level is too low. The full list of notifications and the way they work are described in chapter. 5. Temperature thresholds have default values - 33.0°C (low temperature) and 38.0°C (high temperature). The user may change these values by pressing the digit which represents the current value of the temperature threshold and which is below the current measurement on the main screen.

The temperature threshold levels may be adjusted in the following ranges: 31.0 ÷ 36.5°C (low temperature) and 36.6 ÷ 41.0°C (high temperature).

4.11 Export of measurement results

The WARMIE24 app registers all measurements received from the WARMIE sensor with which it is paired on a current basis. These measurements are saved in the register in the internal memory of the application, in the form of time-temperature pairs.

At any moment, the user may export the registered measurement results from the application into a text file in the CSV (Comma Separated Values) format. The export of data does not cause their deletion from the application's register. The export file may be saved, among others, in the mobile phone's memory, on the memory card or on the Google Drive. This facilitates its immediate transfer to a PC. The initial fragment of the export file has been shown below:


```
DATE,TEMPERATURE,NORMAL  
2020-05-19T19:31:50,36.60,TRUE
```

2020-05-19T19:35:05,36.61,TRUE
2020-05-19T19:35:04,36.60,TRUE
2020-05-19T19:35:07,36.59,TRUE
2020-05-19T19:35:07,27.75,FALSE
2020-05-19T19:35:07,27.75,FALSE
2020-05-19T19:35:08,27.75,FALSE

The registration takes place in two modes which differ from each other in terms of the interval (registration frequency):

- on-line mode: application-sensor connection is active, registration interval < 1 sec,
- off-line mode: after breaking the connection between the application and the sensor, the registration interval is 60 seconds; the sensor registers the last samples in its own buffer.

The breaking of a connection between the mobile with the WARMIE24 app and the WARMIE sensor does not result in the interruption of the registration process; the only result is switching to the off-line mode and a change in the interval from 1 second to 1 minute. Note! In the off-line mode, the sensor can register maximum 1000 samples (over 16 hours of registration). After resuming the connection, which takes place automatically in the majority of cases, the application reads the buffer content from the sensor and adds it to its own register. This way, the continuity of registration is maintained and the only thing that changes is the registration interval.

In order to export data, move to the "Settings" screen (the icon  in the right upper corner of the screen) and select "Data export". The folder selection window will open with the file name edit field at the bottom of the screen. The automatically generated name is unique, it may be changed to any other one.

4.12 Deletion of measurements and deactivation of the connection

An additional option in the setting screen is "Clear data". It deletes all

the registered measurements, disconnects the current connection and deletes the WARMIE sensor from the memory. Therefore, the selection of this option requires the reconnection with the sensor as is the case with the first connection.

If there is a need for interruption (deactivation) of the connection between the sensor and the smartphone, select "Clear data".

The screen will display a warning message about the loss of the previously collected measurements and termination of the connection with the WARMIE sensor. After approval with the YES button, the connection will be terminated and forgotten. From now on it is possible to establish a connection with the same or other sensor through the activation procedure described on section [4.3](#).

5 NOTIFICATIONS

Notification name	Notification trigger	Form	Possibility to use the "disable" option by the user
High temperature	Upper temperature threshold exceeded (by default: 38°C)	<ul style="list-style-type: none"> - Presentation of a measurement in red on the main screen - sound push notification - Entry in the application timeline 	<p>No possibility to disable the notification.</p> <p>It is possible to mute the ongoing notification.</p>
Low temperature	Lower temperature threshold exceeded (by default: 33°C)	<ul style="list-style-type: none"> - Presentation of a measurement in blue on the main screen - sound push notification - Entry in the application timeline 	<p>No possibility to disable the notification.</p> <p>It is possible to mute the ongoing notification.</p>

No connection	Loss of the Bluetooth connection with the device for the time longer than 30 seconds	- Information about the lack of the connection on the main screen of the app. Sound push notification	Possibility to disable the notification in the settings. It is possible to mute the ongoing notification.
Empty battery	Low sensor battery level	- Entry in the application timeline - Push notification	No possibility to disable the notification. It is possible to mute the ongoing notification.

6 MAINTENANCE

6.1 Cleaning and disinfection

When using the product at home, basic rules of maintaining the hygiene of the device must be observed. If used during an infection, the product must be disinfected after each use, using disinfectant wipes for medical devices, soaked in ethyl alcohol or isopropyl alcohol. During the disinfection, instructions for use on the disinfectant product's label must be strictly observed.

When using the product in a hospital environment, the product should be thoroughly disinfected after each use.

6.2 Battery replacement

1. Prepare a battery, which is compliant with the instructions of the manufacturer (see – table [6.1](#)), and a triangular element for opening the casing of the device (see Fig. 4 below).
2. Insert one of the sides of the triangular element into the gap in the casing of the

- device, near the contact surface of both halves of the casing.
3. Gently lift the upper part of the casing in order to separate it from the lower part.
 4. The casing will be split into two halves. One part contains the round CR2032 battery, while the other part contains a printed circuit board with electronics. Make sure you do not touch the electronics.
 5. Remove the battery from the lower part of the casing. For this purpose, you can turn this part of the casing with the battery upside down and tap the casing against the table top – the battery will fall onto the table top.
 6. Prepare the new battery and insert it in accordance with the marking on the casing (+ and -).
 7. Close the device by pressing together the two parts of the casing in the central part - you will hear a “click”.
 8. After replacing the battery, it is necessary to reactivate the sensor by pressing the casing – see section [4.5](#).

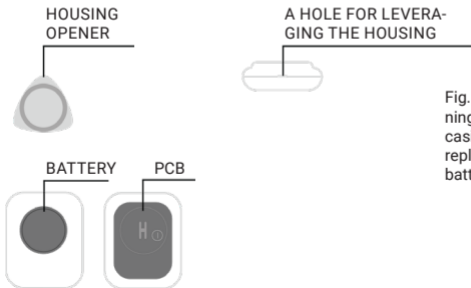


Fig. 4: Opening of the casing to replace the battery



Dispose of the waste battery in accordance with the local regulations.

Table 6.1: Types of batteries indicated by the Manufacturer for use in the product

Manufacturer	Type
Duracell	CR2032 DL2032 DL/CR2032
Energizer Brands, LLC	CR2032 Energizer
Murata	CR2032
Panasonic Corporation	CR2032
VARTA Microbattery GmbH	CR2032

7 TROUBLESHOOTING

7.1 Failures, damage, contact with the service centre

If you notice any irregularities in the operation of the medical device:

- make sure that you act in accordance with this manual,
- see the following subsections of this section to seek a solution for the most frequently occurring problems,
- if you do not find the right solution, contact the service centre.

You can send the e-mail message to the service centre using the following e-mail address: support@warmie.eu

You can contact the manufacturer directly using the address given on p.

7.2 Messages when the device is being switched on

7.2.1 Request for granting authorisations

At the time of the first start-up, the WARMIE24 app asks for an authorisation to locate the device (Android) or Bluetooth connections, and to display notifications (iOS). These authorisations are necessary for the proper operation of the app. If they are not granted, this must be done in your mobile phone's settings. In the case of the user's refusal, the app will not request these authorisations again.

7.2.2 Request for enabling Bluetooth on your mobile

WARMIE does not require having the Bluetooth communication launched on the phone to download the sensor's measurement results. Enable Bluetooth and location services in the phone settings, during the first connection with the device.

7.2.3 Information about the lack of connection

The app may display a message that the WARMIE sensor is not connected. This happens in the following cases:

- the first start-up,
- the attempt at connecting a sensor other than the one used so far,
- the clearing of the app's memory (see [section 4.10](#))

When there is a message about the lack of connection between the sensor, activate the sensor by pressing the casing in a manner described in on page [19](#).

8 SPECIFICATION OF TECHNICAL PARAMETERS

Model and type	WARMIE, WM-1020
Dimensions [mm]	32.5 x 26.0 x 7.8
Weight [g]	9 (including battery)
Basic measuring range	30.0 – 45.0°C
Extended measuring range	0.1 – 50.0°C
Basic/extended measurement accuracy	0.3°C/0.4°C
Reading resolution	0.01°C
Calibration	Not required
Communication	Bluetooth® 4.0, correct transmission range of up to 10 metres in free space. The actual range depends on ambient conditions and a mobile phone's specifications.
Equipment	WARMIE temperature sensor, two bands (sizes: S/M and L), silicone cover, casing opener, user manual and warranty card
Power supply	CR2032 lithium battery (min. capacity - 220mAh, nominal voltage 3V), the battery in the device is replaceable
Battery life*	4000 hours of measurements (approx. 6 months)
Expected service life	12 months
Frequency range	2.400 to 2,4835 GHz (ISM band))

Effective radiation power	up to 5 mW
Frequency modulation	GFSK and DSSS
Users	The product is designed for domestic and professional use

*depending on the frequency of connections of the mobile phone with the sensor, the battery life may be shortened.

9 MANUFACTURER



WARMIE Sp. z o.o.
 warmie.eu
 Kasztelańska 62,
 60-316 Poznań, Polska
 tel. +48 501 647 303

CE 1434



The marking of this device with the symbol of the crossed-out waste bin indicates that the equipment and batteries it contains must not be placed with other household waste after their useful life. The user is obliged to hand them over to waste electrical and electronic equipment collection points. Waste collection points, including local collection points, shops and municipal units create an appropriate system which enables the disposal of this equipment.

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