degree°

ENGLISH

Instruction Manual

Version: V1.1

Model number

Thermometer: DS02

Charging box: DC02

FCC ID: 2ATBZDS02DC02

IC: 25048-DS02DC02

Languages available:

Deutsch

English

Please read the instructions for use carefully before using the device for the first time. This makes it easier for you to use the product correctly. Please keep these instructions for use in a safe place.

In case of a high and long-lasting fever always consult your doctor.

Manufacturer information

This product is manufactured by Cosinuss GmbH.

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D-81379 Munich, Germany

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Email: info@cosinuss.com
Internet: www.cosinuss.com

CE 1234

Patents: DE 102 011 081 815 B4
Designed in Germany.
Made in Spain.

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Signs and symbols

The following symbols are used in this operating instructions and on the device.

Warning, Attention, Note.
Warning and safety information on health hazards or possible damage to the device or accessories.

This product contains batteries and recyclable electrical waste. To protect the environment, it must not be disposed of with household waste, but must be taken to the appropriate local collection points in accordance with the EC Directive on Electrical Waste. cosinuss° makes an annual contribution to the environmentally friendly disposal of its products.

CE 1234

The CE marking and the number of the notified body must attest conformity with the essential requirements Directive 93/42/EEC for medical devices.

Follow the instructions for use.

Product with application parts of type BF.

Product with protection class II.

Manufacturer.

LOT

Production batch number.

REF

Model reference number.

Bluetooth Low Energy, radio data transmission by means of electromagnetic radiation.

American seal, confirms electromagnetic compatibility

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Table of contents

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Scope of delivery

Check the scope of delivery for external intactness of the carton packaging and completeness of the contents.

Before use, make sure that the device and accessories are free of visible damage and that all packaging material is removed.

In case of doubt, do not use the device and contact your salesperson or our customer service.

• degree° thermometer	DS02
• degree° app[1]	Download
• Charging box	DC02
• Charging cable	USB / Micro-USB
• Power supply	USB / 230 V
• Instruction manual	

1 The degree° App (Smartphone application) is not included with the degree° infrared ear thermometer. It can be downloaded anytime for Android from the Google Play Store and for iOS from the Apple App Store for free Smartphone. For more information see download and installation in the prouct description.

Product description

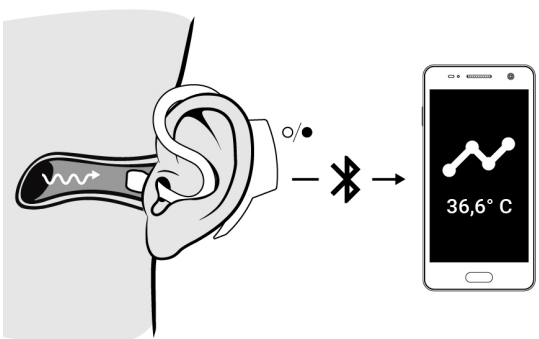
Application principle

The continuous temperature measurement with the degree° is carried out with the help of two elements.

The infrared thermometer, which can be worn on the ear, measures the heat radiation emitted from the eardrum and the surrounding tissue without contact by means of an infrared sensor in the sensor head. The shape of the thermometer guarantees a continuously correct position of the sensor head in the auditory canal.

The measured signal is amplified in the thermometer and output as body temperature with subsequent digital signal processing. Based on the calculated body temperature values, the LED on the back of the thermometer uses a simple color coding to indicate the temperature range. The values are also transmitted by radio from the thermometer.

A smartphone receiving device is connected via Bluetooth to the degree°. The degree° App serves as an extended display of the temperature values in degrees Celsius. The current temperature is displayed in digits. The entire course of the values is displayed in a temperature curve. Instead of measuring several times manually, degree° automatically documents a complete course of the body temperature during the application. The body temperature and the effectiveness of treatments can thus be observed better and without disturbing interventions.



The continuous temperature measurement with the degree°

Purpose of use

The wearable infrared ear thermometer degree° is suitable for non-invasive and continuous measurement and monitoring of human body temperature in children from 6 months, adolescents and adults.The degree° infrared thermometer is worn continuously on the ear and positioned in the outer auditory canal. It is a reusable and wearable ear thermometer intended for domestic use.

The operator of the device should have basic technical knowledge of the use of a smartphone and the range of human body temperature. The thermometer can either be worn by the operator of the device or used on another person.

degree° is a class IIa medical device.

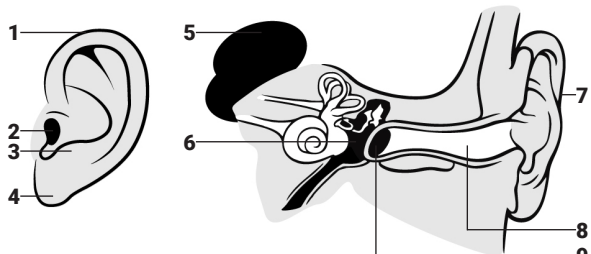
degree° monitors and buffers the body temperature and transmits it via Bluetooth Low Energy to a mobile device. The measurement of the current body temperature and the temperature curve can be viewed and monitored in real time on a smartphone.

For that the degree° app must be installed on the smartphone and the degree° must be connected to this phone via Bluetooth.
Essential services:

- Measurement of body temperature in the ear canal
- Non-invasive and continuous measurement
- Reliable and stable temperature output
- Good readability of body temperature
- Biocompatibility
- Very low and hazard-free radiation exposure due to radio waves

Why inside the ear?

The ear is the ideal place to measure the core body temperature. The core temperature is the temperature of the vital organs. The temperature in the ear correlates with the body core temperature, because the eardrum (the place where degree° monitors) and the hypothalamus (the temperature control centre in the brain) have the same blood supply. Changes in this core temperature therefore affect the ear more quickly than other parts of the body.



Place of measurement in the external auditory canal

Constituents

1. Auricle Rim
2. Entrance to the auditory canal
3. Anti Tragus
4. Earlobe
5. Hypothalamus
6. Middle ear
7. Auricle
8. Outer auditory canal
9. Eardrum

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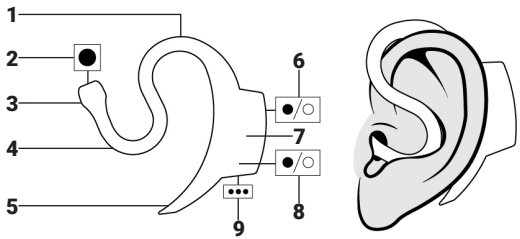
The infrared in-ear thermometer

The ergonomic design of the degree° infrared thermometer ensures an optimal position during the entire application. Comfortably and securely placed around the ear, the degree° thermometer continuously measures the body core temperature in the external auditory canal of the ear.

The degree° thermometer measures and stores the temperature information and sends it via Bluetooth Low Energy to a connected receiver.

Continuous temperature monitoring in the ear via infrared is a highly reliable, non-invasive monitoring method.



The degree° thermometer

Constituents

1. Sensor neck with shaped wire
2. Sensor lens
3. Sensor head
4. Anti Tragus Curve
5. Pickaxe
6. Status LED
7. PCB and Battery
8. Charging LED
9. Charging contacts

Basics

Turn it on	Take the degree° thermometer out of the charging box	
LED = Blue	Visible for Bluetooth connections	
Monitoring	Position the degree° thermometer in the ear and wait	
LED = White	Low temperature	34,0° – 35,0° C
LED = Green	Normal temperature	35,1° – 37,5° C
LED = Yellow	Increased temperature	37,6° – 38,5° C
LED = Red	High temperature	38,6° – 43,0° C
Turn it off	Return the degree° thermometer back into the charging box	
LED = Blue to Off		
Charging	Supply the charging box and the inserted sensor with power	
LED = Rot		
Battery Life	Up to 5 days continuously	
Interval	Every 10 seconds	
Displayed temperature range	34,0° bis 43,0° C	
Radio data transmission	Bluetooth Low Energy	

The smartphone application (App)

The degree° Smartphone application (App) serves as an extended display of the degree° thermometer. The app makes it easy to control the temperature from a distance at any time without disturbing the recovery process.

The app shows the profile of the currently measured person the:

- Profile information
- Current body core temperature in real time
- Complete temperature curve of all measurements
- Device information
- Bluetooth connection status

Download the app

The degree° App is not physically included with the degree°. It needs to be downloaded to your smartphone for Android via the Google Play Store and for iOS via the Apple App Store. You can do this free of charge and at any time.

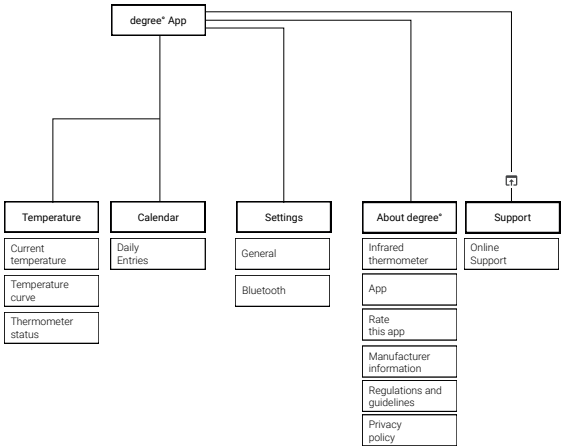
Before installing the degree° App, check whether it is compatible with the version of the operating system (Android or iOS) used on your smartphone. You can find this information for a trouble-free operation of the app directly in the Google Play Store or in the Apple App Store. You will find the degree° App under the search term: *cosinuss degree°*.

GET IT ON Google Play

Download on the App Store

2 Alternatively, you can scan one of the QR codes with your smartphone to get directly to the app..

Navigation structure of the App



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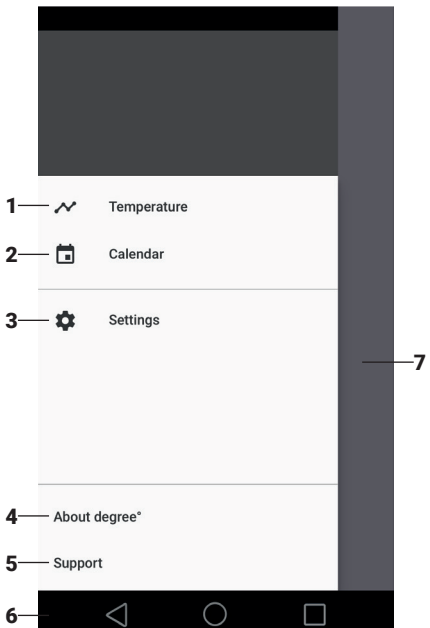
Navigation in the App



App navigation

Tap on the *Navigation* icon ☰, at the top left of any main screen to open the navigation of the app.

Tap on a navigation point to open and edit the selected screen.

Tap the *Back* icon ← to go back one navigation level.
Tap the *Close* icon ✕ to close a page.

Constituents of the navigation

1 Temperature screen
2 Calendar with previous monitored data
3 Global settings for the application
4 Information about the temperature monitor, the app and the manufacturer
5 Link to the online help section
6 General mobile navigation (depending on operating system)
7 Tap next to the navigation to close it

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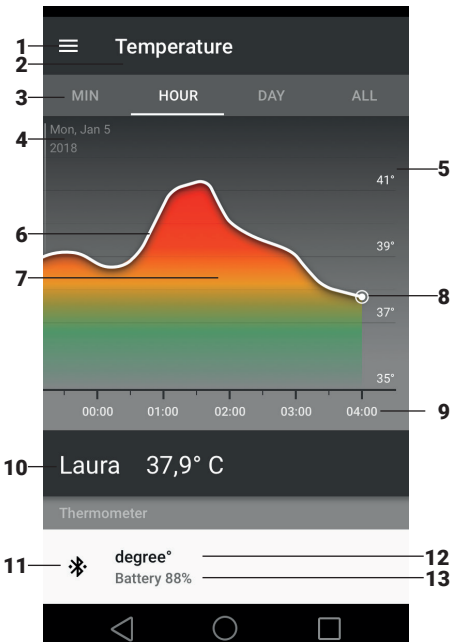
Temperature screen



Constituents of the temperature screen

Navigation

1 Back to main navigation
2 Current navigation point

Temperature Curve

3 Tabs with different time units
4 Date display
5 y-axis with temperature scale
6 Temperature curve
7 Colored temperature range
8 Current point of measurement
9 x-axis with time units

Classic temperature display

10 Current temperature in numbers

Device information of connected Thermometer

11 Bluetooth connection status
12 Name of thermometer
13 Battery Level of thermometer

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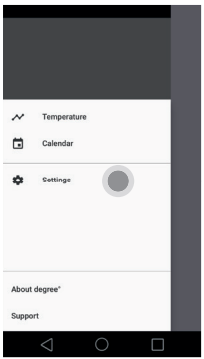
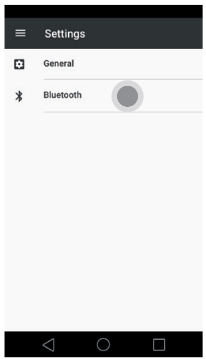
Connect the thermometer in the app[2,3]



App screen - Navigation



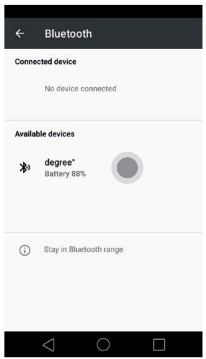
App screen - Settings

Settings

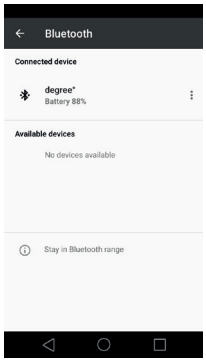
Select settings in the main navigation.

Bluetooth

Select Bluetooth in the settings screen.



App screen - Bluetooth



App screen - Bluetooth

Select thermometer

Select your degree° thermometer from the list of available devices.

Successful connection

With a successful Bluetooth connection, the degree° thermometer becomes the connected device.

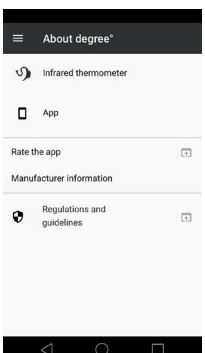
2 The degree° must be switched on. To do this, take it out of the charging box. It automatically switches on and is now visible for Bluetooth receivers.

3 Your smartphone's operating system may require you to enable location services to connect to a portable wearable Bluetooth device.

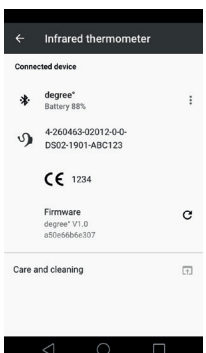
About degree°

On the About degree° screen you will find:

- Device information
- App Information
- Possibility to evaluate the app
- Manufacturer information
- Regulations and guidelines



App screen - About degree°

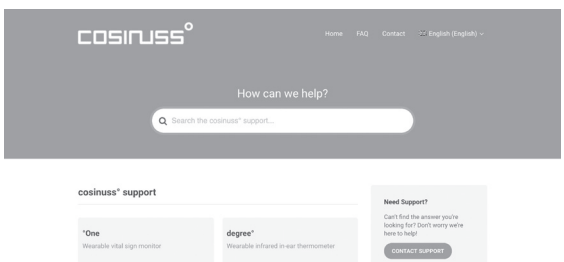


App screen - Temperature monitor

Support

Tap Support to visit the external link to
the online help section: *support.cosinuss.com*
Here you will find:

- Detailed instruction manual in text and pictures
- Contact opportunity
- Feedback, exchange and revocation forms



cosinuss° online support

The charging box

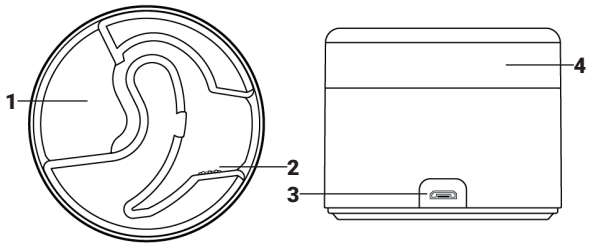
The degree° charging box is used for charging the degree° thermometer as well as for safe storage and transport.

As soon as you remove the sensor from the box, it switches on automatically. Put the sensor back into the box after use and it will switch off automatically.

To charge the degree° thermometer, put it into the charging box, connect the charging box to a power supply using the supplied accessories, USB charging cable and mains adapter.

Warning: The use of power supplies and charging cables other than the ones in the scope of delivery is not permitted and unsafe, as they cannot guarantee electromagnetic compatibility.

Do not touch the charging contacts or the USB interface simultaneously with the patient.



The degree° charging box

Constituents

1. Recess for the degree° Thermometer
2. Charging contacts
3. Micro-USB charging cable connection
4. Lid

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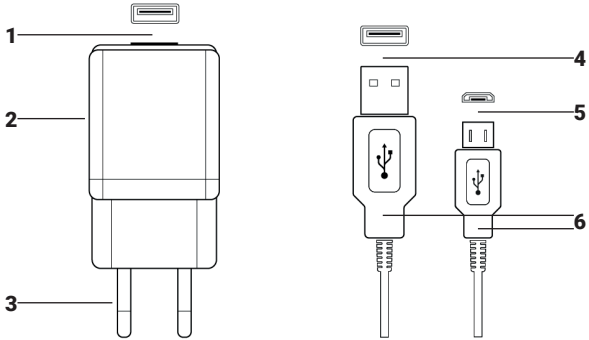
The power supply unit and the charging cable

The degree° power supply and the USB charging cable that are in the scope of delivery must be used for the safe power supply of the charging box and thus for charging the thermometer.



The degree° power supply and charging cable

Warning: The use of power supplies and charging cables other than the ones in the scope of delivery is not permitted and unsafe, as they cannot guarantee electromagnetic compatibility.

Do not touch the charging contacts or the USB interface simultaneously with the patient.

Constituents

1. USB charging cable connection
2. Power Supply
3. Euro plug
4. USB plug
5. Micro USB plug
6. Charging cable

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Application

Prepare the measurement

Technical parts

Ensure the following technical basics
before starting the measurement:

- The latest version of the degree° App is installed on your mobile phone.
- The degree° and your smartphone are appropriately charged.
- Disturbing influencing factors for the Bluetooth connection are minimized.
- Factors influencing the accuracy of the monitoring process are minimized.

Hygiene

Please observe the following basic principles regarding the hygienic cleanliness of the measurement:

- Use a clean sensor with a cleaned sensor head.
- Please carefully clean the ears of the person to be measured.
- When handling the medical device, make sure you have clean hands and good health

Circumstances

Create a calm and trusting surrounding for the recovery and for a convenient monitoring. Explain everything you do to the person to be monitored.

Make sure that the Bluetooth receiver stays within the range of about 10 m around the person to be monitored in order to have a constant connection and so you can observe the temperature in real time.

At best, the charging station should be located outside of the patients‘ reach. Apply only the degree° temperature monitor to the patient.

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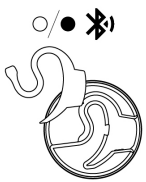
Start the app and connect the wearable thermometer.

Activate the Bluetooth service on your smartphone.

Start the degree° app on your smartphone. Follow the instructions on the screen and finally select the profile of the person whose temperature you want to measure.



Remove the degree° thermometer from the charging box. It switches on automatically and is now visible for Bluetooth receivers.

Select the degree° thermometer from the list of available devices in the app on the Settings > Bluetooth page.

The degree° thermometer now connects to the degree° app.

Select *Temperature* in the main navigation. This page is the extended display of the degree° thermometer.

Apply the degree° thermometer on to the ear.

Guide the rear part of the thermometer behind the auricle. The neck sensor lies over the edge of the auricle and leads to the external auditory canal.

Hang the thermometer gently over your ear. Eventually you want to pre-bend the sensor neck to direct the sensor head into the ear canal.

Carefully insert the sensor head into the outer ear canal. The lens of the sensor head now points towards the eardrum.

The sensor head may just disappear into the auditory canal. The sensor lens must point towards the eardrum and not against the wall of the ear canal. Avoid excessive and deep pressure.

Adapt the S-shape of the sensor neck to the anatomy of the auricle. Also place the lower curve of the sensor neck behind the anti-tragus of the auricle.

A reinforced shaped wire in the sensor neck helps to maintain the individual positioning.

The position of the degree° should now feel comfortable and secure.

Automatic start of temperature measurement

The display of the first temperature values may take a short moment. Any change in temperature is then detected in real time.

Once the degree° thermometer has detected a valid temperature of over 34.0° C in the ear canal, the color of the LED on the device itself changes and the information is sent to the app.

You can now see the status of the core body temperature on the device itself indicated with different LED colors and monitor the exact temperature values as well as the temperature curve in the app.

Continuous monitoring of body temperature

Based on the temperature curve shown in the app, you are now able to keep track with changes in body temperature of the monitored person:

- You are able to see if the body temperature reaches a level which is critical in your opinion.
- You are able to see changes in body temperature induced by actions you are undertaking (e.g. administering antipyretics, applying calf wraps)

End the measurement

First, make sure that the sensor is connected to the app so that currently missing data points can be transmitted to the app.

Remove the sensor from the ear.

The temperature values will drop quickly below 34° C. The LED on the device will turn white and the app will not display any temperature anymore.

Clean the sensor and especially the lens with alcohol and an ear stick or soft lint-free cloth.

Put the sensor back into the charging box. It then switches itself off automatically.

You can now close the app completely.

Charge the degree° for the next use by connecting it via the charger cable and power supply unit to a power supply.

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Warnings and precautions

Normal body temperature

The “normal” body temperature is not a fixed number but a temperature range. It varies depending on the location of the measurement, age and external factors. It also varies from person to person and varies throughout the day. Therefore, it is important to determine individual temperature ranges. The degree° is suitable as a continuous monitoring device for this purpose.

At the beginning, monitor your own temperature and the temperature of healthy family members several times during the day to determine and know the normal temperature range of every one. This will help you to determine not normal values later on.

Note: When you talk to your doctor, tell him that the temperature you have monitored with degree° is a temperature monitored continuously with an infrared method in the ear.

External influencing factors

External factors can influence the temperature measured in the ear:

- Direct exposure to wind, sun and water
- Ambient temperature
- Lying on your ear
- Dirty sensor head
- Damaged sensor head

Warnings

- Please contact your doctor if you notice symptoms such as unexplained irritability, vomiting, diarrhea, dehydration, changes in appetite or activity levels, seizures, muscle aches, chills, stiffness of the neck,

pain when urinating, etc., regardless of the color of the background in the app or the LED color on the device and regardless of whether or not fever is present.

- Please contact your doctor if the monitored temperature is elevated for more than two days already.
- Do not use the degree° when there are injuries to or in the ear or an increased sensation of pain in the ear
- The device must not be operated while charging or cleaning.
- This product can be operated at an ambient temperature range of 15 - 40 °C (59 - 104° F). Do not expose this product to extreme temperatures (below -25 °C / -13 °F or above 55 °C / 131 °F) or excessive humidity (> 95 % RF).
- To avoid inaccurate monitoring, the degree° must always be cleaned after usage according to the cleaning instructions in this document. (See: Care and Cleaning).

- degree° is intended for use in a domestic environment only. This product is not suitable for diagnosing disease or assessing hypothermia, but it is a useful tool for monitoring the temperature.
- The use of this device cannot replace your attention for your child or consultation with your doctor.
- Children under the age of 12 should not be left unattended while monitoring their body temperature.
- It is not allowed to modify the device or any other parts of the scope of delivery without the manufacturer's approval..
- Parents/legal guardians should contact the pediatrician if they notice any unusual signs or symptoms of an illness.
- For children receiving antibiotics, analgesics and antipyretics, the severity of their condition should not be assessed solely on the basis of temperature values.
- Elevated temperatures, which are indicated, may

indicate a severe disease, especially in adults who are older or frail, have a weakened immune system, or infants and young children. Please seek professional advice immediately from the following groups at elevated temperatures:

- Infants and young children under 3 months
- Patients over 60 years of age
- Patients with diabetes mellitus or a weakened immune system (e.g. HIV positive, cancer chemotherapy, chronic steroid treatment, splenectomy)
- Bedridden patients (e.g. secret patients, stroke, chronic illness, after surgery)
- Transplanted patients (e.g. liver, heart, lung, kidney)

- The degree° is swallow-proof and contains NO small parts that can be swallowed or pose a suffocation risk to children

- Do not leave the charging cable unattended with small children, there is a danger of strangulation.

- A continuous wearing time of the degree° thermometer of maximum 24 hours and at least 5 minutes per application is recommended.

Health Data

Cosinuss GmbH

Cosinuss Gmbh is a certified medical device manufacturer and meets all requirements for quality management and the harmonized standard ISO 13485.

The degree° thermometer and the associated software is a Class IIa medical device and conforms to the MDD medical device directive and IEC 62304.

The effectiveness of quality management is regularly checked by the notified body within the framework of external audits and internal audits.

Cosinuss GmbH assures that it will always strive to improve its products in terms of quality, usability and safety.

Data Security

We take the protection of your personal data very seriously. We treat your personal data confidentially and according to the legal data protection regulations as well as our data protection declaration. This privacy statement applies to our mobile iPhone and Android apps.

It explains the type, purpose and scope of data collection in the context of app usage.

Please take note of the current status of our Privacy policy under:

SUPPORT.COSINUSS.COM

We would like to point out that data transmission via Bluetooth and the local storage of data involves security risks. A complete protection of the data against access by third parties is not possible.

Please use only trusted and secured devices and services to protect against unauthorized access.

All personal data is provided, generated and stored by you as the user on your own responsibility.

Cosinuss GmbH does not have access to these data via the degree° App, nor does it transmit personal data to third parties. In particular, the collection of personal data by this app only takes place if, only for error analysis and only if we are legally entitled to do so or you have expressly consented to the collection of data in question.

Transmission of data

Bluetooth

The degree° thermometer transmits its data via Bluetooth Low Energy. Please note the following information:

If you want to connect your degree° thermometer to a Bluetooth enabled receiver, do not hold the two devices at a distance greater than 10 meters to avoid connection

problems. The functional distance can vary depending on the environment.

There should be no people, buildings, walls or other obstacles between your degree° thermometer and the other connected device as these may affect the connection quality.

Please use only trustworthy and properly secured devices.

If there are obstacles between the devices, the 10 m range may be reduced.

The use of the Bluetooth function for unlawful purposes is prohibited: piracy, eavesdropping, etc. Cosinuss° accepts no responsibility for the consequences of any illegal use of the Bluetooth function.

Bluetooth uses the same frequency as some low-power devices or machines in industry or the medical sector. For this reason, some devices may be subject to interference if one or several Bluetooth connections are established in the vicinity of such products

Cosinuss° is not responsible for any loss of data sent or received with the Bluetooth function, for example by abusive interception of the data.

Data handling

Storage of data

In general, all generated data is buffered locally on the degree° device and ultimately on your smartphone.

Real time transmission

The temperature data is briefly buffered on the sensor before it is immediately sent to your smartphone when an authorized and active Bluetooth Low Energy connection is established.

Buffering

If a Bluetooth connection cannot be established for a short time, the data is kept in the cache (RAM) of the degree° until a connection is restored and the data can be transmitted to your smartphone.

Flash Memory

Data will be stored in the internal flash memory of the degree° device:

- in case of longer interruptions of the Bluetooth connection
- in case the buffer is filled up completely,
- in the event of a critical battery charging status

If there is a new Bluetooth connection, the data will be sent again and transmitted to your smartphone.

Note: Make sure that you have a stable Bluetooth connection with your smartphone before finishing the measurement so that all data can be transferred to your smartphone.

Deletion of data

Switch off the degree°

Put the device back into the charging box to switch it off. Any remaining data in the buffer memory (RAM) will be deleted after 48 hours. Data in the flash memory is retained until it is overwritten.

Uninstalling the app

When uninstalling the degree° App from your smartphone, all previous data will also be deleted. Please note that no registration is required and therefore no cloud account has been created, your data will only be backed up locally. A recovery of deleted degree° information is not possible by Cosinuss GmbH.

Troubleshooting

If a problem occurs with your degree°, please follow these troubleshooting information first. If this does not solve the problem, please contact Cosinuss GmbH customer service.

Switching on and off, charging

The degree° thermometer does not switch on.

If the degree° does not switch on after removal from the box, either the battery is empty and needs to be charged or the device is defective. Please charge the device for one hour and try again afterwards. If the device is defective, please contact customer service

The degree° thermometer is in the charging box, but it does not charge, or does not turn off.

Check if you have inserted the degree° correctly into the charging box and if the charging contacts of the thermometer have good contact with the charging contacts of the box. Try to move the degree° back and forth a bit in order to better fit its charging contacts to the contacts in the box.

The thermometer battery is empty.

If the degree° is connected to your smartphone, you can always see the current battery level in percent in the degree° app. If the device does not switch on when you take it out of the charging box (the device LED remains off), the battery is empty. Please charge the degree°

Connection and Transmission

The degree° thermometer is switched on, but there is no connection to your smartphone.

As soon as the degree° is switched on it sends a Bluetooth signal and the status LED flashes blue.

Check whether you have activated the Bluetooth connection on your smartphone and then connect to your degree° by clicking in the degree° app on: Settings > Bluetooth. Please also see the notes on data transmission via Bluetooth that help you to minimize interference.

The app signals connection interrupts.

The Bluetooth connection between your degree° and smartphone is not stable. Please see the notes on data transmission via Bluetooth.

The degree° is located outside the reception or transmission radius to your smartphone.

The data transmission via Bluetooth Low Energy has a radius of max. 10 m. Make sure that degree° and smartphone are within this radius. If the degree° has lost the Bluetooth connection to your smartphone, it tries to reconnection again and the status LED flashes blue.

		STATE OF CONNECTION
Bluetooth	Sensor LED	Meaning
	BLUE	**Advertising**
	See temperature	**Out of BT Range**
	See temperature	**Connected**
/	RED	**Charging**

Temperature Display

No temperature is displayed

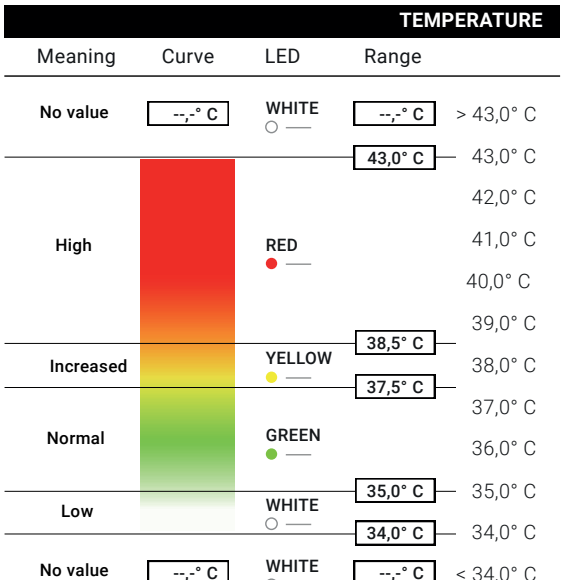
If no temperature is displayed (--,-° C) and the sensor LED flashes white, there is an active Bluetooth connection between degree° and your smartphone but the monitored temperature is outside the displayed measuring range. See Troubleshooting > Display Ranges. If no temperature is displayed (--,-° C) and the sensor LED flashes blue, there is NO Bluetooth connection and no temperature values can be received. See Troubleshooting > Connection and transmission

It shows a temperature, but I think it's unlikely.

Check the correct fit of the sensor, the sensor head and its alignment of the sensor lens. The sensor head must point in direction of the ear drum. The sensor should lie on the auricle.See also > Applying degree° on the ear.

Pay particular attention to the external influencing factors in the warning notices. These can influence the measurement results.

Display ranges



Wearing comfort

The thermometer hurts in the ear

Check the correct fit of the degree° in the ear. Try to adjust the sensor where it hurts. Take special care that the sensor head does not press too deeply into the ear canal.

If the ears are very sensitive to pressure, adjust the sensor more often and pause the monitoring from time to time.

A continuous wearing time of the degree° thermometer of maximum 24 hours and at least 5 minutes per application is recommended.

Care and cleaning

The sensor head and the sensor lens are the most sensitive parts of the device. Thy should be always clean and faultless to ensure accurate monitoring.

The sensor head and the sensor lens must first be cleaned with a cloth or cotton swab moistened with alcohol before and after each use. Cosinuss GmbH recommends the use of pure ethanol (not denatured or mixed with other substances) (max. 50 % by volume). This is usually available at your pharmacy.

The charging box can be cleaned with a simple wipe disinfection. Make sure that the charging box is never connected to the power supply during cleaning. Disconnect the charger before cleaning.

Do not use the sensor until the alcohol has completely evaporated and the device is in a dry state.

If the sensor head or sensor lens is damaged, contact customer service.

Product specifications

degree° thermometer

General

Modell	DS02
Type	Infrared temperature monitor, direct reading
Use	Can be worn on the ear
Place of monitoring	Ear, external auditory canal, eardrum
Parameter	Core body temperature
Temperature display I	Colored LED on the back of the device
LED = White	Low temperature
LED = Green	Normal temperature
LED = Yellow	Increased temperature
LED = Red	High temperature
Temperatur-anzeige II	Smartphone Anwendung (App) Current Temperature in numbers, colored temperature curve
Certificates	Medical CE, FCC, Bluetooth Low Energy, UL
Size (W x H x D)	4 x 4 x 0,83 cm
Weight	5.4 grams
Housing material	TPE - Thermoplastic elastomer, medical grade, biocompatiblel
Protection type	IP67, Dustproof, submersible to a depth of 1 m
Class and Parts	Protection class: II Application parts of type: BF

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Lifetime	Minimum 2 years	
Memory	Buffer 18 kB RAM	Flash Memory 512 kB
Firmware	The version of the installed firmware can be viewed any time in the app under the following menu item: degree° > About this degree°. Updates reserved.	

Temperature sensor

Typ	Infrared sensing element
Displeayed temperature range	34° C – 43° C (93.2°F – 109.4°F)
Resolution	0,1° C/F
Accuracy	± 0,2° C/F
Interval	Every 10 seconds

Ambient operating temperature	15° C – 40° C (59°F- 104°F)
Air pressure for operating	1.000 millibar (700-1060 hPa)
Storage temperature	-25° – 55° C (-13°F - 131°F)
Relative humidity for storage	≤ 95% (non-condensing)

Acceleration sensor

Type	3 axes, linear
Range	- 4,0 bis 4,0 m/s^2
Accuracy	± 0,002 m/s^2

Radio data transmission

Typ	Bluetooth
Version	Low Energy, Spezifikation Version 4.2
Frequency	ISM band 2.4 - 2.485 GHz
Transmission power	-1 dBm
Interval	Every 10 seconds
Data rate	0,1 Hz
Supported services	Device information, proprietary service
Encryption	None, connection only with pass-key
Signal range	Approx. 10 meters

Battery

Typ	Lithium-Ion battery, rechargeable
Nominal charge	25 mAh
Runtime	At least 5 days
Charging time	2 hours
Standby time	Up to 6 months 100% – 0%

Charging box

Model	DC02
Type	Storage box including lid, with recess for thermometer and Micro USB power connection
Use	Storage and transport, charging of the thermometer Switch the thermometer on and off

Material	PC+ABS V0 UL-94 Bayblend FR3010
Protection type	IP21 Objects bigger than 12,5 mm, waterdrops
Protection class	II

Power supply

Model	FJ - SW 266 050 1000 E
Application	Power supply, voltage transformer
Input	100 - 240 V ~ 50 / 60 Hz, 0,35 A Max.
Output	5 V ⎓ 1000 mA
Plug	Plug type C, CEE 7/16
Socket	USB
Cable	FJ - SW 266 050 1000 E, Connecting the power supply and charging box via USB

Smartphone Application (App)

Model	cosinuss degree° App
Use	temperature display and storage, extended display
Operating system	Android, iOS
Download and Installation	• Google Play Store for Android • Apple App Store for iOS See product description
Version	The version of the installed app can be viewed at any time in the app page About degree°. Updates reserved

Standards and directives

EN ISO 80601-2-56 Particular requirements for the safety, including essential performance, of medical thermometers for measuring body temperature.

EN 60601-1: 2006 Medical electrical equipment - Part 1: General requirements for safety, including essential performance.

EN ISO 14971:2012 Medical devices - Application of risk management to medical devices.

EN ISO 10993-1: 2009 Biological evaluation of medical devices - Part 1: Assessment and verification under a risk management system.

EN 60601-1-2: 2007 Medical electrical equipment - Part 1-2: General requirements for safety, including essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests.

EN 980: 2008 Symbols for use in the labelling of medical devices.

EN 60601-1-11: 2010 Medical electrical equipment - Part 1-11: General requirements for safety, including essential performance - Collateral standard: Requirements for medical electrical equipment and medical electrical systems for household medical use.

This product complies with the provisions of the EC Directive 93/42/EEC.

For MEDICAL ELECTRIC DEVICES, special precautions must be taken with regard to electromagnetic compatibility (EMC).For detailed information on EMC requirements, please contact your authorized service center.

Portable and mobile HF communication devices can interfere with MEDICAL ELECTROGENES.

2014/53 EV Radio equipment directive.

FCC ACCORDING INFORMATION AND STATEMENTS

User Information according to FCC 15.21:
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Statement according to. FCC 15.19
This device contains license-exempt transmitter(s)/ receiver(s) that complies with FCC Part 15 and Innovation, Science and Economic Development Canada's licen-se-exempt RSS. Operation is subject to the following two conditions:

(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause undesired opera-tion.

Statement according to. RSS GEN Issue 5:
This device contains license-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Develop-ment Canada's license-exempt RSS.

Operation is subject to the following two conditions:

L'émetteur/récepteur exempt de licence contenu dans le pré-sent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appa-reils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) this device may not cause interference, and

(1) l'appareil ne doit pas produire de brouillage, et

(2) this device must accept any interference received, including interference that may cause undesired opera-tion.

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est sus-ceptible d'en compromettre le fonctionnement.

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Customer service

If you need help or assistance in applying the degree°, please contact our customer service with a detailed description of your concern:

COSINUSS GMBH,
Kistlerhofstraße 60, D-81379 Munich, Germany

Telefon: +49 (0)89 740 418 32
Email: info@cosinuss.com
Internet: https://www.cosinuss.com

Online Support:

support.cosinuss.com

We will answer your request within 48 hours and do our best to provide you with a viable solution.

If you have any health questions, please always consult your doctor.

Please always quote the **unique identity number** of your degree° when making enquiries. You will find this 28-digit number on the back of the packaging, on the bottom of the charging box and in the app. It contains the manufacturer information, article-, model-, batch-, and identity number of the degree°.

Liability for material defects

If you purchase a new product you have a 24 months warranty of defects in case the product was defective at the time you received it. To claim the warranty please address your seller.

If the purchased item is defective, you are entitled to the following rights, whereby supplementary performance has priority:

- Supplementary performance
- Reduction of price
- Withdrawal
- Compensation (for futile expenses)

Statement

Cosinuss GmbH can only offer these services for products sold directly by cosinuss° or by salespersons authorized by cosinuss°. If you have purchased from another seller, please contact them for any claims.

Bluetooth® is a registered trademark of Bluetooth SIG Inc.

Metrological control:
A metrological control can be required at intervals of 2 years.The inspection can only be carried out by the manufacturer, an authority responsible for metrology or persons who meet the requirements of MPBetriebV § 6.

Disclaimer

For questions about health and for medical advice, please always consult your doctor.

Cosinuss GmbH does not make any medical recommendations.

Cosinuss GmbH is not liable for any misuse or unauthorized use of the product.

Cosinuss GmbH is not liable for the loss or misuse of personal data or the product.

There are no replaceable parts in the device. Components supplied must not be exchanged. Replacement of the components or manipulation of the device must never take place without the consent of Cosinuss GmbH.

Notes