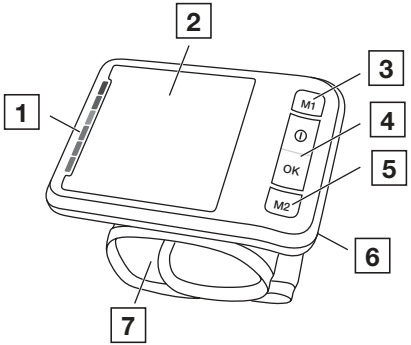
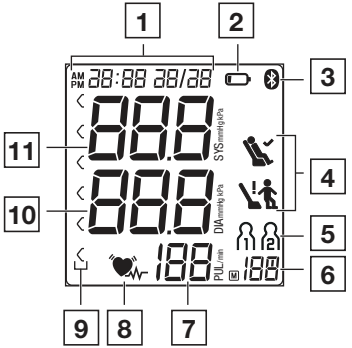
beurer

BC 87

CE 0123


1
2
3
4
5
6
7
M1
OK
M2


1
2
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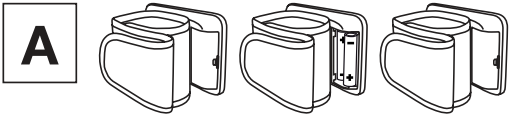
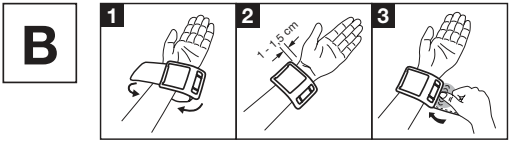
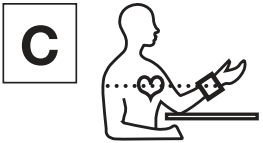
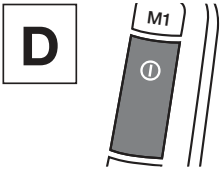
7
8
9
10
11
AM
PM
SYS
DIA
PUL


A


B
1
2
3
1 - 1.5 cm


C


D
M1


E
M1
OK

ENGLISH

Read these instructions for use carefully and keep them for later use. Make them accessible to other users and note the information they contain.

Table of contents

1. INCLUDED IN DELIVERY

Check that the exterior of the cardboard delivery packaging is intact and make sure that all contents are present. Before use, ensure that there is no visible damage to the device or accessories and that all packaging material has been removed. If you have any doubts, do not use the device and contact your retailer or the specified Customer Services address.

1 x wrist blood pressure monitor with cuff
1 x instructions for use
1 x quick guide
1 x storage box
2 x 1.5 V LR03 AAA batteries

2. SIGNS AND SYMBOLS

The following symbols are used on the device, in these instructions for use, on the packaging and on the type plate for the device:

	**Warning** Warning notice indicating a risk of injury or damage to health
	**Important** Safety note indicating possible damage to the device/accessory
	**Product information** Note on important information
	**Observe the instructions** Read the instructions before starting work and/or operating devices or machines
	**Isolation of applied parts, type BF** Galvanically isolated application part (F stands for “floating”); meets the requirements for leakage currents for type B
	**Direct current** The device is suitable for use with direct current only
	**Disposal** Disposal in accordance with the Waste Electrical and Electronic Equipment EC Directive – WEEE

	**Battery disposal** Do not dispose of batteries containing harmful substances with household waste
	Marking to identify the packaging material. A = material abbreviation, B = material number: 1-7 = plastics, 20-22 = paper and cardboard
	Separate the product and packaging elements and dispose of them in accordance with local regulations.
	**Manufacturer**
	**Temperature limit** The temperature limit values to which the medical device can safely be exposed are indicated
	**Humidity, limit** Indicates the humidity range to which the medical device can safely be exposed
IP22	**IP class** Device protected against foreign objects ≥ 12.5 mm and against water dripping at an angle
SN	**Serial number**
REF	**Item number**

MD	**Medical device**
CE	**CE labelling** This product satisfies the requirements of the applicable European and national directives.
EC REP	Authorised representative in the European Community
CH REP	Swiss authorised representative

3. INTENDED USE

Purpose

The blood pressure monitor is intended for the fully automatic, non-invasive measurement of arterial blood pressure and pulse values on a wrist with a wrist circumference of 13.5 cm to 21.5 cm. It is intended for use indoors and by adults only.

Target group

It is designed for self-measurement by adults in the home environment and is suitable for users whose wrist circumference is within the range printed on the cuff.

Indication/clinical benefits

The user can record their blood pressure and pulse values quickly and easily using the device. The recorded values are classified according to internationally applicable guidelines and evaluated graphically. The device saves the recorded measurements and can also output average values of previous measurements.

4. WARNINGS AND SAFETY NOTES

⚠ Contraindications

- Do not use the blood pressure monitor on newborns, children or pets.
- People with restricted physical, sensory or mental skills should be supervised by a person responsible for their safety and receive instructions from this person on how to use the device.
- If you have any of the following conditions, it is essential you consult your doctor before using the device: irregular heartbeat, circulatory problems, diabetes, pregnancy, pre-eclampsia, hypotension, chills, shaking
- People with pacemakers or other electrical implants should consult their doctor before using the device.
- The blood pressure monitor must not be used in connection with a high-frequency surgical unit.
- Do not use the cuff on people who have undergone a mastectomy.
- Do not place the cuff over wounds as this may cause further injury.
- Make sure that the cuff is not placed on a wrist in which the arteries or veins are undergoing medical treatment, e.g. intravascular access or intravascular therapy, or an arteriovenous (AV) shunt.

⚠ General warnings

- The measurements taken by you are for your information only – they are no substitute for a medical examination! Discuss the measured values with your doctor and never make your own medical decisions based on them (e.g. regarding dosages of medicines).
- The device is only intended for the purpose described in these instructions for use. The manufacturer is not liable for damage resulting from improper or incorrect use.
- Using the blood pressure monitor outside your home environment or whilst on the move (e.g. whilst travelling in a car, ambulance or helicopter, or whilst undertaking physical activity such as playing sport) can influence the measurement accuracy and cause incorrect measurements.
- Cardiovascular diseases may lead to incorrect measurements or have a detrimental effect on measurement accuracy.
- Do not use the device at the same time as other medical electrical devices (ME equipment). This could lead to a malfunction of the measuring device and/or an inaccurate measurement.
- Do not use the device outside of the specified storage and operating conditions. This could lead to incorrect measurements.
- Only use the cuffs included in delivery or cuffs described in these instructions for use for the device. Using another cuff may lead to measurement inaccuracies.
- Note that when inflating the cuff, the functions of the limb in question may be impaired.
- Do not perform measurements more frequently than necessary. Due to the restriction of blood flow, some bruising may occur.
- During the blood pressure measurement, the blood circulation must not be stopped for an unnecessarily long time. If the device malfunctions, remove the cuff from the wrist.
- Place the cuff on your wrist only. Do not place the cuff on other parts of the body.
- Small parts may present a choking hazard for small children if swallowed. They should therefore always be supervised.

⚠ General precautions

- The blood pressure monitor is made from precision and electronic components. The accuracy of the measurements and service life of the device depend on its careful handling.
- Protect the device from impacts, moisture, dirt, marked temperature fluctuations and direct sunlight.
- Ensure the device is at room temperature before measuring. If the measuring device has been stored close to the maximum or minimum storage and transport temperatures and is placed in an environment with a temperature of 20°C, it is recommended that you wait approx. 2 hours before using the measuring device.
- Do not drop the device.
- Do not use the device in the vicinity of strong electromagnetic fields and keep it away from radio systems or mobile telephones.

- We recommend that the batteries be removed if the device will not be used for a prolonged period of time.

Measures for handling batteries

- If your skin or eyes come into contact with battery fluid, rinse the affected areas with water and seek medical assistance.
- **Choking hazard!** Small children may swallow and choke on batteries. Therefore, batteries should be stored out of the reach of small children.
- **Risk of explosion!** Do not throw batteries into a fire.
- If a battery has leaked, put on protective gloves and clean the battery compartment with a dry cloth.
- Do not disassemble, open or crush the batteries.

- Observe the plus (+) and minus (-) polarity signs.
- Protect batteries from excessive heat.
- Do not charge or short-circuit the batteries.
- If the device is not to be used for a long period of time, remove the batteries from the battery compartment.
- Use identical or equivalent battery types only.
- Always replace all batteries at the same time.
- Do not use rechargeable batteries.

Notes on electromagnetic compatibility

- The device is suitable for use in all environments listed in these instructions for use, including domestic environments.
- The use of the device may be limited in the presence of electromagnetic disturbances. This could result in issues such as error messages or the failure of the display/device.
- Avoid using this device directly next to other devices or stacked on top of other devices, as this could lead to faulty operation. If, however, it is necessary to use the device in the manner stated, this device as well as the other devices must be monitored to ensure they are working properly.
- The use of accessories other than those specified or provided by the manufacturer of this device can lead to an increase in electromagnetic emissions or a decrease in the device's electromagnetic immunity; this can result in faulty operation.
- Failure to comply with the above can impair the performance of the device.

5. DEVICE DESCRIPTION

The corresponding drawings are shown on page 3.

1 Risk indicator
2 Display
3 Memory button **M1**
4 **START/STOP** button ⏻ with integrated position indicator
5 Memory button **M2**
6 Battery compartment lid
7 Wrist cuff

Information on the display:

The corresponding drawings are shown on page 3.

1 Time and date

2 Battery indicator

3 Symbol for *Bluetooth*® transfer

4 Resting indicator display

5 User memory /

6 Number of memory spaces / memory display for average value (A), morning (AM), evening (PM)

7 Calculated pulse rate

8 Symbol for irregular heartbeat
Symbol for pulse

9 Risk indicator

10 Diastolic pressure

11 Systolic pressure

6. INITIAL USE

Inserting the batteries

- Remove the battery compartment lid on the left side of the device A.
- Insert two 1.5 V AAA micro (alkaline type LR03) batteries. Make sure that the batteries are inserted the correct way round in accordance with the markings A. Do not use rechargeable batteries.
- Close the battery compartment lid again carefully.
- 24h flashes on the display. Now set the date and time as described below.

If the battery change symbol is flashing and BAt LO appears, no further measurements are possible and you must replace all batteries. Once the batteries have been removed from the device, the date and time must be set again. Any saved measured values are retained.

Adjusting the settings

You must make sure that the device has the correct settings before use in order to be able to make full use of all functions. Only by doing so can your measurements with associated date and time be saved and accessed later by you.

There are two different ways to access the menu from which you can adjust the settings:

- **Before initial use and after each time you replace the battery:**
  When inserting batteries into the device, you will be taken to the relevant menu automatically.
- **If the batteries have already been inserted:**
  With the device **switched off** press and hold the **START/STOP** button for approx. 5 seconds.

In this menu you can adjust the following settings in succession:

Hour format → **Date** → **Time** → ᛒ → **User**

Hour format

The hour format flashes on the display.

- Select the desired hour format using the **M1** or **M2** memory button and confirm with the **START/STOP** button ⏻.

Date

The year flashes on the display.

- Select the desired year using the **M1** or **M2** memory button and confirm with the **START/STOP** button ⏻.

The month flashes on the display.

- Select the desired month using the **M1** or **M2** memory button and confirm with the **START/STOP** button ⏻.

The day flashes on the display.

- Select the desired day using the memory button **M1** or **M2** and confirm with the **START/STOP** button ⏻.

ⓘ If the hour format is set as **12h**, the day/month display sequence is reversed.

Time

The hours flash on the display.

- Select the desired hour using the **M1** or **M2** memory button and confirm with the **START/STOP** button ⏻.

The minutes flash on the display.

- Select the desired minute using the **M1** or **M2** memory button and confirm with the **START/STOP** button ⏻.

Bluetooth®

The *Bluetooth*®symbol is shown on the display.

- Use the **M1** or **M2** memory button to select whether automatic *Bluetooth*® data transfer should be activated (*Bluetooth*® symbol is shown) or deactivated (*Bluetooth*® symbol is not shown) and confirm with the **START/STOP** button ⏻.
- If automatic data transfer via *Bluetooth*® has been activated, data transfer is started automatically after the measurement.

ⓘ *Bluetooth*® transfers will reduce the battery life.

User

The user symbol flashes in the display.

- Use the **M1** or **M2** memory button to select the desired user.
- Confirm your selection with the **START/STOP** button ⏻.
- The device then switches off automatically.

7. USAGE

General information about blood pressure

- Blood pressure is always stated in the form of two values:
- The highest pressure is systolic blood pressure. This arises when the heart muscle contracts and blood is pumped into the blood vessels.
- The lowest pressure is diastolic blood pressure. This arises when the heart muscle has completely stretched back out and the heart fills with blood.
- Fluctuations in blood pressure are normal. Even during repeat measurements, considerable differences between the measured values may occur. One-off or irregular measurements therefore do not provide reliable information about the actual blood pressure. Reliable assessment is only possible when you perform the measurement regularly under comparable conditions.

Attaching the cuff

- Fundamentally, blood pressure can be measured on both wrists. Certain deviations between the measured blood pressure on the right wrist and left wrist are due to physiological causes and completely normal. You should always perform the measurement on the wrist with the highest blood pressure values. Before starting self-measurement, consult your doctor in this regard. From this point on, always take measurements on the same wrist.
- The device may only be operated with the cuff attached when supplied. Before using the device, the user should check the fit of the cuff and, in doing so, ensure that their wrist circumference is within the range printed on the cuff.
- Uncover your wrist. Ensure that the circulation of the wrist is not hindered by tight clothing or similar.
- Now place the cuff on the wrist so that the palm of your hand and the device display are facing upwards **B 1**.
- Position the cuff so that there is a distance of 1.0 – 1.5 cm between it and the heel of your hand **B 2**.
- Now fasten the cuff tightly around your wrist using the hook-and-loop fastener. Make sure that it is tight but that it does not cut into your wrist **B 3**.

Adopting the correct posture

- To carry out a blood pressure measurement, make sure you are sitting upright and comfortably. Lean back so your back is supported.
- Place your arm on a surface **C**.
- Place your feet flat on the ground next to one another.
- The cuff must be level with your heart.
- Stay as still as possible during the measurement and do not speak.

Position indicator

As an additional application aid, the device has a position indicator built into the **START/STOP** button ⏻. This is intended to help you determine the correct measuring position of the device at heart level and depends on the angle of observation.

Display	Interpretation
Position indicator is coloured red D.	You have not yet reached the recommended position of the measuring device at heart level – your wrist is either positioned too high or too low.
Position indicator is coloured green; the word “OK” also appears E.	You have reached the recommended position of the measuring device at heart level and can start the measurement by pressing the **START/STOP** button ⏻.

In the vast majority of use cases, the position indicator provides an excellent guide as to whether the measuring device is at heart level. Due to physical differences such as size and/or physique on the user side, this function may not be helpful in all cases. If you feel that the wrist position according to the position indicator does not match the level of the heart, use your own judgement. You can also start the measurement in these cases at any time by pressing the **START/STOP** button ⏻.

Selecting the user

This device has 2 user memories with 120 memory spaces each in order that you can save measurements from 2 different people separately from each other.

If multiple people are using the device, make sure that the relevant user is set before each measurement.

Please refer to the section “Adjusting the settings” for information on how to select the desired user.

Performing the blood pressure measurement

Measurement

Press the **START/STOP** button ⏻ to start the blood pressure monitor. All display elements are briefly displayed.

- The blood pressure monitor will begin the measurement automatically after approx. 3 seconds.
- The cuff inflates automatically while the actual measurement process starts. As soon as a pulse is found, the pulse symbol ♥ is displayed.
  ⓘ You can cancel the measurement at any time by pressing the **START/STOP** button ⏻.
- The remaining air is released quickly once the measurement is complete.
- Systolic pressure, diastolic pressure and pulse measurements are displayed. A symbol in the display also appears which shows you whether you were sufficiently relaxed during the blood pressure measurement or not (symbol = sufficiently at rest; symbol = not at rest). Observe the chapter on evaluating results/resting indicator measurement in these instructions for use.
- Press the **START/STOP** button ⏻ to switch off the blood pressure monitor. The measurement is then stored in the selected user memory.
- Er 4 appears if the measurement could not be performed properly. In this case, please read the section “What if there are problems?”.

- If the *Bluetooth*® function has been activated, the data transfer to the “beurer HealthManager Pro” app starts automatically after the measurement.
- The *Bluetooth*® symbol flashes on the display. The device now attempts to connect to the app for approx. 30 seconds.
- The *Bluetooth*® symbol stops flashing as soon as a connection is established. All measurement data is transferred to the apps. Once the data transfer is successfully complete, the device switches off automatically.
- If a connection to the smartphone cannot be established after 30 seconds, the *Bluetooth*® symbol goes out and the device switches off automatically after 1 minute.
- If you forget to turn off the device, it will switch off automatically after approx. 1 minute. In this case too, the value is stored in the selected or most recently used user memory.

Transfer of measurements via *Bluetooth*®

In addition to displaying and saving your measurements locally on the device, you have the option of transferring your measurements to your smartphone using *Bluetooth*® low energy technology.
For this, you will need the “beurer HealthManager Pro” app. These apps are available for free in the Apple App Store and from Google Play.

System requirements:

- iOS ≥ 12.0 / Android™ ≥ 8.0
- Bluetooth® ≥ 4.0

List of compatible devices:

To transfer the measured values, proceed as follows:

Step 1: BC 87
Activate the *Bluetooth*® function on your device as described in the “Adjusting the settings” section.

Step 2: “beurer HealthManager Pro” app
In the “beurer HealthManager Pro” app, add the BC 87 under Settings / Devices and follow the instructions.

Step 3: BC 87
Take a measurement.

Step 4: BC 87 (Data transfer immediately following the measurement): If the *Bluetooth*® function is activated, data will be automatically transferred after the measurement.	**Step 4: BC 87 (Data transfer at a later point):** Go into the memory recall mode for the desired user memory (see “Saving, accessing and deleting measured values”). The data transfer starts automatically.

ⓘ Also note the following information:

- When connecting for the first time, a randomly generated six-digit PIN code is displayed on the device, and at the same time an input field appears on the smartphone in which you must enter this six-digit PIN code. After successfully entering the code, the device will be connected to your smartphone.
- Ensure that the “beurer HealthManager Pro” app on your smartphone is always activated and launched when you start the data transfer on the device.
- You can tell that the data transfer is in progress by the *Bluetooth*® symbol shown on the display.
- If your smartphone has a protective cover, remove it to ensure that there is no interference during the transfer.

Evaluating the results

General information about blood pressure

- Blood pressure is the force with which the bloodstream presses against the arterial walls. Arterial blood pressure constantly changes in the course of a cardiac cycle.
- Blood pressure is always stated in the form of two values:
  - The highest pressure in the cycle is called **systolic blood pressure**. This arises when the heart muscle contracts and blood is pumped into the blood vessels.
  - The lowest is **diastolic blood pressure**, which is when the heart muscle has completely stretched back out and the heart fills with blood.
- Fluctuations in blood pressure are normal. Even during repeat measurements, considerable differences between the measured values may occur. One-off or irregular measurements therefore do not provide reliable information about the actual blood pressure. Reliable assessment is only possible when you perform the measurement regularly under comparable conditions.

Risk indicator

The World Health Organization (WHO) has defined the internationally recognised classification for the evaluation of measured blood pressure values listed in the table below:

Measured blood pressure value range		Classification	Colour of the risk indicator
Systole (in mmHg)	**Diastole** (in mmHg)		
≥180	≥110	High blood pressure stage 3 (severe)	Red
160–179	100–109	High blood pressure stage 2 (moderate)	Orange
140–159	90–99	High blood pressure stage 1 (mild)	Yellow
130–139	85–89	High normal	Green
120–129	80–84	Normal	Green
<120	<80	Optimal	Green

Source: WHO, 1999 (World Health Organization)

The risk indicator (the arrow in the display and the associated scale on the device) shows which category the recorded blood pressure values fall into. If the measured values are in two different classifications (e.g. systole in the high normal category and diastole in the normal category), the risk indicator then always shows you the higher category – "high normal" in the example described.

Please be aware that these standard values can only serve as a general guideline, as the individual blood pressure varies in different people and different age groups, etc.

Furthermore, it must be noted that measurements taken yourself while at home are generally lower than those that are taken by the doctor. For this reason, it is important that you regularly consult your doctor for advice. Only they are able to give you your personal target values for controlled blood pressure – in particular if you receive medicinal therapy.

Irregular heartbeat

This device can identify any irregular heartbeat disturbances as part of the analysis of your recorded pulse signal during blood pressure measurement. In this case, after the measurement, the device will indicate any irregularities in your pulse by displaying the symbol  in the display. This can be an indicator for irregular heartbeat.

If the symbol appears on the display after the measurement, the measurement must be repeated as the measurement accuracy may be impaired. To assess your blood pressure, only use the results that have been recorded without corresponding irregularities in your pulse. If the symbol appears frequently, please consult your doctor. Only they can establish the existence of an arrhythmia during a checkup, using their means of diagnosis.

Resting indicator

One of the most common errors made when taking a blood pressure measurement is not ensuring that the user's circulatory system is sufficiently at rest when taking the measurement. In this case, the measured systolic and diastolic blood pressure values do not correspond to the blood pressure at rest. However, it is this blood pressure at rest that should be used to assess the measured values.

This blood pressure monitor uses integrated haemodynamic stability diagnostics (HSD) to measure the user's haemodynamic stability when taking the blood pressure measurement.

This enables it to indicate whether the blood pressure was taken when the user's circulatory system was sufficiently at rest.

	The measured blood pressure value was obtained when the user's circulatory system was sufficiently at rest and reliably corresponds to the blood pressure at rest.
	Indicates that the value was obtained when the user's circulatory system was not sufficiently at rest. The blood pressure values measured in this case generally do not correspond to the blood pressure at rest. The measurement should therefore be repeated after a period of physical and mental rest lasting at least 5 minutes.
No resting indicator symbol is displayed	During the measurement it was not possible to determine whether the user's circulatory system was sufficiently at rest. In this case too, the measurement should be repeated after a period of rest lasting at least 5 minutes.

If the user's circulatory system was not sufficiently at rest, this can be caused by various factors such as physical or mental strain or distraction, speaking, or experiencing irregular heartbeat during the measurement.
In an overwhelming number of cases, HSD will give a very good guide as to whether the user's circulatory system is rested when taking a blood pressure measurement.

However, certain patients suffering from irregular heartbeat or chronic mental conditions may remain haemodynamically unstable even in the long-term, something which persists even after repeated periods of rest. The accuracy of the results for the blood pressure at rest is reduced in these users.
Like any medical measurement method, the precision of HSD is limited and can lead to incorrect results in some cases. Nevertheless, the blood pressure measurements taken when the user's circulatory system is sufficiently at rest represent particularly reliable results.

Saving, accessing and deleting measured values

User memory

The results of every successful measurement are stored together with the date and time. The oldest measurement is overwritten in the event of more than 120 measurements.

- To select the relevant user memory, press the memory button **M1** (for user 1) or **M2** (for user memory 2) when the device is switched off. Then confirm your selection by pressing the **START/STOP** button ⏻.
- If *Bluetooth*® is activated (the ᛒ symbol flashes on the display), the blood pressure monitor attempts to connect to the app. The buttons are deactivated and the ᛒ symbol ceases to flash as soon as a connection is established and the data is transferred.

ⓘ If you press the **M1** or **M2** memory button during this process, the transfer is cancelled. The ᛒ symbol is no longer shown.

Average values

Press the **M1** memory button. Then confirm your selection by pressing the **START/STOP** button ⏻.

- A is shown in the display.
- The average value of all saved measured values in this user memory is displayed.

Press the **M1** memory button.

- AM is shown in the display.
- The average value of the morning measurements for the last 7 days is displayed (morning: 5 a.m. – 9 a.m.).

Press the **M1** memory button.

- PM is shown in the display.
- The average value of the evening measurements for the last 7 days is displayed (evening: 6 p.m. – 8 p.m.).

Individual measured values

- When you press the memory button **M1** again, the last individual measurement is displayed (in this example, measurement 03).
- When you press the memory button **M1** again, you can view your individual measurements.
- To switch the device off again, press the **START/STOP** button ⏻.

Deleting measured values

- In order to delete a user memory, first select the user memory to be deleted by pressing the **M1** or **M2** memory button when the device is switched off and confirming your selection by pressing the **START/STOP** button ⏻.
- The average value of all measurements for the selected user memory appears on the display; at the same time A lights up on the display.
- Now press and hold the memory buttons **M1** and **M2** at the same time for 5 seconds.

CL 00 appears on the display.
All the values in the selected user memory have now been deleted.

ⓘ You can exit the menu at any time by pressing the **START/STOP** button ⏻.

8. CLEANING AND MAINTENANCE

- Clean the device and cuff carefully using a slightly damp cloth only.
- Do not use any cleaning agents or solvents.
- Under no circumstances hold the device and cuff under water, as this can cause liquid to enter and damage the device and cuff.
- If you store the device and cuff, do not place heavy objects on the device and cuff. Remove the batteries.

9. REMEDY

Error message	Possible cause	Solution
Er 1	Unable to record a pulse.	Please wait one minute and repeat the measurement. Ensure that you do not speak or move during the measurement.
Er2	You moved or spoke during the measurement.	
Er3	The cuff is not attached correctly.	Please observe the information in chapter “Attaching the cuff” and take another measurement after one minute.
Er4	An error occurred during the measurement.	Please wait one minute and repeat the measurement. Ensure that you do not speak or move during the measurement. If the error occurs repeatedly, consult a doctor to check you are healthy.
Er5	The inflation pressure is higher than 300 mmHg.	Please take another measurement to check whether the cuff can be correctly inflated.
	The measured values are outside the specified measurement range.	
BAt LO	The batteries are almost empty.	Insert new batteries into the device.
Er7	Unable to transfer the data via *Bluetooth*®.	Please observe the information in the section “Transfer of measurements via *Bluetooth*®”.
Er8	A device error has occurred.	Please wait one minute and repeat the measurement.

If the problem still occurs despite the suggested corrective actions, please contact Customer Services.

10. DISPOSAL

⚠ Repairing and disposing of the device

- Do not repair or adjust the device yourself. Proper operation can no longer be guaranteed in this case.
- Do not open the device. Failure to comply with this instruction will void the warranty.
- Repairs must only be carried out by Customer Services or authorised retailers. Before making a claim, please check the batteries first and replace them if necessary.
- For environmental reasons, do not dispose of the device in the household waste at the end of its useful life. Dispose of the device at a suitable local collection or recycling point in your country. Dispose of the device in accordance with EC Directive – WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the local authorities responsible for waste disposal.

⚠ Disposing of the batteries

- Batteries must not be disposed of in the household waste. They may contain poisonous heavy metals and are subject to special refuse treatment.
- The codes below are printed on batteries containing harmful substances:
  Pb = Battery contains lead,
  Cd = Battery contains cadmium,
  Hg = Battery contains mercury.

11. TECHNICAL SPECIFICATIONS

Model no.	BC 87
Measurement method	Oscillometric, non-invasive blood pressure measurement on the wrist
Measurement range	Cuff pressure 0-299 mmHg, systolic 60-230 mmHg, diastolic 40-130 mmHg, pulse 40-199 beats/minute
Display accuracy	Systolic ±3 mmHg, diastolic ±3 mmHg, pulse ±5% of the value shown
Measurement uncertainty	Max. permissible standard deviation according to clinical testing: systolic 8 mmHg / diastolic 8 mmHg
Memory	2 x 120 memory spaces
Dimensions	L 72 mm x W 96 mm x H 71 mm
Weight	Approximately 119 g (without batteries, with cuff)
Cuff size	135 to 215 mm
Permissible operating conditions	+5°C to +40°C, 15-90% relative humidity (non-condensing), 700-1060 hPa ambient air pressure
Permissible storage and transport conditions	-20°C to +60°C, ≤ 93% relative humidity
Power supply	2 x 1.5 V ⎓ AAA batteries

Battery life	For approx. 200 measurements, depending on blood pressure and inflation pressure levels
Classification	Internal supply, IP22, no AP or APG, continuous operation, application part type BF
Software version	A01
Data transfer	2402 MHz – 2480 MHz frequency band Max. -2.5 dBm transmission power The blood pressure monitor uses *Bluetooth*® low energy technology Compatible with *Bluetooth*® ≥ 4.0 smartphones/tablets

The serial number is located on the device or in the battery compartment.
Technical information is subject to change without notification to allow for updates.

- This device complies with the European standard EN 60601-1-2 (in compliance with CISPR 11, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-8) and is subject to special precautionary measures with regard to electromagnetic compatibility. Please note that portable and mobile HF communication systems may interfere with this device.
- This device complies with EU Directive 93/42/EEC concerning medical devices, the Medizinproduktegesetz (German Medical Devices Act) and IEC 80601-2-30 (Medical electrical equipment – Part 2-30: Particular requirements for basic safety and essential performance of automated non-invasive sphygmomanometers).
- The accuracy of the blood pressure monitor has been carefully checked. No calibration is required.
- The device has been developed with regard to a long useful life. The expected operating life is 5 years.
- If the device is used for commercial medical purposes, it must be regularly tested for accuracy by appropriate means. Precise instructions for checking accuracy may be requested from the service address.
- We hereby confirm that this product complies with the European RED Directive 2014/53/EU. The CE Declaration of Conformity for this product can be found at: https://www.beurer.com/conformity

12. WARRANTY/SERVICE

Further information on the warranty and warranty conditions can be found in the warranty leaflet supplied.

EMC Guidance

The ME EQUIPMENT or ME SYSTEM is suitable for home healthcare environments.

Warning Don't near active HF surgical equipment and the RF shielded room of an ME system for magnetic resonance imaging, where the intensity of EM disturbances is high.

Warning Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

Warning Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

Warning Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the equipment BC 87, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Technical description

1. 1 all necessary instructions for maintaining BASIC SAFETY and ESSENTIAL PERFORMANCE with regard to electromagnetic disturbances for the excepted service life.
2. Guidance and manufacturer's declaration -electromagnetic emissions and Immunity

Table 1

Guidance and manufacturer's declaration - electromagnetic emissions	
Emissions test	**Compliance**
RF emissions CISPR 11	Group 1
RF emissions CISPR 11	Class B
Harmonic emissions IEC 61000-3-2	Not applicable
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable

Table 2

Guidance and manufacturer's declaration – electro-magnetic Immunity		
Immunity test	**IEC 60601-1-2 Test level**	**Compliance level**
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
Electrical fast transient/burst IEC 61000-4-4	Not applicable	Not applicable
Surge IEC61000-4-5	Not applicable	Not applicable
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	Not applicable	Not applicable
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz
Conduced RF IEC61000-4-6	Not applicable	Not applicable
Radiated RF IEC61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz
NOTE U_T is the a.c. mains voltage prior to application of the test level.		

Table 3

Guidance and manufacturer's declaration - electromagnetic Immunity							
Radiated RF IEC61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment)	Test Frequency (MHz)	Band (MHz)	Service	Modulation	Modulation (W)	Distance (m)	IMMUNITY TEST LEVEL (V/m)
	385	380-390	TETRA 400	Pulse modulation b) 18Hz	1.8	0.3	27
	450	430-470	GMRS 460, FRS 460	FM c) 5kHz deviation 1kHz sine	2	0.3	28
	710	704-787	LTE Band 13,17	Pulse modulation b) 217Hz	0.2	0.3	9
	745						
	780						
	810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation b) 18Hz	2	0.3	28
	870						
	930						
	1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4,25; UMTS	Pulse modulation b) 217Hz	2	0.3	28
	1845						
	1970						

	2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28
	5240	5100-5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9
	5500						
	5785						

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