



BP3KT1-4D

## Symbols & Definitions



Manufacturer



Caution



Type BF Applied part

**IP21**

Protected against solid objects with a diameter of  $\geq 12.5\text{mm}$ . ; Protected against vertically falling

drops of water, e.g. condensation.



Temperature limit

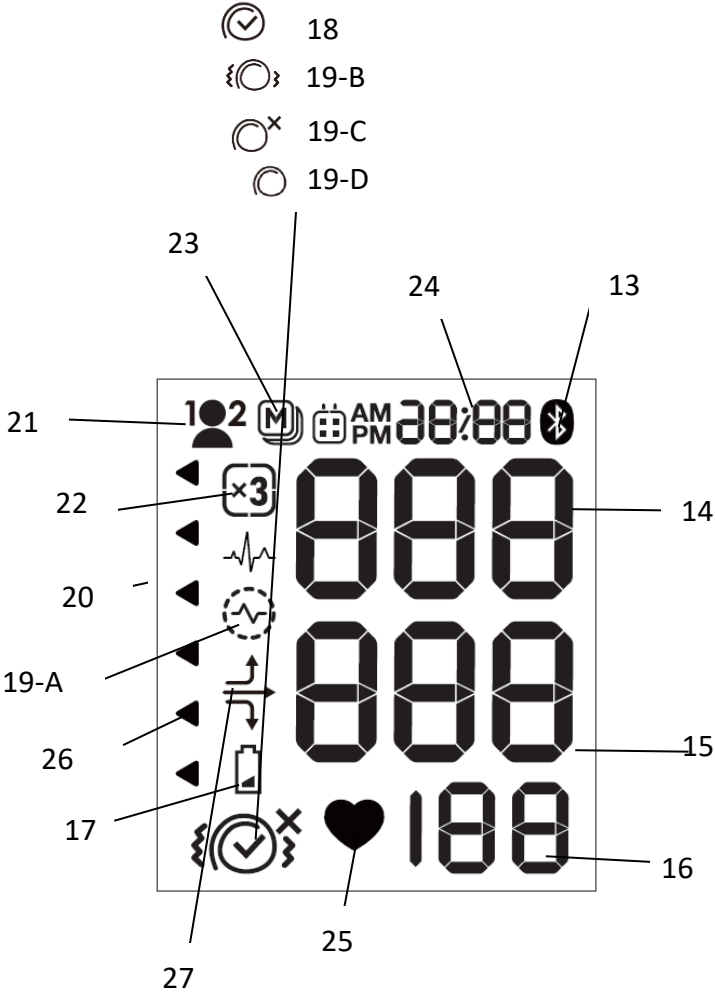
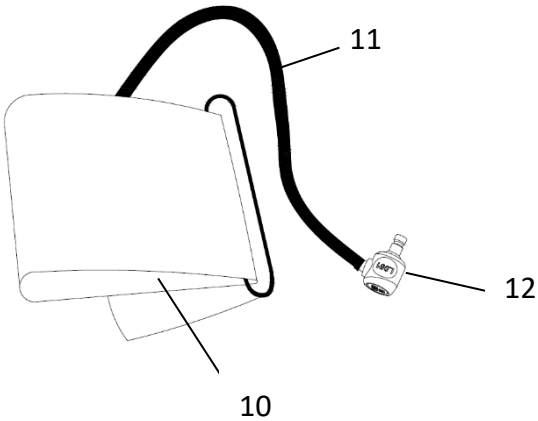
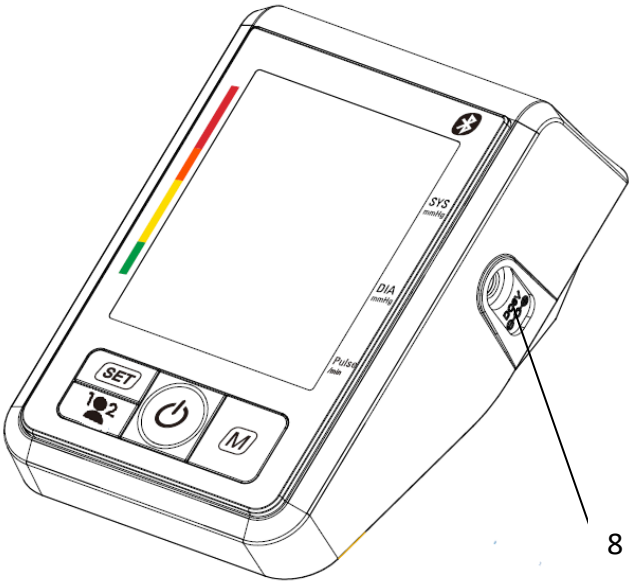
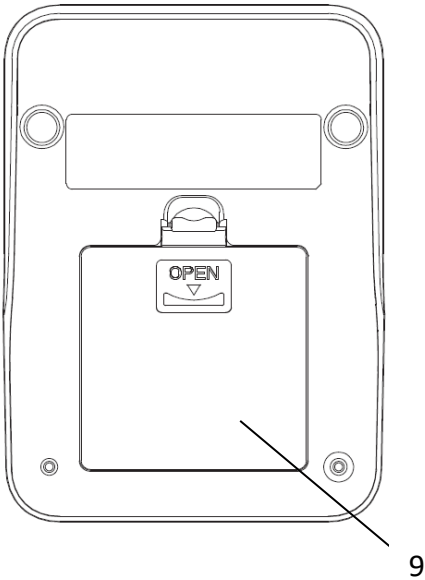
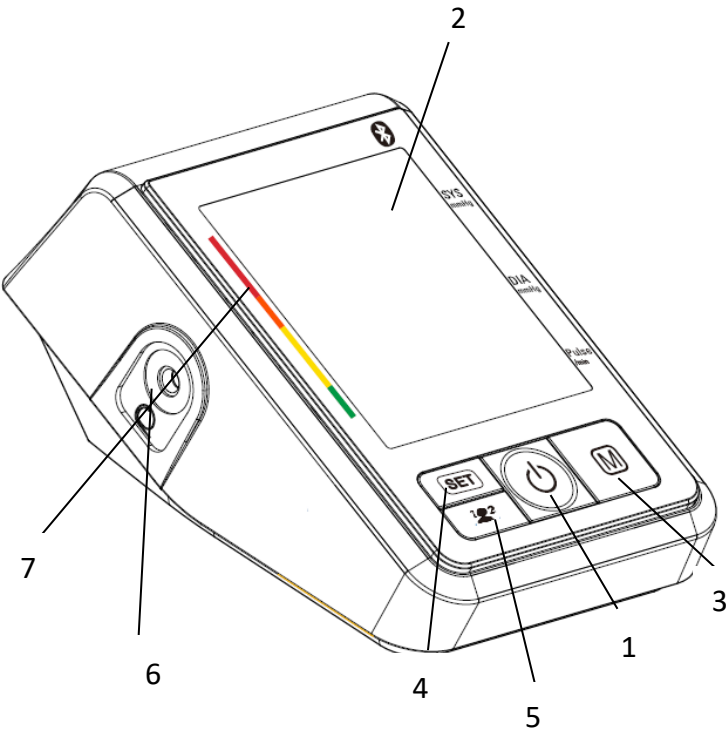


Humidity limitation



Follow instructions for use. This document provides important product operation and safety information regarding this device. Please read this document thoroughly before using the device and keep for future reference.

Device Illustration



## Device Illustration Legend

### Device

- 1 ON/OFF button
- 2 Display
- 3 M-button (memory)
- 4 SET Button
- 5 User Button
- 6 Cuff Socket
- 7 Traffic light Indicator
- 8 Mains Adapter Socket
- 9 Battery Compartment
- 10 Cuff
- 11 Cuff Tube
- 12 Cuff Connector

### Display

- 13 Active Bluetooth®
- 14 Systolic Value
- 15 Diastolic Value
- 16 Pulse Rate
- 17 Battery Display
- 18. Cuff Fit OK
- 19-A: Cuff Signal Indicator «Err 1»
- 19-B: Arm Movement Indicator «Err 2»
- 19-C: Cuff Pressure Check «Err 3»
- 19-D: Suboptimal Cuff Fit
- 20 Irregular heartbeat (IHB) symbol
- 21 User indicator
- 22 MAM Mode
- 23 Stored value
- 24 Date/Time
- 25 Pulse indicator
- 26 Traffic Light Indicator
- 27 Average Indicator «MyCheck»

## Important Information



Read the important information in this Instructions for use before using this device. Follow the instructions for use for your safety and keep it for future reference.

## Intended Purpose

A device intended to measure the systolic and diastolic blood pressure and pulse rate of an adult individual by using a non-invasive oscillometric technique in which an inflatable cuff is wrapped around the upper arm for a circumference range from 22 to 42cm.

The device detects the appearance of irregular heartbeat during measurement and gives a warning signal with the reading once the irregular heartbeat is detected.

The device can be used in connection with a smart phone via Bluetooth. The measurement data can be transferred to a smart phone running the Microlife Connected Health+ mobile software (App).

## Intended User, Patient, and Use Environment

This device is only intended to be used by user on patients in environments described in this section.

- The device is intended to be used by patients (self-measurement) or on a third person in a home healthcare environment (such as general household use).
- The device is intended to be operated by adult users with the vision and motor functions as well as the literacy and basic educations capable of understanding the content of this instructions for use and operating general household electrical appliances.
- The intended patients are normotensive and hypertensive adults and adolescents (aged 12 years or older) of the general population.

## Indication & Clinical Benefits

This device is suitable for use for the following conditions and clinical benefits described in this section.

- The device is intended to measure human brachial blood pressure non-invasively for monitoring of the systolic and diastolic pressures, to support the diagnosis medical conditions or diseases related to blood pressure, including:

- Diagnosis white-coat hypertension and masked hypertension and identifying white-coat effect and masked uncontrolled hypertension.
- Evaluate blood pressure in response to treatment
- Confirming the diagnosis of resistant hypertension
- Detecting morning hypertension

## Contra-indications

Do not use this device if the patient's condition meets the following contra-indications, to avoid inaccurate measurements or injuries.

- The device is not intended for measuring blood pressure in pediatric patients of age younger than 12 years old (children, infant, or neonates).
- Presence of significant cardiac arrhythmia during measurement may interfere with blood pressure measurement and affect the reliability of blood pressure readings. Consult with your doctor about whether the device is suitable for use in this case.
- The device is not intended for measuring blood pressure in adults with conditions of diabetes, pregnancy, or pre-eclampsia.
- The device measures brachial blood pressure using pressured cuff over upper arm. If the measuring arm suffers from injuries (for example open wounds) or under conditions or treatments (for example intravenous drip) making it unsuitable for surface contact or pressurization of the arm, DO NOT use the device, to avoid worsening of the injuries or conditions.
- Patient motions during measurement may interfere with the measurement process and influence results. Avoid taking measurements of patients with conditions, diseases, and susceptible to environment conditions that lead to uncontrollable motions (e.g. trembling or shivering) and inability to communicate clearly (for example children and unconscious patients).
- The device uses oscillometric method to determine blood pressure, and requires the measured arm with normal perfusion. The device is not intended to be used on an arm with restricted or impaired blood circulation. Consult with your doctor if you severer perfusion or blood disorders before using the device.
- Avoid taking measurement on the arm on the side of a mastectomy or lymph node clearance.
- The device is not intended to measure pulse rate to check the frequency of pacemaker.
- Do not use this device in a moving vehicle (for example in a car or on an aircraft).

## Side Effects

Use of the device may be accompanied by minor side effects.

- In some cases, slight bruising may result after measurement due to pressurization of the arm.

## Warning

Indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.

- A self-measurement reading is not a medical diagnosis or treatment. Always consult with your physician. Under no circumstances should you diagnose or alter your prescribed medication by yourself.
- Consult your physician before using this device if any of the following or similar conditions are present: arrhythmias such as atrial or ventricular premature beats or atrial fibrillation, arterial sclerosis, poor perfusion, diabetes, pregnancy, preeclampsia, or renal diseases.
- Motion during measurement, including trembling or shivering may affect the measurement. Keep the device away from children! The device and its accessories contain small parts, tubes and cables. Beware of the risks of accidental strangulation or swallowing of small parts by children.
- DO NOT use this device on infants, children, and people unable to clearly communicate.
- DO NOT Use the displayed pulse for checking the frequency of heart pacemakers as this device is not suitable for this action.
- DO NOT Place the Cuff over a wound as this may cause further injury.
- DO NOT Place and pressurize the Cuff over/near any present intravascular access or therapy, or arteriovenous shunt, as this may cause blood flow interference and result in harmful injury.
- DO NOT Place and pressurize the Cuff over a limb near the side of a mastectomy as this may cause harmful injury.
- DO NOT use this device for purposes beyond described in this Instructions for Use. The manufacturer cannot be held liable for damage caused by incorrect application.
- DO NOT change the patient medication and treatment based the result of one or multiple measurements. Treatment and medication changes should be prescribed only by a medical professional.
- Inspect the device, cuff, and other parts for damage. DO NOT use the device, cuff or parts if they appear damaged or operating abnormally.
- Blood flow of the arm is temporarily interrupted during measurement. Extended interruption of blood flow reduces peripheral circulation and may cause tissue injury. Beware of signs (for example tissue discoloration) of impeded peripheral circulation if taking measurements continuously or for an extended period of time (for example more than 30 minutes).
- Prolonged exposure of the arm to cuff pressure will reduce peripheral perfusion and may lead to injury. Avoid situations of extended cuff pressurization beyond normal measurements. In the

case of abnormally long pressurization, abort the measurement, loose the cuff, or disconnect the cuff from device to depressurize the cuff.

- DO NOT use this device in oxygen rich environment or near flammable gas.
- The device is not waterproof. DO NOT immerse the device in water or other liquids.
- DO NOT disassemble or attempt to service the device, accessory and parts, during use or in storage. Access to the device internal hardware and software is prohibited. Unauthorized access and servicing of the device, during use or in storage, may compromise the safety and performance of the device.
- DO NOT disassemble or attempt to service the device, accessory and parts, during use or in storage. Access to the device internal hardware and software is prohibited. Unauthorized access and servicing of the device, during use or in storage, may compromise the safety and performance of the device.



## Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient, or cause damage to the device or other property.

- To avoid inaccurate measurements and to lessen any discomfort from Cuff pressure, ensure the Cuff is placed correctly on the limb and fits correctly when snug (not tight), as indicated by markings with the Cuff.
- Consult your physician in cases of frequent irregular heartbeat detections.
- The Traffic Light Indicator feature provides a general reference of self-measurement blood pressure classification based on the clinical guideline of American College of Cardiology. Beware these features are not diagnosis and do not replace professional medical consultation. Do not diagnose or treat yourself based on the results of these features. Always consult with your physician.
- DO NOT Drop this device or expose it to strong vibrations; sensitive components may be affected resulting in inaccuracies and/or operational issues.
- DO NOT Use this device in a moving vehicle; inaccurate measurements may result. Only use this device in a home healthcare environment.
- The device is intended only for measuring blood pressure at upper arm. DO NOT measure other sites because the reading does not reflect your blood pressure accurately.
- Overly frequent measurement within a short time (for example 5 – 10 minutes) may reduce peripheral perfusion and cause injury. After a measurement is completed, loosen the cuff and rest the arm for a few minutes to restore limb perfusion, before taking another measurement.
- DO NOT use this device with other medical electrical (ME) equipment simultaneously. This may cause device malfunction or measurement inaccuracies.



- DO NOT use this device in proximity of high frequency (HF) surgical equipment, magnetic resonance imaging (MRI) equipment, and computerized tomography (CT) scanners. This may cause device malfunction and measurement inaccuracies.
- Use and store the device, cuff and parts in temperature and humidity conditions specified in the Technical Description. Usage and storage of the device, cuff and parts in conditions outside ranges given in the Technical Description may results in device malfunction and the safety of usage.
- Protect the device & accessories from the following to avoid damaging the device:
  - Water, other liquids, and moisture
  - Extreme temperatures
  - Impacts and vibrations
  - Direct sunlight
  - Contamination and dust
- Always use the arm cuff of range appropriate for the mid arm circumference of the patient.
- Stop using this device and cuff and consult with your doctor if you experience skin irritation or discomfort.
- DO NOT use this device, cuff or parts after the expiration of its stated service life.

## **Electromagnetic Compatibility Information**

- This device is compliant with IEC 60601-1-2 Electromagnetic Disturbances standard.
- This device is not certified to be used in vicinity of medical equipment including high frequency (HF) surgical equipment, magnetic resonance imaging (MRI) and computerized tomography (CT) instruments.
- DO NOT use this device close to strong electromagnetic fields and portable radio frequency communication devices (for example microwave oven and mobile devices). Keep a minimum distance of 0.3 m from such devices when using this device.
- This device features Bluetooth(R) that emits radio frequency (RF) in the 2.4GHz band. Do not use this device in locations where RF is restricted (for example, on a aircraft). Turn off the device and remove the power source if necessary when in RF restricted locations.
- This device operates in an unlicensed ISM bad at 2.4GHz. In case this device is used near other wireless devices (for example wireless LAN) which operates on the same frequency band as this device, there is a possibility that interference may occur. If interference occurs, stop the operation of other devices or relocate this product away from other wireless devices before using it.

### **MR Unsafe**



### **Data Transmission**

- This product emits radio frequencies (RF) in the 2.4 GHz band. DO NOT use this product in locations where RF is restricted, such as on an aircraft or in hospitals. Turn off the Bluetooth® feature in this monitor, remove batteries when in RF restricted areas. For further information on potential restrictions refer to documentation on the Bluetooth usage by the FCC.

### **FCC**

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications to the product are not approved by Microlife USA and could void the user's authority to operate the equipment under FCC jurisdiction.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna. 2) Increase the separation between the equipment and receiver. 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. 4) Consult the dealer or an experienced radio/TV technician for help.
- This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

### **Important Information about Irregular Heart Beat (IHB) - for Patients**

- An Irregular Heartbeat (IHB) occurs when an irregular interval between heart beats is detected during measurement.

- Presence of IHB may affect blood pressure measurement; it's recommended to retake measurement if IHB is detected, to ensure reliability of blood pressure reading.
- Occasional IHB detection is no cause for concern. Consult with your doctor if IHB is detected frequently (e.g. in majority of measurements).

## **Important Information about Irregular Heart Beat (IHB) – for Doctors**

- Irregular Heart Beat (IHB) is defined a beat-to-beat interval that is 25% faster or 25% slower than the average pulse interval detected during the measurement.

## **Adverse Events & Reporting**

- In case of an adverse event, please contact your local Microlife distributor, the manufacturer, and the competent authority of the Member State.

## **Device Preparations before Using**

### **Selecting the correct cuff size**

Check if the cuff size is suitable for the circumference of your upper arms. The upper arm circumference can be measured using a tape measure around the mid-point of the upper arm.




Caution: Using an undersized or oversized cuff for measurement results inaccurate blood

pressure values. Use the correctly sized cuff for measurement to ensure the readings are reliable.

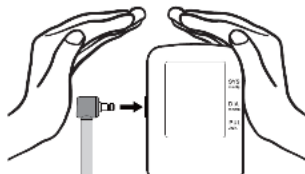
Cuff size	for circumference of upper arm
M - L	22 - 42 cm
L - XL	32 - 52 cm

Contact your local Microlife Service if the enclosed cuff (12) does not fit. Pre-shaped cuffs are optionally available.

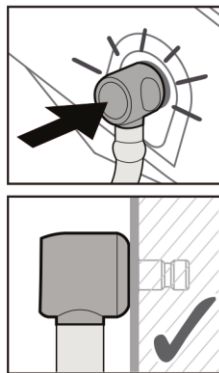
 Caution: Only use compatible Microlife cuffs and connectors with this device.


### Connecting the cuff to the device

**Tube connection:** Push the cuff connector into the cuff socket by palm as far as it will go.



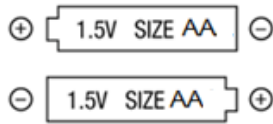
Make sure the cuff connector is securely inserted into the cuff socket of your blood pressure monitor (a soft “click” may be heard when fully inserted).




 Caution: A loose connection will result in inaccurate readings, and an error message (Err 3).

### Inserting the batteries


After you have unpacked your device, first insert the batteries. The battery compartment is on the bottom of the device. Insert the batteries (4 x 1.5 V, size AA) in the orientations following the polarity symbols marked on the battery compartment (see the below picture) to put batteries by correct orientation.



 **Caution:** Inserting the batteries in incorrect polarity orientations may lead to short circuiting and damage the device!

## Setting the date and time

1. After the new batteries are fitted, the year number flashes in the display. You can set the year by pressing the M-button. To confirm and then set the month, press the SET button.
2. Press the M-button to set the month. Press the SET button to confirm and then set the day.
3. Follow the instructions above to set the day, hour and minutes.
4. Once you have set the minutes and pressed the SET button, the date and time are set and the time is displayed.
5. If you want to change the date and time, press and hold the SET button for approx. 7-8 seconds until the year number starts to blink. Now you can adjust date and time settings as described above.

 **Caution:** Make sure date & time settings is correct on the device. Incorrect settings results misleading data & time records of the measurements.

## Setting the user

This blood pressure monitor is designed to store 120 measurements for each of two users. Memories are not stored in guest mode.

- Select the intended user (user 1 or user 2 or guest) by pressing the User indicator button.
- Before each measurement, ensure that the correct user is selected.

## Selecting Standard mode or MAM mode for measurement

Before each measurement, select standard (single measurement) or MAM mode (automatic triple measurement). In MAM mode, 3 measurements are automatically taken in succession and the result is then automatically analyzed and displayed.

Because the blood pressure constantly fluctuates, an average blood pressure based on consecutive

measurements is more reliable than based on a single measurement.

- To select MAM mode, Press and Hold the SET button till 3 to 4 second, the MAM mode-symbol & “OFF” appears in the display. Press the Memory button to select ON or OFF, then press SET button to confirm.
- The bottom, right hand section of the display shows a 1, 2 or 3 to indicate which of the 3 measurements is currently being taken.
- There is a break of 15 seconds between the measurements. A countdown indicates the remaining time.
- The individual results are not displayed. Your blood pressure will only be displayed after all 3 measurements are taken.



**Caution:** In MAM mode, if one of the individual measurements was questionable, the device automatically takes an additional measurement.

## Patient Preparations of Measurement



Caution: Follow these steps to obtain reliable blood pressure reading. Lack of rest, incorrect body posture, arm position, and improper cuff fitting may lead to inaccurate blood pressure reading!

### Prior to Taking a Measurement

- It is recommended that doctors perform double arm measurements on a patient's first visit in order to determine which arm to measure in the future. The arm with the higher blood pressure should be measured.
- Avoid exercising, bathing, eating, drinking, and smoking, 30 minutes prior to measurement.
- Empty your bladder prior to measurement.
- Sit down on a back-supported chair, keep the feet flat on the floor, and do not cross your legs.
- Sit down on a Relax for at least 5 minutes before taking measurement.

### Correct Cuff Fitting and Posture for Taking a Measurement

- Make sure to use the correct cuff size suitable for patient's arm circumference. Always measure on the same arm (normally left).
- Remove thick clothing and close-fitting garments from the upper arm. To avoid constriction, shirt sleeves should not be rolled up - they do not interfere with the cuff if they are laid flat.
- Fit the cuff snugly around the upper arm, with the lower edge positioned 1-2 cm above the elbow, and the artery mark aligned with the (brachial) artery in the inner side of the arm. The gaps between the cuff and the arm on both top and bottom edges of the cuff should be no wider than two fingers width.
- Support your arm on a desktop so it is relaxed. Make sure the middle of the cuff is at the same height as your heart (right atrium).

# Taking a Blood Pressure Measurement

## Starting measurement

1. Select standard (single measurement) or MAM mode (automatic triple measurement)
2. Press the ON/OFF button to start the measurement. Device will display current date and time, then inflate the cuff automatically.
3. The cuff fit OK on the display indicates that the cuff is perfectly placed. If the icon (19)-D Suboptimal Cuff Fit appears, the cuff is too loosely. Although device can still measure blood pressure, it is recommended to stop measurement, and re-apply the cuff more tightly, before re-taking measurement.
4. The measurement is performed during the inflation. The inflation speed may vary, this is a normal occurrence.
5. During the measurement, the pulse indicator flashes in the display. Relax, breathe normally and do not tense your arm muscles until the measurement result is displayed.



**Caution:** Remain still and do not move or talk during measurement. Motions caused by talking, moving, trembling and other vibrations may interfere with the measurement and affect the measurement accuracy!

6. The result, comprising the systolic and the diastolic blood pressure and the pulse rate is displayed. The cuff can now be removed. The device returns to stand-by after approx. 1 min.

## Aborting measurement (Emergency Stop)



**Caution:** You can stop the measurement at any time by pressing the ON/OFF button, disconnecting the cuff, and by opening the cuff. (E.g. if you feel uneasy or an unpleasant pressure sensation).

## How not to store a reading

As soon as the reading is displayed press and hold the ON/OFF button until «M» is flashing. Confirm to delete the reading by pressing the SET button.

«CL» is displayed when the reading is deleted from the memory successfully.



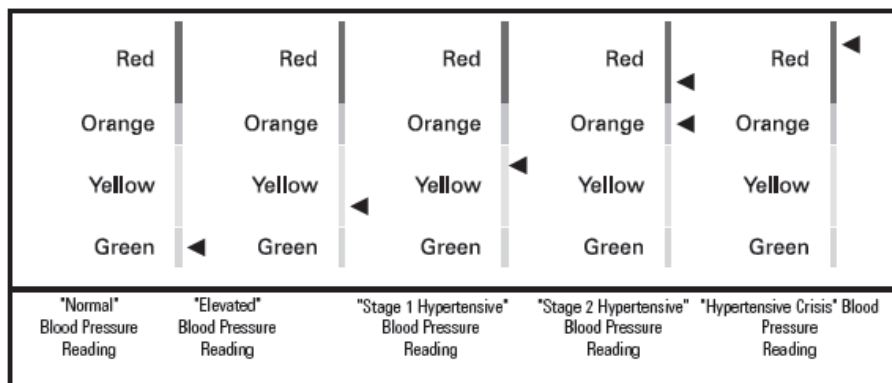
## How do I evaluate my blood pressure?

The triangle on the left-hand edge of the display points at the range within which the measured blood pressure value lies. The colored indicator on the left-hand edge of the display has been designed to provide a quick visual representation of your blood pressure. Once a measurement has been completed, a black triangle will display onscreen next to the colored hypertension indicator. The height of the black triangle will show if the measurement is within the normal (green), borderline (yellow/orange) or danger (red) range.

This classification is based on standards established by the American Heart Association (AHA) and American College of Cardiology (ACC) in 2017.

If the black triangle is in the:

- green zone, your measurement is "Normal."
- lower yellow zone, it is "Elevated."
- upper yellow zone, it is "Stage 1 Hypertensive."
- orange zone, it is "Stage 2 Hypertensive."
- lower red zone, it is "Stage 2 Hypertensive."
- upper red zone, it is "Hypertensive Crisis."



**Caution:** The blood pressure classification is a general guide of blood pressure levels, but diagnosis of hypertension should be made by a healthcare profession based on specific conditions of the patient. Consult with your doctor for questions about the interpretation and classification of your blood pressure values.

## Appearance of the Irregular Heartbeat (IHB)

This symbol indicates that an irregular heartbeat was detected during the measurement.



**Caution:** When IHB is detected, the result may deviate from your normal blood pressure. It is recommended to repeat the measurement, with MAM mode if possible.

## Average Indicator (My Check)

This symbol (27) indicates after each measurement, if the most recent measured value lies below, above or on the same level as your stored averages value

1. If the measured Systole or Diastole is more than 5mmHg higher than the stored average, the arrow shows upwards.
2. If the measured Systole or Diastole is more than 5mmHg lower than the stored average, the arrow shows downwards
3. If the measured Systole and Diastole's difference between the stored average are within 5mmHg, the arrow shows straight on.
4. If the measured Systole and Diastole values are trending in different directions from the stored average, the Systole value flashes first with the up or down arrow for two seconds. Then, the diastole value flashes with the up or down arrow for two seconds.

## Review Measurement in Memory

### Measurement memory function

This device automatically stores the last 120 measurement values of each user in memory for review.

Memories are not stored in guest mode.

Select the intended user (user 1 or user 2 or guest) by pressing the User indicator button.

### Viewing the average of all measurement value and the average of 28 Day

Doctors recommend that you compare blood pressure measurements taken at the same time each day to help ensure consistent conditions during measurements. To assist you, this blood pressure monitor is equipped with all stored value averaging and 28 Days averaging capabilities.

- Press “M” (Memory) button. The all stored values for the current user will appear. “A” will be displayed on the top of the screen.
- Press “M” (Memory) button again. The all stored values in the last 28 days for the current user will appear. “28A” will be displayed on the top of the screen.

### Viewing the stored values in memory

Pressing the M-button again, allows you to see the last performed measurement. The display first shows «M» and a value, e.g.«M17». This means that there are 17 single values in the memory.

Pressing the M-button repeatedly enables you to move from one stored value to another. To scroll through all individual readings, press “M” repeatedly.

#### Memory full

Pay attention that the maximum memory capacity of 120 memories is not exceeded. When the 120 memory is full, the oldest value is automatically overwritten with the 121st value.

- Values should be evaluated by a doctor before the memory capacity is reached – otherwise data will be lost.

### Clearing all values in memory

If you are sure that you want to permanently remove all stored values, hold down the M-button when device is in stand-by until «CL ALL» appears and then release the button. To permanently clear the memory, press the SET button while «CL ALL» is flashing. Individual values cannot be cleared. Cancel

deletion: press ON/OFF button while «CL ALL» is flashing.

## **Bluetooth® Function**

Use the Bluetooth® function to transfer data to «Microlife

Connected Health+» App on a smartphone (Android OS or iOS).

Information available on: [www.microlife.com/technologies/connect](http://www.microlife.com/technologies/connect)

### **Bluetooth® pairing & app setup**

1. Open «Microlife Connected Health+» App on the smartphone (Make sure the app is running in the foreground, not in the background.)
2. Press **SET button** to turn on Bluetooth® manually to connect device to smartphone.
3. When smartphone finds the device, the smartphone will show a message to pair with the device. Confirm on smartphone to complete pairing. Cancel to abort pairing.
4. After pairing, the app will show a message to setup the device user selection (1 or 2) to the app user profile. Confirm to proceed with setup. Cancel to abort setup (if user selection is incorrect).
5. After setup, the device will automatically exchange measurement data and date/time settings with the app. Bluetooth® turns off automatically after data exchange.

**Please set the date & time on your blood pressure monitor before pairing to your phone.**

### **Note:**

The App will not be able to receive readings unless the date & time have been properly set on your blood pressure monitor.

### **Bluetooth® operations**

- Automatically turn on Bluetooth®: Bluetooth® will activate automatically after a measurement. Bluetooth® symbol on display will blink.
- Automatically turn off Bluetooth®: Bluetooth® will turn off automatically after 2 minutes if a smartphone does not connect to the device.
- Manually turn on Bluetooth®: Press Bluetooth/Time button to activate Bluetooth®, Bluetooth® symbol on display will blink.
- Manually turn off Bluetooth®: Press ON/OFF button to turn off Bluetooth®.

### **Bluetooth® status**

- Bluetooth® symbol blinking slowly: Bluetooth® is activated and waiting for connection.
- Bluetooth® symbol not blinking: Bluetooth® connection established.
- Bluetooth® symbol blinking rapidly: Bluetooth® connection error.

- In case of Bluetooth® connection error, turn off device Bluetooth®, wait for a minute, then re-try Bluetooth® connection. Refer to chapter «10. Error messages» for details.

# Battery Indicator and Battery Replacement

## Low battery

When the batteries are approximately 25% left, the battery symbol will flash as soon as the device is switched on (partly filled battery displayed). Although the device will continue to measure reliably, it's recommended to replace the batteries as soon as possible.

## Flat battery and replacement

When the batteries are flat, the battery symbol will flash as soon as the device is switched on (flat battery displayed). You cannot take any further measurements and must replace the batteries.

1. Open the battery compartment at the back of the device.
  2. Replace the batteries – ensure correct polarity as shown by the symbols in the compartment.
  3. To set date and time, follow the procedure described in «Section 2.».
- The memory retains all values although date and time must be reset – the year number therefore flashes automatically after the batteries are replaced.

## **Accessories**

### **Blood Pressure Cuffs**

Accessories: Standard Cuff: Wide range soft cuff for arm circumference 22-42cm

Optional cuffs : L XL size soft cuff: 32 52cm )



## Spare Parts

### AC Adapter

You can operate this device using the Microlife AC adapter model AD-1024C (DC 6V, 600 mA).

1. Plug the adapter jack into the adapter socket. Check to ensure the adapter or cable are not damaged.
2. Plug the adapter plug into the mains socket.

#### Warning & Caution about AC Adapter





- Do not use the AC adapter if the adapter or the cable is damaged. If the device, adapter or the cable is damaged, turn off the power and unplug the AC adapter immediately.
- Only use the AC adapter with outlets of compatible voltage rating.
- Do not plug or unplug the AC adapter from the outlet with wet hands.
- Do not damage the AC Adapter. Handle the AC adapter with care. Avoid pulling, bending, and tempering of the adapter cable.
- Unplug the AC adapter before cleaning this device.
- Please do not to position this device so that it is difficult to remove the power plug that will disconnect the device from mains voltage.
- Note: When the adapter is used, the batteries are not drained.

### Batteries

- Use 4 new 1.5 V, size AA alkaline batteries. Do not use expired batteries or mix new and used batteries together.
- Inserting the batteries in incorrect polarity orientations may lead to short circuiting and damage the device!
- Remove batteries if the device is not going to be used for a prolonged period.
- The device can be used with rechargeable batteries. Rechargeable batteries cannot be charged in the device. Batteries must be removed and recharged when the flat battery symbol appears.

## Error Messages & Troubleshooting

If an error occurs during the measurement, the measurement is interrupted and an error message, e.g. «Err 3», is displayed.

Error	Description	Potential cause and remedy
«Err 1» 	Signal too weak	The pulse signals on the cuff are too weak. Re-position the cuff, ensure a tight, snug fit, and repeat the measurement. *
«Err 2» 	Error signal	During the measurement, error signals were detected by the cuff, caused for instance by movement or muscle tension.  Repeat the measurement, while keeping your arm and body still and refrain from speaking.
«Err 3» 	Abnormal cuff pressure	An adequate pressure cannot be generated in the cuff. A leak may have occurred. Check that the cuff is correctly connected and is not too loose. Replace the batteries if necessary. Repeat the measurement.  <i>Please follow the procedure described in "Tube connection" to ensure the cuff is properly connected.</i>
«Err 5»	Abnormal result	The measuring signals are inaccurate and no result can therefore be displayed. Read through the checklist for taking reliable measurements and then repeat the measurement. *
«Err 6»	MAM Mode	There were too many errors during the measurement in MAM mode, making it impossible to obtain a final result. Read through the checklist for performing reliable measurements and then repeat the measurement. *
«HI»	Pulse or cuff pressure too high	The pressure in the cuff is too high (over 299 mmHg) OR the pulse is too high (over 200 beats per minute). Relax for 5 minutes and repeat the measurement. *
«LO»	Pulse too low	The pulse is too low (less than 40 beats per minute). Repeat the measurement. *
	Bluetooth® symbol (13) blinks rapidly	Bluetooth® connection error. Turn off the device and close the app on the smartphone. Wait for 1 minute, open the app on the smartphone and manually activate Bluetooth® on the device to retry Bluetooth connection and data transfer.
«Err bt»	Bluetooth® self check error	Bluetooth® is malfunctioning. Contact your local Microlife distributor.

\* Consult with your local pharmacy or Microlife distributor.

# Maintenance, Service, and Disposal

## Maintenance

When not in use:

- Disconnect the cuff and parts from the device.
- Keep the device and accessories in a dry, cool place away from sunlight, with ambient conditions within the temperature and humidity ranges described in the Technical Description.
- Remove the batteries from the device if the device will not be used for an extended period.



**Caution:** Storing the device disuse for an extended period without removing batteries increases the chance of battery fluid leakage, which may lead to device damage and skin irritation when in contact. If your eye or skin is exposed to battery fluid, wash the exposed part immediately with ample clean water. Consult a doctor if irritation or discomfort persists.

## Cleaning

The device can be cleaned when necessary (e.g. between uses by different patients).

Use a soft cloth, dry or wet with detergent, to gently wipe the exterior of the device remove dusts or stains.



**Caution:** Do not machine wash the cuff and do not use fabric softener.



**Caution:** Do not dry tumble dry or iron the cuff cover

## Service & Calibration

We recommend this device is tested by trained personnel of Microlife distributor for accuracy every 2 years. Please contact your local Microlife Service to arrange the test (see foreword).



**Caution:** The device and accessories can only be serviced (tested & calibrated) by a trained personnel qualified for servicing Microlife products. Do not attempt to service or calibrate the device and accessories yourself.

## **Disposal (Waste Electrical and Electronic Equipment)**

This device is an electronic device. The device and batteries must be disposed of in accordance with the locally applicable regulations, not with domestic or commercial waste.

## Guarantee

The guarantee is valid only on presentation of the guarantee card completed by the dealer (see back) confirming date of purchase or the receipt.

- This device is covered by a guarantee of 10,000 measurements or 5 years, whichever occurs earlier, from the date of purchase.
- The cuff has a functional guarantee (bladder tightness) of 5,000 measurements or 2 years, whichever occurs earlier.
- Batteries and parts that become worn with use are not included.
- Opening or altering the device invalidates the guarantee.
- The guarantee does not cover damage caused by improper handling, discharged batteries, accidents or non-compliance with the operating instructions.

## Technical Specification

Product Category: Non-invasive oscillometric blood pressure gauge

Product Description: Upper arm automatic blood pressure monitor

Model Number: BP3KT1-4DLDR

Operation Conditions: 10 – 40°C, 15 – 90% relative humidity, 700hPa – 1060hPa

Storage & Transport Conditions: -20 - +55°C, 15 – 90% relative humidity

Weight: 402g (including batteries)

Dimensions: L: 138mm, W: 94.5mm, H: 62.5mm

Measurement Method: Oscillometric method, corresponds to Korotkoff method:

Phase I systolic / Phase V diastolic

Pressure Resolution: 1mmHg

Cuff Pressure Display Range: 0 – 299 mmHg

Measurement Ranges:

Systole: 60 – 255 mmHg

Diastole: 40 – 200 mmHg

Pulse: 40 – 199 beats / minute

Accuracy – Static Pressure:  $\pm 3$  mmHg

Accuracy - Pulse:  $\pm 5\%$  of readout value

Wireless Communication: Bluetooth® Low Energy

Power Source – Internal: 4 x 1.5V LR3(AA) batteries

Power Source – External (optional): AC Adapter model: Microlife AC-1024D. Input 100-240V Output 6V 0.6A 3.6W

IP Rating: IP21: Protected against solid objects with a diameter of  $\geq 12.5\text{mm}$ . ; Protected against vertically falling drops of water, e.g. condensation.

Applied Part Type Reference: Type BF 

Service Life - Device: 10,000 measurements or 5 years, whichever occurs earlier

Service Life – Cuff: 5,000 measurements or 2 years, whichever occurs earlier

Battery Life: Approx. 900 measurements (new Alkaline LR6 batteries)

Compliant Standards: IEC 60601-1; IEC 60601-1-2 (EMC); IEC 60601-1-11

## Back Cover



Microlife Corporation

Microlife Corporation

9F, No. 431, RuiGuang Road, NeiHu,  
Taipei, 11492, Taiwan, China

### **Distributed by:**

MICROLIFE U.S.A., INC.

1617 Gulf To Bay Blvd Floor 2

Clearwater, FL 33755

Toll Free Help Line: 1-800-568-4147

Email: [custserv@microlifeusa.com](mailto:custserv@microlifeusa.com)

[www.microlifeusa.com](http://www.microlifeusa.com)

Made in China

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Email: [custserv@microlifeusa.com](mailto:custserv@microlifeusa.com)

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