

# MEDCARE

## Wrist Type Blood Pressure Monitor



- Fuzzy Intellisense
- 60+60 Memories (2 Users)
- WHO Indication
- Irregular Heart Beat Detection
- Average of Last 3 Measurements
- Medication Reminder

Model:BP-602

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EC REP

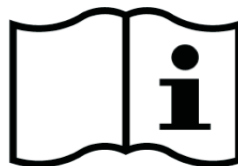
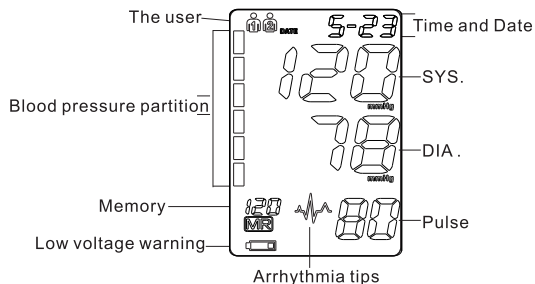
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1370 ISO  
13485

## The various components of the Blood-pressure monitor

The illustration shows the upper arm blood-pressure monitor, consisting of:



## CONTENT

1. Important information on the subject of blood-pressure and its measurement
2. Putting the blood-pressure monitor into operation
3. Carrying out a measurement
4. Memory-storage and recall of the measurements
5. Error messages
6. Care and maintenance
7. Malfunctions
8. Technical specifications
9. International standards

# 1.Important information on the subject of blood-pressure and its measurement

## 1.1. How does high/low blood-pressure arise?

The level of blood-pressure is determined in a part of the brain, the so-called circulatory center, and adapted to the respective situation by way of feedback via the nervous system. To adjust the blood-pressure, the strength and frequency of the heart (Pulse), as well as the width of circulatory blood vessels is altered. The latter is effected by way of fine muscles in the blood-vessel walls.

The level of arterial blood-pressure changes periodically during the heart activity: During the «blood ejection» (Systole) the value is maximal (systolic blood-pressure value), at the end of the heart's «rest period» (Diastole) minimal (diastolic blood-pressure value).

The blood-pressure values must lie within certain normal ranges in order to prevent particular diseases.

## 1.2. Which values are normal?

Blood pressure is too high if at rest, the diastolic pressure is above 90 mmHg and/or the systolic blood-pressure is over 160mmHg. In this case, please consult your doctor immediately. Long-term values at this level endanger your health due to the associated advancing damage to the blood vessels in your body.

Should the systolic blood-pressure values lie between 140 mmHg and 160 mmHg and/or the diastolic blood-pressure values lie between 90 mmHg and 100 mmHg, likewise, please consult your doctor. Furthermore, regular self-checks will be necessary.

With blood-pressure values that are too low, i.e. systolic values under 100 mmHg and/or diastolic values under 60 mmHg, likewise, please consult your doctor.

Even with normal blood-pressure values, a regular self-check with your blood-pressure monitor is recommended. In this way you can detect possible changes in your values early and react appropriately. If you are undergoing medical treatment to control your blood pressure, please keep a record of the level of your blood pressure by carrying out regular self-measurements at specific times of the day. Show these values to your doctor. **Never use the results of your measurements to alter independently the drug doses prescribed by your doctor.**

Table for classifying blood-pressure values (unit: mmHg) according to World Health Organization:

Range	Systolic	Diastolic	Measures
	<b>Blood-pressure</b>	<b>Blood-pressure</b>	
Hypertension	lower than 100	lower than 60	Check with your doctor
Normal range	between 100 and 140	between 60 and 90	Self-check
Mild hypertension	between 140 and 160	between 90 and 100	Consult your doctor
Moderately serious hypertension	between 160 and 180	between 100 and 110	Consult your doctor
Serious hypertension	higher than 180	higher than 110	Consult your doctor immediately

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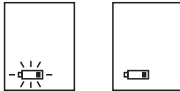
## 2. Putting the blood-pressure monitor into operation

### 2.1. Inserting the batteries

After you have unpacked your device, first insert batteries. The battery cover is on the side of the machine.

- a) Remove cover as illustrated
- b) Insert the batteries (2×size AAA 1.5V), thereby observing the indicated polarity.

If a battery warning  appears in the display, the batteries are almost flat and must be replaced. After battery warning  appears, the batteries are empty and the device will not work until batteries have been replaced.



### 2.2. User selection

This advanced blood pressure monitor allows you to track blood pressure readings for 2 individuals independently.

- a) After insert the batteries before measurement, make sure you set the unit for the intended user. The unit can track results for 2 individuals. (User 1, User 2)
- b) Press the “TIME” button for at least 3 seconds. the display now indicates the set user, during which the set user blink. to confirm, press “ON/OFF” button.
- c) Click the “MEMORY” button to select user.
- d) We suggest the first person to take their pressure to User1.

### 2.3 Setting the time and date and unit selection

- 1) Please press the “TIME” button, the display now displays the set date and time.
- 2) Press the “TIME” button for at least 3 seconds. The display now indicates the set year, during which the last two characters blink. The correct year can be entered by pressing the “MEMORY” button.
- 3) Press the “TIME” button again. The display now switches to the current date, during which the first character (month) blinks. The corresponding month can now be entered by pressing the “MEMORY” button.
- 4) Press the “TIME” button again. The last two characters (day) are now blinking. The corresponding day can now be entered by pressing the “MEMORY” button.
- 5) Press the “TIME” button again. The display now switches to the current time, during which the first character (Hour) blinks. The corresponding hour can now be entered by pressing the “MEMORY” button.
- 6) Press the “TIME” button again. The last two characters (time) are blinking. The exact time can now be entered by pressing the “MEMORY” button.
- 7) Press the “TIME” button again. The characters (unit) are now blinking. The corresponding unit include mmHg and kPa can now be set by pressing the “MEMORY” button. Press the “TIME” button again.
- 8) Now after all settings have been made, press the “TIME” button once again. The date is briefly displayed and then time. The input is now confirmed and the clock begins to run.

## 2.4. Setting the medication reminder

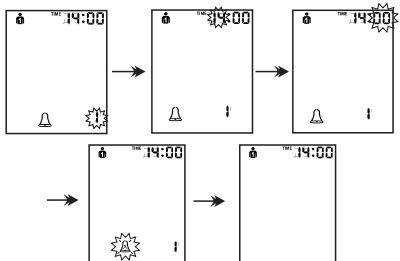
This instrument allows you to set two alarm times at which an alarm signal will then be triggered. This can be a useful, for instance as a reminder to take medication or to remind you to take your blood pressure at the same time each day.

1) To set an alarm time, press the "TIME" button and "MEMORY" button at the same time for 3 seconds (the instrument must be switched off beforehand), enter the alarm setting mode. The flashing "1" in the display indicates that the first alarm time can now be set.

2) And you can press the "ON/OFF" button and "MEMORY" button to select alarm group ("1" or "2"), press the "TIME" button can be entered to adjust Hours. Then press the "ON/OFF" button and "MEMORY" button to adjust, and press "TIME" button to confirm.

3) After confirmation enter to Minutes setting automatically press the "ON/OFF" button and "MEMORY" button to adjust, and press "TIME" button to confirm.

4) Setting is completed, continue to press "TIME" button, the alarm symbol will be flashing, press the "MEMORY" button, you can choose to turn off or turn on the alarm, continue to press the "TIME" button to enter the standby screen.

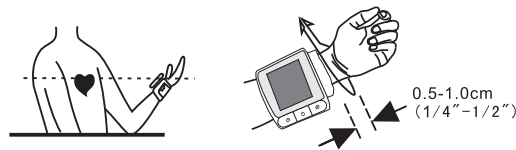


To set a second alarm time, proceed as above but if the "1" flashes, press the "MEMORY" button to select "2" and confirm with the time button.

- an active alarm time is indicated by bell symbol in the display.
- the alarm sounds at the set time every day .
- To switch-off the alarm, when is sounding, press ON/OFF button.
- To permanently switch-off the alarm, proceed as above (step 1-4), and select the crossed-out bell symbol. this will then disappear from the display.
- the alarm time must be re-entered each time the battery are replaced.

## 3. Carrying out a measurement

1. Avoid eating, smoking as well as all forms of exercise directly before the measurement. All these factors influence the measurement result.
2. Try and find time to relax by sitting in an armchair in a quiet atmosphere for about ten minutes before the measurement.
3. Remove all eventual objects and jewellery (e.g. wristwatch) from the wrist in question.
4. Draw the cuff over the wrist. Secure the cuff with the Velcro fastener, so that it lies comfortably and not too tight, whereby no space should remain between the cuff and the wrist. The distance between the cuff and the hand should be approx. 10mm.



5. Lay the wrist on a table, with the palm upwards. Support the wrist a little with a rest (cushion), so that the cuff rests at about the same height as the heart. Take care, that the cuff lies free. Remain so for 2 minutes sitting quietly, before beginning with the measurement.
6. After the cuff has been appropriately positioned, the measurement can begin. Press the "ON/OFF" button, the pump begins to inflate the cuff. In the display, the increasing cuff-pressure is continually displayed.
7. After reaching the inflation pressure, the pump stops and the pressure slowly falls away. The cuff-pressure (large characters) is displayed during the measurement.
8. When the device has detected the pulse, the heart symbol in the display begins to blink and a beep tone is audible for every pulse beat.
9. When the measurement has been concluded, a long beep tone sounds. The measured systolic and diastolic blood-pressure values as well as the pulse frequency are now displayed. The measurement results are displayed, until you switch the device off. If no button is pressed for 150 seconds, the device switches automatically off, to save the power.
10. If it is necessary to interrupt a blood pressure measurement for any reason (e.g. the patient feels unwell), the "ON/OFF" button can be pressed at any time. The device then immediately lowers the cuff-pressure automatically.
11. In testing, when the unit detects the heart rate, it will show "♥" symbol in LCD, if it shows that "⚡", it means that the tester who have arrhythmia.
12. During measurement, intelligent sensor first detects the user's blood pressure range, and then inflates the pressure to certain level that is no excessive pressure applied on user's arm and does not cause discomfort for the user.

## 4. Memory-storage and recall of the measurements

The blood-pressure monitor automatically stores each of the last 60 measurement values. By pressing the "MEMORY" button, The screen will display one symbol "MR", it indicates that this is the average of the last three measurements. Then press the "MEMORY" button again the last measurement (MR3) as well as the further last 60 measurements (MR3, MR2, ...) can be displayed one by one, in the meantime the measured date and time are displayed. (MR 60: Values of the last measurement) And so on, press "MEMORY" button to read last measurement value.

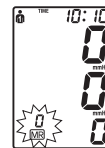


### 4.1. Memory full

Pay attention that the maximum memory capacity is not exceeded. When the memory is full, the old values are automatically overwritten with new ones.

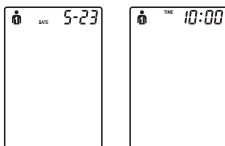
### 4.2. Memory-cancellation of all measurements Attention!

In order to delete all stored readings, depress the "MEMORY" button for at least 5 seconds, the display will show "0" and release the button.







### 4.3. Date and time reading

Press the “TIME” button when the power is off, the current date and time will be displayed according to the setting. The device switches automatically off after display 150 seconds.



## 5. Error messages

If an error occurs during a measurement, the measurement is discontinued and a corresponding error code is displayed (As below chart).

(Error No.)	Illustration	Possible cause(s)
Err2		No pulse has been detected.
Err4		The inflation of the cuff takes too long. The cuff is not correctly seated.
Err6		Unnatural pressure impulses influence the measurement result. Reason: The arm was moved during the Measurement (Artefact).
Err7		The measured readings indicated an unacceptable difference between systolic and diastolic pressures.

## 6. Care and maintenance

- ◆ Use the device according to the instruction manual. The manufacturer isn't responsible for the damage caused by improper handling.
- ◆ Do not expose the device to either extreme temperatures, humidity, dust or direct sunlight.
- ◆ The cuff contains a sensitive air-tight bubble. Handle this carefully and avoid all types of straining through twisting or buckling.
- ◆ Clean the device with a soft, dry cloth. Do not use petrol, thinners or similar solvent. Spots on the cuff can be removed carefully with a damp cloth and soapsuds. The cuff must not be washed!
- ◆ Do not drop the instrument or treat it roughly in any way. Avoid strong vibrations.
- ◆ Never open the device! Otherwise the manufacture calibration becomes invalid!

## 7. Malfunctions

Malfunction	Remedy
1. The display remains empty when the instrument is switched on although the batteries are in place.	1. Check batteries for correct polarity and if necessary insert correctly. 2. If the display is unusual, re-insert batteries or exchange them.
2. The device frequently fails to measure the blood pressure values, or the values measured are too low (too high).	1. Check the positioning of the cuff. 2. Measure the blood-pressure again in peace and quiet under observation of the details made under point 3.
3. Blood pressure measured differs from those values measured by the doctor. Every measurement produces a different value although the instrument functions normally and the values displayed are normal.	1. Attempt to carry out the measurements regularly at the same time of day, since the blood-pressure changes during the course of the day. 2. Record the daily development of the values and consult your doctor.



## 8. Technical specifications

- Measurement Principle: Oscillometric method  
Display: Digital display  
Measuring range:  
SYS/DIA: 0 to 260 mmHg (in 1 mmHg increment)  
Pulse: 40 to 200 beat/minute  
Accuracy:  
SYS/DIA:  $\pm 3$ mmHg  
Pulse:  $\pm 5\%$  of reading  
Measuring resolution: 1mmHg  
Inflation: Automatic inflation by internal pump  
Inflation setting: Auto inflation setting (140 to 250 mmHg)  
Memory function: Up to 2×60 memories (SYS., DIA., Pulse)  
Decompression: Constant exhaust valve system  
(There is no adapter inside the box, customers shall purchase by themselves)  
Power: 2×1.5V "AAA" (LR3)Batt  
Battery life:  
Alkaline batteries: approx. 400 times  
Manganese batteries: approx. 200 times  
(160mmHg, 1 time/day, 22°C)  
Operation temperature: 5~40°C/41~104°F  
Operation humidity: 15%~80% RH maximum  
Storage temperature: -20~50°C/-4~122°F  
Storage humidity: 10%~93%RH maximum  
Dimensions: 77.7×64×32±0.5mm  
LCD display size: 35×45mm  
Weight: About 137g±5g (including batteries and cuff)  
Cuff pressure display range: 0~300mmHg/0~40 kPa  
Mode of operation: Continuous operation  
Protection against ingress of water: IPX0  
Accessories: 1 set of cuff, 2 AAA batteries,  
instruction manual

## 9. International standards

- Device standard:  
EN1060-1  
EN1060-3  
EN1060-4  
ANSI/AAMI SP10, NIBP -requirements

Electromagnetic compatibility: Device fulfills the stipulations of the European standard EN 60601-1-2.  
The stipulations of the EU-Guidelines 93/42/EEC for Medical Products Class IIa have been fulfilled.



Dear customer,

**MediCare** guarantees this product free from defects in material and workmanship for a period of two years from the date of purchase, except as noted below.

This product warranty does not cover damage caused by misuse or abuse, the attachment of any unauthorized accessory, alteration to the product, or any other conditions whatsoever that are beyond the control of **MediCare** shall not be responsible for any type of incidental, consequential, or special damage. All implied warranties, including but not limited to those implied warranties of fitness and merchantability, are limited to the total duration of two years from the original date of purchase.

## Warranty card

Model Number : BP-602

Product Serial Number:

User Name:

User Phone no. with area code:

User email:

Fault description:

Retail shop name and code:

Date of Purchase:

Signature: