

Arm Type Blood Pressure Monitor

Model: # BPM82

INSTRUCTION MANUAL

PLEASE READ THIS INSTRUCTION MANUAL COMPLETELY
BEFORE OPERATING THIS UNIT

EN



IP 22

RoHS

REACH



MDSS GmbH
Schiffgraben 41
30175 Hannover Germany



AViTA Corporation
9F., No. 78, Sec. 1, Kwang Fu Rd.,
San Chung Dist., New Taipei City 24158, Taiwan



China, AViTA(WUJIANG)



Importer



Distributor

Contents

| | |
|--|-----|
| Intended Use..... | 1 |
| Type of Use/ Reuse..... | 1 |
| Intended User | 1 |
| Important Information before Use | 3 |
| Product Identification | 5 |
| Description of LCD Display | 6 |
| Battery Installation | 7 |
| Setting the Date and Time..... | 8 |
| Placement of the Pressure Sleeve..... | 9 |
| Measurement of Pulse Rate and Blood Pressure | 11 |
| World Health Organization (WHO)..... | 122 |
| Irregular Heartbeat Detector | 133 |
| Atrial Fibrillation (AFIB)..... | 144 |
| Memory Function | 155 |
| Error Codes | 177 |
| Troubleshooting | 188 |
| Cleaning and Disinfecting..... | 199 |
| Technical Specification | 20 |
| EMC Tables..... | 211 |
| Explanation of Symbols..... | 233 |

Intended Use

The BPM82 automatically measures human begins Systolic, Diastolic blood pressure and pulse rate by oscillometric method. The measurement results are displayed on the LCD. Measurement position is at human being's upper arm. The intended use of this over-the-counter device is for adults with upper arm circumference ranging from 220 mm to 420 mm (Approx. 8.7 ~ 16.6 inches) and for home use. When the device detects the appearance of irregular heartbeats such as atrial or ventricular premature beats during measurement, an indicated symbol will appear with measuring readings.

This device is designed only for adults.

Type of Use/ Reuse

Multiple patient multiple use

Intended User

The Arm type blood pressure monitor is intended or both professional and consumer, and the patient is the intended operator.

Patient selection criteria: Handicapped persons and children are the exception of handicapped persons and children need assistance by another person to use the device.

Contra-indications

Do not use in this case. (e.g. common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation, arterial sclerosis, poor perfusion, diabetes, age, pregnancy, pre-eclampsia, renal diseases, patient motion, trembling, shivering)

Warnings

- Do not use with pregnant or pre-eclamptic patients
- Regarding the effect of blood flow interference and resulting harmful injury to the patient caused by continuous cuff pressure due to connection tubing kinking.
- Regarding the information that pressurization of the cuff can temporarily cause loss of function of simultaneously used monitoring ME equipment on the same limb.
- Regarding the need to check that operation of the automated sphygmomanometer does not result in prolonged impairment of patient blood circulation.
- An explanation that any reading can be affected by the measurement site, the position of the patient, exercise, or the patient's physiologic condition.
- Details of what the operator should do if unexpected readings are obtained.
- An explanation of the need to avoid compression or restriction of the connection tubing.
- Ensure that the cuff is not placed on an arm in which the arteries or veins are undergoing medical treatment, e.g. intravascular access or therapy, or an arteriovenous (AV) shunt.
- Do not use the cuff on people who have undergone a mastectomy.
- Do not too frequent measurements can cause injury to the patient due to blood flow interference.
- Do not application of the cuff over a wound, as this can cause further injury.
- Cuff pressure 0 – 300 mmHg



CAUTION:

- automated sphygmomanometer can be affected by extremes of temperature, humidity and altitude.
- Reduction rate: Refer to IEC 80601-2-30 $\leq 30S$
- This product is not suitable for use with pregnant, including neonatal or pre-eclamptic patients

Important Information before Use

1. Blood pressure measurements should only be interpreted by a physician or a trained health care professional who is familiar with your medical history. Through regular use of this device and recording of your measurements, you can keep your physician informed of the changes in your blood pressure.
2. Perform your measurement in a quiet place. You should be seated in a relaxed position.
3. Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides.
4. Rest 15 minutes prior to taking a reading.
5. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
6. Keep the monitor stable during measurement to achieve an accurate reading. Remain still; do not talk during the measurement.
7. Record your daily blood pressure and pulse readings on a chart.
8. Take your readings at the same time, each day or as recommended by your physician to get an accurate indication of change in your true blood pressure.
9. Wait a minimum of 15 minutes between readings to allow for the blood vessels to return to normal. The wait time may vary depending on your individual physiological characteristics.
10. Although such cases are rare, for those with an extremely weak pulse or irregular pulse, errors may result which prevent proper measurement. If abnormal variations are noticed, consult with your physician or trained healthcare professional.
11. This device is intended for adult use. While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the POWER button.

For Customer Service, It is recommended that the accuracy should be checked by manufacture every 2 years. To obtain the service please contact AViTA Corp. for the address of the repair location. Enclose the Proof of Purchase. Include \$10.00 USD for the return shipping and handling. Include a letter, with your name, address, phone number, and description of the specific problem. Pack the product carefully to prevent damage in transit. Because of possible loss in transit, we recommend insuring the product with return receipt requested. If in need of assistance of setting up, using, maintaining or to report unexpected operation/events please contact manufacturer or local representative for further information and assistance. Avoid the sensor degrading, it is needed calibrate the device every 2 year.

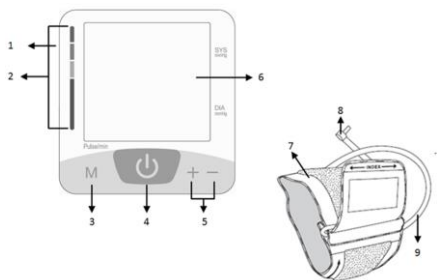
- Do not use in this case. (e.g. Device for use in an ambulance or helicopter, For use in the professional environment.)
- This product is suitable for use in the home healthcare environment.
- The performance of the device can be affected by extremes of temperature, humidity and altitude, Please refer to the instructions for use.



CAUTION:

- Keep this device out of the reach of children. Strangulation resulting from baby or child entanglement in cables.
- Please keep this device away from pets, pests, and children.
- Avoid potential allergic reactions; please avoid the device in direct contact to patient's wound.
- No modification of this equipment is allowed.

Product Identification



- 1 Air socket
- 2 WHO Indicator
- 3 Memory button (M key)
- 4 Start/Stop button (Power key)
- 5 Function button +/- (+/- key)
- 6 Display
- 7 Cuff
- 8 Cuff connector
- 9 Cuff tube

Description of LCD Display



Low battery indicator



WHO indicator



Date & Time



Irregular Heartbeat Symbol



AF Symbol



Memory Symbol



Memory Set



Heartbeat Symbol



Pulse rate



Release air




Systolic Pressure



Diastolic Pressure

Battery Installation

Low battery warning:

It is necessary to replace the batteries when the Low Battery symbol "" appears on the display, or when the display does not turn on after the POWER key is pressed.

Replacing the Battery::

1. Press down on latch and lift the cover on the bottom of the monitor.
2. Insert or replace 4x 1.5 V AAA batteries into the battery compartment, ensuring to match the indicated polarity symbols. Always use new batteries.
3. Replace the battery cover.



CAUTION:

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

NOTE: Battery-operated

1. Please properly dispose of the batteries away from small children and heat. Avoid the children accidentally swallow the battery.
2. It is recommended to remove the batteries if the unit will not be used for more than 1 month.
3. Batteries must be disposed of in accordance with local environmental and institutional policies.

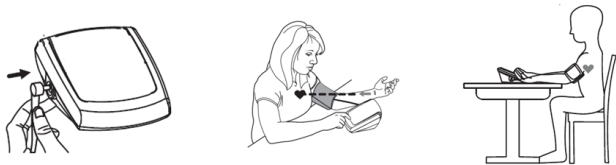
Placement of the Pressure Sleeve

It is important to avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If for any reason you are unable to or should not use your left arm, please modify the instructions for cuff application to your right arm. Your physician can help you identify which arm is best for you to take measurements from.

1. Remove any constrictive clothing or jewelry that may interfere with cuff placement.
2. Be seated at a table or desk with your feet flat on the floor.
3. The cuff should not be plugged into the monitor until after the cuff is applied to your arm.

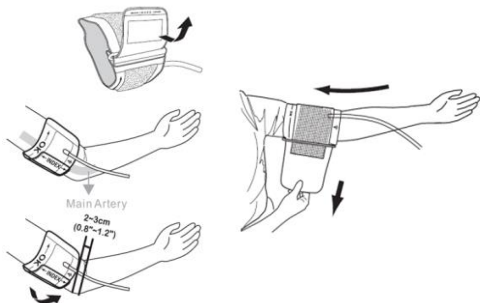
Note:

Blood pressure naturally varies from one arm to the other; therefore, measure your blood pressure on the same arm to ensure comparability of the two readings.



4. Position the cuff on a solid surface with the tubing facing up and away from you. The metal ring/bar on the cuff should be to the left of the tubing.
5. Open the cuff by pulling or rolling the bottom of the cuff to the right. This should open the cuff without fully unrolling it, creating a cylinder. Do not fully unwrap or unroll the cuff.

6. Insert your left arm into the created cuff cylinder.



7. The bottom edge of the cuff should be positioned approximately one inch above the elbow joint.

8. Reaching underneath your left arm with your right hand, pull the end of the cuff towards your body to tighten the cuff. Wrap and secure the cuff, making sure in place as shown.

9. The cuff should fit comfortably, yet snugly around your arm. You should be able to insert one finger easily between your arm and the cuff.

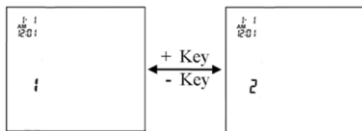
Note:

If you are not comfortable with applying your cuff, please seek the assistance of another member of your household or work with your physician to practice the cuff application. Incorrectly applied cuffs may result in inaccurate readings.

Measurement of Pulse Rate and Blood Pressure

To set the user and memory zone, proceed as follows:

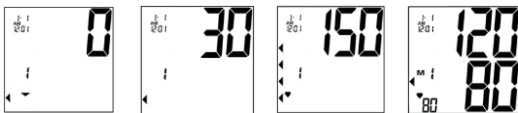
While in power off mode, press the "+" key or "-" key to select user. Confirm your selection with the Power key to turn the power on and start to measure your blood pressure. Or wait for 3 seconds, your selection is then stored and shut off automatically.



1. Press the Power key to turn the power on. After full display is shown, the values for the last reading will appear on the display. If there is no measurement, the unit displays the value "0" .



2. After the self-test, the blood pressure monitor starts to measure. The cuff will automatically begin to inflate, with the display showing the increasing pressure in the cuff.
3. As the pressure increases, the indicator will increase upwards according to the pressure value on the display.
4. As the cuff inflates, the monitor automatically determines your ideal inflation level. This monitor detects your blood pressure and pulse rate during inflation.

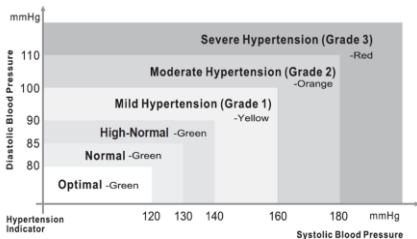


5. To detect the heartbeat, the heartbeat symbol will appear and continuous flashes on the LCD display.
6. Your blood pressure measurement and pulse will display simultaneously on the screen.
7. The Hypertension Indicator will indicate your reading range on the display separately.
8. Press the Power key to turn the unit off and conserve energy and battery life.


The unit will automatically shut-off approximately 2 minutes.

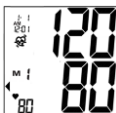
World Health Organization (WHO)

This unit features our unique Hypertension Indicator. The World Health Organization has established globally accepted standards for the assessment of high or low blood pressure readings. The below chart should be considered only as a guideline, always consult with your physician or health care professional to interpret your individual results.



Irregular Heartbeat Detector

Your digital blood pressure monitor features an Irregular Heartbeat Detector. This feature allows users to accurately monitor blood pressure even if an irregular heartbeat should occur. When an irregular heartbeat “” is detected, the icon will appear on the display.



Note:

Please consult with your physician or trained healthcare professional for further information regarding an irregular heartbeat and if this symbol appears frequently.

Atrial Fibrillation (AFIB)

This device is a blood pressure monitor that also analyses heart rate variability during measurement.

While in power off mode, switch the "AF" key to select AF mode "ON" or "OFF" . After measurement mode setting, press the "+" key or "-" key to select user. Confirm your selection with the Power key to turn the power on and start to measure your blood pressure. Or wait for 3 seconds, your selection is then stored and shut off automatically.



This feature allows users to accurately monitor blood pressure even if atrial fibrillation should occur. When atrial fibrillation is detected, the "AF" icon will appear on the display.



Note:

Please consult with your physician or trained healthcare professional for further information regarding an atrial fibrillation and if this symbol appears frequently.

Memory Function

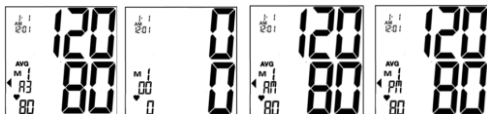
Recalling Measurements in Memory:

You can recall up to 100 measurements for each user, plus those average values stored measurements in memory to share with your physician or trained healthcare professional.

If you press the M key, the unit will first display the average of last 3 currently stored measurements. Continue to press the M key to successively view the average value of the morning measurements and evening measurements for the last 7 days will be displayed.

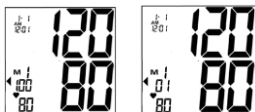
The duration of morning is AM5:00 – AM9:00,

The duration of evening is PM6:00 – PM8:00



If you press the M key again, the measurements will appear on the display from most current to oldest. And the memory number will appear on the display.

All results for a given measurement will display, including measurement results, pulse rate, Hypertension Indicator, Irregular Heartbeat alert, and date/time stamp.



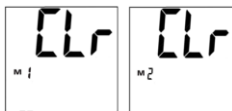
When the number of readings exceeds 100, the oldest data will be replaced with the new record.

Press the Power key to turn the unit off at any time when you check the


stored measurements

Clearing Measurements from Memory:

From the memory mode, press and hold down the M key until the display shows CLr. This indicates that all measurements have been erased.



Error Codes

| Err Code | Meaning | Corrective Action |
|---|--|--|
| Err 00 | No pulse or detect pulses not enough. | Take off heavy clothes and retry again. |
| Err 01 | The cuff is not fastened correctly | The Arm cuff is not fastened properly. Re- apply the cuff, and take a measurement again. |
| Err 02 | Inaccurate reading | Rest a while, relax and retry again. |
| Err 03 | Inflation or deflation fail during the measurement | The Arm cuff is not fastened properly. Re- apply the cuff, and take a measurement again. |
| Err | Memory error. | Take off batteries to reboot the device, then take another measurement. |
|  | Low batteries | Replace all batteries with new ones. |



Troubleshooting

| Problem | Probable Cause | Recommended Action |
|--|--|--|
| Nothing appears in the display even when the power is turned on. | Batteries are drained. | Replace all batteries with new ones. |
| | Battery are not correctly aligned with terminals. | Reinsert batteries in the correct position. |
| Low Battery Symbol appears. | Batteries are drained. | Replace all batteries with new ones. |
| | In colder temperatures batteries have weaker electrical charges. | Warm up the batteries, or use the device in a warmer setting. |
| Device operation time is inconsistent. | Different battery brands have different life spans. | Use Alkaline batteries and replace all batteries at the same time with same brand batteries. |
| No reading after measurement. | Batteries are drained. | Replace all batteries with new ones. |
| Suspicious blood pressure results. | Perhaps the cuff was improperly positioned. | Adjust patient and Arm cuff to measure. |
| | Blood pressure naturally varies throughout the day. | Rest a while, relax and measure again. |
| Suspicious heart rate results. | Bodily movement during device use. | Refrain from moving during measurement. |
| | Measurement shortly after exercise or exposure to the outdoors. | Do not take measurements after exercise or coming back from the outdoors. |
| Power switches off automatically. | System design. | Push the power button again, and then begin measure again. |
| During measuring, air re- inflates. | It could be a normal action if the user's blood pressure is higher than the initial pressure value, the device automatically pumps to a higher pressure by 40mmHg each time. | Relax, and try to take a measure again. |
| | The Arm cuff is not fastened properly. | Check that the Arm cuff is fastened properly and retake the measurement. |

Cleaning and Disinfecting

- Clean your blood pressure monitor carefully using a slightly damp cloth only.
- Do not use any detergents or solvents.
- Never hold the instrument under water as otherwise liquid can penetrate and damage the instrument
- Never place any heavy objects on the instrument. Please note: For home use device disinfection, 75% Ethanol or Isopropyl alcohol(available in the phWristacy) can be used. receipt requested.

Technical Specification










- Measuring range :
Blood Pressure : 30~280 mmHg
Pulse Rate : 40~199 beats/min
- Calibration Accuracy:
Blood Pressure : ± 3 mmHg
Pulse rate : $\pm 4\%$ of reading
- Operating environment :
10°C~40°C 
 $\leq 85\%$ relative air humidity (non-condensing)
700-1060 hPa ambient pressure
- Storage/ Transportation environment :
-20 to 50 °C 
 $\leq 85\%$ relative air humidity (non-condensing)
700-1060 hPa ambient pressure
- Power Source : 4 x 1.5V LR03 (AAA) alkaline
- Weight : approx. 210g (exclude batteries) +/- 5%
- Dimensions :
approx. 118 mm x 112 mm x 51 mm (L x W x H)
- Cuff circumference (M/L Size) :
approx. 22 ~ 42 cm (9" ~ 17")








EMC Tables







| | | |
|--|---|--|
| <p>BPM82 is intended for use in the electromagnetic environment specified below. The customer or the user of BPM82 must make sure that it is used in such an environment.</p> | | |
| <p>Guidance and manufacturer' s declaration - Electromagnetic emissions</p> | | |
| Phenomenon | Professional healthcare facility environment a) | HOME HEALTHCARE ENVIRONMENT a) |
| Conducted and radiated RF MISSIONS | a) | CISPR 11 Group 1 Class B |
| Harmonic distortion | Not applicable | |
| Voltage fluctuations and flickering | Not applicable | |
| <p>a) The equipment is suitable for use in Home Health Environments and Professional Health Care Environments limited to patient rooms and respiratory treatment facilities in hospital or clinics. The more restrictive acceptance limits of Group 1 Class B (CISPR 11) have been considered and applied. The equipment is suitable for use in the mentioned environments when directly connected to the Public Mains Network. b) The test is not applicable in this environment unless the ME EQUIPMENT and ME SYSTEM used will be connected to the PUBLIC MAINS NETWORK and the power input is otherwise within the scope of the Basic EMC standard.</p> | | |
| <p>Guidance and manufacturer' s declaration - Electromagnetic immunity - Enclosure port</p> | | |
| Phenomenon | Basic EMC standard or test method | Immunity test levels |
| | | Professional healthcare facility environment |
| | | HOME HEALTHCARE ENVIRONMENT |
| ELECTROSTATIC DISCHARGE | IEC 61000-4-2 | ± 8kV contact ± 2 kV, ±4kV ±, ±8 kV, ±15 kV air |
| Radiated RF EM fields | IEC 61000-4-3 | a) 10 V/m b) 80MHz - 2.7 GHz 80% AM at 1kHz |
| Proximity fields from RF wireless communications equipment | IEC 61000-4-3 | COMPLIANT NOTE: Further information about distances to be maintained between portable and mobile RF communications equipment (transmitters) and the BPM82 can be |

| | | |
|--|---------------|---|
| | | requested from supplier using the contact information provided in this manual. However, it is advisable to keep the electromechanical aerosol equipment at an adequate distance of, at least, 0.5 m from mobile phones or other RF communications transmitters to minimise possible interference. |
| RATED power frequency magnetic fields. | IEC 61000-4-8 | 30 A/m c) 50 Hz or 60 Hz |
| <p>a) The equipment is suitable for use in Home Health Environments and Professional Health Care Environments limited to patient rooms and respiratory treatment facilities in hospital or clinics. The more restrictive IMMUNITY acceptance limits have been considered and applied.</p> <p>b) Before modulation is applied.</p> <p>c) This test level assumes a minimum distance of at least 15 cm between the ME EQUIPMENT or ME SYSTEM and sources of power frequency magnetic fields.</p> | | |

Explanation of Symbols

| Symbol | Definition |
|---|---|
|  | The CE marking with the Registration Number of the Notified Body. This denotes the compliance of Regulation (EU) 2017/745 |
|  | Medical Device |
|  | Manufacturer |
|  | Authorized representative in the European Community |
|  | Date of manufacture (YYYY-MM-DD or YYYY-MM) |
|  | Batch code (YYMMWWWW) |
|  | Serial number (YYMWWW/XXXXX) |
|  | Keep dry |
|  | Temperature limit |

| | |
|---|--|
|  | Humidity limitation |
|  | Atmospheric pressure limitation |
|  | Caution |
|  | Consult the instruction for use |
|  | Disposal information: Should you wish to dispose of the article, do so in accordance with current regulations. Details are available from your local authority. WEEE 2012/19/EU Directives |
| RoHS | This product fulfilling the requirements of the RoHS Directive 2011/65/EU. |
| REACH | This product fulfilling the requirements of the REACH Directive EC 1907/2006 and its amendments, do not contain Substances of Very High Concern in concentration above the limit of 0.1 %. No substance(s) is/are present in the parts of the product above the concentration of 0.1 % weight by weight. |
|  | Stand-by |
|  | Device classification type BF |

| | |
|---|--|
| <p>IP 22</p> | <p>This product meets the basic safety and essential performance requirements indicated in the IP22 conditioning test (protection against solid foreign objects of 12.5mm \emptyset and greater and against vertically falling water drops when enclosure tilted up to 15°)</p> |
|  | <p>The empty, completely flat batteries must be disposed of through specially designated collection boxes, recycling points or electronics retailers. You are legally required to dispose of the batteries.</p> |
|  | <p>Importer</p> |
|  | <p>Distributor</p> |
|  | <p>Model Number</p> |
|  | <p>Country of Manufacturer</p> |
|  | <p>Unique Device Identifier</p> |

BPM82P-22057AV

2022-04-22