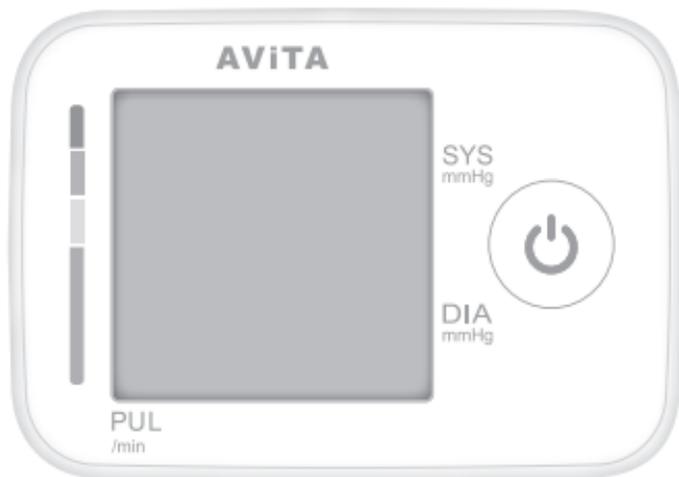


# METRICY

## Wrist Type Blood Pressure Monitor

Model: BPM29



### INSTRUCTION MANUAL

Please read this instruction manual carefully before operating this unit.

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## Introduction

BPM29 Series Blood Pressure Monitor applies the Oscillometric method to measure human systolic / diastolic blood pressure and heart rate. This device is designed only for adults.

### **CAUTION:**

***No modification of this equipment is allowed.***

***Keep your equipment out of the reach of children, pets and pest.***

***The Patient is an intended operator.***

***Risk of explosion if battery is replaced by an incorrect type.***

***Dispose of used batteries according to the instructions.***

## ***Important Information Before Use***

***When using this product, please be sure to follow all the notes listed below. Any action against these notices may cause injury or affect the accuracy.***

- 1. Do not modify this equipment without authorization of the manufacturer.***
- 2. Blood pressure measurements should only be interpreted by a physician or a trained health care professional who is familiar with your medical history.***
- 3. Through regular use of this device and recording of your measurements, you can keep your physician informed of the changes in your blood pressure.***
- 4. Perform your measurement in a quiet place. You should be seated in a relaxed position.***
- 5. Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress,***
- 6. Avoid taking your measurement until the feeling subsides.***

## ***Important Information Before Use***

- 7. Rest 15 minutes prior to taking a reading.***
- 8. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.***
- 9. Keep the monitor stable during measurement to achieve an accurate reading. Remain still; do not talk during the measurement.***
- 10. Record your daily blood pressure and pulse readings on a chart.***
- 11. 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.***
- 12. Wait a minimum of 2~3 minutes between readings to allow for the blood vessels to return to normal. The wait time may vary depending on your individual physiological characteristics.***
- 13. 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.***

## ***Important Information Before Use***

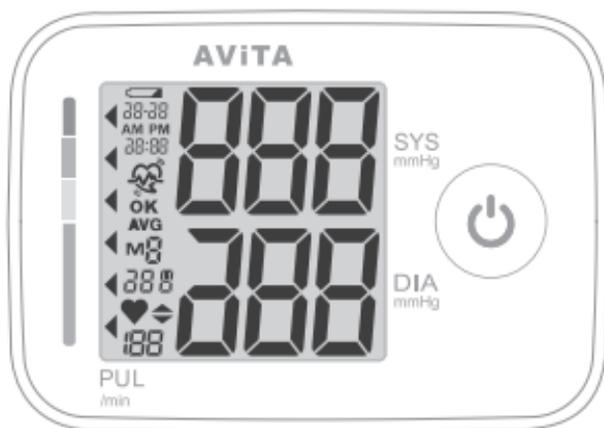
- 14. This device is intended for adult use. While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the POWER button.***
- 15. It is recommended that the accuracy should be checked by the manufacturer every two years.***
- 16. If you would require any assistance during setting up, using or maintaining, please contact the manufacturer.***

### ***Note.***

***Under any circumstances, the measurement taking result is ONLY for reference.***

***Any further medical action should follow the advice of doctors.***

## Blood Pressure Monitor Features



 : Power Button

M : Memory Recall Button

S : Set Button

## Description of LCD Display

	Memory sets
	Memory Symbol
	Average Measurement Symbol
	Low Battery Symbol
	Inflation Symbol(Positioning Indicator Up)
	Deflation Symbol(Positioning Indicator Down)
	Date
	Time
	Digital Display
	Heartbeat Symbol
	Hypertension Indicator
	Irregular Heart Beat Symbol
	Positioning Indicator "OK"

## 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 button is pressed.

### **Replacing the Battery:**

1. Slide the battery cover on the bottom of the monitor.
2. Insert or replace 2 x 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.

### **Battery-operated**

1. Always use NEW batteries; never mix old and new batteries.
2. Do not use rechargeable batteries; rechargeable batteries can vary greatly in quality and strength. Use of rechargeable batteries may affect the performance of this device.
3. Please properly dispose of the batteries away from small children and heat.
4. It is recommended to remove the batteries if the unit will not be used for an extended period of time.

## Battery Installation

5. Batteries must be disposed of in accordance with local environmental and institutional policies.
6. Remove the battery during extended storage.

## Setting the Date and Time

It is necessary to set the date and time for the unit every time batteries are initially installed or replaced.

1. After replacing batteries, the “Year” will begin to flash on the display.
2. Press the “Set” button to advance the display to the desired “Year” , press “Memory” button to confirm the “Year” .
3. Next, the “Month” will blink. Repeat steps 2 to set the “Month” and “Day” , then “hour” , then “Minute” .
4. After setting the minute, the unit will automatically exit or press the power button in the date/time setting mode and it will turn off immediately.

## Applying Your Cuff

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 wrist, please modify the instructions for cuff application to your right wrist. Your physician can help you identify which wrist is best for you to take measurements from.



### Applying Your Cuff

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. Hold your wrist in front of you with your palm facing upward.

## Applying Your Cuff

4. Apply the preformed cuff to your wrist so that the digital display face is positioned on the inside area of your wrist facing you.
5. Adjust the cuff 0.5~1 cm from the edge of the head of the ulna bone.
6. The cuff should fit comfortably, yet snugly around your wrist.
7. Blood pressure naturally varies from one wrist to the other; therefore, measure your blood pressure on the same wrist to ensure comparability of the two readings.

## Taking a blood pressure measurement

Please read the preceding portions of this manual prior to taking your first reading.

1. You can press “Set” button in standby mode to select User1 or User2 as the default storage zone.
2. Rest your elbow on a solid surface with your palm facing upward. Elevate your wrist so that the cuff is at the same level as your heart. Relax your left hand.
3. Press the POWER button. This will turn the power on.
4. While your position is improper, the Positioning symbol and the Positioning indicator (optional) flash to guide you up or down your wrists, when you are in proper position the Positioning symbol “OK” flash. After the Positioning symbol flash for 3 times, the wrist cuff will start to inflate automatically.
5. The Wrist Positioning Guide (optional) can be used as an aid to help an end user determine if the device is at an appropriate position.
6. The measurement starts automatically once the correct position has been obtained. Do not move or speak while the measurement is in progress.

## Taking a blood pressure measurement

7. The cuff will automatically begin to inflate, with the display showing the increasing pressure in the cuff. As the pressure increases, an arrow pointing up will appear on the display.
8. To detect the heartbeat, the heartbeat symbol will appear and continuous flashes on the LCD display.
9. Your blood pressure measurement and pulse will display simultaneously on the screen.
10. The Hypertension Indicator will indicate your reading range on the display separately.
11. The reading will automatically be stored in memory. Select POWER to turn the unit off and conserve energy and battery life. The unit will automatically shut-off approximately 2 minutes.

## Heartbeat Remind

Your digital blood pressure monitor features an Irregular Heartbeat Detector. Irregular Heartbeats may influence the results of the measurement. If the monitor detects the Irregular Heartbeats during measurement, the symbol “” will appear on the display with the measurement values. You can take another measurement to make sure the values are not influenced by moving during measurement or Irregular Heartbeat.

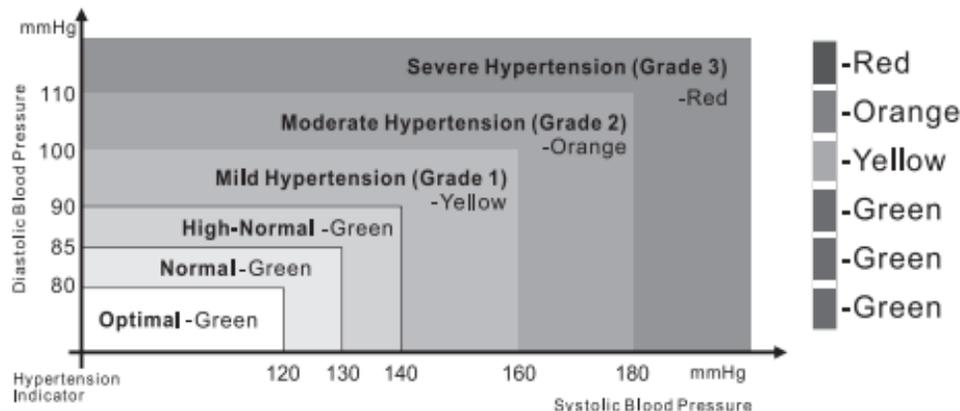
The appearance of the  icon indicates that a pulse irregularity consistent with an irregular heartbeat was detected during measurement. Usually this is not a cause for concern. However, if the symbol appears often, we recommend you seek medical advice. Please note that the device does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

### **IMPORTANT INFORMATION:**

This blood pressure monitor is not designed for use by people with arrhythmias nor for diagnosing or treating an arrhythmia problem. As a safeguard, we recommend that if you have arrhythmias such as atrial or ventricular premature beats and atrial fibrillation or any other special conditions you should check with your physician before using your blood pressure monitor.

## Hypertension Indicator

This monitor comes equipped with a Hypertension Indicator that automatically compares each reading to defined levels established by the World Health Organization and provides a helpful cue if your reading falls into one of the stages that could potentially indicate increased risk. Please note that cues provided by this monitor are only intended to assist you in using this table. The table and cues are only provided for convenience to help you understand to the level information. They are not a substitute for a medical examination by your physician. It is important for you to consult with your physician regularly. Your range as well as the point at which you may actually be considered to be at risk



## Memory Function

### Recalling Measurements in Memory:

1. Press and release the “MEMORY” button. The unit will first display the average of the last 3 stored measurements.
2. Continue to press the “MEMORY” button to successively view the next previously stored measurements. Measurements will appear on the display from most current to oldest; the memory number will appear on the lower right corner.
3. All results for a given measurement will display, including measurement results, pulse rate, Hypertension Indicator, and date/time stamp.
4. When the number of readings exceeds default numbers, the oldest data will be replaced with the new record.
5. Press the Power button to turn the monitor OFF at any time during review of the stored measurements.

### User memory:

To select the relevant user memory, press the button “Set” when the device is switched off.

## Memory Function

### Average values:

1. A3 showed on the display.
2. The average value of all saved measured values in this user memory is displayed.
3. Press the memory button M.
4. AM showed on the display.
5. The average value of the morning measurements for the last 7 days is displayed (morning: 5 a.m. – 9 a.m.).
6. Press the memory button M.
7. PM showed on the display.
8. The average value of the evening measurements for the last 7 days is displayed (evening: 6 p.m. – 8 p.m.).

### Clearing Measurements from Memory:

From power display off, press and hold down the “MEMORY” button until the display shows CLr. This indicates that all measurements have been erased.



## Troubleshooting

Problem	Cause	Remedy
The reading is extremely low (or high).	The wrist cuff is not at heart level.	Measure while in the correct posture.
	The cuff is not wrapped snugly around the wrist.	Wrap the cuff correctly.
	The arms and shoulders are tense.	Relax and try taking the measurement again.
	Movement or talking during measurement.	Remain still and do not talk during measurement.
The blood pressure is different each time. The reading is extremely low (or high).		Blood pressure readings constantly vary with time of day and how relaxed you are. Take several deep breaths and try to remain relaxed before taking a measurement.
Nothing happens when you press the buttons.	The batteries have been inserted incorrectly	Insert the batteries with the correct (+/-) polarity.
Overpressure protection		The machine must be adjusted according to the instruction manual and with professional equipment
Errors with wrist positional		The machine must be adjusted according to the instruction manual and with professional

## 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	Leakage in Cuff Pressure/ Inflation too low. Overpressure protection	The wrist cuff is not fastened properly.
Err 02	Measured abnormal values.	Take a rest for 3~5 minutes. Re-apply the cuff and take a measurement again.
Err 03	Inflation fault.	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.

## Care and Maintenance

1. Clean the device and wrist cuff carefully only with a slightly moistened cloth.
2. Do not immerse the device in water. It may cause damage if water enters.
3. Do not use any gas, strong detergent, or solvents to clean the device, including the wrist cuff.
4. Use a soft, dry cloth to clean your monitor.
5. Do not store in direct sunlight, dust or excessive humidity.
6. Avoid extreme temperatures.
7. Do not disassemble the monitor or cuff.
8. Remove batteries if the monitor will not be used for an extensive period of time.

## Applied Standards

- This unit is in line with European Standard EN 60601-1-2 and is subject to particular precautions with regard to electromagnetic compatibility (EMC). Please note that portable and mobile HF communication systems may interfere with this unit. More details can be requested from the stated Customer Service address or found at the end of the instructions for use.
- This device is in line with the EU Medical Devices Directive 93/42/ EC, the “Medizinproduktegesetz” (German Medical Devices Act) and EN 1060-3 (non-invasive sphygmomanometers, Part 3: Supplementary requirements for electro-mechanical blood pressure measuring systems) and IEC 80601-2-30 (Medical electrical equipment – Part 2 – 30: Particular requirements for the safety and essential performance of automated non-invasive blood pressure monitors).
- The accuracy of this blood pressure monitor has been carefully checked and developed with regard to a long useful life. If using the device 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.

## Technical Specification

- Measuring range :  
Blood Pressure : 40~255 mmHg  
Pulse Rate : 40~199 beats/min
- Calibration Accuracy :  
Pressure :  $\pm 3$  mmHg  
Pulse rate :  $\pm 4\%$  of reading
- Operating environment :  
10°C ~40°C (50 °F ~104 °F )  
with relative humidity up to 85% (non condensing)  
Atmospheric Pressure: 700~1060 hPa
- Storage/ Transportation environment :  
-20°C ~+50°C (-4 °F ~+122 °F )  
with relative humidity up to 85% (non condensing)  
Atmospheric Pressure: 700~1060 hPa
- Power Source : 2 x 1.5 V AAA batteries
- Weight : approx. 117g (exclude batteries)
- Dimensions : approx. 96mm × 66mm × 23.9~20.71mm (L×W×H)
- Cuff circumference : approx. 12.5~21 cm

## EMC Tables

BPM29 is intended for use in the electromagnetic environment specified below. The customer or the user of BPM29 must make sure that it is used in such an environment.

Guidance and manufacturer's declaration - Electromagnetic emissions

Phenomenon	Professional healthcare facility environment a)	HOME HEALTHCARE ENVIRONMENT a)
Conducted and radiated RF EMISSIONS	a)	CISPR 11 Group 1 Class B
Harmonic distortion	Not applicable	
Voltage fluctuations and flickering	Not applicable	

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.

Guidance and manufacturer's declaration - Electromagnetic immunity - Enclosure port

Phenomenon	Basic EMC standard or test method	Immunity test levels	
		Professional healthcare facility environment	HOME HEALTHCARE ENVIRONMENT

## EMC Tables

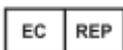
ELECTROSTATIC DISCHARGE	IEC 61000-4-2	± 8kV contact ± 2 kV, ±4kV ±, ±8 kV, ±15 kV air	
Radiated RF EM fields	IEC 61000-4-3	a)	10 V/m b) 80MHz - 2.7 GHz 80% AM at 1kHz
Proximity fields from RF wireless communications equipment	IEC 61000-4-3	COMPLIANT NOTE: Further information about distances to be maintained between portable and mobile RF communications equipment (transmitters) and the BPM29 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

	The CE marking with the Registration Number of the Notified Body. This denotes the compliance of European Medical Device Directive 93/42/EEC
	Medical Device
	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
	Stand by
	Device classification type BF
<b>IP22</b>	This product meets the basic safety and essential performance requirements indicated in the IP22 conditioning test (protection against solid foreign objects of 12.5mm Ø and greater and against vertically falling water drops when enclosure tilted up to 15°)
	Temperature limits

## Explanation of Symbols

	Humidity limits
	European Authorized Representative
	Manufacturer's name and address
	Date of manufacture
SN	SN YYMWWWXXXXX SN: Product Serial Number YY: year, M:month, WWW: working sheet, XXXXX: serial no.
LOT	LOT WWWXXXXX LOT: Lot Number WWW: working sheet, XXXXX: serial no.
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.



MDSS GmbH

Schiffgraben 4

130175 Hannover Germany



Manufacture:

AViTA Corporation

9F., No. 78, Sec. 1, Kwang-Fu Rd.,

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New Taipei City 24158,

Taiwan(R.O.C)

Made in P.R.C



72-B29MN12-AV21