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**EVOLV™** 

Upper Arm **Blood Pressure Monitor** 



9545343-5C

OMRON

Model BP7000 Instruction Manual

# INTRODUCTION

Thank you for purchasing the OMRON BP7000 Blood Pressure Monitor. Your new blood pressure monitor uses the oscillometric method of blood pressure measurement. This means the monitor detects your blood movement through your brachial artery and converts the movements into a digital reading. An oscillometric monitor does not need a stethoscope so the monitor is simple to use.

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### INTENDED USE

This device is a digital monitor intended for use in measuring blood pressure and pulse rate in adult patient population with arm circumference ranging from 9 inches to 17 inches (22 cm to 42 cm). The device detects the appearance of irregular heartbeats during measurement and gives a warning signal with readings.

### **IMPORTANT SAFETY INFORMATION**

### Please read the Important Safety Information in this instruction manual before using the unit.

Please follow this instruction manual thoroughly for your safety Please keep for future reference. For specific information about your own blood pressure, CONSULT YOUR PHYSICIAN.

### Contraindications

**▲** Caution

• The device is contraindicated for use in ambulatory environments. The device is contraindicated for use on aircraft.

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

• DO NOT adjust medication based on measurement results from this blood pressure monitor. Take medication as prescribed by your physician. Only a physician is gualified to diagnose and treat high blood pressure. • DO NOT use this monitor on an injured arm or an arm under medical

- treatment • DO NOT wear the arm cuff on your arm while on an intravenous drip or blood transfusion
- · DO NOT apply or inflate the arm cuff around any body parts other than your upper arm
- DO NOT use this monitor in areas containing high frequency (HF) surgical equipment, magnetic resonance imaging (MRI) equipment, computerized
- tomography (CT) scanners or in oxygen rich environments • DO NOT use this monitor on infants, toddlers, children or persons who cannot
- express themselves. • Consult your physician before using this monitor if you have common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation; arterial sclerosis; poor perfusion; diabetes; pregnancy; pre-eclampsia; or renal
- disease. Note that any of these conditions in addition to patient motion, trembling, or shivering may affect the measurement reading.
- Always consult your physician. Self-diagnosis of measurement results and self-treatment are dangerous.
  Contains small parts that may cause a choking hazard if swallowed by children,
- toddlers or infants.
- · Keep the BATTERY out of the reach of children, toddlers and infants 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. For further information on any potential restrictions refer to documentation on **Bluetooth**<sup>®</sup> usage by the FCC.

# Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or

# damage to the equipment or other property. • Stop using this monitor and consult your physician if you experience skin

- irritation or discomfort Consult your physician before using this monitor on an arm with an arterio-venous (A-V) shunt.
- · Consult your physician before using this monitor if you have had a mastectomy. Consult your physician before using the monitor if you have severe blood flow problems or blood disorders as cuff inflation can cause bruising.
- Do not take measurements more often than necessary because bruising, due to blood flow interference, may occur.
- Remove the arm cuff if it does not start deflating during the measurement. · Do not use this monitor for any purpose other than measuring blood pressure. • Do not use a mobile phone or other electrical devices that emit electromagnetic fields near this monitor except when transferring your readings to your smart
- device. This may result in incorrect operation of this monitor. • Do not disassemble or attempt to repair the monitor or components. This may cause an inaccurate reading.
- Do not use in a location where there is moisture or a risk of water splashing the monitor. This may damage the monitor. Do not use this monitor in a moving vehicle such as in a car.
- Do not drop, or subject this monitor to strong shocks or vibrations. • Do not use this monitor in places with high or low humidity or high or low
- temperatures. See the "8. SPECIFICATIONS" section of the manual.
- Please check, by observation of the arm being used, that the monitor is not causing any impairment of patient blood circulation
- Do not use this monitor in high-use environments such as medical clinics or physician offices · Avoid bathing, drinking alcohol or caffeine, smoking, exercising and eating for
- 30 minutes before taking a measurement. · Rest for at least 5 minutes before taking the measurement
- Remove tight-fitting or thick clothing from your arm while taking a measurement. • Remain still and do not talk while taking a measurement.

### **Data Transmission**

- · Do not replace the battery while your reading is being transferred to your smart device. This may result in the incorrect operation of your monitor and failure to transfer your blood pressure data.
- Do not place integrated circuit cards, magnets, metal objects, or other devices that emit electromagnetic fields near this monitor while your reading is being transferred to your smart device. This may result in the incorrect operation of your monitor and failure to transfer your blood pressure data.
- **Battery Handling and Usage**
- Do not insert the batteries with their polarities incorrectly aligned. • Use only 4 "AAA" alkaline batteries with this monitor. Do not use other types of batteries. Do not use new and used batteries together
- Remove the batteries if the monitor will not be used for a long period of time. • If battery fluid should get in your eyes, immediately rinse with plenty of clean
- water. Consult a physician immediately. • If battery fluid should get on your skin, wash your skin immediately with plenty of clean, lukewarm water. If irritation, injury or pain persists, consult a physician
- · Do not use batteries after their expiration date. · Periodically check your batteries to ensure they are in good working condition.
- Only use batteries specified for this monitor. Use of unsupported batteries may damage and/or may be hazardous to the monitor.

# **1. KNOW YOUR MONITOR**

Contents Monitor, 4 "AAA" batteries, instruction manual, quick start guide Monitor:

# A. START/STOP button B. Connection button C. Display D. Arm cuff E. Battery compartment Display:

- PULSE -(H)
- Connection symbol Irregular heartbeat symbol Connection OFF symbol Battery symbol (low) Connection ON symbol Battery symbol (depleted) Deflation symbol Movement error symbol leartbeat symbol SYNC symbol Flashes during measurement.)

Systolic blood pressure

G. Diastolic blood pressure

H. Pulse display

# 1.1 Display symbols

Connection symbol ( Appears when transferring the data or pairing with your smart device.

- Connection OFF symbol (😭)
- Appears when Bluetooth is of Connection ON symbol (
- Appears when Bluetooth is on.

Movement error symbol (
) The movement error symbol will display when your body is moving during measurement. If the movement symbol displays, remove the monitor and wait for 2 to 3 minutes. After 2 to 3 minutes, remain still and take another

measurement SYNC symbol (등)

• When the SYNC symbol appears on the display, make sure that your monitor has been pairing with the smart device or transfer the data. • When the SYNC symbol appears on the display, transfer the data before the measurements are deleted. Maximum internal memory is for 100 measurements. The oldest value will be deleted when this is reached before transferring

# Irregular heartbeat symbol ())

| When the monitor detects an irregular rhythm<br>two or more times during the measurement, the<br>irregular heartbeat symbol will appear on the<br>display along with the measurement values. | Normal Heartbeat                           |
|--|--|
| An irregular heartbeat rhythm is defined as a rhythm that is 25% less or 25% more than the average rhythm detected while the monitor is measuring the systolic and diastolic blood           | Irregular Heartbeat<br>Short Long<br>Pulse |
| pressure.<br>If the irregular heartbeat symbol displays with yo  | ur measurement results,                    |

- we recommend you consult your physician. Follow the directions of your physician.
- Battery symbol (low) (
- Appears when the batteries are low.
- Battery symbol (depleted) ( Appears when the batteries are depleted.
- Deflation symbol (
- Elashes while arm cuff is deflating
- Heartbeat symbol (
- Flashes while taking a measurement.

2013 ESH/ESC Guidelines for the management of arterial hypertension Definitions of hypertension by office and home blood pressure levels

|                          | Office    | Home      |
|--------------------------|-----------|-----------|
| Systolic Blood Pressure  | ≥140 mmHg | ≥135 mmHg |
| Diastolic Blood Pressure | ≥90 mmHg  | ≥85 mmHg  |

### 1.2 Before Taking a Measurement To help ensure an accurate reading, follow these directions:

Avoid bathing, drinking alcohol or caffeine, smoking, exercising and eating for 30 minutes before taking a measurement. ▲ Rest for at least 5 minutes before taking the measurement.

- Stress raises blood pressure. Avoid taking measurements during stressful times
- · Measurements should be taken in a quiet place. • Keep a record of your blood pressure and pulse readings for your physician. A single measurement does not provide an accurate indication of your true blood pressure. You need to take and record several readings over a period of time. Try to measure your blood pressure at the same time each day for consistency.

# 2. PREPARATION

### 2.1 Battery Installation

1. Remove the battery cover. Insert your fingernail into the slot of the battery cover, and push downwards to remove the cover

2. Insert battery, slide over so it is secured inside the circular battery positioner. Then insert the second battery.

3. Replace the battery cover.

Hello !

the batteries are replaced.

before taking a measurement.

1. Apply the arm cuff to your left upper

The bottom edge of the arm cuff should be 1/2

inch (1 to 2 cm) above the elbow. The display

should be in clear view and easy to read,

• The blood pressure can differ between

the right arm and the left arm. and the

makes it easier to use the monitor

comfortably seated, at a comfortable room

Sit with your back and arm being supported

2.3 How to Sit Correctly

Sit upright with your back straight.

3.1 Taking a Measurement

deflate the arm cuff.

measured blood pressure values can be

To take a measurement, you need to be relaxed and

• Sit in a chair with your legs uncrossed and your feet flat on

• The arm cuff should be placed on your arm at the same

This may result in incorrect operation of the monitor.

**2.** Securely close with the fabric

positioned slightly on the inside of your arm.

2.2 Applying the Arm Cuff

measurement

arm.

fastener

Notes

temperature.

level as your heart.

Notes

the floor.

Notes:

message below will appear on the screen:

national/local regulations for the disposal of batteries

ease use App t

nage vour dat

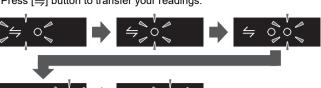
2. Remove the arm cuff.

▼ DEFLATING

# 3. Transfer your readings.

Please make sure your monitor is within 16 ft. (5 m) of your smart device and your "OMRON connect" app is active. As soon as your measurement is complete, tap the "sync" icon in the Omron connect app on your smart device to transfer your readings. Transferring your readings later

1. Open the app on your smart device and then follow the instructions. 2. Press [] button to transfer your readings.





· If your readings are successfully transferred to your smart device, "OK" will flash on the display.

If "Error" appears, refer to section 5.1 for more detail.



- ${\scriptstyle \bullet}$  When the SYNC symbol " ${\scriptstyle \sqsubseteq}$  " appears on the display, transfer the data immediately before the readings are deleted.
- When the Connection OFF symbol "🚍" appears on the display, turn on the Bluetooth® feature of your monitor. (Refer to section 4.3)
- Once you send your readings to the app, the data cannot be sent again to the app or smart device.
- **4.** After your readings have been transferred to the "OMRON" connect" app, press the [START/STOP] button to turn the monitor off.
- Notes: • The monitor will automatically turn off after 2 minutes.
- Wait 2-3 minutes before taking another measurement. Waiting between measurements allows the arteries to return to the condition they were
- prior to taking the measurement • If you use any other app instead of "OMRON connect", the data may not be displayed correctly after sending.
- A DO NOT adjust medication based on measurement results from this blood pressure monitor. Take medication as prescribed by your physician. Only a physician is gualified to diagnose and treat high blood pressure.
- Always consult your physician. Self-diagnosis of measurement results and self-treatment are dangerous.

Data Transfer With Multiple Smart Devices Once you transfer your data to a smart device, that data can no longer be

transferred again to the same smart device, nor to another smart device.

# About Multiple Users

To share your blood pressure monitor with other people, please refer to the "Help" section in the "OMRON connect" app.

# 4.3 Turning "OFF" Bluetooth<sup>®</sup>

Turn off the **Bluetooth**<sup>®</sup> in your monitor in the following areas where use of wireless equipment is prohibited. • On aircraft • In hospitals • While abroad Your monitor comes with the **Bluetooth®** already turned on.

- **1.** Turn your monitor power off if it is on by pressing the [START/STOP] button on the monitor.
- **2.** Press and hold the  $[\leftrightarrows]$  button for more than 10 seconds. Release the  $[]{\leftarrow}]$  button when " $[]{\rightarrow}$   $[]{appears on the}$ display. When the "a" is blinking, you have now turned the Bluetooth<sup>®</sup> off in your monitor.



3. Press the [START/STOP] button to turn the monitor off. Note: The monitor will automatically turn off after 2 minutes.

# How to turn "ON" Bluetooth<sup>®</sup>

Perform the following step when the power has been off. Press and hold the [-] button for more than 2 seconds and then release the  $[]{\leftarrow}]$  button when " $[]{\longrightarrow}$   $[]{\rightarrow}$  appears on the display. The "a" will blink to show that the **Bluetooth**<sup>®</sup> in your monitor has been turned on.

- 4.4 Restoring Your Monitor to the Default Settings To delete all the information stored in your monitor, follow the instructions below. Make sure that your monitor is turned off. It will be off when the screen is not showing numbers or symbols.
- **1.** While holding the [] button down, the Connection symbol "
  "
  and "P" appear on the display, and then press the [START/STOP] button for more than 5 seconds.



**2.** When the "Clear" symbol appears on the display, release the [] button and [START/STOP] button. The "Clear" will appear on the display when your monitor settings have reverted back to their original.

Clear

- **3.** Press the [START/STOP] button to turn the monitor off.
- · The monitor will automatically turn off after 2 minutes.
- Reverting to initial settings of this monitor will not delete the information in the app.
- When using this monitor again, first delete the registration of monitor in the app and then pair your monitor.







When the batteries have been securely placed in this monitor, the

 When the depleted battery symbol " appears on the display, turn the monitor off and remove all the batteries. Replace with 4 new batteries at the same time. Long life alkaline batteries are recommended. • The measurement values continue to be stored in the memory even after

• The supplied batteries may have a shorter life than new batteries. • Disposal of used batteries should be carried out in accordance with the

• When the batteries are replaced, the words "Please pair this device." or "Pairing not completed. No data transfer." will appear on the display. Press the [] button to pair with the smart device or transfer the data

⚠ Remove tight-fitting or thick clothing from your arm while taking a



/ (1 - 2 cm)



00

different. Omron recommends to always use the same arm for measurement. If the values between both arms differ substantially, please check with your physician as to which arm to use for your measurements. • Positioning the monitor with the [START/STOP] button toward the body



# 3. USING THE MONITOR WITHOUT A SMART DEVICE

You can use this blood pressure monitor without pairing to a smart device.

# • To stop the measurement, press the [START/STOP] button once to

• Remain still and do not talk while taking a measurement. • When using this blood pressure monitor without a smart device, you will not be able to view your prior readings stored in the memory. · Do not use the monitor with any other electrical device simultaneously.



1. Press the [START/STOP] button.

▼ INFLATING

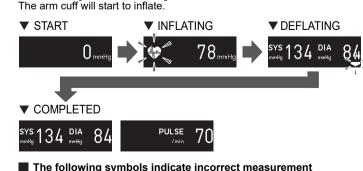
The arm cuff will start to infla

▼ START

- If you use any other app instead of "OMRON connect", the date and time may not be automatically set.
- If you need to set the date and time, pair your monitor or transfer the data by using "OMRON connect" app. • The date/time will only be set for future measurements taken after the
- measurement that was transferred. It will not be saved to the measurement that was just transferred.
- Please be aware that OMRON will not be responsible for the loss of data and/or information

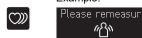
# 4.2 Taking a Measurement

- To stop the measurement, press the [START/STOP] button once to deflate the arm cuff.
- Remain still and do not talk while taking a measurement. This monitor will store 100 measurements. Stored measurements cannot be viewed on the monitor's display. You will need to use the "OMRON connect" app to view all measurements prior to the most recent reading
- taken. • Do not use a mobile phone or other electrical devices that emit electromagnetic fields near this monitor except when transferring your readings to your smart device. This may result in incorrect operation of this monitor.
- 1. Press the [START/STOP] button.



The following symbols indicate incorrect measurement • If "Please remeasure" and any of these symbols below are displayed,

please take another measurement and try again. Example



# 5. ERROR MESSAGES AND TROUBLESHOOTING

### 5.1 Error Messages

-

| Error Display  | Cause   | Solution   |
|--|---|--|
| Please remeasure   | Irregular heartbeat is detected.  | Remove the arm cuff. Wait 2<br>- 3 minutes and then take<br>another measurement.<br>Repeat the steps in section<br>2.2. If this error continues to<br>appear, contact your<br>physician. |
| Please remeasure<br>"合"  | Movement during measurement.  | Carefully read and repeat the steps in section 4.2.  |
|  | The batteries are low.  | Recommend replacement of all 4 batteries with new ones. Refer to section 2.1.  |
|  | The batteries are   | Immediately replace 4<br>batteries with new ones.<br>Refer to section 2.1.   |
|  | depleted or battery<br>polarities are not<br>properly aligned.  | Confirm the batteries are<br>properly inserted with<br>polarities correctly aligned.<br>Refer to section 2.1.  |
| ⇔ Error  | Connection failure.<br>Data is not being<br>transmitted.  | Refer to "Connection failure.<br>Data is not being<br>transmitted." in section 5.2.  |
| Error 1<br>Apply the arm cuff<br>tighter.  | Arm cuff is applied too loosely.  | Apply the arm cuff tighter.<br>Refer to section 2.2.   |
| Error 3<br>Do not touch the cuff<br>during measurement.                            | The arm cuff was<br>inflated exceeding<br>the maximum<br>allowable pressure,<br>and then deflated<br>automatically. | Do not touch the arm cuff<br>while taking a measurement.<br>Refer to section 4.2.  |
| Error 4<br>Do not move or talk<br>during measurement.                              | Movement during measurement.  | Repeat measurement.<br>Remain still and do not talk<br>during measurement.<br>Refer to section 4.2.  |
| Error 5<br>Remove any clothing<br>interfering with the cuff.                       | Clothing is interfering with the arm cuff.  | Remove any clothing<br>interfering with the arm cuff.<br>Refer to section 2.2.   |
| Error XX<br>* : "XX" will change to<br>display an error<br>number, 6 and<br>biober | Device error.   | Please contact customer service.   |

### 5.2 Troubleshooting

higher.

| Problem   | Cause and Solution   |
|---|--|
| No power.<br>No display appears on the<br>monitor.      | Replace all batteries with new ones.<br>Check the battery installation for proper<br>placement of the battery polarities.<br>Refer to section 2.1.   |
| Measurement values appear<br>too high or too low.       | Blood pressure varies constantly. Many<br>factors including stress, time of day, and how<br>you apply the arm cuff, may affect your blood<br>pressure.<br>Review the section 1.2, 2.3 and 4.2.   |
|   | The blood pressure monitor might not be<br>properly placed within the smart device's<br>transmission range and is too far from the<br>smart device. If there are no causes of data<br>transmission interference found near the<br>blood pressure monitor, move the blood<br>pressure monitor within 16 ft. (5 m) of the<br>smart device and try again. |
|   | The <b>Bluetooth</b> <sup>®</sup> feature of the smart device<br>is turned off. Turn on the <b>Bluetooth</b> <sup>®</sup> feature<br>of the smart device and your monitor, and try<br>sending the data again.  |
| Connection failure. /<br>Data is not being transmitted. | The <b>Bluetooth</b> <sup>®</sup> feature of the blood<br>pressure monitor is turned off.<br>Refer to "To turn "ON" the <b>Bluetooth</b> <sup>®</sup> " in<br>"4.3 Turning "OFF" the <b>Bluetooth</b> <sup>®</sup> ".  |
|   | The blood pressure monitor did not pair<br>successfully to the smart device. Try to pair<br>the devices again.<br>Refer to "Pair Your Monitor with a Smart<br>Device" in section 4.1. Confirm your smart<br>device compatibility with this monitor at<br>OmronHealthcare.com   |
|   | The application on the smart device is not<br>ready. Check the application then try sending<br>the data again.<br>Refer to "Pair Your Monitor with a Smart<br>Device" in section 4.1. If the "Error" symbol<br>still displays after checking the application,<br>contact customer service.   |

# 6. MAINTENANCE, STORAGE AND CLEANING

### 6.1 Maintenance

- To protect your monitor from damage, please follow the directions below: • Store the monitor and the components in a clean, safe location.
  - Do not wash the monitor and any components or immerse them in water.
  - Do not use gasoline, thinners or similar solvents to clean the monitor.
  - Changes or modification not approved by the manufacturer will void the user warranty.

⚠ Do not disassemble or attempt to repair the monitor or components.

# 6.2 Storage

- Do not store the monitor in the following situations:
- If the monitor is wet.
- · Locations exposed to extreme temperatures, humidity, direct sunlight, dust or corrosive vapors such as bleach. · Locations exposed to vibrations, shocks or where it will be at an angle.

### 6.3 Cleaning Do not use any abrasive or volatile cleaners.

• Use a soft dry cloth, or a soft cloth moistened with neutral soap to clean on the monitor and the arm cuff, and then wipe it with a dry cloth.

### 7. DISPOSAL

Dispose of the monitor and components according to applicable local regulations. Unlawful disposal may cause environmental pollution.

### 8. SPECIFICATIONS

| Model                         | BP7000 [REF] HEM-7600T-Z   |
|-------------------------------|--|
| Display                       | OLED display   |
| Cuff pressure range           | Pressure: 0 to 299 mmHg  |
| Measurement range             | Pressure: 40 to 260 mmHg   |
| -                             | Pulse: 40 to 180 beats / min.  |
| Accuracy                      | Pressure: ±3 mmHg  |
| -                             | Pulse: ±5% of display reading  |
| Inflation                     | Fuzzy-logic controlled by electric pump                                |
| Deflation                     | Automatic rapid deflation  |
| Measurement method            | Oscillometric method   |
| Transmission method           | Bluetooth <sup>®</sup> Smart   |
| Wireless communication        | Frequency range : 2.4 GHz (2400 - 2483.5 MHz)                          |
|                               | Modulation : GFSK  |
|                               | Effective radiated power : <20 dBm                                     |
| IP classification             | IP 22  |
| Power source                  | 4 "AAA" batteries 1.5V   |
| Battery life                  | Approximately 300 measurements   |
|                               | (using new alkaline batteries)   |
| Durable period (Service life) | Monitor : 5 years  |
| Operating conditions          | 50°F to 104°F (10°C to 40°C) /   |
|                               | 15 to 90% RH (non-condensing) / 800 to 1060 hPa                        |
| Storage / Transport           | -4°F to 140°F (-20°C to 60°C) /  |
| conditions                    | 10 to 90% RH (non-condensing)  |
| Weight                        | Monitor : Approximately 8 1/2 oz. (240 g)                              |
| Dimensions                    | not including batteries  |
| Dimensions                    | Monitor : Approximately 3 1/2" (w) $\times$ 4 5/8" (h) $\times$ 1" (l) |
|                               | (85 mm × 120 mm × 20 mm)   |
|                               | (not including the arm cuff)   |
| Arm circumference             | 9" to 17" (22 to 42 cm)  |
| Contents                      | Monitor, 4 "AAA" batteries, instruction manual, quick start guide      |
| Applied part                  | Type BF  |
| Protection against electric   | Internally powered ME equipment  |
| shock                         |  |
| Notoo                         |  |
| Notes:                        |  |

- These specifications are subject to change without notice.
- In the clinical validation study, K5 was used on 85 subjects for determination of diastolic blood pressure.
- This monitor is clinically investigated according to the requirements of
- ISO 81060-2:2013. • This monitor has not been validated for use on pregnant patients.
- IP classification is degrees of protection provided by enclosures in accordance with IEC 60529. This device is protected against solid foreign objects of 12 mm diameter and greater such as a finger, and against oblique falling water drops which may cause issues during a normal operation.

### About a wireless communication interference

This Product operates in the unlicensed ISM band at 2.4GHz. In case this Product is used around the other wireless devices including microwave and wireless LAN, which operate same frequency band of this Product, there is a possibility that interference occurs between this Product and such other devices. If such interference occurs, please stop the operation of other devices or relocate this Product before using this Product or do not use this Product around the other wireless devices.

### 9. SYMBOL DESCRIPTIONS / DEFINITIONS

|           | Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.  |
|-----------|--|
|           | Indicates a potentially hazardous situation, which if not<br>avoided, may result in minor or moderate injury to the<br>user or patient or damage to the equipment or other<br>property.  |
| Note      | Provides additional information to clarify a point in the text.  |
|           | Please consult this instruction manual   |
| <b>*</b>  | Applied part - Type BF<br>Degree of protection against electric shock (leakage<br>current)   |
| (((••)))  | To indicate generally elevated, potentially hazardous,<br>levels of non-ionizing radiation, or to indicate<br>equipment or systems e.g. in the medical electrical<br>area that include RF transmitters or that intentionally<br>apply RF electromagnetic energy for diagnosis or<br>treatment. |
| REF       | Catalogue number   |
|           | Manufacturer   |
| <b>1</b>  | Temperature limitation   |
| <u>~</u>  | Humidity limitation  |
| \$.<br>\$ | Atmospheric pressure limitation  |
| ART. or O | Artery mark  |

# **10. FCC STATEMENT**

# FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Note

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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

 Consult the dealer or an experienced radio/TV technician for help. This transmitter must not be co-located or operated in conjunction with any other

antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ratio (SAR).

# **11. LIMITED WARRANTY**

Your BP7000 Upper Arm Blood Pressure Monitor, excluding batteries, is warranted to be free from defects in materials and workmanship appearing within 5 years from the date of purchase, when used in accordance with the instructions provided with the monitor. The above warranty extends only to the original retail purchaser.

We will, at our option, replace without charge any monitor covered by the above warranty. Replacement is our only responsibility and your only remedy under the above warrantv

To obtain warranty service contact Customer Service by calling **1-800-634-4350** for the address of the inspection center and the return shipping and handling fee.

Enclose the original printed receipt. 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.

THE FOREGOING IS THE SOLE WARRANTY PROVIDED BY OMRON IN CONNECTION WITH THIS PRODUCT, AND OMRON HEREBY DISCLAIMS ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IMPLIED WARRANTIES AND OTHER TERMS THAT MAY BE IMPOSED BY LAW, IF ANY, ARE LIMITED IN DURATION TO THE PERIOD OF THE ABOVE EXPRESS WARRANTY.

OMRON SHALL NOT BE LIABLE FOR LOSS OF USE OR ANY OTHER SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT COSTS, EXPENSES OR DAMAGES

This warranty provides you with specific legal rights, and you may have other rights that vary by jurisdiction. Because of special local requirements, some of the above limitations and exclusions may not apply to you.

|                        | FOR CUSTOMER SERVICE |    |
|------------------------|----------------------|----|
| Visit our web site at: |                      | Om |
| Call toll free:        |                      |    |

fluctuations/

flicker emissions

IEC61000-3-3

Not Applicable.

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# 12. GUIDANCE AND MANUFACTURER'S DECLARATION

### OMRON Blood Pressure Monitor (BPM) Information for accompanying documents in the scope of IEC60601-1-2:2007

Important information regarding Electro Magnetic Compatibility (EMC) /ith the increased number of electronic devices such as PC's and mobile (cellular) telephones medical devices in use may be susceptible to electromagnetic interference from other devices. Electromagnetic interference may result in incorrect operation of the medical device and create notentially unsafe situation. Medical devices should also not interfere with other devices

In order to regulate the requirements for EMC (Electro Magnetic Compatibility) with the aim to revent unsafe product situations, the IEC60601-1-2 standard has been implemented standard defines the levels of immunity to electromagnetic interferences as well as maximum levels of electromagnetic emissions for medical devices. Medical devices manufactured by OMRON Healthcare conform to this IEC60601-1-2:2007 standard for both immunity and emissions

- Nevertheless, special precautions need to be observed: The use of accessories and cables other than those specified by OMRON, with the exception of cables sold by OMRON as replacement parts for internal components, may result in increased emission or decreased immunity of the
- device The medical devices should not be used adjacent to or stacked with other equipment.
- In case adjacent or stacked use is necessary, the medical device should be observed to verify normal operation in the configuration in which it will be used • Refer to further guidance below regarding the EMC environment in which the
- device should be used The MEDICAL ELECTRICAL EQUIPMENT BPM needs special precautions regarding EMC and needs to be installed and put into service according to the
- EMC information provided in this documentations. The Essential Performance of the BPM is to measure a blood pressure and a
- pulse rate and using the memory function. The BPM may be interfered with by other equipment, even if that other equipment complies with CISPR EMISSION requirements.

| Guidance and manufacturer's declaration - electromagnetic emissions   |                 |  |  |  |
|---|-----------------|--|--|--|
| OMRON battery-operated BPM is intended for use in the electromagnetic environment specified<br>below. The customer or the user of this OMRON battery-operated BPM should assure that it is<br>used in such environment. |                 |  |  |  |
| Emissions test  | Compliance      | Electromagnetic environment - guidance   |  |  |
| RF emissions<br>CISPR 11  | Group 1         | The OMRON battery-operated BPM uses RF energy<br>only for its internal function. Therefore, its RF emissions<br>are very low and are not likely to cause any interference<br>in nearby electronic equipment. |  |  |
| RF emissions<br>CISPR 11  | Class B         |  |  |  |
| Harmonic<br>emissions<br>IEC 61000-3-2  | Not Applicable. | The OMRON battery-operated BPM is suitable for use in<br>all establishments, including domestic establishments<br>and those directly connected to the public low-voltage                                     |  |  |
| Voltage   |                 | <ul> <li>power supply network that supplies buildings used for<br/>domestic purposes.</li> </ul>   |  |  |

Guidance and manufacturer's declaration - electromagnetic immunity OMRON battery-operated BPM is intended for use in the electromagnetic environment specified below. The customer or the user of this OMRON battery-operated BPM should assure that it is used in such environment. Electromagnetic env IEC 60601 test mmunity test Compliance level - auidance

|   |   |   | guiaunoo  |  |
|---|---|---|---|--|
| Electrostatic<br>discharge (ESD)<br>IEC 61000-4-2   | Contact discharge:<br>±6 kV<br>Air discharge:<br>±8 kV                            | Contact discharge:<br>±8 kV<br>Air discharge:<br>±15 kV | The relative humidity should be at least 5 %.                                       |  |
| Electrical fast<br>transient/burst<br>IEC 61000-4-4   | ±2 kV for power<br>supply lines<br>±1 kV for<br>input/output lines                | Not Applicable.   | Not Applicable.   |  |
| Surge<br>IEC 61000-4-5  | ±1 kV line(s) to<br>line(s)<br>±2 kV line(s) to earth                             | Not Applicable.   | Not Applicable.   |  |
| Voltage dips, short<br>interruptions and<br>voltage variations<br>on power supply<br>inputlines<br>IEC 61000-4-11 | <5 % <i>U</i> ⊤ (>95 % dip<br>in <i>U</i> ⊤)<br>for 0.5 cycle                     | Not Applicable.   | Not Applicable.   |  |
|   | 40 % <i>U</i> ⊤ (60 % dip in<br><i>U</i> ⊤)<br>for 5 cycles                       | Not Applicable.   |   |  |
|   | 70 % <i>U</i> ⊤ (30 % dip in<br><i>U</i> ⊤)<br>for 25 cycles                      | Not Applicable.   |   |  |
|   | <5 % <i>U</i> <sub>T</sub> (>95 % dip<br>in <i>U</i> <sub>T</sub> )<br>for 5 sec. | Not Applicable.   |   |  |
| Power frequency<br>(50/60 Hz)<br>magnetic field<br>IEC 61000-4-8  | 3 A/m   | 30 A/m  | Magnetic fields from common<br>appliances are not expected to<br>affect the device. |  |

Note:  $U_T$  is the A.C. mains voltage prior to application of the test level.

| Guidance and manufacturer's declaration - electromagnetic immunity  |  |   |  |
|---|--|---|--|
| OMRON battery-operated BPM is intended for use in the electromagnetic environment specified<br>below. The customer or the user of this OMRON battery-operated BPM should assure that it is<br>used in such environment. |  |   |  |
| IEC 60601<br>test level   | Compli-<br>ance level  | Electromagnetic environment - guidance  |  |
|   |  | Portable and mobile RF communications equipment<br>should be used no closer to any part of the OMRON<br>battery-operated BPM including cables, than the<br>recommended separation distance calculated from the<br>equation appropriate to the frequency of the transmitter.   |  |
|   |  | Recommend separation distance   |  |
| 3 V rms<br>150 kHz to<br>80 MHz   | Not<br>Applicable.   | Not Applicable.   |  |
| 3 V/m   | 10 V/m   | $d = 0.35 \sqrt{P}$ 80 MHz to 800 MHz<br>$d = 0.70 \sqrt{P}$ 800 MHz to 2.5 GHz<br>where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <i>d</i> is the recommended separation distance in meters (m).<br>Field strengths from fixed RF transmitters as determined by an electromagnetic site survey, <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup> Interference may occur in the vicinity of equipment marked with the following symbol:<br>(((•))) |  |
|   | y-operated B<br>tomer or the<br>hydronment.<br>IEC 60601<br>test level<br>3 V rms<br>150 kHz to<br>80 MHz<br>3 V/m | y-operated BPM is intende<br>tomer or the user of this C<br>ivironment.<br>IEC 60601 Compli-<br>test level ance level<br>3 V rms<br>150 kHz to<br>80 MHz Applicable.  |  |

Note1: At 80 MHz and 800 MHz, the higher frequency range applies. Note2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/ cordless) telephones and land mobile radio. AM and FM radio broadcast, and TV broadcast cannot be telephones and land mobile radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the OMRON battery-operated BPM is used exceeds the applicable RF compliance level above, the OMRON battery-operated BPM should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the OMRON battery-operated BPM. <sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 6 V/m.

# nded separation distance between portable and mobile RF communications and the OMRON battery-operated BPM

OMRON battery-operated BPM is intended for use in an electromagnetic environment in which adiated RF disturbances are controlled. The customer or the user of this OMRON battery-operated BPM can help prevent electromagnetic interference by maintaining a minimum ance between portable and mobile RF communications equipment (transmitters) and the OMRON battery-operated BPM as recommended below, according to the maximum output power of the communications equipment.

| Output Power of Transmitter in   | Separation distance according to frequency of<br>transmitter in meter |                   |                    |
|--|---|-------------------|--------------------|
| Watt   | 150 kHz to 80 MHz   | 80 MHz to 800 MHz | 800 MHz to 2.5 GHz |
|  | Not Applicable.   | d = 0.35 √P       | d = 0.70 √P        |
| 0.01   | Not Applicable.   | 0.035             | 0.070              |
| 0.1  | Not Applicable.   | 0.11              | 0.22               |
| 1  | Not Applicable.   | 0.35              | 0.70               |
| 10   | Not Applicable.   | 1.1               | 2.2                |
| 100  | Not Applicable.   | 3.5               | 7.0                |
| For transmitters rated at a maximum output newer pat listed above, the recommanded constration |   |                   |                    |

transmitters rated at a maximum output power not listed above, the recommended separat tance *d* in meters (m) can be estimated using the equation applicable to the frequency of the ansmitter, where P is the maximum output power rating of the transmitter in watts (W) accordir the trans

Note: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. Note: These guidelines may not apply in all situations. Electromagnetic propagation is affected b absorption and reflection from structures, objects, and people.



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