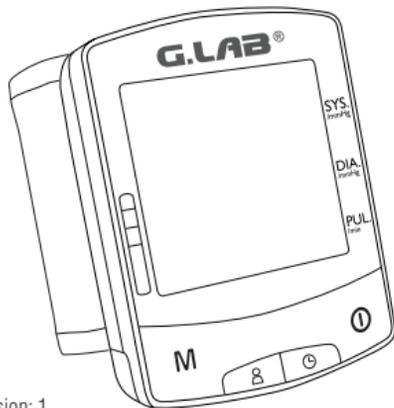


# G.LAB<sup>®</sup>

## DIGITAL AUTOMATIC WRIST BLOOD PRESSURE MONITOR INSTRUCTION MANUAL MODEL No.: MD2230/MD2231/MD2232



Version: 1

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## **INTRODUCTION**

Thank you for purchasing the G.LAB MD2230/MD2231/MD2232 Wrist Blood Pressure Monitor.

The device is easy-to-use and good for home users and healthcare professionals. It applies non-invasive oscillometric method which can measure your blood pressure and pulse rate quickly and easily, and it saves the data automatically to let you review the average and measured data at any time.

### **Indication for use**

Digital Automatic Wrist Blood Pressure Monitor WBPM22 Series is for use by medical professional or home user. The WBPM22 Series is intended to measure the systolic and diastolic blood pressure, and pulse rate of an adult individual by using a non-invasive technique, in which an inflatable cuff is wrapped around the wrist.

## **COMPLIANCE**

This device conforms to European Medical Device Directive 93/42/EEC.

This device complies with:

- EN ISO 81060 standard relating to non-invasive sphygmomanometers  
Part 1: Requirements and test methods for non-automated measurement types and EN 1060 standard relating to non-invasive sphygmomanometers.  
Part 3: Supplementary requirements for electro-mechanical blood pressure measuring systems.
- EN 60601 standard relating to medical electrical equipment  
Part 1-2: General requirements for basic safety and essential performance and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.
- EN 1060-4:2004 standard relating to non-invasive sphygmomanometers  
Part 4: Test procedures to determine the overall system accuracy of automated non-invasive sphygmomanometers.
- ISO 81060-2:2013 standard relating to non-Invasive sphygmomanometers  
Part 2: Clinical validation of automated measurement type.
- IEC 80601-2-30:2009+A1:2013 standard relating to medical electrical equipment  
Part 2-30: Particular requirements for the basic safety and essential performance of automated type non-invasive sphygmomanometers.

## SYMBOLS

The following symbols are used in this instruction manual, or appear on the device, accessories and packaging. To assure correct use of the device, basic safety measures should always be followed including the warnings and cautions listed in this instruction manual.

Symbols	Function / Meaning
	<b>WARNING / ATTENTION</b> Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	<b>PRECAUTION / IMPORTANT INFORMATION</b>
<b>SN</b>	Serial Number
	Manufacturer
	Type BF: Device, cuff and tubing are designed to provide special protection against electrical shocks.
<b>SYS</b>	Systolic Blood Pressure in mmHg
<b>DIA</b>	Diastolic Blood Pressure in mmHg
<b>PUL</b>	Pulse

Symbols	Function / Meaning
	EC Directive Medical Device Label
	WEEE Label
	Refer to instruction manual / booklet
	Keep dry

## IMPORTANT NOTES

-  DO NOT use this device on newborns, infants, children, toddlers or persons who cannot express their intentions. The device is designed for use on adults only.
-  DO NOT self-diagnosis from the measurement results and start treatment by yourself.
-  DO NOT adjust medication based on the measurement results.
-  Consult your physician for specific information about your blood pressure.
-  The Irregular Heartbeat detection function may help to detect potential cardiac arrhythmia at an early stage but it is not intended to replace cardiac examination.
-  The “WHO Blood Pressure Classification” chart is a guide for reference and is not intended to replace medical diagnosis.
-  Use the device only as intended. Do not use the device for any other purpose.
-  Do not apply the device on a wrist with an unhealed wound or under medical treatment.
-  Do not take measurements more than necessary. High measurement repetition rates may cause pain, numbness, temporary red marks or bruising to the arm/wrist due to blood flow interference.
-  If you have any of the following medical conditions, you may get an inaccurate reading with the device. Please consult your physician before using the device.
  - Patients in shock
  - Cardiac arrhythmias
  - Atrial or ventricular premature beats
  - Atrial fibrillation
  - Arterial sclerosis
  - Poor perfusion
  - Vessel anomalies
  - Very low blood pressure
  - Pregnancy
  - Diabetes
  - Pre-eclampsia
  - Renal diseases
  - Underwent breast or axillary lymph node removal operation
  - With an arteriovenous shunt.
  - With an intravenous drip or blood transfusion.
  - With implanted electrical device such as cardiac pacemaker
  - With other medical electrical equipment attached
  - With condition that may compromise circulation
  - Severe blood flow problems or blood disorders, as cuff inflation can cause bruising.
  - Trembling or shivering
-  Do not use the device with other medical electrical equipment simultaneously.

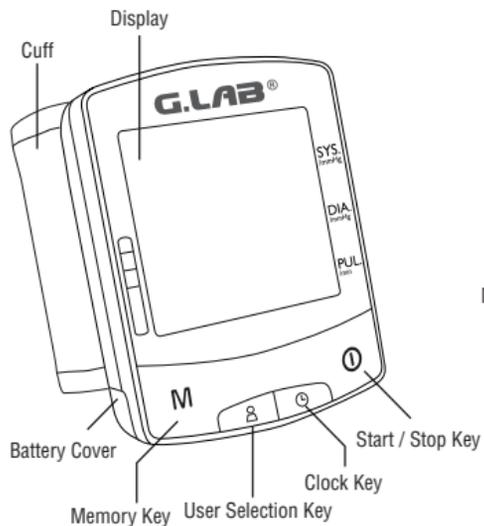
## IMPORTANT NOTES

-  Do not use the device where high frequency surgical equipment, magnetic resonance imaging (MRI), computerized tomography (CT) scanner or X-ray machine is operating.
-  Do not use the device near electromagnetic fields emission equipment such as cellular phones, microwave ovens or televisions.
-  Do not use the device where flammable gases (e.g. anesthetics gas, oxygen and hydrogen) or flammable liquids (e.g. alcohol) are present.
-  Do not use the device in a moving vehicle such as car or airplane.
-  Do not use the device outside the specified environment. It may cause an inaccurate reading.
-  The product contains small parts that may cause a choking hazard to infants and children. Keep the device and its parts out of reach of infants and children.
-  Do not attempt to open, disassemble, repair, modify or adjust the device by yourself. It may cause accident, damage the device, cause inaccurate measurement and void the user warranty.
-  Do not subject the device to strong knocks (e.g. dropping the unit on the floor), extreme in temperature, high humidity, direct sunlight, dust or chemicals. This may damage the device.
-  The device is not water resistant. Avoid water, rain or sweat from infiltrating the device.
-  Clean the device and cuff carefully with a dry, soft cloth or a cloth dampened with water. Do not use aggressive solvents such as alcohol, benzene, thinner or other strong chemicals to clean the device.
-  Do not fold the cuff tightly for a long period. Such condition may shorten the life of the part.
-  Dispose used equipment, parts, batteries and optional accessories according to applicable local regulations. Unlawful disposal may cause environmental pollution.
-  Do not drape tube around neck. This presents a strangulation hazard.
-  Remove any kind of arm jewellery or the like before taking a measurement. This could cause bruises.
-  When storing the device, make sure that no heavy objects are placed on top of it.

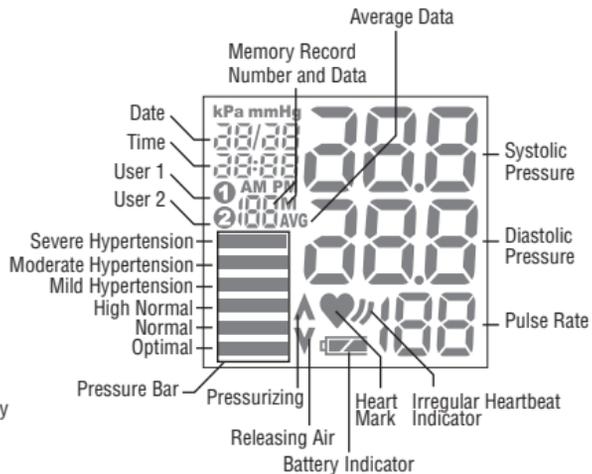
## IMPORTANT NOTES

- ❗ Do not wrap the cuff around body parts other than your upper left arm. Misuse represents a risk to your health.
- ❗ Packaging materials are a deadly hazard for children and can cause suffocation. Remove all packaging materials immediately and keep them away from children at all times.
- ❗ Proper cuff size is important for accurate measurements. Only use the device on adults who have the right upper arm circumference for this unit. See "TECHNICAL SPECIFICATION" for suitable arm circumferences.
- ❗ Batteries should not be charged or reactivated by any other means. The batteries may explode.
- ❗ Take extra precaution to keep a leaking battery away from fire as there is a risk of ignition or explosion.
- ❗ Do not use any cuffs and accessories other than those explicitly recommended by the manufacturer for use with this product. Cuffs and accessories not approved for use with this device may cause damage to your health and to the product.
- ❗ The tubing presents a strangulation hazard. Keep this product away from children and those who require close supervision, e.g. people with mental disorders.
- ❗ In case the cuff does not stop inflating, interrupt the measurement by pressing the ON/OFF button and open the cuff at once.
- ❗ Do not place the arm cuff over heavy clothing (e.g. a jacket or sweater sleeve) as the blood pressure monitor will not be able to take a proper measurement and there is an elevated danger of acquiring hematoma or skin marks during the course of the measurement.
- ❗ When applying the cuff, make sure there are no wrinkles in the cuff as this could cause bruises.
- ❗ Blood pressure measurements can lead to temporary marks on the skin at the site of the cuff placement. This is especially the case in high repetition rates, in hypertonic patients and in patients with weak heart rates. In rare cases a mark may persist for couple of days. Please contact your physician about these specific risks of cuff pressure in your specific case.
- ❗ Do not exert any kind of pressure on the hose during measurement, e.g. laying your arms or any other object on the hose. This could cause incorrect measurements.
- ❗ The device is designed and manufactured for a long service life. However it is generally recommended to have the monitor inspected every 2 years to ensure proper functioning and accuracy. Please contact your dealer for maintenance.
- ❗ Do not drop or insert any object into any openings or hoses. This may damage the unit.
- ❗ Do not press the buttons with excessive force or with pointed objects.

## DEVICE DESCRIPTION



## Information on the Display :



## BATTERY INSTALLATION

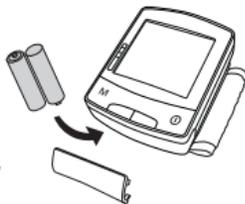
1. Remove the battery cover.



2. Remove the used batteries and insert new batteries.

⚠ Use LR03 / AAA alkaline batteries.

⚠ Make sure the battery polarities (+) and (-) match the markings on the battery compartment.



3. Close the battery cover.



## Battery Level Indicator

☐ symbol on the display indicates that battery level is normal. When battery level is getting low, ☐ symbol and "E6" will appear on the display. Replace all used batteries with new batteries.

### NOTE:

- ⚠ Batteries may cause a choking hazard to children. Store the batteries out of the reach of children.
- ⚠ In case battery fluid leaks, do not touch the battery fluid. Avoid skin contact (e.g. put on protective gloves) and clean the battery compartment with dry cloth.
- ⚠ Remove the batteries from the battery compartment if the device will not be used for a long period.
- ⚠ Use only 1.5V alkaline batteries. Do not use other types of battery such as rechargeable battery. This may damage the device.
- ⚠ Replace all batteries at the same time. Do not mix used and new batteries. Use same brand and model of batteries is recommended.
- ⚠ Battery life may vary with ambient temperature and may be shorter at low temperature.

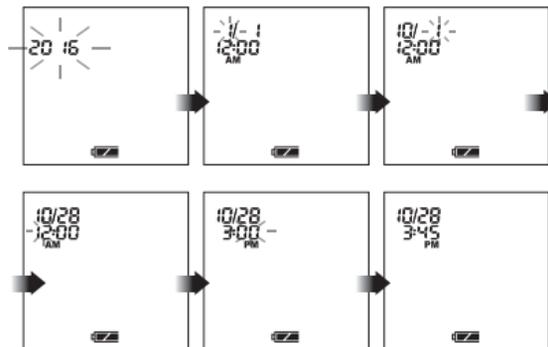
## SETTING DATE AND TIME

(A) When new batteries are installed

1. "YEAR" will blink on the display.
2. Press **M** key to set the current Year.
3. Press **⊙** key to confirm and then "MONTH" will start to blink.
4. Press **M** key to set the current Month.
5. Press **⊙** key to confirm and then "DAY" will start to blink.
6. Press **M** key to set the current Day.
7. Press **⊙** key to confirm and then "HOUR" will start to blink.
8. Press **M** key to set the current Hour.
9. Press **⊙** key to confirm and then "MINUTE" will start to blink.
10. Press **M** key to set the current Minute.
11. Press **⊙** key to confirm. Date and time setting is completed.

(B) When device is in OFF status

1. Press **⊙** key to turn on the device in Clock display.
2. Press and hold **⊙** key for about 3 seconds until "YEAR" blinks on the display.
3. Follow the same procedure above to set the date and time.



## BEFORE TAKING A MEASUREMENT

- Before using the device, check your wrist circumference and make sure it matches the wrist cuff circumference range.
- Keep record of your blood pressure and pulse rate. A single measurement does not provide an accurate indication of your true blood pressure.
- To ensure comparable data, measure your blood pressure at the same time of the day for consistency.
- Measurement should be taken in a quiet and comfortable indoor environment.
- To ensure a reliable measurement, follow these recommendations:
  - Avoid eating, drinking alcohol or caffeinated beverages, smoking, exercising, or bathing for 30 minutes before taking a measurement.
  - Rest for at least 5 minutes before taking each measurement.
  - Stress raises blood pressure. Avoid taking measurements during stressful conditions.
  - Avoid taking measurement while you are physically tired or exhausted.
  - Remain still and do not talk during the measurement.
  - Position the cuff at heart level throughout the measurement.
- Relax and sit comfortably on a chair. Lay your feet flat on the floor. Do not cross your feet. Keep your back straight.

## APPLYING WRIST CUFF

1. Bare your left wrist. Make sure that the blood circulation in your arm is not constricted by any clothing that is too tight.
2. Put your arm through the cuff loop. Both your palm and the device display should face upward. Position the cuff approximately 1 cm or 1/2 inch below the bottom edge of your palm.
3. Pull the end of the cuff and fasten the Velcro. Make sure the wrist cuff is wrapped firmly around your wrist but should not constrict blood circulation.
4. Place your elbow steadily on a table or at a position so that the cuff is level with your heart.



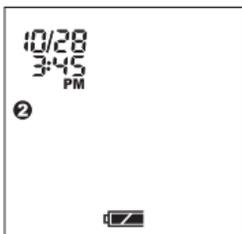
## SELECT USER

The device has a memory capability to store the measurement data for 2 users – User 1 and User 2. Every time you complete the measurement, the device automatically stores the measurement result.

1. If the device is in "OFF" status, press  key to turn on the device.
2. Press  key to select User 1 or User 2.
3. Press  key to confirm and turn off the device.



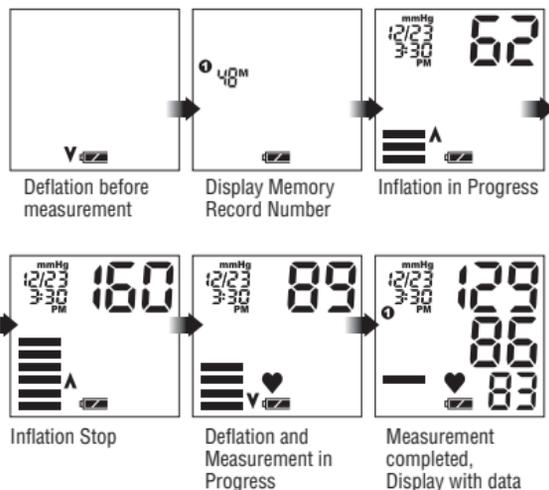
User 1 is selected



User 2 is selected

## PERFORMING BLOOD PRESSURE MEASUREMENT

1. Press  key to turn on the device.
2. The cuff deflates to remove residue air before starting measurement.  Releasing air indicator blinks on the display.
3. Memory record number appears on the display.
4. The cuff starts to inflate. It is normal for the cuff to feel tight.  
 Pressurize indicator, the corresponding pressure bar indicators and the current cuff pressure appear on the display.  
 If you want to stop cuff inflation, press  key to turn off the device and the cuff will deflate.
5. The monitor automatically determines your ideal inflation level and will stop inflation automatically. When inflation completes, deflation will start automatically. The device is measuring the blood pressure and the pulse rate while the cuff is deflating.  
 Releasing air indicator, the corresponding pressure bar indicators and the current cuff pressure appear on the display. As soon as a pulse is detected, the Heart Mark  flashes at every heartbeat.  
 If the cuff pressure is not high enough to detect the blood pressure, the device will re-inflate the cuff to a higher pressure and restart the measurement.
6. When the measurement is completed, the systolic pressure, the diastolic pressure and pulse rate are displayed and are stored to memory. The cuff deflates to remove residue air automatically



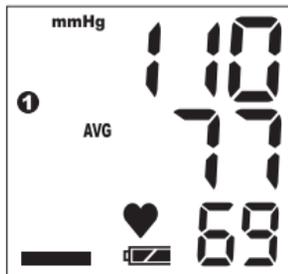
7. Press  key to turn off the device.  
 The device will automatically turn off after 2 minute of inactivity.

## RECALL AVERAGE AND PREVIOUS MEASUREMENT DATA

The device has a memory capability to store the measurement data for 2 users – User 1 and User 2. Every time you complete the measurement, the device automatically stores the measurement result. You can view the average reading based on the last 3 measurements and the previous measurement data in the memory.

### View average measurement data of the last 3 measurements

1. Press **[M]** key to turn on the device and view the average measurement data.



### View previous measurement data.

2. Press **[M]** key to view previous measurement data.  
Corresponding memory record number and time of measurement appear on the display.  
Press **[M]** key again to display the measurement data from most recent data to older data in order.
3. Press **[O]** key to turn off the device.



### Select User

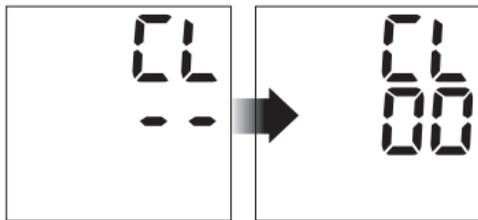
You can also press **[8]** key at any time in memory data viewing mode to select from User 1 or User 2 memory record.

## DELETE MEASUREMENT DATA

There are 2 methods to delete the memory record.

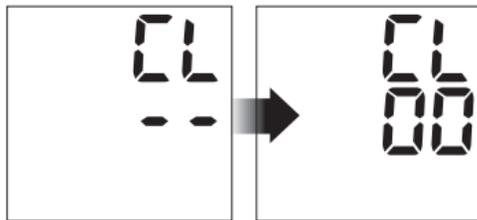
### (A) Delete one memory record

1. While you are viewing previous measurement data, select the record you want to delete.
2. Press and hold [M] key for about 3 seconds until "CL" and "--" appear on the display.
3. Press [8] key to confirm. The display shows "CL" and "00" and the selected record is deleted.
4. The display will automatically return to view the previous measurement data.



### (B) Delete all memory records

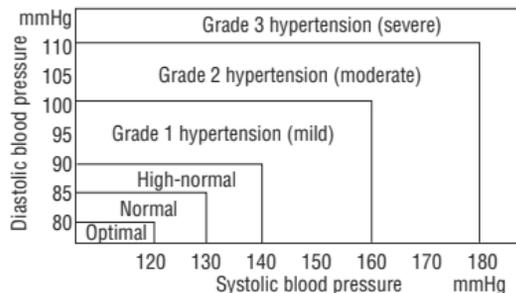
1. Press [M] key to view the average measurement data.
2. Press and hold [M] key for about 3 seconds until "CL" and "--" appear on the display.
3. Press [8] key to confirm. The display shows "CL" and "00" and all memories are deleted.
4. The display will automatically return to view the average measurement data with an empty record.
5. Press [O] key to turn off the device.



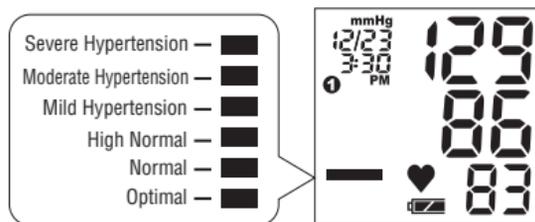
## WHO CLASSIFICATION INDICATOR

The World Health Organization (WHO) has established the following chart as a standard to assess high blood pressure, regardless of the age.

**Reference Material: Journal of Hypertension 1999, Vol 17 No.2**



The WHO Classification Indicator is a feature which provides a snapshot of your blood pressure classification based on your measurements. This will help you to understand what your blood pressure values mean. The number of segments from the bar indicator corresponds to the WHO blood pressure classification.



## **ABOUT IRREGULAR HEARTBEAT [IHB]**

An irregular heartbeat is defined as a heartbeat that varies by 25% from the average of all heartbeats during the blood pressure measurement. When the device detects an irregular heartbeat two or more times during the measurement, the Irregular Heartbeat indicator will appear on the display.

It is important that you are sitting relax, steadily and stay quite during the measurement.

 If the irregular heartbeat indicator  displays frequently after the measurement, you are recommended to consult your physician.

## **ABOUT BLOOD PRESSURE**

### **What Is Blood Pressure?**

Blood pressure is the force exerted by blood against the walls of the arteries. Systolic pressure occurs when the heart contracts. Diastolic pressure occurs when the heart expands. Blood pressure is measured in millimeters of mercury (mmHg). One's natural blood pressure is represented by the fundamental pressure, which is measured first thing in the morning while one is still at rest and before eating.

### **What Is Hypertension And How Is It Controlled?**

Hypertension, an abnormally high arterial blood pressure, if left unattended, can cause many health problems including stroke and heart attack. Hypertension can be controlled by altering one's lifestyle, avoiding stress, and with medication under a doctor's supervision. To prevent hypertension or to keep it under control:

- Do not smoke
- Exercise regularly
- Reduce salt and fat intake
- Have regular physical checkups
- Maintain proper weight

## TROUBLESHOOTING

Problem	Probable Cause	Correction
Nothing appears on the display, even when the power is turned on.	Batteries are drained.	Replace all used batteries with new batteries.
	Batteries are not installed in correct polarities.	Re-install the batteries with their polarities (“+” and “-”) match the polarity marking in the battery compartment.
ERROR code 1 (E1) appears	No pulse signal is detected. The cuff may not apply correctly.	Reapply the cuff and fasten the cuff correctly. Position the cuff at heart level.
ERROR code 2 (E2) appears	Noise is detected. Your arm or body is moving during the measurement.	Remain still and do not talk during the measurement.
ERROR code 3 (E3) appears	No pressure is detected. The cuff may not fasten properly or too loose.	Reapply the cuff and fasten the cuff correctly.
ERROR code 4 (E4) appears	The device cannot measure the blood pressure correctly.	If the heartbeat is very weak or irregular, the device may not able to measure the blood pressure. Reapply the cuff and fasten the cuff correctly. Sit comfortably and remain still during the measurement.
ERROR code 5 (E5) appears	The cuff is over inflated. Blood pressure over 300 mmHg.	It is recommended to consult your physician immediately.
ERROR code 6 (E6) appears	Low battery level.	Replace all used batteries with new batteries.
The monitor keeps re-inflating	System lockup.	Restart the device: remove the batteries, wait for 1 minute, and then re-install the batteries.

**TECHNICAL SPECIFICATION**

Model No.	: MD2230/MD2231/MD2232
Display	: LCD Display
Measurement Method	: Non-invasive, Oscillometric method
Measurement Range	: Systolic Blood Pressure: 50-250 mmHg Diastolic Blood Pressure: 30-200 mmHg Pulse Rate : 40-180 beats/minute
Accuracy	: Pressure : +/-3 mmHg Pulse Rate : +/-5% of reading
Resolution	: Pressure : 1 mmHg Pulse Rate : 1 beat / minute
Memory	: 120 (60 x 2 users) - MD2230 240 (120 x 2 users) - MD2231/MD2232
Dimensions	: Approx. 2.6" x 3.3" x 1.3" (65 x 85 x 32mm)
Wrist Cuff Circumference Range	: 5.3" - 8.5" (13.5 - 21.5cm)
Operating Temperature	: 41°F to 104°F (5°C to 40°C)
Operating Humidity	: 15 to 93% RH
Storage Temperature	: -13°F to 158°F (-25°C to 70°C)
Storage Humidity	: up to 93% RH
Operation, storage and transport atmospheric pressure	: 700hPa to 1060hPa
Power Source	: 2 x 1.5V AAA alkaline batteries
Accessories	: Cuff, User manual, Storage box, Batteries
Classification	: Application part Type BF
Key to symbols	: Application part Type BF  Class II equipment symbol 

**APPENDIX I****Guidance and manufacture's declaration – electromagnetic emissions-  
for all EQUIPMENT and SYSTEMS**

<b>Guidance and manufacture's declaration – electromagnetic emission</b>		
The <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> is intended for use in the electromagnetic environment specified below. The customer of the user of the <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> should assure that it is used in such an environment.		
<b>Emission test</b>	<b>Compliance</b>	<b>Electromagnetic environment – guidance</b>
RF emissions CISPR 11	Group 1	The <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emission CISPR 11	Class B	The <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

**Guidance and manufacture's declaration – electromagnetic immunity –  
for all EQUIPMENT and SYSTEMS**

<b>Guidance and manufacture's declaration – electromagnetic immunity</b>			
<p>The <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> is intended for use in the electromagnetic environment specified below. The customer of the user of <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> should assure that it is used in such an environment.</p>			
<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Power frequency (50Hz - 60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

**APPENDIX II****Guidance and manufacturer's declaration – electromagnetic immunity –  
for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING**

<b>Guidance and manufacture's declaration – electromagnetic immunity</b>			
The <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> is intended for use in the electromagnetic environment specified below. The customer of the user of <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> should assure that it is used in such an environment.			
<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
			Portable and mobile RF communications equipment should be used no closer to any part of the <i>Sphygmomanometer (MD2230/MD2231/MD2232)</i> including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

Conducted RF IEC 61000-4-6	3 V <sub>rms</sub> 150 kHz to 80 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz

3 V

3 V/m

#### Recommended separation distance

$$d = \left[ \frac{3.5}{V_1} \right] \sqrt{P}$$

$$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$$

$$d = \left[ \frac{7}{E_1} \right] \sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$$

Where  $P$  is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and  $d$  is the recommended separation distance in metres (m).

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:



NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 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 radios, amateur 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 *Sphygmomanometer (MD2230/MD2231/MD2232)* is used exceeds the applicable RF compliance level above, the *Sphygmomanometer (MD2230/MD2231/MD2232)* should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the *Sphygmomanometer (MD2230/MD2231/MD2232)* <sup>b</sup> Over the frequency range 150kHz to 80 MHz, field strengths should be less than 3 V/m.

### APPENDIX III

#### **Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM – for EQUIPMENT or SYSTEM that are not LIFE-SUPPORTING**

##### **Recommended separation distances between portable and mobile RF communications equipment and the Sphygmomanometer (MD2230/MD2231/MD2232)**

The *Sphygmomanometer (MD2230/MD2231/MD2232)* is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the *Sphygmomanometer (MD2230/MD2231/MD2232)* can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the *Sphygmomanometer (MD2230/MD2231/MD2232)* as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = \left[ \frac{3.5}{V_1} \right] \sqrt{P}$	$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$	$d = \left[ \frac{7}{E_1} \right] \sqrt{P}$
0.01	<b>0.117</b>	<b>0.117</b>	<b>0.234</b>
0.1	<b>0.370</b>	<b>0.370</b>	<b>0.740</b>
1	<b>1.170</b>	<b>1.170</b>	<b>2.340</b>
10	<b>3.700</b>	<b>3.700</b>	<b>7.400</b>
100	<b>11.7</b>	<b>11.7</b>	<b>23.4</b>

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

#### **APPENDIX IV**

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 technician for help.



#### **WARNING**

- To comply with the limits of the Class B digital device, pursuant to Part 15 of the FCC Rules, this device is comply with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables may results in interference to radio or reception.
- Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

# G.LAB®

## 5-YEAR LIMITED WARRANTY

Thank you for your recent purchase of the G.LAB® Blood Pressure Monitor. It is our goal to provide you with a high quality product that will meet and exceed your expectations.

G.LAB warrants this product, excluding batteries and accessories, to be free from defects in materials and workmanship for a period of five (5) years from the original date of purchase at retail. We will replace any defective product that is covered by the above warranty at no cost.

This warranty does not apply to damage resulting from normal wear, misuse and/or not used in accordance with the instructions in the user manual.

G.LAB limits all implied warranties (including, but not limited to fitness and merchantability) to five (5) years from the original date of purchase at retail.

This warranty extends only to the original retail purchaser, and is not transferable.

G.LAB's sole liability from this warranty is limited to replacement of defective product. Under no circumstances shall G.LAB be held liable for death or injuries to persons, damage to property, loss of use or any other special, incidental, contingent or consequential damages, indirect costs or expenses arising from the use of G.LAB products.

Replacement products under this warranty are warranted only for the remainder of the original warranty period.

To obtain warranty service, please contact Aceso Healthcare Products Customer Service by sending email to **cs@aceso-healthcare-products.com**.

When sending defective product for warranty service, please enclose the Proof of Purchase, a paper with your name, address, phone number, and description of the specific problem. Pack the product carefully to prevent damage in transit.

### FOR CUSTOMER SERVICE

**Email:** [cs@aceso-healthcare-products.com](mailto:cs@aceso-healthcare-products.com)

**Call:** 1-510-771-7883

**Visit:** [www.aceso-healthcare-products.com](http://www.aceso-healthcare-products.com)

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Symbol for the marking of electrical and electronics devices according to Directive 2002/96/EC. The device, accessories and the packaging have to be disposed of waste correctly at the end of the usage. Please follow Local Ordinances or Regulations for disposal.



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