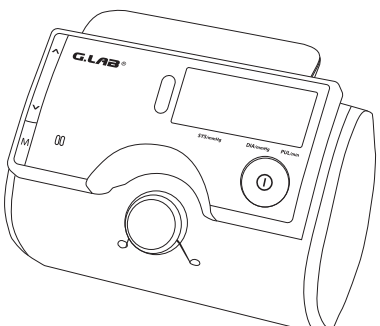
G.LAB®

DIGITAL AUTOMATIC BLOOD PRESSURE MONITOR INSTRUCTION MANUAL

MODEL No.: MD5400/MD5401/MD5450/MD5451/ MD5470/MD5471



Version: 1

TABLE OF CONTENTS

INTRODUCTION....1
COMPLIANCE....1
SYMBOLS....2
IMPORTANT NOTES....2-4
MAINTENANCE AND STORAGE....5
DEVICE DESCRIPTION....6-7
BATTERY INSTALLATION....8
SETTING DATE / TIME / BLUETOOTH 9
SETTING VOLUME / LANGUAGE / DATE / TIME / BLUETOOTH 10
BEFORE TAKING A MEASUREMENT....11
APPLYING ARM CUFF....11
APPLYING ARM CUFF....12
PERFORMING BLOOD PRESSURE MEASUREMENT....13
RECALL AVERAGE AND PREVIOUS MEASUREMENT DATA....14
DELETE MEASUREMENT DATA....14
TRANSFER MEASUREMENT DATA TO SMART DEVICE 15
WHO CLASSIFICATION INDICATOR....16
ABOUT IRREGULAR HEARTBEAT 17
ABOUT BLOOD PRESSURE....17
TROUBLESHOOTING....18
TECHNICAL SPECIFICATION....19
APPENDIX I....20
APPENDIX II....21
APPENDIX III....22
APPENDIX IV....23
APPENDIX V....24

INTRODUCTION

Thank you for purchasing the G.LAB MD54 Series Digital Automatic 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

This device is for use by medical professional or home users. It is intended to measure the systolic and diastolic blood pressure on an adult individual by using a non-invasive technique, in which an inflatable cuff is wrapped around the upper arm.

COMPLIANCE

This device conforms to European Medical Device Regulation 2017/745.

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

IMPORTANT NOTES

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.

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.

IMPORTANT NOTES

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 orairplane.

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.

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.
- In case the cuff does not stop inflating, interrupt the measurement by pressing the ON/OFF button and open the cuff at once.
- Remove any kind of arm jewellery or the like before taking a measurement. This could cause bruises.

IMPORTANT NOTES

- 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. Expected service life is 10,000 cycle. 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.
- When storing the device, make sure that no heavy objects are placed on top of it.

MAINTENANCE AND STORAGE

- The blood pressure monitor is constructed by precision electronic components. Accuracy of readings and the instrument's service life depend on careful handling. Protect the unit against hard knocks (e.g. dropping the unit), moisture, water, dirt, dust, chemicals, extreme hot or cold temperatures, major temperature fluctuations, direct exposure to sunlight and heat sources which are too close (e.g. stoves, heating radiators). This may damage the unit. The device must be stored in the specified ambient conditions. Please see section "Technical Specification" for details.

- Never immerse and/or spill water or any other liquid onto the monitor or any components, otherwise liquid may enter it and cause damage.

- Never use rechargeable batteries. This may damage the unit.

- Replace all batteries at the same time and use batteries of the same type. Do not mix old and new batteries.

- Never attempt to repair, open and/or disassemble the unit or adjust it yourself. This may cause damage to the unit and impair functions. If you cannot fix the problem using the "TROUBLE SHOOTING" instructions, request service from your dealer.

- 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.

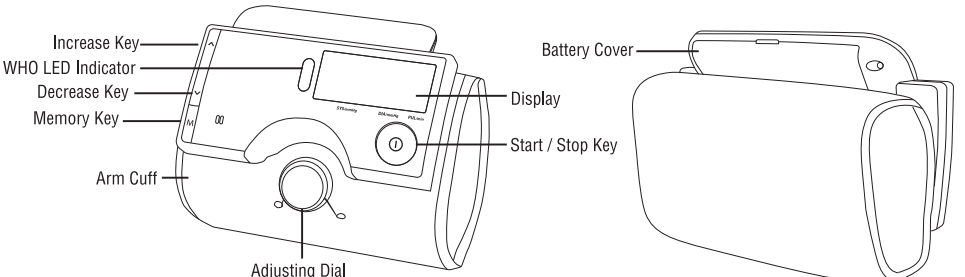
MAINTENANCE AND STORAGE

- When storing the device, make sure that no heavy objects are placed on top of it.

- Leaking batteries may damage the unit. If you do not intend to use the unit for longer periods, remove the batteries from the battery compartment before placing the device in storage.

- Used equipment, parts and batteries are not treated as ordinary household waste, and must be disposed according to applicable local regulations for material disposal. Unlawful disposal may cause environmental pollution.

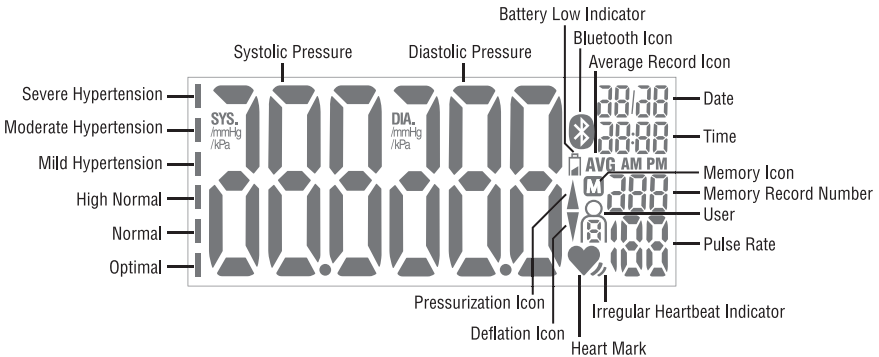
DEVICE DESCRIPTION



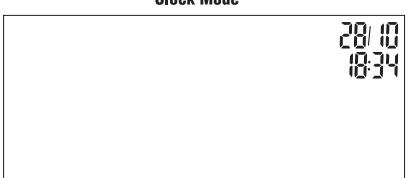
(Model: MD5450 / MD5451 / MD5470 / MD5471)

DEVICE DESCRIPTION

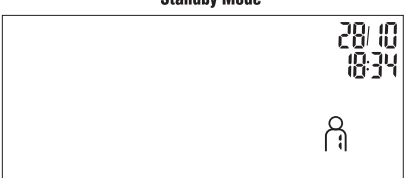
Information on the Display :



Clock Mode

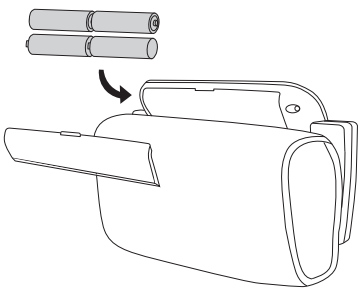


Standby Mode



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
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 / TIME (Model: MD5400/MD5450)

(A) When new batteries are installed

1. “YEAR” will blink on the display.
2. Press [^] or [v] key to set the current Year.
3. Press [M] key to confirm and then "MONTH" will start to blink.
4. Press [^] or [v] key to set the current Month.
5. Press [M] key to confirm and then "DAY" will start to blink.
6. Press [^] or [v] key to set the current Day.
7. Press [M] key to confirm and then "HOUR" will start to blink.
8. Press [^] or [v] key to set the current Hour.
9. Press [M] key to confirm and then "MINUTE" will start to blink.
10. Press [^] or [v] key to set the current Minute.
11. Press [M] key to confirm. Setting is completed.

(B) When device is in Clock Mode

1. Press [⏻] or [M] key to Standby Mode.
2. Press and hold [M] key for about 3 seconds until "YEAR" blinks on the display.
3. Follow the same procedure above to set the date and time.

SETTING DATE / TIME / BLUETOOTH (Model: MD5401/MD5451)

(A) When new batteries are installed

1. “YEAR” will blink on the display.
2. Press [^] or [v] key to set the current Year.
3. Press [M] key to confirm and then "MONTH" will start to blink.
4. Press [^] or [v] key to set the current Month.
5. Press [M] key to confirm and then "DAY" will start to blink.
6. Press [^] or [v] key to set the current Day.
7. Press [M] key to confirm and then "HOUR" will start to blink.
8. Press [^] or [v] key to set the current Hour.
9. Press [M] key to confirm and then "MINUTE" will start to blink.
10. Press [^] or [v] key to set the current Minute.
11. Press [M] key to confirm and then Bluetooth “On” or “OF” will start to blink.
12. Press [^] or [v] key to switch between ON and OFF.
13. Press [M] key to confirm and setting is completed.

Bluetooth “On”

Bluetooth “Off”

(B) When device is in Clock Mode

1. Press [⏻] or [M] key to Standby Mode.
2. Press and hold [M] key for about 3 seconds until "YEAR" blinks on the display.
3. Follow the same procedure above to set the date, time and bluetooth feature.

SETTING VOLUME / LANGUAGE / DATE / TIME (Model: MD5470)

(A) When new batteries are installed

1. Volume bar will blink on the display.
2. Press [^] or [v] key to increase or decrease the volume.
3. Press [M] key to confirm and then language number will start to blink.
4. Press [^] or [v] key to select the desired language. (L0 - Mute / L1 - English / L2 - Spanish / L3 - Mandarin)
5. Press [M] key to confirm and then "YEAR" will start to blink.
6. Press [^] or [v] key to set the current Year.
7. Press [M] key to confirm and then "MONTH" will start to blink.
8. Press [^] or [v] key to set the current Month.
9. Press [M] key to confirm and then "DAY" will start to blink.
10. Press [^] or [v] key to set the current Day.
11. Press [M] key to confirm and then "HOUR" will start to blink.
12. Press [^] or [v] key to set the current Hour.
13. Press [M] key to confirm and then "MINUTE" will start to blink.
14. Press [^] or [v] key to set the current Minute.
15. Press [M] key to confirm and setting is completed.

(B) When device is in Clock Mode

1. Press [⏻] or [M] key to Standby Mode.
2. Press and hold [M] key for about 3 seconds until volume bar blinks on the display.
3. Follow the same procedure above to set.

SETTING VOLUME / LANGUAGE / DATE / TIME / BLUETOOTH (Model: MD5471)

(A) When new batteries are installed

1. Volume bar will blink on the display.
2. Press [^] or [v] key to increase or decrease the volume.
3. Press [M] key to confirm and then language number will start to blink.
4. Press [^] or [v] key to select the desired language. (L0 - Mute / L1 - English / L2 - Spanish / L3 - Mandarin)
5. Press [M] key to confirm and then "YEAR" will start to blink.
6. Press [^] or [v] key to set the current Year.
7. Press [M] key to confirm and then "MONTH" will start to blink.
8. Press [^] or [v] key to set the current Month.
9. Press [M] key to confirm and then "DAY" will start to blink.
10. Press [^] or [v] key to set the current Day.
11. Press [M] key to confirm and then "HOUR" will start to blink.
12. Press [^] or [v] key to set the current Hour.
13. Press [M] key to confirm and then "MINUTE" will start to blink.
14. Press [^] or [v] key to set the current Minute.
15. Press [M] key to confirm and then Bluetooth “On” or “OF” will start to blink.
16. Press [^] or [v] key to switch between ON and OFF.
17. Press [M] key to confirm and setting is completed.

(B) When device is in Clock Mode

1. Press [⏻] or [M] key to Standby Mode.
2. Press and hold [M] key for about 3 seconds until volume bar blinks on the display.
3. Follow the same procedure above to set.

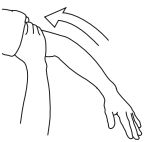
BEFORE TAKING A MEASUREMENT

- Before using the device, check your upper arm circumference and make sure it matches the 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.

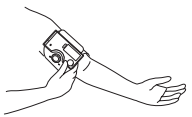
APPLYING ARM CUFF

(Model: MD5400/MD5401)

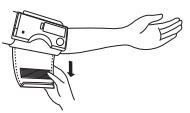
1. Bare your left upper arm. Make sure that the blood circulation in your arm in not constricted by any clothing that is too tight.



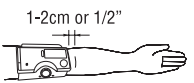
2. Put your left arm through the cuff loop. Turn your palm upward. Position the cuff approximately 1/2 inch or 1-2cm above your elbow. The monitor should lie over the brachial artery on the inside of the arm. Do not place the arm cuff over any clothing such as sleeve.

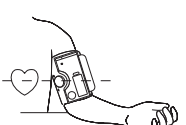


3. Pull the end of the cuff and fasten the Velcro. Make sure the cuff is wrapped firmly around your upper arm but should not constrict blood circulation.



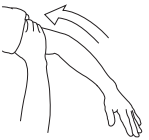
4. Place your elbow steadily on a table or at a position so that the cuff is level with your heart.





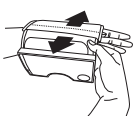
APPLYING ARM CUFF
(Model: MD5450/MD5451/MD5470/MD5471)

1. Bare your left upper arm. Make sure that the blood circulation in your arm in not constricted by any clothing that is too tight.

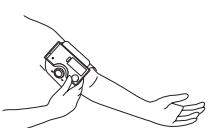


2. Slightly turn the dial anticlockwise to unlock the arm cuff.

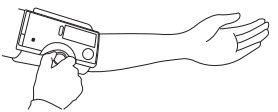
3. Loosen the arm cuff.

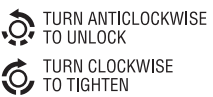


4. Put your left arm through the cuff loop. Turn your palm upward. Position the cuff approximately 1/2 inch or 1-2cm above your elbow. The monitor should lie over the brachial artery on the inside of the arm. Do not place the arm cuff over any clothing such as sleeve.

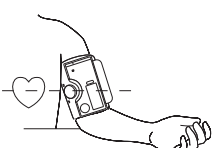


5. Turn the dial clockwise to tighten. Make sure the cuff fits snugly around your arm. The cuff should make good contact with your skin.





6. Place your elbow steadily on a table or at a position so that the cuff is level with your heart.



PERFORMING BLOOD PRESSURE MEASUREMENT

1. Press [⏻] key to turn the device from Clock Mode to Standby Mode.

2. Press [⏻] key again to start the blood pressure measurement. OR Press [^] or [v] key to select User 1,2,3 or 4. 👤 blinks on the display. Press [⏻] key to confirm selection. Press [⏻] key again to start the blood pressure measurement.
   ❗ The device has a memory capability to store the measurement data for 4 users - User 1,2,3 and 4. Every time you complete the measurement, the device automatically stores the measurement result.

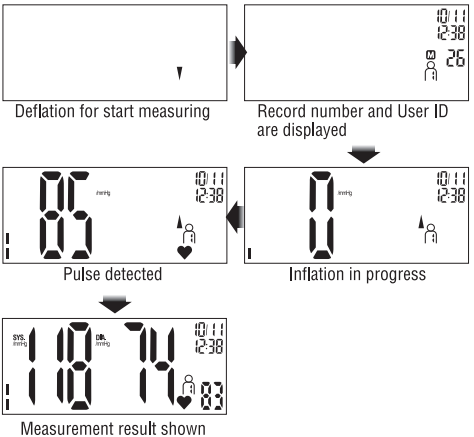
3. User number and memory record number appear on the display.

4. The cuff starts to inflate. It is normal for the cuff to feel tight.
   ▲ Pressurize indicator, the corresponding pressure bar indicator 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. As soon as a pulse is detected, the Heart Mark ♥ flashes at every heartbeat.

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 return to Clock Mode after 1 minutes of inactivity.



RECALL AVERAGE AND PREVIOUS MEASUREMENT DATA

The device has a memory capability to store the measurement data for 4 users – User 1,2,3 and 4. Every time you complete the measurement, the device automatically stores the measurement result. You can view the average data of the latest 3 measurement records in the memory, and the AM/PM average data of the measurement data from the last 7 days.

View average measurement data

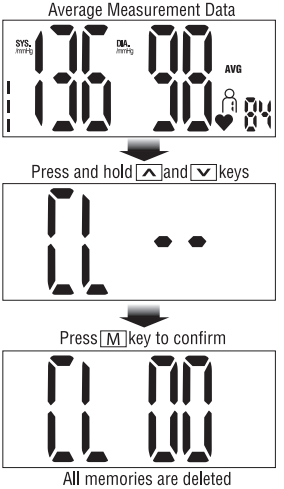
1. In Clock Mode, press ⏻ or M key to Standby Mode. Press ^ or v key to select user number and press ⏻ or M to confirm.
2. In Standby Mode, press M key to Memory Mode and view the average data of the latest 3 measurement records in the memory.
3. Press v key to view AM average data of last 7 days AM measurement data (5:00 - 9:00 am).
4. Press v key to view PM average data of last 7 days PM measurement data (6:00 - 8:00 pm).

View previous measurement data.

5. Press v key to view previous measurement data. Corresponding memory record number and time of measurement appear on the display.
6. Press v key again to display the measurement data from most recent data to older data in order. Press ^ key to display the measurement data from older data to newer data in order.
7. Press ⏻ key return to Standby.

DELETE MEASUREMENT DATA

1. While you are viewing the average or previous measurement data of the selected user.
2. Press and hold ^ and v keys for about 5 seconds until 'CL --' appear on the display.
3. Press M key to confirm and 'CL 00' appear on the display. All measurement data memories of the selected user are deleted.



TRANSFER MEASUREMENT DATA TO SMART DEVICE

(Model: MD5401 / MD5451 / MD5471)

For the first time use

1. Download and install the free “G.LAB Health” app on your smart device.

Download on the App Store

GET IT ON Google Play

2. Turn on the Bluetooth feature of the smart device

3. Open the “G.LAB Health” app on your smart device and sign up a new account.

4. Make sure the Bluetooth feature of the monitor is on. To turn on/off the Bluetooth feature of the monitor, press [⏻] button to turn on the monitor. Press and hold [M] button to enter the setting mode.

Bluetooth “On”

Bluetooth “Off”

5. Click the [⚙] icon on the app and click “Setup Bluetooth Device”. Select your monitor model on the device list and then all the measurement data will be sent to your smart device automatically.

Transfer the measurement data

1. Make sure the monitor is within 5m of your smart device and the “G.LAB Health” app is active.

2. Make sure the Bluetooth feature of the monitor is on. Press the [M] button to enter AVG mode, Bluetooth icon is flashing on the display.

3. Click the [↻] icon on the app to get the new measurement data from your monitor.

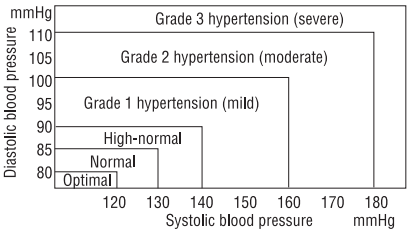
Notes:

- If data transmission fails, error code “E7” will be shown. Check the Bluetooth feature of the monitor and your smart device.
- The monitor comes with the Bluetooth already turned on as default. Please turn off the Bluetooth in the monitor in the areas where use of wireless equipment is prohibited.

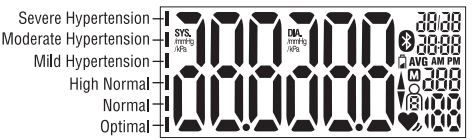
WHO CLASSIFICATION INDICATOR

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. Each segment of 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.
ERROR code 7 (E7) appears	Data transmission fail.	Check the bluetooth connection of the device and the smart device.
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.	: MD5400/MD5401/MD5450/MD5451/MD5470/MD5471
Display	: LCD Display
Measurement Method	: Non-invasive, Oscillometric method
Measurement Range	: Systolic Blood Pressure: 50-250 mmHg Diastolic Blood Pressure: 30-200 mmHg Cuff Pressure: 0-300 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	: Model: MD5401/MD5450/MD5451/MD5470/MD5471 -960 (240 x 4 users) Model: MD5400 - 480 (120 x 4 users)
Dimensions	: Approx. 3.8" x 5.7" x 0.8" / 97 x 144 x 20mm (not including the arm cuff)
Cuff Size / Arm Circumference Range	: Model: MD5450/MD5451/MD5470/MD5471 - 24cm-40cm / 9.4"-15.7" Model: MD5400/MD5401 - 22cm-44cm / 9"-17"
Operating Temperature	: 41˚F to 104˚F (5˚C to 40˚C)
Operating Humidity	: 15 to 90% RH
Storage Temperature	: -13˚F to 158˚F (-25˚C to 70˚C)
Storage Humidity	: up to 90% RH
Operation, storage and transport atmospheric pressure	: 700hPa to 1060hPa
Power Source	: 4 x 1.5V AAA alkaline batteries
Accessories	: Cuff, Instruction Manual, Storage Pouch, Batteries
Classification	: Application part Type BF
Key to symbols	: Application part Type BF Class II equipment symbol

APPENDIX I

Guidance and manufacturer's declaration - electromagnetic emissions	
The Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) is intended for use in the electromagnetic environment specified below. The customer or the user of the Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) should assure that it is used in such an environment.	
Emissions test	**Compliance**
RF emissions CISPR11	Group 1
RF emissions CISPR11	Class B
Harmonic emissions IEC 61000-3-2	Class A
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Compliance

APPENDIX II

Guidance and manufacturer's declaration - electromagnetic Immunity

The Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) is intended for use in the electromagnetic environment specified below. The customer or the user of the Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) should assure that it is used in such an environment.

Immunity test	IEC 60601-1-2 Test level	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air
Electrical fast transient/burst IEC 61000-4-4	Power supply lines: ±2 kV	Power supply lines: ±2 kV
Surge IEC 61000-4-5	line(s) to line(s): ±1 kV 100 kHz repetition frequency	line(s) to line(s): ±1 kV 100 kHz repetition frequency
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% 0.5 cycle At 0˚, 45˚, 90˚, 135˚, 180˚, 225˚, 270˚ and 315˚ 0% 1 cycle And 70% 25/30 cycles Single phase: at 0 0% 300 cycle	0% 0.5 cycle At 0˚, 45˚, 90˚, 135˚, 180˚, 225˚, 270˚ and 315˚ 0% 1 cycle And 70% 25/30 cycles Single phase: at 0 0% 300 cycle
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz
Conduced RF IEC 61000-4-6	150KHz to 80MHz: 3Vrms 6Vrms (in ISM and amateur radio bands) 80% Am at 1kHz	150KHz to 80MHz: 3Vrms 6Vrms (in ISM and amateur radio bands) 80% Am at 1kHz
Radiated RF IEC 61000-4-3	10 V/m 80 MHz - 2,7 GHz 80% AM at 1 kHz	10 V/m 80 MHz - 2,7 GHz 80% AM at 1 kHz

NOTE U_T is the a.c. mians voltage prior to application of the test level.

APPENDIX III

Guidance and manufacturer's declaration - electromagnetic Immunity

The Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) is intended for use in the electromagnetic environment specified below. The customer or the user of the Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) should assure that it is used in such an environment.

	Test Frequency (MHz)	**Band** (MHz)	**Service**	**Modulation**	**Modulation** (W)	**Distance** (m)	**IMMUNITY TEST LEVEL**(V/m)
Radiated RF IEC61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communica-tions equipment)	385	380-390	TETRA 400	Pulse modulation 18Hz	1,8	0.3	27
	450	430-470	GMRS 460, FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
	710	704-787	LTE Band 13, 17	Pulse modulation 217 Hz	0,2	0.3	9
	745						
	780						
	810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0.3	28
	870						
	930						
	1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217 Hz	2	0.3	28
	1845						
	1970						
	2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28
	5240	5100-5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0,2	0.3	9
	5500						
	5785						

APPENDIX IV

Recommended separation distances between portable and mobile RF communications equipment and the Sphygmomanometer

(MD5400/MD5401/MD5450/MD5451/MD5470/MD5471**)**

The Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Sphygmomanometer (MD5400/MD5401/MD5450/MD5451/MD5470/MD5471) 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)**	
	3 V_{rms}	10 V/m
0.01	0.200	0.060
0.1	0.632	0.190
1	2.000	0.600
10	6.33	1.90
100	20.0	6.00

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (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 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

APPENDIX V

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

- Don't near active HF surgical equipment and the RF shielded room of an ME system for magnetic resonance imaging, where the intensity of EM disturbances is high.
- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation."
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the equipment, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

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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EC REP

MedNet EC-REP GmbH
Borkstrasse 10, 48163 Munster, Germany

CE 0123

MD

P/N: 83-M5400-SEN00A-R
MADE IN CHINA

Health G.LAB

G.LAB Health

Download on the App Store

GET IT ON Google Play

iOS 9.0 or above
Andriod 5.0 or above

If the instruction manual is damaged or if you no longer have the instruction manual in your possession and in case of any complaints or unexpected events, please contact us at: www.grandway.com.hk