A Special Thank You…

Thank you for choosing a blood pressure instrument. We’re proud of the care and quality that goes into the manufacture of each and every item that bears our name. Only the finest materials are used to assure you of a timeless instrument designed for optimum performance. You’ll quickly appreciate the results, for you now own one of the finest digital blood pressure instruments that money can buy. With proper care and maintenance, your automatic blood pressure monitor is sure to provide you with many years of dependable service. Please read the following instructions and general information which will prove helpful in allowing you to enjoy a Digital Blood Pressure Monitor that’s of the same quality as those used in hospitals and physician’s offices throughout the world, where accuracy dependability are critical, professional diagnostic products and are the instruments of choice.

You can now reap the benefits of a quality blood pressure monitor in the comfort of your own home. This feature rich instrument was designed to simplify the measurement of blood pressure and pulse rate at home and deliver consistent, dependable results. Your digital blood pressure monitor is a fully automatic digital blood pressure measuring device for using on the upper arm. It enables very fast and reliable measurement of the systolic and diastolic blood pressure as well as the pulse by way of the oscillometric method. This device offers clinically proven accuracy and has been designed to be user-friendly. Read this booklet thoroughly before attempting to use your new Digital Blood Pressure Monitor.

Thank you for your patronage. It is indeed our pleasure to serve you.

Sincerely,

NURSAL OFFICIAL TEAM

ACTIVATE YOUR 12 MONTH WARRANTY & EXCLUSIVE GIFT
Register within 2 weeks after receiving your new product.

PLEASE VISIT NOW → www.nursal.co/warranty
CUSTOMER SERVICE support@nursal.co @nursalonline

1. Remain calm for 30 minutes before measuring blood pressure.
2. Keep the arm flush with the heart while measuring.
3. Continuously measure blood pressure for more than three minutes.

NOTE
CONTENTS

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Introduction and Intended Use

This manual is for B51 model. It is a fully automatic digital blood pressure measuring device for use by adults on the upper arm at home or in your doctor’s or nurse’s office. It enables very fast and reliable measurement of systolic and diastolic blood pressure as well as pulse through the oscillometric method. This device offers clinically proven accuracy and has been designed to be user friendly.

Before using, please read this instruction manual carefully and then keep it in a safe place. Please contact your doctor for further questions on the subject of blood pressure and its measurement.

Warning: Not suitable for pregnant patients, neonatal patients and infants.
This device can not be used together with HF surgical equipment.

Attention

- Only a healthcare professional is qualified to interpret blood pressure measurements.
- This device is not intended to replace regular medical checkups.
- It is recommended that your physician review your procedure for using this device.
- Blood pressure readings obtained by this device should be verified before prescribing or making adjustments to any medications used to control hypertension. Under no circumstances should you alter the dosages of any drugs prescribed by your doctor.
- This monitor is intended for use by adults only. Consult with a physician before using this instrument on a child.
- In cases of irregular heartbeat (Arrhythmia), measurements made with this instrument should only be evaluated after consultation with your doctor.
- Familiarize yourself with the section titled "Important Information on Blood Pressure and its Measurement". It contains important information on the dynamics of blood pressure readings and will help you to obtain the best results.
NOTE!
- This device contains sensitive electronic components. Avoid strong electrical or electromagnetic fields in the direct vicinity of the device (e.g. mobile telephones, microwave ovens) during use. These can lead to erratic results.
- Do not attempt to service or repair this device yourself. Should a malfunction occur, refer to local distributor or the manufacturer.

Warning
- Too frequent measurement can cause injury to the PATIENT due to blood flow interference.
- Don't place the cuff over wound part.
- Pressurization of the CUFF can temporarily cause loss of function of simultaneously used monitoring medical electrical equipment on the same limb.

Contraindication
Use of this instrument on patients under dialysis therapy or on anticoagulant, antiplatelets, or steroids could cause internal bleeding.

Warnings and Notes
- Warning: Do not use accessories other than those supplied by the manufacturer.
- Warning: Do not use the battery and the AC adapter to get it powered at the same time.
- Warning: The user must check that the equipment functions safely and see that it is in proper working condition before being used and shall not be serviced or maintained while in use with the patient
- Warning: The device is not suitable for use in the presence of flammable anesthetic mixtures with air or with oxygen or nitrous oxide.
- Warning: To avoid damaging the device or any possibility of accidental strangulation, keep this unit away from children and pets, and do not drape tubing around your neck.
- Warning: The device contains sensitive electronic components. Avoid strong electrical or electromagnetic fields in the direct vicinity of the device (e.g. mobile telephones, microwave ovens). These can lead to temporary impairment of the measuring accuracy.
- Warning: This system may fail to yield specified measurement accuracy if operated or stored in temperature or humidity conditions outside the limits stated in the specifications section of this manual.
- Warning: The separate ac adapter which is intended to connect USB interface of Blood Pressure Monitor has not been evaluated according to IEC 60601-1. The safety of the product shall be reappraised when it power supply by a separate ac adapter.
- Note: It is recommended that the instrument be used within the specified temperature and the relative humidity, please see the Technical Specifications.
- Note: The pulse display is not suitable for checking the frequency of heart pacemakers.
- Note: In cases of irregular heartbeat, measurements made with this instrument should only be evaluated after consultation with your doctor
- Note: The cuff is treated as the applied part. The user should contact the manufacturer for assistance, if needed, in setting up, using or maintaining the device.
- Note: self-measurement means control, not diagnosis or treatment. Unusual values must always be discussed with your doctor. Under no circumstances should you alter the dosages of any drugs prescribed by your doctor.

Important Information on Blood Pressure and its Measurement

How does high or low blood pressure arise?
Your level of blood pressure is determined in the circulatory center of the brain and adjusts to a variety of situations through feedback from the nervous system. To adjust blood pressure, the strength and speed of the heart (Pulse), as well as the width of circulatory blood vessels is altered. Blood vessel width is controlled by fine muscles in the blood vessel walls.
Your level of arterial blood pressure changes periodically during heart activity. During the "blood ejection" (Systole) the value is highest (systolic blood pressure value). At the end of the heart’s "rest period" (Diastole) pressure is lowest (diastolic blood pressure value).

Blood pressure values must lie within certain normal ranges in order to prevent particular diseases.

**Which values are normal?**

Please refer to the diagram below (Picture-01)

![Blood Pressure Diagram](Image)

**Picture-01**

There are six grids in the display of the device. Please refer to the Picture-01-01. Different grids represent different interval scales of WHO.

<table>
<thead>
<tr>
<th>Blood pressure value</th>
<th>WHO grids in device</th>
<th>WHO Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic 100 &amp; Diastolic 120</td>
<td>1</td>
<td>Optimal blood pressure</td>
</tr>
<tr>
<td>Systolic 105 &amp; Diastolic 110</td>
<td>2</td>
<td>Normal blood pressure</td>
</tr>
<tr>
<td>Systolic 110 &amp; Diastolic 100</td>
<td>3</td>
<td>High normal value</td>
</tr>
<tr>
<td>Systolic 120 &amp; Diastolic 110</td>
<td>4</td>
<td>Mild hypertension</td>
</tr>
<tr>
<td>Systolic 110 &amp; Diastolic 90</td>
<td>5</td>
<td>Moderate hypertension</td>
</tr>
<tr>
<td>Systolic 110 &amp; Diastolic 80</td>
<td>6</td>
<td>Severe hypertension</td>
</tr>
</tbody>
</table>

Blood pressure is very high if your diastolic pressure is above 90 mmHg and/or your systolic blood pressure is over 160 mmHg, while at rest. In this case, please consult your physician immediately.

Long-term values at this level endanger your health due to continual damage to the blood vessels in your body. If your systolic blood pressure values are between 140 mmHg and 159 mmHg and/or the diastolic blood pressure values between 90 mmHg and 99 mmHg, consult your physician. Regular self-checks are necessary. If you have blood pressure values that are too low, (i.e. systolic values under 105 mmHg and/or diastolic values under 60 mmHg), consult your physician. Even with normal blood pressure values, a regular self-check with your blood pressure monitor is recommended. You can detect possible changes in your values early and react appropriately. If you are undergoing medical treatment to control your blood pressure, keep a record of values along with time of day and date. Show these values to your physician. Never use the results of your measurements to independently alter the drug doses prescribed by your physician.

**Further information**

- If your values are mostly normal under resting conditions but exceptionally high under conditions of physical or psychological stress, it is possible that you are suffering from so-called “labile hypertension.” Consult your doctor.
- Correctly measured diastolic blood pressure values above 120 mmHg require immediate medical treatment.
What can be done if regular high or low values are obtained?

1) Consult your doctor.
2) Increased blood pressure values (various forms of hypertension) are associated with considerable health risks over time. Arterial blood vessels in your body are endangered due to constriction caused by deposits in the vessel walls (Arteriosclerosis). A deficient supply of blood to important organs (heart, brain, muscles) can result from arteriosclerosis. Furthermore, the heart will become structurally damaged with increased blood pressure values.
3) There are many different causes of high blood pressure. We differentiate between the common primary (essential) hypertension, and secondary hypertension. The latter group can be ascribed to specific organ malfunctions. Please consult your doctor for information about the possible origins of your own increased blood pressure values.
4) There are measures which you can take to reduce and even prevent high blood pressure.

Components of your blood pressure monitor

- Measuring unit
- LCD Display
- Cuff Connector Port

The symbols on the LCD display

1. Systolic blood pressure
2. Diastolic blood pressure
3. Heartbeat symbol
4. Pulse sign
5. Battery low symbol
6. Silent icon
7. Bluetooth symbol
8. Movement error symbol
9. Date/Time display
10. WHO Indicator
11. Irregular heartbeat symbol
12. User A
13. User B
14. Average value symbol
15. Arm belt icon

Features of Model B51:

1. Arrhythmia checking
2. Average function
3. Double users
4. WHO function
5. Date and time display
6. Support external power supply
7. Memory storage
8. User setting
9. Correct/incorrect cuff binding function

Note: Arm circumference should be measured with a measuring tape in the middle of the relaxed upper arm. Do not force cuff connection into the opening. Make sure the cuff connection is not pushed into the AC adapter port.
Using your Monitor for the First Time

Activating the pre-installed batteries

Battery Installation

Use only 1.5V “AA” alkaline batteries with this device.
1. Press the hook on the bottom of the battery cover and lift the cover off in the direction of the arrow.
2. Install 4 “AA” size batteries so the + (positive) and (negative) polarities match the polarities of the battery compartment, replace the battery cover. Make sure that the battery cover is securely in position.

Battery replacement

Low Battery Indicator
1. When the Low Battery Indicator appears on the display, turn the monitor off and remove all the batteries. Replace with 4 new batteries at the same time. Alkaline batteries are recommended.
2. To prevent the damage of monitor from leaked battery fluid, please take out of battery if the monitor unused in a long time (generally more than 3 months). If battery fluid should get in your eyes, immediately rinse with plenty of clean water. Contact a physician immediately.
3. Dispose of the device, components and optional accessories according to applicable local regulations. Unlawful disposal may cause environmental pollution.
4. Battery is dangerous stuff, do not mix it with other rubbish.

System Settings

After you load the battery or connect the power for the monitor, long press the SET button for 8 seconds and then start setting.

Setting the YEAR: When the YEAR display is flashing, press the memory button, the year will increase by 1 year each, hold the memory button and it will increase continuously 1 by 1. Press the SET button to enter next step.

Setting Month/Date: Initial Month/Date is 1/01, when the Month display is flashing, press the memory button, the month will increase by 1, press the SET button to enter next step, and do in the same way to set the date. Press the SET button to enter next step.

Setting the time: There are 1 modes for time: 24-hours When display with sy, press MEM button to set the time mode, Press the SET button to enter next step.
Setting unit: This monitor has 1 mode for unit: mmHg Setting button to Confirm

Record delete: When you checking the memory data, long press memory to delete existing user measurement data. Choose the Users button between A and B to delete data record for each user.

Note: You can’t delete single measurement record. If you delete the record, you will delete all. Please keep the record in another way, in case you need it some days later. Take the battery out won’t lead to a record missing.

Cuff tube connection
Insert the cuff tube into the opening on the left side of the monitor indicated by the drawing of a cuff.

Measurement Procedure
Note: You should always be seated and calm before and during measurement.

Before measurement:
- Avoid eating and smoking as well as all forms of exertion directly before measurement. These factors influence the measurement result. Find time to relax by sitting in an armchair in a quiet atmosphere for about ten minutes before taking a measurement.
- Remove any garment that fits closely to your upper arm.
- Always measure on the same arm (normally left).
- Always compare measurements taken at the same time of day, since blood pressure changes during the course of the day, as much as 20-40 mmHg.

Common sources of error:
Note: Comparable blood pressure measurements always require the same conditions!
- Conditions should always be quiet.
- All efforts by the user to support the arm can increase blood pressure. Make sure you are in a comfortable, relaxed position and do not flex any of the muscles in the measurement arm during the measurement. Use a cushion for support if necessary.
- If the arm artery lies considerably lower or higher than the heart, an erroneously high or low blood pressure will be measured! Each 25-30cm difference in height between your heart and the cuff results in a measurement error of 10 mmHg!
- Cuffs that are too narrow or too short result in false measurement values. Selecting the correct cuff is extremely important. Cuff size is dependent upon the circumference of the arm (measured in the center). The permissible range is printed on the cuff.
- Cuff works Under the pressure range 0-299mmHg
The wide range rigid cuff is: 8.7”-15.7”(22-40cm)
- A loose cuff or a sideways protruding air pocket causes false measurement values.
- With repeated measurements, blood accumulates in the arm, which can lead to false results. Consecutive blood pressure measurements should be repeated after a 1 minute pause or after your arm has been held up in order to allow the accumulated blood to flow away. If you decide to take your Averaging Mode measurement again, be sure to wait at least one minute beforehand.

Fitting the Cuff
Please refer to picture-06
a) The cuff is pre-formed for easier use. Remove tight or bulky clothing from your upper arm.
b) Wrap the cuff around your upper left arm. The rubber tube should be on the inside of your arm extending downward to your hand. Make certain the cuff lies approximately 0.79” to 1.18”(2 to 3cm) above the elbow. Important! The ▼ on the edge of the cuff (Artery Mark) must lie over the artery which runs down the inner side of the arm.
c) To secure the cuff, wrap it around your arm and press the hook and loop closure together.
d) There should be little free space between your arm and the cuff. You should be able to fit 2 fingers between your arm and the cuff. Cuffs that don’t fit properly result in false measurement values. Measure your arm circumference if you are not sure of proper fit.
e) Lay your arm on a table (palm upward) so the cuff is at the same height as your heart. Make sure the tube is not kinked.
f) Remain seated quietly for at least two minutes before you begin the measurement.

Measure Procedure
Refer to picture 07
The monitor is designed to take measurements and store the measurement values in memory for two people using User ID A and User ID B.

1. Sit comfortably in a chair with your feet flat on the floor.
2. Select your User ID (A or B).
   Stretch your arm forward on the desk and keep relaxing, make sure the palm of hand is upturned. Make sure arm is in correct position, to avoid body movement. Sit still and do not talk or move during the measurement.
   After the cuff has been appropriately positioned on the arm and connected to the blood pressure monitor, the measurement can begin:
   a) Press the Stop/Start button. The pump begins to inflate the cuff. In the display, the increasing cuff pressure is continually displayed.
   b) After automatically reaching an individual pressure, the pump stops and the pressure slowly falls. The cuff pressure is displayed during the measurement.
   c) When the device has detected your pulse, the heart symbol in the display begins to blink.
d) When the measurement has been concluded, the measured systolic and diastolic blood pressure values, as well as the pulse will be displayed.

e) The appearance of this symbol signifies that an irregular heartbeat was detected. This indicator is only a caution. It is important that you be relaxed, remain still and do not talk during measurements.

NOTE: We recommend contacting your physician if you see this indicator frequently.

f) The measurement results are displayed until you switch the device off. If no button is pressed for 30 seconds, the device switches off automatically.

9) Movement error symbol ( ).
   The Movement Error Symbol ( ) is displayed if you move your body during the measurement. Please remove the cuff, and wait 2-3 minutes. Reapply the cuff and take another measurement.

NOTE:
Position for test:
1) Comfortably seated.
2) Legs uncrossed.
3) Feet flat on the floor.
4) Back and arm supported.
5) Middle of the cuff at the level of the right atrium of the heart.

Recommended Use Methods
1. Recommendation that the patient relax as much as possible and not talk during the measurement procedure.
2. Recommendation that 5 min should elapse before the first reading is taken.

3. Any reading can be affected by the measurement site, the position of the patient, exercise, or the patient’s physiologic condition.

4. Performance of the automated sphygmomanometer can be affected by extremes of temperature, humidity and altitude.

5. To stop the inflation or measurement, push the START/STOP button. The monitor will stop inflating, start deflating, and will turn off.

6. After the monitor has detected your blood pressure and pulse rate, the cuff automatically deflates. Your blood pressure and pulse rate are displayed.

7. The monitor will automatically turn off after 30 seconds no operation.

Irregular Heartbeat Detector

This symbol - indicates that certain pulse irregularities were detected during the measurement.

In this case, the result may deviate from your normal basal blood pressure – repeat the measurement.

In most cases, this is no cause for concern. However, if the symbol appears on a regular basis (e.g. several times a week with measurements taken daily), we advise you to tell your doctor. Please show your doctor the following explanation:
Information for the doctor on frequent appearance of the Irregular Heartbeat Symbol.

This instrument is an oscillometric blood pressure monitor device that also analyzes pulse frequency during measurement. The instrument is clinically tested.

If pulse irregularities occur during measurement, the irregular heartbeat symbol is displayed after the measurement. If the symbol appears more frequently (e.g. several times per week on measurements performed daily) or if it suddenly appears more often than usual, we recommend the patient to seek medical advice. The instrument does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

Error Indicates

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>CAUSE</th>
<th>CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No display appears</td>
<td>Weak battery or improper placement</td>
<td>Replace both batteries with new ones, Check the battery installation for proper placement of the battery polarities.</td>
</tr>
<tr>
<td>Er 1</td>
<td>Sensor is abnormal</td>
<td>Send it to local distributor.</td>
</tr>
<tr>
<td>Er 2</td>
<td>Monitor could not detect pulse wave</td>
<td>Make sure the air plug is properly inserted in the unit</td>
</tr>
<tr>
<td>Er 3</td>
<td>Measurement result is abnormal (SYS&lt;45mmHg or DIA&lt;24mmHg)</td>
<td>Occasionally - measure for one more time/Always - Send it to local distributor.</td>
</tr>
<tr>
<td>Er 4</td>
<td>It appears during the process of inflating</td>
<td>Wrap the cuff properly</td>
</tr>
<tr>
<td>Er 5</td>
<td>Pipe blocked</td>
<td>Make sure the air flow smooth.</td>
</tr>
<tr>
<td>Er 6</td>
<td>Heart rate area display &quot;Hi&quot;</td>
<td>Heart rate is more than 200 beats/Min.</td>
</tr>
<tr>
<td>Er 7</td>
<td>Heart rate area display &quot;Lo&quot;</td>
<td>Heart rate is less than 40 beats/Min.</td>
</tr>
</tbody>
</table>

The above symbol will appear on the display when measuring abnormal

Trouble removal

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Cause and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power</td>
<td>Check the battery power</td>
<td>Replace new one</td>
</tr>
<tr>
<td>No inflation</td>
<td>Whether the plug is inserted</td>
<td>Insert into the air socket tightly</td>
</tr>
<tr>
<td>Err and stop working</td>
<td>Whether the plug is broken or leak</td>
<td>Change a new cuff</td>
</tr>
<tr>
<td>Cuff leak</td>
<td>Whether the cuff is wrap too loose</td>
<td>Wrap the cuff tightly</td>
</tr>
<tr>
<td></td>
<td>Whether the cuff is broken</td>
<td>Change a new cuff</td>
</tr>
</tbody>
</table>

Please contact the distributor if you can’t solve the problem, do not disassemble the unit by yourself.

SYMBOL DESCRIPTIONS

The following symbols may appear in this manual, on the Digital Blood Pressure Monitor B51, or on its accessories. Some of the symbols represent standards and compliances associated with the Digital Blood Pressure Monitor B51 and its use.

<table>
<thead>
<tr>
<th>EEC REP</th>
<th>Authorized Representative in the Euporean Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 0123</td>
<td>CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC</td>
</tr>
<tr>
<td>Date of manufacture</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>Specifies serial number</td>
</tr>
<tr>
<td>Type BF applied part</td>
<td></td>
</tr>
<tr>
<td>Direct current</td>
<td></td>
</tr>
<tr>
<td>DISPOSAL: Do not dispose this product as sorted municipal waste. Collection of such waste separately for special treatment is necessary.</td>
<td></td>
</tr>
</tbody>
</table>
Memory
At the end of a measurement, this monitor automatically stores each result with date and time. Each unit stores 120 sets of measurements for 2 users (User A and B).

Viewing the stored values
With the unit off, press the Memory button. The display first shows "A" or "B", then shows an average of last 3 measurements stored in the unit. Please note: Measurements for each user are averaged and stored separately. Be certain that you are viewing the measurements for the correct user. Pressing the Memory button again displays the previous value. To view a particular stored memory, press and hold the Memory button to scroll to that stored reading.

Discontinuing a Measurement
If it is necessary to interrupt a blood pressure measurement for any reason (e.g., the patient feels unwell), the Start/Stop button can be pressed at any time. The device then immediately lowers the cuff pressure automatically.

Battery Change Indicator
Batteries discharged – replacements required
When the batteries are discharged, the battery symbol will flash as soon as the instrument is switched on. You cannot take any further measurements and must replace the batteries.

The battery compartment is located on the back side of the unit:

a) Remove cover from the bottom plate, as illustrated below picture-08
b) Insert the batteries (4 x size AA). Always use AA batteries or alkaline 1.5v batteries.

c) The memory retains all values although date and time (and possibly also set alarm times) must be reset - the year number therefore flashes automatically after the batteries are replaced.
d) To set date and time, follow the procedure described in Section System Settings.

Which batteries and which procedure?
Use four new, 1.5V AA batteries. Do not use batteries beyond their expiration date. If the monitor is not going to be used for a prolonged period the batteries should be removed.

Using rechargeable batteries
You can also operate this instrument using rechargeable batteries.

- If the battery symbol 🚫 flicker, the batteries must be removed and recharged! They must not remain inside the instrument, as they may become damaged through total discharge even when switched off. The batteries must NOT be discharged in the blood pressure monitor! If you do not intend to use the instrument for a week or more, always remove the rechargeable batteries!
- Recharge these batteries using an external charger and follow manufacturer’s instructions carefully.

Using the AC Adapter
You may also operate this monitor using the AC adapter (output 6V DC/600 mA with round plug).
a) Ensure that the AC adapter and cable are not damaged.
b) Plug the adapter cable into the AC adapter port on the right side of the blood pressure monitor.
c) Plug the adapter into your electrical outlet. When the AC adapter is connected, no battery current is consumed.

Note: No power is taken from the batteries while the AC adapter is connected to the monitor. If electrical power is interrupted (e.g., by accidental removal of the AC adapter from the outlet), the monitor must be reset by removing the plug from the socket and reinserting the AC adapter connection.

Care and Maintenance

Wash hands after each time measurement.
If one device is used by different patients, wash hands before and after each use.
a) Do not expose the device to either extreme temperatures, humidity, dust or direct sunlight.
b) The cuff contains a sensitive air-tight bubble. Handle this cuff carefully and avoid all types of stress through twisting or buckling.
c) Clean the device with a soft, dry cloth. Do not use gas, thinners or similar solvents. Spots on the cuff can be removed carefully with a damp cloth and soapsuds. The cuff with bladder must not be washed in a dishwasher, clothes washer, or submerged in water.
d) Handle the tube carefully. Do not pull on it. Do not allow the tubing to kink and keep it away from sharp edges.
e) Do not drop the monitor or treat it roughly in any way. Avoid strong vibrations.
f) Never open the monitor! This invalidates the manufacturer’s warranty.
g) Batteries and electronic instruments must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

Accuracy test

Sensitive measuring devices must be checked for accuracy from time to time. We recommend a periodical inspection of your unit by an authorized dealer every 1 years. Please turn to local distributor.

Warranty

Your blood pressure monitor is guaranteed for 1 years against manufacturers’ defects for the original purchaser only, from date of purchase. The warranty does not apply to damage caused by improper handling, accidents, professional use, not following the operating instructions or alterations made to the instrument by third parties.

Warranty only applies to the instrument.

There are no user serviceable parts inside. Damage from old batteries is not covered by the warranty.

Note: According to international standards, your monitor should be checked for accuracy every year.

Certifications

Device standard:
This device is manufactured to meet the European blood pressure monitors:
Electromagnetic compatibility:
Device fulfills the stipulations of the International standard IEC60601-1-2

Technical Specifications

Model: B51
Wight: 280g
Display: 100*72* 2.8mm LCD Digital Display
Size: 143*105 * 75mm
Accessories: Main device x1, manual x1, cuff x1,
Measuring method: Oscillometric
Pressure sensor: Capacitive
Measuring range: 0-280mmHg
Pulse: 40 to 199 per minute
Cuff pressure range: 0—299 mmHg
Memory: Automatically stores the last 120 measurements for 2 users (total 240)
Measuring resolution: 1 mmHg
Average Function: Last 3 groups average measuring value
Accuracy: Pressure within ± 3 mmHg / pulse ± 5 % of the reading
Power source: a) 4 AA batteries, 1.5 V b) AC adapter (Output: DC6V 600 mAh)
Automatically power off: 30 seconds
Users: Adult
Expected service life of the device and accessories: 5 years
Technical alterations reserved!

ENVIRONMENTAL REQUIREMENTS

OPERATING CONDITIONS
Temperature: 5°C to 40°C
Humidity: 15% to 93% RH
Pressure altitude: 70KPa~106Kpa

STORAGE AND SHIPPING CONDITIONS
Temperature: -25°C to 70°C
Humidity: 10% to 93% RH
Pressure altitude: 70KPa~106Kpa

CLASSIFICATION
1. Internally powered equipment; (supplied by AA battery);
2. Type BF applied part;
3. Ip21;
4. No Sterilize requirement;
5. Not category AP/ APG equipment;
6. Mode of operation: continuous;

EMC Declaration

Guidance and manufacturer’s declaration – electromagnetic immunity

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD) IEC 61000-4-2</td>
<td>±6 kV contact</td>
<td>±6 kV contact</td>
<td>If rooms should be wood, concrete or ceramic tile, if floors are covered with synthetic material, the relative humidity should be at least 30 %</td>
</tr>
<tr>
<td></td>
<td>±6 kV air</td>
<td>±6 kV air</td>
<td></td>
</tr>
<tr>
<td>Electrical fast transient/burst IEC 61000-4-4</td>
<td>±2 kV for power supply lines</td>
<td>±2 kV for power supply lines</td>
<td>Mans power quality should be that of a typical commercial or hospital environment</td>
</tr>
<tr>
<td></td>
<td>±1 kV for input/output lines</td>
<td>±1 kV for input/output lines</td>
<td></td>
</tr>
<tr>
<td>Surge IEC 61000-4-5</td>
<td>±1 kV differential mode</td>
<td>±1 kV differential mode</td>
<td>Mans power quality should be that of a typical commercial or hospital environment</td>
</tr>
<tr>
<td></td>
<td>±2 kV common mode</td>
<td>±2 kV common mode</td>
<td></td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11</td>
<td>±5 % U (±95 % dip in Un) for 0.5 cycle</td>
<td>±5 % U (±95 % dip in Un) for 0.5 cycle</td>
<td>Mans power quality should be that of a typical commercial or hospital environment, If the user of the “Digital Blood Pressure Monitor KU-706” requires continued operation during power mains interruptions, it is recommended that the “Digital Blood Pressure Monitor KU-706” be powered from an uninterruptible power supply or a battery</td>
</tr>
<tr>
<td></td>
<td>±40 % U (90 % dip in Un) for 5 cycles</td>
<td>±40 % U (90 % dip in Un) for 5 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±70 % U (30 % dip in Un) for 25 cycles</td>
<td>±70 % U (30 % dip in Un) for 25 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±5 % U (±95 % dip in Un) for 5 sec</td>
<td>±5 % U (±95 % dip in Un) for 5 sec</td>
<td></td>
</tr>
<tr>
<td>Power frequency (50/60 Hz) magnetic field IEC 61000-4-8</td>
<td>3 A/m at 3 A/m</td>
<td>Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: U is the a.c. mains voltage prior to application of the test level.
EMC Declaration (Continued)

Guidance and manufacturer’s declaration – electromagnetic immunity

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 68001 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted RF</td>
<td>3 V/μA</td>
<td>3 V</td>
<td>Portable and mobile RF communications equipment should be used no closer to any part of the &quot;Digital Blood Pressure Monitor B51&quot; including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance d = ( \frac{1.2}{P} ) for 80 MHz to 800 MHz. d = ( \frac{2.3}{P} ) for 800 MHz to 2.5 GHz.</td>
</tr>
<tr>
<td>IEC 61000-4-6</td>
<td></td>
<td></td>
<td>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, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol.</td>
</tr>
</tbody>
</table>

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

Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and fixed 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 "Digital Blood Pressure Monitor B51" is used exceeds the applicable RF compliance levels above, the Medical Digital Blood Pressure Monitor B51 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the "Digital Blood Pressure Monitor B51." |

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

EMC Declaration (Continued)

Guidance and manufacturer’s declaration – electromagnetic emissions

The "Digital Blood Pressure Monitor B51" is intended for use in the electromagnetic environment specified below. The customer or the user of the "Digital Blood Pressure Monitor B51" should ensure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Emissions test</th>
<th>Compliance</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions</td>
<td>Group 1</td>
<td>The &quot;Digital Blood Pressure Monitor B51&quot; 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.</td>
</tr>
<tr>
<td>CEMPR 11</td>
<td>Class B</td>
<td>The &quot;Digital Blood Pressure Monitor B51&quot; 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.</td>
</tr>
<tr>
<td>Harmonic emissions</td>
<td>Class A</td>
<td>IEC 61000-3-2</td>
</tr>
<tr>
<td>Voltage fluctuations/ ( \frac{V_{rms}}{V_{p-p}} ) emissions</td>
<td>Complex</td>
<td>IEC 61000-3-3</td>
</tr>
</tbody>
</table>

Recommended separation distances between portable and mobile RF communications equipment and the Medical Digital Blood

The "Digital Blood Pressure Monitor B51" is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Medical Digital Blood Pressure Monitor B51 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the "Digital Blood Pressure Monitor B51" as recommended below, according to the maximum output power of the communications equipment.

<table>
<thead>
<tr>
<th>Rated maximum output power of transmitter W</th>
<th>Separation distance according to frequency of transmitter m</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 kHz to 80 MHz</td>
<td>80 MHz to 800 MHz</td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>0.1</td>
<td>0.38</td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

For transmitters rated at a maximum output power not listed above, the recommended separation distance c 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.
### Warranty Card

<table>
<thead>
<tr>
<th>Faults</th>
<th>Reasons</th>
<th>What is repaired</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>The First Repair</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td>Repaired By:</td>
<td></td>
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