

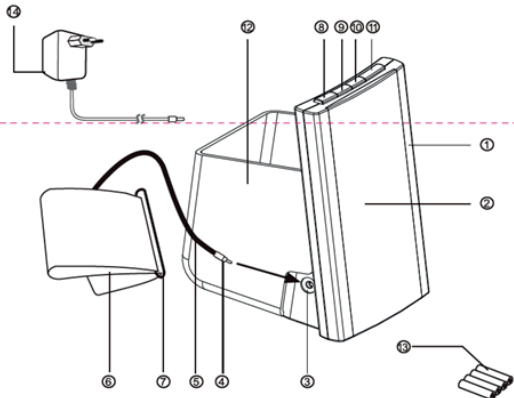


PROFESSIONAL MEDICAL PRODUCTS

DIGITAL BLOOD PRESSURE MONITOR

INSTRUCTION MANUAL

Parts and Components



- 1. Main Body
- 2. Display
- 3. Air Connector
- 4. Tube plug
- 5. Air Hose
- 6. Cuff
- 7. D-ring
- 8. Button 'PRESET'
- 9. Button 'MEM1'
- 10. Button e'MEM2'
- 11. Button 'START'
- 12. Storage Case
- 13. 4x AA Batteries (Optional)
- 14. AC Adapter (Optional)

SYMBOLS

Symbols	Meaning
	Manufacturer
	Authorized Representative in the European community
	WEEE disposal
	Medical Device complies with Directive 93/42/EEC
	Keep in a cool, dry place
	Follow instructions for use
	Type BF applied Part
	Stand by
	Lot number
	Product code
	Date of manufacture
	Importer
	Medical device

GENERAL

This instruction manual is intended to assist the user for safe and efficient operation of the automatic digital blood pressure monitor (hereinafter: device) model LD-582. The device must be used in accordance with the procedures described in the manual. It is important to read and understand the entire manual, especially the section <IMPORTANT SAFETY INSTRUCTIONS>. This device is intended for the non-invasive measurement of systolic and diastolic arterial blood pressure and pulse rate in adults (age 15 and above).

CAUTION:

- 1. Do not use this device on infants or persons who cannot express their intentions
- 2. The device is not suitable for measuring the blood pressure of children. Ask your doctor before using it on elder children.
- 3. The patient is an intended operator. But persons who suffer from arrhythmia, diabetes, cardiovascular problems or who have had a stroke should consult your doctor before using the device.

PRINCIPLE OF OPERATION

This device adopts the oscillometric technology with Fuzzy Algorithm to measure the arterial blood pressure and pulse rate. The cuff is wrapped around the arm and automatically inflated by the air pump. The sensor of the device catches weak fluctuation of the pressure in the cuff produced by extension and contraction of the artery of the arm in response to each heartbeat. The amplitude of the pressure waves is measured, converted in millimeters of the mercury column, and is displayed by digital value.

ATTENTION: This device can not provide reasonable accuracy if used or stored the temperature, humidity or altitude beyond the range stated in the section <SPECIFICATIONS> of this manual.

NEW TECHNOLOGIES USED

Fuzzy Algorithm is the processing algorithm, taking into account the specialty of individual heartbeats, which provides higher accuracy of measurement.

Software version: V1.1

IMPORTANT SAFETY INSTRUCTIONS

It is necessary to know that arterial blood pressure is subjected to sharp fluctuations. The level of the arterial blood pressure depends on many factors. Generally arterial blood pressure is lower in summer and higher in winter. Arterial blood pressure changes with atmospheric pressure and is affected considerably by many factors, e.g. physical loads, emotional excitability, stress, meals, etc. Medicines, drinking, smoking affect greatly the level of an individual's blood pressure. Blood pressure does vary with age and individuals, and it is recommended to write down the readings from blood pressure records daily, then you can check with your doctor to find out what is a "normal blood pressure measurement" for you. Please read the instruction manual carefully before using this device, especially <Important safety instructions>, it can help you use the device correctly and safely! Please keep the instruction manual for future use. For specific information about your own blood pressure, consult your physician.

WARNINGS

- Consult your physician if you suffer from illnesses prior to using the device.
- The device is not suitable for persons who have electrical implants. If you had a mastectomy (breast amputation) do not use this blood pressure monitor on the arm on the side of the mastectomy.
- Pregnant women should only measure their own blood pressure in consultation with their doctor, since the readings may be changed with pregnancy.
- Do not service or maintain the cuff while in use with patient.
- Do not use this blood pressure monitor on any arm where intravascular access or therapy (such as an intravenous drip or a blood transfusion), or an arteriovenous shunt (A-V shunt) is present. The temporary interference to blood flow by the blood pressure measurement could result in injury.
- Do not use the device with other medical electrical (ME) equipment simultaneously.
- Do not use the device in the area where HF surgical equipment, MRI, or CT scanner exists, or in the oxygen rich environment.
- Do not use a mobile phone or other devices that emit electromagnetic fields, near the device. This may result in incorrect operation of the device.
- Never use any accessories or parts from other manufacturers. Using such accessories or parts could cause a hazardous situation for the user or damage to the device.
- Do not modify this equipment without authorization of the manufacturer.

- The batteries used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat or incinerate.
- Keep equipment away from fire and heat sources to prevent fire or explosion.
- Please keep the unit out of reach of infants, children or pets, since inhalation or swallowing of small parts can be dangerous or even fatal.
- Please pay attention that the continuous CUFF pressure due to connection tubing kinking will cause a harmful injury.
- Do not use an extension cord with this device.
- The air tube or the AC adapter cable may cause accidental strangulation in infants.
- Do not put the air tube around your neck- danger of suffocation! A device should never be left unattended when plugged in.
- Do not reach for a corded device that has fallen into water. Unplug immediately.
- It is quite normal that two measurements taken in quick succession may produce significantly different results, because too frequent and consecutive measurements could cause disturbances in blood circulation and injuries

Cautions

- Use this device under the right environmental conditions as indicated in this user manual. If not, this could affect the performance, lifetime of the device and measurement results.
- Only use this device for its intended purpose as described in this user manual.
- Do not confuse self-monitoring with self-diagnosis. This device allows you to monitor your blood pressure. Do not begin or end medical treatment based on the measurement results. Always consult your physician for treatment advice.
- Do not take any therapeutic measures on the basis of a self-measurement. Never change prescribed medication without consulting your physician. Consult our physician if you have any questions about your blood pressure.
- If you are taking medication, consult your physician to determine the most appropriate time to measure your blood pressure.
- Consult the physician if measurement errors occur in children or persons with arrhythmia.
- The pulse display is not suitable for monitoring the frequency of cardiac pacemakers.
- Common arrhythmias (such as atria or ventricular premature beats or atrial fibrillation) and peripheral artery disease /arteriosclerosis can affect the accuracy of this blood pressure monitor. Please consult your physician how to best use this blood pressure monitor if you suffer from any of these conditions. Blood pressure measurement is not suitable in cases of serious arteriosclerosis (hardening of the arteries).
- The effectiveness of this blood pressure monitor has not been established in pregnant women.
- Always check the device and cuff before you use it. Do not use the device or cuff if one of them is damaged, because this may cause injury.
- This device is not intended for use on extremities other than the arm or for functions other than obtaining a blood pressure measurement
- Do not attach the cuff on the same arm on which other monitoring medical electrical equipment is attached simultaneously, because this could cause temporary loss of function of those simultaneously-used monitoring medical electrical equipment.
- Never attach the cuff on injured skin, an injured arm or an arm under medical treatment as this can cause further injury.
- Do not forcibly crease the arm cuff or the air tube excessively.
- Do not press the air tube while taking a measurement.
- Do not use the device in case of existing polyester or nylon material allergies.
- This device is not suitable for continuous monitoring during medical emergencies or operations.
- This device cannot be used with HF (High Frequency) surgical equipment at the same time.
- This device is not washable. Never immerse the device in water and do not rinse it under the tap.
- This device should keep dry to prevent from moisture.
- The equipment is not AP/APG equipment and is not suitable for use in the presence of a flammable anesthetic mixture with air, with oxygen or nitrous.
- To avoid measurement errors, do not use the device near strong electromagnetic fields, radiated interference signal or electrical fast transient/burst signal. For example magnets, radio transmitters, microwave ovens.
- If this device was stored in low temperature, leave it in room temperature for at least 1 hour.
- Repeated measurements with an interval of 3 minutes are recommended, so you can calculate the average to get a more accurate measurement. An interval of 3 minutes can also ensure that the operation of the device does not result in prolonged impairment of the circulation of the blood.
- Atherosclerosis patients may require longer interval (10-15 minutes) as elasticity of patient's vessels decreases significantly with the disease. 10-15 minutes interval is also applicable for patients suffering from diabetes for a long period of time.
- Dispose of the device, components and optional accessories according to applicable local regulations. Unlawful disposal may cause environmental pollution.
- Connecting electrical equipment to also effectively leads to creating a ME system, and can result in a reduced level of safety

CLASSIFICATION

- ME EQUIPMENT not intended for use in an oxygen rich environment or in the presence of flammable mixers.
- Internally powered equipment (without adaptor), Class II equipment (with adapter).
- Type BF applied part, recognize the cuff as applied part

BATTERY INSTALLATION

1. Open the battery cover and then open the button battery cover, then install one 'CR2025' button battery into the button battery compartment;
 2. Close the button battery compartment cover;
 3. Install four 'AA' type batteries into the battery compartment as indicated. Make sure that the polarity is correct;
 4. Close the battery compartment cover.
- Inbuilt button battery for keeping the date/time uninterruptedly during changing the batteries (4x AA batteries). If the new batteries are installed into the device, the date and time displays '01/01' and '00:00' icon in the LCD, it indicates that you need change the new button battery.
 - Replace the batteries when the replacement indication appears in the display or nothing after START button is pressed:
 - Batteries in this kit are intended to check work capacity of the device and the life-span of the batteries can be shorter than the recommended
 - Replace all batteries simultaneously, and don't use rechargeable batteries;
 - Only same type batteries are allowed to be used together;
 - If the device is to be unused for long time, please take out the batteries. Don't leave the worn batteries in the device;
 - When the low battery indication appears in the display or nothing after START button is pressed;
 - Batteries in this kit are intended to check work capacity of the device and the life-span of the batteries can be shorter than the recommended;
 - Replace all batteries simultaneously, and don't use rechargeable batteries;
 - Only same type batteries are allowed to be used together;
 - If the device is to be unused for long time, please take out the batteries. Don't leave the worn batteries in the device;
 - When the low battery indication flashes on the LCD during measurement, it reminds that the user will change all the batteries but can be used currently;;
 - When the low battery indication on the LCD and at the same time the buzzer beeps for 4 times continuously, it indicates that the user needs to change all batteries at once

USE AC POWER ADAPTER

Besides batteries you can use AC power adapter as the power supply. The AC power adapter is optional for this device for sale. The AC adapter is specified as a part of the blood pressure monitor.

- Insert the AC adapter cord into the jack on the right side of the monitor.
- Insert the AC adapter plug into the outlet.
- To remove the AC adapter, disconnect the adapter plug from the AC outlet first and then disconnect the cord from the monitor's jack.

Caution

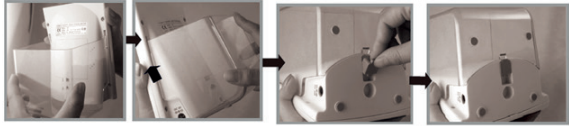
- When using optional AC adapter, the AC adapter must comply with the requirements of standard IEC60601-1.
- To avoid possible damage of the monitor, use only the exclusive AC adapter that can be purchased from authorized dealers. Other adapter may damage the blood pressure monitor.
- The AC adapter is used as an isolating means, the AC adapter plug shall insert into the outlet nearby the operator, make it easy to disconnection the device from the outlet.
- If long time work, remove the plug after the adapter cools, and prevent burns.
- Plug the AC adapter into the appropriate voltage outlet. Do not use in a multi-outlet plug.
- Not to position the blood pressure monitor to make it difficult to operate the disconnection device (adaptor).

Note: The monitor is designed not to draw power from the batteries when the AC adapter is in use.



Optional AC adapter technical feature:
Model: YS5M-0600600
Input: 100-240V 50/60Hz
Output voltage: 6V±5%
Output current: 600 mA
Output plug polarity: <-> inner

ASSEMBLY THE STORAGE CASE



1. Three hooks of storage case aim at the concave of device respectively;
2. Push the storage case upwards;
3. To fill tightly with the plug.

SETTING DATE AND TIME

The function provides accurate measuring time for each measurement. To get accurate date and time, the user should preset the date and time correctly before the first use of this device. The operation procedure for presetting Date/Time is as follows:

1. When the device is connected to power supply at first time, the display will show as Fig.1:



Fig. 1



Fig. 2



Fig. 3

2. Press button 'PRESET', and the year number flashes;
3. Press button 'MEM1' or 'MEM2' to subtract or add the number, and press button 'START' for confirmation;
4. When the year setup is finished, the month number will flash automatically as Fig.3. Please follow the same instruction as above to set month, date and time;
5. Press button 'START' to finish setup. If you want to change the date and time, please repeat procedure 2, 3, 4.

FUNCTION OF REMINDERS

SETTING REMINDERS

This monitor has 3 reminder alarms. You can set 3 different reminder alarms within a 24 hours period.

1. When the device stands by, press button 'PRESET' two times to enter into alarm 01 mode, the display will show as Fig.4;

1. Press button 'MEM1' or 'MEM2' to subtract or add the number, and press button 'START' for confirmation.
2. Press button 'MEM1' or 'MEM2' again to subtract or add the number, and press button 'START' for confirmation.
3. When the hour number setup is finished, the minute number will flash automatically. Please follow the same instruction as above to set minute number;
4. Press button 'START' for confirmation.

6. When the device stands by, press button 'PRESET' three and four times respectively to enter into alarm 02 and 03 mode. Repeat the above.

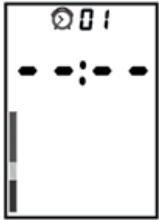


Fig. 4

Annotation: When the alarm is on under device stands by, the icon flashes on LCD and goes with beep for 1 minute. Press the button 'START' to turn off the alarm.

When the alarm is on during measurement, the icon flashes on LCD for 1 minute without beep. Under this situation, if you press the button 'START', it will stop both the icon flashing and measurement.



Fig. 5



Fig. 6



Fig. 7

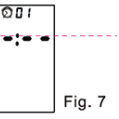


Fig. 7

REMINDERS CLEARANCE

1. When the device stands by, press button 'PRESET' two times to enter into alarm 01 mode, then press button 'MEM1' for at least 5 seconds, the display will show as Fig.7 which means the alarm 01 is removed.
2. When the device stands by, press button 'PRESET' three and four times respectively to enter into alarm 02 and 03 mode. Repeat the above process to remove the alarm 02 and alarm 03.

AMBIENT TEMPERATURE DISPLAY AND ADJUSTMENT

This monitor can display the ambient temperature and the unit °C and °F can be adjustable. °C mode display in the LCD when the first time used.

1. When the device stands by, press button 'PRESET' five times to enter into the temperature adjustable mode, then press button 'MEM1' to turn into F mode and press button 'START' for confirmation.
2. Press button 'MEM2' to convert °F mode into °C mode.

Annotation: When under the mode of function reset, if without any operation in 1 minute, the device will automatically return standby mode.

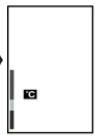


Fig. 8

Please keep quiet for 5-10 minutes and avoid eating, drinking, alcohol, smoking, exercising and bathing before taking a measurement. All these factors will influence the measurement result.

- Remove any garment that fits closely to your upper arm.
- Always measure on the same arm (normally left).
- Measurements should be taken regularly at the same time of each day, as the blood pressure varies even during the day.
- Any effort to support the arm during measurement may increase the measured blood pressure.
- Make sure, you are in a comfortable, relaxed position with leg-uncrossed, feet flat on the floor, back and arm supported, middle of the cuff at the level of the right atrium of the heart and do not move or constrict your muscles and talk during measurement. Use a cushion to support your arm if necessary. Keep position in normal use.
- If the arm artery lies lower or higher than the heart, a false reading will be obtained.
- A loose or open cuff causes false readings.
- With repeated measurements, blood accumulates in the arm which can lead to false reading.
- Consecutive blood pressure measurements should be repeated after 1 minute pause or after the arm has been held up in order to allow the accumulated blood to flow away

