

ENG INSTRUCTION MANUAL FOR DIGITAL BLOOD PRESSURE MONITOR LD30

POL INSTRUKCJA OBSŁUGI CIŚNIENIOMIERZA CYFROWEGO LD30

HUN HASZNÁLATI ÚTMUTATÓ. LD30 KÉSZÜLÉK A VÉNYOMÁS ÉS PULZUSSZÁM DIGITALIS MÉRÉSE

ROU MANUAL DE UTILIZARE A TENSIOMETRULUI DIGITAL LD30

BGР ПРОВОДСТВО СА ЕКСПЛОАТАЦИЯ НА ЦИФРОВ ТОНОМЕТРЪЛ LD30

PARTS AND COMPONENTS (fig.1)

DENUMIREA PARȚILOR SI COMPONENTELOR PODSTAVOWE CZĘŚCI I KOMPONENTY НАЗВАНИЯ НА ЧАСТИ И КОМПОНЕНТИ АЛКАТРÉЗЕК МEGNEVEZÉSE

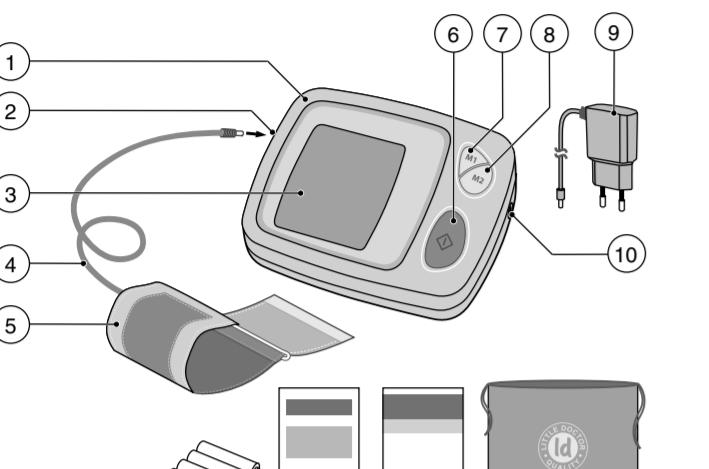


fig.2 rys. 2 2. ábra imaginea 2 pic. 2 BATTERY INSTALLATION WYMIAŃNA BATERII AZ ELEMEL BEHELYEZÉSE

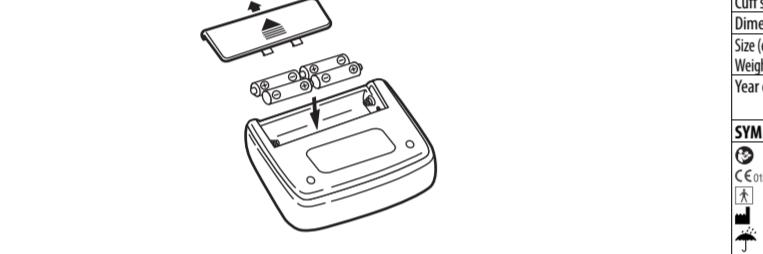


fig.3 rys. 3 3. ábra imaginea 3 pic. 3 CORRECT POSITION DURING MEASUREMENT PRZYJĘCIE POZYCJI UMOŻLIWIWAJĄcej POMIAR A HELYES TESTHÉLYZET A MÉRÉSNél POZITIJA CORECTĂ ÎN TIMPUL PROCESULUI DE MĂSURARE ПРАВИЛНА ПОЗА ПРИ ИЗМЕРВАНЕ



fig.4 rys. 4 4. ábra imaginea 4 pic. 4 CUFF PREPARATION ZAKLADANIE MANKIETU A MANDZSETTA ELŐKÉSZÍTÉSE

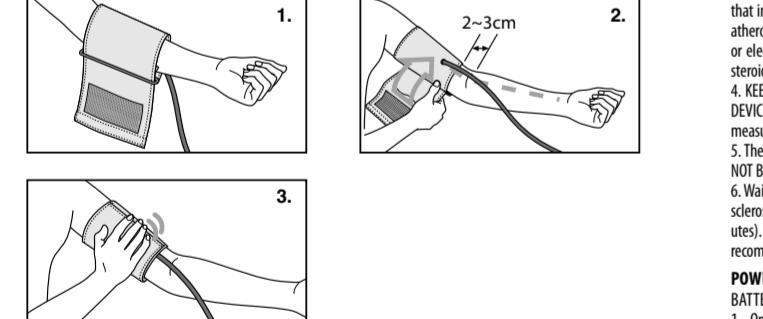
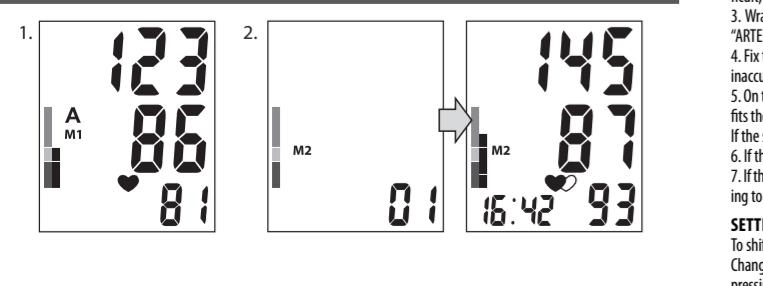


fig.5 rys. 5 5. ábra imaginea 5 pic. 5 MEASUREMENT PROCEDURE PROCEDURA POMIARU A MÉRÉS MÓDSZERE



fig.6 rys. 6 6. ábra imaginea 6 pic. 6 MEMORY FUNCTION FUNKCJA PAMIĘCI FUNKCIJA НА ЗАПАМЕТЯВАНЕ А МЕРÉS MÓDSZERE



## ENG

PARTS AND COMPONENTS (fig.1)

- ① ELECTRONIC UNIT.
- ② ARM CUFF JACK.
- ③ LCD.
- ④ AIR TUBE WITH AIR PLUG.
- ⑤ ARM CUFF LDA.
- ⑥ POWER SOURCE JACK.
- ⑦ POWER CABLE.
- ⑧ POWER CABLE WITH POWER SOURCE.
- ⑨ BAG.
- ⑩ POWER ADAPTER.
- ⑪ BATTERY COMPARTMENT.
- ⑫ BATTERY.
- ⑬ POWER CORD.
- ⑭ POWER ADAPTER.

## GENERAL INFORMATION

This manual is intended to assist the user with safe and effective operation of the automatic digital Device for measurement of blood pressure and heart rate (D, modification LD30 hereinafter – the "Device"). Use this Device according to the rules described in this Manual. Operate the Device only as intended. Do not use the Device for other purposes. Read and understand the whole Instruction Manual, in particular "Recommendations on Correct Measurement".

## NOTES FOR USE

Use this Device to measure your systolic and diastolic blood pressure and heartbeat rate in patients aged from 15. This Device is recommended for use by persons with unstable blood pressure or other medical hypertension at home as an addition to medical surveillance. The cuff is designed for the upper arm with the circumference approximately from 25 to 36 cm.

## OPERATION PRINCIPLE

This Device uses the oscillometric method of blood pressure and pulse measurement. Wrap the cuff around your upper arm, then press the power button. The device will detect the amplitude of the pressure waves in the cuff generated by the pulsing and contraction of the brachial artery in response to your heartbeat. Pumping is ceased when cuff is adequately pumped in to determine diastolic and systolic pressure. The amplitude of the pressure waves is measured, converted into millimeters Hg and shown on the display as pressure after which air is released from cuff. The Device has 2 memories, by 60 seconds, for storage of measurement results. Remember that the Device will not maintain the measurement accuracy of a measurement if it is used or stored at a temperature or humidity other than those specified in Technical Specifications of this Manual. We are warning about possibility of mistakes in blood pressure measurement with this Device in persons with pronounced cardiac arrhythmia. Consult the doctor concerning blood pressure measurement of your child.

## TECHNICAL SPECIFICATIONS

Measurement method	oscillometric with Fuzzy Algorithm
Display	LCD
Pressure indication range in an arm cuff, mmHg	from 0 to 300
Measurement range in an arm cuff, mmHg	from 40 to 260 from 40 to 160
Range of admissible absolute error at measurement of air pressure in an arm cuff, mmHg	±3
Range of admissible relative error at pulse rate measurement, %	±5
Inflation	automatic (air pump)
Deflation	automatic
Memory	260 recent measurements + average value of the last three measurements
Type of power supply:	4 AA size batteries (LR6) or adapter not less than 600 mA

## INFORMATION ABOUT ERRORS

INDICATION	LIKELY CAUSE	METHODS OF CORRECTION
	The arm cuff is applied incorrectly or the tube plus is not inserted tightly enough.	Be sure that the arm cuff is applied correctly and the plug is inserted tightly. Repeat the whole measurement procedure.
	Measurement cannot be made due to hand movement or during talking.	Repeat the measurement following strictly the recommendations of this Manual.
	Batteries are discharged.	Replace the batteries for new ones.

## CARE, STORAGE, REPAIR AND DISPOSAL

1. Keep this Device from exposure to high humidity, direct sunlight, shocks, vibration. THIS DEVICE IS NOT WATERTIGHT! 2. Do not use and keep this Device near heating installations and open fire.

3. If the Device was stored at a temperature below the freezing point, keep it at least for 1 hour in some warm place before use.

4. Remove the batteries if the Device will be unused for a long time. Battery leaking may damage the Device. KEEP BATTERIES DRY!

5. Keep the Device clean and protect it from dust. Use the dry soft cloth to clean the Device.

6. Protect the Device and its components away from water, solvents, spirit and paint.

7. Do not subject the Device to strong shocks, such as dropping on the floor.

8. This Device does not contain special controls to adjust the measurement accuracy. It is prohibited to open individually electronic block. Repair the Device only in authorized organizations.

9. On expiration of the warranted service life apply from time to time to authorized repair organizations to check the technical condition of the Device.

10. Dispose of the Device and its components according to the application local regulations. No special requirements to disposal of this Device are defined by the manufacturer.

11. The arm cuff may withstand multiple sanitary treatments. The internal tissue surface of the arm cuff (contacting on arm) may be cleaned with cotton balls soaked in 3% solution of hydrogen peroxide. At long use the partial color fading of the tissue coating on the arm cuff is possible. Washing and ironing the arm cuff are not allowed.

## TROUBLESHOOTING TIPS

1. For correct measurement you should know that THE BLOOD PRESSURE IS SUBJECT TO SHARP VARIATIONS EVEN WITHIN THE SHORT TIME INTERVALS. The blood pressure depends on many factors. It is usually lower in summer and higher in winter. In the short time intervals the blood pressure varies, depending on atmospheric pressure, depending on physical loads, emotional stress and stress of the moment, the effect of alcohol, tobacco, coffee, tea, etc. The blood pressure in the upper arm is measured by the device in a polyclinic sends the blood pressure high in many people, thus, the blood pressure measured at home often differs from the values received in the hospital. As the blood pressure tends to be at low temperatures, make measurements at an indoor temperature (approximately 20°C). If this Device stayed at a lower temperature, keep it at least an hour at an indoor temperature before use, otherwise the measurement result may be incorrect. During a day the difference in readings for healthy people may be 30-50 mmHg of systolic pressure and 10 mmHg of diastolic pressure. The dependence of the blood pressure on various factors is individual for each person. Accordingly, it is recommended to keep a special book with blood pressure records.

2. At the beginning of the measurement you should remember that THE DIASTOLIC PRESSURE IS NOT MEASURED BY THIS DEVICE.

3. Measurements of the pulse rate are too high/low.

4. Measurements of the pulse rate are too high/low.

5. Inability to make a large number of measurements.

6. Independent changing of system of automatic change-over to mode of date and time indication.

7. Application of poor batteries.

8. System of automatic change-over to mode of date and time indication operates.

9. If regardless of the above recommendation you are unable to get correct measurement results, stop the use of this Device and contact an attending doctor.

10. KEEP QUIET DURING A MEASUREMENT TO OBTAIN THE ACCURATE VALUES OF YOUR BLOOD PRESSURE WITH THE ELECTRONIC DEVICE. Please keep your blood pressure in the calm and comfortable conditions at the indoor temperature. Not eating an hour before measurement; no smoking, taking tonics, alcohol 1.5 hours before measurement.

11. The accuracy of blood pressure measurement depends on whether the cuff matches the size of your arm. The CUFF SHOULD NOT BE TOO SMALL OR TOO LARGE.

12. Wait a few minutes for the blood to restore its circulation. However, the persons with prominent atherosclerosis due to diabetes may need to increase the wait time between measurements (10-15 minutes). This also refers to the patients suffering from long for diabetes. For more accurate determination of blood pressure it is recommended to make a series of 3 consecutive measurements and to use the average value.

## POWER SUPPLY OF THE DEVICE

BATTERIA INSTALAREA (fig.2)

1. Open the cover of the battery compartment and install 4 AA size batteries according to polarity marked inside the compartment.

2. Close the battery cover.

The batteries supplied with the Device are intended for check of the Device performance at sale and their service life may be shorter than the recommended batteries.

\* Replace all batteries when the Low Battery Indicator appears on the screen or when there is no indication on the screen. The Low Battery Indicator does not show the discharge level.

\* Replace all four batteries at the same time. Do not use two different batteries.

\* Do not leave the waste batteries in the Device.

\*\* USE OF THE DEVICE WITH THE POWER SOURCE

The power source is connected to the power source of the device.

The connection of the power source is on the right side of the Device. To use the device with electric power source (EPS), connect plug connector of EPS to the Device and insert plug of EPS into mains socket, press Measurement, open switch, turn off the Device having depressed button remove plug of EPS from mains socket and disconnect plug connector from the Device. To avoid resetting of date and time, do not remove the batteries when using the device with power source.

\* The power source of the device is not intended for use with non-rechargeable power supplies or used with unrecommended consumables products that have been connected to the unconnected power supplies or used with unconnected consumables products that are defective through no fault of the manufacturer.

\* The pulse rate indicator is not intended for pacemakers' operation monitoring.

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