

# AND D Digital Blood Pressure Monitor Model UA-651SLPlus Instruction Manual

Original 1WMPD403711D

## 1. Dear Customers

The A&D blood pressure monitor is one of the most advanced monitors available and is designed for ease of use and accuracy. This device will facilitate your daily blood pressure regimen.

□ We recommend that you read through this manual carefully before using the device for the first time.

## 2. Preliminary Remarks

□ This device conforms to the European Directive 93/42 EEC for Medical Products. This is made evident by the **CE** mark of conformity. (0123: The reference number to the involved notified body)

□ The device is designed for use on adults, not newborns or infants.

□ Environment for use. The device is for use to operate by yourself in the home healthcare environment.

□ This device is designed to measure blood pressure and pulse rate of people for diagnosis.

## 3. Precautions

□ Precision components are used in the construction of this device. Extremes in temperature, humidity, direct sunlight, shock or dust should be avoided.

□ Clean the device and cuff with a dry, soft cloth or a cloth dampened with water and a neutral detergent. Never use alcohol, benzene, thinner or other harsh chemicals to clean the device or cuff.

□ Avoid tightly folding the cuff or storing the hose tightly twisted for long periods, as such treatment may shorten the life of the components.

□ Take care to avoid accidental strangulation of babies or infants with the hose and cable.

□ Do not twist the air hose during measurement. This may cause injury due to continuous cuff pressure.

□ The device and cuff are not water resistant. Prevent rain, sweat and water from soiling the device and cuff.

□ Measurements may be distorted if the device is used close to televisions, microwave ovens, cellular telephones, X-ray or other devices with strong electrical fields.

□ Wireless communication devices, such as home networking devices, mobile phones, cordless phones and their base stations, walkie-talkies can affect this blood pressure monitor.

Therefore, a minimum distance of 30 cm should be kept from such devices.

□ When reusing the device, confirm that the device is clean.

□ Used equipment, parts and batteries are not treated as ordinary household waste, and must be disposed of according to the applicable local regulations.

□ Do not modify the device. It may cause accidents or damage to the device.

□ To measure blood pressure, the arm must be squeezed by the cuff hard enough to temporarily stop blood flow through the artery. This may cause pain, numbness or a temporary red mark to the arm. This condition will appear especially when measurement is repeated successively. Any pain, numbness, or red marks will disappear with time.

□ Measuring blood pressure too frequently may cause harm due to blood flow interference. Check that the operation of the device does not result in prolonged impairment of blood circulation, when using the device repeatedly.

□ Clinical testing has not been conducted on newborn infants and pregnant woman. Do not use on newborn infants or pregnant woman.

□ If you have had a mastectomy, please consult a doctor before using the device.

□ Do not let children use the device by themselves and do not use the device in a place within the reach of infants. It may cause accidents or damage.

□ There are small parts that may cause a choking hazard if swallowed by mistake by infants.

□ Do not touch the batteries, the DC jack, and the patient at the same time. That may result in electrical shock.

□ Unplug the AC adapter when not in use during the measurement.

□ Use of accessories not detailed in this manual may compromise safety.

□ Should the battery short-circuit, it may become hot and potentially cause burns.

□ Allow the device to adapt to the surrounding environment before use (about one hour).

□ Do not inflate without wrapping the cuff around the upper arm.

## Contraindications

The following are precautions for proper use of the device.

□ Do not apply the cuff on an arm with another medical electrical equipment attached. The equipment may not function properly.

□ People who have a severe circulatory deficit in the arm must consult a doctor before using the device, to avoid medical problems.

□ Do not self-diagnose the measurement results and start treatment by yourself. Always consult your doctor for evaluation of the results and treatment.

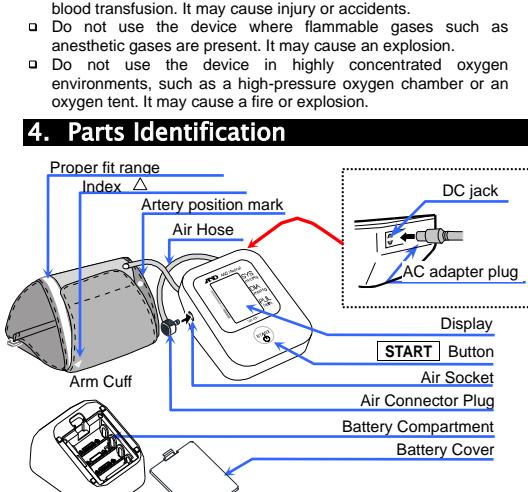
□ Do not apply the cuff on an arm with an unhealed wound.

□ Do not apply the cuff on an arm receiving an intravenous drip or blood transfusion. It may cause injury or accidents.

□ Do not use the device where flammable gases such as anesthetic gases are present. It may cause an explosion.

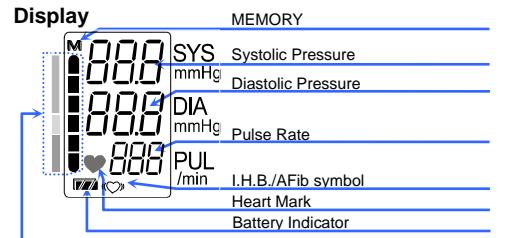
□ Do not use the device in highly concentrated oxygen environments, such as a high-pressure oxygen chamber or an oxygen tent. It may cause a fire or explosion.

## 4. Parts Identification



Note: The AC adapter is an optional accessory (sold separately)

## Display



## 5. Symbols

### Symbols that appear on the display

Symbols	Function / Meaning	Recommended Action
Heart	Appears while measurement is in progress. It blinks when the pulse is detected.	Measurement is in progress. Remain as still as possible.
Heart with a line	I.H.B./Afib symbol appears when an irregular heartbeat is detected. It may light when a very slight vibration like shivering or shaking is detected.	
M	Previous measurements stored in memory.	
FULL BATTERY	The battery power indicator during measurement.	
LOW BATTERY	The battery power is low when it blinks.	Replace all batteries with new ones when the mark blinks.
Err	Device internal error	Remove the batteries and press the START button, then install the batteries again. If the error still appears, contact the dealer.
Err 9		

Err	Unstable blood pressure due to movement during measurement.	Take another measurement. Remain still during measurement.
	The systolic and diastolic values are within 10 mmHg of each other.	
	The pressure value did not increase during the inflation.	Apply the cuff correctly, and take another measurement.
Err LUF	The cuff is not applied correctly.	
E	PUL DISPLAY ERROR	The pulse is not detected correctly.

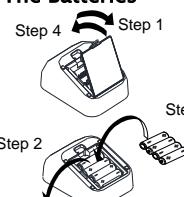
### Symbols printed on the device case.

Symbols	Function / Meaning
Standby	Standby and Turn the device on.
SYS	Systolic blood pressure in mmHg
DIA	Diastolic blood pressure in mmHg
PUL/min	Pulse per minute
(-)(+)	Battery installation guide
EC REP	EC directive medical device label
Manufacturer	Manufacturer
2019	Date of manufacture
WEEE label	WEEE label
SN	Serial number
Refer to instruction manual/booklet	Refer to instruction manual/booklet
○-C-	Polarity of DC jack
IP	International protection symbol
Keep dry	Keep dry

## 6. Using the Monitor

### 6.1. Installing / Changing The Batteries

1. Remove the battery cover.
2. Remove the used batteries from the battery compartment in case of changing them.
3. Insert new batteries into the battery compartment as shown, taking care that the polarities (+) and (-) are correct.
4. Replace the battery cover. Use only R6P, LR6 or AA batteries.



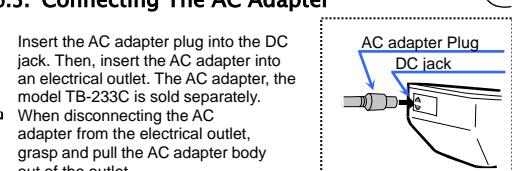
### CAUTION

- Insert the batteries as shown in the battery compartment. If installed incorrectly, the device will not work.
- When **—** blinks on the display and the device announces that the battery needs to be replaced, replace all batteries with new ones. Do not mix old and new batteries. It may shorten the battery life, or cause the device to malfunction. Replace the batteries two seconds or more after the device turns off.
- **—** does not appear when the batteries are drained.
- The battery life varies with the ambient temperature and may be shorter at low temperatures.
- Generally, four new R6P batteries will last approximately for three months when used twice for measurement each day.
- Use the specified batteries only. The batteries provided with the device are for testing the device performance and may have a limited life.
- Remove the batteries if the device is not to be used for a long time. The batteries may leak and cause a malfunction.

### 6.2. Connecting The Air Hose



### 6.3. Connecting The AC Adapter



- Insert the AC adapter plug into the DC jack. Then, insert the AC adapter into an electrical outlet. The AC adapter, the model TB-233C is sold separately.
- When disconnecting the AC adapter from the electrical outlet, grasp and pull the AC adapter body out of the outlet.
- When disconnecting the AC adapter plug from the blood pressure monitor, grasp and pull the AC adapter plug out of the monitor.

### 6.4. Selecting The Correct Cuff

Using the correct cuff size is important for an accurate reading. If the cuff is not the proper size, the reading may yield an incorrect blood pressure value.

- The arm size is printed on each cuff.
- The **Index** and proper fit range, on the cuff, tell you if you are applying the correct cuff. Refer to "6.5 Applying The Arm Cuff".
- If the **Index** **—** points outside of the range, contact your local dealer to purchase a replacement cuff.
- The arm cuff is a consumable. If it becomes worn, purchase a new one.

Arm Size	Recommended Cuff Size	Catalog Number
31 cm to 45 cm	Large adult cuff	CUF-D-LA-ISO
22 cm to 42 cm	Wide range cuff	CUF-I-ISO
23 cm to 37 cm	Semi large cuff	CUF-D-MA-ISO
22 cm to 32 cm	Adult cuff	CUF-D-A-ISO
16 cm to 24 cm	Small adult cuff	CUF-D-SA-ISO

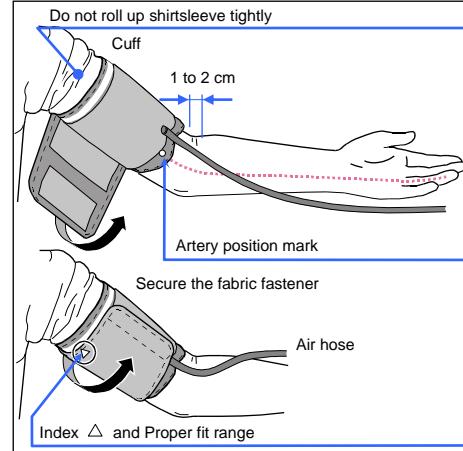
Arm size: The circumference at the biceps.

### Symbols printed on the cuff.

Symbols	Function / Meaning	Recommended Action
Artery Position Mark	Set the <b>—</b> mark on the artery of the upper arm or in line with the ring finger on the inside of the arm.	
Index		
REF	Catalog number	
L	Proper fit range for the large adult cuff. It's printed on the large adult cuff.	
W	Proper fit range for the wide range cuff. It's printed on the wide range cuff.	
M	Proper fit range for the semi large cuff. It's printed on the semi large cuff.	
A	Proper fit range for the adult cuff. It's printed on the adult cuff.	
S	Proper fit range for the small cuff. It's printed on the small cuff.	
L	Over range printed on the adult cuff/semi large cuff/wide range cuff.	Use the large adult cuff instead of the adult cuff / semi large cuff / wide range cuff.
S	Under range printed on the adult cuff/semi large cuff/wide range cuff.	Use the small cuff instead of the adult cuff / semi large cuff / wide range cuff.
M/A	Over range printed on the small cuff.	Use the adult cuff/ semi large cuff instead of the small cuff.
M	Under range printed on the large adult cuff.	Use the semi large cuff instead of the large adult cuff.
LOT	Lot number	

### 6.5. Applying The Arm Cuff

1. Wrap the cuff around the upper arm, about 1 to 2 cm above the inside of the elbow, as shown. Place the cuff directly against the skin, as clothing may cause a faint pulse and result in a measurement error.
2. Constriction of the upper arm, caused by rolling up a shirtsleeve, may prevent accurate readings.
3. Confirm that the **Index** **—** points within the proper fit range. Note: During measurement, it is normal for the cuff to feel very tight. (Do not be alarmed).



## 7. Measurements

### 7.1. Normal Measurement

1. Place the cuff on the arm at heart level (preferably the left arm). Sit quietly during measurement.
2. Press the **START** button. All of the display segments are displayed briefly. Zero is displayed blinking briefly. Then the display changes, as indicated in the figure at the right, as the measurement begins. The cuff starts to inflate. It is normal for the cuff to feel very tight. A pressure bar indicator is displayed, as in the figure at the right, during inflation.

Note: If you wish to stop inflation at any time, press the **START** button again.

3. When inflation is complete, deflation starts automatically and the **—** (heart mark) blinks, indicating that the measurement is in progress. Once the pulse is detected, the mark blinks with each pulse beat.
4. When the measurement is complete, the systolic and diastolic pressure readings and pulse rate are displayed. The cuff exhausts the remaining air and deflates completely.

5. Press the **START** button again to turn off the power.

Note: The device is provided with an automatic power shut-off function.

Allow at least 3 minutes between measurements on the same person.

### 7.2. Measurement with the Desired Systolic Pressure

If re-inflation occurs repeatedly, use the following methods. If your systolic pressure is