



PRECISION CHECK
Blood Pressure Monitor
Premium Upper Arm
UA-810BLE

Instruction Manual
ORIGINAL



Table of Contents

1. Introduction	E-3
Intended Use / Key Features	
FCC Compliance / Precautions	
About Blood Pressure / About Hypertension	
About Irregular Heartbeat / Tips for Taking Blood Pressure	
AHA Classification	
2. Getting to Know Your Monitor	E-11
Parts Identification / Display	
Symbols	
Cuff Inflation Meter	
3. Initial Setup	E-18
Installing / Changing Batteries	
Connecting / Disconnecting AC Adapter / Connecting Air Hose	
Adjusting Clock	
Airplane Mode Setting	
Pairing with a Mobile Device	
Tricheck mode	
Adjusting Resting Time	
Selecting the Correct Cuff Size	
4. Taking Your Blood Pressure	E-28
Applying / Removing the Cuff	
Taking your Blood Pressure	
Using Tricheck	
Measurement with Desired Systolic Pressure	
Reviewing Memory	
5. Cleaning and Maintenance	E-35
Cleaning / Maintenance	
Precision Check	
6. Troubleshooting	E-37
7. Optional Accessories	E-39
8. Warranty	E-40
9. Technical Data	E-42

Introduction

Thank you for choosing the A&D Medical blood pressure monitor! It's made to be easy to use and accurate. This monitor will make checking your blood pressure simple. Before you start using it for the first time, make sure to read this manual carefully. It will help you get the most out of all the features!



A&D has been committed to quality, precision and accuracy for almost 50 years.

Key Features

Clinical Grade Accuracy: This blood pressure monitor is tested for accuracy in a clinical setting, a gold standard that ensures consistently accurate blood pressure readings.

Measurement Accuracy: To ensure accuracy, movement error detects movement and cuff fit error detects improper fit

Precision Check: Advanced precision for next level accuracy checks. For additional peace of mind, monitor will check for cuff leaks.

Bluetooth: Connects to the highly rated A&D Heart Track app to log, track and share measurements.

Advanced Averaging: Automated protocol takes 3 sequential measurements and averages in accordance with clinical guidelines. Provides averages for AM and PM.

Introduction

Intended Use

- The monitor is designed for use on adults only. Do not use on newborns or infants.
- Environment for use: the monitor is intended for use in the home healthcare environment.
- This monitor is designed to measure blood pressure and pulse rate of people for diagnosis.

FCC Compliance Information

This monitor complies with Part 15 of FCC rules. Operation is subject to the following two conditions:

1. This monitor may not cause harmful interference, and
2. This monitor must accept any interference received, including interference that may cause undesired operations.

Precautions

- 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 could worsen when measurements are 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 monitor does not result in prolonged impairment of blood circulation.
- People who have a severe circulatory deficit in the arm must consult a doctor before using the monitor, to avoid medical problems.
- If you have had a mastectomy or lymph node clearance, please consult a doctor before using the device.
- Do not inflate without wrapping the cuff around the upper arm.
- Do not apply the cuff on an arm with an unhealed wound.

Introduction

- 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 monitor where flammable gases such as anesthetic gases are present. It may cause an explosion.
- Do not use the monitor in highly concentrated oxygen environments, such as a high-pressure oxygen chamber or an oxygen tent. It may cause a fire or explosion.
- Do not apply the cuff on an arm in which another medical device is attached. The equipment may not function properly.
- Do not twist the air hose during measurement. This may cause injury due to continuous cuff pressure.
- Do not let children use the monitor by themselves and do not use the monitor in a place within the reach of infants. It may cause accidents or damage.
- Small parts may cause a choking hazard if swallowed by infants.
- Avoid accidental strangulation of babies or infants with the hose and cable.
- The monitor should be at room temperature for ~1 hour before use.
- Do not touch the batteries, the DC jack and the user at the same time. That may result in electrical shock.
- Should the battery short-circuit, it may become hot and potentially cause burns.
- Make sure that the AC adapter can be easily removed from the electrical outlet.
- Unplug the AC adapter when not in use.
- Do not modify the monitor. It may cause accidents or damage to the monitor.
- Precision components are used in this monitor. Avoid extremes in temperature, humidity, direct sunlight, shock or dust.
- Ensure the monitor is clean before use.
- Never use alcohol, benzene, thinner or other harsh chemicals to clean the monitor or cuff.

Introduction

- Avoid tightly folding the cuff or storing the hose tightly twisted for long periods, as it may shorten the life of the components.
- Do not excessively bend or squeeze the air hose.
- The cuff is not water resistant. Prevent rain, sweat and water from getting on the cuff.
- Measurements may be distorted if the monitor 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 (12") should be kept from such devices.
- Used equipment, parts and batteries are not treated as ordinary household waste, and must be disposed of according to the applicable local regulations.
- This is a monitor for use by lay person. Please consult your healthcare provider with any questions or concerns you may have regarding your condition.
- Always consult your doctor for evaluation of the results and treatment.
- Use of accessories not detailed in this manual may compromise safety.
- Clinical testing has not been conducted on newborn infants and pregnant woman.
- Please report any serious incidents to A&D Medical.
- When applying the cuff, ensure the arm protector flap is flat against arm to prevent injury to the skin.

About 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).

Blood pressure is affected by many factors: age, weight, time of day, activity level, climate and altitude. Certain activities can alter one's blood pressure. Walking will likely raise blood pressure. Sleeping will likely decrease blood pressure. Not relaxing for several moments before measurements can influence readings as well. In addition to these factors, beverages containing caffeine or alcohol, certain medications, emotional stress and even tight-fitting clothes can make a difference in the readings.

About Hypertension

Hypertension (high blood pressure) is the diagnosis given when readings consistently rise above normal. Hypertension can lead to stroke, heart attack or other illness if left untreated. Referred to as a "silent killer" because it does not always produce symptoms that alert you to the problem, hypertension is treatable when diagnosed early.

In many individuals, hypertension can be controlled by altering lifestyle and minimizing stress, and by appropriate medication prescribed and monitored by your doctor. The American Heart Association recommends the following lifestyle suggestions to prevent or control hypertension:

- Do not smoke
- Exercise regularly
- Reduce salt and fat intake
- Have regular physical checkups
- Maintain proper weight

Blood pressure readings taken in a clinical setting might be elevated as a result of apprehension and anxiety. This is commonly called "white coat hypertension." Self-measurement at home supplements your doctor's readings and provides a more accurate, complete blood pressure history.

In addition, clinical studies have shown that the detection and treatment of hypertension is improved when patients both consult their physicians and monitor their own blood pressure at home.

Introduction

About Irregular Heartbeat

An irregular heartbeat is defined as a heartbeat that varies from the average of all heartbeat intervals during the blood pressure measurement.

This blood pressure monitor provides blood pressure and pulse rate measurement even when an irregular heartbeat occurs. The Irregular Heartbeat symbol «♥» will appear in the display window if an Irregular Heartbeat has occurred during measurement.

Note: We recommend contacting your physician if you see this symbol frequently.

%IHB

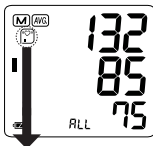
%IHB is displayed as frequency of IHB detected.

IHB can detect not only noises such as physical movement but also an irregular heartbeat. Therefore, we recommend contacting your physician if %IHB level is high.

$$\%IHB = \frac{\left[\begin{array}{c} \text{Number of detected IHBs} \\ \text{in memory} \end{array} \right]}{\left[\text{Total number} \right]} \times 100 [\%]$$

Display of %IHB: %IHB is displayed when displaying average values. %IHB is not displayed when the memory number is six or less.

Average value display



Level 0 %IHB=0	Level 1 %IHB=1-9	Level 2 %IHB=10-24	Level 3 %IHB=25-100
Not displayed	«♥» .	«♥» .	«♥» .

Tips for Taking Blood Pressure

Before Your Measurement:

- For 30 minutes prior to taking your blood pressure
 - » Do not exercise
 - » Do not drink coffee, caffeinated soda or alcohol
 - » Do not smoke
- Sit quietly for 5-10 minutes
- Ensure you are using the correct size cuff

During Your Measurement:

- Do not talk
- Sit with your back straight and supported
- Uncross your legs and place feet flat on floor
- Rest arm on a table so that the cuff is at heart level
- Measure two times a day, in the morning and evening

Notes for Accurate Measurement

- If you have a very weak or irregular heartbeat, the monitor may have difficulty determining your blood pressure.
- Should the monitor detect a condition that is abnormal, it will stop the measurement and display an error symbol.

Introduction

AHA Classification

Each segment of the bar indicator corresponds to the AHA blood pressure classification.

AHA Classification Indicator

- █ ← Hypertension Stage 2
- █ ← Hypertension Stage 1
- █ ← Elevated
- █ ← Normal

█: The indicator displays a segment, based on the current data, corresponding to the AHA classification.

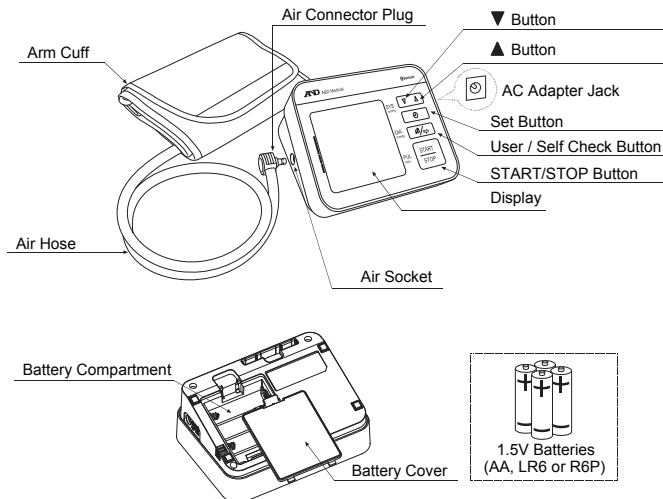
Blood Pressure Classification	Systolic (mmHg)		Diastolic (mmHg)
Normal	< 120	and	< 80
Elevated	120 – 129	and	< 80
Hypertension Stage 1 (High Blood Pressure)	130 – 139	or	80 – 89
Hypertension Stage 2 (High Blood Pressure)	≥ 140	or	≥ 90
HYPERTENSIVE CRISIS (consult your doctor immediately)	≥ 180	and / or	≥ 120

Example

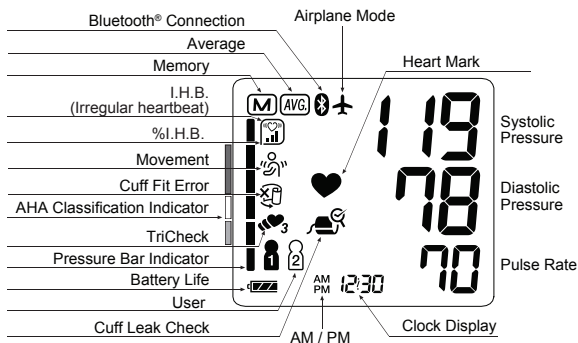
Hypertension Stage 2	Hypertension Stage 1	Elevated
		

Getting to Know Your Monitor

Parts Identification



Display



Getting to Know Your Monitor

Symbols

Symbols that appear on the display

Symbols	Function/Meaning	Recommended Action
	Appears while measurement is in progress. It blinks when the pulse is detected.	Measurement is in progress. Remain as still as possible.
	Irregular Heartbeat symbol (I.H.B.) appears when an irregular heartbeat is detected. It may light when a very slight vibration like shivering or shaking is detected.	_____
	TriCheck mode Takes three consecutive measurements automatically and displays the average values of the three measurements.	_____
	Appears when a body or arm movement is detected.	The reading may yield an incorrect value. Take another measurement. Remain still during measurement.
	Appears during measurement when the cuff is applied loosely.	The reading may yield an incorrect value. Apply the cuff correctly, and take another measurement.
	User	_____
	Previous measurements stored in memory	_____

Getting to Know Your Monitor

Symbols	Function/Meaning	Recommended Action
	Average data	_____
	The battery power indicator during measurement.	_____
	The battery is low when it blinks.	Replace all batteries with new ones when the mark blinks.
	Detected rate of IHB in memory $\% \text{IHB} = \frac{\text{Number of detected IHBs in memory}}{\text{Total number}} \times 100 [\%]$	_____
	Airplane mode	Measurements can be taken but monitor will not transmit data wirelessly.
	Cuff leak check	_____
	Cuff leak check failure	Run self check again. If you continue to get errors, please contact A&D Medical.
	Pairing in progress.	
	The device is connecting to the <i>Bluetooth</i> ® devices.	_____
AM	Data taken in the AM	_____
PM	Data taken in the PM	_____

Getting to Know Your Monitor

Symbols that are printed on the monitor

Symbols	Function/Meaning
	Standby and Turn the monitor on.
	Clock setting
	Clock adjustment and memory recall
	User selection and selfcheck
SYS	Systolic blood pressure in mmHg
DIA	Diastolic blood pressure in mmHg
PUL/min	Pulse per minute
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation
	Battery installation guide
	Direct current
	Global trade item number
	Lot number
	Serial number
	Bluetooth® address
	Refer to instruction manual/booklet
	Polarity of DC power connector
IP	International Protection Symbol

Getting to Know Your Monitor

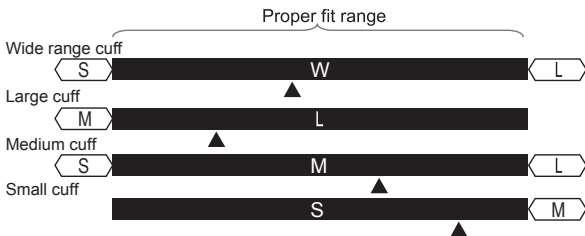
Symbols that are printed on the AC adapter

Symbols	Function/Meaning
	Alternating current
	Direct current
	Polarity of DC power connector
	Class II device
	For indoor use only
	UL/cUL certification device label
	Energy efficiency level VI certification device label
IP	International protection symbol

Getting to Know Your Monitor

Symbols that are printed on the cuff

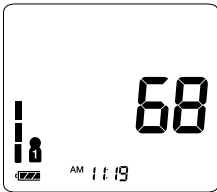
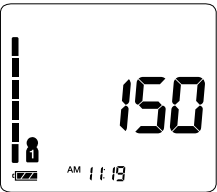
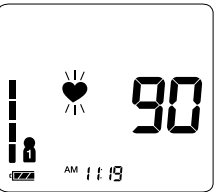
Symbols	Function/Meaning	Recommended Action
●	Artery position mark	Set the ● mark on the artery of the upper arm or in line with the ring finger on the inside of the arm.
▲	Index	_____
REF	Catalog number	_____
LOT	Lot number	_____
人	Type BF: applied part	_____
W	Proper fit range for the Wide Range cuff.	_____
L	Proper fit range for the Large cuff.	_____
M	Proper fit range for the Medium cuff.	_____
S	Proper fit range for the Small cuff.	_____
S	Range to use the Small cuff. Under range printed on the Medium cuff and Wide Range cuff.	Use the Small cuff
M	Range to use the Medium cuff. Under range printed on the Large cuff and over range printed on the Small cuff.	Use the Medium cuff
L	Range to use the Large cuff. Over range printed on the Medium cuff and Wide Range cuff.	Use the Large cuff



Getting to Know Your Monitor

Cuff Inflation Meter

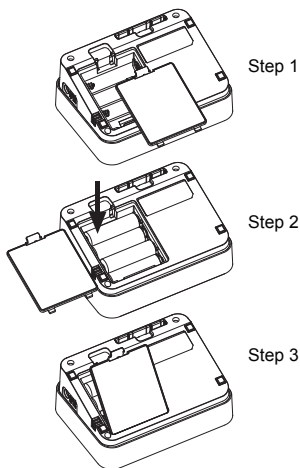
The Cuff Inflation Meter is located on the left side of the display screen to tell you when the blood pressure monitor is inflating and deflating the cuff. The Cuff Inflation Meter moves up during inflation and moves down during deflation.

Inflation in Progress	Inflation Complete	Deflation/ Measurement in Progress
 The display shows a vertical bar on the left with a small figure at the bottom. The bar is partially filled with a solid black segment at the bottom and a dashed segment above it. The large digital number '68' is on the right. At the bottom left is a battery icon, and at the bottom right is the time 'AM 11:19'.	 The display shows a vertical bar on the left with a small figure at the bottom. The bar is almost entirely filled with a solid black segment, with only a small dashed segment at the top. The large digital number '150' is on the right. At the bottom left is a battery icon, and at the bottom right is the time 'AM 11:19'.	 The display shows a vertical bar on the left with a small figure at the bottom. The bar is mostly empty with a dashed segment at the bottom. The large digital number '90' is on the right. Above the number is a heart icon with a pulse line. At the bottom left is a battery icon, and at the bottom right is the time 'AM 11:19'.

Initial Setup

Installing/Changing the Batteries

1. Remove the battery cover.
2. Remove the used batteries from the battery compartment when changing them.
3. Insert new batteries or replace used batteries 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 monitor will not work.
- When  (LOW BATTERY mark) blinks on the display and the monitor announces that the battery needs to be replaced, replace all batteries with new ones. Do not mix old and new batteries as it may shorten the battery life, or cause the monitor to malfunction. Replace the batteries two seconds or more after the monitor turns off. If  (LOW BATTERY mark) appears even after the batteries are replaced, make a blood pressure measurement. The monitor may then recognize the new batteries.
-  (LOW BATTERY mark) 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 batteries will last approximately for one year when used twice for measurement each day.
- Use the specified batteries only. The batteries provided with the monitor are for testing monitor performance and may have a limited life.
- Remove the batteries if the monitor will not be used for a long time. The batteries may leak and cause a malfunction.

Connecting the AC Adapter

Insert the AC adapter plug into the DC jack. Then, insert the AC adapter into an electrical outlet.

- Use the specified AC adapter.
(See Technical Data)
- 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.



Connecting the Air Hose

Insert the air connector plug into the air socket firmly.

Air Hose

Air Connector Plug

Air Socket

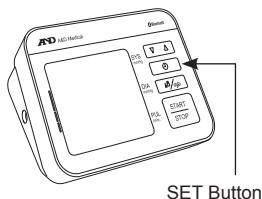


Initial Setup

Adjusting the Clock

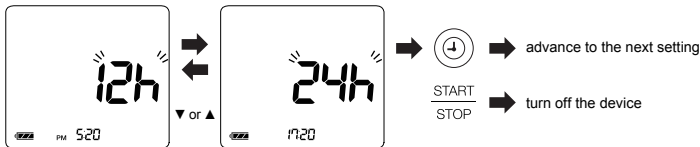
This monitor has a built-in clock that gives you the time and date and can tell you when a blood pressure reading stored in memory was taken. We recommend that you adjust the clock prior to use. To adjust the clock, follow these simple steps:

1. Press the SET button (⌚) located to the right of the display until the Year blinks.
2. Use the arrow ▲ or ▼ buttons to set the year.
3. After reaching the desired year, press the SET button (⌚) again.
4. Repeat the process for the month, day and hour.
5. Press SET button to advance to the next setting. If you want to turn the monitor off, press START/STOP button.



12h/24h Setting

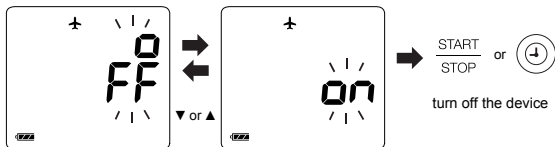
1. Press the SET button (⌚) until the 12h blinks.
2. Press the ▲ or ▼ button to switch between 12h or 24h.
3. Press SET button (⌚) to advance to the next setting. If you want to turn the monitor off, press START/STOP button.



Airplane Mode Setting

The airplane mode feature can be used in an environment that does not allow the use of radio frequency. Measurement can be done in airplane mode and data will transfer to the app on next connection.

1. Press the SET button (⌂) until the Airplane Mark lights up.
2. Press the ▲ or ▼ button to turn the Airplane Mode ON or OFF.
3. Press the START/STOP or SET button (⌂) to turn the monitor off.



Initial Setup

Pairing with a Mobile Device

Wireless Function

- In the unlikely event that this monitor causes radio wave interference to a different wireless station, change the location where this monitor is used or stop use immediately.
- The communication distance between this monitor and the mobile device is about 10 m. This distance is reduced by the conditions in the surrounding environment, so be sure to check that the distance is short enough for a connection to be made after measurement is complete.
- Be sure to use in a location where visibility between the two devices that you want to connect is good. The connection distance is reduced by the structure of buildings or other obstructions. In particular, connection may be impossible when devices are used on either side of reinforced concrete.
- Do not use *Bluetooth*® connection in the range of a wireless LAN or other wireless devices, near devices that emit radio waves such as microwaves, in locations where there are many obstructions, or in other locations where signal strength is weak. Doing so may result in frequent loss of connection, very slow communication speeds and errors.
- In this case, switch off the power supply to the device that is not being used or use the monitor in a different location.
- If the monitor does not connect normally when used near a wireless station or broadcast station, use the monitor in a different location.
- A&D Medical cannot accept liability for any damages incurred due to impaired operation or data loss, etc that occur through the use of this product.
- This product is not guaranteed to connect to all *Bluetooth*® compatible devices.

Bluetooth® Transmission Bluetooth®

Bluetooth® devices carry the Bluetooth® logo mark.

To connect with your mobile device – download and install A&D Heart Track app.



Follow the instructions in the app to connect.

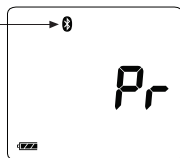
Cautions for Pairing

- Only one device can be paired with this monitor at one time. If the mobile device cannot receive measurement data, try pairing again.
- The monitor is capable of registering 8 mobile devices.
- In case an 9th mobile device is registered, the monitor will delete the oldest mobile device.

Pairing Procedure

1. Turn on *Bluetooth®* settings on your mobile device.
2. Press and hold the START/STOP button until “Pr” is displayed, and then release the button. The monitor will be in a state that can be found by the mobile device for about one minute.
3. If “E 10” is displayed or pairing is failed, remove the batteries and try steps 1-3 again.
4. Accept the pairing request on the A&D Heart Track app.

Blinking →



Initial Setup

Transmitting Temporarily Stored Data

In cases when the mobile device cannot receive measurement data, the measurement data is temporarily stored in the monitor memory. The data stored in the memory is transmitted the next time a connection is successfully made to the mobile device. A total of 90 sets of measurement data can be stored per user. When the amount of data exceeds 90, the oldest data is deleted and the new data is stored.

Time

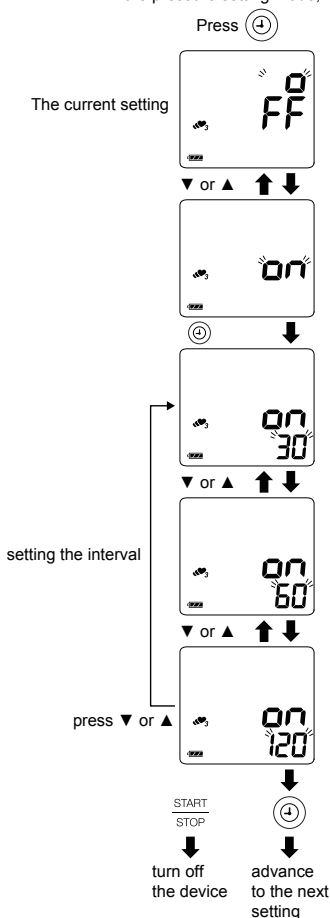
This monitor has a built-in clock. The date and time that a measurement was taken is included in the measurement data. The built-in clock is automatically adjusted by syncing the clock of a mobile device. Sync of the time is done in the timing *Bluetooth*[®] icon lights up, in the pairing process.

Tricheck™ Mode

The UA-810BLE blood pressure monitor has an optional feature to automatically take three consecutive measurements at set intervals and then provide you with the average. This complies with the American Heart Association's recommended measuring method.

1. Press the SET button (⌚) until the  Tricheck symbol lights up.
2. Default is off.
3. To turn on, use the arrow  or  buttons.
4. To turn off again, use the arrow  or  buttons.
5. After reaching the desired setting, press the SET button (⌚) again.
6. If off, this will end your settings session.
7. If on, Select the interval using the  or  button.
8. Press SET button to advance to the next setting. If you want to turn the monitor off, press START/STOP button.

In the pressure setting mode,



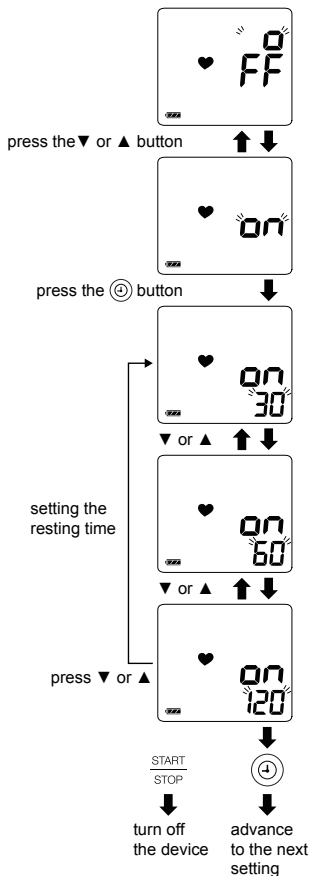
Initial Setup

Set the rest time before measurements

This monitor allows you to set the rest time before measurements.

To set the resting time:

1. Press the SET button (Ⓢ) until the Heart Mark lights up.
2. Press the ▲ or ▼ button to turn the resting mode ON or OFF.
ON: Resting mode
OFF: NO resting time
3. Press the SET button (Ⓢ). Select the resting time using the ▲ or ▼ button from the 30sec, 60sec, 120sec.
4. Press SET button (Ⓢ) to advance to the next setting. If you want to turn the monitor off, press START/STOP button.



Selecting the Correct Cuff Size

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 will indicate if you are applying the correct cuff.
- If the index ▲ points outside of the range, use a cuff that better fits your arm.

Catalog Number	Recommended Cuff Size	Arm Size
UA-289A	Small Cuff	6.3-9.4" (16-24 cm)
UA-290A	Medium Cuff	9.0-14.6" (23-37 cm)
UA-291A	Large Cuff	12.2-17.7" (31-45 cm)
UA-420A	Wide Range Cuff	8.6-16.5" (22-42 cm)
UA-372A	Preformed Wide Range Cuff	8.6-16.5" (22-42 cm)

Taking Your Blood Pressure

Applying the arm cuff (Pre-formed cuff)

1. Sit comfortably with your left arm resting on a flat surface so that the center of your upper arm is at the same height as your heart.
2. Lay left arm on the table with palm up. Place the cuff on your upper arm. Align the white marker on the cuff over the brachial artery on the inside of the arm. The air hose should be facing downward and toward the inside of your arm. Fasten the cuff securely. The bottom of the cuff should be about 0.5" (1-2 cm) above your elbow.
3. The cuff should be snug but not too tight. You should be able to insert two fingers between the cuff and your arm.



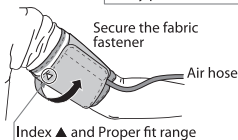
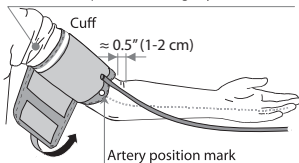
NOTE: During measurement, it is normal for the cuff to feel very tight.

Applying the Arm Cuff (D-Ring cuff)

1. Insert arm (preferably the left arm) into cuff as shown in the figure to the right.
2. Wrap the cuff around the upper arm, about 0.5" (1-2 cm) above the inside of the elbow, as shown in the figure to the right.
3. Place the cuff directly against the skin, as clothing may cause a faint pulse and result in a measurement error. Constriction of the upper arm, caused by rolling up a shirtsleeve, may prevent accurate readings.
4. Confirm the arm protector is flat against the arm as shown in the figure below.
5. Confirm that the index ▲ points within the proper fit range.

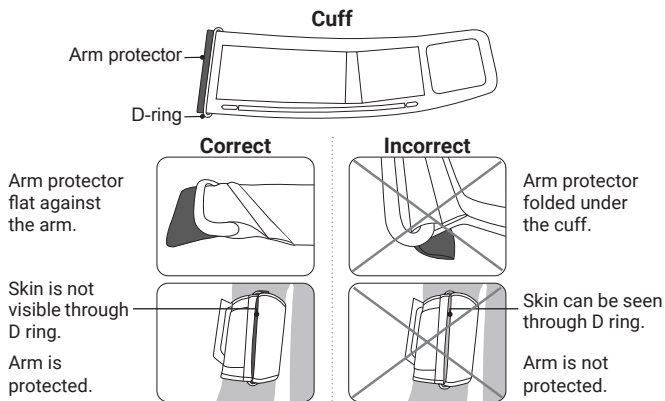


Do not roll up shirtsleeve tightly



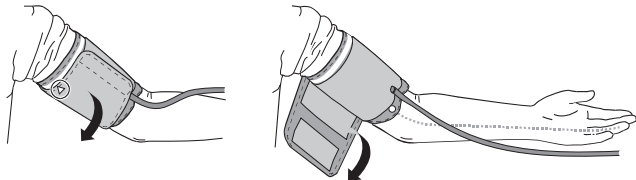
Note: During measurement, it is normal for the cuff to feel very tight. (Do not be alarmed).

Taking Your Blood Pressure



Removing the Arm Cuff

1. Wait for the cuff to deflate
2. Unfasten the Velcro

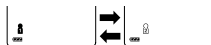


3. Remove the cuff



Taking Your Blood Pressure

1. Press the  button to select a user from 1 to 2.



2. Press the START/STOP button. All of the display segments are displayed. If resting time is ON, then rest for the displayed count. Zero (0) is displayed blinking briefly. 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, on the left edge of the display, during the inflation.

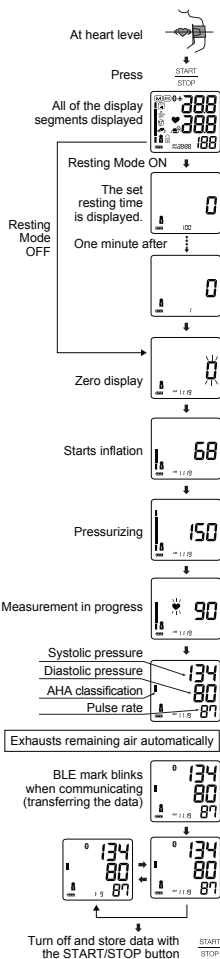
Note: If you wish to stop inflation at any time, press the START/STOP button again

3. When inflation is complete, deflation starts automatically and  blinks, indicating that the measurement is in progress. Once the pulse is detected, the mark blinks with each pulse beat.

Note: If an appropriate pressure is not obtained, the monitor starts to inflate again automatically. To avoid re-inflation, see "Measurement with desired Systolic Pressure".

4. The display measurement is complete, the systolic and diastolic pressure readings and pulse rate are displayed. Clock display automatically switches between date and time. The cuff exhausts the remaining air and deflates completely.

5. Press the START/STOP button to turn the monitor off. After one minute of non-operation, the monitor will turn off automatically.
6. The reading is then stored into memory.
See "Reviewing memory" for more information.



Taking Your Blood Pressure

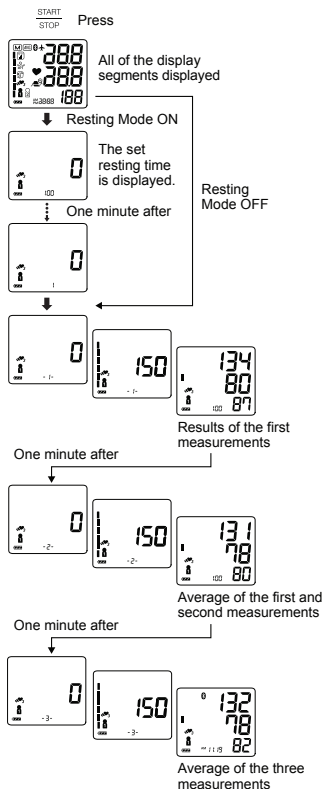
Measurement using TriCheck

1. Press the START/STOP button. All of the display segments are displayed. If resting time is ON, then rest for the displayed count. Zero (0) is displayed blinking briefly and the first measurement starts.
2. When the measurement is complete, the systolic and diastolic pressure readings and pulse rate are displayed, then a resting time countdown starts for the second measurement.
3. After resting time, the second measurement starts.
4. When the measurement is complete, the average readings of the first and second measurements are displayed, then a resting time countdown starts for the third measurement.
5. After resting time, the third measurement starts.
6. When the measurement is complete, the average readings of the three measurements are displayed and stored in memory.

Notes: During the measurement, the TriCheck  3 symbol is displayed.

To cancel the measurement, press the START/STOP button.

After measurement, the average data of the three measurements is stored in memory. No data will be stored, when canceling the measurements, or before completion of the third measurement.

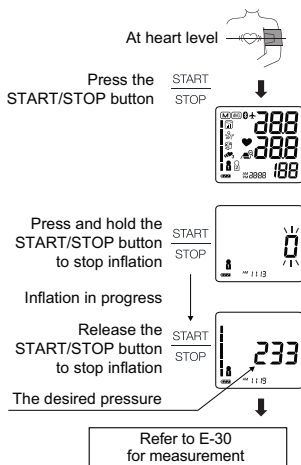


Taking Your Blood Pressure

Measurement with Desired Systolic Pressure

Use this method when re-inflation occurs repeatedly or the results are not displayed even if the pressure decreases to 20 mmHg or less.

1. Place the cuff on the arm (preferably the left arm).
2. Press the START/STOP button.
3. While the zero blinks, press and hold the START/STOP button until a number about 30 to 40 mmHg higher than your expected systolic pressure appears.
4. When the desired number is reached, release the START/STOP button to start measurement. Then continue to measure your blood pressure as described on page E-30.



Taking Your Blood Pressure

Reviewing Memory

Note: This monitor stores the last 90 measurements in memory.

1. Press the ▲ or ▼ button. The average of all measurements is displayed. (If no data, "0" is displayed. Press the ▲ or ▼ button or START/STOP button to turn the monitor off.)
2. Each time the ▼ button (or the ▲ button to display the data in the reverse order) is pressed, the memory data is displayed as follows.

Average of last three measurements is displayed. (If no data, "--" is displayed.)

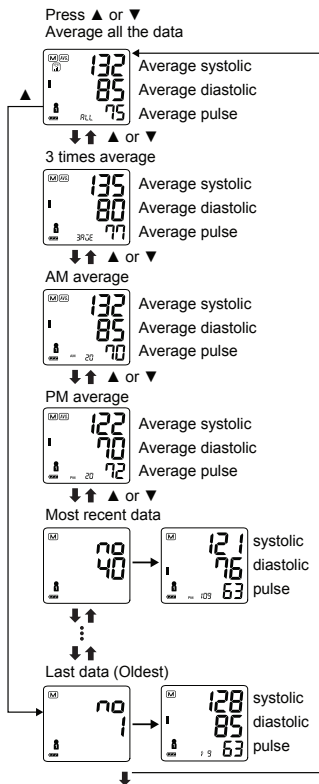
Average of all AM (morning) measurements taken between 4:00 and 9:59 during last 7 days. (In the example, 20 measurements). If no data, "--" is displayed.

Average of all PM (evening) measurements taken between 18:00 and 1:59 during last 7 days. (In the example, 20 measurements.) If no data, "--" is displayed.

Most recent data (See No. 40). A few seconds after the data number is displayed, the measurement data is displayed.

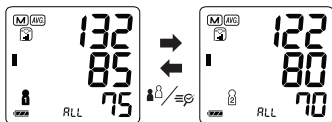


Last data (No.1). A few seconds after the data number display, the measurement data is displayed.



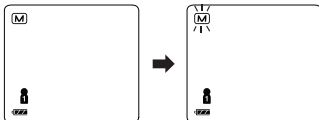
Taking Your Blood Pressure

3. After the last data is displayed, press the ▼ button to return the average display of all measurements.
4. Press the START/STOP button to turn the monitor off. After one minute of non-operation, the monitor will turn off automatically.
5. Each time the  /  button is pressed, the user is changed and the average of all measurements for that user is displayed.



Deleting all Data Stored in Memory

In standby, press both the ▲ and ▼ buttons. The **(M)** mark, battery indicator and user mark will appear. When you would like to delete the memory data of the currently displayed user, press and hold both the ▲ and ▼ buttons until the illuminated **(M)** mark starts blinking.



Cleaning and Maintenance

Cleaning your Monitor

- Clean the monitor and cuff with a dry, soft cloth or a cloth dampened with water and a neutral detergent.
- Do not use alcohol, benzine, thinner or other harsh chemicals.

Maintenance

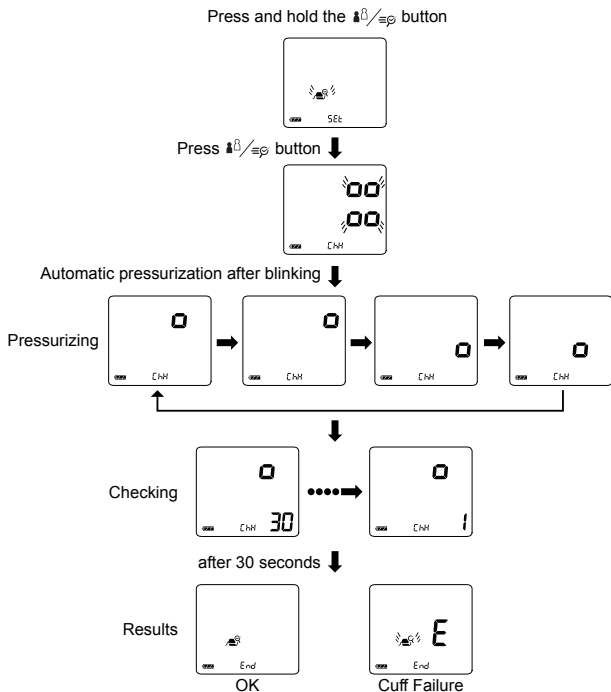
Do not open the monitor. It uses delicate electrical components that could be damaged. If you cannot fix the problem using the troubleshooting instructions, contact the authorized dealer in your area or our customer service department. A&D customer service can provide technical assistance and accessories.

Cleaning and Maintenance

Self Check Mode (Precision Check $\equiv \text{Ⓢ}$)

1. Press and hold $\text{Ⓢ} / \equiv \text{Ⓢ}$ button until self check and cuff check marks blink.
2. Place the cuff around a rigid cylinder that is longer than the width of the cuff.
3. Press the $\text{Ⓢ} / \equiv \text{Ⓢ}$ button again to start checking.
4. Check the results displayed.

Note: An appropriately sized rigid cylinder depends on Cuff. Please refer to "Selecting the Correct Cuff Size". UA-291A can't be self-checked. Do not use Self Check Mode.



Troubleshooting

Problem	Probable Cause	Corrective Action
Nothing appears on the display, even when the power is turned on.	Battery is drained.	Replace all batteries with new ones.
	Battery terminals are not in the correct position.	Reinstall the batteries with negative and positive terminals matching those indicated on the battery compartment.
The cuff does not inflate.	Battery voltage is too low.  (LOW BATTERY mark) blinks. If the batteries are drained completely, the mark does not appear.	Replace all batteries with new ones.
The monitor does not measure. Readings are too high or too low.	The cuff is not applied properly.	Apply the cuff correctly.
	Readings are too high or too low.	Make sure you remain very still and quiet during measurement.
	The cuff position is not correct.	Sit comfortably and still. Place your arm on a table with your palm facing upward and the cuff at the same level as your heart.
	_____	If you have a very weak or irregular heart beat, the monitor may have difficulty in determining your blood pressure.
Self Check Failure	_____	Even if blood pressure measurement is possible, the check may fail. If checks are failed frequently, contact A&D Medical.
Other	The value is different from that measured at a clinic or doctor's office.	Refer to "Tips for Taking Blood Pressure".
	_____	Remove the batteries. Place them back properly and take another measurement.

Note: If the actions described above do not solve the problem, contact A&D or your dealer. Do not attempt to open or repair this product, as any attempt to do so will make your warranty invalid.

Troubleshooting

Error Message	Function/Meaning	Recommended Action
E1 or E2	Unstable blood pressure due to movement during measurement.	Take another measurement. Remain still during the measurement.
	The systolic and diastolic values are within 10 mmHg of each other.	Apply the cuff correctly, and try the measurement again. If Err appears frequently, please try Self Check Mode.
	The pressure value did not increase during inflation.	
E3	The cuff is not applied correctly.	
E	Pulse display error. The pulse is not detected correctly.	Remove the batteries and press the START/STOP button, and then install the batteries again. If the error still appears, contact the dealer.
E E	Blood pressure monitor internal error.	
E9		
E10	Pairing has not been performed correctly.	Remove and re-insert the batteries. Try pairing again.

Optional Accessories

Accessories

Part Number	Description	Specification
UA-289A	Small Cuff	6.3-9.4" (16-24 cm)
UA-290A	Medium Cuff	9.0-14.6" (23-37 cm)
UA-291A	Large Cuff	12.2-17.7" (31-45 cm)
UA-420A	Wide Range Cuff	8.6-16.5" (22-42 cm)
UA-372A	Preformed Wide Range Cuff	8.6-16.5" (22-42 cm)
<i>Arm size: The circumference at the biceps.</i>		
TB-304	AC Adapter	Input: 120V~60Hz 0.15A Output: 6V  500mA       IP21
AX-CUF-HLD	Cuff Holder	—

Warranty

LIMITED WARRANTY

A&D Medical

For purchasers within the US only:

Product	Consumer Warranty Term
Monitor	5 year
Cuff	2 year

For outside of US, please contact local distributor or dealer.

Limited Warranty:

A&D Medical (“A&D”) warrants to the first purchaser (“You”) that the A&D product You purchased (the “Product”) will be free from defects in material, workmanship and design for the applicable Warranty Term stated above from the date You purchased the Product under normal use. This Limited Warranty is personal to You and is not transferable. If the Product is defective, then You return the Product to A&D in accordance with the procedure set forth below. A&D’s warranty obligation is limited to the repair or replacement, at A&D’s option, of the defective Product that has been returned by You within the warranty period. Such repair or replacement will be at no charge to You. The repaired or replacement Product is warranted here-under for the longer of the remainder of the original warranty period or 90 days from the date of shipment of the repaired or replacement Product.

To obtain a warranty service, please contact us in **US at 1-888-726-9966 or in Canada at 1-800-461-0991** for return address, shipping and handling fee, and other instructions for processing warranty. Please ensure you have satisfactory proof of the date of Your purchase and a description of the defect. Returns will not be accepted unless a Return Material Authorization (RMA) Number has been issued from A&D Customer Service Representative.

This Limited Warranty does not cover, and A&D will not be liable for (i) any shipment damage, (ii) any damage or defect due to misuse, abuse, failure to use reasonable care, failure to follow written instructions enclosed with the Product, accident, subjecting the Product to any voltage other than the specified voltage, improper environmental conditions, or modification,

Warranty

alteration or repair by anyone other than A&D or persons authorized by A&D, or (iii) expendable or consumable components.

THIS LIMITED WARRANTY IS THE ONLY WARRANTY PROVIDED BY A&D; THERE ARE NO OTHER EXPRESS WARRANTIES. If A&D cannot reasonably repair or replace the Product, A&D will refund the amount You paid for the Product (not including taxes), less a reasonable charge for usage. To receive a refund you must have returned the Product and all associated materials to A&D. The above remedy of repair, replacement or refund is your only and exclusive remedy. IN NO EVENT SHALL A&D BE LIABLE FOR ANY DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS, LOST INFORMATION OR REPLACEMENT COSTS, ARISING OUT OF YOUR USE OF OR INABILITY TO USE THE PRODUCT, INCLUDING, WITHOUT LIMITATION, ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF A&D HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some states do not allow the exclusion of incidental or consequential damages, so that the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state.

No distributor, dealer or other party is authorized to make any warranty on behalf of A&D or to modify this warranty, or to assume for A&D any liability with respect to its products.

Technical Data

Model	UA-810BLE
Measurement method	Oscillometric
Memory	90 readings
Measurement range	Pressure: 0 - 299mmHg Systolic pressure: 60 - 279mmHg Diastolic pressure: 40 - 200mmHg Pulse: 40 - 180 beats per minute
Static Accuracy	Pressure: ± 3 mmHg
Pulse Accuracy	Pulse: $\pm 5\%$
Rating range	DC 6V 3W
Power source	4 x 1.5 volt batteries (AA, LR6 or R6P) or 120 volt AC adapter (TB-304)
Classification	Internally powered ME equipment (Supplied by batteries) /Class II (Supplied by adapter) Continuous operation mode.
Clinical test	ISO81060-2: 2020
EMD	IEC 60601-1-2:2014+A1:2020
Wireless Communication	Bluetooth: Ver.5.1LE BLP Frequency band:2402 MHz to 2480 MHz Maximum RF output power:< 10 dBm Modulation:GFSK Supported Data:Systolic Pressure, Diastolic Pressure, Pulse Rate Communication distance: About 10 m (This distance is reduced by the conditions in the surrounding environment) Paired device:8 device
Operating Environment	50°F to 104°F (10°C to 40°C) 15%RH to 85%RH / 800hPa to 1060hPa

Technical Data

Transport/Storage Environment	-4°F to 140°F (-20°C to 60°C) 10%RH to 95%RH / 700hPa to 1060hPa
Dimensions	Approx. 5.5"(W)×2.5"(H)×4.4"(D) Approx. 139(W)×64(H)×112(D)mm
Weight	Approx. 12.4 oz., excluding the batteries Approx. 351 g, excluding the batteries
Ingress protection	Device: IP21
Number of measurements	Approx. 700 LR6 or AA (alkaline batteries) Approx. 200 R6P (manganese batteries) with pressure value 180 mmHg, room temperature 23 °C
Applied part.	Cuff Type BF 
Useful life	Monitor: 5 years (when used six times a day) Cuff: 2 years (when used six times a day) or Endurance 10,000 times AC adapter: 5 years (when used six times a day)

Note: Specifications are subject to change without prior notice. IP classification is the degrees of protection provided by enclosures in accordance with IEC 60529. This monitor is protected against solid foreign objects of 12 mm diameter and greater such as a finger. This monitor is protected against vertically falling drop of water.

Technical Data

EMD Technical Data

Battery-operated or AC Adapter-operated Blood Pressure Monitor

Medical Electrical Equipment needs special precautions regarding EMD and needs to be installed and put into service according to the EMD information provided in the following.

Portable and mobile RF communication equipment (e.g. cell phones) can affect Medical Electrical Equipment.

The use of accessories and cables other than those specified may result in increased emissions or decreased immunity of the unit.

Table 1 - EMISSION Limits -

Phenomenon	Compliance
Conducted and radiated RF EMISSION CISPR 11	Group 1, Class B
Harmonic distortion IEC 61000-3-2	Class A
Voltage fluctuations and flicker IEC 61000-3-3	Compliance

Table 2 - IMMUNITY TEST LEVELS : Enclosure Port -

Phenomenon	IMMUNITY TEST LEVELS
Electrostatic discharge IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air
Radiated RF EM fields IEC 61000-4-3	10 V/m 80 MHz - 2.7 GHz 80 % AM at 1 kHz
Proximity fields from RF wireless communications equipment IEC 61000-4-3	See table 4
Rated power frequency magnetic fields IEC 61000-4-8	30 A/m 50 Hz or 60 Hz
proximity magnetic fields IEC 61000-4-39	See table 5

Technical Data

Table 3 - IMMUNITY TEST LEVELS : Input a.c. power Port -

Phenomenon	IMMUNITY TEST LEVELS
Electrical fast transients / bursts IEC 61000-4-4	± 2 kV 100 kHz repetition frequency
Surges Line-to-line IEC 61000-4-5	± 0.5 kV, ± 1 kV
Conducted disturbances induced by RF fields IEC 61000-4-6	3 V 0.15 MHz - 80 MHz 6 V in ISM and amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz
Voltage dips IEC 61000-4-11	0 % U_T ; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°
	0 % U_T ; 1 cycle and 70 % U_T ; 25/30 cycle Single phase: at 0°
Voltage interruption IEC 61000-4-11	0% U_T ; 250/300 cycle
NOTE U_T is the AC mains voltage prior to application of the test level.	

Table 4 - Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment -

Test frequency (MHz)	Band (MHz)	Service	Modulation	IMMUNITY TEST LEVEL (V/m)
385	380 - 390	TETRA 400	Pulse modulation 18 Hz	27
450	430 - 470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	28
710	704 - 787	LTE Band 13,17	Pulse modulation 217 Hz	9
745				
780				

Technical Data

Test frequency (MHz)	Band (MHz)	Service	Modulation	IMMUNITY TEST LEVEL (V/m)
810	800 - 960	GSM 800/900 TETRA 800 iDEN 820 CDMA 850 LTE Band 5	Pulse modulation 18 Hz	28
870				
930				
1720	1700 - 1990	GSM 1800 CDMA 1900 GSM 1900 DECT LTE Band 1,3,4,25 UMTS	Pulse modulation 217 Hz	28
1845				
1970				
2450	2400 - 2570	Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE Band 7	Pulse modulation 217 Hz	28
5240	5100 - 5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	9
5500				
5785				

Table 5 - Test specifications for ENCLOSURE PORT IMMUNITY to proximity magnetic fields -

Test Frequency	Modulation	IMMUNITY TEST LEVEL (A/m)
30 kHz	CW	8
134.2 kHz	Pulse modulation 2.1kHz	65
13.56 MHz	Pulse modulation 50kHz	7.5

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

NOTE: 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 radio/TV technician for help



A&D Company, Limited

1-243 Asahi, Kitamoto-shi,
Saitama-ken 364-8585 Japan
aandd.jp

A&D Engineering, Inc.

4622 Runway Boulevard
Ann Arbor, MI 48108 USA
andmedical.com
1-888-726-9966

Made in Vietnam