

Arm Blood Pressure Monitor User Manual



Model: KBP-7173A

Table of Contents

1. Unpacking Inspection.....	1
2. Packing List	1
3. Safety Precautions	2
4. Product Composition.....	3
5. Intended Use / Instructions for Use	3
6. Contraindication.....	3
7. Product Parts.....	4
8. 3-color Indicator.....	5
9. Power Connection	5
10. Function Setting.....	6
11. How to Apply The Arm Cuff	8
12. How to Take Proper Measurements	11
13. Specifications.....	15
14. Contraindications, Precautions, Warnings and Prompt Instructions.....	17
15. Common Q & A on Blood Pressure.....	20
16. Abnormal Phenomena and Handling	22
17. Cleaning and Disinfection	24
18. Upkeep and Maintenance	26
19. Appendix 1 EMC Information.....	27

Thank you for purchasing the Arm Blood Pressure Monitor. The monitor uses the oscillometric method of blood pressure measurement. This means the monitor detects your blood movement through your brachial artery and converts the movements into a digital reading.

The device can be used in homecare environment, and the patient is an intended operator, and all the functions can be safely used.

1. Unpacking Inspection









Before use, please open the package carefully and check whether all the parts are available according to the following packing list and whether the parts are damaged during transportation, and then install and operate in strict accordance with the user manual.



2. Packing List

No.	Name	Quantity
1	Arm Blood Pressure Monitor	1
2	Cuff 22-42cm (8.66-16.53 inches)	1
3	Storage Case	1
4	AAA Batteries	4
5	User Manual	1
6	Quick Start Guide	1

3. Safety Precautions

Knowledge of the warning signs and symbols is crucial to the safe and proper use of this device. Kindly get informed on the following signs and symbols which you might encounter within this user manual or on the label:

	Warning information, refer to the attached document
	Device classification: type BF applied part
	Comply with local regulations about disposal
	Consult the instructions for use
	Keep dry
	Low voltage prompt
	Keep away from the sunlight
	Vertical upward
IP22	The device is protected against splashing water. Water splashed against the enclosure from any direction shall have no harmful effects.
RoHS	RoHS mark
CE	CE mark

	Manufacturer
	Date of manufacture
SN	Serial number
LOT	Lot number
EC REP	EU authorized representative

4. Product Composition

This product is composed of the main body and cuff.

5. Intended Use / Instructions for Use

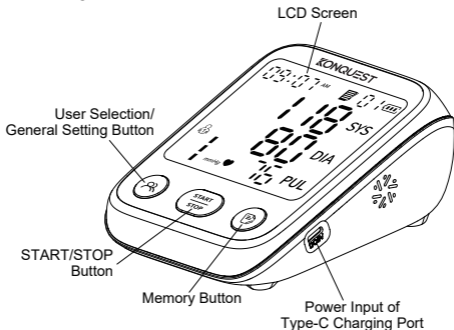
The Arm Blood Pressure Monitor is intended to measure the systolic blood pressure and diastolic blood pressure, as well as the pulse rate of the adult person via non-invasive oscillometric technique at medical facilities or at home.

6. Contraindication

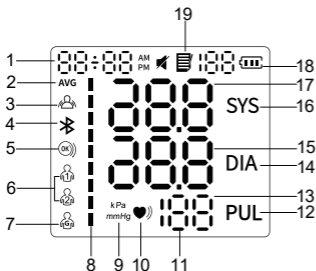
This device is not for infants or mentally-impaired individuals who cannot express their thoughts.

7. Product Parts

(1) Main Body



(2) Display Screen



1. Date and Time
2. Average Value Icon
3. "Keep Still" Indication
4. Bluetooth Icon
5. "Cuff Worn" Detection
6. User Icon
7. User 3 (Guest) Icon
8. WHO Blood Pressure Indicator
9. Unit of Blood Pressure
10. Heartbeat Icon
11. Pulse Rate Value
12. Pulse Rate Icon
13. Pulse Rate Value
14. Diastolic Blood Pressure Icon
15. Diastolic Blood Pressure Value
16. Systolic Blood Pressure Icon
17. Systolic Blood Pressure Value
18. Battery Icon
19. Memory Icon

8. 3-color Indicator



Green Indicator Light for Normal



Yellow Indicator Light for Mild High Blood Pressure or Hypertension



Red Indicator Light for High Blood Pressure or Hypertension

Systolic Blood Pressure (mmHg)	Diastolic Blood Pressure (mmHg)	Color Display	Hierarchical Relationship
≥160	≥100	red	and (or)
140-159	90-99	yellow	and (or)
90-139	60-89	green	and (or)
<90	<60	yellow	and

* Source: The table adopts "the definitions and classification of blood pressure levels in adults over the age of 18" defined by the 2018 ESC/ESH guidelines for the management of arterial hypertension and the 2003 WHO/ISH statement on management of hypertension.

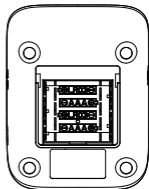
⚠ Warning: Never diagnose or treat yourself based on the readings. Please always consult with your physician.

9. Power Connection


(1) Install The Batteries

1) Open the battery cover according to the method shown in the figure.

2) Place 4 AAA dry batteries in the battery compartment, and pay attention to the electrode indication of the batteries.

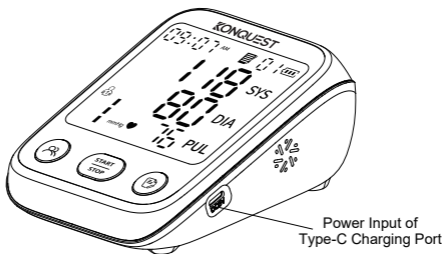


Install the battery as indicated in the picture.

 Remove the batteries if you do not intend to use the device for a long time (over 3 months).



(2) Type-C Connection for Power Supply

In addition to the batteries, the power can also be supplied by plugging into d.c. 5V external power supply through a Type-C port. (The Type-C charging cable is not included in the packing list.)



10. Function Setting

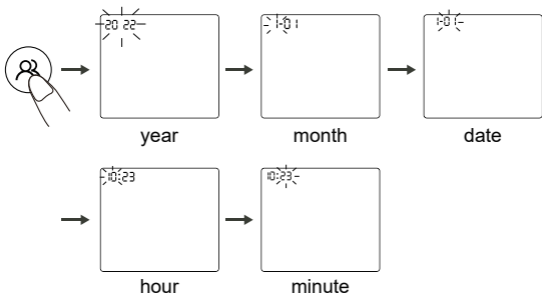
(1) User Selection

In the Standby mode, press the "  " button to enter the user group selection interface. Then press the "  " button again to switch and select user groups.





(2) Date And Time Setting

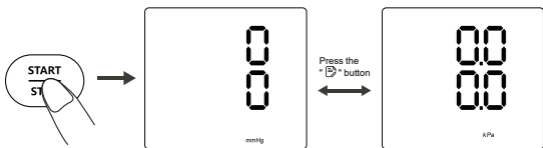
In the power-off mode, press the " 👤 " button for about 3 seconds to enter the date setting interface, and the "year" will flash. Press the " 📝 " button to adjust the year, and press the " 👤 " button to confirm the selection. When the year is set, it will automatically enter the month setting. Press the " 📝 " button to adjust the month, and press the " 👤 " button to confirm the selection. Follow the same steps to adjust the date/hour/minute.



(3) Unit Display Setting

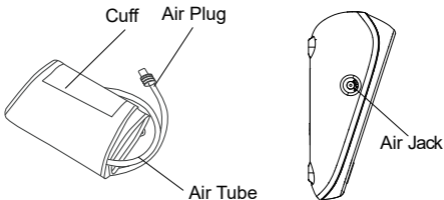
There are two units of blood pressure display, mmHg and kPa. The default unit is mmHg.

In the power-off mode, press the " $\frac{\text{START}}{\text{STOP}}$ " button for about 5 seconds to enter the unit selection. Press the "  " button to switch between mmHg and kPa, and then press the "  " button to confirm the selection.

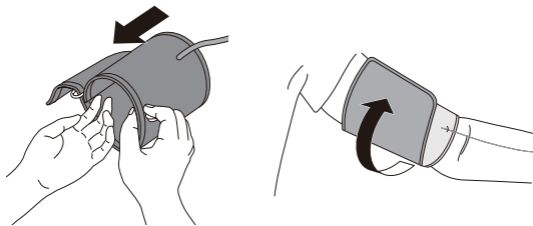


11. How To Apply The Arm Cuff

(1) Connect the arm cuff to the monitor by inserting the air plug into the air jack.

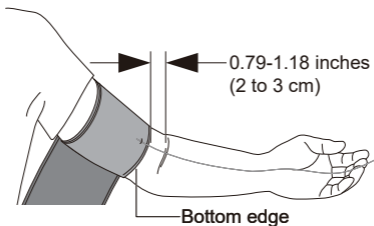


(2) Place your hand through the cuff loop. Pull the cuff until it reaches your upper arm.



Note:

The bottom edge of the arm cuff should be 0.79-1.18 inches (2-3cm) above the elbow. The air tube should be on the inside of your arm and aligned with your middle finger.



- Make sure that the air tube is positioned on the inside of your arm and wrap the cuff securely, so it can not move around your arm.

Note: Repeated measurement will result in blood congestion in the arm, which will affect the measurement result.

How to avoid blood congestion and ensure the repeated measurement is accurate?

You can raise the left hand and hold the fist several times, or take off the cuff and rest for at least 2-3 minutes before taking the measurement.

(3) Sitting correctly

To take a measurement, you need to be relaxed and comfortably seated in a room with a comfortable temperature.

- Sit in a comfortable chair with your back and arm supported.
- Keep your feet flat and your legs uncrossed.
- The arm cuff should be placed on your arm at the same level as your heart, with the arm resting comfortably on a table.



12. How To Take Proper Measurements

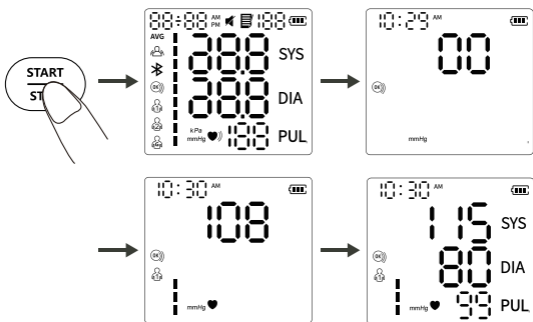
(1) Preparation Before Measurement

- Take off the clothes on the arm.
- Always measure in the same arm (generally the left arm).
- Remain still and keep quiet during the measurement.
- Relax as much as possible and do not talk during measurement.
- Measure your blood pressure at about the same time every day.
- Do not measure the blood pressure immediately after physical exercise or a bath. Rest for 20- 30 minutes before taking the measurement.
- Measurements under the conditions listed below may affect results:
Having dinner, drinking wine, coffee, tea; doing sports; talking, being nervous, being in unsteady mood, bending forward, moving, room temperature dramatically changing; inside a moving vehicle, repeated and continuous measuring.

(2) Taking A Measurement

1) Fasten the arm cuff following the instruction of "HOW TO APPLY THE ARM CUFF". Start the measurement after wearing the cuff correctly.




2) Press the " $\frac{\text{START}}{\text{STOP}}$ " button. After all icons are turned on, the monitor will start inflating for measurement and display "00". Check the measured values after the measurement finished.

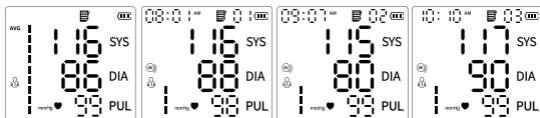


Note: If you feel uncomfortable during the measurement, press the " $\frac{\text{START}}{\text{STOP}}$ " button immediately to stop the measurement. Please consult your doctor if unexpected readings are obtained.

(3) Memory Function

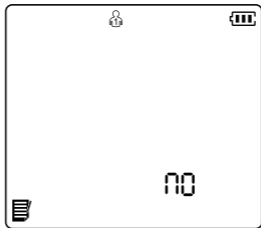
1) Each measured value is stored automatically under the appropriate user group. This device can store up to 199 sets of measurements for each user. Once the memory log is full, old values will be refreshed with new ones.

2) In the Standby mode, press the "  " button once and the device will display the average value of the blood pressure measurements of the last 2 or 3 times. Press the "  " button again, and the latest measured value will be displayed. Press the "  " button again and the rest measured values will be displayed one by one.



3) Delete Memory


In the Standby mode, press the " 👤 " button to select the user group whose measured values need to be deleted. Press the " $\frac{\text{START}}{\text{STOP}}$ " button to power off the device and press the " 📄 " button once to activate the screen. Then keep pressing the " 📄 " button for about 3 seconds to delete the memories of the selected user and the " 00 " icon will appear on the screen.



(4) "Cuff Worn" Detection

The " (OK) " icon is always displayed on the screen when the cuff is wrapped correctly. When the cuff is too loose, the " () " icon will always flash to remind you. If the " () " icon is flashing, please press the " $\frac{\text{START}}{\text{STOP}}$ " button to stop the measurement.

(5) "Keep Still" Indication

The " " icon flashes when you move during the measurement, which may cause incorrect measurement results. Please adjust your posture and measure again.

13. Specifications

Model	AOJ-30G	
Display	LED screen	
Measuring Method	Oscillometric measurement	
Measuring Part	Upper arm	
Pneumatic Pressure Measuring Range	0~295 mmHg (0~39.3 kPa)	
Maximum Pressure Protection	295 mmHg (39.3 kPa)	
Measurement Range	Blood pressure value	SYS: 57-255 mmHg (7.6-33.4 kPa); DIA: 25-195 mmHg (3.33-26 kPa);
	Pulse rate	40-199 bpm
Accuracy	Blood pressure value	±3 mmHg (±0.4 kPa)
	Pulse rate	about ±5%
Low Battery	When the power is lower than 4V±0.1V, the device will be turned off automatically.	
Power Source	4*AAA batteries or D.C. 5V Type-C charging cable	

Memory	It can be used for 3 users (User 1, User 2 and Guest mode).199 sets for each user. Gues mode without memory.		
Dimension	130 mm (L) x 100 mm (W) x 60 mm (H) (5.12 inches x 3.94 inches x 2.36 inches)		
Screen Size	81.2mm (L) x 70.9mm (W) (4.2 inches)		
Cuff Size	22-42 cm (8.66-16.53 inches)		
Weight	About 263g (without batteries)		
Anti Electronic Shock Type	Internal Power Supply		
Auto Power-off	1 minute without operation		
Anti Electronic Shock Degree	Type BF		
Operation Mode	Continuous operation		
Protection Against Harmful Ingress of Water or Particular Matter	IP22		
Service life	5 years		
Protection Against Electric Shock	Internally powered supply		
Operating Environment	Temperature condition	5°C-40°C	If stored or used beyond the designated temperature and humidity range, it will not be used properly
	Humidity condition	15%-90%RH	
	Atmospheric condition	70kPa-106kPa	

Transportation and Storage Environment	Avoid strong impact, direct impact, exposure or rain during transportation. The device shall be stored indoors at the temperature of $-20^{\circ}\text{C}\sim 55^{\circ}\text{C}$ and the relative humidity of $10\%\sim 93\%$. Atmospheric condition: $70\text{kPa}\sim 106\text{kPa}$ without corrosive gas and with good ventilation.
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14. Contraindications, Precautions, Warnings and Prompt Instructions

- No maintenance or servicing when using.
- Do not operate when charging.
- Maintenance should be done by the manufacturer as suggested.
- Portable RF-communications equipment (including peripherals like antenna cables and external antennas) should be kept at least 30cm (12 inches) from the device and its parts to prevent degradation of the monitor.
- When the ambient temperature is less than 5°C , please take the device to the place where the ambient temperature is between $5^{\circ}\text{C}\sim 40^{\circ}\text{C}$ at least 1 hour; When the ambient temperature is higher than 40°C , please take the device to the place where the ambient temperature is between $5^{\circ}\text{C}\sim 40^{\circ}\text{C}$ at least 2 hours.
- DO NOT use this monitor for infants, toddlers, children or persons who cannot express themselves.

- DO NOT take medicine based on readings from the device. Contact your physician for specific information about your blood pressure. The patient should not self-diagnose or self-medicate per measured results. Kindly adhere to the instructions of your physician or health provider.
- DO NOT use this monitor on an injured arm or an arm under medical treatment.
- DO NOT use the device while you are on an intravenous drip or blood transfusion.
- DO NOT use this monitor in areas containing high frequency (HF) surgical equipment, magnetic resonance imaging (MRI) equipment, computerized tomography (CT) scanners. This may result in incorrect operation of the monitor and/or cause an inaccurate reading.
- Consult with your physician before using this monitor if you have common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation, arterial sclerosis, poor perfusion, diabetes, pregnancy, pre-eclampsia or renal disease.
- NEVER diagnose or treat yourself based on the readings. ALWAYS consult with your physician.
- To avoid strangulation, please keep the air tube and type-C charging cable away from the infants, toddlers and children.
- Stop using this monitor and consult with your physician if

you experience skin irritation or discomfort.

- Consult with your physician before using this monitor if you have had a mastectomy.
- Consult with your physician before using this monitor if you have severe blood flow problems or blood disorders, because the cuff inflation can cause bruising.
- DO NOT use this monitor for any purpose other than measuring blood pressure and pulse rate.
- DO NOT disassemble or attempt to repair this monitor or other components. This may cause an inaccurate reading.
- DO NOT use in a location where there is moisture or a risk of water splashing this monitor. This may damage this monitor.
- DO NOT use this monitor in a moving vehicle such as in a car.
- DO NOT drop or subject this monitor to strong shocks or vibrations.
- DO NOT use this monitor in places with high/low humidity and temperatures.
- Do not use this device within regions of active HF-surgical equipment or RF-shielded room of an ME system for magnetic resonance imaging, where EM disturbances may be high.
- Do not use this device adjacent to or stacked on other equipment to prevent improper functioning. If such use is

necessary, all equipment involved must be checked for normal operation.

- The use of accessories and transducers other than those specified or provided by the manufacturer is prohibited. Failure to adhere to this might result in increased electromagnetic emissions or decreased electromagnetic immunity of the device.

15. Common Q & A on Blood Pressure

Q1: Why is the blood pressure value obtained at home lower than that obtained at the hospital?

- The blood pressure difference between home and hospital measurements is about 20 mmHg - 30 mmHg (2.7 kPa - 4.0 kPa). This is because individuals tend to be more relaxed at home than at the hospital.
- In addition, when the device is placed at a position over the heart, the blood pressure value tends to be much lower than it actually is. Ensure the device is positioned right at the heart level.

Q2: Why is the blood pressure value obtained at home higher than that obtained at the hospital?

- The anti-hypertensive drug might have lost its efficacy. Kindly adhere to your doctor's instructions.
- The cuff might not be in the correct position. If the cuff is

not placed right, no arterial pressure value will be obtained, and the blood pressure value might be much higher than it is. Therefore, properly position the cuff.

- The cuff is not tight enough. If the cuff is loose, the compression force might fail to transmit to the artery, causing the blood pressure value to be much higher than it is.

Therefore, re-adjust and tighten the cuff further.

- The patient is not sitting correctly during the measurement. Slouching, tilting, bending, and sitting cross-legged are not encouraged while taking blood pressure measurements due to increased abdominal pressure or the arm position being below the heart. Kindly take readings in the correct posture.

Q3: When can I obtain better measurements?


- Measurements are best taken in the mornings right after you urinate or when your mind and body are stable. We recommend taking readings at the same time of the day, every time.

16. Abnormal Phenomena and Handling

If the measurement is abnormal, any of the following symbols may appear. Kindly use the recommended method for measurement.

Errors	Cause/Solution
Er U	The pressure cannot reach 30 mmHg (4 kPa) in 12 seconds.
Er H	The inflation reaches 295mmHg, and it deflates automatically after 20ms.
Er 1	The pulse rate is not detected correctly.
Er 2	Too much disturbance (Move, talk, or magnetic disturbance during a measurement).
Er 3	The measurement result is abnormal.
Er 23	SYS value reads lower than 57mmHg.
Er 24	SYS value reads higher than 255mmHg.
Er 25	DIA value reads lower than 25mmHg.
Er 26	DIA value reads higher than 195mmHg.

* Troubleshooting

Anomaly	Possible Faulty	Solution
Failure to power on	Whether the power is insufficient	Replace the batteries or insert the Type-C charging cable for power supply
	Whether the positive and negative poles of the battery are installed reversely	Install the batteries correctly
No pressurizing	Whether the air tube plug is inserted tightly	Insert the air tube plug firmly into the jack.
	Whether the air tube is broken or leaked	Please contact the dealer to replace with a new cuff.
Unable to measure due to the display error	Whether the arm is moved when pressurization	Keep your arm and body still.
	Whether you talk during the measurement	Keep quiet while measuring the blood pressure.
Air leakage of the cuff	Whether the cuff is twined too loose	Please tighten the cuff
	The airbag of the cuff is ripped	Please contact the dealer to replace with a new cuff.
 If the blood pressure still cannot be measured after trying the above-stated solutions, please contact the dealer. Do NOT attempt to disassemble the device by yourself.		

17. Cleaning and Disinfection

(1) Cleaning

The device can be cleaned with a soft, clean cloth dampened with a small amount of neutral detergent or water.



Do not use corrosive cleaning agents, and take care not to immerse any part of the monitor in any fluid.

(2) Disinfection

Recommended Disinfecting Agent

70% Isopropanol solution

Steps:

- 1) Carefully wipe the device with a soft, clean cloth dampened with a small amount of the above disinfectant, and dry immediately with a soft, clean, dry cloth.
- 2) The body of the device can also be cleaned with a soft, clean cloth dampened with a small amount of 75% medical-grade alcohol for disinfection.



Do not disinfect through methods like high-temperature steam or ultraviolet radiation. These might damage the device and reduce its service life.

It is suggested to disinfect the monitor before and after use each time. Each time of disinfection shall be completed within 1min. The number of repeated disinfection each time shall not exceed 2 times.

(3) Disposal

Dispose of the monitor, other components and optional accessories according to applicable local regulations. Unlawful disposal may cause environmental pollution.

Notes

- Do not bend or crease the air tube excessively.
- Do not store the monitor or its components:
 - if the monitor or its parts is wet.
 - in locations with extreme temperatures, humidity, direct sunlight, dust, or corrosive gases.
 - in areas with a high risk of vibrations or shocks.

18. Upkeep and Maintenance



Water or neutral detergent



- Always keep the surface of the device clean and tidy, helpful to prolong its service life.
- If the device is dirty, please wipe with a dry soft cloth. If the dirt cannot be eliminated easily, wipe with a soft cloth stained with water or neutral detergent, and then dry with a dry cloth.
- No maintenance or maintenance required when operating the device.



Do not allow water or other liquids to flow into the device.

19. Appendix 1 EMC Information

Guidance and manufacturer's declaration - Electromagnetic emission		
<p>The Arm Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the Arm Blood Pressure Monitor should assure that it is used in such an environment.</p>		
Emissions	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The Arm Blood Pressure Monitor uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Arm Blood Pressure Monitor is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC61000-3-2	N.A.	
Voltage fluctuations/-flicker emissions IEC61000-3-3	N.A.	

Guidance and manufacturer's declaration - Electromagnetic immunity

The Arm Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the arm Blood Pressure Monitor should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air
Electrical fast transient/burst IEC 61000-4-4	Not applicable	Not applicable
Surge IEC 61000-4-5	Not applicable	Not applicable
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	Not applicable	Not applicable
Power frequency Magnetic field IEC 61000-4-8	30A/m, 50/60Hz	30A/m, 50/60Hz
Conducted RF IEC61000-4-6	Not applicable	Not applicable

Radiated RF IEC61000-4-3	10 V/m 80 MHz - 2,7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz - 2,7 GHz 80 % AM at 1 kHz
NOTE: UT is the a.c. mains voltage prior to application of the test level		

Guidance and manufacturer's declaration - electromagnetic Immunity

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

Radiated RF0-4-3 (Test specifications for ENCLOSURE-PORT IMMUNITY to RF wireless communications equipment)	Test Frequency (MHz)	Band (MHz)	Service	Modulation	Max. Power (W)	Distance (m)	IEC 60601-1-2 Test Level (V/m)	Compliance level (V/m)
	385	380-390	TETRA 400	Pulse modulation 18 Hz	1.8	0.3	27	27
	450	430-470	GMRS 460, FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28	28
	710	704-787	LTE Band 13, 17	Pulse modulation 217 Hz	0.2	0.3	9	9
	745							
	780							
	810	800-960	GSM 800/900, TETRA 800, DEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0.3	28	28
	870							
	930							

	1720	1700–1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217 Hz	2	0.3	28	28
	1845							
	1970							
	2450	2400–2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28	28
	5240	5100–5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9	9
	5500							
5785								

Guidance and manufacturer's declaration - electromagnetic Immunity

Radiated RF IEC61000-4-39 (Test specifications for ENCLOSURE PORT IMMUNITY to proximity magnetic fields)	Test Frequency	Moduation	IEC 60601-1-2 Test Level (A/m)	Compliance level (A/m)
	30 kHz	CW	8	8
	134.2 kHz	Pulse modulation 2.1 kHz	65	65
	13.56 kHz	Pulse modulation 50 kHz	7.5	7.5

NOTE:

- Optional AC adaptor should comply with the requirement of IEC 60601-1 standard.
- Use only the exclusive AC adapter specified by authorized dealers. Other AC adapter may vary in output voltage and polarities and may represent a risk on your life and damaging the device.



Manual version: A0

Software version: V1.0

Revision date: 2022-08