

***Wristband Blood Pressure Monitor
User Manual***

H2-BP



CHARMCARE CO.,LTD.

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Part 1 Before You Begin



Thank you for purchasing the H2-BP(Automated Electronic Sphygmomanometer). For the safe operation of this product, it is recommended that you read this user's manual thoroughly before using. In this user's manual, the H2-BP(Automated Electronic Sphygmomanometer) is called to as a Wristband Blood Pressure Monitor.

Purpose

This sphygmomanometer is a "Medical Device" suitable for IEC80601-2-30 and is an electronic device that measures blood pressure indirectly (non-blood-vessel). This cuff is automatically pressurized and is intended for the indication of systolic and diastolic blood pressure and heart rate.

Directive

- This manual is copyrighted as the Charmcare Co.,Ltd. product manual. The contents of the manual cannot be changed without permission.
- The contents of this manual are subject to change without notice.
- The contents of this manual should be correct. If for some reason, there are any questionable points, please do not hesitate to contact our service center.
- The patient is an intended operator.
- No modification of this product is allowed.
- Charmcare Co.,Ltd. only provides the user manual in English. Since we are not asked in certain countries, we are currently only providing it in English, but we are willing to provide it in other languages upon request.

Warranty

This product has been manufactured and inspected following the strict quality assurance guidelines of Charmcare Co.,Ltd.

- Refer to the Economic Planning Board's "Regulations Regarding Consumer Compensation" for more information on conditions for product repairs and exchanges.
- The warranty period for this product is one year(4,000 measurements).
- Product malfunctions occurring from regular use shall be repaired for free at the Charmcare service center during the term of the warranty period.
- During the term of the warranty period, report all problems with the product to Charmcare by including the model no., the product no., date of purchase and a detailed description of the error.
- Manufacturer and/or the store where the product was purchased do not assume any responsibility for any and/or all problems resulting from improper use or improper storage of the product.

Contact Us

Contact us at the following numbers and addresses to receive various services and products.

Need to purchase products or parts?	Charmcare Co., Ltd. (Gasan-dong, Woolim Lions2-cha) 714, 2, Gasandigital1-ro, Geumcheon-gu, Seoul, Korea (ZIP 08591) Tel : +82-70-4756-8355 Fax : +82-2-862-5065 E-mail : cs@h2care.com
Need service or repairs?	

Website	http://www.h2care.com
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Definition of Terms

- The user must follow all warnings and precautions.

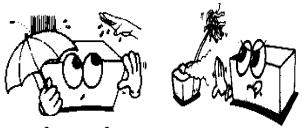
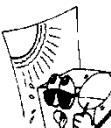
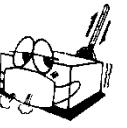
 Warning	"Warning" is used to refer to factors, which, when ignored, may result in severe and/or fatal injuries and property damage.
 Caution	"Caution" is used to refer to factors, which, when ignored, may result in moderate, but non-life-threatening, injuries.
 Note	"Note" is used to highlight factors that are not dangerous, but should be paid close attention to during installation, use, and maintenance.

Abbreviation

SYS	Systolic blood pressure
DIA	Diastolic blood pressure
PUL	Pulse

Proper Environments for the Product

Do not use or store the product in the following conditions:

  Exposure to humidity and/or moisture or areas where air circulation is a problem.	  Do not store or place the product in direct sunlight.
  Use the product between temperatures of 5 °C and 40 °C, and at a humidity between 0% and 95%.	  Do not place the product near heat sources.
  Do not store or place the product in places where product is exposed to chemicals or flammable gas.	  Do not subject product to severe shock and or vibrations.

  <p>Keep product free of dust and debris, particularly metallic objects.</p>	
  <p>Do not attempt to disassemble the product yourself. Charmcare is not liable for any problems that may occur should you attempt to do so.</p>	  <p>Store below an altitude of 3,000m, and below 70 °C.</p>

Safety Precautions

- Do not shock or drop the unit.
- Do not operate the measurement without wearing it on your wrist.
- Dispose of body, parts and accessories according to local regulations.
- For specific information about your own blood pressure, consult with your physician.

Contraindication

- This product is contraindicated for use in ambulatory environments.
- This product is contraindicated for use on aircraft.

General Information

 Warning	Do not adjust dosage based on measurement results.
 Warning	Please take your medicine according to your physician's prescription.
 Warning	Diagnosis and treatment of hypertension is only possible with a physician.
 Warning	If you have any of the following symptoms, please consult your physician before using this product. - Atrial fibrillation or arrhythmia such as atrial fibrillation, arteriosclerosis, decreased circulation, diabetes, aging, pregnancy, pregnancy addiction (preeclampsia or pre-eclampsia), kidney disease.
 Warning	During the measurement, blood pressure measurements may be affected by movement, trembling, chills etc.
 Warning	Do not make measurements on wrists that are injured or under treatment. Do not press the cuff around any wound, as it could make the wound worse.
 Warning	Do not use cuffs on intravenous or transfused arms.
 Warning	If you are measuring on an arm with an arteriovenous shunt (A-V), please consult your physician in advance.
 Warning	Do not use with other electronic medical products at the same time because mutual interference may undermine the intended purpose.
 Warning	Do not use in the vicinity of HF surgical instruments, MRI, CT scanners or in environments with high oxygen concentrations.
 Warning	Small parts are likely to cause suffocation if swallowed by infants or children. To help avoid strangulation, keep the charging cable away from infants, toddlers or children.
 Warning	If you feel any pain or other abnormalities on your skin, discontinue use and consult a physician.

⚠ Warning	Do not use this product on infants, toddlers, children or persons who cannot express themselves.
⚠ Warning	Consult with your physician before using this product if you have severe blood flow problems or blood disorders as cuff inflation can cause bruising.
⚠ Warning	Do not use in a location where there is moisture or a risk of water splashing this product. This may damage the product.
⚠ Warning	Keep this product clean. If this product is causing skin irritation due to sweat or contamination, stop using it and consult with your dermatologist.
⚠ Warning	Do not let chemical products such as lotions, oils, skin creams or cosmetics collect on the product. To avoid damage to the product material, make sure to wipe off any chemical products that have collected on the product.
⚠ Warning	Prolonged rubbing and pressure may irritate the skin. Give your wrist a break by removing the product for a while after extended wear.
⚠ Warning	Do not take blood pressure measurements more often than necessary because bruising, due to blood flow interference, may occur.
⚠ Warning	Consult with your physician or healthcare provider if you begin a weight reduction or exercise program.
⚠ Warning	Be sure to tighten the band strap correctly and always check it.
⚠ Warning	Do not change any part of the product at random.
⚠ Warning	Do not disassemble or attempt to repair this product or other components. This may cause an inaccurate reading.
⚠ Warning	Do not touch (with wet hands) or wet the charging port of the band, terminal of the charging clip and plugs of cables.
⚠ Warning	Do not crush or puncture the battery because it may spontaneously combust.
⚠ Warning	Do not connect the + and - poles using a piece of metal or other conductive objects.
⚠ Warning	This product has a built-in rechargeable battery. To prevent the risk of overheating, fire or explosion, do not throw into fire, apply heat, puncture or crush, use or leave in a high temperature environment.
⚠ Warning	Do not use this product after durable period has ended.
⚠ Warning	Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
⚠ Warning	Portable RF communications equipment(including peripherals such as antenna cables and external antennas) should be used no closer than 30cm(12 inches) to any part of the [ME EQUIPMENT or ME SYSTEM], including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

General Information

⚠ Caution	For specific information about your own blood pressure, please consult your physician.
⚠ Caution	Self-diagnosis or self-treatment according to measurement result is dangerous.
⚠ Caution	If you have any of the following symptoms, please consult your physician before use. -In case of wire ablation -In cases of severe blood disorders or blood disorders, internal bleeding may occur due to compression.
⚠ Caution	Do not measure more than necessary. Internal bleeding may occur due to

	compression.
 Caution	Do not use this product for purposes other than blood pressure measurement.
 Caution	Do not disassemble or modify the body or wrist cuff.
 Caution	Do not use the product in a humid place or in a place where it may get wet. This may cause malfunction.
 Caution	Avoid contact with water.

General Information

 Note	Use this product to measure your blood pressure regularly, record your results and consult your physician.
 Note	When measuring blood pressure, the position of the cuff should be accurately located at the radial artery, and the cuff should be measured at the heart height.
 Note	Blood pressure changes frequently during the day, and can be greatly affected by smoking, drinking, medication, and exercise, so please measure 30 minutes after exercise and 2 hours after meals.
 Note	Be careful not to apply shock or vibration to the blood pressure monitor during blood pressure measurement. These shocks or vibrations may cause the measurement results to be wrong or impossible to measure.
 Note	While measuring your blood pressure, you should measure yourself comfortably without speaking.
 Note	The blood vessel expansion and contraction movements are very slight, and it is impossible to measure due to arrhythmia, etc., or inaccurate measurement values may be obtained.
 Note	Because this product is for adult use, it cannot be used on infants or the very young. For adults with small wrists, measurement may not be possible.
 Note	This product is for adults.
 Note	For adults with small wrist sizes, measurement may not be possible.

Product Symbol Description

Table 1. Descriptions on the visual symbols of the label

Label	Symbol	Description
1		The serial number that identifies the object.
2		Date of manufacture
3		Manufacturer
4		Warning
5		Caution
6		Instruction for User Manual

7		Type of applied part
8		WEEE Mark

Maintenance and Cleaning

The wristband blood pressure monitor device can be kept clean using various methods. Avoid any damage or contamination of the product using the methods recommended below.

- In cases of using a substance that can damage the product (unauthorized substance), the product is not covered under the guarantee period free of charge.

 Caution	After cleaning the product, check the blood pressure monitor.
 Caution	If the product is old or damaged, do not use it.

- Using lukewarm water and / or alcohol, rub with a soft cloth once a month to keep the body clean. Do not use lacquer, thinner, ethylene, or oxide. These materials can damage the product.
- Do not store the product in places exposed to excessive temperature, humidity, moisture or direct sunlight.
- Do not disassemble the product.
- Do not apply strong shock or vibrations to the product. (for example, dropping the product on the floor).
- In any case, do not repair yourself.
- Wipe the product with a soft, dry cloth.
- Keep the product and accessories in a clean and safe place.

Data Transmission

This product emits radio frequencies(RF) in the 2.4GHz band. Do not use this product in locations where RF is restricted, such as on an aircraft or in hospitals.

Turn off the Bluetooth® feature in this product when in RF restricted areas.

Calibration and Service

- The accuracy of this product has been carefully tested and is designed to last.
- To maintain proper operation and accuracy of this product, it is recommended that you inspect it regularly once a year. If necessary, please contact the customer service center.

Part 2 Product Overview

Composition of Product

- Basic Unit

Part	Quantity
H2-BP Main unit	1ea

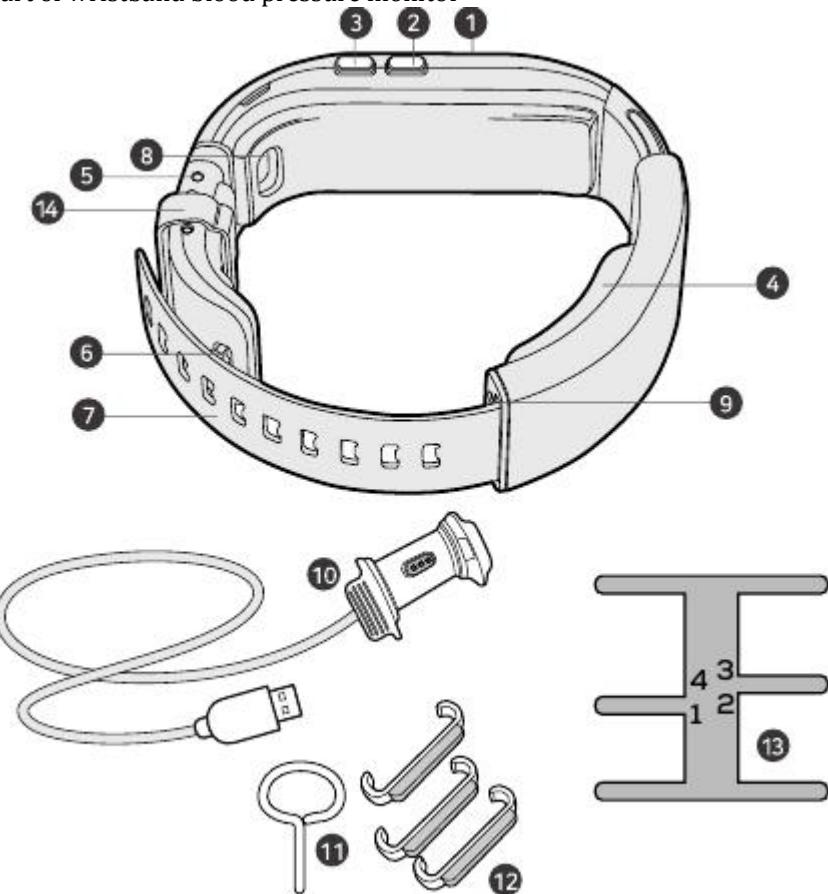
- Basic Accessories

Type	Description	Quantity
Charging cable	5V USB connector	1ea
Wrist thickness instrument	An instrument that measures the thickness of the wrist	1ea
Adjusting pin	Pin to adjust height	1ea
Cushion clip	Clip to buffer pressure	3ea
Ancillary band strap hook	To fasten the band strap hook	1ea
User manual	Manual for users	1ea
Quick manual	Quick manual for users	1ea

 Warning	Do not swallow accessories. This may result in choking.
 Warning	Please purchase accessories only via Charmcare Co.,Ltd.

Part 3 Name of each part

Name of each part of wristband blood pressure monitor



Name	Description
①	Display
②	Switch2
③	Switch1
④	Cuff
⑤	Height adjusting hole
⑥	Band strap hook
⑦	Band strap
⑧	Charging terminal
⑨	Cuff air switch
⑩	Charging cable
⑪	Adjusting pin
⑫	Cushion clip
⑬	Wrist thickness instrument
⑭	Ancillary band strap hook



For electrical safety, the product should not be disassembled.

Part 4 How to use

Describes the basic names and functions of the product that users need to know, and provides information for simple use.

Precautions when using

- Use within the ambient temperature 5°C~40°C and humidity 0%~95%.
- Check the battery charge status.
- Be careful because it is easily damaged by impact.
- Use in consideration of ambient temperature and humidity, and store it away from dust and flammable materials.
- Check the appearance of the wristband blood pressure monitor.
- Make sure that there is no abnormality in the appearance of the charging cable.

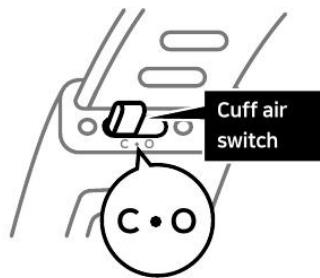
Principle of operation

- This product starts measuring by pressing the switch1.
- The motor is operated fully automatically to calculate peak blood pressure and minimum blood pressure by analyzing the waveform amplitude and cuff pressure, using the oscillometric method of measuring pulsating phenomena, while pressing the cuff and winding the band.

Preparation before wearing

- Cuff initialization
 - Normal cuff condition
 - Make sure the cuff air switch is in position C.
 - Abnormal cuff condition
 - Move the cuff air switch to C->O->C without wearing it to create a normal cuff condition.

⚠ Caution	If you press the cuff air switch while wearing it, the cuff will be in a shrunk state and measurement errors may occur.
⚠ Caution	If the air pressure is not normal, errors may occur in the measurement.
⚠ Caution	Transporting and storing at an altitude of more than 3,000 meters or temperature of 70°C may cause the cuff to fail if the cuff air switch is not previously in position O.

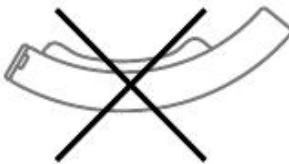


[Normal cuff condition]

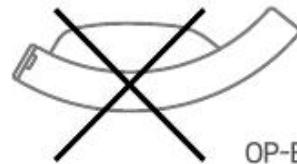


Rev.0

[Shrunken cuff condition]



[Swollen cuff condition]



OP-ENG-14

- Measurable wrist size

Measurable wrist of circumference size is 15.5cm~19.5cm as shown below.



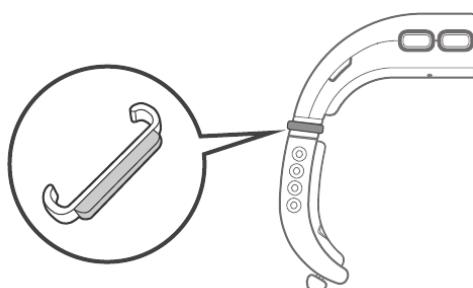
- Adjust the height

Check the thickness number of the wrist with the measuring instrument and adjust the height adjusting hole with the adjusting pin.



- Insert cushion clip

Insert three cushion clips from the inside to align the gap created when adjusting the height.

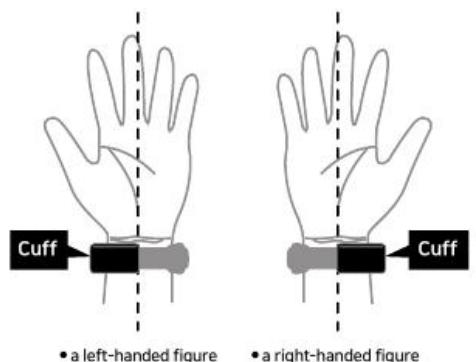


<cushion clip>

Caution	When adjusting the height, give a space between the wrist and the product. Otherwise, a measurement error will occur.
Caution	If you do not insert the cushion clip when adjusting the height, it may be inconvenient to use.

How to wear

- Position the cuff to the tip of the palm below the thumb, and align the end of the cuff with your extended middle finger.



⚠Warning

Please do not allow the product come into contact with water because there is not waterproof function.

⚠Caution

After measuring blood pressure, the band strap may not come out completely. Pull it out if necessary.

⚠Caution

Wear on a wrist with a strong pulse on the radial artery for accurate measurement.

⚠Caution

Do not measure on a wrist where the radial artery is blocked. Measurement errors may occur.

⚠Caution

Blood pressure can differ between the right and left wrists, and readings can be different. Charmcare Co.,Ltd. recommends always using the same wrist when measuring blood pressure. Consult with your physician to determine which wrist you for taking your measurements.

⚠Caution

If the cuff position is not correct, a measurement error will occur.

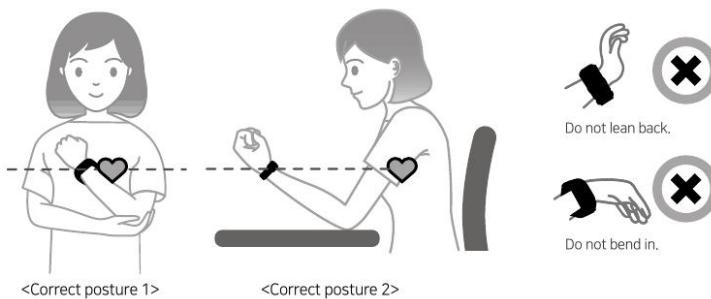
Accurate measurement posture

If the position of the wrist is different from the height of the heart, the blood pressure values change due to the weight of the blood itself.

The figure shows that when the wrist position is higher than the heart, the blood pressure value is lowered. The converse also applies. (There is a change of 8mmHg per 10cm.)

However, since the blood pressure value is also affected by the measurement posture, it does not necessarily follow this exact value. Please refer to the correct measurement posture.

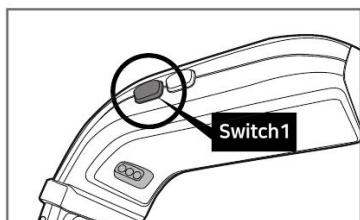
Lightly clench your fist, and hold your arm in a position where the blood pressure monitor is at the same level as your heart.

**⚠Caution**

Do not speak or move while measuring.

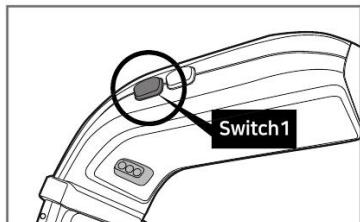
Power

- Press switch1 for more than 2 seconds.

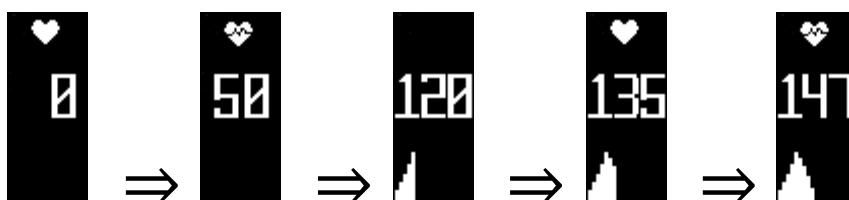


Blood pressure measurement

① While wearing the product, press switch1.



② As pressure is applied to the wrist, the current pressure is displayed on the screen.



③ When the measurement is completed, the measured blood pressure value is displayed.



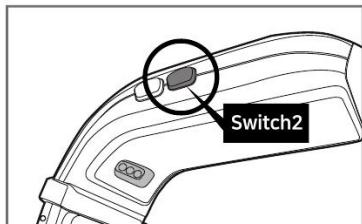
⚠ Caution	If the band strap is loose, blood pressure measurement may not be possible.
⚠ Caution	If the cuff is not positioned over the radial artery, a blood pressure measurement error may occur.
⚠ Caution	During the measurement, you should not speak or move.
⚠ Caution	A single measurement does not provide an accurate indication of your true blood pressure. You need to take and record several readings over a period of time.
⚠ Caution	Avoid bathing, drinking alcohol or caffeine, smoking, exercising and eating for at least 30minutes before taking a blood pressure measurement.

💡 Note	Pressing switch1 once automatically starts blood pressure measurement, and pressing it again during measurement cancels the measurement.
💡 Note	Once the measurement is complete, the band strap is automatically released.
💡 Note	If you want to stop an emergency situation or blood pressure measurement during measurement, press switch1 to automatically released the band strap.

Display clock

① Press switch2.

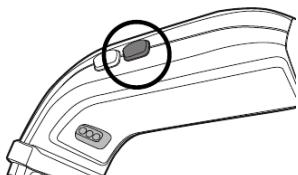
② The current time is displayed.



12
24

Display stored blood pressure measurements

① Press switch2 twice.



② The blood pressure measurement date, time and index values are displayed.

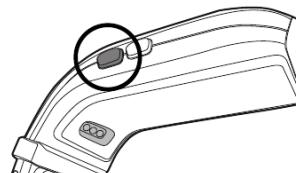


③ The blood pressure measurement value is displayed.

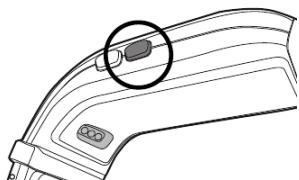
 Note	● Every time you press switch2, the displayed contents change.
 Note	● After confirming the last blood pressure value, press switch2 again to display the clock.
 Note	● The screen automatically turns off after 5seconds if no action is taken.

Setting switch description

- Switch1 : To complete the change

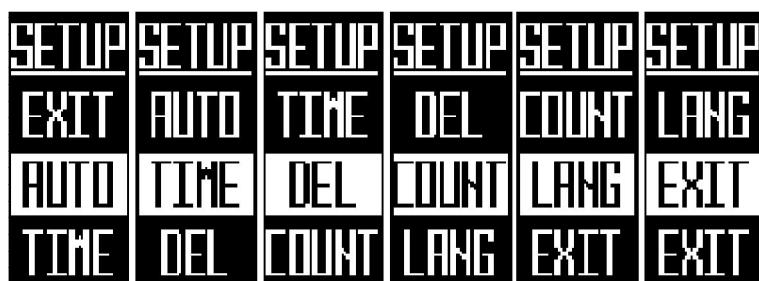


- Switch2 : To change a menu or value



How to set up

- ① Press switch1 for 3seconds to switch to the setting menu.



- AUTO : Automatic clock display setting mode
- TIME : Current date, time settings
- DEL : Delete stored blood pressure values
- COUNT : Display the number of measurements
- LANG : Language setting
- EXIT : Exit setup

- ② Select menu : Press switch2 to move to selected menu and press switch1 to complete menu selection.
- ③ Settings change: Press switch2 to change the selected setting, then press switch1 to complete the setting change.

	<ul style="list-style-type: none"> ● If no switches are pressed for 10seconds, the setting menu is exited.
	<ul style="list-style-type: none"> ● Press and hold switch2 for 3seconds to quickly change the setting.
	<ul style="list-style-type: none"> ● Press switch1 for 3seconds to cancel the change and move to the upper menu.
	<ul style="list-style-type: none"> ● After saving all setting values, go to the upper menu and press EXIT button to exit the setting menu.

Automatic clock display mode by operation

- ① Select the AUTO menu.



② When ON is selected, the screen auto-on by motion.



③ When OFF is selected, the screen auto-off by motion.



If the screen auto-on is set, the battery may run out quickly.

Date and Time Setting

① Select from the TIME menu.



② Set the year



③ Set the month, day



④ Set the hour, minute





This function is a menu to set the date and time if you cannot synchronize with the App. When you synchronize with the app, the time is automatically set to the date and time on your mobile phone, so you do not need to set it manually.

Delete Data

- ① Select from the DEL menu.



- ② If you select YES, the data will be deleted.



If you delete the data, it will not be possible to recover it, so please be careful before deleting data.

Count

- ① Select the COUNT menu to view number of measurements.



Language

- ① Select the Language menu

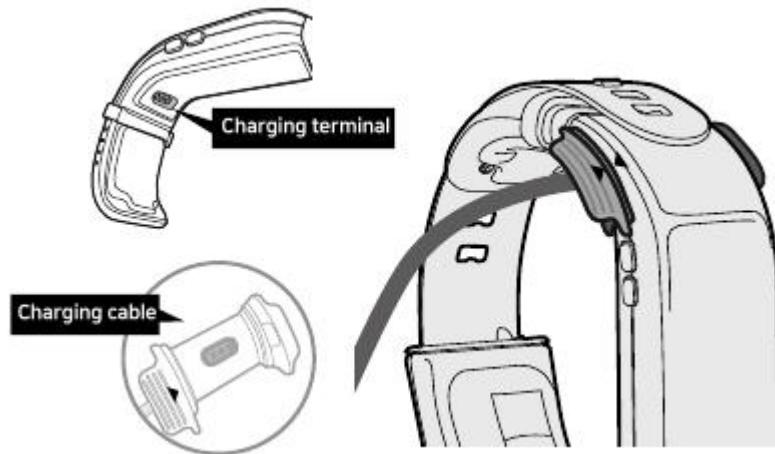


- ② Select your language.



How to use the charger

① Connect the charging cable at the triangle mark of the wristband blood pressure monitor as shown in the figure.



⚠ Warning	Do not pull from the charging cable.
⚠ Warning	When handling the charging cable : - Do not damage it. - Do not break it. - Do not tamper with it. - Do not forcibly bend or pull it. - Do not twist it. - Do not use it if it is gathered in a bundle. - Do not place it under heavy objects.
>Note	Charging time is about 1hour and 30minutes.
Note	Make sure that the USB voltage is 5V.

Battery Status

Using						
	Less than 10%	10% ~ 25%	26% ~ 50%	51% ~ 80%	81% or more	
Charging						
	0%~	25%~	50%~	75%~	75% or more	Complete



If it is less than 10%, blood pressure cannot be measured and only the clock and blood pressure measurement values can be checked.

Smartphone application

- App store, Google play
 - 1) Run the App Store or Google Play Store, search for H2-BP and install the application.
 - 2) After turning Bluetooth on, run the H2-BP application and register your account with your wristband blood pressure monitor for Bluetooth connectivity.
 - 3) Bluetooth 4.0 and upper version



This smart phone application is for use with your product to allow the correct transfer data.



Be aware that Charmcare Co.,Ltd. will not be held responsible for any loss of data and / or information in the app.



If you change your smart device that was paired with your monitor, delete the pairing information from your old smart device to avoid any communication issues.

Part 5 Error Table

Error Number	Cause	Tip
MOVING	Movement during measurement	Do not move while taking the measurement.
21,22, 23,24	Failure cuff condition or loose band strap	Wear the cuff correctly and refer to the instructions.
31,32	Safety function operation	Check the position of the cuff air switch.
41,42	System error	Please contact the distributor.



If an error occurs during a blood pressure measurement, the band strap is automatically released.

Part 6 Simple Troubleshooting Tips

Describes simple troubleshooting when problems occur during use. Sometimes it does not work as intended or you do not know what to do. Do not think of it as a "failure" at this point and check the following.

- General Information

Situation	Cause	Tip
Power does not turn on.	The battery is not charged or is fully discharged.	Charge.
The power is turned off during pressurization.	The battery is completely discharged.	Charge.
Nothing is displayed when you press any switch.	The battery is completely discharged.	Charge.
The blood pressure value is low or high.	The height of the wrist is not maintained at the heart height.	Keep wrist at heart height.
	The blood pressure monitor cuff is not properly worn.	Wear the cuff correctly and refer to the instructions.
	When you are nervous and there is a force on your shoulders or arms.	Measure in a comfortable position.
	If you talk during measurement or move your arm	Do not move and measure it quietly.
The pressure does not rise.	In case of air leaks from the cuff	Check the position of the cuff air switch.
The blood pressure monitor is functioning normally, and even when measured correctly, - It is lower than the value measured at the hospital (high). - It is different blood pressure values for each measurement.		Refer to measurement Part 10 Q&A.
Other situations		Press the measurement switch again to start again from the beginning. Charge the battery. If the above advice does not solve the problem, please contact the distributor.

Part 7 Product Specifications

- **Electrical**

Power Input	5Vdc
Battery	120mAh
Battery Type	3.7V LI-ION POLYMER Battery
Charging Time	1h 30min.
Battery Life	3days(Decrease by number of measurements)
Warranty	1year(Number of measurements : 4000times)

- **Performance**

Measurable Circumference of Wrist	15.5cm~19.5cm
Blood Pressure	Measurement Range : 30mmHg ~ 260mmHg Accuracy : ± 5 mmHg Measurement Method : Oscillometric Measurement Time : 30~50seconds
Pulse Rate	Range : 40bpm~180bpm Accuracy : $\pm 5\%$
Resolution	1mmHg

- **Environmental**

Pressure Method	Gear Motor
Transmission Method	BLE4.0
Operating Temperature	+5 °C ~ +40 °C
Operating Humidity	0% ~ 95%
Storage Temperature	-20 °C ~ +70 °C
Storage Humidity	10% ~ 95%

- **Physical Characteristic**

Material	PVC, PC
Weight	About 43g
Dimensions	60(H) X 75(D) X 24(W)
Display	OLED (96 X 39Pixel)
Memory	Up to 200readings

- **How to keep and manage after use**

- ① Do not store near water.
- ② Do not store in a place subject to adverse air pressure, temperature, humidity or wind conditions.
- ③ Be aware of the steady state, including vibration and impact (including when transporting).
- ④ Do not store in an area used to store chemicals, or where gas is generated.
- ⑤ Wipe the cuffs with a soft, dry cloth to keep them clean.

Part 8 About wristband blood pressure monitor

Classification of BP(Blood Pressure)

- ACC/AHA 2017 Hypertension guidelines define categories of BP in adults as below.

Categories of BP in Adults*

BP Category	Systolic BP	Diastolic BP
Normal	<120mmHg	and <80mmHg
Elevated	120-129mmHg	and <80mmHg
Hypertension Stage1	130-139mmHg	or 80-89mmHg
Hypertension Stage2	≥140mmHg	or ≥90mmHg
Hypertensive crisis	>180mmHg	and/or >120mmHg

* Individuals with Systolic BP and Diastolic BP in 2 categories should be designated to the higher BP category.

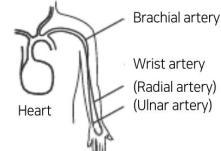
BP indicates blood pressure (based on an average of ≥ 2 careful readings obtained on ≥ 2 occasions).

Source : ACC/AHA 2017 High Blood Pressure Clinical Practice Guideline



Never diagnose or treat yourself based on your readings. Always consult with your physician.

- Normally, when measuring blood pressure, the blood pressure of the brachial artery is measured. Because the arterial blood vessels of the wrist are connected to the upper arm, the wrist blood pressure is close to the upper arm blood pressure value and reflects the change of the upper arm blood pressure. However, when there is circulatory disturbance such as arterial occlusion, the blood pressure of the upper arm and wrist may show significantly differences. Please consult with a specialist and hopefully you will be able to adjust your upper arm blood pressure.
- The difference between wrist and upper arm blood pressure Normally, when you are in stable condition, the difference between the measured values of wrist and upper arm blood pressure is about ± 10 mmHg for both the highest blood pressure and the lowest pressure. However, since the blood circulation changes greatly in situations such as immediately after exercise or after bathing, the blood pressure of the upper arm and wrist value may differ significantly.
- Wrist and upper arm blood pressure values in a case of illness Diabetes, hyperlipidemia, hypertension, and the like promote atherosclerosis especially as the symptoms progress. It can develop into dangerous diseases such as stroke or myocardial infarction, and it can cause arterial stenosis or peripheral circulatory disorder. In the case of those with such diseases, there may be a large difference between the wrist and the upper arm blood pressure value. (Even a healthy person may differ by as much as 20mmHg if the measurement conditions are not appropriate, so please do not self-diagnose and follow the specialist's instructions.) In addition, the difference between the wrist and upper arm blood pressure values may be influenced somewhat by physiological condition, but the blood pressure values measured on the wrist and the upper arm are generally the same. Therefore, it is possible to confirm the tendency of the blood pressure to change by measuring the wrist blood pressure.



- Daily life and wrist blood pressure

Generally, there is no significant difference between upper-arm and wrist blood pressure before and after meals.

However, in the case of entering a bath with a high water temperature, the blood vessels of the skin contract temporarily so blood pressure increases.

When bathing slowly in tepid baths, peripheral blood vessels expand and blood pressure decreases.

At this time, the blood pressure of the wrist tends to be lower than the blood pressure of the upper arm.

Part 9 Differences in blood pressure according to posture

There is a distinct blood pressure difference when lying down, sitting and standing.

Diastolic blood pressure is about 5mmHg higher than lying down and systolic blood pressure is 8mmHg higher lying down than sitting.

It is different when you sit and measure your blood pressure, when you cross your legs and you do not cross your legs.

When you cross your legs, systolic blood pressure is about 28mmHg higher.

When you sit at a table without armrests and measure it, diastolic blood pressure is about 6mmHg higher.

According to statistics from several studies, there is a significant decrease in blood pressure in sitting position(upright) and standing(standing) posture rather than in both upper and lower(lying) postures. This posture also affects blood pressure, but illness, stress and weight can also affect blood pressure. There is no doubt that there is a difference in blood pressure by posture depending on age. Young adults in 20s and 30s have little or no difference in blood pressure depending on their posture.

Why posture makes a difference in blood pressure

Many people wonder if posture makes a difference in blood pressure level.

Our heart is a pump and the heart needs to be pumped to send blood every part of our body.

When we are lying down, the heart uses a little less effort to supply blood to the brain, because the head and heart are the same height. In a standing posture, the heart needs to use much more force to supply blood to the brain. However, there is a tendency for blood to gravitate toward the abdomen and legs due to gravity, while in a standing position.

Part10 Measurement Q&A

- Q. It is lower than the figures at the hospital.
 - A. Did you not feel nervous when measuring at the hospital?
Because it is stable at home, it may be 20mmHg ~ 30mmHg lower than that measured at the hospital. It is important to know the measured values in a stable state at home.
 - A. When measuring, was the position of the wrist cuff higher than the heart?
If the position of the wrist cuff is higher than the heart at the time of measurement, the blood pressure may be measured lower. (Check your correct posture.)
- Q. It is higher than the figures at the hospital.
 - A. Did you take your blood pressure medication?
If you measure your blood pressure after taking antidiuretic medication in the morning, your blood pressure may be higher than the blood pressure measured at the hospital.
This is called hypertension. Please consult your physician.
 - A. Is the position of the wrist cuff correct?
If the position of the wrist cuff is wrong, it is difficult to catch the signal from the artery and blood pressure is measured high.
Check the position of the wrist cuff.
 - A. Did you lean over, or were you sitting cross legged when you measured?
If you lean forward, or sit on the edge of a desk or sofa, or on a low table, pressure may be applied to your abdomen or blood pressure may increase because the wrist cuff position is lower than your heart.
- Q. The measurement value is different for each measurement.
 - A. Are you always measuring under the same conditions?
Blood pressure is changing every moment. If you measure continuously, you can see that your blood pressure is different even if you measure the same day. It also depends on the measurement posture and how you wrap the wrist cuff.
Wrap the wrist cuff correctly, assume correct posture and always measure under the same conditions.
 - A. Blood pressure can change for a variety of reasons.
Even when measuring at home, it varies depending on the following factors.
 - 1 hour after meals
 - After drinking alcohol, coffee, tea
 - After smoking
 - After bathing
 - After exercise
 - After urination, bowel movement
 - Speaking during a measurement
 - When you are not resting, or have tension or anxiety
 - When the room temperature suddenly changes
 - When the measurement place or environment is different from normal
- Q. Feel pain and numbness in tightening the cuff
 - A. You do not have to worry about this temporary phenomenon.
The blood pressure measurement product needs to be tightened until the arterial blood flow is temporarily stopped.
You may feel pain or numbness, but if you take off your blood pressure meter for a while, it will be OK.
- Q. How do you manage your blood pressure at home?
 - A. Record your blood pressure as well as your medication and life status.
If you record your blood pressure every day, you will become familiar with regular fluctuations in your blood pressure, which will help your health.

It is also helpful if you get a physician's diagnosis.

For accurate diagnosis, it is recommended to record not only the blood pressure value but also the state of the measurement(including the blood pressure medication dose and living status, etc.).

- Q. How do you know the difference from the blood pressure readings from the upper arm?
A. The brachial blood pressure monitor on the right arm and the wristband blood pressure monitor on the left wrist are measured simultaneously.
By measuring a few times, you will know your blood pressure trend.
In addition, when the difference in blood pressure between the right arm and left arm is significantly different, it is necessary to measure the left and right blood pressure tendency by measuring several times alternately left and right.



Part 11 Product Warranty

Product Warranty

Product name	Automated electronic sphygmomanometer
Model name	H2-BP
Product license number	17 - 4808
Product approval date	26/10/2017
Manufacturing number	Marked on product label
KC compliance certification number	R-CRM-CC1-4A017A0001
Warranty	One year from purchase date
Purchase date	
Packing unit	ea
Customer	Address : Name : Tel :
Distributor	
Manufacturer	CHARMCARE CO.,LTD.
Homepage	www.h2care.com

- ※ Thank you for purchasing our products.
- ※ This product has passed strict quality control and rigorous inspection.
- ※ Compensation standards for repair, exchange, and refund of this product are subject to the "Consumer Damage Guarantee Regulations" issued by the Ministry of Economy, Trade and Industry.

Manufacturing license number: 2130 Product license number : 17-4808
Product name : Automated electronic sphygmomanometer Model name : H2-BP
Packing unit : ea Weight : 43g
Internal battery: LI-ION POLYMER, 3.7V, 120mAh
Production from electrical shock: Internal power type product/BF type
Manufacturing number: Manufacturing date:
KC compliance certification number : R-CRM-CC1-4A017A0001 
Performance, usage and usage precautions: refer to user's manual '**Medical Product**'
Manufacturer : CHARMCARE CO.,LTD.
(Gasan-dong, Woolim Lions2-cha)714, 2, Gasandigital1-ro, Guemcheon-gu, Seoul
LA-ENG-14 Rev.0(19.04.24) Tel : +82-70-4756-8355 Fax : +82-2-862-5065

Product name : Automated electronic sphygmomanometer
User manual Rev.0(2019.03.19)

User manual Rev.0(2019.03.19)

Document number : OP-ENG-14

FCC Information to User

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 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.

Caution

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information : This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.