CE 0123

Bluetooth SMART

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Version:1.0

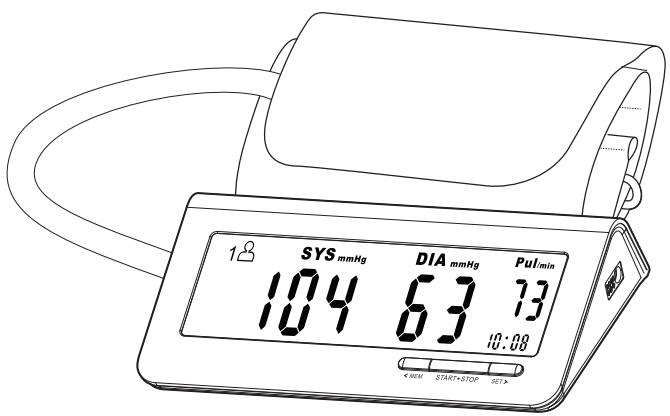
BODYGAUGE

BODYGAUGE

User Manual

Blood Pressure Monitor TMB-1018-BT

Arm Type



Please do read the user manual carefully and thoroughtly so as to ensure the safe usage of this product, and keep the manual well for further reference in case you have problems.

This blood pressure monitor could also easily be used seperately. All functions will be available, without the usage of a Bluetooth® Smart device with BodyGauge app isn't necessary.

Bluetooth SMART

Table of Contents

General Description

Thank you for selecting BodyGauge arm type Blood Pressure Monitor (TMB-1018-BT). The monitor features blood pressure measurement, pulse rate measurement and auto-save the result. The design provides you with two years of reliable service. Reading taken by the TMB-1018-BT are equivalent to those obtained by a trained observer using the cuff and stethoscope auscultation method.
This manual contains important safety and care information, and provides step by step instruction for using the product.
Read the manual thoroughly before using the product.

Features:

- 141mm x 36mm Blue LCD display with white backlight
- Up to 60 pieces of record stored for each user
- Measure-during-inflating Technology
- Bluetooth® Smart data transmitting function

Indications For Use

The BodyGauge Blood Pressure Monitor is digital monitors intended for use in measuring blood pressure and heartbeat rate with arm circumference ranging from 22 cm to 32 cm (8.7-12.6 inches).
It is intended for adult indoor use only.

Measurement Principle

This product uses the Oscillometric Measuring method to detect blood pressure. Before every measurement, the unit establishes a “zero pressure” equivalent to the air pressure.Then it starts inflating the arm cuff, meanwhile, the unit detects pressure oscillations generated by beat-to-beat pulsatile, which is used to determine the systolic and diastolic pressure, and also pulse rate.The device also compares the longest and the shortest time intervals of detected pulse waves to mean time interval then calculates standard deviation.The device will display a warning signal with the reading to indicate the detection of irregular heartbeat when the difference of the time intervals over.

Safety Information

The below signs might be in the user manual, labeling or other component. they are the requirement of standard and using.

	Symbol for “THE OPERATION GUIDE MUST BE READ”		Symbol for “TYPE BF APPLIED PARTS”
CE 0123	Symbol for “COMPLIES WITH MDD93/42/EEC REQUIREMENTS”		Symbol for “ENVIRONMENT PROTECTION – Waste electrical products should not be disposed of with household waste. Please follow local guidelines.”
	Symbol for “MANUFACTURER”		Symbol for “DIRECT CURRENT”
SN	Symbol for “SERIAL NUMBER”	EC REP	Symbol for “Authorised Representative in the European Community”
	For indoor use only		Symbol for “Class II Equipment”
Bluetooth	The Bluetooth® Smart Mark	F1	T1A/250V Φ3.6*10CCC
	Symbol for “MANUFACTURE DATE”		

CAUTION

Please do read this user manual carefully and thoroughly before use.

This device is intended for adult use in the home/domestic only.

This device is intended for non-invasive measuring and monitoring of arterial blood pressure. It is not intended for use on extremities other than the upper arm or for functions other than obtaining a blood pressure measurement.

Do not confuse self-monitoring with self-diagnosis. This unit allows you to monitor your blood pressure. Please start or end medical treatment basing solely on physician’s treatment advice.

If you are taking medication, consult your physician to determine the most appropriate time for your measurement. Never change a prescribed medication without your physician’s consent.

This unit is not suitable for continuous monitoring during medical emergencies or operations.

If the pressure of the cuff exceeds 40 kPa (300 mmHg), the unit will automatically deflate. Should the cuff not deflate when its pressure exceeds 40 kPa (300 mmHg), detach the cuff from the upper arm and press the homologous button to stop inflation.

Do not use the monitor under the conditions of strong electromagnetic field (e.g. mobile) that radiates interference signal or electrical fast transient / burst signal, especially when the AC adaptor is applied.

Do not touch the output of AC adapter and the patient simultaneously.

The device is not AP/APG equipment. It is not suitable for use in the presence of a flammable anesthetic mixture with air (or oxygen, nitrous oxide).

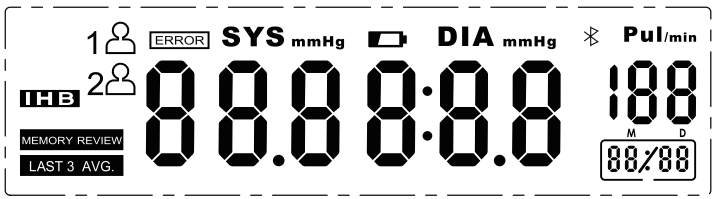
Please keep the unit out of reach of infants or children, since inhalation or swallowing of small parts is dangerous or even fatal.

Please use ACCESSORIES and detachable parts specified / authorised by MANUFACTURER. Otherwise, it may cause damage to the unit or danger to the user / patient.

The materials of the cuff have been tested and found to comply with requirements of ISO 10993-5: 2009 and ISO 10993-10:2010. It will not cause any potential alergic reaction or contact injury.

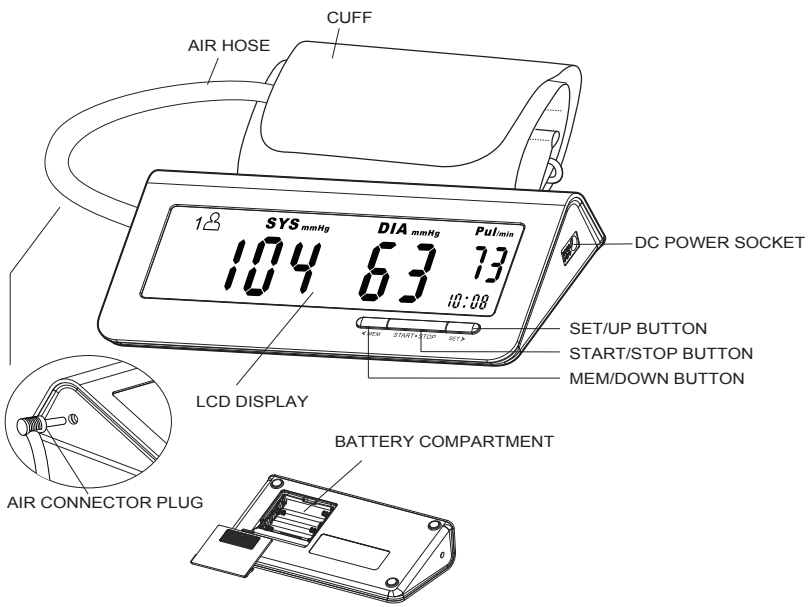
Please make sure the unit functions safely and it is in proper working conditions before use.

LCD Display Signal



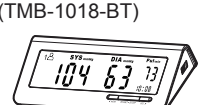
SYMBOL	DESCRIPTION	EXPLANATION
SYS	Systolic Blood Pressure	High blood pressure
DIA	Diastolic Blood Pressure	Low blood pressure
Pul/min	Puls	Beat/minute
1	User 1	Start measurement for user 1 and transmit the measuring result automatically.
2	User 2	Start measurement for user 2 and transmit the measuring result automatically.
MEMORY REVIEW	Memory Review Mode	The query log, and a few memories
	Successful Bluetooth® Smart Connection	Bluetooth® Smart is turned on
LAST 3 AVG.	Average Value	Average value of last three measurements.
ERROR	Error	The monitor detects error.
	Low Battery	Low battery and please replace the batteries.
mmHg	Unit	Measurement unit of blood pressure
	Current Time	Month:Day (Hour:Minute)
IHB	Irregular Heartbeat Detector	Detects irregular heart beats.

Monitor Components



List

1.Blood Pressure Monitor (TMB-1018-BT)

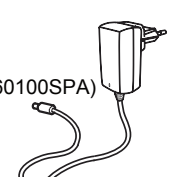


2.Cuff

3. 4*AAA alkaline batteries

4.User manual

5.AC Adaptor (UE08WCP-060100SPA)

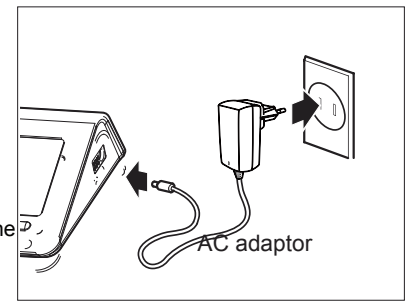


The Choice of Power Supply

1.Battery powered mode:
6VDC 4*AAA alkaline batteries

2.AC adaptor powered mode:
100-240V~, 50-60HZ,400mA
(Can be supplied by AC adaptor model UE08WCP-060100SPA only!)

Please unplug the adaptor to depart from the using utility power.

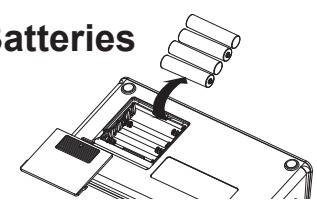


CAUTION

In order to achieve the best performance and protect you monitor, please use the authorized / specified battery and power adaptor.

Installing and Replacing the Batteries

1. Open the battery door.
2. Insert the batteries according to the polarity indications.
3. Close the battery door.



Battery Life: Approx. 44 days

(Battery capacity: 600 mAH. If measured three times per day, each measurement takes 35s, measuring result display takes 20s and data transmission takes 10s. The current for measurement is 400 mA and that for records display and data transmission is 50 mA and 50 mA separately, while the current when shutdown is 35 uA.

Replace the batteries under following circumstances:

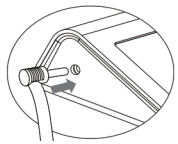
- Lo displays on the LCD.
- The LCD display dims.
- When powering on the monitor, the LCD doesn't light up.

CAUTION

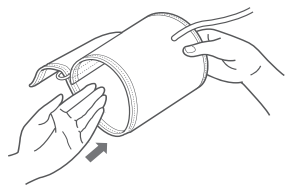
- Remove batteries if the device is not likely to be used for some time.
- Worn batteries are harmful to the environment. Do not dispose with daily garbage.
- Remove the old batteries from the device following your local recycling guidelines.

Apply the Cuff

1.Insert the plug of cuff's air pipe into the interface located on the right side of the monitor.

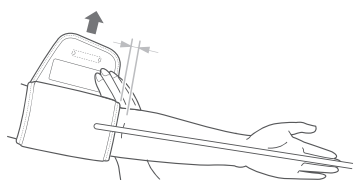


2.As pictured on the right, wear the cuff on your upper arm.



3.Tighten the cuff up. Make sure the cuff is fixed 2 to 3 centimeters above your elbow.

Appropriate to insert one finger when the cuff is tightened around your upper arm.



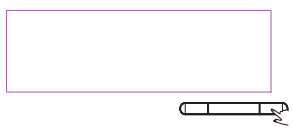
4.Correct Posture:
Bare your arm or wear tights only when starting measurement.
Sit comfortably and relaxed on a proper-size chair.
The central of the cuff should maintain at the same level as your heart.
Legs relaxed with the feet falling outwards.
Palms up.

♥ Settings

Please proceed to time setting before your initial use so as to ensure each piece of record is labeled with a time stamp. (The range of the year is 2000 to 2050. Time Format: 24 Hours)

NOTE: The monitor will shut off automatically in 60 seconds after last operation when in Setting Interface.

1.When the monitor is OFF, press and hold SET button to enter [HOUR] and [MINUTE] setting.



2.Press MEM button to change the numeral. Each press will increase the numeral by one in a cycling manner.

HOUR

3.Press SET button to confirm the [HOUR] and [MINUTE]. Then the monitor diverts to [MONTH] and [DAY] setting automatically.

MINUTE

4.Repeat step 2 and 3 to confirm [MONTH] and [DAY]. Then the monitor diverts to [YEAR] setting automatically.

MONTH

DAY

5.Repeat step 2 and 3 to confirm [YEAR].

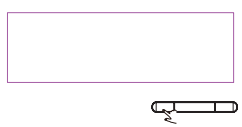
YEAR

6.After confirming the [YEAR], the LCD will display “dOnE” and the monitor will shut off automatically.

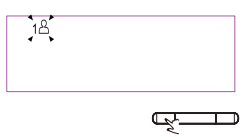
♥ Select User ID

NOTE: The monitor will shut off automatically in 60 seconds after last operation when under User ID selection mode.

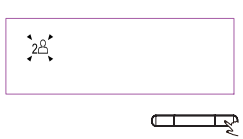
1.When the monitor is OFF, press and hold MEM button to enter User ID selection mode.



2.The current User ID blinks.



3.Press MEM button to switch between User 1 and User 2.



4.Press SET button to confirm the selected User ID.

Pair-up the Blood Pressure Monitor with Your Device

1.Turn on Bluetooth® Smart and the app. Make sure both are ON when pair-up is proceeding.

2.When the monitor is OFF, press and hold the START button to start pair-up. The symbol ᛒ blinks, indicating pair-up is proceeding.

If SUCCEED, symbols will be shown on the LCD just like the picture on the right.

If FAIL, symbols will be shown on the LCD just like the picture on the right.

3.The monitor will shut off automatically after Pair-up process is complete.

Start Mearsurement

After correctly positioning the cuff and selecting User ID, press START·STOP button to turn on the monitor, and it will complete the measurement process automatically.

1.LCD display

2.Adjust to zero automatically.

3.Inflating and measuring automatically.

4.Display and save the results will automatically transmitted to the app. The icon ᛒ blinks.

5. Press START·STOP button to turn off the monitor. Otherwise, the monitor will shut off within 1 minute after last operation.

Tips:

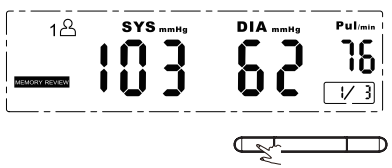
A.when finish the whole measurement, press another button. Then the blood monitor will begin measuring again.

B.Maximum 60 records are both for user 1 and user 2.

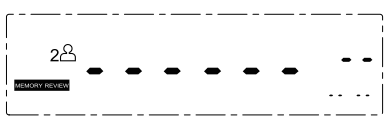
Recall the Records

1.When the monitor is OFF, press MEM button to retrieve the memory. The monitor will display the average value of last three measurements.

2.Press MEM button again to rotate the records. Up to 60 records will be stored under each user ID.
The measurement date and time will be displayed alternatively.



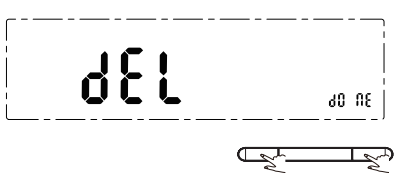
3.If you would like to check another user ID's history, please follow the instructions in Select User ID to change to another User ID first.



No Record found for User 2!

Delete the Records

1.When under data enquiry mode, press and hold both MEM button and SET button for 3 seconds to clear memory. The LCD will display "dEL dOnE", indicating that the memory is cleared.



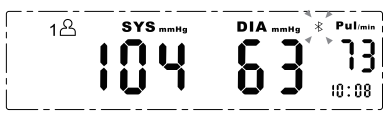
Data Transmission

Automatic Data Transmission

With the advanced Bluetooth® Smart technology applied, the mobile or portable equipments, which are equipped with Bluetooth® Smart function in line with BLE Technical Specifications as well as BLP Protocol established by global organization App and Bluetooth® SIG, are capable to receive your personal health data.

When both BodyGauge App and Bluetooth® Smart are ON, TMB-1018-BT will automatically transmit measurement data to your mobile via Bluetooth® Smart.

1.After measurement, the symbol lights up, indicating the measuring result is being automatically transmitted to BodyGauge app.



2.If SUCCEED, the LCD will display "dOnE".

3.If FAIL, the LCD will display "ERROR".

CAUTION

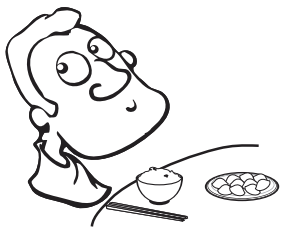
- Interference may occur in the vicinity of equipment marked with the following symbol . And TMB-1018-BT may interfering vicinity electrical equipment.
- Sensitive people, including pregnant women and those who implanted medical electronic instruments, should avoid using the unit whenever possible.
- Keep the monitor at least 20 centimeters away from the human body (especially the head) when the data transmission is proceeding after measurement.
- To enable the data transmission function, this product should be paired to Bluetooth® Smart end at 2.4 GHz.

How to mitigate possible interference?

1. The range between the device and Bluetooth® Smart end should be reasonably close (1 - 10 meter). Please ensure no obstacles between device and Bluetooth® Smart end so as to obtain quality connection and to lower the RF output range.
2. To avoid interference, other electronic devices (particularly those with wireless transmission / Transmitter) should be kept at least 1 meter away from the monitor.

Tips for Measurement

It can cause inaccuracy if the measurement is taken in the following circumstances.



Within 1 hour
after dinner or drinking

Immediate measurement
after tea, coffe, smoking

Within 20 minutes
after taking a bath

When talking or moving your fingers

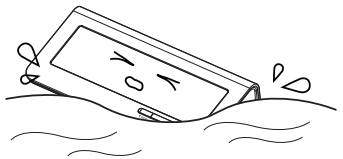
In a very cold environemnt

When you want to discharge urine

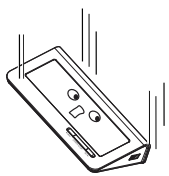
Maintenance

To obtain the best performance, please follow below instructions.

Put in a dry place and
avoid the sunshine



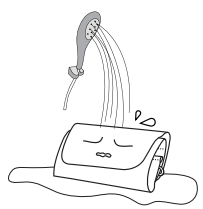
Avoid immersing it in the water.
Clean it with a dry cloth in case.



Avoid shaking and collision.

Avoid dusty environment and
unstable temperature surrounding

Use the slightly damp cloth
to remove the dirt.



Avoid washing the cuff

Cleaning: Before Use - Pick out the whole unit of the storage bag. Use the soft cloth to remove the dirt on the monitor and apply some alcohol to disinfect the cuff before tying the cuff.

After Use - Use the soft cloth to wipe the unit and apply some alcohol to disinfect the cuff before putting the whole unit back in the bag.

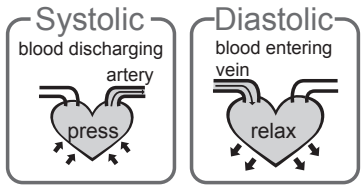
Please always disinfect the cuff before applying to another patient.

Please follow the instructinos for correct replacement of interchangeable or detachable parts specified by BodyGauge as “replaceable”.

Disposal: Degraded sensors may result in inaccurate measurement while loosened electrodes may cause the monitor’s failure to power on. The expected life of the monitor is two years. Please dispose of ACCESSORIES, detachable parts, and the ME EQUIPMENT according to the local guidelines.

What are systolic pressure and diastolic pressure?

When ventricles contract and pump blood out of the heart, the blood pressure reaches its maximum value in the cycle, which is called systolic pressure. When the ventricles relax, the blood pressure reaches its minimum value in the cycle, which is called diastolic pressure.

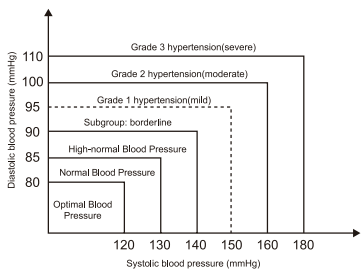


What is the standard blood pressure classification?

The blood pressure classification published by World Health Organization (WHO) and International Society of Hypertension (ISH) in 1999 is as follows:

CAUTION

Only a physician can tell your normal BP range. Please contact a physician if your measuring result falls out of the range. Kindly note that only a physician could tell whether your blood pressure value has reached a dangerous point.



Blood Pressure (mm Hg) \ Level	Optimal	Normal	High-normal	Mild	Moderate	Severe
SYS	<120	120-129	130-139	140-159	160-179	≥180
DIA	<80	80-84	85-89	90-99	100-109	≥110

Irregular Heartbeat Detector

This Blood Pressure Monitor is equipped with an intelligent function of Irregular Heartbeat (IHB) Detector. During each measurement, this equipment records the heartbeat intervals and works out the standard deviation. If the calculated value is larger than or equal to 15, this equipment will light up the IHB symbol on the screen when displaying the measuring result.

CAUTION

The appearance of the IHB icon indicates that a pulse irregularity consistent with an irregular heartbeat was detected during measurement. Usually this is NOT a cause for concern. However, if the symbol appears often, we recommend you seek medical advice. Please note that the device does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

Why my blood pressure is varies even in one day?

1. Individual blood pressure varies every in one day, it also affected by the way you tie your cuff and the your measurement position, so please take the measurement at the same condition.

2.The varies of the pressure is greater if the person take medicine.

3.Waiting at least 4-5 minutes for another measurement.

Why the blood pressure I get from the hospital is different from home?

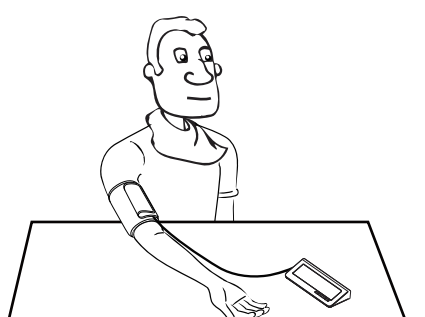
The blood pressure is different even during 24 hour because of the weather,emotion, exercise etc, specially the “white coat” in hospital which makes the results are higher than the ones at home.

The attention need to pay when you measure you blood pressure at home:

If the cuff is tied properly.
If the cuff is too tight or too loose.
If the cuff is tied on the upperarm.
If you feel anxious pressured.
You had better take deep breath 2-3 times before beginning.
Advice:adjust yourself for 4-5 minutes until you calm down.

If the result is the same if measuring on the right arm?

It is ok for both arms, but there will be some different results for different arm, so suggest you measure the same arm every time.



PROBLEM	SYMPTOM	CHECK THIS	REMEDY
No power	Display is dim or will not light up.	Batteries are exhausted.	Replace with new batteries
		Batteries are inserted incorrectly.	Insert the batteries correctly
Low batteries	 Show on the display	Batteries are low.	Replace with new batteries
Error massage	E 1 shows	Data Communication Failure.	Please check below items: 1.Bluetooth® Smart is ON. 2.Both devices are within the transmission distance of Bluetooth® Smart
	E 2 shows	The cuff is very tight	Refasten the cuff and then measure again.
	E 3 shows	The pressure of the cuff is excess.	Relax for a moment and then measure again.
	E 10 or E 11 shows	The monitor detected motion while measuring.	movement can affect the measurement.Relax for a moment and then measure again.
	E 20 or E 21 shows	Measure incorrectly.	Relax for a moment and then measure again.
	Eexx,shows on the display.	A calibration error occurred.	Retake the measurement. If the problem persists, contact the retailer or our customer service department for further assistance.Refer to the warranty for contact information and return instructions.
		Data Transmission Failure.	Press and hold START· STOP button to start manual data transmission.
		Bluetooth® Smart is OFF.	Turn ON Bluetooth® Smart and try again.
		The device is too far away from your mobile.	Keep the distance of Blood Pressure Monitor and the mobile within 2 to 3 meters.

Power supply	Battery Powered Mode: 6V (4 x AAA-size alkaline-battery) AC Adaptor Powered Mode: 100-240 V~, 50-60 Hz, 400 Ma (Can be supplied by AC adaptor model UE08WCP-060100SPA only!)
Display mode	Blue LCD with White Backlight V.A. = 141mm(L) x 36mm(W)
Measurement mode	Oscillographic testing mode
Measurement range	Pressure: 0-40kpa(0~300mmHg) pulse value:(40-199)times/minute
Accuracy	Pressure: 15℃-25 ℃ within ±0.4 kPa (3 mm Hg) 10℃-40℃(out of 15 ℃ -25℃) within ±0.7 kPa (5 mm Hg); Pulse Value: ±5%
Working condition	Temperature:10℃-40 ℃ Relative Humidity 15%-90%RH Atmospheric Pressure: 80-105 kPa
Storage & transportation condition	Temperature:-20℃-60℃ Relative Humidity 10%-93%RH Atmospheric Pressure: 50-106 kPa
Measurement perimeter of the upper arm	About 22cm-32cm
Net Weight	Approx.340g(Excluding the dry cells)
External dimensions	Approx.180*100*40mm
Attachment	4*AAA alkaline batteries,user manual
Mode of operation	Continuous operation
Degree of protection	Type BF applied part
Device Classification	Battery Powered Mode: Internally Powered ME Equipment AC Adaptor Powered Mode: Class II ME Equipment
IP Classification	IP22
Software Version	V01

WARNING: No modification of this equipment is allowed.

The Matched Components

1. Please use the BodyGauge authorized adaptor

2.Storage bag.

Adaptor
Type: UE08WCP-060100SPA
Input: 100-240V, 50-60Hz,400mA
Output: 6V ⎓ 1A
(Expected Service Life: 50,000 Hours)

Contact Information

For more information about our products, please visit:

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Tel. +31 858769819, email: info@bodygauge.eu
Manufactured by: GUANGDONG TRANSTEK MEDICAL ELECTRONICS CO., LTD
Company: GUANGDONG TRANSTEK MEDICAL ELECTRONICS CO., LTD
Address: Zone A, 5/F., Investment Building , No. 12, Huizhan East Rd., Torch Development District, Zhongshan, Guangdong, 528437, China

Authorized European Representative:
Company: MDSS - Medical Device Safety Service GmbH
Address: Schiffgraben 41, 30175 Hannover, Germany

Complied European Standards List

Risk Management	EN/ISO 14971:2007
Labeling	EN 980:2008
User Manual	EN 1041:2008
Generl Requirements for Safety	EN 60601-1:2006/A1:2012 EN 62304:2006/AC:2008 EN 60601-1-6:2010 EN 60601-1-11:2010
Non-invasive Sphygmomanometers General Requirements	EN 1060-1:1995+A2:2009 EN 1060-3:1997+A2:2009 EN 1060-4:2004
Electromagnetic Compatibility	EN 60601-1-2:2007/AC:2010

EMC Guidance

Table 1 Guidance and manufacturer's declaration – electromagnetic emissions- for all EQUIPMENT and SYSTEMS

Guidance and manufacture's declaration – electromagnetic emission		
The TMB-1018-BT is intended for use in the electromagnetic environment specified below.The customer of the user of the TMB-1018-BT should assure that it is used in such anenvironment		
Emission test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The TMB-1018-BT 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 emission CISPR 11	Class B	The TMB-1018-BT is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Table 2 Guidance and manufacturer's declaration – electromagnetic immunity – for all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacture's declaration – electromagnetic immunity			
The TMB-1018-BT is intended for use in the electromagnetic environment specified below. The customer of the user of the TMB-1018-BT should assure that it is used in such an environment			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s)	±1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle	<5% U_T (>95% dip in U_T) for 0.5 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of TMB-1018-BT requires continued operation during power mains interruptions, it is recommended that TMB-1018-BT be powered from an interruptible power supply or a battery.
	40% U_T (60% dip in U_T) for 5 cycles	40% U_T (60% dip in U_T) for 5 cycles	
	70% U_T (30% dip in U_T) for 25 cycles	70% U_T (30% dip in U_T) for 25 cycles	
	<5% U_T (>95% dip in U_T) for 5 sec	<5% U_T (>95% dip in U_T) for 5 sec	
Power frequency (50Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Table 4 Guidance and manufacturer's declaration – electromagnetic immunity – for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacture's declaration – electromagnetic immunity			
The TMB-1018-BT is intended for use in the electromagnetic environment specified below.The customer of the user of the TMB-1018-BT should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the TMB-1018-BT, including cables,than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** d = 1.167 $\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	d = 1.167 $\sqrt{P}$ 80 MHz to 800 MHz d = 2.333 $\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacture and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, [a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1	At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2	These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular / cordless) telephones and land mobile radios, amateur radio, AM and FM radio broad-cast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the TMB-1018-BT is usedexceeds the applicable RF compliance level above, the TMB-1018-BT should be observed to verify normal operation. If abnormal performance is observed, additional measuresmay be necessary, such as re-orienting or relocating the TMB-1018-BT.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Table 6 Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM – for ME EQUIPMENT or ME SYSTEM that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment at the TMB-1018-BT.			
The TMB-1018-BT is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the TMB-1018-BT can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmittters) and the TMB-1018-BT as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz $d = 1.167\sqrt{P}$	80 MHz to 800 MHz $d = 1.167\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.333\sqrt{P}$
0.01	0.167	0.167	0.233
0.1	0.369	0.369	0.738
1	1.167	1.167	2.333
10	3.690	3.690	7.338
100	11.67	11.67	23.33
For transmitters rated at a maximum output power not listed above, the recommended separation distance ***d*** in metres (m) can be determined using the equation applicable to the frequency of the transmitter, where ***P*** is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1 At 80MHz and 800MHz, the separation distance for the higher frequency range applies. NOTE 4 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			