

INSTRUCTION MANUAL

MODEL : HM-35

HEALTHMATE[®] PREMIUM

DIGITAL BLOOD PRESSURE MONITOR

Medical Disclaimer

This manual and product are not meant as a substitute for advice provided by your doctor. You are not to use the information contained herein, or this product for diagnosing or treating a health problem or prescribing any medication. If you have or suspect that you have a medical problem, promptly consult your healthcare provider.

Intended Use

This device uses the oscillometric method to automatically measure systolic and diastolic blood pressure as well as heart rate. The measurement position is at human being's upper arm. The device is designed for home use and recommended for use by adults aged 18 years and older with upper arm circumference ranging from 9 ~ 13 inch (23 ~ 33 cm).

About Blood Pressure

1. What is blood pressure?

Blood pressure is the measurement of the force of blood pushing against the walls of the arteries. Arterial blood pressure is constantly fluctuating during the course of the cardiac cycle. The highest pressure in the cycle is called the systolic blood pressure, and represents the pressure in the artery when the heart is beating. The lowest pressure is the diastolic blood pressure, and represents the pressure in the artery when the heart is at rest. Both the systolic and the diastolic pressure are necessary for a physician to evaluate the status of a patient's blood pressure. Many factors such as physical activity, anxiety or the time of day, can influence your blood pressure. Blood pressure is typically low in the mornings and increases from the afternoon to the evening. It is on average lower in the summer and higher in the winter.

2. Why is it useful to measure blood pressure at home?

Having one's blood pressure measured by a doctor in a hospital or a clinic, is often associated with a phenomenon called "White Coat Hypertension" where the patient becomes nervous or anxious, thus raising his blood pressure. There are also numerous other factors that might cause your blood pressure to be raised at a specific time of day. This is why medical practitioners recommend home monitoring as it is important to get readings of blood pressure during different times of the day to really get an idea of your real blood pressure. Medical practitioners generally recommend the "Rule of 3", where you are encouraged to take your blood pressure three times in a row (at 3 minutes interval), three times a day for three days. After three days you can average all the results and this will give you an accurate idea of what your blood pressure really is.

A. AHA blood pressure classifications:

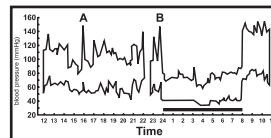
Standards for assessment of high or low blood pressure have been established by the American Heart Association (AHA), as shown in the chart. However this chart is not exact for classification of blood pressure and it's intended to be used as a guide in understanding non-invasive blood pressure measurements. Please consult with your physician for proper diagnosis.

Stages of blood pressure (AHA)	Systolic (mmHg)	Diastolic (mmHg)	
Hypertension	Stage 2	≥ 160	≥ 100
	Stage 1	140 - 159	90 - 99
Pre-hypertension	120 - 139	80 - 89	
Normal	< 120	< 80	

* Figure No.1

B. Variations in blood pressure:

Individual blood pressures vary greatly both on a daily and a seasonal basis. These variations are even more pronounced in hyper tense patients. Normally the blood pressure rises while at work and is at its lowest during sleeping period.



* Figure No.2

(Hyper tense: means a person who has high blood pressure symptom.)

The graph below illustrated the variations in blood pressure over a whole day with measurement taken every five minutes. The thick line represents sleep. The rise in blood pressure at 4 PM (A in the graph) and 12 PM (B in the graph) correspond to an attack of pain.

Precautions

- Do not use this manual and product as a substitute for advice, diagnosing or treating a health problem or prescribing any medication by your doctor. If you have a medical problem, promptly consult your healthcare provider.
- Read the Instruction Manual thoroughly before measuring and keep it at hand for your reference at any time.
- This device uses the oscillometric method to measure systolic and diastolic blood pressure as well as your heart rate. It's recommended for use by people over the age of 18 and not to be used on infant or children.
- The device is designed for home use and not suitable for clinical use.
- Proper cuff size is critical for accurate measurements. Follow the instructions in this manual.

- Do not take a measurement in a low (less than 41 °F/5 °C) and high (more than 104 °F/40 °C) temperature, nor in a place outside humidity ranges (15% ~ 93% R.H.), or you may get inaccurate readings.
- Wait 30 ~ 45 minutes before measurement if you've just consumed caffeinated beverages or smoked cigarettes.
- Rest at least 5 ~ 10 minutes before taking a measurement.
- To allow your blood vessels to return to the condition prior to taking the measurement, please wait at least 3 ~ 5 minutes in between measurements. You may need to adjust the wait time according to your personal physiological situation.
- We recommend you using the same arm (preferably the left arm) and measuring around the same time each day.
- Sit down comfortably and place your elbow on the table with your feet flat on the floor. Please do not cross your legs during measurements.

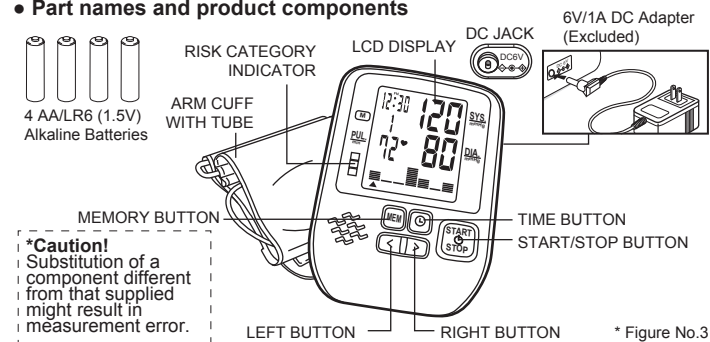
- Keep the device at heart level. Relax your hand with the palm facing up.
- Perform measurements in a quiet and relaxed environment at room temperature.
- Do not move or shake the device during a measurement. Please keep quiet and do not talk.
- Keep in mind that blood pressure naturally varies from time to time throughout the day and is affected by lots of different factors such as stress, eating, smoking, alcohol consumption, medication, and physical activity, etc. Normally the blood pressure rises while at work and is at its lowest during sleeping period.
- Blood pressure measurements should be interpreted by a physician or a trained health professional who is familiar with your medical history. Using the unit and recording the results regularly for your physician to interpret, you will keep your physician informed of the continuing changes in your blood pressure.
- If you have one of the circulatory problems as arteriosclerosis, diabetes, liver disease, kidney disease, severe hypertension, peripheral circulation....., please consult your healthcare professional before using the device.
- This product is not suitable for people with arrhythmias and pregnant women.
- Blood pressure measurements taken with this device are equivalent to those obtained by a trained observer using the cuff / stethoscope auscultation method and are within the accuracy limits prescribed by the Standard of EN 1060-4.

*Attention!

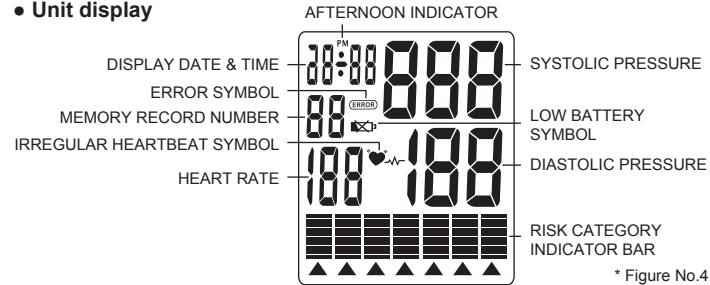
- Do not use the device on infants, children, or those who cannot express their own intention.
- The device is equipped with sensitive electronic components. While measuring, avoid strong electrical or electromagnetic fields, e.g. mobile phones, microwave ovens, etc; or it may lead to temporary reading error or inaccuracy.
- Consider the electromagnetic compatibility of the device (ex. power disturbance, radio frequency interference etc.) Please use it indoor only.
- To avoid accidental strangulation, keep this product away from children and do not drape tube around neck.
- Over high frequency measurements may result in blood flow interference, which is likely to cause uncomfortable sensations, such as partial subcutaneous hemorrhage, or temporary numbness to your arm. In general, these symptoms should not last long. However, if you do not recover in time, please seek your medical practitioners for help.

Device Overview

• Part names and product components



• Unit display



Symbol Definitions

SYMBOLS	Definitions
Low Battery Symbol	This symbol appears when the battery power is excessively low. → We suggest you replace all batteries with new ones, and make sure the +/- polarities are properly positioned.
Pulse Symbol	Once pulse is detected, the symbol flashes with each pulse beat. → Our suggestion: Please do not talk or move during measurements.
Irregular Heartbeat Symbol	This symbol appears for 1 minute when the user was talking, moving, shaking, or an irregular heart beat was detected during measurements. → Our suggestion: Please do not talk or move during measurements. Repeat the measurement after resting for at least 5 minutes, and restart your measurement while sitting down comfortably and quietly.
Risk Category Indicator Bar	User can scroll through measuring results by moving the arrowhead below Risk Category Indicator Bar. The length of each bar matches your measuring results. For more information, proceed to next page.

Features

• Risk Category Indicator

This device is equipped with Risk Category Indicator which classifies your blood pressure measurements into four stages based on blood pressure standards established by American Heart Association (AHA). For your convenience and readability, we use three corresponding colors to represent your measuring result: Green for Normal, Yellow for Pre-hypertension, and Red for Stage 1 & Stage 2 Hypertension. Refer to below comparison chart for details:

Stages of blood pressure (AHA)	Systolic (mmHg)	Diastolic (mmHg)	Risk Category Indicator Bar	Corresponding Color
Hypertension	Stage 2	≥ 160	██████████	RED
	Stage 1	140 - 159	██████████	RED
Pre-hypertension	120 - 139	80 - 89	██████████	YELLOW
Normal	< 120	< 80	██████████	GREEN

After measurement, LCD displays the systolic and diastolic pressure, heart rate, date and time along with Risk Category Indicator bar. The higher the blood pressure, the higher the bar.

Compare the bar with the three colors at the left of LCD display to know the classification of your blood pressure based on American Heart Association (AHA) standard.

*Note!

If your systolic and diastolic pressure fall into different categories, the higher one applies: e.g. systolic pressure 181 & diastolic pressure 85 → Red Category (Stage 2 Hypertension)
e.g. systolic pressure 110 & diastolic pressure 82 → Yellow Category (Pre-Hypertension)

For adults 18 and older who are not on medicine for high blood pressure, are not having a short-term serious illness, and do not have other conditions, such as diabetes and kidney disease, to determine category of risk when systolic and diastolic readings fall into two areas, use the higher of the two numbers for classification. There is an exception to the above definition of high blood pressure for people with diabetes and chronic kidney disease. A blood pressure of 130/80 mmHg or higher is considered high blood pressure for those individuals.

Important Notice!

You may use this feature to effectively track your blood pressure. Yet the standards and classifications are general guidelines for your reference as an individual's blood pressure varies among different people, age groups, etc. It is important that you consult with your physician to know your normal blood pressure range as well as the point at which you will be considered at risk.

*Note !

The above table is not exact for classification of blood pressure and it's intended to be used as a guide in understanding non-invasive blood pressure measurements.

Usually this is not a cause for concern; however we recommend you consult with your physician for proper diagnosis or seek medical advice. Please note that the device should not be used to diagnose hypertension, and it is only for user reference on blood pressure monitoring.

• Irregular Heartbeat Detector

The symbol will appear on LCD indicating a certain heartbeat irregularity was detected during measurement. The heartbeat rhythm that is more than or less than 25% from the average rhythm is usually defined as an irregular heartbeat rhythm. Talking, moving, shaking or an irregular pulse during the measurement can result in the appearance of this symbol. Usually this is not a cause for concern, however if the symbol appears often, we recommend you seek medical advice. And please note that the device does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

*Note!

- The pulse display is not suitable for checking the frequency of heart pacemakers. If a certain pulse irregularity is detected during measurement often, we recommend you seek medical advice
- As a safeguard, we recommend that if you have arrhythmias such as atrial or ventricular premature beats and atrial fibrillation or any other special conditions you should check with your physician before using your device.
- The IHB function is not designed for use by people with arrhythmias nor for diagnosing or treating an arrhythmic problem. In order to filter the unstable status of user and avoid affecting the detection of heart rate from any movement, shaking or talking in the beginning of measurement, the method of averaging heart beat intervals of subject device is calculated with the three proper heart beat pulses detected in the beginning of measurement and that is different from a strict mathematical averaging of all recorded intervals.
- At least 3 beats with at least 25% difference from the average heart beat interval will generate the IHB icon on the screen.
- The irregular heartbeat detected record won't be stored in memory.

Inserting/ Changing Batteries

When LOW BATTERY SYMBOL appears on the display, or no reaction toward operation, please change batteries. Replace all worn-out batteries with new ones and do not mix new and used batteries. Do not mix alkaline, standard (carbon-zinc) or rechargeable (cadmium) batteries either. Such action may shorten the battery life or cause the device to malfunction.

Slide the battery cover and insert 4 AA/LR6 alkaline batteries into the battery compartment as shown on the figure below. Make sure the polarities "+" and "-" ends are properly positioned.

*Attention!

- Batteries are hazardous waste. Do not dispose of them together with the household garbage. Please discard worn-out batteries to the recycling site according to local regulations.
- Keep the battery away from children in case they choke on it.
- If the device is not to be used for over 2 months, please remove the batteries from its compartment for power-saving.
- Replacing batteries clear all stored memory.
- After replacing the batteries, reset date and time.

Using the AC Adapter

This monitor is designed for operation with batteries or an AC adapter. Please use only a compatible AC adapter with required voltage and current as indicated in this manual.

Note:

- No batteries are needed when operating with an AC adapter.
- Please unplug the batteries when operating with an AC adapter for an extended period of time.
- Leaving the batteries in the compartment for a long time may cause leakage, which may lead to damage of the unit.
- Adapter specification:
Input: 100 ~ 240V, AC, 50 ~ 60Hz
Output: 6V, DC, 1A,
- Do not use an adapter which is not supplied or recommended by the manufacturer.

Applying the Cuff

- Press your brachial artery approximately 1 inch (2 ~ 3 cm) above the elbow on the inside of your left arm to determine where your strongest pulse is.
- Slide the end of arm cuff furthest from the tube through the metal ring to a loop. The smooth cloth should be on the inside of the cuff.
- If the cuff is located correctly, the velcro will be on the outside of the cuff and metal ring will not touch your skin.
- Put left arm through the cuff loop. The bottom of the cuff should be approximately 1 inch (2 ~ 3 cm) above the inner elbow. The tube should lie over the brachial artery on the inner part of the arm.
- Pull the cuff so that the top and bottom edges are tightened around your arm.
- When the cuff is positioned properly, press the velcro firmly against the pile side of the cuff.
- Sit on a chair and lay your forearm on the table so that the cuff is at the same level as your heart.
- Relax your arm and turn your arm upward.
- Make sure there are no kinks in the air tube.



*Note!

- Fit the cuff snugly, leaving enough space for 1 inch (2 ~ 3 cm) between the inner elbow and the lower edge of the cuff, or the measurement may not be accurate.
- This monitor comes with one standard size of arm cuff: 9" ~ 13" (23 ~ 33 cm).
- In case the cuff kept pumping up non-stop, open the cuff at once.
- Do not wrap the cuff around any body part other than your arm.
- The device is not supposed to be used when your arm is wounded or injured.

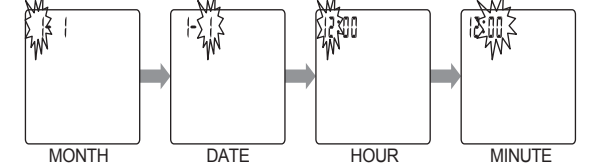
Measurement Procedure

• Switch On the Monitor

- Press button to switch on the monitor.
- All segments appear on the screen for 3 seconds.

• Set Date and Time

- Under Standby Mode, press TIME button, MONTH digit flashes. Press or button to select current MONTH (varies from 1 to 12).
- Continue to set current DATE (varies from 1 to 31), HOUR (1, 2.....12PM, 1PM.....12) and MINUTE (00,01.....59) by following Step A.
- Press TIME button to save the settings. The device will promptly return to Standby Mode.



• Take a Measurement

- With the cuff wrapped around your upper arm, press button to start measurement.

*Note!

Do NOT inflate the cuff unless it's wrapped around your upper arm. After all LCD segments appear for 3 seconds, LCD screen displays "00" with current time.

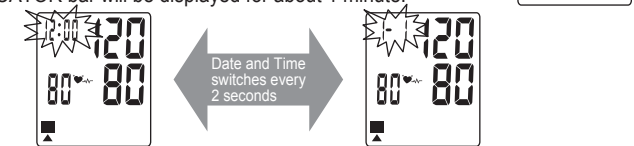
The device will automatically inflate to the point that suits your physical condition the most.

- At which point, the device automatically deflates the pressure bit by bit. PULSE SYMBOL flashes on the screen if pulse is detected.

*Note!

- If device keeps inflating non-stop, remove cuff at once.
- Press button anytime to stop measuring.

- When the measurement is complete, the systolic pressure, diastolic pressure, and heart rate with RISK CATEGORY INDICATOR bar will be displayed for about 1 minute.



- The monitor automatically shuts off once it's without any operation over 1 minute.

Memory Function

• Storing data

After each measurement, the systolic and diastolic pressure, heart rate, Risk Category Indicator bar, and Irregular Heartbeat Detector symbol (if any) with the time and date will be automatically stored. The monitor can store up to 99 memory sets, and replace the oldest data with new one.

• Recalling data

- Press MEM button to enter Memory Mode.
- Monitor displays 7 measuring results each time (1 ~ 7, 8 ~ 14, etc.). Use or button to move the arrowhead below Risk Category Indicator bar and scroll through previous or next measurements in order.
- To quickly jump to next page, press MEM button.
- To quit reading the memories, press START / STOP button.

• Erasing data

- Take out all batteries from its compartment, and refill them again. The memory will be erased accordingly.
- To confirm deletion, press MEM button and no data should appear.

Note: Once deleted, your data can NOT be restored.

Storage and Maintenance

- **General Use**
 - Do not in any way twist the cuff.
 - Do not press START/STOP button if the cuff is not wrapped around your upper arm.
 - Do not drop the product and avoid any strong impacts.
- **Maintenance**
 - Use a piece of cloth with water or mild cleansing agent to wipe the device and dry it immediately with a dry cloth.
 - Do not use detergent or any strong chemicals to clean the device.
 - Use only a dry cloth to wipe the cuff.
 - Do not attempt to disassemble or change any parts of the monitor, including arm cuff, due to substitution of a component different from that supplied might result in measurement error.
 - If any suggestion or service is requested, please consult your service station.
- **Storage**
 - If the device is not to be used for a long time, please remove the batteries from the device (leaking of battery acid can cause the device to malfunction).
 - Always store the unit in the storage case after use.
 - Do not place the device directly under sunlight, in high temperature, or in humid or dusty places.
 - Do not store the device in extremely low (less than $-13^{\circ}\text{F}/-25^{\circ}\text{C}$) and high (more than $158^{\circ}\text{F}/70^{\circ}\text{C}$) temperature, nor in a place its humidity exceeds 93% R.H.

Troubleshooting

SYMBOLS/SYMPTOMS	CONDITIONS/CAUSES	INDICATION/CORRECTION
Unit does not turn on when START/STOP button is pressed	Worn-out batteries. Battery polarities have been positioned incorrectly.	Replace them with four new AA/LR6 alkaline batteries. Re-insert the batteries in the correct positions.
(ERROR) Error Symbol Appears when the blood pressure value displayed is excessively low or high; or the accurate blood pressure could not be obtained.	Cuff has been placed incorrectly.	Wrap the cuff properly so that it is positioned correctly.
	Did you talk or move during measurement? Arm-shaking during measurements.	Measure again. Keep your arm steady during measurement.
Note: If "EP" appears on the display, just return the device to your local distributor or importer.		

Limited Warranty

This device is warranted to be free from manufacturing defects for a period of 2 years from the date of purchase. Within the warranty period, should there be any manufacturing defect found and repair is needed, please contact your local distributor accordingly.

Please note warranty does not cover damage caused by, including but not limited: misuse or abuse; accident; the attachment of any unauthorized accessory; alteration to the product; improper installation; unauthorized repair or modification; improper use of electrical/ power supply; dropped product; failure to follow required maintenance and sake-keeping; transportation damage.

To ensure precise measurement reading, recalibration of the device is recommended after 2 years from the date of purchase. Shipping plus handling cost and recalibration service fee shall be charged accordingly.

Specifications

Model Number	HM-35
Measurement Method	Oscillometric
Measurement Range	Cuff Pressure Range 0 ~ 300mmHg Blood Pressure Range 40 ~ 280mmHg Pulse 40 ~ 199 beats/minute
Accuracy	Pressure: ± 3 mmHg Pulse: $\pm 5\%$ Max.
Inflation	Automatic inflation (air pump)
Deflation	Automatic air release control valve
Display	Liquid Crystal Display
Memory	99 Memory Sets
Unit Dimensions	136.0 X 96.0 X 50.0 mm (L X W X H) 5.35 X 3.78 X 1.97 inch (L X W X H)
Unit Weight	239 g \pm 10 g (8.43 oz \pm 0.35 oz) (Cuff & Batteries Excluded)
Cuff Size	23 ~ 33 cm (9 ~ 13 inch)
Storage/ Transportation Environment	Temperature: $-25^{\circ}\text{C} \sim 70^{\circ}\text{C}$ ($-13^{\circ}\text{F} \sim 158^{\circ}\text{F}$) Humidity: $\leq 93\%$ R.H.
Operation Environment	Temperature: $5^{\circ}\text{C} \sim 40^{\circ}\text{C}$ ($41^{\circ}\text{F} \sim 104^{\circ}\text{F}$) Humidity: $15\% \sim 93\%$ R.H.
Power Supply	1. AA/LR6 alkaline battery x 4 2. 6V 1A AC Adapter (Excluded)
Battery Life	Approx. 300 measurements
Sleeping Mode	Without any operation for 1 minute, device automatically shuts off.
Accessories	4 AA/LR6 alkaline batteries, Arm cuff with tube, Instruction manual, Pouch


*The contents of this manual and the specifications of the device covered by this manual are subject to change for improvement without notice.


Note


 This blood pressure monitor complies with the EC Directive and bears the CE mark "CE0120". This blood pressure monitor also complies with mainly following standards, (included but not limited)

 Follow instructions for use.

 Keep dry.

 **Classification:**
- Internally powered equipment
- BF type applied part
- IPX0
- Not suitable for use in presence of flammable anesthetic mixture with air or with Oxygen or nitrous oxide
- Continuous operation with short-time loading

 To avoid inaccurate results caused by electromagnetic interference between electrical and electronic equipments, do not use the device near a mobile phone or microwave oven. At least keep a maximum output power of 2 W yields and a distance 3.3m away from this equipment.

 Discard the used product to the recycling collection point according to local regulations.

Distributed by:

Prestige Medical
8600 Wilbur Avenue
Northridge, California 91324
www.prestigemedical.com

NCD Medical
Dermotstown, Naul
Co. Dublin, Ireland
European Authorized Representative

*Note!

This equipment has been tested and found to comply with the limits for 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 radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Consult the dealer or an experienced radio/ TV technician for help.

It's herewith confirmed to comply with the requirements of FCC Part 15 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, including interference that may cause undesired operation.

*NOTE!


Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Appendix

Guidance and manufacturer's declaration – electromagnetic emissions			
The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:			
Emissions test	Compliance	Electromagnetic environment – guidance	
RF emissions CISPR 11	Group 1	RF energy is used only to maintain device's operation. Therefore, its RF emissions are so low that it's not likely to cause any interference in nearby electronic equipment.	
RF emissions CISPR 11	Class B	The device 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 IEC 61000-3-2	Class A		
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies		

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

NOTE UT is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration – electromagnetic immunity			
The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:			
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 device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2 \sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer 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 broadcast and TV broadcast 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 device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device.
b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communication equipment and the device.

The device is intended for use in an electromagnetic environment where radiated RF disturbances are under control. User can help prevent electromagnetic interference by keeping the device at a minimum distance from portable and mobile RF communications equipment (transmitters). Below table details the maximum output power of transmitter:

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated 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 80 MHz and 800 MHz, the separation distance for 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.