Thank you for purchasing our product.

Please read this manual carefully before using the product.

Please keep the manual appropriately for future reference.


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(I) General Information
(II) Precaution for Use and Maintenance
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(V) Troubleshooting
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I. General Information

- **Intended Use and Indications For Use**
  Fudakang Wrist Blood Pressure Monitor are non-invasive blood measurement system intended to measure the diastolic, systolic blood pressures and pulse rate of an adult individual in hospitals, hospital-type facilities and home environments. The BT series Blood Pressure Monitor with the wireless communication function that is connect to the PC or a mobile phone for record archiving and printing purpose.

- **Specification**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Wrist Blood Pressure Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement Principle</strong></td>
<td>Oscillography</td>
</tr>
<tr>
<td><strong>Cuff</strong></td>
<td>Soft cuff, Cuff size 290mm × 72mm (+/- 5mm) 11.4 inch × 2.8 inch (+/- 0.2 inch)</td>
</tr>
<tr>
<td><strong>Measurable Wrist Circumference Range</strong></td>
<td>About 135<del>195mm (5.3</del>7.7 inch)</td>
</tr>
<tr>
<td><strong>Measurement Range</strong></td>
<td>Pressure: 0<del>300mmHg Pulse: 30</del>180 times/minute</td>
</tr>
<tr>
<td><strong>Bluetooth Version</strong></td>
<td>Bluetooth 4.1 BLE</td>
</tr>
<tr>
<td><strong>Bluetooth Modulation Type</strong></td>
<td>GFSK</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Pressure: ±3mmHg Pulse: ±5%</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2 x 1.5V AAA Alkaline batteries 3V</td>
</tr>
<tr>
<td><strong>Battery Life</strong></td>
<td>Approx. 250 times (180mmHg, 1 time/day, 22°C) Each measurement takes around 60 seconds, and each memory checking takes about 1 second</td>
</tr>
<tr>
<td><strong>Protection against electric shock</strong></td>
<td>Type BF Cuff</td>
</tr>
<tr>
<td><strong>IP classification</strong></td>
<td>IP22</td>
</tr>
<tr>
<td><strong>Working Environment</strong></td>
<td>Temperature: 5<del>40°C Humidity: &lt;90%RH Pressure: 86</del>106 kPa</td>
</tr>
</tbody>
</table>
| Transport and storage Environment | Temperature: -20~55°C  
Humidity: <95%RH  
Pressure: 86~106 kPa |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Shock Protection</td>
<td>Internal power unit</td>
</tr>
</tbody>
</table>
| Memory Capacity                   | 90 sets of data including date and time  
See VI. Model List                     |
| Inflation                         | Automatic Inflation by internal pump             |
| Deflation                         | Automatic speed deflation system controlled by  
internal electromagnetic valve.          |
| Display                           | LCD digital display ; It can show Pressure, Pulse,  
Date, Time                                 |
| Color Backlight display on LCD (Optional) | White backlight display when power on  
Green backlight display when result is normal  
Red backlight display when result is abnormal |
| Switch                            | 2 (ON/OFF, Memory) or 3 (ON/OFF, Set, Memory)   |
| Life Time                         | Machine : 5 years or 10000 times  
Cuff : 10000 times                         |
| Contents                          | -2 x 1.5V AAA alkaline batteries 3V (Optional)  
-Storage case  
-Instruction Manual                   |

- **Contraindications:**
  1. Heart disease
  2. High blood pressure or other circulatory disease
  3. Wrist injury

- **Patient Populations:**
The device is intended to use for adults. DO NOT use this device on infants or small children.

- **Cleaning Information:**
  1. If the device is very dirty, wipe it clean with a cloth moistened with sterilizing alcohol or a neutral detergent. Then wipe it with a dry cloth.
  2. NEVER clean the blood pressure monitor with thinners or benzene, as they may damage it.
  3. To clean the cuff, wipe it with a moist cloth. Avoid hard rubbing as this will cause air leakages. Take care also not to get water into the air hose.
■ Maintenance:
This product is designed for use over an extended period of time; however, it is generally recommended that it be inspected every five years to ensure proper function and performance. The device doesn’t need to be calibrated in five years of reliable service. Modification of this equipment is allowed except change the batteries.

■ Protect the Nature Environment:
Please help to protect natural environment by respecting national and/or local recycling regulations when disposing of the battery and the product at the end of their useful live.

II. PRECAUTION FOR USE AND MAINTENANCE

■ Precautions for Use:
1. If you suffer from heart disease, high blood pressure or other circulatory disease, consult your physician before using the device. It is intended for adult indoor use only. The device is not suitable for public use.
2. The patient is an intended operator. The patient can measure, transmit data and charge battery under normal circumstances and maintain the device and its accessories according to the user manual.
3. If the cuff pressure feels abnormal or you experience any other irregularity while using the cuff, reduce the pressure immediately by pressing the “START/STOP” switch and then consult the sales outlet where you purchased the device.
4. If you think the measurement is abnormal or if measurement makes you feel unwell, discontinue use and consult your physician.
5. Blood pressure measurement may not be possible for anyone with a weak pulse or arrhythmia.
6. Repeated blood pressure measurement may cause problems such as congestion or swelling in some people.
7. Frequently repeated blood pressure measurements will not give accurate results. Allow an interval of about 3 minutes between measurements.
8. If you suffer from a severe problem with blood circulation in your arms, consult your physician before using the device. Failure to do so could be hazardous to your health.
9. Measurement may not be possible for anyone with insufficient blood flow to the area where measurements will be taken or who suffers from a frequent irregular heartbeat. Consult your physician for advice on whether to use the device.

10. DO NOT wrap the cuff around an injured wrist.

11. DO NOT wrap the wrist cuff around a wrist in which a drip (intravenous infusion) is inserted or which is being used for blood transfusion as part of medical treatment. Doing so could result in an injury or a serious accident.

12. DO NOT wrap the cuff on the wrist on the side of a mastectomy.

13. DO NOT use the device in the vicinity of flammable gases such as those used for anaesthesia. Doing so could ignite the gases and cause an explosion.

14. DO NOT use the device in enriched oxygen environments such as a hospital’s hyperbaric chamber or oxygen tent. Doing so could ignite the oxygen and cause a fire.

15. DO NOT use mobile phones near the device as this could result in a malfunction. DO NOT use the device with hf surgical equipment.

16. If you use a cardiac pacemaker, consult your physician before using the device.

17. Be sure to use this device only for measuring blood pressure. DO NOT use it for any other purpose.

18. DO NOT use this device on infants, pregnant women or pre-eclamptic patients.

19. DO NOT use this device for patients that transport outside a healthcare facility.

20. Blood pressure measurement may not be possible for anyone with common arrhythmias such as arterial or ventricular premature beats or arterial fibrillation.

21. Be careful to strangulation due to cables and hoses, particularly due to excessive length. It will not cause any potential allergic reaction or contact injury. If you are allergic to dacron or plastic, please don’t use this device.

■ Precautions for Maintenance:

1. DO NOT store the blood pressure monitor in locations exposed to direct sunlight, high temperatures (over 60°C), low temperatures (below -20°C), high relative humidity (over 85%) or excessive amounts of dust.

2. DO NOT drop the blood pressure monitor or subject it to other shocks or vibration.

3. Remove the batteries if the device will be left unused for a long period.

4. DO NOT attempt to disassemble the device. User can open battery cover for new battery installation.
5. NEVER clean the blood pressure monitor with thinners or benzene, as they may damage it.
6. DO NOT hard rub when clean the cuff.
7. DO keep the device out of reach of children, pets and insects.

III. Name of Each Part

- LCD Display
- “SET” Button / Calendar, Clock Setting Mode
- “MEMORY” Button / Calendar, Clock Setting Adjustments
- ON/OFF Button
- Pulse Indicator
- Systolic Indicator
- Diastolic Indicator

*Figure 1 - Appearance*
Note for LCD display:

(1) Date: Month – Day
(2) Time: Hour – Minute
(3) Systolic Blood Pressure (unit: mmHg)
(4) Diastolic Blood Pressure (unit: mmHg)
(5) Pulse Rate (unit: beat/minute)
(6) WHO Blood Pressure Classification Indicator
(7) Inflation / Deflation Indicator
(8) Blood Pressure Measurement Unit
(9) Battery Symbol
(10) Irregular heartbeat Indicator
(11) Memory Record Number

* Back light display function is optional.

IV. Measure Procedure

- Battery Loading
  Remove the battery compartment cover by gently pushing down on arrow and sliding cover forward.
Place batteries with positive “+” and negative “-” terminals into compartment and make sure they match the indicated terminals in the compartment. Close the battery cover by gently sliding it into the compartment and pressing it into place. See Figure 3.

Note:
When the LCD display shows “Low Battery” signal, the batteries must be replaced for accurate readings. See Figure 4.
Do not use rechargeable batteries (voltage 1.2V). They are not suitable for this product, can damage the monitor and will cause inaccurate readings to be obtained. Remove the batteries if the monitor will not be used for six month or longer to avoid damage from the possibility of leaking batteries. All the measurements will remain in the memory should the batteries become drained, removed, or replaced.

Clock Adjusting and Unit Change
During the monitor is turned off, if you continually press and the “SET” buttons for about 5 seconds, the number of the YEAR signal will begin to blink on the LCD display. Press the “M” (for memory) button to change the YEAR. Each time when you press the “M” button, it will change one YEAR forward.
When the YEAR is set up, if you continually press and release the “SET” button, the MONTH signal will begin to blink. Press the “M” button to change the MONTH. Each time when you press the “M” button, it will change one MONTH forward.
When the MONTH is set up, if you continually press and release “SET” button once, the
DAY signal will begin to blink. Press the “M” button to change the DAY. Each time when you press the “M” button, it will change one DAY forward. Don't keep on clicking on the 'SET' button without being released during programming.

**REPEAT THIS PROCESS FOR SETTING THE TIME.**

Use the “SET” button to change (Hours/Minutes) and the “M” button will change the numbers forward. *See Figure 5.*

After you change the batteries, you have to readjust the date and time. Time is maintained using a 24 HOUR clock. AM/PM is not displayed.

**NOTE:**

WHEN EVERYTHING IS SET-UP COMPLETELY, THE MONITOR WILL AUTOMATICALLY SWITCH OFF.

BUT, WHEN YOU PRESS “ON/OFF” BUTTON AGAIN, THE MONITOR WILL ACTIVATE.

![Figure 5](image)

For the unit change, you can select the mmHg or Kpa; and the mmHg is the definition unit.

When the machine is turned off, press the button “ON/OFF” more than about 10 seconds till LCD blinks, then press Memory button to switch between mmHg and Kpa.

- **Wrist Cuff Connecting**
  - Place the cuff around your left bare wrist ½” - ¾” above the wrist joint on the opened-hand (inside) side of the wrist.
  - Keep the cuff at approximately the same level as your heart. Do not inflate before
fitting the cuff.

★ Unless your physician recommends otherwise, use the left wrist to measure pressure.

★ The cuff should be snug but not too tight. You should be able to insert two fingers between the cuff and your wrist. See Figure 6.

★ Only use the manufacturer cuff with the main unit to ensure accurate measurement.

NOTE: CONTINUOUS CUFF PRESSURE MAY EFFECT BLOOD FLOW AND CAUSE HARMFUL INJURY

![Figure 6](image)

Note: The cuff is "TYPE BF APPLIED PART"

- **Measuring Process**

**CORRECT POSTURE FOR TAKING BLOOD PRESSURE MEASUREMENT**

★ Make yourself comfortable and sit-up straight, legs uncrossed, feet flat on the floor.

★ Place and rest the wrist with the cuff in front of you on the table with your palm facing up. Do not bend your wrist or curl your fingers.

★ Cuff should be at approximately the same height as your heart.

- **TIPS FOR BLOOD PRESSURE MONITORING**

★ Relax for about 5 minutes before measurement.

★ Do not smoke or ingest caffeine at least 30 minutes prior to measurement.

★ Remove any constricting clothing and place the cuff on a bare wrist.

★ Keep still and do not talk until the measurement is complete.

★ The cuff must be neither too tight nor too loose. Using a little force, you should be able to place two fingers between the cuff and your wrist.
After you are in a comfortable position, press the ‘ON/OFF’ button. The device will perform a self verification/check. During this verification/check the LCD will display all ‘8’s’. At the conclusion of the verification/check the LCD will display ‘00’. See Figure 8. If the device has voice function, it will speak out the displayed blood pressure, heart rate. If an irregular heartbeat is detected, the IRREGULAR HEARTBEAT symbol 🦋 will appear and blink in the display screen. See Figure 9.

**NOTE:**
★ Do not self-diagnosis according to measured result. Consult with your physician for further diagnosis.
★ If the device cause any discomfort during measuring process or fail to perform as indicated ,please turn off the power or discontinue use.
★ If cuff inflates up to 300 mmHg (40kPa) doesn’t stop, please turn off the device immediately.

- **Reading Memory Results**

**READING AN AVERAGE OF THE LATEST THREE MEASUREMENTS (AVg)**
★ Each time, when you press and release the ‘M’ button during the monitor’s being turned off condition, the LCD will display “AVg” symbol on the upper corner of the LCD screen to show the average of the latest three measurements.
To review other results that are in memory – Press the “M” button to scroll through previous measurements. Each time you press and release the “M” button the next oldest result will be displayed. If the “TALKING” function is turned ON, each result will be verbally announced.

Assessing High Blood Pressure for Adults

The follow standards for assessing high blood pressure (without regard to age or gender) have been established as a guideline according to WHO (World Health Organization) standard. See Figure 10. Please note that other risk factors (e.g. diabetes, obesity, smoking, etc.) need to be taken into consideration and may affect these figures. Consult with your physician for accurate assessment.
From the above figure, we can see the classification of blood pressure for adults is as below. The WHO BP Classification Indicating Bar would show out the blood pressure level by the color indicator.

<table>
<thead>
<tr>
<th>Blood Pressure Classification</th>
<th>SBP (mmHg)</th>
<th>DBP (mmHg)</th>
<th>COLOR INDICATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal</td>
<td>&lt;120</td>
<td>&lt;80</td>
<td>GREEN</td>
</tr>
<tr>
<td>Normal</td>
<td>120-129</td>
<td>80-84</td>
<td></td>
</tr>
<tr>
<td>High-Normal</td>
<td>130-139</td>
<td>85-89</td>
<td></td>
</tr>
<tr>
<td>Stage 1 Hypertension</td>
<td>140-159</td>
<td>90-99</td>
<td>YELLOW</td>
</tr>
<tr>
<td>Stage 2 Hypertension</td>
<td>160-179</td>
<td>100-109</td>
<td>ORANGE</td>
</tr>
<tr>
<td>Stage 3 Hypertension</td>
<td>≥ 180</td>
<td>≥ 110</td>
<td>RED</td>
</tr>
</tbody>
</table>

**Note:**
The graph is not exact, but may be used as a guide in understanding non-invasive blood pressure measurements. The device is only intended for use with adults.

**DELETING MEASUREMENT FROM THE MEMORY:**

★ Press and hold the “MEMORY” button until all the numbers change to ‘ZERO’. All results in memory are now deleted. LCD will show the Figure 11 for two seconds. **Note:** Date and time settings are not changed by using the memory delete function.
● Shut Down
After measurement, press button “ON/OFF” to turn off the device. The device will be automatically power off after 1 minute of none use.

● Voice Function
The device with voice function can speak out in the following state:

- The device will speak out the prompt that “keep silence to take a cuff at the same height with your heart” when the measure begin.
- The device will speak out the displayed blood pressure (systolic and diastolic blood pressure), heart rate after each measurement finish.
- The device will speak out the last time displayed memory blood pressure (systolic and diastolic blood pressure), and heart rate when reading memory result.

Note:

● UART connection and Blue Tooth Function

- The UART connection model is FT-B13W-UR
  (UART = Universal Asynchronous Receiver Transmitter)

Operation Method:
★ Install the APK by the receiving device manufacture accordance with the communication protocol into the signal receiving device such as mobile phone.
★ Use cable to connect receiving device with the blood pressure monitor which with UART port.
★ Activate the receiving device and let it be in stand- by status for blood pressure measuring.
★ Activate the blood pressure monitor which with UART port and start testing according to the normal blood pressure monitor operation method.
★ After testing the result including systolic pressure, diastolic pressure and pulse will display on LCD, press the SEND button to send these data to the receiving device such as mobile phone.
The UART port connector & Cable specification:

1. Any type of USB (micro USB, mini USB, standard USB) or serial connector is defined by the customer.
2. Cable: OD 3.5 +/- 0.1 mm, # 28 x 4 Color wires
3. Contact resistance >2 ohm
4. Insulation resistance: DC 300V 20 Mohm /10 ms

The Blue Tooth function model is FT-B13W-BT.

Operation Method:

★ Install the APK accordance with the communication protocol into the blue tooth signal receiving device such as mobile phone.
★ Activate the blue tooth signal receiving device such as mobile phone to match with the blue tooth of NIBP.
★ Start to measure according to the normal blood pressure monitor operation method.
★ After measuring the result will be displayed on LCD including systolic pressure, diastolic pressure and pulse will be automatically sent to the blue tooth receiving device such as mobile phone.

The additional function of this model blood pressure monitor is that transmit the test result to the APK in the receiving device via blue tooth technology.

Example for the Blue Tooth Operation connection:

Bluetooth 4.1 work with IOS System

Firstly search in the "APP Store" for "Light Blue" application software (as this image) and install properly.
1. Open the installed "Light Blue" application software (see Figure 1) and activate Bluetooth 4.1 blood pressure monitor.

Figure 1
After mobile phone Bluetooth module searched to find the Bluetooth blood pressure monitor, it display “ClinkBlood”.

II. Press the “ClinkBlood” till “Connected” display on mobile phone screen which means successfully connected with blood pressure monitor.

III. Slide mobile phone screen to "Slave -> Host" and switch its NOTIFIED VALUES status from "Listen for notifications" to "Stop listening", which means it will be status of "Listening" once open. As shown in Figure 2 and Figure 3

IV. Then go to "Host -> Slave", in"Write new value", input below commands respectively
- Connect blood pressure monitor: 04 00 A0 A4
- Blood pressure monitor start measuring: 04 00 A1 A5
- Blood pressure monitor stop: 04 00 A2 A6

As shown in Figure 4 and Figure 5

V. Press command of "Connect", then press “Start measuring” command. blood pressure monitor start to measure, open “Log” to see the blood pressure monitor dynamic measurement process. It is hexadecimal.
The above two models have all function as normal NIBP only have different “result output” method.

V. Troubleshooting

<table>
<thead>
<tr>
<th>Abnormality</th>
<th>Reason</th>
<th>Checkout</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD shows Low Battery icon</td>
<td>Batteries are low.</td>
<td>Change new batteries.</td>
</tr>
<tr>
<td>Shows abnormal result</td>
<td>Cuff is not tightened properly or its position is incorrect.</td>
<td>Tighten cuff correctly and refer to “Wrist Cuff Connecting”.</td>
</tr>
<tr>
<td></td>
<td>The arm is moved during measuring.</td>
<td>Stay calm, arm remains steady. Do not move during measuring.</td>
</tr>
<tr>
<td>Shows abnormal result</td>
<td>Irregular heartbeat</td>
<td>You can test again for light irregular heartbeat patients. It is inappropriate for serious irregular heartbeat patients to use this device.</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Speaking, frightened nervous or excited measurement</td>
<td>Do not speak, take deep breath 2~3 times to relax yourself.</td>
<td></td>
</tr>
<tr>
<td>Wrong position</td>
<td>Adjust position; refer to “Wrist Cuff Swathing”.</td>
<td></td>
</tr>
<tr>
<td>Some interference in inflation or wrong operation during measuring</td>
<td>Refer to the inflation step in “Measuring process”.</td>
<td></td>
</tr>
<tr>
<td>After power on, no display on LCD</td>
<td>Battery problem or wrong battery polarity</td>
<td>Install battery correctly or replace new battery; If the device is still not activated, then stop using it.</td>
</tr>
<tr>
<td>Cuff inflation rate is too low or does not inflate</td>
<td>Cuff or bladder inside the cuff leakage air</td>
<td>Purchase a new cuff</td>
</tr>
<tr>
<td>Cuff deflates too quickly</td>
<td>Cuff has been applied too loose.</td>
<td>Make sure cuff is wrapped up correctly</td>
</tr>
<tr>
<td>Measure result is different from the hospital or value is inconsistent</td>
<td>This is normal</td>
<td>Blood pressure value is varying during the day and will also be affected by emotional and physical condition</td>
</tr>
<tr>
<td>LCD shows “Er U”</td>
<td>Insufficient inflation</td>
<td>Measure again.</td>
</tr>
<tr>
<td>LCD shows “Er H”</td>
<td>Inflation over 305 mmHg</td>
<td>Measure again</td>
</tr>
<tr>
<td>LCD shows “Er 1”</td>
<td>Undetectable the pulse</td>
<td>Measure again</td>
</tr>
<tr>
<td>LCD shows “Er 2”</td>
<td>Radiation interference</td>
<td>Away the radiation source</td>
</tr>
<tr>
<td>LCD shows “Er 3”</td>
<td>Measured result wrong</td>
<td>Measure again</td>
</tr>
</tbody>
</table>

**Note:** If you cannot resolve the problem, you can contact manufacturer or its service agent for replacement policy.
STATEMENTS AND DECLARATIONS:

1. MEDICAL ELECTRICAL EQUIPMENT needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

2. Wireless communications equipment such as wireless home network devices, mobile phones, cordless telephones and their base stations, walkie-talkies can affect this equipment and should be kept at least a distance $d = 3.3$ m away from the equipment. (Note. As indicated in Table 6 of IEC 60601-1-2:2007 for ME EQUIPMENT, a typical cell phone with a maximum output power of 2 W yields $d = 3.3$ m at an IMMUNITY LEVEL of 3 V/m)

3. The manufacturer are available for request of circuit diagrams, component part lists, descriptions, calibration instructions, or other information that will assist service personnel to repair those parts of the device.

4. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

   This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

   If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

   -- Reorient or relocate the receiving antenna.
   -- Increase the separation between the equipment and receiver.
   -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
   -- Consult the dealer or an experienced radio/TV technician for help.

5. Guidance and manufacturer’s declaration

   **Guidance and manufacturer’s declaration – electromagnetic emission**

   The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer of the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Emission test</th>
<th>Compliance</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer of the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.
### Guidance and manufacturer's declaration – electromagnetic immunity

The [EQUIPMENT or SYSTEM] is intended for use in the electromagnetic environment specified below. The customer or the user of [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD) IEC 61000-4-2</td>
<td>±6 kV contact ±8 kV air</td>
<td>±6 kV contact ±8 kV air</td>
<td>Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%. If ESD interfere with the operation of equipment, counter measurements such as wrist strap, grounding shall be considered.</td>
</tr>
<tr>
<td>Electrical fast transient/burst IEC 61000-4-4</td>
<td>±2 kV for power supply lines ±1 kV for input/output lines</td>
<td>Not applicable</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>Surge IEC 61000-4-5</td>
<td>±1 kV differential mode. ±2 kV common mode</td>
<td>Not applicable</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11</td>
<td>&lt;5% $U_T$ (&gt;95% dip in $U_T$) for 0.5 cycle 40% $U_T$ (60% dip in $U_T$) for 5 cycles 70% $U_T$ (30% dip in $U_T$) for 25 cycles</td>
<td>Not applicable</td>
<td>Mains power quality should be that of a typical commercial or hospital environment. If the user of the TL-100D requires continued operation during power mains interruptions, it is recommended that the TL-100D be powered from an uninterruptible power supply or a battery.</td>
</tr>
</tbody>
</table>

The [EQUIPMENT or SYSTEM] use 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.
<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment - guidance</th>
</tr>
</thead>
</table>
| Conducted RF        | 3 V<sub>rms</sub>    | Not applicable   | Portable and mobile RF communications equipment should be used no closer to any part of the [EQUIPMENT or SYSTEM], including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance**
| IEC 61000-4-6      | 150 kHz to 80 MHz    |                  | **d** = 1.167√**P**                      |
| Radiated RF         | 3 V/m                | 3 V/m            | **d** = 1.167√**P** 80 MHz to 800 MHz   |
| IEC 61000-4-3       | 80 MHz to 2.5 GHz    |                  | **d** = 2.333√**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,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup>

Interference may occur in the vicinity of equipment marked with the following symbol:

![Radio Symbol](image)

**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.

---

<5% **U<sub>T</sub>** (<95% dip in **U<sub>T</sub>** for 5 sec)

<table>
<thead>
<tr>
<th>Power frequency (50Hz) magnetic field IEC 61000-4-8</th>
<th>3A/m</th>
<th>3A/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE  **U<sub>T</sub>** is the a.c. mains voltage prior to application of the test level.
observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the [EQUIPMENT or SYSTEM].

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

<table>
<thead>
<tr>
<th>Rated maximum output power of transmitter (W)</th>
<th>Separation distance according to frequency of transmitter (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>150 KHz to 80 MHz</td>
</tr>
<tr>
<td>0.01</td>
<td>0.117</td>
</tr>
<tr>
<td>0.1</td>
<td>0.369</td>
</tr>
<tr>
<td>1</td>
<td>1.167</td>
</tr>
<tr>
<td>10</td>
<td>3.689</td>
</tr>
<tr>
<td>100</td>
<td>11.667</td>
</tr>
</tbody>
</table>

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.

FCC ID: 2ADNQFTB13WBT

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.
Explanation of Symbols:

Symbol for batch code

Symbol for ‘CE”

Symbol for “electrical and electronic equipment”

Symbol for “TYPE BF APPLIED PART”

Symbol for “Follow operating instructions”

Symbol for “the IP classification”

Symbol for “ RF transmitters”

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Software Version 1.3
Manual Version: V2.0