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Electronic acupuncture treatment device

Model: DMZ-I Instruction Manual

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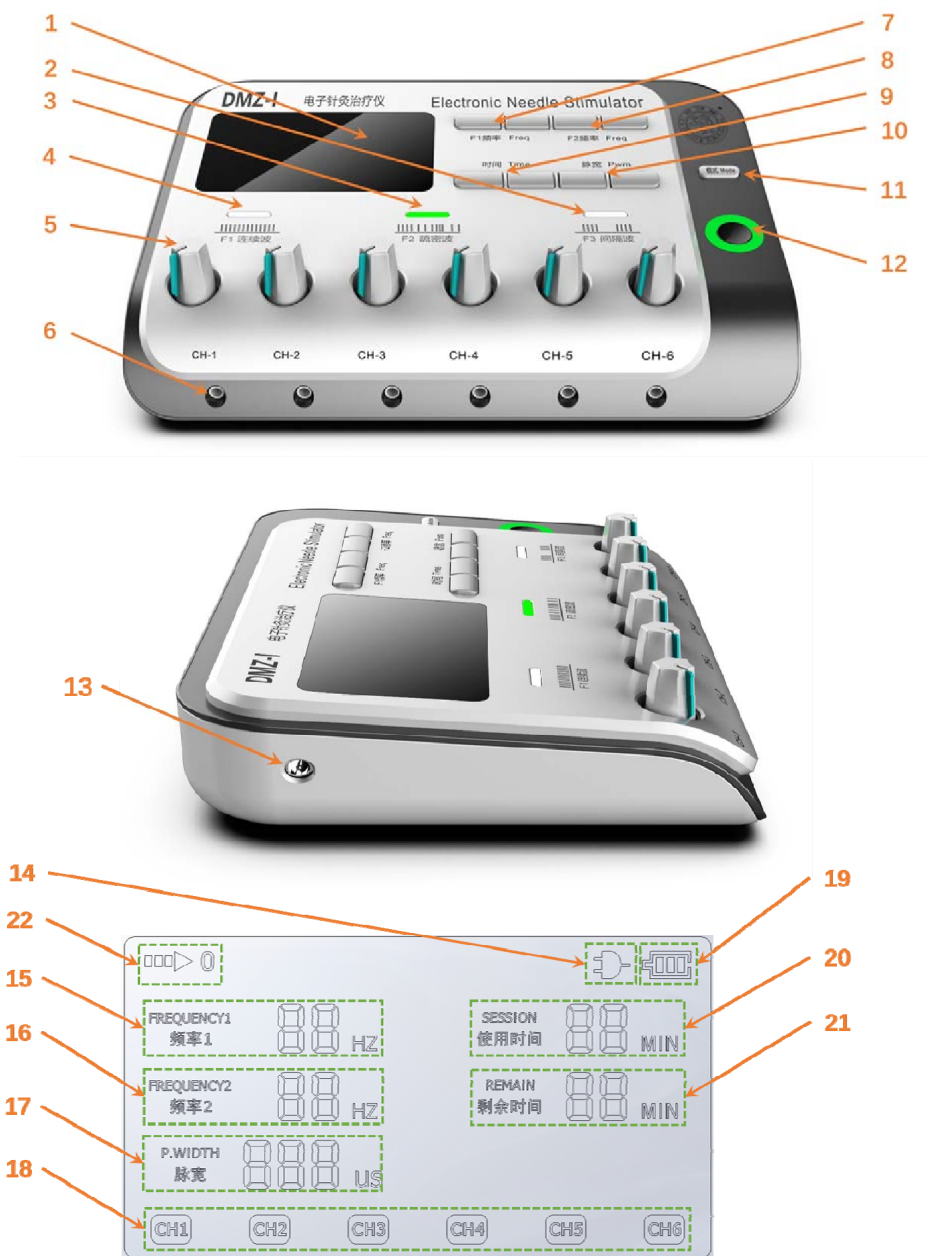
Congratulations on your purchase of the products of Wujiang Yunlong Medical Equipment Co., Ltd. The electronic acupuncture treatment instrument is an electronic acupuncture treatment instrument that our company uses digitally controlled low-frequency electronic pulse technology and the traditional Chinese

traditional Chinese medicine acupuncture meridian academic combination.

Product overview

The electronic acupuncture treatment instrument consists of three parts: the host, the patch electrode (or the needle electrode clip), and the AC-DC converter. Patch electrodes (outsourced) should be purchased with a medical device registration certificate. This product is a traditional product which has been newly designed by our company integrating similar products at home and abroad. The electronic acupuncture treatment instrument is an electronic acupuncture treatment instrument that combines the digital control low-frequency electronic pulse technology with the traditional Chinese acupuncture and moxibustion meridian theory of the motherland. For clinical Chinese medicine electroacupuncture treatment. It belongs to Class II medical electrical equipment with internal power supply BF type. The machine is fully functional, beautiful in appearance, easy to operate, safe and effective.

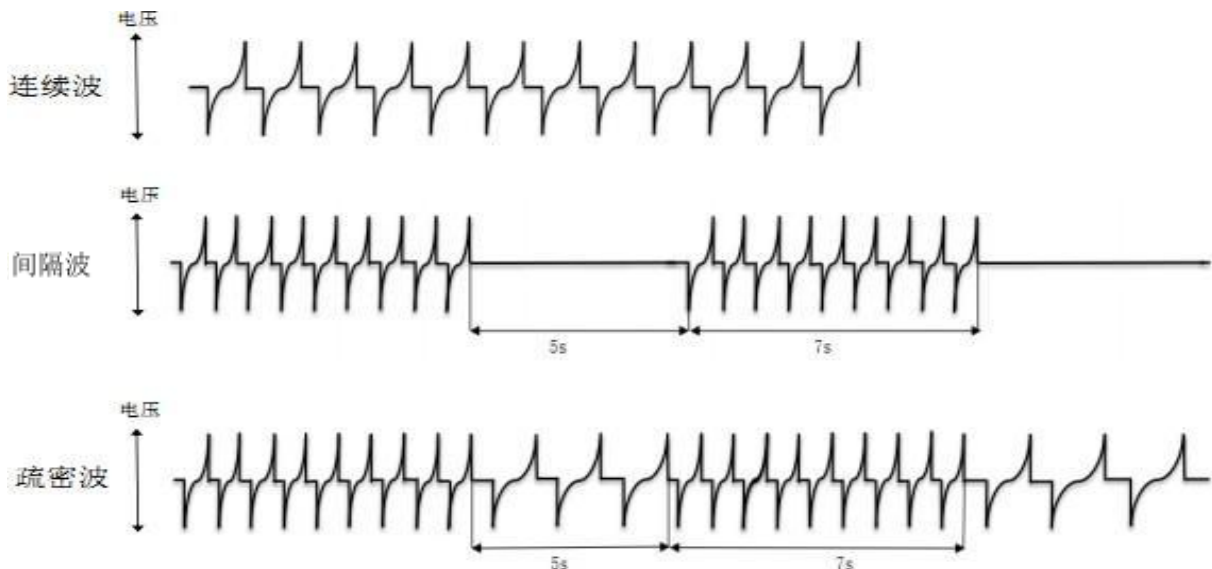
Product illustration



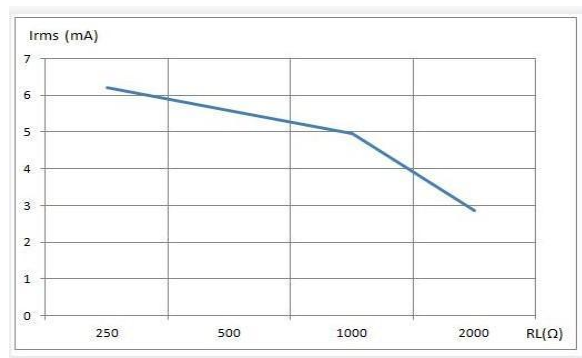
Picture 1

1. LCD screen 2. Interval wave indicator 3. Density wave indicator 4. Continuous wave indicator 5. Output intensity adjustment knob 6. Output jack 7. Frequency adjustment button 8. Frequency adjustment button (only in interval wave mode) 9. Time adjustment button 10. Pulse width adjustment button 11. Mode selection button 12. Power switch key 13. External power socket 14. External power supply on display 15. Frequency display 16. Frequency display (only interval wave mode) 17 . Pulse width display 18. Output channel number display 19. Internal dry battery connection display 20. Use time display 21. Remaining time display 22. Power-on lock alarm sign

Waveform diagram, current RMS curve



Picture 2 Waveform diagram



Picture 3 Current RMS curve

4. Requirements for safety features

- A) Class to which the equipment belongs: Class II;
- B) Type of equipment: BF type;
- C) The type of power supply of the device: AC 220V $\pm$ 22V 50Hz $\pm$ 1Hz or internal power supply 9V
- D) The input power of the equipment: DC 9V is 0.8VA; AC-DC converter is 5.0VA;
- E) the device does not have protection against the effects of defibrillator discharge;
- F) The device does not have a signal output part; does not have a signal input part;
- G) The equipment is a common type of equipment, not AP type or APG type;
- H) Equipment operation mode: continuous operation;
- I) Equipment protection grade: IPX0;

5. Intended use

The electronic acupuncture treatment instrument is used for clinical TCM electro-acupuncture treatment.

6. Technical performance parameters

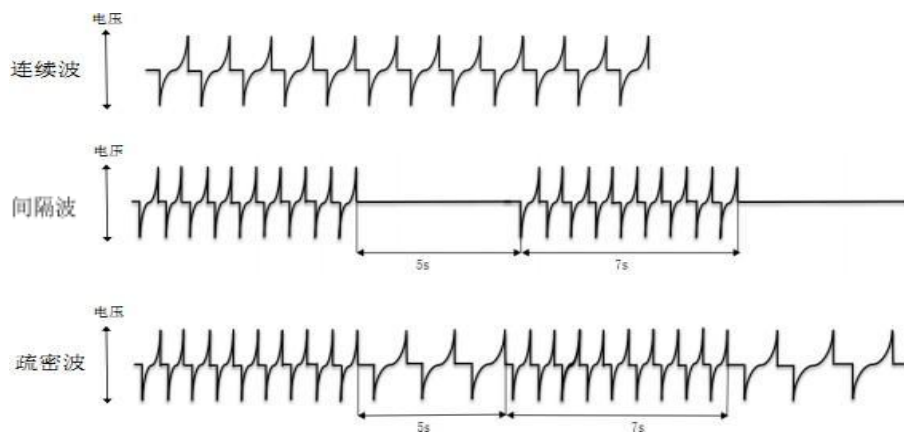
- 1) The pulse frequency is 1Hz $\sim$ 99Hz, and the frequency deviation is not more than $\pm$ 30%.
- 2) Pulse width: 160 μ s $\sim$ 240 μ s, the deviation is not more than $\pm$ 30%. (EMC testing basic performance)
- 3) Output waveform:

Output waveform cycle mode, see waveform diagram for details:

Continuous wave, the set frequency continuous wave;

Interval wave, 7s set frequency continuous wave, 5s no wave, deviation is not more than $\pm$ 10%.

Sparse and dense wave, 7s dense wave, 5s sparse wave, the deviation is not more than $\pm$ 10%.



- 4) The effective value of the maximum output current of the therapeutic apparatus should not be greater than 10mA.
- 5) The output of the therapy device should have no DC component.
- 6) The total pulse energy within any 0.1s duration should not exceed 5mJ.
- 7) The output terminal of the therapy device is connected to the electrode needle, and its output should not exceed the limits specified in 4), 5), and 6).
- 8) The error of treatment time should not be greater than $\pm 10\%$ of the set value.
- 9) Number of output pulses: six outputs
- 10) Each output channel should be able to start and stop independently, the output intensity should be able to be adjusted independently, and should not provide 2 or more output channels

The way to adjust the output intensity synchronously.

- 11) The output intensity should not be interfered by other output channels. When other output channels start or stop, the change of output intensity should not be greater than $\pm$

10%, the output waveform should have no obvious distortion.

- 12) When the rms value of the output current reaches 1mA or more and the output channel is short-circuited or open-circuited, the therapy device should cut off the output of all channels and send out

Sound and light prompts. After the short-circuit or open-circuit fault state is removed, the therapy device should not automatically restore the output. After manual start, unless the output amplitude control

The controller is preset to the minimum position, otherwise the therapy device must not have energy output.

- 13) The electrode needle connector should be able to match the electrode needle listed in the instruction manual; connect the electrode according to the method specified in the instruction manual.

After the needle connector is connected to the electrode needle, apply a force of 0.5N in the most unfavorable direction on the electrode needle connector or electrode wire for 5s, which should not cause

electrical damage.

Pole pin connector slips or comes loose.

14) After the electrode wires and electrode needle connectors are connected with the electrode needles listed in the instruction manual, the total DC impedance should not exceed 5Ω .

15) The insulation resistance of the electrode wire insulation layer should not be less than $10M\Omega$.

16) The total mass of a single electrode pin connector and the 150mm long electrode wire (including the adapter, if any) connected to the electrode pin connector should not be large

at 3g.

17) Apply 20N tensile force at both ends of the electrode wire for 1min. After the release, the stretch rate of the electrode wire should be less than or equal to 1%, and there should be no cracking or wire breakage.

18) Power supply voltage: AC/DC converter $220V \pm 22V$ $50 \pm 1Hz$ Internal power supply: $DC 9V \pm 510\%$

19) Input power: DC 9V is 0.8VA; AC-DC converter is 0.5VA

20) The rated load impedance of the therapy device:

a) The patch electrode is 500Ω ;

b) The needle electrode holder is 250Ω .

21) Volume: $240 \times 177 \times 64mm$

22) Weight: 1.1kg

Note: The load impedance has no effect on the DC component, pulse width and pulse frequency of the therapy device; the load impedance is negatively correlated with the output current.

Symbol explanation



: Indicates that the instrument belongs to the anti-shock BF equipment



: Indicates that the instrument belongs to Class II equipment



:Notice! Consult random files

IPX0 Indicates that the enclosure of the instrument is not protected against liquid ingress



WEEE recycling symbol

How to use

1. Prepare

- Insert a 9V regulated power supply (AC-DC converter) into the external power jack on the left side of the instrument. When turning on the instrument, the output plug of the regulated power supply should be inserted into the instrument first, and then the AC power supply should be connected; after the shutdown, the AC power supply should be disconnected first.
- Six R14 batteries can be installed in the battery box on the bottom of the instrument, pay attention to the positive and negative poles of the power supply.

1. The user chooses to equip with an external regulated power supply (AC-DC converter), please choose a power supply product that meets the GB9706.1 (IEC601) standard and has passed CCC or CE certification.

2. When using a 9V regulated power supply (AC-DC converter), pay attention to the polarity of the output plug, which is negative on the outside and positive on the inside.

- It is best to wipe the area to be treated with a hot towel or medical alcohol before use.
- Insert the output wire into the jack of the skin electrode; peel off the release paper on the skin electrode, and paste it on the desired treatment site, and insert the other end of the electrode output wire into the output jack; Unplug the output cord and remove the skin electrode.
- If the user uses electroacupuncture treatment, insert the electrode output wire into the filiform needle electrode clip, and then clamp the filiform needle electrode clip on the acupuncture needle handle that has been acupuncture. When using electroacupuncture, it must be used by professional acupuncturists and strictly follow the electroacupuncture operating procedures.
- Check the intensity adjustment knob and turn the knob to OFF.

Note: The output wire used in this instrument can be used with the skin electrode and the needle electrode clip at the same time. The connection is reliable and convenient.
Easy interchange for users.

Start up

- Press the power switch until the power indicator lights up.
- Check and adjust the six output intensity adjustment knobs, all return to zero to the left (otherwise it will cause an alarm sound), select and press the mode button (three modes of continuous wave, interval wave, and sparse and dense wave).

Note: The output port used by this instrument is to prevent the sudden change of intensity during the process and cause sudden stimulation of the patient. Therefore, set up misoperation prevention. All intensity adjustment knobs must be set to 0 before power-on output, otherwise, the alarm prompt will not work.

Setting

- Waveform selection, the user can choose three waveforms: continuous wave, interval wave and sparse and dense wave; press the mode key, the corresponding waveform indicator will display the corresponding working waveform, and the instrument will continuously output pulse waveform according to the frequency set by the user. Users can choose different waveforms for treatment according to the needs of different diseases.
- The treatment time can be adjusted from 1min to 90min. There are 1min, 10min, 20min, 30min, 40min, 50min, 60min, 70min, 80min, 90min and 10 levels can be selected. Press the time adjustment button according to the desired treatment time to set the Treatment time, the set time will be displayed on the LCD screen.
- The pulse frequency of the electro-acupuncture instrument is adjustable from 1 to 99Hz. There are 1Hz, 10Hz, 20Hz, 30Hz, 40Hz, 50Hz, 60Hz, 70Hz, 80Hz, 90Hz, 99Hz, 11 levels can be selected, and the frequency can be set according to the desired treatment frequency. , the adjusted frequency will be displayed on the LCD screen.
- The pulse width of the electro-acupuncture instrument is adjustable from 160-240uS. There are 5 levels of 160uS, 180uS, 200uS, 220uS, and 240uS to choose from. Press the desired treatment pulse width adjustment button to set the pulse width, and the adjusted pulse width will be displayed on the LCD screen.

Treatment

After selecting the treatment waveform, pulse frequency and time, slowly turn the output intensity adjustment knob clockwise. That is, turn on the output intensity adjustment knob, slowly adjust the output pulse intensity to prevent the pulse amplitude from being adjustable, and the instrument starts to enter the treatment stage.

1. When the pulse waveform or the treatment site needs to be replaced before and during the treatment, the output intensity adjustment knob should be returned to the lowest point, and the output should be slowly increased after the skin electrode or the needle electrode clip is fixed or the waveform is replaced. Users experience pain due to discomfort.
2. During treatment, the electro-acupuncture or skin electrodes cannot be used on the upper and left sides of the body at the same time, but only on the lower body or the same side to prevent the current from passing through the heart.
3. Avoid using the current loop through the heart; when using electroacupuncture near the medulla oblongata and spinal cord, the current intensity should be small to avoid accidents.
4. The user's misoperation may cause strong muscle contraction, bent needles, broken needles or needle dizziness.
5. When the output current exceeds 2mA (r.m.s), the patient may suffer burns, so be careful when adjusting the output intensity, do not adjust too much to avoid excessive stimulation.
6. In case of emergency, please unplug the power adapter to disconnect the network power supply.
7. Please use 40mm×40mm self-adhesive skin electrodes.

Shut down

- Turn the intensity adjustment knob counterclockwise to turn off. Turn off the power switch of the instrument.
- Remove the needle body or skin electrode, and unplug the output electrode wire. Remove the external stabilized power supply.

Contraindications and precautions for use

- It cannot be used for patients with implanted medical devices such as cardiac pacemakers;
- Using electrodes near the chest increases the risk of fibrillation.
- It cannot be used for pregnant women, patients with acute diseases, infectious diseases, malignant tumors and heart diseases;
- Do not perform electroacupuncture on scars, scars and inflamed skin;
- cannot be used while driving or operating machinery;
- Do not use when bathing and sweating;
- When starting the treatment, the two filiform needle electrode clips or skin electrodes at the output end of the same group cannot touch each other, so as to avoid short circuit and damage to the instrument;
- It is recommended to use disposable acupuncture needles or skin electrodes to avoid cross infection;
- It is not allowed to contact with metal objects during use;
- Do not attach skin electrodes to the eyes, face, neck and heart;
- Do not use in flammable and explosive gas situations;
- Keep a certain distance from televisions, radios and other electrical equipment to avoid possible electromagnetic interference;
- Acupuncture needle treatment should be used by a professional doctor (acupuncture needle is not part of this product). When the acupuncture needles are bent and deformed, the surface is oxidized, rusted, or stained, it is not suitable for use; it is recommended to use a single-use acupuncture needle.
- For acupuncture needles, please purchase the following products from our company. If customers choose to purchase by themselves, they should choose a manufacturer with a medical device registration certificate to purchase.

Specifications (mm)	Specifications (mm)	Specifications (mm)	Specifications (mm)
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0.16x13	0.25x13	0.30x100	0.40x50
0.16x25	0.25x25	0.35x13	0.40x75
0.16x40	0.25x40	0.35x25	0.40x100
0.18x13	0.25x50	0.35x40	0.45x13
0.18x25	0.25x75	0.35x50	0.45x25
0.18x40	0.30x13	0.35x75	0.45x40
0.20x13	0.30x25	0.35x100	0.45x50
0.20x25	0.30x40	0.40x13	0.45x75
0.20x40	0.30x50	0.40x25	0.45x100
0.20x50	0.30x75	0.40x40	— —

- This product complies with GB9706.1 (IEC601-1) and YY0607 electric shock protection classification class II BF type equipment with internal power supply.

When used for measurement of load resistance exceeding $\pm 10\%$, the deviation of pulse repetition frequency and amplitude value during pulse duration, including any DC component, shall not be greater than $\pm 30\%$.

The influence of power supply voltage fluctuation $\pm 10\%$ on the output amplitude, pulse duration or pulse repetition frequency of the instrument is not more than $\pm 10\%$.

- Warning of the following potential hazards:
- Connecting high frequency surgical equipment to a patient at the same time may cause burns at the electrodes of the instrument and may damage the instrument.
- When used near a short circuit or microwave therapy equipment (eg: 1 meter), the output of this device may be unstable.
- This instrument should be used under the guidance of a doctor.

Installation and maintenance

- This product does not need to be installed and is used by professional clinicians after training;
- Please keep it out of the reach of children;
- The instrument is strictly prohibited from being dropped from a high place, dropped heavily, squeezed or immersed in water;
- Store in a dry, non-corrosive gas or well-ventilated environment, avoid direct sunlight;

- This instrument has been strictly tested before leaving the factory, please do not disassemble, combine or disassemble by yourself;
- Please wipe the instrument with a soft, clean cloth, or use a 75% isopropyl alcohol aqueous solution for better cleaning effect.
- The electrode can be wiped with medical alcohol;
- When you need to remove or replace the wire, you should pull the plug and pull it out. Do not pull the wire directly by hand to avoid damage to the wire.

1. If the machine is not used for a long time, the battery should be removed to avoid battery leakage;
2. At the end of its service life, the device may affect the therapeutic effect due to the aging of the components. If it is found that the electroacupuncture instrument cannot reach the rated parameters when working, the components should be replaced or the device should be scrapped.
3. In order to avoid environmental pollution, please do not discard the discarded skin electrodes, acupuncture needles and batteries at will. Please dispose of them according to local environmental protection requirements.
4. The additional power supply cannot be automatically maintained in a fully available state, and the additional power supply should be checked and replaced regularly.

- If the internal battery is used for power supply, when the battery symbol on the screen shows an empty frame, you need to open the battery compartment cover of the therapy device and replace the 6 (R14UM2) alkaline batteries together.

Failure analysis and elimination

Phenomenon	Cause Analysis	Suggested exclusions
When powering on, the power indicator light does not light up	9V No power supply	Pay attention to voltage polarity
	battery not installed	Remove and reinsert the battery after shutdown
	low battery	Replacement battery
The waveform display window is not displayed	Six potentiometers not returned to zero	Potentiometer back to zero
	Display light is broken	Contact the manufacturer, repair
	low battery	Replacement battery
	battery not installed	Remove and reinsert the battery after shutdown
No pulse output (no stimulation on electrodes)	The output wire is not plugged in properly or has poor contact	Reinsert the output wire
	Too dry or oily skin	Wipe the treatment area with alcohol or a hot towel

	Broken output wire	Contact the manufacturer to replace the output lead
	the instrument is broken	Contact manufacturer for repair
The buzzer does not sound at the end of the treatment	The buzzer is broken	Contact manufacturer for repair

The company can provide the user-side qualified technicians with the necessary information for repairable equipment parts designated by the manufacturer as required.

If your instrument still cannot be used normally according to the above information or you cannot solve the above problems, please contact the manufacturer or the nearest sales point.

Storage and Shipping Conditions

Ambient temperature range: $-40^{\circ}\text{C} \sim 55^{\circ}\text{C}$

Relative humidity range: $\leq 95\%$

Atmospheric pressure range: $50\text{kPa} \sim 106\text{kPa}$

Avoid direct sunlight

The packaged electroacupuncture instrument should be stored in a non-corrosive gas and well-ventilated room with a relative humidity below 80%.

Normal working conditions:

Ambient temperature: $10^{\circ}\text{C} \sim 40^{\circ}\text{C}$;

Relative humidity: $30\% \sim 75\%$;

Atmospheric pressure range: $700\text{hPa} \sim 1060\text{hPa}$;

Power supply: AC/DC converter: $220\text{V} \pm 22\text{V}$ $50 \pm 1\text{Hz}$

Internal power supply: 9V allowable deviation $5\% \sim -10\%$.

Accessories

- 6 output electrode wires
- 6 pairs of skin electrode patches
- 6 pairs of needle electrode clips
- One instruction manual.
- 1 certificate of conformity

- Shockproof foam box 1 piece

The output wire and skin electrode attached to the instrument are used together with the instrument. If the wire or electrode is damaged and needs to be replaced, please replace the special output wire and skin electrode produced by our company to ensure the normal use of the instrument.

After-sales service

This product host provides a one-year warranty and long-term maintenance. If the instrument is artificially damaged, it is not covered by the warranty; the skin electrode, the needle electrode clip and the output electrode wire are not covered by the warranty, but they can be used at a discount. If you have any quality problems and needs, please contact the purchase store, agent or our factory, we will provide you with high-quality service.

After-sales service hotline: 0512-63242329, welcome to inquire.

Please keep the proof of purchase properly so that we can do after-sales service for you in a timely manner.

Electrical schematic

