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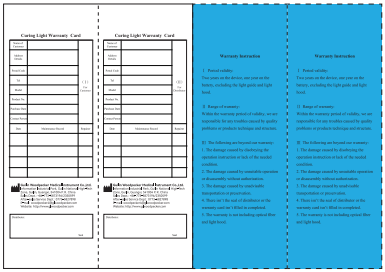


ZMN-SM-406 V1.4-20240419

Please read this manual before operating

i Led II Curing Light
Instruction Manual

Guilin Woodpecker Medical Instrument Co., Ltd.

Contents

1. Introduction

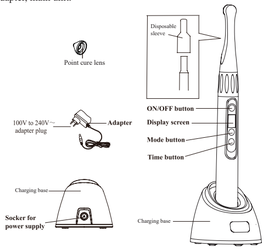
Guilin Woodpecker Medical Instrument Co., Ltd. is a high-tech enterprise in researching, developing, and producing dental equipment, and has a perfect quality assurance system, main products including ultrasonic scaler, curing light, micro motor, apex locator and ultrasurgery etc.

2. Principle and usage

2.1 i LED II adopts the principle of ray radiation to solidify the light-sensitive resin by shooting at it in a short time.
2.2 This product is used to restore teeth.
2.3 The device can only be used by the dentist who is qualified and well- trained. This product is used on dental patient in the place of hospital or professional medical site.

3. Structure and components

The curing light (dentistry) is mainly composed by LED, light hood, charging base, battery, adapter, main unit.



4. Technical specifications

4.1 Dimensions: 25mm×25mm×240mm.
4.2 Net weight: 278g.
4.3 Applied parts of the equipment: Top of main unit, Point cure lens
4.4 Duty cycle of the equipment: 20 Sec on/20 Sec off
4.5 The components of machine(Packing list):
1. Maint unit *1
2. Top of main unit *1
3. Light hood *1
4. Instruction manual *1
5. Adapter *1
6. Charging base *1
7. Point cure lens *1
8. Disposable sleeve *100
9. Qualified certificate *1

4.6 Power source
4.6.1 Power supply: rechargeable Lithium battery
4.6.2 Battery mode: 18500
4.6.3 Battery capacity: 2000mAh
Battery has protection against Over-voltage, over-current and short circuit.
4.6.4 Adapter(charge)
Input: 100-240V~ 50/60Hz 0.4A Max.
Output: 5.0V ⎓ 1A
The adapter must be complies with IEC 60601-1 and IEC 60601-1-2.
4.7 Light source:
4.7.1 10W high power blue light LED
4.7.2 Checking method: the LED light is fine when the light is on during operating correctly.
4.7.3 The wave length of this product can match with the clinical dental resin solidification, such as 3M, Dentsply etc.
4.7.4 Emitted Wavelength Range: 380nm-515nm
4.7.5 Typical wavelength peaks: 460±15nm and 400±15nm
4.7.6 Irradiance tolerance range: ±10%
4.8 Light intensity: 1000-3000mW/cm^2
4.9 Working condition
4.9.1 Environment temperature: +5°C to +40°C
4.9.2 Relative humidity: 30%~75%
4.9.3 Atmosphere pressure: 70kPa to106kPa
4.10 Equipment safety
4.10.1 Operating mode: intermittent operation
4.10.2 Protection type against electrical shock: class II.
4.10.3 Protection degree against electrical shock: type B.

4.10.4 Protection against harmful ingress of water or particular matter: ordinary equipment (IPX0).
4.10.5 Safety in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide: not suitable under this condition.

5. Install and uninstall way

5.1 The top of the unit can be turned 360 degrees to both left and right while it is forbidden to remove.
5.2 When the battery needs to be charged, connect the plug of the adapter into the AC100V~240V power supply. Then connect the output plug of the adapter to the DC 5.0V input plug of the pedestal, then put the main unit into the pedestal.

6. Operation

6.1 Press the mode button. Following three modes are available.
6.1.1 Turbo Power Mode: screen shows P0, press the time button to select of time which could be 1 and 3 seconds. Its output light intensity is about 2700-3000 mW/cm^2.
6.1.2 High Power Mode: screen shows P1, press the time button to select of time which could be 3 and 5 seconds. Its output light intensity is about 1800-2000 mW/cm^2.
6.1.3 Standard Power Mode: screen shows P2, press the time button to select of time which could be 5, 10, 15 and 20 seconds. Its output light intensity is about 1000-1200 mW/cm^2.
6.2 Quick mode guide

Mode	Standard Power (P2 Mode) 1000-1200mW/cm^2				High Power (P1 Mode) 1800-2000mW/cm^2		Turbo Power (P0 Mode) 2700-3000mW/cm^2	
Power Button	I	I	I	I	I	I	I	I
Mode/Timing Digital Tube	P2	05	10	15	P1	03	P0	03
Mode Change Button	M	M	M	M	M	M	M	M
Time Change Button	T	T	T	T	T	T	T	T
Time Options	5s	10s	15s	20s	3s	5s	1s	3s

To Change Time	Press Time Change Button to cycle through time options.
To Change Modes	Press Mode Change Button to cycle to next Mode.
Light intensity	Light intensity will vary based on instrument capability, measurement method and light placement. Standard Power: 1000-1200mW/cm^2, measured by a IVOCLAR VIVADENT® Bluephase® Meter II radiometer. High Power: 1800-2000mW/cm^2, measured by a IVOCLAR VIVADENT® Bluephase® Meter II radiometer. Turbo Power: 2700-3000mW/cm^2, measured by a spectrum analyzer.

6.3 Quick Curing Guide: Recommended Curing Times for Optimal Results with i Led II curing light
Exposure times may need to be adjusted due to composite reactivity, shade, distance from the light lens to the composite, and depth of composite layer if it is over 2mm.

Mode	Standard Power	High Power	Turbo Power
Per 2mm Layer	1×10 Seconds	2×3 Seconds	1×3 Seconds
Final Cure	2×10 Seconds	3×3 Seconds	2×3 Seconds
Ortho Metal & Ceramic Brackets	2×10 Seconds	2×5 Seconds	2×3 Seconds

6.4 Use Point Cure Lens: The magnetic Point Cure Lens provides pinpoint curing of small composites and is helpful for tack curing veneers and all porcelain crowns. For veneers, the Turbo Power mode with a 1-second timing interval allows for point curing the center of a veneer with the ability to then clean up the uncured excess around the margins, then cure the entire restoration using the full-sized curing lens.
For all porcelain crowns, place the curing light on the buccal and lingual surfaces and point cure using Turbo Power mode for approximately 2 seconds each, clean up the uncured resin around the margins, then cure the entire restoration using the full-sized lens.
6.5 During the operation, the top of main unit should be positioned as closely as possible to the restoration. Press the ON/OFF button and the main unit will produce "Bi" sound, the curing light radiates blue light and starts working according to the set modes. Meanwhile, it starts counting down and will produce tone at every 5 seconds, it stops working when counting down to "0".
6.6 During operation, the blue light can be stopped by press the power button at any time.
6.7 After a working cycle, operator can press the ON/OFF switch to start another working cycle. Stop operating if the equipment began to heat obviously, do not restart until the equipment cool down. Suggest continues working cycle less than 10

Curing Light Warranty Card

Name of Customer		
Address Details		
Postal Code		
Tel		（I） For Customer
Model		
Product No.		
Purchase Date		
Contact Person		
Date	Maintenance Record	Repairer

Guilin Woodpecker Medical Instrument Co.,Ltd.
Information Industrial Park, Guilin National High-Tech Zone, Guilin, Guangxi, 541004 P. R. China
Sales Dept.: +86-773-5873196/2350599
After-sales Service Dept.: +86-0773-5827898
E-mail: woodpecker4@glwoodpecker.com
Website: http://www.glwoodpecker.com

Distributor:

Seal

Curing Light Warranty Card

Name of Customer		
Address Details		
Postal Code		
Tel		（II） For Distributor
Model		
Product No.		
Purchase Date		
Contact Person		
Date	Maintenance Record	Repairer

Guilin Woodpecker Medical Instrument Co.,Ltd.
Information Industrial Park, Guilin National High-Tech Zone, Guilin, Guangxi, 541004 P. R. China
Sales Dept.: +86-773-5873196/2350599
After-sales Service Dept.: +86-0773-5827898
E-mail: woodpecker4@glwoodpecker.com
Website: http://www.glwoodpecker.com

Distributor:

Seal

Cut along the dashed line

times.
6.8 Low power detective circuit is fixed inside of the main unit, when low power is detected, the display screen of main unit will wink, please charge in time.
6.9 When the battery needs to be charged, connect the plug of the adapter into the AC100V~240V power supply. Then connect the output plug of the adapter to the DC 5.0V input plug of the charging base, and then the logo turn to blue. Put the main unit to the charging point of the charging base, the display screen turn to scrolling display, and the curing lights starts charging. When charging finished, the display screen display "1111".
6.10 After operating, take off the disposable sleeve and throw away, forbidden to reuse.
6.11 This equipment will turn off automatically if don't any action within 2 minutes, turn it on by press any button.
6.12 The solidified depth of the curing light composites resin for 10 seconds will not less than 4mm.
WARNING
Wear a disposable sleeve before using the equipment on the patient.
The disposable sleeve has been disinfected with ethylene oxide. Unless the package is opened, there will be no bacterial. If the sealing tape is damaged, please do not use.

7. Precaution

7.1 Please recharge the battery at least 4 hours before first time usage.
7.2 The adapter plug is used as the isolation from the SUPPLY MAINS. When charging the battery, please not to position the device so that it is difficult to operate the disconnection device.
7.3 In order to prevent cross-infection, it is forbidden to reuse the disposable sleeve.
7.4 The top of the main unit can be turned 360 degrees to both left and right while it is forbidden to remove.
7.5 During operation, the blue light should be aimed straightly at the composite resin to ensure the effect of solidification.
7.6 Avoid aiming the blue light at eyes directly.
7.7 Please use the power adapter and lithium battery which is designed and supplied by our company. It may cause potential dangers to operator and patient by using the power adapter and lithium battery which is designed and supplied by other manufacturers.
7.8 It is forbidden to use metal or other conductors to touch the main unit and the

charging point of pedestal because it may burn the internal circuit or make the lithium battery short circuit.
7.9 Please recharge the battery in cool and ventilated room.
7.10 It is forbidden to self-taking apart the battery, in order not to result in short-circuit or leakage.
7.11 It is forbidden to extrude, shake or rock the battery. The Li-ion battery is forbidden to be in short-circuit situation and it is forbidden to put the battery with metal or other conductors.
7.12 To invoid electromagnetic interference, the device should be installed at the medical site which meet the requirement of EMC.
①WARNING: The adapter should be connected to the socket which is easy for operator to touch.
②WARNING: over-heat scorching: The duty cycle of the equipment is 20 Sec on/20 Sec off, if the curing light works for 40s continuously, the temperature of the top of main unit may reach 56℃.
③WARNING: parts of the ME equipment that are not serviced or maintained while in use with the patient.

8. Cleaning, Disinfection and Sterilization

The cleaning, disinfection and sterilization of Point cure lens is as follow.
Unless otherwise stated, they will be hereinafter referred to as "products".
⚠ Warnings
The use of strong detergent and disinfectant (alkaline pH>9 or acid pH <5) will reduce the life span of products. And in such cases, the manufacturer takes no responsibility.
This device shall not be exposed to high temperature above 138℃.
Processing limit
The products have been designed for a large number of sterilization cycles.
The materials used in manufacture were selected accordingly. However with every renewed preparation for use, thermal and chemical stresses will result in ageing of the products. The maximum number of sterilizations for optical fiber is 500 times.
8.1 Initial processing
8.1.1 Processing principles
It is only possible to carry out effective sterilization after the completion of effective cleaning and disinfection. Please ensure that, as part of your responsibility for the sterility of products during use, only sufficiently validated equipment and product-specific procedures are used for cleaning/disinfection and sterilization, and that the validated parameters are adhered to during every cycle.
Please also observe the applicable legal requirements in your country as well as the

hygiene regulations of the hospital or clinic,especially with regard to the additional requirements for the inactivation of prions.
8.1.2 Post-operative treatment
The post-operative treatment must be carried out immediately, no later than 30 minutes after the completion of the operation. The steps are as follows:
1. Remove the optical fiber from the Curing light Device,and rinse away the dirt on the surface of product with pure water (or distilled water/deionized water);
2. Dry the product with a clean, soft cloth and place it in a clean tray.
Notes
a) The water used here must be pure water, distilled water or deionized water.
8.2 Preparation before cleaning
Steps
Tools: tray, soft brush, clean and dry soft cloth Remove optical fiber from main unit and put it into the clean tray.
Use a clean soft brush to carefully brush the optical fiber until the dirt on surface is not visible. Then use soft cloth to dry the optical fiber and put them into a clean tray. The cleaning agent can be pure water, distilled water or deionized water.
8.3 Cleaning
The cleaning should be performed no later than 24 hours after the operation.
The cleaning can be divided into automated cleaning and manual cleaning. Automated cleaning is preferred if conditions permit.
8.3.1 Automated cleaning
•The cleaner is proved to be valid by CE certificationin accordance with ENISO 15883.
•There should be a flushing connector connected to the inner cavity of the product.
•The cleaning procedure is suitable for the product, and the irrigating period is sufficient.
It is recommended to use a washer-disinfector in accordance with EN ISO15883. For the specific procedure, please refer to the automated disinfection section in the next section "Disinfection".
Notes
a) The cleaning agent does not have to be pure water. It can be distilled water, deionized water or multi-enzyme. But please ensure that the selected cleaning agent is compatible with the product.
b) In washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it would be difficult to remove.
c) After cleaning, the chemical residue should be less than 10mg / L.
8.4 Disinfection
Disinfection must be performed no later than 2 hours after the cleaning phase.

Automated disinfection is preferred if conditions permit.
8.4.1 Automated disinfection-Washer-disinfector
·The washer-disinfector is proved to be valid by CE certification in accordance with EN ISO 15883..
·Use high temperature disinfection function. The temperature does not exceed 134 ℃, and the disinfection under the temperature cannot exceed 20 minutes.
·The disinfection cycle is in accordance with the disinfection cycle in EN ISO 15883.
Cleaning and disinfecting steps by using Washer-disinfector
1. Carefully place the product into the disinfection basket. Fixation of product is needed only when the product is removable in the device. The products are not allowed to contact each other.
2. Use a suitable rinsing adaptor, and connect the internal water lines to the rinsing connection of the washer-disinfector.
3. Start the program.
4. After the program is finished, remove the product from the washer-disinfector, inspect (refer to section "Inspection and Maintenance") and packaging (refer to chapter "Packaging"). Dry the product repeatedly if necessary (refer to section "Drying").
Notes
a) Before use, you must carefully read the operating instructions provided by the equipment manufacturer to familiarize yourself with the disinfection process and precautions.
b) With this equipment, cleaning, disinfection and drying will be carried out together.
c) Cleaning: (c1) The cleaning procedure should be suitable for the product to be treated. The flushing period should be sufficient (5-10 minutes). Pre-wash for 3minutes, wash for another 5 minutes, and rinse it for twice with each rinse lasting for 1 minute. (c2) In the washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it is difficult to remove. (c3) The solution used can be pure water, distilled water, deionized water or multi-enzyme solution, etc., and only freshly prepared solutions can be used. (c4)During the use of cleaner, the concentration and time provided by manufacturer shall be obeyed.
The used cleaner is neodisher MediZym (Dr. Weigert).
d) Disinfection: (d1) Direct use after disinfection: temperature ≥ 90 °C, time ≥ 5 min or A0 ≥ 3000.
(d2)Sterilize it after disinfection and use: temperature ≥ 90 °C, time ≥ 1 min or A0 ≥ 600.
(d3) For the disinfection here, the temperature is 93 °C, the time is 2.5 min, and

A0>3000.
e) Only distilled or deionized water with a small amount of microorganisms (<10 cfu/ml) can be used for all rinsing steps. (For example, pure water that is in accordance with the European Pharmacopoeia or the United States Pharmacopoeia).
f) After cleaning, the chemical residue should be less than 10mg / L.
g)The air used for drying must be filtered by HEPA.
h) Regularly repair and inspect the disinfector.
8.5 Drying
If your cleaning and disinfection process does not have an automatic drying function, dry it after cleaning and disinfection.
Methods
1. Spread a clean white paper (white cloth) on the flat table, point the product against the white paper (white cloth), and then dry the product with filtered dry compressed air (maximum pressure 3 bar). Until no liquid is sprayed onto the white paper (white cloth), the product drying is completed.
2. It can also be dried directly in a medical drying cabinet (or oven). The recommended drying temperature is 80℃~120℃ and the time should be 15~40 minutes.
Notes
a) The drying of product must be performed in a clean place.
b) The drying temperature should not exceed 138 °C;
c) The equipment used should be inspected and maintained regularly.
8.6 Inspection and maintenance
In this chapter, we only check the appearance of the product. After inspection, if there is no problem, the optical fiber can only be used.
8.6.1 Check the product. If there is still visible stain on the product after cleaning/disinfection, the entire cleaning/disinfection process must be repeated.
8.6.2 Check the product. If it is obviously damaged, smashed, detached, corroded or bent, it must be scrapped and not allowed to continue to be used.
8.6.3 Check the product. If the accessories are found to be damaged, please replace it before use. And the new accessories for replacement must be cleaned, disinfected and dried.
8.6.4 If the service time (number of times) of the product reaches the specified service life (number of times), please replace it in time.
8.7 Packaging
Install the disinfected and dried product and quickly package it in a medical sterilization bag (or special holder, sterile box).
Notes
a) The package used conforms to ISO 11607;
b) It can withstand high temperature of 138 °C and has sufficient steam permeabili-

ty;
c) The packaging environment and related tools must be cleaned regularly to ensure cleanliness and prevent the introduction of contaminants;
d) Avoid contact with parts of different metals when packaging.
8.8 Sterilization
Use only the following steam sterilization procedures (fractional pre-vacuum procedure*) for sterilization, and other sterilization procedures are prohibited:
1. The steam sterilizer complies with EN13060 or is certified according to EN 285 to comply with EN ISO 17665;
2. The highest sterilization temperature is 138 ° C;
3. The sterilization time is at least 4 minutes at a temperature of 132°C/134°C and a pressure of 2.0 bar ~ 2.3 bars.
4. Allow a maximum sterilization time of 20 minutes at 134 °C.
Verification of the fundamental suitability of the products for effective steam sterilization was provided by a verified testing laboratory.
Notes
a) Only products that have been effectively cleaned and disinfected are allowed to be sterilized;
b) Before using the sterilizer for sterilization, read the Instruction Manual provided by the equipment manufacturer and follow the instructions.
c) Do not use hot air sterilization and radiation sterilization as this may result in damage to the product;
d) Please use the recommended sterilization procedures for sterilization. It is not recommended to sterilize with other sterilization procedures such as ethylene oxide, formaldehyde and low temperature plasma sterilization. The manufacturer assumes no responsibility for the procedures that have not been recommended.
If you use the sterilization procedures that have not been recommended, please adhere to related effective standards and verify the suitability and effectiveness.
* Fractional pre-vacuum procedure = steam sterilization with repetitive pre-vacuum. The procedure used here is to perform steam sterilization through three pre-vacuums.
8.9 Storage
8.9.1 Store in a clean, dry, ventilated, non-corrosive atmosphere with a relative humidity of 10% to 93%, an atmospheric pressure of 70KPa to 106KPa, and a temperature of -20 °C to +55 °C;
8.9.2 After sterilization,the product should be packaged in a medical sterilization bag or a clean sealing container, and stored in a special storage cabinet. The storage time should not exceed 7 days. If it is exceeded, it should be reprocessed before use.

Notes:
a) The storage environment should be clean and must be disinfected regularly;
b) Product storage must be batched and marked and recorded.
7.10 Transportation
1. Prevent excessive shock and vibration during transportation, and handle with care;
2. It should not be mixed with dangerous goodsduring transportation.
3. Avoid exposure to sun or rain or snow during transportation.
The cleaning and disinfection of main unit are as follows.
• Before each use, wipe the surface of the machine with a soft cloth or paper towel soaked in 75% medical alcohol. Repeat the wipe for at least 3 times.
• After each use, wipe the surface of the device with a soft cloth soaked in clean water (distilled or deionized water) or a clean disposable wipe.
Repeat the wipe for at least 3 times.

9. Contraindication

The heart disease patients, pregnant women and children should be cautious to use this equipment.

10. Daily maintenance

10.1 This equipment does not include the self-maintainable spare parts. The maintenance of this equipment should be taken by the appointed professional or special repair shop.
10.2 Users can change the disposable sleeve and lithium battery. Please use accessory which is designed and supplied by our company, contract with the local dealer or our company if you want to buy. It may cause potential dangers to curing light or other damages which is designed and supplied by other manufacturers.
10.3 The accessory of the product should be cleaned by clean water or neutral sterilized liquid. Do not soak. Do not use highly volatile and diffluent solvent to clean this equipment, which can cause the signs on the control panel to fade.
10.4 Please clean the resin remained on the top of the main unit after using to avoid infecting the life-span or solidified effect.
10.5 The device cannot be maintanenced during operation. And it is suggested to maintain it once a month. But sleeve is for one-time usage and no need for maintanance.
10.6 If the main unit not used for a long time, be sure to charge the lithium battery of the main unit every six months to prevent damage to the lithium battery after long-term storage.

11. Trouble shooting

Faulty	Possible cause	Solutions
No indication, no response.	1. Battery is out of power. 2. Faulty of battery. 3. The main unit battery protection system works.	1. Charge the equipment/Send to after service for repair. 2. Send to after service for repair. 3. Place the main unit into the socket on the charger for activation.
"Er" shown on the screen.	1. System error. 2. Faulty of main unit.	1. Send to after service for repair. 2. Send to after service for repair.
Wink shown on the screen.	Low battery.	Reconnect the charger, if "Er" show again after 15 minutes please send to after service for repair.
Light intensity is weak.	There is resin on the top of the main unit.	Clear the resin.
The equipment is not charging when the adapter is connected.	1. The adapter is not connected well. 2. Faulty of adapter or incompatible. 3. The charging point is impurity.	1. Reconnect. 2. Change the adapter. 3. Cleaned by the alcohol.
The mode indicator twinkles when charging.	1. Low voltage. 2. Short-circuit of the battery.	1. Back to normal after 15 minuets charging. 2. Send to after service for repair.

If such handlings are completed, the equipment still cannot work normally, please contact with the special maintenance shop or our company.

12. After service

From the date this equipment has been sold, base on the warranty card, we will

repair this equipment free of charge if it has quality problems, please refer to the warranty card for the warranty period.

13. Storage and transportation

13.1 This equipment should be handled carefully, kept away from shaking point, installed or stored at shadowy, dry, cool and ventilated places.
13.2 Don't store it together with articles that are combustible, poisonous, caustic and explosive.
13.3 This equipment should be stored in the environment where the relative humidity is 10%~93%, the atmosphere pressure is 70kPa to 106kPa and the temperature is -20°C to +55°C.
13.4 Excess impact or shake should be avoided during transportation.
13.5 Don't mix it with dangerous articles during transportation.
13.6 Keep it away from sun or snow or rain during transportation.

14. Environmental protection

Please dispose according to the local laws.

15. Symbol instruction

Date of manufacture

Class II equipment

IPX0 Ordinary equipment

Screw inside/outside

Handle with care

Humidity limitation for storage

Temperature limitation for storage

Manufacturer

Type B applied part

Used indoor only

Appliance compliance WEEE directive

Keep dry

Recovery

Atmospheric pressure for storage

Follow Instructions for Use

CE marked product

EC REP Authorised Representative in the EUROPEAN COMMUNITY

16. EMC - Declaration of conformity

The device has been tested and homologated in accordance with EN 60601-1-2 for EMC. This does not guarantee in any way that this device will not be effected by electromagnetic interference Avoid using the device in high electromagnetic environment.

Guidance and manufacturer's declaration - electromagnetic emissions		
The models i LED II are intended for use in the electromagnetic environment specified below. The customer or the user of the models i LED II should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	The models i LED II 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.
RF emissions CISPR11	Class B	The models i LED II are suitable for used in domestic establishment and in establishment directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

Guidance & Declaration — electromagnetic immunity
The models i LED II are intended for use in the electromagnetic environment specified below. The customer or the user of the models i LED II 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	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 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	±2kV for power supply lines ±1 kV for Input/output lines	±2kV for power supply lines ±1kV for interconnecting cable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line to line ±2 kV line to earth	±1 kV line to line	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 40 % U_T (60% dip in U_T) for 5 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 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 <5% U_T (>95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the models i LED II require continued operation during power mains interruptions, it is recommended that the models i LED II be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30A/m	30A/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.			

Guidance & Declaration - Electromagnetic immunity			
The models i LED II are intended for use in the electromagnetic environment specified below. The customer or the user of the models i LED II 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 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands 3 V/m 80 MHz to 2.7 GHz 385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014)	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands 3 V/m 80 MHz to 2.7 GHz 385MHz-5785MHz Test specification s for ENCLOSURE PORT IMMUNITY to RF wireless communicati on equipment (Refer to table 9 of IEC 60601-1-2:2014)	Portable and mobile RF communications equipment should be used no closer to any part of the models i LED II, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance d=[3,5/V1]×P$^{1/2}$ d=1.2×P$^{1/2}$ 80 MHz to 800 MHz d=2.3×P$^{1/2}$ 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 meters (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 end 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 models i LED II are used exceeds the applicable RF compliance level above, the model i LED II should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the models i LED II.

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

Recommended separation distances between portable and mobile RF communications equipment and the models i LED II			
The models i LED II are intended for use in electromagnetic environment in which radiated RF disturbances is controlled. The customer or the user of the models i LED II can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the models i LED II are 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		
	150kHz to 80MHz d=1.2×P$^{1/2}$	80MHz to 800MHz d=1.2×P$^{1/2}$	800MHz to 2,5GHz d=2.3×P$^{1/2}$
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 meters (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) accordable 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.			

17. Statement

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Harm of fake products

and are two brands of Guilin woodpecker medical instrument company. Recently, growing fake ultrasonic scaler handpieces, tips curing lights are produced and sold on the market, which do harm to users' interest.On this issue, We Woodpecker will crack down fake products and provide safe and secure medical instrument products.

1. Harm of fake ultrasonic scaler handpieces.

1.1 Fake handpieces with poor-designed inner structure can lead to frequent power leakage, which may cause medical accidents.
1.2 Material used on fake handpieces don' t pass biocompatible test, which can easily lead to irritability and poisoning.
1.3 Fake handpieces have quality problems of overheating, non-vibration and cracking, which cause ultrasonic scalers out of order.
1.4 Fake handpieces can' t be compatible with ultrasonic scalers, thus leading to circuit burn out.

2. Harm of fake scaler tips.

2.1 Fake tips are low in toughness, poor in resistance and easy to crack, thus easily cause medical accident.
2.2 Fake tips' screw threads are roughly processed, which can cause handpiece' s screw loosing and cracking.
2.3 Material used on fake tips is inferior and easily rusting, which can cause infection of patient.
2.4 Fake tips have used problem of poor water-spraying, bad screw-thread fit and water leaking, which leads ultrasonic scalers work wrongly.

3. Harm of fake curing light.

3.1 Fake curing light' s batteries can cause self-ignite, even explosion with poor-quality material and no complete charging management.
3.2 Light intensity of fake curing light is not constant, when battery level goes down under 60%, it would lead to incomplete solidification of resin, causing secondary dental caries.

Warranty Instruction

Ⅰ Period validity:

Two years on the device, one year on the battery, excluding the light guide and light hood.

Ⅱ Range of warranty:

Within the warranty period of validity, we are responsible for any troubles caused by quality problems or products technique and structure.

Ⅲ The following are beyond our warranty:

1. The damage caused by disobeying the operation instruction or lack of the needed condition.
2. The damage caused by unsuitable operation or disassembly without authorization.
3. The damage caused by unadvisable transportation or preservation.
4. There isn't the seal of distributor or the warranty card isn't filled in completed.
5. The warranty is not including optical fiber and light hood.

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