

LED Curing Light USER MANUAL

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1. Symbols

⚠Warning	If the instructions are not followed properly, operation may lead to hazards for the product or the user/patient.
NOTE	Additional information, explanation of operation and performance.
	Do not dispose of with normal household waste.(WEEE)
SN	Serial number
REF	Catalogue number
	Manufacturer
\sim	Date of manufacturer
†	Type B applied part
	Direct current
	Safety class II device
*	Store in a dry place
-20℃	Temperature limitation
20%80%	Relative humidity
70kPa	Transport and storage pressure conditions: 70 kPa - 106 kPa



2. Technical Data

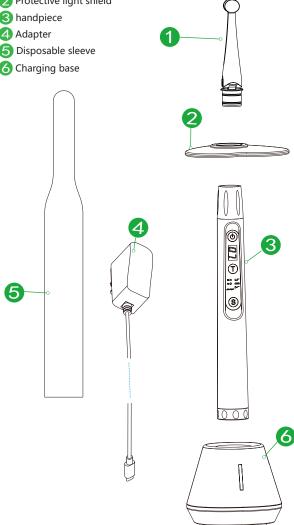
Model	
Dimensions (C25 Plus)	217mmX132mmX90mm
Weight	600g ±10%
Power supply	Li-18650 battery: 3.7V, 2600mAh, 9.62Wh
Charger power supply	AC 100-240 V, ±10%
Charger power output	5.0V 1A
Power Frequency	50/60Hz, ±10%
Charger nominal power input	5VA
Light intensity	2500mW/cm ² 1200mW/cm ²
Wavelength	420nm-515nm
Electrical safety class	Class II
Applied part	В
Operation conditions	Use: in enclosed spaces Ambient temperature: 10° C ~ 40° C Relative humidity: 20%~80% Operating altitude < 3000m above sea leve
Transport and storage conditions	Ambient temperature: -20 ° C ~ +55 ° C Relative humidity: 20% ~ 80 % Atmospheric pressure: 70kPa ~ 106kPa



Scope

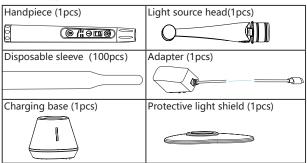
Parts Identification

- 1 Light source head
- 2 Protective light shield
- 4 Adapter
- 6 Charging base





3.2 Components and accessories



4 Before Use

4.1 Scope of application

Suitable for the purpose of curing dental resins and composites or detecting caries.

This device must only be used in hospital environments, clinics or dental offices by qualified dental personnel.

4.2 Contraindications

Do not use the device for non-endodontic dental procedures.

Safety and effectiveness have not been established in pregnant women and children.

Marning

Read the following warnings before use:

- 1. The device must not be placed in humid surroundings or anywhere where it can come into contact with any type of liquids.
- Do not expose the device to direct or indirect heat sources. The device must be operated and stored in a safe environment.
- 3. The device requires special precautions with regard to electromagnetic compatibility (EMC) and must be installed and operated in strict compliance with the EMC information. In particular, do not use the device in the vicinity of fluorescent lamps, radio transmitters, remote controls, portable or mobile RF communication devices and do not use this system near the active HF Surgical Equipment in the hospital .Do not charge, operate or store at high temperatures. Comply with the specified operating and storage conditions.
- Protective light shield and a disposable sleeve are compulsory during treatment.
- If irregularities occur in the device during treatment, switch it off. Contact the agency.
- Never open or repair the device yourself, otherwise, void the warranty

5.1 Install the light source head

Make sure the light source head alignment the slots of handpiece, "click" securely into place.



The light source head can be 360 degrees rotated without take off, make it easy to watch the LED in treatment

Warning

1.After connecting the light source head and the handpiece, pull it gently to make sure the connection is good.

2.Make sure the assembly is connected properly, otherwise might cause unexpected fault, even hurt the patients

5.2Install the disposable sleeve

Take a disposable sleeve and gently insert it into the handpiece from the light source head

5.3 Install the protective light shield

Make sure the light source plug them together until it head alignment the slots of the protective light shield, plug them together.



Warning

1.Disposable sleeve must be discarded after use 2.The light source head, protective light shield and handpiece should be cleaned and disin-

fected after each treatment

Avoid direct exposure of the lamp to the eyes during working.

The lamp head can be adjusted in angle to deal with different positions





Put the handpiece all the way into the charge base, the charge state will show on the screen and plug the USB of adapter into the charge base, and plug the other end into a power outlet, the Power LED on charge base will light up (green).





Only the original adapter could be used.

Charging indication shows "CH" on the LED screen, and LED flashes slowly , when battery is fully charged or in a state near full charge, the flash will stop and show "FH"

Charging:

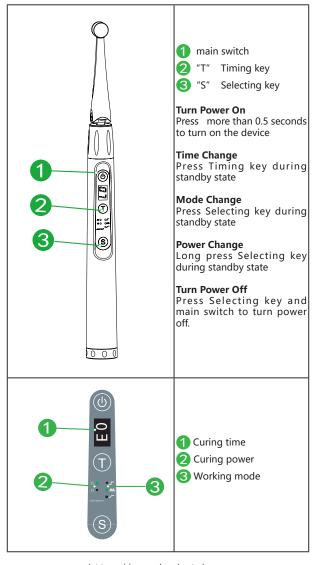








- 6. Use Interface
- 6.1 Panel key





7. Setting

7.1 Modify setting

Curing Mode	There are 3 built-in memory programs, namely NORMAL, RAMP, PULSE. Press selecting key to change the working mode during standby state.			
Curing Power	Light intensity setting The RAMP and PULSE mode are setting on 1200mW/cm², and NORMAL mode cand be changed to 1200mW/cm² or 2500 mW/cm², Long Press "S" to change the light intensity.			
	⚠ Warning The light intensity of RAMP, PULSE are built-in, and the user cannot modify.			
	ferent time	ndby state, press	"T" to select dif- on is different un-	
Curing Time	Mode	2500mW/cm ²	1200mW/cm ²	
	NORMAL	1s,2s,3s	3s,5s,10s,15s	
	PULSE	N/A	3s,5s,10s	
	RAMP	N/A	5s,10s,15s,20s	



8. Operation

8.1 Charge



It means the battery is too low, less than 15% remains, please charge.



If the power if less than 15%, must be recharged within 30 days, otherwise the battery will be damaged.



Charging indicator appears on the screen, and flashes slowly, when battery is fully charged or in a state near full charge, the flash will stop and show as picture.

Fully charged will take about 4 hours, depending on residual battery power and battery state.

It can be recharged 300-500 times, depending on the operating conditions of the device.





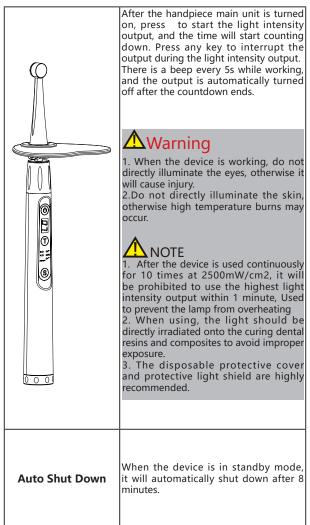
When changing, other function will forcibly stop, take from charge base, press main switch, the last function will recall.



Do not change the battery, only trained technician or distributor can change the battery, the electronic parts will be damaged if use a wrong battery or install with a wrong way.



8.2 Handpiece operation





△Warning

- 1. Before using, please try it outside the oral cavity to ensure that there is no problem with the function of the device.
- 2. Do not disassemble the lamp during treatment .



- 1. If there is any abnormal functioning, stop using the device and report to company
- 2. Gloves are compulsory during treatment
- Always clean the handpiece and light source head after each treatment.

9. Operation mode

Normal	Normal mode In this modes, the light intensity can be set to 2500mW/cm² or 1200mW/cm² Wavelength: 420nm-515nm When pressed, the setting light intensity is output immediately, and the sound is prompted every 5 seconds.
PULSE	PULSE Mode Light intensity: 1500mW/cm² Wavelength: 420nm-515nm When pressed, the output light intensity is 1200mW/cm² and flashes once every 1 second, prompting the sound every 5 seconds.
RAMP	Ramp Mode Light intensity: 1200mW/cm². Wavelength:420nm-515nm When pressed, the light intensity gradually increases to 1200mW/cm² in the first 5 seconds, and then continues to output 1200mW/cm², prompting the sound every 5 seconds.



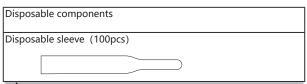
10. Maintenance

Disinfection components handpiece Light source head Charging base Protective light shield

Wipe all the surfaces with a cloth lightly moistened with Ethanol for Disinfection (Ethanol 70 to 80vol%) at least 2min, repeat for 5 times.



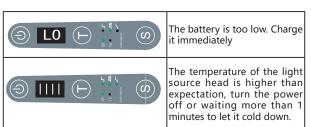
- 1. Do not use anything except Ethanol for Disinfection (Ethanol 70 to 80 vol%).
- Do not use too much ethanol as it's going into machine and damage the components inside.



$oldsymbol{\Delta}$ Warning

- 1. Please discard it after use and do not use it again.
- The product has been disinfected with ethylene oxide, so there is no need to disinfect it before use.

11. Error Warning





12. Troubleshooting

When trouble is found, check the following points before contacting your distributor. If none of these are applicable or the trouble is not remedied even after action has been taken, the product may have failed. Contact your distributor.

Problem	Cause	Solution	Ref. chap
	The battery is run down.	Charge the battery.	8.1
The power is not turned on.	The time to press	Press the main switch more than 0.5 sec- onds.	
	Use a wrong adapter.	Use the original adapter.	/
	There is no electricity in the outlet.	Check the connection.	/
The Power LED does not light up when charging.	The adapter is not connected.	Check the con- nection.	/
	The charge base broken.	contact your distributor.	/
	Charging pin of charge base una- ble to rebound.	Remove debris which between move part and base of the charge pin.	
No output	Handpiece broken	Contact your distributor	/
No sound	Handpiece broken	Contact your distributor	
Insufficient light intensity	There are resin or other contaminants on the surface of the lamp lens	Cleaning the lamp head residue	



13. EMC Tables

Guidance and manufacturer's declaration – electromagnetic emissions

The C25 Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the C25 Plus should assure that it is used in such an environment.

		Y The second sec
Emissions test	Compliance	Electromagnetic environ- ment-guidance
RF emissions CISPR 11	Group 1	The C25 Plus uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The C25 Plus is suitable for use in all establishments, including
Harmonic emissions IEC61000-3-2	Class A	domestic establishments and those directly connected to the public low-voltage power supply
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	network that supplies buildings used for domestic purposes.

Guidance and manufacturer's declaration – electromagnetic immunity

The C25 Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the C25 Plus should assure that it is used in such an environment.

Immunity test	IEC 60601 test lev- el	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	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 Transients /bursts IEC 61000-4-4	±2kV 100kHz repetition frequency	±2kV 100kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environ- ment.
Surge IEC 61000-4-5	±0.5kV, ±1kV Line to earth:	Line to line: ±0.5kV, ±1kV Line to earth: ±0.5kV, ±1kV, ±2kV	Mains power quality should be that of a typical commercial or hospital environ- ment.
Voltage dips, short interruptions and voltage variations on power supply lines IEC 61000-4-11		0% UT; 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% UT; 1 cycle and 70% UT; 25/30 cycles sine phase at 0° 0% UT; 250/300 cycle	
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz or 60Hz	30 A/m 50Hz or 60Hz	Power frequency magnetic field should be at levels characteristic of a typical location in a typical com- mercial or hospital environment.

Note: UT: rated voltage(s); E.g. 25/30 cycles means 25 cycles at 50Hz or 30 cycles at 60Hz.



Guidance and manufacturer's declaration - electromagnetic immunity

The C25 Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the C25 Plus should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electro magnetic environment - guidance
C o n d u c t e d dis-turbances in- duced by RF fields IEC 61000-4-6 Radiated RF EM fields IEC 61000-4-3	3 V 0.15 MHz – 80 MHz, 6 V in ISM bands be- tween 0.15 MHz and 80 MHz, 80 % AM at 1 kHz 3 V/m, 80 MHz – 2,7 GHz, 80 % AM at 1 kHz		Portable and mobile RF communications equipment should be usedno closer to any part of the C25 Plus, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Proximity fields from RF wireless communication equipment IEC 61000-4-3	RF wireless	Complies	Recommended minimum separation distances See the RF wireless communication equipment table in "Recommended minimum separation distances"



Recommended minimum separation distances

Nowadays, many RF wireless equipments have being used in various health-care locations where medical equipment and/or systems are used. When they are used in close proximity to medical equipment and/or systems, the medical equipment and/or systems' basic safety and essential performance may be affected. The C25 Plus has been tested with the immunity test level in the below table and meet the related requirements of IEC 60601-1-2:2014. The customer and/or user should help keep a minimum distance between RF wireless communications equipments and the C25 Plus as recommended below.

Delow.						
Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380-390	TETRA 400	Pulse modulation 18Hz	1.8	0.3	27
450	430-470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
710			Pulse			
745	704-787	13, 17	modulation 217Hz	0.2	0.3	9
780						
810		G S M 800/900, TETRA 800.	Pulse mod-			
870	800-960			2	0.3	28
930		LTE Band 5				
1720		GSM 1800; C D M A 1900;				
1845	1 7 0 0 - 1990	DECT; LTE Band 1,	P u l s e modulation 217Hz	2	0.3	28
1970		3, 4 , 2 5 ; UMTS				
2450	2400- 2570	Bluetooth, WLAN, 802.11 b/ g/n, RFID 2450, LTE Band 7	Pulse modulation 217Hz	2	0.3	28
5240		WLAN	Pulse			
5500	5100- 5800	802.11 a/n	modulation 217Hz	0.2	0.3	9
5785						



14. Statement

Service Life

The service life of products is 5 years.

Disposal

The package should be recycled. Metal parts of the device are disposed as scrap metal. Synthetic materials, electrical components, and printed circuit boards are disposed as electrical scrap. The lithium batteries are disposed as special refuse. Please deal with them according to the local environmental protection laws and regulation.

15. Warranty

- 1. The main unit enjoys a 12-month warranty period, which starts on our delivery date.
- 2. The host and other parts of the Curing Light are repaired by authorized repair service partners.
- 3. If it is proved that the damage is caused by improper daily maintenance by the user, it is not covered by the warranty.