COXO®

DB686 HALO

User Manual

CE

HALO

LED Curing Lights

Contents

1. Safety alert 1

2. Intended use 4

3. Composition 4

4. Contraindication 4

5. Preparation 4

5.1 Mounting parts/accessories 4

5.2 Charging 5

6. Operation 6

6.1 Power switch 6

6.2 Operating Modes and Selection 7

6.3 Operating 9

7. Maintenance 10

8. Cleaning, Disinfecting and Sterilization 11

9. Troubleshooting 13

10. Technical Specifications 14

11. Operating environment and Storage and Transportation conditions 15

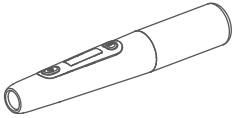
12. Product Warranty 15

13. Recycling and Disposal 16

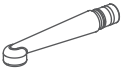
14. Symbol Definition 16

15. Electromagnetic compatibility statement 17

Figure 1: **List of accessories**



Handpiece



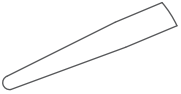
LED Cure Tip

Charging base

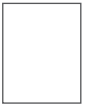
Eye protector unit

Eyes protector

Adapter



Disposable protective sleeve



Manual

Figure 2: Connection of accessories

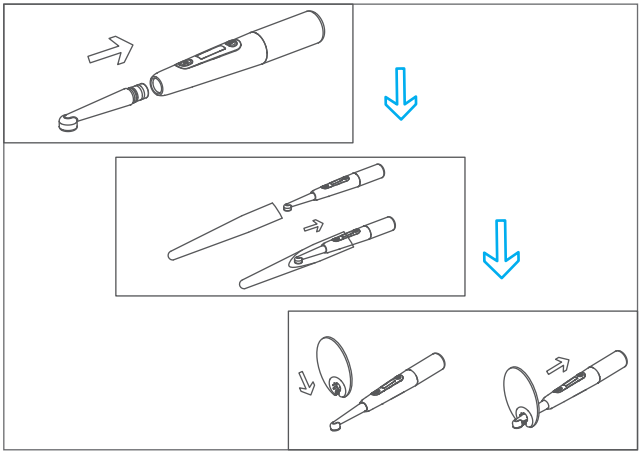
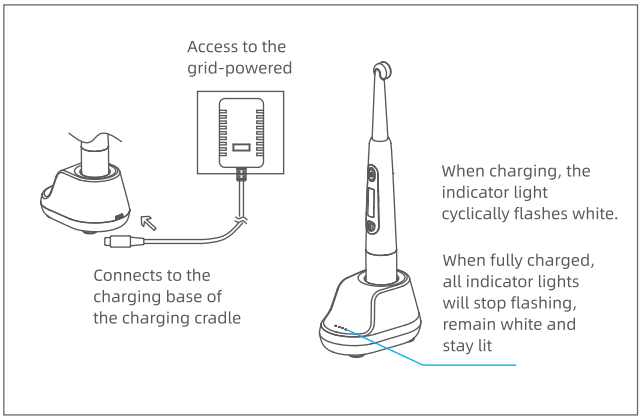
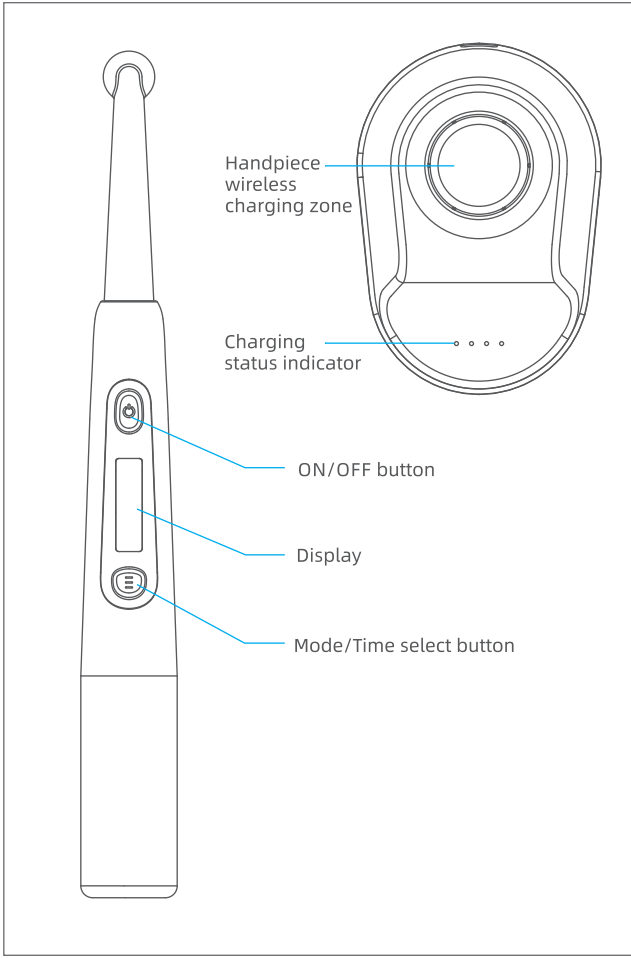


Figure 3: Schematic of charging




Handpiece
wireless
charging zone
Charging
status indicator
ON/OFF button
Display
Mode/Time select button

1. Safety alert

Safety notes

Be aware of the following general safety notes and the special safety notes in other chapters of these Instructions for Use.

Warning

This alerts the user of possibility of extremely serious injury or complete destruction of the instrument as well as other property damage including the possibility of fire.

Caution

This alerts the user of possibility of minor or moderate injury or damage to the instrument.

Note

Informs the user of important points concerning operation or the risk of instrument damage.

Warning

Please read this manual carefully before using, operating, servicing and maintaining this device and keep this manual in a safe place for reference.
Period of use: 10 years

1) If the user fails to follow the instructions or uses the device for other purposes, the manufacturer will not be held responsible;
2) This product is intended for use by professional dentists or nurses only.
3) When using an external power supply, make sure that the voltage is within the voltage range indicated on the power adapter, otherwise it may cause injury to the operator or patient;
4) Do not modify this device; any modifications may impair the safety and effectiveness of the device. Only authorized technicians should service this device;

5) The use of non-original accessories, especially LED cure tip and adapters, may be dangerous to the patient or operator, as well as cause damage to the device ;

6) The adapter plug is a grid-powered sectionalizing device that ensures that the plug is in a readily accessible orientation for emergency disconnection;

7) To avoid electric shock, do not insert other objects into the unit;

8) Cleaning should be done in such a way that liquids do not enter the interior of the unit to avoid short circuits and malfunctions;

9) In the event of serious abnormalities in the device due to improper use or physical damage, stop using and turn off the device immediately;

10) The charging base contains a low voltage and should only be used in dry conditions. Do not use if the charging base or handpiece is wet;

11) Users are not allowed to remove the battery by themselves;

12) The device has electromagnetic interference, please do not use it around patients with cardiac pacemakers or electronic surgeries;

13) The device may be interfered with by other device even if the other device meets the emission requirements of the corresponding national standards;

14) Unstable voltages and electromagnetic fields can interfere with the normal operation of the device ;

15) Improper replacement of lithium batteries can lead to unacceptable risks, and replacement of batteries by inadequately trained personnel can lead to hazards (such as overheat, fire or explosion).

⚠ Caution

1) Any patient with a history of retinal disease should consult an ophthalmologist before operating the machine and follow all necessary safety precautions.

2) Do not use the device for intraoral illumination or transillumination of teeth; excessive heat may be generated, resulting in mucosal burns or pulpal irritation.

3) Inspect the device for worn, loose or damaged parts before each use.

4) Before use, the disposable protective sleeve should be put into the head of the handpiece to avoid contact between the handpiece or other parts and the patient's skin or oral mucosa.

5) After use, the disposable protective cover should be removed from the head of the handpiece and disposed of in accordance with the relevant regulations, and the disposable protective cover is prohibited from being reused to prevent cross-infection.

6) Blue light, ultraviolet protection measures: it is strictly prohibited to shine light into the eyes, light reflected from the surface of the teeth may also injure the eyes of doctors, nurses and patients, please standardize and correctly install the eye protector unit, wear eyes protector glasses.

7) Precautions for Heat Radiation: All dental light curing devices generate some degree of heat. Prolonged operation in areas near the pulp or soft tissue may result in serious injury.

8) When used clinically, the light source should be directly irradiated on the resin material being cured to prevent improper irradiation position, which may affect the curing effect. Prohibit close direct irradiation of oral soft tissue to avoid thermal damage to oral soft tissue. Repeated prolonged irradiation is not recommended to avoid thermal radiation and other optical hazards.

9) Precautions against overheating: When the device is operated continuously for a long period of time (multiple curing cycles), the surface temperature of the light source rod may exceed 43°C and should not come into contact with skin or mucous membranes for a short period of time. Prolonged exposure should be avoided when the device is in use, or the device should be discontinued when a noticeable increase in temperature is felt.

10) Failure to comply with relevant environmental operating conditions may result in injury to the patient or user.

11) Clean and sanitize reusable parts after each use according to instructions.

2. Intended use

- For dental clinics treatment to irradiate polymer-based restorative materials to cure them.
- The instrument must only be used in hospital environments, clinics or dental offices, by qualified practitioners.

3. Composition

It consists of a handpiece, LED cure tip, charging base, power adapter, eyes protector, eye protector unit and disposable protective sleeve.

4. Contraindication

1) Systemic diseases (tumors, severe cardiovascular diseases, diseases of the blood system, diseases of the immune system, etc.).
2) Undergoing certain systemic and localized treatments (anticoagulation, chemotherapy, radiotherapy, etc.).
3) Use with caution in patients with heart disease, pregnant women and young children;
4) Use with caution if allergic to LED light.

5. Preparation

5.1 Mounting parts/accessories

Refer to *"Figure 2"*

Note

The LED cure tip can be rotated 360°;

If the LED cure tip is not connected or if the LED cure tip is not connected properly, an error will occur when starting the device: the handpiece beeps 2 times and the display shows the E1 error warning, please check the LED cure tip and reconnect it;

The use of a disposable protective sleeve keeps the LED cure tip free from contamination.

Please make sure that the disposable protective sleeve is mounted flat on the LED cure tip rod to avoid wrinkles at the light source output, which may affect the curing effect.

Caution

The LED cure tip contains glass products, please do not contact with hard objects and vigorously flung, so as to avoid cuts and damages after dislodging.

5.2 Charging

When you need to charge, take out the charging base and power adapter, the power adapter is connected to 100V-240V~, the output plug of the power adapter is inserted into the charging jack on the charging base, the machine adopts the wireless charging technology, put the handpiece into the charging base to carry out the wireless inductive charging. When you don't need to charge, please unplug the power adapter. Steps: Refer to *"Figure 3"*.

Note

It is recommended to charge the device in time when it is at a lower battery level. When the device's battery level is too low, the handpiece emits 5 beeping beeps, while the handpiece display shows the E3 Low Battery Alert;

When the handpiece is charging, the white charging indicator of the charging base cyclically flashes. When the handpiece is fully charged, all indicator lights will stop flashing, remain white and stay lit.

Caution

When the handpiece's power is extremely low, it will automatically shut down and cannot be used. Please be sure to check the battery level before use in case it affects normal use;

Please use the original charging base, power adapter and lithium battery, otherwise it may cause damage to the lithium battery and control circuit;

Strictly prohibited from charging in a humid environment;

The battery may be damaged if it is not used for a long time, please charge the device at least once a month.

6. Operation

Caution

The light produced by the device may damage your eyes. Before use, please standardize and correctly install the eye protector unit and wear eyes protector to avoid unnecessary harm to you.

6.1 Power switch

When the device is off state, short press the " " start/stop button to turn on the device.

When the device is in standby mode, long press the " " start/stop button to turn off the device.

Note

When the device does not have any operation for a period of time, it will automatically enter the power-off state.

The handpiece screen displays:

Battery Level Symbol Working mode Curing time

Orthodontic cycles

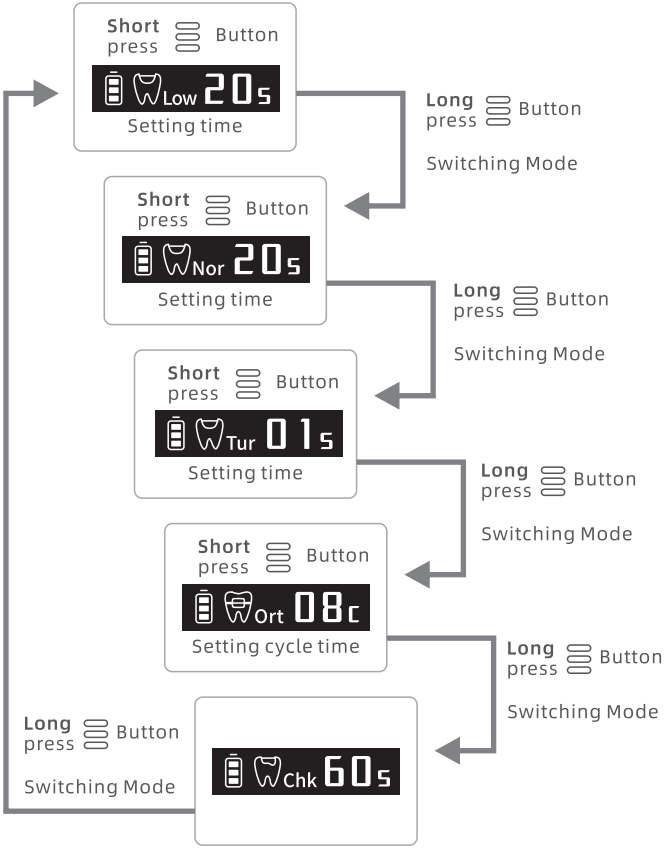
6.2 Operating Modes and Selection

1) The device has resin curing, orthodontic bonding and caries detection functions. Among them, resin curing has three modes: Low-temperature curing, Normal curing and Turbo curing;

2) Setting guide: long press "  " mode/time button to switch the working mode, short press "" to set the timing time or cycle times;

3) Short press the "  " start/stop button to start light curing, press again to turn off light curing.

Mode	Curing time (seconds)	Light intensity (mW/cm²)
Low-temperature Mode	5s, 10s, 15s, 20s	800/1300 cycle pulses
Normal Mode	5s, 10s, 15s, 20s	1000
Turbo Mode	1s, 3s	3000
Orthodontic Mode	1-8 cycles optional, each cycle of continuous irradiation 3s stop 2s	3000
Caries detection Mode	60s	/
Mode Setting	Long press the "  " mode/time button to switch the working mode	
Timing Setting	Short press the "  " mode/time button to toggle the curing time or cycle number	



Schematic diagram of working mode setting interface.

6.3 Operating

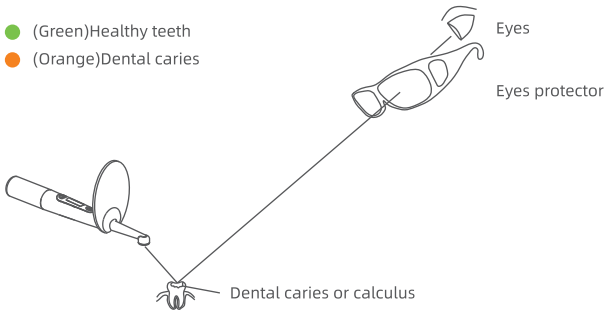
Work mode:

A. **Resin Curing:** Cure the composite resin.

- **Low-temperature Mode:** Variable illumination output with illumination values pulsed at 800/1300 mW/cm^2 cycles;
- **Normal Mode:** Light output at a constant illumination of 1000mW/cm^2 for conventional resin curing;
- **Turbo Mode:** Light output at a constant illumination of 3000mW/cm^2 for fast resin curing;

B. **Orthodontics Mode:** mainly used for bracket bonding, the illumination value is about 3000 mW/cm^2 ; work 3s stop 2s for a cycle, work cycle 1-8 times adjustable.

C. **Caries detection Mode:** using violet light to irradiate the teeth to produce a fluorescent reaction, checking dental caries or dental calculus, a single working time of 60s, the detection process, the fluorescent color display:



Note

- Turn off the external light source during the caries test to ensure accurate results;
- After removing the decayed tooth, it is recommended that the mouth be examined again.

Caution

- Users must wear eyes protector during the surgery otherwise they may sustain eye damage;
- Recommends a distance of 3mm-5mm between the LED cure tip output surface and the curing surface;
- When the handpiece temperature is too high, the handpiece stops working, emits 3 beeps and the handpiece display shows the E2 overheat indication. Please wait until it cools down completely before using it.

7. Maintenance

1) Before each use, check the Handpiece and LED cure tip for any damage, if so, stop using immediately and contact our company or authorized dealer for assistance;
2) The handpiece, LED cure tip and eyes protector must be cleaned and sterilized before first use and after each use;
3) After each use, please check whether there is any resin left on the mirror surface of the LED cure tip, so as not to affect the life of the LED cure tip or the curing effect.

8. Cleaning，Disinfecting and Sterilization

Device	Handpiece, LED cure tip, charging base, eye protector unit. The procedure for cleaning, disinfection applies only to the accessories Handpiece, LED cure tip, charging base, eye protector unit.
Advice	Reprocessing procedures have only limited implications to this dental instrument. The limitation of the numbers of reprocessing procedures is therefore determined by the function / wear of the device. From the processing side there is no maximum number of allowable reprocessing. The device should no longer be reused in case of signs of material degradation. In case of damage the device should be reprocessed before sending back to the manufacturer for repair.
Reprocessing Instructions	
Preparation at the Point of Use	Disconnect the disposable protective sleeve and LED cure tipfrom the Handpiece. Store the instruments in a humid surrounding.
Transportation	Safe storage and transportation to the reprocessing area to avoid any damage and contamination to the environment.
Preparation for Decontamination	The devices must be reprocessed in a disassembled state. All parts cannot be cleaned and disinfected in a washer/disinfector. Only a general wipe decontamination is possible!
Manual Cleaning of Handpiece, LED cure tip, charging base, eye protector unit	Do a manual cleaning, until the instruments are visually clean. • Recommend using 3M mutienzyme cleaning agent at a concentration of 5mL/1L distilled water. • Soak the soft cloth in detergent and wring it out. • Wipe the outer surface of the eye protector unit with the soft cloth. • Rinse eye protector unit with tap water until all visible contaminants have been removed. • Remove any liquid residue with a lint-free cotton cloth, then dry at 30℃. • Checked that if the devices were clean or broken after cleaning. If the cleaning is not good enough, repeat the cleaning procedure.

Manual Disinfection of Handpiece, LED cure tip, charging base, Eye protector unit	After cleaning, wipe all device surfaces with a new single-use cloth in combination with an alcohol-based, tuberculocidal, quaternary ammonium solution, 5 minute contact time, use according to disinfectant solution manufacturer's Instruction for use. Use a separate wipe for LED Crue Tip and Handpiece. Ensure direct contact of device and disinfectant by pressing the wet wipes on the device after half of the required contact time. Use fresh wipes to disinfect the LED Crue Tip o-ring area, handpiece mating cavity,andbattery/handpiece mating seam for the entire contact time. Immediately absorb excess fluid with a dry diisposable towel Wipe the devices with a sterile, clean, lint-free cloth that is well dampened withdeionized water for 30 seconds to remove all disinfecting agent. Pay special attention to all seems, especially around the LED Crue Tip /Handpiece junction. Ensure cloth is damp with deionized water for the entire 30 seconds. Discard used cloth and repeat rinsing with a new, second dampened cloth for 30 seconds. Discard second cloth and rinse with a new, third dampened cloth for a final 30 seconds. Wipe device with a fourth dry, sterile lint-free cloth to remove all fluid. Allow the devices to air dry for at least 5 minutes.
Manual Drying	Use compressed air to blow dry the internal pipes and external surfaces separately.
Functional Testing, Maintenance	Visual inspection for cleanliness of the instruments and reassembling. Functional testing according to instructions of use. If necessary, perform reprocessing process again until instrument is visibly clean. Defective accessories should be immediately discarded. The defects include: plastic deformation and corrosion. Maintenance is not required. Instruments oil must not be used.
Storage	Storage of sterilized instruments in a dry, clean and dust free environment at modest temperatures, refer to label and instructions for use.
Additional Instructions: None	
It is the duty of the user to ensure that the reprocessing processes including resources, materials and personnel are capable to reach the required results. State of the art and often national law requiring these processes and included resources to be validated and maintained properly.	

9. Troubleshooting

If the product functions abnormally, please refer to the following instructions for troubleshooting first. If the malfunction is not resolved, please contact your local dealer or our company.

Fault state	Possible causes	Solutions
No response from the handpiece	Battery is out of power	Charging, especially for the first time or if it has not been used for a long time, increase the charging time
	Battery damage	Contact Dealer or Manufacturer
Does not charge when plugged into the power adapter	Poor power contact	Check the connection of the adapter to the charging base
	Incorrect use of power adapter	Power check adapter specifications
	Damaged power adapter	Replacing the power adapter
Shorter usage time after charging	Battery aging	Contact dealer or factory for battery replacement
Insufficient light intensity	The light outlet is offset or not vertically close to the surface of the dental adhesive	Adjust the position and use
	Residue on the end face of the LED cure tip	Clean the LED cure tip emitting surface
	Damaged LED cure tip	Replacement of LED cure tip
	Low battery	Use after charging
	Damaged LEDs	Contact Dealer or Manufacturer
The screen displays E1	LED cure tip not installed or poor contact with handpiece	Install the LED cure tip according to the instructions in the manual
	Used non-original LED cure tip	Always use the original LED cure tip supplied by the manufacturer
The screen displays E2	Continuous working time is too long or working interval is too short, the handpiece overheating prompts	Discontinue use immediately until the device has cooled completely
The screen displays E3	Device power is too low, low battery alert	Automatic recovery after charging

10. Technical Specifications

Power adapter	Input: 100-240V ~ 50/60Hz
	Output: 5V ⎓ 2A
Input power	20VA
Li-ion battery	3.7V 800mAh
Light curing classification	Class II
LED power	10W
Wavelength range	385~515nm
Peak wavelength	460nm
Irradiance in the wavelength range of 385nm~515nm (blue-ray)	≥200mW/cm^2
Irradiance in the wavelength range of 200nm~385nm	≤ 200mW/cm^2
Irradiance in the wavelength range above 515 nm	≤ 100mW/cm^2
Optical effective area	65mm^2
Operating mode	Non-continuous operation Duty cycle: Max.T_ON: 3min, Min.T_OFF: 3min
Categorized by degree of protection against incoming fluids	IPX0
Classification by degree of safety for use in the presence of flammable anesthetic gases mixed with air or with nitrous oxide	Non-AP/APG
Classification of the degree of protection against electric shocks	Type B
Classification of types of protection against electric shocks	Class II device when charging, does not work when charging, internal power supply class when working normally.
Overpressure category	Category II
Pollution degree	Class 2
Applied part	Disposable protective sleeve, material: PP

11. Operating environment and Storage and Transportation conditions

Operating environment

Operating temperature	+5°C - +40°C
Operating humidity	20% - 80%RH
Atmospheric pressure	80kPa - 106kPa
ALT	≤2000m

Storage, Transportation conditions

Storage temperature	-10°C-+55°C
Storage humidity	≤93% RH
Atmospheric pressure	50kPa - 106kPa

12. Product Warranty

1) Warranty time for handpiece, LED cure tip, charging base is 24 months from the date of purchase, power adapter is warranted for 6 months, the rest of the accessories are not warranted.
2) This device does not contain parts for user's own maintenance, device maintenance should be carried out by the manufacturer's designated rofessionals.
3) Upon request, the supplier will provide circuit diagrams, component lists, notes, calibration details, or other information necessary to assist the user's qualified technicians in repairing parts of the device designated as repairable by the manufacturer;
4) The following are not covered by the free warranty:

- Damage due to human causes;
- Damage caused by force majeure factors;
- Customers make unauthorized changes, disassemble or repair privately;
- Any damage caused by failure to use and maintain the product in accordance with the instructions for use;
- Failure or damage caused by the use of the product beyond the normal conditions of use.

13. Recycling and Disposal

Ensure that the parts are not contaminated on disposal.
Follow your local and country-specific laws, directives, standards and guidelines for disposal.

- Medical device
- Waste electrical equipment
- Packaging

14. Symbol Definition

	Caution		Note
	Type B applied part		Refer to instruction manual/boolet
	Keep dry		Fragile, handle with care
	The way up		Class II equipment
	Direct current		Alternating current
	Do not dispose of the product into the ordinary municipal waste or garbage system		Indoor use only
	On/Off button		Mode/Time select button
SN	Serial number		Manutacturer
	Do not re-use		Date of manufacture
MD	Medical device	UDI	Unique device identifier
	Importer		Protect from heat and radio-active sources
	Keep away from sunlight		General Warning
CE	CE Marking		

15. Electromagnetic compatibility statement

Caution

- The device meets the requirements of IEC 60601-1-2:2020 standard electromagnetic compatibility;
- The user should install and use the product in accordance with the EMC information provided in the randomized documentation;
- Portable and mobile RF communication device may affect the device performance, use to avoid strong electromagnetic interference, such as close to cell phones, microwave ovens, etc.;
- Guidelines and manufacturer's declarations are detailed in the annex;
- This product has no basic properties.

Caution

- The device should not be used in close proximity or stacked with other device, and if it must be used in close proximity or stacked, it should be observed and verified to function properly in the configuration in which it is used;
- The use of accessories and cables other than those specified, except for cables sold by the manufacturer of the device as spare parts for internal components, may result in an increase in emissions or a decrease in immunity of the device .

No.	Name	Cable length (m)	Whether to block	note
1	Adapter output cable	1.5	No	

Guidelines and Manufacturer's Declarations - Electromagnetic Emissions		
The device is intendedfor use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.		
Emission	**Compliance**	**Electromagnetic Environment - Guidelines**
RF emission CISPR 11	Group 1	The device 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 device.
RF emission CISPR 11	Class B	The device is suitable for use in allestablishments, including domestic establishments directly connected to the publiclow-voltage power supply network with specific requirement.
Harmonic emission IEC 61000-3-3	Class A	
Voltage fluctuation/flicker emission IEC 61000-3-3	Complies	

Guidelines and Manufacturer's Declarations - Electromagnetic Immunity

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

Immunity test	**IEC 60601 Test Level**	**Compliance lever**	**Electromagnetic Environment - Guidelines**
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 floor are sleeved with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst **IEC 61000-4-4**	±2kVfor adapter ±1kV for input/output lines	±2kV for adapter	Mains power quality should be that of a typical commercial or hospital
Surge **IEC 61000-4-5**	±0.5 kV, ±1 kV line to line ±0.5 kV, ±1 kV , ±2 kV line to ground	±0.5 kV, ±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 the power input line **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 cycle. 70 % U_T (30% dip in U_T) for 25 cycle. <5 % U_T (>95% dip in U_T) for 5 s	<5 % U_T for 0.5 weeks (on U_T, >95% transient drop) 40 % U_T for 5 weeks (on U_T, 60% transient) 70 % U_T for 25 weeks (on U_T, 30% transient) <5 % U_T for 5s (on U_T, >95% transient drop)	Mains power quality should be that of a typical commercial or hospital environment.If the user of the instrument requires continued operation during power mains interruptions, it is recommended that the instrument be powered from a unit eruptive power supply or a battery.
Power frequency (50/60Hz) magnetic field **IEC 61000-4-8**	30A/m	30A/m	Power frequency magneticfields 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.

Guidelines and Manufacturer's Declarations - Electromagnetic Immunity

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

Immunity test	IEC 60601 Test Levels	compliance level	Electromagnetic Environment - Guidelines
Conductio n RF IEC 61000-4-6	3 Vrms 150kHz to 80 MHz	3 Vrms 150kHz to 80 MHz	Portable and mobile RF communications equipment should be used no closer to any part of the Unit, including cables, than there commended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiation RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10 V/m 80 MHz to 2.7 GHz	Recommended isolation distance d = ([3.5]$\sqrt{P}$)/3 d = ([3.5]$\sqrt{P}$)/3 80 MHz to 800 MHz d = ([7]$\sqrt{P}$)/3 800 MHz to 2.7 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 anelectromagnetic site survey, [a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of device marked with the following symbols.

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations.Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a Field strength from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.

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

Recommended separation distances between portable and mobile RF communications device and the device

The device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications device(transmitters) and the device as recommended below, according to the maximum output power of the communications device.

Rated maximum output power of the transmitter/W	Separation distance according to frequency of transmitter / m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.7 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitter rated maximum output power not listed in the table above, the recommended isolation distance, d, in meters (m), can be determined using the formula in the corresponding transmitter frequency column, where P is the maximum output power rating of the transmitter in watts (W) as supplied by the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz frequencies, the formula for the higher frequency range is used.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

COXO®

Foshan COXO Medical Instrument Co., Ltd.
No.17, Guangming Ave., New Light Source Industrial Base, Nanhai National High-tech Zone, Foshan 528226, Guangdong P.R. China
www.coxotec.com

EU REP **Lotus NL B.V.**
Koningin Julianaplein 10, 1e Verd, 2595AA, The Hague, Netherlands.
E-mail: info@lotusnl.com Tel: +31644168999

Version: 1.1 Date: 2025-06-18
Software Version: DB686 HALO_Ver1.0
AE1084