

USER MANUAL

LED Curing Lights

DR686 SWIFT

CE COXO®

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1. Product description

The instrument is a cordless pen-style, LED light polymerization instrument for use by dental professionals in dental offices or dental laboratories.

- Small size and lightweight ergonomic design.
- Compact cordless design.
- Individually adjustable Cure tips, rotatable by 360°.
- Cure tip design providing excellent intra-oral access.

Contraindications

- The instrument is contraindicated for use in patients prone to photobiological reactions (including patients with solar urticaria or erythropoietic protoporphyria) or those currently undergoing treatment with photosensitizing pharmaceuticals.
- Use with caution for pregnant women, children, and people who have had retina.
- This instrument is not suitable for doctors or patients who have a pacemaker (or other electrical instrument) and are warned not to use small appliances (such as electric shavers, hair dryers, etc.), and hemophiliacs.

Intended use

- Used to cure light-curable materials.
- The instrument must only be used in hospital environments, clinics or dental offices, by qualified practitioners.

2. 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.

Handpiece

- Don't see the light with your eyes without protection; it's harmful to your eyes. In order to avoid the eyes getting in touch with the light directly, please assemble the eye protector.
- Do not use a damaged instrument; e.g. if among other things, light source exit glass of Cure tip is scratched, broken or missing.
- Only authorized technicians should repair the handpiece.

Charging base

- Low voltages are present inside the charging base. Use only under dry conditions. Do not use if the charging base or handpiece is wet. Avoid short circuit between contact pads on the

charging base. Only authorized technicians should repair the charging base.

- Do not use for voltages different from the range indicated on the charging base and power adapter.
- Always make sure handpiece and cure tip is completely reprocessed and thoroughly dry before inserting it into the charging base.

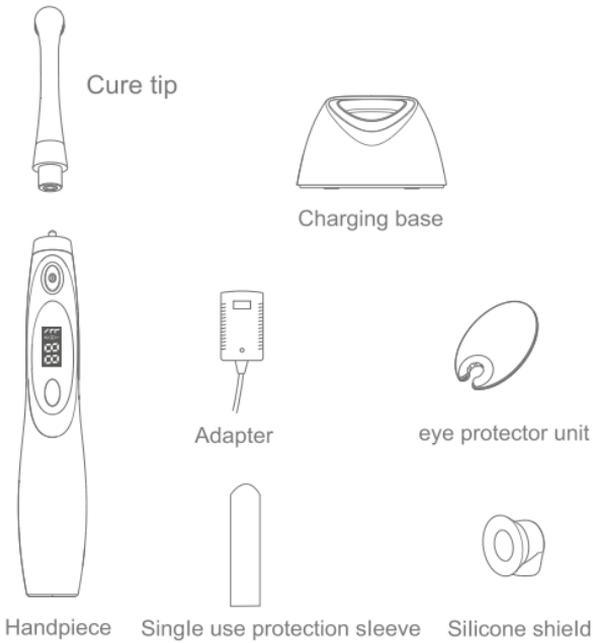
Precautions

This product is intended to be used only as specifically outlined in these Instructions for Use.

- Do not use an Instrument which has not been properly reprocessed. Protection sleeves are intended for single use only in order to prevent cross-contamination.
- Never aim the light directly at unprotected soft tissues, as this may cause injury or irritation. Do not aim the light at eyes. Light reflected from the tooth surface may also injure eyes. Use silicone shields supplied with cure tip or eye protector unit.
- Limit the action of the light to the area being treated.
- All dental curing lights cause a certain degree of heat development. Extended operation in areas near the pulp or soft tissues may result in severe damage. So do not cure for more than 20 seconds at a time.
- During heavy use, it is possible for cure tip, which is an applied part, to reach up to 45.5° C. There should be no adverse effects resulting from short-term contact with intact skin or mucous membrane.
- Use only Manufacturer supplied cure tip, adapter and charging base. Use of any accessories other than specified in these Directions for Use may result in damage to the Instrument and its components.
- Sterilizing the Instrument, components and accessories will cause component damage and may cause bodily injury. The silicone shields may be autoclaved.

- Failure to follow recommendations for environmental operating conditions could result in injury to patients or users.
- Inspect instrument before each use for worn, loose or damaged parts.
- There are no user serviceable parts except the O-ring attached to the coupling end of the light tips. Opening any of the components may result in unsafe operation and will void the warranty.
- This instrument must not be used in the presence of a flammable anesthetic gas mixed with air, oxygen or nitrous oxide.
- User should not touch the patient and accessible charging base contacts simultaneously.
- Wear suitable protective eyewear, mask, clothing and gloves. Protective eyewear is recommended for patients.
- Do not spray disinfectant or other fluid directly onto the cure tips, battery, charging base, adapter.
- Prevent liquids from entering handpiece, charging base, cure tip.
- Do not place the system on or next to a radiator or other heat source. Excessive heat may damage the system's electronics.
- Caries detection mode cannot be used for curing of repair resin.
- Unstable voltage and electromagnetic field will interfere with the normal operation of the instrument.

3. Product List

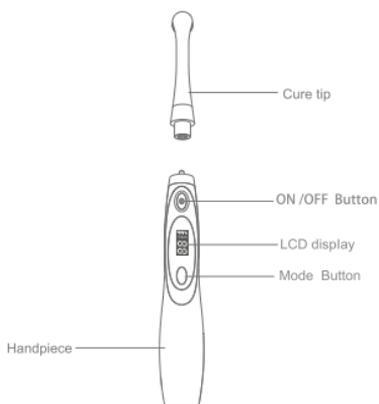


CAUTION:

If the accessories are damaged, please purchase original accessories and replace and use them according to the instructions.

4. Components

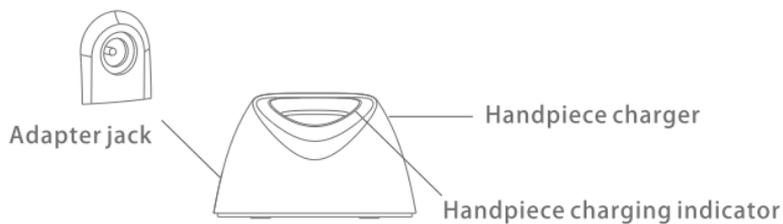
Handpiece



LCD display



Charging base



5. Presentation

5.1 Connection

- a) Cure tip: Connect Cure tip to handpiece by firmly pressing Cure tip into handpiece opening while slightly rotating at the same time



i **NOTE:**

- Cure tip can be rotated 360°.
- In standby state, Power/Start button unavailable.
- When cure tip is not connected or the connection is not in place, and E3 will appear accompanying by two beeps.

- b) Silicone shield: Hold the Cure tip over the opening of the silicone shield and turn the Cure tip against the silicone shield by 90° into its final position.



Back

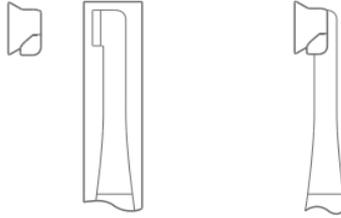


Front

i **NOTE:**

- Make sure silicone shield is securely fixed to instrument to avoid accidental aspiration (press silicone shield firmly into correct position).
- Make sure light aperture is not covered by the silicone shield.

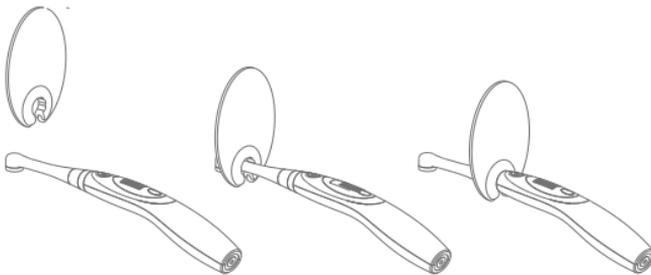
- c) Silicone shield: Attach silicone shields supplied with the handpiece in combination with single use protection sleeve. Hold the Cure tip over the opening of the silicone shield and turn the Cure tip against the silicone shield by 90° into its final position.



i NOTE:

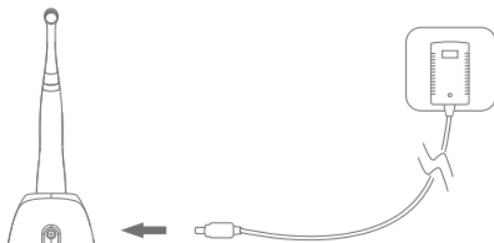
- Make sure silicone shield is securely fixed to instrument to avoid accidental aspiration (press silicone shield firmly into correct position).
- Make sure light aperture is not covered by the silicone shield.

- d) Eye protector unit: Put eye protector unit on cure tip as below.



5.2 Battery charge

- Insert handpiece into the charging base.
- Connect the main power supply and charging base via adapter to charge.



- A 4-hour charging is needed generally. The battery charging light will illuminate solid yellow, indicating battery is charging and will show constant green when fully charged.



(yellow light) Charging



(green light) Fully charged

i NOTE:

- An initial 5-hour burn-in charge is needed prior to first use.
- When the battery is low, the mode icons flash.
- When the battery is very low, the LCD display displays E1, and the instrument automatically shuts down after three beeps.

! WARNING:

- Only use original adapter.
- Do not charge in humid places.
- The battery is not removable.

6. Instruction

6.1 Power on/off

- Short press Power/Start Button to turn it on and it enters stand by state, long press Power/Start Button to turn it off.

NOTE

In standby mode, instrument will automatically shut down after three minutes of inactivity.

6.2 Operation

The instrument integrates three modes namely: pulse mode, caries detection mode and bright light mode.

Pulse Mode		Used for curing of repair resin Times: 20 seconds
Caries Detection Mode		Used for caries detection Times: 60 seconds
Bright Light Mode		Used for curing bracket binder in orthodontic treatment Times: 3 seconds Not suitable for curing of repair resin
Power/Start button		Turn the instrument on/off, start/stop it

Mode button		Change mode
Operating Time		Demonstrate operating time

6.2.1 Choose mode

- The mode after power on is the mode when the power was last turned off.
- Press and hold the mode button for 1 second to switch between pulse, caries detection and bright light modes. The mode icon lights up when switching to caries detection .

6.2.2 Start working



WARNING:

- Doctors, patients or other personnel must wear goggles during surgery, otherwise it may cause damage to the eyes.
- If you feel the handle becomes hot, stop working until the handle cools down completely.



NOTE:

- During curing, Mode button unavailable .
- When temperature of microelectronic chip reaches 60°C, E2 will appear and instrument will automatically stop.
- It is forbidden for the light source rod to come into contact with the patient's mouth or the light emitted by the light source rod to be directed toward the mouth.

a) Pulse/Bright light Mode

- In state by state, short press Power/Start Button to start working. During working, times/cycle(s) counts down until it reaches 0.
- There will a beep after 5 seconds or an orthodontic treatment. With two beeps after cure times/ orthodontic cycle(s) is

finished.

- During working, press Power/Start Button to suspension of work.



WARNING:

Bright light mode cannot be used for resin curing, otherwise it will cause harm to the patient.

b) Caries detection mode

Keep a distance of 5-10mm between the light source rod and the teeth.

In standby mode, short press the power/start button to start the work. During working, the time/cycle displayed in a countdown. When 0 is displayed, the work ends and is accompanied by two beeps.

Stop using before the end of the cycle, press the power/start button again to stop the work. During the detection process, the fluorescence color is:

- (Green) Healthy teeth
- (Orange) Caries



WARNING:

- To ensure accurate detection results, please turn off the external power supply.
- When deep caries are removed, there is fluorescence or a brown color near the pulp.
- After deep caries have been removed, it is recommended to check your mouth again.

7. Maintenance

- Before each use, check whether the disposable protective cover, silicone hood, light source rod and other parts are damaged. If so, please stop using it or replace the parts immediately;
- Check whether the handle is damaged before each use. If so, please stop using it immediately and contact our company or authorized dealer for help;
- To prevent cross-infection, it is recommended to use disposable protective covers. Even if a disposable protective cover is used, the light source rod must be cleaned and disinfected before or after use;
- If you want to clean or disinfect, please wipe the surface with water or a disinfectant with an ethanol content of 70%-80%. Do not soak;
- During the cleaning process, prevent liquid or other foreign objects from entering the handle, charging base and light source rod;
- When cleaning the charging base, please disconnect the power supply;
- After each use, please check whether there is any resin residue on the mirror surface of the light source rod, so as not to affect the life of the light source rod or the curing effect.

8. Cleaning, Disinfection and Sterilization

Instrument:	Handpiece, adapter, Cure tip, eye protector unit and charging base, silicone shield. The procedure for cleaning, disinfection and sterilization applies only to silicone shield.
ADVICE:	<p>Reprocessing procedures have only limited implications to a surgical instrument. The limitation of the numbers of reprocessing procedures is therefore determined by the function / wear of the instrument.</p> <p>There is no limit of maximum allowable reprocessing cycles. The instrument should no longer be reused in case of signs of material degradation.</p> <p>In case of damage the instrument should be reprocessed before sending back to the manufacturer for repair.</p>
Reprocessing Instructions	
Preparation at the Point of Use:	<p>Remove silicone shield form handpiece. Remove gross soiling of the instrument with cold water (<40°C) immediately after use. Don't use a fixating detergent or hot water (>40°C) as this can cause the fixation of residuals which may influence the result of the reprocessing process.</p> <p>Store the instruments in a humid surrounding.</p>
Transportation:	Safe storage and transportation to the reprocessing area to avoid any damage and contamination to the environment.
Preparation for Decontamination:	<p>The instruments must be reprocessed in a disassembled state.</p> <p>Only silicone shield can be cleaned and disinfected with automated methods and sterilized with steam sterilization process.</p> <p>Do not sterilize handpiece, adapter, Cure tip, eye protector unit and charging base. The handpiece, adapter, Cure tip, eye protector unit and charging base cannot be cleaned and disinfected in a washer/disinfector. For these parts, only general wipe decontamination is possible!</p>

<p>Decontamination of other parts than silicone shield:</p>	<p>After operation, take out Handpiece, adapter, Cure tip eye protector unit and charging base on the work bench.</p> <p>Soak a soft cloth completely with distilled water or deionized water, decontaminate and wipe all the surfaces of these components, until the surface of the parts the components is visually clean.</p> <p>For decontamination, soak a dry soft cloth with 75% alcohol. Wipe all surfaces of Handpiece, adapter, Cure tip and charging base with the wet soft cloth for about 3 minutes. Please follow the instructions of manufacturer of disinfectant to wipe the surface of the component with a dry soft lint-free cloth.</p>
<p>Pre-Cleaning:</p>	<p>Following instruction is only relevant for silicone shield.</p> <p>Not use automated cleaning, disinfection and sterilization for other parts than silicone shield in this system!</p> <p>Do a manual pre-cleaning, until the instruments are visually clean. Submerge the instruments in a cleaning solution and flush the lumens with a water jet pistol with cold tap water for at least 10 seconds.</p> <p>Clean the surface with a soft bristle brush.</p>
<p>Cleaning:</p>	<p>Regarding cleaning/disinfection, rinsing and drying, it is to distinguish between manual and automated reprocessing methods. Preference is to be given to automated reprocessing methods, especially due to the better standardizing potential and industrial safety.</p> <p>Automated Cleaning:</p> <p>Use a washer-disinfector meeting the requirements of the ISO 15883 series.</p> <p>Put the instrument into the machine on a tray.</p> <p>Connect the instrument with the WD by using suitable adapter and start the program:</p> <ul style="list-style-type: none"> • 4 min pre-washing with cold water (<40°C) • emptying • 5min washing with a mild alkaline cleaner at 55°C • emptying • 3 min neutralising with warm water (>40°C)

	<ul style="list-style-type: none"> • emptying • 5 min intermediate rinsing with warm water (>40°C) • Emptying <p>The automated cleaning processes have been validated by using 0.5% neodisher MediClean forte (Dr Weigert) Note Acc to en ISO 17664 no manual reprocessing methods are required for these devices. If a manual reprocessing method has to be used, please validate it prior to use.</p>
Disinfection:	<p>Automated Disinfection: Automated Thermal Disinfection in washer/disinfector under consideration of national requirements in regards to A0-Value (see EN 15883). A disinfection cycle of 5 min disinfection at 93°C has been validated for the instrument to achieve an A0 value of 3000.</p>
Drying:	<p>Automated Drying: Drying of outside of instrument through drying cycle of washer/disinfector. If needed, additional manual drying can be performed through lint free towel. Insufflate cavities of instruments by using sterile compressed air.</p>
Functional Testing, Maintenance:	<p>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</p>
Packaging:	<p>Pack the instruments in an appropriate packaging material for sterilization. The packaging material and system refer to EN ISO 11607.</p>
Sterilization:	<p>Sterilization of instruments by applying a fractionated pre-vacuum steam sterilization process (according to EN 285 / EN 13060 / EN ISO 17665) under consideration of the respective country requirements. Minimal requirements: 3 min at 134° C. In EU, 5 min at 134° C is required.</p>

	Maximal sterilization temperature: 137°C Flash sterilization is not allowed on lumen instruments.
Storage:	Storage of sterilized instruments in a dry, clean and dust free environment at modest temperatures refer to label and instructions for use.
Reprocessing validation study information	The above-mentioned reprocessing process (cleaning, disinfection sterilization) has been successfully validated.
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

Malfunction	Cause	Remedy
Failure to turn power on	Battery is exhausted	Charge battery
	Battery protection	Charge battery
	Battery is damaged	Contact dealer
Weaker light	Resin remaining on Light source exit glass surface	Remove the resin
	Low battery	Charge battery
	Surface of light source exit glass is worn	Contact dealer
	LED is damaged	Contact dealer
Failure to charge	Poor power connection	Check the connection between adapter and charging base
	Wrong specification of adapter	Check the specifications
	Adapter is damaged	Contact dealer

Shorter operation	battery aging	Contact dealer
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The parts of the instrument should be repaired by designated professionals. If problem cannot be solved, please contact local dealer or our company.

10. Technical Specifications

Adapter	Input:AC100-240V/50 /60Hz
	Output:DC 5V, 1.5A
Input power	10VA
Battery performance	3.7V1400mA/h
Luminous power	More than 1000 mw/cm ²
Output peak wavelength range	385 nm – 515 nm
Output peak center wavelength	460nm
385nm~515nm (Blue-ray) Optical radiation wavelength range	>200 mw/cm ²
200nm~385nm optical radiation wavelength range	<200mW/cm ²
Above 515nm optical radiation wavelength range	<100mW/cm ²
Effective area of the cure tip	78.5mm ²
Operation mode	Non-continuous
Degree of Protection(IEC 60529)	IPX0
Protection against Electric Shock	Type B applied part
Classified of protection against Electric Shock	Class II (Adapter)
Handpiece dimensions	L: 22.5cm;W : 2.67cm
Handpiece weight	84.7 grams

Applied part	Cure tip, silicone shield
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11. Operating environment, Storage and Transportation conditions

Operating environment

Operating temperature	5°C— 40°C
Operating humidity	20%— 80%
Atmospheric pressure	86kPa — 106kPa

Storage and Transportation conditions

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

12. Guarantee

- Handle, charging base, cure tip are covered by 24 months warranty. The adapter is covered by 6 months warranty. The warranty commences on the date of purchase. Within the warranty period, Manufacturer will eliminate free of charge any defects in the appliance resulting from faults in material or workmanship either by repairing or exchanging parts or exchanging the whole instrument at Manufacturer's discretion .
- Not covered by this warranty: Damage arising from improper use (operation with incorrect current/voltage, unsuitable power point, breakage, cleaning by other than the recommended methods), normal wear and defects which have a negligible effect on the value or operation of the appliance.

- This warranty becomes void if repairs are undertaken by unauthorized persons.
- The supplier can provide circuit diagrams, component lists, legends, calibration rules, or other materials necessary for repair by qualified technicians and repairable instrument parts designated by the manufacturer as required.

13. Recycling and Disposal



Disposal of waste instrument must comply with national regulations and standards. Ensure that all components do not produce pollution during the disposal process.

14. Symbol Identification

	Warning/Caution		Consult instruction for use
	Manufacturer		European Union agent
	Serial number		CE marked product
	Type B applied part		Do not re-use
	Keep dry		Fragile, handle with care
	This way up		Class II equipment

	Direct current		Sterilizable in a steam sterilizer at 134°C
	Products comply with WEEE directive		

15. Electromagnetic Compatibility Precaution

This information is required by the 4th edition of IEC 60601-1-2.

- The Unit needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.
- Portable and mobile RF communications equipment can affect the Unit.
- The use of accessories, transducers and cables other than those specified by manufacturer, may result in increased emissions or decreased immunity of the Unit.
- The Unit should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the Unit should be observed to verify normal operation in the configuration in which it will be used.
- Per IEC 60601-1-2, no additional environmental operating conditions are required for normal use.

Guidance and manufacture's declaration – electromagnetic emission

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

Emission test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The instrument 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 emission CISPR 11	Class B	The instrument is suitable for use in all establishments, including domestic establishments directly connected to the public low - voltage power supply network with specific requirement.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacture's declaration – electromagnetic immunity

The instrument is intended for use in the electromagnetic environment specified below. The customer or the user of instrument 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 floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for Input/output lines	± 2 kV for power supply lines ± 1 kV for Input/output lines	Mains power quality should be that of atypical commercial or hospital environment.
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 power supply input lines IEC 61000-4-11	<5 % UT for 0.5 circle (On UT, >95% dip) 40% UT for 5 circle (On UT, 60% dip) 70% UT for 25 circle (On UT, 30% drop) <5 % UT for 5seconds (On UT, >95% dip)	<5 % UT for 0.5 circle (>95% dip in UT) 40% UT for 5 circle (60% dip in UT) 70% UT for 25 circle (30% dip in UT) <5 % UT for 5s (on UT, >95% dip)	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 erupible power supply or a battery.
Power frequency(50/60 Hz)magnetic field IEC 61000-4-8	3A/m	3A/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 and manufacture's declaration – electromagnetic immunity			
The instrument is intended for use in the electromagnetic environment specified below. The customer or the user of instrument 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	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM and amateur radio bands 3V/m, 10 V/m 80M Hz to 2.7GHz	3 Vrms 150kHz to 80 MHz 6 Vrms in ISM and amateur radio bands 3V/m, 10 V/m 80M Hz to 2.7 GHz	Portable and mobile RF communications instrument should be used no closer to any part of the instrument, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$ $d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz
Radiated RF IEC 61000-4-3	385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless		

	<p>communication instrument(Refer to table 9of IEC 60601-1-2:2014)</p>	<p>385MHz - 5785MHz Test specifications for ENCLOSURE REPORT IMMUNITY to RF wireless communication instrument(Refer to table 9 of IEC60601-1-2:2014)</p>	<p>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, are determined by an electromagnetic site survey ^ashould be less than the compliance level in each frequency range ^bInterference may occur in the vicinity of instrument marked with the following symbol:</p> 
<p>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.</p>			
<p>^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 instrument is used exceeds the applicable RF compliance level above, the instrument should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the instrument ^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			
<p style="text-align: center;">Recommended separation distances between portable and mobile RF communications equipment and the instrument.</p>			
<p>The instrument is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the instrument can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the instrument as recommended below, according to the maximum output power of the communications equipment.</p>			

Rated maximum output power of transmitter(W)	Separation distance according to frequency of transmitter		
	150 kHz to 80 MHz $d=1.2 \times P^{1/2}$	80 MHz to 800 MHz $d=1.2 \times P^{1/2}$	80 MHz to 800 MHz $d=2.3 \times P^{1/2}$
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) according to the transmitter manufacturer.

NOTE1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.



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