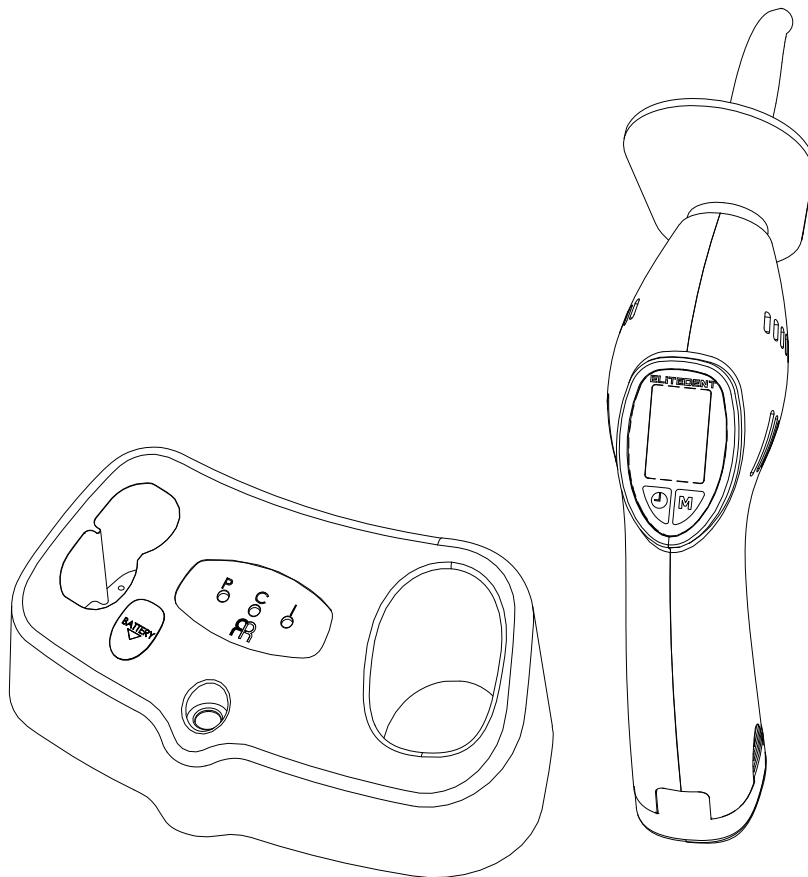


Rolence LED Curing Light

ULTRA-LITE 1800E DUAL

---- Choose the high-energy output curing light to improve clinical results through Light-Curing!



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Caution: U.S. Federal Law restricts this device to sale by or on the order of a dental professional.

1. Safety Precautions

PLEASE NOTE!

Prior to installation and start-up of the unit, carefully read the instructions provided herein!

As with all technical devices, the proper function and safe operation of this unit depend on the user's compliance with the safety recommendations presented in these operating instructions.

- Before operation, you have to read user manual carefully.
- Refer to Section 10, Cleaning / Disinfecting / Sterilizing for sterilizing instructions.
-  CAUTION: This curing unit produces extremely high curing energy output! A significant increase in curing energy is possible compared with equipment you have previously used. It is important to obey the following precautions and procedures:
- Do not place light directly on or toward unprotected gingival or skin.
- Adjust your curing techniques in accordance with the increase in curing energy. Some examples are; decrease curing time, increase composite thickness, increase distance between light guide tip and light cured materials.
-  CAUTION: Do not look directly into the light emitted from this curing unit. Do not use this device without suitable protective eyeshade for the operator, assistant and patient. Suitable protective eyeshade should blocks most energy below 550nm wavelength.
-  CAUTION: Persons having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to the light from this unit.
-  CAUTION: Equipment is not suitable for use in the presence of flammable anesthetic mixture with air, nitrous oxide or environment full of flammable material.
-  CAUTION: Don't dispose of the battery into fire or take battery apart.
- To protect the light guide, after each curing procedure is completed, the handpiece should always be placed into its holder.
- To obtain a safety operation, we suggest that check your local AC power supply voltage before you buy and use this product from oversea.

2. Product Description & Fields of Application

The Ultra-lite 1800E DUAL is a high-performance LED light source curing unit intended for polymerization of light cured dental materials by dental professionals. The Ultra-lite 1000E DUAL incorporates two types of LEDs to achieve broad wavelength with range of 390 to 480nm output to polymerize virtually all light-activated materials in the market and a high power mode to produce super fast curing effect. The relevant range both for camphorquinone (CQ) and phenyl propanedione (PPD) containing product. Though the majority of light-curing dental materials are responsive in this range of wavelengths, it is suggested you should contact the filling material maker to make sure it before use.

3. Technical Data (Subject to technical modification without prior notice.)

3.1 Charging Base

AC Adapter:	INPUT : 100~240VAC , 0.8~0.4 A , 47-63HZ OUTPUT : 12VDC , 2.0A
Charging box input:	12V DC, 1A
Fuse ration :	250V/2A
Charging box output:	8.4 VDC / 1.2A
Power indicator:	Green LED
Charging indicator:	Orange LED
Light intensity indicator:	Blue LED
Dimensions (length/width/height):	150mm/90mm/60mm
Height with handpiece inserted:	180mm
Weight:	roughly 430g

3.2 Handpiece

Power supply:	Lithium battery – 7.4V DC, 2600mAh
Wavelength range:	390-480 nm
Dimensions:	
Diameter:	50 mm
Length (with/without light guide):	185 / 125 mm
Height:	165 mm
Weight (with light guide and battery):	Roughly 345 g

3.3 Charging Base and Handpiece

Time to charger empty battery:	approximate 3 hrs
Relative humidity:	max. 80% at 37°C max. 50% at 40°C
Protection from electric shock:	Type BF (IEC601-1)
Equipment class:	Class II (IEC601-1)

Protection from ingress of liquids:	None
Protection from ingress of AP/APG:	None
Applied Part :	Light Probe

3.4 Operation Environment

- Ambient temperature: 0°C ~ +40°C
- Relative humidity: 30% ~ 75%
- Atmospheric pressure: 700hPa ~ 1060hPa

3.5 Transportation and Storage Environment

- Ambient temperature: -10°C ~ +70°C
- Relative humidity range: 10% ~ 90%
- Atmospheric pressure: 500hPa ~ 1060hPa

4. Content

4.1 Standard package includes:

Hand piece	1 pce
Turbo light guide #807	1 pce
Protective eye shield	1 pce
Lithium battery	2 pcs
Charging base	1 pce
Power cord with wall plug-in adaptor	1 pce
User manual	1 pce

4.2 Optional accessory

- Light Radiometer 200 (Digital Display)
- Eye protection goggle (Orange)

5. Additional symbols

Attention, Consult accompanying Documents



Alternating Current



Type BF Applied Part



Equipment class: Class II (IEC601-1)

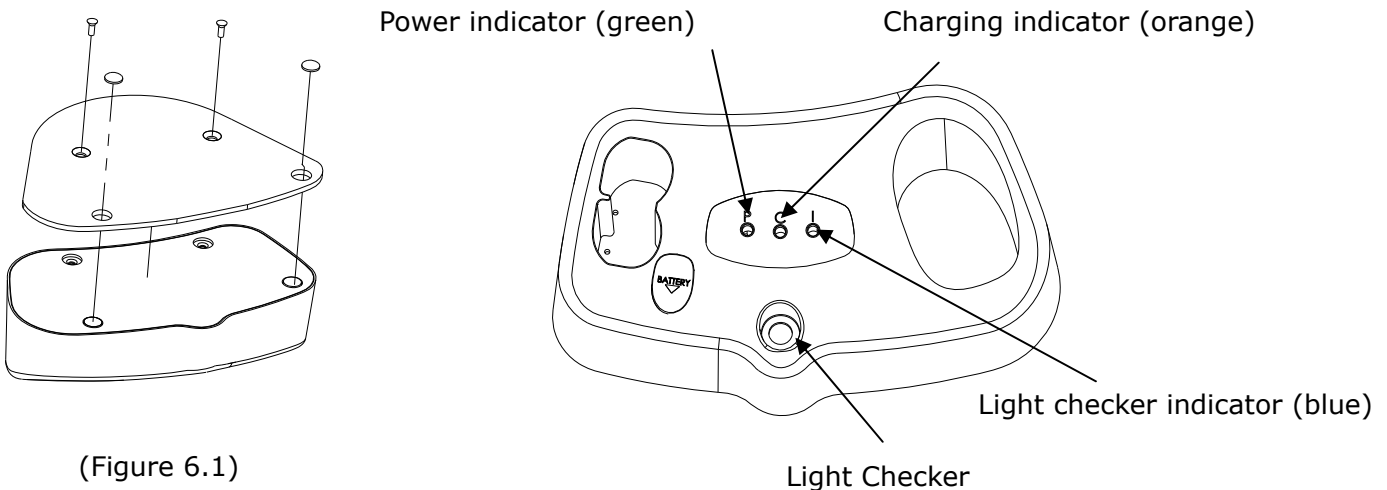


6. Installation of the Unit

6.1 Charging base

- Please firstly ensure that the voltage stated on the rating plate corresponds to / be same as the voltage of local power outlet. The voltage info can be read on the back of the base.
- Install acrylic plate on the back of charging base, and place the Charging base on a level /horizontal place. (Figure 6.1)
- Connect the power cable of the charger to the power outlet.
 - The green LED on the device is illuminated. This shows that the unit runs normally and is ready for operation; please refer to more info in the next section, "LED display of the charging base".

6.2 LED Display of the Charging base



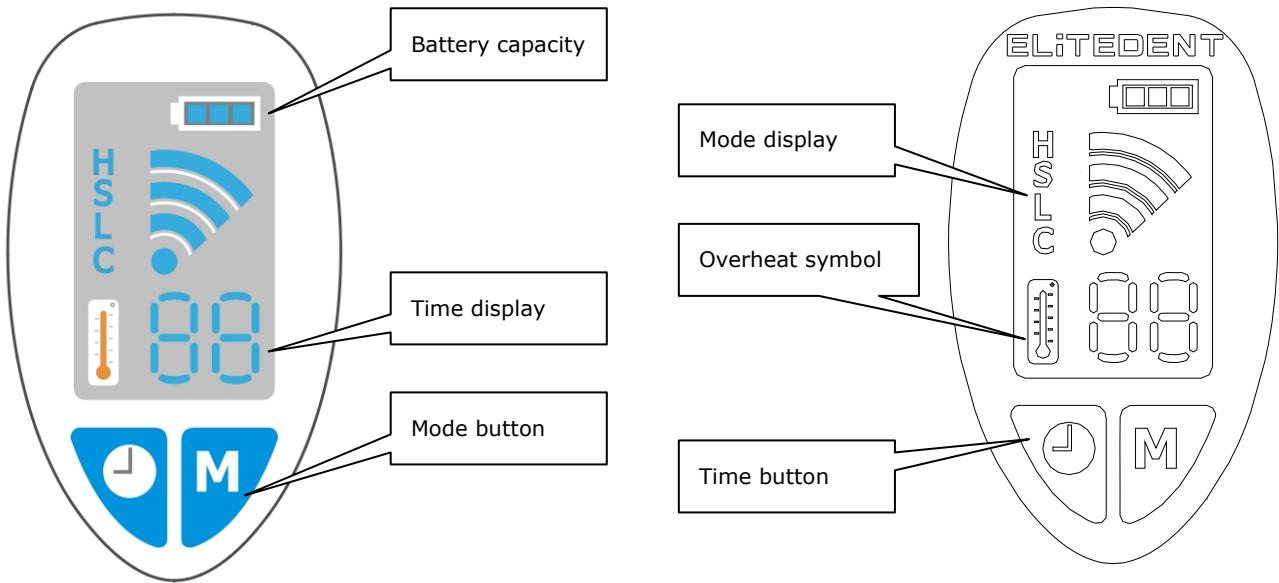
(Figure 6.1)

6.3 Light Guide / Battery charging

- Autoclave the light guide prior to first use.
- Then insert the light guide into the handpiece until it snaps into place.
- Standard fiber optic light guide: 8mm turbo optic probe
- Prior to the first use, place the battery in the Charging base to fully charge the rechargeable battery.
 - The orange LED indicator on the charging base flickers during charging process. The battery is fully charged once the orange indicator stops flicker and maintains on.
 - Note: new batteries attain to full capacity only after several charging / discharging cycles. Therefore, the battery initially charged may be only sufficient for a smaller number of exposures.
 - Total exposure time with new fully charged battery: approximate 30 minutes.

6.4 Control Panel / modes selecting

The unit features LCD (color) with four modes preset on the control panel.



Low Mode



Soft Start

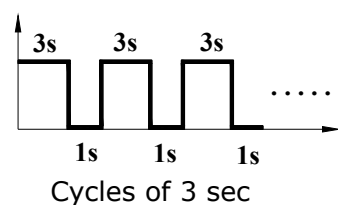
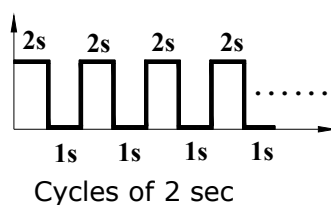
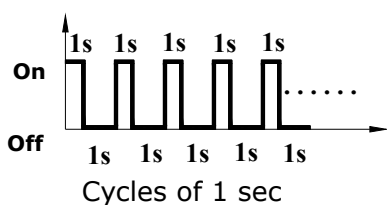


High Mode



Continuous Cycle Light

- ◆ **(H) - High mode:** at constant intensity of 1,900~2,000mW/ cm²
1, 2, 3, 4, 5 seconds available
- ◆ **(L) - Low mode:** at constant 35~55% intensity of high intensity
5 seconds low intensity
10 seconds low intensity
- ◆ **(S) - Soft Start:** initially 35~55% energy of high intensity and then switch to high intensity
5 seconds Low intensity + **2** seconds high
10 seconds low intensity + **2** seconds high
- ◆ **(C) - Continuous light:** at a continuous on/off cycle of high intensity 1,900~2,000mW/ cm²



7. Operation

7.1 Activating and Deactivating the Light

- Activate the light by pressing the power button.
- If it is desired to turn off the light, this can be done by again pressing the power button.
- Curing: the probe tip shall be used in close proximity to the material to be cured. Avoid actual contact. The flat end of probe should be parallel to the surface being treated.
- Light intensity settings:
 1. High mode: at constant intensity $1,900\text{mW}/\text{cm}^2 \sim 2,000\text{mW}/\text{cm}^2$
 2. Soft start: initially 35-50% energy of high intensity and then switch to high intensity
 3. Low mode: at constant 35-50% energy of high intensity
 4. Continuous mode: at a continuous on/off cycle of high intensity $2,000\text{mW}/\text{cm}^2$
- Curing time: High mode with different curing time: 1 sec to 5sec available
Low mode with 2 different curing time available: 5sec 10sec
Soft Start with 2 different curing time available: 7sec 12sec
Continuous mode with **16 cycles** each of 1 sec, 2sec, 3sec; 1 second interval.
- Total working time with new fully charged battery: approximate 30 minutes.
- If the temperature on hand piece over 50°C , the overheat symbol will show up and the buzzer will beeps 5 short tone. Light will not be activated until device temperature lower than 50°C .
- If the battery voltage gets too low, the battery capacity column will run out and the buzzer will beep 3 short tone. Please replace with another fully charged battery and place the empty battery into charging base for recharging.
- Rotate the light guide into the optimal position for polymerization.
- Place the light guide as close as possible to the filling material.
Avoid directly contacting the filling material!
 - Keep the light guide clean at all times to obtain optimal light output.
 - Damaged light guide must be replaced immediately, since damaged light guide may reduces light intensity or injures the patient.
- When curing process is finished, always place the handpiece back to holder.

7.2 Note:

- Follow material manufacturer's directions for curing times on various materials. It is better to over cure rather than insufficient cure. Over curing cannot harm the restoration.
- If the LED remains activated for an extended period, a safety thermostat will cut off the LED to protect curing gun from overheating. Normal usage may then be resumed if the handpiece is idled for an extended period for cooling.
- Battery has very sensitive protective IC inside to prevent battery from over current and over heat, But outside electric noise may have a chance to trigger this IC to work and shut down the system, under this case please recharge the battery. Then shut down protection will be turned down and handpiece will be ready for use again.(Follow operating error 8.1)

8. Operating Errors / Trouble shooting

Error	Cause / solution
1. Can not operate the light and LCD display on the handpiece can not be activated.	<ul style="list-style-type: none">● Re-insert battery, try again.● Please recharge battery / Replace battery with fully charged one.● If not sure what happen, contact the dealer for a further inspection.
2. "Overheat symbol" on and buzzer beeps 5 short tone.	<ul style="list-style-type: none">● Overheat. Please wait for handpiece cooling down. Waiting time can be shortened if the handpiece is cooled by compressor air.
3. "Battery capacity display" gets empty and buzzer beeps 3 short tone.	<ul style="list-style-type: none">● Low voltage, please recharge the battery or replace with a fully charged battery.
4. No indicator on power box.	<ul style="list-style-type: none">● Check if the power plug connects to power outlet socket firmly.● If not sure what happen, contact the dealer.
5. Battery working time is shortened significantly.	<ul style="list-style-type: none">● Contact the dealer ordering a new battery for replacement.
6. Intensity indicator on the charging base is not on when checking light intensity.	<ul style="list-style-type: none">● Low light intensity under 500mW/cm²● Battery could be exhausted, please recharge / replace battery● If not sure what happen, contact the dealer.

NOTE: We and our authorized distributors will make available on request circuit diagram, component part lists and other information to assist user's appropriate technical personnel to repair the light cure units which are designated by us as repairable.

9. Measurement of Light intensity

Center optic probe on the detecting window which is located on the charging base. Blue LED on indicates light intensity is over 500mW/ cm². If blue LED is still off at intensity measurement, the curing light should not be used. Inspect the unit for deterioration of LEDs and light guide at the same time.

10. Cleaning / Disinfecting / Sterilizing



CAUTION

- The use of a dry heat oven, incompatible chemical vapor type sterilizing must be avoided as damage can result to the optic fiber and its binding material.
- Do not use any instruments or abrasives on the ends of optic probe loss of light emission may result.

Between Patients:

Probe shall be cleaned free of saliva or dirt prior to sterilizing. The cleaning consists of wiping the surface slightly with a cleansing solution and wiping with a dry cloth. Sterilizing by autoclave is preferred.

Power Unit and Curing Gun



CAUTION

- The power unit shall be unplugged before cleaning and disinfecting the power unit and curing gun to prevent from electric shock.
- To wash or spray the out surface of power unit and curing gun with water, cleanser and chemical disinfectant is not allowed for it will result electric shock and damage of inner circuit. If this happens, please contact our dealer for inspection before use.

The cases of power unit and curing gun are made of plastic material Cycoloy. The cleaning consists of wiping the surface slightly with a cleansing solution (Chlorine-releasing compounds). Such as NaClO is not allowed for it will easily make battery charging fail due to metal corrosion) and wiping with a dry cloth. The disinfecting consists of wiping with a cloth slightly dampened with a chemical disinfectant and allows it to remain on the surface for the manufacturer recommended period, but no longer. Then wipe surface with water wet cloth and dry thoroughly including crevices. Appropriate disinfectant information can be obtained from our authorized distributor.

11. Disposal

Follow the national requirement and regulation to dispose of the unit.

As a mean of protection of the environment, your new device is equipped with lithium battery. This kind of battery is free from toxic heavy metal ions. Dispose of battery and units in accordance with local legal regulations.

12. Disclaimer

ROLENCE considers itself responsible for the effects on safety, reliability and performance of this product only if:

- Assembly operations, extensions, re-adjustments, modifications or repairs are carried out by persons authorized by ROLENCE.
- The electrical installation of the relevant room complies with the requirements.
- The equipment is used in accordance with these instructions for use.

13. Warranty

13.1 Malfunction

Rolence hereby warrants that for a period of one year from the delivery date, this device shall be free from defects in material and workmanship. In case the machine is found malfunctioned under normal use, Rolence will offer service of free maintenance and parts for replacement.

13.2 Repair

Repairs must be only carried out by an authorized Rolence engineer/dealer. If repairs during warranty period are not carried out by an authorized engineer/dealer, warranty will expire immediately.

13.3 Warranty Exception

The warranty stated herein is the sole warranty applicable to Rolence products. Rolence expressly disclaims the liability for warranty even within warranty period, if

- (1) Damages caused by natural disaster.
- (2) Operator's fault or wrong operation.
- (3) Application use other than curing light-cured material purpose.
- (4) A malfunction or damage caused by repair, adjustment, modification which is not carried out by Rolence authorized technicians/dealers.
- (5) A malfunction caused by abnormal power source or voltage.
- (6) It is a consumption part.

EU authorized representative name and address



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