

# SLIMAX-C<sup>®</sup> / SLIMAX-C<sup>®</sup> PLUS

## LED Curing Light System Operators Manual



**Beyes<sup>®</sup>**  
*The Next Standard*

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**SAFETY PRECAUTIONS**

1. This LED curing unit must be used in strict accordance with the following operating instructions. The manufacturer assumes no liability for any damage resulting from the misuse of this unit or if it is being used for any other purpose.
2. NOTE: Exercise extreme caution when using this product in the presence of a flammable anesthetic mixture or an oxidizer like oxygen or nitrous oxide.
3. This LED curing unit produces a high-output of light energy. A significant increase in light energy is possible when compared to equipment previously used. It is important to observe the following precautions and procedures:
  - Do not place light directly on or towards unprotected gingiva or skin.
  - Adjust curing techniques in accordance with the increase in light energy.
  - Do not look directly at the light emitted from this LED curing unit. Do not use this device without suitable eye protection for the operator, assistant and patient.
  - Person(s) having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to light from this LED curing unit.
4. Use only the Beyes charger provided with this unit; The use of any other charger can result in damage to the battery.
5. Do not allow cleaning agents to enter the unit; This may short-circuit the unit or cause a potentially dangerous malfunction.
6. Only service centers authorized by Beyes Dental Canada Inc. may open the Curing Light Controller housing and repair the unit.
7. In order to avoid electric shock do not introduce any objects into the unit with the exception of replacement parts in accordance with the Operating Instructions.
8. Person(s) (practitioners or patients) who have previously suffered from a retina or crystalline lens condition or who have undergone eye surgery (in particular for cataracts) must see their ophthalmologist before using

the Slimax curing light. Whether an eye specialist approves the use of this curing light, cautiousness is strongly recommended for the reason that the intensity of the light could cause accidents. Class 2M protective eyewear is suitable for use with units emitting radiation at wavelengths between 420 and 480 nm, and should be worn at all times.

**IMPORTANT**

- Batteries must be charged prior to use.
- The fiber-optic light guide is provided in a non-sterile condition and must be sterilized prior to patient contact.

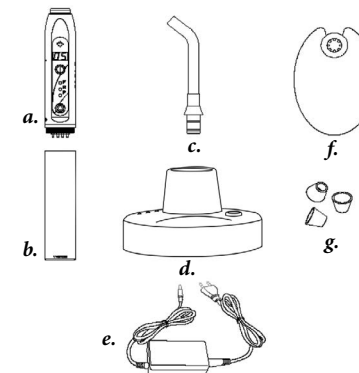
**INTRODUCTION**

The Slimax LED (Light Emitting Diode) is a cordless pen style curing light used for the polymerization of light-cured dental material used by dental professionals. It is powered by a rechargeable Lithium-Ion battery pack. This curing light system from Beyes Dental Canada Inc. generates a powerful output up to 2000 mW/cm (± 10%). The curing procedure for composite materials is easier and quicker than ever before with the options of 5, 10, 20 and 30 seconds curing time. Users can either select Full Power, Ramping Power or Pulse. This slim, light weight curing light is ergonomically designed for user comfort and flexibility. Its solid aluminum body sets it apart from all its plastic competitors. The quality, durability, and ease of applied infection control techniques make this curing unit a state of the art instrument. The curing light (Slimax-C Plus) comes in three different colors: silver, blue and pink.

**ASSEMBLY**

*The box contains:*

- 1 Curing Light Controller
- 1 Battery (The battery contains Lithium-Ion cells. A new battery should be charged for 6 hours prior to its first use.)
- 1 Tip
- 1 Battery Charger and Radiometer
- 1 Power Supply
- 1 Light Shield
- 1 8-mm Curved Light Guide

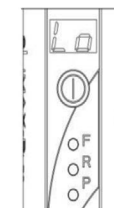


**OPERATION**

**BATTERY:** The battery pack contains a Lithium-Ion (Li-ion) battery. When the battery is low, you will see “LO” on the LED display panel along with slow frequency beeps.

**INSTALL THE BATTERY**

1. Remove the battery and the Curing Light Controller with LED Display from the box.
2. Gently screw the battery into the Curing Light Controller.
3. To remove the battery, gently unscrew the battery from the Controller.



**CHARGING THE BATTERY**

1. Plug the power supply into the charger base. The socket is located at the back of the charger base.
2. Plug the power supply into an electrical outlet.
3. Place curing unit with battery into the charger as shown in Figure 1.

Please note:

The charging status lights are located on the top of the charger base and indicate the state of battery charge.

- **Yellow light**—battery is charging
- **Green light**—battery is fully charged

**BATTERY DISPOSAL:** The battery pack contains a Lithium-Ion (Li-ion) battery. Recycle or dispose of batteries according to national, state and local regulations.

**CURING LIGHT CHARGE BASE**

Included with the Slimax-C Plus is a built in radiometer. It is located on the Charge base for easy access to measure the instant output of your curing light. To use the radiometer, please ensure that the charging base is plugged into a power outlet. Turn the curing light on and activate the light. Then insert the light guide into A. The measurement reading will be shown on the display screen.

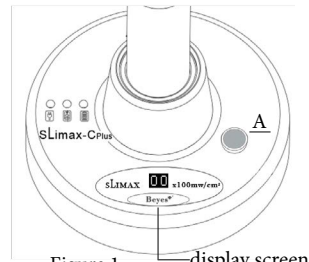


Figure 1 display screen

**MODE**

Your New Slimax Curing System offers three different operational modes:

- F (Full):** Provides Maximum Power
- R (Ramp):** The output gradually reaches Maximum Power
- P (Pulse):** The Power Pulses ON and OFF

**Select Modes:** Press button “2” continuously for three seconds

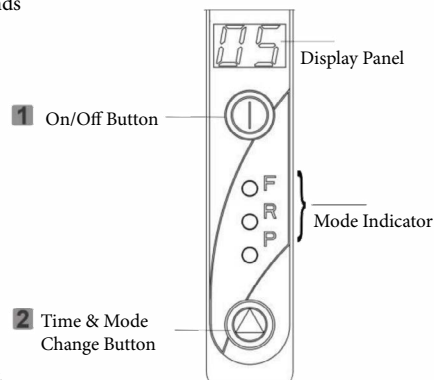
**EXPOSURE TIME**

- F (Full):** 5, 10 seconds
- R (Ramp):** 10 and 20 seconds
- P (Pulse):** 10, 20 and 30 seconds

**Select Exposure Time:** Press Button “2”

**ACTIVATING AND DEACTIVATING THE LIGHT**

- Press button “1”; the light will turn on.
- If desired, the light can be turned off by pressing the ON/OFF button before the exposure time is over.



**Boost and Regular Light Output :**

The Slimax Curing Light offers you two tiers of light intensity to meet your daily needs

- LP = Regular Output** 1400 mW/cm2 ± 10%
- HP = Boost Output** 2000 mW/cm2 ± 10%

**Select Output:**

Press down on button 2 and hold, then press button 1 to select HP or LP.

**RECOMMENDED CURING TIME BASED ON THE BOOST POWER**

Due to the high light output of the Slimax Curing Light System, the normal exposure times for conventional units can be cut in half without compromising polymerization performance.

**Beyes Dental Canada TESTING INDICATES THE FOLLOWING RECOMMENDED CURING TIMES:**

- Universal composite shades A3 and lighter (2-mm depth).....5 seconds
- Universal composite shades A3.5 and darker.....10 seconds
- Bonding agents, universal resin luting cements and self-etch, self-adhesive cements.....5 seconds

**Note:** It is highly recommended that curing capability be tested using a Hardness Disk to ensure a complete cure.

**CURING LIGHT CONTROLLER:**

The efficiency of your new Slimax Curing Light is designed to provide an entire days use when fully charged. A fully charged battery will yield 850 ten-second cures.

**TROUBLESHOOTING**

Problem	Cause(s)	Solution(s)
No indicator lights on the controller	<ul style="list-style-type: none"> <li>• Battery Not Charged</li> <li>• Battery is improperly connected</li> </ul>	<ul style="list-style-type: none"> <li>✓ Recharge the battery</li> <li>✓ Unscrew the battery to clean the circuit contact dot of the battery and the two contact pins located at the end of the unit</li> </ul>
The battery does not charge	<ul style="list-style-type: none"> <li>• Check Power Supply and Charger Base for proper connections</li> <li>• Check that Controller is seated properly in Charger Base</li> </ul>	<ul style="list-style-type: none"> <li>✓ Ensure there is a good connection between the electrical outlet and plug</li> <li>✓ Clean the battery electronic contact and charge needle inside of the charger base</li> </ul>
The controller has not been used for a long time and will not turn on	<ul style="list-style-type: none"> <li>• Battery not charged</li> </ul>	<ul style="list-style-type: none"> <li>✓ Place Controller in the charger and re-charge the battery.</li> </ul>
Low light intensity	<ul style="list-style-type: none"> <li>• The guide may not be clean</li> </ul>	<ul style="list-style-type: none"> <li>✓ Clean the light guide and the protecting glass in the light guide mounting hole</li> </ul>
Cannot activate the light by pressing the ON/OFF button	<ul style="list-style-type: none"> <li>• LED light is burned out</li> </ul>	<ul style="list-style-type: none"> <li>✓ Call Beyes Dental Canada Inc. for an authorized service center</li> </ul>

**MAINTAINENCE: CLEANING / DISINFECTING / STERILIZATION**  
(Your Slimax unit is maintenance-free. No periodic maintenance is required)

**Manual Cleaning and Disinfection of the Light Guide**

- Place the light guide for the specified application time into the solution, making sure that it is completely covered (as needed, using ultrasonic support or careful brushing with a soft brush). A neutral enzymatic cleaning agent is recommended.
- Remove the light guide from the solution and rinse thoroughly (at least 10 seconds) in water with low germ count.
- To disinfect; place the cleaned light guide for the specified application time into the solution, making sure that it is completely covered. **Please note:** Disinfectants containing o-phthalaldehyde are recommended.
- Remove the light guide from the solution and rinse thoroughly (at least 10 seconds) in water with low germ count.
- Dry the light guide with a clean soft cloth.

**Steam Sterilization**

- Check the light guide.
- Effective cleaning and disinfection are absolutely essential requirements for effective sterilization. Only steam sterilization is approved.
- Maximum sterilization temperature is 134 °C (273 °F).
- Sterilization time (exposure time at sterilization temperature) is at least 20 min. at 121°C (250 °F) or at least 3 min. at 132 °C (270 °F) /134 °C (273 °F).

**Check**

- Before using the light guide again, check it for damaged surfaces and discoloration; do not use damaged light guides.

**How to Clean Charger, Main Board, and Glare Shield**

- To disinfect all components, spray the disinfectant on a towel and use it to disinfect the unit. Do not spray the disinfectant directly on the Curing Light Controller or the Charger.
- Disinfection agents must not enter the unit.
- Clean the protecting glass of the Curing Light Controller with a soft and lint-free cloth.
- Dry residual disinfectants on the charger, the Curing Light controller and the glare Shield with a soft and lint-free cloth.
- Solvents or abrasive cleaners should not be used at any time for cleaning any of the Curing Light System components!
- Cleaning agents must not enter the Curing Light Controller.
- Make sure that the charge contact pins remain dry and are not contacted by metallic or greasy parts.
- Care must be taken to avoid bending the charge contact pins during drying. Wet charge contact pins will cause an operating error (malfunction message: the LED showing the operating status in the charger glows red steadily).

**Storage of the Slimax During Extended Periods of Non-Use**

- If the Slimax is not being used for an extended period of time - e. g., during vacation - fully charge the battery prior to departure or keep the Curing Light Controller inserted in the operational charger. A safety switch within the battery prevents a total discharge.
- Discharged or nearly discharged batteries must be recharged as soon as possible.

**WARRANTY**

Beyes Dental Canada Inc. hereby warrants that for a period of one (1) year from the date of purchase, this instrument shall be free from defects in material and workmanship and will perform satisfactorily under normal use and service.

Users MUST complete the online Warranty Registration Form within 30 days of the purchase date at [www.beyes.ca](http://www.beyes.ca) in order to qualify for the warranty. If multiple units have been purchased, fill out one registration form per unit. Please keep your dealer invoice. A copy of the invoice will be required should warranty service be required.

In the event of a breach of this warranty, Beyes liability is limited to, at Beyes' option; to replace the defective product or part thereof, or reimburse the actual cost of the defective product. In order to take advantage of this limited warranty, the defective product must be returned to Beyes Dental Canada Inc. In no event shall Beyes be liable for any indirect, incidental, or consequential damages.

Beyes Dental Canada Inc. warrants this product will be free from defects in material and manufacture. Beyes Dental Canada Inc. makes no other warranties actual or Implied. User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, your exclusive remedy and Beyes Dental Canada Inc.'s sole obligation shall be to repair or replace the Beyes product.

## TECHNICAL SPECIFICATIONS

Power Supply	Lithium-ion battery (3.7V 2200mAh)
Wavelength Range	430-480 nm
Wavelength Peak	455 nm +/- 10 nm
Light Intensity (between 400 and 515 nm)	2000 mW/cm <sup>2</sup> ± 10% (independent of battery power level)
Total Exposure Time ( fully charged battery)	850 Uses at 10-second cures
Charging Time (depleted battery)	approximately 3 hours
Dimensions	Diameter 23 mm (0.92"), Length 254 mm (10")
Weight	160g (0.35lb) (includes light guide)



Federal law restricts this device to sale by or on the order of a dentist, physician, or any other practitioner licensed by the law of the states in which he or she practices to use or order the use of this device.

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