

Lightning SpotCure

UV Spot Cure System

Introduction:

Thank you! For your purchase of our Lightning SpotCure UV LED Curing System, one of the most versatile and powerful hand-held UV curing units available today. Lightning SpotCure utilizes a powerful high quality UV LED and unique lens technology to deliver optimum power and coverage, depending on your UV curing needs. Lenses are quickly and easily replaceable and can vary the optical output from 1W/cm² to 18W/cm², simply by swapping the lens. The optical output power is also adjustable, so the user can dial in the exact parameters needed for optimal cure. Lightning SpotCure can be operated by a switch on the curing probe, a switch on the console, an optional footswitch or remotely, and can operate using the precision timer or wired to operate when the footswitch or remote switch is depressed.

! WARNING !

! This unit is intended to be used as a curing device for materials, adhesives and coatings designed to be cured using Ultraviolet light. Any other use is not authorized.

! User must wear UV protective safety glasses when operating this equipment.

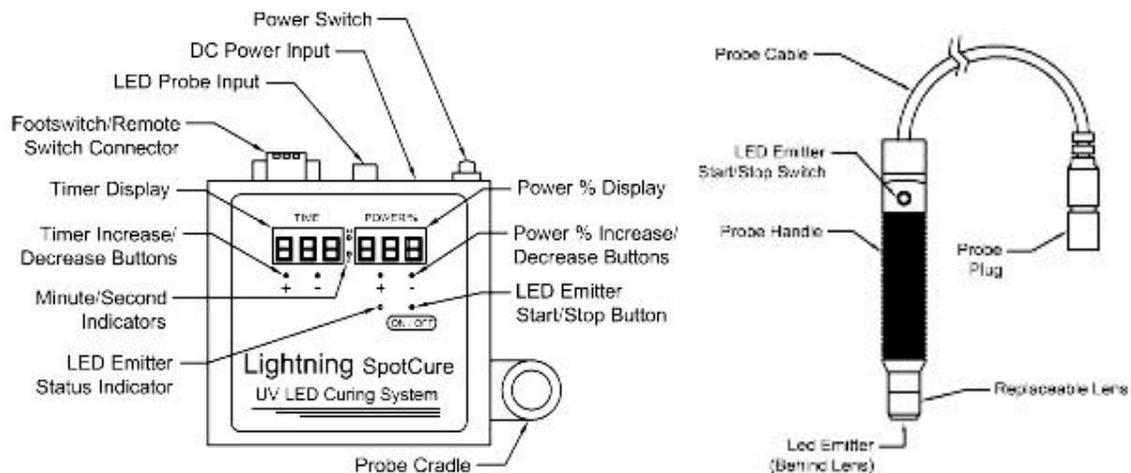
! People in close proximity to this unit must wear UV protective safety glasses during use.

! Do not point UV LED Probe toward exposed skin.

! Do not point UV LED Probe toward any person or animal.

! Do not point UV LED Probe in any direction other than the surface to be cured.

! It is normal for the probe to feel warm after extended use. Do not operate if the Probe feels hot to touch. Power Off the unit and contact the manufacturer for service.



Installation:

Unpack and inspect the Lightning SpotCure unit and all of its accessories. The package should contain the following items:

Lightning SpotCure Console with Probe Cradle
Curing Probe with selected lens
AC wall transformer
UV Safety Glasses
Optional Items:
Optional footswitch
Additional lenses

- Find a suitable location to place the console. A flat surface with plenty of clearance is recommended.
- Remove any wire ties from the probe cable and place the probe into the holder.
- Plug the probe connector into the probe jack located at the back of the console. To connect, carefully place the probe connector into the console jack and rotate the connector until it slides into the jack, then carefully push to connect.
- Plug the AC wall transformer plug into the DC Input Power jack at the back of the console. Plug the mains/prong end of the AC wall transformer into an appropriate AC electrical outlet. Make sure the wire for the adapter is clear of any obstructions, or isn't in a position where the wire can get pinched or crimped.

About the Power Setting:

The Lightning SpotCure unit has a POWER % setting, which allows the user to select a percentage of the maximum optical power output of the device from 1% to 100%. If possible, setting the unit's output power to somewhere below 100% is good practice as the lower the % the less internal heat can develop around the internal emitter. This is especially important in high use applications where the unit is used heavily. 80% is a good place to start. If you find running the unit at 100% continually gives the desired result you may want to consider a more focused lens to increase the optical output intensity, therefore reducing the Power % needed for the application.

Handheld Operation:

- Turn the unit ON using the switch located in the back of the console. The timer and power indicators will light and the Emitter Status Indicator will illuminate Red.
- Set the desired curing time by pressing either the timer up or down buttons until the desired time is displayed. Holding the button down will move the numbers faster. The unit will remember your setting.
- Set the desired Power Output percentage by pressing either the Power % up or down buttons until the desired output optical power % is displayed. Holding the button down will move the numbers faster. The unit will remember your setting.

IMPORTANT: UV Eye protection for the user and anyone in close proximity of use must be worn when using this device.

- Remove the probe from the holder and point toward the area to be cured.
- To turn the UV emitter ON, momentarily depress the button on the curing probe, or the ON/OFF button on the Lightning SpotCure Console. The Emitter Status Indicator on the console will illuminate Green, the emitter will illuminate and the timer will start counting down. The emitter will stay ON until the timer reaches zero, at which point the emitter will turn off, timer will reset to the preset time and the Emitter Status Indicator will illuminate Red. The user can also stop the curing cycle at any time by depressing the probe switch or the console ON-OFF switch again.
- The timer and power % can be set at any time between cures by depressing the Up or Down buttons on the console.

IMPORTANT: The hand-held probe will feel warm to touch after extended use. This is normal and is part of the heat dissipation designed into the unit. If the probe feels uncomfortably hot, discontinue use and contact the manufacturer. For more information refer to the Over Heat Protection section of this manual.

Footswitch / Remote Operation and Wiring:

Lightning SpotCure can also be controlled using an optional footswitch, or by a user supplied external switch or controller. This is accomplished by connecting 2 wires to the green plug located on the back of the unit, which are connected to a Normally Open switch. The green plug has 3 connections: G, L and P. Screws to connect the wires are located on the bottom of the green connector. A small flat blade screwdriver will be needed to turn the connection screws.

- To connect the wires, turn the desired connector screw counter clockwise to loosen the connection using a small flat blade screwdriver.
- Insert a stripped wire into the desired wire slot and tighten the corresponding connecting screw by turning clockwise with the flat blade screwdriver.
- To have the footswitch turn the emitter ON using the countdown timer in the same manner as the probe and console switch, connect one wire to connector G and the other wire to connector L.
- To have the footswitch or remote switch turn the emitter ON only when the switch is depressed, connect one wire to connector G and the other wire to connector P. The emitter will turn OFF when the switch is opened.
- The timer and power % can be set at any time between cures by depressing the Up or Down buttons on the console.

Over Heat Protection:

Although LED emitters do not project significant heat onto the curing surface, high power emitters can build up heat internally, which can cause premature failure to the emitter if not managed. Lightning SpotCure is designed using a probe with built-in heat dissipation, as well as overheat protection which will protect the internal emitter from damage due to overheating or overuse by shutting the emitter Off. If this condition happens, the unit will turn the emitter Off and emit a beeping sound while the display flashes between the set time and power and the error E00 300. This condition will continue until the unit is reset by turning the power switch in the rear of the unit Off and then back On. Allow sufficient time for the probe to cool before re-use. If overheating condition occurs an evaluation should take place to determine if a different solution is needed for the application. For instance, a more focused lens could be used with a lesser power % setting to achieve the desired result without overheating the LED emitter.

Lens Technology and Options:

Lightning SpotCure incorporates a unique lens technology to accommodate various curing needs. By narrowing the focal point of the lens a greater optical output is achieved, allowing for more powerful curing applications. Lenses can be easily changed by unscrewing from the tip of the unit. This allows easy replacement if a lens is damaged, or if the user wants to use a different lens.

Specifications and Part#s for Lightning SpotCure lenses:

Lens Part# 365nm Emitter	Spot Size (mm)	Measured Distance (mm)	Max Optical Power mW/cm2
LSC-D2	2	8	18000
LSC-D3	3	10	13000
LSC-D4	4	14	8500
LSC-D6	6	17	5980
LSC-D8*****	8	27	2340
LSC-D10	10	25	1820
Lens Part# 405nm Emitter	Spot Size (mm)	Measured Distance (mm)	Max Optical Power mW/cm2
LSC-D3	3	5	11000
LSC-D4	4	7	10000
LSC-D6	6	12	5300
LSC-D8 *****	8	19	3300
LSC-D10	10	25	2100

***** The LSC-D8 lens is the standard lens included with the Lightning SpotCure unit.

Specifications:

Dimensions	
Console Only:	3.6"W x 3.7"D x 1.4"H
Probe Cradle:	.85"W x .75"D x 2"H
Probe:	4.2"L x .6D
Weight	
Console with Probe Cradle:	10 oz
Probe with Cable:	3 oz
Probe Cable Length:	5 ft
Optical Output:	See Specifications for Lenses
Electrical Requirements:	120V – 240V 50/60Hz
Optional Footswitch	
Switch Type:	Normally Open
Dimensions:	3.5" x 2.6" x .75"
Weight:	10 oz
Footswitch Cable Length:	6 ft

Replacement Parts & Accessories

LSC-CON: Lightning SpotCure Console with Probe Cradle

LSC-P365: Lightning SpotCure Probe with 365nm emitter and cable with connector

LSC-P405: Lightning SpotCure Probe with 405nm emitter and cable with connector

LSC-PC: Lightning SpotCure Probe Cradle with hardware

SP020: 12V Wall Transformer

LSC-FS: Optional Footswitch

Lens: See Specifications and Part# for Lightning SpotCure Lenses table

Care & Maintenance

IMPORTANT: Always store the probe in the probe cradle/holder when not in use to avoid physical damage.

Lightning SpotCure components can be cleaned by spraying a minimal amount of mild household cleaner onto a rag and gently wiping. DO NOT spray cleaner or any liquid directly onto the console to avoid seepage into internal components.

Warranty

Limited 1 Year WARRANTY :

Lightning Enterprises warrants this product to be free from defects in workmanship and material under normal expected use and conditions for a period of 1 Year from the date of purchase for all components except the LED emitter, which is covered for 90 Days.

Should service be required by reason of any defect or malfunction during the warranty period, Lightning Enterprises will repair, or at its option replace this product, with proof of purchase, without charge (except for a nominal charge for handling and return postage).

When returning this product for service, use the following procedure:

- 1) Package the equipment in a well padded, heavy, corrugated box designed for shipping.
- 2) Enclose a copy of your sales receipt, credit card statement, or other proof of date of purchase.
- 3) For both In Warranty and Out of Warranty repairs contact the dealer or distributor where the unit was purchased or contact Lightning Enterprises.

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Please Note: This warranty is valid only in the USA. Any applicable implied warranties are also limited to 1 Year. Lightning Enterprises will not be held liable for any consequential damages. Some states do not allow limitations on implied warranties or exclusions of consequential damages so these restrictions may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.