

THORLABS

CS410

UV LIGHT CURING SYSTEM

Manufactured By Electro-Lite For:

**Thorlabs
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OPERATING INSTRUCTIONS

11843-D02, Rev. E, 11/16/10

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SPECIFICATIONS

Electrical

Input Voltage: 100/120/220/230/240Vac, 50/60Hz
Input Current: 1.0/0.85/0.6/0.6/0.6 A respectively.

Dimensions

20.5 cm (L) by 11.1 cm (W) by 13.8 cm (H)

Environment

Operating:

Temperature: 50°F (10°C) to 86°F (30°C)
Humidity: 15 to 95% RH non-condensing

Transport/Storage:

Temperature: -4°F (-20°C) to 120°F (49°C)
Humidity: 15 to 95% RH non-condensing
Atmospheric
Pressure: 700 hpa to 1060 hpa

Equipment Classification

Continuous with intermittent loading 1 min on/4 min off.
System Classification: Class II
Ingress of Water: IPX0
Installation Category II, Pollution Degree 2

SYMBOL DESCRIPTIONS



Attention: Read Operating Manual for Warnings, Precautions, and Instructions for Use.



Class II Equipment.



Mains Switch ON



Mains Switch OFF



AC Current



Caution, Hot Surface

INTRODUCTION

Congratulations on your purchase of the CS410 UV Curing System. Your new CS410 is engineered to cure light activated materials in the ultraviolet range. The unit is supplied in with a peak wavelength of 365nm.

We strongly recommend that you read this manual thoroughly before attempting to install or operate the unit. Please pay particular attention to the operating instructions. An understanding of proper operating procedures will greatly increase the lifetime of the lamp and associated components.

If you should need any assistance after reading this manual, please feel free to telephone or write our technical support department for further information.

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UNPACKING

Visually inspect the shipping carton for any physical damage. Damaged shipping cartons should be reported to the carrier. Carefully open the shipping carton and remove the CS410, being cautious not to misplace or damage any separately packed parts. Any damage to the CS410, or to its accessories, that were received in a damaged shipping carton should be reported to the shipping carrier as well as to your Thorlabs distributor. The CS410 system consists of: (1) light exposure system, made up of a light gun, and power supply, (1) AC power cord, (1) 8mm curved tip light guide, (1) UV protective glasses, (1) UV shield, (1) CS410B replacement UV lamp, (1) instruction manual. Due to the uniqueness of each application, a variety of light guide sizes may be ordered as an optional item, please refer to the accessory section of this manual, or consult with your Thorlabs distributor.

GETTING STARTED

Connect the power cord to a properly grounded AC outlet. Insert the light guide into the cavity located on the gun nose cone. Activate the power supply switch, located on the power supply housing, to the ON position.

ACCESSORIES AND REPLACEMENTS

CS300	UV Protective Glasses
CS410B	UV Lamp, 365 nm
CS420	Light Guide, Curved Tip, 3mm x 70mm
CS421	Light Guide, Straight Tip, 13mm x 38mm

FUSES

1.2 AMP Fuse (100V) Two per Unit.

1.0 AMP Fuse (120V) Two per Unit

0.63 AMP Fuse (220-240V) Two per Unit

TROUBLESHOOTING

1. Curing lamp is on, fan is not operating	1. Unit must be shut off immediately, return entire unit for repair.
2. Curing lamp does not go on, fan is working	2. a) Check to make sure power switch located on chassis is in "ON" position and 5 second "activate" time has elapsed. b) Check power cord connections both at the unit and at wall outlet to be sure they are properly seated. c) Check primary fuses located in power cord receptacle mounted on side of power supply unit. If a fuse is blown, a larger problem is often indicated. If problems reoccur with new fuse, return entire unit for repair. d) Try another power outlet.
3. Curing lamp does not go on, but fan is working.	3. a) Check the lamp to be sure it is properly seated. If OK, then, b) Replace the lamp. (see section on Lamp Replacement). c) Unit may have overheated due to very extended operation. Wait for unit to cool down. Lamp will respond to switch activation.
4. Lamp does not go "ON" after service procedures (2) and (3) have been performed.	4. Return the entire unit for repair.
5. Light from light guide is reduced.	5. Check the light guide tip by holding one end to a light source. There should be no fracture lines apparent.
6. Excessive white light is being emitted from the light guide.	6. Check filter for cracks. Replace filter.

ACTIVATE THE EXPOSURE


To activate the curing lamp, press the trigger switch, located on the gun handle downward and release it (it is not necessary to hold the trigger down throughout the entire exposure). At any time during the curing cycle, the lamp can be turned off manually by depressing the trigger switch and releasing it. After the initial pull, the curing light and fan will turn on and an audible beep will sound every 10 seconds. At the second trigger switch operation, the light will turn off and the tone will cease. The fan will turn off after two minutes of non-use.

LAMP COOLING

Depressing the trigger switch will automatically activate the unit's cooling fan. The fan will continue to operate throughout the curing cycle, and for approximately two minutes after the lamp turns OFF.

DO NOT TURN THE MAIN POWER SWITCH OFF UNTIL THE FAN HAS COMPLETED ITS FULL COOL DOWN CYCLE. FAILURE TO DO SO MAY CAUSE THE UNIT'S FILTER TO CRACK, AS WELL AS DAMAGE THE LAMP AND GUN HOUSING.

PRECAUTIONS

 **CAUTION: Do not use this device without suitable protective eyewear.**

Please note that the UV shield included with the curing system limits overall exposure to UV radiation but does not provide sufficient eye protection. Persons using this device at close range (less than six feet from curing light) should wear the protective eyewear that is provided with the curing system; these glasses are certified to meet all the requirements of ANSI Z87.1 and completely filter out 100% of the radiation below 385nm.

LAMP REPLACEMENT

Thorlabs recommends that you replace your lamp every three to six months due to normal lamp degradation. Place the master switch in the OFF position and unplug the line cord. Please allow the lamp to cool before attempting to replace it. Using a Philips screwdriver, remove the two (2) screws from the back of the gun handle. Pull off the front handle from the rear handle. Place the front handle to the side. Remove the lamp from the socket and replace with the new lamp (P/N CS410B UV replacement lamp). Lamps or reflectors should never be handled with bare hands. Always use clean cotton gloves when handling these optical devices. Oils from bare hands will produce fingerprints on these devices which become permanently etched on them once the lamp is turned on. This situation will reduce the life of the lamp and reflector, as well as produce lower output. After the lamp is firmly seated, re-assemble the two halves of the gun handle. Then, press the halves together and replace and tighten the two Philips head screws.

CLEANING

The CS410 may be cleaned with a soft cloth moistened with a mild detergent or alcohol. The power cord should be removed from the AC outlet prior to cleaning the system.

RECOMMENDED CURING TIME

The CS410 will cure light activated materials in the ultraviolet range. The cure time depends on the material used, distance from the light source and depth of cure required. Thorlabs suggests that at least two or three trial exposures be conducted to determine the correct exposure time for each individual application

WARNING DISCONNECT POWER BEFORE SERVICING

REPLACE FUSES AS RECOMMENDED BY MANUFACTURER ONLY

