Ultra-Compact UV LED Spot Curing System for a Consistent, Repeatable Curing Process

Outstanding optical stability via Intelli-Lamp LED technology

Exceptionally high peak irradiance for increased curing efficiency

Calibration utility to maintain long term stability of UV light

Unparalleled process control with StepCure® 2.0

Programming and data logging in real time via a Micro SD
Outstanding Optical Stability

The OmniCure® LX500 system is designed with proprietary Intelli-Lamp LED technology that monitors LED head temperature, lifetime data, and automatically maintains optical stability +/- 5% during an exposure. Available in either 2 or 4 channel configurations, the OmniCure LX500 is the most flexible and cost effective option for industrial manufacturing. The LED Max heads deliver exceptional peak irradiance of up to 14 W/cm² (365nm), 16 W/cm² (385nm) and 9 W/cm² (400nm) using a 3mm focusing lens at a 10mm working distance.

Exceptional Process Control

For long term stability of the light source, the new LED heads can be calibrated to tight tolerances to ensure a repeatable curing process, and precise control of the UV irradiance. The OmniCure LX500 features StepCure 2.0 which allows the operator to program different profiles within a single LED head or multiple LED heads across each channel. With StepCure 2.0, the operator can set exposure time, intensity level, dwell rate and trigger source. The LX500 combined with high power UV LED heads provide fast, even curing of UV adhesives for superior product quality, rapid production, and lower manufacturing costs. The LED Max heads are offered in 55mm and 130mm lengths and in 365nm, 385nm and 400nm wavelengths. These new and improved LED heads are color coded to indicate wavelength and reduce setup time.

Easy Integration

The compact size of the OmniCure LX500 allows for easy integration into any process setup. The LX500 is equipped with a newly designed 2.4 inch full color LCD that can be controlled using a four way keypad, by a programmable logic controller (PLC), or via USB connected directly into a PC. The Micro SD technology provides additional programming capabilities and allows application data and error faults to be recorded in real time. The OmniCure LX500 features improved connectors that are easier to install and remove with an integrated locking mechanism.
UV LED Heads

The newly designed UV LED heads offer high peak irradiance and highly efficient cooling to maximize continuous operation without over-heating. These features will minimize costly downtime and extend the life of the LED heads, resulting in low cost of ownership and convenience that manufacturers can rely on. Due to its superior design, when properly clamped, the LED head may be used continuously while remaining cool. The UV LED heads use an HDMI connector with an auto-lock feature that minimizes set up and installation time.

Focusing Lenses

OmniCure UV LED heads use replaceable focusing lenses that offer the flexibility essential to meet the spot size and irradiance level required for a specific application. Beam profiles for the OmniCure 365nm and 385nm UV LED MAX heads with the 3mm lenses are illustrated below. Additional beam profiles and technical information are available on our website (www.excelitas.com/omnicure).

LED Calibration and Beam Positioning

The ability to calibrate and accurately measure light intensity from a UV LED spot curing system is challenging for the UV assembly manufacturer and is a critical piece to controlling a UV curing process. The OmniCure LX500 controller is designed with an integrated radiometer that, when combined with a precise LED positioning fixture, allows operators to efficiently set and measure the peak irradiance accurately and consistently in a UV process within a manufacturing environment.

Key Benefits

- Consistent measurements by accurately positioning the beam on the detector aperture
- Reduction in calibration time and cost with its easy to use alignment tool
- Elimination of the need for expensive and bulky alignment tools

StepCure - Programming Multiple Steps or Multiple Heads

The OmniCure LX500 includes StepCure technology that allows the operator to configure input signals for triggering a step profile of one or more heads via its digital user interface. StepCure allows a variety of profile set-ups for:

- Running a sequence of exposures on one head, at varying times and intensities
- Running a sequence of exposures on multiple heads, at varying times and intensities
- Running parallel exposures on multiple heads, each at different times and intensities
- Programming multiple profiles for the same head from different trigger sources

Example 1: Setting up a StepCure Profile

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<td>1</td>
<td>2.0</td>
<td>50</td>
<td>6.5</td>
<td>PLC1</td>
</tr>
</tbody>
</table>
Technical Specification

UV LED Heads 1 to 4 individual & interchangeable to any channel.

2.4 “ Full Color Displays Main Control, Input Configurations, System Maintenance, LED Information, Calibration, Micro SD Log Information.

Mode Control 4 Way membrane control for system display and programming.

Timer Countdown Mode: Range programmable from 999.9s to 0.1s, in 0.1s intervals. Count Up Mode: User control timing via the front panel or foot pedals.

Intensity Level 5-100% (with 1% increments)

Start/Stop Control start or stop of the LED emission.

Power On/Off Separate power on/off controller.

Alarms Alarm icon will appear on screen in the event of an error or fault.

Controller Dimensions (H) 5.5”, (W) 3.5”, (D) 5.5”

External Control Description Via optional foot pedal, PLC, or PC through USB communication.

Operating Conditions

Operating Voltage Controller Supply Input: 12 VDC Input to AC adaptor: 100-120VAC or 200-240VAC (+/-10%) & 50/60Hz.

Power Consumption 72W max at 120VAC 104W max at 240VAC (with 4 UV LED heads in operation)

Ambient Temperature/ Humidity Range 5° to 35°C, 85% max. (no condensation)

Storage Temperature/ Humidity Range -10° to 60°C, 85% max. (no condensation)

Certifications & Safety Standards RoHS compliant and meets CE requirements

Warranty 1 year

Energy Comparison

Part Number OmniCure LX Series Controller
010-00369R OmniCure LX500 Controller - 2 Channel
010-00375R OmniCure LX500 Controller - 4 Channel