

OmniCure®

Setting the Standard for
Precision Assembly UV Bonding



Power • Precision • Control • Repeatability

The Preferred Choice of Precision Manufacturers

Manufacturers in advanced technology sectors around the world increasingly rely on the advantages that light-based, spot curing brings to precision assembly. The use of UV/visible light cure adhesives has become a vital assembly technique due to their rapid processing, on-demand nature, ease of automation and solvent free bonding.

A Proven Track Record

With over 25 years of experience and over 150,000 light delivery systems sold in more than 70 countries, the OmniCure® Spot Curing Systems are the most advanced in their field. Wherever rapid processing, cure-on-demand, ease of automation, lower energy usage and solvent free bonding is required OmniCure® is the obvious choice.

Precise, Reliable Bonding

Whether manufacturing medical devices for the human body, electronics industry assembly or components going into space, there is no room for product failure. The OmniCure® Series of curing systems are trusted by critical industries everywhere to provide quality adhesion time and time again.

Typical Applications

Medical	Optoelectronics	Electronic Assembly	Optics & General Assembly
Catheter Assembly	Fiberoptic Components	Cell Phone Assembly	Optical Lens Assembly
Cannula Assembly	Optical Data Storage	LCD/LCM	Stereolithography (SLA)
Tubing and Connectors	Digital Projectors	Automotive Electronics	Sealing and Coating
Endoscope Assembly	Optical Sensors	Smart Cards	
Insulin Pens	Lasers	High Density Drives (HDD)	
Blood Oxygenators	Compact Camera Modules	Bluetooth Headsets	
		Analytical Instrumentation	
		Pick and Place 'Flat Topping'	

Substrate Versatility

Partnered with light cure adhesives, OmniCure®'s leading-edge technology is used with a broad range of substrates to deliver stronger, faster bonds - resulting in improved quality, rapid production and reduced manufacturing costs for a wide range of applications.

System Versatility – Lean Manufacturing

OmniCure® precision technology is effective in both fully automated assembly lines and semi-automatic applications, making it suitable for every type of manufacturer. The ability to calibrate equipment, and accurately set the intensity of light and duration of exposure provides the process control necessary to efficiently maximize yields.

Calibrated Output

An integral part of the OmniCure® bonding system is the OmniCure® R2000 Radiometer. Used to both measure power and set irradiance levels, this advanced tool greatly enhances the precision and reliability of the OmniCure® S2000.

Experience Counts

With over 25 years of UV applications expertise, Lumen Dynamics' global Sales & Support footprint provides all the knowledge you need to help solve your APP needs.

Meets Regulatory Standards

OmniCure® technology meets all regulatory CE, UL, CSA and ETC requirements. The OmniCure® S2000 is also RoHS compliant.



The recognized global leader in bonding systems for precision assembly with light-cured adhesives

Patented Intelli-Lamp® Technology

...the heart of all OmniCure® systems

Guaranteed Long Life	The OmniCure® S2000 and the OmniCure® S1500 Intelli-Lamp® have a guaranteed 2000-hour lifetime and the OmniCure® S1000 Intelli-Lamp® has a 2000-hour typical lifetime.
Pre-Aligned & Focused	Snap-in insertion allows OmniCure® to automatically sense the Intelli-Lamp®, eliminating the need for operator alignment or focusing.
Automatic Lamp Hour Tracking	The Intelli-Lamp® technology automatically maintains the lamp hours directly on the lamp to facilitate activation of lamp warranty if required.
Broad Spectral Output	The Intelli-Lamp® provides output across virtually the entire visible and UV spectrum, making it suitable for a wide range of adhesive/substrate bonding applications.
Built-In Reflector	Each Intelli-Lamp® includes its own new reflector, eliminating the need for reflector replacement.
Hot-Strike Prevention	Automatic lamp striking cools and prevents hot-striking to protect lamp life.

Proprietary Closed-Loop Feedback

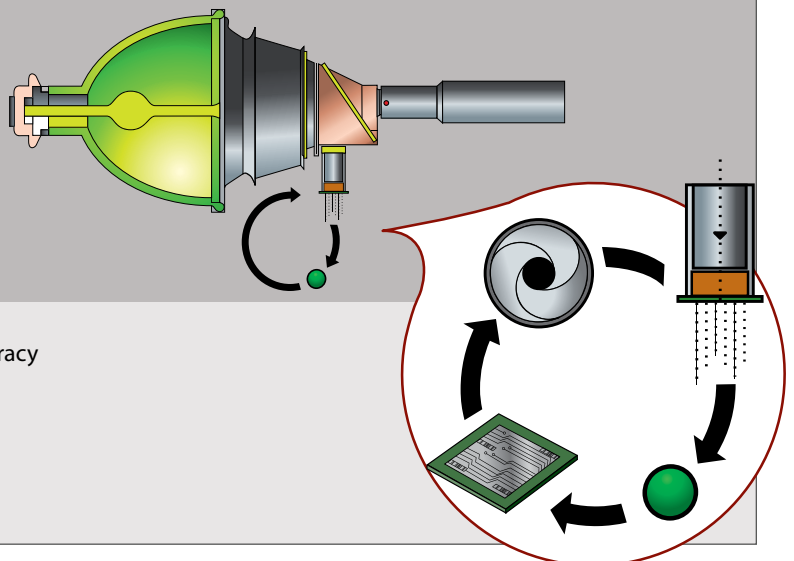
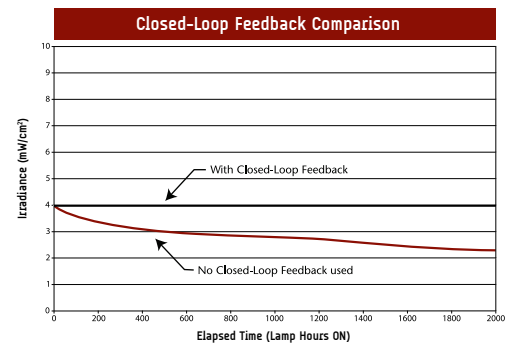
Automatic Correction to Lamp Intensity Drop-off

Over time, lamp intensity diminishes effective curing. The OmniCure® S2000 internal intensity sensor monitors light output in real time, and opens the iris to automatically correct light output within +/-5%, ensuring repeatable and measurable doses of energy leading to increased yields and quality.

A PLC/audible alarm warns when the lamp can no longer generate the set irradiance level. Now you can use your lamp until the end of its lifetime, without the requirement to check for lamp intensity.

Calibration with the OmniCure® R2000 Radiometer offers real time display of irradiance on the OmniCure® S2000.

- The only system that can be calibrated in real time for NIST accuracy
- Ideal for automated or semi-automated environments
- Often imitated – never duplicated
- Developed by Lumen Dynamics



OmniCure® S1000



The OmniCure® S1000 pioneered spot curing of light-cured adhesives for high quality bonding.

It has become the industry standard and has been adopted by leading precision manufacturers worldwide. Primarily used for manual or semi-automated processes, it provides excellent versatility in a cost-effective system.

2000-Hour Typical Lamp Life

The OmniCure® S1000 includes a powerful patented Intelli-Lamp® technology 100 Watt lamp providing high intensity curing and typically 2000 hours of lamp life. The broad spectral output makes it ideal for a wide range of applications.

OmniCure® S1000 Typical Irradiance* (W/cm²), 5mm LG & 0mm Working Distance

S1000	R2000
FILTER	IRRADIANCE
320-500	13.35
400-500	6.01
320-390	6.06
365	4.14
250-450	14.41
no filter	19.73

*Measured using an OmniCure® R2000 Radiometer.

Easy to Use

Snap-in lamp insertion, finger touch controls, an easy-to-read LED display, process indicators and automatic lamp striking make the OmniCure® S1000 simple to use. Snap-in lamp insertion and low-noise fan improves ongoing operation.

Intelligent Operation

The OmniCure® S1000 includes many built-in features, such as an adjustable iris; patented Intelli-Lamp® technology; bandpass filters; process alarms; and password protection, which are normally found only in higher-priced curing systems.

Fast Curing Speed

Fast curing with high UVA precision for process irradiance of up to 6.5W/cm².

OmniCure® S1500



The OmniCure® S1500 delivers power, control and reliability in an extremely cost-effective, affordable and easy-to-use spot curing system.

This UV bonding solution offers excellent value for the UV adhesive curing of high-volume, automated manufacturing requirements such as microelectronic and optoelectronic manufacturing applications.

Powerful 200 Watt Intelli-Lamp®

The powerful patented 200 Watt Intelli-Lamp® installed in the OmniCure® S1500 guarantees an amazing 2000-hour lamp life and a typical lamp life of up to 4,000 hours. Faster curing is achieved with high UVA irradiance of up to 10W/cm². With OmniCure®'s latest design enhancements to the lamps used in the S2000 and S1500, customers benefit from improved robustness that meets its highest quality and performance standards.

Intelligent Operation

The OmniCure® S1500 has a multitude of built-in features that provide greater control, precision and versatility. Features include an adjustable iris, patented Intelli-Lamp® technology, selectable bandpass filters, process alarms, and 'lock out' protection, most of which are found only in higher-priced curing systems. The curing system can also be programmed and controlled externally from a PLC using the 15-pin I/O ports.

Ease-of-Use

With snap-in lamp insertion, finger touch controls, an easy-to-read LED display, process indicators and automatic lamp striking, the OmniCure® S1500 is simple to use. Hassle-free snap-in lamp insertion and a low-noise fan improve ongoing operation.

OmniCure® S1500 Typical Irradiance*

(W/cm²), 5mm LG & 0mm Working Distance

S1500	R2000
FILTER (nm)	IRRADIANCE (W/cm ²)
320-500	23
400-500	14.5
320-390	7.3
365	5.9
250-450	19.1
no filter	27.7

*Measured using an OmniCure® R2000 Radiometer.

OmniCure® S2000



The OmniCure® S2000 is engineered for high-speed automated manufacturing assembly.

Building on the core OmniCure® technology found in the OmniCure® S1000, the OmniCure® S2000 has a more powerful 200 Watt lamp with a 2000 hour life guarantee. The OmniCure® S2000 also offers Closed-Loop Feedback, and the added flexibility of a PC software interface for computer-controlled operation. More robust and with enhanced reliability, the OmniCure® S2000 raises the bar for mission critical bonding applications. Designed to adhere to regulatory validations and is RoHS compliant.

Faster Shutter Activation

The OmniCure® S2000 is equipped with a faster shutter activation time, providing a maximum trigger shutter activation latency of only 50ms in PLC mode.

Downloadable StepCure®

StepCure® software has the option to download a customized multi-phase cure profile directly to the system. Previously only available while connected to an external Desktop PC, this offers users more convenience and greater efficiencies.

200 Watt Intelli-Lamp®

The powerful 200 Watt Intelli-Lamp®, with a guaranteed life of 2000 hours, provides even faster curing with high UVA irradiance of up to 10W/cm². With OmniCure®'s latest design enhancements to the lamps used in the S2000 and S1500, customers benefit from improved robustness that meets its highest quality and performance standards.



Closed-Loop Feedback

Over time, lamp intensity diminishes effective curing. The OmniCure® S2000 internal intensity sensor monitors light output in real time, and opens the iris to automatically correct light output within +/- 5%, ensuring repeatable and measurable doses of energy every time.

Online tools are available on the OmniCure® website at www.LDGI-OmniCure.com to determine associated cost savings using Closed-Loop Feedback.

Multiple Site Light Delivery

The OmniCure® S2000 is ideal for use with multi-legged High Power Fiber Light Guides to cure multiple sites with a single light source. Also offered are Single-Legged, Liquid-Filled or Fiber Light Guides to suit most customer needs.

Intelligent Automation

The OmniCure® S2000 is ideal for automated processes, and is easily integrated into an automated system, minimizing development time. The curing system can be programmed and controlled externally from a PLC, with or without an external dongle, using the 15-pin I/O ports or directly from a PC via serial communication. PC software and commands are included with the system.

OmniCure® S2000 Typical Irradiance* (W/cm²), 5mm LG & 0mm Working Distance

S2000	R2000
FILTER	IRRADIANCE
320-500	24.70
400-500	16.55
320-390	9.83
365	7.28
250-450	26.64
no filter	37.33

*Measured using an OmniCure® R2000 Radiometer.

Shared Features



The following features are found in the OmniCure® S1000, S1500 and S2000 products

Quiet Fan

The noise level of the OmniCure® cooling fan has been reduced considerably – ideal for long operator work periods.

Controlled Curing Power

The OmniCure® Series products offer the ultimate in control, providing unparalleled levels of customization and precision to leading manufacturers in the most demanding advanced technology fields. Built-in UV Sensors and Optical Feedback offer constant UV intensity for stable curing and high bond integrity.

Selectable Bandpass Filters

All OmniCure® models come equipped with a standard heat-cut filter, or they can be ordered with selectable band pass filters to select and control the wavelength required for your specific application.

Adjustable Iris

The OmniCure® adjustable iris allows you to select precise irradiance levels when rapid tacking is required with minimal shrinkage of the adhesive to ensure parts are kept in alignment. The iris setting is adjustable in 1% increments with a linear relationship between the iris position and the output irradiance, providing exceptional precision for process optimization.

Ease of Use and Process Integration

Snap-in lamp insertion, finger touch controls, a bright orange LED display, process indicators and automatic lamp striking make the OmniCure® Series simple to use. The flexibility of output and computer controllability of the OmniCure® S2000 make it simple to incorporate into complex manufacturing processes.

Designed with Safety in Mind

A built-in sensor automatically detects light guide status, and if the light guide is missing or improperly inserted, the status LED will turn red.

OmniCure® R2000 Radiometer



The OmniCure® R2000 Radiometer is an integral part of the OmniCure® bonding system. Used to measure power output and set irradiance levels of UV and Visible Light, it is the most advanced tool of its kind; greatly enhancing manufacturing precision and cure reliability.



Cure Ring Radiometer

Measures output power from the Cure Ring directly at the cure site, ensuring a highly repeatable process.



Cure Site Radiometer

Measures output power of a Light Guide or Optical Accessory directly at the cure site.



Lamp Output Adaptor

Interfaces the curing unit and light source.



Proximity Adaptor

Measures power or irradiance in flood geometry.

Repeatability Through Calibration

The OmniCure® R2000 Radiometer is the industry standard in Radiometry – providing several advanced features not found in competitive products.

It is used with the OmniCure® S2000 system to set irradiance levels* and calibrate the system from a single reference point, providing a complete curing station, and dependable, repeatable results.

Radiometer calibration is traceable to NIST, with calibration valid for one year.

**Measures power and irradiance from any UV curing system commercially available.*

Calibrate Multiple Units

The handheld unit also allows you to calibrate multiple curing systems from the same radiometer through serial communication. The unit can be connected by up to four remote sensors.

Proprietary Detector System

Proprietary detector system provides the accurate wideband measurements crucial to maintaining consistent results and production yield.

Light Guide Detection

Automatically detects and identifies the Light Guide diameter with color-coded adaptors for proper insertion.

Precision

Proprietary optical interface virtually eliminates beam profile dependence and significantly improves measurement accuracy.

PC Control Panel Software

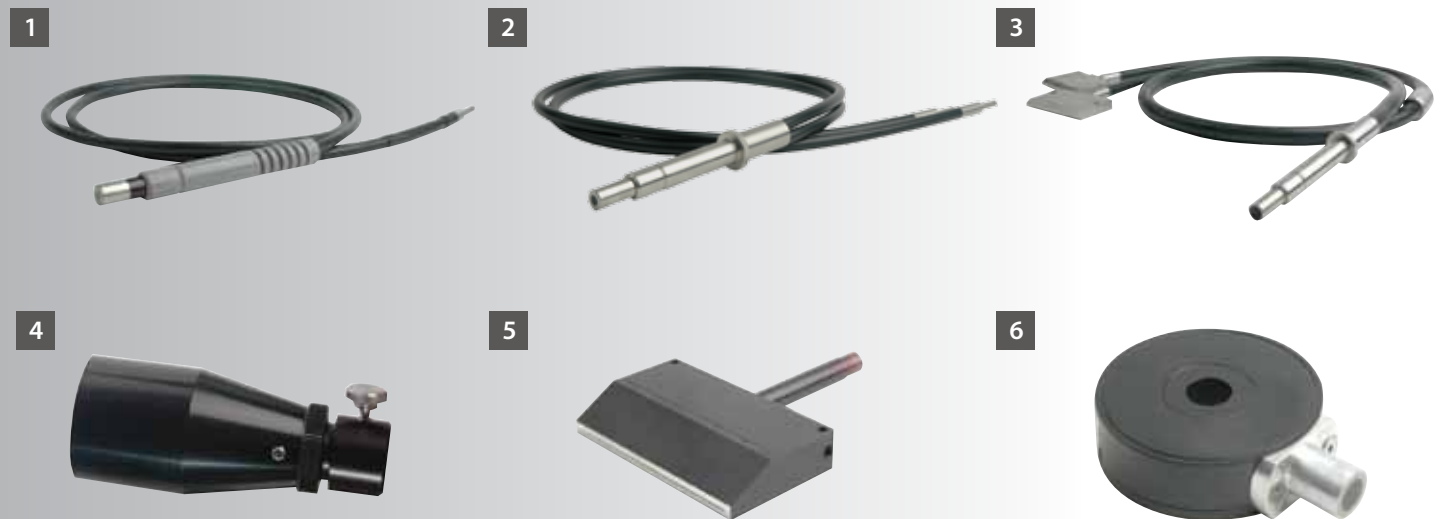
PC Software memory capability for storing calibration and measurement data for process validation and quality assurance.

Custom Sensors

Sophisticated electronics built into the OmniCure® R2000 Radiometer allow for connection to custom sensors for measuring light energy directly at the cure site.

OmniCure® Light Guides & Accessories

The OmniCure® Series offers single-legged, liquid-filled or fiber Light Guides to suit most customers' needs, and a range of other accessories.



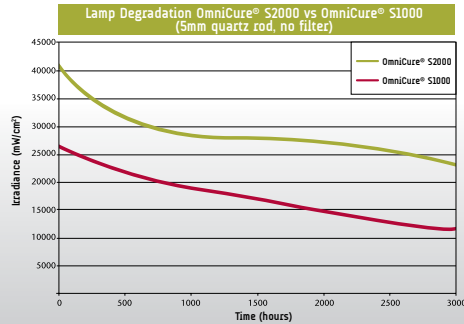
1	Liquid Light Guides Available in 3, 5 and 8mm tip diameters. An economical choice for light delivery. Standard lengths range from 750 to 3000mm. Dual and triple-leg configurations for multi-site curing.	2	High Power Fiber Light Guide Supplies an equal distribution of light energy to multiple cure sites from a single light source. New technology provides over 50% more throughput power than industry-standard fiber guides for greater flexibility in your curing process.	3	High Power Fiber Light Lines Utilizes technology developed in the High Power Fiber Light Guides to provide a high output linear beam of curing energy. The fibers are continuous from the light guide input to termination eliminating coupling losses seen with standard light line accessories. Ideal for bonding of main seal, chip on glass, TAB & flexible printed circuit on flat panel displays.
4	Adjustable Collimating Adaptor Ideal for any application that requires a uniform spot from 1" up to 6" (2.54cm to 15.2cm). Equal distribution of power allows the user to cure adhesive evenly without having to compensate for uneven light distribution.	5	Light Line Converts the Light Guide's spot of light into a focused, linear beam of curing energy. Efficiently cures small rows of components, inks on tubing and cable, anything that requires up to two inches of line length. Also performs tacking and strain relief of multi-strand wiring, as well as edge bonding of flat panel displays.	6	Cure Ring Allows a Light Guide 360° of curing power. Standard ring for use with Liquid Light Guides available in solid or slotted versions. Ideal for bonding a number of medical devices such as catheters and also tubes, cables or any other parts that require 360° curing.

OmniCure® Output

The OmniCure® Platform offers customers a choice between 100W and 200W lamp systems with optional radiometry to measure irradiance.

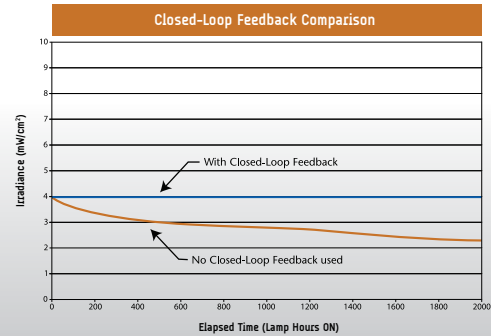


LONG SERVICE LIFE



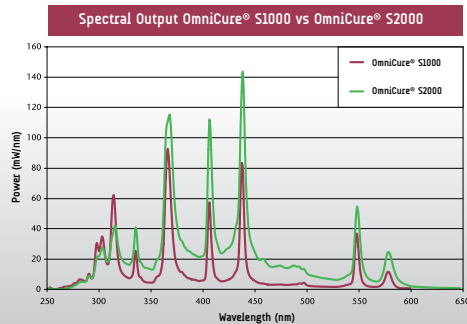
The OmniCure® S2000 includes a 200W lamp for plenty of power, with a guaranteed life of 2000 hours to lower cost of operation. Most of our customers see lamp life up to 3000 hours. Intelli-Lamp® technology records the lamp hours right on the lamp.

CONSTANT OUTPUT



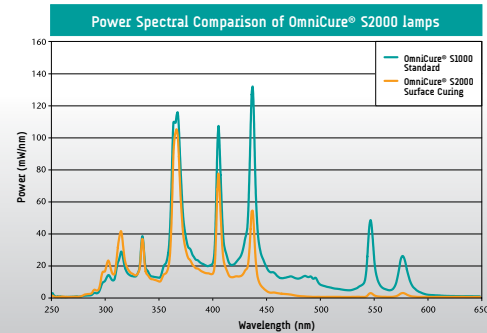
The OmniCure® S2000 features Closed-Loop Feedback technology that automatically makes adjustments to maintain the user selected irradiance value. Light intensity usually varies over a period of time due to lamp degradation; the CLF ensures the required output level is maintained for every cure, ultimately controlling even the most advanced assembly processes.

HIGH PEAK IRRADIANCE



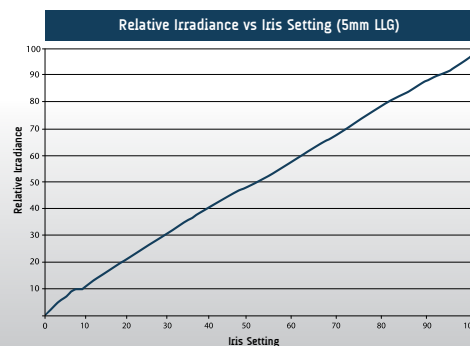
OmniCure® S2000/1000 yields extremely strong spectral distribution in the UV range with one of the highest peak irradiance for spot curing systems most effective for UV curing in wide range of applications.

TACK-FREE SURFACE CURING



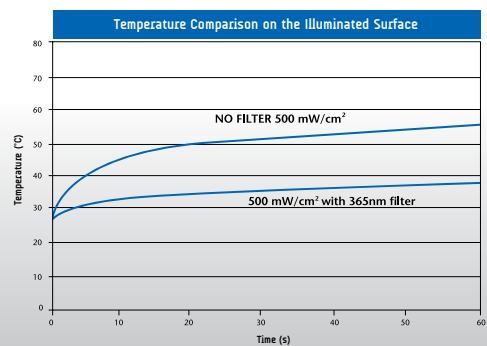
This exclusive lamp technology promotes a smooth, tack-free surface finish for acrylics without the need for an inert atmosphere during cure, or post-curing at elevated temperatures.

PRECISE INTENSITY



The adjustable iris allows you to select precise irradiance levels for your curing application. The iris setting is adjustable in 1% increments with a very linear relationship between the iris position and the output irradiance. Adjust iris in 10mW/cm² (calibrated).

LOW TEMPERATURE CURING



OmniCure® S1000, 5mm LG, Distance 10mm, Application: Glass Board.

Process Validation

Repeatability

The ability to accurately measure and set the intensity of light and the duration of exposure allow the control of the curing process and the resulting bond necessary to meet the most exacting standards. With the additional capability of verification, reporting, and documentation, the OmniCure® light-based systems deliver unparalleled repeatability – the key to the consistent quality necessary to meet the most demanding certification and approval requirements.

Meets Worldwide Regulatory Authority Requirements

The OmniCure® product line meets international regulatory requirements for product safety and electromagnetic compatibility, such as CE, as well as applicable environmental legislation such as EU RoHS and China RoHS.



Continuity of Cure

Within the Medical Device manufacturing industry, OmniCure® is established as the benchmark curing system. It is especially prized for its ability to provide continuity of cure with successive generations of product.

As a result, OmniCure® is the system of choice for precision assembly by all of the world's leading medical device manufacturers.

Tools for Process Validation

The following OmniCure® features contribute to our unmatched capability in Process Validation:

Timer Sync Output	Calibrate System Timer.
Shutter Verification Output	Verifies the shutter opens and closes.
Shutter, Light Guide & Lamp Alarms	Confirm process.
Calibration traceable to NIST	Calibrated OmniCure® R2000 Radiometer used to calibrate the OmniCure® S2000 is traceable to NIST.
Exposure Fault Output	Verifies intensity does not deviate more than +/-10% from current intensity setting.
PC Control Panel Software Commands	The OmniCure® S2000 PC Control Panel Software commands can query the status of the Intelli-Lamp®, calibration, alarms, and shutter position.





POLYTEC GmbH
Tel: +49 (72 43) 604 154 0

Polytec-Platz 1 - 7
Fax: +49 (72 43) 6 99 44

D -76337 Waldbronn
E-Mail: ot@polytec.de

GERMANY
www.polytec.de



Lumen Dynamics Group Inc. is certified under the globally recognized ISO 9001 Quality Management System and the ISO 14001 Environmental Management System. Our global customers can trust that Lumen Dynamics strives to be the best possible supplier in all aspects of our business.

OmniCure®, StepCure® and Intelli-Lamp® are registered trademarks of Lumen Dynamics Group Inc. All rights reserved. Lumen Dynamics has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation.

Contact Lumen Dynamics for prices and availability or to obtain the phone number of your local Lumen Dynamics representative. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language in any form by any means without the prior written consent of Lumen Dynamics Group Inc.