X-Cite®
Fluorescence Illumination • In Control

X-Cite Optical Power Measurement System

Maximize repeatability for data integrity — measure power where it matters most!

- Designed with fluorescence microscopy in mind
- Compatible with arc lamps, lasers and LEDs
- Encompasses a wide dynamic range in a single detector
- Easily captures settings and data via PC interface

www.excelitas.com

EXCELITAS TECHNOLOGIES®

Is illumination consistency important to your image data?

Measure your power.

The ability to measure optical power is the first step to keeping it consistent. The X-Cite® XR2100 Power Meter and the Prism Award-winning X-Cite® XP750 Objective Plane Power Sensor are designed especially for measuring power at the specimen level for fluorescence microscopy applications. By fitting a wide dynamic range into a compact sensor, we have made it easier than ever to obtain this critical information.

Designed with Microscopy in Mind

Engineered to fit in standard microscope slide clips, the low profile of the X-Cite XP750 Objective Plane Power Sensor makes it ideal for use in the limited space between the objectives and stage on upright microscopes. On inverted microscopes, simply center the transmission light from above on the printed target to center the detection area over the objective lens. Working with dim ambient lighting? The backlit display on the X-Cite XR2100 Power Meter ensures that readings are always legible.

Broad Dynamic Range

Calibrated for use at any wavelength between 320nm and 750nm, the X-Cite XP750 is compatible with a full range of filters. With sensitivity to power levels from 5µW to 500mW, it is appropriate for applications using both low and high intensity illumination. This makes it suitable for use on standard, confocal, DSU and other microscope configurations.

Versatile & Convenient

Since the X-Cite XP750 measures light right on the stage, it can be used with any epi-fluorescence light source including: HBO / mercury, metal halide or xenon lamps, lasers and LEDs. With hundreds of wavelength choices, the X-Cite XR2100 allows you to define 'favorite wavelengths' to correspond to your most frequently used sources and filters.

X-Cite XP750 in use on upright and inverted microscopes

Certified & Traceable

X-Cite XR2100 and X-Cite XP750 are calibrated according to a strict protocol using transfer standards traceable to NIST* and NRC**. For your records, certificates of calibration accompany each unit.

Repeatable – Take Control!

Consistency is essential for data integrity. By measuring and recording power output in absolute units (watts) with X-Cite, you ensure that illumination levels used in an experiment can always be repeated, no matter how light sources, light guides, filters and other optical components change over time. This unique capability is critical for reducing post-experiment image processing time; making accurate, quantitative image comparisons; and compiling complete, experiment documentation.

"Much of our research depends on quantitative fluorescence microscopy analysis ov
X-Cite XP750's design makes it easy to routinely measure the exact amount of exci
specimen at any time point.

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The X-Cite XP750 is destined to become an important staple in the toolbox of every investigator who is doing quantitative work that demands absolute repeatability in terms of excitation output.

Michael W. Davidson, The Florida State University

PC Communication

Enjoy the option of paperless record keeping. With the X-Cite XR2100, you can store power measurements for downloading or logging them directly in the X-Cite PC interface. Created especially for X-Cite XP750, the 'power snapshot' tool allows you to collect and save data by wavelength, objective, and intensity. This ensures that you have a complete record of illuminating power for whichever combination of settings used when optimizing and acquiring images.

Essential Diagnostic Tool for Imaging Facilities

The X-Cite Optical Power Meter System can service multiple microscopes and their light sources. In addition to standardizing illumination levels for experiments, the X-Cite XR2100 is a vital diagnostic tool for imaging facilities, technical sales representatives and service centers, providing helpful optical output data for:

- Setting up imaging systems – determining baseline performance
- Troubleshooting imaging systems by quantifying the effect of adjusting settings and servicing individual components
- Preventative maintenance – monitoring optical output over time to determine when components, such as lamps and light guides, require replacement

*NIST – National Institute of Standards and Technology **NRC – National Research Council

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Sudar, Lawrence Berkeley National

Compatibility with Other X-Cite Systems

Have an X-Cite® illuminator? Measure power output on the stage with the X-Cite XP750, or via the light guide port on the X-Cite XR2100, compatible with all X-Cite® light guides. Calibrate the X-Cite *exacte* using power data measured at either the light guide or objective plane. Combining the X-Cite XP750 with the calibration feature of the X-Cite *exacte* gives you the added advantages of being able to adjust intensity level while imaging and obtain the power in watts without stopping to take a new measurement.

X-Cite - A Trusted Product Family

X-Cite is a product family of illumination and measurement solutions designed especially for fluorescence microscopy. Whether you are observing fixed or live cells, X-Cite offers a complete range of lamp and LED products that optimize imaging and ensure greater data reliability.

From our standard X-Cite 120Q model used for routine assays, to our most advanced X-Cite XLED1 with sophisticated automation and control options for high-speed automated live cell imaging, X-Cite has the right fluorescence illumination solution for your application.

For further details on the full range of X-Cite products, visit our website at: www.x-cite@excelitas.com

FEATURES	BENEFITS
X-Cite XP750	
Microscope slide dimensions with a low profile	Fits in a standard microscope clip for convenient measuring of light directly from the objective, without removing or reconfiguring equipment
Compatible with lamps, laser and LED light sources	Economically use one system to service multiple microscopes, regardless of illumination technology
Large detection surface area – 10mm	Appropriate for use with both low and high magnification objectives
No focusing required	Obtain accurate measurements quickly
Wide range of wavelengths and power	Suitable for use with full range of applications and microscope configurations
X-Cite XP750 & XR2100	
LCD display with backlight	View data clearly, even in the dim lighting conditions of a microscopy imaging suite
Two input ports for measuring power via objective plane sensor or light guide	Selectively monitor light source performance of entire microscope system or individual components
Calibration traceable to NIST* / NRC**	Achieve quality assurance and confidence in accuracy of results
One-button / click for data collection,	Keep data organized with accurate, paperless record keeping
PC interface	Manage settings and data conveniently via PC; automatable for convenience and OEM use
Compatibility with X-Cite *exacte*	Easily calibrate X-Cite *exacte* via light guide or objective plane sensor to display and set power in

TECHNICAL SPECIFICATIONS	X-Cite XR2100	X-Cite XP750
Includes	Handheld power meter, adapter for 3mm light guide, software CD, cables, user manual	Objective plane power sensor with cable / connector for X-Cite XR2100
Power Range	50mW-10W	5µW-500mW
Measurement Resolution	0.1mW-0.01W	0.01µW-1mW
Uncertainty***	±5%	±6%
Response Time	1s	600ms (initial), 3s (to ensure stable reading)
Calibration	Traceable to NIST*	Traceable to NRC**
Wavelength Range	340nm-675nm	320nm-750nm
Lamp Type / Light Source Compatibility	X-Cite 200DC, X-Cite *exacte*, X-Cite 120 Series (using 3mm light guide input port)	X-Cite 200DC, X-Cite *exacte*, X-Cite 120 Series, Mercury / HBO, Metal Halide, Xenon, LED, Laser
Objective Compatibility	Not applicable	4X-63X; air coupled, with FOV diameters less than 10mm
Display	3 digit LCD, backlight	Via X-Cite XR2100
Wavelength Selection	Not Applicable	1nm increments using up / down buttons on X-Cite XR2100 or PC interface
Data Capacity	Store 100+ readings on handheld unit, or record directly into PC interface; export in spreadsheet compatible format	Via X-Cite XR2100
PC Controls	View / change settings, download / export stored data	View / change settings, define favorite wavelengths, record data for multiple objectives / filters / intensity settings, download / export stored data
Command Protocol	RS232 via USB virtual COM port	Via X-Cite XR2100
Power Supply	2 x 3.6V Lithium Battery	Via X-Cite XR2100
Weight	1lb (450g)	2.9oz (82g)
Dimensions (without cover)	7.5" x 4.5" x 2" (19cm x 11.5cm x 5cm)	3" x 1" x 0.35" (75mm x 25mm x 9mm)
Worldwide Certifications	CE marked, RoHS compliant	Via X-Cite XR2100
Warranty	1 year	1 year
Patents	X-Cite Optical Power Measurement System incorporates technology protected by the following patents: US#6,437,861; US#7,335,901	

*NIST – National Institute of Standards and Technology **NRC – National Research Council
***Calibration of X-Cite® XR2100 and X-Cite® XP750 is recommended every twelve months. Contact Lumen Dynamics Group Inc. for further information.

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