

ONELIGHT SPECTRA PRODUCT SPECIFICATIONS

PRODUCT DESCRIPTION

OneLight™ Spectra is a color programmable light source for research, health care and life science applications. It can provide any desired mix of wavelengths and can control the intensity at each wavelength independently. With the ability to respond faster than most image capture devices, OneLight Spectra can improve the performance of microscopy and spectroscopy imaging systems. It can replace conventional light sources, shutters, filter wheels and optical filters with a single programmable light engine. Using thousands of built-in and user-defined spectral profiles, OneLight Spectra eliminates the need for many costly light sources and filters; reducing the cost of components, eliminating repeated calibrations, improving time to market and time to publication for test results.

EVOLUTION OF CONTROL



The OneLight Spectra provides high-speed software control of output spectrum, intensity, exposure time and timing sequences. Output to existing equipment is highly configurable via liquid light guide connection compatible with many optical adapters. The application software allows users to control the instrument functions via a computer equipped with a standard USB 2.0 interface and high speed synchronization to other equipment via opto-isolated TTL I/O. A software Application Programming Interface (API) can be used to program custom applications. Spectra can be created and loaded on the fly based on response from image sensors. While there is no need to rely on static preloaded data files to achieve high speed control, this method of control is also available.

- Instantaneous dynamic control of color, exposure and intensity
- Increased dynamic range of measurement
- Increased measurement sensitivity
- Elimination of filters and shutters
- Elimination of repeated calibrations
- Sequential loading of multiple spectra
- Easy connectivity to existing equipment (opto-isolated TTL I/O)

PREREQUISITES

Windows 2000 or XP-based computer with 2 available USB2.0 ports.
A supported feedback spectrometer for System calibration – see options, below

COMPONENTS

Standard Hardware

OneLight Spectra Light Engine, power cord and USB cable.

Standard Software

Control software version 1.0,

Documentation Included

OPTIONS

Equipment

OneLight Spectra Installation & User Guide.

Feedback spectrometer, replacement lamp cartridge, light guide, power meter, microscope adapters (see Accessories insert for details).

Software

Software Development Kit (SDK)
LabVIEW SDK and Drivers
Auto-Calibration Software

PERFORMANCE

Output Intensity

450 mW full spectrum (at output of 5mm light guide, 15 nm resolution)

2 mW/nm typical, 2.8 mW/nm peak

Spectral Resolution

15 nm standard; 10 nm, 20 nm optional

Spectral Range Options

390 – 740 nm / 450 – 900 nm / 600 – 1100 nm

Spectral Accuracy

1 nm

Intensity Control Levels

Greater than 10,000

Stray Light (Contrast)

0.0012 , (850 : 1)

Spectrum Rate

Up to 7,000 spectra/second from computer (not preloaded)

Exposure Time

Programmable to 140µs

Modulation Frequency

Up to 3.5 kHz

Operating Conditions

Temperature 5-35°C Relative Humidity 20%-90%

Electrical Requirements

100-240 VAC, 50/60Hz, 700W

Equipment Dimensions

D43 x W24 x H39 cm (add 5cm to D for light guide connector nosepiece)

Equipment Weight

17 kg/ 26 lbs

Regulatory Compliance

CE Marked & Certified to EN 55011:2001, EN 61326-1:2006

Note- all specifications are believed to be accurate at time of printing, but specifications are subject to change as a result of design modifications or additional information

OneLight can create any illumination spectrum that is a subset of the full spectral output. Spectral detail can be created up to the FWHM limits of the slit cartridge installed at the time. Wider slit widths provide higher power, whereas narrower slits provide better spectral control and resolution.

Light Guide Output (15nm Resolution)

