

Image by Eric Lubeck

Compact Array of Seven Solid-State Lasers

For structured illumination (SIM) and other super-resolution imaging techniques

The next generation of solid-state illumination is here. In Lumencor's ZIVA and ZIVA quattro Light Engine, seven individually addressable solid-state laser light sources join forces with advanced electronic control systems to deliver unprecedented output power and performance.

The ZIVA Light Engine is optimized for coupling into narrow bore optical fibers and delivers ~100 mW of output power at the distal end of a 100 μm optical fiber from each of its seven lasers. The ZIVA quattro Light Engine provides an economical 4- or 5-line option with the same output power specifications. The laser outputs are refined by bandpass filters and merged into a common optical train directed to the light output port on the front panel. The light output port has a built-in adapter for facile connection to microscopes and other bioanalytical instruments via an FC/PC terminated optical fiber. All these capabilities are assembled in a compact bench top device with a 15 cm x 35 cm footprint.

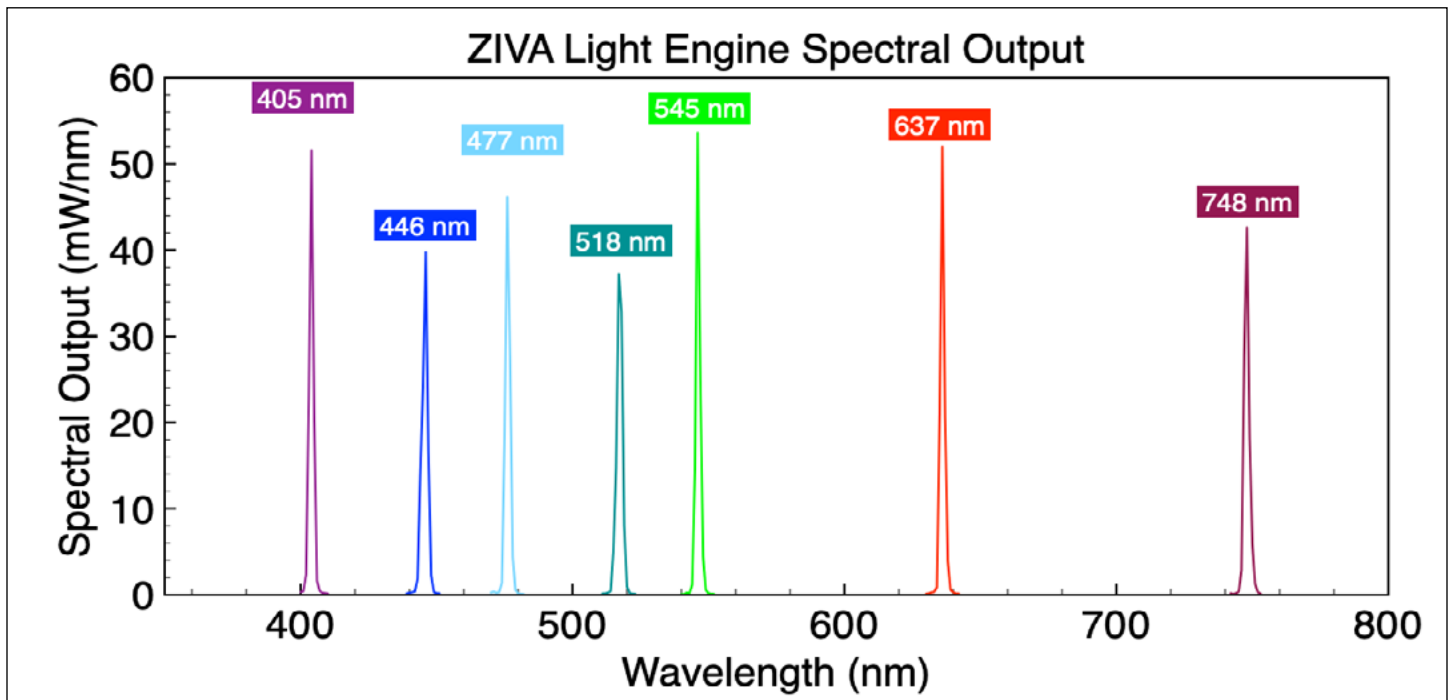
The ZIVA Light Engines feature an advanced control system based on the onboard computer with an embedded command library. These

commands give access not only to the basic control functions of light source selection, on/off switching and output intensity adjustment, but also to an extensive panel of operating status reports and advanced control features.

A convenient GUI provides access to many of the command library functions. ZIVA controls are also implemented in several common image acquisition software packages. TTL trigger inputs are provided for all output lines for applications requiring fast (100 microsecond) switching. Long-term stability is sustained by active power control circuit. An internal feedback loop maintains constant light output over time.

As with all Lumencor products, OEM customization is available upon request.

For more information on the ZIVA Light Engine, please contact us at info@lumencor.com. To receive a purchase quotation for a ZIVA Light Engine, please submit our online quotation request form.



Features and Operating Characteristics:

Features	Details
Sources	Class 4 lasers
Wavelengths	ZIVA: 405, 446, 477, 518, 545, 637, 748 nm; ZIVA quattro: 405, 477, 545, 637 ± 2 nm [1]
Bandpass Filters	Integrally installed bandpass filters
Output Power	~100 mW per laser at the distal end of 100 µm diameter optical fiber
Light Delivery	Despeckler and FC/PC terminated fiber
Safety Interlocks	Laser output contingent on manual (key) and remote (electronic) interlocks
Operational Control	Onboard computer with server/client architecture and embedded command library
Control Interfaces	Source selection, light output on/off and intensity via serial interface (RS-232/USB or TCP) Source selection and light output on/off via TTL
Software	Onboard GUI or PC-based image acquisition software
Power Requirements	220 W (24V DC/9.2A) power supply included
Warranty	24 months
Dimensions (W x L x H)	(W x L x H)145 mm x 340 mm x 203 mm (5.7 in x 13.4 in x 8.0 in)
Weight	8.7 kg /19.1 lbs

[1] ZIVA quattro provides the option of a fifth output, an optional 749 nm laser.