

Prizmatix

Dual-LED

Fiber Coupled Dual Wavelength LED Light Source

Introduction

The new fiber-coupled Violet - Blue LED light source is an effective replacement of dual wavelength lasers and lamps in many applications, such as spectroscopy and fluorometry. Such popular wavelength combination as 405nm and 460nm is now readily available in a single MM fiber. Other wavelengths combinations can be assembled upon request. The LED driver enables CW operation with external TTL modulation inputs for chopping operation of each wavelength separately. Computer control version with USB interface is also available.

Features

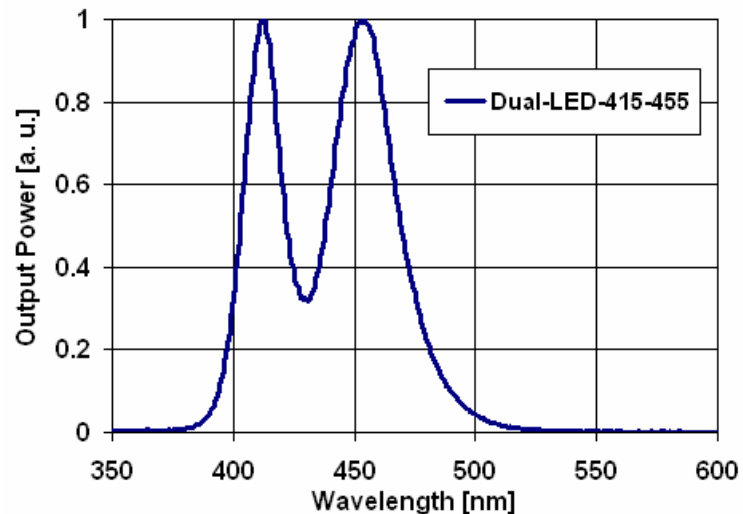
- Multi wavelengths in a single MM fiber
- Speckle free
- Each LED spectrum can be narrowed by optional band pass filter
- Reciprocal SMA, FC or ST fiber connection
- Precisely independently adjustable power for each LED
- TTL external / CW internal operation
- Long life (no lamp replacement required)

Replacement of

- Argon Ion lasers
- Lamps

Applications

- Fluorescence spectroscopy
- Bio analysis



Example spectrum of Dual-LED-415-455

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Specifications

Emission wavelengths:

Any combination of two of the following wavelengths: 365 nm, 390 nm, 395 nm, 400 nm, 405 nm, 410 nm, 415 nm, 455 nm, 460 nm and 515 nm is possible. Other wavelengths are also available per request. Please contact us for further details.

Power output:

Dual-LED power output is limited by the reciprocal fiber characteristics. Larger core and higher NA will increase maximum power output, and vice versa.

The table below shows an example of the CW output power at two sample wavelengths for 1000 μm POF fiber:

Fiber brand	Fiber type ^{*1}	NA	Fiber Core Diameter	Output @ 405 nm Power Typ. ^{*2}	Output @ 460 nm Power Typ. ^{*2}
Toray PGR-FB1000	POF	0.5	1000 μm	4 mW	4 mW

*1: POF – Polymer Optical Fiber. Fiber length ~ 1m.

*2: Measurements were performed by Ophir Nova II power meter with PD300-UV head. The wavelength was set to 405 nm and 460 nm for each wavelength separately. The values are for non filtered Dual-LED.

Power Control:

Precision 10 turns potentiometer for each wavelength or Computer interface through USB and Lab-View based software application.

Optical output connector:

The Dual-LED is available with SMA, FC or ST reciprocal fiber connector

TTL input frequency: 0 Hz – 20 KHz

Connector for TTL input: BNC

Input power supply: 24 VDC, 1 A

Power adaptor input: 100-240 VAC, 1 A, 47-63 Hz

Dimensions:

Main unit:

According to the preferred enclosure several options are available. Please contact us.

Power adaptor:

60mm x 35mm x 10mm (W x H x L)

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