

Prizmatix

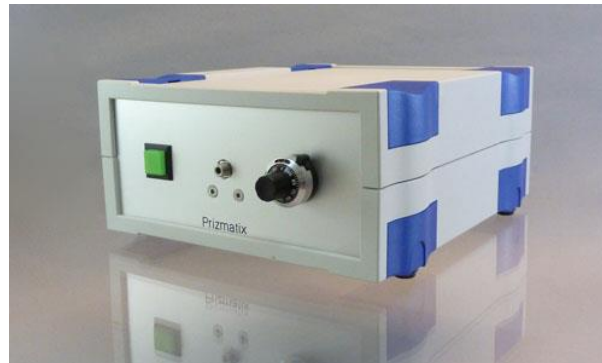
Optogenetics-LED-460

Fiber Coupled Blue LED for Optogenetics in Freely Moving Animals

Ver. 9

Introduction

The Prizmatix Optogenetics-LED-460 module is specially designed to provide high power Blue light (460nm) to activate Channelrhodopsin (ChR1, ChR2) in optogenetics experiments with freely moving mammals. This LED source provides powerful light pulses of >320 mW/mm², triggered by external TTL input.



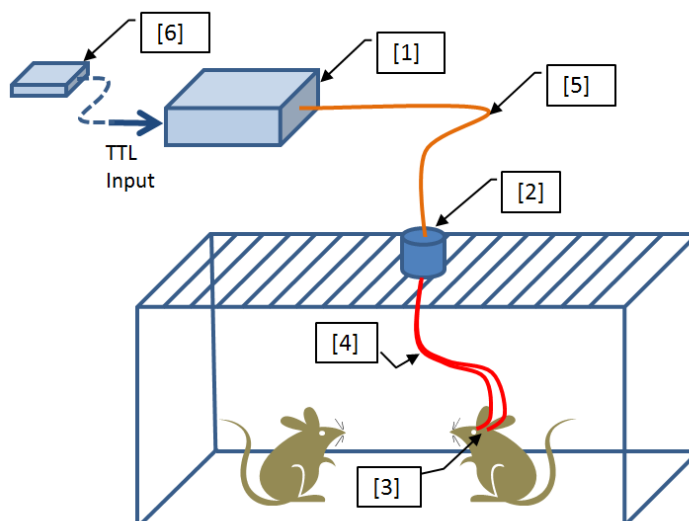
Key Features

- High power density (>320 mW/mm²) at cannula's fiber tip following all connections
- Precisely adjustable power by 10 turns potentiometer
- Isolated (optocoupler) TTL external modulation input
- Analog input (0-5V) for power control
- USB control (optional)
- Instant warm up time

Optogenetics Toolbox for Free Moving Animals Experiments:

Prizmatix offers a wide range of standard and customized items comprising the Optogenetics Toolbox. The most useful items for optogenetics experiments in free-moving animals are:

- [1] Optogenetics-LED-460
- [2] Extremely low friction Rotary-Joint
- [3] Fiber Optics Cannulae
- [4] Single or Dual Fiber for bilateral activation
- [5] Fiber patch cord
- [6] Optional Pulser module with Windows software



For more information on items 2-6 please see:

<http://www.prizmatix.com/Optogenetics/Prizmatix-in-vivo-Optogenetics-Toolbox.htm>

Main Office

Phone: +972-72-2500096
Fax: +972-72-2500097
sales@prizmatix.com

European Sales Office

Phone: +44 (0) 77-9172-9592
Fax: +44 (0) 20-7681-2977
sales.europe@prizmatix.com

North America Sales Office

Phone: +1-(248)-436-8085
Fax: +1-(248)-281-5236
sales.usa@prizmatix.com

P.O.B. 244 Givat-Shmuel 5410102, Israel

Prizmatix

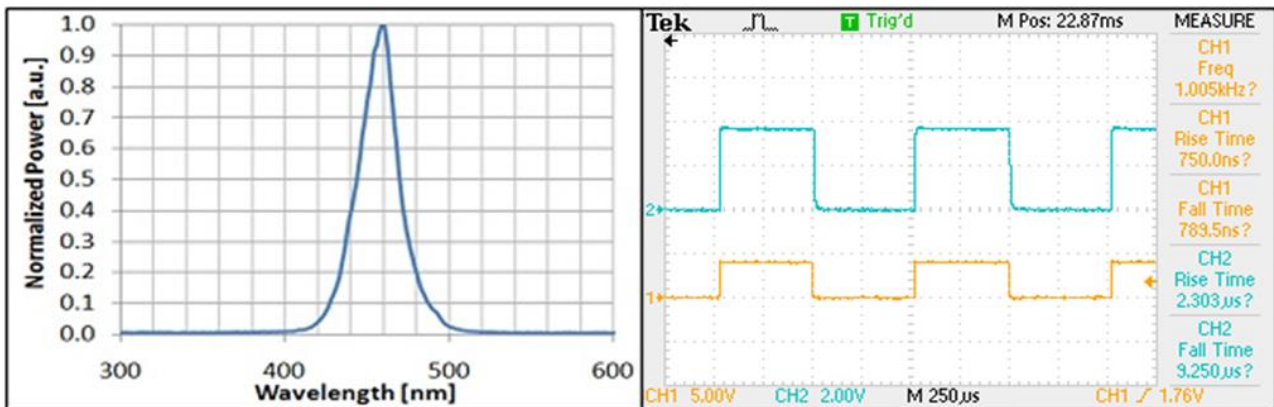
Optical Specifications:

Wavelength	nm	460
Wavelength range	nm	450-465
Spectrum half width	nm	27
Optical Power from 200um Cannula*	mW	>10
Optical Power from 500µm cannula**	mW	>55
Irradiance from 200µm Cannula*	mW/mm ²	>320

*The optical power and irradiance data are for full system including Optogenetics-LED-460, fiber patch cord, Rotary Joint, Dual / Single fiber and 200µm cannula.

**The optical power and irradiance data are for full system including Optogenetics-LED-460, fiber patch cord, Rotary Joint, Dual / Single fiber and 500µm cannula.

In case of dual fiber the levels at each branch will be almost the same as in case of single one due to conservation of brightness. For bilateral brain activation and silencing Optogenetics-LED with Prizmatix Rotary Joint and Dual-branch fiber is an important advantage as this system provides significant cost savings relative to laser based system.



- Optogenetics-LED-460 spectrum
- Optogenetics-LED-460 Rise/Fall Time.
Ch1 – TTL input , Ch2 Photodiode measurement

Electrical Specifications:

Digital modulation inputs		Optically isolated TTL
Connector for TTL inputs		BNC
Digital modulation frequency	Hz	DC-30000
Rise / Fall time (10% - 90%)	µs	<3 / <10
Connector for Analog input		BNC
Analog input voltage range	V	0-5
Analog modulation frequency	Hz	DC-100
Input Voltage	V	12
Max Input current	A	5
Power Adaptor Input		85-264 VAC, 47-63Hz, 1.5A

Main Office

Phone: +972-72-2500096
 Fax: +972-72-2500097
 sales@prizmatix.com

European Sales Office

Phone: +44 (0) 77-9172-9592
 Fax: +44 (0) 20-7681-2977
 sales.europe@prizmatix.com


North America Sales Office

Phone: +1-(248)-436-8085
 Fax: +1-(248)-281-5236
 sales.usa@prizmatix.com

P.O.B. 244 Givat-Shmuel 5410102, Israel

Prizmatix

General Specifications

Operation temperature range	°C	10 - 35
Storage temperature range	°C	-10 - 55
Operating relative humidity (Non-condensing)	%	<90
Dimensions (L x W x H)	mm	197 x 174 x 80
Weight	g	750
Power adaptor dimensions (L x W x H)	mm	175 x 72 x 35
Power adaptor weight	g	270
Power Adaptor Safety		
Fan noise	dBA	28.4

Main Office

Phone: +972-72-2500096
Fax: +972-72-2500097
sales@prizmatix.com

European Sales Office

Phone: +44 (0) 77-9172-9592
Fax: +44 (0) 20-7681-2977
sales.europe@prizmatix.com

North America Sales Office

Phone: +1-(248)-436-8085
Fax: +1-(248)-281-5236
sales.usa@prizmatix.com

P.O.B. 244 Givat-Shmuel 5410102, Israel
