

# Prizmatix

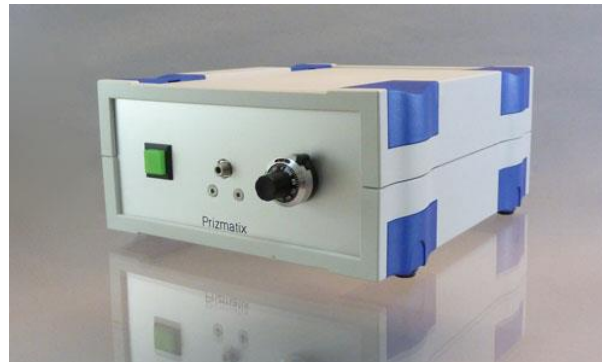
## Optogenetics-LED-520

### Fiber Coupled Green LED for Optogenetics in Freely Moving Animals

Ver. 4

#### Introduction

The Prizmatix Optogenetics-LED-520 module is specially designed to provide high power Green light (520nm) to activate Arch in optogenetics experiments with freely moving mammals. This LED source provides powerful light pulses of  $>120 \text{ mW/mm}^2$ , triggered by external TTL input.



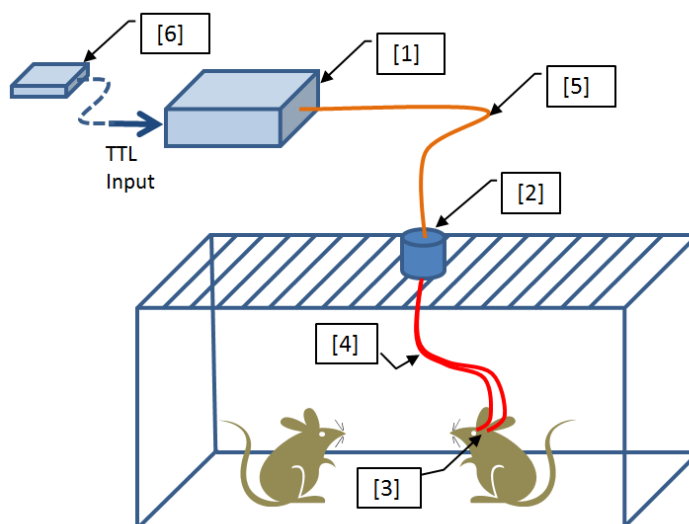
#### Key Features

- High power density ( $>120 \text{ mW/mm}^2$ ) at fiber's 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-520
- [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

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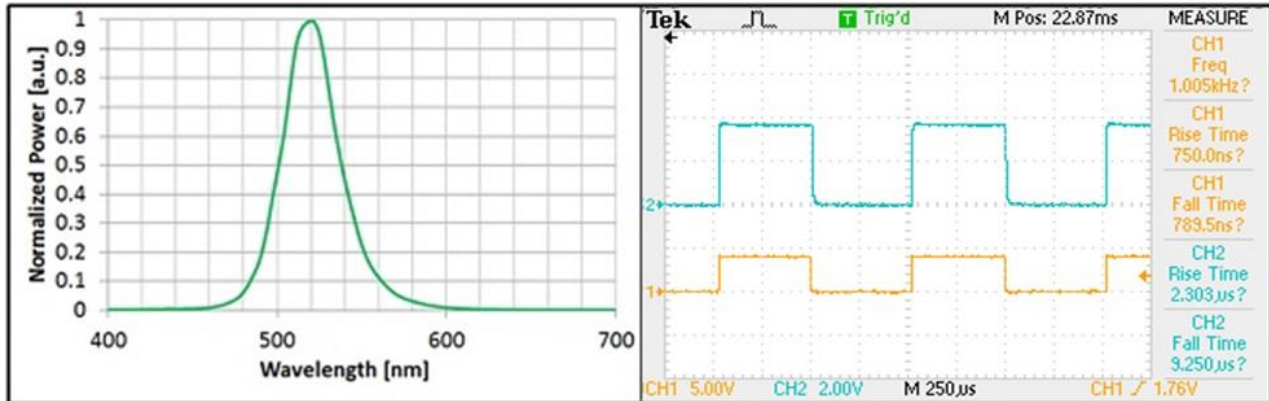
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## Optical Specifications:

Wavelength	nm	520
Wavelength range	nm	±7
Spectrum half width	nm	40
Optical Power from 200um Cannula*	mW	>4
Irradiance from 200um Cannula*	mW/mm <sup>2</sup>	>120

\* The Optical Power and Irradiance data are for full system including Optogenetics-LED-520, fiber patch cord, Rotary Joint, Dual / Single fiber and 200um cannula. In case of dual fiber the levels at each branch will be the same as in case of single one due to conservation of brightness.



- Optogenetics-LED-520 spectrum
- Optogenetics-LED-520 Rise/Fall Time.  
Ch1 – TTL input , Ch2 Photodiode measurement

## Electrical Specifications:

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

## 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	650
Power Adaptor Safety		
Fan noise	dBA	28.4

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