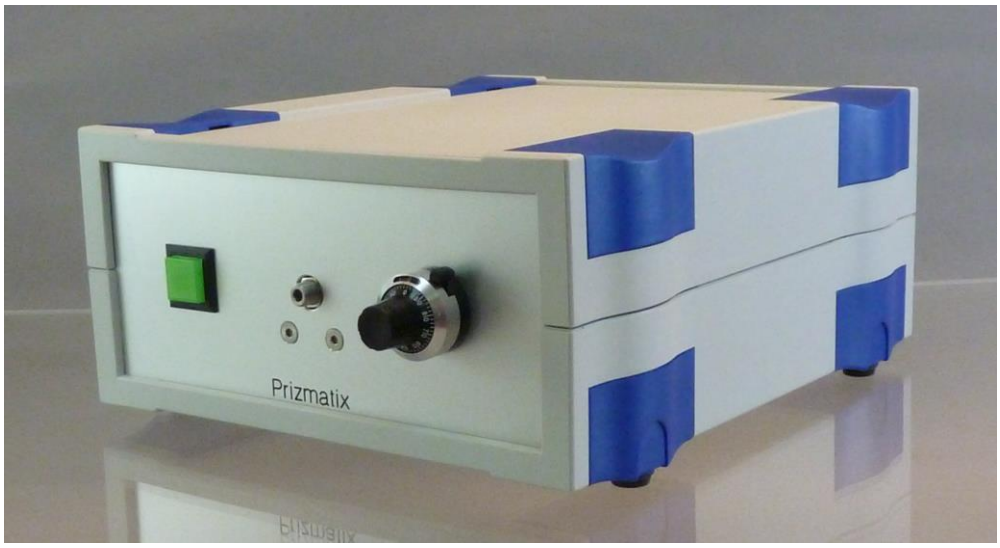
Prizmatix

Optogenetics-LED

User Manual



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Optogenetics-LED System Description

The Prizmatix Optogenetics-LED module is specially designed to provide high power Light to activate opsins in optogenetics experiments with freely moving mammals. This LED source provides powerful light pulses triggered by external TTL input.

Health and Safety

Before applying power to the power adaptor of the system ensure that the protective conductor of the three-conductor mains power cord is correctly connected to the protective earth contact of the socket outlet! Improper grounding can cause electric shock and damage to health or even death!

When wiring the device first disconnect it from the power source and then turn OFF the main switch on the back panel.

Prizmatix products are NOT authorized for use as components in life support devices or systems.

The Optogenetics-LED must not be operated in explosion endangered environments!

Any maintenance shall be performed ONLY by a Prizmatix authorized technician.

When using Optogenetics-LED, intense light can be emitted by the system during operation. Precautions must be taken to prevent looking directly at the light with unprotected eyes or the shining of light onto bare skin. Do not look directly into the light or through the optical system during operation of the device: this can be harmful to the eyes even for short periods due to the high intensity of the light.

If it is necessary to view the LED's beam use protective glasses to avoid damage by the intense light.

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Set-up of the Device

Remove the device from packaging and inspect the device for loose components or any signs of damage. Notify Prizmatix if the device appears damaged in any way: do not install a damaged device.

Package Contents List

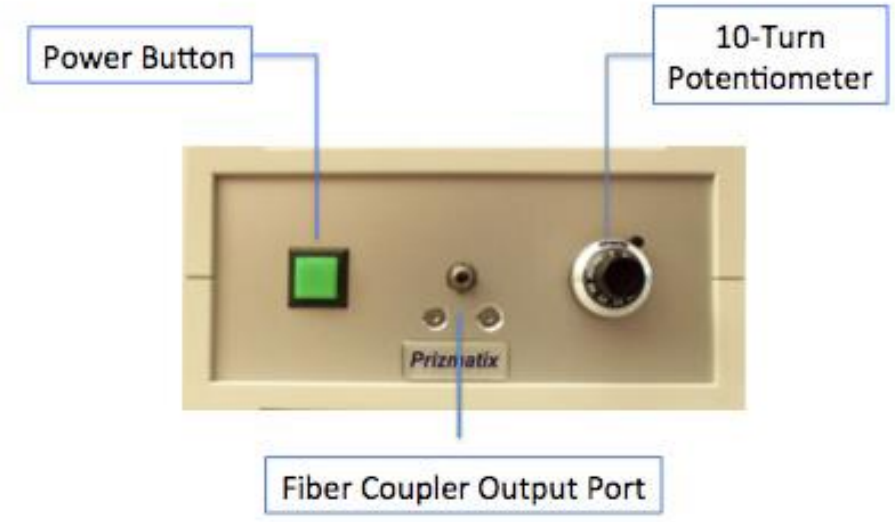
Optogenetics-LED	Power Adaptor / Mains Power Cord
	

	Item	Description	Quantity
1	Optogenetics-LED	High Power LED light source	1
2	Power Adaptor / Mains Power Cord	Universal power adaptor, Cord to connect the power adaptor to mains voltage	1

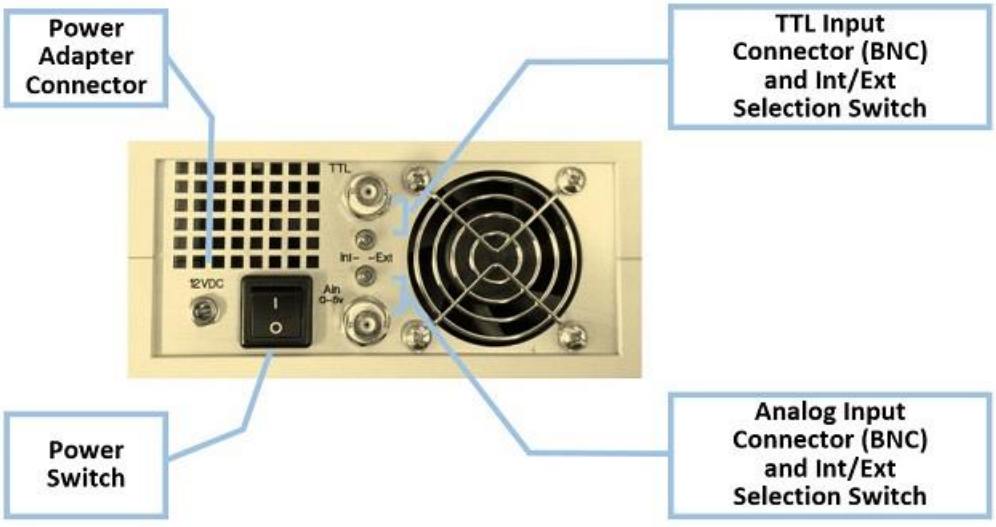
General Specifications

Digital modulation input:	Optically isolated TTL
Connector for TTL input:	BNC (standard TTL levels)
Digital modulation frequency:	DC-30000 Hz
Rise / Fall time (10% - 90%):	<2µs
Input Voltage:	12V
Max Input current:	6.5A
Power Adaptor Input:	85-264 VAC, 47-63Hz, 1.5A
Dimensions:	197 x 174 x 80mm (L x W x H)
Fan noise:	28.4 dBA

System overview



Optogenetics-LED front panel



Optogenetics-LED back panel

Initial Set-up of Optogenetics-LED

1. Set Power Switch on back panel of the unit to OFF position and connect power adaptor to the back of the unit and into wall mains socket.
2. Set both the TTL and Ain (Analog Input) switches on back panel to 'Int' position.
3. Press the green button on front panel to turn the LED on (the internal green light of the button is turned on too). The LED light shall be seen at the optical connector on front panel.
4. LED power can be adjusted using the 10-turn potentiometer on front panel.
5. Press the green button once again, the LED is tuned off (as well as the button light). Turn unit off by Power Switch on back panel before disconnecting from power supply.
6. For TTL input connect BNC cable to **TTL** input connector on back of unit. To enable TTL control change the position of the **TTL Int/Ext** switch to **Ext** position.
7. For Analog Input connect BNC cable to **Ain** input connector on back of unit. To enable Analog Input control change the position of the **Ain Int/Ext** switch to **Ext** position

Attention: Do not cover back panel of unit - ensure that air can circulate freely.

Example of Set-Up for Optogenetics Experiments