

Implantable Wireless Dual Channel Opto-Genetic Stimulation System

IS-Series

For Neuroscience Research Applications

FEATURES

- Two External TTL Stimulation triggers available on USB Dongle
- 90-day package life
- Available with 2 channels, independent timing and brightness control.
- Blue LED 465.6nm wavelength.
- 37mW typical output intensity at 20mA.
- 31x25x12mm Headstage with 7.8 grams.
- Communicates data with Opto StimWare® via USB dongle.
- 8 pin Omnetics nano connector to interface to multitude of LEDs.
- Timing accuracy as short as 50µs.
- 12 bit brightness resolution.
- Inductive powering accessory for 24/7 testing.

Opto
Stim Ware
Pattern Generation Software

USB Dongle
Transceiver

Inductive powering cage

Implanted headstage

Top View

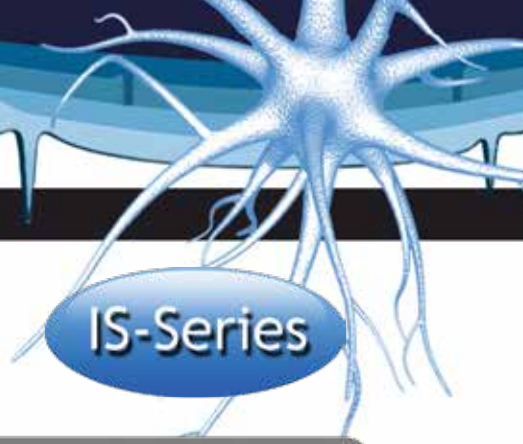
Side View

Implantable Headstage

PRODUCT DETAILS

Triangle BioSystems International presents a 90-day dual channel implantable neural Opto-genetic stimulation system that allows researchers to generate and download two separately customizable pulse patterns via a USB dongle transceiver. The complete wireless system is comprised of an implantable stimulating headstage with inductive powering, implantable blue LED, a USB dongle transceiver and Opto StimWare® pattern generation software. The StimWare® software interface allows the user direct control over the details of the uploaded stimulation pattern, including three tiers of nested patterns, on/off function and a manual pattern trigger option.

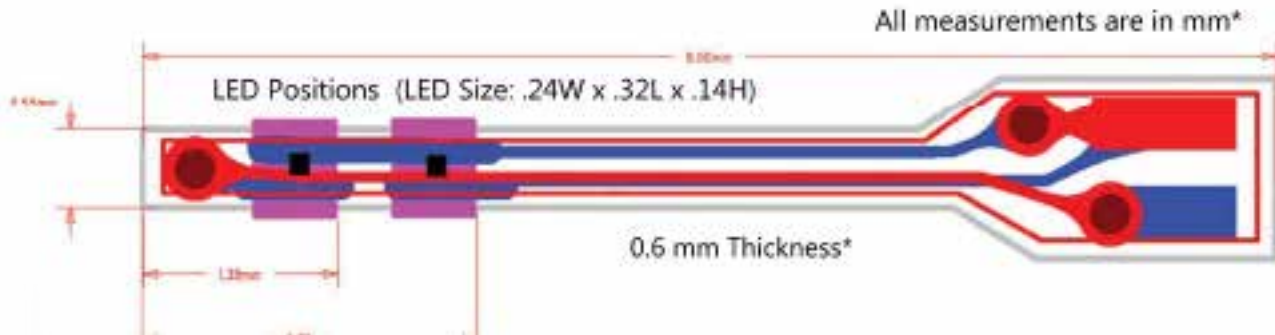
This implantable headstage unit can be implanted in a rat's peritoneal cavity using a minimally invasive procedure thus providing a programmed biphasic constant current with up to a 90-day package life. Additionally, this headstage can be used concurrently with our wireless, tethered or multiplexed neural recording headstages.



LED Optrode Specifications

For Neuroscience Research Applications

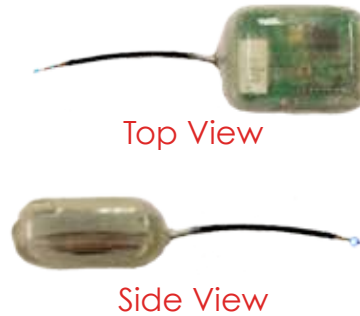
LED Optrode Diagram



LED Optrode Sizes



OptoStim Headstage



SYSTEM SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Power Supply					
Battery Life					
OptoStim Headstage Mechanical Specs					
Length		31		mm	Edge to edge
Width		25		mm	Edge to edge
Height		12		mm	Edge to edge
Weight		7.8		grams	With connector and dipped package
Temperature tolerance			1	degree C	Change of package surface temperature

@ 20 mA and 50% Duty Cycle - Max Temperature Variance is .5 Deg C per LED