

**NOTE: All systems and products should be considered as investigational-use only in the context of the NIH SPARC Initiative.**

**SYNAPSE IMPLANTABLE PULSE GENERATOR**

Description: The thin implantable pulse generator (IPG) provides two connectors for electrode leads with up to 8 contacts each. The heart of the IPG is a custom chip designed to deliver current in multiple contacts independently and simultaneously, making it perfectly suitable for selective electrical stimulation. The chip also incorporates a state-of-the-art recording system to measure evoked potentials, or to monitor stimulation and the system’s integrity.

- Capable of independent stimulation of up to 32 connected electrodes
- Any conceivable waveform can be programmed; e.g. biphasic pulses, bursts, sine wave, anodal blocking
- Multi-polar stimulation (uni-polar, bi-polar, tri-polar)
- Capable of high-frequency and burst stimulation
- Capable of recording a variety of neural activity due very low noise amplifiers and artifact filters.
- Capable of low-power smart stimulation algorithms to save battery time

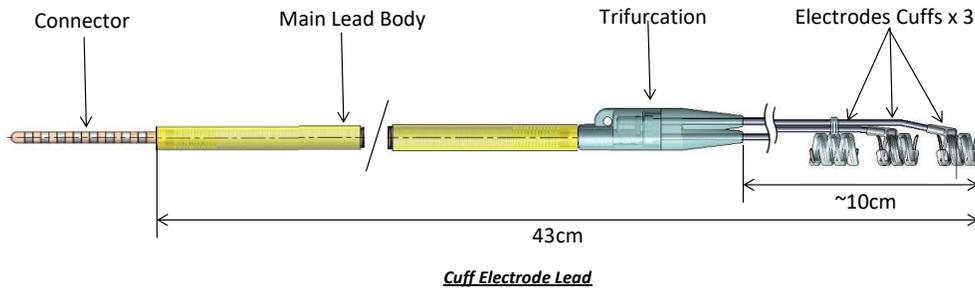
Parameters	Range
Amplitude	0 - 16 mA
Frequency	0.1 Hz – 25.6 kHz
Pulse Width	20 - 1000 µsec
Duty Cycle	0 - 100%



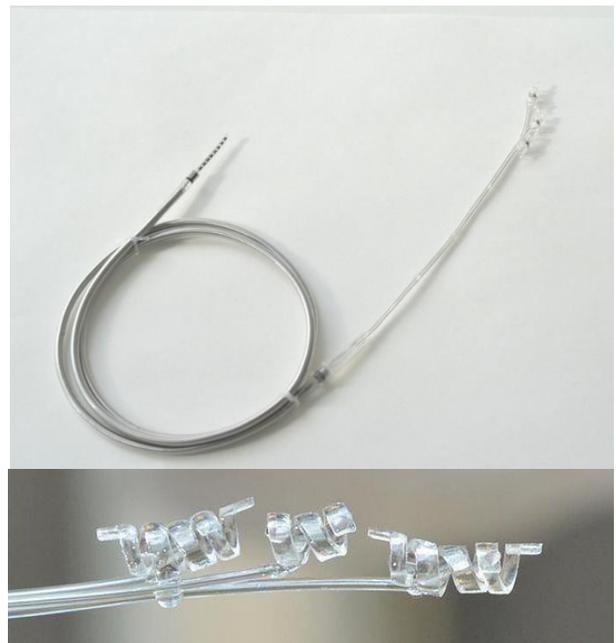
**3-Contact Helical Cuff Lead**

Description: The cuff lead comprises a lead body with connector and a set of three helicoidal cuffs to be attached to a nerve bundle.

- Each coil can serve as an electrical contact
- Each of the three contacts can serve as an anode or cathode for stimulation.
- Several electrode configurations can be selected (eg recording between contact 1 and 2 while stimulating between 2 and 3 and vice versa).



Features	Descriptions
Number of Contacts	3
Contact Configuration	Each contact can serve as stimulation or recording
Contact Spacing (center to center)	8 mm
Inner diameter	2 mm
Cuff Material	Silicone
Contact Material	Platinum/Iridium



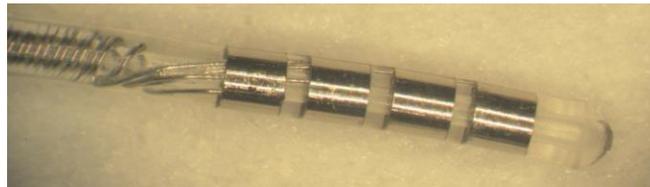
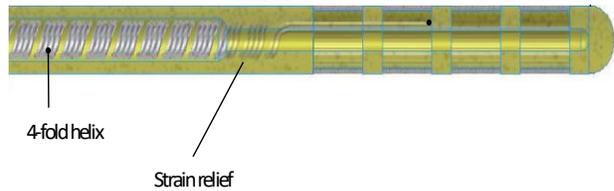
**4-Contact Percutaneous Lead**

Description: This percutaneous electrode lead is identical in design as a percutaneous spinal cord or deep brain stimulation lead. It has four individually addressable electrical contacts giving an electrode array along the distal end.

***Specifications:***

Features	Descriptions
Number of Contacts	4
Outer Diameter	1.29 mm
Contact Spacing	0.5 mm
Pitch	2 mm
Contact Material	Platinum/Iridium

***The therapeutic distal end of the lead consists of 4 contact rings***





**EXHIBIT D – Nexeon Medsystems SUPPORT FOR NIH SPARC**  
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If a partnership requires Nuviant Medical support, the following services may be made available:

- Engineering support (i.e. hardware, software, firmware)
- Protocol support
- Scientific support