



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
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Technical Specification for Electro Physiology system

1. STIM/Plex Stim 16_v2 - Qty 1 No.

16-channel constant current stimulator, 16-bit, +/- 1mA, +/- 10 V; includes control software, USB interface cable, stimulation cable & test board

<u>Features</u>	<u>Specifications and Options</u>	<u>Remarks</u>
Electrically isolated	Yes	
Devices used simultaneously	Up to 4 devices	
Stimulation out connector	26 pin Harwin, Male	
Digital out connector	20 pin Harwin, Male	
Digital in connector	20 pin Harwin, Male	
Voltage monitor channel output	BNC	
Current monitor channel output	BNC	
Stimulation cable – version 1	26 pin Harwin, Female to 20 pin Omnetics .050, Female	
SDK availability	C/C++ and MATLAB®	
Platform	Windows® 7 and Windows® 10 or better	
Computer interface	USB 2.0 or better	
<u>Analog Outputs</u>	<u>Specifications and Options</u>	<u>Remarks</u>
Stimulation mode	Constant current	
Number of analog output channels	16 outputs, 1 return	Channels should be independent.
Maximum current	±1mA	
Resolution	16bits	
Output current resolution	30nA	In stimulation mode
Compliance voltage	10V @ 700µA	
Temporal resolution	1µsec	
Output rise time	1.25µsec (100µA, 10kΩ load)	10-90% voltage
Minimum pulse width	5µsec	
Maximum pulse rate	100kHz	

Digital Inputs/Outputs	Specifications and Options	Remarks
Number of digital inputs	16	Channels should be independent. May be used in an edge triggered or level triggered (gated) mode to initiate stimulation with microsecond latency. Multiply by the number of stimulators used simultaneously, if more than one.
Number of digital outputs	17	Channels should be independent. Synchronizing stimulation pulses with other equipment should be enabled. To be multiplied by the number of stimulators used simultaneously, if more than one.
Digital input levels	TTL, Low < 0.8V, High > 2.0V	
Digital output levels	HCT, Low < 0.33V, High > 3.84V	
Digital input/output latency	< 1µsec	
Maximum trigger rate	100kHz	
Minimum trigger pulse width	1µsec	
<u>Arbitrary Waveforms</u>	Specifications and Options	
Maximum sample points	1000	
Maximum update rates	1MHz (1µsec)	
Maximum waveform repetition	32,767	
Warranty	1 Year	

2. STIM/16_v2-cable_BW_36L - Qty 1 No.

Cable for interfacing Stimulator 2.0 analog output to bare wires 36" length