

SGM-STIM-2

CONSTANT CURRENT, MULTIMODE STIMULATOR
FOR DIRECT CORTICAL ELECTRICAL STIMULATION

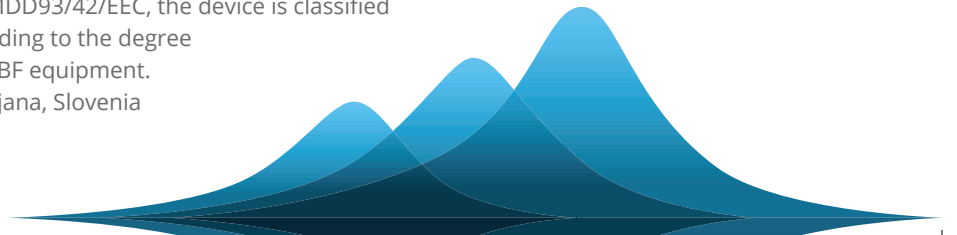


INTRODUCTION

SGM-STIM-2 stimulator is designed to be used for direct electrical stimulation of cerebral cortex focal regions for motor, sensory and language functions. Constant current types of stimulus are used to deliver controllable amount of electrical charge, regardless of the impedance of tissue between electrodes.

The stimulator can be used in classic Penfield mode, or it can use the novel Multipulse method for intraoperative brain stimulation. Operation mode has to be selected before definition of stimulation parameters. For each method, parameters are defined independently, preserved during a session and can be changed during the stimulation process. Dual functionality enables comparison of stimulation efficiency for these two methods of stimulation and use of a more appropriate method for specific intraoperative application (e.g. motor area, speech area, cognitive functions). Different trigger modes of operation can be used: auto triggered, local manual trigger or external trigger.

According to the Medical Device Directive MDD93/42/EEC, the device is classified as CLASS IIa equipment. Classification according to the degree of protection against electric shock is TYPE BF equipment.
CE Mark Certificate No. MDD-098, SIQ Ljubljana, Slovenia



TECHNICAL SPECIFICATIONS

STIMULUS OUTPUT

Current range	0 - 5 mA in 0.2 mA steps / 5 - 40 mA in 1 mA steps
Pulse width	100 - 1000 microseconds square wave (100 μ s step)
Maximum output voltage	50 V
Number of electrodes	9

STIMULUS PULSE RATES

Pulse or group rate	0.1 to 8.0 per second, in 0.1 steps
Burst selections	Number of pulses - 1 to 9
Interstimulus time	1 - 10 ms in 0.1 ms steps

TRIGGER FACILITIES

Manual	Push button mounted on front panel
Auto	
External	TTL compatible positive edge logic signal
Trigger output	Positive TTL compatible signal 500 μ s wide

OTHER

Mechanical dimensions	250x263x85 mm
Weight	2 kg
Power	100 - 240 V @ 50-60 Hz
Rating	24.4-31.7 VA
Startup time	30 sec

MAJOR FEATURES

- High intensity constant current multipulse stimulator.
- Current range: 0 to 40 mA.
- Selectable stimulating train rates 0,1 to 8,0 Hz in steps of 0,1 Hz (externally and internally controlled, "trigger in" and trigger out").
- Number of pulses in the train: 1 to 9.
- Interstimulus time: 1-10 min 0,1 ms steps.
- Power supply voltage 110/220 V automatically detected.
- Set of necessary accessories including Output Extender SGM S2-840.
- Stimulation probes used: eight-pole strip electrodes or handheld probe connection interface.

