

Measuring and Modulating Brain Activity



neuroConn DC-STIMULATOR

Programmable DC Stimulator

Transcranial stimulation using a weak direct current over a period of several minutes changes the electrical charge in the nerve cell membranes. This serves to strengthen or diminish the excitability of the brain cells.

Scientific and clinical studies conducted in recent years have shown transcranial direct current stimulation (tDCS) to be a recognized method of therapy for various disorders of the brain that is applied as a therapeutic component in clinical practice.

Areas of Application/Treatments

Stroke		Improved motor skills, increased memory performance
Migraine		Reduction in the tendency and frequency of migraine attacks
Epilepsy		Reduction and total suppression of attacks, potential lowering of medication dosage
Tinnitus		Reduction in the loudness of and exposure to tinnitus
Miscellaneous		Depression, chronic headache, dementia, multiple sclerosis, spasticity and Parkinson disease

Moving thought



DC-STIMULATOR Features

- Microprocessor-controlled constant current source
- 1 channel (anodal and cathodal stimulation possible)
- High safety standard through multistage monitoring of the current path
- Stimulation mode: single (continuous stimulation, adjustable, fade in and fade out)
- Stimulation mode: pulse (cyclic turning on/off of stimulation, adjustable pulse width and interval)
- Study mode for "blind" operation of real and pseudo stimulation, encoded from a code list of 200 codes, independently adjustable settings (can be saved to avoid accidental modification of study parameters)*
- External trigger input*

DC-STIMULATOR Specifications

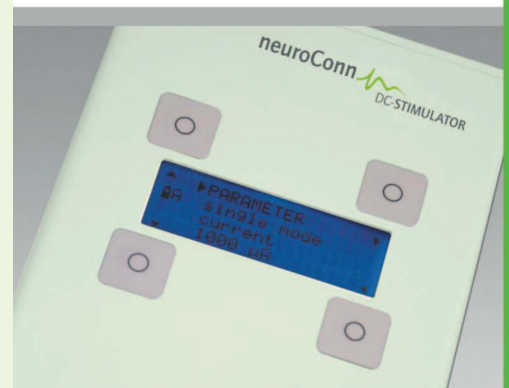
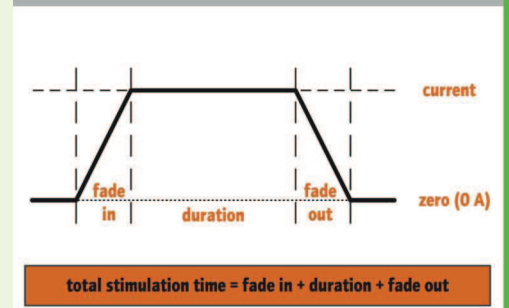
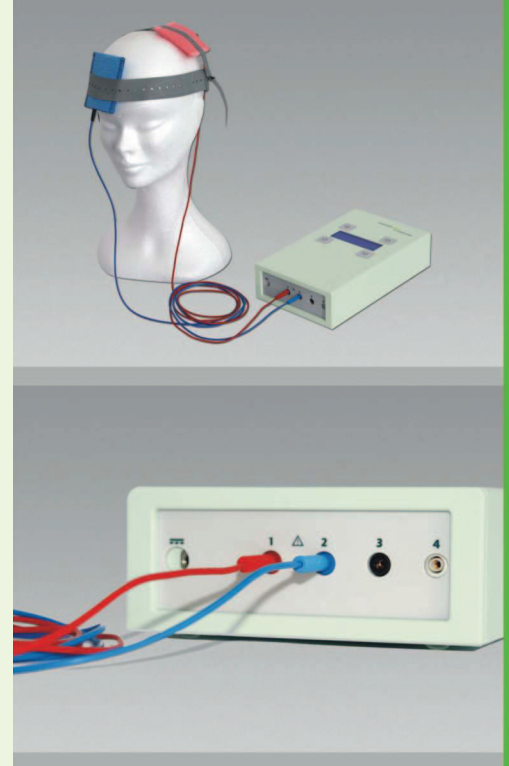
- Adjustable current up to 5,000 μA ** in increments of 250 μA
- Adjustable application time up to 30 min**
- Max. 1 % relative direct current fault tolerance
- Max. 0.02 % direct current fluctuation
- Internal 12bit D/A conversion
- Internal time resolution 5 ms (sample rate 200 sps)
- "Single" stimulation mode: duration 1,800 s**, increment 30 s, duration of fade in / fade out 1-120 s, increment 1 s
- "Pulse" stimulation mode: duration of complete pulse cycle/interstimulus interval (ISI) 300-2,000 ms, increment 100 ms, pulse width 200-(ISI-100), increment 100 s, number of pulse cycles 1-500
- Voltage limit of 26 V
- Power supply from built-in rechargeable batteries
- Approx. 6 h stimulation time @ 1 mA, approx. 7 h for complete recharging
- Alphanumeric display with backlight
- Membrane keypad with 4 keys
- Contact-protected electrode connection in accordance with DIN 42802-2 (\varnothing 1.5 mm)
- Power consumption approx. 1.2 W (depends on display brightness and applied current)
- Dimensions: 13.5 cm x 22.5 cm x 5.5 cm (W x D x H)
- Weight (incl. batteries): 0.8 kg
 - * Optional
 - ** Currents of more than 2,000 μA and application times of more than 20 min. are for research purposes only

DC-STIMULATOR Option

- TRIGGER MODULE to connect external trigger safely

Particular Advantages of our Equipment

- We are the only supplier worldwide of CE-approved, fMRI-compatible transcranial DC stimulators (tDCS, tACS, tRNS).



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neuroConn supplies equipment for publicly funded multi-center studies into neurofeedback and non-invasive brain stimulation and is also a member of the "National Bernstein Network for Computational Neuroscience".

