neurocare

NEURO PRAX® TMS/tES

Measuring and Modulating Brain Activity

for neuroscience applications

TMS/tES-compatible full-band DC-EEG biofeedback system

NEURO PRAX® TMS/tES systems measure physiological signals such as EEG, EMG, and EP simultaneously and synchronously for all channels. Unique amplifier technology captures EEG activity from ultraslow (0 - 0.3 Hz) to ultrafast (80 - 1,200 Hz) frequencies. The high amplifier dynamics and the high sampling rate make the NEURO PRAX® TMS/tES system particularly suitable for EEG measurement during transcranial magentic stimulation (rTMS) and transcranial electrical stimulation (tES) with tDCS, tACS and tRNS.

Our high-performance full-band DC-EEG amplifiers are available with 32, 64 or 128 channels. They provide a wide range of optional software-based functions such as the online correction of artifacts caused by muscle and eye movements, topographical analyses, spectral and amplitude mapping and online averaging.

The NEURO PRAX® TMS/tES is a biofeedback device according to the FDA Regulation Number 882.5050. It supports clients to learn to self-regulate their brain activity (EEG biofeedback). It is intended to be used for EEG biofeedback with the slow cortical potentials (SCP) protocol.

Areas of application/treatments

Biofeedback	DC-EEG biofeedback system, quantitative EEG, cognitive evoked potentials
TMS/MEP	MEP threshold detection, MEP brain mapping (via the TMS navigation system Brainsight®)
TMS-EEG	quantitative EEG analysis and cognitive evoked potentials before, **during** and after transcranial stimulation, examinations relating to the safety of transcranial stimulation
tES/rTMS-EEG	recording and analysis of cortical and subcortical TMS-EEG activities, examination of the functional connectivity between areas of the brain, examination of TMS-induced modulation of brain rhythms, EEG-triggered TMS stimulation

Made in Germany

NEURO PRAX® TMS/tES Features:

- 32-channel full-band DC-EEG biofeedback system 64, 128 channels)*
- channel type (EEG, EMG, ECG) selectable via software
- non-referential storage of raw data
- specially for measuring during transcranial magnetic stimulation (TMS) and transcranial electrical stimulation (tDCS, tACS, tRNS)
- recovery time 3 - 5 ms after TMS impulse
- real-time correction of artifacts from TMS and eletrodes
- suitable for polygraphy and polysomnography
- simple and intuitive user interface
- EEG mountings and event markers freely selectable
- patient database with medication and examination calendar, complete documentation of readings
- topographical analysis, spectral and amplitude mapping
- connection of external triggers

* optional

Options and system extensions

- module to correct EEG artifacts (blinking, eye movement, body movement) in real time (not with TMS)
- module TMS-MEP threshold detection
- module for cognitively evoked potentials: CNV, P300, ERN, CPT-OX, and readiness potential
- NEURO PRAX® TMS/tES examination license from other PCs
- module for online data access via Ethernet by TCP/IP
- export module for exporting measured data in other formats
- module for data access within MATLAB®/Simulink®, LabVIEW®, C/C++
- optical trigger input module system extension
- feedback module system extension (additional monitor)
- rechargeable battery pack
- equipment trolley

12/22 I 20NPTMS01E_USA

NEURO PRAX® TMS/tES Specifications

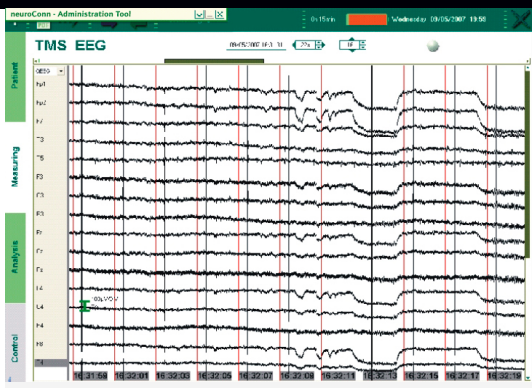
Full-band DC-EEG- and biosignal amplifier

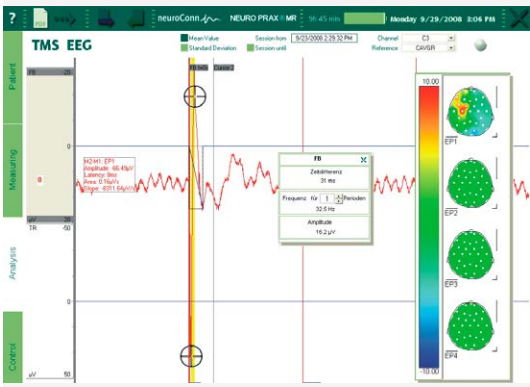
- 32 full-band DC-channels (64, 128 channels)*
- input impedance > 10 G
- 24-bit resolution per channel
- selectable sampling rates of 64 to 4,096 sps
- frequency range of 0 to 1,200 Hz @ 4,096 Hz sampling rate
- common mode rejection rate (CMRR) > 90 dB @ 50 Hz
- dynamic input range approx. ±219 mV
- input noise < 0.9 µV (RMS) @ 0 - 110 Hz at 256 sps
- max. power consumption 1.5 W
- power supply via built-in rechargeable batteries
- continuous operation time > 8 h
- applied part BF
- dimensions in mm: 290 x 130 x 200 (W x D x H)
- weight: 4.2 kg (incl. batteries)
- data transmission via optical fiber
- electrode input box, incl. connector cable (32, 64, 128 channels)

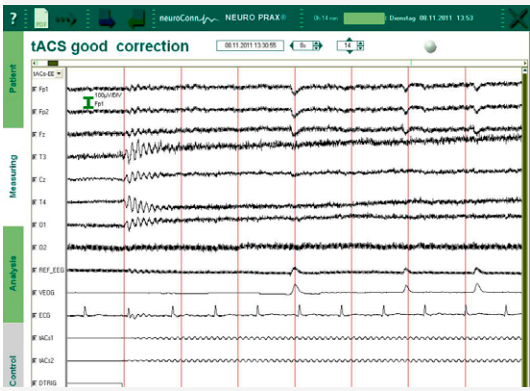
* optional

Panel-PC

- powerfull Intel™ Core Duo processor, min. 1 GB RAM, 160 GB hard disc, USB 2.0, ethernet interface (LAN), min. 15" TFT color monitor, keyboard, mouse
- operating system WINDOWS® 10 (and later)
- operating voltage 100-240 V @ 60/50 Hz AC
- dimensions in mm: 420 x 365 x 170 (W x D x H)
- weight: 11.6 kg (incl. stand)







neurocare group America, Inc.
125 Townpark Drive NW, Suite 300
Kennesaw, GA, United States
info@neurocaregroup.com
T +1-404-394 9672
www.neurocaregroup.com

neuroConn GmbH
Albert-Einstein-Str. 3
98693 Ilmenau
Germany

SPONSORED BY THE
Federal Ministry of Education and Research
bcol transcranial stimulation