Advantages

- The headstage is equipped with two dedicated channels for electrical stimulation.
- Small-sized headstage with integrated A/D converter and LED lights for video tracking.
- The W2100-System converts the recorded signals into digital data already on the headstage.
- The signal-to-noise ratio is excellent and most important, independent from the distance between sender and receiver.
- The headstage is additionally equipped with a triaxial gyroscope and a triaxial accelerometer by default.

Applications

The W2100 headstage is the ideal solution for the measurement of spikes, LFP, EEG, ECG, EMG, and ECoG. Additional inputs to the interface board allow the synchronization of the data with external devices. Use the two external stimulation channels for recording and electrical stimulation simultaneously.

Gyroscope and Accelerometer

The W2100 headstage is equipped with triaxial gyroscope and accelerometer sensors, which allow synchronization with electrophysiological data.
W2100-HS8-ES2-0.5mA

Technical Specifications

W2100-HS8-ES2 with Omnetics connector bottom side:
Connector for the electrode probe
or for the MEA-Signal Generator.

Important: To handle the headstage, please touch the body, but not the antennae.

Diagram of the bottom side with pin layout. Please orientate the headstage as shown in the diagram.

Connector for this Headstage Omnetics Connector A79039-001
This Omnetics connector mates with Omnetics connector such as:
Through-Hole: A79038-001 (NPD-18-DD-GS)
Horizontal Surface Mount: A79040-001 (NPD-18-AA-GS)
Vertical Surface Mount: A79042-001 (NPD-18-VV-GS)
Cable: A79044-001 (NPD-18-WD-18.0-C-GS)

Storage battery connector for orientation on the opposite side.

Important: To handle the headstage, please touch the body, but not the antennae.

Diagram of the bottom side with pin layout. Please orientate the headstage as shown in the diagram.

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Cable: A79044-001 (NPD-18-WD-18.0-C-GS)

Storage battery connector for orientation on the opposite side.

Number of recording channels 8
Weight (without battery) ± 3.8 g
Dimensions (W x D x H) 15.5 mm x 15.5 mm x 7.5 mm
w/o antennae
Distance for wireless link 5 m and more under normal conditions

Amplifier
Bandwidth: To avoid aliasing effects, the low pass depends on the sampling frequency:
High pass: 1 Hz (0.1 Hz on request)
Low pass: 400 Hz 800 Hz 1 kHz 5 kHz
@ Sampling rate @ 1 kHz @ 2 kHz @ 5 kHz @ 10 - 40 kHz
Gain 101
Input impedance 1 GΩ || 10 pF
Resolution 16 bit
Input voltage range ± 12.4 mV
Input noise < 1.9 µVRMS

Sampling rate (max.) in kHz

Number of channels simultaneously

Single Headstage Mode 2 4 8
Multi Headstage Mode 10 10 10

Stimulation
Output current - 0.5 mA to + 0.5 mA
@ ± 10 V compliance voltage
Rise time 10-66 %, current 0-100 µA 1.5 µs @ RL = 10 kΩ

Inertial Measurement Unit
Gyroscope, triaxial ± 8 g @ 16 bit resolution
Accelerometer, triaxial 1000 °/s @ 16 bit resolution

Software
Operating system Windows ® 10, 8.1 (64 bit)
Data acquisition, analysis and export software Multi Channel Suite Version 1.5.1 and higher

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