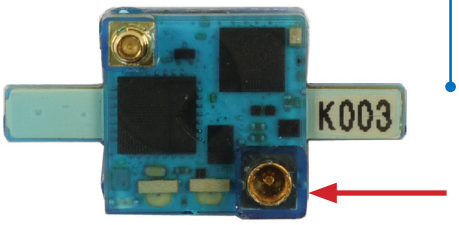
# W2100-HS16 Headstage

## W2100-Headstage for Use with the W2100-System




**W2100-HS16** top side
Please use the connector for the storage battery in the lower right for orientation of the headstage.

### Advantages

- 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 equipped with a triaxial gyroscope and a triaxial accelerometer by default.

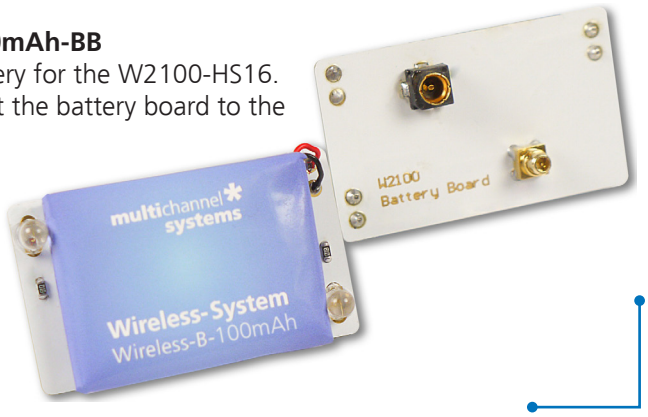
### Applications

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.

### Gyroscope and Accelerometer

The W2100 headstage is equipped with triaxial gyroscope and accelerometer sensors, which allow synchronisation with electrophysiological data.

**W2100-B-100mAh-BB**
Standard battery for the W2100-HS16. Please connect the battery board to the headstage.






Multi Channel Systems
MCS GmbH
Aspenhaustrasse 21
72770 Reutlingen
Germany

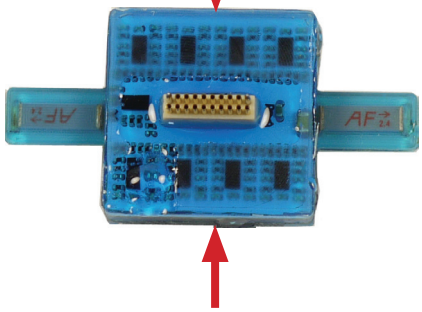
Phone +49-7121-909 25- 0
Fax +49-7121-909 25-11

sales@multichannelsystems.com
www.multichannelsystems.com

# W2100-HS16 Headstage

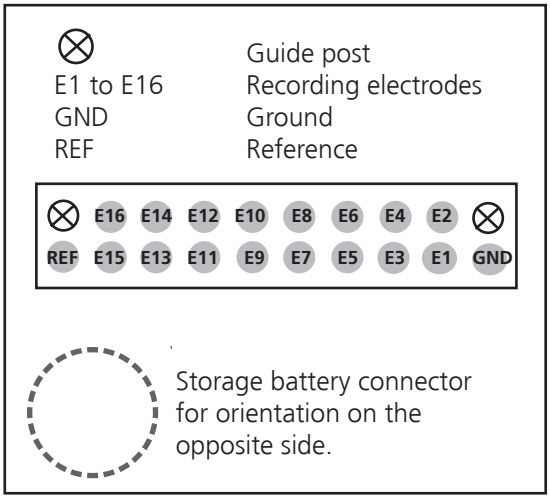
## Technical Specifications

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



**W2100-HS16** bottom side
Connector for the electrode probe or for the ME/W-Signal generator.

**W2100-HS16 with Omnetics connector**
Diagram of the bottom side with pin layout. Please orientate the headstage as shown in the diagram.




**Connector for this Headstage**
**Omnetics socket A79039-001**

This Omnetics connector mates with Omnetics connectors 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

### Technical Specifications

| | |
|---|---|
| Number of recording channels | 16 |
| Weight (without battery) | ± 2.9 g |
| Dimensions (W x D x H) w/o antenae | 15.5 mm x 15.5 mm x 5.2 mm |
| 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 $\mu V_{RMS}$ |

| **Sampling rate (max.) in kHz** | Number of channels simultaneously | | | |
|---|---|---|---|---|
| | **2** | **4** | **8** | **16** |
| Single Headstage Mode | 40 | 40 | 25 | 25 |
| Multi Headstage Mode | 10 | 10 | 10 | 5 |

**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 |



Multi Channel Systems
MCS GmbH
Aspenhaustrasse 21
72770 Reutlingen
Germany

Phone +49-7121-909 25- 0
Fax +49-7121-909 25-11

sales@multichannelsystems.com
www.multichannelsystems.com