ME2100-μPA16
16-Channel Micro Preamplifier for Use with ME2100-System

Pin Layout of the 16-Channel Micro Preamplifier

Please note that the side with the housing is considered to be the top side of the ME2100-μPA16. The figure shows the pin layout viewed from the front with the housing up.

16-Channel Micro Preamplifier Inputs

Application

Use the headstage of the ME2100-System for anesthetized or head fixed animals. The micro preamplifier with 16 electrode inputs ME2100-μPA16 is connected to the microelectrode probes for providing the initial tenfold amplification stage. Signal integrity is safeguarded and noise pick up is significantly reduced by this preamplifier compared to the use of signal buffers with gain 1. The ME2100-μPA16 is equipped with an Omnetics socket for NeuroNexus probes CM16, F16, C16. It has an additional common ground and a reference electrode input. The reference electrode is ideally identical to the recording electrodes and placed into a comparable but inactive area or tissue. Background or noise signals that are picked up by both the reference electrode and the recording electrodes are removed. The very high input impedance ensures stable long-term recordings.

Connect the headstage via the provided Lemo connector to the signal collector unit MCS-SCU. The red dot on the connector must face upwards. Do not mistake the headstage inputs (HS1 to HS4) with the Opto Stim input.
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Technical Specifications

Type

- Operating temperature: 0 °C to 50 °C
- Storage temperature: 0 °C to 50 °C
- Relative humidity: 10 % to 85 % non-condensing

Dimensions (W x D x H)
21 mm x 17 mm x 1.5 mm

Length of the cable
Optional: 3 m, 5 m or 10 m

Weight w/o cable
1.5 g

Maximum tensile strength of the cable
20 N

Input connector type
Omnetics NSD series, female with 2 guide posts:
A79039-001, NSD-18-DD-GS

Mating connector types
Omnetics NPD series, male with 2 guide posts, for example:
- 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)
- With cable (18.0” 34 AWG lead-wire):
  A79044-001 (NPD-18-WD-18.0-C-GS)

Output connector to MCS-SCU
Lemo connector with additional A/D converter

Integrated Amplifier

- Number of analog recording channels: 16
- Data resolution: 24 bit
- Bandwidth: Software controlled
- Sampling frequency per channel: up to 50 kHz
- Input voltage range: ± 250 mV
- Input impedance: 1 GΩ @ 1 kHz
- Input capacitance: 13 pF
- Input noise: typical 0.7 μVrms (1 Hz to 5 kHz, inputs shortened)