

ME2100- μ PA32 32-Channel Micro Preamplifier for Use with ME2100-System

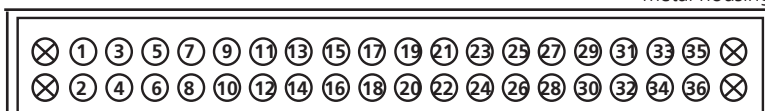
Pin Layout of the 32-Channel Micro Preamplifier

ME2100- μ PA32 Headstage Input Connector

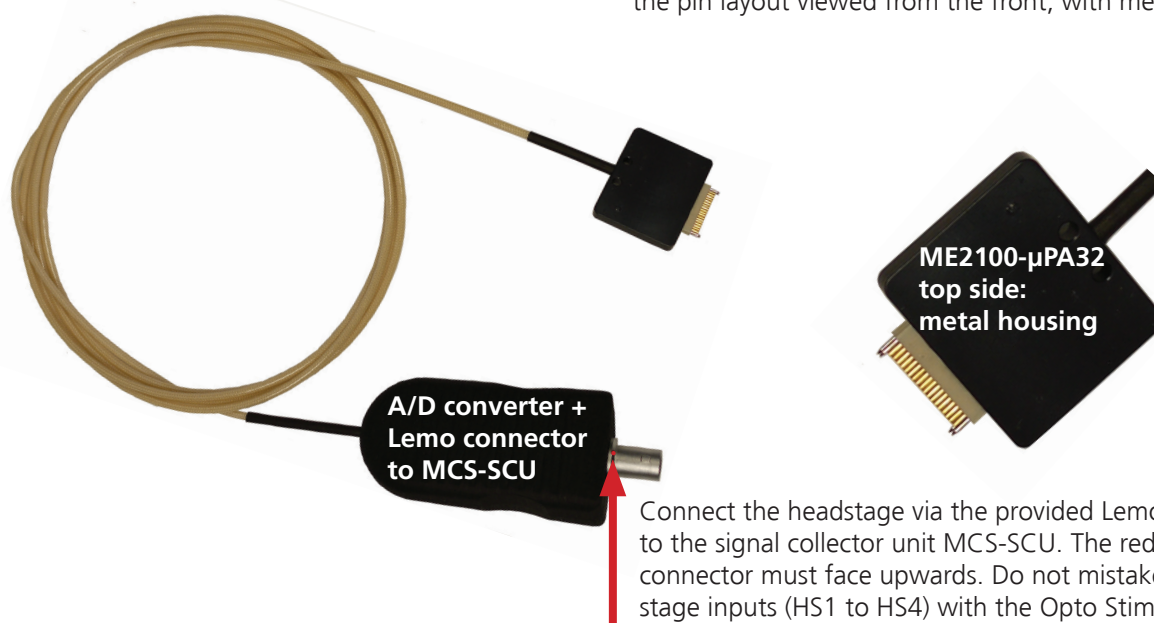
- Pin 1, 35, 36 GND (Ground)
- Pin 2 Reference input
- Pin 3 to 34 Recording channels 1 to 32
- ⊗ 4 Guide posts

32-Channel Micro Preamplifier Inputs

metal housing



Please note that the side with the metal housing is considered to be the top side of the ME2100- μ PA32. The figure shows the pin layout viewed from the front, with metal housing up.



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.

Application

Use the headstage of the ME2100-System for anesthetized or head fixed animals. The micro preamplifier with 32 electrode inputs ME2100- μ PA32 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- μ PA32 is equipped with an Omnetics socket for NeuroNexus probes CM32, F32, HP32. When using two ME2100- μ PA32 you can connect the NeuroNexus probes H64 and HC64. 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.

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Technical Specifications

Type

Operating temperature
Storage temperature
Relative humidity

Dimensions (W x D x H)
Length of the cable
Weight w/o cable
Maximum tensile strength of the cable

Input connector type

Mating connector types

Output connector to MCS-SCU

Integrated Amplifier

Number of analog recording channels
Data resolution

Bandwidth
Sampling frequency per channel

Input voltage range

Input impedance

Input capacitance
Input noise

ME2100- μ PA32

0 ° to 50 °C
0 ° to 50 °C
10 % to 85 % non-condensing

24 mm x 25 mm x 3 mm
Optional: 3 m, 5 m or 10 m
2 g
20 N

Omnetics NSD series, female with 4 guide posts
A79023-001, NSD-36-DD-GS

Omnetics NPD series, male with 4 guide posts, for example:
- Through-Hole: A79022-001 (NPD-36-DD-GS)
- Horizontal Surface Mount: A79024-001 (NPD-36-AA-GS)
- Vertical Surface Mount: A79026-001 (NPD-36-VV-GS)
- With cable (18.0" 34 AWG lead-wire): A79028-001 (NPD-36-WD-18.0-C-GS)

Lemo connector with additional A/D converter

32
24 bit

Software controlled
up to 50 kHz

± 250 mV

1 G Ω @ 1 kHz

13 pF
typical 0.7 μ V_{RMS} (1 Hz to 3.5 kHz, inputs connected to ground)