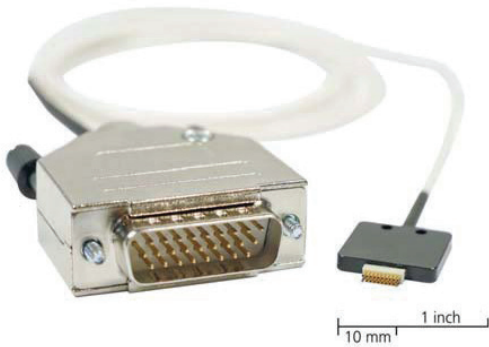
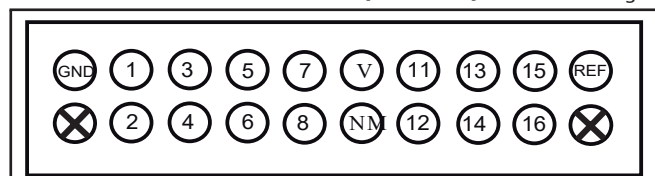


16-Channel Micro Preamplifier μ PA16

16-Channel Micro Preamplifier μ PA16 for Use with the Portable-ME-16-System



16-Channel Micro Preamplifier Inputs housing

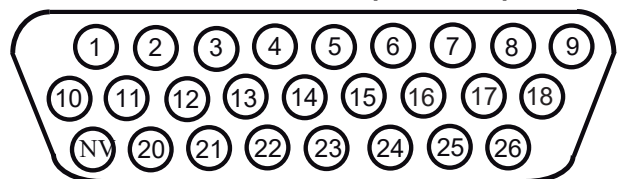


Application

The micro preamplifier with 16 electrode inputs μ PA16 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 μ PA16 is equipped with an Omnetics socket for Neuro-Nexus probes C16, C32, F16, and CM16. 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.

16-Channel Micro Preamplifier Outputs



Input Connector Omnetics

A79039-001(NSD-18-DD-GS with 2 guide posts, female)

⊗ Guide post	REF (Reference)
Pin 16	Pin 15
Pin 14	Pin 13
Pin 12	Pin 11
Pin 10	Pin 9
Pin 8	Pin 7
Pin 6	Pin 5
Pin 4	Pin 3
Pin 2	Pin 1
⊗ Guide post	GND (Ground)

Output Connector 26-Pin HD D-Sub male connector (Harting TB 09 56 200 5615)

Pin	Channel	Pin	Channel	Pin	
2	1	11	2	1, 10, 19, 23	GND (Ground)
3	3	12	4		
4	5	13	6	20, 21, 22	positive supply voltage
5	7	14	8		
6	9	15	10	24, 25, 26	negative supply voltage
7	11	16	12		
8	13	17	14		
9	15	18	16		

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16-Channel Micro Preamplifier μ PA16

Technical Specifications

Technical Specifications

Type	μPA16
Operating temperature	0 ° to 50 °C
Storage temperature	0 ° to 50 °C
Relative humidity	10 % to 85 % non-condensing
Dimensions (W x D x H)	ca. 17 mm x 17 mm x 2.5 mm w/o connector ca. 21 mm x 17 mm x 2.5 mm with connector
Length of the cable	1.5 m
Weight	ca. 1.5 g w/o cable
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 type	Omnetics NPD series, male with 2 guide posts, for example: <ul style="list-style-type: none"> - Through-Hole: A79038-001 (NPD-18-DD-GS) - Horizontal Surface Mount (SMD, horizontal): A79040-001 (NPD-18-AA-GS) - Vertical Surface Mount (SMD, vertical): 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 type	26-pin HD D-Sub, male (Harting TB 09 56 200 5615)
Number of amplifier channels	16
Supply voltage	± 2.5 V
Supply current	$< \pm 15$ mA, typically ± 14 mA
Gain	10
Bandwidth	DC to 50 kHz
Input voltage	± 250 mV (with respect to a supply voltage of 2.5 V)
Input impedance	1 G Ω @ 1 kHz
Input capacitance	13 pF
Input noise	typical 1.2 μ V _{RMS} (1 Hz to 10 kHz, inputs shortened)
Noise density	$e_n = 10$ nV / $\sqrt{\text{Hz}}$ @ 1 kHz
Output voltage range	± 2.5 V (supply voltage range)