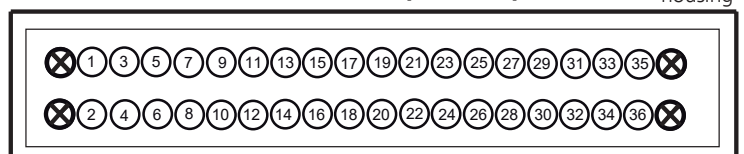


32-Channel Micro Preamplifier μ PA32

32-Channel Micro Preamplifier μ PA32 for Use with the Portable-ME-32-System



32-Channel Micro Preamplifier Inputs



Application

The micro preamplifier with 32 electrode inputs 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 μ PA32 is equipped with an Omnetics socket for NeuroNexus probes CM32, F32, HP32, and MRCM32. When using two 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.

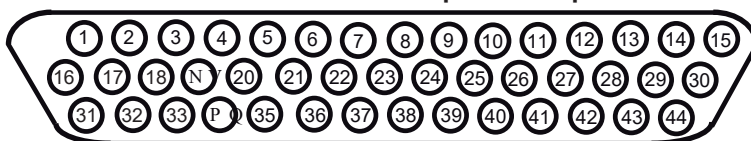
Input Connector Omnetics

A79023-001 (NSD-36-DD-GS with 4 guide posts, female)

- 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 Outputs



Output Connector 44-Pin HD D-Sub male connector (Harting TB 09 56 300 5615)

Pin	Channel	Pin	Channel	Pin	Channel	Pin	Channel
1	1	17	2	32	3	12, 13, 16, 28, 31, 42	GND
2	4	18	5	33	6		
3	7	19	8	34	9	14, 15, 30	positive supply voltage
4	10	20	11	35	12		
5	13	21	14	36	15		
6	16	22	17	37	18	29, 43, 44	negative supply voltage
7	19	23	20	38	21		
8	22	24	23	39	24		
9	25	25	26	40	27		
10	28	26	29	41	30		
11	31	27	32				

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32-Channel Micro Preamplifier μ PA32

Technical Specifications

Technical Specifications

Type	μPA32
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. 20 mm x 25 mm x 3 mm w/o connector ca. 24 mm x 25 mm x 3 mm with connector
Length of the cable	1.5 m
Weight	ca. 2 g w/o cable
Maximum tensile strength of the cable	20 N
Input connector type	Omnetics NSD series, female with 4 guide posts: A79023-001, NSD-36-DD-GS
Mating connector type	Omnetics NPD series, male with 4 guide posts, for example: - Through-Hole: A79022-001 (NPD-36-DD-GS) - Horizontal Surface Mount (SMD, horizontal): A79024-001 (NPD-36-AA-GS) - Vertical Surface Mount (SMD, vertical): A79026-001 (NPD-36-VV-GS) - With cable (18.0" 34 AWG lead-wire): A79028-001 (NPD-36-WD-18.0-C-GS)
Output connector type	44-pin HD D-Sub, male (Harting TB 09 56 300 5615)
Number of amplifier channels	32
Supply voltage	± 2.5 V
Supply current	$< \pm 30$ mA, typically ± 26 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)