

MPA Miniature Preamplifier



	MPA2I	MPA8I	MPA32I	MPA32IFLEX
Operating temperature	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C
Storage temperature	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C
Relative humidity	10 % to 85 %, non-condensing	10 % to 85 %, non-condensing	10 % to 85 %, non-condensing	10 % to 85 %, non-condensing
Dimensions (W x D x H)	12 mm x 31 mm x 3 mm	17 mm x 25 mm x 1.8 mm	27 mm x 36 mm x 5 mm	27 mm x 34 mm x 5 mm
Weight		1.3 g w/o cable and plug, 21 g with cable and plug	7 g w/o cable and plug, 56 g with cable and plug	7 g w/o cable and plug, 56 g with cable and plug
Maximum tensile strength of cable	2 kg	2 kg	2 kg	2 kg
Input connector type	Single-row precision sockets, 50 mil (1.27 mm) grid pattern, for 0.35-0.45 mm round pins)	Single-row precision sockets, 50 mil (1.27 mm) grid pattern, for 0.35-0.45 mm round pins)	Dual-row precision sockets, 50 mil (1.27 mm) grid pattern, for 0.35-0.45 mm round pins)	Special input for use with FlexMEAs
Supply voltage	± 3 V to ± 8 V DC	± 3 V to ± 8 V DC	± 3 V to ± 8 V DC	± 3 V to ± 8 V DC
Supply current	< ± 2 mA, typically ± 1 mA	< ± 6 mA, typically ± 4 mA	< ± 14 mA, typically ± 9 mA	< ± 14 mA, typically ± 9 mA
Number of input channels	2	8	32	32
Input voltage	± 500 mV (with respect to a supply voltage of 5 V)	± 500 mV (with respect to a supply voltage of 5 V)	± 500 mV (with respect to a supply voltage of 5 V)	± 500 mV (with respect to a supply voltage of 5 V)
Input impedance	10 ¹² Ω parallel to 10 pF	10 ¹² Ω parallel to 10 pF	10 ¹² Ω parallel to 10 pF	10 ¹² Ω parallel to 10 pF
Input noise	< 1.5 μV _{RMS} (1 Hz to 5 kHz, inputs short-circuited)	< 1.5 μV _{RMS} (1 Hz to 5 kHz, inputs short-circuited)	< 1.5 μV _{RMS} (1 Hz to 5 kHz, inputs short-circuited)	< 1.5 μV _{RMS} (1 Hz to 5 kHz, inputs short-circuited)
Noise density	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$
Number of output channels	2	8	32	32
Output voltage	= supply voltage	= supply voltage	= supply voltage	= supply voltage
Output current	max ± 10 mA	max ± 10 mA	max ± 10 mA	max ± 10 mA
Output impedance	0 Ω	0 Ω	0 Ω	0 Ω
Bandwidth	DC to 50 kHz	DC to 50 kHz	DC to 50 kHz	DC to 50 kHz
Gain	10	10	10	10

Versions with 2, 8 and 32 channels available, MPA2I, MPA8I, and MPA32I, respectively. MPA 32IFLEX is a special version for use with Flex-MEAs.