

Technical Specifications

MEA1060 Amplifier	MEA1060-Inv-Standard	MEA1060-Up-Standard	MEA1060-Inv-BC-Standard (+ FA60S-BC)	MEA1060-Up-BC-Standard (+ FA60S-BC)	MEA96-Well Standard
Operating temperature	10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C	10 °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	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	10 to 85 %, non condensing
Dimension (W x D x H)	165 mm x 165 mm x 29 mm	165 mm x 165 mm x 29 mm	165 mm x 165 mm x 29 mm	196 mm x 184 mm x 18 mm	
Weight	800 g	600 g	750 g + 450 g (FA)	750 g + 450 g (FA)	
Supply voltage	± 6 VDC to ± 9 VDC	± 6 VDC to ± 9 VDC	± 6.5 VDC to ± 9 VDC	± 6.5 VDC to ± 9 VDC	± 6.5 VDC to ± 9 VDC
Supply current	max. ± 220 mA, typically ± 150 mA	max ± 220 mA, typically ± 150 mA	± 550 mA,	± 550 mA,	max. ± 220 mA typically ± 150 mA
Number of input channels	60	60	60	60	96
Input voltage range	± 4 mV (with respect to the standard gain of 1200)	± 4 mV (with respect to the standard gain of 1200)	± 4 mV (with respect to the standard gain of 1100)	± 4 mV (with respect to the standard gain of 1100)	± 4 mV (with respect to the standard gain of 1000)
Input impedance	> 10 ¹¹ Ω parallel to 10 pF	> 10 ¹¹ Ω parallel to 10 pF	> 10 ¹¹ Ω parallel to 10 pF	> 10 ¹¹ Ω parallel to 10 pF	> 10 ¹¹ Ω parallel to 10 pF
Input noise	< 800 nV _{RMS, 1000}	< 800 nV _{RMS, 1000}	< 800 nV _{RMS, 1000}	< 800 nV _{RMS, 1000}	< 800 nV _{RMS, 1000}
Noise density @ 1 kHz	e _n = 15 nV / √Hz	e _n = 15 nV / √Hz	e _n = 15 nV / √Hz	e _n = 15 nV / √Hz	e _n = 15 nV / √Hz
Number of output channels	60	60	60	60	96
Output voltage	± 5 V	± 5 V	± 5 V	± 5 V	± 5 V
Output current	10 mA	10 mA	10 mA	10 mA	10 mA
Output impedance	300 Ω	300 Ω	300 Ω	300 Ω	300 Ω
Bandwidth	1 Hz to 3 kHz (standard), 1 Hz to 10 kHz (custom)	1 Hz to 3 kHz (standard), 1 Hz to 10 kHz (custom)	1 Hz to 3 kHz (standard), 1 Hz to 10 kHz (custom)	1 Hz to 3 kHz (standard), 1 Hz to 10 kHz (custom)	0.6 Hz to 2.2 kHz
Filter slope	60 db/decade	60 db/decade	60 db/decade	60 db/decade	60 db/decade
Gain	1200 (standard), 500 to 5000 (custom)	1200 (standard), 500 to 5000 (custom)	1100 (standard), 500 to 5000 (custom)	1100 (standard), 500 to 5000 (custom)	1000 (standard)
Number of stimulus input channels	60	60	2	2	0
Typical switch enable time	n/a	n/a	± 20 ns	± 20 ns	n/a
Heating Element HE					
Heating temperature	from ambient temperature (min 10 °C) up to 50 °C	from ambient temperature (min 10 °C) up to 50 °C	from ambient temperature (min 10 °C) up to 50 °C	from ambient temperature (min 10 °C) up to 50 °C	from ambient temperature (min 10 °C) up to 50 °C
Accuracy	0.1 °C	0.1 °C	0.1 °C	0.1 °C	0.1 °C
Recovery time	0.5 min to 2 min	0.5 min to 2 min	0.5 min to 2 min	0.5 min to 2 min	0.5 min to 2 min
Typical time constant	50 s	50 s	50 s	50 s	50 s
Input voltage	max 10 V	max. 10 V	max 10 V	max 10 V	max 10 V
Input current	max 2 A	max 2 A	max 2 A	max 2 A	max 2 A
Temperature sensor	PT 100	PT 100	PT 100	PT 100	PT 100
Resistance	15 ± 2 Ω	15 ± 2 Ω	15 ± 2 Ω	15 ± 2 Ω	15 ± 2 Ω
Thermal resistance	6 °C / Watt	6 °C / Watt	6 °C / Watt	6 °C / Watt	6 °C / Watt
Calibration constant	T = c * (R-R0)/R0 for c =	T = c * (R-R0)/R0 for c =	T = c * (R-R0)/R0 for c =	T = c * (R-R0)/R0 for c =	T = c * (R-R0)/R0 for c =
Standard hole size	259.7 °C	259.7 °C	259.7 °C	259.7 °C	259.7 °C
	8 mm (HE-Inv-8)	17.6 mm (HE-Up)	8 mm (HE-Inv-BC)	17.6 mm (HE-Up-BC)	
Microscope Compatibility					
Distance focal plane to microscope table	Inverse microscopes 3.5 mm	Upright microscopes 8 mm	Inverse microscopes 3.5 mm	Upright microscopes 8.5 mm	n/a