multichannel systems
An Affiliate of Harvard Bioscience, Inc.

MEA2100-Mini-System

Technical Specification

General Characteristics	
Operating temperature	10 °C - 50 °C / 50 °F - 122 °F
Storage temperature	0 °C - 50 °C / -32 °F - 122 °F
Relative humidity	10 % to 80 %, non-condensing
Headstages	
Weight with cable	485 g
Cable length	3 m
Dimensions	186 mm x 80 mm x 12 mm
Headstage type	MEA2100-Mini-HS60 for 60-electrode MEAs MEA2100-Mini-HS120 for 120-electrode MEAs
Power consumption	1.5 W
Integrated Amplifier	
Number of analog recording channels	60 or 120
Data resolution	24 bit
Signal input voltage range	± 70 mV
Bandwidth	DC to 10 kHz, software controlled
Sampling frequency per channel	up to 50 kHz, software controlled
Input impedance	450 MΩ || 10 pF
Input noise	Typical 0.7 μV_{RMS} (1 Hz to 3.5 kHz, inputs connected to ground)
Integrated Stimulus Generator	
Output current	± 1 mA @ ±16 V compliance voltage
Output voltage	± 10 V @ ± 20 mA max. compliance current
Stimulation pattern	2 independent stimulation patterns, almost arbitrary pattern
Resolution	16 bit
Integrated Heating Element	
Temperature sensor type	Pt 100 (with four wire connection, compatible with TCX
Accuracy	± 0.1 °C

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Signal Collector Unit SCU	
Dimension (W x D x H)	250 mm x 83 mm x 25 mm
Weight	300 g
4 Inputs for headstages (HS1 to HS 4)	Lemo connector, EPG.0B.307.HLN
1 Connector with 4 analog outputs for LED driver	Lemo connector, EPG.0B.304.HLN
Voltage output of each analog output	0 - 5 V
2 Signal Collector Unit to Interface Board connectors	External power over iX-industrial cable, type B
1 64-Channel Analog Out connector	68-pin MCS standard connector, Honda-PCS-XE68LFD
Interface Board IFB-C Multiboot	
Dimensions (W x D x H)	250 mm x 83 mm x 25 mm
Weight	300 g
Front Panel	
2 Sync IN and Sync OUT	Lemo connector, EPL.00.250 NTN
1 8-Channel Analog IN	10-pin connector, DIL10Header-100mil
2 Analog Inputs, Channel 1 and Channel 2	Lemo connector, EPL.00.250 NTN
Signal input range for analog channels	±10 V voltage input range @ 24 bit ADC
Gain for analog channels	2
2 LEDs	LED light is on, while link to SCU is working
4 Digital Inputs	Lemo connector, EPL 00250 NTN
4 Digital Outputs	Lemo connector, EPL 00250 NTN
1 Ground	Common jack 4 mm, banana plug
Rear Panel	
I / O	Switch On / Off
1 Power supply	MPU 30, PWR DC 0.65 x 2.75 mm
1 Ground	Common jack 4 mm, banana plug
1 16 bit Digital In / Out	68-pin MCS standard connector, Honda-PCS-XE68LFD
2 Auxiliary channels (Not in use!)	Lemo connector, EPL.00.250 NTN
1 Audio output	Stereo jack 3.5 mm
1 JTAG DSP	14-pin JTAG connector, DIL14Header-100mil-angeled
2 IFB-C to SCU connectors	External power over iX-industrial cable, type B
2 USB-C ports	USB-C A and USB-C B

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Technical Specifications

Power Supply Unit	
Voltage range	100 - 240 VAC
Output voltage	24 VDC
Max. power	60 W
Frequency	50 - 60 Hz
Mark of conformity	CE
European standard	EN61010-1
Software	
Operating system: Microsoft Windows ®	Windows 11, 10, 8.1 (32 or 64 bit)
Multi Channel Suite software package:	
Multi Channel Experimenter	Version 2.20.2 and higher
Multi Channel Analyzer	Version 2.20.2 and higher
Multi Channel DataManager	Version 1.14.10 and higher

Multi Channel Systems
Multi Channel Systems
MCS GmbH
Aspenhaustrasse 21
72770 Reutlingen Germany

Sales:
sales@multichannelsystems.com

Technical Support:
support@multichannelsystems.com

Web:
multichannelsystems.com

Americas
Tel: (+1) 833 668 8632

Europe, Middle East, Africa
Tel: (+49) 7121 909 2525

Asia Pacific
Tel: (+86) 21 6226 0239

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