

## MEA2100-System

### Technical Specifications

#### General characteristics

Operating temperature	10 °C to 50 °C
Storage temperature	0 °C to 50 °C
Relative humidity	10 % to 85 %, non-condensing

#### Headstage

Dimensions (W x D x H)	256 mm x 151 mm x 25 mm
Weight	1000 g
Type of headstage	MEA2100-HS32 for 32-electrode MEAs, MEA2100-HS2x32 for 2 x 32-electrode MEAs MEA2100-HS60 for 60-electrode MEAs, MEA2100-HS2x60 for 2 x 60-electrode MEAs, MEA2100-HS120 for 120-electrode MEAs

#### Integrated Amplifier

Number of analog recording channels	32 to 120, depending on the headstage type
Data resolution	16 bit
Input voltage range	from +/- 812 µV to +/- 227 mV in 9 steps of x2
Bandwidth	0.1 Hz to 10 kHz
Sampling frequency per channel	up to 50 kHz, software controlled
Input impedance	1 GΩ    10 pF

#### Integrated Heating Element

Temperature sensor type	Pt 100 with four wire connection, compatible with TCX
Accuracy	+/- 0.1 °C

#### Integrated Stimulus Generators

Output current	+/- 1.5 mA
Current output compliance voltage	+/- 10 V
Output voltage	+/- 12 V
Voltage output compliance current	+/- 20 mA
Stimulation pattern	rectangle: biphasic, monophasic, pulse trains
Number of stimulation channels	3 independent stimulation patterns per 60 channels
Resolution	16 bit

### Interface board with connectors

Interface board

Dimensions (W x D x H) 250 mm x 83 mm x 25 mm

Weight 300 g

#### Front panel

4 Digital inputs Lemo connector, EPL.00.250 NTN

4 Digital outputs Lemo connector, EPL.00.250 NTN

2 Auxiliary channels (not in use) Lemo connector, EPL.00.250 NTN

#### Rear panel

1 16 bit Digital In / Out 68-pin MCS standard connectors

1 8-Channel Analog IN 20-pin connector (2.54 mm grid), dual row standard IDC

2 Analog Inputs Lemo connector, EPL.00.250 NTN

2 USB high speed ports USB 2.0 high speed cable (type A - mini B, 5 pin)

Power Supply MPU 30, scope of delivery, PWR DC 0.65 x 2.75 mm

Ground Common jack 4 mm, banana plug,

1 Audio Output Stereo jack 3.5 mm, FFA.00.250 CTAC29

#### Side panel

2 Interface board to headstage External power over serial ATA (eSATAp)

### Power supply unit (MPU 30)

Input voltage 90 – 264 VAC @ 47 – 63 Hz

Output voltage 11 – 13 V

Max. Power 30 W

Mark of conformity CE, TÜV, cUL

European standard EN60601

### Software

Operating system Microsoft Windows ® 8.1,  
Microsoft Windows ® 7 (32 or 64 bit),  
XP or Vista  
English and German version supported

MC\_Rack program Version 4.1.1 and higher

Data acquisition and analysis software

MC\_DataTool program Version 2.6.3 and higher

Data export software Axon binary file (\*.abf), ASCII file (\*.txt),  
binary file (\*.raw)



**Warning:** The device may only be used together with MEA chips from Multi Channel Systems MCS GmbH, and only for the specified purpose. Damage of the device and even fatal injuries can result from improper use. Do not open the headstage or the interface box and do not change hardware configuration as it could lead to improper behaviour of the system.