

Multiwell-MEA-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) | 302 mm x 166 mm x 90 mm |
| Weight | 4000 g |
| Well plate contacting unit | Motorized contacting mechanism |

Integrated Amplifier

| | |
|--------------------------------|---|
| Number of recording channels | 288 |
| Data resolution | 24 bit |
| Bandwidth | 0.1 Hz to 10 kHz, modifiable via software; default 1 Hz to 3.5 kHz |
| Sampling frequency per channel | 50 kHz or lower, software controlled |
| Input voltage range | ± 2500 mV |

Intergated Stimulus Generator

| | |
|-------------------------------------|-------------------------------------|
| Current stimulation | max. ± 1 mA |
| Voltage stimulation | max. ± 10 V |
| Stimulation pattern: Pulse or burst | Stimulation sites freely selectable |

Integrated Heating Element

| | |
|-------------------------|----------------------------------|
| Temperature sensor type | Pt 100 with four wire connection |
| Accuracy of regulation | ± 0.1 °C |

Interface Board „MCS-IFB 3.0 Multiboot“ and Connectors

| | |
|------------------------|------------------------|
| 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 00250 NTN |
| 4 Digital outputs | Lemo connector, EPL 00250 NTN |
| 2 Auxiliary channels (not in use) | Lemo connector, EPL 00250 NTN |

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Rear Panel

1 16 Bit Digital In / Out
 1 8-Channel Analog In

2 Analog Inputs
 Signal input range for analog channels
 Gain for analog channels

1 Digital signal processor DSP port
 Not in use in Multiwell-MEA-Systems!

2 USB 3.0 ports
 Power supply
 Ground
 1 Audio output

68-pin MCS standard connector
 10-pin connector (2.54 mm grid), dual row standard IDC
 Lemo connector, EPL 00250 NTN
 ± 2500 mV
 2
 20-pin JTAG connector (1.27 / 2.54 mm grid)

USB 3.0 super speed cable (type A - micro B)
 MPU 30, PWR DC 0.85 x 2.75 mm
 Common jack 4 mm, banana plug
 Stereo jack 3.5 mm

Side Panel

2 Interface board to headstage connectors External power over serial ATA (eSATAp)
Please connect the Multiwell headstage to port 1 while port 2 must be open!

Power Supply Unit

Input voltage range 100 - 240 V
 Output voltage 11 - 13 V
 Max. power 30 W
 Mark of conformity CE, TÜV, cUL
 European standard EN60601

Software

Operating system Microsoft Windows 10 and 8.1, 7 (64 bit), English and German version supported

Data acquisition: Multiwell-Screen Version 1.6.4 and higher + Windows 10 or 8.1
 Analysis software: Multiwell-Analyzer Version 1.2.9 and higher
 Data export: Multi Channel DataManager Version 1.8.6 and higher