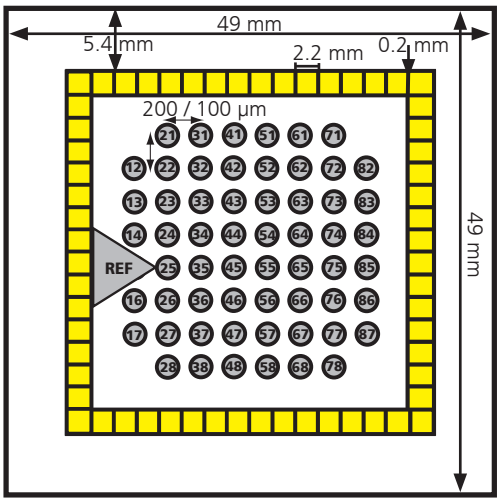
multichannel systems

Innovations in Electrophysiology

60StandardMEA

**60MEA100/10iR-ITO, 60MEA100/10iR-Ti,
60MEA200/10iR-ITO, 60MEA200/10iR-Ti,
60MEA200/30iR-ITO, 60MEA200/30iR-Ti,**

Layout



Technical Specifications

Temperature compatibility	0 - 125 °C
Dimensions (W x D x H)	49 mm x 49 mm x 1 mm
Base material	Glass
Track material	ITO (Indium tin oxide) or Ti (Titanium)
Contact pads	ITO (Indium tin oxide) or TiN (Titanium nitride)
Electrode diameter	10 µm or 30 µm
Interelectrode distance (center to center)	100 µm or 200 µm
Electrode height	Planar
Electrode material	TiN (Titanium nitride)
Isolation material	Silicon nitride 500 nm (PEVCD)
Electrode impedance	< 100 kΩ for 30 µm electrodes 250 - 400 kΩ for 10 µm electrodes
Electrode layout grid	8 x 8
Number of recording electrodes	59 (with iR) or 60 (without iR)
Number of reference electrodes	1 internal reference electrode (iR)
Software	
Multi Channel Experimenter	MEA Configuration
MC_Rack	2 dim. (MEA) or Configuration
Channel map	Default

Advantages

- Standard MEAs are useful for all kinds of application, this provide flexibility.
- The signal-to-noise ratio is excellent.
- ITO contact pads and tracks are transparent, for a perfect view of the specimen under the microscope.

MEA Perfusion Chamber

(w/o) Without ring
(gr) Glass ring ID +/- 19 mm, OD +/- 24 mm, height 6 / 12 mm
(pr) Plastic ring without thread ID 26.5 mm, OD 30 mm, height 6 / 15 mmm
(pr-T) Plastic ring with thread ID 26 mm, OD 30 mm, height 6 / 15 mmm

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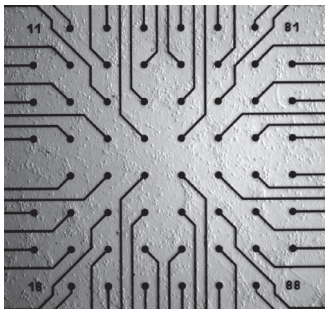

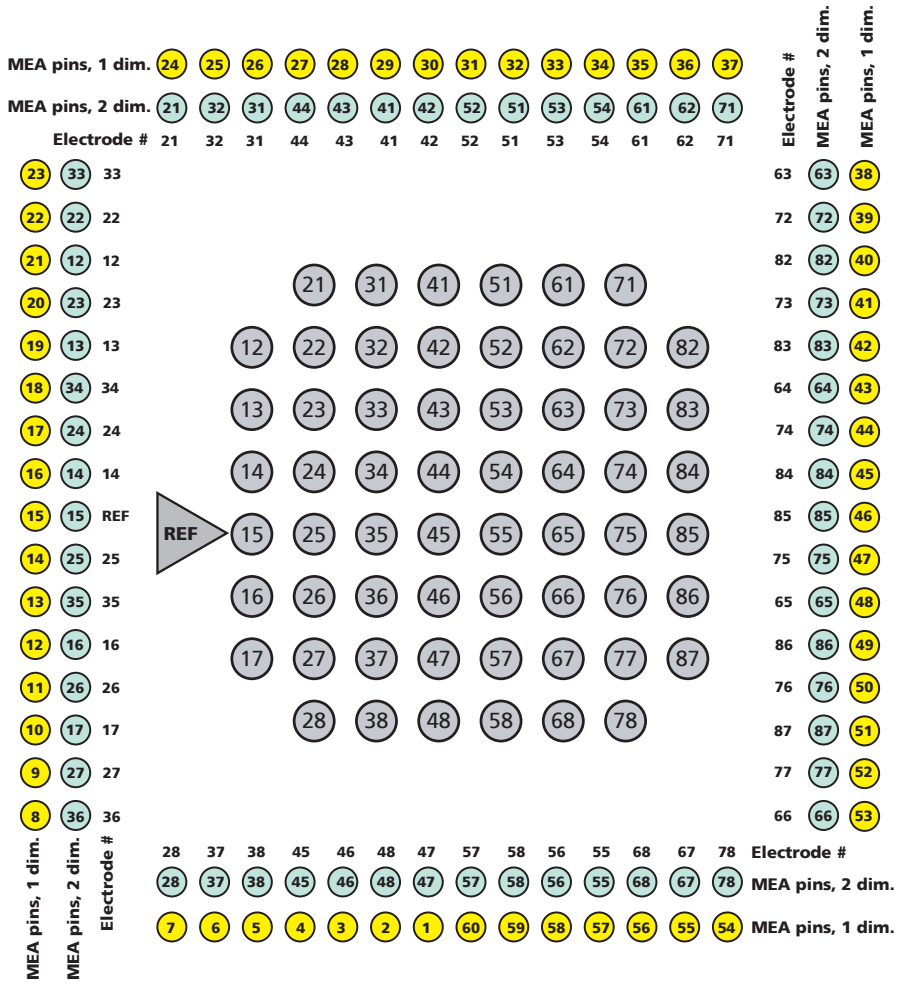

MEAs are not symmetrical! MEAs with internal reference electrode should be placed with reference electrode to the left side when looking directly to the opened amplifier.

Numbering

The numbering of MEA electrodes in the 8 x 8 grid follows the standard numbering scheme for square grids:

The first digit is the column number, and the second digit is the row number. For example, electrode 23 is positioned in the third row of the second column.

The specified MEA pin numbers (1 dim. or 2 dim.) are the channel numbers that are used in the data acquisition program, when using the 1 dimensional layout or the 2 dimensional layout (or Configuration) in the "Data Source Setup". The electrode 15 is missing in MEAs with internal reference electrode. It is replaced by a big internal reference electrode, connected to pin 15 of the amplifier.

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