multichannel systems

Innovations in Electrophysiology

60HighDensityMEA

60HDMEA30/10iR-ITO

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)
Contact pads	ITO (Indium tin oxide)
Electrode diameter	10 µm
Interelectrode distance (center to center)	30 µm
Distance between electrode fields	500 µm or 150 µm
Electrode height	Planar
Electrode material	TiN (Titanium nitride)
Isolation material	Silicon nitride 500 nm (PEVCD)
Electrode impedance	250 - 400 kΩ
Electrode layout grid	2 x (5 x 6)
Number of recording electrodes	59
Number of reference electrodes	1 internal reference electrode (iR)
Software	
Multi Channel Experimenter	MEA Configuration
MC_Rack	2 dim. (MEA) or Configuration
Channel map	HighDenseMEA.cmp HighDenseMEA_L.cmp HighDenseMEA_R.cmp

Advantages

- This MEA type is especially useful for applications, where a high spatial resolution is critical, for example, for multitrode analysis.
- The double recording field can also be used for coculturing two slices, each on one recording field.

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.

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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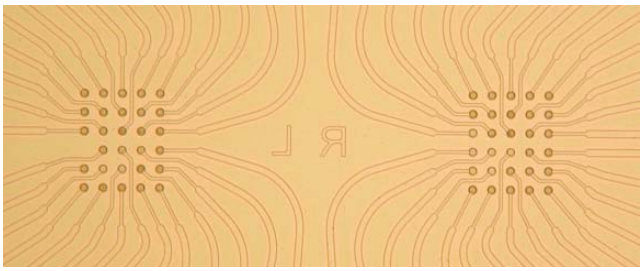

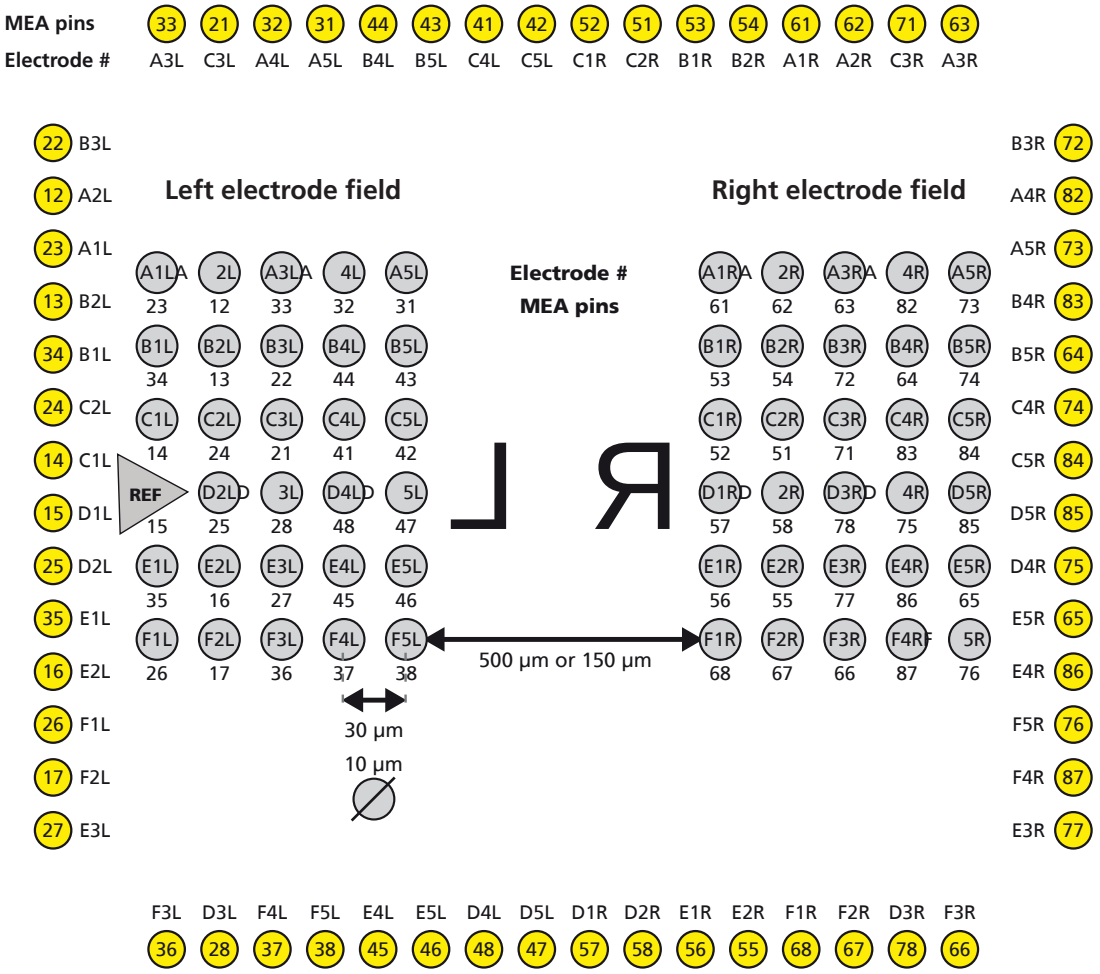

The first letter of the electrode number code refers to the row number, the digit is the column number, and the second letter refers to the electrode field (left or right) of the 60HighDenseMEA. The specified MEA pin numbers are the channel numbers that are used in the data acquisition program. The electrode D1 of the left electrode field, connected to channel 15 is missing. It is replaced by a big internal reference electrode.

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