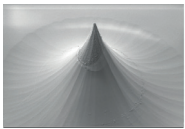


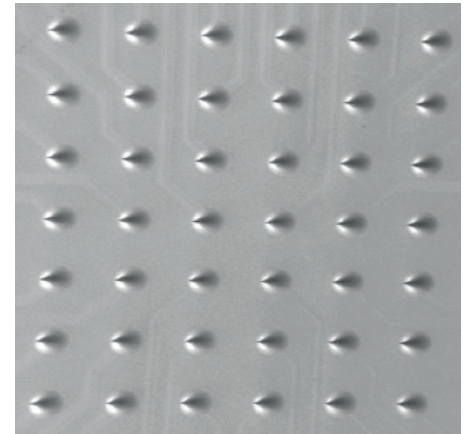
120-3DMEA

120-3DMEA250/12/100iR-Ti

Layout



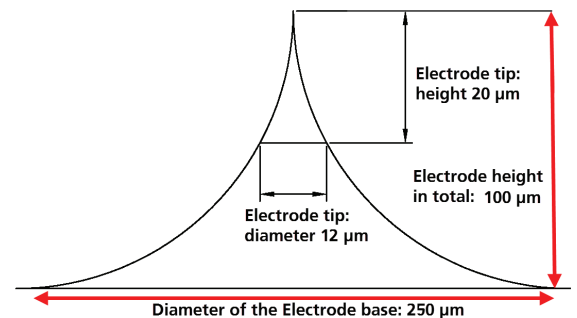
Warning:
The tips of the electrodes are fragile.
Please avoid mechanical stress when mounting or removing a slice.



3D Structure

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	Ti (Titanium)
Contact pads	TiN (Titanium nitride)
Electrode diameter	12 µm
Electrode height in total	100 µm (etched from glass)
Electrode base diameter	250 µm
Electrode tip diameter	12 µm, height: 20 µm
Interelectrode distance (center to center)	250 µm
Electrode material	TiN (Titanium nitride)
Isolation material	Silicon nitride (SiN)
Electrode impedance	150 kΩ
Electrode layout grid	12 x 12
Number of recording electrodes	120
Number of reference electrodes	4 internal reference electrode (iR)
Contact pads for reference electrodes, connected to ground	4
Software	
Multi Channel Experimenter	MEA Configuration
MC_Rack	2 dim. (MEA) or Configuration



Advantages

- The 3D structure is particularly well suited for acute tissue slice preparations.
- The tip-shaped electrodes are able to penetrate through the initial outer dead cell layer arising from the slice preparation process.
- The 3D electrodes also allow more efficient electrical stimulation of the cells.

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 mm
- (pr-T) Plastic ring with thread ID 26 mm, OD 30 mm, height 6 / 15 mm

120-3DMEA 120-3DMEA250/12/100iR-Ti

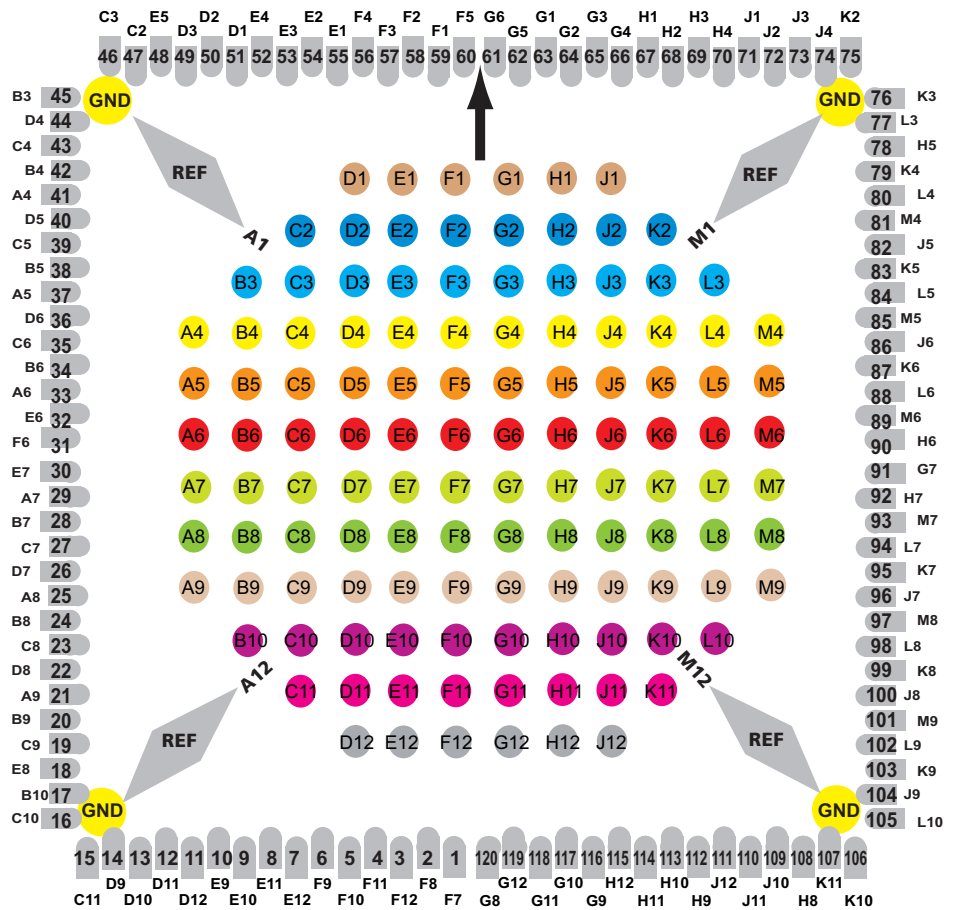
Layout

Orientation

Please insert the 120MEA in correct orientation: When looking from the front into the opened headstage, the small arrow near to the contact pads of the 120MEA faces upwards. Under microscope control you can read the markers A1 and A12, M1 and M12 as shown on the diagram.

Note of the Manufacturer

Due to the delicate etching process involved in 3D electrode production, 120-3DMEAs with two high impedance electrodes are still considered top quality. Other layouts or dimensions available on request.



The letter digit code is the electrode identifier, and refers to the position of the electrode in the 12 x 12 layout grid. The number code is the hardware identifier of the electrode. The reference electrodes (REF) are connected to ground (GND).

120-3DMEA

120-3DMEA250/12/100iR-Ti

Layout

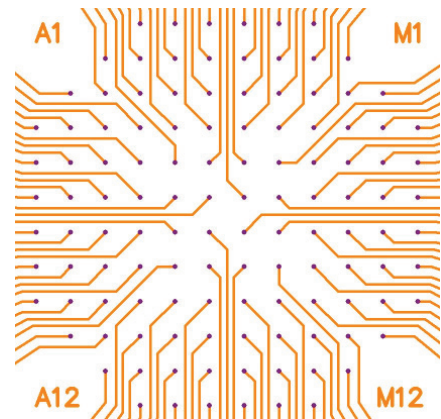


Table: Hardware ID and Electrode ID

HW ID	EL ID	HW ID	EL ID	HW ID	EL ID	HW ID	EL ID
120	G8	90	H6	60	F5	30	E7
119	G12	89	M6	59	F1	29	A7
118	G11	88	L6	58	F2	28	B7
117	G10	87	K6	57	F3	27	C7
116	G9	86	J6	56	F4	26	D7
115	H12	85	M5	55	E1	25	A8
114	H11	84	L5	54	E2	24	B8
113	H10	83	K5	53	E3	23	C8
112	H9	82	J5	52	E4	22	D8
111	J12	81	M4	51	D1	21	A9
110	J11	80	L4	50	D2	20	B9
109	J10	79	K4	49	D3	19	C9
108	H8	78	H5	48	E5	18	E8
107	K11	77	L3	47	C2	17	B10
106	K10	76	K3	46	C3	16	C10
105	L10	75	K2	45	B3	15	C11
104	J9	74	J4	44	D4	14	D9
103	K9	73	J3	43	C4	13	D10
102	L9	72	J2	42	B4	12	D11
101	M9	71	J1	41	A4	11	D12
100	J8	70	H4	40	D5	10	E9
99	K8	69	H3	39	C5	9	E10
98	L8	68	H2	38	B5	8	E11
97	M8	67	H1	37	A5	7	E12
96	J7	66	G4	36	D6	6	F9
95	K7	65	G3	35	C6	5	F10
94	L7	64	G2	34	B6	4	F11
93	M7	63	G1	33	A6	3	F12
92	H7	62	G5	32	E6	2	F8
91	G7	61	G6	31	F6	1	F7

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