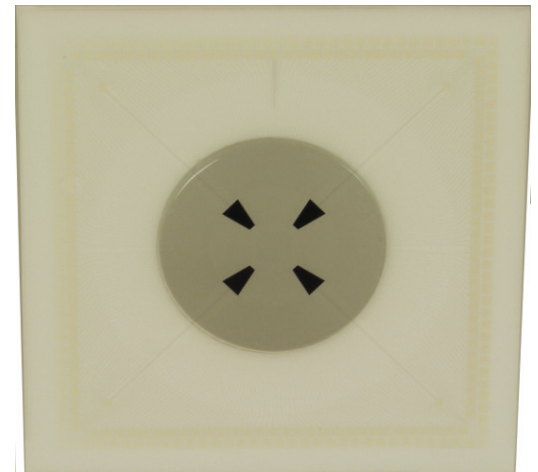


256ThinMEA for USB-MEA256-System

256ThinMEA for Use with USB-MEA256-System

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 or Ceramic carrier for 256ThinMEA200/30-ITO
Track material	ITO (Indium tin oxide)
Contact pads	ITO (Indium tin oxide)
Electrode diameter	8 µm, 10 µm or 30 µm
Interelectrode distance (center to center)	30, 60, 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 8 µm or 10 µm electrodes
Electrode layout grid	16 x 16
Number of recording electrodes	252
Number of reference electrodes	4 internal reference electrode (iR)
Contact pads for reference electrodes (connected to ground)	4
Software	
MC_Rack	Configuration
Channel map	16 x 16.cmp

Advantages

- 256MEAs with flat round TiN (Titanium nitride) electrodes and tracks and contact pads made of transparent ITO (Indium tin oxide) for a perfect view of the specimen under the microscope, especially with the 256ThinMEA.
- The high number of 252 electrodes are the perfect for recording from cell cultures of cardiac or neuronal origin as well as for stem cells.
- The signal-to-noise ratio is excellent.

MEA Perfusion Chamber

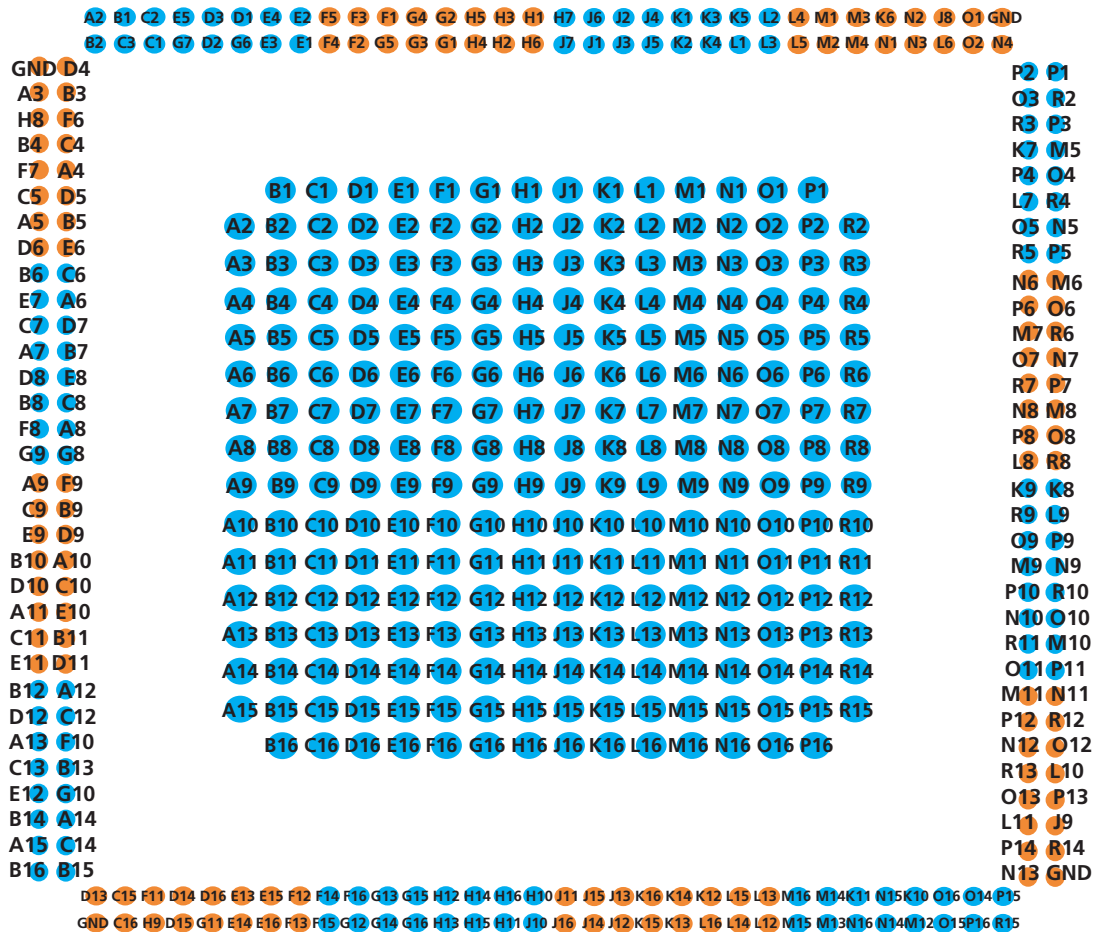
- (gr) Glass ring ID +/- 19 mm, OD +/- 24 mm, height 6 / 12 mm
- (pr) Plastic ring without thread ID 26.5 mm, OD 30 mm, height 6 / 15 mm
- (pr-T) Plastic ring with thread ID 26 mm, OD 30 mm, height 6 / 15 mm

256ThinMEA for USB-MEA256-System

256ThinMEA for Use with USB-MEA256-System

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The 256MEA is only MEA type, which is rotationally symmetric.



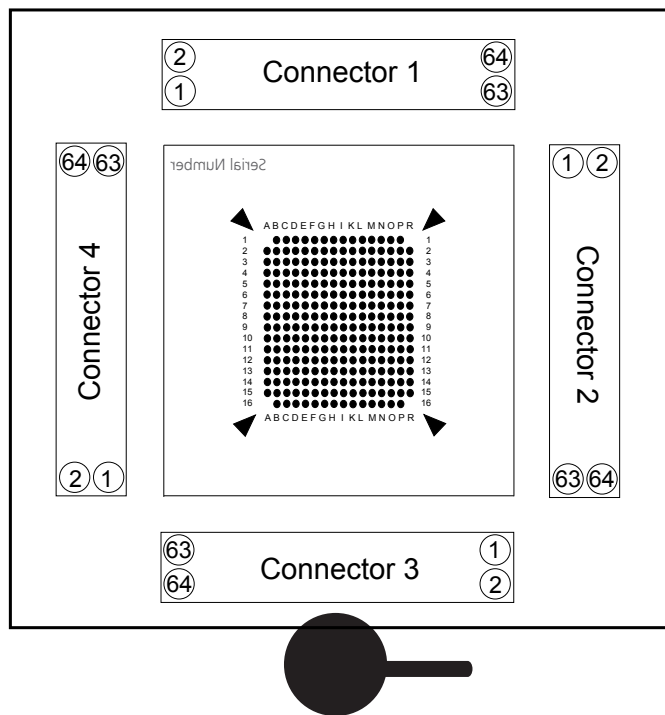
The letter digit code is the electrode identifier, and refers to the position of the electrode in the 16 x 16 layout grid. The layout of the letter digit code for the four connectors of the USB-MEA256 amplifier is shown. To correlate the pin layout of the connectors, please see the table on the next page.

The MEA is rotationally symmetrical, so the orientation does not matter. If the orientation is important for your experiments, you can use the engraved serial number as marker. The serial number is on the backside of the MEA in the upper right edge. In the amplifier the mirrored number has to be placed in the left upper edge. This way the 256-electrode layout will match the channel layout of the data acquisition.

● **256ThinMEA for USB-MEA256-System**

256ThinMEA for Use with USB-MEA256-System

● **Layout**



256ThinMEA for USB-MEA256-System

256ThinMEA for Use with USB-MEA256-System

Layout

Stim. Socket = Stimulation socket number in the connectors 1 to 4

Spring Contact = Spring contacts in the lid of the amplifier

Hardware ID = Hardware channel ID of MC_Rack hardware channels, using the linear layout

Electrode ID = Electrode ID of the MEA electrode in the 16 x 16 layout grid

Table

Stimulation Connector Socket 1				Stimulation Connector Socket 2				Stimulation Connector Socket 3				Stimulation Connector Socket 4			
Electrode ID	Stim. Socket	Spring Contact	Hardware ID	Electrode ID	Stim. Socket	Spring Contact	Hardware ID	Electrode ID	Stim. Socket	Spring Contact	Hardware ID	Electrode ID	Stim. Socket	Spring Contact	Hardware ID
A2	2	1	196	I9	60	191	125	C15	61	98	239	A10	25	113	236
B1	4	133	130	K7	7	38	41	C16	62	222	209	A11	22	232	205
B2	1	2	226	K8	34	178	74	D13	63	99	171	A12	15	108	169
C1	5	4	223	K9	33	51	104	D14	57	96	184	A13	12	227	143
C2	6	134	193	L10	56	189	2	D15	58	220	213	A14	5	103	241
C3	3	3	158	L11	59	64	30	D16	55	95	181	A15	4	223	141
D1	12	137	254	L7	11	40	42	E13	53	94	182	A3	62	252	195
D2	2	6	224	L8	31	50	35	E14	54	218	243	A4	55	128	159
D3	10	136	194	L9	36	179	5	E15	51	93	179	A5	52	247	131
E1	15	9	55	M10	46	184	69	E16	52	217	147	A6	45	123	229
E2	16	139	25	M11	49	59	100	F11	59	97	183	A7	42	242	202
E3	13	8	123	M5	8	165	14	F12	49	92	180	A8	35	118	166
E4	14	138	93	M6	18	170	78	F13	50	216	145	A9	32	237	138
E5	8	135	253	M7	21	45	105	F14	47	91	177	B10	26	234	206
F1	22	142	91	M8	28	175	7	F15	48	215	191	B11	19	110	170
F2	19	11	56	M9	39	54	33	F16	45	90	178	B12	16	229	144
F3	20	141	26	N10	43	56	34	G11	56	219	245	B13	9	105	242
F4	17	10	124	N11	50	186	70	G12	46	214	192	B14	6	224	211
F5	18	140	94	N12	53	61	97	G13	43	89	175	B15	1	101	240
G1	25	14	122	N13	63	66	27	G14	44	213	189	B16	2	100	210
G2	26	144	92	N5	14	168	77	G15	41	88	176	B3	61	131	225
G3	23	13	53	N6	17	43	108	G16	42	212	190	B4	58	250	198
G4	24	143	23	N7	24	173	10	H10	33	84	150	B5	51	126	162
G5	21	12	121	N8	27	48	38	H11	36	209	185	B6	48	245	134
G6	11	7	156	N9	40	181	6	H12	39	87	153	B7	41	121	232
G7	7	5	155	O10	44	183	3	H13	40	211	187	B8	38	240	201
H1	32	147	21	O11	47	58	31	H14	37	86	152	B9	29	115	233
H2	29	16	119	O12	54	188	67	H15	38	210	168	C10	23	112	167
H3	30	146	89	O13	57	63	98	H16	35	85	154	C11	20	231	139
H4	27	15	54	O3	3	36	44	H9	60	221	215	C12	13	107	237
H5	28	145	24	O4	10	166	80	J10	34	208	186	C13	10	226	212
H6	31	17	51	O5	13	41	107	J11	31	83	151	C14	3	102	172
H7	34	148	90	O6	20	171	9	J12	28	205	59	C4	57	129	228
I1	35	19	52	O7	23	46	37	J13	27	81	149	C5	54	248	197
I2	38	150	87	O8	30	176	73	J14	30	206	62	C6	47	124	161
I3	37	20	117	O9	37	53	101	J15	29	82	148	C7	44	243	133
I4	40	151	19	P1	2	34	82	J16	32	207	61	C8	37	119	231
I5	39	21	49	P10	41	55	102	K10	7	71	63	C9	30	236	203
I6	36	149	22	P11	48	185	4	K11	11	73	247	D10	24	233	140
I7	33	18	120	P12	51	60	32	K12	21	78	250	D11	17	109	238
I8	60	161	16	P13	58	190	68	K13	24	203	57	D12	14	228	207
K1	42	152	88	P14	61	65	95	K14	23	79	251	D4	63	132	157
K2	41	22	118	P2	1	35	112	K15	26	204	60	D5	53	127	227
K3	44	153	20	P3	6	164	79	K16	25	80	146	D6	50	246	200
K4	43	23	50	P4	9	39	110	L12	18	200	220	D7	43	122	164
K5	46	154	85	P5	16	169	12	L13	17	76	248	D8	40	241	164
K6	56	159	15	P6	19	44	40	L14	20	201	221	D9	27	114	168
L1	45	24	115	P7	26	174	76	L15	19	77	252	E10	21	111	235
L2	48	155	17	P8	29	49	103	L16	22	202	58	E11	18	230	208
L3	47	25	47	P9	38	180	71	M12	8	195	217	E12	8	225	142
L4	50	156	86	R10	42	182	72	M13	14	198	218	E6	49	125	230
L5	49	26	116	R11	45	57	99	M14	13	74	246	E7	46	244	199
L6	59	31	46	R12	52	187	1	M15	16	199	222	E8	39	120	163
M1	52	157	18	R13	55	62	29	M16	15	75	249	E9	28	235	137
M2	51	27	48	R1	462	192	65	N14	10	196	216	F10	11	106	174
M3	54	158	83	R2	4	163	13	N15	9	72	244	F6	59	130	160
M4	53	28	113	R3	5	37	109	N16	12	197	219	F7	56	249	132
N1	55	29	45	R4	12	167	11	O14	3	69	28	F8	36	239	135
N2	58	160	84	R5	15	42	39	O15	6	194	214	F9	31	116	165
N3	57	30	114	R6	22	172	75	O16	5	70	64	G10	7	104	173
N4	63	33	43	R7	25	47	106	P15	1	68	96	G8	33	117	234
O1	62	162	81	R8	32	177	8	P16	4	193	126	G9	34	238	204
O2	61	32	111	R9	35	52	36	R15	2	67	66	H8	60	251	129
GND	64	253		GND	64	254		GND	64	255		GND	64	256	