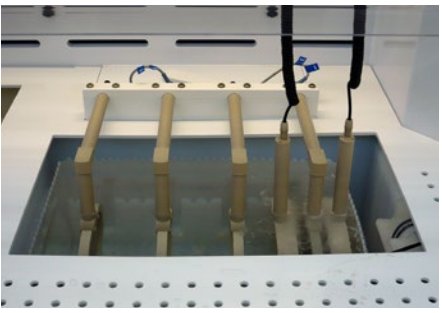
MEMS POTENTIOSTAT MODEL MC
MULTI-CHANNEL POTENTIOSTAT

PRODUCT INFORMATION SHEET EC

MEMS Potentiostat Model MC



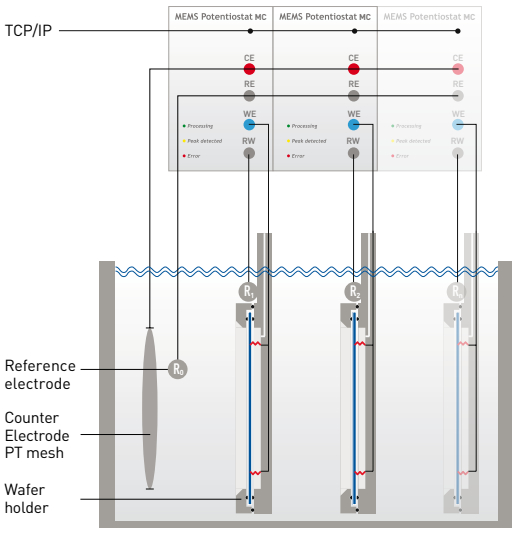
The MEMS Potentiostat Model MC has been especially designed for the use with electrochemical etch-stop techniques in silicon micromachining. The fabrication of many microelectromechanical systems (MEMS) depends on a reliable and easy to use potential controller for this step of processing. While our Model SC primarily focuses on research and development purposes, the Model MC is a solution for medium to large scale production of MEMS devices. Each Model MC incorporates four fully independent potentiostat units, which can be connected to a computer via the USB interface. Up to four Model MC can be connected to the same PC by our dedicated control software. Thus the system adapts flexibly to your demand.

As each sub-system is fully electrically insulated, up to 16 wafers can be etched simultaneously and independently in the same anisotropic etching bath. An optimum utilization of your KOH- or TMAH-equipment is thereby assured while saving your company's financial and personal resources.

The WetBenchPort, a customer-specific control unit, serves as an interface to automated wet benches for full integration of the system into a production environment. Via opto-coupled TTL lines and relays, the WetBenchPort is capable of controlling rinsing cycles, wafer transport, or safety interlocks.

Features of the MEMS Potentiostat Model MC are:

- output voltage from -10 V to +10 V DC
- supplementary voltage for four electrode configuration (0 to -10 V)
- output current up to 750 mA
- all outputs with short-circuit protection and thermal shut-down
- auto-ranging current-to voltage converter
- computer control via USB port or Ethernet
- dedicated software for Vista, Win 7/8
- compact design
- error detection (broken wafer, broken cable, current overload)
- detection algorithm for current peak.



MEMS Potentiostat Model MC

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TECHNICAL SPECIFICATIONS

Product code	**MEMS Potentiostat Model MC**	
Potentiostat modules	Up to four autonomous potentiostat modules can be mounted in the 19"-compatible rack of the MC4. Each module has own bias and 4EC outputs and an own RE input.	
Bias output	-10V to +10V DC 16-bit D/A-converter 5 mVpp ripple 750 mA maximum output current	
4EC output	0V to -10V DC 16-bit D/A-converter 5 mVpp ripple 230 mA maximum output current	
RE input	Input impedance: 10^6	
Current-to-Voltage converter Automatic range adjust	**Range**	**Accuracy**
	0 mA to 10 mA	1.6 µA
	10 mA to 750 mA	25 µA
A/D converter	16-bit A/D-converter	
Relay outputs	Two relays, up to 10 W each max. voltage 50 V max. current 0.5 A	
Computer interfaces	USB 2.0-interface Ethernet 10 MBit/s	
End-point detection	Built-in end-point detection algorithm connected to a relay	
Error detection	Built-in error detection (broken cable, broken wafer, leak) connected to a relay	
Etch Process Control software (EPC)	A Windows program controls up to 16 potentiostats simultaneously, stores and presents etch-stop data, draws and prints I/t-diagrams. For more details, see separate product info.	
Wafer identification	1-wire memory or RFID read out	
Power supply	110 to 240 V AC (45 to 63 Hz)	
Size	105 x 105 x 220 mm (WxHxD) 4" x 4" x 8"	
Weight	1.1 kg, 2.3 lb	