

# MINIPOTENTIOSTAT

## WENKING MODELS MP 04 E / MP 04 T

The Wenking MP 04 potentiostats are very rugged small potentiostats. Two models are available, the most economic one is MP 04 E which offers 0.2 A at 24 V. The more powerful model MP 04 T offers 0.4 A at 24 V.

The MP 04 now has become more versatile: Potential meter function is accessible by the "OCP" function. The current - to voltage conversion resistor set covers 6 ranges: MP 04 E from 200 mA to 10  $\mu$ A, MP 04 T from 400 mA to 10  $\mu$ A. The tiny aluminium housing is very sturdy and cares for good cooling of the interior.

Beyond electrochemical applications, the MP 04 models are ideal power - operational amplifiers for an unlimited number of applications. They are the most economic potentiostat with respect to their features.



## Applications

Potentiostat

Galvanostat

Potential meter

Booster Amplifier

Operational power amplifier

Voltage or current control generator

Current sink (zero - ohm - ampere meter)

Special applications in electrochemistry:

Polarisation resistance technique

Disc - Ring - Electrode system control (3 units required)

Current - to - voltage converter for extension of recordings to the range of very low currents.

Bi - potentiostat for difference potential control (2 units required)

Understanding its functionality, the MP 04 can be used in many fields of electrochemistry and beyond. Wherever a small power amplifier for experimental set-ups is required, which operates from DC to several 100 kHz, the MP 04 will do. Whenever a precision voltage source in the range +/- 2V is required: The MP 04 is it. Wherever a control amplifier is required in the low power range: the MP 04 is one. It can be used as zero-ohm-ammeter measuring currents down to nanoamperes, or as fast electrometer with high input impedance. So, the MP 04 can be the centre of many experiments in physics and chemistry.

## Specifications MP 04

Line voltage Fluctuation range	115 / 230 V AC, 50-60 Hz, 15 W ±10 %;
Ref. Electrode Input	Input resistance >10 <sup>11</sup> ohms within ± 10 V input range input current < 10 pA overload protected up to ± 100 V continuous
Noise	15 µV rms, decreasing with restricted bandwidth
Drift	10 µV/ °C typically, < 20 µV h, < 100 µV / 1000 h
Control Input	Input resistance 200 kΩ, overload protected up to ± 100 V continuous
Control Range	± 10 V external, internal ± 2000 mV ± 0,2 %
Open loop gain Roll - off	1 million typically (120 dB ) 20 dB per decade of frequency within the range from 0,2 Hz to 200 kHz ( unity gain crossover )
Int. Phase Compensation	90° from 0.2 Hz to 200 kHz
Current Output (Model E)	Ranges 200 mA, 100 mA, 10 mA, 1 mA, 100 µA, 10 µA, 200 mV per full range, (not referred to ground)
Current Output (Model T)	Ranges 400 mA, 100 mA, 10 mA, 1 mA, 100 µA, 10 µA, 200 mV per full range, (not referred to ground)
Potential Output	buffered potential output, unity gain transfer, 500 Ohms source impedance
Rise time constant	closed loop, ohmic load, 2 µs down to 50 Ω load, 20 µs at 1 Ω load maximum slew rate 5 V/µs (closed loop);
Output power	Model E: max. 5 W within the range of ± 30 V and ± 250 mA rated. ± 21 volts at 200 mA, Model T: max. 10 W within the range of ± 30 V and ± 450 mA rated. ± 21 volts at 400 mA,  overload signal at voltage limitation
Dimensions	162 * 160 *105 mm
Weight	1.4 kilograms (model E), 1.6 kg (model T)