

WENKING POTENTIOSTAT KP 07

The compact potentiostat KP 07 is a very economic instrument for simple potentiostatic and galvanostatic operations, preferentially where high currents and low cell voltages are required. Four operation modes are available: open circuit potential (OCP) measurement, potentiostatic control, controlled cell voltage, and galvanostatic control. It can be used as stand-alone device using its internal control voltage source (± 5000 mV), or a control voltage from an external source. Potential and current are displayed on two LCD displays and can be read out at two monitor outputs. The compact housing, small as a book, is made of a strong aluminium profile, acting as heat sink for the internal circuits. Therefore, the KP07 withstands harsh environmental conditions.



The KP07 got 4 current ranges from 20 mA to 20 A. The potential display can be switched from high resolution (± 1999 mV) to high potential/high voltage (± 19.99 V).

The KP07 can be controlled manually, or from a personal computer when using an AD/DA interface. An interface socket on the rear panel feed all analogue and digital signals.

- ◆ Maximum CE Voltage ± 8 V
- ◆ Maximum Current ± 3.5 A
- ◆ 4 - Wire Cell Connection

Main applications for the KP07 are battery research and testing, fuel cells, galvanics, anodic and cathodic protection.

Specifications KP 07

Power line 115 / 230 V * 10 %, 50 / 60 Hz, 60 W
Stabilisation range $\pm 15\%$ of nominal line voltage

Potential Buffer

Input impedance $> 10^{12} \Omega$, 3 pF in parallel
Potential range ± 5 V
Input bias current < 10 pA at 25* ambient temperature
Unity gain - Bandwidth (-3 dB) 4 MHz typ.
Small signal rise time $< 10^{-6}$ s
Slew rate 5 V / μ s
Potential output 1 k Ω Source resistance
Noise (0 - 250 kHz) < 30 μ V rms
Drift < 50 μ V / 24 h, 200 μ V / 100 h, 5 μ V / $^{\circ}$ C

Internal Control Voltage Source

Range ± 5000 mV
Temperature coefficient $< 10^{-4}$ / $^{\circ}$ C
Drift $< 10^{-4}$ / 1000 h
Tolerance Potential Meter 0,2% \pm 1 LSB

Potentiostat

Control input resistance 100 k Ω
Potential control range ± 5 V
Open loop gain $> 1000\ 000$ (dc)
Roll-off 20 dB / Decade
Unity gain bandwidth ca. 200 kHz
Small signal rise time 2 μ s closed loop, ohmic load, 90%)
Slew rate 5 V / μ s
Full power bandwidth > 50 kHz
Noise ref. to input 50 μ V rms
Drift ref. to input 200 μ V / 10 h, 500 μ V / 100 h, 10 μ V / $^{\circ}$ C
Power limits max. ± 5.5 V max. ± 3.3 A, max. 15 W

Monitor Output Current 2 V / per full range

Current-voltage-conversion better 0,25%

Current ranges and resolution 20 A / resolution 10 mA
2 A / resolution 1 mA
200 mA / resolution 100 μ A
20 mA resolution 20 μ A
using the monitor outputs the resolution can be increased by factor 10

Potential display ± 2 V / resolution 1 mV
 ± 20 V / resolution 10 mV
using the monitor output the resolution is < 100 μ V

Control Interface

DB 15 socket

Analog Outputs Potential and current
Analog Input Control voltage
Digital Inputs CE on/off
Potentiostat/Galvanostat
Range High/Low

<http://www.bank-ic.de>