

HIGH POWER POTENTIOSTAT / GALVANOSTAT

WENKING MODEL HP 400

Based on the high - power potentiostat / galvanostat HP 96, the HP 400 has been developed for applications in low-conductive electrolytes. 400 W output power can be switched in two compliance voltage ranges from 40 V to 80 V, to save energy and reduce power dissipation.



- CE Output range selectable: 40 V / 10 A and 80 V / 5 A
- Potentiostatic / Galvanostatic Function
- Control Interface PC-H

The control interface PC-H offers digital control of range and operation mode settings. It is compatible to many interface cards from Keithley instruments and data translation. Our electrochemical software CPC is best fitted for convenient handling of the HP 96 power potentiostat family.

SPECIFICATIONS HP 400

AC - power 115 / 230 V, 50 to 60 Hz, 450 VA
Stabilisation Range $\pm 10\%$ of nominal line voltage

POTENTIAL UNITY - GAIN - BUFFER (REFERENCE ELECTRODE INPUT)

Input impedance $> 10^{12} \Omega$, 5 pF in parallel
Input range ± 10 V
Input bias current $3 \cdot 10^{-11}$ A at 25 °C ambient temperature
Bandwidth (-3dB) 3 MHz
Small signal rise time $< 10^{-6}$ s
Slew rate 10 V/ μ s
Potential output 300 Ω source resistance
Output noise $< 20 \mu$ V rms, ripple negligible
Drift 50 μ V/10 h, 100 μ V/100 h, 5 μ V/°C

CONTROL VOLTAGE SOURCE

Range $\pm 1000, 2000$ or 4000 mV $\pm 0.2\%$
Temperature coefficient $3 \times 10^{-5}/^{\circ}\text{C}$

POTENTIOSTAT

Control input resistance 200 k Ω }
Superimposing accuracy 0,1% } both inputs
Control input range ± 10 V }
Open loop gain $> 2 \times 10^6$ at d. c.
Unity gain crossover 100 kHz
Small signal rise time $< 10 \mu$ s (closed loop, resistive load)
Slew rate 10 V/ μ s
Full power output 25 kHz
Noise referred to control input 50 μ V rms, ripple negligible
Current output noise and ripple $< 1 \mu$ A rms (reduced by bandwidth clipping)
Drift referred to control input 50 μ V/10 H, 100 μ V/100h, 10 μ V/°C
Current ranges 0,1 mA, 1 mA, 10 mA, 100 mA, .1 A, 10 A
(correspond to 2 V output voltage)
Accuracy (current -to-voltage conversion) Range 10 A: 1%, other ranges better than 0.3%

Operating limits

	max. voltage	max. current	rated output power
High CE voltage	± 90 V	$\pm 5,5$ A	± 80 V at ± 5 A
Low CE voltage	± 60 V	$\pm 10,5$ A	± 45 V at ± 10 A

Galvanostatic Mode

Bandwidth (load: short circuit) 70 kHz
Slew rate 5 V / μ s

PC-H Control Interface

Interface Type: 8 bit I/O, requires additional AD/DA interface
Controlled functions: Range setting, operation mode
Additional features 68 pin connector, feeds also potential and current signals using our cable combination.

Suitable AD interfaces (to be ordered separately) DT9804 16 bit USB interface, max. 125 ksamples/s
DT9834 16 bit USB interface, built-in signal processor
For fast pulses, square-wave voltammetry etc.

Dimensions

Housing 550 x 200 x 380 mm W x H x D
Weight net 33 kg net