

WENKING Potentiostat / Galvanostat POS 2

The new POS 2 is a fast medium power scanning potentiostat for advanced electrochemical tasks. It inherited the true linear sweep generator of its predecessor POS 88, as well as its fast MOS power stage. POS 2 got now 3 basic operation modes: Potential measurement, potentiostatic control and galvanostatic control. The current measurement is based on a fast precision zero resistance ammeter. Eight decadic ranges from 1 A down to 100 nA give precise current readings down to the pA - range. Different power stage options are available, either high current (25 V 2 A) or high voltage (up to 100 V 1 A). IR-Drop compensation can be provided by positive – feedback.

An interface socket prepares the POS 2 for computer controlled measurements: POS 2 allows both manual control or computer control. Our software CPC-DA offers convenient work for all standard tasks in the field of electrochemistry.



- Potentiostat / Galvanostat 25 V / 1 A
- Power Stages up to 190 V or 2 A Available
- Zero Resistance Ammeter Provides pA Readings
- Built - in Linear Scan Generator 4 mV/h to 100 V/s
- Both Manual and Computer - Control

BANK
ELEKTRONIK

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INTELLIGENT CONTROLS

Specifications

POS 2

AC-power 115 / 230 V \pm 10 %, 50 to 60 Hz

Potential Unity-Gain-Buffer

Input impedance $> 10^{12} \Omega$, 3 pF in parallel
Input range ± 10 V
Input bias current $< 10^{-11}$ A at 25° ambient temperature
Bandwidth (-3 dB) 5 MHz
Small signal rise time $< 2 \times 10^{-7}$ s
Slew rate 5 V / μ s
Potential output 1 kOhm source resistance
Output noise less than 30 μ V rms, ripple negligible
Drift 200 μ V / 10 h, 500 μ V/100 h, 10 μ V/°C

(Reference electrode input)

Potentiostat

Control input resistance 200 kOhm (IR.-drop feedback input: 1 Mohm)
Superimposing accuracy 0.1 %
Control input range ± 10 V
Open loop gain $> 10^6$ at d. c.
Roll-off 20 dB/decade of frequency
Unity gain crossover 300 kHz approx.
Small signal rise time $< 2 \mu$ s (closed loop, resistive load, 90 %)
Slew rate 10 V/ μ s
Full power output 30 kHz
Noise referred to control input 30 μ V rms, ripple negligible
Drift referred to control inputs 200 μ V/10 h, 500 μ V/100 h, 10 μ V/°C
Operating limits ± 30 V (max), ± 1.1 A (max) or ± 25 V at ± 1 A, resp.
Output power (standard version) 25 W

Options:

Power stage ± 25 V 2A, ± 50 V 1A, ± 75 V 1A, ± 100 V 0.5 A, ± 150 V 0.5 A
Front buffer amplifier HR: $\pm 10^{14}$ Ohms input resistance, 1 pF in parallel
Front buffer HV: extends potentiostatically controlled vrange to ± 50 or ± 100 V

Current Sink

D. C. input resistance Range 1 μ A: 10 Ω , 10 μ A: 1 Ω , 100 μ A 0.1 Ω , above 1 mA < 10 mOhms
Current input range 10^{-11} A to 1 A (standard power stage)
Open loop gain 500 k at d. c. approx.
Roll-off 20 dB/decade of frequency
Unity gain crossover 200 kHz typically
Small signal rise time $< 2 \mu$ s (closed loop, resistive load 90%)
Slew rate max. 10 V/ μ s output voltage
Full power output 30 kHz
Noise referred to control input 30 μ V rms, ripple negligible
Current output noise and ripple < 0.03 % of selected range (reduced by external bandwidth clipping)
Drift referred to input 200 μ V/10 h, 500 μ V/100 h, 10 μ V/°C
Current ranges (fsd) 100 nA to 1 A in 8 ranges, current - to voltage conversion 2 V per full range
Recorder output 1 k Ω source resistance single ended, referred to ground max. ± 10 V, threshold ± 0.1 mV

(Zero Resistance Ammeter)

Scan Generator

Operation modes single ramp, single triangle, periodic triangle
Trigger manually by push button or external trigger (5V TTL)
Scanning rate 7 decadic ranges: 0.1 mV/s to 100 V/s, attenuator 1:1 to 1:100
Initial potential and scan range ± 5 V, optionally ± 10 V
Long term stability
Drift (1 h) < 0.01 % of scanning rate during scan stop, otherwise negligible
Signal to noise ratio > 80 dB
Output single ended, short circuit protected resistance less than 1 Ω

Interface

Bank Elektronik PC-P control interface for PC control of operation mode, scan, and range setting

Dimensions

(W x H. x D) 540 x 200 x 390 mm net weight 16 kg gross weight 20 kg

Technical changes due to further development reserved.



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