

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
Input range
Input bias current
Bandwidth (-3 dB)
Small signal rise time
Slew rate
Potential output
Output noise
Drift

(Reference electrode input)

$> 10^{12} \Omega$, 3 pF in parallel
 ± 10 V
 $< 10^{-11}$ A at 25° ambient temperature
5 MHz
 $< 2 \times 10^{-7}$ s
5 V / μ s
1 kOhm source resistance
less than 30 μ V rms, ripple negligible
200 μ V / 10 h, 500 μ V/100 h, 10 μ V/°C

Potentiostat

Control input resistance
Superimposing accuracy
Control input range
Open loop gain
Roll-off
Unity gain crossover
Small signal rise time
Slew rate
Full power output
Noise referred to control input
Drift referred to control inputs
Operating limits
Output power (standard version)

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

(Zero Resistance Ammeter)

Range 1 μ A: 10 Ω , 10 μ A: 1 Ω , 100 μ A 0.1 Ω , above 1 mA < 10 mOhms
 10^{-11} A to 1 A (standard power stage)
500 k at d. c. approx.
20 dB/decade of frequency
200 kHz typically
 $< 2 \mu$ s (closed loop, resistive load 90%)
10 V/ μ s output voltage
30 kHz
30 μ V rms, ripple negligible
 < 0.03 % of selected range (reduced by external bandwidth clipping)
200 μ V/10 h, 500 μ V/100 h, 10 μ V/°C
100 nA to 1 A in 8 ranges, current - to voltage conversion 2 V per full range
1 k Ω source resistance single ended, referred to ground max. ± 10 V, threshold ± 0.1 mV

Scan Generator

Operation modes
Trigger
Scanning rate
Initial potential and scan range
Long term stability
Drift (1 h)
Signal to noise ratio
Output

single ramp, single triangle, periodic triangle
manually by push button or external trigger (5V TTL)
7 decadic ranges: 0.1 mV/s to 100 V/s, attenuator 1:1 to 1:100
 ± 5 V, optionally ± 10 V
 < 0.01 % of scanning rate during scan stop, otherwise negligible
 > 80 dB
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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