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| 1 | 01 | <ul style="list-style-type: none"> • Potentiostat/galvanostat: Electrical isolation from earth ground, fast data acquisition (300,000 pts/sec); low noise; max output current: $\pm 2A$, max output voltage: $\pm 30V$, potential range: $\pm 10V$, applied potential accuracy: $\pm 0.2\% \pm 2mV$, applied potential resolution: $150 \mu V$, measured potential resolution: $30 \mu V$, max scan rate: $250 V/s$, current ranges: $10nA$ to $2A$, optional booster current range: $\pm 10A$, accuracy: $\pm 300 \mu A$ ($\pm 0.2\%$ of current range); applied current resolution at $10nA$ range: 0.0003% of current range, potentiostat band width: $1MHz$; potential rise/fall time: $< 250ns$; potential modes: high speed/high mobility; electrode connections: 2-4; front panel display of potential & current; interfacing: USB & RS232; power requirements of $\sim 250W$ • Impedance analyzer (frequency response analyzer): Frequency range: $10 \mu Hz$ to $1MHz$; frequency resolution: 0.003%; applied amplitude: $0.2mV$ to $0.35 V(rms)$ with steps of $0.1 mV$ (potentiostatic mode), 0.0002 to 0.35 with steps of 0.0001 times applied current range in galvanostatic mode. • Frequency response (impedance) analysis software: Should enable parameters programming & control, data collection, data processing, data presentation in a variety of scan/plot formats such as Bode plot, Epsilon plot, Nyquist plot, potential, current & time scan, Mott-Schottky plot, etc. • Electrochemical cell kit: Should consist of 20-90 ml glass cell with provision for using working electrodes of $1 cm^2$ flat samples & $1mm$ diameter wire samples, one Pt wire counter electrode & one $Ag/AgCl$ reference electrode, lid & purge tube with valve. • Electrochemical software: Should be comprehensive, fully windows based, versatile & capable of supporting a wide variety of electrochemical techniques. Should be capable of system control, data acquisition, data processing & communication with external PC. Software should have facilities such as individual axis scaling, overlays, multiple axes, plot addition, zooming & rotation. | Potentiostat/ galvanostat with electrochemical impedance spectroscopy | 9 |
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