

Minutes of the Pre-Bid conference

Tender Notification No.: NITT/F. No: RES 001/PLAN 2013 – 14/CEC, dt: 28.11.2013


The pre-bid conference was held on 11.12.2013 at 10.30 a.m. in the committee room of CECASE and the following amendments are made. All other terms and conditions mentioned in the tender document remains same.

Specification for Multi Channel Potentiostat

Original tender specification	Amended specification
<p><u>Equipment Specifications</u></p> <ol style="list-style-type: none"> 1. 8 channel electrochemical system –all 8 channels should operate simultaneously, independently and synchronous mode. 2. Multichannel Potentiostat/Galvanostat/ EIS analyser designed for electrochemical research over a broad spectrum of applications. 3. All 8 channels should perform both AC/DC techniques, one channel at high current option with booster. 4. All channels should be electrically isolated; floating ground and should operate in single cell-multiple working electrode combination. 5. Potentiostat/Galvanostat capable of differential electrometer with input impedance > 10^{12} ohms with < 5 pA, input bias current (typical) at 25° C. voltage range of the electrometer is ± 10 V. 6. Should deliver max 2A of current at ± 12 V compliance, preferably without booster 7. Minimum current range of 3 - 5nA, providing down to current resolution at 120fA or better and options to measure in atto amps resolution range. 8. Capable of performing two-, three-, and four-electrode measurements, with a DC Voltage scan of window (+/-10V). 9. Scan rate of 10000V/s or better, 10. Applied voltage preferably with high resolution min at 300nV, for precise measurement 11. Should be capable of Synchronizing A/D Input, for collecting DC voltage inputs (+/- 10V) from other devices, such as pH and temperature probes, or from a quartz crystal microbalance. 12. DAC output (+/- 10V) for control of rotating disk electrodes or other devices requiring a DC voltage 	<ol style="list-style-type: none"> 3. All 8 channels should perform both AC/DC techniques, one channel at high current option for 10A. 5. Potentiostat/Galvanostat capable of differential electrometer with input impedance > 10^{12} ohms with < 10 pA, input bias current (typical) at 25°C. voltage range of the electrometer is ± 10 V. 6. Should deliver max 2A of current at ± 10 V compliance, preferably without booster 7. Minimum current range of 1 - 10nA, providing down to current resolution at 500 – 800 fA and options to measure in atto amps resolution range 9. Scan rate of 10000V/s or better in minimum of 4 channels. 10. Applied voltage preferably with high resolution in "minimum 700nV", for precise measurement 11. Should be capable of Synchronizing A/D Input, for collecting DC voltage inputs (+/- 10V) from other devices, such as pH and temperature probes, or from a quartz crystal microbalance in 4 channels. 12. DAC output (+/- 10V) for control of rotating disk electrodes or other devices requiring a DC voltage in 4 channels.

<p>13. Capable of positive feedback IR compensation and Dynamic IR compensation</p> <p>14. Option for built in Frequency Response Analyzer (FRA) for performing EIS measurements in the frequency range of 10uHz-1MHz with selectable amplitudes from 0.1mV-1000mV</p> <p>15. Recording of additional auxiliary, non-synchronous DC voltage inputs</p> <p>16. Possesses an Auxiliary Interface/ compatibility / additional hardware compatibility with following instrumentation for:</p> <ol style="list-style-type: none"> Connection to a static / hanging mercury electrode. Connection to a Faraday cage for stir and purge control. one TTL (trigger) input and minimum up to 4 TTL outputs for executing different other operations <p>17. Compatible data acquisition system with min 21 inch LED screen display with, i5 or better processor, 4GB RAM min, 500 GB HDD, DVD W/R and Laser Printer.</p> <p>18. Power Backup – 1 KVA capability.</p>	<p>14. Built in Frequency Response Analyzer (FRA) for performing EIS measurements in all the 8 channels in the frequency range of 10uHz-1MHz with selectable amplitudes from 0.1mV-1000mV</p> <p>15. Recording of additional auxiliary, non-synchronous DC voltage inputs in 4 channels.</p> <p>18. Power Backup – Minimum 2 KVA online capability.</p>
<p>Software Requirements:</p> <ol style="list-style-type: none"> USB controlled system/ software 32-bit/ 64 bit Windows 7 program for electrochemical experiments and analyses. Techniques Required: , Corrosion, Rp, Tafel, PR, Potentio-Galvano static, Potentio-Galvano dynamic, EIS CV, SWV, Multiple CV, CA, CC, CP, Pulse Voltammetry, NPV, DPV, RNPV, Charge/discharge and electrochemical noise analysis...etc All Text-based data files for easy export/import capabilities with other vendor software packages such as spread sheets or word processing packages. Flexible experimental setup that provides sequencing capabilities useful for: <ol style="list-style-type: none"> Providing unattended, sequenced experimental control, with loops and delays within the sequence. Useful for charge/discharge/EIS sequences in battery research, or loops of a particular experiment to monitor trends over time. Building custom waveforms, such as custom pulse trains with numerous steps at user-defined values or custom scans at differing scan rates and vertices. Controlling ancillary equipment (such as a water bath controller or multiplexer) between experiments should be possible to control other external instruments, without interrupting the main experiments running in between. Convenient Copy/Paste feature for data and graphs that need to be exported to document, spreadsheet, or presentation. Publication-quality graphics with the ability to change fonts, colors, 	<p style="text-align: center;">No Amendment</p>

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| <p>symbols, etc.</p> <ol style="list-style-type: none">8. Ability to view multiple plots on a single screen, each customized to the users settings.9. Ability to overlay data from different experiments, with the additional capability to overlay previously acquired data on specific real-time plots for on the spot comparisons.10. Equivalent circuit / modeling for detail analysis of results. | |
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