

TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENT

Sl No.	Description of items	Quantity
PUR/509/SET/BB/E/2019-20		
1	SUPPLY INSTALLATION TESTING AND COMMISSIONING OF ELECTROCHEMICAL SETUP [POTENTIOSTAT / GALVANOSTAT] FOR ELECTROCHEMICAL AND SENSING STUDY	1

1. INSTALLATION, COMMISSIONING AND TRAINING

- 1.1. The ordered goods are required to be installed within 15 days of receipt of goods at final destination. Installation should be carried out only by expert engineers of Supplier / Manufacturer. During the course of installation, necessary training on operation and maintenance of the goods shall be imparted to Institute's, Scientist / Engineers/Technicians.

2. WARRANTY

- 2.1. Comprehensive on-site warranty for a period of one year must be provided to be effective from the date of completion of installation and commissioning and final acceptance of the items / equipment at the user's laboratory / Institute.

3. QUALIFICATION REQUIREMENT

- 3.1. Bidder must furnish documentary evidence of supply and installation of at least three (3) similar equipment [same model as offered by the Bidder in his offer] in Government Research Institutes / IITs / CSIR laboratories / DRDO laboratories and other such laboratories or Institutes

Advanced electrochemical system with high frequency capability to measure various current & voltage ranges with high precision measurement & designed to suit various applications

- Voltage compliance range: $\pm 25V$ (standard without any booster) or better side
- Current compliance range: $\pm 0.8A$ (standard without any booster) or better side
- Applied Voltage range: $\pm 30V$ or better side
- Potentiostat rise/fall time: 55nos. or better side
- Potentiostat bandwidth: 5MHz or better side
- Applied Voltage resolution: 305nV for 10mV signal
- Applied Voltage accuracy: $\pm 2mV \pm 0.2\%$ of value
- Measured Voltage accuracy $\pm 2mV \pm 0.2\%$ of reading
- Maximum scan rate: 25KV per second for a 25mV step
- Applied current range: $\pm 1A$ or better side
- Min current(applied) resolution: 5.5pA or better side
- Electrometer bandwidth: $\geq 5MHz$
- EIS mode: Potentiostatic / Gavanostatic, mott-schottky
- Electrometer input impedance: $\geq 10^{12}\Omega$
- Input bias current: $\leq 5pA$
- Measuring voltage resolution (min) in $\pm 25V$ range: 5 μV or better
- Measuring current ranges: 5nA to 1 A auto-ranging in 10 ranges
- Measuring current min range / resolution: 4nA / 30.5fA or better
- Frequency range: 10 μHz to 7MHz within-built FRA or better
- AC amplitude: 0.1mV to 1000mV rms
- Frequency sweep: Linear or Logarithmic
- IR compensation: Positive Feedback & Dynamic IR
- Data acquisition: 1M samples/ second ADCs
- Additional data acquisition for external devices like pH , Temperature along with polarization data
- Floating option is there for grounded cells *should have floating options.*

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Devi

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Software Capabilities:

Software is capable to perform & analysis the following techniques

- *Open Circuit, Linear scan voltammetry, Cyclic voltammetry (Single & Multiple), Staircase voltammetry*
- *Chronoamperometry, Chronopotentiometry, Chronocoulometry*
- *Recurrent potential and current pulses*
- *Pulse Voltammetry techniques (Normal, reverse etc..)*
- *Zero resistance ammeter (ZRA)*
- *Galvanic Corrosion, Cyclic Polarization, Linear Polarization, Tafel, Potentiostatic, Potentiodynamic*
- *Galvanostatic, Galvanodynamic*
- *Batteries charge / discharge*
- *Potentiostatic EIS*
- *Galvanostatic EIS*
- *Internal resistance determination*
- *Charge / Discharge cycling, Charge / discharge operating with voltage / current / resistance / power*

Accessories :

250ml electrochemical cell for flat corrosion samples along with one Ag/AgCl reference electrode, one Pt mesh counter electrode & gas purging provision.

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