



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**

**MATERIALS MANAGEMENT DIVISION**

**Powai, Mumbai - 400076**

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### **Potentiostat / Galvanostat**

Technical Specifications:

1. Electrode Cell Connections: 2, 3, 4 terminal Connections.
2. Compliance Potential:  $\pm 12\text{V}$  or better
3. Applied & Measured Current:  $\pm 2\text{A}$  as standard without using booster.
4. Applied & Measured Voltage Range:  $\pm 10\text{V}$  with resolution of  $350\text{nV}$  or better.
5. Voltage & Current Accuracy:  $\pm 0.2\%$  or better
6. Lowest Current range  $\pm 4\text{nA}$  with resolution of  $150\text{fA}$  or better
7. Maximum Scan Rate:  $5000\text{V/s}$ ; Scan Range:  $\pm 10\text{V}$
8. Electrometer Input impedance  $\geq 10^{12}\Omega$  &  $\geq 10\text{MHz}$  bandwidth
9. Impedance Frequency Range:  $10\mu\text{Hz}$  to  $1\text{MHz}$  or better
10. Signal rise/fall time:  $< 350\text{ns}$  or better
11. ADC resolution: 500,000 samples per second or better
12. Minimum Time Base:  $2\mu\text{s}$  or better
13. Minimum Potential Step:  $1\mu\text{V}$  or better
14. Communications Interface: Universal Serial Bus (USB) or Ethernet
15. Auxiliary Voltage Inputs & digital Inputs/Outputs should be included.
16. **Software requirements:**  
Open Circuit, Linear polarization Resistance (LPR), Cyclic Polarization, Potentiostatic, Galvanostatic, Galvanic Corrosion, ZRA, Electrochemical Noise, Tafel, Potentiodynamic, Galvanodynamic, Potentiostatic EIS, Galvanostatic EIS.  $iR$  Determination, etc
17. Equivalent fitting circuit software must be included for Impedance fitting & Analysis.
18. All necessary accessories should be quoted with the equipment.