

## **Specifications of Multi-Channel Electrochemical Workstation:**

### **Number of channels required: 02**

- Compliance Voltage: +/-12V or more
- Applied voltage: +/-10 V
- Voltage accuracy: 1mV or better
- Voltage resolution: 5 micro volt or better
- Current limit: 1nA or less & 500mA or more – minimum 5 ranges should be provided-
- Current accuracy @ 0.1% of the range or better
- Current resolution: 0.005% or better
- Channel should have impedance Frequency range from 10 $\mu$ Hz to 7MHz or better
- Amplitude: 1mV to 2.3 Volt or better with the single and multi sine facility
- Electrometer input impedance: 1T Ohms or more
- Bias current: 10pA
- Data acquisition rate: 1000000 samples/sec
- Minimum 2 additional voltage recording input (ADC ) for 0-10V range. Input received in this channel should be scalable and interpretable to control the software measurement protocols. (e-g: recording optical sensor info, LED light source info etc..)
- Minimum one number of DAC ( 0-10V) to control the external devices from main system

### **Software requirements:**

- Voltammetry techniques- CV, Multiple CV, SWV, Staircase Voltammetry
- Pulse: DPV, Normal Pulse, RNPV, Chrono amperometry , Chronopotentiometry
- Corrosion: Potentiostatic/Galvanostatic-Galvanodynamic, LPR, Tafel, ECV, CPT
- Energy: charge/discharge Constant potential, Constant current, Constant power, Constant resistance/load, Calculation efficiency of cycle.
- Software for Battery testing / Fuelcell characterisation / Super capacitors analysis.
- Complete analysis software for CV
- EIS circuit fitting facility and software should be capable of including our own design

### **Accessories required.**

- Electrochemical cell- 2Nos
- Platinum working Electrode- 2 Nos
- Platinum counter Electrode- 2Nos
- Glassy carbon working Electrode- 2Nos
- AgAgCl reference Electrode-each 2 nos.
- UV Visible Spectrometer with necessary cables- 1 No.
- LED Light Source 100W-200W for measuring the efficiency of solar cell- 1No
- Thin film sample holder- 2 Nos.

### **Data Acquisition system.**

- Desktop computer with i-7 Processor, 8GB RAM, 1TB HDD, Windows 8, 21'' screen with Laser printer.

**Warranty** -- 03 Year.

