INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
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PR No.1000020494   **RFx No. 6100000843**

POTENTIOSTAT INSTRUMENTS:
1) Electrochemical Impedance Spectroscopy from 10 micro Hertz to 2 megaHertz.
2) "Noise and ripple" that is equal to or less than 20 micro Voltsrms
3) Data point in 10 microseconds(100 KHZ)
4) Acquire current and voltage data simultaneously on independent channels and display the measured current and voltage in the software for each data point.
5) Nine current ranges from 1 amp to 10 nanoamps in a decade sequence
6) Compliance voltage +/- 20 V or better
7) Electrically isolated from ground to allow electrochemical experiments to be performed on grounded samples
8) A Voltage resolution of 1 microVolts and a current resolution of 3.3 femtoamps
9) Measured current/Potential resolution: 0.0033% full scale/bit or better
10) Scan Rate : 10KV/s, 10mV step ~ 0.001mV/s, 1mV step
11) Reference electrode input impedance 1000GOhm
12) Electrochemical Multiplexer interface to perform automated sequential electrochemical experiments.
13) Must be engineered so one computer can control up to 16 potentiostats.
14) Must be able to operate as a standalone unit or in a compatible hub that can accommodate 8 total potentiostats, and maintains floating operation of those units. Each potentiostat must have independent connections to the computer in case of failure of one potentiostat.
15) Compatible with commercial software to perform a wide variety of electrochemical experiments such as electrochemical impedance spectroscopy, electrochemical frequency modulation , cyclic voltammetry, pulse voltammetry, potentiostatic, galvanostatic, and DC corrosion.
16) Data acquisition software must be performed by scripts that can be modified for custom experiments.
17) Software must include an experimental procedure for the Tsujikawa-Hisamatsu-Electrochemical Method including analysis.
18) Data analysis software must be performed by scripts that can be modified for custom analysis
19) Easily portable and have individual software authorizations so it can be moved to any computer that is convenient for the experiment.
20) Temperature monitor port that can be used with a PT1000RTD probe to measure temperature.
21) Common Mode Rejection Ratio (CMRR) of >60 dB @ 1 MHz for accurate high frequency EIS.
22) Able to apply up to the maximum current as an AC waveform for Galvanostatic EIS experiments.
23) Data oversampling for improved signal-to-noise ratio

24) Floating grounded mode.
25) Warranty of **2 years** for the potentiostat instrument.