

DEPARTMENT OF MECHANICAL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY DELHI

Dated: August 9th, 2013

Notice Inviting Quotations

Quotations are invited for the purchase of a branded multichannel Potentiostat/Galvanostat/FRA battery cycler. More details on the desired specifications are provided below.

1. Multichannel battery cycler of maximum size 505 mm x 475 mm x 270 mm with power supply 85-264 V & 47-440 Hz having 2,3,4 or 5 connection terminals with compliance of 20 V range adjustable from ± 10 V to 0-20 V
2. Maximum current should be ± 400 mA continuous and maximum potential resolution of 300 μ V on 20 V programmable down to 5 μ V on 200 mV
3. Maximum current resolution should be 0.004% of the dynamic range, 760 pA on the 10 μ A range with accuracy (DC) < 0.1% Full Scale Range (FSR)
4. Rise time (10% - 90%) < 2 μ s (No load) with acquisition time of 20 μ s
5. Current measurement ranges should be automatic on every range ± 10 μ A to ± 1 A with maximum current of ± 400 mA continuous having maximum resolution of 0.004% of the range, 200,000 samples/second acquisition speed and accuracy of less than 0.1% FSR
6. Potential measurement ranges should be ± 2.5 V, ± 5 V, ± 10 V, ± 10 V adjustable with maximum resolution 0.0015% FSR, down to 75 μ V and 200,000 samples/second acquisition speed
7. Should have 3 potential measurement inputs and impedance should be greater than 10^{12} ohms in parallel with less than 20 pF and bias current less than 5 pA
8. It should have 2 Analog inputs of 16-bit resolution with automatic voltage ranges of ± 2.5 V, ± 5 V, ± 10 V and 1 Analog output of ± 10 V
9. Maximum current of ± 100 mA continuous with maximum current resolution 0.004% of the dynamic range, programmable to 76 fA on the 1 nA range
10. Applied current accuracy
 - < 1% FSR* on the 1 nA range
 - < 0.5% FSR* on the 10 nA range
 - < 0.1% FSR* on the other ranges
11. With current measurement ranges of ± 1 nA, ± 10 nA, ± 100 nA, ± 1 μ A
12. Impedance 10^{14} ohms in parallel with 1 pF and bias current of 60 fA typically and with maximum of 150 fA at 25 °C and bandwidth should be 1 MHz
13. Impedance frequency range should be 10 μ Hz to 1 MHz (accuracy: 1%, 1°) and amplitude of 1 mVpp to 1 Vpp for 0.1% to 50% of the current range
14. Band width of Potentiostat should be 1 MHz
15. Should be expandable to 16 independent potentiostat channels.
16. At least 3 channels should be provided and be equipped with impedance facility.
17. The instrument should be capable of ascertaining the X-factor of Lithium-ion batteries.

18. The system should be capable of interfacing with the high current boosters for each channel.
19. The instrument should be provided with the following softwares:
 - a. Battery testing software
 - b. Fuel cell and super capacitor testing software
 - c. Voltammetry software & Corrosion software
 - d. Pulse measurement software
 - e. Impedance spectroscopy software
 - f. Photovoltaic software
 - g. Equivalent circuit fitting software
 - h. Analysis tools for battery/supercap/corrosion/Impedance etc.
20. Atleast one double cell battery holder, which is adaptable to coin and 18650 cells must be provided.
21. Connectors and cell cable must also be provided in the quotation.
22. Necessary coin cell holder for 18650 type cells and adjustable battery holders should be provided for all channels.
23. A minimum warranty of one year from the date of installation is required.

Terms & Conditions

1. Technical and Commercial bids are required to be submitted in separate sealed envelopes. Both these envelopes can be enclosed in a single envelope which should be clearly labeled as "Quotation for Battery Cycler".
2. Compliance chart conforming to the Technical datasheet should be attached along with technical bid. A bid without the compliance chart shall be rejected (Note: The Compliance chart should match the Technical Datasheet)
3. The Model number must be mentioned with the technical datasheet.
4. The bidder must be a reputed OEM or an authorized local agent.
5. If there is any Indian agent associated with the foreign supplier, then an appropriate "Letter of Authorization" certificate has to be provided with the quotation.
6. Validity of the quotation should be at least 120 days from the date of submission.
7. Quotation must indicate a delivery schedule, which in no case should exceed 8 weeks from the date of placement of order.
8. AMC and recurring costs should be clearly mentioned.
9. Please indicate the cost as FOB, IIT Delhi.
10. Payment will be made after satisfactory installation as per IIT norms.
11. Installation, commissioning and staff training expenses are to be borne by the supplier.
12. The Institute reserves the right to accept/reject any or all quotation without assigning any reason.
13. Taxes as applicable should be indicated clearly.
14. No advance payment will be possible.
15. Country of origin should be mentioned.
16. Details of last 5 installations in India.

Sealed quotations should reach the undersigned on or before August 26, 2013 by 3:00 p.m.

Please quote best prices with appropriate discounts for academic institutions. The quotations can be sent to the undersigned:

Dr. Amit Gupta
Department of Mechanical Engineering
Indian Institute of Technology
Hauz Khas, New Delhi-110016