

Office of the Dean of Research and Consultancy  
Indian Institute of Engineering Science and Technology (IIST) Shibpur  
P.O. Botanic Garden, Howrah – 711 103, West Bengal, India

Project Code: DRC/DST/CST/AM/013/21-22

Department of Computer Science and Technology  
Indian Institute of Engineering Science and Technology, Shibpur,  
Howrah-711 103

Ref.: Tender Advt. No. CS 1806, dated 13.02.2023

**Notice Inviting Quotations**

Sealed quotations are invited for the supply of **Li-ion battery pack 48V/80Ah with individual cell tapping arrangement** as per the following technical specification. The relevant bidding document can be downloaded from the website. Last date of submission of sealed quotation is **07 working days from the date of publication by 5.00 p.m.**

Dean (R & C)

(A. Code DRC-T031/22-23)

*This is downloadable*

# INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR



## BIDDING DOCUMENT

**(Project Code: DRC/DST/CST/AM/013/21-22)**

*For Supply of*

Li-ion battery pack 48V/80Ah with individual cell tapping arrangement

**Under**

DST Funded Project Scheme  
Govt. of India (New Delhi)

**Department of Computer Science and Technology**

**February 13, 2023**

## **SECTION I: TERMS & CONDITIONS AND IMPORTANT INSTRUCTIONS FOR BIDDERS**

1. Bidders are to invited to submit sealed quotation as per the technical specifications for tendered item to Prof. Abhik Mukherjee, Associate Professor, Department of CST, **on 07 working days from the date of publication** between **10.30 a.m. to 5.00 p.m.** except Saturday, Sunday and other public holidays.
2. The last date of receipt of tenders is **07 working days from the date of publication up to 5.00 p.m.** quotations received later will not be entertained under any circumstances.
3. Date and time of opening of bid is **next working day of the last date at 11.00 a.m.** and the place of opening of bid is office Room of the Department of IT, IEST, Shibpur, Howrah-711103.
4. Bidders are to submit the quotations in Sealed Cover to the Department of CST in the following address:

**Prof. Abhik Mukherjee  
Associate Professor  
Department of CST  
Indian Institute of Engineering Science and Technology, Shibpur  
Howrah-711103, India**

5. All bids should be submitted in ONE-BID (TECHNO-COMMERCIAL BID) Format in covers (Enquiry Number must be mentioned on cover).

TECHNO-COMMERCIAL BID - giving Detailed Specifications, International Standards (BIS/INTERNATIONAL), Catalogues, List of users & Technical Details / Operating Parameters, Pre-Installation Requirements, payment terms, warranty, etc. along with PRICE BID - giving full Prices in Indian Rupees (only) for

- (a) Tendered item.
- (b) Essential Accessories & Spares.

6. To qualify for award of the contract the bidder should have valid and satisfactory background of supplying similar products in other central government institutes/organizations.
7. The price quoted should be inclusive of all Taxes, duties and levies. Inclusion of Tax/Levy at a later stage will not be accepted. Freight, Insurance charges should be clearly indicated.
8. Materials & accessories supplied/used should be as per specification and of Approved Quality (B.I.S.) or by the authorized officer of IEST, Shibpur. Only OEM products will be considered.

9. The materials are to be supplied at a place within IEST premises between 11.00 a.m. and 4.00 p.m. The tenderer will be responsible for any breakage, damage or defect in the equipment detected subsequently. The supply and installation of the equipment should be completed within a period not exceeding 15 days from the placement of the formal work order or opening of the LC failing which appropriate action will be taken as per university rules.
10. If the supply is not completed within the stipulated period as indicated in the Work Order, a Liquidated Damage @  $\frac{1}{2}$  per cent per week will be imposed subject to maximum of 5% of the value of work order.
11. For Indian purchase (*This clause is applicable only for Indian purchase and not applicable for foreign purchase*):

Bills in triplicate should be presented for payment within 15 days of Supply / Completion of work. No Advance Payment can be made. All bills are to be accompanied by Order copies and Challan Receipt. The Order Number is to be noted on both the Challan and the Bill.

**12. Documents to be submitted with the tender:**

Tender Documents/Terms & Conditions in Original duly signed by the Proprietor / Partner/ Director of the Company as a token of acceptance of Terms & Conditions of Tender.

**13. Customs Duty & Excise Duty**

- The institute will issue the DSIR certificate for concessional GST. Quotation should include 18% GST.
14. IEST, Shibpur, Howrah reserves the right to accept / reject all or any of the tenders **without assigning any reason whatsoever**. The decision of the Institute shall be final in case of any dispute.

We accept the above terms and conditions.

Dated:

Signature of Bidders/Suppliers  
With date & Seal

## **SECTION II: TECHNICAL SPECIFICATIONS**

**Name of Tender:** Supply of Li-ion battery pack 48V/80Ah with individual cell tapping arrangement

### **Detailed Technical Specification(s) and Product Detail(s)**

#### **PRODUCT FEATURES**

- **High Energy Density**
- **Long Cycle Life:** The cycle life is more than 3500 cycles.
- **Excellent Safety:** Comply to international safety standards
- **Adaptability to a Wide Range of Temperature:** The battery can work in temperature range of -20 °C to +60 °C
- **High C Rate:** Support high charge/discharge rate to meet the requirements for high current discharge in a short time and quick charging.

#### **REQUIRMENTS**

- Cell Voltage/ Temperature Monitoring
- Over Charging/Discharging Protection
- Over Current/Short Circuit Protection
- Over/Under Temperature Protection
- Cell Balancing/Equalization
- Battery SOC Level & Health Indication
- Communication Port to interface with BMS processor/computer

<b>ELECTRICAL SPECIFICATIONS</b>	Nominal Capacity	>70 Ah, up to 80 Ah
	Nominal Voltage	48V
	Voltage Range	42V-54.7V
	Number of Cells/Pack	<=16
	Assembly Method	15S
	Charging Voltage	54V (CC-CV)
	End of Discharge Voltage	42V
	Life Cycle	>3500 Cycles a 25 °C, 0.5C 80% DOD
	Protections	Over Current, Over Voltage, Under Voltage, Over & Under Temperature, Short Circuit, Reverse Polarity etc.
	Parameters Available for Monitoring	Cell Voltages, Cell Temperature, Pack Voltage, Pack Current, SOC, SOH, Remaining Capacity, Alarms, Protection, Cycle Count, Cumulative AH, Cumulative KWH etc.
	Indications	LED Indication for SOC, Health
	Self-Discharge rate	< 3% Per Month
	AH Efficiency	>98% @ 0.5C
	WH Efficiency	>95% @ 0.2C
	Cell Over Voltage Protection	3.8V
	Cell Under Voltage Protection	2.5V
	Cell Balancing	Inbuild
	Energy	3.6KW
	Nominal Charge Current	0.5C
	Maximum Charge Current	1C
	Nominal Discharge Current	0.5C
	Maximum Discharge Current	1C
	Charge Current Limiter	10A
	Data Logging	Yes
	Communication Interface	RS 485 (RJ45) and RS 232(RJ11)
	Weight and dimension	Within 50Kg; length, breadth and height within 2 ft
	Mounting	Horizontal & Vertical
<b>ENVIRONMENTAL SPECIFICATIONS</b>	Charge	0° C to 55°C @60±30% RH
	Discharge	20° C to 65°C @60±30% RH
	Storage	0° C to 35°C @60±30% RH
	IP Rating	IP-21
<b>APPLICABLE STANDARDS</b>	Safety	U/1642, IEC 62133
	Transportation	UN38.3