

 IIT PALAKKAD	भारतीय प्रौद्योगिकी संस्थान पालक्काड Indian Institute of Technology Palakkad अहलिया एकीकृत कैम्पस, कोझिपारा Ahalia Integrated Campus, Kozhipara पालक्काड- 678557 Palakkad – 678 557	दूरभाषसंख्या/ Phone no: 04923 – 226300/590/586 ईमेल/ Email : purchase@iitpkd.ac.in
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Ref No: IITPKD/ELE/AR/130 /2017

Date: 01.03.2018

Due Date of the tender: 15.03.2018 @ 3 PM

TENDER FOR INVITING QUOTATIONS

Dear Sir,

On Behalf of Indian Institute of Technology Palakkad quotations are invited for “**Fully Programmable Power Supply with Solar array Simulation Capability**” confirming to the specification in the Annexure.

- 1. Preparation of Bids:** - The tenders should be submitted **under two-bid system** (i.e.) Technical bid and Financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. No prices should be included in technical bid. Financial Bid should indicate item – wise prices for the items mentioned in the technical bid. The technical and the financial bids should be put in separate cover and sealed. Both sealed covers should be put into a bigger cover.
- 2.** The Quotations duly sealed and superscribed on the envelope **with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above. Fax and Email quotation are not acceptable.**
- 3.** The price should be quoted per unit and packing and delivery charges should be indicated separately. The offer/bids should be exclusive of Taxes and Duties, which will be paid by the purchaser as applicable. However the percentage and of taxes and duties as on date should be clearly indicated.
- 4.** The Quotations should be valid for **sixty days** from the due date and the period of delivery required should also be clearly indicated.
- 5. Local Firms:** Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
- 6. Outside Palakkad:** Quotations should be for **F.O.R. at IIT Palakkad**. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.
- 7.** Goods shall not be supplied without an official supply order.

8. **Custom Duty:** Custom Duty which will be paid at a concessional rate against duty exemption certificate. The price indicated should be CIF/CIP Kochi.
9. **Concessional GST@ 5% will be paid extra against Government Notification No.47/2017, dated 14.11.2017**
10. **Payment:** Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later. No advance payment will be made. The Tenderer have to furnish the bank details along with tender like Account No, Account Name, IFSC Code, Bank address etc.
11. **Submission of Bids:** Quotation should be sent to the following address "**The Registrar, Indian Institute of Technology Palakkad, Ahalia Integrated Campus, Kozhipara, Palakkad -678 557, Kerala**", Phone No: 04923 226 586/590, Email: purchase@iitpkd.ac.in.
12. **Delivery Period:** The quotation should indicate clearly when delivery and installation to be made.
13. **Delay in Supply or Liquidate damages:** If the supplier fails to deliver the stores within the time specified in the purchase order, the purchaser will recover from the supplier as liquidated damages a sum of **one- half of one percent (0.5%) of the P.O value of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed five percent (5%) of the P.O price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.**
14. **Late offer:** The quotation received after due date will not be considered. Please ensure that your offer is sent well in advance to reach the Institute by the due date.
15. **Loading and unloading charges will be borne by the supplier.**
16. **Warranty:** Warranty Clause should be indicated clearly.
17. **Acceptance and Rejection:** IIT Palakkad has the right to accept the whole or any parts of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,



Registrar, IIT Palakkad

Encl: Specifications



Fully Programmable power supply with solar array simulation capability.

Quantity- 2 numbers

Specifications		
S. no.	Specification	Requirement
1	Solar I-V curve Profiles resolution	Should be able to modify at least 1 profile per second
2	Solar array simulation mode programming	Must provide curve mode and table mode
3	I-V curve resolution	4096 points or higher.
4	Parrallel operation of multiple modules	Must be available
5	I-V-Curve minimum dwell time	1 s
6	Shadow mode I-V curve simulation	Must be possible
7	Solar I-V characteristics fill factor	0.55 to 0.95
8	Automatic photovoltaic I-V curve	As per Sandia National Labs/ EN50530's
9	Dynamic MPPT efficiency	As per Sandia National Labs/ EN50530's
10	Software for progammung the power supply	Must be provided
11	Maximum Output Voltage (DC) <i>at least</i>	0 to 600V or higher
12	Output Current at maximum voltage	0 to 8 A or higher
13	Maximum Output Power	5000 W or higher
14	Output isolation (V)	600 V or higher
15	Changes to the irradiation level or temperature	Should be able to modify on the fly to test MPP efficiency
16	Photovoltaic array modeling	Should be possible
17	Number of stored I-V curves possible	30 or more
18	Output Voltage Adjustment Range	
a	Range	0-100% programmable from front panel
b	Output modes	Constant voltage mode and Constant current mode
19	Current Slew Rate Range	0.001A/ms to 0.1A/ms,
20	Programming & Measurement Accuracy	
a	Voltage (at Full scale)	1.5V or lesser
b	Current (at Full scale)	60mA or lesser
21	General specifications	
a	Analog programming	Must be provided
b	USB/ LAN/ ethernet	Must be provided

c	Software for I-V curve generation	Must be provided
22	Input supply Specification	
a	AC Input Volatage	3Phase, 3Wire+Ground, 380~400Vac \pm 10% VLL
b	AC Frequency range	47 ~ 63Hz
c	Max Current (each phase)	380/400Vac, 50A
d	Efficiency	85% or higher
23	Environmental Specification	
a	Operating Temperature Range	00C ~ 50°C
b	Storage Temperature Range	-40°C ~ +85°C
c	Regulatory compliance Standards	CE or other equivalent standard
24	Warranty	3 Years

About Price bid

Price bid must be in a separate sealed envelope and if found otherwise, the bidder will be disqualified

The Price bid must contain,

- Item a) Price for 1 set of base equipment inclusive of all standard accessories.
- Item b) Price for any optional accessories.

Compliance sheet format

Sr No	Specification	Requirement	Compliance	Datasheet page number

Who can participate?

Only those bidders fulfilling the following criteria should respond to the tender.

1. Bidder should be either an Original Equipment Manufacturer (OEM) or designer or authorized distributor of an OEM of **Solar array Simulator** /allied fields
2. Bidder must be in existence in the business of **Solar array Simulator /Programmable power supplies**/allied fields for a minimum period of two year (before or since 01-April-2015). Documentary evidence of experience must be provided.
3. The bidder should have implemented orders **Solar array Simulator /Programmable power supplies**/allied fields worth exceeding INR 3 lakhs during previous financial years. Purchase orders and certificates of successful implementation must be included.
4. The bidder should have documentary evidence of having supplied **Solar array Simulator /Programmable power supplies** or related instruments at a **Centrally Funded Technical Institution** (like IIT, NIT, IISc, IIST). Bidder must provide a certificate of satisfactory performance of the installed setup.
5. Compliance sheet for the specification & OEM Brochure has to be attached along with Technical bid. Vendor has to fill the compliance sheet and mention page number or reference number in OEM brochure. Unfilled / partial filled compliance sheets lead to disqualification.
6. The bidder must provide detailed specification of each equipment/item. Model numbers, data sheets and brochures must be included for each quoted equipment/accessories/item. Specification corresponding to quoted model number must be available publicly via OEM's website for scrutiny. If not, bid can be disqualified on technical grounds.
7. The bidder should ensure that the quoted Solar array simulator should be covered by warranty of at least three year.
8. If required, IIT Palakkad has the right to judge the technical compliance of the quoted equipment based on the demonstration of the equipment as per the published tender specification.