

 IIT PALAKKAD	भारतीय प्रौद्योगिकी संस्थान पालक्काड <b>Indian Institute of Technology Palakkad</b> अहलिआ एकीकृत कैम्पस, कोज़िहपारा 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/AA/059/2017

Date: 13.11.2017

Due Date of the tender: 28.11.2017 @ 3 PM

### TENDER FOR INVITING QUOTATIONS

Dear Sirs,

On Behalf of Indian Institute of Technology Palakkad quotations are invited for “**Data Acquisition Systems for Measurement Lab**” confirming to the specification in the Annexure.

- 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.
- 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.**
- 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.
- The Quotations should be valid for **sixty days** from the due date and the period of delivery required should also be clearly indicated.
- If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
- Local Firms:** Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
- 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.
- Goods shall not be supplied without an official supply order.

9. **Custom Duty:** Custom Duty which will be paid at a concessional rate against duty exemption certificate.
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](mailto: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,

Encl: Specifications

**Registrar, IIT Palakkad**

## Specifications for Data Acquisition Cards For Measurements Lab

### A Who can participate ?

1. Bidder should be either an Original Equipment Manufacturer (OEM) of data acquisition cards/allied systems OR an authorized dealer having purchase and support agreement with such an OEM. Proof of authorization needs to be provided. IIT Palakkad reserves the right to determine if the field is allied or not and its decision will be final.
2. The bidder should be a company registered under the Companies Act, 1956/2013 OR a Limited Liability Partnership (LLP) OR a registered partnership firm OR a sole proprietorship entity. Appropriate Registration/ incorporation certificate to be submitted.
3. Bidder must be in existence in the business of data acquisition or allied fields for a minimum period of 2 previous financial years (i.e., before or since 01-April-2015). Documentary evidence of experience must be provided.
4. **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 sheets lead to disqualification**

### B Technical Specification

#### 1. Overview

- a) Number of Data Acquisition Boards : 35 boards
- b) Power supply : via USB (v 2.0 or higher)
- c) Communication with host PC (Windows) : via USB(v 2.0 or higher). Appropriate Windows 10 compatible GUI based interface software must be provided. The license agreement for this software must allow IIT Palakkad to use the software perpetually.
- d) Operating temperature : at least 5 deg C to 40 deg C
- e) Inputs and Outputs :
  - i. Analog Inputs : at least 2 differential
  - ii. Analog Outputs : at least 2 ground referenced
  - iii. Digital Inputs/Outputs : at least 8. Each can be programmed as input/output.
  - iv. General Purpose Counter Timer : at least 1
  - v. Digital Multimeter : at least 1
  - vi. Power Supplies : +15V, -15V, +5V
- f) Must be fully controllable and programmable via NI-LabView.
- g) Data acquisition board must have suitable protective enclosure. All standard accessories (including cables and connectors etc.) need to be included in the quote.
- h) At least three year Warranty must be provided.
- i) Bidder must have a Standard Service Program for Hardware repair. Any additional cost for this service must be included in the price bid.
- j) Bidder must specify the Safety, Electromagnetic Compatibility, CE Compliance certifications satisfied by the product.

#### 2. Detailed Specifications :

##### (a) Analog Inputs :

i.	Number of Channels	Differential Operation : at least 2
ii.	Analog-Digital-Converter Resolution	At least 16 bits
iii.	Sampling Rate	At least 200 kS/s

iv.	Small signal Bandwidth	At least 400 kHz
v.	Input range	Upto atleast +/- 10 V
vi.	Absolute accuracy	Less than 40 mV at 10V range
vii.	CMRR for differential inputs	At least 50 dB
viii.	Input impedance	> 5 G Ohm when powered ON > 1 k Ohm when powered OFF
ix.	Overvoltage protection	At least +/- 10 V

(b) Analog Outputs :

i.	Number of Channels	At least 2 ground referenced
ii.	Digital-Analog-Converter resolution	At least 16 bits
iii.	Update Rate	At least 200 kS/s
iv.	Slew Rate	At least 2.5 V/us
v.	Output range	At least upto +/- 10V
vi.	Output impedance	At most 2 ohm
vii.	Output drive	At least 1 mA

(c) Digital Inputs/Outputs :

i.	Number of Channels	At least 8. Each must be programmable as Input or Output
ii.	Voltage levels	Compatible with TTL logic

(d) General purpose Counter/Timer :

i.	Number of counter/timer	At least 1
ii.	Resolution	At least 32 bits
iii.	Clock accuracy	At most 200 ppm
iv.	Internal Base Clock	At least upto 80 MHz.

(e) Digital Multimeter :

i.	Types of measurement	DC Voltage, DC Current, AC Voltage, AC Voltage
ii.	Resolution	3.5 digits

(f) Power Supply :

i.	+15 V supply	Maximum current at least 25 mA
ii.	-15 V supply	Maximum current at least 25 mA
iii.	+5 V supply	Maximum current at least 100 mA