

INVITATION FOR TENDER FOR SUPPLY OF EQUIPMENT

Sealed tender offers are invited in two separate sealed covers (Technical and Commercial offers) from eligible manufacturers/suppliers or their direct Indian agents for the supply of the following equipment.

PORTABLE INDUSTRIAL DATA ACQUISITION SYSTEM

Please send offers, **ALONG WITH DESCRIPTIVE CATALOGUE/ BROCHURE**. The validity of the bid should be at least four months (120 days) or more from the date of the opening of this tender. Please ensure that your quotation reaches not later than **04.05.2018 at 15:00 Hrs** at the following address:

Dr. A R Mohanty,
Professor, Department of Mechanical Engineering,
Indian Institute of Technology Kharagpur – 721 302, West Bengal, India

Earnest money of **Rs. 20,000/-** is to be deposited in the form of Account payee Demand Draft in favour of IIT Kharagpur, payable at Kharagpur, India. Any bid which is not accompanied with an EMD shall be summarily rejected. Earnest money deposited will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. No interest will be paid on the earnest money of the unsuccessful bidders.

Tender Reference	IIT/SRIC/ME/LEE/ARM/18-19/EQ-1, Dated: 05-04-2018
Price of Tender Document	NIL
Last Date and Time for submitting the tender document	04.05.2018 at 15:00 Hrs (Indian time)
Time and Date of Opening of Technical Bids	04.05.2018 at 16:00 Hrs (Indian time)
Place of Opening Tender	Department of Mechanical Engineering, Indian Institute of Technology Kharagpur – 721 302, West Bengal, India
Address of Communication	As stated above
Contact Telephone Numbers	+91- 3222-282944
E-mail	amohanty@mech.iitkgp.ac.in

DETAILED TECHNICAL SPECIFICATIONS FOR
PORTABLE ALL-IN-ONE SINGLE INDUSTRIAL DATA ACQUISITION SYSTEM WITH
COMPONENTS A, B and C

A	Rugged Portable all-in-one data acquisition system	
Serial No.	Item	Specification
1	Industrial All in One PC	Single Portable Unit along with all users and training manual in both hardcopy and softcopy.
2	Built-in Slots for Integrated Signal Conditioner with ADC	4 Slots, Cover provided for any unused slots
3	AC and DC Power supply Operation	10 to 36 VDC ISOLATED; should include external AC power supply adapter. Fully battery-powered by stackable battery pack
4	Processor	Intel Core™ i7 ®
5	Display	Onboard Display, 13" TFT display, 1280 x 800 pixels
6	Data Storage	1 TB Industrial Grade SSD (Solid State Hard Disk Drive)
7	RAM	16 GB
8	Ethernet	1 Giga Lan
9	USB	4 Ports
10	RS-232	1 Port
11	Keyboard	keyboard (84 keys) and touchpad integrated
12	Operating System and Additional User Software	Windows OS, along with compatible pre-installed Microsoft Office Suite on a no-cost trial licence valid for 30 days.
13	Dimensions (W x D x H)	317 x 252 x 128 mm (12.5 x 9.9 x 5 in.)
14	Weight without modules	Typ. 5.9 kg (13 lb.)
15	Power consumption without modules	Typ 75 W
16	Operating temperature	0 to +50 °C, down to -20 °C with pre-warmed unit
17	Storage temperature	-20 to +70 °C
18	Humidity	10 to 90 % non cond., 5 to 95 % rel. humidity
19	Sine vibration (EN 60068-2-6)	Acceleration 20 m/s ² , Freq. 10 Hz - 150 Hz, Sweep 1 oct/min, 20 cycles

20	Shock (EN 60028-2-27)	Acceleration 30 g, duration 11ms, pulse form half sine, 3 pulse/direction, 6 directions
21	Random vibration (EN 60721-3-2)	Class 2M3, frequency range 10 Hz-200 Hz, duration 30 min/direction)
22	External DC UPS	250W external DC UPS with ISOLATED DC input Input : 11 to 32 VDC Output : 12 to 16 VDC / 24 VDC Batteries : 89 WH, 3 Nos
B	Integrated Signal Conditioner with ADC	
Serial No.	Item	Specification
1	Number of Channels	12 Channels, BNC INPUT
2	Input Type	Voltage and IEPE (ISOLATED)
3	Measurement Range	Voltage : Voltage ± 5 mV to ± 100 V IEPE : ± 5 mV to ± 5 V, excitation 4 or 8 mA
4	Sampling Rate and Resolution	16 bit 2 MS/s per channel (Simultaneous) 24 bit 1 MS/s per channel (Simultaneous)
5	Input configuration	ISOLATED
6	Isolation impedance	Isolation resistance >1 G Ω ; Isolation capacitance typically 15 pF
7	Isolation voltage	1500 V
8	Input noise (5 mV range)	0 to 10 Hz : 1.5 μ V PP
9	Input impedance	1 M Ω shunted by 18 pF
10	Input bias current	<1 nA
11	Input coupling	DC; AC: 0.16Hz
12	Accuracy	± 1.00 % of reading ± 0.02 % of range ± 20 μ V
13	Gain drift	typical 10 ppm/ $^{\circ}$ C max. 20 ppm/ $^{\circ}$ C
14	Offset drift	typical 0.3 μ V/ $^{\circ}$ C + 10 ppm of range, max 15 μ V/ $^{\circ}$ C + 20 ppm of range
15	Linearity	typical 0.01 %
16	IEPE excitation	4 mA, 8 mA ± 10 % @ 24V compliance voltage
17	Signal-to-noise ratio, Spurious free SNR, Effective number of Bits	130 dB, 21 Bits @ 2V Range
18	CMRR	>140 dB @ 50 Hz

19	Filters (Digital)	<p>Low pass Filter (-3 dB, digital) : 10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 600 kHz</p> <p>Characteristic : Bessel or Butterworth</p> <p>Filter order : 2nd, 4th, 6th, 8th</p>
20	Analog antialiasing filter	Should be present for all 12 input channels
21	Bandwidth (-3 dB, deactivated digital filter)	1 MHz 2nd order Bessel filter
22	Crosstalk fin 1 kHz [10 kHz]	≤2 V Range: 120 dB [105 dB]
20	Channel to channel phase mismatch	typically <10 ns when using the same input range; <30 ns for using different ranges.
21	Board to board phase mismatch	<30 ns
22	Over voltage protection	±300 VDC
23	ESD protection	IEC61000-4-2: ±8 kV air discharge, ±4 kV contact discharge
24	Power consumption	Voltage mode: 6 W; IEPE mode: 7.5 W
C	Software	
Serial No.	Item	Specification
1	Time Domain Plot	Online plot for all channels
2	FFT	Online plot for all channels, with a minimum of 12800 Lines of FFT.
3	Continuous Recording at Full Speed	Minimum 60 seconds at 2 MHz sampling, simultaneously for all 12 Channels
4	Storing Format	RAW or in Engineering Units (Both option should exist)
5	Third party software	No-cost 30 day trial LabVIEW software preloaded with appropriate drive files for running the system on LabVIEW
6	Data Format	Data Should be Stored / Exported in ASCII, EXCEL and MATLAB® formats without data loss in any format at the highest sampling frequency of 2 MHz, directly from the system.

GENERAL TERMS & CONDITIONS

PLEASE SPECIFICALLY INDICATE THE FOLLOWING POINTS IN YOUR QUOTATIONS AND COMPLY THE TERMS AS MENTIONED HEREUNDER:-

1. TENDERS ARE INVITED COMPLYING THE REQUIREMENT FOR TENDER AS DETAILED IN THE TENDER SPECIFICATION TO BE SUBMITTED IN THE COMPANY'S / FIRM'S LETTERHEAD NEATLY PRINTED / TYPED DULY SIGNED BY AUTHORIZED PERSON WITH THE SEAL OF THE BIDDERS. ALL ENVELOPS CONTAINING THE TENDER SHOULD BE PROPERLY SEALED. SEPARATE ENVELOPS SHOULD BE USED FOR TECHNICAL AND PRICE BID AND INDICATION TO THEIR EFFECT MAY PLEASE BE SUPERSCRIBED ON THE ENVELOP.

THE FOLLOWING DOCUMENTS ARE REQUIRED FROM THE INDIAN AGENTS OF FOREIGN FIRMS:

1.1 FOREIGN PRINCIPAL'S PROFORMA INVOICE INDICATING THE COMMISSION PAYABLE TO THE INDIAN AGENT AND NATURE OF AFTER SALES SERVICE TO BE RENDERED BY THE INDIAN AGENT.

1.2 COPY OF THE AGENCY AGREEMENT WITH THE FOREIGN PRINCIPAL INDICATING THE NATURE OF AFTER SALES SERVICES, PRECISE RELATIONSHIP BETWEEN THEM AND THEIR MUTUAL INTEREST IN THE BUSINESS.

2. TECHNICAL CATALOGUE/LEAFLET SHOULD BE ENCLOSED WITHOUT FAIL. PROVIDE COMPLIANCE STATEMENT WITH RESPECT TO THE TECHNICAL SPECIFICATIONS MENTIONED ABOVE.
3. PLEASE CONFIRM WHETHER YOU ARE AUTHORISED TO QUOTE ON BEHALF OF YOUR PRINCIPALS AND IF SO, PLEASE ENCLOSE A COPY OF SUCH AUTHORISATION WITH YOUR QUOTATION.
4. **PRICE BIDS FOR FOREIGN FIRMS:** PRICES ARE TO BE QUOTED ON 'EX-WORKS' DULY PACKED OR ON "FCA/FOB" INTERNATIONAL PORT" BASIS AND ALSO INCLUDING AGENCY COMMISSION PAYABLE TO YOUR INDIAN AGENTS, IF ANY SHOWING CLEARLY THE FOLLOWING BREAK UP:-

- I) EX-WORKS PRICE
- II) PACKING & FORWARDING
- III) FREIGHT
- IV) ANY OTHER RELEVANT EXPENSES.
- V) TAXES PAYABLE BY THE INSTITUTE

INSURANCE WILL BE PAID BY OUR INSTITUTE SEPARATELY AND SHOULD NOT FORM PART OF THE QUOTED PRICE.

PRICE BIDS FOR INDIAN FIRMS: PRICES ARE TO BE QUOTED ON F.O.R., IIT KHARAGPUR, ON DOOR DELIVERY BASIS CLEARLY SHOWING THE BREAK UP.

5. **PERIOD OF VALIDITY:** BIDS SHALL REMAIN VALID FOR ACCEPTANCE FOR A PERIOD OF 120 DAYS FROM THE DATE OF OPENING.
6. INDIAN AGENTS ADDRESS AND PERCENTAGE OF AGENCY COMMISSION INCLUDED IN ABOVE F.O.B./EX-WORKS PRICE. (THIS WILL BE PAID TO THE INDIAN AGENTS IN INDIAN RUPEES ONLY AND NOT IN **FE**). PLEASE ENCLOSE COPY OF AGENCY AGREEMENT ENTERED

INTO WITH YOUR PRINCIPALS INDICATING THE NATURE OF AFTER SALES SERVICES OF INDIAN AGENTS, PRECISE RELATIONSHIP & MUTUAL INTEREST IN THE BUSINESS.

7. **MEASUREMENTS/WEIGHT:** NETT/GROSS OF THE CONSIGNMENT. IN CASE OF AN ORDER, YOU SHALL USE AIR WORTHY PACKAGE (AS APPLICABLE) DULY CERTIFIED WITH DOCUMENTS – PLYTO – SANITARY CERTIFICATE (AS PER QUARANTINE ORDER 2003).
8. **SCOPE OF SUPPLY:** SHOULD INCLUDE FREE INSTALLATION AND COMMISSIONING
9. **PAYMENT TERMS FOR FOREIGN FIRMS**

The offer will be made on a single currency and only one PO will be issued for the entire scope of the supply.

- A) 90% PAYMENT THROUGH SIGHTDRAFT/FORIGN DEMAND DRAFT/LC (EXCEPTIONAL CASES)/SWIFT TELE TRANSFER AFTER RECEIPT OF STORE IN GOOD ORDER AND CONDITION AND 10% AFTER SUCCESSFUL INSTALLATION & COMMISSIONING.
- B) BANK CHARGES ON LC/SD (WITHIN INDIA APPLICANT ACCOUNT AND OUTSIDE INDIA TO BENEFICIARY ACCOUNT).

PAYMENT TERMS FOR INDIAN FIRMS

- A) 100% PAYMENT THROUGH CROSSED ACCOUNT PAYEE CHEQUE / ELECTRONIC TRANSFER AFTER RECEIPT OF STORE IN GOOD ORDER & CONDITION AND SUCCESSFUL INSTALLATION & COMMISSIONING.
- B) ENSURE MENTIONING
 - i) BANK DETAILS OF THE BENEFICIARY, GST NO. AND PAN NUMBER
 - ii) FULL NAME AND ADDRESS OF THE BENEFICIARY ON WHOM ORDER HAS TO BE PLACED

10. WHETHER ANY EXPORT LICENCE IS REQUIRED FROM YOUR GOVERNMENT, IF SO, PLEASE CONFIRM WITH DETAILS.
11. COUNTRY OF ORIGIN OF THE GOODS IS TO BE MENTIONED.
12. THE INSTITUTE SHALL PROVIDE THE CONCESSIONAL CUSTOMS DUTY AND EXCISE DUTY EXEMPTION CERTIFICATE AS PER GOVT. NOTIFICATION NO. 51/96 CUSTOMS DATED: 23.07.1996 AND CENTRAL EXCISE DUTY EXCEMPTION IN TERMS OF GOVT. NOTOFICATION NO. 10/97 – CENTRAL EXCISE DATED: 01.03.1997 AS AMENDED FROM TIME TO TIME.
13. **LIQUIDATED DAMAGES:** THE STORES SHOULD BE DELIVERED / DISPATCHED TO DESTINATION AND READY FOR OPERATION NOT LATER THAN THE DELIVERY DATE SPECIFIED. IT THE SUPPLIER FAILS TO DELIVER ANY OR ALL THE STORES OR PERFORM THE SERVICE BY THE SPECIFIED DATE, LIQUIDATED DAMAGES AT 1% PER MONTH OR PART THEREOF IN RESPECT OF THE VALUE OF STORES WILL BE DEDUCTED FROM THE CONTRACT PRICE SUBJECT TO A MAXIMUM OF 5%. ALTERNATIVELY, THE ORDER WILL BE CANCELLED AND THE UNDELIVERED STORES PURCHASED FROM ELSEWHERE AT THE RISK AND EXPENSE OF SUPPLIER.
14. **PATENT RIGHTS:** THE SUPPLIER SHALL INDEMNIFY THE PURCHASE AGAINST ALL THIRD PARTY CLAIMS OF INFRINGEMENT OF PATENT, TRADEMARK OR INDUSTRIAL DESIGN RIGHTS ARISING FROM USE OF THE GOODS OR ANY PART THEREOF IN INDIA.

15. ONLY THOSE BIDDERS WHO'S BIDS HAVE BEEN TECHNICALLY FOUND ACCEPTABLE WILL ONLY BE INVITED FOR PARTICIPATION IN THE PRICE BID.
16. THOSE BIDDERS WHO DO NOT RECEIVE ANY COMMUNICATION FOR PARTICIPATION IN PRICE BID OPENING MEETING MAY PRESUME THAT THEIR BID HAS NOT BEEN ACCEPTED BY THE INSTITUTE.
17. CONDITIONAL OFFER WILL NOT BE ACCEPTED.
18. LATE TENDERS I.E. TENDER RECEIVED AFTER THE DUE DATE AND TIME OF SUBMISSION AS MENTIONED ABOVE SHALL NOT BE ACCEPTED.
19. BIDDERS TO ENCLOSE THE FOLLOWING DOCUMENTS:-
 - A) INCOME TAX RETURN (3 YRS) AND LATEST SALES TAX RETURN (GST No.), AND PAN NO.
 - B) BANKER'S SOLVENCY CERTIFICATE
 - C) SUMMARY OF AUDITED STATEMENT OF ACCOUNTS FOR THE LAST THREE YEARS TO BE ENCLOSED AND FINANCIAL HIGHLIGHTS AND THE KEY PERFORMANCE DURING THE LAST THREE QUARTERS TO BE ENCLOSED AS PER FORMAT:-

COMPANY'S KEY PERFORMANCE

DESCRIPTION	JAN. TO MARCH	APRIL TO JUNE	JULY TO SEPT.
GROSS REVENUE			
PROFIT BEFORE TAX			
PROFIT AFTER TAX			
RETURN ON INVESTED			
CAPITAL (ROIC)			

- D) CUSTOMER SATISFACTION CERTIFICATE FROM ONE SUCH ORGANIZATION IS TO BE ATTACHED WITH THE TECHNICAL BID AND PRICE BID.
- E) NAME AND ADDRESS OF MINIMUM THREE CLIENTS TO WHOM SUCH EQUIPMENT HAVE BEEN SUPPLIED SHOULD BE MENTIONED.
20. **WARRANTY / GUARANTEE:** THIS COMPREHENSIVE WARRANTY / GUARANTEE SHALL REMAIN VALID FOR **12 MONTHS** AFTER THE GOODS (OR ANY PORTION THEREOF AS THE CASE MAY BE) HAVE BEEN DELIVERED AND COMMISSIONED TO THE FINAL DESTINATION.
21. THE INSTITUTE DOES NOT BIND ITSELF TO OFFER ANY EXPLANATION TO THOSE BIDDERS WHO'S TECHNICAL BID HAS NOT BEEN FOUND ACCEPTABLE BY THE EVALUATION COMMITTEE OF THE INSTITUTE.
22. ALL TENDERS (UNLESS OTHERWISE SPECIFIED) ARE TO BE SUBMITTED / HANDED OVER TO **DR. A R MOHANTY, DEPARTMENT OF MECHANICAL ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR - 721 302** AND ACKNOWLEDGEMENT TO BE OBTAINED.

IMPORTANT

1. IIT Kharagpur authority may accept or reject any or all the bids in part or in full without assigning any reason and does not bind itself to accept the lowest bid. The Institute at its discretion may change the quantity / upgrade the criteria / drop any item or part thereof at any time before placing the Purchase Order.
2. Promptly make arrangements for repair and / or replacement of any damaged item (s) irrespective of settlement of claim.
3. In case of any dispute, the decision of the Institute authority shall be final and binding on the bidders.
4. For any query pertaining to this bid document correspondence may be addressed to **Dr. A R Mohanty**, at the address mentioned above.

LAST DATE FOR SUBMISSION OF SEALED BIDS: 04.05.2018

- 1) Please Note that the Institute remains closed during Saturdays & Sundays and all specified government holidays.
 - 2) Fax, e-mail Tender will not be accepted.
 - 3) The General Terms and Conditions as stated above relate to supply of stores / equipment /assets etc. and for specific service other terms and conditions of the Institute will apply.
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