



राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, भूवनेश्वर
(परमाणु उर्जा विभाग, भारत सरकार का एक स्वयं शासित संस्थान)
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, BHUBANESWAR
(An autonomous Institution under Department of Atomic Energy, Govt. of India)

Notice Inviting E-Tender No. NC-001056-PHY-17-18

MODULAR ELECTRONICS FOR DAQ



NATIONAL INSTITUTE OF SCIENCE EDUCATION & RESEARCH
JATNI CAMPUS, P.O. – BHIMPUR-PADANPUR, VIA-JATNI
KHURDA – 752050, ODISHA, INDIA
Notice Inviting E-Tender No. NC-001056-PHY-17-18

E- Tenders are invited on behalf of the Director, National Institute of Science Education and Research, Jatni from the manufacturers(Indian or Foreign) and their authorised reseller/Indian agent only for supply & installation of the following items:-

Sl. No.	Name of the Items	Tender No.	Name of Department	Qty.	EMD in INR
01	Single channel charge sensitive preamplifier	NC-001056-PHY-17-18	School of Physical Sciences	01 No	20,000.00
02	NIM standard Time to Amplitude converter			01 No.	
03	2 Channel NIM standard Analog to Digital Converter (ADC)			01 No.	

NB: PARTIES REGISTERED WITH SSI/DGS&D/DAE AND FOREIGN PARTIES QUOTING DIRECTLY ARE EXEMPTED FROM PAYING EMD. There is no exemption for TENDER FEE. (IF APPLICABLE)

- **Tender Enquiry No:** NC-001056-PHY-17-18
- **Last date of submission of E-bid** : 21.03.2018 up to 12.30 P.M
- **Opening of both Technical & Financial Bids** : 21.03.2018 at 03.30 P.M

Standard E-Tender Terms & Conditions

1. The details of tender notification can be downloaded from www.tenderwizard.com/NISER under "**Tender Free View**" link.
2. Vendors should obtain the USER ID and PASSWORD from www.tenderwizard.com/NISER by clicking on "**REGISTER ME**" link in the homepage.
3. The Vendor registration fees has to be paid to ITI Ltd for Rs. 1180/- including GST. Using the e-payment link provided at the time of registration, and the mode of payments are Credit Card, Debit Card and Internet Banking. Vendor Registration is Valid for 1year.
4. For further details on e-Tender participation, please contact ITI Help desk on
 - Telephone: 080-49352000/9686115318
 - Email: harishkumar.kb@etenderwizard.com, ambasa@etenderwizard.com.
5. Tenders should be submitted only through e-Tender portal and obtain the Tender Acknowledgement copy as a proof of successful submission.

The Institute can provide following documents.

1. Custom Duty exemption certificate.
2. GST exemption certificate.

Stores & Purchase Officer



**TERMS & CONDITIONS
FOR SUPPLY AND INSTALLATION OF
MODULAR ELECTRONICS FOR DAQ
FOR
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI
Notice Inviting E-Tender No. NC-001056-PHY-17-18**

1. Director, National Institute of Science Education & Research, Jatni (NISER) invites e- tenders for **MODULAR ELECTRONICS FOR DAQ** from the Manufacturer and their authorised reseller only having following credentials.
 - A. Should have satisfactorily completed **similar supply** (at least one of them in Central Government/Central Autonomous Body/Central PSU)
 - B. Similar or Similar Nature of work means** Supply & Installation **MODULAR ELECTRONICS FOR DAQ** for any of the following :
 - a) **Government/Autonomous Institutions**
 - b) **Government Research Centres**
 - c) **Universities**
 - d) **Autonomous/Reputed Private Research Centres**
 - e) **Purchase Orders / Completion certificates if any, for supporting above requirements.**

The Bidders are requested to give detailed tender in the prescribed forms in Single Bid.

2. **Contact for information:** (Only E-mail enquiries will be entertained)

For Technical Information of MODULAR ELECTRONICS FOR DAQ:

Dr. Varchaswi K S Kashyap

School of Physical Sciences, NISER.

E-Mail – Varchaswi K S Kashyap <vkashyap@niser.ac.in>

For Information regarding Commercial & all other Terms & Conditions:

Deepak Srivastava

Stores & Purchase Officer

National Institute of Science Education & Research, Jatni

E-Mail-spo@niser.ac.in

3. Supply means:

“Supply, Installation, Commissioning and satisfactory demonstration of the whole equipments”.

4. Tender Document:

- a) Tender documents contain following:
 - i. Detail tender document in word document to read & download only.
 - ii. E-Tender in excel sheet for e-submission.
 - General rules
 - Technical Bid
 - Financial Bid

All parts are mandatory to fill & submit.

- b) The purpose of certain specific conditions is to get or procure best product/service etc. for NISER. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- c) The earnest money deposit (**if applicable**) as indicated against the item should be send by post so that it reaches on or before the opening of the technical bid for e-tender system in the form of Account Payee Bank Draft payable on any branch of Nationalised/Schedule Bank at Bhubaneswar/ Jatni in favour of “Director, National Institute of Science Education & Research, Jatni”, in a separate sealed envelope. All tenders submitted without requisite amount of earnest money shall be rejected and their technical and financial bids shall not be opened. No interest is payable on EMD. The EMD will be returned to the bidders(s)/Agents whose offer is not accepted by NISER within one month from the date of the placing of the final order(s) on the selected bidder(s). In case of the bidder(s) whose offer is accepted the EMD will be returned on submission of Performance Bank Guarantee (if applicable). However, if the return of EMD is delayed for any reason, no interest /penalty shall be payable to the bidders.

EMD EXEMPTION:

PARTIES REGISTERED WITH SSI/DGS&D/DAE AND FOREIGN PARTIES QUOTING DIRECTLY ARE EXEMPTED FROM PAYING EMD. FOREIGN PARTIES QUOTING DIRECTLY UNDER ORIGINAL SEAL AND SIGNATURE (NOT SCANNED) WILL GET THE EXEMPTION. (IF APPLICABLE)

The EMD shall be forfeited:

If the bidder withdraws the bid during the period of bid validity specified in the tender. In case a successful bidder fails to furnish the Performance Bank Guarantee (**if applicable**).

- a) Undertaking that the successful bidder agrees to give a Performance Bank Guaranty of 10% of the purchase order value in favour of “Director, National Institute of Science Education & Research, Jatni valid till warranty period (**REQUIRED MANDATORY**).
- b) If the bid is for branded makes, authorization letter from principals clearly indicating that the vendor is the competent authority to sell and provide services towards the items mentioned in the scope of supply given in this tender document.
- c) Copy of GST No. and PAN No. allotted by the concerned authorities.
- d) List of deliverables / Bill of materials and services.
- e) Compliance sheet with any deviation with reference to the terms and specifications.
- f) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the system without any problem.

“Commercial Bid” shall contain:

- a) Price schedule complete in all respects. **Tender with any condition including conditional rebate shall be rejected forthwith.**
- b) Cost of all the items should be mentioned clearly and individually in the Commercial Offer only.
- c) **The Bidders are requested to quote for Educational/Institutional Price for Machine/ Equipment and, since we are eligible for the same.**
- d) **Printed conditions of the vendor submitted with the tender will not be binding on NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH.**

5. Tender process & award of contract.

The technical bids will be evaluated to shortlist the eligible bidders. Bidders whose technical offer is found acceptable and meeting the eligibility requirements as specified in this tender will only be consider for price comparison. Recommendation of technical committee will be posted on NISER website.

- ONLY TECHNICALLY accepted competitive bids will be considered for placing Purchase Order.
 - **Purchaser’s Right to vary Quantities at the time of Award:** NISER reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.
6. **The Director NISER reserves the right to accept the offer in full or in parts or reject summarily or partly.**

7. Delivery Period / Timeliness

The deliveries, installation must be completed within 60 days, after placement of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet these expectations, as they are tightly linked to NISER's plans of completing the project within the time frame.

8. Locations for the Supply / Services

The Laboratory Equipments covered by this document is required to be supplied and installed at School of Physical Sciences of NISER, Jatni.

9. Order Placement and Release of Payment

The Purchase Order and payment shall be processed by –

**Stores & Purchase Officer
National Institute of Science Education & Research,
Jatni Campus, P.O. – Bhimpur-Padanpur, Via-Jatni,
Khurda – 752050, Odisha, INDIA**

Payment for the items to be supplied by the vendor against the purchase order shall be made by National Institute of Science Education & Research as follows:-

INR payment:-

100% payment after receipt of material in good condition, installation & submission of warranty certificate.

The tenderers who are not agreeing to above payment terms are requested not to submit their tender otherwise their EMD will be forfeited.

10. NISER will not provide any accommodation/transportation for the engineers/ representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the Principal Supplier/Indian Agent to make their own arrangements.

11. The successful bidder, on award of contract / order, must send the contract / order acceptance in writing, within 7 days of award of contract / order failing which the EMD will be forfeited.

12. Period of validity of bids

- Bids shall be valid for a period of 90 days from the date of opening the Technical bid.
- NISER may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. The bidder is free not to accept such request without forfeiting the EMD. A bidder agreeing to the request for extension will not be permitted to modify his bid.
- Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

13. Corrupt or Fraudulent Practices

NISER requires that the bidders who wish to bid for this project have highest standards of ethics. NISER will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. NISER may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

14. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, Director, NISER's interpretation of the clauses shall be final and binding on all parties.

15. Price

- The price quoted shall be considered firm and no price escalation will be permitted at any time. The quotation should be in Indian Rupees or any known foreign currency.
- In case of INR bids the price criteria should be on F.O.R., NISER, Jatni. Govt. Levies like GST, etc., if any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, GST, etc., if any.
- Please provide TIN no. of the firm along with the GST No. allotted by the concerned authorities in your quotation.
- In case of Foreign Currency bid: - Price criteria should be FOB nearest airport detail break up of Price, **Agency Commission**, Insurance, Freight up to Kolkata Airport is required.
- NISER may place order at CIF Kolkata Airport basis.

16. Pre-installation:

Pre-installation facilities required for installation may please be intimated in the technical bid. Subsequently, before the consignment lands in NISER, Jatni the bidder shall confirm that the pre-installation requirements are sufficient for installation of the equipments. In other words the bidder should continuously monitor the pre-installation requirements and see that everything is ready before the consignment is taken to the site for installation.

17. Installation, Warranty & Support

- Bidder shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty and thereafter.
- The items covered by the schedule of requirement shall carry minimum 01 year comprehensive warranty from the date of acceptance of the equipments by NISER. Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive warranty includes onsite warranty with parts.
- The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, GST, local taxes if any should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.
- The bidder shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 05/10 years from the date of supply of equipment on payment on approved price list basis.
- The equipment must be supported by a Service Centre manned by the principal vendor's technical support engineers. The support through this Centre must be available 24 hours in a day, three days a week and 365 days a year. Also it should be possible to contract the Principal's vendor support Centre on a toll free number/web/mail.
- The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.

18. Indemnity

- The vendor shall indemnify, protect and save NISER against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

- The successful will be fully responsible for payment of wages and other dues as prescribed and compliance of various Labour Laws.
- The successful tender should give an undertaking that the staff deployed at the centre in terms of this contract at all time will be employees of the agency exclusively and they shall not be entitled to any claim of employment or permanency of job with NISER.
- NISER reserves the right to forfeit whole or part of the security money towards any damage/lose caused due to the negligence on the part of the agency engaged.

19. Insurance

The equipment's to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at NISER site in case of Rupee/Foreign currency transaction.

20. Penalty for delayed Services / LD

As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise the bidder will forfeit EMD/SD and also LD clause will be applicable /enforced.

If the supplier fails to Supply, Install and Commission the equipment as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 1% of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.

NISER reserves the right to cancel the order in case the delay is more than 30 days Penalties, if any, will be deducted from the EMD.

21. Jurisdiction

If a dispute arises out of or in connection with the contract, or in respect of any defined legal relationship associated therewith or derived therefrom, the parties agree to submit that dispute to arbitration under the ICADR Arbitration Rules, 1996.

The authority to appoint the arbitrator(S) shall be the International Centre for alternative dispute resolution.

The International Centre for Alternative Dispute Resolution will provide administrative services in accordance with the ICADR arbitration Rules, 1996.

**Stores & Purchase Officer
NISER, Jatni**

DECLARATION BY THE VENDOR

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper lawful Power of Attorney. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the conditions from serial no. 1 to 21 and we have not given any printed conditions beyond the scope of this tender. This is also certified that I/We/our principal manufacturing firm have no objection in signing the purchase contract if the opportunity for the supply of the items against this tender is given to me/us.

Date:

Signature:

Address:

Name:

Designation:

On behalf of:

(Company Seal)



**SUPPLY AND INSTALLATION
OF
MODULAR ELECTRONICS FOR DAQ
FOR
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI
Notice Inviting E-Tender No. NC-001056-PHY-17-18**

www.tenderwizard.com/NISER			
General Information –Self Attested			
Vendor Name		-	
Sl. No.	Basic Information	Please fill details	Page No. with name of the documents attached in support of information required
1	Name of the Company		
2	Full address of company along with Telephone no. Fax no. E-mail address :		
3	Local address of company for communication, if any		
4	Are you a manufacturer or dealer/reseller		
5	If dealer please attach certificate from your principal company clearly showing validity of the certificate		
6	If foreign supplier : Please give details of your Indian authorised partner if any		

7	Annual turn over in last 3 financial years in Rs. Crores. (i) Year 2014-2015 (ii) Year 2015-2016 (iii) Year 2016-2017 Please attach balance sheet		
8	Supply & Installation of “ Modular Electronics for DAQ ” to our tendered of last 3 financial years in State Government or Govt. of India Department(s) /Reputed Organisation(s) (in Nos. and Value) (Please attach list of clients) (i) Year 2014-2015 (ii) Year 2015-2016 (iii) Year 2016-2017 Please attach copy of Purchase Order/ Completion Certificate		
9	GST Registration no. with Place		
10	Income Tax Registration no. with place		
11	Photocopy of EMD (IF APPLICABLE)		
12	Name and address on whom purchase order will be placed		
13	Bank details of the supplier on which order will be placed		
14	If you are claiming exemption certificate under SSI/DGS&D/DAE, Please attach self attested copy of certificate which should be valid during the tender process		
15	Service centre details & principal vendor support centre		
16	Delivery period :Please mention time of delivery & Installation		
17	Mode of Delivery: For CIP/CIF for foreign currency order		
18	Declaration to be submitted by Vendor		
19	Warranty 1 year Accepted/Not Accepted		



**TECHNICAL BID
SUPPLY AND INSTALLATION
OF
MODULAR ELECTRONICS FOR DAQ
FOR
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI
Notice Inviting E-Tender No. NC-001056-PHY-17-18**

www.tenderwizard.com/NISER			
Vendor Name		-	
SL. No.	Item Specification	Accepted/Not Accepted/Deviation if any. Please specify your specification if deviation is there	Page No. of your specifications/Brochure/ Deviation, etc attached in support of your specification/deviation
	<p>NISER is planning to procure “Modular Electronics for DAQ” with the following technical specifications as given below. The vendor should meet all the requirements given below to comply.</p> <p>The technical quote must be accompanied by a detailed technical document of the equipment components quoted from OEMs. Description proving compliance to each of the above technical requirement must be clearly highlighted in the said technical document, and the serial number of the related technical point must be noted next to the highlighting. In case the specific information is not present in the document, it must be clearly mentioned with a web-link, where in the website of the OEM such information about the quoted equipment can be found. Failure to satisfy these conditions or unavailability of information to prove the technical features, or incomplete or unclear or false information provided in the technical quote will be grounds for summary disqualification. The onus is on the quoting party to provide all the information required for technical assessment, and such assessment will be carried out solely on the basis of the information provided to NISER in the technical quote.</p>		

MODULAR ELECTRONICS FOR DAQ			
1	<p>Single channel charge sensitive preamplifier :</p> <p>Rise Time: < 20 ns at 0 pF and < 50 ns at 100 pF.</p> <p>Sensitivity: Nominal, measured through either output, 15 mV/MeV Si.</p> <p>Energy Range: 0 to 100 MeV Si or better</p> <p>Dynamic Input Capacitance: 10,000 pF.</p> <p>Detector Bias Isolation: ±3000 V or better</p> <p>Open Loop Gain: ≥40,000 or better</p> <p>Inputs: (1) Input: Accepts input signal from a detector and extends operating bias to the detector (2) Bias: Accepts the bias voltage for the detector from a bias supply (3) Test: Accepts input voltage pulses from a pulse generator for instrument and system check and calibration;</p> <p>Outputs: E and T (for Energy and Timing) 2 connectors should furnish identical signals through 2 output paths; either or both of these outputs can be used as required, and they should be interchangeable.</p> <p>Connectors: (1) Input and Bias - SHV (2) Test, E, and T - BNC.</p> <p>Electrical Power Required: +24 V, 30 mA; -24 V, 10 mA; +12 V, 15 mA; -12 V, 15 mA. Furnished from NIM bin and power supply through any standard spectroscopy amplifier.</p> <p>Builtin captive cable should be compatible with either source.</p>		

2	<p>Time to Amplitude converter :Features: (1) Valid Start and Valid Conversion outputs (2) Selectable output delay and width (3) Output synchronized with a stop or external strobe signal (4) Provision to reject unwanted start input signals (5) Positive or negative input signals Range: 10 ns to 2 ms; Selectable full scale time interval : 50, 100, or 200 ns between accepted Start and Stop input signals; Time range extension by a multiplying factor of 1, 10, 100, 1K, or 10K .Delay: Adjustable delay of the TAC output from 0.5 μs to 10.5 μs, relative to an accepted Stop input signal.Time Resolution: FWHM \leq0.01% of full scale for all rangesStart to Stop Conversion Time: Minimum \leq 5 nsInput Count Rate: >30 MHzTAC Output: Amplitude 0 V to +10 V proportional to Start/Stop input time difference; Width adjustable from \leq1 μs to \geq3 μs; Rise Time \sim250 ns; Fall Time \sim250 ns.Dimension: Single width standard NIM module</p>		
---	---	--	--

3	<p>NIM standard Analog to Digital Converter (ADC)</p> <p>No. of input channels: 2</p> <p>ADCs: Successive Approximation type with sliding scale linearization. Maximum Resolution 16k: 16384 channels, software selectable as 16384, 8192, 4096, 2048, 1024, and 512.</p> <p>Dead Time Per Event: 2 μs including memory transfer.</p> <p>Integral Nonlinearity: $<+0.025\%$ over the top 99% of the dynamic range.</p> <p>Differential Nonlinearity: $<\pm 1\%$ over the top 99% of the dynamic range.</p> <p>Dead Time Correction: Software selectable for extended LiveTime correction or ZDT LiveTime corrections</p> <p>Data Memory: 512 kb or better</p> <p>USB Interface: Interfaces to a PC via USB 2.0. Data transfer speed is 480 Mbps maximum.</p> <p>Software: Should include software for data acquisition</p> <p>Inputs: Accepts positive unipolar, positive gated integrator, or positive leading bipolar analog pulses in the dynamic range from 0 to +10 V; +12 V maximum; semi Gaussian shaped time constants from 0.25 to 30 μs, gated integrator shaped time constants from 3 to 30 μs, or delay line shaped with widths $> 0.25 \mu$s. No internal delay, BNC connector.</p> <p>ADC Gate: TTL input. Computer selectable Coincidence mode, Anticoincidence mode, or Off. Signal must occur prior to and extend 0.5 μs beyond the peak of the pulse; BNC connector.</p> <p>PUR: Pileup rejection input; accepts TTL</p>		
---	--	--	--

	<p>signal; signal must occur prior to peak detect; BNC connector.</p> <p>Busy: Busy input used by livetime correction circuits. Accepts TTL signal; signal must occur prior to peak detect. BNC connector.</p> <p>Electrical Power Required: +6 V, 250 mA; +12 V, 165 mA; -12 V, 165 mA.</p>		
4	01 Year On-Site Comprehensive Warranty		



**FINANCIAL BID
SUPPLY AND INSTALLATION
OF
MODULAR ELECTRONICS FOR DAQ
FOR
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI
Notice Inviting E-Tender No. NC-001056-PHY-17-18**

www.tenderwizard.com/NISER							
Vendor Name							
SL. No	Item Specification	Qty	Type of Currency	Unit Price FOB in Foreign Currency	Total Price FOB in Foreign Currency	Unit Price in INR for items which supplier will supply from India	Total Price in INR for items which supplier will supply from India
MODULAR ELECTRONICS FOR DAQ							
1	Single channel charge sensitive preamplifier : Rise Time: < 20 ns at 0 pF and < 50 ns at 100 pF. Sensitivity: Nominal, measured through either output, 15 mV/MeV Si. Energy Range: 0 to 100 MeV Si or better Dynamic Input Capacitance: 10,000 pF. Detector Bias Isolation: ±3000 V or better Open Loop Gain: ≥40,000 or better Inputs: (1) Input: Accepts input signal from a detector and extends operating bias to the detector (2) Bias: Accepts the bias voltage for the detector from a bias	01 No.					

	<p>supply (3) Test: Accepts input voltage pulses from a pulse generator for instrument and system check and calibration; Outputs: E and T (for Energy and Timing) 2 connectors should furnish identical signals through 2 output paths; either or both of these outputs can be used as required, and they should be interchangeable. Connectors: (1) Input and Bias - SHV (2) Test, E, and T - BNC. Electrical Power Required: +24 V, 30 mA; -24 V, 10 mA; +12 V, 15 mA; -12 V, 15 mA. Furnished from NIM bin and power supply through any standard spectroscopy amplifier. Built-in captive cable should be compatible with either source.</p>						
2	<p>Time to Amplitude converter Features: (1) Valid Start and Valid Conversion outputs (2) Selectable output delay and width (3) Output synchronized with a stop or external strobe signal (4) Provision to reject unwanted start input signals (5) Positive or negative input signals Range: 10 ns to 2 ms; Selectable full scale time interval : 50, 100, or 200 ns between accepted Start and Stop input signals; Time range extension by a multiplying factor of 1, 10, 100, 1K, or 10K. Delay: Adjustable delay of the TAC output from</p>	01 No.					

	<p>0.5 μs to 10.5 μs, relative to an accepted Stop input signal.</p> <p>Time Resolution: FWHM $\leq 0.01\%$ of full scale for all ranges</p> <p>Start to Stop Conversion Time: Minimum ≤ 5 ns</p> <p>Input Count Rate: >30 MHz</p> <p>TAC Output: Amplitude 0 V to +10 V proportional to Start/Stop input time difference; Width adjustable from ≤ 1 μs to ≥ 3 μs; Rise Time ~ 250 ns; Fall Time ~ 250 ns.</p> <p>Dimension: Singlewidth standard NIM module</p>						
3	<p>NIM standard Analog to Digital Converter (ADC)</p> <p>No. of input channels: 2</p> <p>ADCs: Successive Approximation type with sliding scale linearization.</p> <p>Maximum Resolution 16k: 16384 channels, software selectable as 16384, 8192, 4096, 2048, 1024, and 512.</p> <p>Dead Time Per Event: 2 μs including memory transfer.</p> <p>Integral Nonlinearity: $< +0.025\%$ over the top 99% of the dynamic range.</p> <p>Differential Nonlinearity: $< \pm 1\%$ over the top 99% of the dynamic range.</p> <p>Dead Time Correction: Software selectable for extended LiveTime correction or ZDT LiveTime corrections ,</p> <p>Data Memory: 512 kb or better</p> <p>USB Interface: Interfaces to a PC via USB 2.0. Data</p>	01No .					

	<p>transfer speed is 480 Mbps maximum. Software: Should include software for data acquisition</p> <p>Inputs: Accepts positive unipolar, positive gated integrator, or positive leading bipolar analog pulses in the dynamic range from 0 to +10 V; +12 V maximum; semi Gaussian shaped time constants from 0.25 to 30 μs, gated integrator shaped time constants from 3 to 30 μs, or delay line shaped with widths > 0.25 μs. No internal delay, BNC connector.</p> <p>ADC Gate: TTL input. Computer selectable Coincidence mode, Anticoincidence mode, or Off. Signal must occur prior to and extend 0.5μs beyond the peak of the pulse; BNC connector.</p> <p>PUR: Pileup rejection input; accepts TTL signal; signal must occur prior to peak detect; BNC connector.</p> <p>Busy: Busy input used by livetime correction circuits. Accepts TTL signal; signal must occur prior to peak detect. BNC connector.</p> <p>Electrical Power Required: +6 V, 250 mA; +12 V, 165 mA; -12 V, 165 mA.</p>						
4	01 Year On-Site Comprehensive Warranty						
5	Supply & Installation charges						
	Sub-Total					0.00	0.00

	Agency Commission						
	GST Charge If Any						
	CIP/CIF Kolkata Charges						
	Any Other Charges						
	Grand Total				0.00		0.00