

Date: 31-12-2025

Notice for purchasing of Lock-in Amplifier

TCG CREST, Kolkata intends to purchase certain items for its Center for Quantum Engineering, Research and Education (CQuERE) related to the project under National Quantum Mission, by the Department of Science & Technology (DST), Govt of India. Prospective Agencies are requested to submit their lowest possible quotation in a SEALED ENVELOP with “Lock-in Amplifier” label and DATE duly super scribed on the COVER and on the face of the offer letter addressed to “1st Floor, Tower 1, Bengal Eco Intelligent Park (Techna Building), Block EM, Plot No 3, Sector V, Salt Lake, Kolkata 700091” for the supply of the under mentioned items. Last date for submission of quotation is: 22/01/2026 (by 11:00 am). In addition, I separate email with the quotation should be sent to: sarbajit.chatterjee@tcgcrest.org

Following specifications are required:

S.No.	Specifications	Details
1	Frequency range	DC – 500 kHz and with possibility for later upgrade of frequency range up from DC - 5 MHz
2	Frequency Resolution	1micro Hz or better
3	Reference Input	TTL input, voltage input or current input
4	Voltage input noise	$\leq 2.5 \text{ nV}/\sqrt{\text{Hz}}$ @1kHz
5	Current Input noise	20 fA/ $\sqrt{\text{Hz}}$ above 100 Hz for 10 nA input range; 200 fA/ $\sqrt{\text{Hz}}$ above 10 kHz for 1 μA input range
6	Current Input full range sensitivity	$\pm 10 \text{ fA}$ to $\pm 10 \text{ mA}$
7	Sampling rate	60 MSample/s, 16 bit A/D Conversion
8	Integrated tools (preferred)	Oscilloscope, zoom FFT, spectrum analyzer, parameter Sweeper, waterfall plot (spectrogram)
9	Filter Orders	1 to 8
10	Demodulator time constant	< 500 ns to above 50 s
11	Max. BW @4th order	>200 kHz
12	Phase Resolution	10 μdeg
13	Input Voltage Type AC	BNC, single ended and differential, $\pm 1 \text{ mV}$ to $+3 \text{ V}$
14	Dynamic reserve	$\geq 120 \text{ dB}$
15	Input Current	$\pm 10 \text{ fA}$ to $\pm 10 \text{ mA}$
16	Input Impedance	50 Ohms or 10 Mohms
17	Input Voltage Sensitivity	1 nV to 3 V
18	Input Current Sensitivity	$\pm 10 \text{ fA}$ to $\pm 10 \text{ mA}$
19	Stability of internal reference	$< \pm 1.5 \text{ ppm}$
20	Interfaces	USB, 1 GB/s Ethernet, WIFI

21	Power requirement	220V AC, 50 Hz and DC <15V, 1-2A
22	Power Consumption	< 40 W
23	Software API	API for Matlab, Python, LabView, .net and C++
24	Feature Extension	field upgradable option for PID/PLL phase locked loop controller, impedance analyser option, amplitude and frequency modulation and demodulation option
25	Operation manual	Hard/soft copy should be provided
26	Test certificates	To be provided with the LOCK-IN Amplifier.
27	Warranty	One year

TERMS & CONDITIONS

1. Quotation should be for FREE DELIVERY at TCG CREST, Kolkata or quoted on FOR destination basis, unless otherwise arranged.
2. Prices quoted should be Net and minimum period of validity of the quotation SHOULD BE FOR 120 DAYS from the closing date. The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account. All duties and other levies payable by the supplier under the contract shall be included in the unit Price. Applicable taxes shall be quoted separately for all items. TCG CREST, Kolkata may or may not provide DSIR certificate wherever GST exemption will be applicable.
3. Quotations cannot be CORRECTED after submission.
4. Any Quotationer already having any legal dispute with the institution need not submit the tender.
5. Manufacturer's NAME and the COUNTRY OF ORIGIN of the materials offered must be clearly specified failing which the Tender will not be considered.
6. All the documents should be authenticated with official stamp and signature / signatures thereon by the bidder.
8. The Quotationers will not be titled to ask for any further information other than whether their tenders have been received or not.
9. Submission of false document(s) / information by the bidder will result into the cancellation of quotation and the Institute may take strict action against that bidder.
10. If the institution finds that the materials supplied are not of the contract quality or not according to the specification approved by the University or otherwise not satisfactory owing to any reason, of which the institution shall be the sole judge, the institution shall be entitled to refuse the acceptance of the said materials, cancel the order and buy its requirement elsewhere at supplier's responsibility.
11. Quotationers must as far as possible, arrange to supply the materials according to the terms of delivery specified in the orders. If however, this is not possible, they shall clearly specify the time in which the delivery of the articles can be effected. This delivery time must be strictly adhered to. Failure to supply within the specified time will lead to cancellation of the order without notice.
12. Being the lowest bidder (L1) in term of quoted amount (incl. all) may not be the only condition to receive the order, other criteria like having PAN, GSTIN, location of the office, and equipment/software's technical merit and advantage for the ongoing research work etc. may also be considered during the selection of the eligible bidder. The decision of the

institution in such a case will be the final. For authenticity/genuineness of the quoted product, the firm should be a reputable, well established and suppliers of the goods or services as part of their normal business.

13. In case the selected bidder is unable to supply the items after being selected to supply the items or after receiving the respective order from the institution, the bidder should immediately inform the Authority about the same by e-mail. Decision of the institution in such case will be the final.

14. If any tenderer proposes to charge GST & Delivery charges, in addition to his quoted rates this fact should be stated specifically in his quotation. In the absence of such statement the rate quoted will be deemed to be inclusive of GST & Delivery charges.

15. Payment will be made on the basis of LC.

16. Non-Compliance of an order may lead to cancellation of enlistment and no enquiry will be issued in future.

Up to 10% of bill value may be deducted for default on delivery.

17. Deduction of all taxes as per norms for each Bill/Invoice shall be made by the Authority at the time of payment.

18. Any dispute which may arise between the bidder and the institution regarding this bidding shall be referred to the Director, TCG CREST, Kolkata, whose decision shall be final and binding in this regard.

19. PAN, GSTIN and Bank details of the bidder are to be mentioned in the bill/ invoice.

20. Dealership Certificate: The bidder/tenderer should be either a manufacturer or authorized dealer of the foreign/Indian manufacturer. Dealers or Agents quoting on behalf of Manufacturer must enclose valid dealership certificate. If the quotation is being submitted by dealer, the after sales service will be responsibility of that dealer only. TCG CREST, Kolkata will not directly coordinate with the manufacturers.

21. The institution reserves the right to accept or reject any quotation without showing any reason.