

Tender Notification for the procurement of a Lockin Amplifier

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Reference No: PPH/AGH/23-24/579

Are quest for quotation from domestic (India-based) manufacturers for a Lockin Amplifier system. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The quotation should clearly indicate the terms of delivery, delivery schedule, transportation charges (if any). The quotations should be on FOR-IISc Bangalore basis in INR only.

With respect to this tender, the rules laid out by the Government of India in order No.P45021/2/2017-PP(BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 4th June 2020, will be followed. Perth is order, the government has defined a 'Class-I local supplier' as "a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%". A 'Class-II local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%". Only 'Class-I' and 'Class-II' local suppliers are eligible to participate in this open domestic tender. Any 'Non-local supplier', i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.

Please enclose a compliance certificate along with the bid. This certificate should have a table that should describe your compliance in a "Yes" or "No" response against each of the items in the specifications listed below. If "No" is selected, the second column should state the extent of deviation. The third column should state the reasons for the deviation (if any). Please enclose a compliance statement along with the technical bid. Bids with no statement of compliance will be considered invalid.

The technical details of the system and general terms and conditions are given below.

This is a Request for Quote (RFQ) from the Indian Institute of Science (IISc), Bangalore, for Lockin Amplifier to Department of Physics, IISc Bangalore. Complete details for the quotation including technical specifications are mentioned here.

1	Section 1	Bid Schedule	
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3	Section 3	Terms and Conditions	As specified by IISc
4	Section 4	Specifications	Technical specifications
5	Section 5	Technical Bid	Annexure 1: Bidder details
			Annexure 2: Declaration regarding experience of bidder
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			Annexure 5: Terms and conditions. Details of item quoted
6	Section 6	Commercial bid	Quotation with Price, Technical specifications of the Equipment

Section 1 - Bid Schedule

1	Tender No	
2	Tender Date	01 st January 2024
3	Item Description	Supply of a Lockin Amplifier
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	Chairperson Office Ground Floor Department of Physics Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	24 rd January 2024
7	For further clarification	Prof. Arindam Ghosh Room No: F1-04 Department of Physics Indian Institute of Science, Bangalore 560012 Email: arindam@iisc.ac.in Phone: +91-80-2293 3288

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have been in existence for a minimum of 3 years. (Enclose Company Registration Certificate)
2. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
3. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.

Section 3 – Terms and Conditions

A) Submission of Tender:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a. Technical Bid (Part-A) – Technical bid consisting of all technical details and check list for conformance to technical specifications.

The technical proposal should contain a technical compliance table with 5 columns.

- i. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
 - ii. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible.
 - iii. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent. Vendor must provide the detailed specifications in the compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer’s literature. Mere saying Yes to compliance sheet without supporting data, measurement will not be accepted.
 - iv. The fourth column should state the reasons/explanations/context for deviations, if any.
 - v. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below.
- b. Commercial Bid (Part-B) – Indicating item wise price for the items mentioned in the technical bid, **as per the format of quotation provided in tender**, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
 4. The SEALED COVER superscripting tender number / due date & should reach Chairperson Office, Department of Physics, Indian Institute of Science, Bangalore – 560012, India on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
 5. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.

6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).
7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
8. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
9. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to the Class-1 supplier.
10. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
11. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
12. Incomplete bids will be summarily rejected.

B) Cancellation of Tender:

Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject lowest tender or any other tender or all the tenders.
- b. To accept any tender in full or in part.
- c. To reject the tender, offer not confirming to the tender terms.

C) Validity of the Offer:

The offer shall be valid 90 Days from the date of opening of the commercial bid.

D) Evaluation of Offer:

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Domestic manufactures satisfying the technical specifications will be given priority.
4. Pre- qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.

5. The award of the contract will be subject to acceptance of the terms and conditions stated in this tender.
6. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
 - a. Non-submission of complete offers.
 - b. Receipt of bids after due date and time and or by email / fax (unless specified otherwise).
 - c. Receipt of bids in open conditions.
7. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER has accepted the clauses as of the tender and no further claim will be entertained.
8. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
9. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post processing, optional items, recommended spares, warranty, annual maintenance contract.

E) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

F) Warranty:

The complete system is to be under warranty period of minimum 1 year including free supply of consumables, spare parts and data analysis software from the date of functional installation. If the instrument is found to be defective, it has to be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

G) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.

3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

I) Delivery, Installation and Training:

The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed and made functional within 90 days from the date of receipt of the purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed.

The bidder should also arrange for technical training of users if required.

J) Payment Terms:

100% payments (except AMC) will be released after completion delivery and satisfactory installation subject to TDS as per rules. AMC cost (if ordered), after completion of warranty period) will be released on half-yearly basis at the end of each six months subject to satisfactory services. The AMC will be comprehensive. Price basis must be on FOR-IISc Bangalore basis only. As per GFR no advance payment can be made to domestic vendors, unless an equal amount of bank guarantee is provided.

K) Statutory Variation:

Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.

L) Disputes and Jurisdiction:

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

M) General:

1. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension of the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is, however, advised not to furnish superfluous information.
3. The bidder may visit the installation site before submission of tender, with prior intimation.

4. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.

Section 4 – Technical Specifications

A. Technical Specifications of the Lockin Amplifier

General Specifications

Technical Specifications:

Technical Specifications for LOCK-IN Amplifier		
SR.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	$\leq 2.5 \text{ nV}/\sqrt{\text{Hz}}@1\text{kHz}$ $\leq 8 \text{ nV}/\sqrt{\text{Hz}}@10\text{Hz}$
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; 3.5 pA/ $\sqrt{\text{Hz}}$ above 1 MHz for 100 μA input range; 300 pA/ $\sqrt{\text{Hz}}$ above 1 MHz for 10 mA 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	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 $\pm 3 \text{ V}$
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	± 10 fA to ± 10 mA
19	Stability of internal reference	$< \pm 1.5$ ppm
20	Interfaces	USB, 1 GB/s Ethernet, WIFI
21	Power requirement	220V AC, 50 Hz and DC < 15 V, 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

B. Spares and accessories

NA

C. Installation and demonstration

System should be installed at the premises.

Section 5 - Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

The Chairperson,
 Attn: Prof. Arindam Ghosh
 Department of Physics
 Indian Institute of Science
 Bangalore – 560012, India

Annexure-1:

Details of the Bidder

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Details of the Bidder

Sl. No	Items	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

Signature of the Bidder

Name
Designation, Seal

Date:

Annexure-2:

Declaration regarding experience

To,
The Chairperson,
Department of Physics,
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply of Lockin Amplifier to Department of Physics, IISc, Bangalore

Sir,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying these systems.

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

Annexure-3:

Declaration regarding track record

To,
The Chairperson,
Department of Physics,
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX
Dated: XXXXX

Supply of a Lockin Amplifier to Department of Physics, IISc Bangalore

Sir,
I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred / blacklisted by any Government / Semi Government organizations / institutions in India or abroad. I further certify that I'm competent officer in my company / firm to make this declaration.

Or

I declare the following

Sl.No	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Since when and for how long

(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding the period for which the company / firm was blacklisted and the reason/s for the same).

Yours faithfully
(Signature of the Bidder)

Name
Designation, Seal

Date:

Annexure – 4:

Declaration for acceptance of terms and conditions

To,
The Chairperson,
Department of Physics,
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXX
Dated: XXXX

Supply of a Lockin Amplifier to Department of Physics, IISc Bangalore

Sir,

I've carefully gone through the Terms & Conditions as mentioned in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name

Designation, Seal

Date:

Annexure – 5:

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product description / main features
- e. Detailed technical specifications
- f. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 6 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items noted in the technical specification				
2.a	... (details of essential items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (3 years)				
6.	AMC 2 years beyond warranty				
7.	FOR IISc, Bengaluru				

Any additional items

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total

Addressed to

The Chairperson,
Attn: Prof. Arindam Ghosh
Department of Physics
Indian Institute of Science
Bangalore – 560012, India

Section 7 – Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope “A”: Technical Bid

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration regarding clean track record
 - d. Annexure 4: Declaration for acceptance of terms and conditions
 - e. Annexure 5: Details of items quoted
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelop “B”: Commercial Bid

Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date.