

**Pl.A1/13241/2020/3**

**Department of Optoelectronics, University of Kerala, Kariavattom,  
Thiruvananthapuram, Kerala, India – 695581, Ph: 91 471 2308167**

**05.02.2021**

**E-Tender Notice- 3**

Department of Optoelectronics, University of Kerala, Kariavattom, invites tenders for the purchase of **various equipment's in connection with the implementation of the specific project 'Pulsed Photoacoustic study in Nanobionics'** having following specifications.

Last date and time for submission of tender online	: 06.03.2021 05.00 PM
Date and time of opening of tender	: After Technical Evaluation
For technical details contact	<b>Head, Department of Optoelectronics, University of Kerala, Thiruvananthapuram Ph. No. +91 4712308167 e-mail: optoelectronics@keralauniversity.ac.in</b>

## **Tender 3. Dual Channel High performance Optical Power and Energy Meter, Thermopile Sensor, Pyroelectric Sensor (sub item 2)**

### **ITEM – DETECTION SYSTEMS**

#### **Dual Channel High performance Optical Power and Energy Meter**

- Quantity 1
- Number of Channels 2
- Computer Interfaces : USB and RS-232
- Sampling Rate : 250 kHz
- Bandwidth : Up to 400 kHz, depending on Range
- Accuracy :  $\pm 0.2\%$  for CW,  $\pm 1\%$  for Peak to Peak, Pulse to Pulse, and Integration Mode
- Power Requirements : 230 VAC/ 50 Hz
- Detector Input : Up to 25 mA for photodiode, 130 V for thermopile and pyroelectric detectors
- Photodiode Measurement : Average Power, Peak-to-Peak Power, Frequency
- Thermopile Measurement : Average Power, Single Shot Energy
- Frequency Measurement Range : 1 Hz - 250 kHz
- Operating Temperature : 5 to 40°C, <70%RH
- Storage Temperature : -20°C to 60°C, <90%RH
- CE Compliant
- RoHS Compliant
- Measurement : Rate Up to 10 kHz pulses for pyroelectric, Up to 20 kHz for photodiode (peak to peak measurement)
- The Dual Channel High performance Optical Power and Energy Meter and the thermopile and pyroelectric sensors must be of same company.

#### **Thermopile Sensor**

- Quantity 2
- Detector Type : High Energy Pulse
- Cable Length : 1.5 m
- Spectral Range : 0.24 to 2.2  $\mu\text{m}$
- Maximum Measurable Power : 50 W
- Sensor Size : 17.5 mm diameter
- Maximum Power Density : 0.5 kW/cm<sup>2</sup>
- Maximum Energy Density : <100 ns, 4 J/cm<sup>2</sup>; 0.5 ms, 15 J/cm<sup>2</sup>; 2 ms, 25 J/cm<sup>2</sup>; 10 ms, 50 J/cm<sup>2</sup>

- PowerRange : 140 mW - 50W
- Risetime : 2s
- Linearity :  $\pm 1.5\%$
- DetectorActiveArea :  $2.40\text{cm}^2$
- Must be compactable with Dual Channel High performance Optical Power and EnergyMeter

### **Pyroelectric Sensor**

- Quantity : 2
- DetectorMaterial : BFcoating
- DetectorType :Pyroelectric
- SpectralRange : 0.15 to 3 and  $10.6\mu\text{m}$
- SensorSize : 12 mmdiameter
- MaximumRepetitionRate : 250Hz
- MaximumPulseWidth : 5ms
- MaximumPulseEnergy :10mJ
- MaximumAveragePower : 3W
- OperatingTemperature :  $15^\circ\text{C}$  to  $35^\circ\text{C}$ , <70% RH, non-condensing
- StorageTemperature :  $0^\circ\text{C}$  to  $50^\circ\text{C}$ , <90%RH
- Linearity : $\pm 2\%$
- Must be compactable with Dual Channel High performance Optical Power and EnergyMeter

## General Conditions:

1. Every tenderer should submit Tender fee of **Rs. 2,500/-**
2. Every tenderer should submit an Earnest Money Deposit (EMD) of **Rs. 10,000/-**
3. The tender shall be submitted in the **two bid** viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.
4. The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization from and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". Such equipment must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.
5. **Compliance Statement:** Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Vendors should provide clear brochures/data sheets about the equipment and its working. Also include adequate proof for the claim regarding the performance.**
6. **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India shall be mentioned in the bid.
7. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reason thereof.
8. The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ.
9. **Payment Terms:** 90% payment shall be made through irrevocable LC on presentation of complete and clear shipping documents and balance 10% of the amount shall be released after the receipt, installation commissioning and acceptance of the equipment **in case of foreign consignment.**
10. **Validity of tender:** Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.
11. **Delivery and installation:** Proposed delivery schedule should be mentioned clearly. The

item should be installed at the Department of Optoelectronics, University of Kerala, Kariavattom campus, Trivandrum without any extra cost (inclusive of documentation, demurrage, customs duty, clearance and transportation charges). Training should be made at the Department of Optoelectronics, University of Kerala, Kariavattom campus, Trivandrum. University of Kerala will provide customs duty exemption certificates if required.

12. Service facility: Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after salessupport.
13. The model number, make, and a printed literature of the product shall submit positively.
14. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
15. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.
16. The quoted item should be under **comprehensive warranty for minimum 3years.**
17. If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.

#### **Documents to be Uploaded**

1. Signed Compliance Matrix
2. Detailed Technical Brochure
3. BoQ
4. Tender fee