

# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

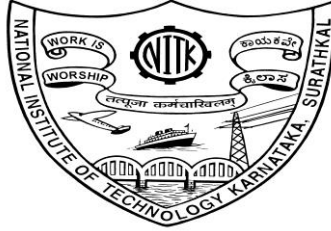
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## NOTICE INVITING QUOTATION

Notification. No: NITK / EE / 349

Dated: 07/02/2023

|  |  |
|--|--|
| <b>Name of Goods</b>   | <b>Pyranometer &amp; Data Logger</b>   |
| <b>Estimated Amount:</b>                                       | Rs. 2,50,000.00  |
| <b>Time for Supply of item after release of Purchase order</b> | 21 (Days)  |
| <b>Document Download / Sale Start Date</b>                     | 15/02/2023   |
| <b>Clarification Start Date</b>                                | 15/02/2023   |
| <b>Clarification End Date</b>                                  | 27/02/2023   |
| <b>Bid Submission Start Date</b>                               | 15/02/2023   |
| <b>Last Date for submission of bids</b>                        | 27/02/2023 Before 3.30 PM  |
| <b>Bid Opening Date</b>  | 27/02/2023 After 4.00 PM   |
| <b>Address for Submission of bids</b>                          | Dr. Tukaram Moger,<br>Assistant Professor, E & E Dept., NITK Surathkal.<br>Phone Number: +91 8242473451 (O), +91 9611475268<br>Email: <a href="mailto:tukaram@nitk.edu.in">tukaram@nitk.edu.in</a> |



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**NOTICE INVITING QUOTATION (NIQ)**

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance Under Ministry of Education Govt of India, imparting Technical Education and engaged in Research Activities. It is proposed to procure the items for the departmental academic/research activities.

Sealed Quotations as per the Price Schedule given in this NIQ are invited for the following items subject to the terms and conditions, from the reputed manufacturers or its authorised dealers so as to reach on or before scheduled date and time. The quotations in the firm's Business letter head should be address to the "Director, NITK, Surathkal". The envelope shall be superscribed with the Quotation Notification Number and the Name of the Goods for which quotation is submitted.

|  |                                  |
|--|----------------------------------|
| <b>Name of Goods</b>   | Pyranometer & Data Logger        |
| <b>Estimated Amount:</b>                                       | <b>Rs. 2,50,000.00</b>           |
| <b>Time for Supply of item after release of Purchase order</b> | <b>21 (Days)</b>                 |
| <b>Document Download / Sale Start Date</b>                     | 15/02/2023                       |
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**Sd/-**  
**HOD**

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to wrong addressee.

**SECTION-1**  
**Terms and Conditions**

1. The rates should be quoted for preferably FOR destination from supply within India.
2. The bidder shall indicate the excise duty exemption for the goods if applicable.
3. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any. The rate should be quoted in INR only
4. Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
5. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.
6. Guarantee/Warranty period should be specified for the complete period should be specified in section 3 of this tender document.
7. Period requirement for the supply and installation of item should be specified in section 3 of this tender document.
8. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.

**SECTION-2**  
**SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS**  
[ To be filled up by the Department / Centre of NITK, Surathkal ]

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Item(s) Name to be Procured : Pyranometer & Data Logger

Brief Specifications of the Item(s)  
(Attach Additional Sheet if necessary) : Specification is attached

Quantity : 01

Any other details / requirement : Other details are given in attached specification.

Warranty Period required : 02 Years (On-Site)

Delivery Schedule expected  
after placement of Purchase order  
(in Weeks) : 03 Weeks

**SECTION 3  
PRICE SCHEDULE**

[ To be used by the bidder for submission of the quotation]

- 
1. Item Name :
  2. Specifications  
(Conforming to Schedule of requirements  
Enclose additional sheets if necessary) :
  3. Currency and Unit Price :
  4. Quantity :
  5. Item Cost (Sl No. 3 \* Sl. No. 4 ) :
  6. Taxes and Other Charges :  
(i) Specify the type of taxes and duties  
in percentages and also in figures.  
(ii) Specify Other Charges in figures.
  7. **Warranty Period** :  
**(Conforming to the Schedule of requirements)**
  8. Delivery Schedule :  
(Conforming to the Schedule of requirements)
  9. Name and address of the Firm for  
placing purchase order :
  10. Name and address of Indian authorized  
agent ( in case of imports only) : --

**Signature of the Bidder:** \_\_\_\_\_

**Name and Designation:** \_\_\_\_\_

**Business Address** : \_\_\_\_\_

**Place:**  
**Date:**

**Seal of the Bidder's Firm**

**SECTION 4**  
**CONTRACT FORM**

[ To be provided by the bidder in the business letter head]

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1. (Name of the Supplier's Firm) hereby abide by the delivery schedule mentioned in this document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in this document without any defect and deviations.
3. Warranty will be given for the period mentioned in this document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

**Signature of the Bidder:** \_\_\_\_\_

**Name** : \_\_\_\_\_

**Business Address** : \_\_\_\_\_

\_\_\_\_\_

**Place :**

**Date :**

**Seal of the Bidder's Firm**

## Detailed Technical Specifications

### Equipment: DeltaOHM Thermopile Pyranometer

| Sl. No | Parameter                             | Specifications  |
|--------|---------------------------------------|---|
| 1      | <b>Equipment Name</b>                 | <b>DeltaOHM Thermopile Pyranometer</b>  |
| 2      | <b>Model</b>                          | <b>LP PYRA 03 (Or Equivalent)</b>   |
|        | Descriptions                          | Spectrally Flat Class C (second class) Pyranometer according to ISO 9060:2018. Supplied with levelling device and Calibration Report, shade disk. |
| 3      | ISO Certification                     | Manufacturing facility/brand should be as per ISO 9060:2018 standards   |
| 4      | Sensor Type                           | Thermopile  |
| 5      | Sensitivity                           | 5 – 15 $\mu\text{V}/\text{W}/\text{m}^2$  |
| 6      | Measuring Range                       | 0 - 2000 $\text{W}/\text{m}^2$  |
| 7      | Spectral Range                        | 300 - 2800 nm   |
| 8      | Operating Temperature / Humidity      | -40 - +80°C / 0-100 % RH  |
| 9      | Lead Length                           | 5 Mts or Higher   |
| 10     | Response Time                         | < 20 s  |
| 11     | Output                                | Compatible with Data Logger <b>HD33[L]MT.4 from DeltaOHM Data Logger</b>  |
| 12     | Accuracy of levelling device          | < 0.2°  |
| 13     | Protection Degree                     | IP 67   |
| 14     | MTBF                                  | > 10 years  |
| 15     | Viewing Angle                         | $2\pi$ sr   |
| 16     | Impedance                             | 33 – 45 $\Omega$  |
| 17     | Calibration                           | Pre-calibration report as per ISO 9847:1992 Standards or Higher   |
| 18     | Material                              | Metallic  |
| 19     | <b>On-site Comprehensive Warranty</b> | <b>2-years</b>  |
| 20     | <b>Quantity</b>                       | <b>1 No's</b>   |

**Equipment: DeltaOHM Data Logger**

| S. No | Parameter             | Specifications   |
|-------|-----------------------|--|
| 1     | <b>Equipment Name</b> | <b>DeltaOHM Data Logger</b>  |
| 2     | <b>Model</b>          | <b>HD33[L]MT.4 (Or Equivalent)</b>   |
| 3     | Model Descriptions    | <p>The data logger is equipped with:</p> <ul style="list-style-type: none"> <li>● 4 analog independently configurable inputs (0...50 mV, -50...+50 mV, 0...1 V, 0...10 V, 0...20 mA or 4...20 mA, Pt100, Pt1000, thermocouple, potentiometer, pyrometer).</li> <li>● 2 voltage-free counting contact inputs.</li> <li>● One SDI-12 “Master” port compatible with version 1.3 of SDI-12 protocol.</li> <li>● 2 voltage-free contact alarm outputs.</li> <li>● 4G/3G/GSM(2G)/GPRS module for remote monitoring</li> <li>● Sending of data via e-mail, FTP and to an HTTP server</li> <li>● One RS485 port with Modbus-RTU protocol configurable as “Master” or “Slave”.</li> <li>● Configurable as Master or Slave MODBUS unit</li> <li>● PC software for configuration, monitor and data download in a database</li> <li>● Software option available for compliance to FDA 21 CFR part 11 recommendations</li> <li>● 2 contact alarm outputs and alarm notification via e-mail and SMS when configurable measurement thresholds are exceeded</li> <li>● IP 65 housing</li> <li>● Custom LCD</li> <li>● Internal clock of high accuracy and stability, with possibility of automatic time</li> <li>● synchronization with an HTTP or NTP reference serve.</li> <li>● Further expansion of data logger for recording various sensors readings is must.</li> </ul> |
| 4     | Power Supply/Battery  | Data logger should be powered by a solar panel with rechargeable battery with appropriate rating of the battery and solar panel integrated with Data Logger, <b>which should suit the power requirements for DeltaOHM Data Logger and DeltaOHM Thermopile Pyranometer.</b>   |
| 5     | ISO Certification     | Manufacturing facility/brand should be as per ISO 9060:2018 standards or Hihger  |
| 6     | Measuring Interval    | 1,2,5,10,15,30 s/ 1,2,5,10,15,30,60 min  |



|    |                                       |   |
|----|---------------------------------------|---|
| 7  | Logging Interval                      | 1,2,5,10,15,30 s/ 1,2,5,10,15,30,60 min   |
| 8  | Internal Memory                       | Number of samples from 242,850 to 858,070 or more depending on the number of detected quantities. USB output.   |
| 9  | Housing                               | Dimensions: 270 x 170 x 110 mm (excluding external antenna) Material: Polycarbonate (PC)<br>Protection degree: IP 65 (with protective cap on the USB connector) |
| 10 | Internal clock drift                  | $\pm 2$ ppm (0...+40 °C) / $\pm 5$ ppm (-40...+70 °C)   |
| 11 | Alarm                                 | Should able to send alarm via e-mail and SMS  |
| 12 | Display                               | LCD   |
| 13 | LED indicator                         | 2 – color LED: power on, GSM/3G activity  |
| 14 | Connection to PC                      | USB port with mini-USB connector  |
| 15 | Operating conditions                  | -20 - +70 °C / 0 – 100 %RH  |
| 16 | <b>On-site Comprehensive Warranty</b> | <b>2 Years</b>  |
| 17 | <b>Quantity</b>                       | <b>1 No's</b>   |

**Additional instructions to the bidders:**

- 1) Price quote should include the installation charges of the complete setup (Data Logger and Pyranometer) and demo. This will be installed on terrace of EE Dept.
- 2) Quotation should include all the required accessories and consumables used such as mast.
- 3) Material used for installation should be able to withstand all climatic changes.
- 4) Pre-calibration report should be provided as per the standards.
- 5) The supplier must be an authorized distributor of DeltaOHM.
- 6) Bidders should have supplied similar items to reputed Industry/Universities/Research Laboratories in India (at least two) during the last three years. The vendor should submit the list of earlier supplies indicating the full name & full address of the purchaser, model no. & date of installation and contact details (phone no., email id etc.) of the system in- charge. The purchaser reserves the right to contact the earlier purchasers for the performance feedback. Supply to NITK will be an added advantage.
- 7) **On-site warranty includes labour and parts.**
- 8) Required documents, printed technical data sheet, and brochure of both the equipments are to be attached and same to be available in the website of the brand for verification. Also need to enclose the same for evaluation.
- 9) Annual Maintenance Charge (AMC) should be encourage by the supplier for extended warranty. AMC charges for additional (after warranty period) warranty for 2/4 Years **should be quoted separately by the suppliers.** AMC may be taken up separately by the Dept for additional warranty purpose before the expire of warranty.

Sd/-

(Dr. Tukaram Moger, Dept. Of E & E)