

## TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS

SI No.	Description of items	Quantity
<b>File No.</b>	<b>PUR/300/MSEG/RK/G/2023-24</b>	
1	<b>SUPPLY, INSTALLATION AND DEMONSTRATION OF CLOUD BASED SENSOR MODULE FOR MEASURING AND MONITORING OF TEMPERATURE AND HUMIDITY</b>  <b>(DETAILED SPECIFICATIONS AS PER ANNEXURE – I)</b>	02 Sets.

### 1. DELIVERY, INSTALLATION & DEMONSTRATION:

The delivery, installation and demonstration are to be completed within 45 days from the date of issue of purchase order. The installation and demonstration shall be carried out by your expert- engineers of supplier/Manufacture. During fabrication & installation necessary training on operation and maintenance of the goods/system shall be imparted to relevant Scientist/Engineer/Technicians.

### 2. PAYMENT TERMS:

100% payment shall be paid within 30 days after delivery, installation and demonstration of Cloud Based Sensor Module and acceptance of the material upon submission of claim supported by the acceptance certificate issued by the purchaser.

### 3. BID SECURING DECLARATION FORM:

Bid Securing Declaration is to be submitted by the Bidder as per the format prescribed in the tender document.

### 4. WARRANTY:

01-year warranty to be provided by the supplier from the date of satisfactory installation of ordered goods.

### 5. MANUFACTURER AUTHORIZATION FORM:

Manufacturer Authorisation Form to be provided by the supplier.

### 6. PLACE OF DELIVERY:

1. **CSIR – North East Institute of Science and Technology (NEIST)** P5Q4+F98, NH-37, Pulibor, Jorhat, Sensowa Gaon, Assam 785006
2. **CSIR – Structural Engineering Research Center (SERC)** CSIR Rd, CSIR Campus, Tharamani, Chennai, Tamil Nadu 600113

### 7. MAKE IN INDIA CERTIFICATE FOR LOCAL CONTENT

Certificate for local content to be provided by the supplier in form 14 (Format attached along with Tender Document). Percentage of value addition & Name and address of the factory where the value addition was made should be mentioned clearly in the Form 14.

**Detail Technical specification of: "IOT Device for measuring & monitoring of temperature & Humidity".**

<b>Technical Specifications</b>	<b>Requirement</b>
<b>Application and type of IOT Device</b>	Real time Remote Temperature & Humidity Monitoring through cloud based data monitoring
<b>Items covered in the System</b>	<ol style="list-style-type: none"> <li>08 Nos of temperature &amp; Humidity Sensors to be utilized. 03 numbers each to be installed at 1<sup>st</sup> &amp; 2<sup>nd</sup> floor of double-storied building and 02 numbers at the outside of the building.</li> <li>Each sensor will sense and transmit temperature and humidity data through cable network to the 8 or more channel data logger located inside the building centrally.</li> <li>The data logger will act as gateway for transferring/uploading real time 8 numbers sensor data of Temperature and Humidity to the cloud storage/server through Wi-Fi/Ethernet/3G/4G/LTE/5G.</li> <li>The upload cloud server data should be accessible via website/android/IOS app to the user.</li> </ol>
<b>Application of Type of IOT Device</b>	Real time Remote Temperature & Humidity Monitoring through cloud based data logging.
<b>Activation, installation &amp; Demonstration of the product</b>	YES
<b>Demonstration and installation Type</b>	Onsite, 01 complete set/system each at CSIR-NEIST, Jorhat and CSIR-SERC, Chennai
<b>Number of Years up to which Support required from OEM/Seller</b>	02 years or more
<b>Features of IOT Device</b>	<ol style="list-style-type: none"> <li>To sense Temperature &amp; Humidity at various locations in and outside a building in real time, record the data against time in cloud based server with an accessible user link.</li> <li>Each data logger/gateway should be capable of recording and monitoring atleast 08 Nos of network connected Temperature &amp; Humidity sensors.</li> <li>User configurable sampling and data reporting frequency</li> </ol>
<b>Key components in the IoT device</b>	<ol style="list-style-type: none"> <li>Temperature Sensor,</li> <li>Humidity Sensor</li> <li>Communication module</li> <li>Data Logger cum IoT Server</li> <li>Front end available on Browser/ Android/ IOS</li> </ol>
<b>Type of Monitoring</b>	Temperature and Humidity
<b>Sensor type to be used</b>	Internal and External environment
<b>Firmware</b>	Operating system based / Embedded based
<b>Visual display available in each sensor module</b>	LCD
<b>Warranty on the IOT device (years)</b>	01 year from the date of installation
<b>Sensitivity (in °C)</b>	± 1 or better
<b>Temperature Resolution(in °C)</b>	0.5 or better
<b>Minimum Operating Temperature (in °C)</b>	0°C or lower
<b>Maximum Operating Temperature(in °C)</b>	50°C or higher
<b>Humidity Range(in % RH)</b>	0 to 100
<b>Accuracy (in % RH)</b>	±3 or better

<b>Sensitivity (in % RH)</b>	±0.1 or better
<b>Communication protocols Supported</b>	3G/ 4G / (LTE) /5G / Wi-fi/ Ethernet (for data transfer to cloud server)
<b>Memory Type</b>	EEPROM/Flash Memory
<b>Communication from sensor to data logger</b>	Wired
<b>Calibration</b>	Sensor calibration certificate to be provided
<b>Sensor module protection class</b>	IP65 or better
<b>Operating Voltage (in volts)</b>	230 V AC, 50Hz
<b>Suitable Power source</b>	230 V AC ± 10%; 50 Hz ± 10 %
<b>Deployment Option</b>	In-premise, Cloud
<b>Features of Software for monitoring/ Reports</b>	<ol style="list-style-type: none"> <li>1. Graphical User Interface to configure, read, upgrade the device.</li> <li>2. Software provides access to data, reports of temperature, humidity location and time of recording.</li> <li>3. Admin rights to create and manage devices and users, assign devices to users.</li> <li>4. User access to monitor each device and view/ download reports.</li> <li>5. Create and modify locations of installation.</li> </ol>
<b>Data Logger</b>	Powered by 220V AC through SMPS
<b>Software supplied through</b>	Media/ URL link /Media & URL link
<b>Hyper link to the datasheet</b>	Cloud storage from manufacturer / Google cloud storage i.e google one storage.
<b>Operating system Supported</b>	Window / Linux / IOS
<b>Operating Modes</b>	Standard Run Mode / Delayed Start Run Mode / Flight Mode
<b>Standard Sampling Interval Range</b>	1-60 minutes (Programmable)
<b>Standard Reporting Interval Range</b>	1-60 minutes(Programmable)
<b>Format in which GUI Report required</b>	Excel, PDF and Graphical
<b>Display Reading in</b>	Temperature, Humidity, Date, Time for all connected sensors
<b>Device Interface</b>	LED Status (Power -Up, network), UART / USB Port, switch for power on
<b>Device Configuration modes</b>	Using User Interface programs by physically connecting device to the PC,from remote using SMS Commands OR Web program (web-based programs will use internet protocols such as HTTP, etc instead of SMS)
<b>Comprehensive User manual</b>	Yes