TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS

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

   The Installation and Demonstration to be done by the Supplier within 15 at CSIR-CMERI, Durgapur-09, (W.B.)

3. **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.

4. **BID SECURING DECLARATION FORM:**

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

5. **WARRANTY:**

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

6. **MANUFACTURER AOTHORISATION FORM:**

   Manufacturer Authorisation Form to be provided by the supplier.

7. **PLACE OF DELIVERY:**

   CSIR-CMERI, M.G. Avenue, Durgapur- 713209, West Bengal.

8. **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.

Details Technical Specification of "IoT based sensor system/Device for Measuring and Monitoring of Temperature and Humidity".	
Application of Type of IOT Device	Real time Remote Temperature & Humidity Monitoring through cloud based data logging.
Items covered in the System	08 Nos of temperature &Humidity Sensors to be utilized in a network 1 No data logger with at least 08 Nos of channels to support 08 Nos temperature and humidity sensors modules at a time along with a gateway for transferring real time sensor data. The system should be able to upload data to a cloud server and a front end shall be available to the user.
Activation, installation & Demonstration of the product	Yes
Demonstration and Installation Type	onsite
Number of Years upto which Support is available from OEM/Seller	02 years or more
Features of IOT Device	1. To sense Temperature & 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. 2. Each data logger/gateway should be capable of recording and monitoring atleast 08 Nos of network connected Temperature & Humidity sensors. 3. User configurable sampling and data reporting frequency
Key components in the IoT device	1. Temperature Sensor, 2. Humidity Sensor, 3. Communication module, 4.Battery 5. Data Logger cum IoT Server 6. Front end available on Browser/ Android/ IOS
Type of Monitoring	Temperature, Humidity
Sensor type to be used	Internal and External environment
Firmware	Operating system based / Embedded based
Visual display available in the offered product	LCD
Warranty on the IOT device (years)	01 year from the date of installation
Sensitivity(in ˚C)	± 1 or better

Temperature Resolution	0.5 or better
Minimum Operating Temperature(in ˚C)	0˚C or lower
Maximum Operating Temperature(in ˚C)	50˚C or higher
Humidity Range(in % RH)	0 to 100
Accuracy (in % RH)	±3 or better
Sensitivity(in % RH)	±0.1 or better
Communication protocols Supported	3G,4G (LTE),5G, Wi-fi, Bluetooth (for data transfer to cloud)
Memory type	EEPROM
Operating Voltage(in volts)	230 V AC
Deployment Option	In-premise, Cloud
Features of Software for monitoring/ Reports	1. Graphical User Interface to configure, read, upgrade the device. 2. Software provides access to data, reports of temperature, humidity location and time of recording. 3. Admin rights to create and manage devices and users, assign devices to users. 4. User access to monitor each device and view/ download reports. 5. Create and modify locations of installation. 6. API to integrate with other or existing application.
Name of the software	Online Data Logger. Powered by 220V AC through SMPS
Software supplied through	Media, URL link, Media & URL link
Hyper link to the datasheet	Cloud storage from manufacturer / Google cloud storage i.e google one storage. Should be maintained for at least 2 years
Operating system Supported	Window/Linux/IOS
Operating Modes	Standard Run Mode, Delayed Start Run Mode, Flight Mode
Standard Sampling Interval Range (Minutes)	1-60Minutes (Programmable)

Standard Reporting Interval Range (Minutes)	1-60Minutes(Programmable)
Format in which GUI Report Available	Excel, PDF and Graphical
Display Reading in	Temperature, Humidity, date, time for all connected sensors
Device Interface	LED Status (Power -Up, network), UART / USB Port, switch for power on
Device Configuration modes	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)
List of items & number included in the scope of supply	Sensor calibration certificate
Supply with Comprehensive User manual	Yes

Other features of the specification

Overall System requirement	System should comprise of 8 nos temperature and 8 nos Humidity sensors, 1 no data logger with at least 8 nos channels to support 8 nos temperature and 8 nos humidity sensor modules with capability to upload data to a cloud server and a front end available to the user for real time data monitoring.
Communication from sensor to database	Wired connection
Sensor module protection class	IP650 or equivalent
Sensor power source	Sensor should be supported by suitable battery for long period backup and running without any human interval.