

**CENTRAL INSTITUTE FOR COTTON RESEARCH,  
REGIONAL STATION, SIRSA-125055 (HARYANA)**

Ref. No. F.No. /RS/Stores/  
M/S

Dated 07.01.2009

Subject : Installation of Weather Station with Sensors .

Sir,

Sealed quotation are invited by the Head, CICR, Regional Station, Sirsa for Installation of Weather Station with Sensors .

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**Specifications for Automatic Weather Stations with sensors.**

**1. Data Acquisition System :** The datalogger should have battery-backed SRAM for CPU usage, program storage, and data storage for up to at least one million data values. It should be possible to upgrade the memory size at a later date without any hardware replacements. The datalogger should have the built-in signal conditioning and external signal conditioning should not be applied. It should be compatible with 12VDC power supply. The datalogger should be programmable and it should be possible to perform math functions for deriving calculated parameters. It should have a high program execution rate of up to 100 Hz for making fast measurement when required. The datalogger should support +/-5VDC range and should have auto ranging facility apart from making measurements on following ranges specific to a channel-  $\pm 5000$  mv,  $\pm 2500$  mv,  $\pm 250$  mv,  $\pm 25$  mv,  $\pm 7.5$  mv,  $\pm 2.5$  mv. The resolution sensitive range should be 0.33 microvolts or better. Eight ports minimum should be provided for frequency measurements, digital control, and triggering. Operating Temperature Range:  $-25^{\circ}$  to  $+50^{\circ}\text{C}$ . The datalogger should be housed in a weatherproof enclosure of NEMA-IV rating.

**2. Wind Speed and Direction Sensor (Propeller type):** The sensor should be made out of rigid UV-stabilized thermoplastic (resists corrosion from moist air environments and atmospheric pollutants) with stainless steel and anodized aluminum fittings. The sensor should have stainless steel precision-grade ball bearings for the propeller shaft and vertical shaft bearings. Wind Speed: Range: 0-100 m/s, Accuracy: $\pm 0.3$  m s, datalogger compatible output. Wind Direction: Range:0-360 $^{\circ}$  with accuracy:  $\pm 3^{\circ}$ , damping ratio:0.25.

**3. Tipping Bucket Rain Gauge :** Tips at 0.1 mm increments (0.004 in), orifice diameter is 24.5 cm (9.66 in), accuracy is  $\pm 1\%$  at rates up to 10 mm hr $^{-1}$ . The bucket should have leveling arrangement for horizontal mounting

**4. Soil Moisture Sensor :** Should measure the volumetric water content using time-domain reflectometry methods, Should be designed for long-term unattended water content monitoring . Accuracy  $\pm 2.5\%$  VWC, Resolution better than 0.1% VWC , Measurement time is <500 microseconds.

**5. Solar panel:** (10W minimum) with Battery backup should be provided.

**6. Mounting hardware-Tripod steel and granding kit, Fibre glass 12''X14'' and installation kit, Kit for tripod mounting.\_**

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- Quotation along with the make, quality and necessary literature should reach to this office on or before **22.01.2009** along with terms and conditions.

- Maximum period allowed for delivery F.O.R. Regional Station , Sirsa will be 15 days from the date of issuing the purchase order.
- The Sale Tax or other tax should be mentioned separately. No any forms will be issued.
- In case supply is not made within the fixed period, the office reserves the right of canceling the order.
- The payment will be made after completing the delivery /Installation as per specifications and quality given in quotation .
- Breakage and losses during the transit will have to be borne by the suppliers and charges on such account will be deducted proportionately.
- The Head, CICR, Regional Station, Sirsa reserves the right to accept or reject the quotation without assigning any reason.
- On the envelop word QUOTATION for Installation of Weather Station with Sensors should be written.
- Material will be accepted only after given satisfactory demonstration.

Head

CICR, Regional Station, Sirsa