

Modified Specifications

Weather Station Specifications		
S.No	Description	BHEL Specifications
1	Sensors & Accessories to be Provided in the weather station	(A) Pyranometers (Solar Radiation Sensor) - 4 No's; (B) Wind Speed (Anemometer) Sensor - 1 No; (C) Wind Direction (Vane) Sensor - 1 No; (D) Ambient Temperature Sensor - 1 No; (E) Relative Humidity Sensor (RH) - 1 No; (F) Rain Guage - 1 No; (G) Power Supply - 1 No; (H) Data Logger - 1 No; (I) Mounting Structure - 1 set
(A)	Pyranometer (Solar Radiation Sensor) Specifications	
2	Complied to Standard	ISO 9060:1990 Second Class
3	Light Spectrum Waveband	310 to 2800 nm
4	Irradiance Range	0 - 2000 W/m ² (Watt/ Sq. m.)
5	Sensitivity	5 to 20 μ V/(W/m ²)
6	Non-linearity (0 to 1000 W/m ²)	Should be less than or equal to +/- 2.5 %
(B)	Wind Speed (Anemometer) Sensor Specifications	
7	Wind Speed Range	0 to 50 m/s
8	Maximum Gust Speed	Should be greater than or equal to 60 m/s
9	Wind Speed Accuracy	Should be less than or equal to +/- 0.5 m/s
(C)	Wind Direction (Vane) Sensor Specifications	
10	Wind Direction Range	0-360 Deg
11	Wind Direction Accuracy	Should be less than or equal to +/- 5 Deg
(D)	Ambient Temperature Sensor Specifications	
12	Measurement Range	-40 Deg. C to +70 Deg. C
13	Accuracy	Should be less than or equal to +/- 1 Deg. C
(E)	Relative Humidity (RH) Sensor Specifications	
14	Measurement Range	0 to 100% RH
15	Accuracy at 25 Deg. C	Should be less than or equal to 4%
(F)	Rain Guage Specifications	
16	Sensor Type	Tipping Bucket
17	Accuracy	Should be less than or equal to +/- 1%
18	Volume per Tip	Vendor to mention
19	Rainfall per Tip	Vendor to mention
(G)	Data Logger Specifications	
20	Communication Interface	Modbus RS485. Suitable converters shall be used for communicating between sensors and Workstation. Vendor Should furnish the communication protocol details.
21	Software	Required PC based Software for Data Logging with a valid license should provided.
22	Input power	Details of input power should be given.
(H)	Power Supply Specifications	A Power supply kit suitable to data logger input should be provided.
(I)	Mounting Structure Specifications	Complete Mounting Structure with Mounting Tripod / Mounting Tower should be supplied by the vendor.

General Specifications		
S.No	Description	BHEL Specifications
1	Make & Part No.	Please mention Make & Part No's of all sensors and accessories.
2	Communication Cables	Suitable Cables should be provided from all sensors to the data logger and between the data logger, power supply & Workstation. Workstation will be provided by BHEL.
3	Civil works for fixing the mounting tower / mounting bracket	Complete Details of Civil works for fixing the mounting tower / mounting bracket should be given. Civil Works may be quoted as an optional item. BHEL may carry out the civil works if vendor is not willing / able to do the same inside BHEL R&D Campus, Hyderabd.
4	Installation & Commissioning of Weather Station	Mounting Structure, all sensors, weather station cabling, power suply & data logger should be installed & commissioned by the vendor. Charges for the same may be quoted as optional.
5	Demonstration of Data Logging/Data Monitoring	Workstation will be provided by BHEL. Complete demonstration of data monitoring and data logging should be shown by the vendor after commissioning of Weather Station.
6	Technical Datasheets	Datasheets for all sensors & accessories should be provided.
7	Test Certificates	Manufacturer's Test Certificates should be provided