



Ambient Air Quality Monitor



Introduction-

The EE-AQMS-01 is built at the component level to provide an organization with the instruments it needs to meet its measurement objectives. It monitors inside and outside temperature, barometric pressure, wind direction, wind speed and Air Quality Monitoring such as SO_2 , NO_2 , CO_2 , CO , & Particulate Matter (PM_{10} , $\text{PM}_{2.5}$ & $\text{PM}_{1.0}$). The versatility of this automated AAQMS is evidenced in your ability to add, remove, or substitute sensors or other peripherals as your data measurement and monitoring needs change.



Higher
efficient
Vacuum pump



External USB Drive



Internal-SD card



Solar Panel

Features:

It is specially designed in such way that the ambient air gets sucked in using a pump and air is filtered out using a glass fiber thimble to make sure that the air is filtered from the particulates, which could cause accuracy lag in the sensor. And there is a rota meter provided to regulate the flow of air as desired. And the sensor suite is connected through an individual cable (RS485), which is a water proof cable to avoid shorting.

- Thimble: Glass Fibre Thimble/PTFE Filter for the separation of particulates
- Pump: 0-9 lpm (Liter Per Minute) higher efficient vacuum pump
- Solar panel: Polycrystalline Photo voltaic PV Solar Panel 35 watt for 12V battery
- charging Data-Logging: Internal-SD card & External-USB drive

Technical Specifications

Types	Details
Operating Temperature:	409 to +150°F (40 to +65°C)
Non-operating Temperature:	-40" to +158°F (-40 to +70°C)
Current Draw	5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS Connectors. Sensor.
Modular RJ-11 Cable Type:	4-conductor, 26 AWG Cable Length, Anemometer: 40' (12 m) (included); 240' (73 m) (maximum recommended)
Temperature Sensor: (PN Junction Silicon Diode.)	Range: -40" to +150°F (-40 to +65°C) Sensor Accuracy: +0.5°F (+0.3°C) (typical)
Relative Humidity Sensor: (Film capacitor element)	Range: 1 to 100% RH Accuracy: +2%
Barometric Pressure	Range: 16.00" to 32.50" Hg, 410 to 820 mm Hg, 540 to 1100 hPa/mb Overall Accuracy: +0.03" Hg (+0.8 mm Hg, +1.0 hPa/mb)
Solar Radiation: (Pyranometer)	Range: 0 to 1800 W/m ² Accuracy: +5% of full scale (Reference: Eppley PSP at 1000 W/m ²)
Particles Sensor: Laser Dust Sensor(PM1.0 PM2.5, PM10)	Concentration output range: 0- 1000ug/m ³
CO (Electrochemical gas sensor)	Range: 0-1000 ppm
O ₂ (Electrochemical gas sensor)	Range: 0-25 %
NO ₂ (Electrochemical gas sensor)	Range: 0-20 ppm
SO ₂ (Electrochemical gas sensor)	0-20 ppm
Co ₂ (NDIR Sensor)	0-5000 ppm
Housing Material: UV-resistant	ABS, polypropylene Sensor Inputs
RF Filter	RC low-pass filter on each signal line