

Meteorological Station

Weather conditions have always been of great importance in affecting crop yields, flood potential and played a major role in various studies and modelling (climate, aquatic ecosystem etc).

Associated interest on climate change has greatly magnified the need for high accuracy and reliability in meteorological data.

The Meteorological Station comes in versatile modular designs which can be configured with the following parameters:

- Wind Speed & Direction
- Temperature
- Humidity
- Net Radiation
- Diffused Radiation
- Soil Moisture
- Barometric Pressure

The system uses the similar logger format as in all monitoring station series, thus can be easily integrated as an add-on module.

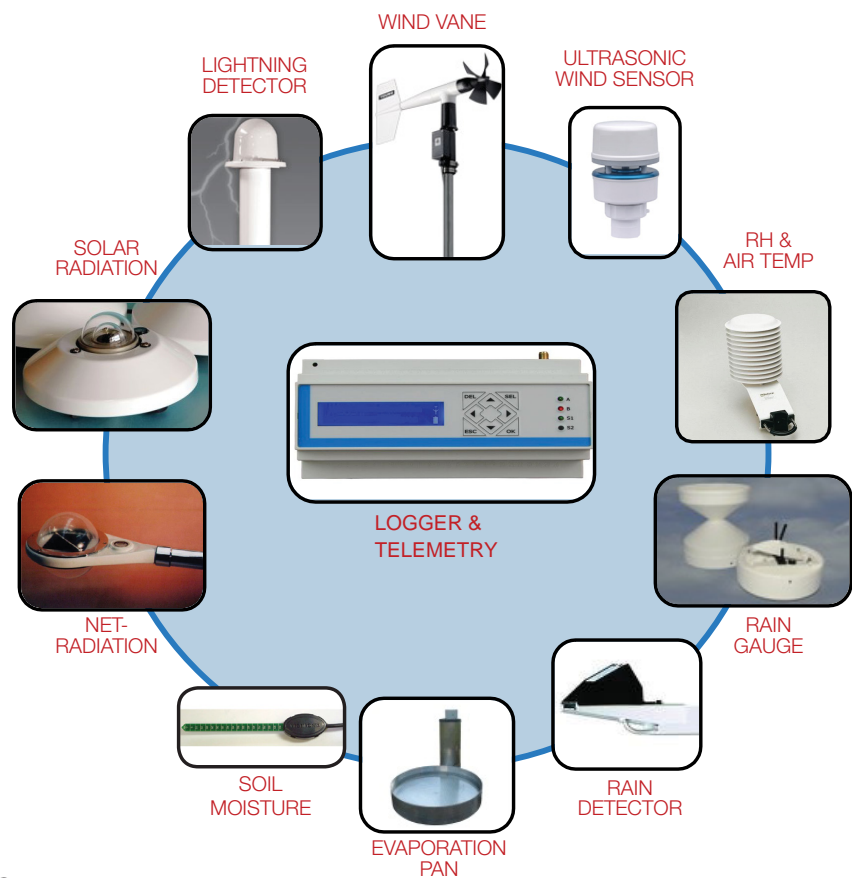
Meteorological station can be linked to the back end server software for continuous observations with real-time charting and SMS alert system.

Air Quality and Noise Monitoring

Air and Noise pollution are important factors affecting the quality of life and health in increasingly dense urban population. Both are highly location dependent, hence a robust and economical design is important for a geospatially spread network of monitoring points and long term unattended monitoring. The objective is to obtain a continuous and geospatially measurement trend for formulating effective control strategies.

Air quality monitoring station is configurable with the following parameters:

- Nitric Oxide (NO)
- Nitrogen Dioxide (NO₂)
- Ammonia (NH₃)
- Sulphur Dioxide (SO₂)
- Hydrogen Sulphide (H₂S)
- Carbon Monoxide (CO)
- Carbon Dioxide (CO₂)
- Ozone (O₃)



System Features

- Fully automated weather station monitoring
- Sensor with high accuracy and reliability
- Modular design concept, with wide range of parameters to choose
- Independently powered by solar with low power design
- Additional add-on video surveillance camera

Technical Specification For Standard Parameters				
Parameter	Measuring Principle	Range	Accuracy	Resolution
Rain	Tipping Bucket	400mm/hr	±2% (50mm/hr)	0.2mm
Wind Speed	2D Ultrasonic	0-60m/s	±3%	0.1m/s
Wind Direction	2D Ultrasonic	360°	±3°	1°
Atmospheric Pressure	Ceramic Capacitor	0-1200hPa	±1.5hPA	±1.5hPA
Temperature	Thermistor	-40°C~100°C	±0.4°C	±0.4°C
Humidity	Capacitive Sensor	0-100%RH	±2%RH	±2%RH
Total Solar Radiation	Filter Radiometer	2000W/m ²	±2W/m ²	1W/m ²
Total UV	Filter Radiometer	75W/m ²	±1W/m ²	0.08W/m ²

Technical Specification For Video Parameters	
Minimum Illumination	0 Lux
Resolution	PA: 752(H) X 582(V)

Structure Parameters	
Dimension	150mm (depth) x 350mm (length) x 1500mm (height)
Material	Stainless Steel
Weight	70 kg

System Parameters	
Power Source	Solar Power 100W
System Operation	14 days of continuous operation without sunlight
Operating Temperature	4°C ~ 40°C
System Safety	Real-time anti-theft alert
Communication	Wireless GSM/GPRS/3G network
Data format	HJ/212-2005, GB/T16706-1996

Project Profile

Project Name	A data acquisition system inclusive of weather station for Budget Terminal PV System - SPO000EPO09001708
Project Description	1 Fixed Station of Weather and Solar PV Data Acquisition System
Customer	Singapore Polytechnic
Contract Period	2009-09-08 - 2010-09-15

