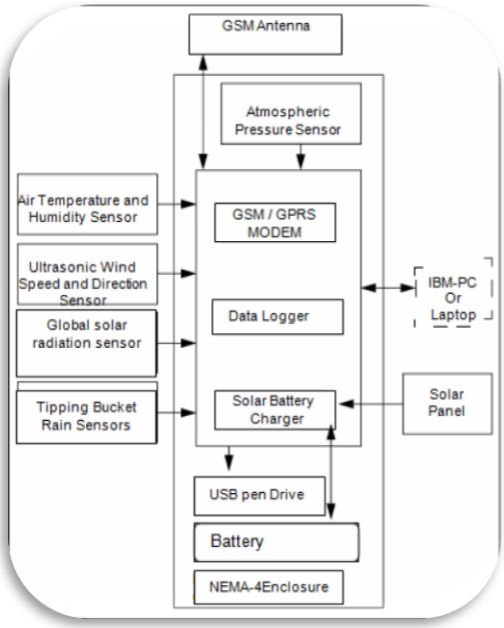
AUTOMATIC WEATHER STATION (T-AWS-300)

Overview

The Automatic Weather Station (AWS) is a compact, modular, rugged, low-cost system for collecting meteorological data. The AWS data logger, at the heart of the system, consists of an LCD, keypad, GPS-based real-time clock, sensor interface, sensor power control, local data storage, USB drive for data backup, and GSM / GPRS / CDMA modem communication interface.

The AWS can be installed in the field. The data logger,atmospheric pressure sensor, power supply, modem and battery are housed in a portable, self- contained, weatherproof enclosure, suitable for outdoor use. The systemtypically operates in a low- power mode; it becomes active during data acquisition or transmission, user interaction, or related events. The system's low power requirements allow extended field use from a DC voltage source. A single 12-volt rechargeable SMF battery is charged by a solar panel.



Features

- The weather monitoring system gives high accuracy and reliability for weather monitoring and climate changing Automatic data recording and storage of raw data.
- It uses the renewable energy source like solar panel for charging the connected battery
- Through the web, it accesses real time weather information and data
- This system can be communicated over general packet radio service (GPRS) network.
- Low maintenance is required for end users.

The data logger automatically collects observation data from all attached sensors at every user-selected time interval, stores the data in its memory, and periodically transmits the data to a server through the GSM / GPRS communication link, thus providing the data to users through the server.

At a central station, the PC-based Network Management Software can communicate with each AWS system in the field and retrieve meteorological data through a secure protocol. A user management module restricts unauthentic information or configuration access. The module includes quality checks per the WMO standard, data displays in table or graphic format, generation of analysis reports, and automatic data backup at intervals.

The system is suitable for several applications, including weather monitoring, flood monitoring, pollution monitoring, irrigation scheduling, water management, transport support, defense support, and energy monitoring. Users include national centers for weather forecasting, research organizations, airport authorities, military and coast guard authorities, media organizations, and agricultural universities.

Technical Data

Ambient Temperature	
Range	-40 to +75 °C
Accuracy	≤±0.2°C
Resolution	0.1°C
Relative Humidity	
Range	0 to 100%
Accuracy	≤±2 %
Resolution	1%
Atmospheric Pressure	
Range	100 to 1200
Accuracy	±0.3 hPa
Resolution	0.01 hPa
Ultrasonic Wind Speed	
Range	0 to 60 m/s
Accuracy	<±1 m/s

Resolution	0.01 m/s
Ultrasonic Wind Direction	
Range	0 to 360 degrees
Accuracy	±2 degrees
Resolution	1 degrees
Solar Radiation	
Range	0 to 2000 W/m2
Accuracy	5
Resolution	1 W/m2
Rain Fall	
Accuracy	2 to 5%
Resolution	0.5 mm
Data Logger	
Sensor Interface	8 X Sensor Channels,1 X Sensor Power Control
Memory	1 year data retention / detachable USB Pen drive
Data Retrieval	USB drive / RS232 port
IBM-PC Interface	1 x Ethernet port / USB drive / RS232 port
GPS	To synchronize RTC with GMT / UTC
Quad-band GSM / GPRS	850 / 900 / 1800 / 1900 MHz
Modem Interface	RS232 / RS485
Modem Baud Rate	9600 Hz
Solar Charger	12 V / 6 A
Other	
Solar Panel	20 W / 12 V at peak power
SMF Battery	12 V / 100 AH
Mast	2 meters Galvanized Mast
Enclosure	NEMA-4 Metal / Plastic
Connectors	MIL-C-5015 grade
Software	AWS Software (USB Pen Drive / RS232)
	Data Logger System Configuration Software
	Network Management Software