

Features

- Epoxy coated tower type structure for robust and aesthetic look and Detachable Assembly.
- Application Dashboard for remote monitoring and analysis.
- The system is based on the microcontroller, a high-performance, low-power 8-bit AVR RISC microcontroller. It features 128KB Flash, 4KB SRAM, 4KB EEPROM, multiple I/O interfaces, and operates at up to 16 MHz with advanced communication and control capabilities.
- The temperature sensor operates within a range of -10°C to 90°C , ensuring reliable performance across varying environmental conditions. It provides a measurement resolution of 1°C for accurate temperature monitoring.
- The relative humidity sensor measures across a full range of 0 to 100%. It offers a resolution of 5% for effective atmospheric humidity assessment.
- The wind speed sensor supports measurement from 0 to 20 m/s. It delivers readings with a resolution of 1 m/s for consistent wind velocity analysis.
- The wind direction sensor detects primary and intermediate directions including North, East, West, South, and intercardinal points. It enables comprehensive monitoring of wind patterns.
- The rainfall sensor utilizes a tipping bucket mechanism with an unlimited operating range. It provides $\pm 2\%$ accuracy at 1.5 inches per hour and a resolution of 0.1 mm.
- The solar radiation sensor operates within a range of 10 to 2000 W/m^2 . It ensures $\pm 5\%$ accuracy with a resolution of 10 W/m^2 for precise solar intensity measurement.
- The air quality sensor measures particulate concentration from 0 to $12,500\text{ }\mu\text{g/m}^3$. It provides $\pm 5\%$ accuracy with a resolution of $40\text{ }\mu\text{g/m}^3$ for reliable air quality monitoring. The atmospheric pressure sensor operates within a range of 15 to 115 kPa. It delivers $\pm 1.5\%$ accuracy with a resolution of 0.12 kPa for precise pressure measurement.
- The UV index sensor measures radiation from 0 to 15 mW/cm^2 at 365 nm wavelength. It offers $\pm 2.5\%$ accuracy, 1 mW/cm^2 resolution, and sensitivity to both UV-A and UV-B.
- The system includes a 75W solar panel with an open-circuit voltage of 21V and short-circuit current of 4.76A.
- The power system incorporates a 12V, 42Ah battery for reliable energy storage. It is supported by a 10A charge controller for efficient power management.



Note Shown image is just for illustration original may differ