



Suitable for remote agricultural applications – air quality and health – coastal & harbours – ecosystem monitoring – heavy weather monitoring

Datasheet

Mesonet-AWS

Automatic Weather Station tower

What is a Mesonet?

A Mesonet is a network of automated weather and environmental monitoring stations designed to observe localized meteorological phenomena. An Observer Automatic Weather Station Network provides accurate Climatological information (to WMO weather standards) which can also be used to prevent the occurrence of crop damage resulting from spray drift.

An Observer Mesonet System provides a fully integrated weather monitoring and warning system which can be used to provide highly accurate and targeted data on the development and presence of adverse conditions for crop spraying.



Field application

Designed to operate under the Mesonet, the Mesonet-AWS towers are fully customizable with Observer's full-range of sensors and integrated solutions. Automatic Weather Stations are optimized for remote agricultural applications and are available in many configurations.

Applications include:

- Agricultural (crop, leaf symptoms & damages)
- Air quality and health
- Coastal & harbors
- Commercial applications
- Ecosystem monitoring
- Energy
- Farming
- Fire & droughts
- Heavy weather monitoring



Why choosing Observer Mesonet?

Observer's highly accurate range of weather sensors include wind, rain, solar, temperature, humidity and barometric pressure parameters. Our Mesonet-AWS towers are scalable and can be custom integrated to meet specific requirements achieving a high level of accuracy.

With a unique ability to measure weather parameters at various heights, the Observer Mesonet is the ideal solution for remote long-term monitoring to reduce the risks of crop spray errors.

The Observer "IoT-Gateway" is an ideal data collection and telemetry tool which can record high speed, real-time data and can perform mathematical functions to create derived parameters. These capabilities cannot be matched by traditional data loggers, which are expensive to purchase and cumbersome to program. The IoT-Gateway has two-way communication to allow for remote diagnostics and configuration.

Our station structures are robust and easy to deploy. We offer small structures up to full 10-meter tilt towers. We also offer solar and diesel-powered moveable trailer solutions.

With a proven experience in deploying large scale automatic sensor networks, Observer has developed a unique expertise in designing critical weather observation systems.

Telemetry & logger

The IoT-Gateway is a multifunctional data collection, control and telemetry system that employs an ultra-low power Windows-embedded operating system.

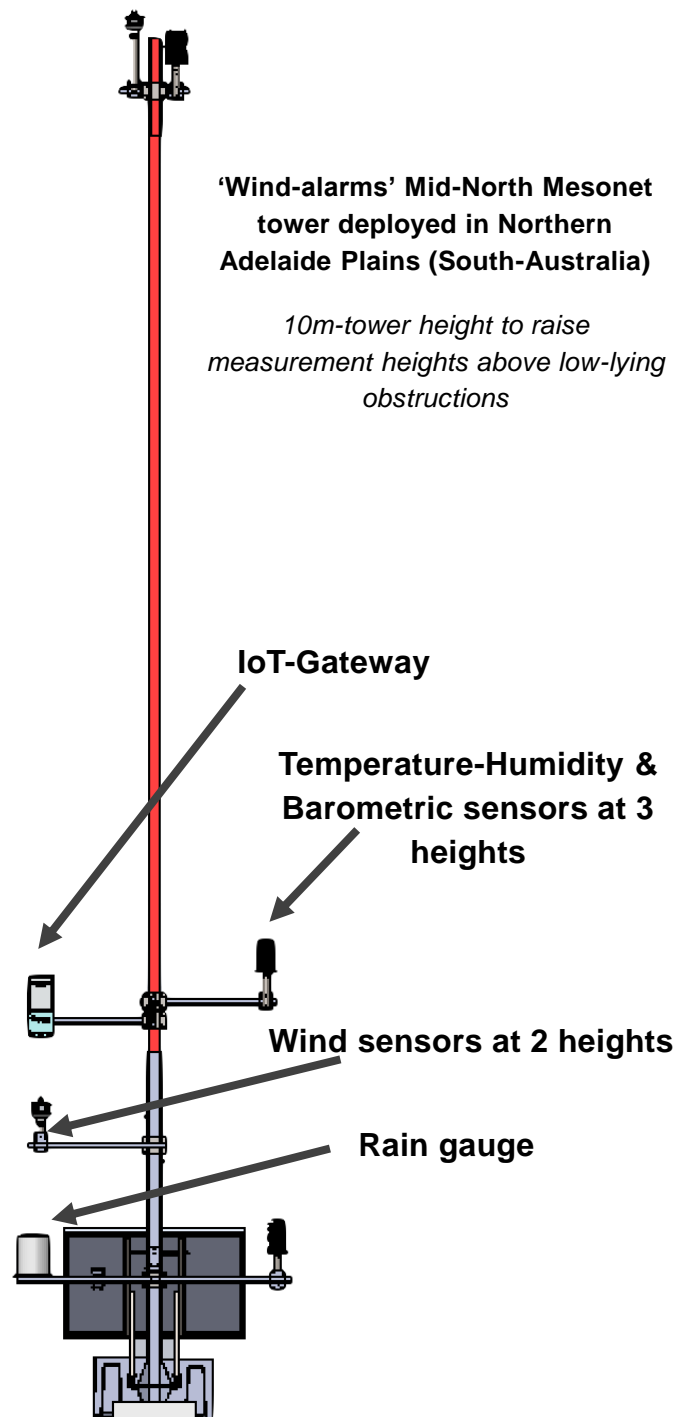
Connectivity	Wi-Fi, LAN, 4G LTE cellular network
Power consumption	10V to 24V, 3.5W to 4.5W
Internal storage	10GB
Direct alarm alerting	SMS & Emails
Temperature operating range	-25°C to +50°C



Sensor options

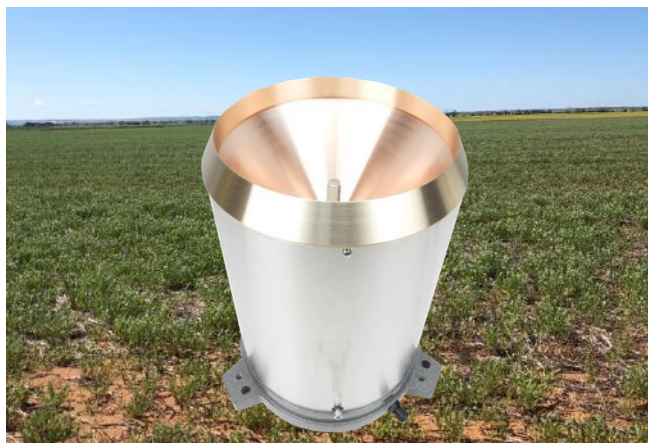
The Mesonet 10-meter tower can be fitted with a customizable range of parameters.

Typical sensors include Wind, Precipitation, Temperature, Humidity, Barometric, Air Pollution, Soil Moisture & Temperature, Solar Radiation and optical camera systems.



RIMCO rain gauge sensor (RIM-7499-O2O)

Sensor	Precipitation
Collector diameter	203mm (8") ± 0.2mm
Resolutions	0.2mm, 0.25mm, 0.5mm
Accuracy	±1% to 200mm/hr ±3% to 380mm/hr
Mounting	A rugged mounting pedestal that elevates the collection rim 1m above ground level or to custom specifications.



Gill WindSonic wind speed sensor (Wind-2D-sonic)

Sensor	Wind speed & direction
Wind speed	0-60m/s
Wind direction	0-359°
Accuracy	±2% @ 12m/s
Output	NMEA and various
Power	Low-power consumption
Maintenance	Corrosion-free



Temperature Humidity & Barometric pressure sensor (MET-THB-HS)

Measurement range	Temperature: -20°C to +70°C Relative humidity: 0 to 100% Barometric: 10 to 2,000mbar
Accuracy	Temperature: $\pm 0.1^\circ\text{C}$ Relative humidity: $\pm 3\%$ Barometric: $\pm 4\text{mbar}$
Resolution	Temperature: 0.01°C Relative humidity: 0.04% RH Barometric: 0.1mbar
Power	6-10mA @ 12VDC



Trailer option

This option is ideal for quick deployment in remote locations. It comes with a diesel generator (110L, 0.55L/h fuel consumption), for up to 200 hour-operations. Solar option is also available.



Solar option

The solar option supports remote weather stations with a range of solar panel size (100W-300W), battery (12V, 100Ah-200Ah) and solar radiation sensors.



Welcome to the world of Observer

Solutions beyond expectations. That's what sets Observer apart. We believe in taking the extra step. Retaining our competitive edge, through innovation and uncompromised support, are key to success. As an ISO 9001:2015 certified company, we apply the highest quality standards to our products and systems.

Since 1924 Observer has evolved to be a trend-setting developer and supplier in a wide variety of industries. From instruments for meteorological and hydrological solutions, air and climate technology, to high precision mechanical production, window wipers and sunscreens for shipping and inland applications.

Solutions beyond expectations

Originating from the Netherlands, Observer has grown into an internationally oriented company with a worldwide distribution network and offices in Australia, Germany, the Netherlands, Singapore and the United Kingdom.

www.observator.com