



AQUAMONIX

Measure. Monitor. Master.

AUTOMATED INTERNET WEATHER STATIONS

Our Automated Internet Weather Stations (AIWS) include a high-quality weather sensor and cellular enabled data logger that can measure a wide range of parameters. It processes, stores, and uploads the data to the cloud using the cellular network.

Weather Sensors

Almost any meteorological sensor can be integrated with the AIWS, allowing stations to be customised for each site. Options for parameters on the AIWS include, but are not limited to:

- Wind speed and direction
- Solar radiation
- Air temperature
- Relative humidity
- Rainfall
- Barometric pressure
- UV Index

Smart Software

Our decision support software enables you to take some of the guesswork out of managing your data from simple reports to complex hazard alert algorithms. Our data portal can be adapted to a wide range of applications.



(AIWS) AUTOMATED INTERNET WEATHER STATION WITH DATA PORTAL

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IRRIGATION
AUTOMATION



WATER
MANAGEMENT



REMOTE
MONITORING

www.aquamonix.com.au

DATA RETRIEVAL

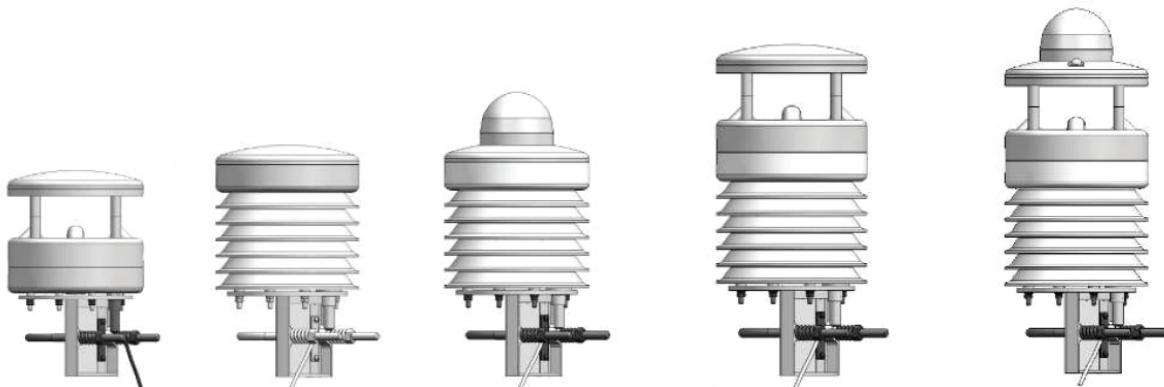
The AIWS is equipped with a robust, reliable and easy to use data logger that incorporates a cellular modem. Read and upload frequencies are user definable and data plans can be tailored to specific requirements.

DISPLAYING AND USING DATA

Programming, data retrieval, data display and analysis has never been easier with our cloud-based data portal that simplifies the entire weather programming.

Data exception and compliance reports are easily exported in email or SMS format.

TECHNICAL DATA INSTRUMENTS



MEASUREMENT	FWS 200	FWS 300	FWS 400	FWS 500	FWS 600	FWS 700	FWS 800
Air Temp		✓	✓	✓	✓	✓	✓
Relative Humidity		✓	✓	✓	✓	✓	✓
Air Pressure		✓	✓	✓	✓	✓	✓
Rainfall			✓		✓	✓	✓
Wind Direction	✓			✓	✓	✓	✓
Wind Speed	✓			✓	✓	✓	✓
Global Radiation						✓	✓
The UV index							✓

WIND SPEED AND DIRECTION

The wind meter uses 4 ultrasound sensors which take cyclical measurements in all directions. The resulting wind speed and direction are calculated from the measured runtime sound differential.

WIND	
Wind Speed Measurement Range	0-360°
Wind Direction Measurement Range	0-60m/s
Wind Measurement Accuracy	+/-3%

AIR TEMP, RELATIVE HUMIDITY

Temperature is measured with the highly accurate Air Chip 3000 while humidity is measured using a capacitive humidity sensor (accuracy < 0.8 % / 0.1 K).

Additional variables such as dew point, absolute humidity and mixing ratio are calculated from air temperature and relative humidity, taking air pressure into account.

AIR TEMP / HUMIDITY	
Temp Measurement Range	-50°C to +100°C
Temp Measurement Accuracy	+/-2%
Humidity Measurement Range	0 to +100%
Humidity Measurement Accuracy	+/-0.3hPa (25')

BAROMETRIC AIR PRESSURE

Absolute air pressure is measured with a built-in sensor (MEMS). The relative air pressure referenced to sea level is calculated using the barometric formula with the aid of the local altitude. This is user-configurable on the equipment.

BARO	
Baro Measurement Range	10 to +1300hPa
Baro Measurement Accuracy	+/-0.3hPa (25')

RAINFALL

The optical gauge is built on the basis of principle optics. When raindrops hit the outer surface, the photosensitive member inside obtains the changes of beam intensity. At the same time, it exports certain pulse value by the changes of beam intensity and reflects the size of raindrops.

RAINFALL	
Rainfall Measurement Range	0.001/0/.01/0.02mm

GLOBAL RADIATION

Used for measuring the short-wave radiation (main wavelength: 400 ~ 1100nm), a silicon light detector generates a voltage output signal proportional to the incident light.

GR	
GR Measurement Range	0-2000W/m ²
GR Measurement Accuracy	2%

UV INDEX

The instrument can sense the ultraviolet A and B bands with the built-in light sensor. It can be used in ultraviolet radiation gauge.

GENERAL

GENERAL	
Interface	RS484/232
Power consumption	9 -36 VDC (20mA @12VDC)
Operating temp range	-50°C to 85°C
IP rating	IP66

Contact us now for a demonstration or a competitive quote on Automated Weather Stations.

WS700-UMB SMART WEATHER SENSOR

The WS700-USMB Smart Weather Sensor is a multi purposeful device able to measure a variety of elements including temperature, relative humidity, precipitation intensity, precipitation type, precipitation quantity, air pressure, wind direction, wind speed, and radiation.

Measurement Technology

- Ultrasonic/wind, NTC/T, capacitive/RH, MEMS capacitive/pressure, thermopile/radiation, radar/precipitation

Product Highlights

- Compact all-in-one weather sensor, low power, heater, aspirated radiation shield, maintenance-free operation, and open communication protocol

Interfaces

- RS485 with supported protocols UMB-Binary, UMB-ASCII, Modbus-RTU, Modbus-ASCII, XDR and optional SDI-12

Article number

8380.U01



TECHNICAL DATA : WS700-UMB SMART WEATHER SENSOR

GENERAL	
Dimensions	Ø approx. 150 mm, height approx. 317 mm
Weight	Approx. 1.5 kg
Interface	RS485, 2 - wire, half - duplex
Power supply	4...32 VDC
Operating temperature	-50...60°C
Operating rel. humidity	0...100% RH
Heating	40 VA at 24 VDC
Cable length	10m
Protection level housing	IP66
Mast mounting suitable for	Mast diameter 60 - 76 mm

TEMPERATURE	
Principle	NTC
Measuring range	-50...60°C
Unit	°C
Accuracy	±0.2°C (-20...50°C), otherwise ±0.5°C (> -30°C)

RELATIVE HUMIDITY	
Principle	Capacitive
Measuring range	0 ... 100 % RH
Unit	% RH
Accuracy	±2 % RH

AIR PRESSURE	
Principle	MEMS capacitive
Measuring range	300 ... 1200 hPa
Unit	hPa
Accuracy	±0.5 hPa (0...40°C)

WIND DIRECTION	
Principle	Ultrasonic
Measuring range	0 ... 359.9°C
Unit	°
Accuracy	< 3° RMSE > 1.0 m/s

WIND SPEED	
Principle	Ultrasonic
Measuring range	0 ... 75 m/s
Unit	m/s
Accuracy	±0.3 m/s or ±3 % (0...35 m/s) ±5 % (>35 m/s) RMS
Resolution	0.1

PRECIPITATION INTENSITY	
Resolution	0.1 mm/h

PRECIPITATION QUANTITY	
Resolution	0.01
Reproducibility	Typical >90 %
Measuring range drop size	0.3...5 mm
Type of precipitation	Rain/snow

RADIATION	
Unit	W/m ²
Accuracy	5%
Response time (95%)	< 1 s
Spectral range	300 to 1100 nm
Measuring range	1400 W/m ²