



WeatherStation® Multisensor – Ultrasonic Instruments for Measurement of Wind and Rain

A Compact, Rugged Instrument
for Informed Decision-Making

150WXRS Multisensor

AIRMAR's WeatherStation WXRS provides real-time information on rain intensity, accumulation and event duration. An acoustic sensor measures the impact energy of individual raindrops on the patented "umbrella" sensor located on the top of the WeatherStation instrument. This rain detecting sensor is virtually maintenance free as it has no moving parts or components that need to be emptied, cleaned or will become clogged by debris.

With minimal maintenance plus the integration of a full suite of ultrasonic wind, temperature, barometric pressure and relative humidity, WeatherStation WXRS delivers a significantly lower total cost of ownership (TCO) than traditional measurement devices.



Applications:

- Agricultural weatherstations
- Remote weatherstations
- Deployable station integration



Ultrasonic Wind Measurement

Dynamic True and Apparent wind speed and direction with no moving parts



Barometric Pressure

Accurate atmospheric pressure measurement



Air Temperature

With calculated heat index and wind chill



10 Hz GPS

Position, COG, SOG, time stamping



3-Axis Accelerometer

For pitch and roll



3-Axis Compass

With dynamic stabilization and better than 1° accuracy



Relative Humidity

Field serviceable RH sensor with calculated dew point



Rain Measurement

Maintenance free acoustic rain measurement including duration, intensity and amount with 95% accuracy

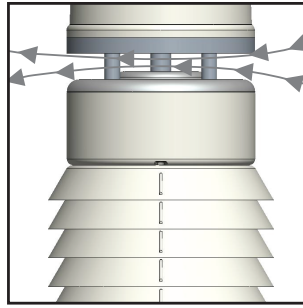


Solar Stabilization

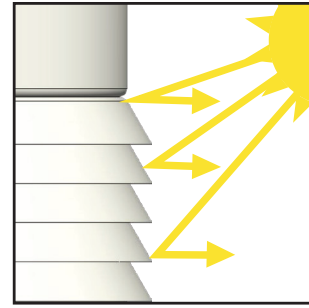
Solar radiation shield increases the accuracy and stability of temperature and relative humidity readings



Acoustic Rain Measurement



Ultrasonic Wind Measurement
Speed and Direction



Solar Stabilization

SPECIFICATIONS

Rainfall Amount: Cumulative accumulation after the latest automatic or manual reset

Output Resolution: 0.01mm

Accuracy: 5% typical

Rainfall Intensity: One minute running average in 10 second intervals

Range: 0 to 200mm/h

Output Resolution: 0.1mm/h

Rainfall Duration: Counting each second whenever water droplet is detected

Output Resolution: 1 second

Wind Speed

Range: 0-40 m/s

Accuracy: 5% @ 10 m/s (@4 angles)

Resolution: 0.1 m/s

Calculations: User configurable damping

Wind Direction

Range: 0° to 359.9°

Accuracy: ±3° @ 10 m/s

Resolution: 0.1°

Calculations: User configurable damping

Air Temperature

Range: -40° to 80°C

Accuracy: ±0.3°C @ 20°C

Resolution: 0.1°C

Relative Humidity

Range: 0-100% RH

Accuracy: ±3% RH @ 0 to 90% RH @ 20°C

Resolution: 0.1% RH

Barometric Pressure

Range: 300 to 1100 hPa

Accuracy: ±0.5 hPa @ 25°C (or better)

Resolution: 0.1 hPa

Three-Axis Compass

Range: 0 to 359.9°

Accuracy: 1° static heading accuracy; 2° dynamic heading accuracy

Resolution: 0.1°

Pitch & Roll

Measurement Type: MEMS

Range: 50°

Accuracy: ±1° in range of ±30°

Resolution: 0.1°

Units: Degrees

GPS Position Accuracy: 3 m (10') CEP

Operating Temperature Range: -25°C to 55°C

Operating Voltage

Supply Voltage: 9 VDC to 40 VDC

Supply Current (@ 12 VDC): <115 mA (<1.4 W)

Weight: 1.3 lbs (600 grams)

Mounting-thread Size, Base M39: Adapter on cable is standard 1"-14 UNS (3/4" NPT optional)

Certifications and Standards: CE, IPX4, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

Note: Cables sold separately

COMMUNICATIONS

Available Hardware Interfaces

Serial RS232, Serial RS422

Available Protocols

NMEA 0183

Serial Data Transmission Code

ASCII

Serial Output Rate

1 Hz typical. User selectable. 10 Hz max recommended

PART NUMBERS

150WXRS-RS232-100320

150WXRS-RS422-100321

* Cables sold separately

RH = Relative Humidity



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DIMENSIONS

