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

Temperature
With calculated heat index and wind chill

Relative Humidity
Field serviceable RH sensor with calculated dew point

10 Hz GPS
Position, COG,SOG, time stamping

3-Axis Compass
With dynamic stabilization and better than 1° accuracy

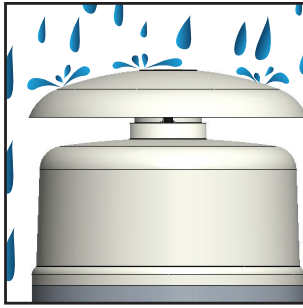**Rain Measurement**
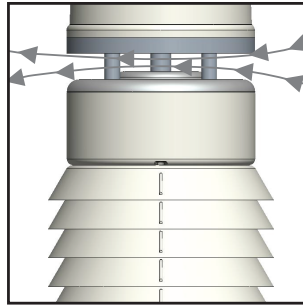Maintenance free acoustic rain measurement including duration, intensity and amount with 95% accuracy
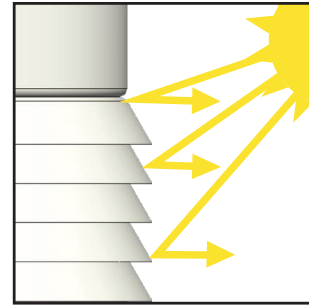
Solar Stabilization
Solar radiation shield increases the accuracy and stability of temperature and relative humidity readings

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
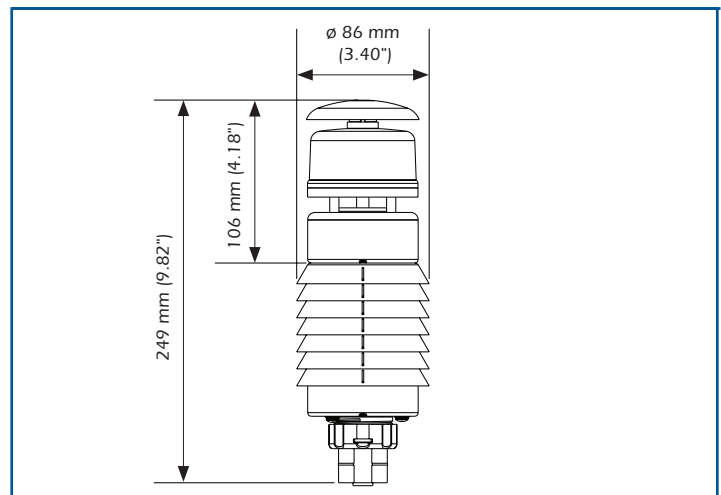
PART NUMBERS

150WXRS-RS232-100320
150WXRS-RS422-100321

* Cables sold separately
RH = Relative Humidity

DIMENSIONS

ø 86 mm (3.40")
106 mm (4.18")
249 mm (9.82")

AIRMAR®
TECHNOLOGY CORPORATION