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

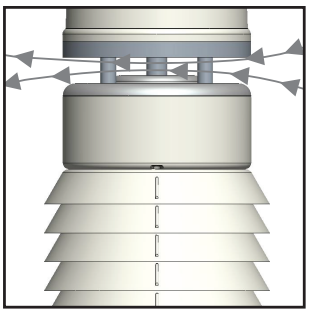
3-Axis Compass
With dynamic stabilization and better than 1° accuracy

Relative Humidity
Field serviceable RH sensor with calculated dew point

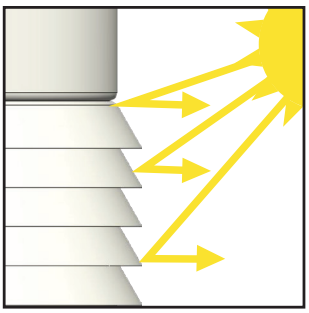
Rain Measurement
Maintenance free acoustic rain measurement including duration, intensity and amount with 95% accuracy

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:** 60°
- **Accuracy:** ±1° in range of ±30°
- **Resolution:** 0.1°
- **Units:** Degrees

GPS Position Accuracy: 2.5 m (8') 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, IPX6, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

Note: Cables sold separately

COMMUNICATIONS

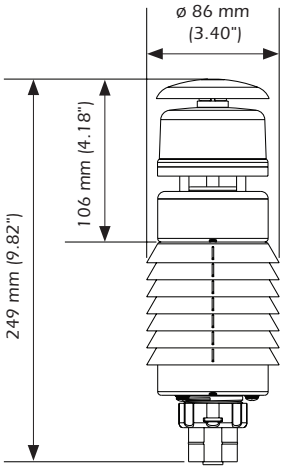
Hardware Interfaces: Serial RS232, Serial RS422
Data Protocols: Serial – NMEA 0183
Serial Data Transmission Code: ASCII
Serial Output Rate: 1 Hz typical. User selectable. 10 Hz max recommended

PART NUMBERS

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

Cables sold separately unless otherwise specified
RH = Relative Humidity

DIMENSIONS



ISO CERTIFIED CE UK CA MADE IN THE USA

 150WXRS_rG 06/03/25

AIRMAR® TECHNOLOGY CORPORATION
An Amphenol Company