WXRS Series

WeatherStation® Multisensor – Acoustic 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.

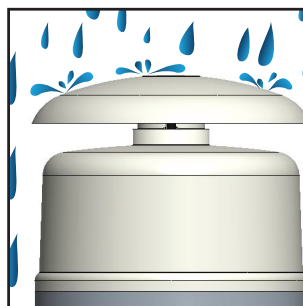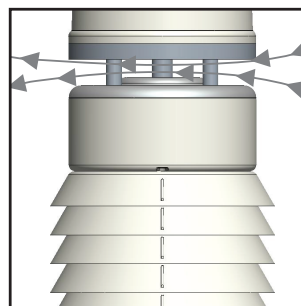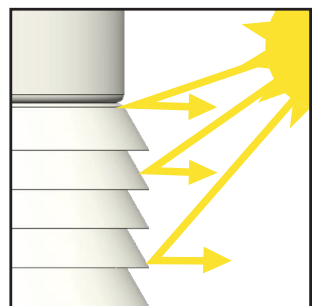| Rain | Wind Speed & Direction | Barometric Pressure | Temp | Relative Humidity | GPS | Compass |

FEATURES

- Ultrasonic measurement of apparent, true wind speed and direction
- Acoustic measurement of rain accumulation, intensity and duration
- GPS for time stamping and internal compass for true wind data
- Maintenance-free operation is superior to tipping buckets, weighing gauges, optical measurement. No obstruction and data integrity loss due to debris.
- Rugged, compact, UV stabilized housing with no moving parts
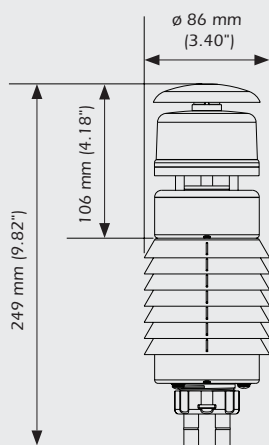
Acoustic Rain Measurement

Ultrasonic Wind Measurement Speed and Direction

Solar Stabilization

AIRMAR®
TECHNOLOGY CORPORATION

DIMENSIONS

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

SERIAL DATA OUTPUT PROTOCOL

NMEA 0183 Sentence Structure – Comma Delimited ASCII Format

$GPDTM...........GPS Datum Reference
$GPGGA...........GPS Fix Data
$GPGLL............Geographic Position—Latitude and Longitude
$GPGSA...........GNSS DOP and Active Satellite
$GPGSV............Satellites in View
$GPRMC...........Recommended Minimum GNSS
$GPVTG............COG and SOG
$GPZDA...........Time and Date
$HCHDG..........Heading, Deviation, and Variation
$HCHDT...........True Heading
$HCTHS............True Heading and Status
$TIROT.............Rate of Turn
$WIMDA..........Meteorological Composite
$WIMWD.........Wind Direction and Speed
$WIMWV..........Wind Speed and Angle
$WIMWR..........Relative Wind Direction and Speed
$WIMWT..........Theoretical Wind Direction and Speed
$YXXDR............Transducer Measurements
$WIXDR……..Rain Measurements

COMMUNICATIONS

Available Hardware Interfaces
Serial RS232, Serial RS422
Available Protocols
Comma delimited ASCII, NMEA 0183

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
  Units: 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
  Units: °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
Two Axis Compass
  Range: 0 to 359.9°
  Accuracy: 1° RMS when level
  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
Power
  Supply Voltage: 9 VDC to 40 VDC
  Supply Current (@ 12 VDC):
  <105 mA (<1.25 W) — 150WXRS
Output Rate: User specified, 0.1 seconds – fastest interval
Weight: 1.3 lbs (600 grams)
Mounting Thread Size on Base: Standard 1"-14 UNS (3/4" NPT optional)
Certifications and Standards: CE, IPX6 (Relative Humidity/IPX4), RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

WEATHERSTATIONWX.COM

ISO CERTIFIED   C E   MADE IN THE USA   **AIRMAR**® TECHNOLOGY CORPORATION