



## WeatherStation® Multisensor – Ultrasonic Instruments for Measurement of Wind

A Compact, Rugged Instrument  
for Informed Decision-Making

### 150WXS Multisensor

AIRMAR's WeatherStation series provides accurate, site-specific, weather data from a single compact device. As an integral component of a comprehensive weather station, the WeatherStation WXS measures seven critical weather parameters in real-time.

The compact housing features ultrasonic wind and barometric pressure measurements. Plus the solar-radiation shield increases the accuracy of temperature and relative humidity readings. The maintenance-free features of the WeatherStation WXS makes it perfect for both stationary and dynamic platform mounting locations.

### Applications:

- Agricultural vehicles and sprayers
- Construction site monitoring
- Deployable stations



#### 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



#### 2-Axis Compass

Better than 1° accuracy

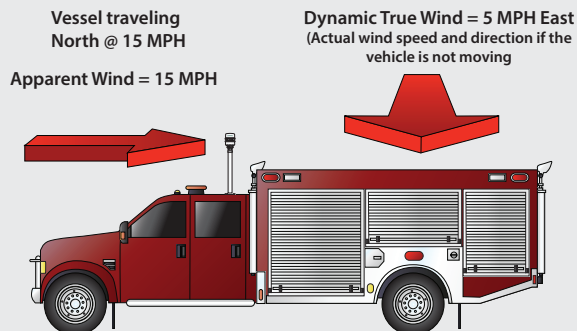


#### Solar Stabilization

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

# Understanding Dynamic True and Apparent Wind

Virtually all anemometers report wind speed and direction. Airmar's WeatherStation Instruments are unique because they calculate both dynamic true and apparent wind speed and direction. When the WeatherStation instrument is mounted on a moving (dynamic) platform, the apparent wind is the wind felt on your hand if you held it out while moving. Dynamic true wind is the wind relative to North but also corrected for the speed and direction of the vessel. WeatherStation WX instruments integrate a GPS and 3-Axis compass, which allows for the calculation of the dynamic true wind speed and direction based upon the apparent wind, speed of the vehicle, and vehicle heading. Dynamic True wind measurement can be critical for any application where the platform is moving.



Airmar's WX Series products are the only all-in-one unit to offer dynamic true and apparent wind speeds without additional sensors.

## SPECIFICATIONS

### Wind Speed

**Range:** 0-40 m/s  
**Accuracy:** 5% at 10 m/s at 4 angles  
**Resolution:** 0.1 m/s  
**Calculations:** User configurable damping

### Wind Direction

**Range:** 0° to 359.9°  
**Accuracy:** ±3° at 10 m/s  
**Resolution:** 0.1°  
**Calculations:** User configurable damping

### Air Temperature

**Range:** -40° to 80°C (-40 to 176°F)  
**Accuracy:** ±0.3°C at 20°C  
**Resolution:** 0.1°C

### Relative Humidity

**Range:** 0 to 100% RH  
**Accuracy:** ±3% RH at 0 to 90% RH at 20°C  
**Resolution:** 0.1% RH

### Barometric Pressure

**Range:** 300 to 1100 hPa  
**Accuracy:** ±0.5 hPa at 25°C (or better)  
**Resolution:** 0.1 hPa

### Two-axis Compass

**Range:** 0 to 359.9°  
**Accuracy:** 1° static heading accuracy  
**Resolution:** 0.1°

### Pitch and Roll

**Measurement Type:** MEMS  
**Range:** 50°  
**Accuracy:** ±1° in range of ±30°  
**Resolution:** 0.1°

### GPS Position Accuracy:

3 m (10') CEP

### Operating Voltage

**Supply Voltage:** 9 VDC to 40 VDC  
**Supply Current (at 12 VDC):** <75 mA (<0.9 W)

### Weight

325 grams (0.71 lb)

**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

150WXS-RS232-100318

150WXS-RS422-100319

\* Cables sold separately

RH = Relative Humidity



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## DIMENSIONS

