



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



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

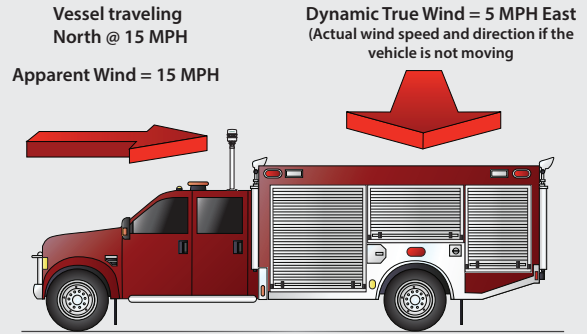


Solar Stabilization

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 Temperature Range: -25 to 55°C (-13 to 131°F)

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

