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

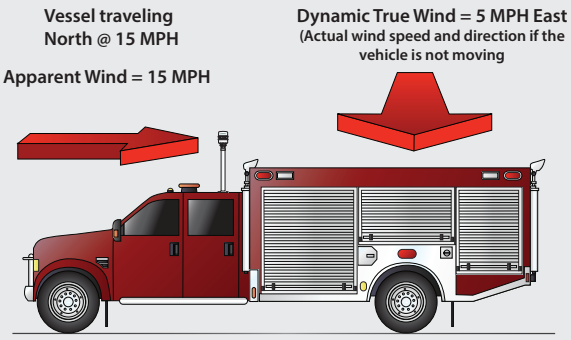
2-Axis Compass
Better than 1° static compass accuracy

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

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

Note: Cables sold separately

COMMUNICATIONS

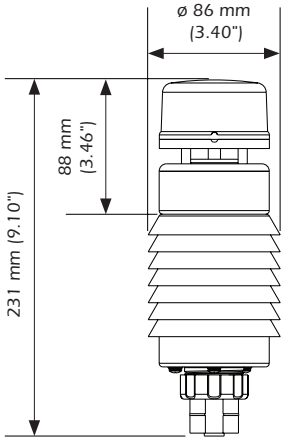
Hardware Interfaces: Serial RS232, Serial RS422, CAN
Data Protocols: Serial – NMEA 0183, CAN – NMEA 2000
Serial Data Transmission Code: ASCII
Serial Output Rate: 1 Hz typical. User selectable. 10 Hz max recommended

PART NUMBERS

150WXS-RS232-100318
150WXS-RS422-100319

Cables sold separately unless otherwise specified
RH = Relative Humidity

DIMENSIONS



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