

WXS Series

LAND APPLICATIONS

WeatherStation® Multisensor – Ultrasonic Measurement of Wind

A Compact, Rugged Instrument
for Informed Decision-Making

150WXS and 110WXS 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 remote mounting as a network of stationary or moveable sensors.



Wind
Speed &
Direction



Barometric
Pressure



Temp



Relative
Humidity



GPS

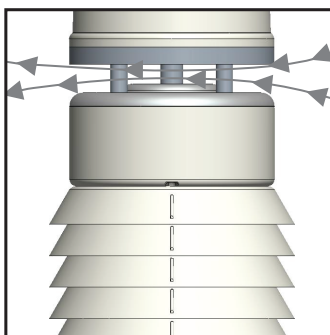


Compass

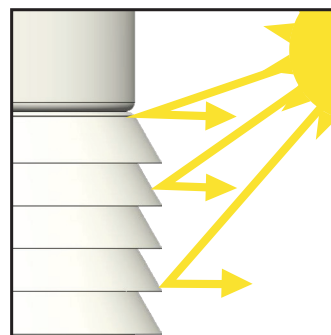


FEATURES

- Ultrasonic measurement of apparent and true wind speed and direction
- Barometric pressure, air temperature and relative humidity readings with calculated dew point, heat index and wind chill
- GPS for time stamping and internal compass for true wind data
- Rugged, compact, UV-stabilized housing with no moving parts



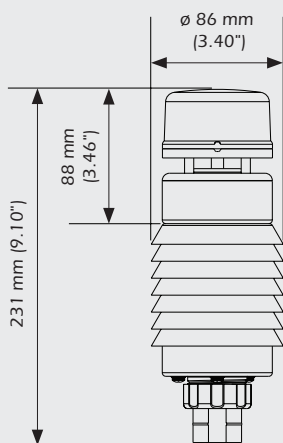
Ultrasonic Wind Measurement



Solar-Stabilization



DIMENSIONS



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° RMS when level
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)

Power

Supply Voltage: 9 VDC to 40 VDC
Supply Current (at 12 VDC):
 <75 mA (<0.9 W), LEN 2 — 150WXS
 <55 mA (<0.7 W), LEN 2 — 110WXS

Weight

325 grams (0.71 lb) — 150WXS
 300 grams (0.70 lb) — 110WXS

Mounting-thread Size on Base: 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

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

CAN DATA OUTPUT PROTOCOL

NMEA 2000® Output Message Structure

59392.....ISO Acknowledgement
 060928.....ISO Address Claim
 126208.....Acknowledge Group Function
 126464.....PGN List
 126992.....System Time
 126996.....Product Information
 126998.....Configuration Information
 127250.....Vessel Heading
 127251.....Rate of Turn
 127257.....Attitude
 127258.....Magnetic Variation
 129025.....Position and Rapid Update
 129026.....COG and SOG, Rapid Update
 129029.....GNSS Position Data
 129033.....Time and Date
 129044.....Datum
 129538.....GNSS Control Status
 129539.....GNSS DOPs
 129540.....GNSS Sats in View
 130306.....Wind Data
 130310.....Environmental Parameters
 130311.....Environmental Parameters
 130312.....Temperature
 130313.....Humidity
 130314.....Actual Pressure
 130323.....Meteorological Station Data

COMMUNICATIONS

Available Hardware Interfaces

Serial RS232, Serial RS422

Available Protocols

Comma delimited ASCII, NMEA 0183

Serial Output Rate

1 Hz typical, user selectable, 10 Hz max recommended

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