WeatherStation® Multisensor – Ultrasonic Measurement of Wind

A Compact, Rugged Instrument for Informed Decision-Making

150WXS and 110WXS Multisensor

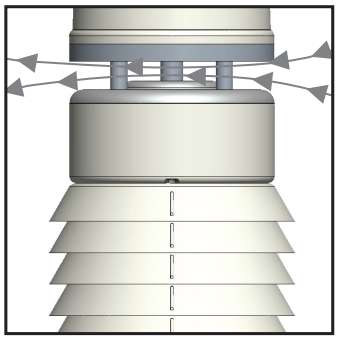
AIRMAR's WeatherStation series provides accurate, site-specific, weather data from a single compact device. As an integral component of a comprehensive weather station, the WeatherStation WXS measures seven critical weather parameters in real-time.

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.

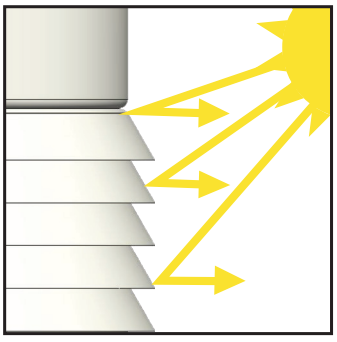
Wind Speed & Direction | Barometric Pressure | Temp | Relative Humidity | GPS | Compass

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

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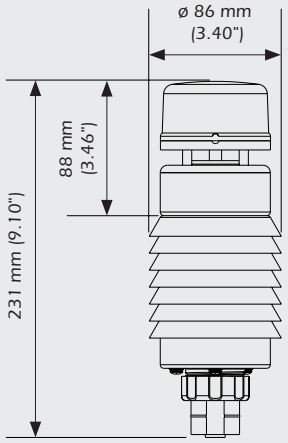
DIMENSIONS



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

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

COMMUNICATIONS

Available Hardware Interfaces
Serial RS232, Serial RS422, CAN

Available Protocols
Comma delimited ASCII, NMEA 0183, NMEA 2000®

Serial Output Rate
1 Hz typical, user selectable, 10 Hz max recommended

ISO CERTIFIED CE MADE IN THE USA

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