

NEW

MOBILE AND
STATIONARY PLATFORMS

300WX
SERIES



Weather Data at Your Fingertips 300WX WeatherStation Instrument Family and CAST App

Airmar's ultrasonic 300WX WeatherStation® instruments deliver accurate, reliable weather data from a rugged, compact, maintenance-free design with no moving parts. These all-in-one multisensors can measure up to seven different parameters plus calculated values and deliver that data on protocols used by marine and land-based systems.

Airmar's best-in-class WeatherStation instruments take sensing to the next level with the measurement of SOG/COG, pitch & roll, rate-of-turn, and position. The integrated 3-axis compass and GPS enable the unique measurement of dynamic true wind speed and directions from mobile platforms.

New Features of the 300WX WeatherStation Instruments:

- New communication protocols – J1939, ISOBUS
- Wireless connectivity via Bluetooth to Airmar's CAST app for viewing instrument data, system configurations and software updates
- Maritime AIS (Automatic Identification System) data protocol enabled for transmission of current weather conditions
- Automatic baud rate detection on J1939 (250kbps/500kbps)
- Improved power efficiency control via sensor configurations



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 when RH module is installed



Relative Humidity (optional)

Field serviceable RH sensor with calculated dew point



10 Hz GPS

Position, COG, SOG, time stamping



3-Axis Compass

With dynamic stabilization and better than 1° accuracy



3-Axis Rate Gyro

For rate-of-turn data



Wireless Communication to CAST App

For viewing instrument data, configuring sensors and protocols, performing software upgrades

WEATHERSTATIONWX.COM

AIRMAR®

300WX Multisensor

The WeatherStation 300WX is the best choice for mobile, or stationary, weather-monitoring applications. Sensor-rich, in a durable, rugged, compact housing that is IPX6-rated, the 300WX is ideal for dynamic platforms such as agricultural tractors, weather-chasing vehicles and military vehicles.

300WX-IPX7 Multisensor

Rapid changes in weather and sea conditions make monitoring of both meteorological and oceanographic parameters a critical part of ensuring safety, while also maintaining operational efficiency. The 300WX-IPX7 is the leading weather multisensor in the USV and autonomous vehicle markets with over one million hours of reliable data collection each year.

300WXH Multisensor

The 300WXH is Airmar's recommended model for weather-monitoring in ice-prone areas. Designed with an efficient, thermostatically controlled heating system, it operates effectively in extremely cold climates.

Applications:

- Mobile weather vehicles
- Agricultural vehicle system integration
- Construction site awareness
- Autonomous vehicle navigation and data collection
- Chemical and fertilizer sprayer monitoring



Applications:

- Autonomous and unmanned surface vehicles
- Buoys and offshore platforms
- Workboats/commercial fishing vessels
- Harbors and marinas



Applications:

- Commercial fishing vessels
- Offshore Platforms
- High Altitude Stations



SPECIFICATIONS

Wind Speed

Range: 0-40 m/s
Accuracy: 5% @ 10 m/s (@4 angles)
Resolution: 0.1 m/s
Units: m/s
Calculations: User configurable damping

Wind Direction

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

Air Temperature

Range: -40° to 80°C
Accuracy: ±1.1°C @ 20°C
Resolution: 0.1
Units: °C

Relative Humidity, optional – only offered in 300WX

Range: 0-100% RH
Accuracy: ±5% RH @ 0 to 90% RH @ 20°C
Resolution: 0.1% RH

Barometric Pressure

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

Three Axis Compass

Range: 0 to 359.9°
Accuracy: 1° static heading accuracy;
2° dynamic heading accuracy
Resolution: 0.1°

Pitch & Roll

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

GPS Position Accuracy: 3 m (10') CEP

Operating Temperature Range 300WX and 300WX-IPX7: -25°C to 55°C

Operating Temperature Range 300WXH heater: -40°C to 55°C (-40 to 131°F) Heater cycles on when sensor reaches 1°C

Operating Voltage 300WX and 300WX-IPX7:

Supply Voltage: 9 VDC to 40 VDC
Supply Current (@ 12 VDC): <55 mA (<0.66 W)
NMEA 2000® Load Equivalency Number (LEN): 2

Operating Voltage 300WXH:

Supply Voltage: 12-24 VDC
Supply Current (@ 24 VDC): <28 mA (<0.67 W)
Heater Supply Current (@ 24 VDC): <2.5 A (<60 W)

Weight 300WX and 300WX-IPX7: 300 grams (0.7 lb)

Weight 300WXH: 350 grams (0.8 lb)

Mounting-thread Size, Base M39: Adapter on cable is standard 1"-14 UNS (3/4" NPT optional)

Certifications and Standards 300WX: CE, IPX6 (†IPX4 with optional Relative Humidity sensor), RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

Certifications and Standards 300WX-IPX7: CE, IPX7, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

Certifications and Standards 300WXH: CE, IPX6, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

† **Note:** When the heater is ON, air temperature and wind chill functions are disabled. Relative Humidity (RH) not available on heater models
Heater requires 24VDC

* Cables sold separately
RH = Relative Humidity

300WX
Stationary and
Mobile Applications



300WX-IPX7
Stationary and Mobile
Marine Applications



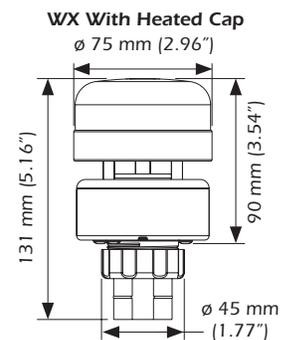
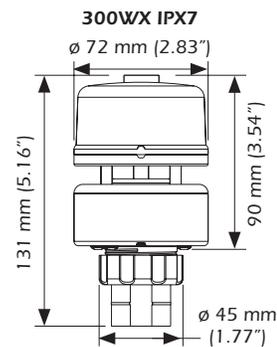
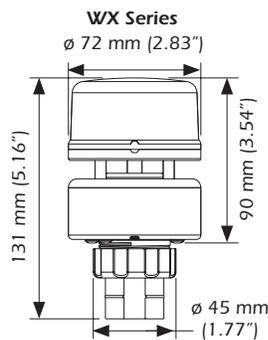
300WXH
Harsh Weather
Applications



	300WX	300WX-IPX7	300WXH
Apparent wind speed and angle	✓	✓	✓
Dynamic True wind speed and direction*	✓	✓	✓
Barometric pressure	✓	✓	✓
Air temperature	✓	✓	✓
10 Hz GPS (Position, COG, SOG)	✓	✓	✓
Three-axis accelerometer for pitch & roll	✓	✓	✓
Three-axis solid-state compass with dynamic stabilization: Better than 1° static compass accuracy Best-in-class 2° dynamic compass accuracy	✓	✓	✓
Three-axis rate gyros provide rate-of-turn data	✓	✓	✓
Heated cap			✓†
Relative humidity (field-serviceable) Calculated dew point Calculated heat index	✓ Optional		
Weatherproof rating	IPX6**	IPX7	IPX6
Operating voltage	9-40 VDC	9-40 VDC	12-24 VDC
Wireless connectivity to CAST app	✓	✓	✓
Automatic Baud Rate Detection (250kbps/500kbps)	✓	✓	✓
AIS (Maritime Automatic Identification System) capable	✓	✓	✓
Output options include: Hardware Interfaces: Serial RS232, Serial RS422, CAN Protocols: NMEA 0183, NMEA 2000®, ISOBUS, J1939 Serial Data Transmission Code: ASCII	✓	✓	✓ (0183 only)

* **Dynamic True wind speed and direction is important and often mission-critical. The 300WX calculates the dynamic true wind speed and direction based upon the apparent wind (the wind you would feel on your hand if you held it out while moving), speed of the vehicle, and vehicle heading.**

** Rating stated is without optional RH sensor installed.



CAST™ —The App That Maximizes Your AIRMAR Products

The Airmar CAST™ App connects directly from iOS and Android™ Smart devices to Airmar's Bluetooth® enabled 300WX WeatherStation instruments. Airmar CAST connects using Bluetooth Low Energy to your Airmar product and makes configuration simple with intuitive menus and guided calibration. View data from the WeatherStation in digital or graphical format, quickly turn on or off data sentences, configure sensor parameters, software updates and more.



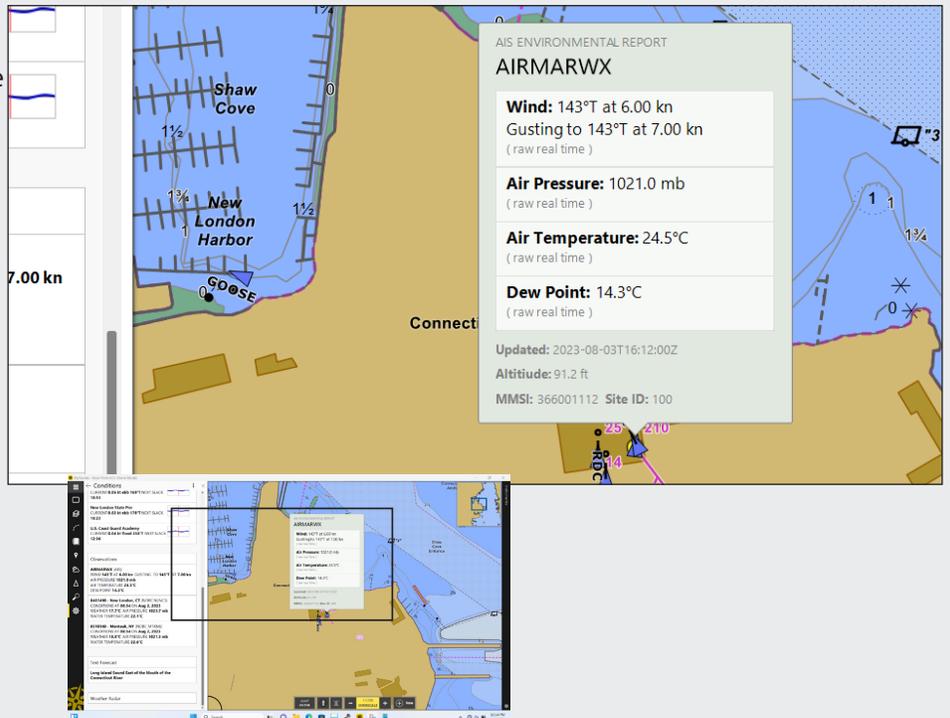
CAST™
The innovative App for allowing users to calibrate, configure and view sensor data to evaluate and improve performance!



Note: Actual screen appearance and data availability may vary depending on the model of Airmar product it is connected to.

Broadcast Current Weather via Maritime AIS

Unique to the new 300WX WeatherStation instruments is the ability to provide data on the proprietary NMEA 2000® PGN for maritime Automatic Identification Systems (AIS). This PGN allows the current weather data from the WeatherStation instrument to be broadcast to surrounding vessels for display on Rose Point software. Critical data such as position, wind speed, wind direction, barometric pressure, air temperature and more can be visibly displayed on nearby vessel electronics.



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