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 GNSS capability enable the unique measurement of dynamic true wind speed and direction 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 firmware updates
- Automatic baud rate detection on J1939 and ISOBUS (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

Air Temperature
With calculated heat index and wind chill when RH module is installed

Relative Humidity (optional)
Field serviceable RH sensor with calculated dew point

GNSS-Enabled
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

3-Axis Accelerometer
For pitch and roll

Wireless Communication to CAST App
For viewing instrument data, configuring sensors and protocols, performing software upgrades

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 IP66-rated, the 300WX is ideal for dynamic platforms such as agricultural tractors, weather-chasing vehicles and military vehicles.

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

300WX-IP67 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-IP67 is the leading weather multisensor in the USV and autonomous vehicle markets with over one million hours of reliable data collection each year.

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

Photo Courtesy of Liquid Robotics

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.
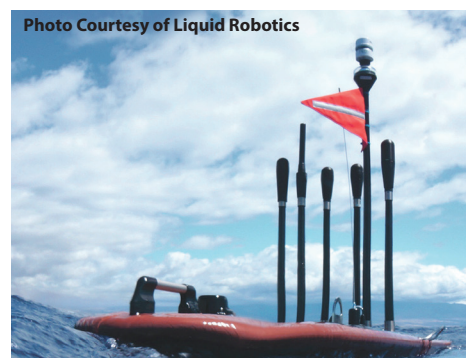
Applications:
- Offshore Platforms
- High Altitude Stations

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

GNSS Position Accuracy: 2.5 m (8') CEP ‡

Operating Temperature Range 300WX and 300WX-IP67: -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-IP67:
- **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-IP67: 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, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982; Ingress Protection, IP66 (IP64 with optional Relative Humidity sensor)

Certifications and Standards 300WX-IP67: CE, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982; Ingress Protection, IP67

Certifications and Standards 300WXH: CE, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982; Ingress Protection, IP66

Heater requires 24VDC

Cables sold separately unless otherwise specified

RH = Relative Humidity

‡ GNSS-Enabled for connectivity to global GNSS constellations including: GPS (United States), GLONASS (Russia), Galileo (European Union), BeiDou (China), and QZSS (Japan). Accuracy rating based on WAAS-Enabled GPS.

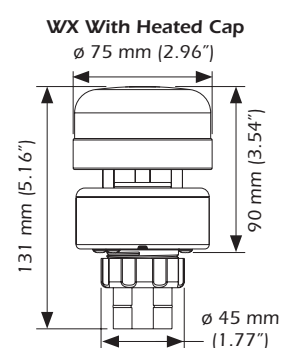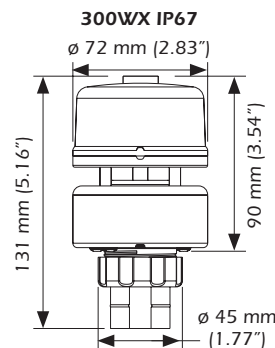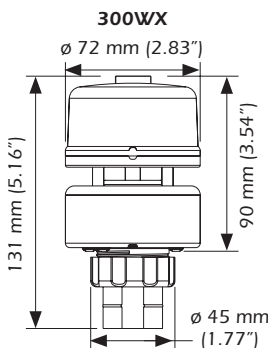|	**300WX**	**300WX-IP67**	**300WXH**
300WX Stationary and Mobile Applications	**300WX-IP67** Stationary and Mobile Marine Applications	**300WXH** Harsh Weather Applications	
Apparent wind speed and angle	✓	✓	✓
Dynamic True wind speed and direction*	✓	✓	✓
Barometric pressure	✓	✓	✓
Air temperature	✓	✓	✓
GNSS-Enabled (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	IP66**	IP67	IP66
Operating voltage	9-40 VDC	9-40 VDC	12-24 VDC
Wireless connectivity to CAST app	✓	✓	✓
Automatic Baud Rate Detection (250kbps/500kbps)	✓	✓	✓
Output options include: Hardware Interfaces: Serial RS232, Serial RS422, CAN Data Protocols: Serial – NMEA 0183 CAN – NMEA 2000®, J1939, ISOBUS 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.

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

300WX
ø 72 mm (2.83")
131 mm (5.16")
90 mm (3.54")
ø 45 mm (1.77")

300WX IP67
ø 72 mm (2.83")
131 mm (5.16")
90 mm (3.54")
ø 45 mm (1.77")

WX With Heated Cap
ø 75 mm (2.96")
131 mm (5.16")
90 mm (3.54")
ø 45 mm (1.77")

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!

GET IT ON Google Play

Download on the App Store

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

Data Logging – Convenient data logging solution for your 300WX WeatherStation

Every SmartFlex CES Module has built-in wifi and ethernet, for connectivity to the internet and Cloud based services. With the 300WX connected, custom values logs or entire bus logs can be sent to the cloud, where key personnel can be aware of current conditions as well as past network traffic and events. SmartFlex also provides the capability to push SMS/Email messages to personnel based on custom criteria. In addition, each SmartFlex module has two USB 2.0 access points to place storage devices of any size.

Values Logging

- Pick any value on the 300WX or any connected device
- Custom set the time interval to log
- Optional trigger/event condition to trigger logging (such as high wind events)

SMS / Email Notifications Data logging

Cloud

USB X 2 Data logging

(CAN)

ETHERNET

ISO CERTIFIED   CE   UKCA   MADE IN THE USA

AIRMAR®
TECHNOLOGY CORPORATION
An Amphenol Company