

WX Series



## WeatherStation® Multisensor – Ultrasonic Instrument for Offshore Weather Monitoring

### Available Model: 200WX-IPX7

Weather impacts every aspect of operations on offshore platforms, ships, and in ports. 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.

Reliable environmental monitoring is critical for various offshore needs. The numerous sensors contained in the compact size of the 200WX is an attractive feature for installations where space is limited, such as on buoys, USVs, and ASVs.

Having worked with many autonomous vehicle and buoy manufacturers, we have further developed the 200WX to be robust—meeting the operational challenges of the harsh ocean environment.

The WeatherStation WX Series products offer a truly best-in-class solution at a better price than any other weather monitoring system on the market today, enabling individuals and professionals to make informed decisions based on real-time site-specific weather information.



Wind  
Speed &  
Direction



Barometric  
Pressure



Temp



GPS



Compass



Actual  
Size

### FEATURES

The 200WX-IPX7 WeatherStation instrument accurately measures current weather conditions, including:

- Theoretical wind speed and direction
- Air temperature and calculated wind chill
- Barometric pressure
- GPS position, speed over ground, course over ground
- Three-axis solid state compass with dynamic stabilization
- Three-axis rate gyro for rate of turn
- Best-in-class <math><1^\circ</math> pitch and roll accuracy
- IPX7 waterproof rating
- Current draw: <math><75\text{ mA}</math> (<math><0.9\text{ W}</math>), LEN 2 at 12 VDC

## 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

### 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° RMS when level, 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: -25°C to 55°C

### Power

Supply Voltage: 9 VDC to 40 VDC

Supply Current (@ 12 VDC):

<75 mA (<0.9 W), LEN 2 — 200WX-IPX7

Output Rate: User specified, 0.1 seconds – fastest interval

Weight: 300 grams (0.8 lb)

Mounting Thread Size on Base: Standard 1"-14 UNS (3/4" NPT optional)

Certifications and Standards: CE, IPX7, RoHS, IEC61000-4-2, IEC60945, IEC60950\_1C, IEC60950\_22A, EN55022, EN55024, EN15014982

## COMMUNICATIONS

### Available Hardware Interfaces

Serial RS232, Serial RS422, CAN

### Available Protocols

Comma delimited ASCII, NMEA 0183, NMEA2000®

## PART NUMBERS

200WX: 44-848-1-01, NMEA 0183 (RS422) and NMEA2000® (CAN bus)

200WX: 44-849-1-01, NMEA 0183 (RS232) and NMEA2000® (CAN bus)

\* Cables sold separately



Now available on iTunes — OnSiteWX

The innovative App for real-time weather data!



[www.airmar.com](http://www.airmar.com)

## SERIAL DATA OUTPUT PROTOCOL

### NMEA 0183 Sentence Structure – Comma Delimited ASCII Format

\$GPRMTC.....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

\$HCHDGT.....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

### NMEA2000® 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

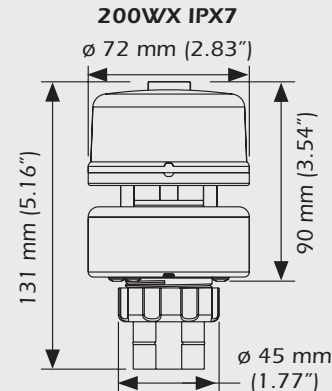
130312.....Temperature

130313.....Humidity

130314.....Actual Pressure

130323.....Meteorological Station Data

## DIMENSIONS



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