

# PB100

Ultrasonic  
WeatherStation™  
Instrument

## Sensing a change in the weather.



### Seven Essential Weather Readings With No Moving Parts!

The Airmar Ultrasonic WeatherStation™ Instrument detects instantaneous changes in the weather. Our WeatherCaster™ Software allows you have your own personal weatherman on-board the boat, 24 hours a day, 7 days a week!

**Before Leaving the Dock**—Make the decision whether or not to spend your day on the water. Anticipate weather fronts by checking the wind speed and direction, temperature and barometric pressure. Check the weather history graphs as the WeatherCaster™ Software can store readings for up to 72 hours.

**Underway**—Monitor up-to-the-minute weather conditions at your location. See where and when the fish will bite best, based on wind conditions and a rising or falling barometer.

**Docking**—The on-board PC or chartplotter can display true wind data to make docking a vessel in high wind a breeze.

**WeatherCaster™ Software**—Easy-to-use multiple screen views and backgrounds to fit your needs. The wind-tunnel tested, compact sensor with removable cable makes for a simple installation. The built-in WAAS GPS can serve as a primary position source or backup to your electronics suite.

- True wind speed and direction
- Apparent wind speed and direction
- Internal WAAS GPS
- Two-axis solid-state compass—no moving parts
- Pitch and roll
- Barometric pressure
- Relative humidity
- Air temperature
- Wind chill temperature
- Dew point temperature
- Heat index temperature
- NMEA 0183 output



WeatherCaster™ Software digital screen

Every Airmar WeatherStation™ Instrument is calibrated in our on-site wind tunnel, whose wind measurements are traceable to a National Institute of Standards and Technology (NIST) Standard Reference Material.

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## Technical Information

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### Specifications\*

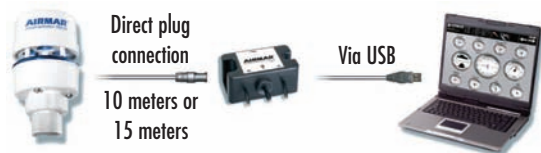
|                            |                                                       |                              |                                      |
|----------------------------|-------------------------------------------------------|------------------------------|--------------------------------------|
| Wind Speed Range           | 0.5 to 99.5 knots<br>(0.6 to 114.5 MPH)               | Compass Accuracy             | ±2° static heading                   |
| Wind Speed Resolution      | 0.1 knot (0.1 MPH)                                    | Barometric Pressure Range    | 850 mb to 1150 mb<br>(25 to 34 inHg) |
| Wind Speed Accuracy        | ±1 knot (±1.1 MPH)<br>or ±4%, whichever<br>is greater | Barometric Pressure Accuracy | ±1.5%                                |
| Wind Direction Resolution  | 1°                                                    | Relative Humidity Range      | 10% to 95% RH                        |
| Wind Direction Sensitivity | ±1.5°                                                 | Relative Humidity Accuracy   | ±4% RH                               |
| Temperature Range          | -30°C to 50°C<br>(-22°F to 122°F)                     | Supply Voltage               | 10 VDC to 16 VDC                     |
| Temperature Accuracy       | ±1.5°C (±2.7°F)<br>@ 2 Knots<br>(2.3 MPH) wind        | Weight                       | 285 grams (0.6 lb)                   |
|                            |                                                       | Thread Size                  | 1"-14 standard<br>marine mount       |

\* Below 0°C (32°F), the wind speed and direction may be less accurate.

\*\* When wind speed is less than 2 knots (2.3 MPH), temperature and humidity readings will be less accurate.

### Options

- Converter interface provides plug and play compatibility with a PC



- Optional Combiner interface allows the WeatherStation™ Instrument data to be displayed simultaneously on both a PC and an NMEA device
- Connect an Airmar Smart™ Sensor to also get water depth, speed, and temperature data



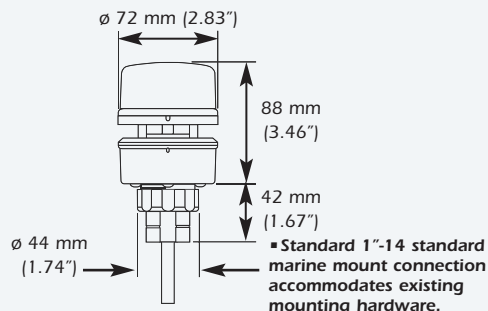
### Data Output Protocol

#### NMEA 0183 Sentence Structure

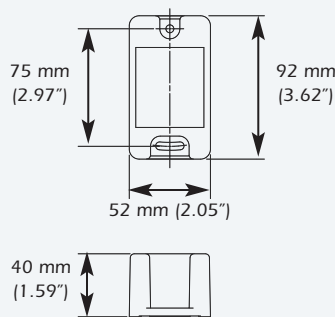
|                                                             |                                            |
|-------------------------------------------------------------|--------------------------------------------|
| SWIMWV . . . Wind Speed and Angle                           | SGPGGA . . . GPS Fix Data                  |
| SWIMWD . . . Wind Direction and Speed                       | SGPGLL . . . Geographic Position L/L       |
| SWIMDA . . . Meteorological Composite                       | SGPGSA . . . GNSS DOP/Active Satellites    |
| SWIVWR . . . Relative Wind Direction/Speed                  | SGPGSV . . . Satellites in View            |
| SWIVWT . . . True Wind Direction/Speed                      | SGPRMC . . . Recommended Minimum GNSS      |
| SWIXDR . . . Transducer Measurements                        | SGPZDA . . . Time and Date                 |
| SYXXDR(A) . . . Temperature/Pressure Transducer Measurement | SGPVTG . . . COG and SOG                   |
| SYXXDR(B) . . . Attitude Transducer Measurements            | SHCHDG . . . Heading, Deviation, Variation |

### Dimensions

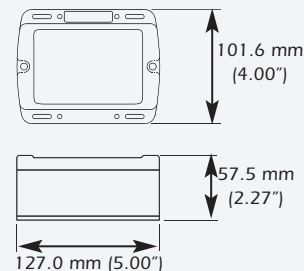
WeatherStation™  
Instrument



NMEA/USB Converter



Combiner



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As Airmar constantly improves its products, all specifications are subject to change without notice. All Airmar products are designed to provide high levels of accuracy and reliability; however, they should only be used as aids to navigation and not as a replacement for traditional navigation aids and techniques.