

*"some lead, others follow" !*

## **Weather Station**

### **Solid State Wind & Weather Sensor**

**T**he PB100 is a fully integrated weather array featuring state of the art combination of wind, temperature, barometer, relative humidity with position and attitude sensors. The small physical package can easily be mounted on a static location or a mobile platform such as a bouy platform. The LB100 is a version without position and attitude sensors designed specifically for static land based applications such as Port VTS information systems.



**PB100 Weather Sensor**

At last, a real low cost alternative to conventional cup/vane/propeller anemometers - The PB100 is a solid state instrument utilising Airmar's expertise as the world's leading sonic manufacturer, The PB100 is based on highly successful, proven ultrasonic technology. Ideal for applications that demand economic wind sensing, the PB100 instrument is suitable for land-based and marine environments.

A lightweight unit, the instrument is of a robust, high strength construction, designed to withstand installation and use with no fear of the damage commonly experienced with the more fragile cups, vanes or propellers. Without the need for expensive on-site calibration or maintenance and with a corrosion free exterior, PB100 is a true fit and forget unit.

### **SENSOR FEATURES**

- **Wind Speed**
- **Wind Direction**
- **Barometer**
- **Air Temperature**
- **Relative Humidity**
- **GPS Position**
- **Pitch & Roll**
- **Magnetic Compass**



# **OHMEX**

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

[www.echo-sounder.com](http://www.echo-sounder.com)

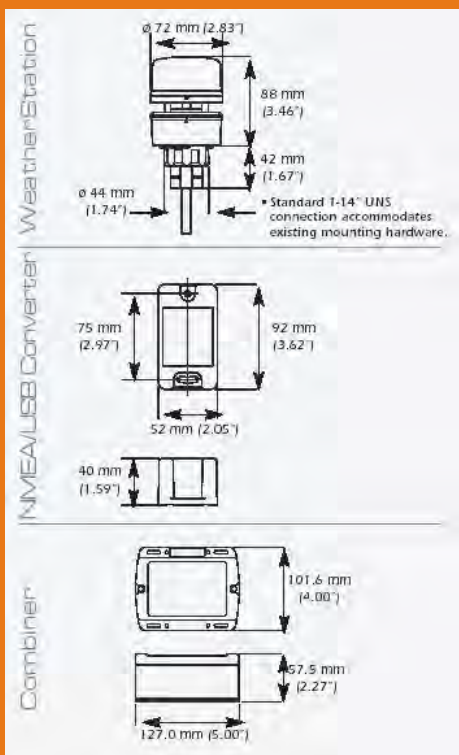
Wind Speed Range	0.5 to 99.5 knots (0.6 to 114.5 MPH)	Compass Sensing	±1° typically
Wind Speed Resolution	0.1 knot (0.1 MPH)	Barometric Pressure Range	850 mb to 1150 mb (25" to 34" Hg)
Wind Direction Resolution	1°	Barometric Pressure Accuracy	±1.5%
Wind Direction Sensitivity	±1.5°	Relative Humidity Range	10% to 95% RH
Temperature Range	-30°C to 50°C (-22°F to 122°F)	Relative Humidity Accuracy	±4% RH
Temperature Accuracy	±1.5°C (±2.7°F) @ 2 Knots (2.3 MPH) wind	Supply Voltage	10 VDC to 16 VDC
		Weight	285 grams (0.6 lb)
		Thread Size	1-14" UNS (Unified National Standard)

\*Below 0°C (32°F), the accuracy of WeatherStation readings may be degraded.

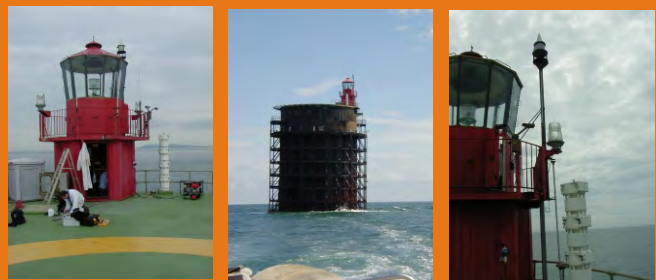
## SENSOR SPECIFICATIONS



## Standalone PC version



The concept behind EDAS is to provide Environmental Data collection systems using distributed computer processing and saving the results in a standard database format thus making use of modern computer networking technology. The PB100 is supplied with a driver program to interface the environmental data to the EDAS software package. Alternatively the sensor can be used with the standard WeatherCaster display software supplied with the package which emulates ships panel displays (requires NMEA interface box).



## COMPONENT DIMENSIONS

Ohmex is a company formed to manufacture and distribute products designed by L.M.Technical Services. This company established in 1982 was founded on technological innovation and design. The company prides itself on being the first to produce products in the field of instrumentation and software used within the Earth Science sectors. Achievements to date include DGM, the first digital ground modeling software to run a standard PC, SONARLITE, the first truly portable echo sounder, TIDALITE the first portable Tide Gauge, EDAS, Integrated tide and weather networked software for use by ports and harbours. WinSTRUMENTATION - The integration of Instrumentation, Wireless networks and modern portable computer equipment.



# OHMEX

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

# WeatherStation® Instruments

## LB150



## PB150



## PB200



### Accurate weather monitoring of all your land based applications

- True wind speed and direction
- Apparent wind speed and direction
- Barometric pressure
- Air temperature
- Wind chill temperature
- Heat index temperature
- Relative humidity
- Dew point temperature
  
- Measures wind speed and direction ultrasonically
- Wind calibration traceable to NIST
- Internal WAAS GPS
- Two-axis solid-state compass
- Three-axis accelerometer provides pitch and roll information
- RS485 and NMEA 0183 output
- WeatherCaster™ Software
- Very easy installation and two-year warranty
- Maintenance-free operation—no moving parts
- Applications—Environmental monitoring

### Your all-in-one recreational marine weather solution

- True wind speed and direction
- Apparent wind speed and direction
- Barometric pressure
- Air temperature
- Wind chill temperature
  
- Measures wind speed and direction ultrasonically
- Wind calibration traceable to NIST
- Internal WAAS GPS
- Two-axis solid-state compass
- Three-axis accelerometer provides pitch and roll information
- NMEA 0183 output
- WeatherCaster™ Software
- Very easy installation and two-year warranty
- Maintenance-free operation—no moving parts
- Applications—Recreational powerboats

### Precise marine data you need—Wind, Weather, Heading, and Navigation

- True wind speed and direction
- Apparent wind speed and direction
- Barometric pressure
- Air temperature
- Wind chill temperature
  
- Measures wind speed and direction ultrasonically
- Wind calibration traceable to NIST
- Internal WAAS GPS
- Three-axis solid-state compass
- Three-axis accelerometer provides pitch and roll information
- Outputs both NMEA 0183 and NMEA 2000®
- WeatherCaster™ Software
- Better than 1° compass accuracy in static conditions
- Best-in-class 2° compass accuracy in dynamic conditions
- Yaw rate gyro provides rate-of-turn data
- Very easy installation and two-year warranty
- Maintenance-free operation—no moving parts
- Applications—Large powerboats and commercial vessels

### WeatherCaster™ Software

- Your own personal weatherman on your PC
- Analog and digital weather information
- Easy-to-use and customize
- Plug and play connectivity



FUNCTIONS	SPECIFICATIONS			LB150	PB150	PB200
Wind Speed Range	▪0 knots to 80 knots	▪0 MPH to 92 MPH	▪0 m/s to 40 m/s	●	●	●
Wind Speed Resolution	▪0.1 knot	▪0.1 MPH	▪0.1 m/s	●	●	●
Wind Speed Accuracy @ 0°C to 55°C (32°F to 131°F), No Precipitation**	<b>Low Wind Speeds</b> ▪0 knots to 10 knots ; ±1 knot +10% of reading ▪0 MPH to 11.5 MPH ; ±1.1 MPH +10% of reading ▪0 m/s to 5 m/s; ±0.5 m/s +10% of reading <b>High Wind Speeds</b> ▪10 knots to 80 knots; ±2 knots or 5% RMS, whichever is greater ▪11.5 MPH to 92 MPH; ±2.3 MPH or 5% RMS, whichever is greater ▪5 m/s to 40 m/s; ±1 m/s or 5% RMS, whichever is greater			●	●	●
Wind Speed Accuracy in Wet Conditions**	▪5 knots RMS	▪5.7 MPH RMS	▪2.5 m/s RMS	●	●	●
Wind Direction Range	0° to 360°			●	●	●
Wind Direction Resolution	0.1°			●	●	●
Wind Direction Accuracy @ 0°C to 55°C (32°F to 131°F), No Precipitation**	<b>Low Wind Speeds (6° RMS typical)</b>			●	●	●
	▪4 knots to 10 knots	▪4.6 MPH to 11.5 MPH	▪2 m/s to 5 m/s			
	<b>High Wind Speeds (3° RMS typical)</b>					
	▪>10 knots	▪>11.5 MPH	▪>5 m/s			
Wind Direction Accuracy in Wet Conditions (8° RMS typical) **	▪>8 knots	▪>9.2 MPH	▪>4 m/s	●	●	●
Compass Accuracy	See Model Information			1° RMS when level	1° RMS when level	▪1° RMS when level ▪2° RMS for pitch and roll angles up to 30° ▪3° RMS for pitch and roll angles up to 45°
Air Temperature Range	-25°C to 55°C (-13°F to 131°F)			●	●	●
Air Temperature Resolution	0.1°C (0.1°F)			●	●	●
Air Temperature Accuracy—±1°C (±1.8°F)*	▪>4 knots wind	▪>4.6 MPH wind	▪>2 m/s wind	●	●	●
Barometric Pressure Range	850 mbar to 1150 mbar (25 inHg to 34 inHg, 850 hPa to 1150 hPa)			●	●	●
Barometric Pressure Resolution	1.1 mbar (0.032 inHg, 1.1 hPa)			●	●	●
Barometric Pressure Accuracy	±20 mbar (±0.59 inHg, ±20 hPa) when altitude correction is available			●	●	●
Relative Humidity Range	See Model Information			10% to 95% RH	N/A	N/A
Relative Humidity Accuracy*	See Model Information			±4% units RH	N/A	N/A
Operating Temperature Range	-25°C to 55°C (-13°F to 131°F)			●	●	●
Supply Voltage	9 VDC to 16 VDC			●	●	●
Weight	285 grams (0.7 lb)			●	●	●
Supply Current	See Model Information			<150 mA	<150 mA	<220 mA
Sensor Baud Rate (NMEA 0183 Only)	4,800 bps (can be increased to 38,400 bps with a command)			●	●	●
NMEA 2000® Load Equivalency Number (LEN)	See Model Information			N/A	N/A	5
Thread Size on Base	See Model Information			1"-14 UNS and 3/4" NPT	1"-14 UNS standard marine mount	1"-14 UNS standard marine mount
Certifications and Standards	See Model Information			CE, RoHS	CE, RoHS	CE, IPX6, RoHS, IEC60945

\*When the wind speed is less than 4 knots (4.6 MPH) and/or air temperature is below 0°C (32°F), wind and temperature will be less accurate  
 \*\*Wet conditions include moisture, rain, frost, dew, snow, ice and/or sea spray in the wind channel

RMS—Root Mean Square  
 Humidity and temperature readings compared to Vaisala™ Instruments



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