



Planet Ocean Ltd

The surest measure of a changing world

# METBUOY METEOROLOGICAL MONITORING BUOY



Minibuoy

MetBuoy is designed to acquire, store and display meteorological data from buoy mounted platforms in ports & harbours, lakes, reservoirs, coastal or open ocean locations. The system can also be provided as a traditional land, jetty or building based system, or for installation on ships of opportunity (AVOS).

The system can utilise a variety of sensors to provide basic wind speed and direction data for use in wind farm studies, or self contained sensors which provide measurements of wind speed, direction, air temperature, air pressure, relative humidity and rainfall intensity.



The system can be deployed on our full range of buoy platforms from MiniBuoy through to our DB-300 3.0m diameter open ocean buoys, and uses our DBT-3 telemetry system for UHF, GPRS or Iridium data telemetry.

The DBT-3 telemetry module, controls sensors to acquire met data according to internationally approved methodology. An internal reference compass corrects for buoy heading. Data are stored on board for data download and post processing if required, and transmitted ashore using a choice of telemetry modules, which can be linked directly to our web based display and control software, or integrated into larger data presentation systems such as the Ocean Wise Port-Log system.



Powered by TRISKEL Marine, data telemetry modules.



**SPECIFICATIONS:**



**Gill WindSonic Sensor:**

Ultrasonic Output Rate	0.25, 0.5, 1, 2, 4 Hz
Wind Speed	0-60 m/s
Wind Direction Range	0 to 359° (no dead band)
Operating Temperature	-35°C to +70°C
Moisture Protection	IP65



**Vaisala WXT-520 sensor:**

Wind speed	
Speed	
Measurement range	0 ... 60 m/s
Accuracy	
0 ... 35 m/s	±0.3 m/s or ±3%, whichever is greater
36 ... 60 m/s	±5%
Direction Measurement range	0 ... 360°
Accuracy	±3°
Response time	251 ms
Liquid precipitation	
Rainfall	cumulative accumulation after latest automatic or manual reset
output resolution	0.01 mm, 0.001 inches
accuracy	5%*
Rainfall duration	counting each ten-second increment when droplet detected
output resolution	10 s
Rain intensity	one-minute running average in ten-second steps
range	0 ... 200 mm/h (broader range with reduced accuracy)
output resolution	0.1 mm/h, 0.01 inches/h
Barometric pressure	
Measurement range	600 ... 1100 hPa
Accuracy	±0.5 hPa at 0 ... 30 °C (+32 ... +86 °F) ±1 hPa at -52 ... +60 °C (-60 ... +140 °F)
Air temperature	
Measurement range	-52 ... +60 °C (-60 ... +140 °F)
Accuracy at +20 °C (+68 °F)	±0.3 °C (±0.5 °F)
Relative humidity	
Measurement range	0 ... 100 %RH
Accuracy	±3 %RH within 0 ... 90 %RH ±5 %RH within 90 ... 100 %RH

*Due to the nature of the phenomenon, deviations caused by spatial variations may exist in precipitation readings, especially in short time scale and especially on floating platforms. Rainfall measurements should be treated with caution and may be disabled at the web interface if required. The accuracy specification does not include possible wind induced error.*



**Wind Speed Range:**

0 knots to 80 knots

Wind Speed Accuracy @ 0°C to 55°C no precipitation\*:

— Low Wind Speeds:

0 knots to 10 knots RMS error of 1 knot (1.1 MPH) +10% of reading

— High Wind Speeds:

10 knots to 80 knots; RMS error of 2 knots (2.3 MPH) or 5% RMS,

Wind Speed Accuracy in wet conditions\*\*:

5 knots RMS

Wind Direction Range:

0° to 360°

Wind Direction Resolution:

0.1°

Wind Direction Accuracy @ 0°C to 55° no precipitation\*:

— Low Wind Speeds:

4 knots to 10 knots 5° RMS typical

— High Wind Speeds:

>10 knots 2° RMS typical

Wind Direction Accuracy in wet conditions\*\*:

>8 knots 8° RMS typical

Compass Accuracy:

1° static heading accuracy 2° dynamic heading accuracy

Air Temperature Range:

-25°C to 55°C

Air Temperature Accuracy:

±1 °C @ >4 knots wind

Barometric Pressure Range:

850 mbar to 1150 mbar (25 inHg to 34 inHg, 850 hPa to 1150 hPa)

Barometric Pressure Accuracy:

±2 mbar (±0.059 inHg, ±2 hPa)