



## Automated Buoy Weather Station

The Down East Instrumentation Automated Buoy Weather Station (ABWS) is a complete, turnkey meteorological sensor package designed and built specifically for coastal and deep ocean buoy systems.

Utilizing proven industry standard atmospheric sensors, a low power OEM data logger/controller and tried and tested production techniques, it is ideally suited as a stand-alone, add-on sub-module for today's suite of instrumented, automated buoy systems.

With up to 19 analog input channels available, the Station can interface to many of today's available sensors providing literally hundreds of combinations and configurations. Each system is individually configured as per customer requirements. All that is required from the user is a supply of DC power and connection to the buoy host, which is via a simple, RS-232 serial interface. Alternatively, with up to 2 MB of Flash data storage capacity, the Station can assume buoy host capability and interface with other buoy mounted sensors such as sea surface temperature and conductivity. Then, utilizing one of it's RS-232 ports, connect to a telemetry sub-module for transmission of the collected data to shore, essentially providing all of the functionality required for real-time oceanographic and atmospheric monitoring.



*Tower section of a Down East MET Buoy showing sensors & watertight electronics enclosure.*

Despite all of the ABWS's features and capabilities, the system is extremely cost-effective. This is due to the vast experience that has been collected over the years in what does and does not work in the harsh ocean environment. Materials and sensors have been hand picked to ensure system reliability, durability and minimal maintenance.

### Features

- All watertight construction
- Low power – typically 50 uA in Sleep Mode
- Up to 2 MB Flash data storage capacity
- Up to 19 total analog input channels, 12-bit resolution
- 16 I/O digital lines
- 2 ea. RS-232 serial ports
- Real Time Clock (RTC)
- 6 – 18 V input power range

The basic system consists of: Stainless shrouded Air Temperature probe, Ultrasonic Wind Sensor w/ Fluxgate Compass, Barometric Pressure & Relative Humidity Sensors. Please contact Down East Inst. for pricing.

Additionally, Down East can provide clients with a complete, full-feature meteorological buoy system, ready for deployment. Please contact us for details.

### Down East Instrumentation, LLC profile

Down East Instrumentation, LLC is an oceanographic and pharmaceutical instrument systems design and integration consulting firm specializing in the design and fabrication of instrumented, automated buoys and platforms. Formed in 2002, the engineers at Down East have over 20 years of experience in the field of marine science technology. Our office is located near Raleigh, NC and in close proximity to the Research Triangle Park. We can be reached at 919-618-0265 and at [jeff@downeastinst.com](mailto:jeff@downeastinst.com). Please visit our website at [www.downeastinst.com](http://www.downeastinst.com).



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### **Technical Specifications**

	<i>Type</i>	<i>Manufacturer</i>	<i>Resolution</i>	<i>Range</i>	<i>Accuracy</i>
<i>Wind Speed</i>	Ultrasonic	Gill	0.01 m/sec	0 – 60 m/sec	+/- 2%
<i>Wind Direction</i>	Ultrasonic/ Fluxgate	Gill/ KVH	1 deg.	0 – 359 deg.	+/- 3 deg.
<i>Air Temperature</i>	Thermistor	YSI	0.01 deg. C	-55 – 70 deg. C	+/- 0.1 deg. C
<i>Relative Humidity</i>	Capacitance	Vaisala	0.1 %	0 – 100 %	+/- 2%
<i>Barometric Pressure</i>	Capacitance	Vaisala	0.1 hPa	800 – 1100 hPa	+/- 0.3 hPa