



BRIGHTWATERS

Instrument Corporation

PRODUCT LINE

LAGRANGIAN DRIFTING BUOYS

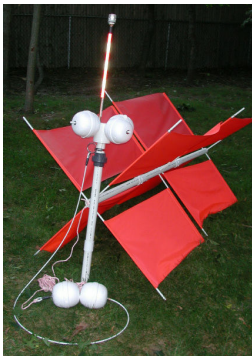
All these drifters are designed to be reused multiple times and can be maintained by the end user. Sampling setup is easily changed. Drifters can be field-converted between Davis/CODE surface-following and deep drogued configurations. Mesh sock, cross, and other drogue styles available. Real time tracking software is included with all GPS/Argos drifters.



121 GPS/Iridium drifter



115 GPS/Argos drifter Davis/CODE rigged



106D lighted drifter deep drogue rigged



123 uninstrumented drifter

HIGH PERFORMANCE

These drifters feature robust expansion capability, with many possible custom configurations and sensor payloads. Standard hull for classic Davis/CODE

1 x 1 meter form factor and maximum deployment endurance. Mini hull for shallow environments, for minimizing surface drag when using deep drogues, and for shorter deployments.

Model 121 GPS/Iridium drifter – SBAS DGPS positioning accurate to better than 3 meters 2DRMS. Iridium satellite telemetry with typical transmission latency less than 2 minutes. Bidirectional communication allows reconfiguration after deployment, enabling the same deployment to serve multiple missions or adapt sampling based on changing conditions. Data delivered to end user using email, web browser, or ftp.

Model 104 GPS/Argos drifter – SBAS DGPS positioning and Argos-2 telemetry. Over 1000 positions per day can be recorded in internal memory. Argos-3 bidirectional communications option allows reconfiguration after deployment and greater telemetry capacity.

ECONOMICAL

Model 115 GPS/Argos drifter. Telemeters an even time series of GPS positions using the Argos-2 satellite network. At mid latitudes 48-96 positions per day can be telemetered at a position accuracy of 18 meters. Sea surface temperature is available as an option. The Model 115 can be upgraded to the higher performance Model 104.

Model 110 Argos Drifter. Two physical configurations: flexible design field-converts between surface and deep drogue or high endurance design with purpose built deep drogue. Three data/sensor options: Argos position only, position and sensor data, or position and even time series of sensor data.

Low cost CT sensor option for Models 121, 104, 115, and 110. Fouling resistant inductive design. Individually calibrated sensors. Typical accuracy 0.05 C, 0.05 mmho/cm. Resolution 0.01 C, 0.01 mmho/cm.

EXTREME LOW COST

Drifters designed to be monitored and tracked by personnel in small boats using handheld GPS. Useful when budgets are minimal and for work in areas where the risk of pilferage is high.

Model 106D lighted drifter. High intensity LED light with horizontal focusing lens, configured as a surface or deep drifter. Programmable flash patterns assist in distinguishing between closely spaced equipment.

Model 123 uninstrumented drifter. Surface or deep drifter with retroreflective witness staff.



121 mini hull, mini hull with CT sensor, standard hull.



104 GPS/Argos drifter deep drogue rigged



104 drifter with 24 sensor channels



110 Argos drifter

EQUIPMENT MARKER BEACONS



113 Argos beacon with flotation option

Model 117 GPS mooring monitor. GPS monitors surface marker location, transmits alarm and position time series through Iridium or Argos if equipment moves outside watch box. Periodic status transmissions confirm proper operation. Options include low-profile heavy duty case, submersible case, freeboard alarm, external sensor and status inputs, and external watchdog input.

Model 113 submersible Argos beacon. Argos locator beacon submersible to 200 meters with adjustable pressure cutoff. Flotation option makes the beacon free floating and self-orienting so it can be attached to the top of a mooring using a tagline. ABS case option for low temperature environments.

HYDROGRAPHIC INSTRUMENTS



112 C/T recorder

Model 112 C/T recorder. An autonomous conductivity/salinity and temperature recorder. Optional pressure sensor allows use as a pressure tide gauge.

Model 118 salinity buoy. A hand deployable moored buoy with single or dual channel temperature / salinity sensors and time series telemetry through Argos.



117 GPS mooring monitor with Argos telemetry

MARKER LIGHTS



116 wireless Internet data station

Model 106LED smart marker light. High intensity amber LED light with horizontal focusing lens and 2 mile visibility. Programmable flash patterns assist in distinguishing between closely spaced equipment. Light color and rhythm conform to “special marks” as defined by the Maritime Buoyage system of the International Association of Lighthouse Authorities. Standard 106LED optimized for drifting buoys (minimal windage), options include remote head, flexible neck, and external power.

DATA SYSTEMS

No compromise on sensor selection – we adapt your favorite or existing sensors or instruments into turnkey real time data systems. Harvest and archive data, automatically correct instrument clocks. Report using intranet, Internet, and Computer Telephony. Text message and email trouble notification, remote system administration. Telemetry using packet radio, satellite, telephone, wired and wireless Internet. Sensors supported include waves, tides, weather, currents, salinity, webcams, and others.

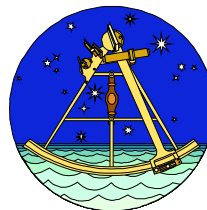


117 with low-profile heavy duty case

Custom design and manufacturing. “Let us be your engineering department.” Design services, private label manufacturing, full custom design and fabrication in quantities from singles to hundreds. Production of submerged, free-drifting, moored, shipboard, and land-based systems. Technologies we are expert at include:

- GPS and DGPS positioning.
- Telemetry including satellite, 3G and 4G wireless Internet, Ethernet, Wi-Fi, and VHF/UHF packet radio.
- Hydrographic and atmospheric sensors and interfaces: temperature, salinity, oxygen, tide, current (mechanical, electromagnetic, and Doppler instruments), waves, wind, etc.
- Real time data acquisition systems, data distribution by Web/Internet.
- Micropower computers and electronics.

Brightwaters Instrument Corporation has supplied affordable semicustom and full custom scientific and oceanographic equipment to governments, universities, and the private sector since 1990.



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