

Turbulence Module for Profiling Floats



RocklandScientific.com

The **FloatRider** is a sensor package designed to integrate onto profiling floats, providing **persistent direct measurements of micro-scale turbulence** autonomously. The **FloatRider** allows scientists to capture accurate microstructure turbulence data in the upper 2000 m of the ocean, even under challenging conditions. When combined with Rockland's onboard data processing, these floats can deliver **near real-time band averaged spectra**. Compact and easy to integrate, the **FloatRider** is an essential tool for advancing oceanographic research.



230 mW

Low power

Designed for profiling float mission duration.



256 Hz

Fast sample rate

Optional rates up to 512Hz.



Onboard
processing

Band-averaged spectra

Provides for low bandwidth telemetry of turbulence spectra.



2000 m

Depth rating

Typical profiling float depth.

FloatRider

Microstructure Sensor Module



APPLICATIONS

The FloatRider is an ideal solution for studying ocean mixing, ocean-atmosphere interactions, heat transfer and fluxes of energy, oxygen and nutrients, providing insights into processes related to global climate change. As the FloatRider is integrated on profiling floats, it can be paired with a suite of other sensors, including multiple biogeochemical parameters to better understand those variables more directly. Deploying turbulence sensors on floats provides direct and cost-effective measurements of mixing at better spatial and temporal resolutions; not many platforms can measure in these depths. As mixing and heat flux are crucial to understanding climate change, using the FloatRider on profiling floats is a powerful solution for persistent measurements.

GENERAL SPECIFICATIONS

Length (overall)	356 mm
Weight in air (water)	0.8 kg (0.34 kg)
Depth rating	2 000 m
Sampling rate	256 Hz microstructure Optional 512 Hz sampling
Power	Supply 7– 15 VDC 0.22–0.23 W at 10V
Communication	RS-232

CONFIGURATIONS

Standard Sensors	2x microstructure probes* Micro-temperature + Micro-temperature
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The FloatRider is only available through commercial float manufacturers.

** Shear probe configuration available, contact Rockland directly.*

SENSOR SPECIFICATIONS

All specifications subject to change without notice

	Range	Accuracy	Resolution
FP07 micro-temperature	-5 – 35 °C	0.005 °C	10 ⁻⁵ °C

