



BIOSHUTTER II

The Bioshutter II is an autonomous underwater shutter attachment designed for use with Satlantic optical instruments. The primary purpose of the shutter is to prevent marine biofouling of the sensor optics in moored, time-series applications. Copper, and copper-based alloys, has long been known to have good resistance against bio fouling and have been used in a diverse variety of commercial applications. Scientists working at the University of California Santa Barbara Ocean Physics Lab under the auspices of the National Ocean Partnership Programs' (NOPP) Ocean-Systems for Chemical, Optical, and Physical Experiments (O-SCOPE) project developed an underwater shutter device for use with instruments such as Satlantic's OCR-500 and HyperOCR series instruments. The Satlantic Bioshutter II device builds upon the success of this instrument by combining an innovative copper shutter and an input power controlled motor drive assembly to ensure robust operation in harsh marine environments.



Picture: Derek Manov, UCSB/OPL

Features:

- Restricts marine growth on sensor optics in moored applications
- Robust mechanical design
- Completely autonomous - only external power required
- Simple operation – opens when power is applied, closes when power is removed
- Fast operation – 4 seconds to open, 6 seconds to close (typical)
- Low current consumption (1 mAh to open shutter; 0.16 W thereafter)
- Wide operating voltage range (10 - 20 VDC)
- Input fused and protected against reverse and over-voltages
- User-selectable 180 degree (default) or 90 degree shutter movement
- Available with clockwise (default) or counter-clockwise shutter motion
- Currently available for use with Satlantic OCR-500, OCR-200, and HyperOCR series instruments



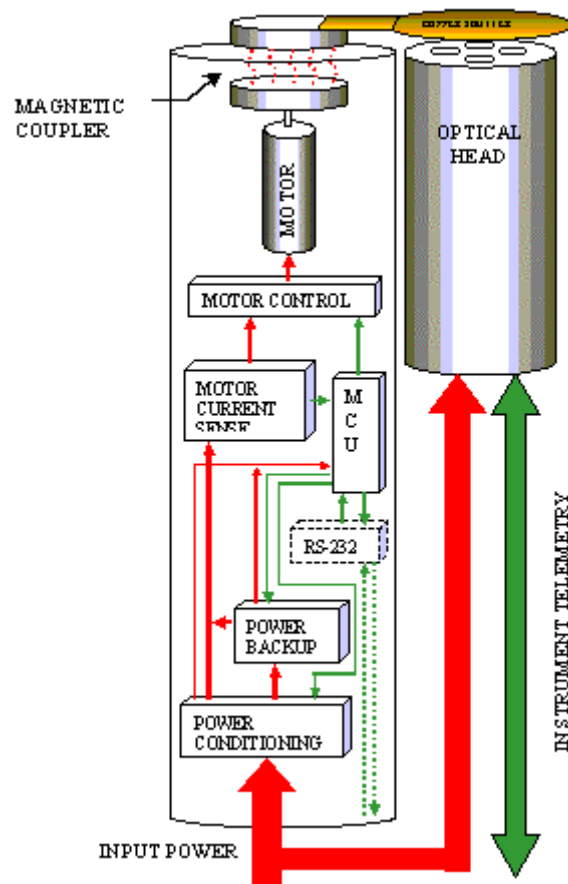
For additional information about the BioShutter II, please contact info@satlantic.com or visit www.satlantic.com.



BIOSHUTTER SPECIFICATIONS

The operation of the Bioshutter II follows a very simple power-cycle loop. When deployed, the copper shutter remains in the closed position, directly over the optical sensor in order to prohibit biofouling of the sensor optics. When power is applied to the device, the Bioshutter II opens the shutter and enters a low power sleep. The shutter remains in the open position as long as power is supplied. When power is removed, the shutter closes. When power is reapplied, the cycle repeats.

This mode of operation is well suited to moored applications, as it allows the Bioshutter II to operate independent of the acquisition schedule. The mooring controller does not have to be programmed to control the Bioshutter II, as long as adequate time is allowed to charge the internal power supply (~30s).



*Specifications may change without notice.
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