

QwikLite 200

BIOSENSOR SYSTEM

The revolutionary use of a responsive aquatic organism and sensitive optics in electronic instrumentation to quantify toxicity in water and sediment samples.

Applications

The QwikLite®200 Biosensor System provides fast, quantifiable results at a fraction of the cost of traditional biological tests. The instrument is ideal for many applications in the environmental and manufacturing markets. With faster, less expensive and more automated equipment, results can be analyzed in a fraction of the time. Applications include:

- Detection of Ecological Effects Along Public Waterways
- Baseline Measurements: Characterization and Classification of Bodies of Water
- Nonpoint Source Effects Identification
- Classification of Sediment Dredge Material
- Detection of Contaminants in Sediments
- Toxicity Reduction and Evaluation
- Characterization of Manufacturing or Discharged Effluent



Biosensors

bī'ō-sĕn'sər

1. A device that detects, records, and transmits information regarding a physiological change or process.
2. A device that uses biological materials to monitor the presence of various chemicals in a substance.



QwikLite 200 Biosensor

The use of biosensors improves our understanding of environmental status and adverse conditions.

The QwikLite®200 Biosensor uses disposable test kits containing sensitive bioluminescent plankton along with an automated, electronic, instrument to rapidly and accurately measure the amount of chemical analytes or contaminants present in a water or sediment sample. Effected by the contaminants present, plankton generate a measurable light signal. The magnitude of the signal indicates the degree of contamination. Researchers can use this valuable information to prescribe additional measurements, define a specific course of action, or validate the effects of remediation methods.

Advantages over methods, include:

- Can help indicate adverse events sooner,
- Reveal the accumulation of minute levels of chemical analytes or contaminants, and
- Provide superior standardized results, more efficiently, more accurately, and at a lower cost.

Applications include:

- Broad baseline tests and subsequent comparisons, and
- Precise determination of lethal or sublethal concentrations of samples via a bioassay that is a marked improvement over conventional practices.

The Aquatic Research Organism

Pyrocystis lunula

Dinoflagellates can be characterized as microscopic organisms or marine phytoplankton that reside at the surface of the ocean. Neither plant nor animal, many dinoflagellates are unicellular and exhibit a great diversity of form including the following characteristics:

They are planktonic. 90% of all dinoflagellates are marine plankton, which passively float, drift or aggregate in a body of water, primarily comprising microscopic algae and protozoa.

They are small. Most dinoflagellates are microscope and range from 15 to 40 microns in size.

Many are photosynthetic. They manufacture their own food using the energy from sunlight, and provide a food source for other organisms.

Some dinoflagellates are bioluminescent, capable of producing their own visible light. This light is emitted when they are agitated or disturbed. Dinoflagellates are the most common source of bioluminescence at the surface of the ocean.



This photograph used with permission from UTEX.

Pyrocystis lunula is a crescent or half-moon shaped dinoflagellate species that belongs to the oceanic plankton of tropical and subtropical seas. It is single-celled and reproduces asexually. This species is non-toxic, easily available, hardy, and grows well at room temperature.

Specifications

Dimensions

Weight: 10 lbs (4.5 kg)
Dimensions: 8" W x 8.15" D x 8.05" H
(203.2mm x 207mm x 204.5mm)

Operating Temperature In

17°C (62.6°F) and 27°C (80.6°F)
(optimal for dinoflagellates)

Operating Humidity

80% relative humidity, non-condensing, maximum

Storage Requirements

Electronics can handle -4°F to 158°F (-20 to +70°C).
Enclosure components, epoxy in the enclosure/
optics area may have smaller range.

Storage Humidity

90% relative humidity, non-condensing, maximum

Data Storage

5,000+ tests

Data Export Capability

Power

Voltage: 12V DC
Current: 0.3A Max
Connector: DC Barrel connector 2.5 x 6.5mm

USB Interface

USB 2.0 Standard foot

Type-B connector

Display

320 x 240 resolution. 65K colors
Touch sensitive

Accessories included

- Universal power supply, 100 to 240V, 47/63Hz, with plug adapters for EU, GB, US, China
- USB Cable , A to B, 6' (1.8m) length

Features and Benefits

- **Responsive:** sensitive phytoplankton (dinoflagellates), shorten test times
- **Quantified:** biological adverse effects measured and displayed
- **Wide Range of Applications:** freshwater, saltwater, sediments
- **Cost Effective:** a fraction of the cost of existing methods
- **Easy to Use Test Kits:** packaged, convenient and low maintenance species
- **Semi-Automated Operation:** step by step biological testing procedures built in
- **Stores Thousands of Tests:** files transferred via USB to PC or flash drive
- **Faster:** 24-hour exposure time compared to several days for test results



Ordering Information

All Necessary Supplies are Available from Assure Controls

QL200 QwikLite® 200 Biosensor System

Included:

- Universal power supply, 100 to 240V, 47/36Hz, with plug adapters for EU, GB , US, China
- USB Cable



Disposable Test Kits

DTK-100-101 Disposable Endpoint Test Kit

The Disposable Endpoint Test Kit is useful for determining variables of a single sample compared with one control. Purchase multiple kits for public waterway assessments, each sample is dosed into six replicates per cartridge.

- 6 Recyclable Cartridges
- 6 QwikCovers
- 36 cuvettes filled with .5mL *Pyrocystis lunula*



DTK-100-102 Disposable Screening Test Kit

The Disposable Screening Test Kit is used to compare one sample at two different concentrations with a control.

- 3 Recyclable Cartridges
- 3 QwikCovers
- 36 Cuvettes filled with .5mL *Pyrocystis lunula*



DTK-100-103 Disposable Rapid Sample Test Kit

Use the Disposable Rapid Sample Test Kit to refill your existing cartridges for continued sampling and flexibility with a number of replicates.

- 36 cuvettes filled with .5mL *Pyrocystis lunula*



For current price information, technical support, and ordering assistance, contact the Assure controls office or distributor serving your area.

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At Assure Controls, we value the world in which we live. We believe that water quality impacts not only our health but our environment as well. Improving our water resources, improves our world.

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