WISE® Water Infrastructure Sensing Equipment

Introduction

Drinking water systems are vulnerable to chemical spills, pollution, acts of terrorism, system deterioration, natural and manmade disasters.

WISE® is the first integrated system capable of detecting and reporting biological and chemical contamination events ONLINE and in REAL-TIME!

The WISE® systems can be configured to monitor water quality across a broad spectrum of sources and uses, with the greatest flexibility and information management capabilities available.

WISE® systems increase efficiency by improving response time, reducing laboratory costs, and providing significant cuts to operational costs, through process optimization in REAL-TIME and continuous access to water quality data.

The WISE® system integrates industry standard sensors, (temperature, conductivity, ORP/Redox and pH) into a coherent, advanced bio-chemical detection system, providing REAL-TIME monitoring of general water quality parameters as well as rod-shaped bacteria, bacterial endospores and protozoan cysts.

The flexibility of this design allows one system to remotely and effectively monitor both potable and wastewater.

The WISE® hardware / software system can easily be integrated with existing SCADA systems.

Chemical Detection

Using a combination of industry standard sensors integrated to its onboard computer, WISE® detects and reports out-of-parameter conditions, indicating a possible contamination event.

Biological Detection

WISE® analyzes Multi-Angle Laser Light Scattering signals (MALS) to monitor and detect waterborne micro-organisms or other particles. The analysis and classification algorithm utilizes the scattering amplitude and 2D shape of an individual organism / particle that crosses the laser beam.

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Applications

WATER SECURITY

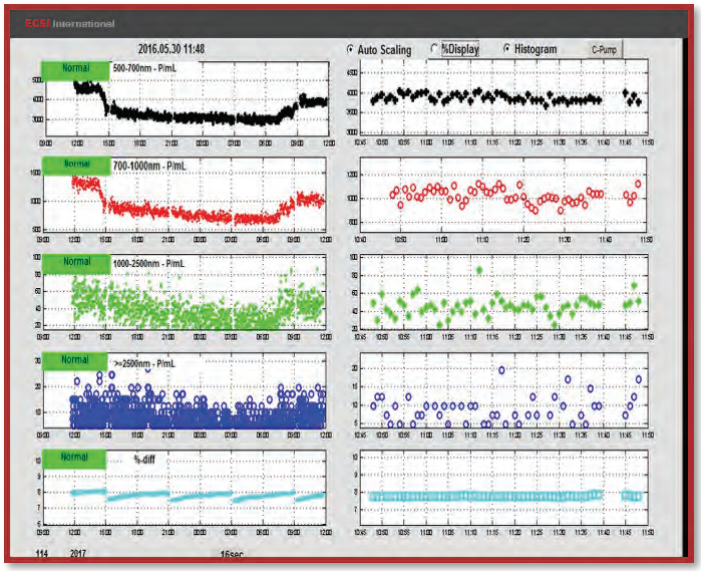
- Monitors water distribution system for contamination
- Provides 24/7 potable water scrutiny for high-profile facility protection
- Early warning situational awareness alerts via messaging to email and SMS in **REAL-TIME**

PROCESS CONTROL

- Collects REAL-TIME data providing baseline water quality levels across treatment protocols
- Detects bio-film shedding and unwanted micro-organisms in water systems
- Monitors / measures micro-biological burden in pure water before use in manufacturing or medical processes

WATER QUALITY

- Provides early contamination warning for potable water after treatment and distribution
- Monitors background flora (heterotrophs) for trends and changes indicating water quality deterioration
- Detects and counts bacteria, endospores, cysts, and other organisms and particulate of 0.5 microns or larger, such as Aspergillus, Cryptosporidium, Legionella, e. Coli, and Citrobacter
- Measures integrity and performance of post filtration in water systems, with sensitivity as low as 10 particles/ml in ultra-pure water.



Benefits / Features

- Continuous REAL-TIME and ONLINE detection of potentially harmful biological or chemical contaminants in water, performing over 1,400 tests per day.
- ***'DETECT TO ALERT'*** - The system detects early signs of water quality deterioration or contamination, allowing for quick remedial action
- WISE® is compatible with existing water instruments and quality processes including SCADA systems
- Low maintenance with automatic cleaning
- Low cost of ownership requiring no consumables or reagents for detection
- Remotely accessible for operation worldwide via web interface
- Provides 24/7 live data of baseline water quality
- US DOD / EPA Tested
- Five (5) year Warranty

Specifications

Communications Interface	TCP/IP (Standard), Wi-Fi (standard), USB 3G Modern (customer supplied), Internal Netbook computer (standard), 1 Channel SCADA (4-20mA) (standard), RS-232 ASCII Data Outpure (Optional)
Power Requirements	Voltage: 115/230 VAC* Current Rating: 5/3 A Frequency: 60/50Hz ***(Must specify voltage upon ordering)**
Computer Specifications	Intel Processor, 1GB Ram, Hard drive XD Pro or higher Windows Operating System
Temperature Range	37-85°F (3-29°C) Ambient Temperature
Unit Dimensions	Bio-chem: 33.1" x 23" x 35" (840 x 584 x 889mm) Bio only: 15" x 17" x 9" (381 x 432 x 229mm)
Unit Weight	Bio-chem: 155 lbs. (70.31 Kg) Bio only: 30 lbs. (13.6 Kg)
Enclosure Material	Steel

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