ALGAE
MONITORING SYSTEM

REAL
ALGAE

REALTECH INC.
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REAL
CONTROLLER

Menu

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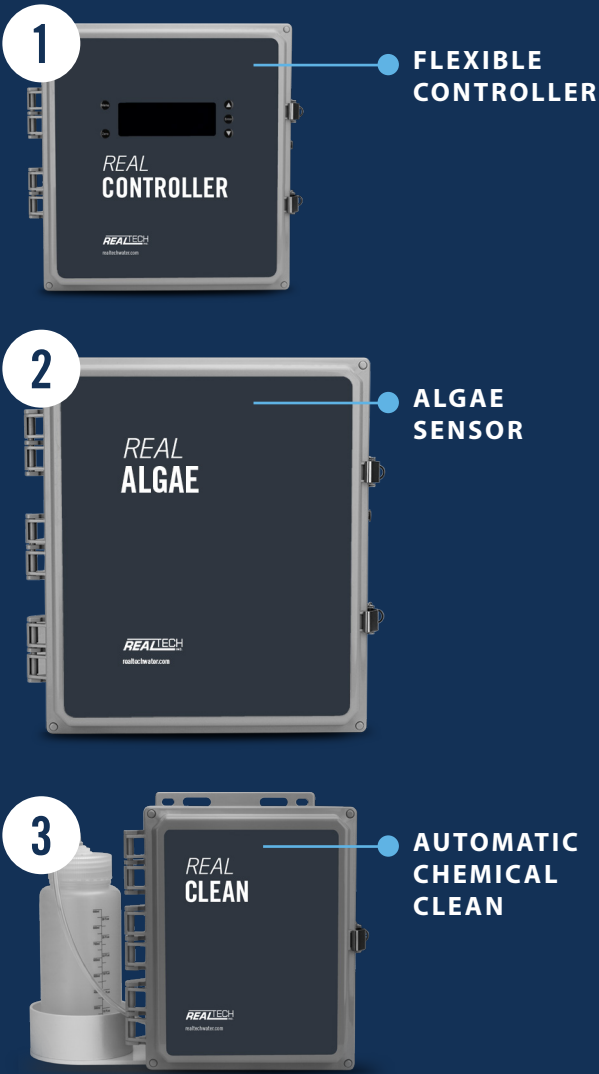Zero

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DRINKING WATER

REALTECH INC.

Early indication of algae in source water is critical to prompt action before the problem becomes unmanageable. Real Tech's Algae monitoring system is an affordable screening tool to monitor and alarm for source water quality changes. Rapid detection at the source leads to better mitigation and management during algae events, enabling treatment plants to avoid intake or proactively prepare for treatment.

Algae Monitoring System

1 FLEXIBLE CONTROLLER

2 ALGAE SENSOR

3 AUTOMATIC CHEMICAL CLEAN

MONITORING SYSTEM FEATURES

- Rapid low cost, real-time screening for algae in source water
- Outputs as algae (cells per mL) or chlorophyll a (µg per L)
- Long life LED light sources
- Automatic chemical cleaning lowers maintenance
- Simple integration with 4-20 mA output
- Available as a panel system providing easy install and operation
- Connects with Real Tech's Liquid Ai services platform

MEASUREMENT PRINCIPLE

The Real Algae sensor utilizes Real Tech's patent pending technology to measure chlorophyll a, a green pigment found in algae and cyanobacteria that has a natural absorbance peak in the visible light spectrum. An increase in absorbance in this distinct region is directly proportional to an increase in chlorophyll a concentration. Additional wavelengths of visible light are used to compensate for interference such as turbidity (particles). The system then uses the chlorophyll a concentration to estimate algae concentration. This quick and simple screening method gives operators an early warning to prompt further investigation.

MONITORING SYSTEM SPECIFICATIONS

CHARACTERISTIC	TECHNICAL DATA
SENSOR	
Path Length	50 mm, 100 mm, 150 mm
Range	Depends on model selected. Refer to range chart on next page
Units	Algae (cells per mL) or Chlorophyll a (µg/L)
Sampling Time	30 seconds
Calibration	Zero to DI water. Factory algae calibration allows field adjustment as required
Cleaning	Automatic chemical cleaning
Self-Diagnostics	Continuous detection of leaks, lamp output, humidity, temperature and electrical fault
Humidity Control	Humidity sensor with large plug-in regeneratable desiccant pack
Wavelengths	Multiple wavelengths
Light Source	LED Lamps
Pressure Rating	20 PSI
Fluid Connections	1/4" tube push in fittings
Flow Rate	300-1000 mL/min
Enclosure	NEMA 4, wall mountable
Weight	24 lb
Dimensions	17.75"H x 15.5"W x 6.75"D
CONTROLLER	
Display	4-line x 20-character backlit LCD with LED indicator
Operator Interface	Five push buttons to control a comprehensive hierarchical menu system
Alarms	Display of sensor specific alarms
Communication	Modbus (RS485), 4-20mA output standard. Optional WiFi, additional 4-20mA, cellular modem
Data Logging	Onboard (6-month nominal configuration dependent). Optional remote data logging. Export data via USB
Electrical	24VDC 13.4A power adapter (accepts 90-250VAC 50/60Hz)
Enclosure	NEMA 4, wall mountable
Weight	8 lb
Dimensions	10.25" H x 10.25"W x 5.5" D
CLEANING	
Clean Frequency	User configurable
Cleaning Capacity	1L storage container, cleaning fluid recapture feature reduces fluid replenishment frequency
Fluid Connections	1/4" tube push in fittings
Enclosure	NEMA 4, wall mountable
Weight	10 lbs.
Dimensions	13.75"H x 16.0"W x 7.5"D
FULL MONITORING SYSTEM	
Storage Temp.	-20 to 60°C (-4 to 140°F)
Operating Temp.	0 to 45°C (32 to 113°F)
Warranty	2-year limited warranty (Extended care packages available)

* Technical Specifications are subject to change without notice.

SYSTEM ORDERING INFORMATION

Each system includes the Real Algae sensor, Real Controller, Real Clean System II and Power supply.

PRODUCT#	ALGAE (cells per mL)	CHLOROPHYLL-A (µg/L)
AL4050-SYSTEM	80,000 - 2,000,000	40 - 1,000
AL4100-SYSTEM	50,000 - 1,000,000	25 - 500
AL4150-SYSTEM	40,000 - 700,000	20 - 340

* Stated ranges are approximate, dependent on industry, site and application - contact Real Tech to confirm model selection.

SYSTEM OPTIONS

PRODUCT #	DESCRIPTION
S-179034	Backboard for system. Sensor, controller and cleaning system pre-mounted, plumbed and wired
S-179035	Backboard with stand for system. Sensor, controller and cleaning system pre-mounted, plumbed and wired

DATA SERVICES

PRODUCT #	DESCRIPTION
Liquid Ai Remote Monitoring	Remote web-based platform for secure access to sensor system information anywhere, anytime. Customizable user dashboards with historical datavisualization, data analytics, system health etc.

* ADDITIONAL WATER QUALITY PARAMETERS CAN BE ADDED TO ANY MONITORING SYSTEM CONFIGURATION. CONTACT REAL TECH FOR MORE INFORMATION.