

ALGAE MONITORING SYSTEM



DRINKING WATER

EARLY WARNING OF HARMFUL ALGAL BLOOMS (HAB)

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



MONITORING SYSTEM FEATURES

- Rapid low cost, real-time screening for algae in source water
- Outputs as algae (cells per mL) or chlorophyll a ($\mu\text{g per L}$)
- 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.

ALGAE

MONITORING SYSTEM SPECIFICATIONS

CHARACTERISTIC	TECHNICAL DATA
SENSOR	
Parameters	Algae or chlorophyll a
Units	Cells per mL or µg/L
Range	Depends on model selected. Refer to range chart on page 4
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
Pressure Rating	20 PSI
Flow Rate	300-1000 mL/min
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
CLEANING	
Clean Frequency	User configurable
Cleaning Capacity	1L storage container, cleaning fluid recapture feature reduces fluid replenishment frequency
FULL MONITORING SYSTEM	
Electrical	24VDC 13.4A power adapter (accepts 90-250VAC 50/60Hz)
Fluid Connections	1/4" tube push in fittings
Enclosures	NEMA 4, wall mountable cabinets
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.

Build your Algae Monitoring System



SELECT AN ALGAE SENSOR

PRODUCT#	ALGAE (cells per mL)	CHLOROPHYLL-A (µg/L)
AL4050	75,000 - 15,000,000	37.5 - 7500
AL4100	40,000 - 8,000,000	20 - 4000
AL4150	30,000 - 6,000,000	15 - 3000

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



REAL CONTROLLER

PRODUCT #	DESCRIPTION
S-169000	Wall mounted controller with 4-line x 20-character back lit LCD display for sensors



REAL CLEAN SYSTEM II

PRODUCT #	DESCRIPTION
UVT-118010	Automatic chemical cleaning system for use with 4000 series sensor models

Additional Selections

BACKBOARD MOUNTING

PRODUCT #	DESCRIPTION
S-179034	Sensor, controller and cleaning system pre-mounted, plumbed and wired to backboard (with stand S-179035)

DATA SERVICE

PRODUCT #	DESCRIPTION
Liquid Ai Remote Monitoring	User friendly, secure web-based platform for remote access to sensor system information anywhere, anytime

Additional water quality parameters can be added to any monitoring system configuration.

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