

WATER QUALITY
MONITORING
SOLUTIONS

PERMANGANATE MONITORING SYSTEM



DRINKING WATER

REALTECH
INC.

PERMANGANATE IN DRINKING WATER

Although permanganate is an effective water treatment aid, residual amounts in treated water can lead to customer complaints. Dosing of permanganate needs to be carefully controlled and regularly adjusted to ensure just enough permanganate is dosed for treatment goals while avoiding residual levels after treatment. The Real Permanganate sensor has a very low detection limit that provides an early warning of overdosing, enabling operators to adjust feed rates well before residual levels reach the threshold of customer complaints.

Permanganate Monitoring System



MONITORING SYSTEM FEATURES

- Continuous monitoring of permanganate levels
- Outputs as permanganate (mg/L or $\mu\text{g/L}$)
- Long life LED light sources
- Automatic chemical cleaning lowers maintenance
- Simple integration with 4-20 mA output
- Available as a panel providing easy install and operation
- Connects with Real Tech's Liquid Ai data services platform

MEASUREMENT PRINCIPLE

The Real Permanganate sensor uses the absorbance of light at multiple key wavelengths to accurately detect permanganate levels, even in the presence of interferences that can affect single wavelength instruments. The sensor also uses a unique long pathlength measurement cell which enables the detection levels and sensitivity required in drinking water applications.

PERMANGANATE

MONITORING SYSTEM SPECIFICATIONS

CHARACTERISTIC	TECHNICAL DATA
SENSOR	
Parameters	Permanganate
Units	mg/L, ug/L, ppm, ppb
Range	Depends on model selected. Refer to range chart on page 4
Sampling Time	30 seconds
Calibration	Zero to DI water. Factory permanganate 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
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
Enclosure	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 Permanganate Monitoring System



SELECT A PERMANGANATE SENSOR

PRODUCT#	PERMANGANATE (mg/L)	PERMANGANATE (µg/L)
PM4025	0.1 - 20	100 - 20,000
PM4050	0.05 - 10	50 - 10,000
PM4100	0.025 - 5	25 - 5,000
PM4150	0.016 - 3.2	16 - 3,200

* 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 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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