



## UV254 ORGANICS MONITOR UV1 with HydroACT Series

### DESCRIPTION

The model **UV1 (UV254) Sensor** brings online continuous organics monitoring to Chemtrac's **HydroACT** family of analyzers. The sensor has a unique dual path length measurement capability that allows it to more accurately monitor natural organic matter (NOM) levels in a flowing sample, and serves as a continuous surrogate measurement for total organic carbon (TOC) in many water treatment applications. UV254 is well suited to detecting the more volatile organics that form into disinfection byproducts (DBPs), making it an excellent tool for monitoring the removal of those organics across the treatment process. The patent pending Ortho-Beam technology provides many significant advantages while maintaining affordability. The sensor's unique ability to automatically detect and compensate for UV lamp fluctuations and quartz fouling, minimizes losses in accuracy over time, and significantly reduces maintenance.

### STANDARD FEATURES

- Online continuous operation
- Ortho-Beam technology
- Measures UV Transmittance and UV Absorbance Values
- 254nm wavelength UV light source

### OPTIONAL FEATURES

- Combine with other HydroACT sensors like SCM, NTU, Chlorine, etc.
- Automatic chemical cleaning system
- Dual sample feed capability

### BENEFITS

- Surrogate measurement for TOC/DOC
- Reduced need for cleaning
- Continuous compensation for lamp drift and cuvette fouling
- No reagents
- Much lower purchase price than other online organics monitors
- Very low maintenance costs

### APPLICATIONS

#### Water Treatment

- Detect changes in coagulant demand
- Monitor organics removal
- Optimize UV disinfection systems
- Monitor potential for disinfection byproducts (DBPs)

#### Distribution System Monitoring

- Detect system contamination

#### Wastewater Treatment

- Monitor effluent discharge



Organics

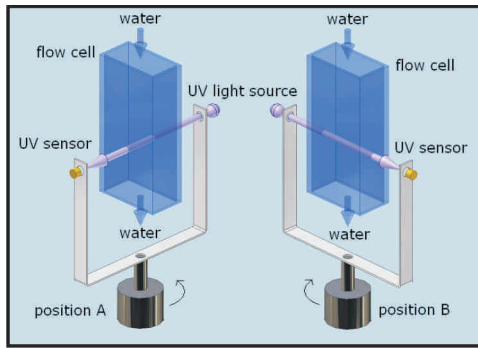
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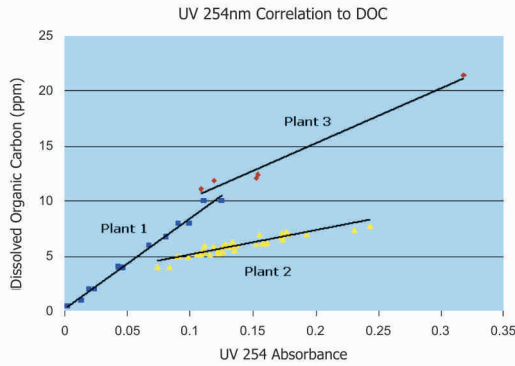
# GENERAL SPECIFICATIONS

## UV254 SENSOR

Range	0 - 100% UVT, 0 - 2 UVA
Readouts	1 Standard, Option for 2
Accuracy	± 0.5% FS
Repeatability	± 0.1% UVT
Resolution	0.1% UVT, 0.001 UVA
Analog Output Type	4-20mA
Units	cm-1
Path Length	1 cm
Sampling Time	10 seconds
Flow Rate	300 - 1000 mL/min.
Calibration	Ortho-Beam technology allows continuous automatic calibration during operation
Cleaning	<ul style="list-style-type: none"> <li>Significantly reduced cleaning requirements due to Ortho-Beam technology</li> <li>Automatic cleaning (optional)</li> </ul>
Self Diagnostics	Continuous detection of leaks, lamp output, humidity, temperature, and electrical fault
Wavelength	253.7 nm
Light Source	Low pressure mercury UV lamp
Lamp Life	2 year expected
Dimensions	14" H x 12" W x 8" D
Enclosure	Nema 4X, wall mountable
Fluid Connections	1/4" tube compression in/out
Electrical	24VDC 20W power adapter (accepts 90-250 VAC 50/60 Hz)
Storage Temp	-4° to 140° F (-20° to 60° C)
Operating Temp	32° to 113° F (0° to 45° C)
Warranty	2 year limited warranty
Options	<ul style="list-style-type: none"> <li>Dual Feed</li> <li>Automatic chemical cleaning</li> <li>Open channel / Non-pressurized pump system</li> </ul>

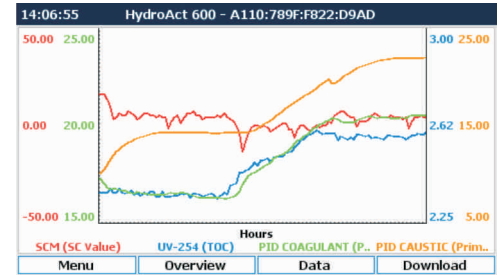


With the Ortho-Beam technology, UV 254 nm measurements are alternately taken at 90 degree angles to each other through a rectangular quartz flow cell by rotating the lamp/sensor fixture back and forth between the two positions. The two UV 254 nm readings indicate the amount of light able to transmit through two different path lengths of the test water. From these two measurements alone, quartz fouling and lamp fluctuations are intrinsically compensated for by the measurement process.

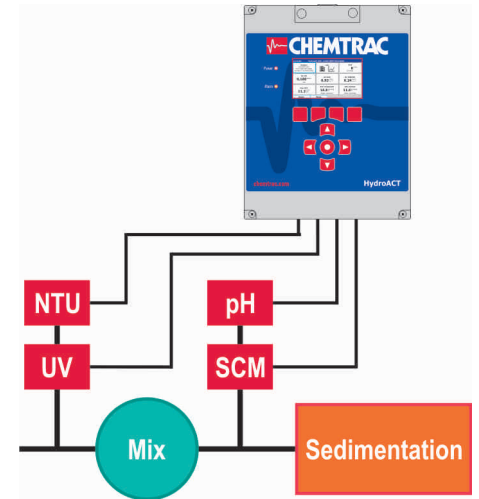


Site-specific correlations can be made between UV 254 and other organic test parameters such as TOC or DOC.

## HydroACT Graph Screenshot



## Installation Diagram



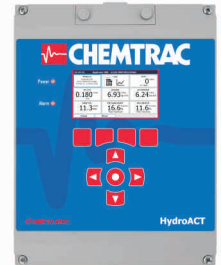
## ANALYZER

### HA2

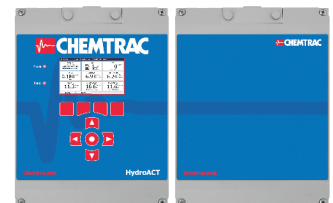
### HA4

### HA8

Power	100-240 VAC / 0.25 A or 12 VDC / 0.8 A (standard) or 24 VDC (optional)		
Display	4.3", 480x272, 8 bit, grayscale	4.3", 480x272, 24 bit, color	
Sensor Inputs	Up to 2	Up to 4	Up to 8
Sensor Options	UV254 organics, SCM, Particle Counter, TSS/NTU, DO, Conductivity Free Cl, Total Cl, Cl Dioxide, Chlorite, Ozone, pH with Temperature, ORP		
External Input (optional)	4-20 mA, 4-20 mA loop-powered, +/- 2000 mV for pH / ORP / ISEs		
Analog Outputs (optional)	Up to 2	Up to 4	Up to 8
	Menu configurable outputs: 4-20 mA (Note: unused sensor inputs can be used as outputs)		
Relays (optional)	Up to 4	Up to 8	Up to 16
	SPST, electromechanical, 380 VAC, 6 A max		
Digital Inputs (optional)	Up to 4	Up to 8	Up to 16
Alarms & Thresholds	2 user-configurable alarms & thresholds with deadband and delay for each parameter and control output		
Control Loops (optional)	Up to 2	Up to 4	Up to 8
Control Types (optional)	High / Low Threshold	PID (with start delay and SP ramping options), feed forward (NTU/UV), flow pacing, high/low threshold, timer	
Communication (optional)	Modbus ASCII/RTU (RS485), Modbus TCP (Ethernet), PROFIBUS DP		
Data & Event Logging	1,000 event / status records stored in internal memory	1 million records stored internally storage expandable with MicroSD card	
Modem (optional)	None	GSM / GPRS / 3G intergrated modem	
Remote Access (optional)	None	Internet browser access, alerts and reports via email (requires ethernet or modem card)	
Enclosure	ABS flame retardant, NEMA 4X / IP65		
Dimensions & Weight	HA2 & HA4: 9 in (230 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg) HA8: 18 in (460 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg)		



HA2 / HA4



HA8