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### YSI UV-VIS and UV Sensors for the IQ SensorNet System

#### NiCaVis® NI IQ Carbon/Nitrate/Nitrite/UVT-254 UV-VIS

#### NiCaVis® IQ Carbon/Nitrate/UVT-254 UV-VIS



- Nitrate
- Nitrite (optional)
- COD (total and soluble)
- UVT-254
- TOC
- DOC
- BOD
- SAC 254 (total and soluble)

The NiCaVis is a reagentless, optical-based spectrophotometer built into a rugged, corrosion-resistant field probe for the IQ SensorNet system. The NiCaVis can report up to 5 parameters including: Nitrate, Nitrite (optional), COD (total and soluble), BOD, UVT-254, TOC, DOC and SAC (total and soluble). The NiCaVis probe scans 256 wavelengths per measurement to provide the most accurate data with precise compensation for interferences such as turbidity on the UV-VIS probe. The NiCaVis provides continuous data to help with operational improvement decisions. The probe's built-in UltraClean® ultrasonic cleaning technology reduces routine maintenance requirements.



A 5 mm gap YSI UV-VIS sensor deployed after one week with UltraClean technology. No fouling observed on optics.



- Nitrite UV probe measures 256 wavelengths between 200 and 390 nm allowing it to differentiate between nitrate and nitrite; UV-VIS measures between 200 and 720 nm
- 256 wavelength scans per measurement results in better accuracy and better compensation for interferences
- UVT-254 measurement used to determine required UV light intensity and contact time for disinfection, lowering a facility's disinfection costs
- Factory calibrated with optional user-calibration
- 2-year warranty
- Reduced maintenance with UltraClean ultrasonic cleaning technology; prevents biofouling from taking place. Built-in air holes for added air cleaning in high fouling applications.



UV-VIS probes are rugged, accurate and designed to withstand field conditions. The optics are kept clean with UltraClean technology and the sensor's 256 wavelength scan provides unmatched accuracy. A 1 mm gap sensor is pictured.

## NiCaVis (NI) 701/705 IQ Technical Specifications

Range	NiCaVis 701 NI (influent/aeration/effluent)	NiCaVis 705 NI (effluent)	NiCaVis 705 (effluent)
NO <sub>2</sub>	0.0 to 120.0 mg/L (influent/aeration); 0.0 to 300.0 mg/L (effluent)	0.0 to 100.0 mg/L	
NO <sub>2</sub> -N	0.00 to 30.00 mg/L (influent/aeration); 0.00 to 75.00 mg/L (effluent)	0.00 to 25.00 mg/L	
NO <sub>3</sub>	0.0 to 300.0 mg/L (influent/aeration); 0.0 to 750.0 mg/L (effluent)	0.0 to 250.0 mg/L	0.0 to 250.0 mg/L
NO <sub>3</sub> -N	0.00 to 60.00 mg/L (influent/aeration); 0.0 to 150.0 mg/L (effluent)	0.00 to 50.00 mg/L	0.00 to 50.00 mg/L
COD (total)	0 to 20,000 mg/L (influent); 0 to 4,000 mg/L (effluent)	0.0 to 800.0 mg/L	0.0 to 800.0 mg/L
COD (soluble)	0 to 12,500 mg/L (influent/aeration); 0 to 4,000 mg/L (effluent)	0.0 to 800.0 mg/L	0.0 to 800.0 mg/L
TOC	0 to 20,000 mg/L (influent); 0 to 2,500 mg/L (effluent)	0.0 to 500.0 mg/L	0.0 to 500.0 mg/L
DOC	0 to 12,500 mg/L (influent/aeration); 0 to 2,500 mg/L (effluent)	0.0 to 500.0 mg/L	0.0 to 500.0 mg/L
BOD	0 to 8,000 mg/L (influent); 0 to 2,500 mg/L (effluent)	0.0 to 500.0 mg/L	0.0 to 500.0 mg/L
SAC 254 (total)	0 to 5,000 1/m (influent/aeration); 0 to 3,000 1/m (effluent)	0.0 to 600.0 1/m	0.0 to 600.0 1/m
SAC 254 (soluble)	0 to 3,000 1/m (influent/aeration/effluent)	0.0 to 600.0 1/m	0.0 to 600.0 1/m
UVT-254	0.0 to 100.0 % (influent/aeration/effluent)	0.0 to 100.0 %	0.0 to 100.0 %
Resolution	NO <sub>2</sub> , NO <sub>3</sub> = 0.1 mg/L NO <sub>2</sub> -N, NO <sub>3</sub> -N = 0.01 mg/L COD, TOC, DOC, BOD = 1 mg/L SAC 254 = 1 1/m UVT-254 = 0.1%	NO <sub>2</sub> , NO <sub>3</sub> = 0.1 mg/L NO <sub>2</sub> -N, NO <sub>3</sub> -N = 0.01 mg/L COD, TOC, DOC, BOD = 0.1 mg/L SAC 254 = 1 1/m UVT-254 = 0.1%	NO <sub>3</sub> = 0.1 mg/L NO <sub>3</sub> -N = 0.01 mg/L COD, TOC, DOC, BOD = 0.1 mg/L SAC 254 = 0.1 1/m UVT-254 = 0.1%
Wavelength range	200-390 nm	200-390 nm	200-720 nm
Measuring gap	1 mm	5 mm	5 mm
Operating Temperature	0 to 45 °C (32 to 113 °F)	Storage Temperature	-10 to 50 °C (14 to 122 °F)
Warranty	2 years		
Flow Rate	≤ 3 m/s (~1 ft/s)		
pH range	4 to 12 units		
Cleaning System	UltraClean, ultrasonic cleaning system built directly into the sensors; air cleaning also available		
Dimensions	Length 802 mm (31.5 in); diameter 59.9 mm (2.35 in); weight ~ 4 kg (8.8 lbs)		
Certifications	CE, cETLus		
Protection Class	Sensor with SACIQ cable connected: IP68		
Pressure Resistance	1 bar (14.5 psi); maximum immersion depth = 10 meters		
Lightning/Voltage Protection	Yes		
Electrical	Power Consumption: 8 W, Two wire shielded IQ cable provides power and communication		
Materials	Housing: Titanium 3.7035, PEEK, POM, TITAL Grade 2 Window: Sapphire glass		

## NiCaVis 701/705 IQ Digital Sensor Ordering Information (must be used with the IQ SensorNet, sensor cable sold separately)

NiCaVis 701 IQ NI Item # 481054Y	Optical Nitrite, Nitrate, COD total/soluble, TOC, DOC, BOD or SAC total and UVT-254, with integrated UltraClean ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, sensor cable sold separately.
NiCaVis 705 IQ NI Item # 481055Y	Optical Nitrite, Nitrate, COD total/soluble, TOC, DOC, BOD or SAC total and UVT-254, with integrated UltraClean ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, sensor cable sold separately.
NiCaVis 705 IQ Item # 481052Y	Optical nitrate, COD total/soluble, TOC, DOC, BOD or SAC total/soluble and UVT-254, spectral processing of the UV-VIS range, with integrated UltraClean ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, sensor cable sold separately.

Visit [YSI.com/IQ](http://YSI.com/IQ) for additional information on the entire IQ SensorNet system

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