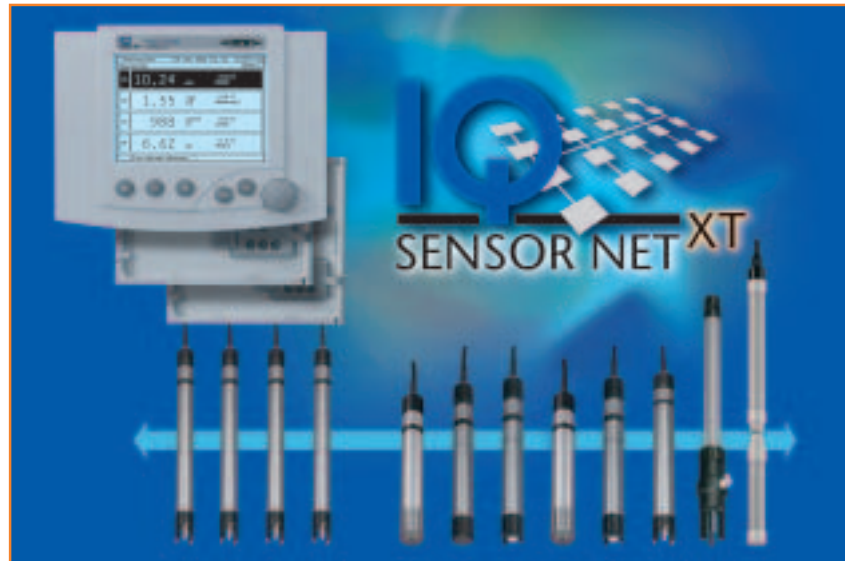


IQ SENSOR NET

SENSOR NET

The modular multi-parameter measuring system

- Universal online measuring system
- For any parameter
- Upgradable, analog and digital connections



NEW

**System 184 XT
now for 12 sensors**

New components:

- Redundant controller in terminal
- Modbus connection
- FDT/DTM for PROFIBUS DP
- Power supply: More power for larger systems
- Output module with 6 analog outputs
- Universal Input module 0/4 - 20 mA

New sensors:

- Ammonium
- Nitrate
- Carbon

The IQ Net is a modular system for precise online measurements:

- pH, ORP, oxygen, temperature, turbidity/TSS, ammonium, nitrate, COD and more
- Single parameter units and multiparameter systems
- Analog outputs and relays, digital interfaces (RS 232, RS 485, PROFIBUS DP, Modbus RTU)

With special security features for fail-safe operation, such as:

- Integrated lightning protection (coarse and fine protection)
- Programmable status in case of error
- Automatic power fail restart
- Optional redundant controller for 100% availability
- Software for storing, saving and documenting system configuration

Simple installation using:

- 2-wire-connection technology
- Plug & play connection of any IQ sensor
- Simple system expansion by easily adding modules or sensors
- Install components where needed (e.g. analog signals directly in control room)







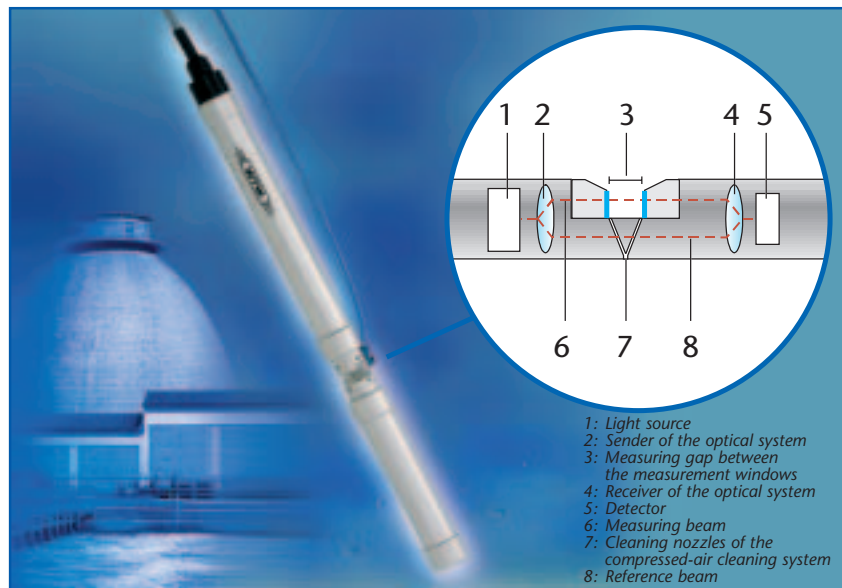
* 1 year for sensors



Carbon CarboVis[®]-/NiCaVis[®]- System

in-situ measurement of Nitrate, COD, TOC, DOC, BOD or SAC

-  in-situ measurement – fast response
-  Automatic air cleaning
-  No consumables
-  No ecologically harmful chemicals



High quality spectral measurement in a waterproof version for direct process control

Highly precise spectral measurement in a 1.57 in. (40 mm) in diameter sensor. Determination of measured values by spectral processing of the scanned UV/VIS spectrum. The TSS result is generally used for internal compensation. As an option the TSS value can be displayed as second parameter.

Features in detail:

- The sensor measures directly in the process medium.
No sample transport, no sample preparation necessary.
- No lag-time between sampling and result of the measurement.
Current values immediately available.
- Extremely precise measurement due to the spectral analysis of the scanned UV/VIS range.
- Very effective compensation of interferences and turbidity based on the spectral information – much better than a simple dual-beam measurement!
- Long operation periods by automatic air cleaning – almost maintenance-free.
- Optical system works without consumables
-> low costs of ownership.

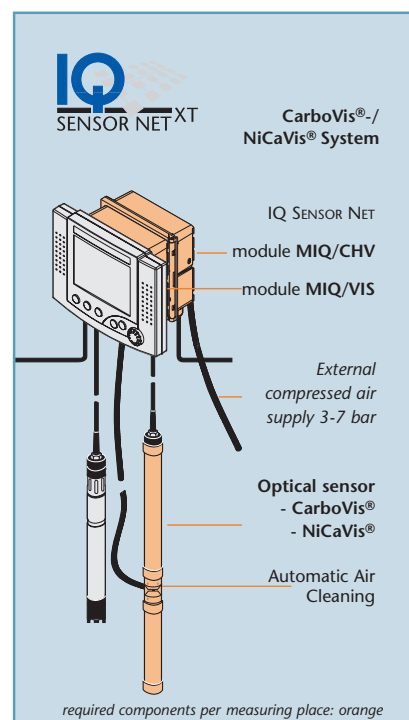


Technical Data

Measuring Principle	Spectral measurement in the UV/VIS range (200 - 750 nm)	
	CarboVis® 700/5 IQ	NiCaVis® 700/5 IQ
Applications	Municipal waste water: inlet, effluent	Municipal waste water: effluent
Measuring Ranges in Standard Solution (potassium-hydrogenphthalate)	COD: 0.1 ... 800 mg/l TOC: 1 ... 500 mg/l SAC: 0.1 ... 600 1/m	COD: 0.1 ... 800 mg/l TOC: 1 ... 500 mg/l SAC: 0,1 ... 600 1/m NO ₃ -N: 0.01 ... 25 mg/l
Accuracy in Standard Solution	±3 % of measured value ±0.5 mg/l (with Check algorithm)	
Measuring Ranges TSS (Option)	Inlet: 0 ... 3000 mg/l TS Effluent: 0 ... 900 mg/l TS	—
Materials	Housing: Al Mg Si 1, anodized Windows: sapphire glass	
Pressure Resistance	≤1 bar	
Ambient Conditions	Operating temperature: 32 ... 113 °F (0 °C ... +45 °C) Storage temperature: 14 ... 122 °F (-10 °C ... +50 °C)	
Flow velocity	≤3 m/s	
pH range	pH 4 ... pH 9	
Salt content of medium	< 5000 mg/l (Chloride)	
Dimensions	25.59 x 1.73 in. (650 x 44 mm; length x max. diameter)	
Weight	Approx. 2.4 pounds (1.1 kg)	

Ordering Information

All sensors with 15 m cable		Order No.
CarboVis® 700/5 IQ	Optical COD/TOC/DOC/BOD/SAC probe with spectral processing of the UV/VIS range; path length 5 mm.	481 025
CarboVis® 700/5 IQ TS	same as model CarboVis® 700/5 IQ, additionally with TSS measurement.	481 026
NiCaVis® 700/5 IQ	Optical probe for measuring Nitrate and COD/TOC/DOC/BOD/SAC with spectral processing of the UV/VIS range; path length 5 mm.	481 027
MIQ/VIS	Connection module for UV/VIS sensor; directly controls the valve module for compressed air cleaning	481 029
MIQ/CHV	Valve module for automatic compressed air cleaning	900 109





IQ SENSOR NET

The IQ sensors with digital interface enable:

- large distances in-between sensors and between sensors and measuring system
- signal transmission which is immune to interference
- calibration data are stored in the sensor, calibration can be performed in the laboratory

Stackable modules and digital communication of the IQ system allows:

- analog and digital world combinations
- well laid-out graphic display of measured values
- digital transmission, storage and analysis of measured values



U.S. patent granted
(US 6,655,233 B2)

Systems 184 XT and 2020 XT

Choose the system that's right for your application:

	System 184 XT		System 2020 XT	
Max. number of sensors	12		20	
Output signals	ANALOG:	DIGITAL:	ANALOG:	DIGITAL:
	Analog outputs (0/4 - 20 mA), relays	• via RS 232 – PC software terminal and data server function	Analog outputs (0/4 - 20 mA), relays	• via RS 232 – PC software terminal and data server function • RS 232 – modem • RS 485
				• PROFIBUS DP • Modbus RTU
			(digital parallel to analog possible)	
Knowledge of special automation technology required	No		Principally no, in PROFIBUS/Modbus systems yes	
Additional Options				
Additional Displays	Yes		Yes	
Redundant controller	Yes		Yes	
Datalogger	Yes		Yes, enhanced performance	
Modem-capable interface	No		Yes	

System 184 XT

particularly suitable for conventional facilities, in which the user wishes to combine the advantages of digital sensor technology with the simplicity of conventional instrumentation. Signal relaying is generally performed by means of 0/4-20 mA analog outputs and relays.

System 2020 XT

is the system of choice for a large number sensors, for digital interfaces and as futureproof instrumentation, if for example a PROFIBUS control is planned in an upcoming extension phase.

As a PROFIBUS subsystem, System 2020 XT also has considerable advantages over instruments equipped directly with PROFIBUS interface:

- Direct connection to PLC via PROFIBUS DP, but with the ease of use of Profibus PA (2-wire technology, any bus topology, configuration and parameterization per FDT/DTM) and including power supply for sensors with high power demand and cleaning devices
- No specialized personnel required for replacement of sensors or other components
- Sensor calibration in the laboratory and on-site connection of pre-calibrated sensor possible
- For particularly critical applications, parallel installation of analog outputs and relays in addition to digital signal transmission is possible, in order to implement prescribed safety strategies in the case of control system failure.