

→ UV/Vis Multi Parameter Online Analyzer

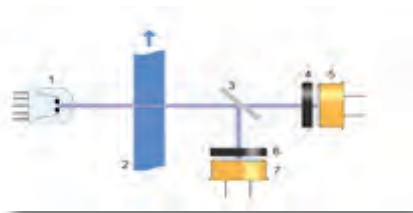


EQMS (Effluent Quality Monitoring System) technology is based on unique method FTLS UV spectroscopy which associate proprietary high resolution spectrograph with Fourier Transform & Least Square mathematical treatment. So, you can believe in our knowledgeable and responsive support team to address your unique needs for the water or air applications throughout your entire process.

Our goal for the future is to continue to provide customers with reliable instruments, proven methods, easy procedures, and outstanding technical support. We will strive to be best choice brand offering trust and assurance to our customers.

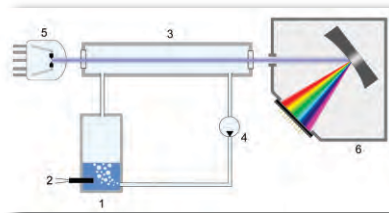
→ Measurement Principle

- // EQMS (Effluent Quality Monitoring System) analyser bases on Ultraviolet/Visible (UV/Vis) absorption, which has found increasingly wide application in process industries. The spectrum of interest here extends from 180 nm to 780 nm. Direct absorbance for UV254, COD, BOD, TOC, NO₃, COLOR, Po₄, pH, TSS and Cr bring fast and stable measurements.
- // This unique method allows measurements on extremely turbid or colored samples like Exceptional selectivity and no interference has never been reported after years of operation on many different applications.
- // The patented flow cell allows very high level of suspended solids without clogging. The turbidity is automatically compensated by a dual-wavelength method.
- // The UV source is a Xenon flash lamp specified for 10⁹ flashes that corresponds to more than 10 years of life time with one measurement every minute.
- // Physico-chemical measurements like pH, ORP, dissolved oxygen, conductivity can be added to the internal measurements by using external probes. The dissolved oxygen probe is based on fluorescence method for a lower maintenance and higher stability.



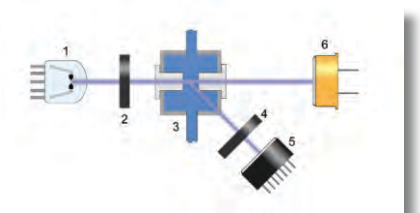
UV Absorbance Principle

- 1: Xenon lamp
- 2: Flow cell
- 3: Beam Splitter
- 4: Peak filter
- 5: Peak detector
- 6: Reference filter
- 7: Reference detector



UV Absorbance (liquid and gas phase)

- 1: Stripping Pot
- 2: Temperature Probe
- 3: Gas Flow cell
- 4: Gas Pump
- 5: Xenon Flash Lamp
- 6: Spectrograph



UV Fluorescence principle

- 1: Xenon lamp
- 2: Excitation filter
- 3: Flow cell
- 4: Emission filter
- 5: Photomultiplier
- 6: Reference photo detector

→ Features

Communication

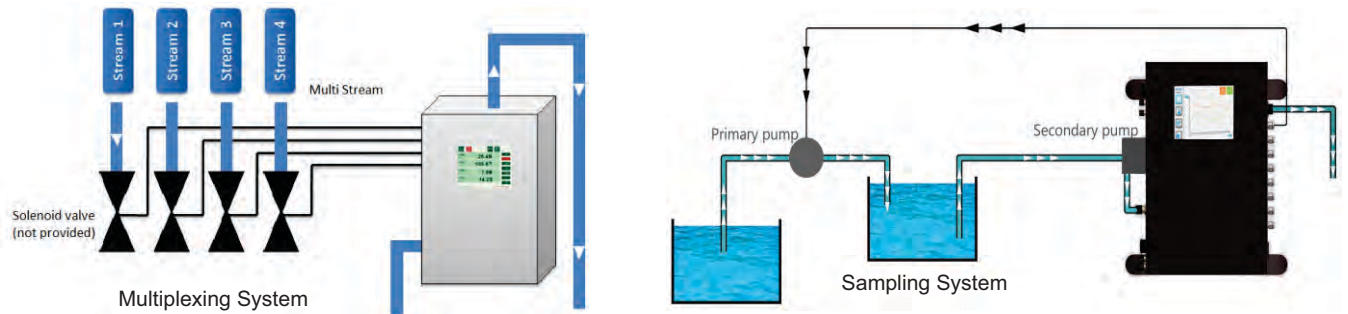
The RS485 port supports the MODBUS protocol to transmit each measuring channel value to a SCADA system. Additional parameters are available like status code, error code, calibration values and pumps run time.

Basic 4-20 mA output modules can be plugged on the main board for each measuring channel, in the limit of 7 modules. A USB port enables on board memory for storage data upto 16GB.

Sampling

Different streams need to be analysed, for example inlet and outlet of a plant, an optional multiplexing system delivers relay contacts to control external electric-valves or external pumps.

The system can adapt to many different kind of sampling depending of the application: surface water, drinking water, process water or wastewater.



→ Water/ liquid Parameters

Parameters	Range	Accuracy	Methods			
			1	2	3	Description
Ammonium	0,1 ... 1000 mg/L NH_4^+	+/- 2%	▪			UV Abs gas phase
Nitrates	0,1 ... 200 mg/L NO_3^-	+/- 2%	▪			UV Abs
Nitrites	0,01 ... 20 mg/L NO_2^-	+/- 2%	▪	▪		UV Abs
Phosphates	0,01 ... 20 mg/L PO_4^{3-}	+/- 2%		▪		Colorimetry
Organic Matter	1 ... 10000 mg/L COD_{eq}	+/- 2%	▪			Correlation UV Abs
Biological	1 ... 10000 mg/L BOD	+/- 2%				Correlation UV Abs
Organic Carbon	1 ... 10000 mg/L TOC	+/- 2%				Correlation UV Abs
Sulphides	0,1 ... 1000 mg/L S_2	+/- 2%	▪			UV Abs gas phase
Suspended solids	1 ... 10000 mg/L TSS	+/- 2%	▪			IR Nephelometry
Turbidity	0,001 ... 10000 NTU	+/- 2%	▪			IR Nephelometry
Colour	0,01 ... 2000 Pt-Co	+/- 2%	▪			Vis Abs
Chlorine	0,01 ... 20 mg/L Cl_2	+/- 2%	▪	▪		Colorimetry
Chlorophyll A	0,1 ... 1000 $\mu\text{g/L}$ Algae	+/- 2%	▪			UV Fluorescence
Hydrocarbons	0,01 ... 100 mg/L HC	+/- 2%	▪			UV Fluorescence
Oxygen	0,01 ... 100 mg/L O_2	+/- 2%	▪			Vis Fluorescence
Conductivity	0,001 ... 2000 mS/cm EC	+/- 2%			▪	Electro conductivity
pH	0 ... 14 H^+	+/- 2%			▪	Potentiometry
Ozone	0,01 ... 10 mg/L O_3	+/- 2%	▪			UV Abs
ORP	-2000 ... 2000 mV	+/- 2%			▪	Potentiometry

1. Spectrophotometric

2. Colorimetric

3. Potentiometric

→ Specification

Sample Conditions

Flow	0 ... 2 l/min (typically > 0.1 l/min)
Pressure	< 2 bars (typically < 0.5 bar)
Temperature	0 ... 50°C
Volume	< 100 ml
Wetted parts	Quartz or Sapphire / Polypropylene / FPM / Stainless steel / PEEK

Controller

Display	8.5" TFT colour screen 16/9 (LED backlight)
Resolution	800 x 480 pixels
Touch screen	Glass to glass
Memory	SD card 16 Go (one year measurements)
Collection	USB type A
Operating temperature	5 ... 50 °C
Operating humidity	< 90 % RH

Communication output

Analog	4 ... 20 mA isolated (Active or Passive) / 500 Ω max
Relay	Programmable limit or fault alarms / 5A (NO) 3A (NC) @ 277 VAC
Digital	RS485 / Modbus

Power supply

Voltage	100 ... 240 VAC (50 - 60 Hz) or 24 VDC
Consumption	< 20 W (60 W max.)

Certifications

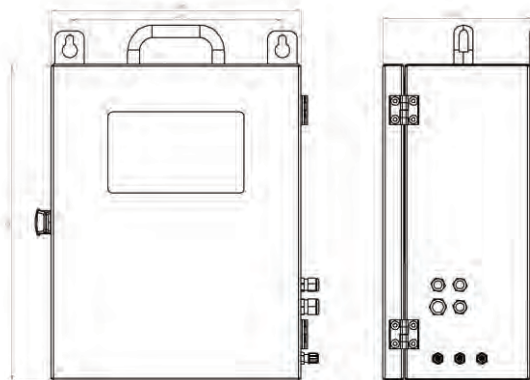
EMC	ICE 61326
Safety	ICE 61010-1

Maintenance

Maintenance interval Recommended: 3 months to 1 year

Integrated system

Type	Wall mounted
Material	SS316L
Dimensions	430 mm x 340 mm x 200 mm (HxWxD)
Weight	< 14 kg
Protection class	IP65
Area classification	ATEX Zone 1 or 2 in option



Separate system

Type	Wall mounted
Material	SS316L
Dimensions	220 mm x 300 mm x 80 mm (HxWxD)
Weight	< 5 kg
Protection class	IP65
Area classification	ATEX zone 1 or 2 in option

