



# ISA UV/VIS Spectrometer

## The only Site Specific Calibration UV/Vis Spectrometer System

The intelligent spectral analyser ISA provides the simultaneous acquisition of multiple parameters with only one sensor in a small form factor. This compact UV/VIS sensor provides both standard water quality parameters and additional substances and water properties applying modern chemometrical methods.

The detection is not limited to a few bands, instead the whole spectrum from ultraviolet to near-infrared (200-720nm) is detected and analysed. Solutes, suspended matter and other water properties can be characterised thoroughly. This is not limited to common values like e.g. nitrate, organic carbon (TOC) or chemical and biological oxygen demand (COD, BOD) since modern chemometrical methods are permitting the assay of various other components.

The calibration monitoring feature based on a spectral quality index (SQI) is a new technology introduced to absorption spectroscopy by Go-Systemelektronik. This allows an automatic adaptation to water matrix variances. With this there is a significant increase in measurement reliability and with this a lower risk of false alerts in water monitoring systems. Another unique feature is the possibility to quickly mechanically adjust the optical path length, without special tools.

### Benefits

- ◆ One Sensor - Wide range of parameters
- ◆ Simplest calibration
- ◆ Measurement path length 0.5 - 20 mm continuously adjustable
- ◆ ATEX Category 3 [Category 2 optional]
- ◆ Ready for network based data processing and control technology [BlueGate]
- ◆ Monitoring function
- ◆ Calibration monitoring (SQI)

- ◆ Intelligent event handling
- ◆ Quality control
- ◆ Alarm systems
- ◆ Analysis of trends
- ◆ Control of water treatment
- ◆ Early detection of discharge (fingerprint)
- ◆ Process optimisation

### Parameters

- ◆ Ammonium
- ◆ Biochemical oxygen demand (BOD)
- ◆ Chemical oxygen demand (COD)
- ◆ Total organic carbon (TOC)
- ◆ Dissolved organic carbon (DOC)
- ◆ Total suspended solids (TSS)
- ◆ Nitrate
- ◆ Orthophosphate
- ◆ SAC 254nm

### Product Variants

The ISA UV/Vis Spectrometer is available in different variants. The ISA complete systems in combination with a BlueBox TS measuring- and control system allow for a stand-alone operation. GO Systemelektronik also offers a portable mobile version for flexible applications. The battery-powered system is designed for an autonomous operation on-site. ISA Module variants can be integrated into existing measuring systems and enable their expansion through the CAN bus interface. Depending upon the application requirements the ISA UV/Vis Spectrometer is available either as an in situ measuring head for immersion measurements or as a flow through fitting.

### Functions & Features



MONITORING  
FUNCTION



AUTOMATED  
CLEANING



CALIBRATION  
MONITORING  
(SQI)



ATEX CERTIFIED



INTELLIGENT  
EVENT HANDLING



CLOUD DATA  
SERVICE



ADJUSTABLE  
OPTICAL PATH  
LENGTH



DEPLOYABLE UP TO  
+110 °C



## Application Areas



### Drinking Water

Quality control  
Alarm systems



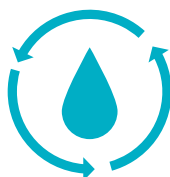
### Wastewater

Influent Monitoring  
Bioreactor Monitoring  
Effluent Monitoring



### Process Measurement & Control Technology

Process monitoring in  
industrial facilities  
Control of process water  
treatment



### Environmental Monitoring

River water  
Surface water

## Technical Specifications

<b>System</b>	UV/Vis spectrum 200 - 720 nm
<b>Measuring principle</b>	Spectral analysis
<b>Optical measuring path length</b>	0.5 - 20 mm
<b>Sampling rate</b>	≥ 3 s
<b>Light source</b>	Xenon pulse light

## Measuring head

<b>Material</b>	Stainless steel 1.4404 / Titanium [optional]
<b>Operation temperature range</b>	0 °C to +110 °C
<b>Weight</b>	1.5 kg
<b>Dimensions</b>	Length approx. 230 mm; Ø 44 mm
<b>IP protection class</b>	IP 68