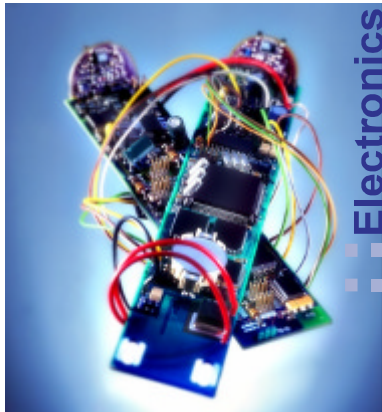


# General Specifications **s::can** liquid monitoring networks

## spectro:lyser type - submersible UV-Vis-spectrometers

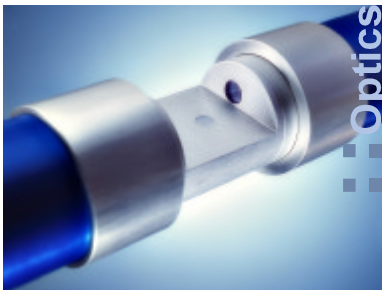
s::can process instruments are always working based on the same principle: chemical-free UV-VIS-Spectrometry. The spectro:lyser is the first and only instrument worldwide that can measure optical spectra from 200 to 750 nm directly in media.

Apart from application-specific optimisation, there are many basic features that make them unique:



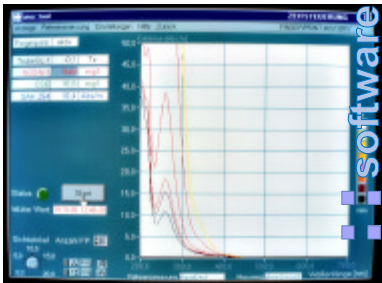
Electronics

- › **read out time** per spectrum: from 4ms up to several seconds
- › **A/D- conversion:** 16 bit, 100 kHz
- › **dynamic range** of energy measurement under controlled conditions:
  - Single sample: 1:10 000 (6 count noise standard deviation)
  - Complete measurement: < 2 count noise std. deviation
- › **1 digital In** standard (single measurement trigger), more Inputs via control unit (in preparation)
- › **1 digital Out** standard (Alarm Trigger), more Outputs via control unit (in preparation)
- › **standard interfaces** on board: RS 232 or 485
- › **optional interfaces** on board: CAN bus or other bus standards; TCP/IP, GSM or analog modem; 4-20 mA or other interfaces via external converter
- › battery buffered **data logger** for 1000 spectra or many 10.000's of concentration values
- › internal temperature- and moisture measurement standard; external pressure (water depth) optional: 0-0,1 bar; or 0-1 bar (others on demand)
- › all electronics by s::can liquid monitoring networks



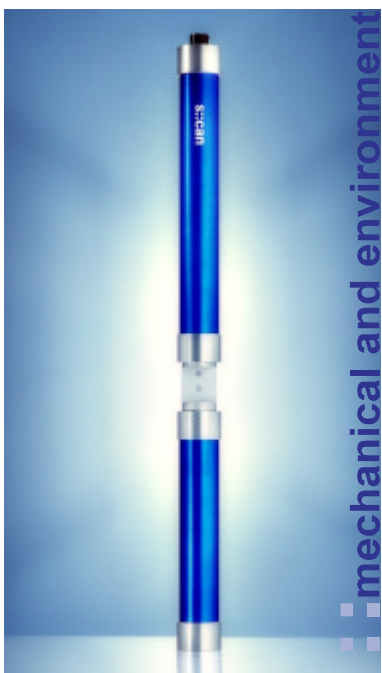
Optics

- › **high energy optical performance** enables measurements in process fluids with high optical density like oil mixtures, milk or coffee, often down to the deep UV, far superior to fiber optic instruments with respect to energy and process stability.
- › **spectral range:** 190 nm to 380 nm or 190 nm to 780 nm
- › **light sources:** regulated Xenon lamp standard; Deuterium or Tungsten on demand
- › **long term stability:** virtually no instrument shift because of auto-compensation based on 2 beam measurement (pat. pend.)
- › **optical range:** interchangeable optical pathlengths from 2 to 100 mm (longer paths up to 200 mm on demand)
- › Simple **By-Pass** tube for easy installation in bypassing streams.



software

- › full **stand alone** capability, battery puffered data logger onBoard
- › data pre-processing onBoard (plausibility, correction, smoothing)
- › **interfaces:** serial, CAN bus, other bus standards optional, TCP/IP, GSM or analog modem onBoard; 4-20 mA via control unit; MS Excel compatible data files / MS Excel Macros available
- › PC user interface and measurement control via N.I. LabView™; from graphical interface features over complex data processing up to complex industrial measurement and control applications or complete field monitoring stations, we offer the capabilities of many years of LabView™ experience.
- › µC software / operating system by s::can liquid monitoring networks



mechanical and environment

- › **size:**
  - submersible analysers: D = 44 mm, L = 500 to 600 mm (different types); 1100 g
  - inLine process analysers: details from 10/2001
- › **pressure:**
  - submersible analysers: standard 1 bar; optional 10 bar; > 10 bar on demand (pressure gauge optional)
  - inLine process analysers: standard 10 bar; up to 100 bar possible
- › **temperature:** submersed 0 to 45 °C fluid temp. standard w/o cooling; w. cooling (inLine process analysers only) up to 120 °C
- › **mechanical:** extremely robust compared to other process analysers
- › **chemical:**
  - s::can submersible analysers are resistant against impacts of most natural and waste waters. Please contact us for detailed specification.
  - s::can inLine process analysers are resistant against most industrial process fluids and solvents, e.g. CIP compatible. Please contact us for detailed specification and special options.
- › **energy:**
  - 12 V external; 200 mA during measurements
  - sleep mode option in data logger modus reduces consumption, therefore fully compatible to solar supplies (equipment for solar supply optional).
  - internal battery for independent measurements with submersible analysers optional.