

ECAMON SaFIA

Process analyser



EcaMon SaFIA is a high-performance one parameter on-line system for unattended monitoring of metals and some nonmetals in the lowest, medium and high concentration range, addressing concentrations from the low $\mu\text{g/L}$ (ppb) range up to several g/L concentration. The system make use of a simple but efficient SaFIA flow system coupled with a robust flow-through electro-chemical cell. One to three independent measuring units can be installed in a single rack enabling the monitoring of up to 3 species in a single instrument.

EcaMon SaFIA is a compact instrument consisting of an Analytical Unit, Control unit and the reservoirs for the working solutions, all built in a robust 19" rack system. The whole instrument inclusive the solutions can be locked up. The compact Flow System is controlled by the Control Unit and operates full automatically. The solutions (sample, carrier electrolyte, reagent) switched by selector solenoid PTFE valves are forced through the Flow System by means of a peristaltic pump. On passing the measuring cell the solutions leave for the drain.

The analysed sample is taken from an overflow filled continuously with fresh sample solution. The flow-through system with peristaltic pumping provides continuous sampling of the analysed sample and supplementary solutions (supporting electrolyte, calibration solution), their accurate dosage and transport during the whole analysis. Memory effects are minimised by flushing the system with the carrier electrolyte after each measurement.

TECHNICAL DATA

POTENTIOSTAT/GALVANOSTAT:
12 V / 10 mA

POWER: 100 - 230 V / 50 - 60 Hz

CONSUMPTION: 25 - 65 VA

INPUTS / OUTPUTS

- Digital input (dry contact)
- 4 - 20 mA analog out, galvanically isolated
- Concentration alarm (dry contact)
- RS-232 serial port for communication with PC (Modbus)
- RS-232 / RS-422 / RS-485 signal output

FLOW MODE: SaFIA system

CELL: EcaCell 353c or EcaCell 104 with three electrodes

WORKING ELECTRODE: Application dependent

REFERENCE ELECTRODE: Ag/AgCl, suitable electrolyte: saturated KCl

AUXILIARY ELECTRODE: Pt wire

FLOW SYSTEM: Full computer control with peristaltic pumping in forward/backward mode

MEASURING RANGE: 0.1 µg/L to 10 g/L (application dependent)

RESOLUTION: 0.01 µg/L

ACCURACY: 1 - 5 %

RACK

- Wall mounted enclosure, 19" system, 3-part
- Wall section containing the power supply and signal output.
- Hinged part containing the measuring units (channels), reservoirs and sample inlet module.
- Designer glazed door with mini comfort handle for lock inserts.
- Viewing window: 3 mm safety glass.

PROTECTION CATEGORY:
IP 55 to EN 60 529/10.91

RESERVOIRS

- Reagent solution: 5 L
- Standard: 250 - 1000 mL

SAMPLE INLET/OUTLET

- Sample loop
- Input pressure: < 1 bar
- 1/4" outer diameter tubes for sample inlet and outlet

WASTE OUTLET: Separate output for the waste from the measuring units. Reagent waste separated from the sample loop outlet.

SOFTWARE

- Download data
- Upload parameters
- For the operation system Windows XP and higher

RESPONSE TIME: 2 - 45 min depending on the concentration range

AUTOMATIC CALIBRATION:

Pre-programmed timing

AUTOMATIC ELECTRODE REGENERATION:

Pre-programmed timing

DIMENSIONS

(Width x Depth x Height)

- 1-channel system (600 x 473 x 612 mm)
- 2-channel system (600 x 473 x 746 mm)
- 3-channel system (600 x 473 x 878 mm)

WEIGHT (with full reservoirs)

- 1-channel system (50 kg, approx.)
- 2-channel system (55 kg, approx.)
- 3-channel system (60 kg, approx.)

NOTE: The actual specification of the system is tailored to the application

APPLICATIONS

Ag, Ammonia, As, Bromate, Bromide, Cd, Chloride, Chlorite, Co, Cr(VI), Cu, EDTA, Fe, Hg, Iodide, Mn, Ni, Nitrite, Pb, Sb, Se, Sn, Sulphide, Tl, Zn