

# Sodium-meter SCA23

*Analyzer with automatic calibration and integrated sample switch*



The SCA23 sodium analyzer includes advanced features for fault diagnosis and automated calibrations to ensure measurement performance. Designed to meet all needs, the SCA23 offers up to 6 integrated sampling channels and is available in gas or liquid pH packaging, interchangeable via an upgrade kit.

## BENEFITS

- > Detection down to ultra traces (< 0.1 µg/L)
- > Maintenance costs and reduced cost of ownership
- > Freedom in the choice of packaging
- > Autonomy of electrode calibrations and reactivations > 1 year
- > Sample switch from 1 to 6 channels

## GOAL

The measurement of traces of sodium in the cooling circuits and make-up water circuits of nuclear reactors is important to limit corrosion. ARCYS has chosen a specific electrode (potentiometric measurement) which is renowned for its reliability and which allows operation down to ultra traces (< 0.1 µg/L). For very low sodium values, it is necessary to operate at basic pH.

## CHOICE OF PACKAGING

The SCA23 sodium analyzer offers great freedom in the choice of chemical pH conditioning.

The SCA23 offers two possibilities: a bottle of gas ammonia (3 to 5 years of autonomy) or a bottle of liquid ammonia (approximately 70 days of autonomy). Totally reversible, **switching from gas or liquid chemical conditioning is done simply by means of an upgrade kit.**

## OPERATING PRINCIPLE

The SCA23 integrates:

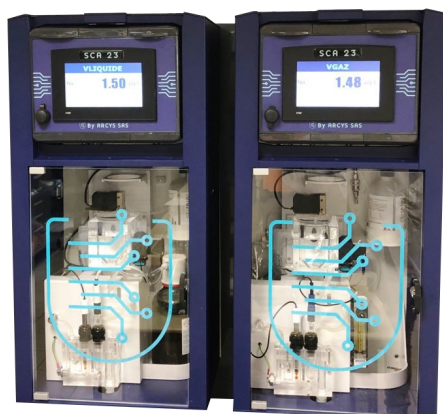
- 1) A system for calibration and periodic reactivation of the measuring electrode, fully automated and autonomous for 1 year.
  - **Calibration performed at 2 points** with 2 programmable standards. Standards are prepared automatically by the SCA23 from a NIST certified standard solution
  - **Consideration of previous calibrations**, signaling of malfunctions and storage of the last 500 calibrations
- 2) An external standard injection device (compliant with the sodium chemical automaton PBMP).
- 3) A sample switch which, coupled to a plate supporting solenoid valves and filters, allows up to 6 sampling lines to be scanned.
- 4) A transmitter with a large color touch screen including advanced fault diagnosis functions. Conforms to ASTM D 2791.



SCA23 operator interface - ©ARCYS



Conditioning chemical gas or liquid  
reversible !



The SCA23 offers freedom in the choice of packaging:  
liquid (left) or gas (right).

## TECHNICAL SPECIFICATIONS

### General informations

Dimensions	805 (H) x 400 (L) x 294 (P) mm
Weight	< 20 kg
Power supply	110/230 VAC $\pm$ 15%, 47 to 63 Hz, 50 VA
Protection sign	Electronic part : IP65 / According to RCC-E
Operator interface	Color touch screen 7"
Storage (data logger)	USB or SD card
Facility	100% compatible with all devices installed on the EDF fleet

### Measurement characteristics

Range	0,1 $\mu$ g/L to 10 mg/L
Resolution	0,01 $\mu$ g/L
Repeatability	$\pm$ 3 % of reading or $\pm$ 0,3 $\mu$ g/L
Precision	$\pm$ 5 % of reading or $\pm$ 0,5 $\mu$ g/L
Calibration	Automatic at 2 points (standard concentrations configurable by the operator) Backup of the last 500 calibrations
Response time (T90)	$\leq$ 10 min if $\geq$ 100 $\mu$ g/L $\leq$ 15 min if $\leq$ 100 $\mu$ g/L

### Sample water circuit

Number of channels	1 to 6 measurement channels by adding solenoid valves
Speed	> 1 L/h up to 130 L/h
Pressure (bar)	1 to 5 bar relatives
Temperature	15 to 40 °C
Interfering ions	Li+, K+, Rb+, Ag+, Ti+
Outputs	4 analog outputs 0 or 4-20 mA, logarithmic or linear (accuracy $\pm$ 0.03 mA)  8 relays that can be used for alarms or for driving the channel switch option (4 additional optional)  RS 485 : contact us

### Maintenance

Ammonia gas reserve	3 to 5 years
Liquid ammonia reserve	2 to 3 month

### Option available

LoRa™ wireless transmission module (contact us)

# 100%

compatible with the nuclear power  
plant

EDF DI 2021 approved !

### CONTACT

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