

SPEC. SHEET OF ANALYZER

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|-------------------|---------------------------|
| ANALYZER | SODIUM ION MONITOR |
| ITEM | |
| SAMPLE POINT | No.11 |
| MEASUREMENT RANGE | 0~10µg/L |
| QUANTITY / UNIT | 1 |
| MANUFACTURE | SWAN |
| MODEL | A-24.411.100 |

REMARKS
 Refer to the spec. sheet of the manufacturer for more information.

CONFIDENTIAL

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| B No. | B8011-XIT | -AG |
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Analyzer AMI Sodium P

Data sheet No. DenA244X1100

Analyzer for the continuous determination of dissolved sodium in the ppb-range for steam, condensate and high purity water for samples with pH ≥ 7.

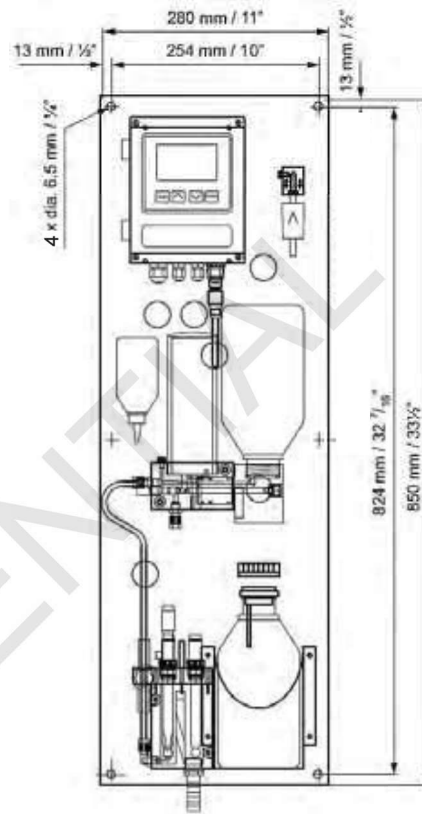
Analyzer AMI Sodium P

Complete system mounted on stainless steel mounting panel.

- **Transmitter AMI Sodium P** in a rugged aluminum enclosure (IP66)
- **Flow cell** with temperature probe, sodium sensor, reference, pH sensor and bubble detector.
- Reliable alkalization reagent addition with continuous pH monitoring.
- Continuous sample flow detection.
- Simple two-point calibration.
- Easy to use grab sample capability.
- Factory tested, ready for installation and operation.

Specification

- Measuring range: 0.1 – 10'000 ppb Na (under reference conditions) with automatic range switching.
- Automatic temperature compensation.
- Big backlit LC display for the reading of all measured values and status information simultaneously.
- Easy user menus in English, German, French and Spanish. Simple programming of all parameters by keypad.
- Electronic record of major process events and calibration data.
- Real-time clock for time stamp in data logs and for automated functions.



Analyzer with optional 2nd sample stream

- Data logger for 1'500 data records stored at selectable intervals.
- Option for second sample stream with programmable stream switching.

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| Order Nr. | Analyzer AMI Sodium P; 280mm | A-24.411.100 ← |
| | Analyzer AMI Sodium P; 400mm | A-24.421.100 |
| Option: | <input type="checkbox"/> 3 rd current signal output (0/4 – 20mA) | A-81.420.050 |
| | <input type="checkbox"/> Profibus DP & Modbus RTU interface (RS-485) | A-81.420.020 |
| | <input type="checkbox"/> USB interface | A-81.420.042 |
| | <input type="checkbox"/> HART interface | A-81.420.060 |
| Option: | <input type="checkbox"/> 2nd sample stream (requires 400mm panel) | A-83.590.043 |

Sodium Measurement

Sodium electrode, calomel reference electrode (liquid junction: ground glass sleeve) and pH electrode.

pH-conditioning with diisopropylamine (~1 L / 30 d) or ammonia (~3 L / 30 d).
Interferences: none, if total acidity of sample < 10 meq/l

Automatic temperature compensation.

| Measuring range | Resolution |
|-----------------|------------|
| 0 - 99.9 ppb | 0.1 ppb |
| 0 - 999 ppb | 1 ppb |
| 0 - 9.99 ppm | 0.01 ppm |

Automatic range switching.
Accuracy: ± 5% of reading after calibration
Repeatability: 5%
Response time: 180 s (95%)

Sodium calibration

Manual 1- or 2-point calibration with direct standard injection.

Temperature measurement

Temperature sensor SWAN NT5K
Measuring range: -10 to +100 °C
Resolution: 0.1 °C

Transmitter Specifications and Functionality

Electronic case: Aluminum
Protection degree: IP 66 / NEMA 4X
Display: backlit LCD, 75 x 45 mm
Electrical connectors: screw clamps
Dimensions: 180 x 140 x 70 mm
Weight: 1.5kg
Ambient temperature: -10 to +50 °C
Humidity: 10 - 90 % relative non condensing

Power supply

Voltage: 100 - 240 VAC (± 10 %),
50/60 Hz (± 5 %)
or 24 VDC (± 10 %)
Power consumption: max. 30 VA

Operation

Easy operation based on separate menus for "Messages", "Diagnostics", "Maintenance", "Operation" and "Installation".

User menus in English, German, French and Spanish.

Separate menu specific password protection.

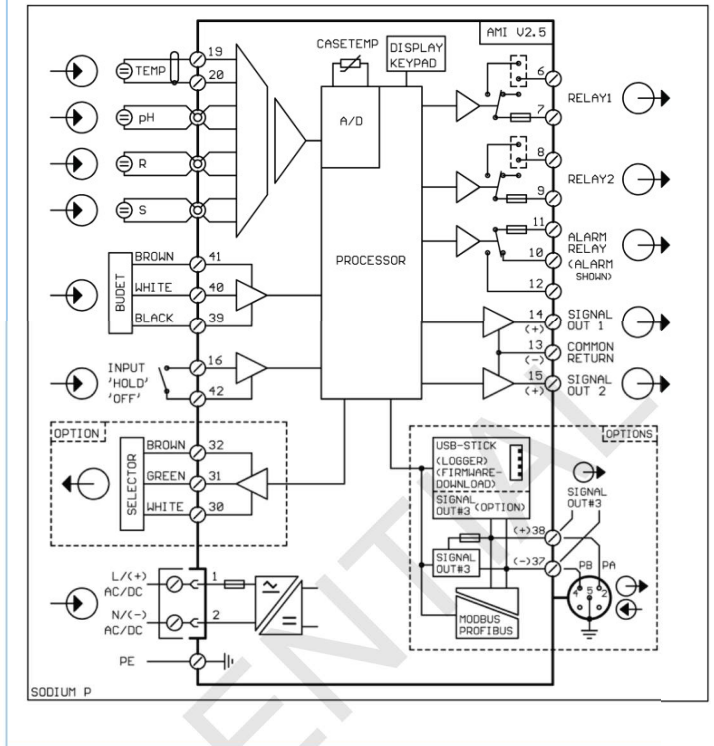
Display of process values, alarm status and time during operation.

Storage of event log, alarm log and calibration history. Storage of the last 1'500 data records in logger with selectable time interval.

Safety features

No data loss after power failure, all data is saved in non-volatile memory.

Electrical Connection Scheme



Overvoltage protection of in- and outputs.

Galvanic separation of measuring inputs and signal outputs.

Transmitter temperature monitoring with programmable high/low alarm limits.

1 Alarm relay

One potential free contact for summary alarm indication for programmable alarm values and instrument faults.

Max. load: 1A / 250 VAC

1 Input

One input for potential-free contact.

Programmable hold or remote off function.

2 Relay outputs

Two potential-free contacts programmable as limit switches for measuring values, controllers or timer for system cleaning with automatic hold function.

Max. load: 1A / 250 VAC

2 Signal outputs (3rd as option)

Two programmable signal outputs for measured values (freely scaleable, linear or bilinear) or as continuous control outputs (control parameters programmable) as current source. 3rd signal output selectable as current source or current sink.

Current loop: 0/4 - 20 mA
Max. burden: 510 Ω

Control functions

Relays or current outputs programmable for 1 or 2 pulse dosing pumps, solenoid valves or for one motor valve. Programmable P, PI, PID or PD control parameters

1 Communication interface (option)

- RS485 interface (galvanically separated) with Fieldbus protocol Modbus RTU or Profibus DP
- 3rd Signal output
- USB interface
- HART interface

Analyzer Data

Sample conditions

pH value: ≥ pH 7,0
Ammonium concentration: < 10 ppm
Dissolved solids: smaller than 10 ppm
Flow rate: min. 100 ml/min.
Inlet pressure: 0,3 - 3 bar (4 - 43 PSI)
Outlet pressure: ambient pressure
Temperature: 5 - 45 °C (41 - 113 F)
No fat or grease.

Flow cell and connections

Made of acrylic glass with photoelectric bubble sensor for sample flow detection. One or two (option) sample streams.
Stream switching time: ≥ 15 min.

Sample inlet: Serto PVDF 6 mm
Sample outlet: G1/2" adapter for flexible tube Ø 20 x 15 mm

Panel

Dimensions: 400 (or 280) x 850 x 200 mm
Material: Stainless steel
Total weight: 12 or 9 kg