Monitor AMI-II pH/Redox QV-Flow

Data sheet no. DenA21511X00

Complete monitoring system for the automatic, continuous measurement of pH or redox potential (ORP) in ultrapure water.

Application examples

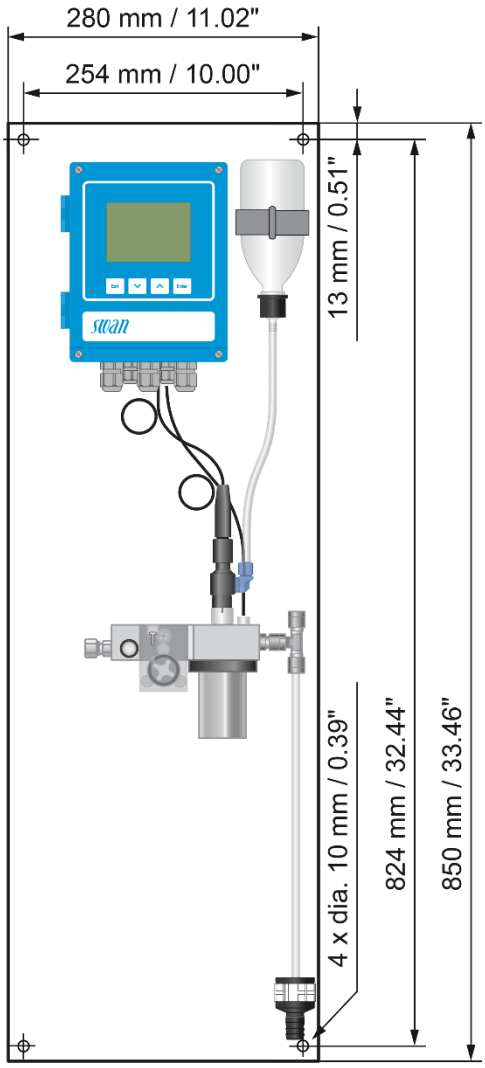
- Monitoring water quality in water cycles of power and industrial plants, as well as in demineralization plants.

Measuring range

- 1.00 to 13.00 pH or −1500 to +1500 mV.
- Automatic temperature compensations according to Nernst with or without correction functions.
- Measured value is compensated to 25 °C.

Instrument features

- **Transmitter AMI-II pH/Redox**
  in a rugged aluminum enclosure (IP66).
- **Flow cell QV-Flow 2PG-T**
  with removable sample vessel for easy sensor cleaning and calibration, with integrated flow meter for measurement validation, Pt1000 (Class A, DIN EN 60751) temperature sensor and needle valve.
- Various combined or separate sensors with reference electrodes available.
- Factory tested, ready for installation and operation.



AMI-II pH/Redox with Swansensor pH SI

Order numbers:	Monitor AMI-II pH/Redox QV-Flow	A–21.511._00
Power supply	100 – 240 VAC, 50/60 Hz	1
	10 – 36 VDC	2
Option 1	RS485 interface with Modbus RTU or Profibus protocol	A–81.470.0X0
	HART interface	A–81.470.030
	Two additional 0/4 – 20 mA signal outputs	A–81.470.040
Option 2	Swansensor pH or Redox ST (requires adapter A-83.910.120)	A−87.X20.200
	Swansensor pH or Redox SI	A−87.X10.200
	Swansensor pH FL (requires Swansensor Reference FL and adapter A-83.910.120)	A−87.150.200
	Swansensor Redox FL (requires Swansensor Reference FL and adapter A-83.910.120)	A−87.411.200
	Swansensor Reference FL	A−87.860.100
Option 3	Swansensor Reference FL (requires cable A-88.121.120)	A−87.860.100

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pH or ORP Measurement

Input resistance: $>10^{13}$ Ω

pH measurement
Measuring range with Swansensor ST/SI/FL: 1.00 to 13.00 pH
Resolution: 0.01 pH
Reference temperature: 25 °C

ORP measurement
Measuring range with Swansensor ST/SI/FL: −1500 to +1500 mV
Resolution: 1 mV

Temperature compensations
Selectable modes according to
- Nernst (for potable water and wastewater),
- Nernst with non-linear solution compensation (for high-purity water),
- Nernst with linear compensation with selectable coefficient (for high-purity water).

Calibration solutions table
Programmable table for pH buffers and ORP calibration solution. SWAN buffers (pH 7 and 9) pre-programmed.

Auxiliary sensors
- Temperature measurement with Pt1000 type sensor (DIN class A).
  Measuring range: −30 to +250 °C
  Accuracy (0-50 °C) ±0.25 °C
  Resolution: 0.1 °C
- Sample flow measurement with digital SWAN sample flow sensor.

Transmitter Specifications and Functionality

Electronics case: Cast aluminum
Protection degree: IP66 / NEMA 4X
Display: backlit LCD, 74 x 53 mm
Electrical connectors: screw clamps
Ambient temperature: −10 to +50 °C
Humidity: 10 - 90% rel., non-condensing

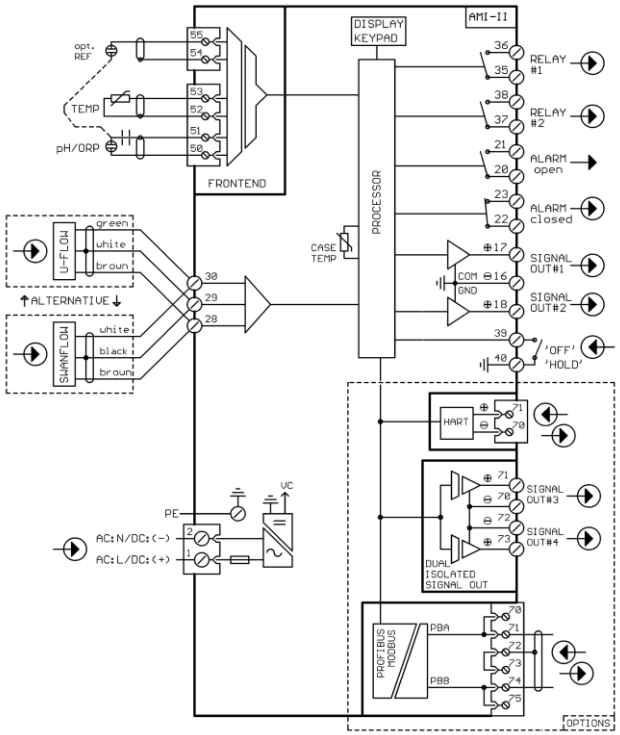
Power supply
AC version: 100 – 240 VAC (±10 %), 50/60 Hz (±5 %)
DC version: 10 – 36 VDC
Power consumption: max. 35 VA

Operation
User menus in English, German, French and Spanish.
Separate, menu-specific password protection.

Safety features
No data loss after power failure, all data is saved in non-volatile memory.
Overvoltage protection of inputs and outputs.
Galvanic separation of measuring inputs from signal outputs.

Transmitter temperature monitoring
With programmable high/low alarm limits.

Electrical Connection Scheme



Real-time clock with calendar
For action time stamp and preprogrammed actions

Alarm relay
Two potential-free contacts for summary alarm indication for programmable alarm values and instrument faults (one normally open and one normally closed contact).
Maximum load: 100 mA / 50 V resistive

Input
One input for potential-free contact.
Programmable hold or remote off function.

Relay outputs
Two potential-free contacts programmable as limit switches for measured values, controllers or timers with automatic hold function.
Rated load: 100 mA / 50 V resistive

Signal outputs
Two or four (with optional communication interface) programmable signal outputs for measured values (freely scalable, linear or bilinear) or as controller outputs.
Current loop: 0/4 – 20 mA
Maximum burden: 510 Ω
Type: current source

SD card interface
Possibility to record measured values and diagnostic data to an SD card.
SD card included.

Communication interface options
- Two additional signal outputs, galvanically separated
- RS485 interface with Modbus RTU or Profibus DP protocol, galvanically separated
- HART interface

Monitor Data

Sample conditions
Flow rate: 3 to 10 L/h
Temperature: 0 to 50 °C
Inlet pressure: max. 2 bar
Outlet pressure: pressure free

Sample connections
Sample inlet: Swagelok ¼" tube adapter
Sample outlet: for flexible tube, 15 mm inner Ø

Panel
Dimensions 280 × 850 × 180 mm
Material stainless steel
Total weight 8 kg