Transmitter AMI-II pH/Redox

Data sheet no. DenA11511X00

Electronic transmitter and controller for the measurement of pH or redox potential (ORP) in water.

Application examples

- General purpose instrument for use with all Swansensors pH or Redox for various applications: potable water, swimming pools, wastewater, power plants.

Measuring range

- 0.00 to 14.00 pH or −1500 to +1500 mV depending on installed sensor.
- Automatic temperature compensations according to Nernst with or without correction functions.
- Measured value is compensated to 25 °C.

Sensors

- Connections for a pH or ORP sensor with integrated or separate reference electrode and a Pt1000 temperature sensor.
- Use with high accuracy sensors: Swansensors pH or Swansensors Redox available for different sample conditions.
- Optional: connecting a SWAN sample flow sensor.

Instrument features

- Measuring and control transmitter in a rugged aluminum enclosure (IP66).
- Large, backlit LC display and simple, menu-driven operation.
- Various connection options: two or optionally four analog signal outputs, two limit relays, one alarm relay and one relay input.
- Modbus, Profibus or HART as an option.

Control functions

- Signal outputs and potential-free contacts flexibly configurable as control outputs.
- Optional AMI-II Relay Box for direct power supply and control of dosing devices, e.g. one or two solenoid valves or one motor valve.
- Relay input to freeze the measured value or to interrupt control in automated installations.

Order numbers:	Transmitter AMI-II pH/Redox	A–11.511._00
Power supply	100 – 240 VAC, 50/60 Hz	1
	10 – 36 VDC	2
Option	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
Accessories	For all accessories and details, please visit our website at www.swan.ch.	
	Swansensor pH	A–87.1X0.200
	Swansensor Redox	A–87.4XX.200
	Flow cell QV-Flow 2PG-T	A–83.411.11X
	Flow cell M-Flow 10-3PG	A–83.416.330

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pH or ORP Measurement

Input resistance: $>10^{13}$ Ω

pH measurement
Measuring range: 0.00 to 14.00 pH
Resolution: 0.01 pH
Reference temperature: 25 °C

ORP measurement
Measuring range: −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
Dimensions: 180 × 142 × 94 mm
Weight: 1.7 kg
Ambient temperature: −10 to +50 °C
Humidity: 10 - 90% rel., non-condensing

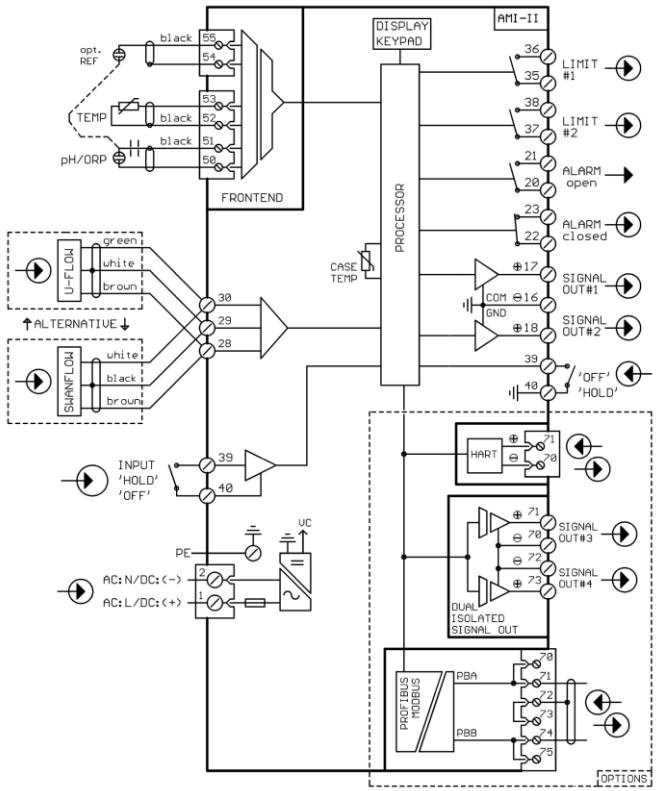
Power supply
AC version: 100 – 240 VAC (±10 %), 50/60 Hz (±5 %)
DC version: 10 – 36 VDC
Power consumption: max. 35 VA

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

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

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