Transmitter AMU-II pH / Redox

Data sheet no. DenA11441X00

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

Application examples

- General purpose meter for use with all Swansensors pH or ORP for various applications: potable water, swimming pools, wastewater, and power cycles.

Measuring range

- 0 to 14 pH or −500 to +1500 mV.
- 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 in variants for different sample conditions.
- Optional: connecting a SWAN sample flow sensor.

Instrument features

- Transmitter for panel mounting with IP54 protection (front).
- Large, backlit LC display and simple, menu-driven operation.
- Various connection options: two analog signal outputs, two limit relays, one alarm relay and one relay input.
- Modbus, Profibus, HART, RS232 or USB as an option.

Order numbers:	AMU-II pH / Redox	A–11.441._00
Power supply	100 – 240 VAC, 50/60 Hz	1
	10 – 36 VDC	2
Accessories	For all options and details, please visit our website at www.swan.ch.	
	RS485 interface with Modbus RTU or Profibus protocol	A–81.460.010
	USB interface	A–81.460.020
	HART interface	A–81.460.030
	Swansensor pH	A–87.1X0.200
	Swansensor Redox	A–87.4XX.200
	Flow cell QV-Flow IS1000	A–83.411.11X

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pH or Redox Measurement

Signal inputs galvanically separated.
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: -500 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.

Sensor monitoring
Indication of glass breakage and line disconnection.

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. Included as standard when ordering a QV-Flow flow cell.

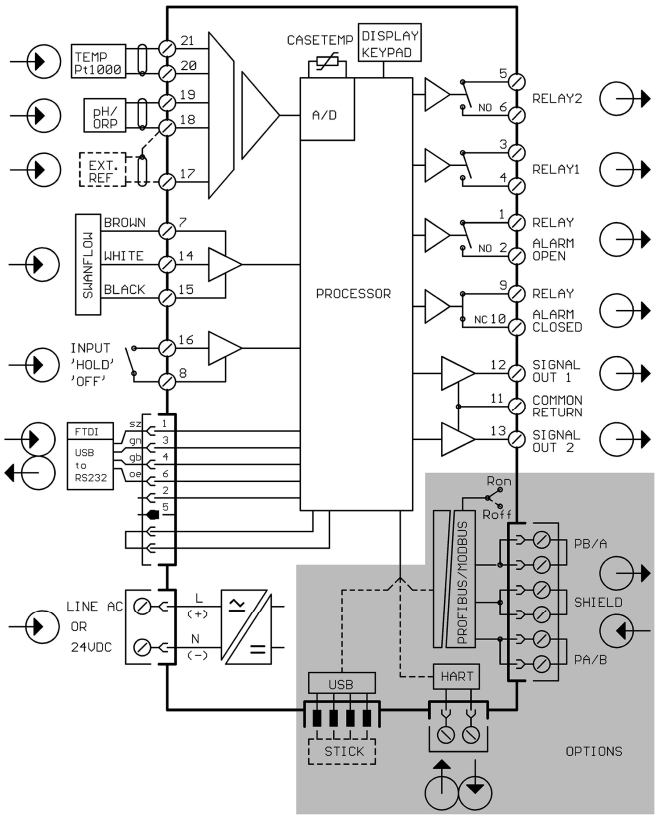
Transmitter Specifications and Functionality

Electronics case: Noryl® resin
Protection degree: IP54 (front)
Display: backlit LCD, 64 x 32 mm
Electrical connectors: clamping yoke
Dimensions: 96 x 96 x 85 mm
Weight: 0.30 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. 3 VA

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

Electrical Connection Scheme



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.

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 timer with automatic hold function.
Rated load: 100 mA / 50 V

Signal outputs
Two 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

RS232 interface
For data logger download to PC and for transmitter firmware updates. Requires the optional USB to RS232 interface converter.

Communication interface options
- RS485 interface with Modbus RTU or Profibus DP protocol, galvanically separated
- USB interface for logger download
- HART interface