

# 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.....<br>10 – 36 VDC.....                                                                                                                                                                              | 1<br>2                                                       |
| Option         | RS485 interface with Modbus RTU or Profibus protocol .....<br>HART interface .....<br>Two additional 0/4 – 20 mA signal outputs .....                                                                                         | A-81.470.0X0<br>A-81.470.030<br>A-81.470.040                 |
| Accessories    | For all accessories and details, please visit our website at <a href="http://www.swan.ch">www.swan.ch</a> .<br>Swansensor pH.....<br>Swansensor Redox .....<br>Flow cell QV-Flow 2PG-T .....<br>Flow cell M-Flow 10-3PG ..... | A-87.1X0.200<br>A-87.4XX.200<br>A-83.412.11X<br>A-83.416.330 |



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## pH or ORP Measurement

Input resistance:  $>10^{13} \Omega$

### 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)  $\pm 0.25$  °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 x 142 x 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 ( $\pm 10$  %),  
50/60 Hz ( $\pm 5$  %)  
DC version: 10 – 36 VDC  
Power consumption: max. 35 VA

### Operation

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

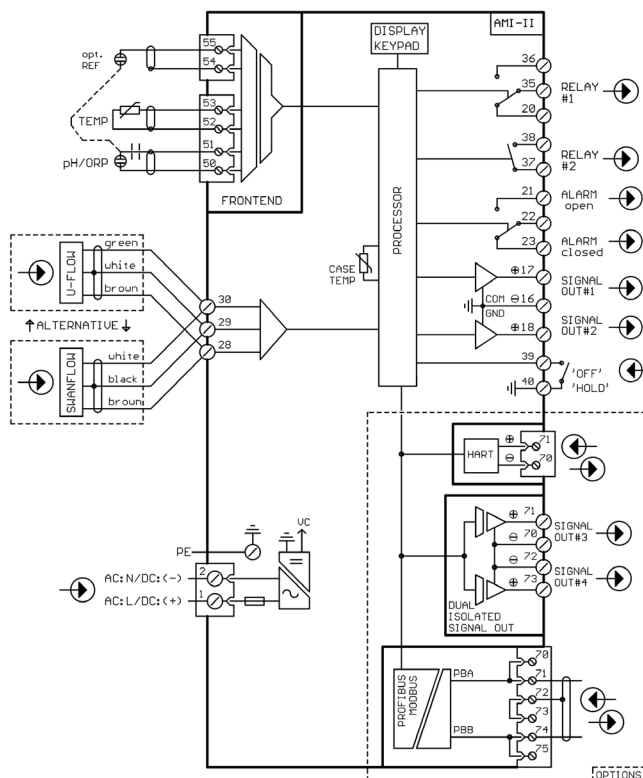
### Safety features

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

One potential-free contact for summary alarm indication for programmable alarm values and instrument faults.  
Maximum load: 1 A / 250 VAC

### 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: 1 A / 250 VAC

### 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  $\Omega$   
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

