

Electronic transmitter / controller for the continuous measurement of the pH value or Redox (ORP) in water.

### Transmitter AMI pH-Redox

- Measuring and control transmitter in a rugged aluminum enclosure (IP 66).
- Measuring range:  
0 to 14 pH respectively -500 to +1500 mV
- Sensor connections for a pH or ORP sensor, reference electrode, Pt1000 temperature and for a digital sample flow meter (QV-Flow or deltaT-Flow).
- Galvanically separated sensor connections.
- Automatic temperature compensations according to Nernst with or without correction functions.
- Values for pH buffer solutions and redox calibration solution programmable.
- Big backlit LC display for the reading of measuring value, sample temperature, sample flow, temperature compensation type and operating status.
- 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.
- Data logger for 1'500 data records stored at a selectable interval.
- Overvoltage protection for in- and outputs.
- Two current outputs (0/4 - 20 mA) for measured signals.
- Potential-free alarm contact as summary alarm indication for programmable alarm values and for instrument faults.
- Two potential-free contacts programmable as limit switch or PID-control.
- Input for potential-free contact to freeze the measuring value or to interrupt control in automated installations (hold function or remote-off).



Order Nr.	Transmitter AMI pH-Redox	A-11.411.100
Option:	[ ] 3 <sup>rd</sup> current signal output (0/4 – 20mA)	A-81.420.050
	[ ] Profibus DP & Modbus RTU interface (RS-485)	A-81.420.020
	[ ] USB interface	A-81.420.042
	[ ] HART interface	A-81.420.060

**pH / ORP Measurement**

Signal inputs galvanically separated.  
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: -500 to +1500 mV  
Resolution: 1 mV

**Temperature compensations**

automatic, 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.

**Temperature measurement**

with SWAN Pt1000 sensor.  
Measuring range: -30 to +130 °C  
Resolution: 0.1 °C

**Sample flow measurement**

with digital sample flow meter.

**Transmitter Specifications and Functionality**

Electronics case: Cast 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: 1.5 kg  
Ambient temperature: -10 to +50 °C  
Humidity: 10 - 90 % rel., non cond.

**Power supply**

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

**Operation**

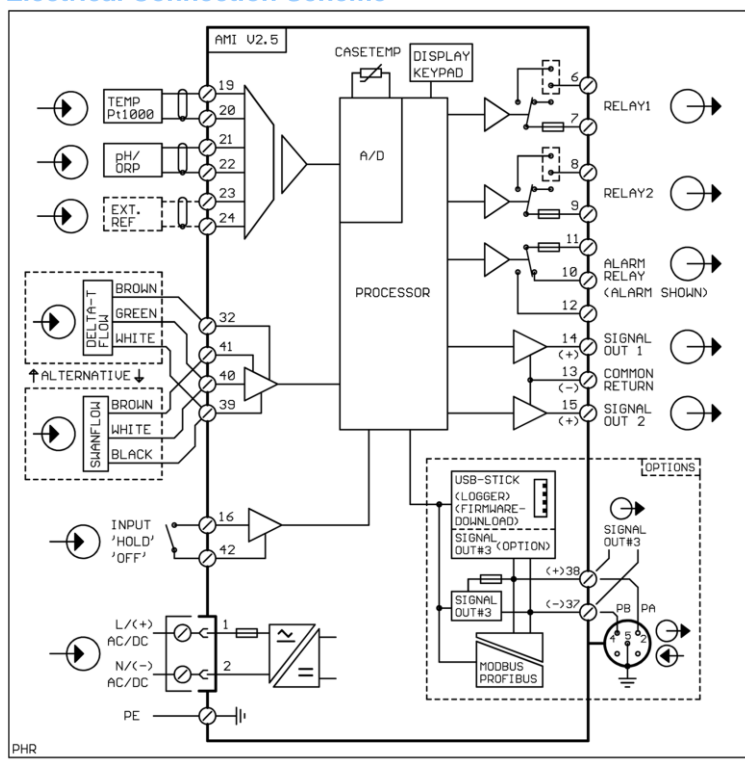
Easy operation based on separate menus for "Messages", "Diagnostics", "Maintenance", "Operation" and "Installation".

User menus in English, German, French and Spanish.

Separate menu specific password protection.

Display of process value, sample flow, alarm status and time during operation.

**Electrical Connection Scheme**



Storage of event log, alarm log and calibration history.

Storage of the last 1'500 data records in logger with selectable time interval.

**Real-time clock with calendar**

For action time stamp and preprogrammed actions.

**Safety features**

No data loss after power failure, all data is saved in non-volatile memory.  
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.  
Maximum 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 (3<sup>rd</sup> optional)**

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

Current loop: 0/4 - 20 mA  
Maximum burden: 510  $\Omega$

**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
- 3<sup>rd</sup> signal output
- USB interface
- HART interface