SWAN Analytical USA
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Monitor AMI pH/mV:pH/mV

Data sheet No. DenA21321020

Monitor for continuous measurement of pH and redox (ORP) in potable water and effluents.

Monitor AMI pH/mV:pH/mV (M-Flow)

Complete system mounted on PVC panel:
- Dual channel **Transmitter AMI pH/mV:pH/mV** in a rugged aluminum enclosure (IP 66).
- **Flow cell M-Flow 10-3PG** including temperature sensor (Nt5k) and sensor cables for two combined pH- respectively ORP sensor.
- Factory tested, ready for installation and operation.

For use with two combined sensors with reference electrodes (combined electrode with gel electrolyte):
- **Swansensor pH Standard**
- **Swansensor pH AY**
- **Swansensor ORP Standard**
- **Swansensor ORP AY**

Optional:
- Spray nozzle for sensor cleaning
- Swansensor deltaT for flow detection

Specifications:
- Measuring ranges: 1 to 13 pH / -500 to +1500 mV depending on installed sensor.
- Simultaneous measurement of pH, Redox (ORP), sample temperature and sample flow.
- Big backlit LC display for the reading of measuring value, sample temperature, sample flow and operating status.
- Easy user menus with simple programming of all parameters by keypad.
- Two current outputs (0/4 - 20 mA) for measured signals (3rd output optional).
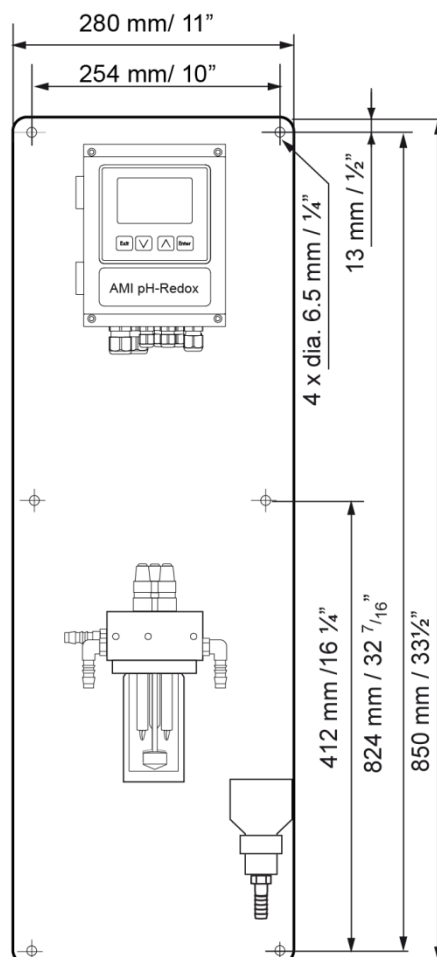
Order Nr.	Monitor AMI pH/mV:pH/mV; M-Flow	A–21.321.020
Option:	[ ] 3rd current signal output (0/4 – 20mA)	A-81.410.020
	[ ] Profibus DP interface	A-81.420.020
	[ ] HyperTerminal interface (RS-232)	A-81.420.010
	[ ] Modbus interface	A-81.420.022
	[ ] USB interface	A-81.420.040
Option:	[ ] Swansensor pH Standard	A-87.120.200
	[ ] Swansensor pH AY	A-87.130.200
	[ ] Swansensor ORP Standard	A-87.420.200
	[ ] Swansensor ORP AY	A-87.430.200
Option:	[ ] Swansensor deltaT Flow	A-87.933.010
Option:	[ ] Spray nozzle for sensor cleaning	A-83.491.120

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pH/ORP Measurement

Signal input galvanically separated
Input resistance: $> 10^{13} \, \Omega$

pH measurement
with Swansensor Standard / - AY.
Measuring range: pH 1 to 13
Resolution: 0.01 pH
Reference temperature: 25 °C
Automatic temperature compensation according to Nernst.

ORP measurement
with Swansensor Standard / - AY.
Measuring range: -400 to 1200 mV
Resolution: 1 mV

Calibration solutions table
Programmable table for pH buffers and ORP calibration solution.

Temperature measurement
Measuring range: -30 to +130 °C
Resolution: 0.1 °C

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 condensing

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.
Storage of event log, alarm log and calibration history.
Storage of the last 1'500 data records in logger with selectable time interval.

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.

Electrical Connection Scheme
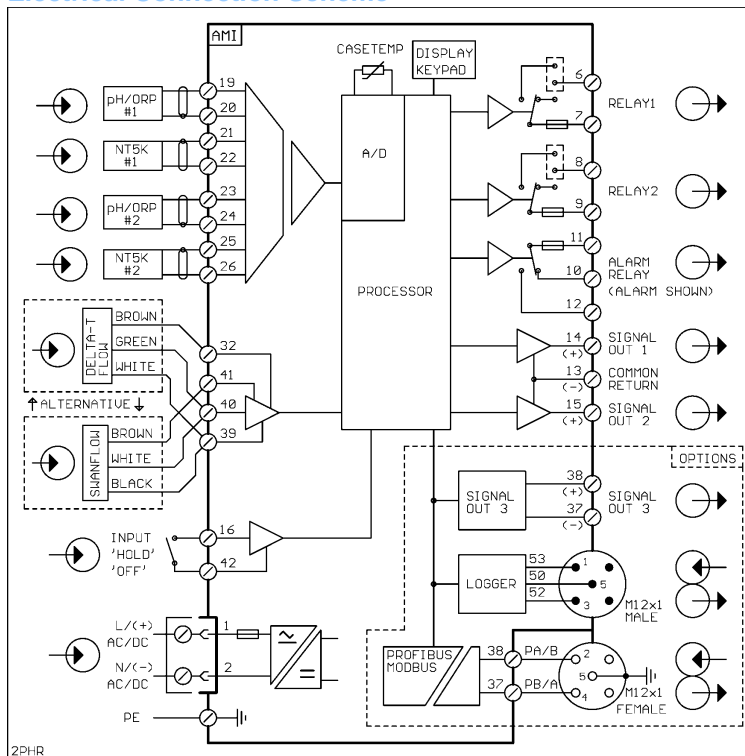
Transmitter temperature monitoring with programmable high/low alarm limits.

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.
Rated load: 1A / 250 VAC

2 Signal outputs (3rd as option)
Two programmable signal outputs for measured values (freely scaleable, linear or bilinear) or as continuous control output (control parameters programmable).
Current loop: 0/4 - 20 mA
Maximum burden: 510 Ω

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)
- RS232 interface for logger download to PC with SWANTerminal
- RS485 interface (galvanically separated) with Fieldbus protocol Modbus or Profibus DP
- 3rd Signal output
- USB interface

Monitor Data

Sample conditions
Flow rate: 4 to 15 L/h
Temperature: up to 50 °C
Inlet pressure: up to 1 bar
Outlet pressure: pressure free

Flow cell and connections
Flow cell made of PVC and acrylic glass.

Sample inlet: Hose nozzle ¼"-10 elbow
for Ø 10 mm tube
Sample outlet: G ½" adapter
for flexible tube Ø 20 x 15 mm

Panel
Dimensions: 280 x 850 x 150 mm
Material: white PVC
Total weight: 9.0 kg