SWAN Analytische Instrumente AG
CH-8340 Hinwil/Switzerland
Tel. +41 44 943 63 00
swan@swan.ch · www.swan.ch

Monitor AMI Powercon Acid

Data sheet No. DenA23445X0X

Complete monitoring system for the automatic, continuous measurement of the acid (cation) conductivity in feedwater, steam and condensate.

Monitor AMI Powercon Acid

Complete system mounted on stainless steel mounting panel:

- **Transmitter AMI Powercon**
  in a rugged aluminum enclosure (IP 66).

- **Swansensor UP-Con1000-SL**
  2-electrode conductivity sensor with slot-lock adapter and integrated Pt1000 temperature probe, k = 0.04 cm^{-1}.

- **Flow cell Catcon-Plus-SL** made of stainless steel 316L with flow adjustment valve and digital sample flow meter. Quick sensor release with patented slot-lock design.
  Integrated, easy exchangeable, transparent cation exchanger vessel with automatic de-aeration. Nuclear grade resin with capacity indicator.

- Factory tested, ready for installation and operation.

Variant with Pre-rinse setup:

- for instantaneous resin exchange (lead-and-trail) with additional trail vessel.

Specifications:

- Conductivity measurement range:
  0.055 to 1000 µS/cm

- Simultaneous measurement and display of conductivity, sample temperature and flow.

- Temperature compensation preset for strong acids but wide range of others selectable for other sample conditions.

- Big backlit LC display for the reading of all measuring values and operating status.

- Easy user menus with simple programming of all parameters by keypad.

- Electronic record of major process events and calibration data.
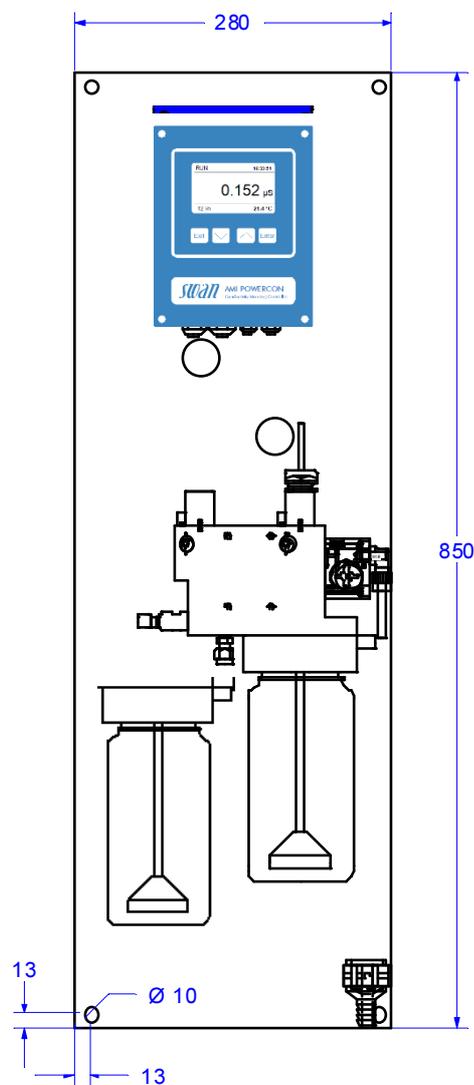
Monitor with optional pre-rinse set-up

- Two current outputs (0/4 - 20 mA) for measured signals (3rd as option).

Order Nr.	Monitor AMI Powercon Acid AC	A–23.445.101
	Monitor AMI Powercon Acid DC	A–23.445.201
	Monitor AMI Powercon Acid Pre-rinse AC	A–23.445.102
	Monitor AMI Powercon Acid Pre-rinse DC	A–23.445.202
Option:	[ ] 3rd 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
Option:	[ ] Cation exchanger, 1 bottle with 1l resin	A-82.841.030

SWAN Analytische Instrumente AG
CH-8340 Hinwil/Switzerland
Tel. +41 44 943 63 00
swan@swan.ch · www.swan.ch

Monitor AMI Powercon Acid

Data sheet No. DenA23445X0X

Conductivity Measurement

Swansensor UP-Con1000-SL with integrated Pt1000 temperature probe.

Measuring range	Resolution
0.055 to 0.999 μS/cm	0.001 μS/cm
1.00 to 9.99 μS/cm	0.01 μS/cm
10.0 to 99.9 μS/cm	0.1 μS/cm
100 to 1000 μS/cm	1 μS/cm

Automatic range switching.

Accuracy:
± 1 % of measured value or ± 1 digit (whichever is greater).

Temperature compensations
Non-linear function (for high purity water), neutral salts, strong acids, strong bases, ammonia, ethanolamine, morpholine, linear coefficient in %/°C), absolute (none). Influence of temperature see PPChem 2012 14(7) [Wagner]

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

Sample flow measurement
With digital Swan sample flow sensor.

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:
AC version: 100 - 240 VAC (± 10 %),
        50/60 Hz (± 5 %)
DC version: 10-36 VDC
Power consumption: max. 35 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
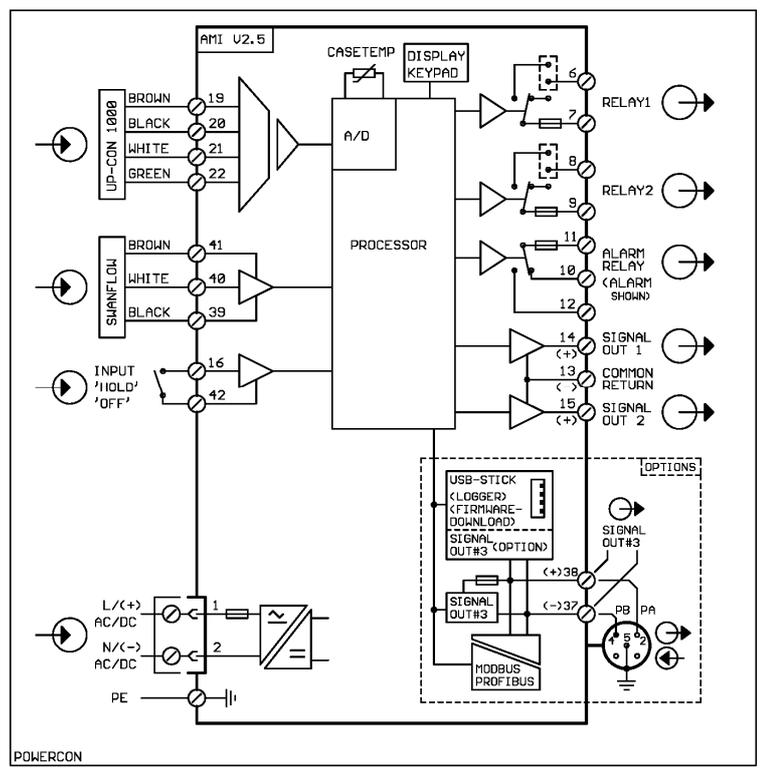
Transmitter temperature monitoring with programmable high/low alarm limits.

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 outputs (control parameters programmable) as current source. 3rd signal output selectable as current source or current sink.
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)
- RS485 interface (galvanically separated) with Fieldbus protocol Modbus RTU or Profibus DP
- 3rd Signal output
- USB interface
- HART interface

Monitor Data

Sample conditions
Flow rate: 5 to 20 L/h
Temperature: up to 50 °C
Inlet pressure (25 °C):   up to 2 bar
Outlet pressure: pressure free
No sand, no oil

Flow cell and connections
Flow cell with flow adjustment valve and digital sample flow meter. Quick sensor release with patented slot-lock design.

Sample inlet: Swagelok ¼" tube adapter
Sample outlet: G ½" adapter
        for flexible tube Ø 20 x 15 mm

Cation exchanger
Cleaned resin (1L, nuclear grade) with capacity indicator ready for operation. Resin sufficient at 1 mg/L ammonia (pH 9.4). Resin capacity for 1L: 4 months at sample flow 10 L/h, 5 months at 5 L/h. Additional trail resin vessel with pre-rinse setup as option.
Automatic deaeration of resin bottle(s).

Panel
Dimensions: 280 x 850 x 200 mm
Material: stainless steel
Total instrument weight: 10.0 kg