

По вопросам продаж и поддержки обращайтесь:

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Единый адрес: snw@nt-rt.ru **Веб-сайт:** www.swan.nt-rt.ru

Передатчики AMI Powercon SWAN. Техническое описание

Electronic transmitter & controller for the measurement of the conductivity in power cycles. For the measurement before (specific / total conductivity) or after a cation exchanger (acid / cationic conductivity).

Transmitter AMI Powercon

- Measuring and control transmitter in a rugged aluminum enclosure (IP 66).
- Conductivity measurement range from 0.005 $\mu\text{S/cm}$ to 30 mS/cm.
- Connections for a 2-electrode conductivity sensor with integrated Pt1000 temperature probe, e.g. Swansensor UP-Con1000 with titanium electrodes and for a digital SWAN sample flow meter.
- Temperature compensations: non linear for high purity water, neutral salts, strong acids, strong bases, ammonia, ethanolamine, morpholine or linear with coefficient.
- Big backlit LC display for the reading of measuring value, sample temperature, sample flow 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.
- 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. (Data download to PC requires optional HyperTerminal interface).
- Galvanically separated sensor connection.
- Overvoltage protection for in- and outputs.
- Two current signal 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 Powercon	A-13.423.100
Option:	[] 3 rd 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

Conductivity Measurement

Conductivity sensor type

2-electrode sensor.

Measuring range

0.005 to 0.999 $\mu\text{S/cm}$	0.001 $\mu\text{S/cm}$
1.00 to 9.99 $\mu\text{S/cm}$	0.01 $\mu\text{S/cm}$
10.0 to 99.9 $\mu\text{S/cm}$	0.1 $\mu\text{S/cm}$
100 to 999 $\mu\text{S/cm}$	1 $\mu\text{S/cm}$
1.00 to 2.99 mS/cm	0.01 mS/cm
3.0 to 9.9 mS/cm	0.1 mS/cm
10 to 30 mS/cm	1 mS/cm

Automatic range switching.

Values for cell constant 0.0415 cm^{-1} ,
with Swansensor UP-Con1000.

Accuracy: $\pm 1\%$ of measured value

Sensor cell constant

Default value: 0.0415 cm^{-1}
Selectable: from 0.005 to 10 cm^{-1}

Temperature compensations

- Non linear function (NLF) for high purity water
 - Neutral salts
 - Strong acids
 - Strong bases
 - Ammonia
 - Ethanolamine
 - Morpholine
 - Linear coefficient 0.00 – 10.00 $\%/^{\circ}\text{C}$
 - Absolute (none)
- Influence of temperature see PPChem 2012 14(7) [Wagner]

Temperature measurement

with Pt1000 type sensor (DIN class A)
Measuring range: -30 to +250 $^{\circ}\text{C}$
Resolution: 0.1 $^{\circ}\text{C}$

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 $^{\circ}\text{C}$
Humidity: 10 to 90 % rel., non cond.

Power supply

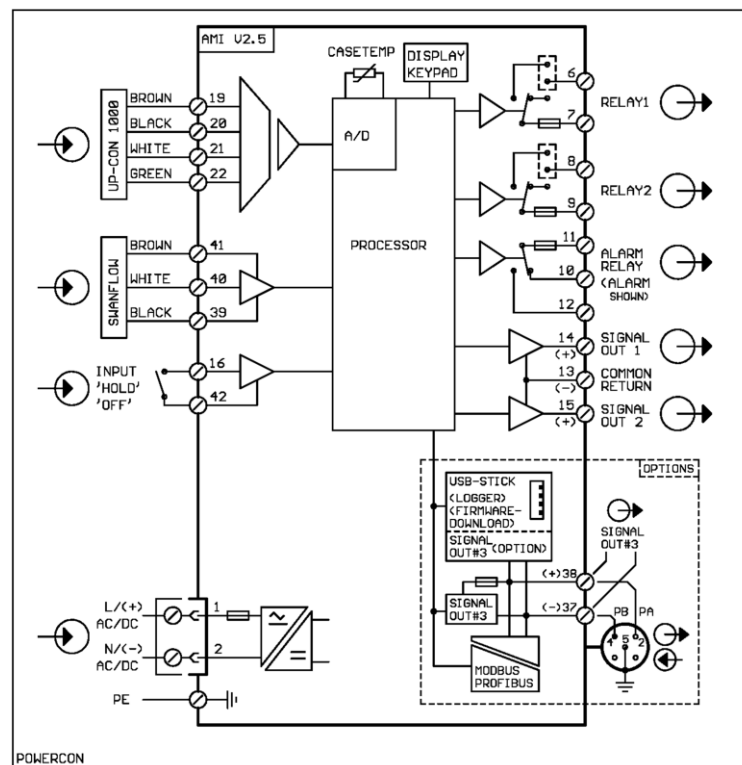
Voltage: 100 - 240 VAC ($\pm 10\%$),
50/60 Hz ($\pm 5\%$)
or 24 VDC ($\pm 10\%$)
Power consumption: max. 30 VA

Operation

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

User menus in English, German, French and Spanish.

Electrical Connection Scheme



Separate menu specific password protection.

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

Storage of event- and alarm log.

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.
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

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