SWAN Analytical USA
229 Larkin Dr, Wheeling IL 60090
Tel. 847-229-1290 Fax 847-229-1320
www.swan-analytical-usa.com
info@swan-analytical-usa.com

Transmitter AMI Powercon

Data sheet No. DenA13423100

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 µS/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.
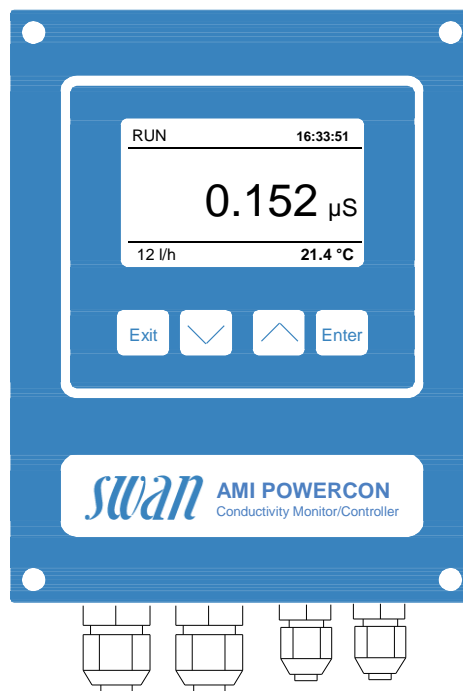
- Two potential-free contacts programmable as limit switch or PID-control.
- Input for potential-free contact to freeze the measuring value or to interrupt control in automated installations (hold function or remote-off).

Order Nr.	Transmitter AMI Powercon	A–13.423.100
Option:	[ ] 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

SWAN *Analytical USA*
229 Larkin Dr, Wheeling IL 60090
Tel. 847-229-1290 Fax 847-229-1320
www.swan-analytical-usa.com
info@swan-analytical-usa.com

Transmitter AMI Powercon

Data sheet No. DenA13423100

Conductivity Measurement

Conductivity sensor type
2-electrode sensor.

Measuring range	Resolution
0.005 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 999 µS/cm	1 µS/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: ± 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 %/°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 °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 to 90 % rel., non cond.

Power supply
Voltage: 100 - 240 VAC (± 10 %),
                          50/60 Hz (± 5 %)
                          or 24 VDC (± 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
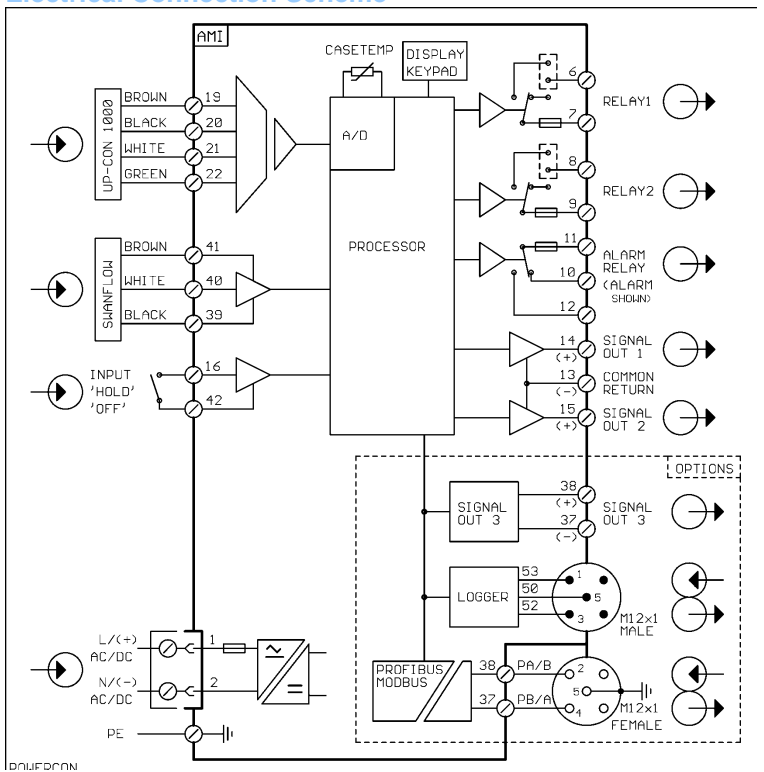
Separate menu specific password protection.

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).
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