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 Rescon

Data sheet No. DenA13422100

Electronic transmitter / controller for the measurement of the specific resistivity or specific conductivity in high purity water.

Transmitter AMI Rescon

- Measuring and control transmitter in a rugged aluminum enclosure (IP 66).
- Measurement ranges:
  - Resistivity: 0.001 to 200 MΩ-cm
  - Conductivity: 0.005 to 1000 µS/cm
- Sensor connections for a two-electrode sensor with built-in NTC temperature probe like Swansensor RC-U or RC-UT and for a digital sample flow meter.
- 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.
- Wide range of selectable temperature compensations for different sample conditions.
- 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. (Data download to PC requires optional HyperTerminal interface).
- Galvanically separated sensor connection.
- 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 Rescon	A–13.422.100
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 Rescon

Data sheet No. DenA13422100

Conductivity Measurement

Resistivity/Conductivity sensor type
2-electrode sensor

Sensor cell constant
Selectable from 0.005 to 1.000 cm^{-1}

Measuring range	Resolution
0.001 to 200.00 MΩ-cm	0.01 MΩ-cm
0.005 to 2.999 μS/cm	0.001 μS/cm
3.00 to 29.99 μS/cm	0.01 μS/cm
30.0 to 99.9 μS/cm	0.1 μS/cm
100 to 1000 μS/cm	1 μS/cm

Automatic range switching. Values for Swansensor RC-U (k = 0.01 cm^{-1}).

System accuracy (with RC-U sensor)
0.01 to 20 MΩ-cm	± 0.5 %
0.05 to 20 μS/cm	± 0.5 %
20 to 1000 μS/cm	± 1 %

Periodic accuracy test with ultra high precision resistors.

Test modus for transmitter according to USP<645> with test resistance.

Alarm function for limit values according to USP<645> Stage 1.

Temperature compensations
- High purity water (non-linear)
- Neutral salts (NaCl)
- Strong acids (HCl)
- Strong bases (NaOH)
- Ammonia, Ethanolamine
- Morpholine
- Linear coefficient: in %/°C
- None (compensation switched off)
Influence of temperature see PPChem 2012 14(7) [Wagner].

Temperature measurement
with NT5K sensor
Measuring range:	-30 to +130 °C
Resolution:	0.1 °C

Sample flow measurement
with digital SWAN sample flow sensor.
Measuring range:	10 to 200 L/h

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 (± 10 %),
	50/60 Hz (± 5 %)
	or 24 VDC (± 10 %)
Power consumption:	max. 30 VA

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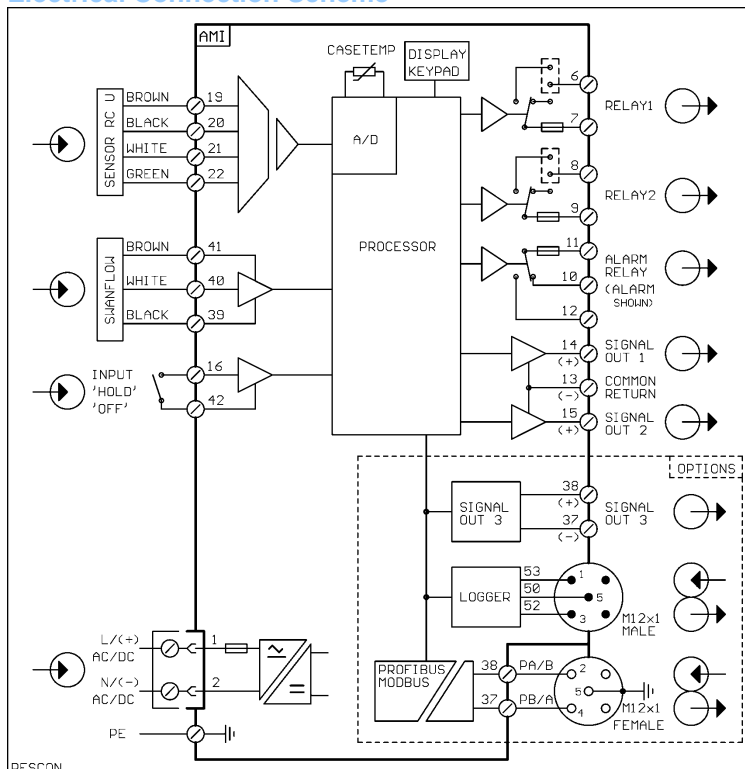
Operation
Easy operation based on separate menus for "Messages", "Diagnostics", "Maintenance", "Operation" and "Installation".

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.

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 optional)
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