

Electronic transmitter / controller for the measurement of the specific conductivity, concentration of CIP solutions, salinity and TDS

Transmitter AMI Solicon4

- Measuring and control transmitter in a rugged aluminum enclosure (IP 66).
- For the connection of a four-electrode conductivity sensor with integrated Pt1000 temperature sensor like Swansensor Shurecon P or Swansensor Shurecon S.
- Measurement range:
from 0.05 $\mu\text{S}/\text{cm}$ to 100 mS/cm .
- For the measurement of specific conductivity, concentrations (for NaCl, NaOH and acids in %), salinity (as NaCl in %) and total dissolved solids (TDS in % or mg/l).
- Big backlit LCD 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.
- Galvanically separated sensor connection.
- Temperature compensation with selectable coefficient or non linear function for natural waters according to EN 27888 / DIN 38404.
- 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 Solicon4 AC	A-13.411.100
	Transmitter AMI Solicon4 DC	A-13.411.200
Option:	<input type="checkbox"/> 3 rd current signal output (0/4 – 20mA)	A-81.420.050
	<input type="checkbox"/> Profibus DP & Modbus RTU interface (RS-485)	A-81.420.020
	<input type="checkbox"/> USB interface	A-81.420.042
	<input type="checkbox"/> HART interface	A-81.420.060

Conductivity Measurement

Sensor type

4-electrode sensor

Measuring range

0.05 to 9.99 $\mu\text{S/cm}$
10.0 to 99.9 $\mu\text{S/cm}$
100 to 999 $\mu\text{S/cm}$
1.00 to 9.99 mS/cm
10.0 to 29.9 mS/cm
30 to 100 mS/cm

Resolution

0.01 $\mu\text{S/cm}$
0.1 $\mu\text{S/cm}$
1 $\mu\text{S/cm}$
0.01 mS/cm
0.1 mS/cm
1 mS/cm

Automatic range switching.

Values for Swansensors Shurecon P and Shurecon S.

Precision

0.5% of measured value or 0.01 $\mu\text{S/cm}$

Greatest long-term stability by auto-zero front-end calibration procedure.

Sensor cell constant

Selectable from 0.005 to 1.000 cm^{-1}

System calibration

Automatic calibration procedure with 1.413 mS/cm standard solution.

Temperature compensations

- Absolute (none)
- Linear coefficient in $\%/^{\circ}\text{C}$
- Non linear function (NLF) for natural waters according to EN 27888 / DIN 38404

Concentration measurements (25°C)

- NaCl: 0 - 4.6%
- HCl: 0 - 0.8%
- NaOH: 0 - 1.6%
- H₂SO₄: 0 - 1.1%
- HNO₃: 0 - 1.5%
- Salinity: 0 - 4.6% (as NaCl)
- TDS: 0 - 4.6% (as NaCl)
- TDS : 0.0 mg/l – 20.0 g/l (coefficient)

Temperature measurement

with Pt1000 type sensor (DIN class A)
Measuring range: -30 to +250 °C
Resolution: 0.1 °C

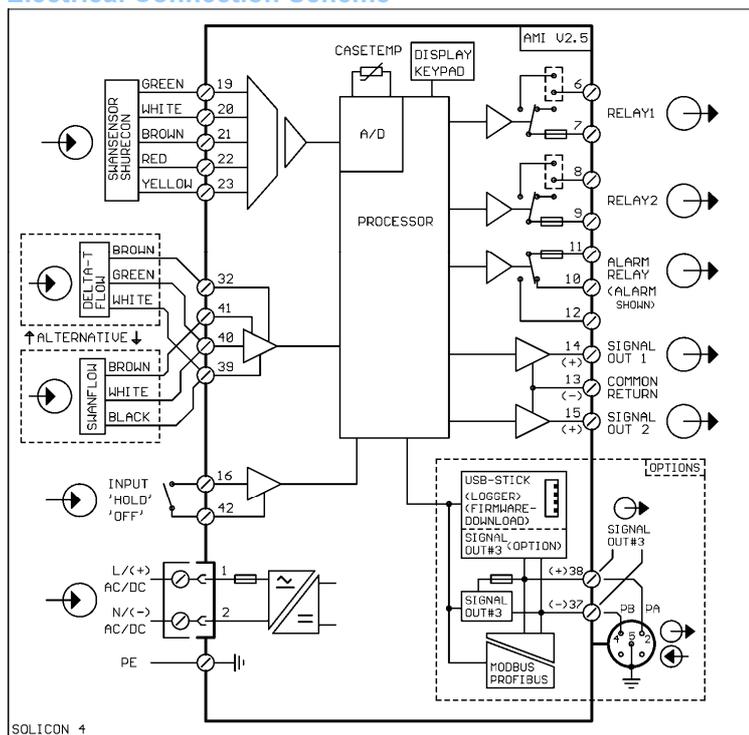
Sample flow measurement

with digital SWAN sample flow meter

Transmitter Specifications and Functionality

Electronics case: 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
Limit range of operation: -25 to +65°C
Storage and transport: -30 to +85°C
Humidity: 10 to 90 % relative non condensing

Electrical Connection Scheme



Power supply

Voltage:
AC version: 100 - 240 VAC ($\pm 10\%$),
50/60 Hz ($\pm 5\%$)
DC version: 10-36 VDC
Power consumption: max. 35 VA

Operation

Easy operation based on separate menus for "Messages", "Diagnostics", "Maintenance", "Operation" and "Installation".
Separate menu specific password protection possible.
Display of process value, sample flow, alarm status and time during operation.
Storage of event log, alarm log.
Storage of the last 1'500 data records in logger with selectable time interval.

Safety features

Data storage in non-volatile memory.
Over voltage protection of in- and outputs.
Galvanic separation of measuring inputs and signal outputs.

Transmitter temperature monitoring

With programmable high/low alarm limits.

Real-time clock with calendar

For action time stamp and pre-programmed actions.

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.
Max. 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