

Electronic transmitter / controller for the continuous measurement of Ammonium or Nitrate in potable water.

Transmitter ISE Universal

- Measuring and control transmitter in a rugged aluminum enclosure (IP 66).
- Measuring range: 0.01 to 1'000 ppm (=mg/l)
- Sensor connections for one ISE (ion sensitive electrode), e.g. Swansensor Ammonium or Swansensor Nitrate, one Reference electrode and one temperature sensor (NT5K).
- Sensor connection for a digital sample flow meter, Swansensor deltaT-Flow.
- Galvanically separated sensor connections.
- Automatic temperature compensations according to Nernst.
- Big backlit LC display for the reading of measuring value, sample temperature, sample flow and operating status.
- Easy user menus in English, German, French, Spanish. Simple programming of all parameters by keypad.
- 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).
- 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).



For use with:

- **Swansensor Ammonium** or **Swansensor Nitrate** in combination with **Swansensor Reference FL** for the measurement of Ammonium respectively Nitrate (see datasheet of sensor).
- **Swansensor Temperature (NT5k).**
- **Swansensor deltaT-Flow.**
- Flow cell **M-Flow 10-3 PG.**

Order Nr.	Transmitter AMI ISE Universal	A-17.210.100
Option 1:	[] 3 rd 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

NH₄-N / NO₃-N Measurement

Signal inputs galvanically separated.
Input resistance: $> 10^{13} \Omega$

Ammonium or Nitrate measurement
with Swansensor Ammonium respectively Nitrate.

Measuring range: 0.1 to 1'000 ppm
Display Resolution
0.00 to 9.99 0.01 ppm
10.0 to 99.9 0.1 ppm
100 to 1'000 1 ppm
Accuracy: 10% of meas. value
Reference temperature: 25 °C
Automatic temperature compensation according to Nernst

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

Sample flow measurement
with sample flow detection deltaT-Flow.

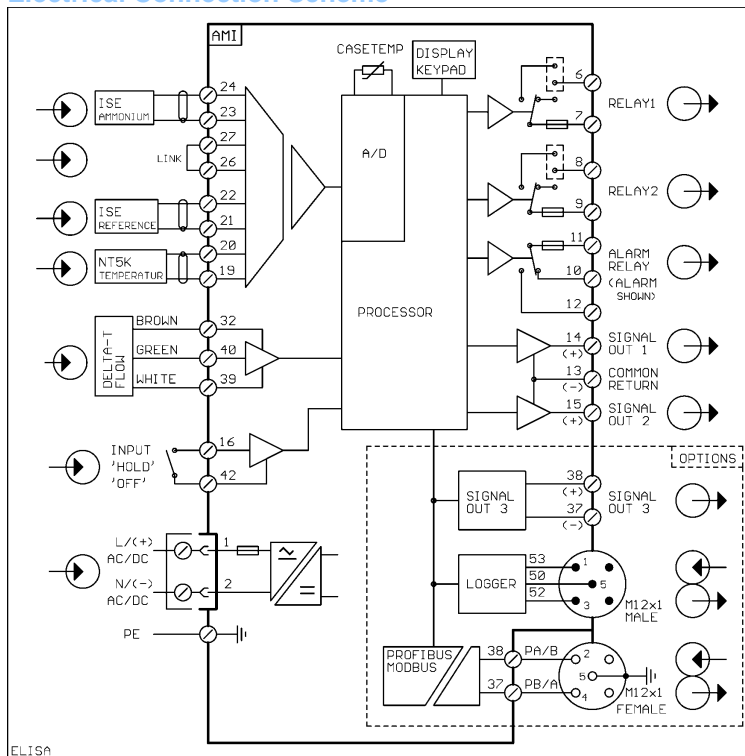
Transmitter Specifications and Functionality

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 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.
Separate menu specific password protection.
Display of process value, sample flow, alarm status and time during operation.

Electrical Connection Scheme



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.
Max. load: 1A / 250 VAC

2 Signal outputs (3rd optional)
Two programmable signal outputs for measured values (freely scalable, linear or bilinear) or as continuous control output (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