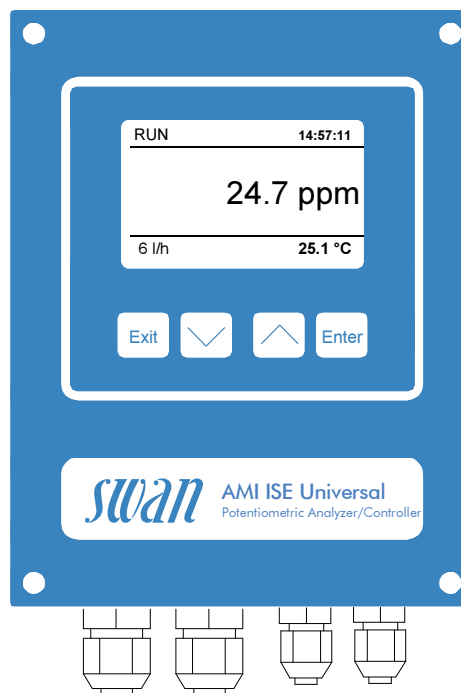


Electronic transmitter / controller for the continuous measurement of Ammonium, Nitrate or Fluoride in potable water.

## 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, - Nitrate or - Fluoride, one Reference electrode and one temperature sensor (NT5K).
- Sensor connection for a digital sample flow meter, e.g. 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.
- 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, - Nitrate or - Fluoride** in combination with **Swansensor Reference FL** for the measurement of Ammonium, Nitrate respectively Fluoride (see datasheet of sensor).
- **Swansensor Temperature (NT5k).**
- **Swansensor deltaT-Flow.**
- Flow cell **M-Flow 10-3 PG.**

Order Nr.	Transmitter AMI ISE Universal AC	A-17.210.100
	Transmitter AMI ISE Universal DC	A-17.210.200
Option 1:	[ ] 3 <sup>rd</sup> 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

**NH<sub>4</sub>-N / NO<sub>3</sub>-N / F  
Measurement**

Signal inputs galvanically separated.  
Input resistance: > 10<sup>13</sup> Ω

**Ammonium, Nitrate or Fluoride  
measurement** with appropriate sensor.

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

Restriction of use: direct control of  
fluoride dosing is not permitted.

**Temperature measurement**  
with SWAN NT5K sensor.  
Measuring range: -30 to +130 °C  
Resolution: 0.1 °C  
Accuracy: ± 0.2 °C (range 0 to 70 °C)

**Sample flow measurement**  
with sample flow detection deltaT-Flow.

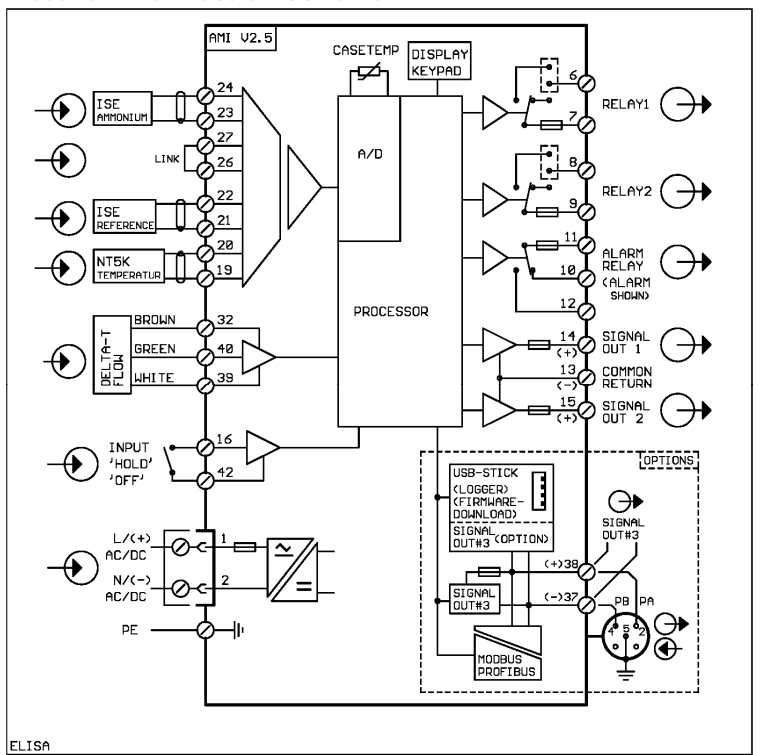
**Transmitter Specifications  
and Functionality**

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

**Operation**  
Easy operation based on separate  
menus for "Messages", "Diagnostics",  
"Maintenance", "Operation" and "Instal-  
lation".  
User menus in English, German, French  
and Spanish.  
Separate menu specific password pro-  
tection.  
Display of process value, sample flow,  
alarm status and time during operation.

**Electrical Connection Scheme**



Storage of event log, alarm log and cali-  
bration 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 preprogram-  
med actions.

**Safety features**  
No data loss after power failure, all data  
is saved in non-volatile memory.  
Overvoltage protection of in- and out-  
puts. Galvanic separation of measuring  
inputs and signal outputs.

**Transmitter temperature monitoring**  
with programmable high/low alarm lim-  
its.

**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 func-  
tion.

**2 Relay outputs**  
Two potential-free contacts programma-  
ble as limit switches for measuring val-  
ues, controllers or timer for system  
cleaning with automatic hold function.  
Max. load: 1A / 250 VAC

**2 Signal outputs (3<sup>rd</sup> optional)**  
Two programmable signal outputs for  
measured values (freely scalable, linear  
or bilinear) or as continuous control out-  
put (control parameters programmable)  
) as current source. 3<sup>rd</sup> signal output se-  
lectable 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 sepa-  
rated) with Fieldbus protocol Modbus  
RTU or Profibus DP  
- 3<sup>rd</sup> Signal output  
- USB interface  
- HART interface