

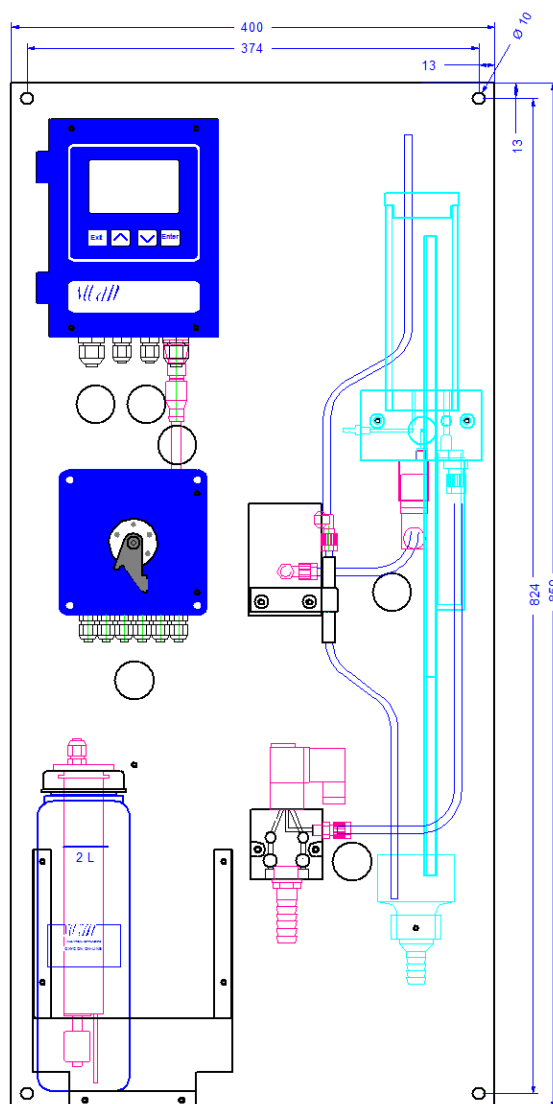
Complete monitoring system for the automatic, continuous measurement of ortho-phosphate in boiler water, district heating, cooling water and waste water.

## Monitor AMI Phosphate HL

- Measuring range:  
0.1 to 50 ppm (mg/l) as PO<sub>4</sub> or  
0.1 to 16 ppm (mg/l) as P-PO<sub>4</sub>
- Based on vanadomolybdophosphoric acid colorimetric method according to APHA 4500-P C.
- No interferences with silica.
- Complete system including measurement and control electronics, photometer, flow indicator, reaction chamber, reagent dosing system and reagent container.
- Measurement values are available as analog output signals.
- Alarm display and activation of alarm relay when user defined, critical limits are reached.
- Continuous, automatic monitoring of main instrument functions (sample flow, reagent supply).
- Large back-lit LC display showing all measured values and status information simultaneously.
- Easy user menus in English, German, French and Spanish. Simple programming of all parameters by keypad.
- Data logger for 1'500 data records stored at a selectable interval. (Data download requires optional USB-Stick).
- Factory tested, ready for installation and operation.

### Instrument Options

- Communication interface (RS-232, Profibus, Modbus, 3rd Signal Output, USB)
- 2<sup>nd</sup> sample stream
- Cleaning-module-II
- AMI Sample Sequencer



Monitor AMI Phosphate HL  
incl. 2nd sample stream option

Order scheme	Monitor AMI Phosphate HL	A-25.421.300.0
Option:	[ ] 3 <sup>rd</sup> 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
Option:	[ ] 2 <sup>nd</sup> sample stream	A-83.590.043

## Analytical System

### Phosphate (PO<sub>4</sub>) measurement

Measuring range: Resolution  
0.1 to 50.0 ppm as PO<sub>4</sub> 0.1 ppm  
0.1 to 16.0 ppm as P-PO<sub>4</sub> 0.1 ppm

### Reproducibility:

0.1 to 10 ppm ± 0.1 ppm or ± 2.5%,  
whichever is the greater  
10 to 50 ppm ± 0.3 ppm or ± 5%,  
whichever is the greater

Measurement cycle: min. 5 minutes

### Flow cell

Made of acrylic glass with water inlet filter and flow adjustment valve.

## Transmitter Specifications and Functionality

Electronics case: Aluminum  
Protection degree: IP 66 / NEMA 4X  
Display: backlit LCD, 75 x 45 mm  
Electrical connectors: screw clamps  
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

### 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".

Separate menu specific password protection possible.

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 interval.

### Real-time clock with calendar

For action time stamp and preprogrammed actions.

### Safety features

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

### Reagents monitoring

Warning if low level is reached and alarm for lack of reagents.

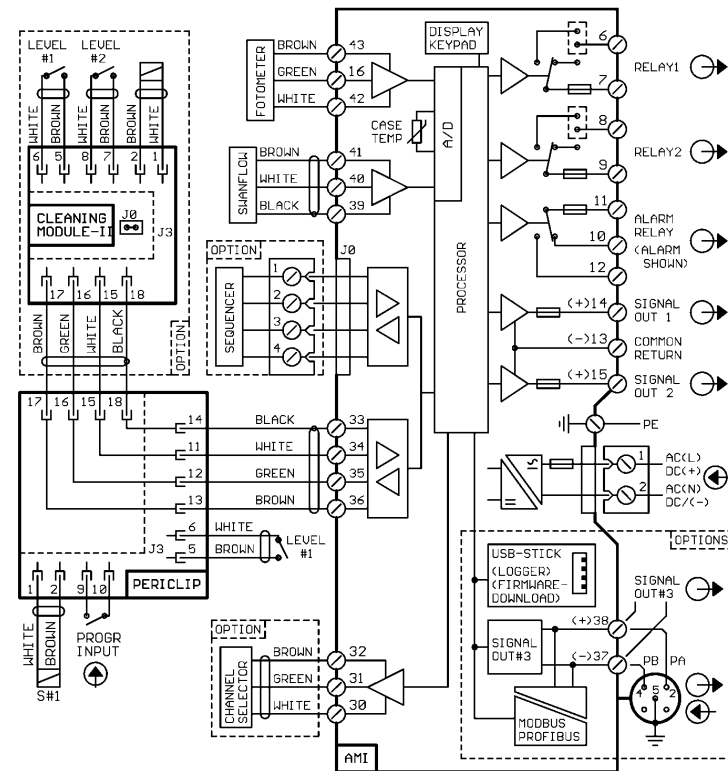
### Temperature monitoring

Alarm if the transmitter temperature is higher than +65 °C or lower than 0 °C.

### 1 Alarm relay

One potential free contact for summary alarm indication for programmable alarm values and instrument faults.  
Maximum load: 1A / 250 VAC

## Electrical Connection Scheme



### 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 with automatic hold function.  
Max. load: 1A / 250 VAC

### 2 Signal outputs

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 function

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
- 3<sup>rd</sup> Signal output
- USB interface

## Sample and Monitor Data

### Sample conditions

Flow rate: min. approx. 10 l/h  
Temperature: up to 50 °C  
Inlet pressure: 0.15 to 2 bar  
Outlet pressure: pressure free, atmospheric drain

### Sample connections

Inlet: Serto PVDF 6mm (1/4" thread),  
for tubing 6x4 mm  
Inlet with 2<sup>nd</sup> sample stream option:  
2x Serto PA 6mm (1/8" thread),  
for tubing 6x4 mm  
Drain: Ø 16 mm, tubing 15x20 mm

### Panel

Dimensions: 400 x 850 x 200 mm  
Material: stainless steel  
Weight: 14.0 kg