

Monitor for continuous measurement of Nitrate in potable water and effluents

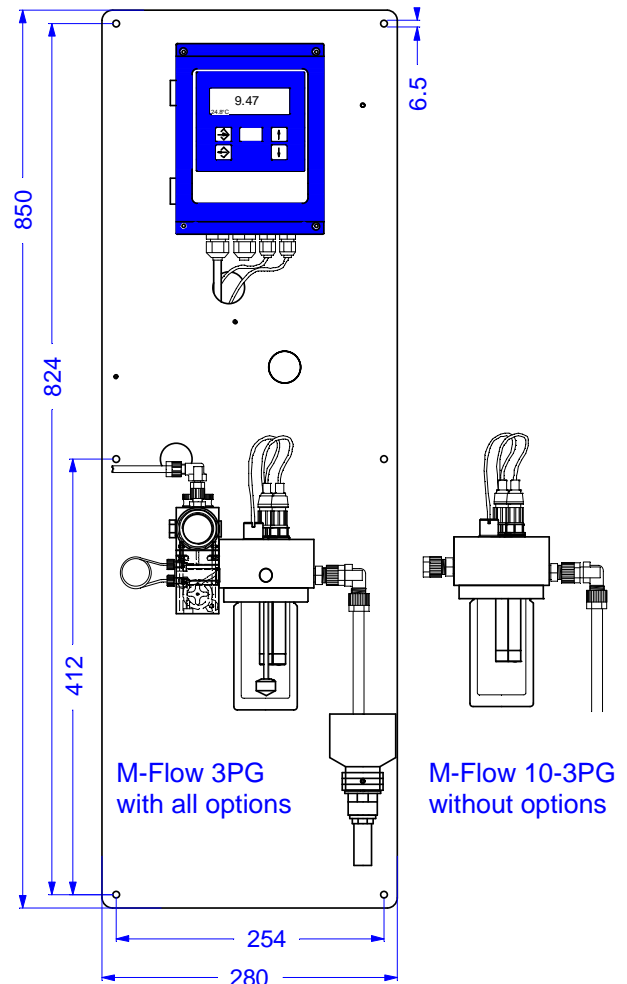
Monitor FAM Nitrate PVC

Complete system mounted on PVC panel:

- **Transmitter FAM Nitrate** in a tough aluminum enclosure (IP66).
- **Swansensor Nitrate** in combination with reference electrode RefTemp. Three Nitrate sensors included for 3 months of operation.
- **Flow cell M-Flow 10-3PG** for effluent applications (without needle valve) **or M-Flow 3PG** with needle valve and digital flow meter (option) for potable water applications. Optional sensor cleaning for both types.
- Factory tested, ready for installation and operation.

Specifications:

- Measuring range: 0.1 to 1000 ppm (= mg/l)
- Simultaneous measurement of Nitrate, sample temperature and sample flow (option).
- Automatic temperature compensation.
- Large backlit LCD-display for the indication of measuring values and operating status.
- 2 Signal outputs 0/4 - 20 mA, for process value, temperature and flow, galvanically separated from sensor input.
- Potential-free alarm contact as summary indication for programmable alarm values and for instrument faults.
- 2 Potential-free contacts, programmable as limit switches or PID-controllers.
- 2 Inputs for potential-free switches with programmable functions.
- High-voltage protection for signal outputs and RS485 interface.



| Order scheme | Monitor FAM Nitrate PVC | A - 27 . 1 2 | X . | X | X | 1 |
|------------------------------|---|--------------|-----|---|---|---|
| Power supply | 230 VAC, 50/60 Hz | | 1 | ↑ | ↑ | ↑ |
| | 115 VAC, 50/60 Hz | | 2 | | | |
| | 24 VAC, 50/60 Hz | | 3 | | | |
| | 24 VDC, direct current | | 4 | | | |
| | 200 VAC, 50/60 Hz | | 5 | | | |
| | 100 VAC, 50/60 Hz | | 6 | | | |
| Transmitter interface | None | | | 0 | | |
| | Interface RS485 (Profibus DP, Modbus ASCII/RTU, Swanbus) | | | 2 | | |
| Flow cell | M-Flow 10-3PG | | | | | 1 |
| | M-Flow 10-3PG with spray nozzle for sensor cleaning | | | | | 2 |
| | M-Flow 3PG with digital sample flow meter and sample pressure controller | | | | | 3 |
| | M-Flow 3PG with digital sample flow meter and sample pressure controller and spray nozzle for sensor cleaning with cleaning water pressure controller | | | | | 4 |

Nitrate Measurement

Measuring range: 0.1 - 1000 ppm
 Display range: 0.00 - 9.99
 Resolution: 0.01 ppm
 10.0 - 99.9
 Resolution: 0.1 ppm
 100 - 1000
 Resolution: 1 ppm
 Automatic range switching
 Accuracy: 10% of measured value
 Automatic temperature compensation.
 Galvanic separation of measuring inputs and signal outputs.

Temperature measurement

Swansensor RefTemp with integrated NTC temperature sensor.
 Measuring range: -10 to 50°C
 Resolution: 0.1°C

Sample conditions

Flow rate: 4 to 15 l/h
 Temperature: up to 50°C
 Inlet pressure: up to 1 bar for M-Flow 10-3PG and 0.5 to 10 bar for M-Flow 3PG
 Outlet pressure: pressure free

Flow cell and connections

Flow cell made of PVC and acrylic glass with quick connect vessel for easy sensor access and calibration.
 Process connections: Serto PA
 Ø 6 mm for M-Flow 3PG
 Ø 10 mm for M-Flow 10-3PG
 Sample outlet: flexible tube Ø 25 mm

Transmitter Data

Electronics case: Aluminum
 Protection degree: IP 66 / NEMA 4X
 Data display: backlit LCD, height 15 mm
 Connections: Strippable terminal blocks
 Ambient temperature: -15 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: 24, 115, 230, 200, 100 VAC (± 15%) / 50/60 Hz or direct current 24 VDC
 Power consumption: max. 7 VA
 Parameter storage without battery.

1 Alarm relay

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

Monitoring of case temperature

Alarm if temperature is higher than +65°C or lower than -25°C.

2 Signal outputs

Two programmable signal outputs for measured values (freely scaleable, linear or bilinear) or as continuous control output (control parameters programmable).
 Current loop: 0/4 - 20 mA
 Maximum burden: 510 Ω

2 Relay outputs

Two potential-free contacts, programmable as limit switches for measuring values, controllers or timer for system cleaning with automatic hold function.
 Maximum load: 1A / 250 VAC

Control function

Relays or current outputs programmable for 1 or 2 pulse dosing pumps, solenoid valves, pulse pumps or for one motor valve.
 Programmable P, PI, PD or PID control parameters.

Input 1

One input for potential-free contact, programmable as hold or remote-off.

Input 2

For potential-free switches, programmable as hold or remote-off, or for digital flow sensor (with M-Flow 3PG only).

1 Communication interface (option)

RS485 with Fieldbus protocol Profibus DP or Modbus or RS485 with Swanbus.

Monitor Data

Panel dimensions: 850 x 280 x 150 mm
 Panel material: white PVC
 Total panel weight: 6.5 kg

Electrical Connection Scheme

