



VF8023

Air Sampler Controller

- Controls a single Air Sampler
- Monitors and controls air flow rate
- Programmable sample duration and flow rate
- Supports intermittent sampling
- Internally monitors fan drive voltage and current
- Out of limits alarms for drive voltage, current and fan speed
- 4-20mA output indicates sample progress
- Host RS485 communications interface
- Aux RS485 for use in fault-tolerant systems

The VF8023 module drives a single Air Sampler and has inputs for control of the 'Run' and 'Gas' activities and outputs to indicate 'Running' and 'Fault' states. While 'Run' is asserted, the module controls the fan and drives the 'Running' output to show this. When the programmed sample duration has elapsed, the Air Sampler drive output turns off and the 'Running' status is negated.

The 'Gas' input can be used to drive the Air Sampler so that the head can draw gas through the unit during sanitisation. The output remains on until the input request is turned off.

The fan drive voltage, current and fan speed are constantly monitored and the 'Fault' output is asserted if any of the monitored parameters is outside the permitted limits.

The VF8023 offers continuous or intermittent sampling operation to draw an accurate cubic metre sample of air over the sample plate.

With continuous sampling the VF8023 automatically runs the fan until the entire cubic metre sample has been drawn in a single operation.

Intermittent sampling offers a programmable number of shorter samples spread over a longer period to make up the 1 cubic metre volume. For example, a series of 1 minute long samples (100) drawn every 15 minutes would allow a cubic metre sample to be spread over 2.5 hours. Intermittent sampling is often used to reduce the number of interventions during a production process.



VF8023 Air Sampler Controller Specification

- Digital Inputs (to control 'Run' and 'Gas' operation)
Two opto-isolated inputs (200V isolation)
- Digital Outputs (to indicate 'Running' and 'Fault' states)
Two opto-isolated Solid State outputs (200V isolation)
Maximum current 100mA
Load voltage 200Vdc or Vac Peak
On resistance: 20 Ω typical, 25 Ω maximum
- Fan Output
One output to drive impeller in air head
- Analog Output (to indicate sample percentage complete)
One 4-20mA opto-isolated output (200V isolation)
Maximum error $\pm 1\%$ full scale
- Power supply
24Vdc $\pm 10\%$, 200mA (typical), 400mA (maximum)
- Interfaces
RS485 host, 19k2 baud, 1.2km
RS485 aux, 19k2 baud, 1.2km
- DIN rail mounting enclosure
W: 23mm
H: 85mm
D: 105mm
Weight 85g
- Environmental
Operating temperature 0 to 50°C
Storage temperature -20 to 60°C

Air Sampler Specification

- Material: Stainless Steel 316
Diameter: 108mm, H: 105mm (including head)
Weight: 2.0Kg typical, dependent on mounting option
- Efficiency:
100lpm models d50 value: 2.03 μ
180lpm models d50 value: 1.51 μ

Ordering Information

- **VF8023 Air Sampler Controller Module for all active air heads**
- **Air Sampler with pedestal base, for 90mm Petri Dishes:**
AH8190-1XS Air Sampler including 100lpm head with screw fitting
AH8190-1XB Air Sampler including 100lpm head with bayonet fitting
- **Air Sampler with Tri-clover clamp, for 90mm Petri Dishes:**
AH8290-1XS Air Sampler including 100lpm head with screw fitting
AH8290-1XB Air Sampler including 100lpm head with bayonet fitting
- **Air Sampler Kit - Pedestal base with Controller Module:**
AAP-VF-90-10S Air Sampler with 100lpm screw fitting head and VF8023 controller module
1AAP-VF-90-18S Air Sampler with 180lpm screw fitting head and VF8023 controller module

180lpm flow rate is not recommended for new installations, but can be supplied to support legacy systems

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