



fluidion
fluidic intelligence

FLUIDION® ALERT SYSTEM V2 (IN-SITU ECM! ANALYZER)

The industry's only fully-automated in-situ microbiology lab

The ALERT System V2 is Fluidion's latest autonomous, remotely-controllable analyzer for quantifying *E.Coli*, total and fecal coliforms. Suitable for bathing water assessments, environmental studies, and treatment process monitoring, ALERT System V2 uses an innovative disposable cartridge concept to provide unprecedented accuracy and repeatability, while greatly simplifying maintenance procedures. Installed in-situ, ALERT System V2 measures bacterial concentration and provides automatic alerts in real time. It can integrate additional probes for complete water quality data, delivered to you through a real-time analytics interface.

A fully-automated in-situ microbiology lab



The ALERT System V2 from Fluidion is a unique analyzer capable of automatic contamination-free sampling in-situ, reagent mixing and incubation, optical detection (absorbance and fluorescence), bacterial quantification (*E. coli*, total and fecal coliforms) and wireless data transmission. It uses a unique disposable measurement cartridge concept, which greatly simplifies field maintenance operations, and eliminates any potential for contamination or human error.

On-demand remote analysis in any aquatic environment

The ALERT System V2 is used for obtaining bacterial concentration time series in lakes, rivers, coastal waters, drinking water reservoirs, CSO sites, irrigation pools or in wastewater treatment plants. It can float like a buoy or can be installed on a rail at field locations or in a facility and can operate without an external power supply under the most unforgiving weather conditions. The instrument is quick to install, can be remotely controlled from a mobile phone or web interface, and supplies data to the operator wirelessly via a cloud-based data analytics and visualization interface. ALERT System V2 is capable of performing seven measurements on a single battery charge and has minimal maintenance requirements (less than 5 minutes in the field).

The ALERT System V2 can also connect to a wide range of water quality probes (single- or multi-parameter), which can provide complete water quality parameters in real time (sensors available for temperature, turbidity, conductivity, pH, nitrate, ammonia, chlorophyll, phycocyanin, fDOM, dissolved oxygen, ORP). These data can be used for adaptive sampling, by rapidly recognizing water quality degradation phenomena and triggering microbiology measurements when certain conditions are met.

A reliable response

The ALERT System V2 provides a quantified response in terms of bacteria/100 mL present in the sampled water, and has been validated through numerous side-by-side studies with approved laboratories. Sampling in the disposable measurement cartridges is controlled by an internal vacuum module and the instrument implements Fluidion's multispectral optical detection technology, which ensures consistent, uncontaminated sampling and measurements. Triggered via a mobile phone or web interface, the analyzer can quantify a wide range of bacterial concentrations and issue automatic alerts if a threshold is exceeded, enabling greater operator responsiveness in case of pollution events.

Fluidion® is a high-technology company that designs and manufactures innovative sample collection and chemical/microbiological in-line and in-situ analysis instruments for water quality monitoring and environmental applications. The core technology relies on Fluidion's proprietary patented fluidic and sampling systems.

TECHNICAL SPECIFICATIONS

Dimensions	H: 49cm (19.3"), D: 28cm (11")	Total measurements	7 per charge
Weight	16kg (35lbs)	Response time	2 h-12 h
Measurement trigger	On-demand, pre-program, inline sensor (optional)	Environmental conditions	0 °C - 40 °C
Parameters	E.coli, Total Conforms Fecal Conforms	Communication	Global SIM card. USB
Measurement range	2 CFU — 1x10 ⁶ CFU/100 mL	Installation type	Floating or Rail-based
Materials	PVC, PMMA, Acetal, SST 316L	Autonomy	2 weeks to 2 months, depends on operation and environmental conditions
Data interface	Cloud visualization and analytics interface, API, real-time email alert	External probe integration (optional)	T, Conductivity, Turbidity, pH, DO, ORP, fDOM, NO3, NH4, chlorophyll, phycocyanin
Battery type	Li Ion, 12V, 20.4Ah	GPS capability	Yes (GNSS)
Waterproof rating	IP68	Data Reporting	Automated report generation (PDF), export (CSV), archival

ALERT System V2 disposable cartridge concept

The ALERT System V2 uses Fluidion's innovative disposable measurement cartridge concept. By integrating all the required components for performing a measurement (check valves, filters, mixers, reagent storage, optical cell, vacuum port), the disposable cartridge greatly simplifies operations: field maintenance is now reduced to simply swapping the battery and installing new cartridges, which requires only a couple of minutes and can be performed by minimally-trained personnel. In addition to gaining precious time, this new design eliminates potential for human error, improving the system's reliability and the measurement repeatability and accuracy characteristics.



ALERT System V2 remote control and data visualization

ALERT System V2 uses a network-hopping global SIM card that allows it to operate and communicate out of the box, anywhere in the world. The instrument's control interface is accessible online, through a secure portal, and measurement data is supplied wirelessly via a cloud-based data analytics and visualization interface. Automatic measurement report generation and complete archival functionality provide complete documentation of water quality measurements. Automatic alerts can be configured and sent to the operator once bacterial quantification is completed.