fluidion
fluidic intelligence

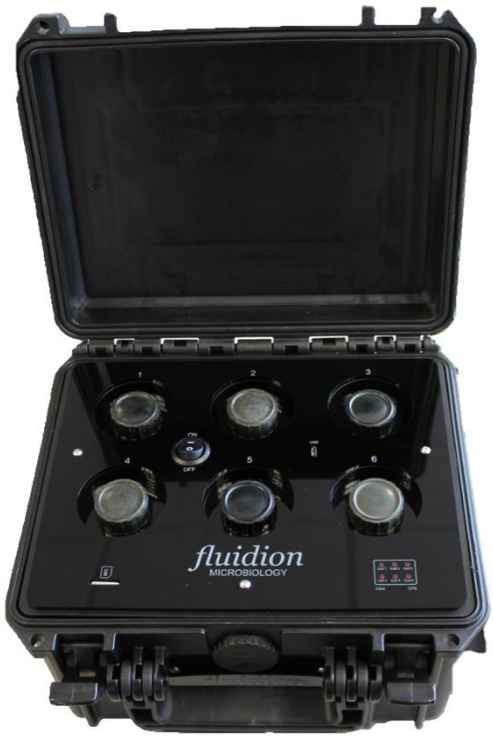
THE FLUIDION ALERT LAB (BACTERIAL ANALYZER)

The autonomous microbiology mobile analysis lab

The ALERT LAB is a fully portable, autonomous and remotely-controllable analyzer for the measurement of *E. coli* and other bacteria. Suitable for source water and environmental monitoring at a field location, in a moving vehicle, or in a lab, it performs six discrete measurements with data are transmitted wirelessly. The ALERT LAB enables rapid bacterial enumeration immediately following water sampling by field personnel.

A miniaturized mobile microbiology lab

The ALERT LAB from *fluidion* is a unique analyzer capable of automatic processing and measurement of a manually collected fluid sample. The device performs automatic incubation, optical monitoring (multispectral absorbance and fluorescence) and wireless data transmission, enabling rapid bacterial enumeration (*E. coli* or enterococci). By starting the measurement protocol as soon as the water sample is collected on-site, the ALERT LAB greatly simplifies measurement logistics, eliminates the need for sample refrigeration during transportation prior to standard laboratory measurements, and minimizes errors due to sample degradation between collection and measurement.



On-demand analysis in the field, on-the-go, or in a lab

The ALERT LAB can be used for quantifying *E. coli* or enterococci in a number of environments, such as lakes, rivers, coastal waters, storm water runoff, irrigation canals, catchment sites or water treatment plants. It can be powered by a rechargeable Li-ion battery pack at a remote field location or plugged into any standard electrical outlet. The mobile analysis lab can be remotely controlled from a cell phone or the web interface and transmits data wirelessly. Capable of carrying out six measurements simultaneously, full water quality monitoring directly at the field locations is now possible, minimizing cost and time-to-result.

No prior training required!

A fast and reliable response

Fully validated scientifically[1,2], the ALERT LAB provides a quantified response in terms of bacteria/100 mL present in the sampled water. The system implements *fluidion*'s multispectral optical detection technology, which ensures consistent measurements every time and fast time-to-result. Triggered via a mobile phone or from a web interface, the analyzer measures a wide range of concentrations and can send out automatic alerts if the threshold is exceeded, in order to improve operator responsiveness.

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

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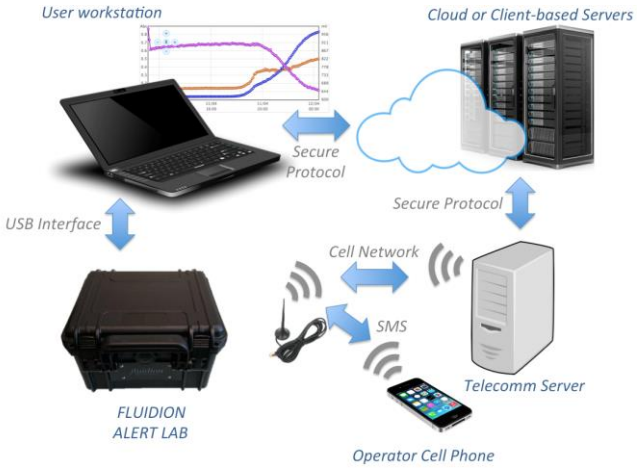
TECHNICAL SPECIFICATIONS

Dimensions	*L: 25 cm x H: 17 cm x W: 24 cm*	**Total measurements**	*6 measurements simultaneously*
Weight	*3.6 kg*	**Response time**	*2 h-12 h*
Measurement trigger	*On-demand*	**Environmental conditions**	*0 °C - 40 °C*
Parameters	*E. Coli, Total coliforms or Enterococci*	**Communication**	*GSM/GPRS, LTE, USB, secure web*
Measurement range	*4 CFU – 5×10^5 bacteria/100 mL*	**Antenna**	*Internal/External (opt.)*
System materials	*PP, PE, SST, glass*	**Power Source**	*Rechargeable Li-ion pack / AC outlet*

ALERT cell phone and web interface



The ALERT LAB uses a wireless communication protocol based on the cell phone network for both system configuration and data management. Alternatively, the system can operate on long-range radio networks using the LoRaWAN protocol (optional). The system can be configured from an operator cell phone using intuitive SMS-based commands and can generate automatic alerts. Real-time data is sent via the cell network/LoRa to a telecomm server, which pushes data to the fluidion cloud-based data management and visualization server (server installation in client datacenter is possible). In case there is no cell coverage in the installation area and LoRaWAN is not installed, the system can be pre-configured from a PC via the USB interface, and data can be sent via serial protocols such as RS232 or RS485 (optional).

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[1] ANGELESCU, D, HUYNH, V., HAUSOT, A., YALKIN, G., PLET, V., MOUCHEL, J.-M., GUERIN-RECHDAOUI, S., AZIMI, S. AND ROCHER, V. (2018) Autonomous system for rapid field quantification of E. Coli in surface waters. Journal of Applied Microbiology doi:10.1111/jam.14066

[2] LOEWENTHAL Matthew, NEWTON Andrew D., WRIGHT Steve, CAMPBELL Claire, CROSSLEY Andy, HAUSOT Andreas, ANGELESCU Dan E. (2018) Rapid microbiology field instrumentation: Source tracking in sensitive areas, Institute of Water Magazine, Q3, pp. 86-87.

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