

Polaron™ F10

Real-Time Bioaerosol Sensor



The **Polaron F10** is the state of the art in real-time detection of airborne biological threats. Using patent-pending technology based on polarized elastic light scattering, the Polaron can detect and classify aerosol particles to 0.5 micron sensitivity (including small particles with weak fluorescence properties). It rapidly and reliably detects all four classes of biological agents at low concentrations, with low false-alarm rates.



Applications

Polaron monitors air continuously and provides early-warning alarms of potential aerosol threats. It transmits information as a first-tier “trigger” in a networked system for a variety of applications:

- Building protection
- Mass-transit security
- Special-event monitoring
- Force and base protection

Key Benefits and Features

- **More coverage** – affordable, compact, lightweight
- **Best-in-class sensitivity** – capable of detecting singlet particles in all agent classes (spore, bacteria, virus, toxin)
- **Low false alarm rates** – advanced algorithms for classifying aerosol backgrounds versus anomalies
- **Fast response** – alarms can automatically initiate aerosol sample collectors
- **High confidence** – extensive US Government testing



POLARON™ F10 REAL-TIME BIOAEROSOL SENSOR

PRODUCT SPECIFICATIONS

SAMPLING ANALYSIS

Core Technology	Polarized elastic light scattering
Flow Rate	10 LPM with 100% sample volume
Threats	Spores, Bacteria, Viruses, Toxins
Particle Size Sensitivity	0.5 µm
Limit of Detection	<25 ACPLA at 2 µm, in a background >2,000 PLA
Alarming	Configurable response time

SYSTEM INTERFACE

Display & Alerts	- One multi-color LED for visual indication - Two configurable digital outputs - Full display and interface via external software
Communication	Standard: Encrypted Ethernet; RS232 or RS485 Optional: Encrypted wireless or cellular
Data Storage	On-board storage of 15 days of continuous data

POWER

Input Voltage	12 - 40 VDC (110-220 VAC, 50-60 Hz with optional AC/DC adapter)
Power Consumption	8 Watts

ENVIRONMENTAL

Operating Temp	0 to 50 °C (32 to 122 °F)
Operating Humidity	5% to 95%, non-condensing
Storage Temp	0 to 55 °C (32 to 131 °F)
Sound Generated	31.1 dBA at 1 meter (for reference, a quiet room is typically 30 - 40 dBA)

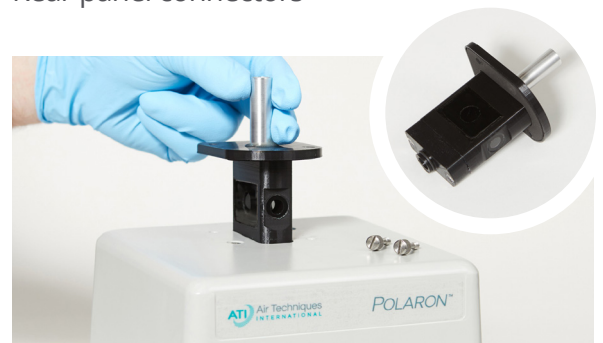
PHYSICAL FEATURES

Dimensions	W x D x H: 17.8 x 20.0 x 17.8 cm (7.0 x 7.9 x 7.0 in) Height is 22.1 cm with inlet tube, 24.4 cm with cap
Weight	1.5 kg (3.3 lbs.)
Enclosure	High-impact ABS / Polycarbonate; resistant to dust, splash, and cleaning chemicals

Specifications are subject to change without notice



Rear panel connectors



Removable cartridge protects internal optics from the sampled air, and can be replaced without affecting calibration



Inverted inlet cap option to allow inverted mounting position



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