ATHINA® Detector Collector 200

Fluorescing Particle Detector

Chemring
Sensors & Electronic Systems



ATHINA® Detector Collector 200 (DC200) is an integrated particle detection and collection system that provides early warning of biological threats in homeland security, public health, and military applications. The DC200 contains a continuously operating detector and a triggered collector that can be used in both indoor and outdoor applications. The detector is based on the TAC-BIO detection technology that uses semiconductor ultraviolet light emitting diodes (UVLEDs) for detection of airborne biological particles, including bacteria, spores, viruses, and toxins, without any consumables. Our improved TAC-BIO technology was originally developed by the US Army Edgewood Chemical Biological Center who used UVLEDs for reagentless detection of airborne biological particles.

The ATHINA® DC200 provides broad detection capabilities in a package that is less than 1.5 cubic feet and weighs less than 45 pounds. It can be used as a stand-alone detector/collector or in combination with networked detection systems. The DC200 continuously samples the surrounding air, monitoring for increases in particle concentrations. When a potential threat is detected, the DC200 triggers a sample collection and transmits alarm data to the local user interface and through the communications network for potential response actions. The collector's dry electret filter and rapid filter elution system yield a 6 ml liquid sample for subsequent analysis.

The ATHINA® DC200's advanced detection algorithm gives improved detection performance while minimizing false alarms. The system is housed in a rugged, cast aluminum, water-proof enclosure that is designed to operate in harsh indoor and outdoor environments. The DC200 has an LCD interface, Ethernet and USB connections. It can be operated from vehicle, infrastructure, or battery power.

Characteristics	
Threat Identification	Aerosolized bacteria, bacterial spores, viruses, toxins
Interference Rejection	Not affected by common interferents such as fog, oil, JP8, Gas/ diesel mixture, road dust, etc.
Specifications	
False Alarm Rate	Less than one false alarm every 168 hrs
Detection Sensitivity	Detection of bacteria, virus and toxin at less than 200ppl
Time to Alarm	90 seconds
Weight/Size	45 pounds / 1.5 ft^3
Power	110VAC – 240VAC (50-60Hz) and 10-30 VDC
Battery Life	12+ hours
Control	Local and Remote
Set-up Time	2 minutes
Sample Size	Produce a 6 ml sample
Extraction Time	1 minute
Particle Size	1-10 microns
Detector Flow Rate	2 Liters per minute (LPM)
Collection Flow Rate	200 LPM
Collection Media	Electret Filter with elutor fluid and sample cup
Data Interface/Storage	Ethernet, USB, Internal Flash
User Interface	• LCD with membrane keypad • Remote mapping and Control interface
Environmental	
Operating Temp.	-10°C to 50°C
Storage Temp.	-40°C to 70°C
Vibration	MIL-STD-810 Method 514.6
Drop Test	MIL-STD-810
Enclosure Rating	IP66

Chemring Sensors and Electronic Systems
4205 Westinghouse Commons Drive, Charlotte, NC 28273
(980) 235-2200 | info@chemringsensors.com
www.chemringsensors.com
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