



PARTAC TACTICAL PARTICULATE PROFILER

FEATURES

- **NBC Agent Trigger**
- **Ambient Monitor for Public and Work Places**
- **Rugged, Reliable, Affordable**
- **8 Channels, User Selectable**
- **MODBUS or Serial Communication**
- **Sheath Air Technology**

Climatronics' PARTAC Tactical Particulate Profiler (P/N 102686) is a robust size-selective particulate sampler used as an NBC agent alarm trigger, an ambient monitor for public and work places, and as a ground-truth reference for the verification of standoff particulate detectors. The PARTAC simultaneously monitors airborne particle counts in up to 8 user selectable channels.

The PARTAC can be programmed to detect the particulate sizes of toxic NBC agents that are proven to be aspirated deeply into the lungs. Measuring the particulate counts in real-time, the PARTAC can be used to trigger alarms and activate additional samplers and instrumentation. Its compact size, low power consumption, and continuous duty capability allow it to perform this duty continuously in all environments.

As an ambient monitor, it provides the user with the a real-time count of particulates in public or work places. Its low noise operation allow it to be placed in work environments without disturbing the personnel in the area being monitored. The PARTAC can also be placed in areas where work is being contemplated to measure the background levels before work commences.

The PARTAC sensor uses a laser diode to illuminate the individual particles that are drawn into the PARTAC through the sampling inlet by the integral pump and mass flow control system. The laser light scattered at right-angles to the incident light beam is collected and focused onto a photo detector using a high-grade elliptical reflector. The signal strength is detected by the state of the art electronics and converted to a set of size value for each detected particle. These counts are classified into the size ranges set by the customer prior to installation, at a rate of up to once per second.



SPECIFICATIONS

OPERATING PRINCIPLE

Counts individual airborne particles utilizing scattered laser light.

PERFORMANCE

Particle Size Range 8 Channels, programmable in the range 0.3 μ m -10 μ m
Concentration Range 0- 9,000,000 particles per cubic foot (317,700 particles/L)
Accuracy \pm 10%, to calibration aerosol
Sensitivity 0.3 μ m @ 2 to 1 peak to valley, 2 to 1 SIN
Flow Rate 1.00 LPM
Sample Interval 1 second to 1 minute
Calibration Standards Factory calibrated in accordance with ASTM F328 and ASTM F649.

ELECTRICAL

Light Source Laser Diode, 35 mW, 808 nm
Power 6-15V DC (12V DC with flow system)
Average: 140mA (400mA with flow system)
Max: 190mA (450mA with flow system)
Inlet Heater: 750 mA
Certifications Meets or exceeds CE, ISO, ASTM and JIS international certifications.

COMMUNICATION

Standards RS-232C full duplex or RS-485 selectable full or half duplex
Protocol Serial (comma delimited ASCII) or MODBUS RTU
Settings 9600 Baud rate, 8 Data Bits, No Parity, 1 Stop Bit, No Flow Control
Built-in MODBUS registers for laser life time, laser fault, pump life time, pump fault, and filter fault detection.

PHYSICAL

Size Length: 10.5" (26.7 cm); Diameter: 4.00" (10.2 cm)
Weight 4.0 lb (1.8 kg)
Mounting To 3/4" IPS vertical pipe fitting

ENVIRONMENTAL

Operating Temperature -10° to +60° C
Storage Temperature -40° to +80° C



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