

Triboguard® III

Microprocessor-based Continuous Emissions Monitor



TRIBOGUARD III FEATURES

- Simultaneous real-time graphic and digital display on large, back-lit LCD screen
- Multiple outputs—4-20mA, RS422, and 2 relays
- Lowest detection range ever—Independently tested at 0.005mg/m³
- 90-day internal datalogging (6-minute averages)
- User-defined quantitative readout (lb/hr, mg/m³, etc) after correlation
- Includes PC software to view real-time data and retrieve 90-day internal log via RS422 (an RS422/232 converter also included)
- All parameter settings are password protected

HIGH PERFORMANCE MONITORING

The Triboguard III (Model 4003) Microprocessor-based Continuous Emissions Monitor is a high-performance triboelectric monitoring device used to detect filter failures and monitor particulates from baghouses, cartridge collectors, and cyclones. The Triboguard III combines simultaneous real-time graphics with digital display on a large back-lit LCD screen. With the lowest detection range, independently tested at 0.005 mg/m³, and 90-day internal datalogging of 6-minute averages, the Triboguard III provides an affordable, EPA-recognized solution to meet air quality compliance. Using a remote Series 2000 Sensor, the Triboguard III is housed in a wall-mounted, steel NEMA 4X enclosure. The unit is operated by the keypad on the front panel and functions without opening the enclosure. All system parameters are password protected.

Triboguard III Detectors use the original triboelectric technology, introduced by Auburn International nearly twenty-five years ago. Triboguard III measures triboelectricity (also referred to as frictional electrification), an electric charge transfer which results when dust particles collide with the sensor probe. Triboguard III detects changes in the dust level of collector exhaust air and warns when a filter is failing before emissions become visible. Continuous graphic, digital and analog outputs allow the use of dataloggers or other devices to record emissions levels, pinpoint maintenance problems, or document Clean Air compliance. Unlike optical devices that rely on clean, aligned lenses and indirect measurement of light transmission, Triboguard III is a virtually maintenance-free, direct method of bag leak detection. Thus, failures are detected promptly and reliably. When used with the Tribotrac™ Leak Locator System, an operator can automatically pinpoint dust collector leaks by row or compartment from a remote location.



SPECIFICATIONS

DC-coupled circuitry for optimum response and linear correlation of output over entire operating range of equipment.

ELECTRONICS SPECIFICATIONS

Alarm Setpoint	Two independent alarm relays with 0-99% scale
Enclosure	Wall Mount NEMA 4X (Standard)
Hazardous Rating	Designed to provide an intrinsically-safe connection for the remote sensor.
Humidity Range	0 to 95% Relative Non-Condensing
Outputs	4-20mA Non-isolated (standard), Isolated (optional) 3" X 3" (75mm X 75mm) Back-lit LCD graphic display RS422 Serial Connection
Power Required	105-130VAC (210-260VAC or 10-32VDC optional), 50/60 Hz, 10 Watts maximum load
Relays	Two independent alarm relays with 0-99 second delay Each has separate NO & NC (1A & 1B) contacts sets, connectable as a SPDT (1C). Rated 5A@250VAC resistive. Relays operate in Fail-safe Mode
Sensitivity Range	1 to 999,999 pA full scale
Smoothing	0 to 32 seconds
Functions	Controlled by keypad on front panel
Temperature Range	0 to 120°F (-18 to 50°C) Operating -40 to 140°F (-40 to 60°C) Storage

SENSOR

Sensor Probe	316 Stainless Steel standard; other materials available. Specify length to reach or exceed mid-duct
Other Wetted Parts	303 Stainless Steel minimum grade
Insertion Length	½", 3", 6", 12", 18", 30", or 36" (1.3, 7.6, 15.2, 30.5, 45.7, 76.2, 91.4cm) standard lengths. Custom lengths available
Temperature Range	-40° to 300°F Teflon Insulation (Standard) -40° to 450°F Extended High Performance Insulation (Optional) -40° to 1000°F Ceramic Insulation (Optional)
Pressure Range	30 psi (Standard), 2,000 psi (Optional)
Enclosure	NEMA 4X (Standard)
CONNECTION	
Cable Temp. Range	-60 to 400°F (Std.) For cable above 400°F, contact the factory
Process/Sensor	Quick Release Clamp or ½" NPT
Sensor/Electronics	Special Low Noise Coax Cable 300ft (100m) max
Installation	Weld a quick release ferrule over a hole in the side of the pipe or duct. Screw or clamp the sensor in place (See manual)

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