



CAM200PGFF Radioactive Gas Monitor



The CAM200PGFF monitor has been designed to continuously, accurately and reliably monitor the activity of particulate and noble gas in a variety of ambient, ducted, effluent and stack monitor applications.

FEATURES

- Particulate and Noble Gas monitored using unique LED gain-stabilized scintillation detectors
- Wide range noble gas measurement
- Low profile, space-saving footprint for easy access and maintenance
- Flow splitter designed to reduce particulate loss and improve collection efficiency at the filter
- Easy, single-hand filter change mechanisms
- Flexible ratemeter supports analog and digital interface with existing control systems; intuitive touchscreen interface provides access to 32 user-configurable virtual channels
- Real-time data acquisition and control
- Low maintenance, simple calibration
- Check sources for routine performance monitoring
- Grab gas access point simplifies sample collection for laboratory analysis
- Gas purge capability
- Optional stack representative sampling package
- Optional HORIZON™ or RADACS™ integration

QUALITY

The CAM200 Series Samplers are designed and manufactured under a quality system in compliance with the following standards and requirements:

- ISO 9001
- 10CFR21
- 10CFR50, Appendix "B"
- IEEE-730
- ANSI/ASME NQA-1, ANSI/ASME NQA-2, Part 2.7
- CE
- TUV SUD America is a listed NRTL

CAM200PGFF Radioactive Gas Monitor

MAJOR ASSEMBLIES

- MAP35C fixed filter Particulate sampler
- MDN455EPA Beta Gamma Scintillation Detector with Preamplifier
- Cs-137 check source (integrated)
- MG4A gas sample chamber
- MDN45EPA Beta Gas Detector with Preamplifier
- ⁹⁰Sr check source (integrated)
- iR7040 Intelligent Ratemeter
- FA200 in-line particulate/iodine sample collectors
- Sample pump
- Sample air flow controller
- Pressure transducer
- Power: 230 V ac 50/60 Hz
- Integrated on a welded steel, seismically qualified open skid/frame
- Stainless steel sample tubing and components
- Semi-Auto Clean/Purge (Optional)
- Integrated Bypass (Optional)

CHANNEL CHARACTERISTICS

- Noble Gas Channel (MG-4A)
 - Radiation detected: Beta
 - Detector: MDN45E Plastic Scintillator; 0.25 mm (0.010 in.) thick, 50.8 mm (2 in.) diameter
 - Typical energy range: 0.15 – 1 MeV (Max Energy)
 - Typical measurement range: 1.0×10^{-4} to $1.0 \times 10^{+14}$ Bq/m³ (2.7×10^{-7} ~ $2.7 \times 10^{+3}$ μ Ci/cc)
- Particulate Channel (MAP35C)
 - Radiation detected: Beta
 - Detector: MDN455E, Dual Scintillator, 2 in. (50.8 mm) diameter x 0.010 in. (0.25 mm) thick plastic scintillation beta detector and 1/4 in. cube. BGO scintillation gamma detector
 - Typical energy range: 0.10–2.55 MeV (Particulate)
 - Typical measurement range: 2.0×10^{-1} to $1.0 \times 10^{+5}$ Bq/m³ (6.0×10^{-12} ~ 5.0×10^{-6} μ Ci/cc) – Beta Particulate

ENVIRONMENTAL

- Ambient Temperature: 0 °C to +50 °C (+32 °F to +122 °F)
- Ambient Humidity: 0 to 95% relative humidity
- MTBF: >20,000 hours
- TID: 100 Gy (10^{+4} rad)

SAMPLE TRANSPORT

- Sample Temperature: 0 °C to 50 °C (+32 °F to +122 °F)
- Internal Pressure: 0 to 1.0 atm (0 to 14.7 PSIG) normal. 1.4 atm (20.5 PSIG) maximum
- Internal Vacuum: 0 to 0.5 atm (0 to 15 in. Hg) normal
- Flow Rate: Up to 56.63 LPM (to 2 SCFM)
- Pump: Carbon vane, positive displacement vacuum pump

MECHANICAL

- Mounting: Floor mounted skid
- Skid Size: 1235 x 864 x 1880 mm (48 x 34 x 74 in.) (L x W x H)
- Skid Weight: Up to 1200 kg (2650 lb), approximately

POWER REQUIREMENTS

- 120 V ac or 230 V ac 50/60 Hz (other voltages available)
- 15 A (120 V) or 8 A (230 V)
- 1800 W

COMMUNICATIONS

- One Ethernet
- Three RS-485 serial, two isolated
- Two RS-232 serial
- Eight safety rated relays. One for faults, seven configurable for alarms, etc.

DISPLAYS AND ALARMS

- Large, 21 cm (8.25 in.), diagonal industrial, hardened, color touch-screen display
- Bright, tricolor LED; red, amber and green
- Front panel embedded audible alarm annunciator with adjustable volume and local silencing
- Tricolor light tower for optimum visibility and indication of status; red, amber and green

OPTIONS

- HORIZON Supervisory Software package enables complete system integration. For detailed information, see the HORIZON specification sheet
- Stack representative sampling packages designed in accordance with the ANSI-N13.1, 1999, 2011
- Dual Pumps
- Heat trace on Sample lines
- RG1 Reference calibration assembly special tools
- Reference calibration sources
- Semi-Auto Clean Air Purge
- Integrated Bypass



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