



## FEATURES

- Designed for accident and post-accident conditions
- Durable detector without any electronic or radiation degraded component
- 1E qualification and embedded safety related software
- Available under 10 CFR 50 App. B, ASME NQA-1 and IEC61226 programs for safety related application

## NGM 203S High Range Noble Gas Monitor

The NGM 203S monitor forms part of the RAMSYS product line.

It has been developed to sample air in discharge stacks, ventilation ducts or working areas. A flow through ionization chamber is enclosed in a  $4 \pi/5$  cm ( $4 \pi/2$  in) lead shielding.

This monitor is designed to meet the noble gas monitoring requirements set forth by the USA Regulatory Guide 1.97 and it can be used before, during and after an accident. It can operate in conjunction with a shielded particulate and iodine sampler (PIS 203) and with a low range noble gas monitor (NGM 204) to form a wide range monitoring system.

## APPLICATIONS

- Post-accident operations
  - Containment atmosphere
  - Stacks, etc.

## RELATED MONITORS

- PIS 203S: accident range particulate and iodine sampler

radiation monitoring  
systems

A Mirion Technologies Division

Featuring:



## PHYSICAL CHARACTERISTICS

- Radiation detected: alpha, beta and gamma
- Detector: flow-through ionization chamber
- Sensitive volume: 100 ml (100 cc)
- Energy range: 5 keV to 3 MeV
- Typical measurement range:
  - $^{85}\text{Kr}$ :  $3.7 \cdot 10^{+6}$  to  $10^{+16}$  Bq/m<sup>3</sup> ( $10^{-4}$  to  $2.7 \cdot 10^{+5}$   $\mu\text{Ci/cc}$ )
  - $^{133}\text{Xe}$ :  $10^{+6}$  to  $3.7 \cdot 10^{+15}$  Bq/m<sup>3</sup> ( $2.7 \cdot 10^{-5}$  to  $10^{+5}$   $\mu\text{Ci/cc}$ )

## ENVIRONMENTAL CHARACTERISTICS

- Long term temperature: +10°C to +40°C (+50°F to +104°F)
- Periodic temperature: -5°C to +55°C (+23°F to +131°F)
- MTBF: > 20 000 hours
- TID (processing unit): 25 Gy ( $2.5 \cdot 10^{+3}$  rad)

## PNEUMATIC CHARACTERISTICS

- Standard flow rate: 35 l/min (1.24 scfm)
- Pressure drop: according to the filter dust loading

## MECHANICAL CHARACTERISTICS

- Dimensions: 1305 mm x 830 mm x 680 mm (51.4 in x 32.7 in x 26.8 in)
- Weight: ~ 310 kg (~ 684 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection:  $\varnothing$  12 mm OD (1/2 in)
- Outlet tube connection:  $\varnothing$  12 mm OD (1/2 in)

## ELECTRICAL CHARACTERISTICS

- Power supply: refer to possible versions
- Data link outputs: 1 RS232 and 2 isolated RS485
- Alarm relays: 3 SPDT relays
- I/O: 2 isolated analog outputs (0/4-20 mA)

## SIGNALING (Applicable to LPDU only)

- Alphanumeric display: measurement, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 3 lights (red, yellow, green)

## REFERENCE STANDARDS

- Nuclear: IEC60761
- Environmental: IEC60780, IEEE323, RG 1.97
- Seismic: IEC60980, IEEE344
- EMC: 2006/95/CE and 2004/108/CE, EPRI 102323, MIL STD 461 E, IEC61000-6-2 and IEC61000-6-4

## VERSIONS

- 230 Vac or 230 Vac + 400 Vac 3 $\varnothing$  or 120 Vac + 400 Vac 3 $\varnothing$
- PIS sampler
- Dust filter holder
- Gas grab sampler ports
- Heater

## ACCESSORIES

- Local & remote display units
- Calibration tools
- Software
- USB converters



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