



**RAMSYS**

# GIM 203K™

*Wide Range Gamma Area Monitor*

Continuous monitoring of gamma dose rate under harsh or post-accident environmental conditions.



## FEATURES

- Wide measurement range
- Compact and reliable
- Available with or without display and local signaling
- 1E qualification and embedded safety related software
- Available under 10 CFR 50 App.B, ASME NQA-1 and IEC61226 programs for safety related applications
- LOCA proof detector and cable
- Very high TID
- Seismic qualification

## DESCRIPTION

The GIM 203K forms part of the RAMSYS product line. It has been developed to continuously monitor gamma dose rate under harsh environment conditions.

It is particularly useful for monitoring the dose rate inside containment and in the reactor building during and after mild and severe accidents under harsh operating conditions.

## PHYSICAL CHARACTERISTICS

- Radiation detected: gamma
- Detector: stainless steel ionization chamber (KG 221 SER-Sv)
- Energy range: 80 keV to 7 MeV
- Typical measurement range:  $10^{-6}$  to  $10^{+3}$  Sv/h ( $10^{-4}$  to  $10^{+5}$  rem/h)

## ENVIRONMENTAL CHARACTERISTICS

- Normal temperature:
  - Processing unit: +5°C to +40°C (+41°F to +104°F)
  - Detector: -5°C to +135°C (+23°F to +275°F)
- Temperature limit:
  - Processing unit: -5°C to +55°C (+23°F to +131°F)
- LOCA profile (detector):
  - Temperature: +165°C (329°F) during 12 hours
  - Temperature: +225°C (437°F) during 2 seconds
  - Pressure: 7 bars abs. during 12 hours
  - Tested under saturated steam conditions
  - Resistant to chemical spray
- MTBF: > 50 000 hours, with preventive maintenance
- TID:
  - Processing unit: 100 Gy ( $10^{+4}$  rad)
  - Detector:  $2 \cdot 10^{+6}$  Gy ( $2 \cdot 10^{+8}$  rad)
- Protection index:
  - Processing unit: IP65 and IK07
  - Detector: IP67 and IK07

## MECHANICAL CHARACTERISTICS

- Dimensions:
  - Processing unit: 390 mm x 196 mm x 187 mm (15.3 in x 7.7 in x 7.3 in)
  - Detector: 240 mm (9.5 in) x Ø 280 mm (11 in)
- Weight:
  - Processing unit: 8.5 kg (18.7 lb)
  - Detector: 24 kg (53 lb)
- Color: gray RAL 7030 (decontaminable paint)

## ELECTRICAL CHARACTERISTICS

- Power supply: 230 Vac – 50 Hz or 120 Vac – 60 Hz
- Data link outputs: 1 RS232 (LPDU only) and 2 isolated RS485
- Alarm relays: 3 SPDT relays
- I/O: 2 isolated analog outputs and 1 isolated analog input (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: IEC60532
- Environmental: IEC/IEEE 60780-323, including LOCA test
- Seismic: IEEE344 and IEC60980
- EMC: 2014/30/EU and 2014/35/EU, EPRI 102323, RG1.18, IEC61000-6-2 and IEC61000-6-4

## VERSIONS

- 230 Vac or 120 Vac
- Local processing and display unit (LPDU) or local processing unit (LPU)
- With or without RS485 junction box
- Mineral or organic detector cable
- Detector cable length: from 10 m (32.8 ft) to 70 m (229.6 ft); length up to 140 m (459.3 ft) is also possible, by means of two sets of mineral extension cables
- Junction box cable length: 2 m (5.65 ft), 5 m (16.4 ft) or 10 m (32.8 ft)

## ACCESSORIES

- Radioactive test sources for regular detector check available (e.g. TKA 16)
- Software: MASS2, RAMVISION, SIMS2...
- USB converters
- Seismic qualified wall mounting bracket
- Ethernet (LPDU version only)

Featuring:

