



RAMSYS™

GIM 206K™

High Range Gamma Area Monitor

Continuously monitoring dose rate under harsh or post-accident environmental conditions.

DESCRIPTION

The GIM 206K monitor forms part of the RAMSYS product line.

It has been developed and qualified to monitor gamma dose rate during accident and post accident conditions, inside or outside containment of nuclear power plants. The design of the ionization chamber of this monitor provides great reliability for safety applications.



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

GIM 206K™ HIGH RANGE GAMMA AREA MONITOR

PHYSICAL CHARACTERISTICS

- Radiation detected: gamma
- Detector: stainless ionization chamber with ²⁴¹Am (1 kBq) embedded source (KG 50 SEC-2)
- Energy range: 60 keV to 7 MeV
- Measurement capability: 10⁻³ to 10⁺⁵ Gy/h (10⁻¹ to 10⁺⁷ rad/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 10⁺⁶ Gy (2 10⁺⁸ rad)
- Protection index:
 - Processing unit: IP65 and IK07
 - Detector: IP67, IP65 and IK07

MECHANICAL CHARACTERISTICS

- Dimensions:
 - Processing unit: 398 mm x 196 mm x 187 mm (17.7 in x 7.7 in x 7.36 in)
 - Detector: 440 mm (17.3 in) x Ø 50.8 mm (2 in)
- Weight:
 - Processing unit: 8.5 kg (18.7 lb)
 - Detector: 2.7 kg (5.95 lb)
- Color: gray RAL 7030 (decontaminable paint)

ELECTRICAL CHARACTERISTICS

- Power supply: 230 Vac – 50 Hz or 120 Vac – 60 Hz
- Data link outputs: one RS232 (LPDU only) and two isolated RS485
- Alarm relays: three SPDT relays
- I/O: two isolated analog outputs and one 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: three lights (red, yellow, green)

REFERENCE STANDARDS

- Nuclear: IEC60951-1 and IEC60951-3
- Environmental: IEC/IEEE 60780-323, including LOCA test, RG 1.97
- Seismic: IEEE344 and IEC60980
- EMC: 2014/30/EU and 2014/35/EU, IEPRI 102323, RG1.180, 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. GAM 120)
- Software: MASS2™, RAMVISION™, SIMS2™ applications...
- Ethernet (LPDU version only)
- USB converters
- Seismic qualified wall mounting bracket for LP(D)U



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