



MIRION
TECHNOLOGIES

PROTK & RAMSYS

KG 50/51 SEC™

Gamma Ionization Chambers

High range gamma dose rate monitoring under accident and post accident conditions.



FEATURES

- Large measuring range up to 100 kGy/h
- Saturation proof
- Rugged construction
- Long life time
- Energy range: 60 keV to 7 MeV
- Output signal: DC current starting at 1 pA
- Up to 70 m (230 ft) of metal shielded cable, extension cable available
- Ambient conditions up to 205°C (401°F), 7 bar
- LOCA qualified

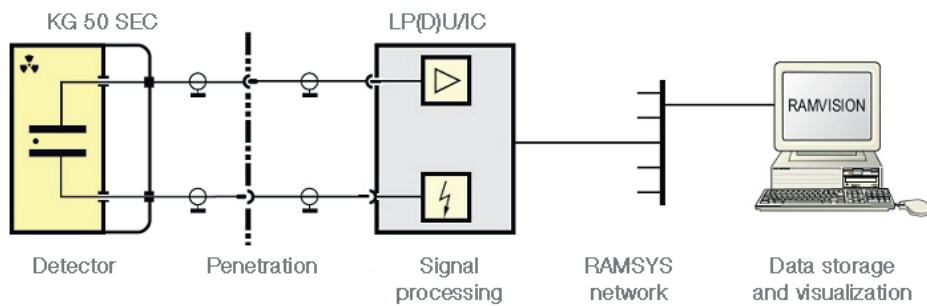
DESCRIPTION

The KG 50/51 SEC ionization chambers have been developed for high range gamma dose rate monitoring under accident and post accident conditions. Gamma radiation produces charged particles in the gas filling of the ionization chamber. The transportation of these charged particles in the electrical field and their discharge on the electrodes causes charge pulses. The charge pulses are integrated to a DC current, which can be measured in the external circuit.

The KG 50/51 SEC ionization chambers may be connected to signal processing units, both, of the RAMSYS or proTK family.

TECHNICAL CHARACTERISTICS

| Properties | KG 50 SEC | KG 51 SEC | Acceptable Tolerance |
|---|--|--|--|
| Measuring range | 1e-3 Gy/h ... 1e+3 Gy/h 1e+3 Gy/h ... 1e+5 Gy/h | 1e-5 Gy/h ... 1e+1 Gy/h 1e+1 Gy/h ... 1e+3 Gy/h | ± 20% of sensitivity ± 40% of sensitivity |
| Sensitivity for Cs-137 for Xe-133 | 1.0e-9 A/(Gy/h) 1.2e-9 A/(Gy/h) | 2.0e-8 A/(Gy/h) 2.4e-8 A/(Gy/h) | ± 15% at 1 Gy/h ± 15% at 1 Gy/h |
| Energy range | 100 keV ... 3 MeV 60 keV ... 7 MeV | 100 keV ... 3 MeV 60 keV ... 7 MeV | ± 20% of sensitivity ± 50% of sensitivity |
| Detector housing Gas filling Electrodes Radioactive embedded source | Stainless steel Nitrogen/Argon, 1 bar Aluminium Am-241, 1 kBq | Stainless steel Nitrogen/Argon, 20 bar Aluminium - | |
| Operating voltage Basic current from embedded source | 800 V 1e-12 A approx. | 800 V - | |
| Temperature range Short term temperature range Ambient pressure Protection index Dimensions (Ø × L, without cable) Weight (without cable and connector) Weight (with 60 m cables and connectors) | 0 ... 135°C (32 ... 275°F) 205°C (401°F) for 3h 0 ... 7 bar IK07 and IP67 50.8 mm × 440 mm (1.9 in × 17.3 in) 2.1 kg (4.6 lb) 12.8 kg (28.2 lb) | 0 ... 135°C (32 ... 275°F) 205°C (401°F) for 3h 0 ... 7 bar IK07 and IP67 50.8 mm × 440 mm (1.9 in × 17.3 in) 2.1 kg (4.6 lb) 12.8 kg (28.2 lb) | |
| Cables Cable length Connectors | Metal shielded cable, ceramic insulation 0.3 to 70 m on request (1 to 229 ft) Radiall HN, others on request | | |



Featuring:

