



MIRION
TECHNOLOGIES

PROTK & RAMSYS

KG 151 RBT/REZ™

Gamma Ionization Chambers

Low and medium range gamma dose rate monitoring in nuclear facilities.



FEATURES

- Wide measuring range up to 100 Gy/h
- Saturation proof
- Robust construction
- Long life time
- Energy range: 80 keV to 3 MeV
- Output signal: DC current starting at 0.1 pA
- Ambient temperature up to 180°C (356°F)

DESCRIPTION

The KG 151 RBT/REZ ionization chambers have been developed for low and medium range gamma dose rate monitoring in nuclear facilities.

Gamma radiation produces charged particles (electrons and gas ions) in the gas filling the ionization chamber. Their discharge on the electrodes causes charge pulses. These charge pulses are integrated to a DC current, which can be measured in the external circuit. The KG 151 RBT/REZ ionization chambers may be connected to signal processing units of the RAMSYS or proTK family.

TECHNICAL CHARACTERISTICS

Properties	KG 151 RBT	KG 151 REZ	Acceptable Tolerance
Measuring range	1e-7 Gy/h ... 1 Gy/h 1 Gy/h ... 1e+2 Gy/h	1e-7 Gy/h ... 1 Gy/h 1 Gy/h ... 1e+2 Gy/h	± 20% acceptable deviation of sensitivity ± 40% acceptable deviation of sensitivity
Sensitivity Energy range	2e-6 A/(Gy/h) 80 keV ... 3 MeV	2.23e-6 A/(Gy/h) 80 keV ... 3 MeV	± 10% ± 40% acceptable deviation of sensitivity (KTA 1501)
Detector housing Gas filling Embedded source	Steel Argon, 26 bar Cs-137, 185 kBq	Stainless steel Argon, 26 bar Cs-137, 185 kBq	
Operating voltage Break down voltage Detector source current	1200 VDC, typ. 2500 VDC 1e-12 A approx.	1200 VDC, typ. 2500 VDC 1e-12 A approx.	± 5% 10 s max. With embedded source
Temperature range Short term temperature range External pressure Humidity	0 ... 150°C (0 ... 302°F) < 180°C (356°F) 0.7 ... 1.3 bar < 95%	-25 ... 150°C (-13 ... 302°F) < 180°C (356°F) 0.7 ... 1.3 bar < 95%	1 h max.
Length of detector Total length Diameter Sensitive volume Weight (without connector and cable)	502 mm (19.7 in) 595 mm (23.4 in) 150 mm (5.9 in) 5.7 l Approx. 12.5 kg (27.5 lb)	502 mm (19.7 in) 602 mm (23.7 in) 150 mm (5.9 in) 5.7 l Approx. 14 kg (30.8 lb)	
Connectors	Fischer size 105	Fischer size 105	Max. cable length is depending on signal processing unit (cable capacity)

ACCESSORIES

- Assembly kit with insulated clamps
- TKS 01: cable protection unit for LOCA-proof installation of KG 151 REZ
- TKA 66.11: calibration source Cs-137, remote operated
- Connection cables: low noise cable, e.g. Raychem 5021B or Gore GCX 0157
- Digital signal processing units:
 - proTK system: e.g. DPK 251 digital signal processing channel with c/f-converter NV 103
 - RAMSYS system: LPU-IC or LPDU-IC local signal processing units

Featuring:

