

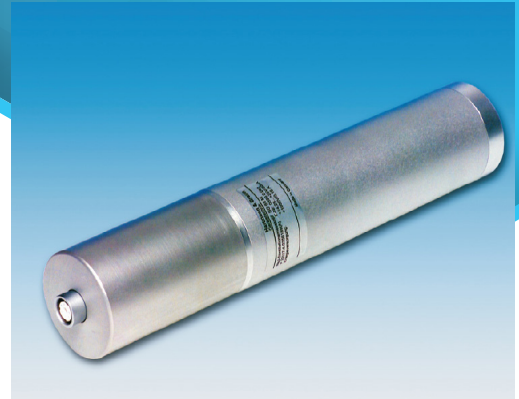


## PROTK & RAMSYS

# SG 65/66™

*NaI Scintillators*

Safety related monitoring of activity



## FEATURES

- Reliable
- Robust construction
- Type tested
- High sensitivity
- Compact with 2" × 2" sodium iodide crystal
- Built-in pulse amplifier and buffer
- Output signal: low-impedance voltage pulses
- Temperature range until 80°C (SG 66)

## DESCRIPTION

The SG 65 and SG 66 scintillators have been developed for safety related monitoring of activity according to KTA 1502. In the scintillator crystal, ionizing radiation generates light pulses, which are converted and amplified into charge pulses by the photomultiplier.

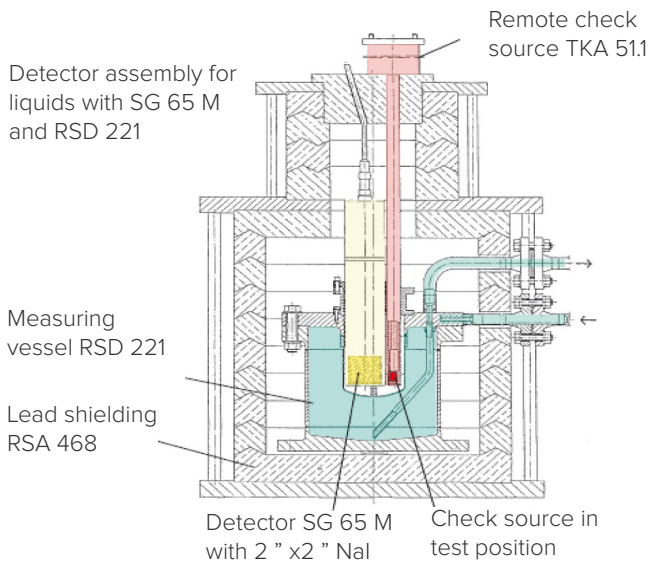
The height of the pulse is proportional to the energy of the gamma radiation. An adjustable pulse amplifier offers calibration of the sensitivity and matching of the output pulses to the impedance of the detector cable.

TECHNICAL CHARACTERISTICS

Properties		SG 65	SG 66
<b>Background (1)</b>	without screen	65 s <sup>-1</sup> approx.	43 s <sup>-1</sup> approx.
<b>Sensitivity (1)</b>	with 10 cm lead	4 s <sup>-1</sup> approx.	2.8e4 s <sup>-1</sup> approx.
<b>Energy resolution (50%)</b>	Test device TKA 04	2e4 s <sup>-1</sup> approx.	
<b>Measuring range</b>	with 185 kBq Cs-137	< 8%	< 12%
	for Cs-137	0.5 ... 5e5 s <sup>-1</sup>	0.5 ... 5e5 s <sup>-1</sup>
<b>Output signal</b>		0 ... -5V at 50 Ohms	0 ... -5V at 50 Ohms
<b>Pulse width</b>		1.2 µs approx.	0.5 µs approx.
<b>High voltage</b>		-1 mV/keV	-1 mV/keV
<b>Supply voltage</b>		1000 V, 0.2 mA approx.	1000 V, 0.06 mA approx.
		14.25 ... 25 V, 30 mA approx.	14.25 ... 25 V, 30 mA approx.
<b>Scintillator crystal</b>	∅ × length	Nal (TI); 2" × 2"	Nal (TI); 2" × 2"
<b>Detector housing</b>		Aluminium, Brass	Aluminium, Brass
<b>Magnetic shielding</b>		µ-metal	µ-metal
<b>Connectors</b>		Fischer S105 A 06093	Fischer S105 A 06093
<b>Cable</b>		TKK 05	TKK 05
<b>Temperature range</b>		0 ... +50°C (+32 ... 122°F)	0 ... +80°C (+32 ... +176°F), 100°C (212°F) for <10h
<b>Temperature change rate</b>		< 5 K / h	< 2 K / min
<b>Ambient pressure</b>	∅ × length (2)	0.7 ... 1.2 bar	0.7 ... 1.2 bar
<b>Dimensions</b>	(2)	65 × 340 mm (2.5 × 13.4 in)	65 × 395 mm (2.5 × 15.5 in)
<b>Weight</b>		2 kg (4.4 lb) approx.	2.5 kg (5.5 lb) approx.

(1)  $U_{discr} = -100\text{ mV}$ ,  $U = 1000\text{ V}$ ,  $T = 25^\circ\text{C}$   
 (2) without connector

EXAMPLE OF APPLICATIONS



Nal scintillator detector SG 65 M with digital signal processing channel DPK 251

