

PROTK & RAMSYS

SB 40/150TM Plastic Scintillators

Monitoring of beta activity

FEATURES

- Wide measuring range
- Low gamma sensitivity
- Built-in pulse amplifier and buffer

DESCRIPTION

The scintillation detectors SB 40 and SB 150 have been developed for monitoring for beta activity according to the KTA standards 1502 and 1503 in safety related applications.

In the disc shaped scintillator ionizing radiation generates light pulses, which are converted and amplified into charge pulses by the photomultiplier. The sensitivity to gamma radiation is low because of the thin layer of scintillating material. An adjustable pulse amplifier offers calibration of the sensitivity and matching of the output pulses to the impedance of the detector cable.

SB 40/150 | PLASTIC SCINTILLATORS

TECHNICAL CHARACTERISTICS

Properties		SB 40	SB 150
		with measuring vessel RSD 200, lead shielding RSA 310 (if applicable), U _{discr} = -100mV	with measuring vessel RSD 275 and lead shielding RSA 482 RSA 482, U _{discr} = -150mV
Calibration factor for betas Measuring range Background Gamma sensitivity	Kr-85 Xe-133 Kr-85, 5 cm lead shielding Xe-133, 5 cm lead shielding in 5 cm lead shielding Cs-137	3e4 Bq/m ³ s-1 ±10% 4.4e4 Bq/m ³ s-1 ±20% 5e3 5e9 Bq/m ³ 1e4 1e10 Bq/m ³ 0.4 s-1 8.5 s-1 /μGy/h, without shielding	4.4e3 Bq/m3 s-1 ±20% 8.1e3 Bq/m3 s-1 ±20% 2e3 5e8 Bq/m3 3.37e3 1e9 Bq/m3 2.5 s-1 0.2 s-1 /μGy/h, with 5 cm lead
Output signal Pulse width Detector voltage Supply voltage		05V at 50 Ohms 0.7 μs approx. 1000 V, <0.15 mA 14.25 25 V, 30 mA approx.	05V at 50 Ohms 0.6 µs approx. 1200 V, <0.25 mA 14.25 25 V, 30 mA approx.
Scintillator Detector housing Light-tight cover foil Magnetic shielding	Material; Ø; thickness	KL236; Ø 50 mm; 0.5 mm Aluminium, Brass Aluminium, 9 μm μ-metal	NE102A; Ø 150 mm; 0.5 mm Aluminium, steel Aluminium, 12 μm μ-metal
Connectors Cables		Fischer S105 A 06093 TKK 05	Fischer S105 A 06093 TKK 05
Temperature range Ambient pressure Dimensions	Ø (Flange) x L without connector	0 +50°C (+32 +122°F) 0.7 2 bar 65 (90) × 310 mm (2.5 (3.5) × 12.2 in)	0 +50°C (+32 +122°F) 0.7 1.25 bar 150 (232) × 382 mm (5.9 (9.1) x 15 in)
Weight	without connector	1.5 kg (3.3 lb) approx.	4.6 kg (10.1 lb) approx.

EXAMPLE OF APPLICATIONS

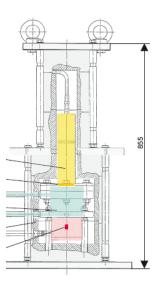


Beta particulate monitor AD 24 with SB 40 Noble gas detector assembly with SB 40

Detector SB 40 with Plastic scintillator Ø 50mm

Measuring vessel RDS 200 approx. 1ltr Lead shielding RSA 310 50mm

Remote check source TKA 61 Sr-90





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