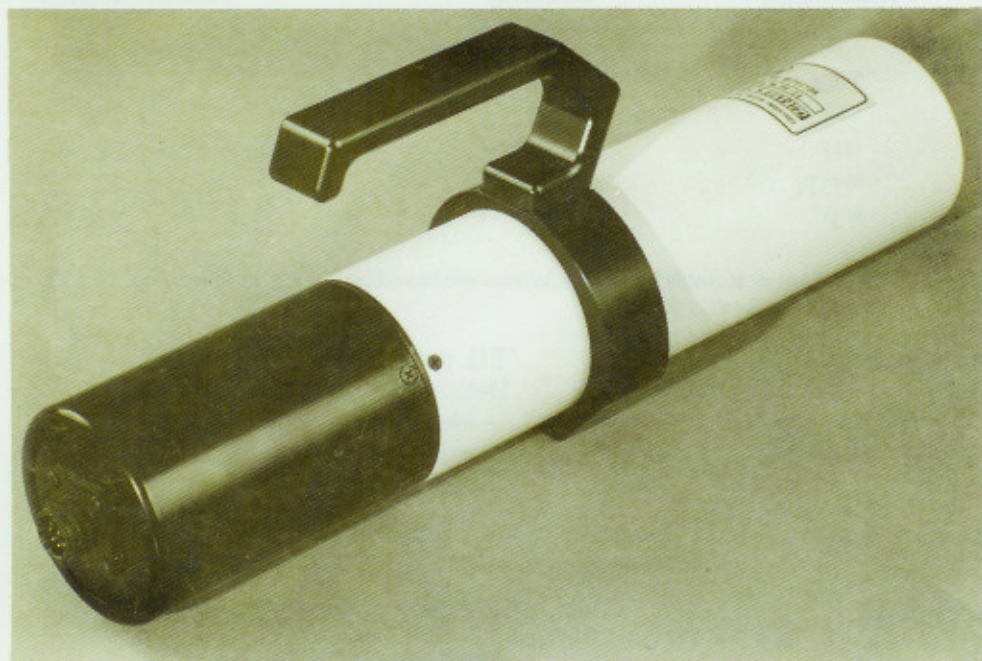




The PM-11 for High Energy Gamma Radiation Detection



The PM-11 is a scintillation probe for detection of gamma radiation. The combination of the RAM monitor and the PM-11 probe, permits highly efficient surface contamination detection.

The sensor is made of a 2" thick, 2" diameter, hermetically sealed NaI (Tl) scintillator, which is optically coupled to a 2" diameter photomultiplier tube (PMT).

Electronic circuits in the detector:

- Linear pulse amplifier
- Single channel analyzer (SCA) — optional
- Pulse shaper
- Variable high voltage power supply
- Detector identifier
- Malfunction indicators

Excellent signal-to-noise ratio is attained, due to the proximity of the amplifier and the HV power supply to the PMT. The sensitivity is further improved by the option of SCA, which contains a special DC restorer circuit, to keep its threshold stable at high levels of radiation. In case of detector malfunction, or radiation overflow, an alarm signal is automatically triggered in the monitor.

The detector is protected against shock, vibration, humidity and light by its rugged aluminum casing. A mu-metal shield protects the PMT from undesirable influences of magnetic fields, including that of the earth.

Also available is the PM-10 for detection of low energy gamma and X-rays, comprising of a 2" x 0.04" NaI (Tl) scintillator optically coupled to a PMT.

TECHNICAL DATA

Radiation detection		Gamma above 50 keV
Scintillator	Crystal:	Nal (Tl)
	Dimensions:	2" dia. x 2" thickness
	Window:	1 mm (0.04") aluminum
Count rate range		0 to 50,000 cps
Surface sensitivity (in contact):		

Radionuclide	Sensitivity cpm/Bq/cm ²	Minimum detectable level* Bq/cm ²
⁵¹ Cr	27	140
¹²⁵ I	25	150
¹³¹ I	320	12
^{99m} Tc	315	12
³² P	17	220

* Minimum detectable level calculations are based on background reading of 3600 cpm. The confidence level is 99%.

Output signals		TTL pulses (5 V, 5 μ s) Detector status logic: — identification — malfunction — radiation overflow
Temperature range	Operation: Storage:	-10°C to +50°C (15°F to 122°F) -20°C to +60°C (-5°F to 140°F)
Humidity range		40% to 95% RH (non condensing)
Casing		Aluminum, splash proof
Dimensions		34 cm long x 7 cm diameter (13.4" long x 2.75" diameter)
Weight		1.75 kg (3.9 lb)
Option		Factory calibrated single channel analyzer (SCA) within the energy range
Ordering #		PM-11 3-0011

ROTEM INDUSTRIES reserves the right to change specifications without advance notice

Further enquiries are encouraged, Please write to the address below, or call direct:

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