

FIRST RESPONDER'S RADIATION DETECTION EMERGENCY KIT

Model Series ~ TBM-6SPE & TBM-6SPE-D

FEATURES:

- DETECTS SURFACE CONTAMINATION: ALPHA, BETA, GAMMA, X-RAYS, POSITRONS, & NEUTRONS
- FIVE SEPARATE DETECTORS: **TBM-6SPE**
 - (1) INTERNAL 2" GM BETA
 - (4) EXTERNAL SCINTILLATION
- FIVE SEPARATE DETECTORS: **TBM-6SPE-D**
 - (5) EXTERNAL SCINTILLATION
- EASY SWITCH FROM INTERNAL TO EXTERNAL PROBES
- LIGHTWEIGHT - FITS INTO A BRIEFCASE
- FAVORED BY FIRST RESPONDERS
- TBM-6SPE (**ANALOG**); TBM-6SPE-D (**DIGITAL**)
- **IP67**
- **CE MARK**



TBM-6SPE - TBM-6SP Analog Electronics

CE



TBM-6SPE-D - TBM-3D Digital Electronics

DESCRIPTION:

The **TBM-6SPE** features an internally mounted 2 inch Beta pancake GM detector (T-1190) with window looking downward from bottom of case.

A sliding shield protects pancake detector when not in use.

Four external probes:

- ✓ Alpha (PAS-8);
- ✓ Low energy Gamma (PGS-3T),
- ✓ All Neutrons (PNS-20),
- ✓ Gamma Search Probe (PGS-3L).

This system is half the weight of other systems.

SPECIFICATIONS:

Meter:	Rugged, recessed 2-1/2" meter.
Range Switch Positions:	Off; Battery Test; X1; X10; X100; X1,000
Detector Switch (Toggle):	Internal (pancake), External (4 Additional Probes).
Time Constant Switch:	Fast, Slow (approx. 2 & 11 sec).

NOTE: INTERNAL DETECTOR TBM-6SP3 ANALOG

Ranges 4 linear for each detector:	External Detector: 0-500; 5,000; 50,000; 500,000 cpm.
	Internal Detector: 0-0.15; 1.5; 15; 150 mR/hr.

Engineering Units:	Internal & External Detectors: R/h, cpm, or User Settable other units
Internal Detector:	T-1190 2" O.D. Beta Pancake Geiger.
Internal Detector:	Gamma Sensitivity: 500 cps/mR/h
Internal Detector:	Lowest Beta Sensitivity: 70 KeV
Internal Detector:	X-Rays or Gamma Exposure / Dose Rate: 40KeV – 2 MeV



TECHNICAL ASSOCIATES
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Real - Time
Air & Water
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Sample of External Detectors:

External Detectors:	PAS-8	PGS-3T	PGS-3L	PNS-20
Detects:	Alpha	Low Energy Gamma.	Gamma Search Probe.	Fast & Slow Neutrons.
Efficiency:	Alphas above 5MeV20-40% 2		1,000,000 cpm/mR/hr	20 cpm per thermal neutron/cm ² /sec
I ¹²⁵	–	87%		–
Co ⁵⁷	–	78%		–
Tc ^{99m}	–	75%		–
Cs ¹³⁷	–	30%		–

External Detector Description:

- PAS-8:** Alpha Scintillation Probe with 1-3/4" diameter x 0.8 mg/cm² window.
- For use wherever a high efficiency, low background Alpha detector is indicated.
- PGS-3T:** Low Energy Gamma Scintillation Probe, 1" diameter x 1mm NaI(Tl) crystal protected by a 5 mil. Aluminum window.
- Sees X-rays and Gammas > 10KeV and Betas > 100KeV.
- PGS-3L:** Gamma Scintillation Search Probe utilizing a highly gamma sensitive crystal (NaI(Tl)).
- 2" diameter x 2" long hermetically sealed crystal optically coupled to photomultiplier tube.
 - Gamma sensitivity is 100 times greater than GM tubes.
 - Will also detect X-rays > 25KeV.
 - Sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr.
- PNS-20:** Fast & Slow Neutron Scintillation Probe. The n-p reaction is used to measure energy deposited by Fast Neutrons.
- Thermal Neutrons are detected by means of the Boron n-Alpha reaction.
 - Probe delivers approximately 20 cpm per neutron/cm²/second and requires a 900 volt supply. The probe is 8" long x 1.5" in diameter.
 - It is completely insensitive to Gammas in fields below 10 R/hr.

Electronics:

TBM-6SP Analog, Low Light, 3" Diameter

TBM-3D Digital

Read Out: 2 Separate Scale Factors For Rate & Total
8 Digit LCD Display with Backlight
2" Display Screen

Power: High Voltage 400v-1200v Dc
0.1-99 Sec Time Constant for Ratemeter

Ideal for Long Count - Up to 24 Hours or More

Use Any GM Or Scintillation Alpha, Beta, Gamma, X-Ray, Positron Detector.

OPTIONAL: Alarm
RS-232 Serial Output



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Calibration:	Single Master Cal Pot for each detector, plus individual Cal Pot for each scale. Pots adjust from outside case.
Power:	TBM-6SP - Analog: (1) 9V TBM-3D - Digital: (6) AA
Battery Life:	100 hrs. Normal Operation
Dimensions of Meter:	3" Wide x 5-1/4" Long x 2-1/4" Deep. (7.6 m 13.3 cm x 6cm).
Total Weight:	10 lbs – Case, Electronics & Detectors.



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