



TBM-6SPE-D with Electronics

First Responder's Radiation Detection Emergency Kit

Model: TBM-6SPE-D



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

Features

- Portable
- Detects Surface Contamination:
Alpha, Alpha-beta, Gamma, Low Energy,
and Neutrons
- Five (5) External Separate Detectors
- Rechargeable Batteries and Charger

TBM-3D Electronics

- 8 Digital Readout
- **Options:**
 - Alarm Circuit: Visual And Audio Alarm
 - USB Port / RS-232 Serial Circuit
 - Other Connectors - MHV etc
 - Lightweight – Self-contained Briefcase
 - Favored By First Responders
 - **IP67; CE MARK**

Description

Five probes:

- » Alpha (PAS-8)
- » Alpha-Beta (P15)
- » Low energy Gamma (PGS-3T)
- » All Neutrons (PNS-20)
- » Gamma Search Probe (PGS-3L)

The **TBM-6SPE-D** features TBM-3D digital electronics and the (5) probes described above in a self-contained field ready briefcase.

Battery charger and cords separate from briefcase.

This system is half the weight of other systems.



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Model: TBM-6SPE-D

Sample of Detectors TBM-6SPE-D:

Detectors:	P-15	PAS-8	PGS-3T	PGS-3L	PNS-20
Detects:	Alpha-Beta	Alpha	Low Energy Gamma.	Gamma Search Probe.	Fast & Slow Neutrons
Efficiency:	5 KeV X-Rays and above	Alphas above 5 MeV 20-40%		1,000,000 cpm/mR/hr	
I¹²⁵		-	87%	2" dia. <u>Nal</u>	87%
Co⁵⁷		-	78%	2" dia. <u>Nal</u>	78%
Tc^{99m}		-	75%	2" dia. <u>Nal</u>	75%
Cs¹³⁷		-	30%	2" dia. <u>Nal</u>	30%

External Detector Description:

P-15: Alpha, Beta, Gamma Probe (GM)

- » 1.5" mica window diameter, 1.5 mg/cm pancake GM tube.
- » Background is normally 50 to 60 counts per minute.
- » Extremely sensitive to Alphas with sufficient energy to penetrate window and Betas > 50 KeV.
- » Sees 5 KeV X-Rays and above.

PAS-8: Alpha Scintillation Probe

- » 1.5" 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) thin crystal, thin window 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" long x 2" diameter 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 and 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.
- » 8" long x 1.5" in diameter.
- » It is completely insensitive to Gammas in fields below 10 R/hr.



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Model: TBM-6SPE-D

Specifications

Electronics: TBM-6SPE-D with TBM-3D Digital Electronics – 5 External Probes

**Handle
Detector Cables**

DIGITAL Read Out: 2 Separate Scale Factors for Rate and Total
8 Digit LCD Display with **Optional** Backlight
2" Display Screen
0.1-99 Sec Time Constant for Ratemeter
Ideal for Long Count - Up to 24 Hours or More
cps, or User Settable other units

Engineering Units: High Voltage 400v-1200v DC

Power: Rechargeable Batteries and Charger with cords

Batteries: 100 hrs. Normal Operation

Battery Life: User Digital Adjust

Calibration:

Dimensions TBM-3D:

Electronics: 4" W x 6-1/2" L x 3" D. (10.16 m 16.5 cm x 7.6 cm).

TBM-6SPE-D

Carrying Case: O Ring, Water-Tight, Crush Proof, Dust Proof:
21" W x 16" L x 9" D (53.3 cm x 40.6 cm x 22.8 cm)

Total Weight TBM-6SPE-D: 10 lbs – Case, Electronics and Detectors.

Options: Alarm circuit with red LED and audio alarm
USB Port / RS-232 serial circuit
Other connectors - MHV etc



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