

Hand Held Monitors

PRM-470B

Low cost hand held gamma detector



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NRM-477

Hand held neutron rate meter

Description

Model PRM-470B

TSA's hand held PRM-470B is a popular choice for locating radioactive sources and measuring intensity in the field. It uses low power CMOS electronics to provide over 60 hours of operation from the NiCad batteries. For emergency response or other applications where rechargeable batteries are not suitable, the PRM-470B can be powered by optional 4 "AA" alkaline batteries. These batteries provide more than 12 hours of continuous service. The versatile, easy to operate PRM-470B also features a self test during power up, automatic background count and user determined alarm settings.

The PRM-470B has a motion switch to automatically switch from background to search mode when the instrument is moved. After the instrument has been at rest for 15 seconds, it will revert to background update. Internal switches are provided to scale the display to $\mu\text{sv/hr}$ or $\mu\text{R/hr}$. *This conversion is not energy compensated. Therefore, the value displayed is only an approximation of actual dose rate.*

Model NRM-477

The NRM-477 is a lightweight, portable, hand held neutron rate meter. The enclosure and controller electronics are shared with the PRM-470B. Neutron detection is provided by an He^3 detector with high density polyethylene moderator. Count time is variable from 1-60 seconds and the alarm level may be set from no alarm to 99 counts. A display backlight is supplied to permit use in low light conditions.

Specifications

Model PRM-470B SPECIFICATIONS

- SENSITIVITY: Will detect $10\text{g }^{235}\text{U}$ (HEU) or $1\text{g }^{239}\text{Pu}$ when tested in accordance with ASTM Standard C 1237*.
- DETECTORS: One, 3.5" h x 2.88" w x 1.25" d (9 x 7 x 3cm) plastic scintillator detector; provides 12.6 in³ (206cc) of detector volume per instrument.
- ALARM LEVEL: Set by internal switches from 0.1 to 9.9 sigma
- ALARM INDICATION: Audible tone and LED
- COUNT TIME: Search mode: 0.05 sec. count with 0.4 sec. moving average. Background time: 10 sec.
- DISPLAY: LCD, one line x 4 characters, with backlight
- POWER REQUIREMENTS: The internal NiCad battery pack provides more than 60 hours of continuous operation on a full charge. The instrument is shipped with a universal input battery charger which operates on 90 - 250 Vac, 47 - 63 Hz. Recharge time is less than 16 hours. Optional 4 "AA" alkaline batteries provide more than 12 hours of operation.
- DIMENSIONS: 8" h x 5" w x 3" d (20 x 13 x 8cm)
- WEIGHT: 2.4 lb (1.1kg) with batteries
- ENVIRONMENTAL: 32° to 100°F (0° to 38°C)

*ASTM Standard C 1237-93 is available from TSA Systems, Ltd. or The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428, (610) 832-9585.

Model NRM-477 SPECIFICATIONS

- DETECTORS: One, 7.1" h x .75" d (18 x 2cm), He^3 tube, 4" (10cm) active, 4 ATM.
- ALARM LEVELS: Set by two internal rotary switches, range 1 to 99 Cps
- ALARM INDICATION: Audible and visual via a front panel LED
- POWER REQUIREMENTS: A six volt nickel cadmium battery pack of five 1.3 amp-hour sub C batteries. Minimum of 10 hours on a full charge. Excessive use of backlight will shorten battery life. Unit is supplied with a universal charger that will recharge the batteries in 16 hours.
- DIMENSIONS: 7.5" h x 5" w x 2.25" d (19 x 13 x 6cm)
- WEIGHT: 3.28 lb (1.5kg)

Applications

Model PRM-470B

PRM-470B applications include Special Nuclear Material (SNM) searches at plant exits and material access areas, as well as contamination and background monitoring. The small size, light weight, and long battery life make it ideal for searching vehicles that require extended search times.

Model NRM-477

Uses for TSA's model NRM-477 include (SNM) searches at plant exits and material access areas, as well as contamination and background monitoring. The small size and light weight make it ideal for extended search time applications.