

# GAMMA MICRO-R METER PLUS NEUTRON

Model ~ TBM-6GN

## FEATURES:

- DUAL DISPLAY
- GAMMA & NEUTRON DETECTION
- DETECTS 10  $\mu$  R/hr (0.1  $\mu$  Sv/h) ABOVE BACKGROUND IN 2 SECONDS
- 99% CONFIDENCE: 4 Sigma
- BISMUTH GERMINATE SCINTILLATION CRYSTAL GIVES SIZE AND SENSITIVITY BREAKTHROUGH
- NEUTRON DETECTION FOR FISSILE MATERIALS
- **IP 64**
- **CE MARK**



## APPLICATION:

The **TBM-6GN** Precision Radiation Proximity analyzer is small with unprecedented sensitivity and accuracy. The is designed specifically for use by inspectors and guards, police and hazmat squad to give warning in case of illicit or accidental storage or transport of radioactive and fissile material.

- Police
- Guards
- Hazmat Teams
- Shipment inspectors both in USA & Overseas
- Industrial inspectors
  - Power plants,
  - Environmental
  - Steel Mills.
- Also in hospitals, landfills and at customs entry and exit points.
- Use as a  $\mu$ R/hr meter.

## GENERAL DESCRIPTION:

Small, portable, digital Gamma & Neutron monitor with **Optional** shoulder strap & D-Ring.

- Digital readout of  $\mu$  R/hr.
- Alarms on radiation level settable down to background level.
- The **TBM-6GN** alarms at any of 99 preset levels.
- Measures exposure dose rate. (The dose rate is displayed continuously on the digital **LCD** display.)
- When the alarm set-point is reached, the beep is continuous until it is reset (front panel button).
- Calibration controls are recessed and covered.



**TECHNICAL ASSOCIATES**

**OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303  
818-883-7043 (Phone) 818-883-6103 (Fax)

[tagold@nwc.net](mailto:tagold@nwc.net)

[WWW.TECH-ASSOCIATES.COM](http://WWW.TECH-ASSOCIATES.COM)

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Model ~ TBM-6GN

## NEUTRON DETECTION:

Fissile materials have only WEAK Gamma emissions which are hard to detect. These materials also have spontaneous Neutron emissions. Detection of even a few Neutrons is significant since the natural background Neutron count rate is ZERO. When the Neutron indicator comes on the operator knows that Neutrons from fissile material are present.

## SPECIFICATIONS:

### GAMMA DETECTION:

- **Scintillator:** 1" dia. (25mm dia x 10 mm )BGO.
- **Photomultiplier:** 1.12" diameter PM tube with  $10^6$  Gain
- **Equivalent:** Equivalent to a 1" x 1" NaI(Tl).
- **Range:** 1 to 2,000  $\mu$ R/hr.

### NEUTRON DETECTION:

- **Detector:** ZnS + Boron Scintillator
- **Efficiency:** 10 cpm per thermal neutron/cm<sup>2</sup>/sec
- **Range:** 5-10,000 Neutron/cm<sup>2</sup>/sec
- **Energy Response:** Detects all Neutrons (Fast & Slow) (After Moderator)
- **Dose rate Readout:** Neutron counts on LCD Display
- **Alarm Level:** 10-100  $\mu$  R/hr.
  - Audio and Visual alarm with a reset button.
- **Energy Response:** 40 KeV and above.
- **Readout:** **DUAL** Six Digit LCD.
- **Selector:** Neutron-Gamma selection switch.
  - Displays either Neutrons (in Counts) or Gammas (in  $\mu$  R/hr).
- **Background Subtract:** Automatically subtracts Gamma background from Gamma count.
- **Battery:** 9 volt battery
- **Battery Life:** 200 hour normal operating life at 10  $\mu$  R/hr.
- **Accuracy:** Better than  $\pm 5\%$  plus 0.1  $\mu$ R/hr. (measured with Cs<sup>137</sup> Gamma)
- **Case:** Rugged, anodized panel, powder coat base, aluminum case.
- **Dimensions:** 23cm L x 10.5cm W x 14.5cm (9" x 4.1" x 5.7").
  - Includes handle in folded position
- **Weight:** 1.7 Kg (62 oz) including batteries.

### OPTIONAL:

- **Detector Wand:** **1.5 meter** Telescoping wand Model # TP-1.5, **3 Meters** Model # TP-3.
- **Alarm:** High Alarm on Neutron or Gamma or Both.
- **Large Detectors:** 1.5" sensitive diameter (38mm x 10mm).  
2" sensitive diameter (50mm x 10mm), Equivalent to 2" x 2" NaI.



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