

## GAMMA MICRO-R METER PLUS NEUTRON

Model # DSI-2GN-L

### FEATURES:

- 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

**APPLICATION:** The **DSI-2GN-L** Precision Radiation Proximity analyzer is small with unprecedented sensitivity and accuracy. The **DSI-2GN-L** 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. Suitable uses are for shipment inspectors both in USA and overseas. Also power plants, environmental and industrial inspectors and steel mills. Also in hospitals, landfills and at customs entry and exit points. The **DSI-2GN-L** is also useful as a  $\mu$  R/hr meter.



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**GENERAL DESCRIPTION:** Small, portable gamma and neutron monitor with **Optional** shoulder strap and D-Ring. Digital readout of  $\mu$  R/hr. Alarms on radiation level settable down to background level.

The **DSI-2GN-L** alarms at any of 99 preset levels. It also accurately 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). The **DSI-2GN-L** circuitry is completely digital, thus eliminating the inaccuracy inherent in any analog circuit. Calibration controls are recessed and covered .

**REASON FOR 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.

**TA** TECHNICAL ASSOCIATES

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## 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.
- Alarm Level:** 10-100  $\mu$  R/hr. Audio and Visual alarm with a reset button.
- Energy Response:** 40 KeV and above.
- Readout:** Six Digit LCD.

<b>NEUTRON DETECTION:</b>	<b>DSI-2GN-L</b>
<b>Detector Type:</b>	ZnS + Boron Scintillator
<b>Efficiency:</b>	10 cpm per thermal neutron/cm <sup>2</sup> / sec.
<b>Range:</b>	5-10,000 neutron/cm <sup>2</sup> / sec.
<b>Energy Response After Moderator:</b>	Detects all Neutrons (Fast and Slow)
<b>Dose Rate Readout:</b>	Neutron counts are shown on LCD Display

## SPECIFICATIONS: (CONTINUED)

- Selector:** Neutron-Gamma selection switch displays either Neutrons (in Counts) or Gammas (in  $\mu$  R/hr).
- Background Subtract:** Proprietary compensation protocol automatically subtracts Gamma background from Gamma count.
- Battery:** 9 volt transistor battery, EverReady #1222 or equivalent. 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.
- Shipping Weight:** 3 Kg (6.6 lbs).
- 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.
- Serial Port:** RS-232 signal output

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