

SENSITIVE GAMMA PLUS NEUTRON METER

Model # DSI-2NT
Model # DSI-2GN

FEATURES:

- DETECTS 10 $\mu\text{R/hr}$ (0.1 $\mu\text{Sv/h}$) ABOVE BACKGROUND IN 2 SECONDS
- 99% CONFIDENCE: 4σ
- BISMUTH GERMINATE SCINTILLATION CRYSTAL GIVES SIZE AND SENSITIVITY BREAKTHROUGH
- NEUTRON DETECTION FOR FISSILE MATERIALS

APPLICATION: The **DSI-2NT** and **DSI-2GN** Precision Radiation Proximity analyzers are small with unprecedented sensitivity and accuracy. The **DSI-2NT** and **DSI-2GN** are designed specifically for use by inspectors and guards, police and hazmat squad to give warning in case of illicit or accidental storage or transport or 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-2NT** and **DSI-2GN** are also useful as $\mu\text{R/hr}$ meters.



DSI-2GN

GENERAL DESCRIPTION: Small, portable gamma and neutron monitor with pocket or belt clip and D-Ring. Digital readout of $\mu\text{R/hr}$. Alarms on radiation level settable down to background level.

The **DSI-2NT** and **DSI-2GN** alarm at any of 99 preset levels. The **DSI-2NT** and **DSI-2GN** also accurately measure exposure 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-2NT** and **DSI-2GN** circuitry are completely digital, thus eliminating the inaccuracy inherent in any analog circuit. Calibration controls are recessed and covered.

REASON FOR NEUTRON DETECTION: Some 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: (Both DSI-2NT and DSI-2GN Models)

GAMMA DETECTION:

Scintillator:	25 mm dia x 10 mm BGO.
Photomultiplier:	20 cm diameter PM tube with 10^6 Gain *.
Equivalent:	Equivalent to a 1" x 1" NaI(Tl).
Efficiency:	100 cpm/ $\mu\text{R/hr}$.
Range:	1 to 2,000 $\mu\text{R/hr}$.
Alarm Level:	10-100 $\mu\text{R/hr}$.

* DSI-2 Uses photomultiplier tube with 10^6 gain giving higher count rate, better stability, and Quicker readings than photo diode units.

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\$Revision: 1.5 \$

SENSITIVE GAMMA PLUS NEUTRON METER

Model # DSI-2NT
Model # DSI-2GN

SPECIFICATIONS (Continued for Both DSI-2NT and DSI-2GN Models)

NEUTRON DETECTION:	DSI-2NT	DSI-2GN
Detector Type:	ZnS + Boron Scintillator	ZnS + Boron Scintillator
Efficiency:	15 cpm per thermal neutron/ cm ² / sec.	15 cpm per thermal neutron/ cm ² / sec.
Range:	5-10,000 neutron/ cm ² / sec.	5-10,000 neutron/ cm ² / sec.
Energy Response After Moderator:	Detects all Neutrons (Fast and Slow)	Detects all Neutrons (Fast and Slow)
Dose Rate Readout:	Neutron counts added to Gamma count on LCD Display	Separate indicator shows user whether neutron emitters are present.
Alarm Level - Trip Point (User Settable):	10 -10,000 μR/hr Total Gamma + Neutron	10 -10,000 μR/hr Total Gamma + Neutron

Energy Response: 40 KeV and above.

Readout: Six Digit LCD.

Battery: 9 volt transistor battery, EverReady #1222 or equivalent. 200 hour normal operating life at 10 μR/hr.

Accuracy: Better than ±5% plus 0.1 μR/hr. (Measured with Cs-137 gamma)

Pocket or Belt Clip-Bolt: Stainless spring steel clip for pocket or belt plus D-ring

Case: Polished, anodized aluminum case.

Dimensions: 2.65" W x 6.5" L x 1.33" Thick + Belt Clip. (6.7cm x 16.5cm x 3.4cm)

Weight: 12 oz. (340 g) including battery.

Shipping Weight: 1.5 lb. (680 g).

Optional Telescoping

Detector wand: 1.5 meters Model # TP-1.5, 3 Meters Model # TP-3



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