

# Model 44-88

## Alpha Beta Gamma Detector



Ludlum Measurements, Inc.



Part Number: 47-2356

### Introduction

The Model 44-88 (Part Number 47-2356) and Model 44-88-1 (Part Number 47-3918) GM (pancake) detectors are similar instruments that vary in length. Both detectors respond to alpha, beta, and gamma radiation. The detectors are energy-dependent, over-responding by a factor of 6 in the 60 keV to 100 keV range when normalized to  $^{137}\text{Cs}$ . The GM tube is user-accessible for repair should it be required. The Model 44-88 and Model 44-88-1 detectors will operate with any of the Ludlum Measurement instruments that provide 900 V and an input sensitivity of approximately 30 mV or higher.

### Specifications

**INDICATED USE:** alpha, beta, gamma survey; sample counting

**DETECTOR TYPE:** pancake-type, halogen-quenched GM

**WINDOW:**  $1.7 + 0.3 \text{ mg/cm}^2$  mica

**WINDOW AREA:**  $15 \text{ cm}^2$  ( $2.3 \text{ in}^2$ ) active;  $12 \text{ cm}^2$  ( $1.9 \text{ in}^2$ ) open

**EFFICIENCY ( $4\pi$ ):** 5% for  $^{14}\text{C}$ ; 22% for  $^{90}\text{Sr}/^{90}\text{Y}$ ; 19% for  $^{99}\text{Tc}$ ; 32% for  $^{32}\text{P}$ ; 15% for  $^{239}\text{Pu}$

**SENSITIVITY ( $^{137}\text{Cs}$  gamma):** 3300 cpm/mR/hr

**ENERGY RESPONSE:** energy dependent

**BACKGROUND:** 60 cpm

**DEAD TIME:** typically 80 microseconds

**OPERATING VOLTAGE:** 900 volts

**CONSTRUCTION:** aluminum housing, beige powder-coat, with 79% open beryllium copper screen

**SIZE:** Model 44-88: 5.9 x 7 cm (2.3 x 2.8 in.) (Dia x L)

Model 44-88-1: 5.9 x 14 cm (2.3 x 5.5 in.) (Dia x L)

**WEIGHT:** 0.2 kg (0.5 lb)

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Note: specifications subject to change without notification. We are not responsible for errors or omissions.

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