

# Model 44-89 and Model 44-94 Alpha Beta Gamma Detectors



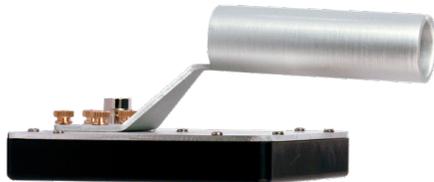
Ludlum Measurements, Inc.



**Model 44-89** Square Layout of GMs  
Part Number: 47-2357



**Model 44-94** Diamond Layout of GMs  
Part Number 47-2390



Representative profile  
and top views.



## Introduction

The GM pancake-type detector used in the Model 44-89 and Model 44-94 is arguably the most popular radiation detector in use throughout the world. These detectors are sensitive to alpha, beta, and gamma radiation. The convenient shape and size of these instruments provides easy handling for surveying or personal monitoring.

Each model has four detectors clustered in a different arrangement on the instrument face. Performance specifications are identical with these two instruments but the different layouts of the four GM detectors give the user the opportunity to choose the optimal arrangement for the intended application. The detectors operate between 850 to 1000 volts, and are compatible with any Ludlum instrument capable of supplying 900 Vdc and an input sensitivity of approximately 80 mV or higher.

## Specifications

**INDICATED USE:** alpha, beta, gamma survey

**SUGGESTED INSTRUMENTS:** general purpose survey meters, ratemeters, and scalers

**DETECTOR:** 4 pancake-type, halogen quenched GMs

**SENSITIVITY:** typically 13200 cpm/mR/hr

**BACKGROUND:** 240 cpm

**WINDOW:**  $1.7 \pm 0.3$  mg/cm<sup>2</sup> mica with stainless steel protective screen (79% open)

**WINDOW AREA:** 62 cm<sup>2</sup> (9.6 in<sup>2</sup>) active; 50 cm<sup>2</sup> (7.8 in<sup>2</sup>) open

**EFFICIENCY (4 $\pi$ ):** 5% for <sup>14</sup>C; 22% for <sup>90</sup>Sr/<sup>90</sup>Y; 19% for <sup>99</sup>Tc; 32% for <sup>32</sup>P; 15% for <sup>239</sup>Pu; 0.2% for <sup>125</sup>I

**ENERGY RESPONSE:** energy dependent

**OPERATING VOLTAGE:** 900 volts

**CONSTRUCTION:** aluminum housing and black ABS plastic with stainless steel protective screen

**SIZE:** Model 44-89: 2.3 x 12.9 x 12.9 cm (0.9 x 5.1 x 5.1 in.) (H x W x L)

Model 44-94: 2.3 x 11.4 x 15.5 cm (0.9 x 4.5 x 6.1 in.) (H x W x L)

**WEIGHT:**

Model 44-89: 0.9 kg (1.9 lb)

Model 44-94: 0.9 kg (1.9 lb)

**Also Available:**

Model 44-89-1: two pancake version, PN: 47-2918

Model 44-89-3: four pancake straight version, PN: 47-3471

Ludlum Measurements, Inc. P.O. Box 810, Sweetwater, Texas 79556

Web: <http://www.ludlums.com> Tel: 800-622-0828 / 325-235-5494 / Fax: 325-235-4672 / Email: [sales@ludlums.com](mailto:sales@ludlums.com)

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

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