

# Model 44-142

## Beta/Gamma Detector



Ludlum Measurements, Inc.



Part Number: 47-3161  
(two views)

### Specifications

**INDICATED USE:** beta survey

**SCINTILLATOR:** 0.025 cm (0.010 in.) thick plastic scintillator

**EFFICIENCY (4 $\pi$ ):** typically 4% of  $^{14}\text{C}$ ; 30% of  $^{90}\text{Sr}/^{90}\text{Y}$ ; 20% of  $^{99}\text{Tc}$

**GAMMA SENSITIVITY:** approximately 20 cpm/ $\mu\text{R}/\text{hr}$  ( $^{137}\text{Cs}$ )

**WINDOW:** 1.2 mg/cm<sup>2</sup> metalized polyester

**REMOVABLE PROTECTIVE SCREEN:** 0.76 mm (0.03 in.) thick stainless steel, 6.4 mm (0.25 in.) square openings, 88% open

**SCREEN OUTER DIMENSIONS:** 167.6 x 92.2 mm (6.6 x 3.6 in.) (L x W)

**WINDOW AREA:**

Open: 88 cm<sup>2</sup> (13.6 in<sup>2</sup>)

Active: 100 cm<sup>2</sup> (15.5 in<sup>2</sup>)

**NON-UNIFORMITY:** less than 10%

**TYPICAL BACKGROUND (10  $\mu\text{R}/\text{hr}$ ):** typically 300 cpm or less

**OPERATING VOLTAGE:** typically 500–1200 volts (1500 volts maximum)

**PHOTOMULTIPLIER TUBE:** 2.9 cm (1.125 in.) diameter; magnetically shielded

**CONSTRUCTION:** aluminum housing with beige powder-coat

**TEMPERATURE RANGE:** -20 to 50 °C (-4 to 122 °F)

**CONNECTOR:** series "C" (others available)

**OVERALL SIZE:** 6.4 x 9.5 x 31.1 cm (2.5 x 3.8 x 12.3 in.) (H x W x L)

**WEIGHT:** 0.5 kg (1.0 lb)

**ENVIRONMENTAL RATING:** IP (Ingress Protection) rating of 63

### Optional Protective Screens

**Model L-7393-209:** 0.79 mm (0.031 in.) thick, 4 mm (0.16 in.) square openings, 81% open

**Model L-7393-208:** 0.79 mm (0.031 in.) thick, 4.8 mm (0.19 in.) hex openings, 83.5% open

**Model L-7393-138:** 0.51 mm (0.020 in.) thick, 6.5 mm (0.26 in.) square openings, 88% open

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