

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

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

WINDOW: 1.2 mg/cm² 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 cm² (13.6 in²)

Active: 100 cm² (15.5 in²)

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