

## Model 44-142 Beta Scintillation Detector



### Specifications

Part Number: 47-3161

**INDICATED USE:** beta survey

**DETECTOR TYPE:** 0.25 mm (0.01 in.) thick plastic scintillator

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

**WINDOW AREA:**

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

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

**PROTECTIVE SCREEN:** 0.76 mm (0.031 in.) thick stainless steel,

6.5 mm (0.26 in.) square openings, 88% open

Outer Dimensions (L x W): 168 x 92 mm (6.6 x 3.6 in.)

Tool-less removal for quick window replacements

**EFFICIENCY (4 $\pi$ ):** <sup>99</sup>Tc: 20%; <sup>90</sup>Sr/<sup>90</sup>Y: 30%; <sup>14</sup>C: 4%

**TYPICAL BACKGROUND:** 300 cpm or less

**DETECTOR UNIFORMITY:** 10% or less from average reading

**GAMMA SENSITIVITY:** approx. 20 cpm per  $\mu$ R/hr (<sup>137</sup>Cs)

**DEAD TIME:** typically 5  $\mu$ s or less

**PHOTOMULTIPLIER TUBE:** 29 mm (1.125 in.) diameter;  
magnetically shielded

**OPERATING VOLTAGE:** typically 500 to 1200 V (1500 V max.)

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

**ENVIRONMENTAL RATING:** IP rating of 63

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

**CONSTRUCTION:** aluminum with beige powder coating

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

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

### Optional Protective Screens

- **PN 7393-209:** 0.79 mm (0.031 in.) thick, 4 mm (0.16 in.) square openings, 81% open
- **PN 7393-208:** 0.79 mm (0.031 in.) thick, 4.8 mm (0.19 in.) hex openings, 83.5% open
- **PN 7393-138:** 0.51 mm (0.020 in.) thick, 6.5 mm (0.26 in.) square openings, 88% open