

# Model 44-98

## Beta & Low Energy Gamma Detector



Ludlum Measurements, Inc.



### Specifications

Part Number: 47-2465

**INDICATED USE:** beta, low-energy gamma survey

**COMPATIBLE INSTRUMENTS:** Ludlum Models 12, 16, 18, 2221, 2241, 2350-1, scalers, & alarm ratemeters

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

**DETECTOR:** scintillator, 2.5 cm (1 in.) diameter x 1 mm thick bismuth germinate (BGO) crystal

**PHOTOMULTIPLIER TUBE:** 3.8 cm (1.5 in.) diameter, 10 stage, magnetically shielded

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

**INPUT SENSITIVITY:** typically 5 to 10 mV

**EFFICIENCY (4 $\pi$ ):** 15% for <sup>125</sup>I; 3% for <sup>14</sup>C; 8% for <sup>129</sup>I

**WINDOW AREA:** 5 cm<sup>2</sup> (0.78 in<sup>2</sup>) active and open

**BACKGROUND (in 10  $\mu$ R/hr field):** 650 cpm

**DETECTOR UNIFORMITY:** within 10% of average reading

**ENERGY RESPONSE:** energy dependent

**OPERATING VOLTAGE:** typically 500 to 1200 volts

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

**TEMPERATURE RANGE:** -20 to 50 °C (-4 to 122 °F); may be certified to operate at -40 to 65 °C (-40 to 150 °F)

**SIZE:** 4.8 x 18.7 cm (1.9 x 7.4 in.) (Dia x L)

**WEIGHT:** 0.3 kg (0.6 lb)

**Options:** Model 180-1, Model 180-1L, and Model 180-24 Sample Holders provide repeatable geometry for counting wipes, filter paper, or slides at user-selectable spacings of 0.32, 0.64, 1.3, 2.5, and 5.1 cm (0.125, 0.25, 0.5, 1, and 2 in.) from the detector.

**Model 180-1:** anodized aluminum frame, sample tray, and collimator (P/N 47-1675)

**Model 180-1L:** as above, but with 0.64 cm (0.25 in.) painted lead collimator (P/N 47-2988)

**Model 180-24:** anodized aluminum frame and sample tray (no collimator) (P/N 47-2631)

**Planchets:** 5.1 cm x 3.2 mm (2.0 x 0.125 in.) (Dia x thickness) in stainless steel or aluminum  
Stainless Steel (P/N 7525-371-01); Aluminum (P/N 7525-371) Minimum order quantity of 500

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

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