

## Model 14C Survey Meter

### Pancake GM Probe / Dose Compensation Filter



The Model 14C Survey Meter meets the essential monitoring and surveying needs of most nuclear medicine facilities. This meter is capable of reading Alpha, Beta and Gamma emissions. The Pancake GM Probe with removable Energy Compensation Filter facilitates measuring Ambient Equivalent Dose (Sieverts).

**Application:** Alpha, Beta and Gamma surveying  
Energy compensated GM (used with x 1000 scale only)

**Internal Detector:** Range 0-20 mSv/hr (0-2000 mR/hr)  
Sensitivity 200 cpm per mR/hr  
**Compatible External Detectors:** Any GM or Scintillation operating on 900 VDC

#### Detector Channels:

External: x0.1 through x100 range settings

Internal GM: x1000 setting

**Energy Response:** within 15% of true value between 60 keV-3 MeV (internal detector only)

**Linearity:** reading within 10% of true value with detector connected

**Meter Dial:** 0-2 mR/hr, 0-5 kcpm, BAT TEST (others available)

**Meter:** 6.4 cm (2.5 in) arc, 1 mA analog type

**Rotary Selector Switch:** Switches between Off,

Ranges: x0.1, x1, x10, x100, x1000

**Response Switch:** Toggles between FAST (4 sec) or SLOW (22 sec) from 10% to 90% of final reading

#### Controls:

**Reset Push Button:** Zeroes meter

**Battery Push Button:** Checks battery status

**Audio Switch:** Audio on/off, built-in unimorph speaker, greater than 60 dB at 0.6 meters (2 ft)

**High Voltage:** 900 Vdc

**Threshold:** -40 mV to 10 mV

**Temperature Range:** -20 to 50°C (-4 to 122°F)

**Relative Humidity:** < 95%

**Power:** 2 each "D" cell batteries

**Battery Life:** Typically greater than 2000 hours

**Construction:** Cast and drawn aluminum with beige powder coat

**Connector:** Series "C" (others available)

**Size:** 6.5" H x 3.5" W x 8.5" L

**Weight:** 3.5 lb (including batteries)

#### Specifications: Pancake GM Probe w/ Dose Compensation Filter

**Indicated Use:** Alpha, Beta, and Gamma surveying; sample counting

**Detector:** Pancake-type halogen quenched GM

**Window:** 1.7 ± 0.3 mg/cm<sup>2</sup> mica, protected by a stainless steel screen

**Window Area:** 15.5 cm<sup>2</sup> Active, 12.3 cm<sup>2</sup> Open

**Efficiency (4pi):** 5% - C-14, 22% - Sr-90/Y-90, 19% - Tc-99, 32% - P-32,  
15% - Pu-239, 0.2% - I-125, ≤ 1% - 99mTc

**Dimensions:** 1.8" H x 2.7" W x 10.7" L

**Weight:** 1 lb

#### 051-045 Model 14C Survey Meter with Pancake GM Detector with Dose Compensation Filter

*Includes: Internal Energy-Compensated GM Detector,  
External Pancake GM Probe with  
Dose Compensation Filter, Cable*

#### 051-196 Check Source Cs-137 1.0 μCi

#### 051-197 Check Source With Stick On Holder Cs-137 0.25 μCi

#### 051-166 Check Source Holder

## Surface Survey Meter



This compact 3-range surface rate meter is equipped with an internal 2-inch diameter pancake GM detector and built-in speaker. The detector's thin window is recessed and protected by an aluminum grill. Its small size, light weight, and one-hand operation make this unit an ideal tool for surveying bench tops and other surfaces, and for checking hands and clothing for radioactive contamination. The meter face reads in both cpm and mR/h. Anti-saturation circuitry keeps meter needle at full scale in high radiation fields.

- Monitors Alpha, Beta and Gamma
- Built-in Pancake Detector
- Range: 0 to 50,000 cpm, 0 to 15 mR/hr
- Three multiplier ranges: x1, x10, x100
- Built-in speaker
- Anti-saturation circuit prevents false "zero" readings
- One-handed operation

#### Specifications:

**Meter Dial:** 2.5" rectangular

**Ranges:** Three linear: 0-500, 0-5,000, 0-50,000 cpm (0-0.15, 0-1.5, 0-15 mR/h)

**Switch Positions:** Off, Battery Test, x100, x10, x1

**Audio:** Internal speaker

**Detector:** Halogen-quenched pancake GM tube

**Diameter:** 2"

**Window Diameter:** 1.75"

**Window Thickness:** 1.5 mg/cm<sup>2</sup>

**Background:** Typical 50 cpm

**Efficiency:** 100% for all Betas and Alphas that have the energy to penetrate the thin window

**Gamma Sensitivity:** Nominal is 3000 cpm/mR/h (based on Cs 137)

**Calibration:** Single master calibration potentiometer, individual potentiometers for each range

**Voltage:** 900V nominal

**Current Drain:** 3 mA typical

**Power:** 9-volt battery (Eveready 1222 carbon, E146X mercury or equivalent)

**Battery Life:** Typically 100 hours under normal operation

**Feet:** Neoprene feet for placement on surface without contaminating bottom of surface unit

**Handle:** Swivel type, polished anodized aluminum

**Dimensions:** 3" W x 5.25" L x 2.25" H excluding meter & handle

**Weight:** 22 oz

#### 069-310 Surface Survey Meter