

## Monitor 4 Survey Meter



- Monitors Alpha, Beta, Gamma and X-ray radiation
- Dual-scale analog meter (CPM and mR/hr)
- Operating range: 0-50 mR/hr, 0-50,000 cpm
- Multiplier selections: x1, x10, x100
- Red LED flashes with counts
- Audible beep indicates rising radiation level
- Operates up to 2,000 hours on 9V battery
- Weighs less than 9 ounces (including battery)

### Specifications:

**Detector:** Halogen-quenched uncompensated GM tube with thin mica window 1.5- 2.0 mg/cm<sup>2</sup> thick

**Energy Sensitivity:** Detects alpha down to 2.5 MeV; typical detection efficiency at 3.6 MeV is greater than 80%  
 Detects beta at 50 keV with typical 35% efficiency  
 Detects beta at 150 keV with typical 75% efficiency  
 Detects gamma and x-rays down to 10 keV typical through the end window, 40 keV minimum through the case

**Accuracy:** ±15% of full scale (referenced to Cs-137)

**Visual Indicators:** .875" x 1.75" dual scale analog meter, marked 0-500 cpm and 0-0.5 mR/hr; LED count light

**Audio Indicator:** Internally mounted beeper (can be switched off for silent operation.)

**Range Switch:** x1, x10, x100, battery check

**Ranges:** 0-500, 0-5,000, 0-50,000 cpm  
 0-0.5, 0-5, 0-50 mR/hr

**Current Drain:** Typically 190µA at background radiation levels

**Operating Voltage:** Range: 7-11 Volts DC

**Voltage Regulation:** High and low voltage fully regulated

**Power Requirement:** One 9-volt alkaline battery NEDA #1604A, or equivalent

**Battery Life:** Up to 2000 hrs at normal background radiation levels

**Temperature Range:** -4°F to +131°F

**Dimensions:** 8.25" L x 2.75" W x 1.87" D

**Weight:** 9.7 oz including battery  
 7.2 oz without battery

078-400 Monitor 4 Survey Meter  
*Includes: Protective case (battery not included)*

## Ranger Survey Meter



078-510

078-513

078-514

- Count range: 1 to 9,999,000 counts
- Range: 0-350,000 cpm
- Red LED count light
- Audible beeper (can be switched off)
- External calibration controls
- Adjustable timer from 1 to 24 hours; default is 10 minutes
- User selectable display for mR/hr, uSv/hr, CPM and CPS
- Internal Memory
- Observer USB Software - can be downloaded
- Includes case
- Wipe Test Plate positions wipe directly in front of detector at 1 cm distance; protects GM from damage/contamination when meter is not in use

### Specifications:

**Detector:** Halogen-quenched uncompensated GM tube with thin mica window, 1.4- 2.0 mg/cm<sup>2</sup> area density

**Window:** 1.77" effective diameter

**Display:** Backlit graphic LCD with backlight

**Averaging Periods:** Display will update every 3 seconds; at low background levels, the update is the moving average for the past 30-second time period. Time period for moving average decreases as radiation level increases

**Gamma Sensitivity:** 3340 cpm/mR/hr (referenced to Cs-137); smallest detectable level for I-125 is .02 µCi at contact

**Operating Range:** mR/hr- .001 (1µR) to 100; CPM- 0 to 350,000  
 µSv/hr- .01 to 1000; CPS- 0 to 5000

**Energy Sensitivity:** Detects Alpha down to 2 MeV. Detects Beta down to .16 MeV; typical detection efficiency at 1 MeV is approx. 25%. Detects Gamma down to 10 KeV through the end window.

**Accuracy (Referenced to Cs-137):** Typically ±15% from factory

**Timer:** One minute to 24 hours, default is 10 minutes

**Count Light:** Red LED flashes with each radiation event

**Audio Indicator:** Internally mounted beeper (can be switched off for silent operation)

**Outputs:** USB

**Menu:** Options accessed by holding down menu button. Pressing the menu button toggles you through functions. Select "+" or "-" to change setting.

**Built-In Efficiencies:** <sup>35</sup>Sulfur(S35), <sup>90</sup>Strontium (Sr/y90), <sup>137</sup>Cesium (Cs137), <sup>32</sup>Phosphorus (P32), <sup>14</sup>Carbon (C14), <sup>131</sup>Iodine (I131), <sup>60</sup>Cobalt (Co60), and Alpha

**Power Requirements:** (2) AA alkaline batteries, included

**Dimensions:** 2.7" W x 1.3" D x 5.5" H

**Weight:** 8 oz without battery

078-514 Shield Dimensions: 10.3" L x 4.8" W x 1.5" H, Weight 7.8 lb  
 Construction: Steel with 0.5" thick lead lining in left and right side walls

078-510 Ranger Survey Meter  
*Includes: Case, boot, stand, mini USB cable, Observer USB software download and certificate of compliance*

078-513 Ranger Survey Meter  
*Includes: 078-510, wipe test plate*

078-514 Ranger Survey Meter Shield  
*For 078-513*