

Model 194 Dose Equivalent Rate Meter



Features

- Accurate (Energy-Flat) Ambient Dose Equivalent Rate Measurements at Background Levels
- Eliminates High False Readings of Typical microR Meters
- Rugged Scintillator, Will Not Leak
- Low Range: Background to 19.99 $\mu\text{Sv/h}$
- High Range: 1 to 1999 $\mu\text{Sv/h}$
- Improved Replacement for Bicron Microrem
- “/E” Extended Version Has Low-Energy, 1.2 mg/cm² Window for Operation Below 50 keV



Model 194



Model 194E

Introduction

The Ludlum Model 194 DOSE EQUIVALENT RATE METER is designed to accurately measure gamma radiation doses. It utilizes a special plastic scintillator that converts the radiation to visible light, which is then measured and displayed. It is very sensitive and can measure background levels of radiation as well as higher levels.

The Model 194 is similar to a Micro R meter in sensitivity, but has a flat energy response and measures ambient dose equivalent, not exposure. Most Micro R meters utilize sodium iodide (NaI), which over-responds to many common gamma ray energies, causing incorrect high readings. The Model 194 measures dose, specifically ambient dose equivalent, and has a response that is relatively flat over the most common gamma ray energies.

Specifications

Model 194 ($\mu\text{rem/hr}$) PN: 48-4364

Model 194/S ($\mu\text{Sv/h}$) PN: 48-4364-1

Model 194/E ($\mu\text{rem/hr}$) (Extended Detector) PN: 48-4388

Model 194/SE ($\mu\text{Sv/h}$) (Extended Detector) PN: 48-4388-1

INDICATED USE: Low-level surveys

DETECTOR: Internal rugged plastic scintillator, EJ-256

ENERGY RESPONSE (Model 194 only): Energy-flat within $\pm 30\%$ to ambient dose equivalent from 50 to 1300 keV

LOW RANGE: Background to 19.99 $\mu\text{Sv/h}$

HIGH RANGE: 1 to 1999 $\mu\text{Sv/h}$

DISPLAY: 3½-digit LCD with 10 mm (0.4 in.) digits, backlight, and protective bezel

CONTROLS:

- **Rotary Selector:** switches between OFF, battery check, low range, high range
- **Response Switch:** toggles between FAST (3 seconds) and SLOW (15 seconds)
- **Audio Switch:** audio ON/OFF, built-in unimorph speaker. Sound frequency increases as meter reading increases.
- **Lamp Switch:** display backlight ON/OFF
- **Calibration Controls:** accessible from front of instrument (protective cover provided)

OVERRANGE PROTECTION: When reading is out of the display range, display shows overrange (leftmost "1" and no other digits)

POWER: Two each "AA" cell batteries (externally accessible from the front of the instrument)

BATTERY LIFE: Approximately 200 hours, green BAT OK light indicates adequate battery power

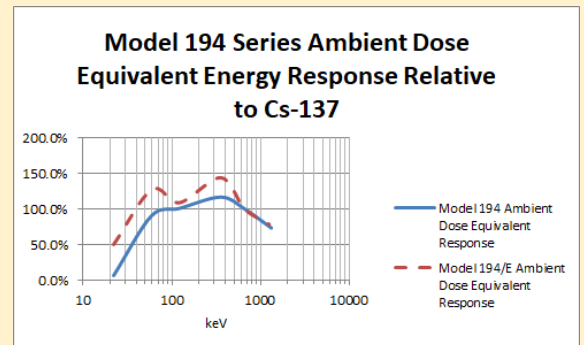
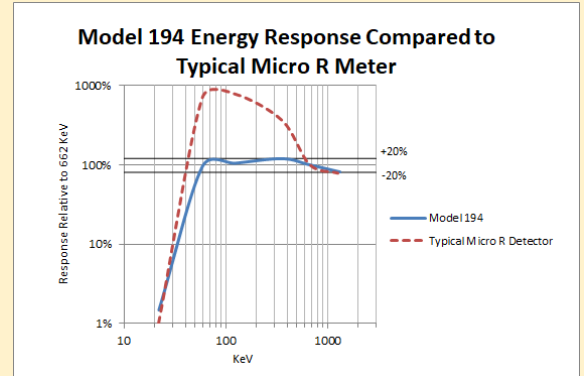
TEMPERATURE RANGE: -10 to 50 °C (14 to 122 °F)

ENVIRONMENTAL RATING: Water-resistant, IP rating of 65

CONSTRUCTION: Drawn-and-cast aluminium case with beige powder-coating

SIZE: 19.0 x 8.9 x 21.6 cm (7.5 x 3.5 x 8.5 in.)

WEIGHT: 1.1 kg (2.5 lb), including batteries



Options:

Headphone Modification Part Number: 4475-118

Shoulder Strap Part Number: 4475-120