

# Model 193 MicroR Ratemeter

*Radiation Detection for a Safer World*



Ludlum Measurements, Inc.

## Features

- Used with External Scintillator Detectors
- Special Algorithms for Finding Loose Sources
- User-Adjustable Audible and Visual Alarms
- Rugged Construction
- 0 to 5000  $\mu\text{R/hr}$  Range (others available)
- Indoor or Outdoor Use

## Introduction

The Ludlum Model 193 Survey Meter is a portable gamma survey instrument with adjustable audio and visual alarms: a user adjustable meter-driven alarm for readings above a particular set-point, and a deviation beep alarm to indicate a rise of radiation above background levels. The instrument is designed to be used with external scintillation detectors for optimum performance in locating and measuring low-level (near "background") gamma radiation.



Part Number: 48-2959

## Specifications

OPERATING RANGE: four linear ranges

METER SCALE: 0 to 5  $\mu\text{R/hr}$  provides an overall range of 0 to 5000  $\mu\text{R/hr}$  (other meter scales available)

METER: 1 mA, 6.4 cm (2.5 in.) scale, pivot-and-jewel suspension

LINEARITY: reading within 10% of true value

HIGH VOLTAGE: externally adjustable and variable from 200 to 1500 Vdc

CONTROLS:

Range selector switch  $\times 1000$ ,  $\times 100$ ,  $\times 10$ , and  $\times 1$

Audio ON-OFF toggle switch

FAST-SLOW toggle switch

Reset pushbutton to zero meter

Calibration controls hidden behind cover plate for setting alarms, discriminator, HV, and range adjustments

AUDIO OUTPUT: built-in unimorph speaker, audible click-per-deviation; beeps for every 1/8 second interval that is 2 sigma above background level, enabled or disabled by the audio ON/OFF switch, corresponds to the ALARM lamp initiation

ALARM: the alarm is adjustable from 10% of full meter scale to greater than full meter scale, and is manifested by an alarm lamp on the front panel and an audio signal

DETECTOR FAILURE: indicated by a rapid audible beep and meter reading of zero, instrument waits for 8 seconds after initial power-up sequence before giving indication to a detector failure (no count) condition

POWER: two standard alkaline "D" cell or NiCd rechargeable batteries secured in an isolated compartment

BATTERY LIFE: 600 hours

CONSTRUCTION: cast and drawn aluminum with beige powder-coat and silk-screened nomenclature

SIZE: 16.5 x 8.9 x 21.6 cm (6.5 x 3.5 x 8.5 in.) (H x W x L), including instrument handle

WEIGHT: 1.6 kg (3.5 lb), including batteries