

Model 193-6

Survey Meter (μSv or μR) with Pole Extender

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Range: 0–10 $\mu\text{Sv/h}$ (0–1000 $\mu\text{R/hr}$)
- Very Sensitive Pole Mounted Detector
- Dual Alarm Types
- Rugged
- 4-Decade Analog Ratemeter



Part Number: 48-3063



Introduction

The Model 193-6 is a highly sensitive gamma μR meter with an extended reach capability. A very sensitive 15.2 cm diameter x 2.5 cm thick (6 x 1 in.) plastic scintillator detector is mounted at the end of a 1.2 meter (4 ft) long pole to facilitate reaching elevated areas.

Attached to the user-end of the pole is a four-decade analog ratemeter employing an aluminum cast instrument housing with a separate battery compartment and accompanying metal handle. The overall design delivers industrial robustness and quality that promote long-lasting protection and instrument life.

The ratemeter front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test; an audio on/off switch, a fast/slow response switch, and a pushbutton for count reset. This instrument supports two types of alarms: a user adjustable fixed point alarm and a deviation alarm that activates at levels above a floating background. An alarm light is mounted to the front panel and is accompanied by an audio signal.

Specifications

DETECTOR: 15.2 cm diameter x 2.5 cm thick (6 x 1 in.) EJ212 plastic scintillator

SENSITIVITY: typically 2500 cps/ $\mu\text{Sv/h}$ (1500 cpm/ $\mu\text{R/hr}$) (^{137}Cs gamma)

ENERGY RESPONSE: energy dependent

LINEARITY: reading $\pm 10\%$ of true value

METER DIAL: 0–1 $\mu\text{R/hr}$, BAT TEST (others available)

ALARM: dual action alarm

1. **FIXED:** alarm point that can be set at any point from 10% of full scale to full scale, and is indicated by a constant audible tone, and the lamp turning on

2. **DEVIATION:** a quick alarm that is based on background radiation levels.

When the instrument is turned on, it takes an eight-second measurement of background radiation levels and determines a deviation alarm setting. If the radiation level exceeds this setting, the alarm audio will beep every 1/8 second, and the lamp will flash.

CONTROLS:

1. **Rotary Selector:** switches between instrument off, battery check, ranges: x1, x10, x100, x1000

2. **Response Switch:** toggles between FAST (4 seconds) or SLOW (22 seconds) from 10% to 90% of final reading

3. **Reset Pushbutton:** to zero meter, and also re-accumulate background data and recalculate the alarm point

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

5. **Calibration Controls:** accessible from front of instrument (protective cover provided)

POWER: two "D" cell batteries

BATTERY LIFE: typically 600 hours with alkaline batteries (battery condition can be checked on meter)

CONSTRUCTION: cast and drawn aluminum with beige powder coat

WEIGHT: 3.9 kg (8.5 lb), including batteries

OVERALL LENGTH: 1.3 m (51 in.)