

Model 192 MicroR Ratemeter

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- High Sensitivity to Gamma
- Range: 0 to 50 $\mu\text{Sv/h}$ (0 to 5000 $\mu\text{R/hr}$)
- Rugged
- 4-Decade Analog Meter
- Dual Action Alarm



Part Number: 48-2945

Introduction

The Model 192 is a high-sensitivity gamma μR /meter employing an internally housed 5.1 cm diameter by 2.5 cm thick (2 x 1 in.) NaI(Tl) detector.

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.

The 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 reset button. The aluminum cast instrument housing with its separate battery compartment and accompanying metal handle offer an industrial robustness and quality that promote long-lasting protection and instrument life. The Model 192 is a complete turn-key system and includes two "D" cell batteries.

Specifications

APPLICATION: low-level (microR) gamma survey

RANGE: 0 to 50 $\mu\text{Sv/h}$ (0 to 5000 $\mu\text{R/hr}$)

DETECTOR: 5.1 cm diameter x 2.5 cm thick (2.0 x 1.0 in.) NaI(Tl) scintillator

SENSITIVITY: typically 70,000 cpm/ $\mu\text{Sv/h}$ (700 cpm/ $\mu\text{R/hr}$) for ^{137}Cs gamma

ENERGY RESPONSE: energy dependent

LINEARITY: reading within 10% of true value

METER: 6.4 cm (2.5 in.) arc, 1 mA analog type

METER DIAL: 0-5 $\mu\text{R/hr}$, BAT TEST (others available)

ALARM: This instrument incorporates dual action, latching type alarms:

1. A 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. A quick deviation 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)

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

SIZE: 21.6 x 8.9 x 22.4 cm (8.5 x 3.5 x 8.8 in.) (H x W x D), with handle

WEIGHT: 2.3 kg (5 lb) including batteries

