

Model 19 MicroR Ratemeter

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- High Sensitivity to Gamma
- 0–5000 $\mu\text{R/hr}$ Range (others available)
- Rugged
- Splashproof Protection for Outdoor Use
- 2000 Hour Battery life
- Meter Light
- CE Certified



Part Number: 48-161£

Introduction

The Model 19 is a highly sensitive gamma μR meter employing an internally housed, 2.5 cm diameter by 2.5 cm thick (1.0 x 1.0 in.) NaI detector. The measuring range is 0-5000 $\mu\text{R/hr}$. The cast aluminum 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 front-panel controls include a rotary switch for selecting the five-decade range and instrument shut-off, an audio on/off switch, a fast/slow response switch, and pushbuttons for activating the meter lamp, high-voltage display, battery test, and count reset. The Model 19 is a complete turn-key system and includes two “D” cell batteries.



Specifications

INDICATED USE: low-level (μR) gamma survey

MEASUREMENT RANGE: 0–5000 $\mu\text{R/hr}$

DETECTOR: 2.5 x 2.5 cm (1 x 1 in.) Sodium Iodide (NaI[Tl]) scintillator

SENSITIVITY: approximately 2 cpm/ $\mu\text{Sv/h}$ (175 cpm/ $\mu\text{R/hr}$) (^{137}Cs gamma)

ENERGY RESPONSE: energy dependent

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

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

METER DIAL: 0–25 $\mu\text{R/hr}$, 0–50 $\mu\text{R/hr}$, BAT TEST, High Voltage Test

CONTROLS

ROTARY KNOB SELECTOR: 0–25, 0–50, 0–250, 0–500, 0–5000 $\mu\text{R/hr}$, Instrument Off

RESPONSE: toggle switch for FAST (4 seconds) or SLOW (22 seconds) from 10% to 90% of final reading

AUDIO: built-in unimorph speaker with ON/OFF switch (greater than 60 dB at 0.6 meters [2 ft])

HIGH VOLTAGE: pushbutton to display HV setting on meter

BATTERY: pushbutton checks battery voltage

RESET: pushbutton to zero meter

LAMP: pushbutton to activate meter light

CALIBRATION CONTROLS: accessible from front of instrument (protective cover provided)

WORKING ENVIRONMENT: splashproof shields for outdoor use

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F), may be certified for operation from -40 to 65 °C (-40 to 150 °F)

POWER: 2 each “D” cell batteries (housed in sealed compartment that is externally accessible)

BATTERY LIFE: typically 2000 hours with alkaline batteries (battery condition can be checked on meter)

CONSTRUCTION: cast and drawn aluminum with beige powder-coat finish

SIZE: 15.2 x 8.9 x 21.6 cm (6.0 x 3.5 x 8.5 in.) (H x W x L), without handle

WEIGHT: 2.04 kg (4.5 lb), including batteries