

Model 1900 Digital Radiation Survey Meter

Radiation Detection for a Safer World



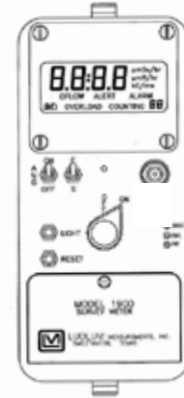
Ludlum Measurements, Inc.

Features

- Digital Display
- Internally Housed Scintillation Detector
- Independent Adjustable Audible and Visual Alarms
- Overrange & Overload Protection
- Stores Up to 6 Different Detector Setups in Non-Volatile Memory



Part Number: 48-2714



Introduction

The Model 1900 Digital Radiation Survey Meter is a very sensitive one-piece instrument to measure ionizing radiation. It is a portable, rugged, and easy-to-use instrument that measures the exposure rate from gamma radiation using an internally-housed NaI scintillation detector. Incorporating independent adjustable alarms, the Model 1900 allows the user to store up to six different detector setups in non-volatile memory, making it easy to swap detectors in the field. The auto-ranging, backlit LCD display presents information with large 1.3 cm (0.5 in.) high digits.

Specifications

DETECTOR: internally-house 2.5 x 2.5 cm (1 x 1 in.) NaI scintillation detector

SENSITIVITY: 175 cpm/ μ R/hr (137 Cs)

ALERT/ALARM: Visual and audible ratemeter alert/alarm is adjustable from 1 μ Sv to 999 Sv/h, 1 μ R to 999 R/hr, 1 to 999 kcpm, 1 to 100 kcps. A first-level alarm is indicated by the word "ALERT" on the LCD, a second-level alarm is indicated by the word "ALARM" and a continuous audible tone (alarm silenced by depressing the RESET switch).

BACKGROUND: 1900 cpm in a 10 μ R/hr field

ENERGY RANGE: 50 keV to 1.5 MeV

DISPLAY: 4-digit LCD display with 1.3 cm (0.5 in.) high digits, 2 additional 0.5 cm (0.2 in.) digits are used for exponential powers (parameter setup)

DISPLAY RANGES: auto-ranging from 0 μ R/hr to 9999 R/hr, 0 μ Sv/h to 9999 Sv/h, 0 cpm to 999 kcpm, or 0 cps to 100 kcps with programmable decimal point for fractional readings in the tenths or hundredths.

MEASUREMENT RANGE: 0 to 200 μ Sv/h (0 to 20 mR/hr), 0 to 999 kcpm, 0 to 166 kcps

BACKLIGHT: pushbutton activates LCD backlight for a pre-programmed time (5, 15, 30, 60, 90, 120, or 240 \pm 1 second(s))

RESPONSE TIME: two-position toggle switch selects Fast (1-10 seconds) or Slow (1 to 30 seconds) counting response time

DETECTOR DEAD TIME COMPENSATION (DTC): adjustable from 0 to 9999 microseconds

LINEARITY: within 10% of true value

ADJUSTABLE PARAMETERS via RS-232 Port or (removable) Switchboard: dead time correction (DTC), audible click-per-event with programmable 1, 10, 100, and 1000 divide-by, LCD backlight "On" time, Response Time (variable or fixed), count overflow visual alarm

AUDIO: built-in unimorph speaker with AUD ON/OFF switch and volume control potentiometer

HIGH VOLTAGE: 200 to 1500 volts (regulated within 0.2 % at 1000 Vdc; maximum load of 50 μ A)

DISCRIMINATOR: adjustable from 2 to 100 mV

TEMPERATURE RANGE: -15 TO 50 $^{\circ}$ C (5 to 122 $^{\circ}$ F), may be certified for operation from -40 to 65 $^{\circ}$ C (-40 to 150 $^{\circ}$ F)

CONSTRUCTION: drawn and cast aluminum with beige powder coat

POWER: 2 "D" cell batteries housed in externally accessible sealed compartment

BATTERY LIFE: typically 200 hours with alkaline batteries (Low Battery warning icon on LCD)

SIZE: 17.8 x 8.9 x 21.6 cm (7 x 3.5 x 8.5 in.) (H x W x L)

WEIGHT: 2.2 kg (4.7 lb), including batteries