

Model 26-1

Integrated GM Pancake Frisker

Radiation Detection for a Safer World

Features

- Integrated, Lightweight Ergonomic Design
- High-Impact Plastic with Water-Resistant Rubber Seals
- Employs Standard 15.51 cm² GM Pancake Detector
- Displays in mR/hr, μ Sv/h, dpm, Bq, cpm, or cps
- Dead-Time Correction (DTC) Allows Gamma Measurements up to 500 mR/hr or Up to 1999 μ Sv/h
- Simple Three-Button Operation
- Count Rate, Exposure, Dose, and Counting Alarms
- Automatic Display Backlight
- Bright Red Flashing ALARM LED
- Includes Wrist Strap, Clear Pancake Cover, & Lanyard



Part Number: 48-3965

Introduction

The Ludlum Model 26-1 incorporates electronics and a time-tested GM (Geiger-Mueller) detector in an ergonomically designed, ruggedly-constructed, and water-resistant housing. The integrated unit is therefore cable-less thereby simplifying the process of frisking people and objects. The optimized configuration includes a standard 15.51 cm² GM pancake, loud audible "click" output, and large auto-ranging LCD display with automatic LCD backlighting. Model 26-1 has the addition of a Units button that can display measurements in terms of mR/hr, μ Sv/h, dpm, or Bq. These features are combined in one convenient package making it easier than ever to detect alpha/beta contamination and measure gamma fields on personnel and objects.

Operation of the Model 26-1 is kept simple through the use of just three buttons that are strategically placed for one-handed operation. Three modes of operation RATE, MAX, and COUNT, are available. The RATE mode will display

current radiation levels in terms of rate. MAX mode captures the highest rate detected so it is possible to determine a peak rate during frisking operations when the display is not visible. COUNT mode allows the operator to perform a survey for a predetermined time. The user-selected units can display results in a measurement of scaler counts, activity (disintegrations), time-averaged rates, or even accumulated dose. In addition, the optionally-available energy-compensation filters can correct the energy response for exposure or ambient equivalent dose.

Low-power circuitry means two standard "AA" sized batteries deliver hundreds of hours of instrument operation. The parameters may be protected via internal dipswitch, or the calibrator may allow the user to adjust them. Other features include a backlight triggered by low-level ambient lighting (may be configured for "Continuous On" operation) and a click' audio that may be silenced for both RATE and MAX modes.

Specifications

DETECTOR: pancake GM (Geiger-Mueller) detector, stainless steel screen (79% open)

WINDOW AREA: Active: 15.51 cm² (2.4 in²); Open: 12.26 cm² (1.9 in²)

EFFICIENCY (4 π) (surface plane): Alpha: 11% for ²³⁹Pu; Beta: 18% for ⁹⁹Tc; 32% for ³²P; 2% for ¹⁴C; 22% for ⁹⁰Sr/⁹⁰Y; 0.2% for ¹²⁵I;
Gamma: 3300 cpm/mR/hr or 5.5 cps/ μ Sv/hr (¹³⁷Cs) \leq 1% for ^{99m}Tc

RESOLVING TIME: approximately 110 microseconds as defined by IEC 60325

ALARMS: count rate and scaler alarm setpoints adjustable over the display range

OVERLOAD: high count rate saturation protection prevents false display of lower count rates

ZERO PROTECTION: after 60 seconds of no pulses from detector, unit will flash a zero reading and the alarm audio will be triggered
LCD DISPLAY: 3½ digit LCD with large 12.7 mm (0.5 in.) digits, (k)cps, (k)cpm, (k)dpm, (k)Bq, mR/hr, μ Sv/h, Bq, and dpm; low battery indicator, MAX, ALARM

RANGE: 0.1 cps to 19.9 kcps, or 1 cpm to 999 kcpm, 0.0–500 mR/hr, 0.01–1999 μ Sv/h; 0.1–19.9 kBq; 1–999 kcpm

BACKLIGHT: built-in ambient light sensor automatically activates low-power LED backlight, or may be configured for 'Continuous On' operations (will reduce battery life)

CONTROLS: three pushbuttons

- ON/OFF/QUIET: press to turn ON, tap to alternate between 'click' audio and QUIET, hold for OFF
- MODE: select NORMAL (count rate), MAX (captures peak rate), or COUNTER (user-selectable count time from 0–20 minutes)
- UNITS: changes units from count rate (cpm, cps) to dose/exposure (μ Sv/h, mR/hr) to activity (dpm/Bq)

RESPONSE TIME: user-selectable from 1 to 60 seconds, or Auto-Response Rate FAST or SLOW

CLICK AUDIO: greater than 60 dB at 0.6 m (2 ft)

POWER: two "AA" batteries

BATTERY LIFE: approximately 1000 hours of operations (as low as 500 hours with backlight configured for 'Continuous On'), 16-hour low battery warning

CONSTRUCTION: high-impact plastic with water-resistant rubber seals and separate battery compartment

ENVIRONMENTAL RATING: NEMA 3/IP 53

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

DISTANCE FROM SURFACE PLANE TO SCREEN: 0.32 cm (0.125 inch)

SIZE: 4.6 x 6.9 x 27.2 cm (1.8 x 2.7 x 10.7 in.) (H x W x L)

WEIGHT: 0.45 kg (1.0 lb)



Ludlum Measurements, Inc.