

Model 2224-1

General Purpose Ratemeter/Scaler

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Alpha Beta Ratemeter/Scaler
- Analog Display with Digital Scaler Readout
- Alpha/Beta Audio Discrimination
- Four Decade Range
- User-Adjustable Volume Control



Part Number: 48-2679

Introduction

When the need to separately count alpha and beta concurrently arises, this is the right instrument for the job. The Model 2224-1 is an optimized Alpha Beta Ratemeter/Scaler that offers traditional analog readout, supplemented with a digital LCD for the scaler function. A front-panel mounted, three-way switch facilitates selecting alpha only, beta only, or alpha plus beta. Other controls include a rotary switch for selecting one of four decades, battery test, or instrument shut-off, separate pushbuttons for testing the high voltage and resetting the counts, an audio volume adjustment knob, and a scaler count-start button located on the instrument handle. The instrument housing is cast aluminum, incorporating a separate battery compartment and an accompanying metal handle that promotes long-lasting protection and instrument life. A dipswitch control housed internally allows setting the scaler count time, audio divide-by value, and audible tone discrimination settings.

Specifications

INDICATED USE: simultaneous alpha and beta counting and discrimination

DETECTORS: proportional and dual phosphor scintillation detectors

CONNECTOR: series "C" (others available)

AUDIO: built-in unimorph speaker with volume control (greater than 60 dB at 61 cm [24 in.], full volume), selectable dual or individual click-per-event for alpha and beta counts and divisions of 1, 10, 100, or 1000 events per click (beta counts only)

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

METER DIAL: 0-500 cpm, 0-2 kV, BAT OK, OL (overload)

MULTIPLIERS: X1, X10, X100, X1000

LINEARITY: reading within 10% of true value with detector connected

SCALER: 6-digit LCD display with 0.64 cm (0.25 in.) digits, overflow arrow, and colons to indicate when a count is in process

COUNT: pushbutton to initiate scaler count

COUNT TIME: externally selectable times of 0.1, 0.5, 1, or 2 min.

SELECTOR SWITCH: toggle switch to select alpha and beta, alpha only, or beta only

HIGH VOLTAGE: adjustable from 400-2000 volts (can be read on meter)

HIGH VOLTAGE ADJUST: accessible from front of instrument (protective cover provided)

OVERLOAD: senses detector saturation, indicated by red lamp on meter and meter going to full scale (adjustable depending on detector selected)

RESPONSE: will vary according to number of counts present, typically 2-11 seconds from 10% to 90% of final reading

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

BATTERY LIFE: greater than 350 hours with alkaline batteries (battery condition can be checked on meter)

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

SIZE: 16.5 x 8.9 x 21.6 cm (6.5 x 3.5 x 8.5 in.) (H x W x D), including handle

WEIGHT: 1.6 kg (3.5 lb), including batteries