

LUDLUM MEASUREMENTS, INC.

Model 3030P Alpha/Beta Sample Counter

Features

- Fully Integrated Alpha Beta Sample Counter
- Simultaneous Alpha and Beta Counting
- Employs PIPS™ Detector
- Ultra Low A/B Crossover & Backgrounds
- Adjustable Alpha Window for Radon Reduction
- Data Logging with USB Connectivity
- Configurable Daily QC Routines
- Holds Samples up to 5.1 cm (2 in.) Diameter & 1.02 cm (0.4 in.) Thick (with provided insert)
- Includes PC Software



Introduction

The 3030P's solid state PIPS™ detector facilitates efficient and cost-effective, simultaneous alpha and beta sample counting for air filters, smears, and swipes. This instrument meets the newer Electric Power Research Institute (EPRI) guideline for detecting a few disintegrations per minute of alpha amidst several hundred-thousand disintegrations per minute beta background. All data are automatically logged and easily retrievable via a USB connection. The light weight and battery operability afford convenient use in the field.

With the optional detector shield, the Model 3030P can be used in virtually any background. The instrument comes with PC control software that allows the user to set all parameters, view QC check settings, change alpha and beta window and threshold values, perform MDA (Minimum Detectable Activity), and retrieve the sample data saved to the logging memory.

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Specifications

Part Number: 48-3509

DETECTOR: solid-state silicon detector

ACTIVE AND OPEN AREA: 1700 mm²

ALPHA EFFICIENCY (4π geometry): 239Pu: 35%; 241Am: 30%

BETA EFFICIENCY (4π geometry): 99Tc: 15%; 137Cs: 23%; 90Sr/90Y: 35%

BACKGROUND (approx. 10 µR/hr field): alpha - 3 counts or less in 10 minutes (≤ 0.3 cpm); beta - 350 counts or less in 10 minutes (≤ 35 cpm)

CROSSTALK (approx. 10 µR/hr field): alpha - 5% or less; beta - 0.1% or less

SAMPLE SIZE: capable of holding 2.5 cm (1 in.) or 5.1 cm (2 in.) diameter samples (with provided insert), up to 1.02 cm (0.4 in.) thick

SCALERS: two each (one per channel), six-digit LCD displays with backlights providing a range of 0–999,999 counts (started by COUNT button)

SCALER LINEARITY: reading within 2% of true value

COUNT TIMER: single timer, switch adjusts from 0.1–60 minutes (0.1, 0.5, 1, 2, 5, 10, 60) or selects PC (PC is a user-customizable setting that allows user-defined counts from 0.1 to 1666.6 minutes)

ALARM: alpha, beta, and alpha+beta alarms are user-settable

STATUS INDICATORS: backlit indicators for

- QC: daily Quality Control check needed
- LOW BATT: battery power is low
- CPM/DPM: counting in CPM or DPM mode
- αAL/βAL: count has exceeded alarm setpoint

BACKGROUND SUBTRACT: may be subtracted automatically in either CPM or DPM modes

INTERFACE: USB - includes a 1 meter (39 in.) USB cable for connection to a PC

SOFTWARE: free PC interface software allows parameter setup and data logging

AUDIO: built-in unimorph type speaker with volume control to provide a dual tone click-per-event audio

POWER: universal AC input (95–250 Vac, 50–60 Hz) wall-mount supply outputting 5 Vdc at up to 1 amp, or four “D” cell batteries

BATTERY LIFE: 48 hours

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F)

CONSTRUCTION: aluminum housing with powder coat finish, subsurface printed front panel

SIZE: 19 x 20.3 x 25.4 cm (7.5 x 8 x 10 in.) (H x W x D), including handle in height and drawer handle in depth

WEIGHT: approximately 3.9 kg (8.5 lb), or approximately 8.4 kg (18.5 lb) with the optional detector shielding

OPTIONAL SHIELDING KIT: reduces beta background by approximately 20% (Part No. 4337-291)