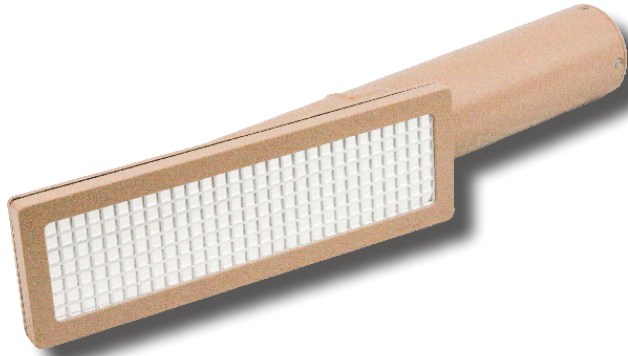


Model 43-5

Alpha Scintillator Detector

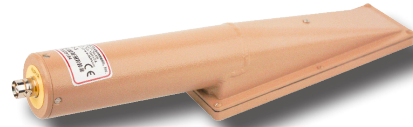


Ludlum Measurements, Inc.



Part Number: 47-1521

Three views of same detector to show the end window and the color-coded label indicating use (alpha)



Introduction

The Model 43-5 Alpha Scintillator is a detector designed for alpha radiation survey when used with a general purpose survey meter, ratemeter, or scaler instrument. It uses a zinc sulfide scintillation crystal doped with silver [ZnS(Ag)] and a 3.8 cm (1.5 in.) diameter magnetically shielded photomultiplier tube.

The detector housing is constructed of aluminum alloy with beige powder coat for durability and easy maintenance. The detector window is aluminized polyester, typically 0.8 mg/cm² thick. An extra layer is recommended for outdoor use for a total of 1.2 mg/cm² thickness. The detector will malfunction if the window is pierced or otherwise compromised. A plastic protective cover is provided to help protect the detector face when the instrument is not in use. In addition, the windows are replaceable in event of damage thereby increasing the working life of the detector.

Specifications

INDICATED USE: alpha survey

SUGGESTED INSTRUMENTS: general purpose survey meters, ratemeters, and scalers

CONNECTOR: series "C" (others available)

SCINTILLATOR: ZnS(Ag)

EFFICIENCY (4 π): 13% for ²³⁹Pu

WINDOW: typically 0.8 mg/cm² aluminized Mylar (1.2 mg/cm² recommended for outdoor use)

WINDOW AREA: 76 cm² (11.9 in²) active, 50 cm² (7.8 in²) open

BACKGROUND: 3 cpm or less

NON-UNIFORMITY: less than 10%

TUBE: 3.8 cm (1.5 in.) diameter magnetically shielded photomultiplier

OPERATING VOLTAGE: typically 500–1200 volts

CONSTRUCTION: aluminum with beige powder coat

SIZE: 7.6 x 6.4 x 34.3 cm (3 x 2.5 x 13.5 in.) (H x W x L)

WEIGHT: 0.9 kg (2 lb)



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Note: specifications subject to change without notification. We are not responsible for errors or omissions.

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