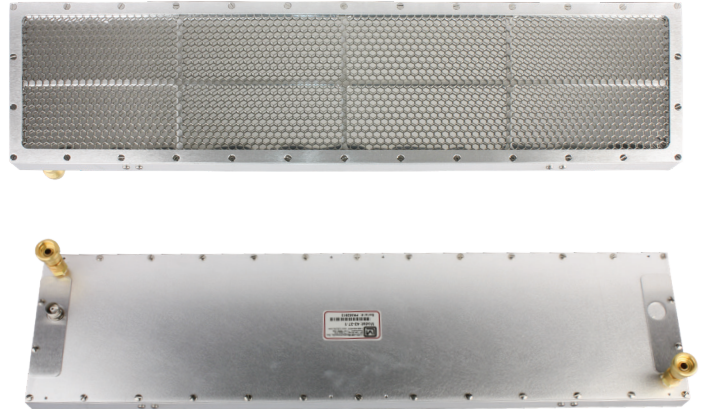


Model 43-37 Series Gas Proportional Detector

Introduction

The Models 43-37 and 43-37-1 are large-area gas proportional detectors for alpha and beta survey. Originally designed to be used with the Ludlum Model 239-1 Floor Monitor, both detectors are compatible with a number of counting instruments.



Specifications

Model 43-37 Part Number: 47-1143

Model 43-37-1 Part Number: 47-2243

DETECTOR TYPE: large-area gas proportional

RECOMMENDED COUNTING GAS: P-10 (10% methane, 90% argon) is recommended. Other counting gases are also acceptable.

GAS RECHARGE: expected time of operation on static charge with 39-inch cable:

Gross counting mode = 15 hours or longer

Alpha-beta mode = 5 hours or longer

WINDOW:

Alpha only: 0.8 mg/cm² (2 layers of aluminized mylar)

Beta-Gamma: 3.4 mg/cm² (1 layer of aluminized mylar and 1 layer of clear mylar)

Gamma: 11.8 mg/cm² (1 layer of aluminized mylar and 1 layer of drafting mylar)

WINDOW AREA:

Model 43-37: 584 cm² (90.5 in²) active, 434 cm² (67.3 in²) open

Model 43-37-1: 821 cm² (127 in²) active, 609 cm² (94.4 in²) open

TYPICAL EFFICIENCY (4π):

Gross counting: 20% - ²³⁹Pu (alpha only); 30% - ⁹⁹Tc (beta only); 30% - ⁹⁰Sr/⁹⁰Y; less than 1% gamma

Alpha-Beta counting: 17.5% - ²³⁹Pu; 20% - ⁹⁹Tc; 20% - ⁹⁰Sr/⁹⁰Y; less than 1% gamma

TYPICAL BACKGROUND (10μR/hr field):

Model 43-37 & 43-37-1 Alpha: less than 10 cpm when operating at alpha-only plateau region

Model 43-37 Beta-Gamma: 800 - 1300 cpm

Model 43-37-1 Beta-Gamma: 1000 - 1800 cpm

OPERATING VOLTAGE: Alpha: typically 1100-1400 volts; Beta-Gamma: typically 1700-1800 volts

COUNTER THRESHOLD SETTING: typically 4 mV for scaler or gross counting instrument

GAS CONNECTORS: double-end quick disconnects

SIGNAL CONNECTORS: series "C", unless specified

SIZE (H x W x L):

Model 43-37: 2.5 x 15.9 x 46.4 cm (1 x 6.25 x 18.25 in.), not including fittings

Model 43-37-1: 2.5 x 15.9 x 64.1 cm (1 x 6.25 x 25.25 in.) (H x W x L), not including fittings

WEIGHT:

Model 43-37: 1.9 kg (4.1 lb)

Model 43-37-1: 2.4 kg (5.4 lb)

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

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