

Model 4901P

Hand & Shoe Contamination Monitor



Ludlum Measurements, Inc.

Features

- Affordable
- Simple to Use
- Automatic Background Subtract
- Password-Protected Parameters
- Alarm Audio Volume Adjustment
- Non-Volatile Memory Requires No Battery Backup



Part Number: 48-3009

Introduction

The Model 4901P Beta/Gamma Hand & Shoe Monitor is intended for use as a medium-level beta and gamma contamination monitor. Four count channels are in the standard configuration for monitoring the palm of each hand and the sole of each shoe. The Model 4901P employs a total of 22 pancake Geiger-Mueller (GM) type detectors: five in each hand detector (palm side only) and six in each foot detector.

LED indicators show status and alarm location. The Model 4901P allows parameter updating by viewing the built-in, 16-character LCD display. Detector counts, background, alarm set points, and all parameters may be viewed on the LCD display. Switches at each hand detector initiate an interrogation (both switches must activate). Audible alarm and status change indications are standard.

Specifications

INDICATED USE: personnel monitoring

DETECTORS: pancake-type, halogen-quenched GM

WINDOW: 1.7 ± 0.3 mg/cm² mica

ENERGY RESPONSE: energy dependent

HANDS: 10 (five per hand) pancake detectors

Active Area: approximately 155 cm² (24 in²)

Open Area: approximately 122 cm² (18.9 in²)

Efficiency (4π): 3%—¹⁴C, 12%—⁹⁹Tc, 12%—¹³⁷Cs

SHOES: 12 (six per shoe) pancake detectors

Active: approximately 185 cm² (28.7 in²)

Open: approximately 146 cm² (22.6 in²)

Efficiency (4π): 3%—¹⁴C, 10%—⁹⁹Tc, 10%—¹³⁷Cs

AUDIO: built-in, unimorph-type speaker (greater than 68 dB at 0.6 m [2 ft])

ALARM: indicated by red LED and audible signal (each hand and shoe area has alarm indicators)

COUNTING CAPACITY: 9999 counts per minute

COUNT TIME: adjustable from 1–99 seconds

ALARM HOLD TIME: adjustable from 1–99 seconds

BACKGROUND ACCUMULATE TIME: adjustable from 1–99 seconds

BACKGROUND UPDATE INTERVAL: adjustable from 1–99 minutes, the system will automatically update background if instrument is not in use

FORCE UPDATE: timed function to force background update if regular update interval is exceeded

STATUS INDICATORS

READY: (green LED) indicates instrument is ready to monitor personnel

COUNTING: (green LED) indicates count is in process (activated by switches on hand probes)

CHECK OK: (green LED) indicates person being monitored is clean

SHORT COUNT: (yellow LED and continuous audible) before count is complete or count is attempted during background update

POWER: 95–135 Vac (178–240 Vac available), 50–60 Hz

TEMPERATURE RANGE: 0 to 50 °C (32 to 122 °F) (LCD limits temperature range)

SIZE: 101.6 x 74.9 x 38.1 cm (40 x 29.5 x 15 in.) (H x W x L)

WEIGHT: 20.5 kg (45 lb)