

Model 52-5-1 Personnel Beta/Gamma Portal Monitor



Ludlum Measurements, Inc.

Features

- Sets Up in Minutes
- Easy to Transport & Operate
- Total of 5 Plastic Scintillator Detectors
- Angled Display for Ease of Use
- Detector LEDs Indicate Alarm Location
- 81 cm (32 in.) Wide Opening
- Meets FEMA-REP-21



Part Number: 48-3571
Redesigned electronics
(Model 52-1 shown, the Model
52-5-1 is similar)



Introduction

The Model 52-5-1 Portal Monitor is used for Beta/Gamma personnel contamination monitoring and meets the FEMA standard for Emergency Response Portal Monitoring (FEMA-REP-21). It is designed to be set up in five minutes or less without tools and then easily disassembled for convenient transportation and storage. The Model 52-5-1 includes a wheeled, lockable transport/storage case and a clear weather-protection sleeve.

This portal monitor can be operated in a walk-through basis with a quick scan occurring while a person is positioned within the portal. The non-volatile parameters are preset at the factory to detect a 1.0 μCi ^{137}Cs source in a 10 $\mu\text{R/hr}$ background field, in accordance with the FEMA standard. Microprocessor-based electronics ensure ease of setup and reliability. Daylight-visible status LEDs indicate count-cycle status. Loud audible signals that may be turned adjusted or turned off by the operator accompany the LEDs for additional indication. The Model 52-5-1 is able to operate from 85-250 Vac 50/60Hz without a voltage selector switch, or approximately 24 hours from three "D" cell batteries.

Specifications

SENSITIVITY: This instrument will detect the beta gamma emissions from a 1.0 μCi ^{137}Cs source (included) when it is located at mid-frame of the portal monitor in a 10 $\mu\text{R/hr}$ background (per the suggested standard in FEMA report "Contamination Monitoring Standard for a Portal Monitor Used for Emergency Response," Sept. 1992).

DISPLAY: two-line x 20-character LCD, backlit when operated from AC power, shows background rates from all detectors and sigma values above background, daylight-visible LEDs instrument status and radiation alarm location

COUNT TIME: adjustable from 0-20 seconds (0 second setting is for walk-through mode)

LED INDICATORS:

- ENTER/CHECKING: (green LED) indicates system is ready for use, flashing LED indicates a count is in progress
- INCOMPLETE/UPDATING: (amber LED) indicates the user has stepped out of the portal before counting was completed or that an update is in progress
- ALARM: indicated by red LED and user-adjustable audible signal (greater than 60 dB at 61 cm [24 in.]
- FAILURE: (red LED) indicates a high or low background

INFRARED SENSOR: senses portal occupancy

PARAMETERS: all parameters are stored in non-volatile memory

DETECTORS: plastic scintillator; four 2.75 L (168 in³) on sides plus one 1.8 L (108 in³) in base

OUTPUT: RS-232 and relay output connectors located on the bottom of the electronics chassis

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

POWER: 85-250 Vac, 50-60 Hz, or three "D" cell batteries

BATTERY LIFE: typically 24 hours in a non-alarm condition

CONSTRUCTION: aluminum housing with beige powder coat

WEATHER PROTECTION: Crystal clear polypropylene tubing is provided to sleeve over monitor whenever protection against wet weather conditions is desired.

TRANSPORT/STORAGE CASE DIMENSIONS: 122 X 61 X 30.5 cm (48 x 24 x 12 in.) (H x W x D)

PORTAL DIMENSIONS: 213 x 102 x 45 cm (84 x 40 x 19.3 in.) (H x W x L)

PORTAL INSIDE DIMENSIONS: 206 x 81 cm (81 x 32 in.) (H x W)

WEIGHT: 36 kg (80 lb), approximately 50 kg (110 lb) in case



Ludlum Measurements, Inc. P.O. Box 810, Sweetwater, Texas 79556

Web: <http://www.ludlums.com> Tel: 800-622-0828 / 325-235-5494 / Fax: 325-235-4672 / Email: ludlum@ludlums.com

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

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