

# Model 52-1 Personnel Beta/Gamma Portal Monitor



Ludlum Measurements, Inc.

## Features

- Easy Setup, Operation, and Transportation
- Four Plastic Scintillator Side Detectors
- Angled Display for Ease of Use
- Detector LEDs Indicate Alarm Location
- 61 cm (24 in.) Wide Opening
- Meets FEMA-REP-21 Standards
- Flexible Power Options



Part Number: 48-3172

## Introduction

The Model 52-1 portal monitor is used for beta/gamma contamination monitoring of personnel. It assembles and disassembles quickly and easily without tools, and is packed in a wheeled, lockable transport/storage case for rapid deployment.

The portal monitor may be operated on a walk-through basis. Non-volatile parameters are factory preset in accordance with the FEMA standard. Electronics are microprocessor-based for reliability. Daylight-visible LEDs indicate count-cycle status, while loud audible signals that feature user-adjustable volume and on/off function provide additional indicators for the operator. The Model 52-1 features flexible options for powering the device making it a versatile and portable for many situations. See details below.

## Specifications

**SENSITIVITY:** This instrument will detect the beta gamma emissions from a 1.0  $\mu\text{Ci}$  source 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 shows background rates from all detectors and sigma values above background, daylight-visible LEDs show instrument status and radiation alarm location

**COUNT TIME:** adjustable from 0 to 20 seconds, with "0" second setting for walk-through mode

### LED COLOR INDICATORS

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

**INFRARED SENSOR:** senses portal occupancy

**PARAMETERS:** all parameters are stored in non-volatile memory

**DETECTORS:** 4 each 2.75 L (168 in<sup>3</sup>) plastic scintillators; total 11 L (672 in<sup>3</sup>)

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

**CONSTRUCTION:** aluminum housing with beige powder-coat

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

### POWER OPTIONS

- 85 to 250 Vac 50/60 Hz using supplied power supply (12 Vdc wall adapter)
- Supplied 12 Vdc cigarette lighter adapter cable
- 3 or 6 "D" cell batteries. Battery life: typically 69 hours for six batteries or 28 hours for three batteries

**WEATHER PROTECTION:** crystal clear polypropylene tubing is provide to sleeve over the monitor whenever protection against wet weather conditions is desired

**PORTAL OVERALL DIMENSIONS:** 211 x 81.3 x 45 cm (83 x 32 x 17.5 in.) (H x W x D)

**PORTAL INSIDE DIMENSIONS:** 206 x 61 cm (81 x 24 in.) (H x W)

**WEIGHT:** approximately 32 kg (70 lb), with case 45 kg (100 lb)

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

**OPTIONAL VEHICLE MONITOR CONVERSION KIT FOR MODEL 52-1 SERIES:** enables the user to reconfigure the Model 52-1 Series of portal monitors as a vehicle monitor. Includes stands and cable. Monitor available separately. Part Number 4215-374

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