Model 52-6
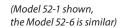## Personnel Beta/Gamma Portal Monitor

Ludlum Measurements, Inc.

Features

- Sets Up in Minutes
- Easy to Transport & Operate
- Total of 6 Plastic Scintillator Detectors
- Angled Display for Ease of Use
- Detector LEDs Indicate Alarm Location
- 61 cm (24 in.) Wide Opening
- Meets FEMA-REP-21

(Model 52-1 shown, the Model 52-6 is similar)

Introduction

The Model 52-6 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 52-6 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 µR/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 52-6 features flexible options for powering the device making it a versatile and portable instrument for many situations. See details below.

Specifications
Part Number: 48-3611

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 µR/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 in^3) on sides, one 1.8 L (108 in^3) in base, one 1.8 L (108 in^3) in top

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

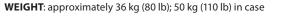**TEMPERATURE RANGE**: -20 to 50 °C (-4 to 122 °F)

POWER 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 6 batteries or 28 hours for 3 batteries

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 81.3 x 48 cm (84 x 32 x 19.3 in.) (H x W x L)

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

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