

Model 3277HFM Compact Alpha-Beta Hand & Foot Monitor



Features

- 7-inch Color LCD Display Shows All Readings Simultaneously in a Large, Simple Layout
- Audible & Visual Alert Signals
- Easy to Operate Two-Step System
- Gasless – Uses Dual-Phosphor Scintillation Detectors
- Optional Rechargeable Battery Backup
- Automatic Start of Count
- Minimum Count Time
- Automatic Background Subtraction During Measurements

Introduction

The Model 3277HFM Hand & Foot Monitor is intended for checking low-level alpha and beta contamination on personnel. The gasless system incorporates two scintillation detectors, one for the hand and one for the foot. An optional frisker scintillation detector can be included as well.

Measurement is a two-step process, measuring the hand and foot on one side at a time. To begin an automatic count, both the hand and foot must be placed on the respective detectors, activating the infrared (IR) sensor on each detector. User-friendly instructions and the status of each detector is clearly displayed on the large, color touch-screen. The instrument uses a minimum count time mode to automatically determine the count time based on background, alarm setpoints, and other factors. When the count is completed, either a “Clean” or “Alarm” message will be displayed, depending on the configured alarm set-points.

In “Idle” mode, the screen will display the current detector count rates (default) or the accumulated background rate.

If the system includes a frisker, the status of all three detectors are displayed in “Idle” mode, but only the active detector(s) (either both the hand and foot, or the frisker) are displayed when a count is performed. The frisk state is activated when the frisker is removed from the cradle, and the automatic hand and foot count is activated as described above. A lockout prevents the instrument from toggling the display between the frisker and the hand and foot detectors, so that whichever detector is activated first remains active until the sensor is no longer triggered.

The system can communicate through a standard Ethernet connection for remote monitoring. It is powered by a 100 - 240 Vac wall transformer. An optional battery backup is available to ensure constant power. Instrument setup can be done through the touch-screen display or via Ludlum’s Lumic Calibration Software.

Model 3277HFM Base System

Part Number: 48-4333-1

DISPLAY: 17.8 cm (7 in.) diagonal, TFT LCD SVGA

DISPLAY RANGE:

- 0.00 cps to 999 kcps
- 0.00 cpm to 999 kcpm
- 0.00 Bq to 999 kBq
- 0.00 dpm to 999 kdpm

NOTE: Display ranges should be set up by qualified personnel according to detector specifications

COUNT TIME: automatic and manual count modes

CONTROLS: touch screen, IR hand/foot switches

RESPONSE TIME: User-selectable from 1 to 60 seconds, or Auto-Response Rate FAST or SLOW

ALARMS: Audible and visual alarms

LOSS OF COUNT PROTECTION: After a user-settable time interval of no pulses from detector (default 60 seconds), the unit will display an alarm

AUDIO: Greater than 75 dB at 0.6 m (2 ft.), approximately 4.5 kHz

TEMPERATURE RANGE: 0 to 40 °C (32 to 104 °F)

POWER: 100-240 Vac wall transformer, main electronics 9-15 Vdc, 15 W

CONSTRUCTION: aluminum with powder-coat finish, stainless steel

SIZE (H x W x D): 138 x 30.5 x 49.7 cm (54.4 x 12 x 19.6 in.)

WEIGHT: 21.14 kg (46.6 lb)

Model 43-203 Hand Detector

DETECTOR TYPE: ZnS(Ag) scintillator adhered to 0.03 cm (0.01 in.) thick plastic scintillator

WINDOW: active: 303 cm² (47.0 in²), open: 264 cm² (40.9 in²)

EFFICIENCY (4π): ²³⁹Pu - 20% alpha, ⁹⁹Tc - 15% beta

TYPICAL BACKGROUND: alpha: ≤ 5 cpm; beta: 700 cpm

CROSSTALK: alpha to beta: ≤ 15%, beta to alpha: ≤ 1%

WEIGHT: 0.77 kg (1.7 lb)

Model 43-204 Foot Detector

DETECTOR TYPE: ZnS(Ag) scintillator adhered to 0.03 cm (0.01 in.) thick plastic scintillator

WINDOW: active: 540 cm² (83.7 in²), open: 377 cm² (58.4 in²)

EFFICIENCY (4π): ²³⁹Pu - 12% alpha, ⁹⁹Tc - 10% beta

TYPICAL BACKGROUND: alpha: ≤ 7 cpm; beta: 1000 cpm

CROSSTALK: alpha to beta: ≤ 18%, beta to alpha: ≤ 1%

WEIGHT: 2.81 kg (6.2 lb)

Options

Model 43-93 Alpha-Beta Frisker (PN: 4519-277)

Includes Model 43-93 detector (active area: 100 cm² [15.5 in²]) and cradle with switch.

Model 43-147 Alpha-Beta Frisker (PN: 4519-489)

Includes Model 43-147 detector (active area: 200 cm² [31 in²]) and cradle with switch.

Battery Backup (PN: 4224-043)

POWER SUPPLY: 100-240 Vac wall transformer, 24 W

(Input: 12 - 15 Vdc, 24 W; Output: 9-15 Vdc, 15 W)

SIZE (H x W x D): 13.0 x 19.1 x 16.3 cm (5.1 x 7.5 x 6.4 in.)

WEIGHT: 3.3 kg (7.2 lb)

Model 3277HFM screenshot

Done	Alpha dpm	Beta dpm	⚙️
👤	27.3	73.4	✓
👣	0.00	16.7	🔊
			📊
			🕒

Model 3277 with Frisker Option



Screenshot with Frisker Option

Rate	Alpha cpm	Beta cpm	⚙️
👤	000	456	✓
👣	001	346	🔊
🔪	000	192	📊
			🕒

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