

PRIMALERT® Digital Area Monitors

Model 05-443 and 05-444



Introduction


The PRIMALERT Digital Area Monitors are designed for a wide range of radiation area monitoring applications. They are completely self-contained units with energy compensated GM detectors, AC powered with internal battery backup and have user settable low and high alarms. An optional remote alarm is available for added security.

Applications

The PRIMALERT Digital Area Monitors can be used wherever there is a need to detect and warn personnel of increasing radiation levels and to control the exposure of personnel to gamma radiation. The versatility of the PRIMALERT allows it to be used from industrial applications to medical settings.

RS

Radiation Safety

- LED digital display
- Low and High alarm indicators
- Programmable alarm indicator
- Optional remote
- Detector Fail indicator
- Battery backup
- Data output/RS-232
- Two configurations available with internal energy compensated GM detectors:
 - 0.1 mR/hr to 1 R/hr (Model 05-443)
 - 1 mR/hr to 4 R/hr (Model 05-444)
-  tested. Meets applicable standards

Features

- Simple installation and setup
- Anti-jam circuitry prevents erroneous readings at tube saturation
- Calibration controls easily accessed through front panel

Specifications

Detector

Indicated use Radiation area monitoring

Internal GM detector range

Model 05-443 0.1 mR/hr to 1 R/hr

Model 05-444 1 mR/hr to 4 R/hr

Display 4 digit LED display with 0.8 in (2 cm) character height

Display range 000.0 to 9999

Display units Can be made to display in $\mu\text{R/hr}$, mR/hr, R/h, $\mu\text{Sv/h}$, mSv/h, Sv/h, cpm, cps and others

Linearity Reading within $\pm 10\%$ of true value with detector connected

Response Typically 3 seconds from 10% to 90% of final reading

Status (*green light*) Indicates the instrument is functioning properly

Low alarm Indicated by a yellow light and slow beep (1 per sec) audible tone (can be set at any point from 0.0 to 9999)

High alarm Indicated by a red light and fast beep (4 per sec) audible tone (can be set at any point from 0.0 to 9999)

Note: audible indicators can be configured as a single beep if desired

Detector fail (*red light and audible tone; > 68 dB at 2 ft*) Indicates detector overload, no count from detector, or instrument failure

Low battery (*yellow*) Indicates < 2 hours of battery power remaining

Calibration controls Accessible from front of instrument (protective cover provided)

High voltage Adjustable from 200 to 2500 V

Threshold Adjustable from 2 to 100 mV

Dead time Adjustable to compensate for dead time of the detector and electronics (can be read on the display)

Overload Senses detector saturation (indicated by display reading “-OL”)

Overrange Indicates the radiation field being measured has exceeded the counting range of the instrument (indicated by display reading “----”)

Data output 9 pin connector providing 5 decade log output, RS-232 output, signal ground connection, FAIL and Alarm signals (current sink), and direct connection to battery and ground

Power requirements 95 to 135 VAC (178 to 240 VAC available), 50 to 60 Hz single phase (< 100 mA), 6 V sealed lead acid rechargeable battery (built-in)

Battery life Typically 48 hours in non-alarm condition, 12 hours in alarm condition

Battery charger Battery is continuously trickle charged when instrument is connected to line power and turned on

Construction Aluminum housing with white polyurethane enamel paint

Temperature range - 4° to 122°F (- 20° to 50°C). May be certified for operation from - 40° to 150°F (- 40° to 65°C)

Size 9.7 (w) x 2.5 (d) x 7.4 in (h) (24.6 x 6.4 x 18.7 cm)

Weight 6.5 lb (2.3 kg)

Optional remote display (Model 05-446)

Indicated use Remote display for PRIMALERT Area Monitors Models 05-443 and 05-444

Status (*green light*) Indicates the instrument is functioning properly

High alarm (*red LED*) Indicates the radiation level exceeds the high alarm point

Detector fail (*red LED*) Indicates detector overload, no count from detector, or instrument failure

Audio Unimorph type with ON/OFF switch (> 68 dB at 2 ft)

Power requirements Provided by PRIMALERT (20 ft cable included)

Construction Aluminum housing with ivory polyurethane enamel paint

Temperature range - 4° to 122°F (- 20° to 50°C). May be certified for operation from - 40° to 150°F (- 40° to 65°C)

Size 6 (w) x 2 (d) x 7 in (h) (15.2 x 5.1 x 17.8 cm)

Weight 1.5 lb (0.7 kg)

Optional accessories

Remote Display (Model 05-446)

Available model(s)

05-443 PRIMALERT Digital Area Monitor with internal energy compensated 0.1 mR/hr to 1 R/hr GM detector

05-444 PRIMALERT Digital Area Monitor with internal energy compensated 1 mR/hr to 4 R/hr GM detector

CE Tested. Meets applicable standards.

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or www.flukebiomedical.com/rms.

Specifications are subject to change without notice.

©2005 Fluke Biomedical. All rights reserved. PRIMALERT is a trademark of Fluke Corporation. Printed in USA.
05-443-ds rev 2 17 may 05