LUDLUM MEASUREMENTS, INC.

Model 3192
Digital Background Survey Meter

Part Number: 48-4329

Features

- High Sensitivity to Gamma
- Large, Backlit, Easy-To-Read LCD Screen
- Auto-Ranging
- RATE, MAX, and COUNT Modes
- Sigma Audio Mode
- Splash-Resistant Construction for Outdoor Use
- All Digital Calibration
- Lightweight Yet Rugged
- Simple 5-Button Interface

Introduction

The Model 3192 is a portable and versatile instrument with an internal detector used for background measurements of gamma radiation levels up to 50 µSv/h (5,000 µR/hr). The internal NaI scintillation detector has a sensitivity of 650 cpm per µR/hr. It features a large, easy-to-read LCD screen and audible alarms and is controlled using a simple five-button interface. The meter body is made of high-impact plastic, and splash-resistant construction allows the instrument to be used outdoors.

Three modes of operation are available – RATE, MAX, and COUNT – which can be selected by pressing the MODE button. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, mR/h, or µSv/h units. The user can switch between the two sets of units by pressing the UNITS button. A sigma audio mode can be enabled that allows the user to find small increases above the background radiation level. When enabled with the optional Lumic Data Logger Kit (PN: 4498-1019), data can be logged in any of the operational modes using the LOG button on the handle. Up to 1000 data points can be stored internally.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (PN: 4519-865). The Model 3192 is shipped ready to use with batteries and a calibration certificate.

Note: While the detector used in this instrument is sensitive and is often used for detection of near-background levels of radiation, its non-linear energy response means that dose and exposure measurements may be over/under reported. (See graph on next page.)

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Specifications

DETECTOR: 5.1 cm diameter x 2.5 cm thick (2 x 1 in.) internal NaI(Tl) scintillator
SENSITIVITY: Typically 65,000 cpm per µSv/h (650 cpm per µR/hr) (^{137}Cs Gamma)
ENERGY RESPONSE: Non-linear, see energy response curve below
LINEARITY: Readings within 10% of true value
DISPLAY: 3-digit auto-ranging LCD with large 20 mm (0.8 in.) digits. Units: (k)cps, (k)cpm, (µ)(m)R(/h), (µ)(m)Sv(/h). Indicators: bar graph, MAX, ALARM, USB, audio, low-battery.
DETECTOR RANGE: Background to 50 µSv/h (5,000 µR/hr)
BACKLIGHT: Built-in ambient light sensor automatically activates low-power LED backlight, unless internal dipswitch is set to continuous-on (will reduce battery life)
USER CONTROLS:

- ON/OFF: Press to turn ON; Tap to acknowledge alarms and silence alarm tone; Hold for OFF
- UNITS: Changes the units between count rate (cpm, cps), or dose/exposure (µSv/h, mR/h)
- AUDIO: Press to adjust audio level
- MODE: Alternates between RATE (count rate), MAX (captures peak rate), and COUNT (captures rate or dose readings for a user-selectable count time from 0 to 10 minutes)
- LOG: Press to log current display (requires Lumic Data Logger Kit, see options below)

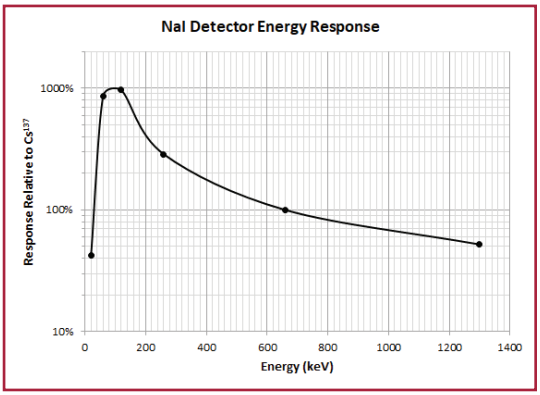
DATA LOGGING: Can store up to 1000 data points internally. Requires Lumic Data Logger Kit (see options below).
RESPONSE TIME: User-selectable from 1 to 60 seconds, or auto-response rate of FAST or SLOW
ALARMS: Two count rate, exposure/dose, and count alarm set-points adjustable over the display range
SIGMA AUDIO MODE: Alarm that allows user to find small increases above the background radiation level. The instrument will beep whenever it measures a rate that exceeds a threshold rate above the measured background rate.
OVERLOAD PROTECTION: High count rate saturation protection prevents false display of lower count rates
LOSS OF COUNT PROTECTION: After a user-settable time interval (typically 60 seconds) of no pulses from the detector, unit will flash a zero reading and the alarm audio will be triggered
DEAD TIME CORRECTION: Employs first and second order corrections for extended performance
HV RANGE: 400 to 1500 Vdc
THRESHOLD: -20 to -100 mVdc
AUDIO: Approximately 4.5 kHz, click audio greater than 65 dB at 0.6 m (2 ft), alarm audio greater than 72 dB
POWER: Four alkaline "AA" batteries
BATTERY LIFE: Approximately 750 hours of operation (as low as 100 hours with backlight continuous-on), 16-hour low battery warning
CONSTRUCTION: High-impact plastic with water-resistant rubber seals and separate battery compartment
TEMPERATURE RANGE: -20 to 50 °C (-5 to 122 °F), may be certified for operation from -40 to 65 °C (-40 to 150 °F)
ENVIRONMENTAL RATING: NEMA rating of 5 or IP rating of 53
SIZE (H x W x L): 20.3 x 11.4 x 21.6 cm (8 x 4.5 x 8.5 in.)
WEIGHT: 1.52 kg (3.35 lb)

Options:

Lumic Calibration Kit (PN 4519-865): Includes software and required cable. Lumic Calibration Software allows reading and writing of important instrument parameters via a USB port.

Lumic Data Logger Kit (PN 4498-1019): Includes software and required cable. Lumic Data Logger Software is required to use instrument data logging features.

See our website for additional options.



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