

Model 3019

Digital Background Survey Meter



Ludlum Measurements, Inc.

Features

- Large Backlit LCD for Ease of Reading
- Autoranging - Hands Free
- Sigma Audio and Bright LED Simplifies Searching
- Light Weight and Ruggedly Built
- Splash-Resistant Construction for Outdoor Use
- 4-Button Intuitive Interface for Easy Operation
- All-Digital Calibration; USB Port
- Rate, Max, and Count Modes of Operation
- Shipped Calibrated & Ready-to-Go



Part Number: 48-4091

Introduction

The Model 3019 is an ergonomically-designed, low-weight digital background survey meter used for background measurements of gamma radiation levels up to 500 $\mu\text{Sv/hr}$ (50 mR/hr). An internally installed CsI scintillator provides 175 cpm/ $\mu\text{R/hr}$ sensitivity. This instrument's alarm set points can be designated through Setup Mode using the onboard keypad, or alternatively by USB connection via the optional software.

Other features include a large, easily-readable LCD (liquid crystal display), piercing audio warning tone, and easy, intuitive design. Splash-resistant construction matched with a unit body made of durable, high-impact plastic enables this instrument to be used indoors or outdoors. The padded handle is shipped pre-configured for datalogging operations with the built-in logging push button and warning light, making the device ready if the customer chooses to acquire the optional datalog software.

Operators can access setting adjustments, including calibration constant, dead time correction, efficiency, high voltage, high voltage current overload level, pulse threshold, response time (fast or slow), count time, operational modes (Rate, Max, or Count), and minimum and maximum display levels. Primary and Secondary units, unit alarm levels, count units, count alarm levels, and zero pulse protection time limit. Another alarm, the sigma audio feature, assists search efforts by issuing an audible alarm when radiation levels outside set parameters are detected. An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification.

Note: While the detector used in this instrument is sensitive and is often used for detection of near-background levels of radiation, its nonlinear energy response means that dose and exposure measurements may be over/underreported.

Specifications

DETECTOR: internal CsI, scintillator with 175 cpm per $\mu\text{R/hr}$ sensitivity

ALARMS: alarm setpoints adjustable over the display range

SIGMA: sigma audio beeps when radiation level changes (if enabled)

LOSS OF COUNT ALARM PROTECTION: after preselected time interval (default 60 seconds) of no pulses from detector, audible and visual alarms will be activated

LCD DISPLAY: 3-digit LCD with large 20 mm (0.8 in.) digits, (k)cps, (k)cpm,

(k)Bq, (k)dpm, (μ)(m)R/h, (μ)(m)Sv/h, low-battery indicator, MAX, ALARM, AUDIO

DISPLAY RANGE: 0.0 cps to 99.9 kcps; 0.00 cpm to 999 kcpm; 0.00 Bq to 99.9 kBq; 0.00 dpm to 999 kdpm; 0.00 $\mu\text{R/h}$ to 999 R/h; 0.00 $\mu\text{Sv/h}$ to 999 Sv/h

DETECTOR RANGE: 0 to 500 $\mu\text{Sv/h}$ (50 mR/hr)

ENERGY RANGE: nonlinear (see energy response curve at right)

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/ACK - press to turn ON, tap to acknowledge alarms and silence alarm tone, hold for OFF
- MODE - alternates between NORMAL (count rate), MAX (captures peak rate), and COUNT (user-selectable preset count time from 0 to 10 minutes)
- AUDIO - turn "click" audio On/Off
- UNITS - changes the units between count rate (cpm, cps), dose/exposure ($\mu\text{Sv/h}$, mR/h), or disintegration (dpm, Bq)

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

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

POWER: four alkaline or four rechargeable "AA" batteries (instrument does not support in-device charging)

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 $^{\circ}\text{C}$ (-5 to 122 $^{\circ}\text{F}$), may be certified for operation from -40 to 65 $^{\circ}\text{C}$ (-40 to 150 $^{\circ}\text{F}$)

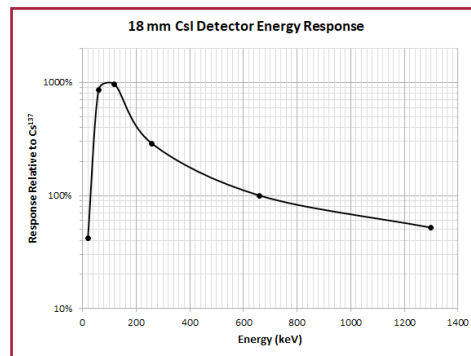
ENVIRONMENTAL RATING: NEMA (National Electrical Manufacturers Association) rating of 4x or IP (Ingress Protection) rating of 53

SIZE: 16.5 x 11.4 x 21.6 cm (6.5 x 4.5 x 8.5 in.) (H x W x L)

WEIGHT: 1.06 kg (2.3 lb)

OPTIONS: **Lumic Calibration Kit** - Part Number 4498-1018, includes software and required cable

Lumic Datalog Kit - Part Number 4498-1019, includes software and required cable)



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

October 2018