

Ludlum Model 3000 Digital Survey Meter

The Ludlum Model 3000 is a durable, lightweight instrument that is used with an external detector for alpha, beta, and gamma radiation survey. It features a large, easy-to-read LCD screen and audible alarms and is controlled using a simple five-button interface. The unit 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, Bq, dpm, mR/hr, or $\mu\text{Sv/h}$ units. The user can switch between two sets of chosen units by pressing the UNITS button. When enabled with the optional Lumatic Data Logger Kit (see Options), 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 Lumatic Calibration Kit (see Options). The Model 3000 is shipped ready to use with batteries and calibration certificate.



Technical specifications

Compatible Detectors:

GM, scintillation, or proportional

Display:

3 digit auto-ranging LCD with large 20 mm (0.8 in.) digits.
Units: (k)cps, (k)cpm, (k)Bq, (k)dpm, $(\mu)(m)\text{R}/\text{h}$, $(\mu)(m)\text{Sv}/\text{h}$.
Indicators: bar graph, MAX, ALARM, USB, audio, low battery.

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 $\mu\text{R}/\text{h}$ to 999 R/h
- 0.00 $\mu\text{Sv}/\text{h}$ to 999 Sv/h

Max Display can be set to limit display to calibrated range

Linearity:

Within 10%

Backlight:

Built-in ambient light sensor automatically activates low-power LED backlight, unless internal dipswitch is set to continuous-On (will reduce battery life)

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Controls:	<p>ON/OFF: Press to turn ON; Tap to acknowledge alarms and silence alarm tone; Press to reset sigma audio alarm; Hold for OFF</p> <p>UNITS: Changes the units between count rate (cpm, cps), dose/exposure (Sv/h, R/h), or disintegration (dpm, Bq)</p> <p>AUDIO: Turn „click“ audio ON/OFF; Turn sigma audio beep ON/OFF; Toggle volume between HI, LO, and OFF</p> <p>MODE: Alternates between RATE (count rate), MAX (captures peak rate), and COUNT (user-selectable preset count time from 0 to 10 minutes)</p> <p>LOG: Press to store meter reading (requires Lumic Data Logger Kit, see Options)</p>
Data Logging:	Can store up to 1000 data points internally. Requires Lumic Data Logger Kit, see Options.
Response Time:	User-selectable from 1 to 60 seconds, or auto-response rate FAST or SLOW
Alarms:	Count rate, Exposure/Dose, and Scaler alarm setpoints adjustable over the display range
Overload Protection:	High count rate saturation protection prevents false display of lower count rates
Loss of Count Protection:	After a user-settable time interval of no pulses from detector (default 60 seconds), 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
High Voltage:	400 to 1500 Vdc
Threshold:	-2 to -100 mVdc
Audio:	Greater than 75 dB at 0.6 (2 ft), approximately 4.5 kHz
Power:	Four alkaline or four rechargeable “AA” batteries (instrument does not support in-device charging)

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Battery Life:	Approximately 750 hours of operation (as low as 100 hours with back-light configured for 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):	16.5 x 11.4 x 21.6 cm (6.5 x 4.5 x 8.5 in.)
Weight:	0.9 kg (2.0 lb)

