

Model 3001 Multi-Detector Survey Meter

Features

- 4 Selectable & Configurable Detector Settings
- Large Backlit LCD for Ease of Reading
- Autoranging
- Rate, Max, and Count Modes of Operation
- Splash-Resistant Construction for Outdoor Use
- 4-Button Intuitive Interface for Easy Operation
- All-Digital Calibration
- USB Port
- Lighter Weight and Ruggedly Built
- Datalogging and Headphone Options



Introduction

The Model 3001 is a durable, lightweight instrument designed for alpha, beta, or gamma radiation survey. It can support up to four external detectors, each with its own set of calibration and user parameters. The instrument 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/h, or $\mu\text{Sv/h}$ units. The user can switch between the two sets of units by pressing the UNITS button. The DETECTOR button is used to switch between the active detector settings, indicated by the colored LEDs above the control buttons. 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 3001 is shipped ready to use with batteries and a calibration certificate.

Specifications

Part Number: 48-4036

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, (μ)(m)R/h, (μ)(m)Sv/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 μ R/h to 999 R/h
- 0.00 μ Sv/h to 999 Sv/h

NOTE: Operational display ranges are dependent on the detector and dead time configuration. The minimum and maximum display can be set to limit the display to the calibrated range.

LINEARITY: within 10% of true value

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

USER CONTROLS:

- ON/ACK: Extra-long press to turn ON; Short press to adjust audio level acknowledge alarms; long press to reset mode, extra-long press plus 3 seconds to turn OFF
- MODE: Short press alternates between available modes: RATE (display count rate), MAX (captures peak rate), and COUNT (captures rate or dose readings for a user-selectable preset count time from 0 to 10 minutes)
- DETECTOR: Short presses to change between available detector
- UNITS: Short press changes the units between count rate, dose/exposure, or disintegration, an extra-long press to change count time in COUNT mode
- LOG: Short press to log current display (requires Lumic Data Logger Kit), or initiate count in COUNT mode

DATA LOGGING: Can store up to 1000 data points internally. Requires Lumic Data Logger Kit (PN: 4498-1019)

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

ALARMS: Two adjustable 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. "OL" will appear on the display and an audio warning will be triggered.

LOSS OF COUNT PROTECTION: After a user-settable time interval (default 60 seconds) of no pulses from 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

OVERRANGE: If the reading should exceed the predefined detector range, the instrument will flash a maximum reading and trigger an audio warning.

HIGH VOLTAGE: 400 to 1500 Vdc

THRESHOLD: -2 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 500 hours (as low as 60 hours with backlight 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: 0.7 kg (1.6 lb) (excluding detectors and clips)

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.

Bluetooth® Option (4498-1024): Wirelessly connects the instrument with an Android or iOS mobile device.

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