

Model 3002 Alpha-Beta Survey Meter

Features

- Large Backlit LCD for Ease of Reading
- Autoranging, Dual Tone Audio Clicks
- All-Digital Calibration
- Rate, Max, and Count Modes of Operation
- Alpha, Beta, or Alpha + Beta Measurements
- 4-Button Intuitive Interface for Easy Operation
- Splash-Resistant Construction for Outdoor Use



Introduction

The Model 3002 is a durable, lightweight instrument designed for alpha and beta radiation survey with an external detector. 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 cps, cpm, Bq, or dpm units. Pressing the α-β button switches between alpha, beta, or alpha + beta measurements. When enabled with the optional Lumatic 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 Lumatic Calibration Kit (PN: 4498-1018). The Model 3002 is shipped ready to use with batteries and a calibration certificate.

Specifications

Part Number 48-4037

COMPATIBLE DETECTORS: alpha-beta scintillation or gas proportional

DISPLAY: 3-digit auto-ranging LCD with large 20 mm (0.8 in.) digits. Units: (k)cps, (k)cpm, (k)Bq, (k)dpm. Indicators: bar graph, radiation type (alpha (α), beta (β)), 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

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)

USER CONTROLS:

- ON/OFF: press to turn ON; tap to acknowledge alarms and silence alarm tone; hold for OFF
- α - β : changes the display between alpha, beta, and alpha + beta measurements
- AUDIO: turns "click" audio On/Off
- MODE: alternates between RATE (count rate), MAX (captures peak rate), and COUNT (user-selectable preset count time from 0 to 10 minutes). Number of modes can be reduced in setup.
- LOG: Press to store meter reading (requires Lumic Data Logger Kit)

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: count rate and scaler alarm setpoints adjustable over the display range. Separate alpha and beta alarm LEDs.

OVERLOAD PROTECTION: high count rate saturation protection prevents false display of lower count rates

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

HIGH VOLTAGE: 400 to 2200 Vdc

THRESHOLD: Alpha: -2 to -350 mVdc, Beta: -2 to -99.9 mVdc

AUDIO: alarm audio greater than 80 dB at 0.6 m (2 ft.), higher pitched alpha tones and lower pitched beta clicks

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 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)

Options

Lumic Calibration Kit (PN 4498-1018): 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.