

Model 177-56 Alpha/Beta Benchtop Counter

Part Number: 48-1323

Features

- Operates with Two Detectors: Scintillator for Alpha, GM for Beta
- 4-Range Meter
- Linear Analog Scale Readout
- 50-Hour Rechargeable Battery

Introduction

The Model 177-56 is a rugged benchtop ratemeter with a dual-detector system, allowing the selection of either alpha or beta readings, and works as an alpha/beta frisking station. The instrument supports GM and scintillation type detectors and displays the count rate on a four-decade, linear readout analog meter. It can be used where line power is available or in portable applications for up to 50 hours using the internal rechargeable battery.

Front-panel controls include power on/off switch, volume control, a four-position range selector switch, fast/slow response switch, and push-buttons for count reset, battery test, and high-voltage test. On the back panel are the power cord connection, a 9-pin type "D" data plug, and calibration controls.



Specifications

COMPATIBLE DETECTORS: Scintillation (alpha), GM (beta)

LINEARITY: Within 5% of full scale; typically $\pm 2\%$ of full scale reading when measured with an electronic pulse generator

BATTERY DEPENDENCE: Meter reading varies less than 3% within battery check limits

METER SCALE: 0 - 500 cpm, 0 - 1.5 kV, BAT TEST

METER: 1 mA, size: 6.4 x 6.4 cm (2.5 x 1.5 in.), DC movement

MULTIPLIERS: x1, x10, x100, x1k

RESPONSE: Toggle switch control selects FAST (2.2 s) or SLOW (22 s) response, for 90% of full-scale reading

RESET: Push-button to zero meter

CALIBRATION CONTROLS: Accessible from back of instrument (protective cover provided)

HIGH VOLTAGE 1 (ALPHA): Variable from 400 to 1500 V

HIGH VOLTAGE 2 (BETA): 900 V

INPUT SENSITIVITY 1 (ALPHA): Adjustable from -10 to -100 mV

INPUT SENSITIVITY 2 (BETA): -10 to -25 mV (fixed)

AUDIO: Unimorph speaker with volume control located on the front panel

DATA OUT: 9-pin series "D" connector allowing for external connections of the following items: battery, unregulated supply, instrument common ground, pulse out, external background subtract, recorder output

RECORDER OUTPUT: Adjustable from 0 to 1.25 V at 1 mA

UNBUFFERED OUTPUT: May be used to externally add to or subtract from the meter reading

POWER: 95 to 250 VAC wall transformer and 6 V gel-cell (sealed lead-acid) battery

BATTERY LIFE: Approximately 50 hours with a fully charged battery

FUSE: 1 amp 3AG fuse

CONNECTORS: Series "C" connector for beta GM detector, MHV connector for alpha scintillator detector

FINISH: Powder coat paint

SIZE (H x W x L): 16 x 20.3 x 17.5 cm (6.3 x 8 x 6.9 in.), excluding handle

WEIGHT: 1.9 kg (4.2 lb) with battery