

# Model 177-50 Benchtop Counter

*Radiation Detection for a Safer World*



Ludlum Measurements, Inc.

## Features

- 5-Decade Range
- Logarithmic Analog Scale Readout
- Adjustable Alarms
- 50-Hour Rechargeable Battery
- Operates with GM, Proportional & Scintillation Detectors



Part Number: 48-1202

## Introduction

The Model 177-50 is a rugged benchtop ratemeter with alarming capability. These units are very popular for frisking operations at stations where line power is available, but can also be used in portable applications for up to 50 hours using the internal rechargeable battery.

This Benchtop Counter supports GM, proportional, and scintillation detectors and displays the results on a logarithmic readout analog meter. The audio alarm is adjustable from 0 through 150% of full scale and

is factory set to latching. Reconfiguration to non-latching can be accommodated via a minor internal change.

Front-panel controls include an alarm set control, audio volume adjust, power on/off switch, and pushbuttons for count reset, battery test, high-voltage test, and alarm test. The back panel contains the power cord connection and a 9-pin type "D" plug that supports rapid battery charging, power output, alarm output, pulse output, and a recorder output.

## Specifications

INDICATED USE: multi-purpose radiation monitoring; frisking

SUGGESTED DETECTORS: GM; proportional; scintillation

LINEARITY: within 10% of true value

HIGH VOLTAGE: adjustable from 400–2500 volts

THRESHOLD: adjustable from -2 to -100 mV

RESPONSE TIME: dependent on number of counts present, typically not greater than 8 seconds from 10%–90% of final reading

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

RECORDER OUTPUT: correlated to meter reading (adjustable to 1 volt at 1 mA)

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

RESET: pushbutton to zero meter and/or reset alarm

METER: 6.4 cm (2.5 in.) arc 1 mA analog type

METER DIAL: 10–1,000,000 cpm logarithmic; 0–2.5 kV; BAT TEST

MULTIPLIERS: none

AUDIO: built-in unimorph speaker with volume control to provide click-per-event audio or audible alarm indicator

ALARM SET: front-panel locking control allowing alarm to be set at any point on the meter (can be read on meter)

ALARM: indicated by red lamp and full volume audible tone (greater than 60 dB at 61 cm [2 ft])

POWER: 95–135 Vac (178–240 Vac available), 50–60 Hz, 6 volt sealed lead-acid rechargeable battery (built-in)

BATTERY LIFE: typically 50 hours in non-alarm condition (battery condition can be checked on meter)

BATTERY CHARGER: battery is continuously trickle-charged when instrument is connected to line power and turned on (optional external fast charger available)

SIZE: 12.7 x 20.3 x 15.2 cm (5 x 8 x 6 in.) (H x W x D)

WEIGHT: 1.9 kg (4.2 lb)