

Model 177 Benchtop Counter

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- 4-Decade Range
- Linear Analog Scale Readout
- Adjustable Alarms
- 50 Hour Rechargeable Battery
- Operates with GM & Scintillation Detectors



Part Number: 48-1632

Introduction

The Model 177 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.

The 177 supports GM and scintillation type detectors and displays the results on a linear 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 a 4-position rotary switch for selecting each detector decade, an alarm set control, an audio volume adjust, fast/slow response switch, 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, 6 – 8.7 volts power output, alarm output, pulse output, and a recorder output.

Specifications

INDICATED USE: multi-purpose radiation monitoring, surveying; frisking

SUGGESTED DETECTORS: GM; scintillation

HIGH VOLTAGE: adjustable from 200 to 1500 volts

INPUT SENSITIVITY: adjustable from 10 to 100 mV

LINEARITY: within 5% of full scale

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

METER DIAL: 0–500 cpm; 0–1.5 kV; BAT TEST

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])

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

RESET: pushbutton to zero meter and/or reset alarm

MULTIPLIERS: x1, x10, x100, x1k

RESPONSE: toggle switch control selects FAST (2.2 seconds) or SLOW (22 seconds) response, for 90% of full scale 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 0 to 1.25 volt at 1 mA)

POWER: 95–250 Vac, and 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 L)

WEIGHT: 1.9 kg (4.2 lb)

