Model 177 Alarm Ratemeter

The Model 177 is a rugged benchtop ratemeter with alarming capability. They 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 push buttons 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, power output, alarm output, pulse output, and a recorder output.

Specifications:
Application: Multi-purpose radiation monitoring,
                       surveying; frisking
Compatible Detectors: GM, scintillation
Linearity: Within 5% of full scale
Meter Dial: 0-500 cpm, 0-1.5 kV, BAT TEST
Meter: 6.4 x 6.4 cm (2.5 x 2.5 in) 1 mA, DC movement
Multipliers: x1, x10, x100, x1k
Response: Toggle switch control selects FAST (2.2 sec) or
           SLOW (22 sec) response, for 90% of full scale reading
Alarm Set: Front-panel locking control allowing alarm to be set at
           any point on the meter (can be read on meter)
Reset: Push-button to zero meter and/or reset alarm
Calibration Controls: Accessible from back of instrument
                       (protective cover provided)
Alarm: Indicated by red lamp and audible tone
               (greater than 60 dB at 61 cm (2 ft))
High Voltage: Adjustable from 400 to 1500 volts
Input Sensitivity: Adjustable from -10 to -100 mV
Audio: Built-in unimorph speaker, with volume control, to
               provide click-per-event audio or audible alarm indicator
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

Size: 5" H x 8" W x 6" L
Weight: 4.2 lb

051-177   Model 177 Alarm Ratemeter
             Probe not included

Select Probe from page 111

Model 177 Alarm Ratemeter with Pancake GM Probe and Foot Monitor

- Monitors Alpha, Beta, and Gamma radiation
- Audible alarm with red indicator light for continuous area monitoring
- Portable surveying with Pancake GM Probe (cable included)
- 0-500K cpm range
- Operates on wall current or rechargeable battery
- Equipped for simultaneous hand and shoe contamination monitoring

- Includes:
  - Model 177 Alarm Rate Meter (051-177)
  - Model 44-9 Pancake GM Probe (051-449)
  - Model 44-26 Pancake GM Foot Frisker
  - Tee Connector
  - 39" Cable (2)

Model 177 (051-177) specs are listed to the left of this page

Model 44-9 (051-449) specs are listed on page 131

Model 44-26 Pancake GM Foot Frisker Specifications:
Indicted Use: alpha, beta, gamma foot monitor
Detector Type: 3 pancake-type, halogen quenched GMs
Window: $1.7 + 0.3$ mg/cm^2 mica
Window Area: Active 46 cm^2, Open 27 cm^2
Efficiency: ^{14}C-5%, ^{90}Sr/^{90}Y-22%, ^{99}Tc-19%, ^{32}P-32%, ^{239}PU-15%
(4pi geometry)
Energy Response: Energy dependent
Sensitivity: 9900 cpm/mR/hr
Background: 180 cpm
Operating Voltage: 900V
Construction: Aluminum housing
Dimensions: 10.8" H x 7" W x 9" L
Weight: 4.4 lb
Cable: 60"
Connectors: Type "C"
                   ("T" connector included for simultaneous use with Pancake Probe)

051-027   Alarm Ratemeter
             *Includes: Model's 177, 44-9, 44-26,
             Tee Connector and Cable*