

# Geiger Counter / Ratemeter

(Not Including GM Tube or Holder)



## AP1886-101 digital Geiger Counter/Rate meter

### Description:

The IEC GEIGER COUNTER / RATEMETER - DIGITAL is a compact and robust instrument that is specially designed for instructor or student use in the classroom. Power input: 220/240 V.AC. 50/60 Hz. Removable mains cable.

Advanced microprocessor technology, press button controlled with bright LED digital display. All counting functions monitored by small LEDs on panel. Integral and adjustable high voltage for the GM tube supply.

TUBE: Use IEC PA1885-030 protective tube holder & cable for connection to the standard BNC socket. This compact holder can be supplied complete with either the small MX147 tube (PA1885-010) or the larger and more sensitive MX168 (PA1885-020) GM tubes. Tube and holder is not supplied with the instrument and must be purchased separately.

Length: 235mm	Width: 140mm	Height: 10mm	Weight: 1.6kg
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## Panel Controls:

**POWER** switch on rear panel: Applies mains power and illuminates red when on.

**SELECT:** The two Function buttons allow four different counting modes to be selected, the chosen function is indicated by an LED. This LED flashes while counting is active. Note: The SELECT buttons are not active whilst counting.

- Count continuously
- Count for exactly 100 seconds and then stop.
- Count for exactly 10 seconds and then stop.
- Display the RATE of counting in counts/second. The displayed counting rate is from 1 to 10,000 counts/second rate.

**START:** When pressed, counting begins. If pressed during counting, display 'freezes' while counting continues in the background.

**STOP:** When pressed, counting stops and count value is stored into memory.

**RESET:** When pressed after counting stopped, resets the display to zero.

**▲ MEM ▼:** When counting is stopped, allows scanning through memory locations to recall stored counts. If memory is active, red LED is on. If memory is full, LED blinks.

**SPEAKER:** Adjusts volume of internal or external speaker. Each geiger count is registered as a audible 'click'.

**GEIGER:** Adjusts voltage applied to the GM socket from 200 to 600 volts. A GM tube requires the correct 'plateau' voltage for best sensitivity and a typical 'plateau' voltage for a GM tube is about 400V.DC. Please note that this circuit has a very high output impedance therefore voltage cannot be measured accurately at the GM socket with a normal voltmeter. Special techniques are required.

**G.M.** GM TUBE socket (BNC type) The cable from the IEC type PA1885-030 GM tube holder and cable connects to this socket. The GM tube may be either the MX168 or the MX147 type. The larger MX168 tube can detect high energy Alpha, Beta and Gamma particles, but the smaller MX147 is sensitive in the Beta and Gamma particle range only.

## Memory Functions: Active Only When Not Counting.

**AVRG:** If pressed until 2 beeps, display will show average of all memory data.

**TOTAL:** If pressed until 2 beeps, display will show total of all memory data.

**CLEAR:** If pressed until 2 beeps, all memory data is cleared. LED will be off.

**PURGE:** If pressed until 2 beeps, data displayed will be purged from memory.

## Important Operation Notes:

At the completion of either the 10 or the 100 second timing period, the counting ceases and a 'beep' is heard to indicate that the time period has expired and the count has stopped automatically.

If the START control is pressed again, the selected time period will repeat and the count will begin at zero.

Whilst counting is in progress, functions cannot be altered. After counting has ceased, or if it is forced to stop by pressing the STOP button, the function mode can then be altered.

When RESET is pressed after stopping, the count display is reset to zero prior to starting a new count.

## Parts & Accessories:

PA1885-030 Tube Holder, cable & BNC plug (without tube) 100 x 33mm L x D

PA1885-050 Tube Holder, cable & BNC plug including GM tube



## Note:

Because of the fragile nature of thin mica window tubes, IEC cannot provide warranty on GM tubes unless IEC fits the tube to the holder and performs operation tests.

LB1885-100 GM tube support device for bench experiments. Holds the GM tube to match the IEC Radiation Absorber support / holder (Cat: PA0031-001)

AP0030-001 Absorber set. 24x calibrated absorbers from tissue paper, foil, aluminium sheet through to thick lead. With absorber and R/A source holder for radiation study.

Designed and manufactured in Australia

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