

ITALIAN GEIGER COUNTER “GUARDIAN RAY PLUS WITH G.M. 7317 PANCAKE” THIS IS ULTRA PROFESSIONAL EDITION FOR ALFA, BETA, GAMMA, X, RAYS.

Technical characteristics:



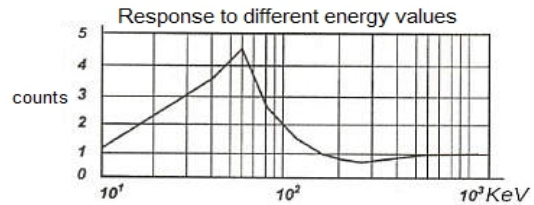
LCD Display with Led backlight:

- Alphanumeric LCD 2x16 characters that also displays the date and time, battery voltage, and alarms

Unit of measure: µSivert /ora, MilliRoentgen/ora, Becquerel(CPS), Counts per minute (CPM)

Type of probe used for the detection of radioactivity:

- **Ultrasensitive LND 7317 Geiger-Muller PANCAKE tube**, suitable for Alpha, Beta Gamma and X rays, with a large front mica window, that gives it a great sensitivity to all type of ionizing radiation. This Geiger tube is filled with noble gases and halogens.



Technical data of the G.M. Pancake tube:

- Typical sensitivity (Co60): 3600cps / (mR / h)
- Typical sensitivity (CS137): 3450cps / (mR / h)
- Operating Temperature – 20° + 60° C
- Supply Voltage: 500V
- Mica circular window with a diameter of 45 mm

Sensitivity (dose rate in uSV):

- about 400 pulses for 1 µSv/h ref.. CS-137

Types of rays detected

- Alfa from 2.5 MeV
- Beta from 150 keV
- Gamma: from 10 keV

Efficiency with angle 4 pi (contact to surface)

- Alfa radiation:

- Am-241 5.5 MeV about 18%

- Beta radiation:

- C-14 49 keV avg. 156 keV max. 5.0%
- Bi-210 390 keV avg. 1.2 MeV max. 30-32%
- Sr-90 546 keV and 2.3 MeV 35-38%
- P-32 693 keV avg. 1.7 MeV max. 35%

Unit of measure:

- µSv/h, MilliRoentgen/h, Becquerel (C.P.S - Counts per second), C.P.M. (counts per minute)
- Calibrated measuring scale by: 0.01 µSv/h a 999.00 µSv/h

Measurement of equivalent dose :

- is assumed for the measurement of the same exclusive detection of beta and gamma rays, then it assumes the relationship 1:1, between Gray / Sievert, ie: 1 Gray = 1 Sievert
- Dose Measurement Scale: da 0.01 µSv a circa 530.00 µSv

Measure mode:

- Standard, with auto-range sampling time of: 5/10/20/30 seconds
- Single, and average values obtained in successive measurements of the same session.
- Scaler, is measurement mode of great precision, with a fixed sampling time of 600 seconds, to be used to discriminate with high accuracy low levels of radioactivity.

- **Single and average** of the values obtained in successive measurements of the same session.

- **Scaler**, This special mode of measurement is very precise, because it uses a fixed sampling time of 600 seconds. Is recommended to discriminate with high accuracy low levels of radioactivity

• Min & Max,

this special function when is selected, allows the storage and display of the cyclic highest and lowest values recorded in the context of the same measurement session



Calibration:

• Guardian Ray has been tested under our supervision with calibrated radionuclide stype Co60 - CS137 - SR90. Upon additional price can be supplied with a legal calibration certificate issued by a Italian center SIT as Enea of Frascati or Polytechnic of Milan

Internal memory:

• Guardian Ray has a large internal data logger with a great memory from 1 Megabit (120,000 records), which allows you to store several weeks of measurement. All data is saved in the internal memory as complete records that contain the date and time of acquisition, also the range of data storage is setttable from 1 to 242 minutes

• Downloading measurements in real time and deferred:

is possible via the USB interface to download the records of the measures in real-time and delayed using “Easy Ray” software for all Windows (c) version supplied with Guardian Ray

Beeper and alarm Buzzer:

• Guardian Ray has a beeper that emits a "beep" for each particle detected by geiger tube inside, also there is a power buzzer that can be programmed as desired to play with strong and long tone if exceeds a predetermined threshold of radioactivity, directly setttable in microSievert

Processor inside (CPU):

• **PIC18F27J53 PDIP28 128K F-RAM USB 2.0.** This best CPU is equipped with USB 2.0.High-Speed native interface, and is mounted on a base pressure for a possible later replacement with another with a newer firmware.

Power supply:

- Powered by rechargeable lithium-ion battery from 3.8V - 1800 / 2000mA / h
- Autonomy of continuous operation with a full charge by USB, is approximately 25-35 hours
- Consumption of about:35-70 mA.

Size, type of box, and colors:

- Length: 160 mm, width: 92 mm, depth: (min / max) 30 / 35mm
- Material type: "PLA", available colors: ORANGE / WHITE / BLUE

Certifications: European CE certificate of Conformity on EMC electromagnetic interference