SPPGamma

Portable Scintillometer

Total Gamma radiation detection.

Applications :

- **Uranium prospection : Mapping, Ground detection, and detection of aerial anomalies K, U, Th or full count**
- **Mining prospection : Mapping of clay or hydrothermal alteration zones, help and/or complement for geological mapping**
- **Public safety**
- **Monitoring of industrial or mining sites following remediation**
- **NORMS investigations**
- **Expertise**

- **Self-contained, portable, sturdy, dust and water proof**
- **Ergonomic, simple to use**
- **Gamma Measurement obtained with a scintillator and a photomultiplier**
- **Universal use with its numerous operating modes**
- **Trigger controlled actions**
- **Screen display of: measurement in progress, mean value, device status**
- **Onboard GPS for the geolocation of measurement points**
- **Data storage of measurement results and corresponding geographical data**
- **USB port**
- **Powered by two 1.5V batteries allowing over 4 days of autonomy**
- **Setting and data reading with *SPPG-Reader*.**

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OPERATING PRINCIPLE:

Gamma photons emitted by a radioactive source interact with the scintillating material, producing photons which are in turn detected by a photomultiplier.

The number of photons detected is proportional to the number of disintegrations emitted originally.

Quantity measured: Bq
Results are given in counts per second (cps)

Reference to order :

SPPGamma P-442-100

Supplied whith :

- **Lockable carry case**
- **Carrying pouch for use on-site**
- **USB connecting cable**
- **Operating software *SPPG-Reader***
- **Calibration certificate**
- **User guide**

SPPG-Reader Software

Software operating under Microsoft Windows Vista, Windows7 or 8.
Communicates with the SPPGamma via USB

The software will allow:

- **Reading of the data recorded by the device and backup in text format, files Excel compatible.**
- **Initialization and operating parameters setting**
- **Clock settings**

Specifications :

Detection:
With a scintillator coupled to a photomultiplier
Scintillator NaI(Tl) Ø 38.1 mm * 25.4 mm (h)
Photomultiplier Scionix Ø 38.1 mm
High power voltage 1000V
Threshold energy: 30 keV
Maximum energy: 1500 keV

Additional Sensors
Temperature: ±2.5°C accuracy
Measure of the PM high voltage power supply: for the regulation of the voltage
Measure of battery power: Automatic shutdown if battery too low
Light sensor: Automatic lighting of the LCD screen
Geolocation:
On board GPS
Resolution: 3 m for the best reception conditions.

Electronics:
32 MHz 16 bits microcontroller circuit board

Input / Output
Display: Backlit 160x160 pixels LCD screen
Sound buzzer: trigger action, menu navigation, radioactivity level
PC connection: By USB cable

Data backup:
4Mb SRAM Memory
3.6V Lithium battery
Storage capacity of 9 000 measures with GPS data or 30 000 measures without

Operation
Menu navigation by trigger action
Auto test when switched on
Constant auto check
Automatic standby if idle (programmable idle time)

Operating modes:
In all modes, display of the radioactivity value, refreshed every 0.1 to 1s
Sampling: Current radioactivity recorded by pressing the trigger
Automatic (Tracking): Automatic recording of the radioactivity value, programmable period.

Power:
2 type D batteries1.5V located in the handle
Autonomy: 110 hours with GPS off, 40 hours with GPS on

Housing:
ABS and PC plastic housing
H*W*L: 230*90*225 mm
Weight: 1.5 kg**Operating conditions:**
-20°C to +55°C, 10-90 % relative humidity
IP65 rated

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