DIRAD™

- Versatile and easy to use
  - Allows different uses (pedestrians, vehicles, luggage and parcels monitoring ...)
  - Suitable for on board detection (train, subway, vehicle, aircraft,…). GPS option
  - Easy to install
- Autonomous
  - 24h/24, 7d/7 monitoring
  - Automatic stabilisation. No embedded calibration source
  - Real time automatic spectra analysis and isotope detection
- Powerful and efficient
  - Identification of a wide range of nuclides
  - Estimates the potential threat level with each alarm
  - Medical and NORM isotope rejection. Low false alarm rate
  - Compliant with ANSI 42.38 and IEC 62 484

Datasheet 29 294 745 EN
Rev E – Juin 2013

DIRAD™

Spectroscopic Portal Monitor

The DIRAD™ is an automatic and real time gamma spectroscopic portal monitor. It is designed to monitor and identify illegal intrusion of radioactive materials (SNM or RDD) in critical infrastructure facilities and checkpoints.

The DIRAD™ can continuously monitor people and goods even in dense flow without traffic interruption.

The algorithms have been specially developed by a leading CEA laboratory. It allows high performance detection of radioactive sources in real-time as well as:

- Nuclides identification,
- Source activity calculation,
- Level of threat calculation.

DIRAD™ includes:

- a large volume NaI (Tl) crystal and its associated photomultiplier in the higher part,
- an electronic unit for data acquisition and processing in the lower part.

DIRAD™ is equipped with :

- an optional GPS for localization and dating of each event,
- an optional occupancy sensor
- an optional video camera which records the vehicle or the person image.

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Physical characteristics

- 4 liters NaI(Tl) detector (10 cm x 10 cm x 40 cm)
- Enhanced Digital Multi Channel Analyzer (1024 channels) with constant performance even when submitted to high counting rate
- Automatic Stabilization and calibration: no radioactive source required during operation or commissioning.
- The **DIRAD™** system complies with ANSI 4238 and IEC 62484 standards.
- The following table shows the identification performance at 1 meter with an acquisition time of 1 second:

Radionuclide	Activity (kBq)	Energy (keV)	Performance of identification (%)
^{241}Am	1740	59	99.6
^{133}Ba	33	80	98.0
^{133}Ba	333	356	100
^{57}Co	555	123	99.7
^{137}Cs	260	662	100
^{60}Co	590	1333	100

Environmental characteristics

- Operating temperature: -30°C to + 50°C
- Storage temperature: -40°C to + 70°C
- Weather and dust proof (IP 54 according to IEC 60529)

Mechanical characteristics

- Dimensions: 80 cm x 20 cm x 20 cm
- Weight: 30 kg
- Vertical or horizontal operating mode

Electrical characteristics

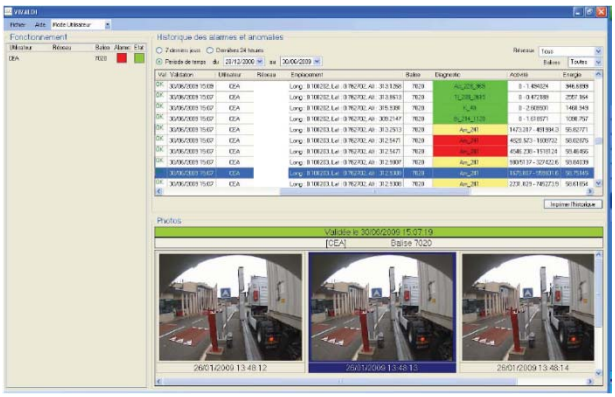
- Power supply: 230 V-110V/50 Hz-60 Hz or 12 – 28VDC
- Power consumption: 50 W

Interfaces

- Data transmission via Ethernet network (TCP/IP)

Options

- 3G/GSM/GPRS wireless data transmission
  Option: VPN encryption
- GPS
- Vivaldi Supervision software:
  - Detailed view of detection
  - Threat level for each alarm
  - Picture capture during alarm
  - Display beacon status
- Battery
- Neutron detection (available soon)



DIRAD™

www.saphymo.com

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