SaphyRAD® MS probes

Multiprobe military survey meter

- Wide range of smart probes
- Detection and measurement of gamma, alpha, beta, neutron and X radiation
- Ergonomic design and easy-to-use interface
- Built-in simulation function for training
- Designed for operations in harsh environments

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SAPHYRAD® MS

MULTIPROBE MILITARY SURVEY METER

SaphyRAD® MS is a handheld multiprobe survey meter for radiation exposure monitoring (dose and dose rate), as well as contamination detection and identification.
Thanks to two embedded Geiger Müller detectors, SaphyRAD® MS offers a wide measuring range and enables continuous measurement of gamma radiation, dose rate and accumulated dose. Its comprehensive range of probes allows for the detection and measurement of alpha, beta, gamma, neutron and X radiation; enable gamma radiation identification and wound contamination monitoring.
Specially designed for use with CBRN personal protective clothing (Large buttons, LCD color display, user-friendly IHM), this rugged, ergonomic device is well adapted to military operations in harsh environments.
In addition, this lightweight, easy-to-deploy device is compatible with any platform, Unattended Ground Vehicle (UGV), and Unattended Aerial Vehicle (UAV). Along with a telescopic pole and unembedded probes, it can also perform remote measurements, protecting the operators from nuclear and radiological threats in high risk areas.
Furthermore, SaphyRAD® MS includes a built-in simulation function, providing the operators with realistic training without using radioactive sources.

The SaphyRAD® MS technology has been developed in collaboration with the French Defense Procurement Agency (DGA).

A comprehensive range of probes

All of the hot-swappable probes are compatible with the SaphyRAD® MS survey meter, allowing for quick change during operation. They must be connected to the monitor using a cable and a plug located on the side of the device. The probes are automatically recognized when connected to the monitor, and get power supply directly from it.
Two telescopic poles (2m and 3.8m length) are available for use in areas with limited access or maximum risk for the operators.

Gamma identification probe

- High level of performance: simultaneous identification of 5 radionuclides max. with a 90% confidence rate according to ANSI42.34
- Unique and evolutive database of 36 radionuclides: Industrial, medical and Special Nuclear Materials (LEU, HEU, WFPu, RGPu, Unatural*).
- Counting range: From 1000 counts on the whole spectrum
- Acquisition time: A few seconds
- Energy range: From 30keV to 3MeV

The identification probe is a portable gamma spectrometer. Equipped with a CeBr3 1"x1" scintillator assembly with excellent energy resolution (R=4.5% at 662keV), this probe is able to identify up to 5 radionuclides simultaneously, with very low statistics.

The gamma identification probe can be used for many applications: Military (Nuclear incident, terrorism, counter-proliferation), nuclear decommissioning (Research, identification and classification), civil security (Environmental release control), nuclear medicine (Waste classification and storage), radiation protection, customs control and border security.

* LEU: Low Enriched Uranium; HEU : High Enriched Uranium, RGPu; Reactor Grade Plutonium; WGPu: Weapon Grade Plutonium

Gamma Probe

Application	Source tracking and contamination detection
Detector	Plastic scintillator 145cm ^{3} + ZnS layer
Sensitivity	1000c/s/µSv / h (137Cs)
Energy range	30keV to 1.5MeV

Alpha/beta/gamma Probe

Application	Detection of alpha, beta and gamma contamination (direct or smear)
Detector	Pancake GM 16cm²
Sensitivity	0.15c/s/Bq (60Co)
Energy range	Emax > 100keV

Alpha Probe

Application	Detection of alpha contamination (direct or on filter)
Detector	ZnS layer on 123cm² thick plastic
Sensitivity	0.23c/s/Bq (241Am)
Energy range	3 to 8MeV

X-ray Probe

Application	Detection of low energy X-ray and gamma contamination
Detector	CsI Ø 38mm, thickness 1mm
Sensitivity	5c/s/kBq (241Am to 8.5cm)
Energy range	10 to 70keV

Wound Probe

Application	Detection of alpha contamination in wounds
Detector	CdTe active surface 25mm² (Alpha emitter detection by X-ray)
Sensitivity	~0.068c/s/kBq (241Am to 5cm)
Energy range	10 keV to 20 keV

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Neutron Probe

Application	Neutron detection
Detector	He3 Tube at 6 atm
Sensitivity	37.4 c / s / µGy / h (252Cf)
Energy range	50 keV to 15 MeV

Gamma identification Probe

Application	Identification of nuclear and radiological threats
Detector	CeBr3 scintillator assembly, 1x1" cylindrical
Sensitivity	400 c / s/ µSv / h (137Cs)
Energy range	30 keV to 3 MeV

SaphyRAD® MS kit configurations

SaphyRAD® MS Standard Kit

- SaphyRAD® MS monitor
- Gamma probe
- Beta probe

SaphyRAD® MS Nuclear Safety Kit

- SaphyRAD® MS Standard kit
- X-ray probe
- Alpha probe
- Wound probe

SaphyRAD® MS Forensics Kit

- SaphyRAD® MS Standard kit
- X-ray probe
- Alpha probe
- Neutron probe
- Gamma-ID probe

*** Bertin Technologies can also provide tailored SaphyRAD® MS kits to meet specific user needs.**

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Bertin Technologies S.A.S • Parc d'Activités du Pas du Lac • 10 bis, avenue Ampère, 78180 Montigny Le Bretonneux, France