Product Datasheet

SPIR-Pack

Human Portable Radiation Detection and Identification System

SPIR-Pack is a backpack based radiation detection system which provides an intermediate sensitivity between the handheld SPIR-ID (RIID) and the SPIR-Ident Mobile system (vehicle / vessel / aircraft detection and identification system).

The SPIR-Pack can discreetely identify radioactive sources in a large perimeter. The SPIR-Pack can also pinpoint areas that are crowded or hard to cross with a vehicle (stadiums, train stations, airports, buildings, etc.). It is well-suited to source search operations.

A specifically designed algorithm ensures state of-the-art detection and identifi cation starting from very poor spectra as acquired when passing by. It provides SNM identification capabilities including heavy shielding and masking conditions.

The Smartphone application provides a convenient real-time display for measurement, identification and map. The headset or the smartphone's vibrator ensures dicreet moniroting.

The SPIR-Pack is a compact and human portable system suited for special forces, large scale event security organisations and environmental agencies.

Features

- Human portable radiation detection and identification system.
- Discrete monitoring in densely populated areas or crowds during events.
- Hand-free operation.
- Instant identification of complex scenarios of masking and/or shielding.
- Direct confirmation of the detection and the nature of the threat.
- Real-time mapping.
- Long life operation.
- Connected instrument, easy data reachback.
- Remote supervision with Spir-VIEW Mobile or any other installed supervision system
- Identification of approximately 90 radionuclides.
- Up to 8 mixed radionuclides.
- Masking and highly shielded scenarios exceeding current standards.
- Confidence level indication, radionuclides and its categorisation.

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Specifications

Nuclear Characteristics	
Detection	NaI (Tl): 2" diameter x 4" Neutron Detector: optional light detector, optional highly sensitive detector Gamma High Range: Geiger Muller tube
Energy Range	Gamma: 20 keV to 3 MeV Neutrons: 0,025 keV to 15 MeV
Sensitivity	Gamma (^{137}Cs): typ. 3500 (cps) / (µSv/h)
Dose Rate Range	Gamma dose rate range (by NaI): 0,01 to 50 µSv/h (1 µR/hr to 5000 µR/hr) (^{137}Cs) Extended dose rate range (by GM): 50 to 99 999 µSv/h (0,5 mR/hr to 9 999 mR/hr) Neutron: 0,0 to 999,9 cps
Identification	Fast digital MCA, 1024 channels Throughput > 100 000 cps
	Continuous stabilisation and acquisition of spectra, no field calibration needed

Functional Features	
	Rugged Tablet or Smartphone with sun readable screen
Autonomy (Backpack)	40 hours
Alarms	Smartphone: visual, audible and vibration alarms with release Bluetooth headset: audible message Danger alarm
GPS, Bluetooth, WiFi, cellular communications	Data export

Mechanical Features	
Dimensions	SPIR-Pack G: 30,3 x 25 x 46 cm SPIR-Pack GN : 30 x 32.5 x 51 cm or 30.3 x 25 x 46 cm (depending on type of neutron detector
Weight	SPIR-Pack G: < 4.5 kg SPIR-Pack GN: < 8.5 kg

Environmental Characteristics	
Temperature Range	Operating temperature: -20 °C to +50 °C (-4 °F to 122 °F)
IP65 Protection	Yes
Electromagnetic Compatibility	CE compliant (susceptibility: 10V/m), according ANSI & IEC requirements

Identpro/SIA Identification Algorithm	
Radionuclide Libraries	Homeland Security Nuclear Power Plant and radioactive waste Nuclear accident Fuel cycle CTBTO/ OSI Laboratories and miscellaneous

Accessories	
	Power supply, cable, earphone
Smartphone	Power supply cable

Specifications are subject to change without notice.
For the most up-to-date specifications, please visit www.mirion.com

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