Product Datasheet

SPIR-ID

Handheld Detection and Identification

The SpiR-ID is a rugged handheld device designed to efficiently search for radioactive materials and 'on the fly' threat discrimination, such as illicit trafficking and Radiological Dispersal Devices (RDDs).

It quickly and reliably identifies and categorises radionuclides even for demanding scenarios including heavily shielded or masked threat thanks to a large volume detector associated with the Identpro/SIA algorithm specifically designed for Homeland Security purpose.

Detection and Identification performance exceeds all ANSI N42-34 requirements.

Rugged construction and simple routine user mode are suited for field use in harsh environments.

The SpiR-ID can be used for mobile surveys or for portal alarm assessment.

It is ideally suited for all applications that require efficient detection, search and identification of radiological threats, including military, civil defence, border and customs.

Features

- Real-time, continuous identification due to large detector and unique algorithm.
- Homeland Security and Nuclear accident libraries.
- Reliable ID of shielded/mixed/ masked complex scenarios.
- Overpasses of a factor of 10 the ANSI N42-34 (2006)
- ID time or level requirements.
- Fully automated self stabilisation.
- Continuous operation under severe environmental. conditions such as extreme temperature shocks.
- Rugged aluminum case.
- Easy user interface, instant ID pop-up, sound or voice messaging.
- GPS integrated, mapping companion software included.
- External contamination probe.

Versions

- SPIR-ID NaI.
- FSPIR-ID LaBr.

Specifications

Nuclear Characteristics

Detectors	SPIR-ID NaI: 3" x 1.5" SPIR-ID LaBr: 1.5" x 1.5" LaBr 2 moderated LiI(Eu) detectors GM tube for high gamma dose rate
Energy range	25 keV to 3 MeV (gamma) 0,025 eV to 15 MeV (neutron)
Measurement range	< 0,1 µSv/h to 10 Sv/h (1 µR/hr to 1 R/hr)
Identification	Fast digital MCA 1024 channels Throughput >100 000 cps Range <0.01 to >25 µSv/h (^{137}Cs) Detection and ID performance overpasses ANSI N4234, IEC62327, IAEA NSS1 recommendations
Continuous specta acquisition and stabilisation	No need for field calibration Continuous count rate analysis versus dynamic background True dose rate calculation by spectra weighting
Various spectra accumulation mode	Sliding/automated/manual

Functional Features

Large TFT 3.5" VGA (640 x 480) sun readable display	Trend curve screen with level and ID Spectra and ID combined screen Event list screen with easy scroll
Alarm indication	Sound or voice alarm and chirp Vibrator in the handle Coloured LEDs Progressive alarm based on identification and level Easy acknowledge Safety alarm
	Routine mode/Expert mode
GPS	Embedded GPS
Data storage	SD card
Data retrieve and remote operation	USB link for PC host
Probe connection	External alpha/beta probe connection

Identpro/SIA Identification Algorithm

Designed for reliable decision with short spectra
Solves mixed isotopes (up to 8)
Processes masking scenarios
Tolerant to shielding
Category, isotope, confidence level indication

Common to all libraries

NORM	^{40}K, ^{226}Ra and daughters, ^{232}Th and daughters
SNM merged	U, Pu ^{237}Np
SNM expert	^{233}U, ^{235}U, ^{238}U, DU, U, HEU, ^{238}Pu, ^{239}Pu, ^{241}Pu, HBpu, MBPu, LBPu, ^{237}Np
Other	Neutron, H(n, g), Bremsstrahlung (i.e. Beta emitter), Unknown

Source research library

Medical	^{18}F, (511 keV), ^{51}Cr, ^{67}Ga, ^{99}Mo, ^{99m}Tc, ^{103}Pd, ^{111}In, ^{123}I, ^{125}I, ^{131}I, ^{133}Xe, ^{153}Sm, ^{177}Lu, ^{201}Tl
Industrial	^{22}Na, ^{54}Mn, ^{57}Co, ^{75}Se, Brem. (^{90}Sr), ^{133}Ba, ^{137}Cs, ^{138}La, ^{152}Eu, ^{154}Eu, ^{192}Ir, ^{207}Bi, ^{228}Th/^{232}U, ^{241}Am

Nuclear accident library

^{85}Kr, (511 keV), ^{95}Zr, ^{95}Nb, ^{103}Ru, ^{106}Ru/Rh, ^{131}I
^{134}Cs, ^{136}Cs, ^{137}Cs, ^{140}Ba/La, ^{141}Ce, ^{144}Ce/Pr

Additional available radionuclides

^{24}Na, ^{41}Ar, ^{58}Co, ^{59}Fe, ^{60}Co, ^{65}Zn, ^{85m}Kr, ^{87}Kr, ^{88}Kr, ^{88}Y, ^{109}Cd, ^{95}Zr, ^{95}Nb, ^{110}mAg
^{122}Sb, ^{124}Sb, ^{132}Te/I, ^{133}I, ^{135}I, ^{135}Xe, ^{166m}Ho, ^{169}Yb, ^{170}Tm, ^{176}Lu, ^{210}Po

Environmental, Electrical, Mechanical Characteristics

Temperature range	-20°C to 50°C (-4°F to 140°F) -40°C (-40°F) on request
Humidity	Up to 100%
Protection level	Shock, vibration and drop resistant
Compliance	MIL461D EMI compliant
Waterproofing	Water and dust ingress IP65
Electrical	Li-ion rechargeable, built-in charger Autonomy: Typical 10 hours Accepts primary batteries for immediate availability
Dimensions	320 mm x 145 mm x 175 mm (12.59 in x 5.70 in x 6.88 in)
Weight	NaI version 4.9 kg (10.8 lb) LaBr vesion 4.0 kg (8.86 lb)

Accessories

Carrying case, carrying strap; External main power supply
SPIR-Companion software

Options

Alpha - beta probe; RJ-45 adapter; External GPS
SIPR-ID companion; Without 3G

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