Product Specifications

identiFINDER™

Isotope Identifier

The new and improved identiFINDER™'s are a family of compact & lightweight instruments for finding and identifying radionuclides. The integrated display and straightforward three push button operation ensures ease-of-use in the field. The accessories supplied with every identiFINDER ensure that the field user can easily reach-back to the experts with useful data, should the need arise.

- New top-of-the-line Ultra model available with patented pulsed LED stabilization & LTI deconvolution which no longer requires a built-in source for precise stabilization (+/- 0.5% typical peak shift accuracy)
- All identiFINDERS supplied with larger, more sensitive NaI(Tl) gamma detectors
- All identiFINDERS supplied with new, faster (5 to 10 x quicker identification) and lower power (longer battery life) electronics
- All identiFINDERS supplied in new more rugged and ergonomic housing for easier use in the field
- Optional neutron detection now 50% more sensitive due to new He3 detector and more moderator

Figure 1
Scope of supply - main components of the identiFINDER

identiFINDER™ is a user-friendly instrument that identifies man-made and natural radionuclides and combines high sensitivity with a wide dose rate range. The instrument is a dual purpose design to facilitate locating missing or offending sources and then identifying the source via its gamma spectrometry and nuclide identification capability.

identiFINDER™ is a complete digital gamma spectroscopy and dose rate system. It integrates multi-channel analyzer, amplifier, high voltage power supply, and memory with an integral scintillation and GM detector. identiFINDER™ is ideally suited for homeland security, industrial, medical, nuclear power generation and nuclear fuel cycle applications.

Features

Functions:	Nuclide identification, spectrum analysis, dose rate calculation, total dose display, source finding
Integrated electronics:	Multi-Channel-Analyzer, PMT preamplifier, spectroscopy amplifier, power supply
• Standard Instruments:	
	- identiFINDER-NG+ w/ 1.4"x 2" NaI & GM detectors
	- identiFINDER-NGH+ w/ 1.4"x2" NaI, 3He & GM detectors
	- identiFINDER-NG ultra w / 1.4"x2" NaI & GM detectors
	- identiFINDER-NGH ultra w/ 1.4"x2" NaI, ^{3}He & GM detectors
• Specials:	with 1.2"x1.4" LaBr with a resolution of <3.3% at 662 keV
• Watertight (-U versions):	up to 1 atm (33') emersion
• Telescopic (-X versions):	with ~4' to 8' extension
• Safeguards:	with 1" x 1" NaI (TI) tungsten shielded detector and specialized SNM firmware
Stabilization:	In the non-Ultra models a built-in ^{137}Cs reference source (<15 nCi/500 Bq) is used for online stabilization and in-situ calibration without user interaction. With either stabilization method this special identiFINDER™ feature allows operation over temperatures between -4 and 122 °F (-20 to 55 °C)
Software:	The identiFINDER provides for easy storage of up to 100 spectra and rapid transfer to a PC for reach-back and/or qualitative in-situ analysis with the software supplied

User Selectable Nuclide Library

There are 74 reference spectra of radionuclides stored in 6 libraries (Nuclear, Industrial, Medical, Customs, OSI, and Security). All sub-libraries except OSI can be edited by adding or deleting specific nuclides from the list. Ten (10) reference spectra can be measured by the user and added to the predefined library spectra. Identification is done by a template-matching correlation procedure

Physical Dimensions

Weight:	2.75lbs (1250g) with 1.4" x 2" NaI and batteries
Temperature range:	-20 to 55 °C (-4 to 122 °F)
Protection:	water proof, dust tight
Protection class:	IP 54
Drop test:	2' 8" on concrete
Dimensions:	9.8" x 3.7" x 3"

Spectrometry System Specifications

HV-Bias:	200 - 1275 V automatically set to suit individual detector
Shaping type:	digital filter
INL, top 99%:	<0.05%
DNL, top 99%:	<0.1%
Spectrum length:	1024 channels
Pileup rejection:	<100 nS, pulse pair res.
Throughput rate:	>100,000 cps
Input rate:	>350,000 cps
Spectrum memory:	100 spectra at 1024 channels
Real time presets:	1 s - 1,000,000 s
Live time presets:	1 s - 1,000,000 s

Dose/ Dose Measurement Specifications

Sensitivity:	>10,000 cps/mrem for 1.4"x2" NaI (TI) detector
Dose-rate range:	1 µrem/h - 100 rem/h
Dose range:	10 µrem - 100 rem
Energy range:	NaI: 15keV - 3.0 MeV; GM: 60 keV - 1.6 MeV
Alarm levels:	Gamma: Four preset levels
Neutron:	Separate neutron alarms for ^{3}He model, with blue indicator lamp

Figure 2
Overall view of the identiFINDER (front view) with
1-battery compartment lock,
2-ON/OFF button,
3-blue LED (neutron alarm),
4-selection buttons,
5- command line,
6-red LED (gamma alarm),
7- internal GM tube,
8-internal He-3 tube (neutron detection),
9-internal NaI(TI) scintillation detector

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