

identiFINDER[®]

Handheld Radionuclide Identification Device



The identiFINDER is the world's first in a series of handheld instruments capable of detecting the presence of gamma radiation and identifying the radionuclide. Every identiFINDER is able to detect, rapidly locate, accurately measure and precisely identify sources or contaminations from gamma radiation. The ability to detect X-ray sources as well as the presence of neutrons in the radiation field via an optional neutron detector allows a wide application scope.

Compact, Sensitive, Reliable

The standard identiFINDER includes a 1.4" diameter x 2" long NaI (Tl) detector plus a GM tube, for high gamma dose rate measurements is also one of the first handheld instruments to implement Digital Signal Processing (DSP). Every unit is supplied with a belt holster, wrist strap, cables, battery pack for rechargeable and non-rechargeable batteries, charging unit, download and analysis software and a carrying case. Three push buttons that align with on-screen menu items are all that is needed to operate this instrument, even with only one gloved hand. Scintillation detectors are reasonable sensitive and provide a resolution suited to the identification of most un-shielded and un-masked radionuclides. These detectors, combined with photomultiplier tubes, are, however, susceptible to temperature variations, high count rates and magnetic field changes while being operated in the field. As such they require an initial, power-up calibration verification and continuous stabilization to verify that the spectrum location of a radionuclide peak is the same for all measurements at all times. The identiFINDER performs a calibration verification during the power-up sequence and is continually stabilized while powered up using one of two methods; internal ¹³⁷Cs or external ⁴⁰K source, primary peak location or LED peak location. While the source methods are relatively inexpensive to implement they begin to falter under extreme count rate situations. The LED peak stabilization method, patented by FLIR, does not affect the primary spectrum in any way and is effective even under extremely high count rate or temperature fluctuation conditions.

APPLICATIONS

- Customs / Border Security
- First Responders
- Civil Defence
- Military / Police
- Nuclear / Environmental
- Steel / Scrap Metal Industry
- Nuclear Medicine

FEATURES

- Detects, locates, measures and identifies radionuclides
- Automatic calibration
- Continuous stabilization
- Easy to operate
- Visible, audible and tactile alarms
- Nuclide Identification based on reliable and proven template matching
- Easy Mode and Expert Mode

SPECIFICATIONS

INPUT/OUTPUT

Power	9 V 2 A DC
Serial	mini USB RS232 9600,N,8,1

PHYSICAL

Dimensions (W × D × H)	235 mm (9.252") × 93 mm (3.661") × 75 mm (2.953")
Weight	1250 g (44.09 oz), including batteries and scintillation detector
Housing Material	Aluminium

DETECTORS

Gamma NaI *1 *3 *2 *4	Crystal size 35 mm (1.378") × 51 mm (2.008"); Typical Resolution ≤8 % @ 662 keV
Gamma NaI with Tungsten shielding *7	Crystal size 23 mm (0.906") × 21 mm (0.827"); Typical Resolution ≤8 % @ 662 keV
Gamma LaBr ₃ *5 *6 *1	Crystal size 30 mm (1.181") × 30 mm (1.181"); Typical Resolution ≤4 % @ 662 keV
Neutron *6 *2 *4	³ He proportional counter tube 15 mm (0.591") × 54 mm (2.126"); 8 atm
Gamma (High Dose Rate)	Geiger-Müller detector

ENVIRONMENTAL

Operating Temperature	-20 °C – +55 °C (-4 °F – 131 °F)
Relative Humidity	40 % – 93 % @ 35.0 °C (95.0 °F), non condensing
Shock	According to ANSI N42.34
Protection Rating	IP 43

PERFORMANCE

Energy Range (Gamma)	20 keV – 3 MeV
Corrections	Online linearization of scintillator spectra
Presets	30 sec. extendable by user
Spectral Data Storage	100 spectra
Gamma Spectrum	1024 channels; 3 MeV
Dose Range	0.000 mSv – 1000 mSv (0.0 mrem – 10000.0 rem)
Stabilization *5 *6 *3 *4	Calibration source, LED; ±1 % for temperature change rate of 0.5 °C (0.9 °F) per minute
Stabilization *1 *7 *2	Calibration source, ±1 % for temperature change rate of 0.5 °C (0.9 °F) per minute
Warm Up Time	<2 min

BATTERY

Type	NiMH rechargeable
Capacity	2200 mAh; 4.8 V
Operating Time	≥8 h in dose rate mode with dimmed display back light

Complete specifications available on request.

VARIANTS

Following variations of this device are available. Specifications differing for the variants are marked in the table.

- *1 identiFINDER NG NaI detector; GM tube
- *2 identiFINDER NGH NaI detector; GM tube; ³He tube
- *3 identiFINDER NG ultra NaI detector; GM tube; LED stabilization
- *4 identiFINDER NGH ultra NaI detector; GM tube; ³He tube; LED stabilization
- *5 identiFINDER LG ultra LaBr₃ detector; GM tube; LED stabilization
- *6 identiFINDER LGH ultra LaBr₃ detector; GM tube; ³He tube; LED stabilization
- *7 identiFINDER NG T NaI detector; GM tube; tungsten shielding

For situations not covered by these variants please contact our Marketing and Sales Department at the email address or phone number listed below.

Sales Europe, Asia, Africa and Oceania

FLIR Radiation GmbH
Piepersberg 12
42653 Solingen, Germany
T + 49 212 222090
F + 49 212 201045

Sales North and South America

ICx Radiation Inc.
100 Midland Road
Oak Ridge, TN 37830, USA
T + 1.865.220.8700
F + 1.865.220.7181

www.flir-radiation.com

