

## identiFINDER2/R400 Handheld RIID



The FLIR identiFINDER™ 2 is the logical extension of the original identiFINDER series of handheld radioisotope identification detector (RIID) instruments. The thousands of identiFINDERs currently deployed worldwide have provided FLIR with a tremendous resource for suggestions and comments on how to improve the already exceptional identiFINDER. The identiFINDER 2 is the result of these comments and suggestions.

The monochrome LCD display has been replaced with a TFT LCD, 64k color, 320 by 240 pixel display that is readable in virtually all light conditions. The spectrum is continuously LED peak stabilized to handle a wide range of count rates and conditions with no peak interference in the identification spectrum. Wired communication uses a micro USB connector, USB 2.0, or wireless via a Class 2.0 Bluetooth® interface, with a 33 ft (10m) range, which supports the reach-back capability, also provided. A Web interface is provided via USB emulated TCPIP (LAN) for monitoring and configuring the identiFINDER 2. A twelve channel, Sirf III GPS is included for incident location. Data storage has been enlarged to 1 GB to save more spectra and event information.

Unchanged are the size, shape and weight; the three button (4th for power) operation; the scintillation, neutron and GM detector types, sizes and sensitivities; the screens and menus, when operated in the original identiFINDER mode; the types of alarms; the radionuclide identification accuracy; and the reliability, support and service.



### FEATURES

- Very much the same as the 10,000+ deployed original identiFINDERS
- TFT LCD 64k color display
- LED stabilized
- 12 channel, Sirf III GPS
- Reach-back via Bluetooth® connected to DUN capable cell phone
- ANSI N42.42 output format
- Web interface for monitoring and configuring instrument
- Original three button operation
- 1 GB event data storage
- Visible, audible and tactile alarm annunciators
- Embedded Windows CE operating system
- Meets ANSI N42.34 shock conditions



# FEATURES

## Detectors

Gamma NaI	1.4" dia by 2" (35 mm by 51 mm) NaI(Tl)
Neutron He <sup>3</sup> Proportional Counter Tube	15 mm (0.591") x 54 mm (2.126"); 8 atm
Gamma (High Dose Rate)	Geiger-Mueller (GM) Tube
Electronics	DSP (Digital Signal Processing) based
Typical Resolution	≤8% FWHM at 662 keV at 20°C (68°F) ambient temperature
Energy Range	20 keV to 3 MeV
Spectral Data Storage	1 GB SD memory card
Stabilization	Calibration source; LED; ±1% for temperature change rate of 0.5°C (0.9°F)/min
Stabilization	Calibration source; ±1% for temperature change rate of 0.5°C (0.9°F)/min
Stabilization	LED; ±1% for temperature change rate of 0.5°C (0.9°F)/min
Stabilization Accuracy	± 1% for temperature change rate of <0.9 °F (0.5 °C) per minute
Corrections	On-line spectral linearization
Dose Rate Range	1 uR/h (0.01 μSv/h) to 100 R/h (1 Sv/h)
Dose Range	10 uR (0.1 μSv) to 100 Rem (1 Sv)

## Operating Conditions

Temperature	-4 °F to +131 °F (-20 to +55°C)
Humidity	10% to 80% relative humidity, non-condensing
Shock	According to ANSI N42.34

## Inputs/Outputs

DC Power/Charger	9V DC; 2A
Bluetooth	Class 2.0, maximum range 33' (10 meters)
USB	micro USB connector, USB 2.0
GPS	12 channels, Sirf III

## Physical

Size	9.25" by 3.7" by x 3" (235 x 93 x 75 mm)
Weight	2.75 lbs (1.25 kg)

## Battery

Two Power Packs	4 NiMH @ 2200 mAh @ 1.2 V, each
Operating time	>8 hours (full charge) dose rate mode
Charging time	4 hours (empty to full), fast charge

## Display

TFT , True Color LCD, 64k colors	
Size	2.7" by 2.7" (68.6 by 68.6 mm) 240 by 320 pixels
Center Brightness	Typical 400 cd/m2

## AVAILABLE ACCESSORIES

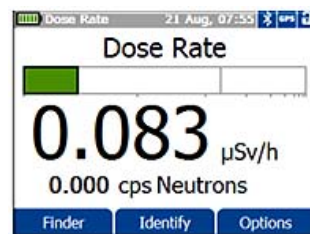
DC Power Adapter, Charger, Replacement Battery, Connection Cable, Connection Cable, Holster, Carrying Case, <sup>40</sup>K Source, Environmental Kit

## Indicators

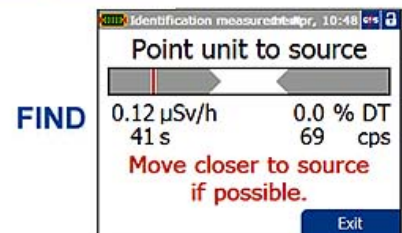
Dose Rate Alarm	Red LED
Neutron Alarm	Blue LED
Charging	Orange LED on rear panel
Ext. Power	Green LED on rear panel

## Annunciators

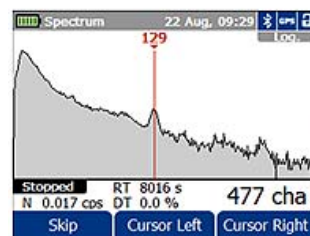
LEDs	Beneath front display or on rear panel
Speaker	Rear side of instrument
Vibrator	Inside housing
Display	Alarm visualization
GPS	Built-in GPS, 12 channels. Sirf III receiver ANSI 42.42 data via Bluetooth to DUN compatible cell phone or USB
Reach-Back	Bluetooth to DUN compatible cell phone or USB
Web Interface	Via USB emulated TCP/IP(LAN)
Embedded Software	Windows CE Operating system



**MEASURE**

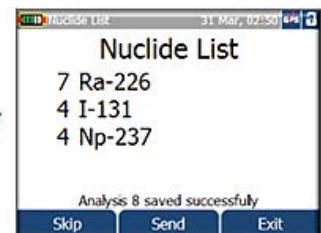


**FIND**



**ANALYZE**

**IDENTIFY**



# SPECIFICATIONS

## Product Variants

- \*1 idF2-NG
- \*2 idF2-NGH
- \*3 idF2-ULCS-NG
- \*4 idF2-ULCS-NGH
- \*5 idF2-ULK-NG
- \*6 idF2-ULK-NGH
- \*7 idF2-UW-CS-NG
- \*8 idF2-UW-CS-NGH
- \*9 idF2-UW-ULCS-NG
- \*10 idF2-UW-ULCS-NGH
- \*11 idF2-T1
- \*12 idF2-T2
- \*13 idF2-LG
- \*14 idF2-LGH



## General

The identiFINDER R 400 is the improved successor of the #1 handheld radionuclide identification device (RIID), the original identiFINDER. It provides continuous detection capability and the fast identification of radioactive material which supplies critical information to the user in the field, enabling them to make a next step determination. The unit can contain either a 35 mm (1.4") x 51 mm (2.0") NaI or 30 mm (1.2") x 30 mm (1.2") LaBr<sub>3</sub> scintillation detector with an energy compensated GM detector included for high dose rate situations. The instrument can be equipped with an optional <sup>3</sup>He neutron detector and is available in standard or submersible housings. The ideal balance of performance versus size and weight of the instrument make it appealing for general surveying. Whether the application is scanning people, bags, vehicles, etc... the identiFINDER is perfect choice for a wide range of scenarios.

## Detectors

Gamma: NaI *1 *3 *5 *2 *4 *6 *7 *8 *9 *10	Crystal size 35 mm (1.4") x 51 mm (2.0")
Gamma: NaI *12 *11	Crystal size 23 mm (0.9") x 21 mm (0.8"); tungsten shielded
Gamma: LaBr <sub>3</sub> *13 *14	Crystal size 30 mm (1.2") x 30 mm (1.2")
Neutrons: <sup>3</sup> He Proportional Counter Tube *2 *4 *6 *8 *10	15 mm (0.6") x 54 mm (2.1"); net: 14 mm (0.6") x 29 mm (1.1"); 8 atm
Gamma (High Dose Rate)	Geiger-Müller detector
GPS	12-channel SiRF III receiver

## Performance

Energy Range (Gamma)	20 keV – 3 MeV
Gamma Spectrum	1024 channels; 3 MeV
Dose Rate Range	0.000 μSv/h – 10.00 mSv/h
dto. Scintillator	0.000 μSv/h – 500 μSv/h
dto. Geiger-Müller Detector	100 μSv/h – 10 mSv/h
dto. Overload	10 mSv/h – 1 Sv/h
Dose Rate Accuracy ( <sup>137</sup> Cs)	±30 %
Dose Range	0.000 μSv – 1 Sv
Neutron Sensitivity *2 *4 *6 *8 *10 *14	2.6 cps/nv
Stabilization *1 *2 *7 *8	Calibration source; ±1 % for temperature change rate of 0.5 °C (0.9 °F)/min
Stabilization *3 *4 *9 *10 *6	Calibration source; LED; ±1 % for temperature change rate of 0.5 °C (0.9 °F)/min
Stabilization *5 *6 *13 *14	LED; ±1 % for temperature change rate of 0.5 °C (0.9 °F)/min
Nuclide Identification	According to ANSI N42.34
Typical Resolution *1 *3 *5 *2 *4 *6 *12 *7 *8 *9 *10 *11	≤8 % FWHM at 662 keV at 20.0 °C (68.0 °F) ambient temperature
Typical Resolution *13 *14	4.5 % FWHM at 662 keV at 20.0 °C (68.0 °F) ambient temperature

## Service

Recommended Interval	5 a
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