Technical Data
identiFINDER® 2

Product

identiFINDER® 2

Product Variants

*A identiFINDER 2 CS-NG
*B identiFINDER 2 CS-NGH
*C identiFINDER 2 ULCS-NG
*D identiFINDER 2 ULCS-NGH
*E identiFINDER 2 ULK-NG
*F identiFINDER 2 ULK-NGH
*G identiFINDER 2 ENV
*H identiFINDER 2 UW-CS-NG
*I identiFINDER 2 UW-CS-NGH
*J identiFINDER 2 UW-ULCS-NG
*K identiFINDER 2 UW-ULCS-NGH
*L identiFINDER 2 ULCS-TNG
*M identiFINDER 2 UW-ULK-NG (maritime)
*N identiFINDER 2 ULK-YG

Data Export
27. Februar 2012, 09:00 MEZ

Copyright
© 2012, FLIR Radiation

All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

Europe, Asia, Africa, Oceania

FLIR Radiation GmbH
Piepersberg 12
42653 Solingen, Germany

Phone: + 49.212.222090
Fax: + 49.212.201045

Email: radiation.support.eu@flir.com

North America, South America

FLIR Radiation, Inc.
100 Midland Road Oak Ridge,
TN 37830 USA

Phone: + 1.865.220.8700
Fax: + 1.865.220.7181

Email: radiation.support@flir.com

Legal disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply.

Information and equipment described herein may require US Government authorization for export purposes. Diversion contrary to US law is prohibited.

General

The identiFINDER 2 is the improved successor of the #1 handheld radionuclide identification device. The new transflective LCD, 64k color, 320 by 240 pixel display is easily readable in all light conditions. Based on the experience gained by more than 10000 deployed identiFINDERs, the performance of the spectrum processing and identification algorithms (ARAT™) have been continously approved and are still setting the standard.
Unchanged are the size, shape and weight; the easy way to operate; the scintillation, neutron and GM detector types, sizes and sensitivities; the types of alarms; the radionuclide identification accuracy, the reliability, support and the service.

Detectors	
Gamma NaI *(A, B, C, D, E, F, G, H, I, J, K, M)	Crystal size 35 mm (1.38 in) × 51 mm (2.01 in)
Gamma NaI *(L)	Crystal size 23 mm (0.91 in) × 21 mm (0.83 in); tungsten shielded
Neutron ^{3}He Proportional Counter Tube *(B, D, F, I, K)	15 mm (0.59 in) × 54 mm (2.13 in); net: 14 mm (0.55 in) × 29 mm (1.14 in); 8 atm (8.106 bar)
Gamma (High Dose Rate)	Geiger-Müller detector
GPS	12-channel SiRF III receiver

Calibration	
Internal Source *(A, B, H, I, L)	^{137}Cs; 15 nCi (555 Bq); Startup time: ≈60 s
Internal Source *(C, D, J, K)	^{137}Cs; 3 nCi (111 Bq); Startup time: ≈200 s
External Source *(E, F, G, M)	^{40}K; Startup time: ≈320 s

Performance	
Energy Range (Gamma)	20 keV – 3 MeV
Throughput	>150 kcps
Max. Input Count Rate	300 kcps
Sensitivity (^{137}Cs)	>500 cps per µSv/h
Corrections	Real-time linearization of gamma spectrum
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 Range	0.000 µSv – 1 Sv
Neutron Sensitivity *(B, D, F)	2.6 cps/nv
Stabilization *(A, B, H, I)	Calibration source; ±1 % for temperature change rate of <0.5 °C (0.9 °F)/min
Stabilization *(C, D, J, K, L)	Calibration source; LED; ±1 % for temperature change rate of <0.5 °C (0.9 °F)/min
Stabilization *(E, F, G, M)	LED; ±1 % for temperature change rate of <0.5 °C (0.9 °F)/min
Nuclide Identification	According to ANSI N42.34
Typical Resolution *(A, B, C, D, E, F, G, H, I, J, K, L, M)	≤8 % FWHM at 662 keV at 20 °C (68 °F) ambient temperature
Typical Resolution *(N)	≤6 % FWHM at 662 keV at 20 °C (68 °F) ambient temperature
Nuclide Library *(A, B, C, D, E, F, H, I, J, K, L, N)	Standard library
Nuclide Library *(G, M)	Environmental library

Technical Data

Product

identiFINDER® 2

Product Variants

*A identiFINDER 2 CS-NG
*B identiFINDER 2 CS-NGH
*C identiFINDER 2 ULCS-NG
*D identiFINDER 2 ULCS-NGH
*E identiFINDER 2 ULK-NG
*F identiFINDER 2 ULK-NGH
*G identiFINDER 2 ENV
*H identiFINDER 2 UW-CS-NG
*I identiFINDER 2 UW-CS-NGH
*J identiFINDER 2 UW-ULCS-NG
*K identiFINDER 2 UW-ULCS-NGH
*L identiFINDER 2 ULCS-TNG
*M identiFINDER 2 UW-ULK-NG (maritime)
*N identiFINDER 2 ULK-YG

Copyright
© 2012, FLIR Radiation

Service	
Recommended Interval	1 a

Physical	
Dimensions (W × D × H) *(A, B, C, D, E, F, G, L)	248 mm (9.76 in) × 93 mm (3.66 in) × 75 mm (2.95 in)
Dimensions (W × D × H) *(H, I, J, K, M)	270 mm (10.63 in) × 93.5 mm (3.68 in) × 82 mm (3.23 in)
Weight *(A, C, E, G)	1180 g (41.62 oz) including batteries
Weight *(B, D, F)	1200 g (42.33 oz) including batteries
Weight *(H, J, M)	1360 g (47.97 oz) including batteries
Weight *(I, K)	1380 g (48.68 oz) including batteries
Weight *(L)	1450 g (51.15 oz) including batteries
Housing Material	Aluminium

Environmental	
Operating Temperature	-20 °C – +55 °C (-4 °F – +131 °F)
Storage Temperature	+10 °C – +35 °C (+50 °F – +95 °F)
Temperature Change	Sudden temperature change must not exceed 30.0 °C (54.0 °F) in order to avoid damage to the detector crystal
Relative Humidity *(A, B, C, D, E, F, G, L, N)	10 % – 80 %, non condensing
Shock Resistance	According to ANSI N42.34
Protection Rating *(A, B, C, D, E, F, G, L, N)	IP53 according to IEC 60529; (with rubber cover mounted on socket)
Protection Rating *(H, I, J, K, M)	IP68 according to IEC 60529; 10 m (32.81 ft); 8 h

Battery	
Type	FLIR powerPACK ultra 2 (LSD NiMH, rechargeable)
Capacity	>2000 mAh; 4.8 V
Operating Duration	≥8 h at 20 °C (68 °F) in dose rate mode with dimmed display back light and GPS switched off
Charging Duration	≤4 h at 20 °C (68 °F) when instrument off and connected to DC power charger and >4 h when powered via USB.
Quiescent Current	16.5 µA typically

Display	
Type	Transflective color LCD
Size	68.4 mm (2.69 in); 320 pixel × 240 pixel
Central Luminance	400 cd/m² typically

Annunciators	
Blue LED *(B, D, F, I, K)	Neutron detection and alarm
Red LED	Gamma alarm
Amber LED	Charging batteries
Green LED	External power
Vibrator	Alarm reporting
Beeper	Keyboard feedback and alarm reporting

Memory	
Data Storage Capacity	2 GB internal memory; 1800 MB available for the user
Identifications incl. Spectrum	≈600000
Data Logging Every 5 s *(A, C, E, G, H, J, L, M)	≈5 years
Data Logging Every 5 s *(B, D, F, I, K, N)	≈2.5 years
Screenshots	≈2500
Alarms	≈1000000

Input/Output	
USB *(A, B, C, D, E, F, G, L, N)	USB 2.0; micro-B socket
USB *(H, I, J, K, M)	USB 2.0; LEMO Series K socket with bung
Bluetooth	Class 2.0; ≤10 m (32.81 ft) range

Software	
Embedded Software	Microsoft Windows CE Operating System
Web Interface	TCP/IP emulated via USB
Download File Formats	ANSI N42.42 and spc files compatible with third-party analysis software applications such as GADRAS, Cambio, or PeakEasy

Product

identiFINDER® 2

Product Variants

*A identiFINDER 2 CS-NG
*B identiFINDER 2 CS-NGH
*C identiFINDER 2 ULCS-NG
*D identiFINDER 2 ULCS-NGH
*E identiFINDER 2 ULK-NG
*F identiFINDER 2 ULK-NGH
*G identiFINDER 2 ENV
*H identiFINDER 2 UW-CS-NG
*I identiFINDER 2 UW-CS-NGH
*J identiFINDER 2 UW-ULCS-NG
*K identiFINDER 2 UW-ULCS-NGH
*L identiFINDER 2 ULCS-TNG
*M identiFINDER 2 UW-ULK-NG (maritime)
*N identiFINDER 2 ULK-YG

Copyright
© 2012, FLIR Radiation

Reachback	ANSI N42.42 data via Bluetooth to DUN compatible cell phone
STRIDE Data Protocol	STRIDE Data Protocol for network integration

Standards

ANSI N42.34	Performance Criteria for Hand-Held Instruments for the Detection and Identification of Radionuclides
IEC 60529	Degrees of Protection Provided by Enclosures (IP Code)
UL 61010-1, Part 1	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, 2005
EMC - Directive 2004/108/EC	Regulations concerning electromagnetic compatibility
ANSI N42.42 2006	Data format standard for radiation detectors used for Homeland Security

Accessories

Product

identiFINDER® 2

Product Variants

*A identiFINDER 2 CS-NG
*B identiFINDER 2 CS-NGH
*C identiFINDER 2 ULCS-NG
*D identiFINDER 2 ULCS-NGH
*E identiFINDER 2 ULK-NG
*F identiFINDER 2 ULK-NGH
*G identiFINDER 2 ENV
*H identiFINDER 2 UW-CS-NG
*I identiFINDER 2 UW-CS-NGH
*J identiFINDER 2 UW-ULCS-NG
*K identiFINDER 2 UW-ULCS-NGH
*L identiFINDER 2 ULCS-TNG
*M identiFINDER 2 UW-ULK-NG (maritime)
*N identiFINDER 2 ULK-YG

Copyright
© 2012, FLIR Radiation

Accessories	
DC Power Adapter, Charger	AC in: 110 V – 230 V; 50 Hz – 60 Hz; DC out: 5 V; 2 A
Replacement Battery	FLIR powerPACK 2 for 4 AA batteries
Connection Cable *(A, B, C, D, E, F, G, L, N)	Micro USB-B – USB-A
Connection Cable *(H, I, J, K, M)	LEMO Series K connector – USB A
Holster *(A, B, C, D, E, F, G, L, N)	210 g (7.41 oz)
Holster *(H, I, J, K, M)	220 g (7.76 oz)
Carrying Case	Included
^{40}K Source *(E, F, G, M)	Box with potassium chloride (KCl)
Environmental Kit *(G)	Smear pad holder; smear pads; disposable gloves; report stationery pad