Product Datasheet

identiFINDER® R425

Next Generation Radionuclide Identification Device

The identiFINDER® R425, the next generation of the most deployed radionuclide identification device (RID), offers 360-degree coverage so you can locate and measure gamma and neutron radioactive sources built with Teledyne FLIR's trusted algorithms with advanced heuristics and hybrid identification techniques.

The newest and latest updates to the R425 feature a new glass screen cover to boost its ruggedness, an increase of the GM tube to 1000 R/h adding a higher dose capability, and an LaBr detector offering higher resolution option providing a better energy resolution capability.

Operate the R425 quickly with the familiar identiFINDER user interface and 3-button control. When other systems fail in extremely high gamma fields, the identiFINDER R425 provides pinpoint accuracy and remains fully operational. The R425 provides an ideal balance of size, weight, and performance for surveying, emergency response, and environmental monitoring.

Better detection in all directions

With over 25,000 deployed RIDs, the R425 builds on a solid legacy of performance in every way.

- Threats come from every direction. The cubic detector design allows for high performance in all directions.
- Greater sensitivity with 75% larger detector, and 2X Neutron sensitivity.
- 15% lighter weight than the previous generation.
- The LaBr detector option will provide ≤ 3.5% resolution.

Power through your mission

Unparalleled ruggedness, power flexibility, and usability means the R425 will go the distance and complete the mission with you.

- Drop on the ground, submerge it in water. It will survive. Fully enclosed solid-state detector. Ergonomic design and rubberised grip.
- Sunlight readable screen, even with polarised glasses. Internal battery lasts up to 12 hours. Need more? Hot swappable batteries (rechargeable AND disposables) add 2 hours of use. Ready in 15 seconds or less from a cold start.
- Same tried and trusted interface as the R400. Pick it up and go.

Situational awareness and support

When threat detection occurs, getting results communicated as quickly as possible is critical. R425 makes it easier than ever before, no matter the method.

- Remote viewing, operation, and reachback over Bluetooth via available app (iOS/Android) or over USB-C via FLIR's intuitive Web Interface.
- Universal API to enable integration with user deployed networks such as Mobile Field Kit, ATAC, Sigma Edge, Safe Environment Gateway, and others.
- Wi-Fi and Cellular connectivity via optional adapter.

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Specifications

Technology	
Technology	Radionuclide identification device (RID); Gamma and Gamma/Neutron Models
Gamma Detector – NaI (Tl) (G & NG Models)	45 x 45 x 45 mm cubic detector with silicon photomultiplier (SiPM)
Gamma Detector – LaBr3(Ce) (LG & LNG Models)	35 x 35 x 35 mm cubic detector with silicon photomultiplier (SiPM)
High Dose Rate Gamma Detector	Energy Compensated Geiger Müller (GM) Tube
Neutron Detector – ZnS (GN & LGN models only)	27 x 58 x 5 mm moderated panels (2 each)
Energy Range (Gamma)	20 keV - 3 MeV
Gamma Sensitivity (Cs-137)	1610 cps/uSv/h (G & GN models) 1000 cps/uSv/h (LG & LGN models)
Neutron Sensitivity	≥ 7.8 cps/nv (GN & LGN models only)
Gamma Spectrum Length	1024 channels
Dose Rate Range (Cs-137)	10 µrem/h – 1 rem/h ± 10%, 100 nSv/h – 10 mSv/h ± 10%
Dose Rate Range ID Mode (Cs-137)	0.1 µrem/h – 5 mrem/h 1 nSv/h – 50 µSv/h
High Dose Rate Range	1 - 100 rem/h ± 30% 10 mSv/h - 1 Sv/h ± 30%
Stabilisation	Sourceless gain stabilisation
Linearisation	Real time linearisation of gamma energy
Typical Resolution	≤ 7% FWHM at 662 keV (20°C) (G & GN models) ≤ 3.5% FWHM at 662 keV (20°C) (L & LN models)
Service Interval	5-year factory maintenance

Sampling and Analysis	
Sample Introduction	Absorption of EM gamma and neutron emissions
Threats	Detects neutron and gamma radiation emitted from natural occurrences in the environment, special nuclear material, industrial, or medical material
Nuclide Identification	According to ANSI N42.34
Library Categories	SNM, IND, MED, NORM
Sampling and Analysis	From a few seconds to minutes

System Interface	
Display and Alerts	2.7" diagonal (400 x 240 pixels) screen; sunlight readable; visible through polarised glasses
Communication	USB-C (2x), Bluetooth (BLE 5.0)
Data Storage	8GB internal memory
Training Requirements	<10 mins for operator; 1 hour for advanced user
Software	On-board webserver software
Data File Format	According to ANSI N42.42

Power	
Input Voltage	100-240 AC (wall adapter and USB-C cable supplied)
Battery Specification	Internal Li-ion cells; additional user-selectable external battery (1 each 16650 Li-ion or 2 each CR123); hot-swappable
Cold Start Time	≤20 seconds from cold start

Environmental	
Operating Temperature	-30 to 60 °C (-22 to 140 °F)
Operating Humidity	0 to 100%
Storage Temperature	0 to 360 °C (0 to 140 °F)

Physical Features	
Dimensions (L x W x H)	235 x 100 x 95 mm
Weight	≤1.2 kg
Enclosure and Protection	Injection moulded housing with overmould; rating IP67 according to IEC 60529; MIL-STD 810g Salt / Fog compliant

Specifications are subject to change without notice.
For the most up-to-date specifications, please visit www.flir.com

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