

# identiFINDER R440

## Lightweight Sourceless Radioisotope Identification Device

The FLIR identiFINDER R440 is a lightweight, sourceless radioisotope identification device (RIID) that delivers sensitive detection and fast results for routine survey or secondary screening response missions.

The 2 x 2 NaI (sodium iodide) detector responds to radiological threats from further away, behind heavier shielding, and with better resolution than similarly-sized RIIDs. The extended energy range provides neutron indication. Its light weight makes single-handed operation easy on extended operations, while the IP67-rated enclosure is built to survive. The bold easy-to-read interface with 360° EasyFinder™ mode expedites decision-making to keep personnel and the community safe.

### Features and Benefits

- 3.5 times more sensitive with 10% better resolution than comparatively sized RIDs.
- High dose rate range provides stability and accuracy even in high dose rate environments.
- Two models: gamma only (with neutron indication); gamma and neutron detection and measurement.
- Sourceless stabilisation improves data collection, reducing false positives.
- Protected from total dust ingress and water immersion (rain, splashing and accidental submersion) up to 1 meter in depth for up to 30 minutes.
- ANS N42.42 and ANSI N42.34 compliant.
- Drop-tested up to 1 metre.
- Completely enclosed crystal provides enhanced ruggedisation.
- 360° EasyFinder™ mode collects and interprets data and then pinpoints the the exact location of source for user.
- Built-in wireless communications.
- Built for interagency standardisation – common user interface provides familiarity for users of any identiFINDER product.



# Specifications

## General

**Technology** Radioisotope identification device (RIID)

**Gamma – NaI(Tl)** 51 x 51 mm (2.0 x 2.0")

**Gamma/Neutron NaIL (Optional)** 51 x 51 mm (2.0 x 2.0")

**Energy Range (Gamma)** 10 keV to 10 MeV

**Gamma Sensitivity (Cs-137, NaI)** 1850 cps/μSv/h

**Gamma Spectrum Length** 1024 channels

**Dose Rate Range (Cs-137, NaI)** 10 n Sv/h - 10 m Sv/h  
(1 μrem/h - 1 rem/h) ± 30%

**Dose Rate Range ID Mode (Cs-137, NaI)** 10 n Sv/h - 250 m μSv/h  
(1 μrem/h - 25 μrem/h)

**Overload Dose Rate Range (Cs-137, NaI)** 10 n Sv/h - 500 m μSv/h  
(1 μrem/h - 50 μrem/h)

**Stabilisation** Sourceless gain stabilisation (patents pending).

**Linearisation** Real-time linearisation of gamma energy.

**Typical Resolution** ≤ 7% FWHM at 662 keV with NaI detector at 20°C

**Service Interval** 1 year factory maintenance suggested, not required.

## Sampling and Analysis

**Sample Introduction** Absorption of EM gamma (NaI) or gamma and neutron emissions (NaIL).

**Threats** Detects neutron or 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.

**Time to Alarm** From a few seconds to minutes.

Specifications are subject to change without notice. For the most up-to-date specifications, please visit [www.flir.com](http://www.flir.com)

## System Interface

**Display and Alerts** Transflective colour LCD / 3" (2.72" x 1.61") Colour TFT Display, Resolution: 800 x 480 pixels.

**Communication** USB 2.0, USB OTG; Bluetooth® Class 2.0 ≤10 m range (removable); WiFi 802.11 g/n

**Data Storage** 32 GB internal memory

**Training Requirements** <10 mins for operator; 1 day for advanced user.

**GPS (removable)** 12-channel SiRF III receiver

**Software** On-board webserver software

## Power

**Input Voltage** 100 - 24- V AC (wall adapter and USB cable supplied).

**Battery Specifications** Supplied: 2 x rechargeable Li-Ion smartpacks and 1 x 4 x AA pack; ≤ 6 h runtime with one Li-Ion smartpack, ≤ 12 h with both Li-Ion; runtime of ≤ 4 h with AA battery pack (Li-Ion); Optional rechargeable NiMH ion smartpack with ≤ 5 h runtime; recharge ≤ 4 h when using AC; recharge > 4 h when using USB; run times specified are obtained with a mix of Dose Rate, Finder, and ID operating mode.

**Cold Start Time** <2 mins from cold start.

## Environmental

**Operating Temperature (Ambient)** -20 to 50°C (4 to 122°F)

**Operating Humidity** 10 to 80%

**Storage Temperature** -10 to 35°C (14 to 95°F)

## Physical Features

**Dimensions (W x L x H))** 10.2 x 26.9 x 9.4 cm

**Weight** ≤1.5 kg

**Enclosure and Protection** Aluminium housing protection rating IP67 according to IEC 60529.



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