H3D

A Series (A400) RIID

Handheld RIID

A portable radioisotope identifier with directionality and high energy resolution without cryogenic cooling.



Detector type	Spectroscopy energy range	Weight
A400: CZT (CdZnTe) [1]	**A400: 50–3000 keV** [1]	**A400: 1.2 kg** [1]

Specifications

DETECTOR

Detector type	A400: CZT (CdZnTe)	[1]
Detector volume	A400: >19 cm^3	[1]
Neutron detection	Option A401: 16 cm^2 micro-structured neutron detector (MSND); 4.8 cps/nv from ANSI-moderated ^{252}Cf (bare detector)	[1]

PERFORMANCE

Energy resolution at 662 keV	A400: ≤1.1% FWHM (coincident interactions combined), ≤0.9% FWHM (separated), at 25 °C; high-resolution option A400+: ≤0.8% and ≤0.65%	[1]

MEASURING RANGE

Spectroscopy energy range	A400: 50–3000 keV	[1]
Directionality energy range	A400: 250–3000 keV	[1]
Localization range	250–3000 keV	[2]
Sensitivity	A400: detects 10 µCi ^{137}Cs at 1 m (~3 µR/h) in <22 s in natural background; localises the source in <120 s to ±15°	[1]
Dose-rate accuracy	A400: ±20%, 50–1500 keV, forward direction, ≤0.2 rem/h (2 mSv/h); optional calibration improves accuracy to ±10%	[1]
Count-rate limit	A400: 1 rem/h (10 mSv/h) bare-^{137}Cs equivalent for spectroscopy	[1]

SOFTWARE & DATA

Nuclide library	A400: selectable from the manufacturer-provisioned master library	[1]

CONNECTIVITY & INTERFACE

User interface	A400: embedded 3.5-inch screen with buttons; browser view	[1]
Communication	A400: Wi-Fi, Bluetooth, USB-C; RJ45 Ethernet through adapter	[1]
Data storage	A400: 32 GB internal, >1 million measurements; ANSI N42.42 XML	[1]

POWER & BATTERY

Battery life	A400: >8 hours	[1]
Power supply	A400: 100–240 V, 47–63 Hz	[1]

MECHANICAL

Dimensions	A400: 30.5 × 7.6 × 9.5 cm (nominal)	[1]
Weight	A400: 1.2 kg	[1]

ENVIRONMENT & RATINGS

Operating temperature	A400: −20 to +50 °C	[1]
IP rating	A400: IP65	[1]
Humidity	A400: up to 93% at 35 °C	[1]
Certifications	A400: tested to pass ANSI N42.34 requirements; third-party DNDO TCS test report available on request	[1]

GENERAL

Startup time	<1.5 minutes	[2]

Models

Model	Energy resolution at 662 keV	CZT volume	Weight (manufacturer unit)
A100	<1.1 % FWHM [2]	>4.5 cm³ [2]	2.5 lb [2]
A100+	<0.8 % FWHM [2]	>4.5 cm³ [2]	2.5 lb [2]
A200	<1.1 % FWHM [2]	>9 cm³ [2]	2.6 lb [2]
A200+	<0.8 % FWHM [2]	>9 cm³ [2]	2.6 lb [2]
A400	<1.1 % FWHM [2]	>19 cm³ [2]	2.6 lb [2]
A400+	<0.8 % FWHM [2]	>19 cm³ [2]	2.6 lb [2]

Sources

[1] A400 Handheld Radiation Identifier – A400 Specifications (HH-37)
H3D · datasheet · p. 2 'Gamma-Ray Detector'; p. 2 'Energy Range'; p. 2 'Nominal Dimensions' · checked 2026-10-16
https://h3dgamma.com/A400Specs.pdf

[2] A Series – Handheld Radioisotope Identification Device (RIID)
H3D · product-page · a400.php model table, column 'A100' (columns A100, A100+, A200, A200+, A400, A400+), row 'Imaging Range (keV)'; a400.php model table, column 'A100' (columns A100, A100+, A200, A200+, A400, A400+), row 'Startup Time (minutes)'; a400.php model table, column 'A100' (columns A100, A100+, A200, A200+, A400, A400+), row 'Resolution (% FWHM @ 662keV)' · checked 2026-10-16
https://h3dgamma.com/a400.php

Every value is taken from the manufacturer's own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer's published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.