ORTEC

Detective DX1

Portable HPGe spectroscopy

High-resolution isotope identification beyond the laboratory. For measurements where mixed or shielded sources require detailed analysis.



Detector type	Energy range	Weight
P-type coaxial HPGe detector [1]	**DX1/DX1-N: 40 keV–3 MeV; DX1-8/DX1-8-N: 40 keV–8 MeV** [1]	**.23 kg gamma; 7.87 kg g amma/neutron** [1]

Specifications

DETECTOR

Detector type	P-type coaxial HPGe detector	[1]
Neutron detection	Optional Li-6F/ZnS module; included in N models	[1]

PERFORMANCE

Energy resolution	<0.3% at 1.33 MeV	[2]

MEASURING RANGE

Energy range	DX1/DX1-N: 40 keV–3 MeV; DX1-8/DX1-8-N: 40 keV–8 MeV	[1]
Dose-rate range	0.1–2000 mR/h (gamma)	[1]
Dose-rate accuracy	±10%; total measurement uncertainty with all systematic sources of error included below ±20%	[1]

COOLING

Cooling	Stirling cooler; approximately 6-hour cooldown at 25 °C	[1]

SOFTWARE & DATA

Nuclide library	ver 175 radionuclides	[2]

CONNECTIVITY & INTERFACE

Display	5-inch capacitive touchscreen	[2]
Communication	WLAN 802.11 b/g/n, Bluetooth 5.1, Gigabit Ethernet and USB-C	[2]
GPS	GPS and Galileo constellations	[1]

POWER & BATTERY

Battery life	Approximately 8 hours at 25 °C with cold HPGe detector	[1]

Batteries	2 rechargeable Li-ion batteries; optional external military battery (Model 2590) extends life to >16 h	[1]

MECHANICAL

Detector dimensions	Nominally Ø65 × 50 mm	[1]
Weight	7.23 kg gamma; 7.87 kg gamma/neutron	[1]
Dimensions	Max. 39.4 × 14.3 × 23.2 cm (L × W × H) without strap; 39.4 × 17.5 × 23.2 cm with strap; 39.4 × 16.3 × 23.2 cm with neutron detector	[1]

ENVIRONMENT & RATINGS

perating temperature	−20 to +50 °C	[1]
IP rating	IP65	[1]
Humidity	95%, non-condensing	[1]

GENERAL

File formats	ANSI N42.42 2020	[1]

Models

Model	Energy range	Neutron detection	Weight
DX1	40 keV–3 MeV [1]	Gamma configuration; neutron module optional [3]	7.23 kg [1]
DX1-8	40 keV–8 MeV [1]	Gamma configuration; neutron module optional [3]	7.23 kg [1]
DX1-8-N	40 keV–8 MeV [1]	Li-6F/ZnS included [1]	7.87 kg [1]
DX1-N	40 keV–3 MeV [1]	Li-6F/ZnS included [1]	7.87 kg [1]

Sources

[1] **DX1 - The Standard in Nuclear Threat Detection (brochure 25-1219)**
RTEC (AMETEK) · brochure · p. 4, 'Technical Specifications'; p. 4, 'Technical Specifications'; Ordering Information; p. 4, 'Physical Specifications' · checked 2026-11-12
https://edge.sitecorecloud.io/ametekinc1236b-ametekb19a-productiondcfa-1d17/media/Project/Ametek/ortec-onlin...

[2] **Detective DX1 Next Generation, Ultra High Resolution HPGe Radioisotope Identification Device**
RTEC (AMETEK) · product-page · Overview, 'User Experience'; Overview, 'What is the ORTEC Detective DX1?'; FAQ 4 'What connectivity options are available...' · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/portable-radioisotope-ident...

[3] **ORTEC Product Guide**
RTEC (AMETEK) · catalog · PDF p. 39 (printed p. 36), 'Detective DX1 Next Generation HPGe Radioisotope Identifier' · checked 2026-10-16
https://web.archive.org/web/20230405035438/https://www.ortec-online.com/-/media/ametekortec/product-guide/pr...

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.