ORTEC

Detective DX1-TS

Portable HPGe spectrometer for in-situ measurements

Portable, all-inclusive high-resolution gamma spectrometer for in-situ measurements. It collects spectra stand-alone in the field or under computer control via USB, Ethernet or Wi-Fi with applications such as MAESTRO-Pro (included), GammaVision and I OTOPIC. Physically identical to the Detective DX1, but without the automatic isotope identification applications; it can be upgraded at the factory.



Relative efficiency
≥40% typical (ANSI/IEEE 325-1996) [1]

Energy resolution at 122 keV
≤1630 eV FWHM (warranted at optimum settings) [1]

Energy resolution at 1.33 MeV
≤2.0 keV FWHM at 1,332 keV (warranted at optimum settings) [1]

Specifications

DETECTOR

Detector type	P-type coaxial HPGe detector	[1]

PERFORMANCE

Relative efficiency	≥40% typical (ANSI/IEEE 325-1996)	[1]
Energy resolution at 122 keV	≤1630 eV FWHM (warranted at optimum settings)	[1]
Energy resolution at 1.33 MeV	≤2.0 keV FWHM at 1,332 keV (warranted at optimum settings)	[1]
Peak shape FW.1M/FWHM	1.9 typical (FWTM/FWHM)	[1]

ELECTRONICS & SIGNAL

Spectrum channels	Up to 16 k	[1]

COOLING

Cooling	Stirling cooler with hardened cryostat; cool-down typically 6 hours at 25 °C	[1]

CONNECTIVITY & INTERFACE

Display	5-inch IPS TFT-LCD (800 × 480 pixels), sunlight readable, capacitive multi-touch for finger or stylus	[1]
Data storage	Internal RAM and removable low-profile USB flash drive; the supplied drive stores over 100,000 spectra	[1]
Communication	USB, Ethernet (RJ45, 10/100 Mbps) and Wi-Fi (IEEE 802.11a/b/g/e/i/h/j/n, WPA/WPA2); remote control from ORTEC CONNECTIONS applications via Mobile MCB Server	[1]

POWER & BATTERY

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

Batteries	2 rechargeable Li-ion batteries, 98 Wh each nominal; charging time under 4 hours; optional external military battery (Model 2590) extends life to >16 h	[1]
Power supply	12–17 V DC from battery or DC supply (universal mains supply included); under 100 W during cool-down and charging, under 35 W cold with fully charged battery	[1]

MECHANICAL

Detector dimensions	Nominally Ø65 × 50 mm	[1]
Weight	7.23 kg (15.95 lb)	[1]
Dimensions	Max. 39.5 × 14.3 × 23.2 cm (L × W × H) including handle and Ge detector endcap	[1]

ENVIRONMENT & RATINGS

perating temperature	–20 to +50 °C	[1]
Humidity	95%, non-condensing	[1]
IP rating	IP65, sealed against dust and water	[1]

ORDERING & ACCESSORIES

Included software	MAESTRO-Pro; the isotope identification applications (EasyID, Sleuth and R APiD) are not included	[1]

GENERAL

File formats	ANSI/IEEE N42.42	[1]
Upgrade	Factory upgrade to the Detective DX1 3 MeV or 8 MeV model, with isotope identification and dose-rate calibration	[1]

Sources

[1] Detective DX1-TS – Detective DX1 “Trans-SPEC Edition”
ORTEC (AMETEK) · brochure · p. 5, Technical Specifications – Detector/Cooler; p. 5, Technical Specifications – Digital MCA and Data Processor; p . 5, Technical Specifications · checked 2026-10-16
https://www.ortec-online.com/-/media/ametekortec/brochures/d/dx1-ts.pdf

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.