ORTEC

IDM-200-V

Interchangeable HPGe detector module for measurement systems

Self-contained building block for high-resolution gamma spectrometry: a mechanically cooled HPGe detector of standardised crystal dimensions and all spectrometry electronics in a rugged, low-power package. The modules are interchangeable and are intended for integration in larger measurement systems, for example waste assay, aerial survey and continuous air monitoring. Controlled from ORTEC software such as MAESTRO an d GammaVision, or from third-party software via ORTEC toolkits.



Relative efficiency
>50% typical (ANSI/IEEE 325-1996) [1]

Energy resolution at 122 keV
≤1400 eV FWHM (warranted at optimum settings) [1]

Energy resolution at 1.33 MeV
≤2.3 keV FWHM at 1,332 keV (warranted at optimum settings) [1]

Specifications

DETECTOR

Detector type	P-type coaxial HPGe detector	[1]

PERFORMANCE

Relative efficiency	>50% typical (ANSI/IEEE 325-1996)	[1]
Energy resolution at 122 keV	≤1400 eV FWHM (warranted at optimum settings)	[1]
Energy resolution at 1.33 MeV	≤2.3 keV FWHM at 1,332 keV (warranted at optimum settings)	[1]
Peak shape FW.1M/FWHM	1.9 typical (FWTM/FWHM)	[1]
Integral nonlinearity	<±0.025% over the top 99.5% of the spectrum	[1]
Maximum throughput	>100,000 cps with LFR off; with LFR on it may be restricted in software (>34,000 cps); depends on shaping parameters	[1]

MEASURING RANGE

Dose-rate range	<0.05 to >10,000 µSv/h; below ~20 µSv/h from the Ge detector spectrum, above that with the internal compensated GM tube	[1]

ELECTRONICS & SIGNAL

Spectrum channels	512–16,384, software controlled	[1]
Gain	0.45–32	[1]
Digital filter rise time	0.8–23 µs in 0.2 µs steps; flat top 0.3–2.4 µs in 0.1 µs steps	[1]

COOLING

Cooling	Stirling cooler, design life >5 years continuous running, <30 W at operating temperature; all-metal-sealed cryostat without molecular sieve; cool-down typically <15 hours	[1]

CONNECTIVITY & INTERFACE

Communication	USB 2.0	[1]

POWER & BATTERY

Batteries	Internal rechargeable Li-ion battery pack, 14.4 V nominal; optional external batteries extend operating time	[1]
Battery life	Approx. 2.5 hours at 25 °C; charging time under 4 hours	[1]
Power supply	10–17 V DC from battery or DC supply (universal mains supply included); 100 W nominal, 72 W while charging, nominally 30 W cold with fully charged battery	[1]

MECHANICAL

Detector dimensions	Nominally Ø85 × 30 mm	[1]
Endcap	Aluminium, 0.5 mm	[1]
Dimensions	Max. 41.3 × 34 × 21.2 cm (L × W × H) including Ge detector endcap	[1]
Weight	17.7 kg (39 lb)	[1]

ENVIRONMENT & RATINGS

perating temperature	–10 to +50 °C (without external enclosure)	[1]
Humidity	95%, non-condensing	[1]
Maximum shock tolerance	20 g; an internal accelerometer records the maximum shock	[1]

ORDERING & ACCESSORIES

Included software	MAESTRO	[1]

Sources

[1] **IDM-200-V Interchangeable Detector Module**
RTEC (AMETEK) · product-page · Specifications – Radiation Detector; Specifications – Gamma Dose Rate Detector; Specifications – Digital MCA and Data Processor · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/gamma-s...

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.