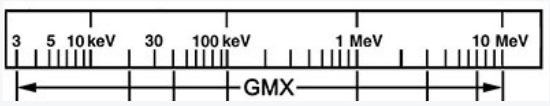
ORTEC

GAMMA-X (GMX) HPGe-detektorer

HPGe gamma detector

N-type coaxial HPGe detectors for gamma spectroscopy when low-energy response and neutron resistance are important.



Energy range
Approximately 5 keV–10 MeV [-1]

Relative efficiency
10–100%; higher on request [-1]

Energy resolution at 122 keV
FWHM maximum limits 0.85–1.40 keV for GMX10–GMX100; model-dependent; optimal shaping with DSPEC-50A [2]

Specifications

DETECTOR		
Detector type	N-type coaxial HPGe	[1]
PERFORMANCE		
Relative efficiency	10–100%; higher on request	[1]
Energy resolution at 122 keV	FWHM maximum limits 0.85–1.40 keV for GMX10–GMX100; model-dependent; optimal shaping with DSPEC-50A	[2]
Energy resolution at 1.33 MeV	FWHM maximum limits 1.8–2.5 keV for GMX10–GMX100; model-dependent; optimal shaping with DSPEC-50A	[2]
Resolution measurement conditions	Total system resolution measured at the factory at optimal shaping time with an ORTEC DSPEC-50A (per ANSI/IEEE Std. 325-1996)	[2]
MEASURING RANGE		
Energy range	Approximately 5 keV–10 MeV	[1]
ELECTRONICS & SIGNAL		
Preamplifier	Resistive feedback as standard; optional PLUS transistor-reset preamplifier (-PL) for ultra-high count rates; optional remote preamplifier (-HJ, Streamline only, not compatible with -PL or -SMN)	[2]
MECHANICAL		
Endcap	Aluminium or carbon fibre options	[1]
ORDERING & ACCESSORIES		
Cryostat configurations	PopTop or Streamline	[2]
Bias control	SMART-1 (-SMN), optional	[1]

Cooling and accessories	Cryostat and dewar or other cooling device required for operation; not included with the detector. A cryostat must be ordered with a Streamline detector.	[2]

GENERAL

Entrance contact	0.3 µm, ion implanted	[1]

Models

Model	Relative efficiency	Typical energy resolution at 5.9 keV	Energy resolution at 122 keV	Energy resolution at 1.33 MeV
GMX10	10 % (minimum) [2]	0.60 keV FWHM; not warranted [2]	≤ 0.85 keV FWHM [2]	≤ 1.8 keV FWHM [2]
GMX15	15 % (minimum) [2]	0.64 keV FWHM; not warranted [2]	≤ 0.88 keV FWHM [2]	≤ 1.9 keV FWHM [2]
GMX20	20 % (minimum) [2]	0.65 keV FWHM; not warranted [2]	≤ 0.88 keV FWHM [2]	≤ 1.9 keV FWHM [2]
GMX25	25 % (minimum) [2]	0.69 keV FWHM; not warranted [2]	≤ 0.90 keV FWHM [2]	≤ 1.9 keV FWHM [2]
GMX30	30 % (minimum) [2]	0.72 keV FWHM; not warranted [2]	≤ 0.90 keV FWHM [2]	≤ 1.9 keV FWHM [2]
GMX40	40 % (minimum) [2]	0.76 keV FWHM; not warranted [2]	≤ 1.00 keV FWHM [2]	≤ 2.0 keV FWHM [2]
GMX50	50 % (minimum) [2]	0.80 keV FWHM; not warranted [2]	≤ 1.10 keV FWHM [2]	≤ 2.2 keV FWHM [2]
GMX60	60 % (minimum) [2]	1.10 keV FWHM; not warranted [2]	≤ 1.30 keV FWHM [2]	≤ 2.3 keV FWHM [2]
GMX70	70 % (minimum) [2]	1.10 keV FWHM; not warranted [2]	≤ 1.30 keV FWHM [2]	≤ 2.3 keV FWHM [2]
GMX80	80 % (minimum) [2]	1.10 keV FWHM; not warranted [2]	≤ 1.30 keV FWHM [2]	≤ 2.3 keV FWHM [2]
GMX90	90 % (minimum) [2]	1.20 keV FWHM; not warranted [2]	≤ 1.40 keV FWHM [2]	≤ 2.4 keV FWHM [2]
GMX100	100 % (minimum) [2]	1.20 keV FWHM; not warranted [2]	≤ 1.40 keV FWHM [2]	≤ 2.5 keV FWHM [2]

Model	Peak-to-Compton ratio	Peak shape FW.1M/FWHM	Peak shape FW.02M/FWHM	Endcap diameter
GMX10	≥ 40:1 [2]	1.9 (maximum) [2]	2.6 (typical) [2]	70 mm (nominal) [2]
GMX15	≥ 44:1 [2]	1.9 (maximum) [2]	2.6 (typical) [2]	70 mm (nominal) [2]
GMX20	≥ 48:1 [2]	1.9 (maximum) [2]	2.8 (typical) [2]	70 mm (nominal) [2]
GMX25	≥ 48:1 [2]	1.9 (maximum) [2]	2.8 (typical) [2]	76 mm (nominal) [2]
GMX30	≥ 52:1 [2]	1.9 (maximum) [2]	2.8 (typical) [2]	76 mm (nominal) [2]
GMX40	≥ 59:1 [2]	2.0 (maximum) [2]	3.0 (typical) [2]	76 mm (nominal) [2]
GMX50	≥ 58:1 [2]	2.0 (maximum) [2]	3.0 (typical) [2]	83 mm (nominal) [2]
GMX60	≥ 56:1 [2]	2.0 (maximum) [2]	3.0 (typical) [2]	95 mm (nominal) [2]
GMX70	≥ 60:1 [2]	2.0 (maximum) [2]	3.0 (typical) [2]	95 mm (nominal) [2]

GMX80	≥ 63:1 [2]	2.0 (maximum) [2]	3.0 (typical) [2]	95 mm (nominal) [2]
GMX90	≥ 64:1 [2]	2.1 (maximum) [2]	3.1 (typical) [2]	95 mm (nominal) [2]
GMX100	≥ 64:1 [2]	2.2 (maximum) [2]	3.2 (typical) [2]	95 mm (nominal) [2]

Model	Ordering configurations
GMX10	GMX10P4-70 (PopTop) / GMX10-70 (Streamline) [2]
GMX15	GMX15P4-70 (PopTop) / GMX15-70 (Streamline) [2]
GMX20	GMX20P4-70 (PopTop) / GMX20-70 (Streamline) [2]
GMX25	GMX25P4-76 (PopTop) / GMX25-76 (Streamline) [2]
GMX30	GMX30P4-76 (PopTop) / GMX30-76 (Streamline) [2]
GMX40	GMX40P4-76 (PopTop) / GMX40-76 (Streamline) [2]
GMX50	GMX50P4-83 (PopTop) / GMX50-83 (Streamline) [2]
GMX60	GMX60P4-95 (PopTop) / GMX60-95 (Streamline) [2]
GMX70	GMX70P4-95 (PopTop) / GMX70-95 (Streamline) [2]
GMX80	GMX80P4-95 (PopTop) / GMX80-95 (Streamline) [2]
GMX90	GMX90P4-95 (PopTop) / GMX90-95 (Streamline) [2]
GMX100	GMX100P4-95 (PopTop) / GMX100-95 (Streamline) [2]

Sources

[1] **Gamma-X (GMX) N-type High Purity Germanium (HPGe) Coaxial Radiation Detectors**
ORTEC (AMETEK) · product-page · Product page intro; Feature list; More Information · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/high-pu...

[2] **GMX Series Coaxial HPGe Detector – Product Configuration Guide**
ORTEC (AMETEK) · datasheet · p. 14, 'Ordering Information and Warranted Specifications'; p. 2, Configuration Guidelines; p. 4 capsule diagram; p. 14 'GAMMA-X Detector Options' · checked 2026-10-16
https://web.archive.org/web/20231020180101/http://www.ortec-online.com/-/media/ametekortec/brochures/g/gamma...

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.