ORTEC

ORTEC LABR

LaBr₃(Ce) scintillation detectors with better resolution than NaI(Tl)

Lanthanum bromide, LaBr₃(Ce), scintillation detectors with high light output and a fast decay time. Compared with NaI(Tl) they give better energy resolution and stability and higher throughput at high count rates; the resolution varies little over a wide range of count rates. Four crystal sizes from 1 × 1 to 3 × 3 in, used with the O RTEC digiBASE, digiDART or NIM electronics.



Detector type

LaBr₃(Ce) scintillator with 14-pin photomultiplier [1]

Energy resolution

Per the ordering information: LABR-1x1 3.5% g uaranteed; LABR-1.5x1.5 3.0% (target); LABR -2x2 and LABR-3x3 3.5% (target) [1]

Specifications

Detector type	LaBr₃(Ce) scintillator with 14-pin photomultiplier	[1]
Crystal dimensions	LABR-1x1: 1 × 1 in (1.5 in PMT); LABR-1.5x1.5: 1.5 × 1.5 in (2 in PMT); LABR-2x2: 2 × 2 in (2 in PMT); LABR-3x3: 3 × 3 in (3 in PMT)	[1]
Energy resolution	Per the ordering information: LABR-1x1 3.5% guaranteed; LABR-1.5x1.5 3.0% (target); LABR-2x2 and LABR-3x3 3.5% (target)	[1]
Primary decay time	0.026 µs (NaI(Tl): 0.230 µs)	[1]
Photoelectron yield relative to NaI	130 (NaI = 100)	[1]
Dimensions	Detector housing OD × length and overall length (plus pins): LABR-1x1 30.4 × 26.1 mm, 143 mm; LABR-1.5x1.5 43.1 × 39 mm, 151.5 mm; LABR-2x2 5 5.8 × 51.5 mm, 164 mm; LABR-3x3 82.5 × 157 mm, 194 mm	[1]
Compatible instruments	digiBASE or digiBASE-E (simplest, requires a computer); digiDART or digiDART-LF with DIM-296 (portable); NIM with a 296, 276 or 266 PMT base with 113 preamplifier	[1]
Efficiency relative to NaI(Tl)	About 1.3 times that of NaI(Tl) for the same volume	[2]

Sources

[1] **Lanthanum Bromide Scintillation Radiation Detectors**
RTEC (AMETEK) · product-page · Ordering Information; More Information – detector comparison table; Specifications – Dimensions and We ights · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/scintil...

[2] **Lanthanum Bromide Scintillation Radiation Detectors**
RTEC (AMETEK) · datasheet · p. 1, 'Improved Resolution and Efficiency' · checked 2026-10-16
https://edge.sitecorecloud.io/ametekinc1236b-ametekb19a-productiondcfa-1d17/media/Project/Ametek/ortec-onlin...

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.