BRIGHTSPEC

Topaz-HR

Compact stand-alone digital MCA for HPGe and other high-resolution detectors

Stand-alone digital multichannel analyser for high-resolution gamma-ray spectrometry with HPGe detectors, with built-in high voltage and preamplifier power. It has up to 16K channels and PHA, MCS, LIST and TLIST modes, and connects by high-speed USB. It can also be used with scintillators.



Spectrum channels
Up to 16,384 (16K), 32-bit depth [2]

Weight
Less than 200 g (including box) [2]

Specifications

DETECTOR

Compatible detectors	High-resolution detectors such as HPGe; RC or pulse-reset preamplifiers	[1]

ELECTRONICS & SIGNAL

ADC	14-bit, 50 MS/s; 100 MHz DSP	[1]
Spectrum channels	Up to 16,384 (16K), 32-bit depth	[2]
Gain	×1 to ×256 (coarse 1, 2, 4 … 128; fine 1–2 in steps of 1/16,384)	[2]
Detector high voltage	0–6,000 V, 350 µA, automatic ramping; dual polarity, fixed at the factory	[1]
Digital filter rise time	0.1–12 µs in 0.2 µs steps; flat top 0.1–8.0 µs in 0.1 µs steps (trapezoidal shaper)	[2]

CONNECTIVITY & INTERFACE

Communication	USB 2.0 (high speed, up to 480 Mbit/s)	[1]

POWER & BATTERY

Supply voltage	9–24 V from the supplied AC/DC adapter, 15 W max	[2]

MECHANICAL

Dimensions	126 × 106 × 56 mm (L × W × H)	[1]
Weight	Less than 200 g (including box)	[2]

GENERAL

Acquisition modes	PHA, MCS, LIST and TLIST (event time resolution better than 30 ns)	[2]

Sources

[1] **Topaz-HR**
BrightSpec · product-page · Product page – introduction and Main features; Product page – Main features · checked 2026-10-16
https://www.brightspec.be/brightspec/?q=node/41

[2] Topaz-HR technical specifications (V1.7a)
BrightSpec · datasheet · p. 2, Technical Specifications; p. 2, Technical Specifications – Digital Settings (printed as µs; the PDF text layer has a symbol-font character in plac · checked 2026-10-16
https://www.brightspec.be/brightspec/downloads/Topaz-HR_Spec_OnePage_V1.7a.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.