Epic-Crystal

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上海烁杰晶体材料有限公司

EPIC-APD8828

Eight-Channel Low-Behavioral-Background Alpha Spectrometer

1.Product introduction



● Desktop version



● rack-mounted plug-in version

The EPIC-APD8828 eight-channel low-background alpha spectrometer can be configured in either a desktop or cabinet-mounted plug-in form factor. The EPIC-APD8828 eight-channel low-background alpha spectrometer comprises eight independent measurement chambers and can be equipped with a PIPS detector having an effective area ranging from 300 mm² to 1200 mm²; each measurement channel can be independently controlled via host computer software. Utilizing fully digitalized, high-precision multi-channel analysis technology specifically developed for PIPS detectors, the EPIC-APD8828 offers high resolution, high sensitivity, and low background noise, with each channel capable of recording up to 16,384 channels of spectral data.

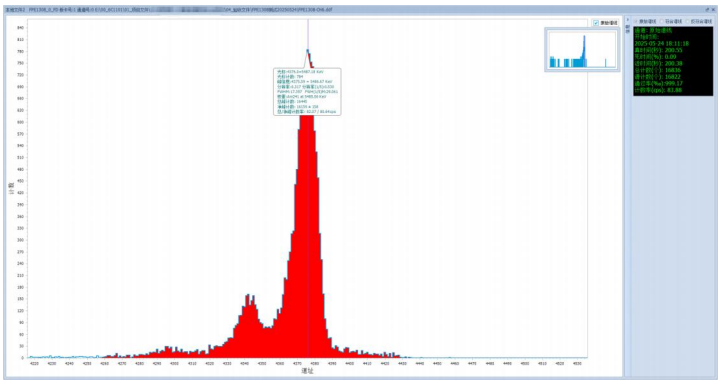
2.Functional indicators

- Supports connection to up to 8 PIPS detectors; effective detector area range: 300 mm²–1200 mm².
- Sample–detector distance: 1–49 mm, with a 4 mm step size.
- The eight measurement channels can be controlled independently; each measurement channel can be independently controlled for measurement via the host computer software.
- All energy spectrum measurement channel counts: 256,512,1024,2048,4096,8192, and 16384 channels are available.
- Supports energy spectrum measurement capabilities for multi-channel Alpha and Beta radiation sources.
- Measurement Control and Energy Spectrum Acquisition.
- Features energy scale and efficiency scale.
- Equipped with a built-in standard nuclide library; users can select their own nuclide library.
- Communication interfaces: USB 3.0 and Gigabit Ethernet.
- Vacuum state is controllable: evacuation and venting are available; emergency venting and pressure relief can be performed via hardware controls.
- Data automatically saved after power loss.
- The software can run on the Windows operating system platform.

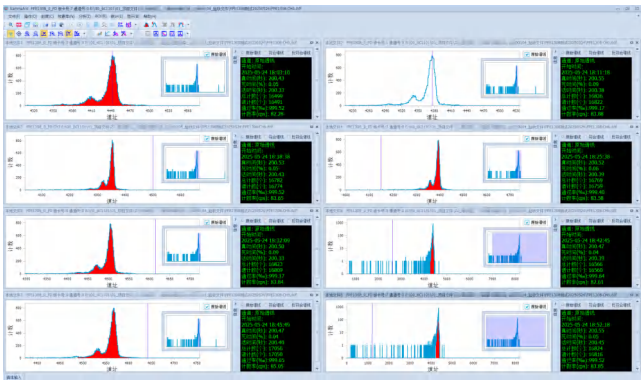
3.Performance parameter

Detector Indicators	
Energy resolution	FWHM ≤ 17 keV at 5.486 MeV (effective detector area: 300 mm²; detector–source distance equal to the detector diameter).
Energy resolution	FWHM ≤ 20 keV at 5.486 MeV (effective detector area: 450 mm²; detector–source distance equal to the detector diameter).
Energy resolution	FWHM ≤ 24 keV at 5.486 MeV (effective detector area: 600 mm²; detector–source distance equal to the detector diameter).
Long-term stability	At a constant temperature, the relative peak drift of the Am-241 peak position is <0.03% within 8 hours and <0.1% within 24 hours.
Background count rate	≤1 count per hour (above 3 MeV, detector effective area: 450 mm²).
CNC bias voltage	0–±200 V, adjustment accuracy: 1 V.
Vacuum level indicator	13.33 Pa to ambient atmospheric pressure; the software can display this value.
Power input	220 VAC, 50 Hz.
Operating temperature	0–45 °C; humidity: 10%–80%.

4.Performance testing



● Measurement resolution of the 450 mm² PIPS detector: 17.397 keV @ 5485.56 keV



● Software interface for energy spectrum measurement of multi-channel Alpha and Beta radiation sources.

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