

1. Overview



The ENAI-D76H76DHP01 NaI scintillation detector is developed and manufactured by Epic Crystal Co., Ltd., adhering to the design philosophy of "Efficient, Professional, Intelligent, and Customer Oriented." This highly integrated gamma-ray spectrometer consists of a 3-inch NaI scintillator, photomultiplier tube, voltage divider, high-voltage module, and preamplifier, capable of directly outputting negative-polarity exponentially decaying pulse signals. With high sensitivity, excellent energy resolution, stable performance, and a compact structure, it is widely used in gamma-ray spectrum analysis, radioactive level detection in building materials and food, and other fields.

2. Core Features

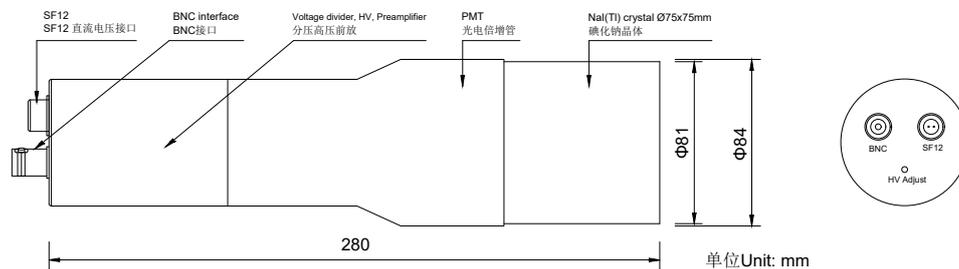
- ▶ 1 With high sensitivity and excellent energy resolution
- ▶ 2 Featuring an integrated design for enhanced operational convenience
- ▶ 3 Demonstrates stable performance and reliable adaptability to various environments

3. Main technical parameters

- ▶ Input Voltage +12V DC
- ▶ Maximum Input Current 50mA
- ▶ Effective Scintillator Size $\Phi 75 \times 75 \text{mm}$
- ▶ Output Signal Polarity Positive
- ▶ Standard Output Signal Amplitude¹⁾ 0.6V
- ▶ Maximum Output Signal Amplitude 4V
- ▶ Energy Resolution (¹³⁷Cs) $\leq 7.5\%$
- ▶ Operating Temperature Standard room temperature
- ▶ Storage Temperature Range $-20^\circ\text{C} \sim +60^\circ\text{C}$
- ▶ Storage Humidity $\leq 90\% \text{ RH}$
- ▶ Interface Types Power Connector: SF12 (+12V input), Signal Output Interface: BNC
- ▶ Dimensions $\Phi 84 \text{mm} \times 280 \text{mm}$ (Diameter \times Length)

Note: 1) The output state of the detector is adjusted by using ¹³⁷Cs radioactive source test.

4. Outline Dimensional Drawing



Interface Definitions

Interface Types	SF12 DC Power Interfac	BNC Signal Interface	HV Adjust Potentiometer Interface
Functional Description	+12V Power Input Interface, Provides operating power for the detector	Positive Polarity Pulse Signal Output Interface, Connects to data acquisition equipment for signal transmission	Used to adjust the internal high voltage - clockwise rotation increases HV while counterclockwise rotation decreases HV.

Operation Precautions: • Power Connection: Ensure input voltage remains within +12V range to prevent device damage. • HV Adjustment: Rotate the HV Adjust potentiometer slowly while monitoring output signal amplitude to avoid sudden voltage changes that may affect detector performance. • Signal Connection: Ensure BNC interface is securely connected to prevent signal attenuation or interference.

5. Application Fields

- 1 Energy Spectrum Measurement & Analysis
- 2 Radioactivity Level Detection
- 3 Industrial & Environmental Monitoring