

DPA-ProCounter-C is a kind of high performance X-ray proportional counter detector, with a large detector size and high stable performance, which can greatly reduce the influence of counting rate on peak drift.



Features

- 17% FWHM Resolution @ 5.9 keV
- Size: 490 mm²
- USB Controlled & RS232 Controlled
- Low influence of counting rate on peak drift
- 2.4μs Peaking Time
- Small size with big solid angle
- Digital Bias high-voltage & Real-time monitoring (0-2500V)

Applications:

- X-Ray Fluorescence
- Coating thickness and Precious Metal XRF instrument
- Metal thickness Detection
- OEM & Special Applications
- Process Control
- Research

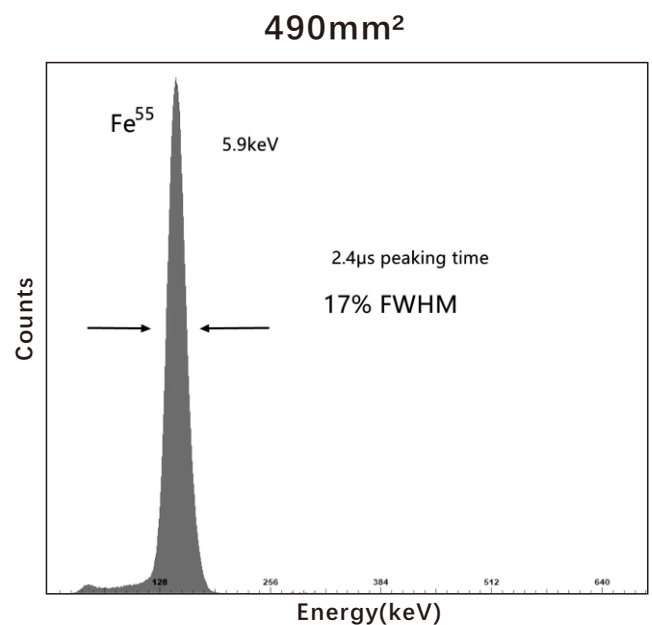


Figure 1. DPA-ProCounter-C Fe55 Spectra

General Specifications

Detector Type	Proportional Counter Detector (DPA-ProCounter-C)
Beryllium window Area	490mm ²
Diameter	30mm
Energy Resolution	17% @5.9keV(Fe55) FWHM peaking time 2.4μs
Bias high-voltage	0-2500V, Digital, real-time monitoring
Be window Thickness	0.2mm
Charge Sensitive Preamplifier	custom design
Size	156.5 x 49 x 34 (mm)
Weight	385g
Total Power	4.2-8.5VDC
Warranty Period	1 year
Lifetime Typical	More than 5 years, depending on use
Storage & Shipping	Typical Storage & Shipping: -20°C to+50°C, 10 to 90% humidity Operation conditions noncondensing
Operation conditions	0°C -50°C

Proportional Counter Detector is an X-ray detector based on photoionization effect, which can measure the intensity and energy of incident X-ray both. This detector takes the central filament as the anode and the cylindrical shell as the cathode, use the incident particle collides with the gas atom in the cylinder to ionize the atom, and then produce the electrons and positive ions. The electrons move towards the central filament under the action of electric field, and produce a pulse electrical signal whose amplitude is proportional to the photon energy.

Performance Characteristics

DPA-ProCounter-C uses a low temperature drift and digital high-voltage bias power supply, voltage range: 0-2500V, it can be applied to different test requirements, and can be monitored the bias high-voltage in real time, the peak channel can be almost unchanged when the count rate changes.

Although the resolution is lower than some semiconductor detector, but the large beryllium window area and low cost make it widely used in X-ray spectrometry, especially the coating test and small sample test.

Additional System Information and Performance

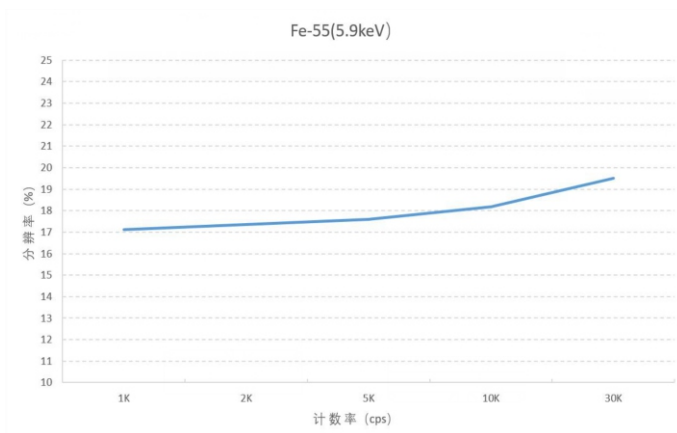


Figure 2. Resolution vs Count Rate

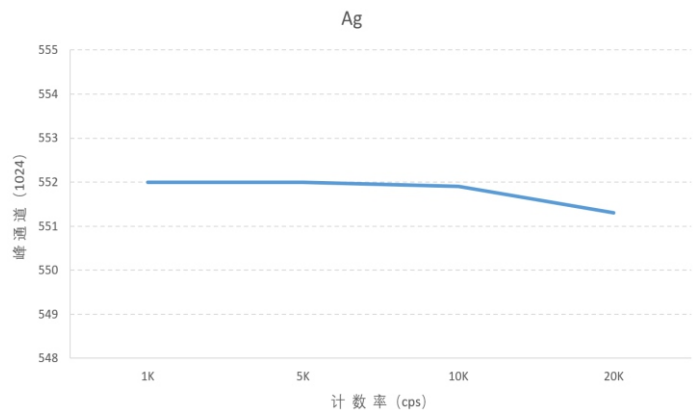
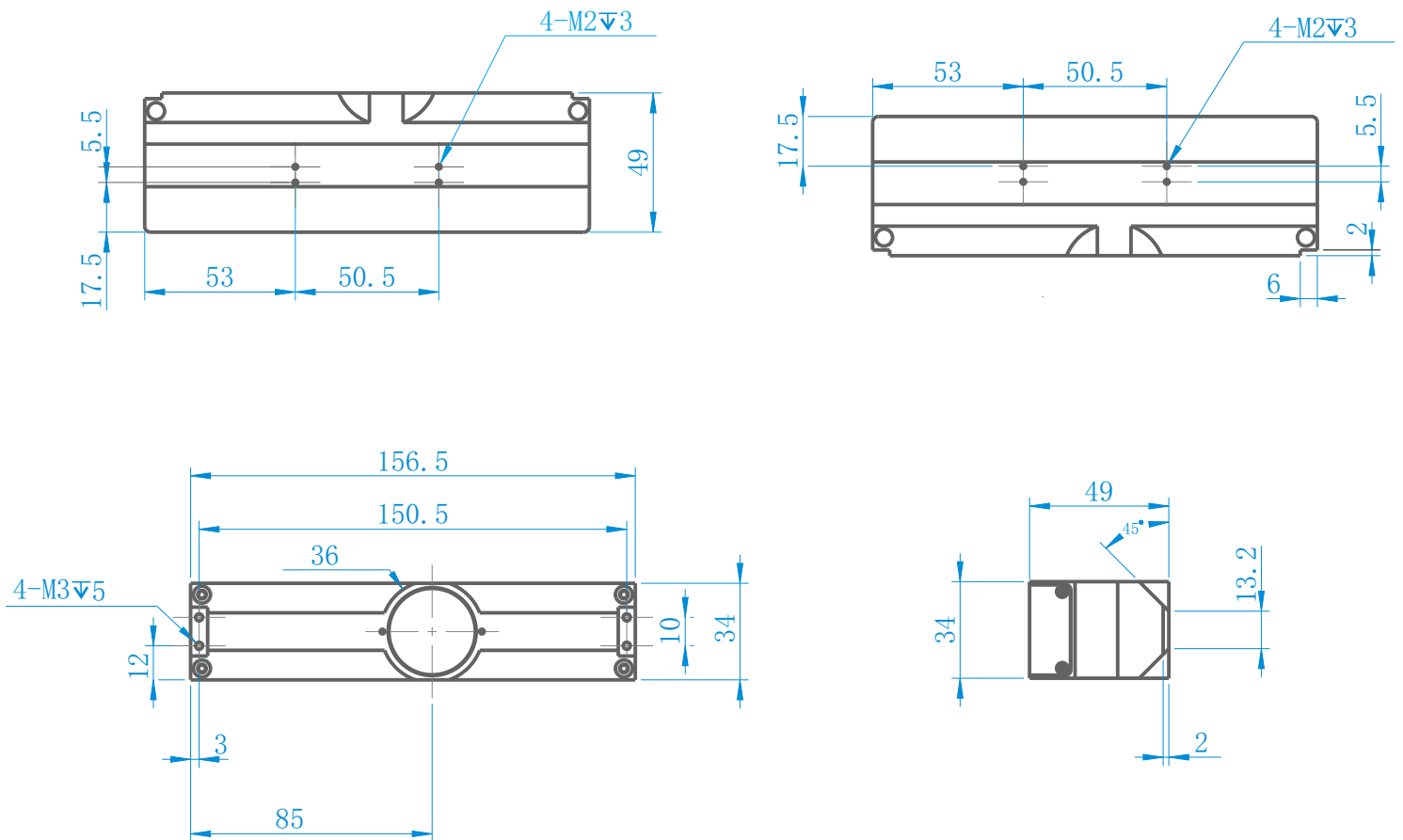
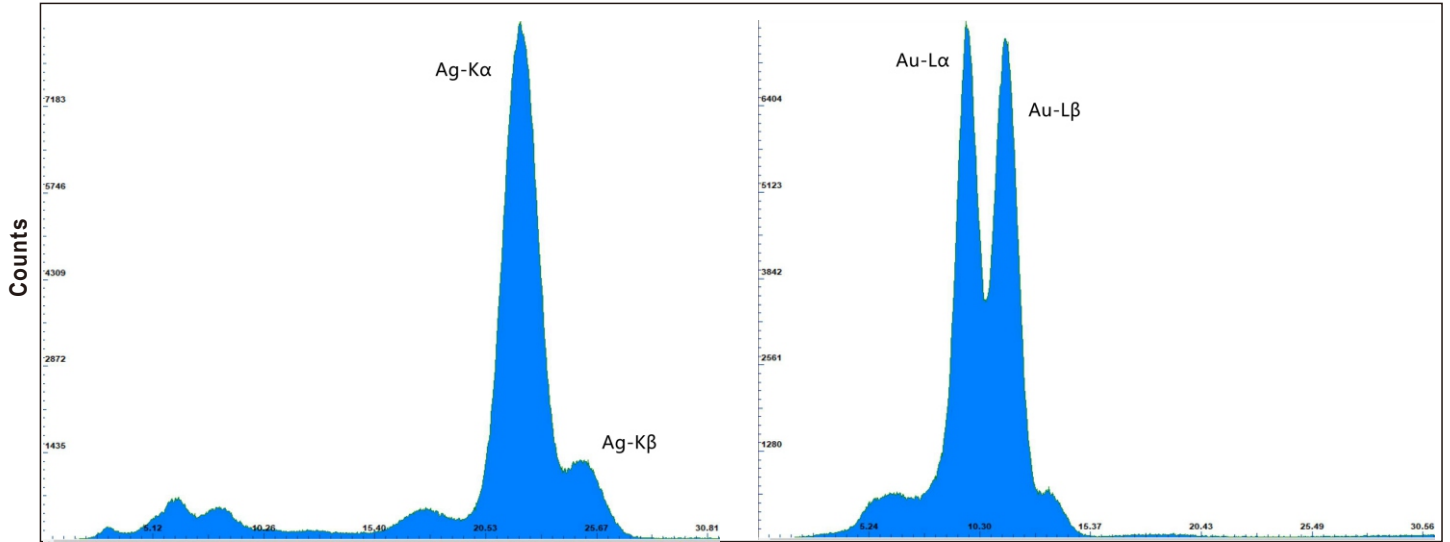


Figure 3. Peak Channel vs Count Rate

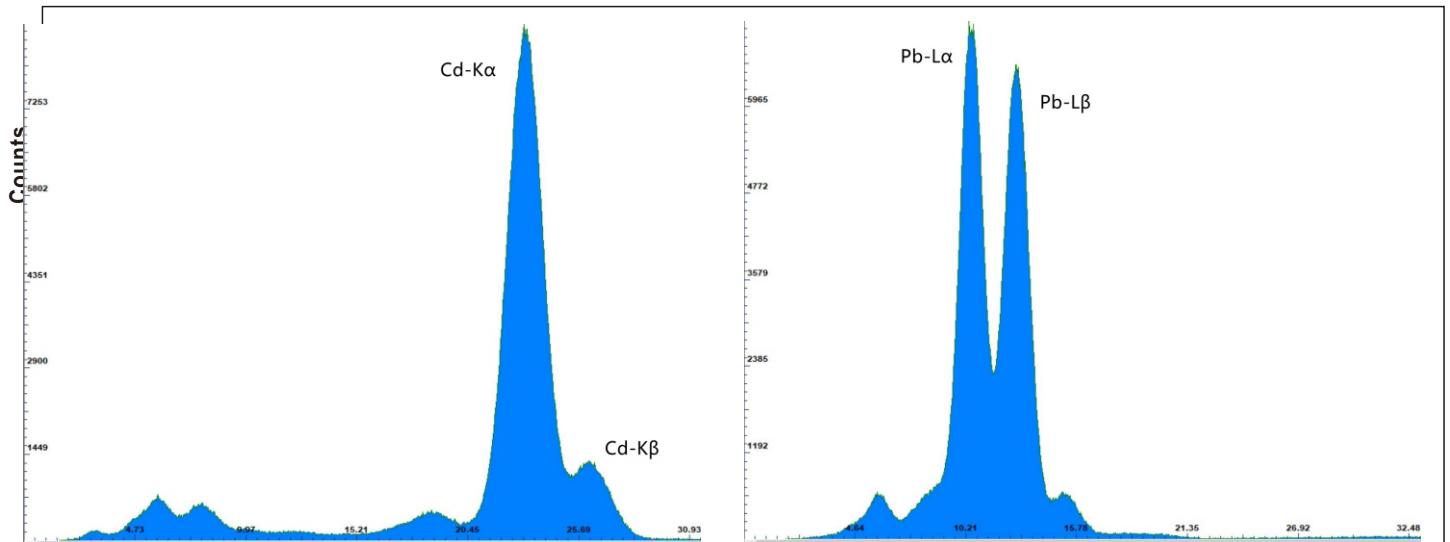
SIZE (mm)



Application Spectra



Energy(kev) / CountRate: 5K (CPS)



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