

ORDELA MODEL 4110X PROPORTIONAL COUNTER

DESCRIPTION

The ORDELA Model 4110X is a miniaturized proportional counter (PC) designed and manufactured by ORDELA, Inc. for measuring low energy (4 to 20 keV) x-rays.

The cross-section of the active volume is 8 mm deep, 8 mm wide, and 10 mm long. The counting gas is Xe-CO₂ at 300 kPa absolute pressure for high detection efficiency and good resolution. The window is 0.5 mm beryllium for increased x-ray transmission. The counter body is made of aluminum to mitigate fluorescence in the x-ray range of interest.

The Model 4110X includes a low-noise preamplifier, a high-voltage filtering circuit, and interconnection cables. In addition to these standard accessories, analog and digital data processing instrumentation is available from ORDELA, Inc. upon request.

PRELIMINARY SPECIFICATIONS

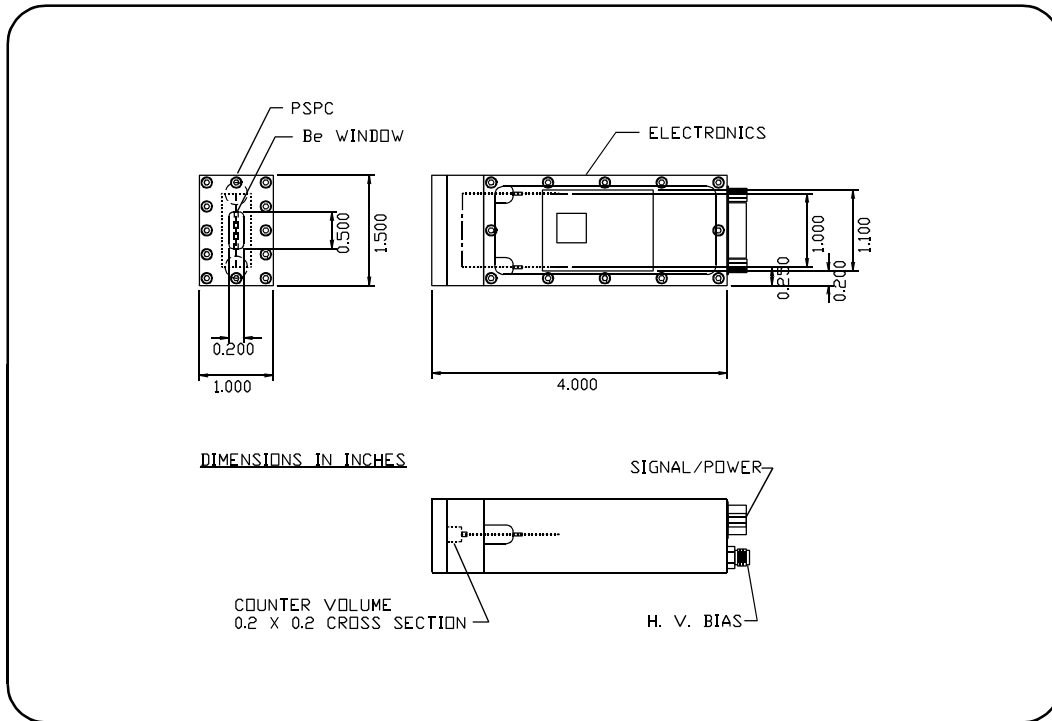
ACTIVE LENGTH:	10 mm
DETECTION EFFICIENCY:	95% for 8 keV x-rays, 40% for 17 keV x-rays
PULSE-HEIGHT RESOLUTION:	20% for 8 keV x-rays
WINDOW ABSORPTION:	50% for 4 keV x-rays, <10% for >8 keV x-rays
COUNT-RATE CAPABILITY:	2 x 10 ⁴ x-rays per second for 10% coincidence losses, maximum count rate 2 x 10 ⁵ x-rays per second
BIAS VOLTAGE:	+1700 V
PREAMPLIFIER POWER:	±12 V at 25 mA

COUNTER CONSTRUCTION

BODY MATERIAL:	Aluminum 6061
COUNTING GAS VOLUME:	12.5 mm long, 8 mm x 8 mm cross-section
OVERALL DIMENSIONS:	11 cm long, 3.81 cm wide, and 3.05 cm deep
SHIPPING WEIGHT:	2 kg

ACCESSORIES

Standard accessories delivered with the Model 4110X are: (1) One low-noise preamplifier and a high-voltage bias and filter circuit which are installed and interconnected at the factory; (2) 3-m-long (10 ft) cables for interconnection of the Model 4110X with the data processing electronics and the high-voltage power supply.



ORDELA MODEL 4110X OUTLINE AND DIMENSIONS

WARRANTY

ORDELA, Inc. warrants its products to be free from defects in materials and workmanship for 12 months after shipment. No other warranty is included. Specifically, no warranty of merchantability or fitness for a particular purpose is implied. ORDELA's liability under this warranty is limited to repairing or replacing the product at ORDELA's option. This warranty is void if the product is operated improperly, disassembled, or modified other than in the ORDELA laboratory.