

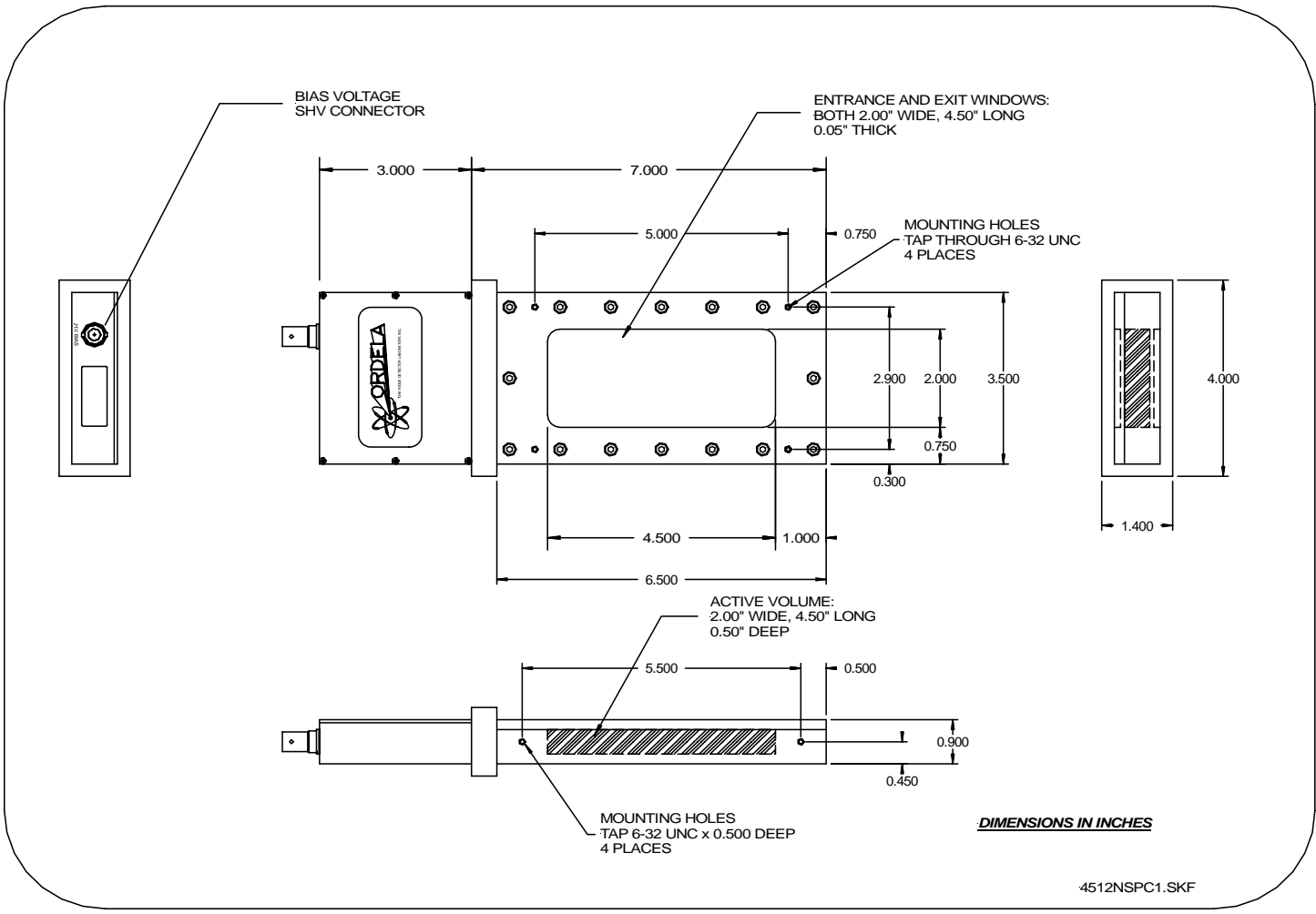
ORDELA MODEL 4512N-SHV NEUTRON BEAM MONITOR

DESCRIPTION

The ORDELA Model 4512N is designed and manufactured by ORDELA, Inc. for the detection and counting of thermal neutrons in intense neutron beams. It operates as a dual-anode gas proportional counter. The detection efficiency of this counter is a customer-specified variable that may range from 0.001% to 75%. The gamma background sensitivity has been minimized by using an all-aluminum counter enclosure and a quench gas of low cross-section for gamma radiation. The proportional counter operates at low gas multiplication (<20) to extend the life of the anode and allow operation in beam intensities of up to 10^8 neutrons per second per cm^2 . The active volume of the counter has a 5.1 cm x 11.4 cm window area and is 1.3 cm deep. The ORDELA Model 4512N Neutron Beam Monitor is packaged in an 8.9-cm-wide, 25.4-cm-long, and 2.3-cm-high unit (excluding 3.6 cm x 10.2 cm flange). The Model 4512N may be mounted to a flange for installation in a vacuum flight path as shown in ORDELA drawing 4512N-01

SPECIFICATIONS

DETECTION EFFICIENCY:	Customer specified, typically $10^{-4} \pm 10\%$ for a nominal neutron energy of 0.025 eV
COUNTER GAS:	$^3\text{He} + ^4\text{He} + \text{CF}_4$ at 760 torr (N_2 optional)
SENSITIVE AREA:	5.1 cm wide x 11.4 cm long
SENSITIVE DEPTH:	1.3 cm
WINDOW THICKNESS:	.13 cm Aluminum
HIGH-VOLTAGE BIAS:	500 V
OUTPUT CONNECTOR:	One SHV connector, directly connected to this anode output of the beam monitor.
OPTIONAL ACCESSORIES:	One low-noise preamplifier (ORDELA Model QS-03) and a high-voltage filter and distribution circuit installed and interconnected at the factory. Vacuum Interface Flange ORDELA 4512N-17 and compression cover ORDELA 4512N-18.



ORDELA MODEL 4512N-SHV 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.