

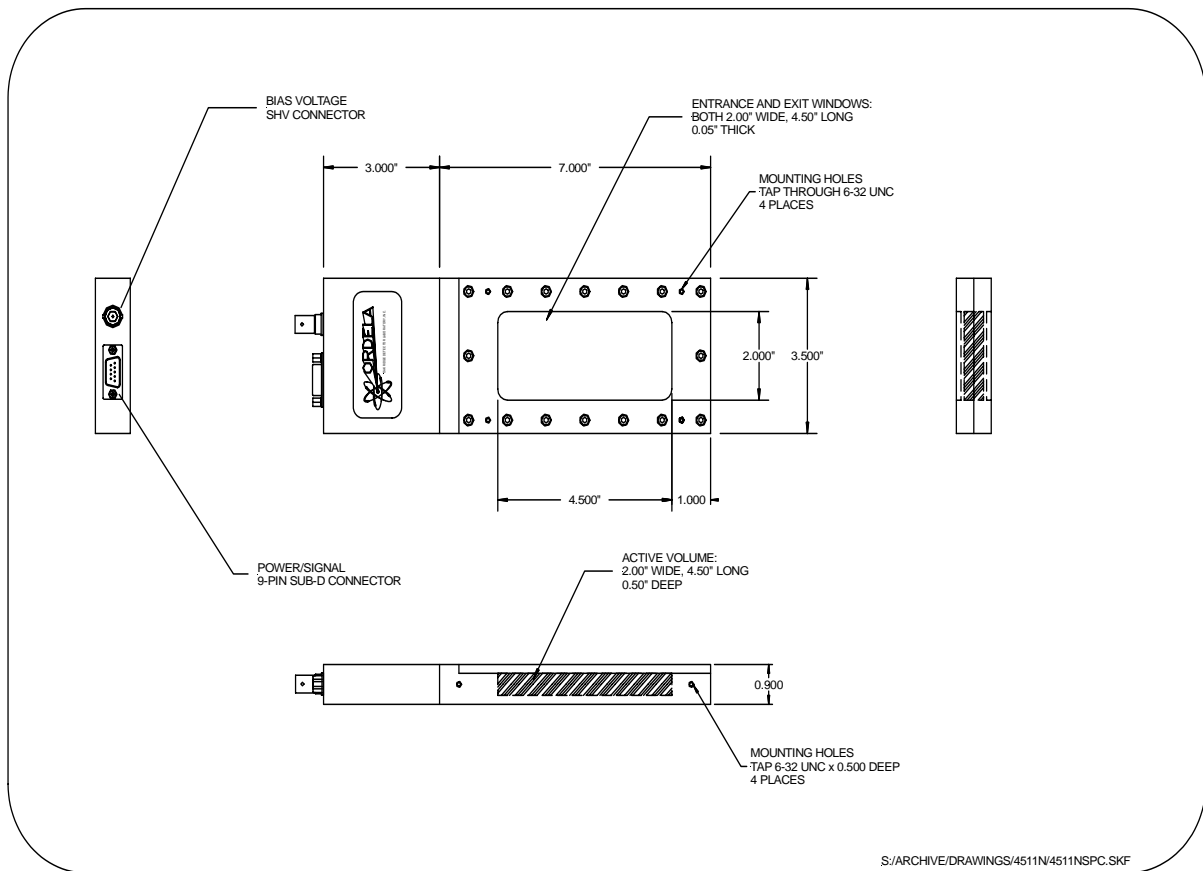
ORDELA MODEL 4511N NEUTRON BEAM MONITOR

DESCRIPTION

The ORDELA Model 4511N 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 4511N Neutron Beam Monitor is packaged in an 8.9-cm-wide, 25.4-cm-long, and 2.3-cm-high unit.

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:	1.254 cm
WINDOW THICKNESS:	0.2 cm Aluminum
HIGH-VOLTAGE BIAS:	500 V
PREAMPLIFIER POWER:	+12 V @ 15 mA
CONNECTORS:	One SHV connector for counter bias; one 9-pin sub-D for preamp power and signal output
PREAMPLIFIER:	Charge sensitive, $\sim 1\text{V}$ output pulses in response to neutrons
STANDARD ACCESSORIES:	One low-noise preamplifier (ORDELA Model QS-03) and a high-voltage filter and distribution circuit are installed and interconnected at the factory



ORDELA MODEL 4511N 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.