Westinghouse RELIATRON® Tube
WL-6307
BF_3 Proportional Counter

The WL-6307 is a boron trifluoride proportional counter for the detection of thermal neutrons. The counter has an all-aluminum body one inch in diameter and 12 inches long; it is provided with a connector for "HN" cable fittings. The WL-6307 is extremely rugged and will operate at temperatures up to 80°C. It is filled to a pressure of 55 cm. Hg with BF_3 enriched to 96% with Boron-10 isotope. The sensitivity of the counter is approximately 4.5 counts per second for a unit thermal neutron flux and it operates in the vicinity of 2000 volts.

GENERAL DATA

Mechanical:

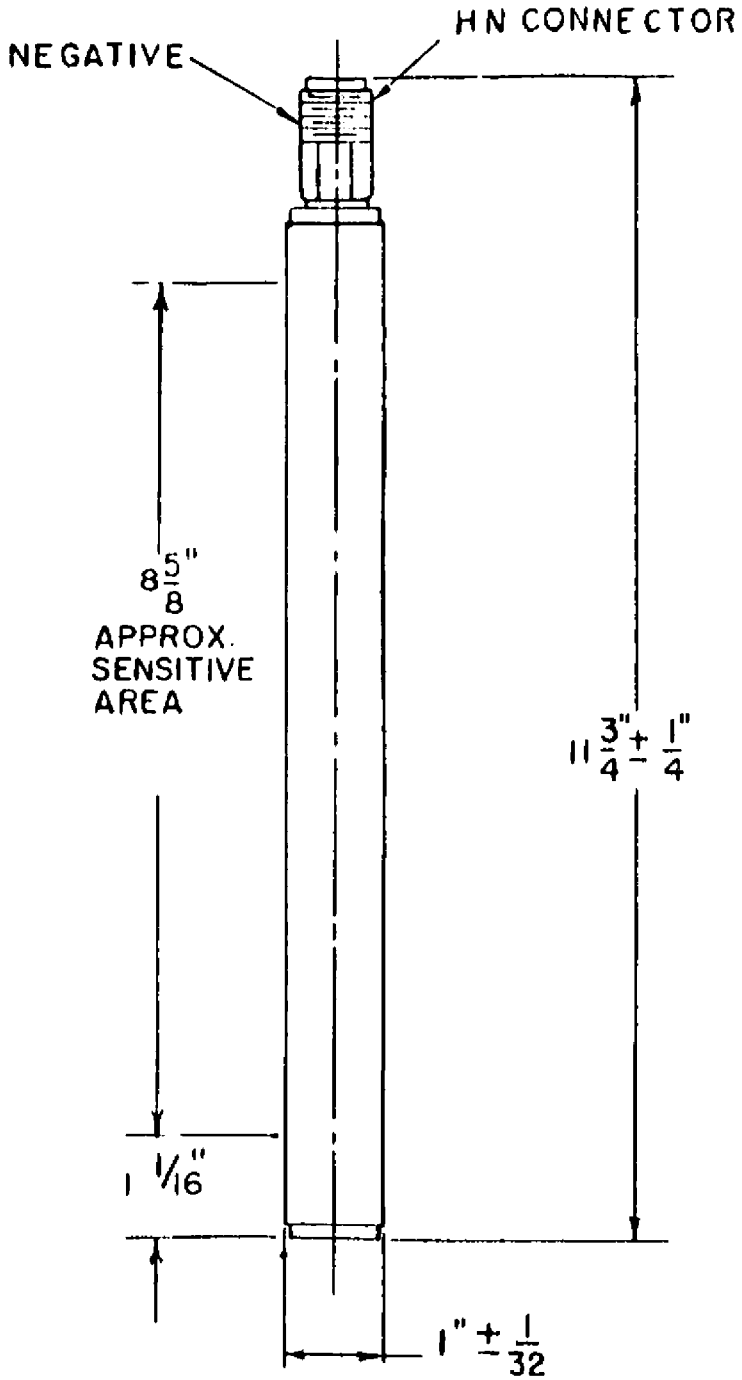
Overall Length	12"
Diameter	1"
Sensitive Length	8.5"
Center Conductor	0.001" Diameter Tungsten Wire
Body Material	Aluminum
Filling: BF_3 enriched to 96% in B^{10} at pressure of 55 cm Hg.	

Operational:

Operating Voltage, approx.	2000	Volts
Operating Temperature, maximum for extended periods of time	80	°C
Sensitivity, counts per second#	4.5	
Multiplication Factor, at 2000 volts	500	

Plateau: Operating plateaus 200 volts or greater in length and with an average slope of 2.0% per 100 volts or less obtainable with 5 millicurie radium-beryllium neutron source.

For an isotropic thermal neutron flux of one neutron per cm^2 - sec.


NEGATIVE
HN CONNECTOR
8 5/8" APPROX. SENSITIVE AREA
11 3/4" ± 1/4"
1 1/16"
1" ± 1/32