

December 26, 1956

WL-6938
HIGH SENSITIVITY BF₃ PROPORTIONAL COUNTER

The WL-6938 is a multi-element proportional counter for the detection of thermal and high-speed neutrons. It is intended for use in the range from 0.025 neutrons per cm² per second to 2.5×10^3 neutrons per cm² per second. The detector consists of a heavy walled all-aluminum case, enclosing a polyethylene moderator block which surrounds a group of individual proportional counters. The case is provided with type "HN" cable fitting and four tapped holes on the top for mounting or support. Each counter is filled to a pressure of 55 cm Hg with BF₃ enriched to 96% with the Boron-10 isotope. The counter is extremely rugged and it will operate continuously in any position, and at temperatures up to 80°C. The sensitivity is approximately 55 counts per second for a unit neutron flux, and it operates in the vicinity of 2200 volts.

GENERAL DATA

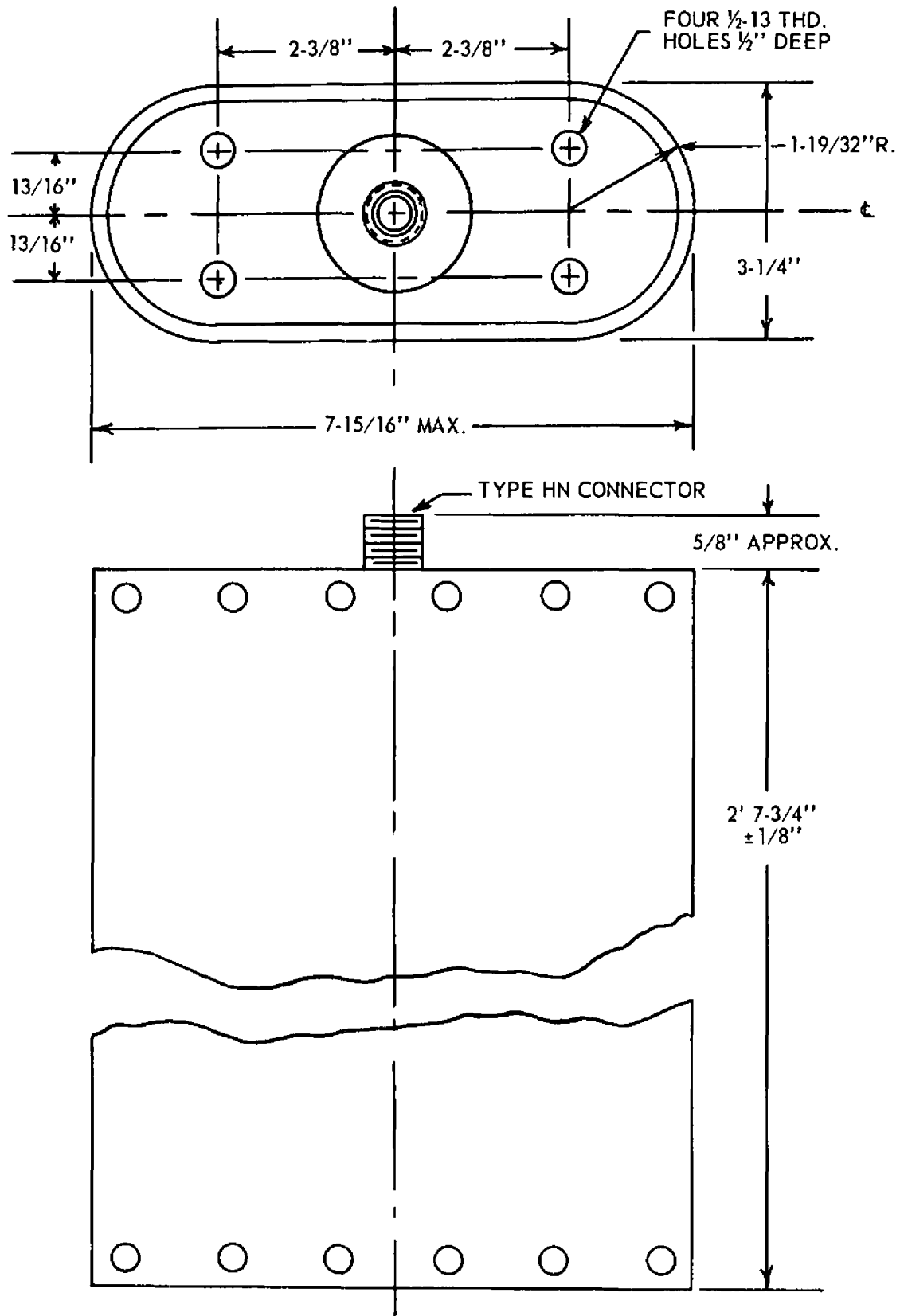
MECHANICAL:

Overall Length	2' 8-3/8"
Overall Width	8"
Weight (approx.)	30 lbs.
Sensitive Length	26"
Insulating Materials	Polystyrene & Alumina
Body Material	Aluminum

OPERATIONAL:

Operating Voltage (approx.)	2200 Volts
Operating Temperature	80° C. max.
Sensitivity (approx.), Note 1	55 Counts per Second
Multiplication Factor, at 2000 Volts	500
Plateau Length	200 Volts min.

NOTE 1: For an isotropic thermal neutron flux of one neutron per cm² per second.



CE-A1181