Permanent Sensitivity GAMMA COUNTERS

5887 (75N) or 5888 (75NB3)

Description

The type ***75N*** or ***75NB3*** is an inexpensive, rugged gamma counter for survey, demonstration, or monitoring applications. The infinite-life, halogen filling gives this tube an unusual electrical ruggedness to match its mechanical strength.

The absence of flanges or external glass structures enables this tube to be bundled in multiple arrangements with good volumetric efficiency.

General Data

Operating temperature range	—55° to +75°C
Gas filling	Neon plus halogen admixture
Cathode material	stainless steel (28% chromium, 72% iron)
Effective cathode dimensions[8]	2 - 11/16" long x .607" I.D. x .009" wall

Performance

Operating voltage[1,3,4]	700 volts D.C.
Plateau length[1]	in excess of 125 volts
Slope of plateau[1,5]	less than 15% per 100 volts
Starting voltage (0.3 volt pulses)[1]	625 volts max.
Capacity at terminals	1.5 mmf
Radial sensitivity (approx.)	80%
Dead time (approx.)	100 microseconds
Maximum counting rate[6]	1,700 counts per second
Background (Shielded with 2" lead and 1/8" aluminum)	50 counts per minute max.
Roentgen energy dependence[7] (unfiltered)	±30%
Life expectancy in counts[2]	unlimited by use

Notes

[1] This data is obtained from an automatic plateau trace run on each tube.

[2] Guaranteed 5 x 10^{10} counts minimum.

[3] These tubes will operate satisfactorily anywhere on the plateau.

[4] Also available upon request filled at 900 volts operating voltage.

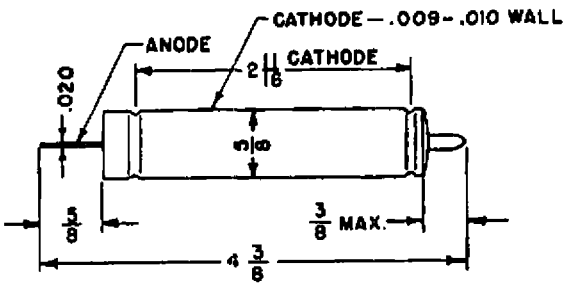
[5] At an average counting rate of 100 counts per second.

[6] For 20% dead time correction (approx.).

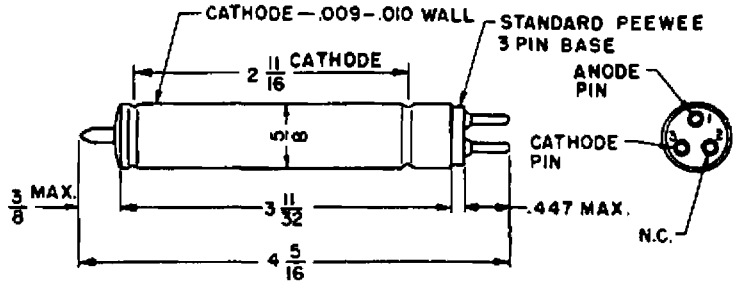
[7] Calculated value based on radiocobalt gamma center value with 100KV to 3 M.E.V. extremes.

[8] This tube is also available with an effective cathode length of 12" upon special request for cosmic ray research, oil well logging, and other applications.

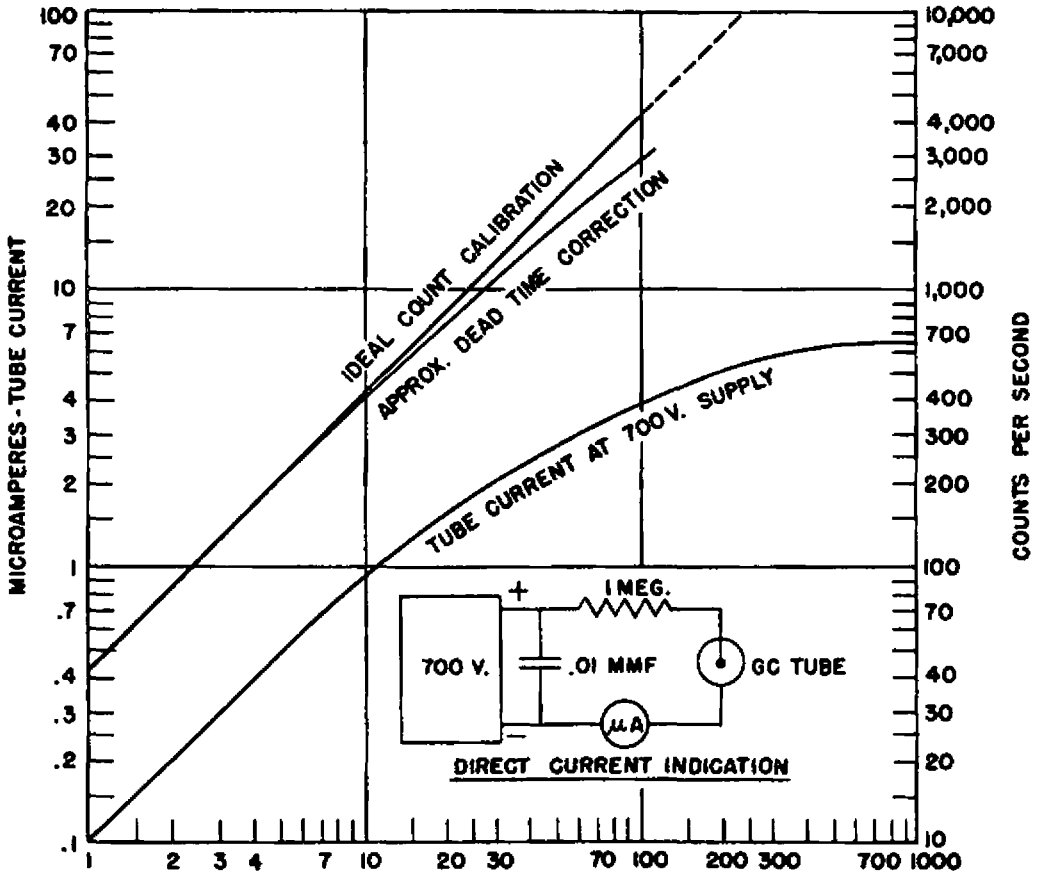
from RTMA release #1128, Jan 30, 1953



75 N



75 NB 3



TYPICAL OPERATION