

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CVI432/Issue 5. Dated 3.12.47. To be read in conjunction with K1004.	<u>SECURITY</u>	
	<u>Specn.</u> Restricted	<u>Valve</u> Unclassified

→ Indicates a change.

→ <u>TYPE OF VALVE:-</u> Gas-filled photo-electric cell. <u>CATHODE:-</u> Caesium on silver or approved alternative. <u>ENVELOPE:-</u> Glass, enamelled black except for window. <u>PROTOTYPES:-</u> CMG8, GS26.	<u>MARKING</u>	
	See K1001/4.	
	<u>BASE</u> B4	
	See K1001/AIV/D5.1.	
<u>RATING</u>	Pin	Electrode
	Note	
Min. Extinguishing Voltage (V) 100	A	1 Anode
Working Voltage (V) 80-100	B	2 No connection or Anode. (See Note D)
Min. Sensitivity (µA/lumen) 75		3 No connection
		4 No connection
		TC Cathode
<u>NOTE THE FOLLOWING GENERAL REQUIREMENTS</u>		
A. The extinguishing voltage shall never be less than 20 V above the rated working voltage of the tube. B. The working voltage, correct to the nearest 5 V, shall be marked on each individual cell, in such a position that it does not interfere with the incident light flux. → C. The spectral sensitivity shall correspond to the normal published characteristics of a caesium on silver cathode, or of an approved alternative cathode. D. An additional anode connection may be made to pin 2 if desired; designers are asked to allow for this optional connection.		
See K1001/AI/D5.		
<u>DIMENSIONS</u>		
See K1004/D1.		
Dimension	Min.	Max.
A mm	114	122.5
B mm	33	35
M mm	69	-
M' mm	-	41
N mm	13	-
<u>PACKAGING</u>		
See K1005.		

TESTS

to be performed in addition to those applicable in K1004.

	Test Conditions	Test	Limits		No. Tested	Note
			Min.	Max.		
a	The cells shall be tested in pairs at $V_a = 18$ V.	Relative sensitivity. (Note sensitivity of each cell.)	The sensitivity of the weaker cell shall be not less than 90% of the other.		100%	1
b	Suitable light flux to be incident on cathode. $V_a = x$ V (i.e. working voltage).	Sensitivity of single cell ($\mu\text{A}/\text{lumen}$)	75	-	100%	1,2
c	$V_a = x$ V. Cell shielded from all sources of light.	I_a (μA)		0.1	100%	
→ d	Suitable light flux to be incident on cathode. $V_a = x + 10$ V.	I_a after 30 secs. (=y μA say) I_a after further period of 60 secs. (μA)		y+10%	100%	1
→ e	Cell shielded from all sources of light. $V_a = x + 10$ V.	I_a (μA)		0.2	100%	
→ f	Cell shielded from all sources of light. $V_a = x + 20$ V.	I_a (μA)		0.2	100%	

NOTES

- 1. A suitable light flux for testing is 0.04 lumen. See also K1004/2.4.
- 2. The working voltage 'x' (also referred to in Notes A and B) is selected by the manufacturer, within the limits 80-110 V, such that the conditions of tests 'a', 'b' and 'c' are fulfilled.
3. All of the above tests will be carried out with a load resistance of not less than $0.1 \text{ M}\Omega$ in the anode circuit.