ADMIRALTY SIGNAL ESTABLISHMENT

# VALVE ELECTRONIC CV1432

| Specification AD/CV1432/Issue 5.<br>Dated 3.12.47.<br>To be read in conjunction with K1004. | SECURITY<br>Specn. Restricted<br>Valve Unclassified |
|---|---|

→ Indicates a change.

**TYPE OF VALVE:-** Gas-filled photo-electric cell.

→ **CATHODE:-** Caesium on silver or approved alternative.

**ENVELOPE:-** Glass, enamelled black except for window.

**PROTOTYPES:-** CMG8, GS26.

| RATING | | Note |
|---|---|---|
| Min. Extinguishing Voltage (V) | 100 | A |
| Working Voltage (V) | 80-100 | B |
| Min. Sensitivity (μA/lumen) | 75 | |

**NOTE THE FOLLOWING GENERAL REQUIREMENTS**

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.

**MARKING**

See K1001/4.

**BASE**

B4

See K1001/AIV/D5.1.

| Pin | Electrode |
|---|---|
| 1 | Anode |
| 2 | No connection or Anode. (See Note D) |
| 3 | No connection |
| 4 | No connection |
| TC | Cathode |

**TOP CAP**

See K1001/AI/D5.

**DIMENSIONS**

See K1004/D1.

| Dimension | Min. | Max. |
|---|---|---|
| A mm | 114 | 122.5 |
| B mm | 33 | 35 |
| M mm | 69 | - |
| M' mm | - | 41 |
| N mm | 13 | - |

**PACKAGING**

See K1005.

## TESTS

To be performed in addition to those applicable in K1004.

| | Test Conditions | Test | Limits Min. | Limits Max. | No. Tested | Note |
|---|---|---|---|---|---|---|
| a | The cells shall be tested in pairs at Va = 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. Va = xV (i.e. working voltage). | Sensitivity of single cell (μA/lumen) | 75 | - | 100% | 1,2 |
| c | Va = xV. Cell shielded from all sources of light. | Ia (μA) | | 0.1 | 100% | |
| → d | Suitable light flux to be incident on cathode. Va = x + 10 V. | Ia after 30 secs. (=y μA say) Ia after further period of 60 secs. (μA) | | y+10% | 100% | 1 |
| → e | Cell shielded from all sources of light. Va = x + 10 V. | Ia (μA) | | 0.2 | 100% | |
| → f | Cell shielded from all sources of light. Va = x + 20 V. | Ia (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 MΩ in the anode circuit.