SENSORTECH

VQ25
Combustible Gas Detector Elements

To be read in conjunction with "Introduction to Pellistor Gas Sensors" and Pellistor Application Notes 1, 2, 3, 4, 6 and 7.

INTRODUCTION

The VQ25 consists of two matched elements which are used for the detection of combustible gases in air. **They are not generally suitable for the detection of methane in air.**

The elements are designed especially for use in situations where they are liable to be exposed to high concentrations of flammable gas, up to 100%. The VQ25 remains substantially unchanged, even after long periods of exposure to high concentrations, although it is advisable to check the zero calibration after each such exposure.

The VQ25 is also useful for the detection of combustible vapours containing halogens, or when small amounts of non-flammable halogenated hydrocarbons are present.

There is no interference from water vapour or carbon dioxide unless the concentrations are high enough to affect the flammability of the gas mixture. Using the recommended bridge circuit below and the mounting arrangement shown on page 3, the minimum sensitivity is 25 mV/1% n-butane.

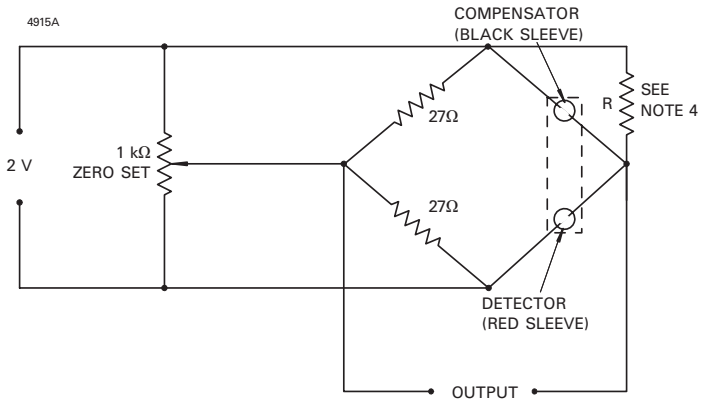
GENERAL DATA

Electrical

The information given below relates to the VQ25 operating in the recommended circuit shown.

Operation (see note 1)	continuous
Bridge supply	2.0 ± 0.1 V
Bridge power consumption	0.75 W max
Minimum sensitivity (see note 2)	25 mV/1% n-butane
Linearity	linear up to 1.5% n-butane
Response time to register 0.5% in a 1% concentration (see notes 2 and 3)	3 seconds

BRIDGE CIRCUIT



Mechanical

Mounting . . . . . see page 3
Outline . . . . . see page 2

MARKING

Each element is identified by a unique serial number written on the can of both the detector and compensator. The serial number is written in red on the detector and black on the compensator. In addition, the detector carries a red circular label on the base identifying the device type.

NOTES

1. Operation may be under either direct flow or diffusion conditions in appropriate mountings (see page 3).
2. With open-circuit conditions at the bridge output.
3. The response time is a function of the type of mounting used.
4. The elements are supplied as a matched pair with a trimming resistor R of the correct value which is between 39 and 120 Ω. The trimming resistor is to be connected across the compensator element as shown below.

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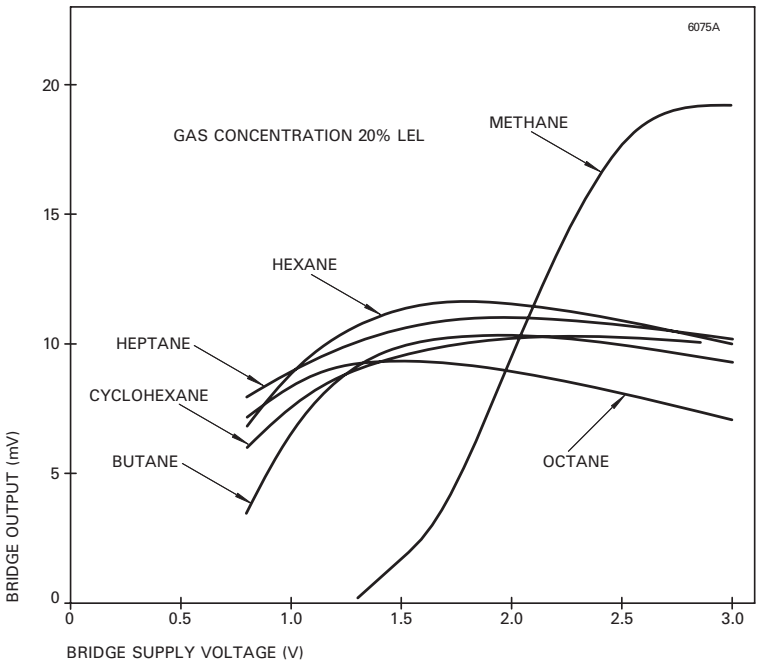
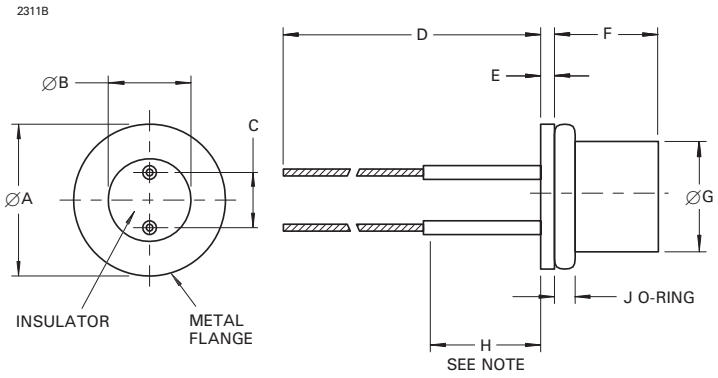
TYPICAL VARIATION OF BRIDGE OUTPUT WITH SUPPLY VOLTAGE



OUTLINE (All dimensions without limits are nominal)



Ref	Millimetres
A	11.05 ± 0.25
B	6.10 ± 0.25
C	3.56 ± 0.13
D	63.50 min
E	1.02
F	7.37 ± 0.51
G	8.20 max
H	9.53
J	1.52

Note No bends may be made in this length.

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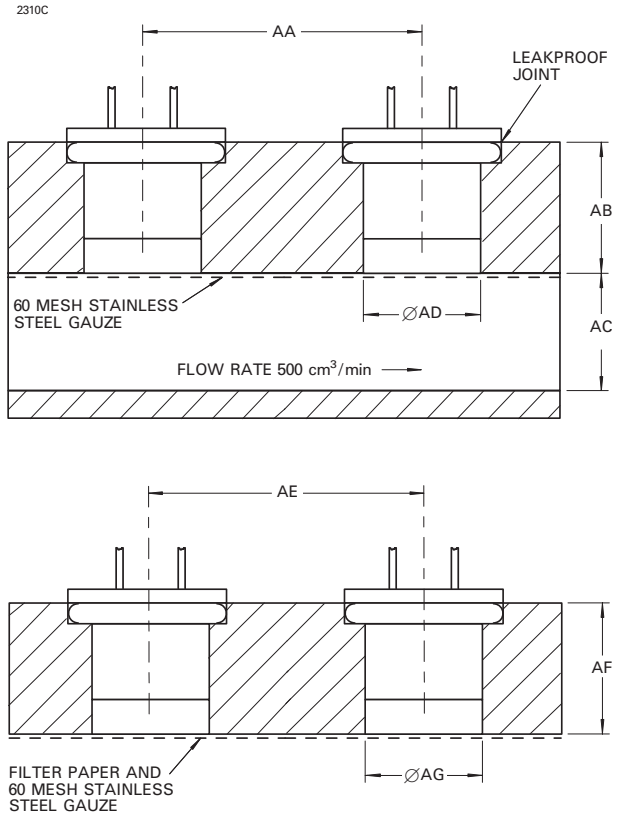
RECOMMENDED MOUNTING ARRANGEMENTS



Ref	Millimetres
AA	19.05 max
AB	9.53 ± 0.13
AC	8.33 ± 0.13
AD	8.20 min
AE	19.05 max
AF	9.53 ± 0.13
AG	8.20 min

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