SENSSET
SENSOR SEQUENCE

SSN-GCL-BG55

Catalytic combustible gas sensor

PRODUCTS FEATURES

- The bridge output voltage is linearly
- Fast response
- With good repeatability, selectivity
- Elements stable, reliable
- Excellent resistance to H2S, silicone poisoning ability

1. Technical parameter

Table 1. characteristics

Parameter	Condition
Detection gas	Combustible gas
Detection range	0-100% LEL
Working voltage	2.5V
Sensitivity	20-60 mV/ 1%CH4
Zero voltage	±30mV
Resolution	1% LEL
Response time	< 15s
Recovery time	< 30s
Storage temperature	-20°C~60°C
Operating temperature	-20°C~60°C
Humidity range	< 95%RH (non-condensing)
Zero drift	≤±5% FS/month
Sensitivity drift	≤±5% FS/month
Shelf life	Delivery after 12 months
Life	2 years

The SSN-GCL-BG55 sensor responds to a wide range of combustible gases, and the data in the table shows the relative sensitivity of some typical combustible gases at their 100% LEL counterparts.

Table 2.

Gas	Molecular Formula	100% LEL Corresponding concentration (vol%)	100% LEL Relative sensitivity
Methane	CH4	5.0 %	100
Propane	C3H8	2.1 %	58
Hydrogen	H2	4.0 %	45
Acetone	CH3COCH3	2.5 %	34
Ethanol	C2H5OH	3.3 %	38

2. Mechanical Dimension

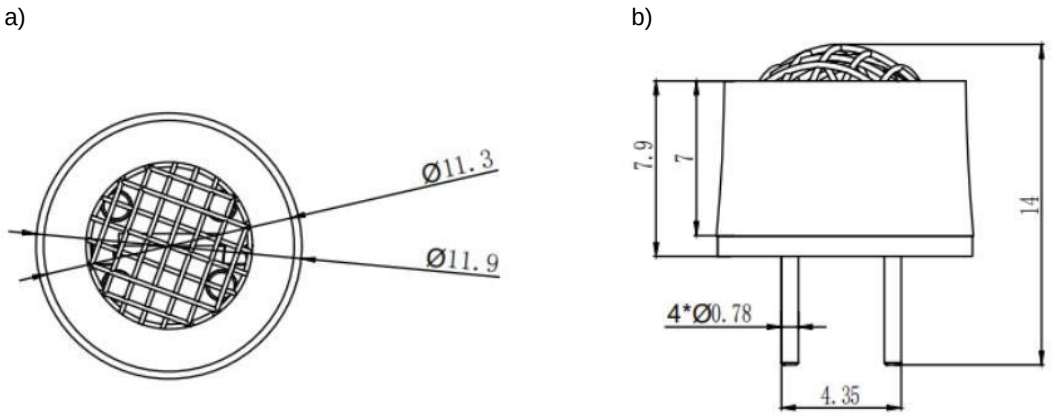

Figure 2.1. Mechanical dimensions in mm a) top view b) projection view

3. Basic circuit

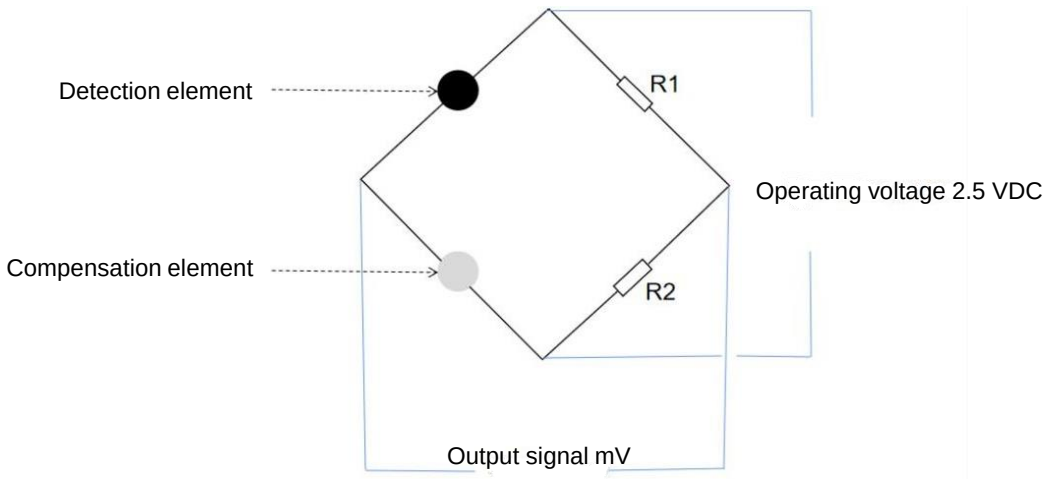

Figure 3.1. The diagram above shows the basic test circuit of the SSN-GCL-BG55 sensor

4. Sensor Characterization

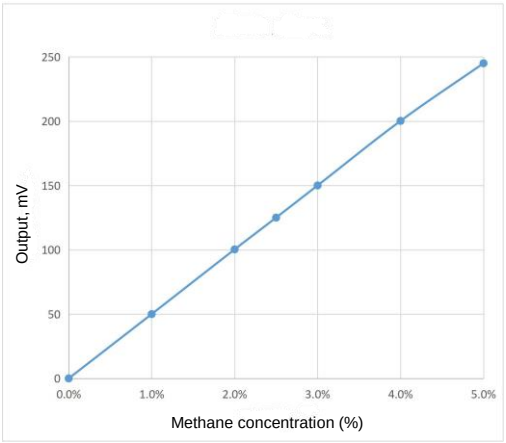

Figure 4.1. Sensor typical sensitivity of the linear characteristic curve

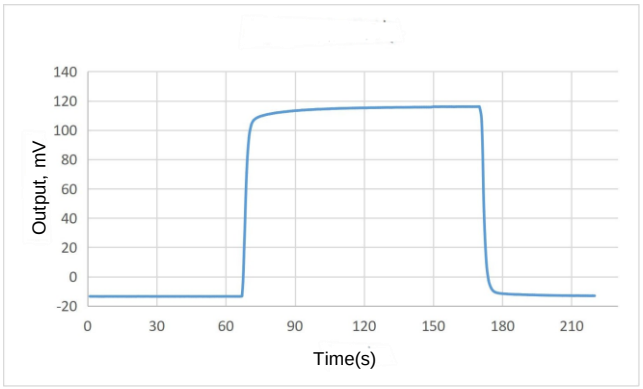

Figure 4.2. The sensor response and recovery curve of 2.5% methane

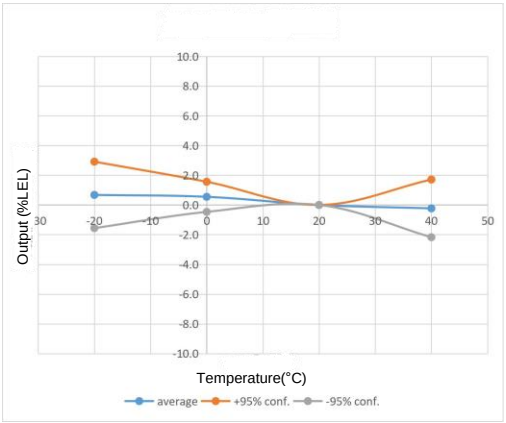

Figure 4.3. The base line output - Temperature affect

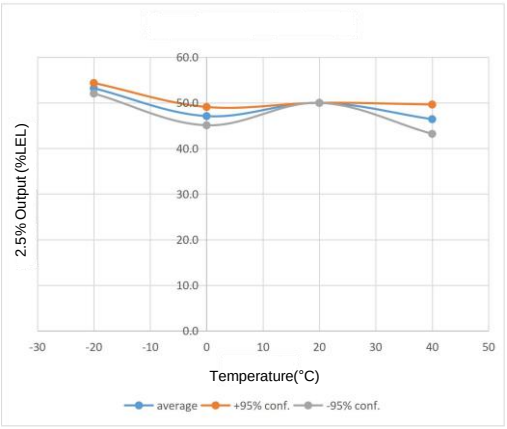

Figure 4.4. The base line output - Temperature affect

5. Notes

1. A number of compounds can cause a decrease in sensor sensitivity, including the following categories.
2. Silicone vapors, a variety of gaseous substances containing elemental silicon, including silanes, silicones, and other volatile silicones. This type of material will produce a silica coating on the catalyst surface of the detection element, and very low concentrations of silicone can cause an irreversible decrease in sensor sensitivity.
3. Gases such as hydrogen sulfide, sulfur oxide, chlorine, and hydrogen chloride. Such substances can block the active site by binding to the catalytic active site on the catalyst surface of the detection element, causing a decrease in sensor sensitivity.
4. Condensation or icing on the sensor housing surface. These substances can block the housing vents and reduce the sensitivity of the sensor.
5. Gases above the measurement range can reduce the stability of the sensor. The stability of the sensor is irreversibly reduced when the sensor is exposed to high concentrations of combustible gases (e.g., pure hydrogen, methane at concentrations above 5%, and other combustible gases above their lower explosive limits).
6. Abnormal operating voltage. When the voltage is lower than the normal operating voltage of 2.5V, the sensor sensitivity will be lower than the normal range; when the voltage is higher than 2.5V, the sensor is prone to wiring or structural damage, which will cause the sensor sensitivity to decrease.
7. Wrong pin wiring will cause the sensor signal not to output normally.

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Development, production and supply of high-tech sensors