

MR511 Hot-wire type gas sensor

MR511 type gas sensor through gas absorption on the metal oxide semiconductor generates hot conduction and electronics conduction change principal, the white coil resistor change when detecting gas concentration. MR511 consists detecting element and compensation element, both elements are placed in a wheatstone bridge circuit, when the combustible gas appears, the detecting element resistor reduces, bridge circuit voltage output changes, the voltage will increase according to the gas concentration increase, the compensation element refers to temperature compensation effect.

Features

- High sensitivity, large output
- Fast primary stability time, quick response
- Remarkable reproducibility and reliability.
- Goode selectivity, avoid smoke ethanol disturb
- Low consumption, miniature design

Applications

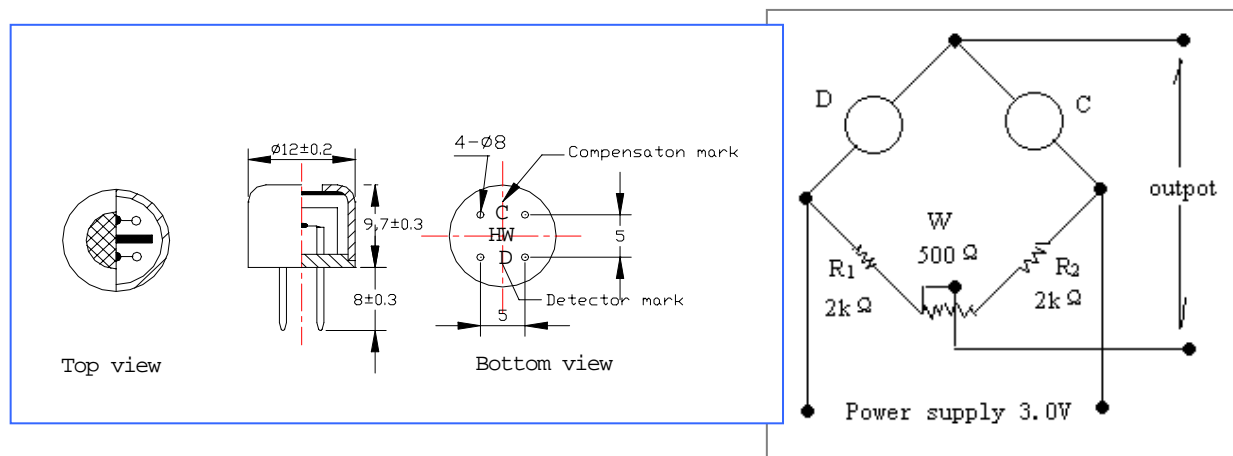
Domestic, Industrial spot natural gases, LPG.
COAL GAS、 alkyl etc combustible gas concentration detection.

- Combustible gas leak alarm
- Combustible gas detection



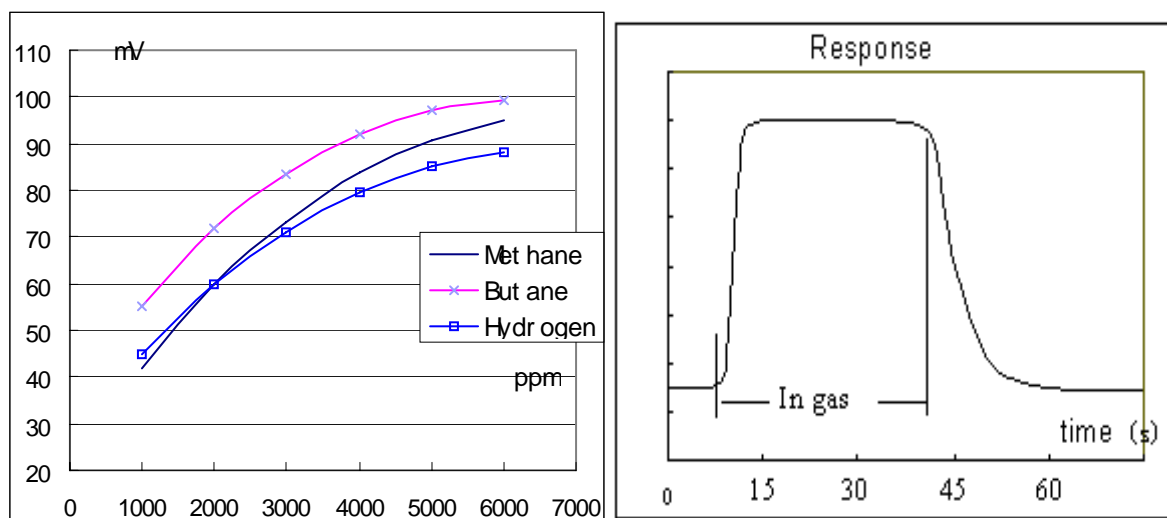
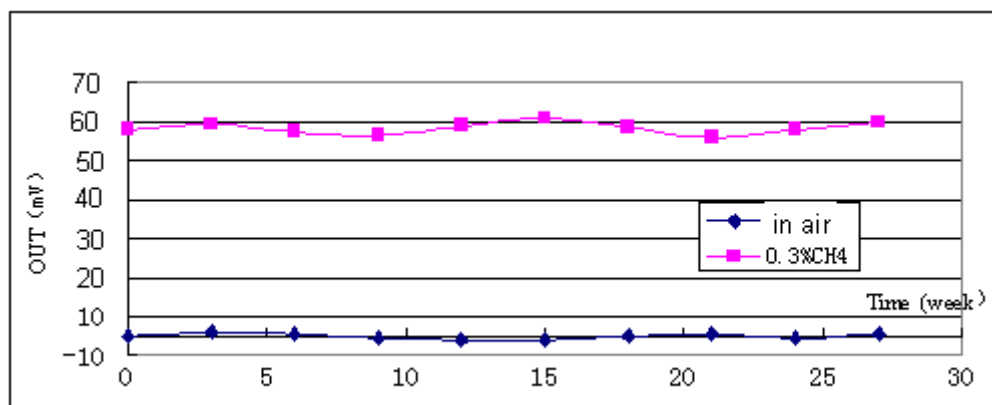
Configuration

Basical detecting circuit



Specifications

Name		Technical parameter	
Working voltage		3.0±0.1	V
Working current		100±10	mA
sensitivity	0.3%Methane	>60	mV
	0.2%Butane	>60	mV
	0.1%Hydrogen	>40	mV
Response Time (90%)		Less than 15sec	
Resume time (90%)		Less than 30sec	
Working environment		-20...+60℃ Less than 95%RH	
Size		Φ 12mmX10mm	

Sensitivity ,Response and Resume characteristics**Long stability**

The drift in air per year will be less than 10mV, In 0.3%CH₄ gas less than 10mV
 Short time storage (in 2 weeks) need 30 minutes to stabilize, Long storage like 1 year need at least 3 hours preheating to stabilize.

Notification

- △ The sensor sensitivity need to calibrate thermally.
- △ Try to avoid meeting the combustible gas up to 5% concentration or higher. If happened accidentally, please recalibrate the 0 point and sensitivity.
- △ When debugging, should strict to control the heating voltage or current, do not exceed 4.0V voltage to burn the sensor.
- △ For long period storage, do not put it in wet and corrosive environment.
- △ Shocking, falling, and mechanical destroying is prohibited