

Carbon Monoxide Sensor MQ7

MQ-7 gas sensor composed by micro AL₂O₃ ceramic tube, Tin Dioxide (SnO₂) sensitive layer , measuring electrode and heater are fixed into a crust made by plastic and stainless steel net. The heater provides necessary work conditions for work of sensitive components.



Features

- High sensitivity to carbon monoxide
- Stable and long life

Applications

They are used in gas detecting equipment for carbon monoxide(CO) in family and industry or car.

Specifications

Parameter	Value
Circuit voltage	5v
Using temperature	-20C to +50C
Storage temperature	-20C to +50C
Relative humidity	Less than 95% RH

Working

The MQ-7 gas sensor is shown as Fig. 1 (Configuration A or B), sensor composed by micro AL₂O₃ ceramic tube, Tin Dioxide (SnO₂) sensitive layer, measuring electrode and heater are fixed into a crust made by plastic and stainless steel net. The heater provides necessary work conditions for work of sensitive components. The enveloped MQ-7 have 6 pin, 4 of them are used to fetch signals, and other 2 are used for providing heating current.

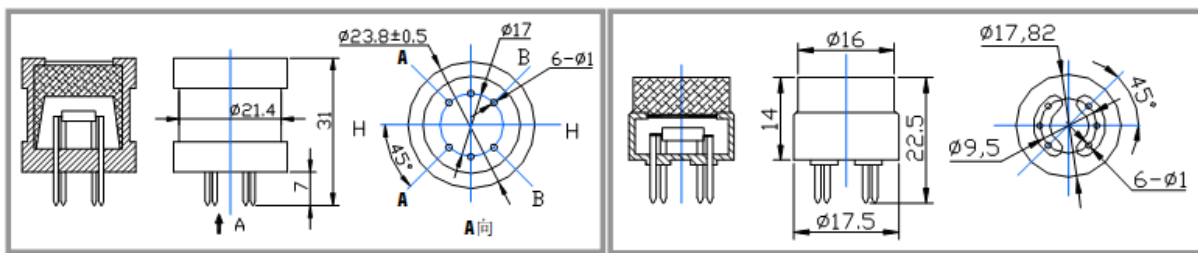
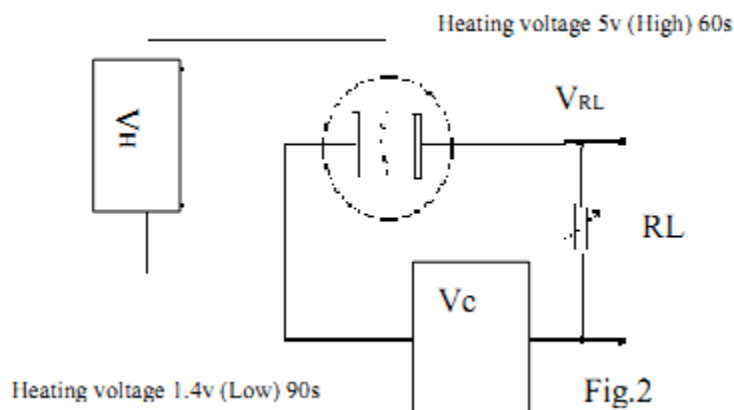


Fig.1

As shown in Fig 2, standard measuring circuit of MQ-7 sensitive components consists of 2 parts. one is heating circuit having time control function (the high voltage and the low voltage work circularly). The second is the signal output circuit, it can accurately respond changes of surface resistance of the sensor.

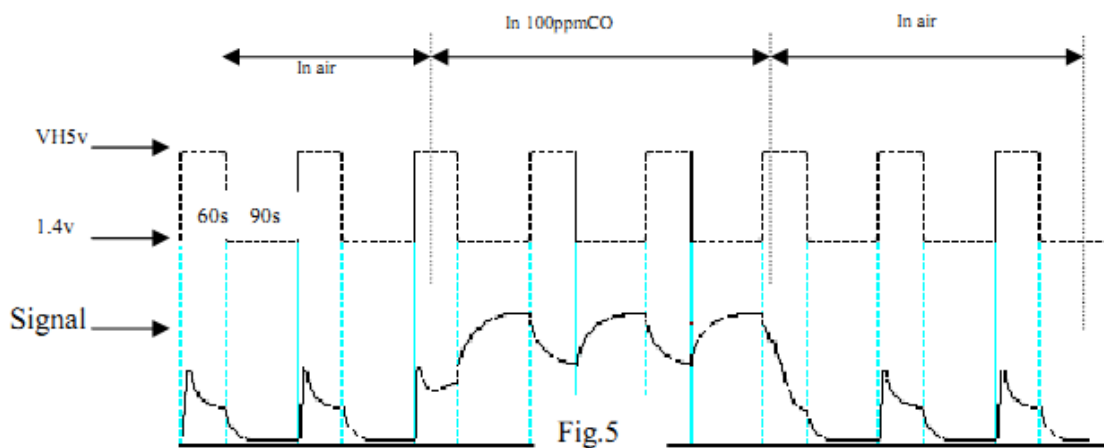


operation principle:

. The surface resistance of the sensor R_s is obtained through effected voltage signal output of the load resistance R_L which series-wound. The relationship between them is described:

$$R_s \backslash R_L = (V_c - V_{RL}) / V_{RL}$$

Fig. 5 shows alterable situation of R_L signal output measured by using Fig. 2 circuit output



signal when the sensor is shifted from clean air to carbon monoxide (CO) , output signal measurement is made within one or two complete heating period (2.5 minute from high voltage to low voltage). Sensitive layer of MQ-7 gas sensitive components is made of SnO_2 with stability, So, it has excellent long term stability. Its service life can reach 5 years under using condition.

Sample Application

To view sample code and schematic click the below link:

<http://researchdesignlab.com/index.php/sensors/carbon-monoxide-sensor-mq-7.html>

To buy this product click the below link

<http://researchdesignlab.com/index.php/sensors/carbon-monoxide-sensor-mq-7.html>

To view the complete datasheet of MQ7 click the below link:

<http://forum.researchdesignlab.com/datasheet/mq7>

