

Structure and configuration of MQ-3 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-3 have 6 pin ,4 of them are used to fetch signals, and other 2 are used for providing heating current.

Electric parameter measurement circuit is shown as Fig.2
 E. Sensitivity characteristic curve

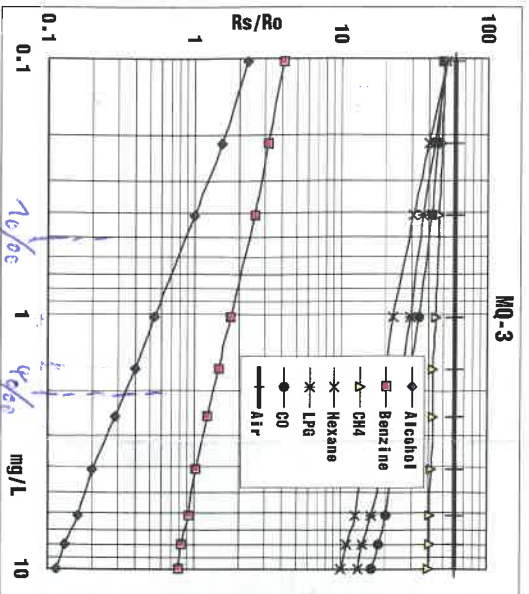


Fig.2 sensitivity characteristics of the MQ-3

Fig.3 is shows the typical sensitivity characteristics of the MQ-3 for several gases.
 In their: Temp: 20°C,
 Humidity: 65%,
 O₂ concentration 21%
 RL=200K Ω
 Ro: sensor resistance at 0.4mg/L of Alcohol in the clean air.
 Rs: sensor resistance at various concentrations of gases.

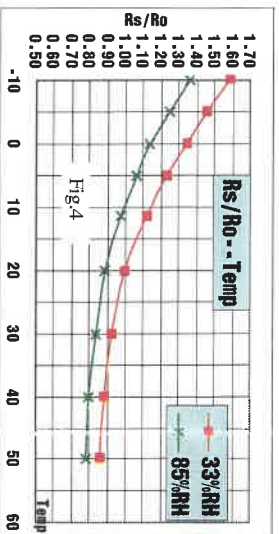


Fig.4 is shows the typical dependence of the MQ-3 on temperature and humidity.
 Ro: sensor resistance at 0.4mg/L of Alcohol in air at 33%RH and 20 °C
 Rs: sensor resistance at 0.4mg/L of Alcohol at different temperatures and humidities.

SENSITIVITY ADJUSTMENT

Resistance value of MQ-3 is difference to various kinds and various concentration gases. So, When using this components, sensitivity adjustment is very necessary. we recommend that you calibrate the detector for 0.4mg/L (approximately 200ppm) of Alcohol concentration in air and use value of Lead resistance(R_L) about 200 K Ω (100K Ω to 470 K Ω).

When accurately measuring, the proper alarm point for the gas detector should be determined after considering the temperature and humidity influence.