
TGS 5042 - for the detection of Carbon Monoxide

Figaro's **TGS5042** is a battery operable electrochemical sensor which offer several advantages over traditional electrochemical sensors. Its electrolyte is environmentally friendly, it poses no risk of electrolyte leakage, can detect concentrations as high as 1% CO, operates in a range from -40° and +70°C, and it has lower sensitivity to interferant gases. With a long life, good long term stability, and high accuracy, this sensor is the ideal choice for CO detectors with digital display. OEM customers will find individual sensors data printed on each sensor in bar code from, enabling users to skip the costly gas calibration process and allowing for individual sensor tracking. TGS5042 utilizes a standard AA battery-sized package.



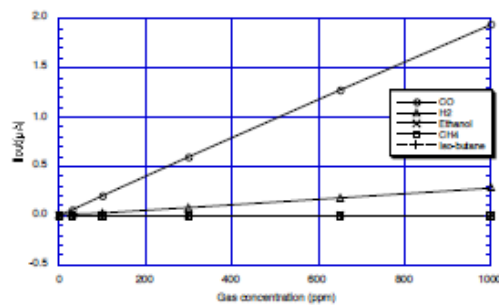
The figure below represents typical sensitivity characteristics, all data having been gathered at standard test conditions (see reverse side of this sheet). The Y-axis shows the output current of the sensor ($I_{out}/\mu A$) in each gas. Output current is linear to CO concentration, with a deviation of less than $\pm 5\%$ in the range of 0~500ppm

.The figure below represents typical temperature dependency characteristics. The Y-axis shows the sensor output ratio (I/I_0) as defined below. The linear relationship between I/I_0 and CO concentration is constant regardless of the CO concentration range.

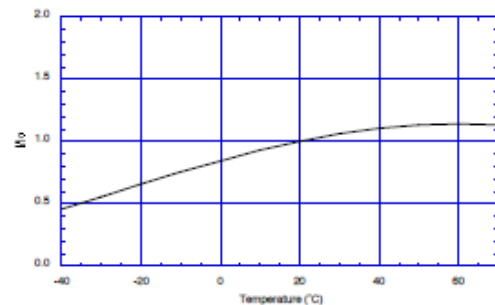
I = Sensor output current in 400ppm of CO at various temperatures

I_0 = Sensor output current in 400ppm at 20°C/50%RH

Sensitivity Characteristics:



Temperature Dependency:



Specifications:

Item	Specification
Model number	TGS 5042-A00 (pin version) TGS5042-B00 (ribbon version)
Target gases	Carbon monoxide
Typical detection range	0 ~ 10,000 ppm
Output current in CO	1.2~2.4nA/ppm
Baseline offset (°)	<±10ppm equivalent
Operating temperature	-10°C ~ +60°C (continuous) -40°C ~ +70°C (intermittent)
Operating humidity	5 ~ 99%RH (no condensation)
Response time (T90)	within 60 seconds
Storage conditions	-10°C ~ +60°C (continuous) -40°C ~ +70°C (intermittent)
Weight	approx. 12g
Standard test conditions	20±2°C, 40±10%RH

Structure and Dimensions:

