

OZONE Module

New OZONE SENSOR MODULES

A1320301-SP61 series

equipped with excellent sensitivity, selectivity, stability and long life OZONE SENSOR "SP-61"

For OZONE detection in air purifying, deodorizing, sterilization systems, photocopiers and for environmental monitoring systems

Features

- Detecting 0 to 250ppb of ozone in atmosphere
- Suitable for environmental monitor.
- Semiconductor type sensor
- Low cost
- Maintenance free
- Long life

Recently ozone has started to be used in commercial/domestic applications: e.g. in HVAC (Heating Ventilation and Air Conditioning) systems. We have developed a new semiconductor ozone sensor using an innovative ITO (Indium Tin Oxide) sensing material for ozone detection.

Configuration of the ozone sensor is shown in Figs. 1 and 2. The gas sensitivity is in Fig. 3, and the response in Fig. 4. This module has two models. One is for the output of 0 to 1V. The other is for 0 to 5V.

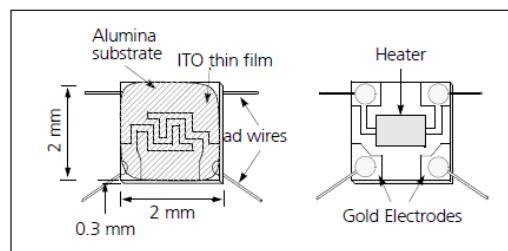


Fig 1. Sensing Elements

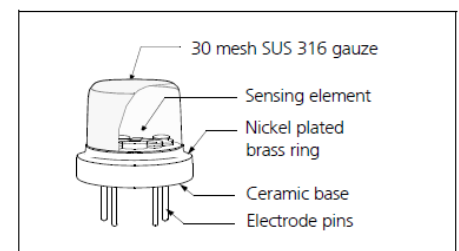


Fig2 .Structure

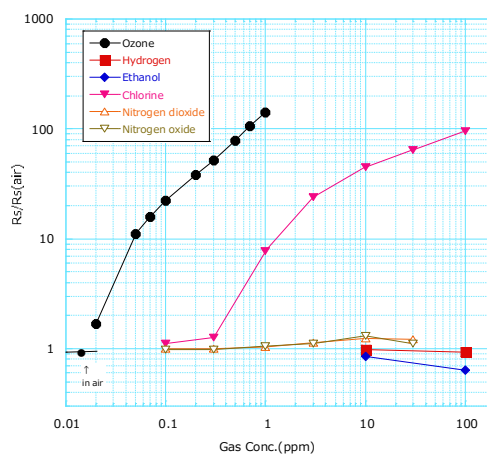


Fig. 3 Sensitivity characteristics

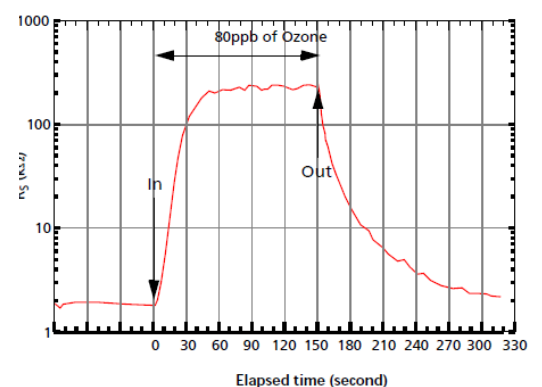



Fig. 4 Response

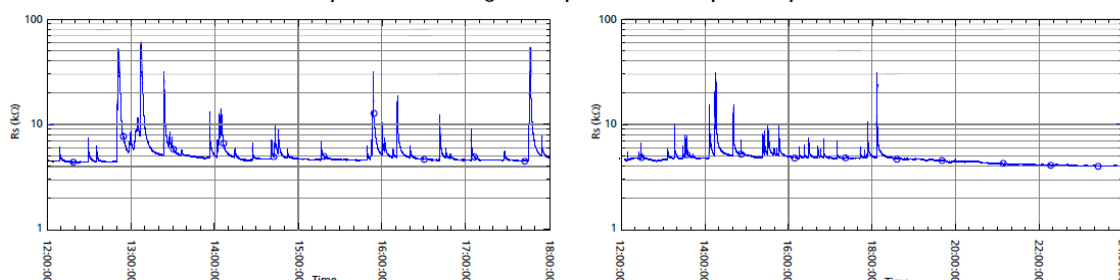
Specifications: Ozone Module

Basic specifications	
Power supply	5V DC ± 5%
Initial warm-up time:	About 3 minutes
Sensor	SP-61
Detection range	0 to 250ppb
Analogue output	0 to 1V or 0 to 5V
Alarm output	PNP transistor output, 5V DC output at ON, no delay alarm, auto-reset
Alarm concentration	80ppb of ozone
Power consumption	Lower than 700mW (400mW for sensor)
Operating temperature	0°C to 40°C
Storage temperature	-10°C to 60°C
Size	51(W) x 37(D) x 22(H) mm
Weight	15 g

Model	Features	Photo
A1320301-SP61-01	<ul style="list-style-type: none"> • Sensor: SP-61 • Analogue output: 0 to 1V 	
A1320301-SP61-02	<ul style="list-style-type: none"> • Sensor: SP-61 • Analogue output: 0 to 5V 	

I/O connector specifications	Operation procedure												
<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Specifications</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GND for power</td> </tr> <tr> <td>2</td> <td>+5V DC for power supply</td> </tr> <tr> <td>3</td> <td>Analogue output</td> </tr> <tr> <td>4</td> <td>GND for analogue</td> </tr> <tr> <td>5</td> <td>Alarm output</td> </tr> </tbody> </table>	Pin No.	Specifications	1	GND for power	2	+5V DC for power supply	3	Analogue output	4	GND for analogue	5	Alarm output	<ol style="list-style-type: none"> 1. Connect 5V DC to pins 1 and 2. 2. LED starts blinking which indicates warm-up period. Wait 2 minutes 30 seconds until LED turns off. 3. Measure analogue output from pins 3 and 4 to convert ozone concentration. 4. Disconnect power supply from the module when the measurement is finished. <p>* When the concentration exceeds the alarm level, LED blinks and the alarm output turns ON. When the concentration decreases and becomes lower than the alarm level, LED turns off and the alarm output turns OFF.</p> <p>* The relationship between analogue output and ozone concentration is as below: 0 to 1V output model: ppb of ozone = 255 x output voltage (V) 0 to 5V output model: ppb of ozone = 255 x output voltage (V) / 5</p>
Pin No.	Specifications												
1	GND for power												
2	+5V DC for power supply												
3	Analogue output												
4	GND for analogue												
5	Alarm output												

Example of monitoring ozone produced from photocopier



LT25_Tech25-O3module.fm : 09/09/05

Please contact

December,2021 revised

Nissha FIS, Inc.
 2-4-28, Tagawa
 Yodogawa, Osaka
 532-0027 Japan

Tel: +81 6-7176-3911
 Fax: +81 6-7176-3912
<http://www.fisinc.co.jp>

In the interest of continued product improvement, we reserve the right to change design features without prior notice.