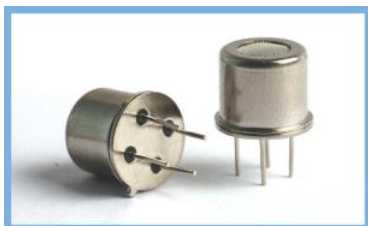


# CO Sensor – for the detection of CO

## 1. General

### 1-1. Application :

It is applied detection of reducing gases (CO) for Air Cleaner and Ventilation with installing Electric · Electron Machine

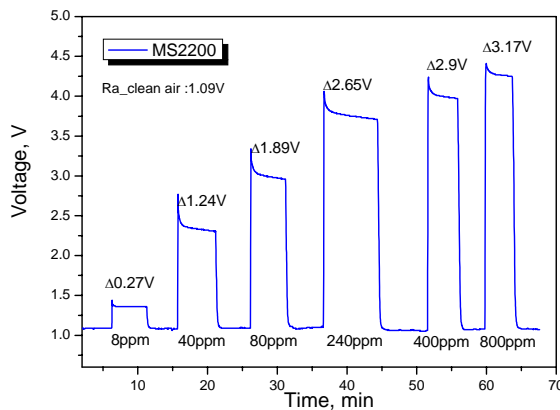
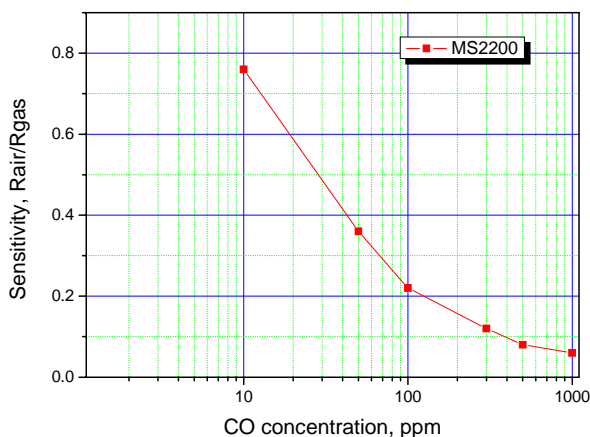


<MS2200>

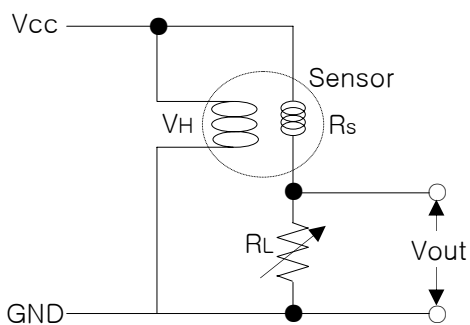


<MS2200-P101>

## 2. Sensitivity characteristic slope

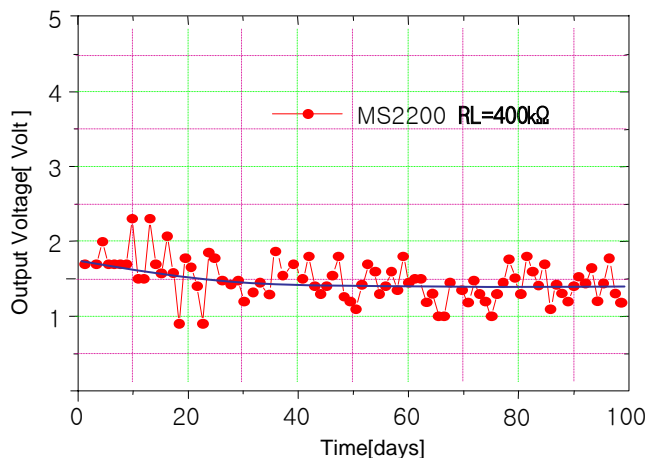


## 3. Basic Measuring Circuit & Stability



Vcc : Circuit Voltage(5V)    VH : Heater Voltage(5V)  
 RL : Load Resistance        Rs : Sensor Resistance

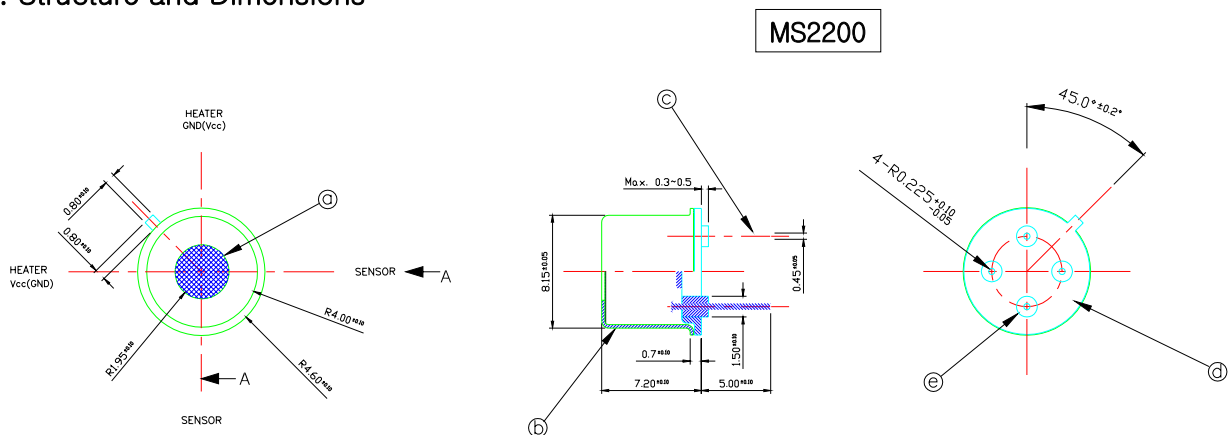
### Long Term Stability



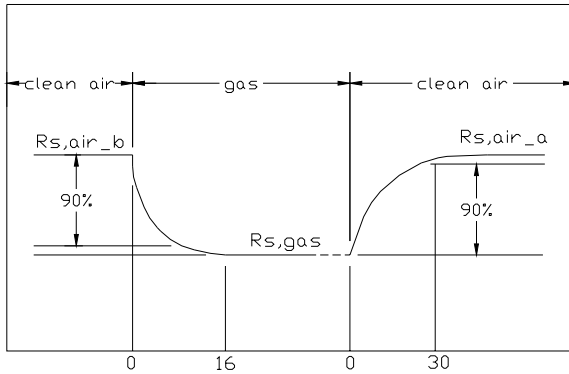
### 3. Specifications

Model number		MS2200	MS2200-111
Sensing element type		Semiconductor	←
Target gas		CO, HC, Smoke	←
Electrical characteristics under standard Test conditions	R <sub>H</sub>	Heater resistance	22.0Ω±0.2Ω
	V <sub>H</sub>	Heater Voltage	5.0V±2%
	R <sub>L</sub>	Road resistance	Variable
	P <sub>H</sub>	Power consumption	Less than 450mW
	V <sub>C</sub>	Circuit Voltage	Less than 12.0V
Sensitivity Characteristics $\beta = R_{s,gas}/R_{s,air}$ $\Delta V = V_{out,air} - V_{out,gas}$	R <sub>s,air</sub> V <sub>out,air</sub>	Sensor resistance	70kΩ to 811 kΩ (Refer to Rank Table)
	$\beta$ $\Delta V$	CO :50ppm Smoke:1,000ppm	0.52≤β≤0.58 β≤0.4
	Response time		Reaction : less than 5sec Recovery : less than 10sec
	* Standard test condition (balance gas : clean air, or special gas) • Temp. : 20℃±5℃, • Humidity : RH65%±10%, • Pressure : 1atm • Test chamber : more than 1ℓ/EA, • Pre-heating time : more than 1hr		
Environmental condition	* Operation temp. & Relative humidity : -10℃ to 60℃, less then dew point * storage temp. : -20℃ to 80℃ * Oxygen concentration : 21% ± 2%(The sensitivity characteristics are influenced by variation in oxygen concentration)		

### 4. Structure and Dimensions



## 5. Reaction time(T90)



Reaction Time(T90) : Less then 10sec  
[Between Rs,air\_b & Rs,gas]

Recovering Time(T90) : Less then 20sec  
[between Rs,gas & Rs,air\_a]

Beginning stability time(T90) : Less then 10 minute

Rs,air\_b : Sensor Resistance without gases  
Rs,gas : Sensor Resistance after blowing gases  
Rs,air\_a : Sensor Resistance removing gases

## 6. Characteristic of the other gases ( $\beta=R_{gas}/R_{air}$ )

	Smoke (HC)	Alcohol (C <sub>2</sub> H <sub>5</sub> OH)	Hydrogen (H <sub>2</sub> )	Butane	
Concentration	2,000ppm	50ppm	200ppm	500ppm	
Sensitivity	0.6	0.3	0.5	0.4	±0.1

\* Sensitivity( $\beta$ ) =  $R_{gas}/R_{air}$

## 7. Rank Table(10)

Rank	Resistance	Rank	Resistance	Rank	Resistance
<b>10A</b>	85 ~155k $\Omega$	<b>10D</b>	349~487k $\Omega$		
<b>10B</b>	155~241k $\Omega$	<b>10E</b>	487~672k $\Omega$		
<b>10C</b>	241~349k $\Omega$	<b>10F</b>	672~930k $\Omega$		

\* R<sub>gas</sub> : Out resistance in gas, R<sub>air</sub> : Out resistance in clean air

## 8. Application

- \* Air Purifier
- \* Damper

**\* This specification is subject to change for product upgrade without notice.**