

MPGs Sensor – for the detection of CNG, LPG

가 LPG/NG sensor
Bead/Thick film type

(bead type)	(가)	(2) 가
(Thick film type)	(가 4)	(가)

GSLS61 가



< Package >



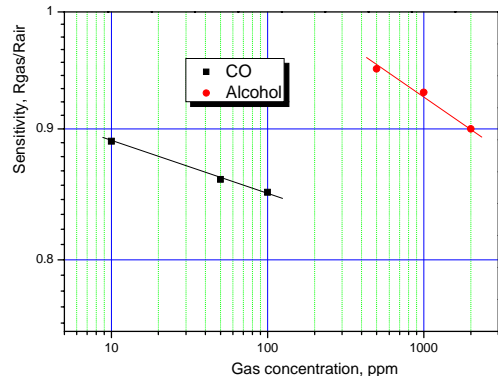
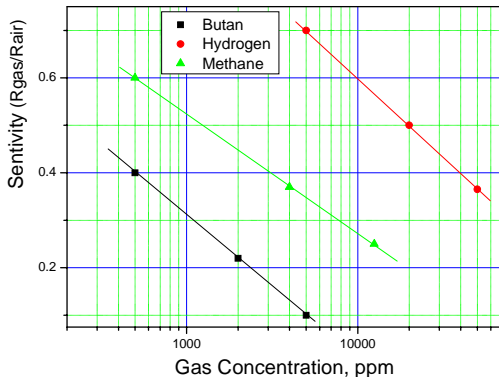
< Module (-P1XX) >

가 가
가

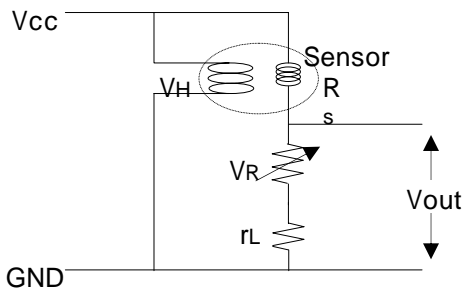
* LPG (Liquid Petroleum Gas) : 가 → Butane(, C_4H_{10}), Propane (, C_3H_8).

* CNG or LNG (Compressible Natural Gas, Liquid Natural Gas) : 가 → , Methane (, CH_4)

1. Sensitivity characteristic slope

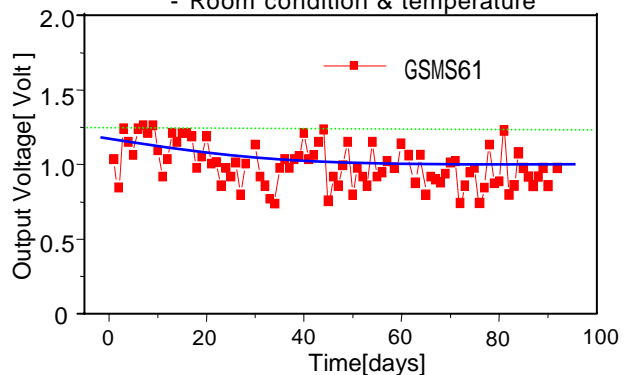


2. Basic Measuring Circuit



Vcc : Circuit Voltage(5V) VH : Heater Voltage(5V)
RL : Load Resistance Rs : Sensor Resistance
($RL=VR+rL$)

Long Term Stability - Room condition & temperature





3.2 Module (Methane/Butane)

a.

- Input voltage : 5Volt±1%
- Output data : 0.5 ~ 5Volt
- Power consumption : 710mV
- Relay Output : 4.0Volt

b. 가 data sheet : ±5% (,)

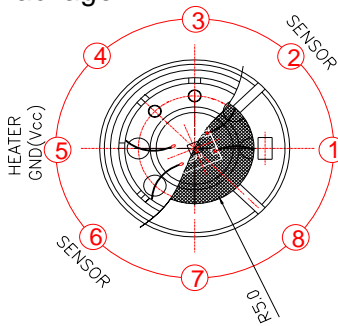
Methane GSMS61-P110

Butane GSPS61-P110

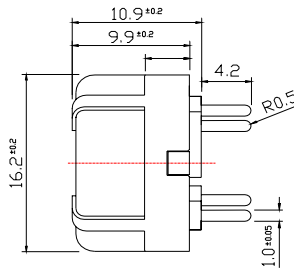
(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)	(ppm) (Volt)
0 0.58	700 1.89	1,900 2.47	10,000 3.97	0 0.58	450 2.41	1,250 3.26	4,250 4.93
50 0.91	800 1.96	2,000 2.51	11,000 4.09	20 1.05	500 2.49	1,500 3.45	4,500 5.00
100 1.12	900 2.02	2,500 2.67	12,000 4.20	40 1.26	550 2.55	1,750 3.62	
150 1.25	1,000 2.08	3,000 2.80	13,000 4.31	60 1.41	600 2.62	2,000 3.78	
200 1.35	1,100 2.13	3,500 2.93	14,000 4.41	80 1.52	650 2.68	2,250 3.93	
250 1.44	1,200 2.18	4,000 3.04	15,000 4.51	100 1.61	700 2.74	2,500 4.08	
300 1.51	1,300 2.23	4,500 3.14	16,000 4.61	150 1.79	750 2.79	2,750 4.21	
350 1.57	1,400 2.28	5,000 3.24	17,000 4.70	200 1.93	800 2.85	3,000 4.34	
400 1.63	1,500 2.32	6,000 3.41	18,000 4.79	250 2.05	850 2.90	3,250 4.47	
450 1.68	1,600 2.36	7,000 3.57	19,000 4.88	300 2.16	900 2.95	3,500 4.59	
500 1.73	1,700 2.40	8,000 3.71	20,000 4.96	350 2.25	950 3.00	3,750 4.71	
600 1.82	1,800 2.44	9,000 3.85		400 2.33	1,000 3.04	4,000 4.82	

4. Characteristics and Dimensions

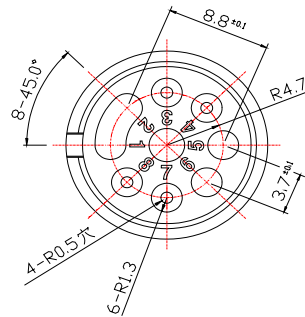
4.1 Package



[Top View]



- : Heater
- : Sensor

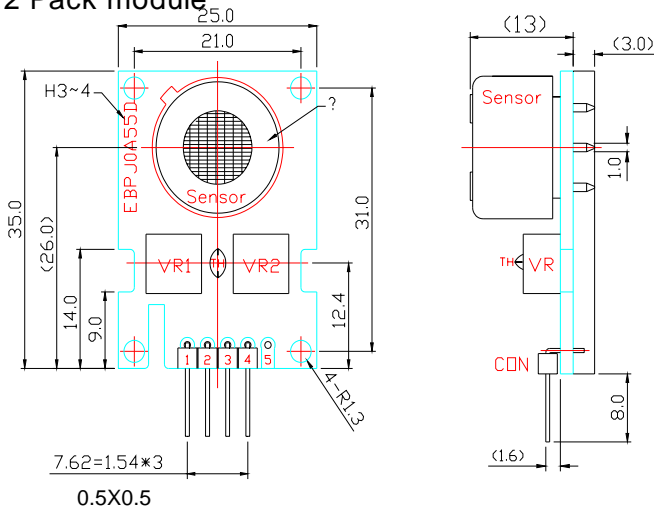


[Bottom View]

Rank Table(J) - Rank

Rank	R _L	R _s ,	Rank	R _L	R _s ,	Rank	R _L	R _s ,
J02	4.22kΩ	13.4 ~ 22.2kΩ	J05	19.1kΩ	60.4 ~ 100kΩ	J08	86.6kΩ	275 ~ 455kΩ
J03	6.98kΩ	22.2 ~ 36.6kΩ	J06	31.6kΩ	100 ~ 166kΩ	J09	143kΩ	455 ~ 751kΩ
J04	11.5kΩ	36.6 ~ 60.4kΩ	J07	52.3kΩ	166 ~ 275kΩ	J10	237kΩ	751 ~ 1,150kΩ

4.2 Pack module



a. Output Data

1	2	3	4
+5V	GND	Vout	Relay

- Calibration (refer to specification)

[Front Side]

VR1 : Offset Calibration

VR2 : Gain Calibration

b. Product code

GSLS61-P

1 2 3

- (1) Division Circuit → 1:standard circuit
2:Precision grade
3:Micro-processor
- (2) Sensing range → **1:** **2:LPG 3:NG**
- (3) Connector → 0:None 1:Straight
2:Angle 3:Opposite angle

c. Relay Output

- LPG : Hi(4.0~4.1volt) output at 1,750ppm,
or 4,500ppm(Butane,C8H10)
- NG : Hi(4.0~4.1volt) output at 11,000ppm
or 12,500ppm(Methane,CH4)

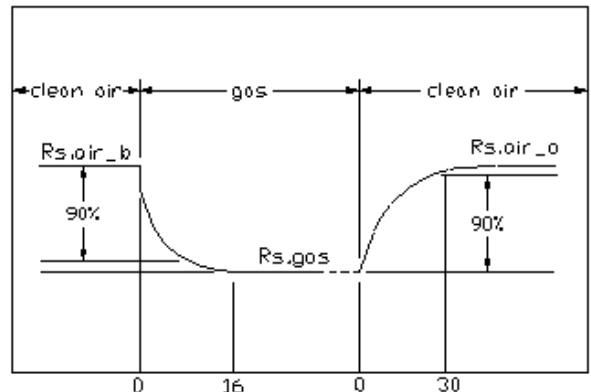
5. Reaction time(T90)

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

Recovering Time(T90) : Less then 30sec
[between Rs,gas & Rs,air_a]

Beginning stability time(T90) : Less then 10 min

- Rs,air_b : Sensor Resistance without gases
Rs,gas : Sensor Resistance after blowing gases
Rs,air_a : Sensor Resistance removing gases



6. Application

* Hood, Ventilator, Damper, Gas Leak Alarm (Explosive gases)

*

summary