

# FIXED GAS DETECTOR

## SPECIFICATION



Version : A0

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### Functional characteristics

- LCD panel design, direct display;
- Smart sensors, modular design, convenient maintenance;
- Multi-point calibration + temperature compensation, the data more accurate;
- One-click restore factory Settings to prevent wrong operation;
- Triple waterproof design;
- 4 ~ 20 mA, RS485 output signal is optional;
- Two groups of passive relay output;
- The infrared remote control, dangerous places to avoid open operation;
- Three color backlighting: white (normal), orange (failure), red (alarm) indicating the scene state;

### Performance

Detection gas: combustible gas, toxic gas, VOC

Detection principle: catalytic combustion type, electrochemical type, light ion type, thermal conductivity type, infrared NDIR type

Accuracy:  $\pm 3\%$  F.S.

Reduplication:  $\pm 2\%$

Response time:  $T_{90} < 30S$  (combustible gas)

### Electrical characteristics

Power supply: 24VDC (normal working voltage range: 10 ~ 30VDC)

Power consumption:  $< 1.5W$ (toxic gas) ;  $< 2.5W$ (combustible gas)

Output signal: three-wire 4 ~ 20mA or four-wire RS485 or both output at the same time ; Two passive relay (24VDC 2A)

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#### **Structural features**

Main material: aluminum alloy

Weight: about 1.6kg

Size: 185\*137.2\*90.7mm (L\*W\*H)

Installation: wall - mounted, horizontal pipe, vertical pipe

#### **Electrical service environment**

Protection class: IP66

Temperature range: -20°C ~ 50°C(toxic gas)

-40°C ~ 70°C(combustible gas)

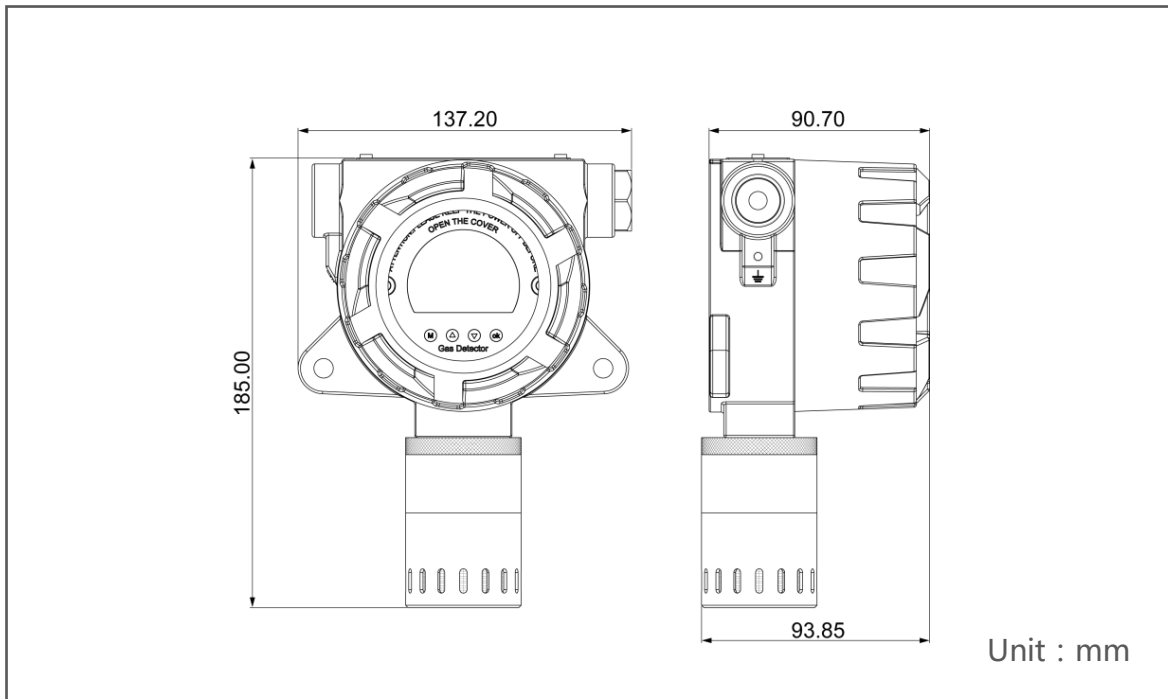
Humidity range: 10 ~ 95%RH (no condensation)

Pressure range: 86 ~ 106kPa

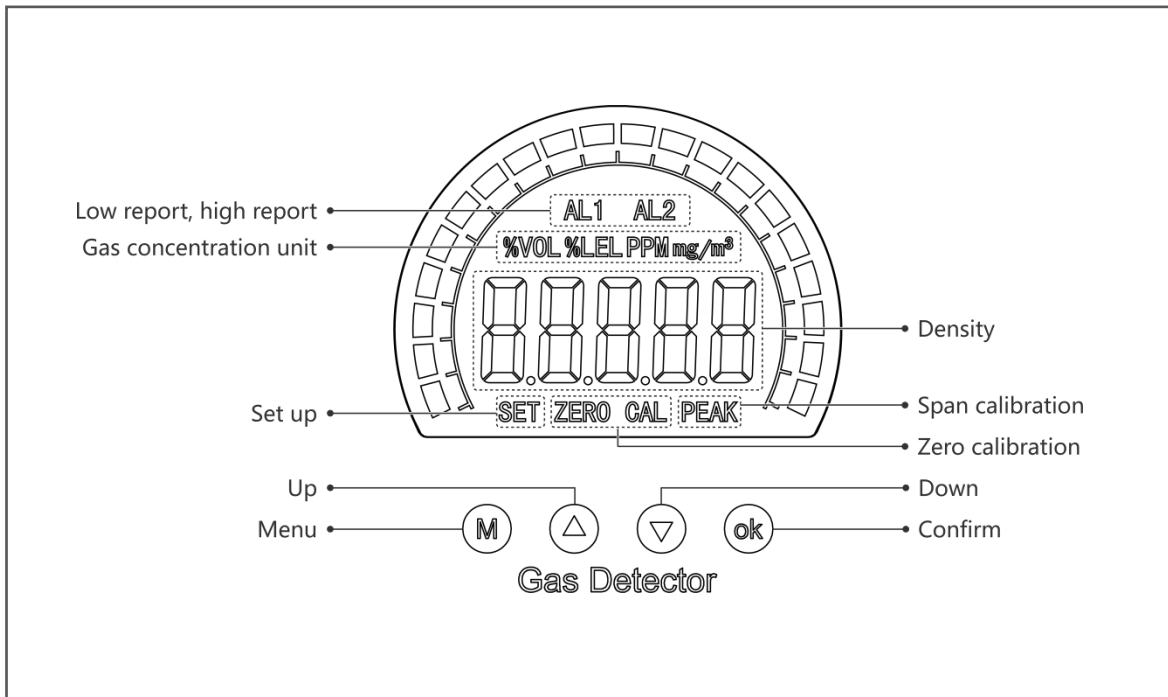
#### **Certification**

Execution standard : GB15322.1-2003 , GB3836.1-2010 , GB3836.2-2010 ,  
GB3836.4-2010 , GB12358-2006

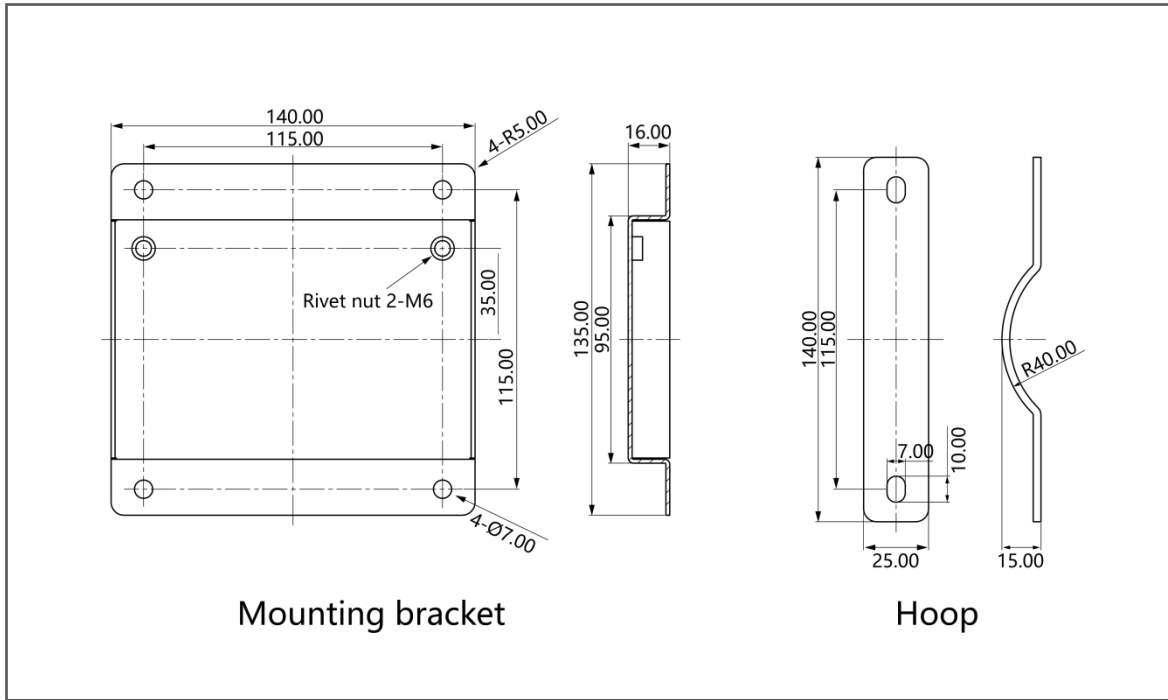
## Product size



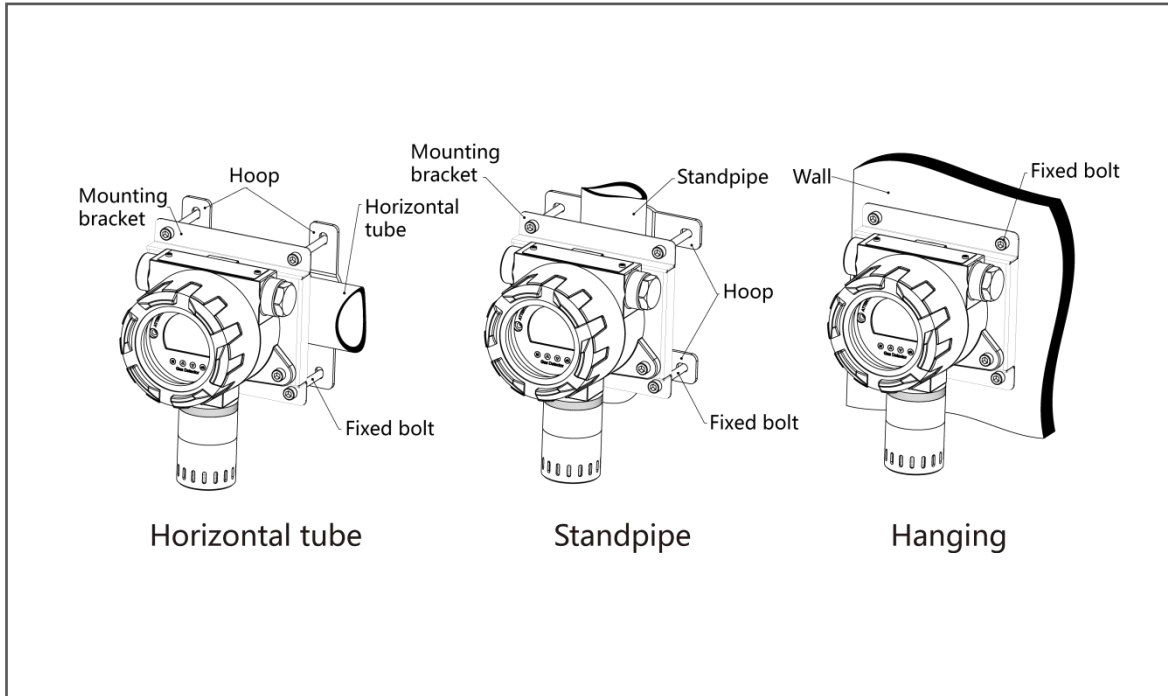
## Display



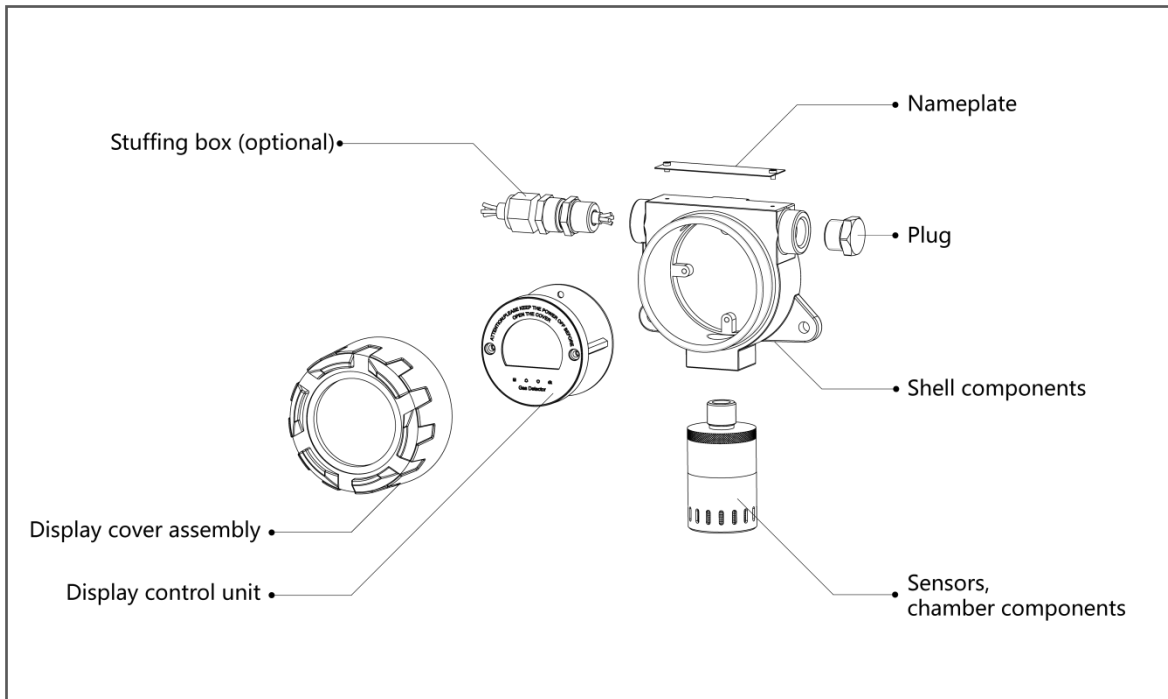
### Mounting bracket drawing



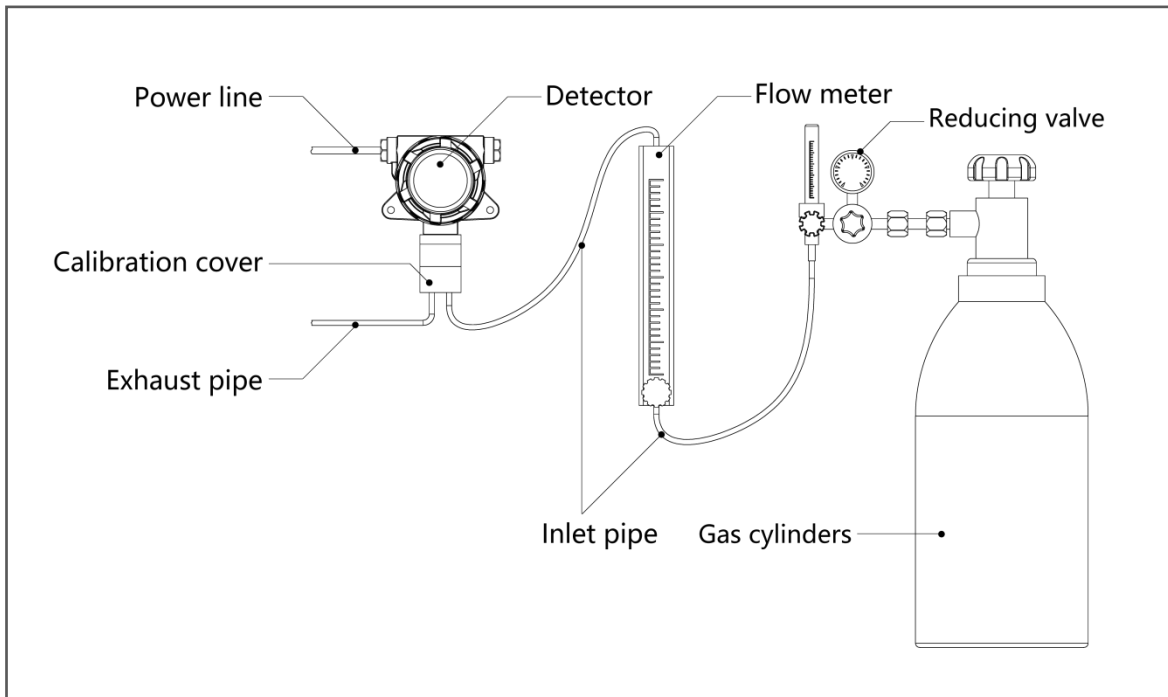
### Installation pattern diagram



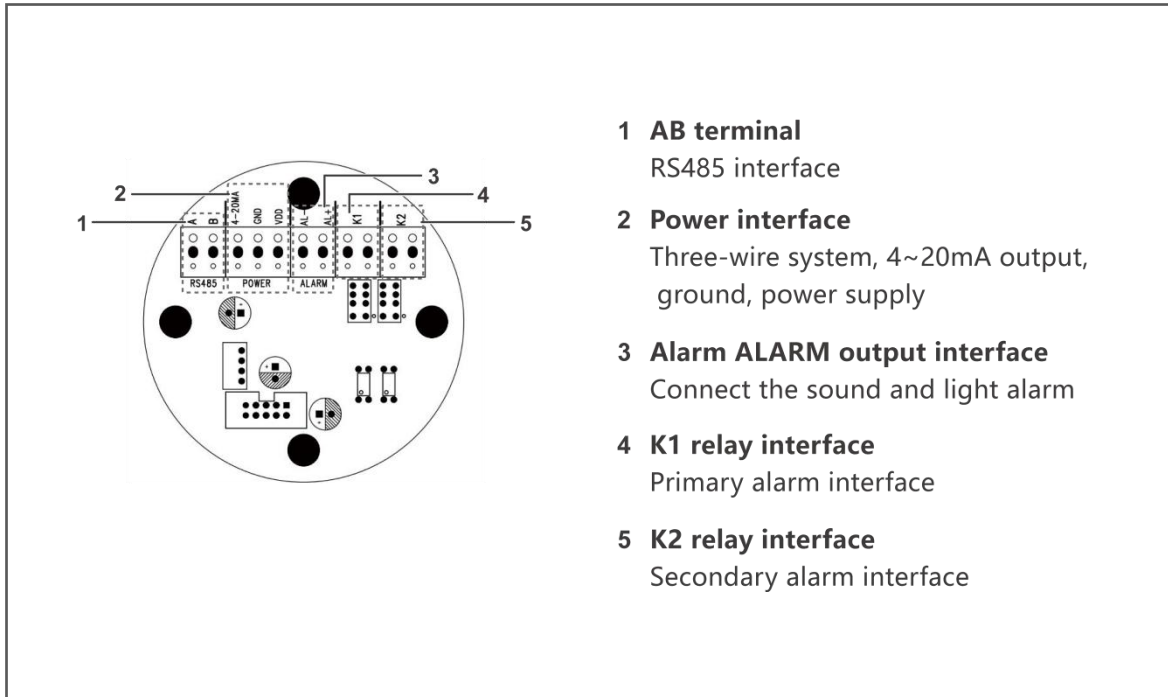
### Chart



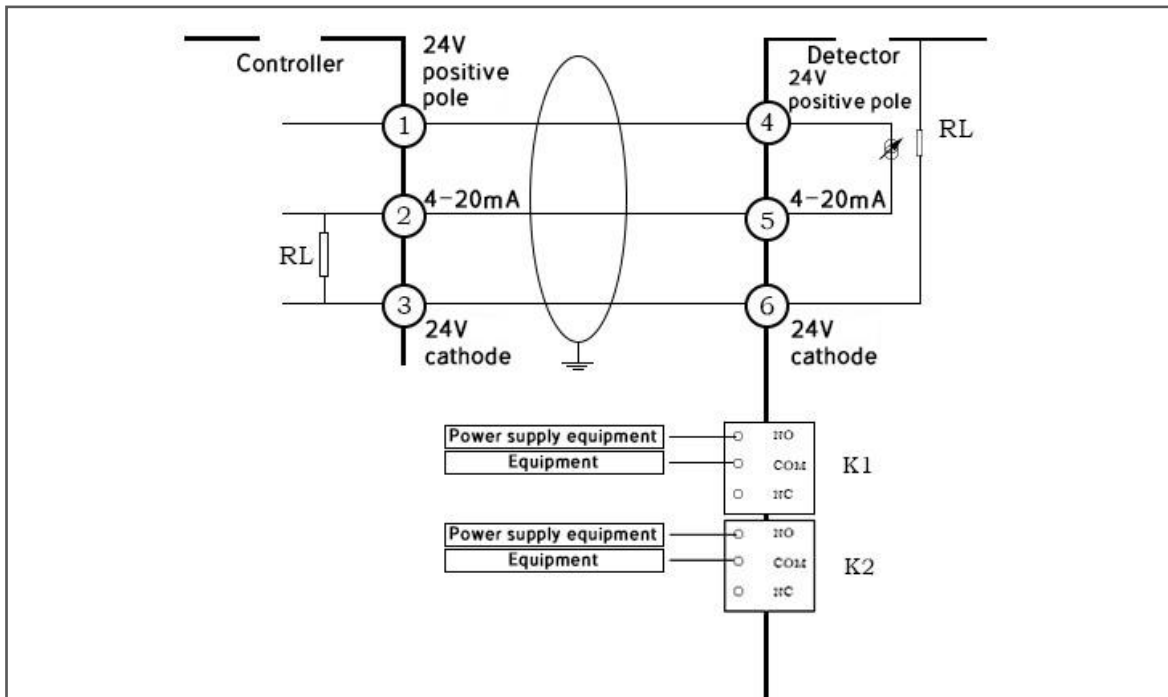
### Commissioning and calibration chart



## Internal wiring diagram



## Electrical connection diagram



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The cross-sectional area of the selected cable and the transmission distance of 24V power supply are shown in the table below

Cable core cross-sectional area (mm <sup>2</sup> )	1.00	1.50	2.50
Resistance (ohms/km copper wire)	18.1	12.1	7.4
Maximum cable distance (m) (loop length)	2000	3000	4000
	1000	1500	2000

### Standard accessories

Name	Note
Remote control	Black
Dust cover	With diffuse calibration function
Mounting bracket	SGCC
Hoop	With the mounting bracket

### Options

Name	Note
Flow hood	Circulation type
Gas chamber extension welding cover	304 stainless steel
Sound and light alarm	Optional G1/2, G3/4 thread interface



**List of measurable combustible gases** ( For unmarked gas and test range, please contact our sales personnel )

NO.	Name	Molecular formula	Relative density	Burning limit (V%)	
				lower limit	upper limit
1	methane	CH <sub>4</sub>	0.55	5	15
2	toluene	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	3.2	1.2	7.1
3	methanol	CH <sub>3</sub> OH	1.11	6.7	36
4	Methyl formate	HCOOCH <sub>3</sub>	2.07	5	23
5	Ethyl formate	HCOOCH <sub>2</sub> CH <sub>3</sub>	2.65	2.8	16
6	Methyl ether	CH <sub>3</sub> OCH <sub>2</sub> CH <sub>3</sub>	2.1	2	10.1
7	ethane	CH <sub>3</sub> CH <sub>3</sub>	1.04	3	15.5
8	acetylene	CH≡CH	0.9	2.5	100
9	ethanol	CH <sub>3</sub> CH <sub>2</sub> OH	1.59	3.3	19
10	ethyl benzene	CH <sub>3</sub> CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>	3.66	1	6.7
11	ethylene	CH <sub>2</sub> =CH <sub>2</sub>	0.97	2.7	36
12	Methyl acetate	CH <sub>3</sub> COOCH <sub>3</sub>	2.56	3.1	16
13	Ethyl acetate	CH <sub>3</sub> COOCH <sub>2</sub> CH <sub>3</sub>	3.04	2.2	11
14	N-butyl acetate	CH <sub>3</sub> COOCH <sub>2</sub> ( CH <sub>2</sub> ) 2CH <sub>3</sub>	4.01	1.7	7.3
15	propane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>	1.56	2.1	9.5
16	propyl alcohol	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH	2.07	2.1	13.5
17	propylene	CH <sub>2</sub> =CHCH <sub>3</sub>	1.5	2	11.1
18	acetone	( CH <sub>3</sub> ) <sub>2</sub> CO	2	2.6	12.8
19	butane	C <sub>4</sub> H <sub>10</sub>	2.05	1.9	8.5
20	pentane	C <sub>5</sub> H <sub>12</sub>	2.48	1.4	7.8
21	hexane	CH <sub>3</sub> ( CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	2.97	1.1	7.5
22	heptane	C <sub>7</sub> H <sub>16</sub>	3.46	1.1	6.7
23	octane	CH <sub>3</sub> ( CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	3.93	1	6.5
24	nonane	CH <sub>3</sub> ( CH <sub>2</sub> ) <sub>7</sub> CH <sub>3</sub>	4.43	0.7	5.6
25	carbon monoxide	CO	0.97	10.9	74
26	ammonia	NH <sub>3</sub>	0.59	15	33.6
27	hydrogen	H <sub>2</sub>	0.07	4	75
28	benzene	C <sub>6</sub> H <sub>6</sub>	2.7	1.3	7.1

29	isobutane	( CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>3</sub>	2	1.8	8.4
30	Isopropyl alcohol	( CH <sub>3</sub> ) <sub>2</sub> CHOH	2.07	2	12
31	1-butanol	CH <sub>3</sub> ( CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> OH	2.55	1.4	11.2
32	cyclohexane	CH <sub>2</sub> ( CH <sub>2</sub> ) <sub>4</sub> CH <sub>2</sub>	2.9	1.3	8
33	cyclopentane	CH <sub>2</sub> ( CH <sub>2</sub> ) <sub>3</sub> CH <sub>2</sub>	2.4	1.4	-
34	Epoxy propane	CH <sub>3</sub> CHCH <sub>2</sub> O	2	2.8	37
35	Epoxy ethane	CH <sub>2</sub> CH <sub>2</sub> O	1.52	3.6	100
36	Diethyl ether	( CH <sub>3</sub> CH <sub>2</sub> ) <sub>2</sub> O	2.55	1.9	36
37	Dimethyl ether	( CH <sub>3</sub> ) <sub>2</sub> O	1.59	3.4	27
38	xylene	C <sub>6</sub> H <sub>4</sub> ( CH <sub>3</sub> ) <sub>2</sub>	3.66	1	7

**List of detectable toxic gases** ( For unmarked gas and test range, please contact our sales personnel )

NO.	Name	Molecular formula	Range	Response time T90 (s)
1	hydrogen arsenide	ASH <sub>3</sub>	0-5ppm	<90
2	acetylene	C <sub>2</sub> H <sub>2</sub>	0-10/100ppm	<90
3	ethylene	C <sub>2</sub> H <sub>4</sub>	0-10/100ppm	<80
4	formaldehyde	CH <sub>2</sub> O	0-10/50ppm	<80
5	methanethiol	CH <sub>3</sub> SH	0-10ppm	<90
6	chlorine	CL <sub>2</sub>	0-10/50/200ppm	<90
7	chlorine dioxide	CLO <sub>2</sub>	0-1/50ppm	<90
8	carbon monoxide	CO	0-100/500/1000ppm	<30
9	epoxy ethane	ETO	0-10/100/500ppm	<120
10	hydrogen	H <sub>2</sub>	0-1000/40000ppm	<60
11	hydrogen peroxide	H <sub>2</sub> O <sub>2</sub>	0-100/500ppm	<60
12	hydrogen sulfide	H <sub>2</sub> S	0-100/1000ppm	<60
13	hydrogen chloride	HCL	0-50/200ppm	<80
14	hydrogen cyanide	HCN	0-50ppm	<30
15	hydrogen fluoride	HF	0-10/100ppm	<90
16	ammonia	NH <sub>3</sub>	0-20/100/1000ppm	<90
17	nitric oxide	NO	0-250/2000ppm	<60
18	nitrogen dioxide	NO <sub>2</sub>	0-20/2000ppm	<60
19	oxygen	O <sub>2</sub>	0-30%VOL/100%VOL	<25

20	ozone	O <sub>3</sub>	0-1/10/100ppm	<90
21	phosphine	PH <sub>3</sub>	0-20/1000ppm	<30
22	silane	SiH <sub>4</sub>	0-50/200ppm	<60
23	sulfur dioxide	SO <sub>2</sub>	0-20/2000ppm	<40
24	tetrahydrothiophene	THT	0-50mg/m <sup>3</sup>	<60
25	helium	He	0-2000ppm/0-100%VOL	<25
26	carbon dioxide	CO <sub>2</sub>	5000ppm/0-20%VOL	<40
27	sulfur hexafluoride	SF <sub>6</sub>	0-1000ppm/0-100%VOL	<50

**List of VOC gases that can be measured** ( For unmarked gas and test range, please contact our sales personnel )

NO.	Name	Molecular formula	Range ( ppm )	Response time T90 (s)
1	benzene	C <sub>6</sub> H <sub>6</sub>	0-20/50/100	<20
2	toluene	C <sub>7</sub> H <sub>8</sub>	0-20/50/100	<20
3	ethyl benzene	C <sub>8</sub> H <sub>10</sub>	0-50/100	<20
4	cyclohexanone	C <sub>6</sub> H <sub>10</sub>	0-100/200	<20
5	methylamine	CH <sub>5</sub> N	0-100/200/400	<20
6	aniline	C <sub>6</sub> H <sub>7</sub>	0-50/100	<20
7	xylene	C <sub>8</sub> H <sub>10</sub>	0-20/50/100	<20
8	ethyl acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	0-500/1000	<20
9	methanethiol	CH <sub>4</sub> S	0-200	<20
10	phenol	C <sub>6</sub> H <sub>6</sub> O	0-200/500	<20