

# SI-100

## Fixed Gas Detector

SENKO



### Description

SI-100 is a fixed gas detector installed in a place where potential gas hazard exists to measure oxygen, toxic gas and combustible gas. It shows not only the concentration of gas but also diagnostic result of the unit itself through the LCD display and can be connected to the controller with a standard 4-20mA analog output communication or RS-485 digital communication.

### Key Feature

- Various sensors can be applied
- Easy operation with a magnetic bar
- Large digital LCD installed with a blue backlight
- Explosive proof structure
- Water/dust proof structure
- Automatic calibration function
- Long-distance transmission by 4-20mA output



### Specification

Model	SI-100			
Measuring gas	Combustible Gas		Toxic Gas	Oxygen
Measuring method	Catalytic	IR	Electrochemical cell	Galvanic
Measuring range	0~100%LEL	0~100%LEL	ref. page 3	0~30%VOL
Sensor life time	> 5 years	> 2 years	> 2 years	< 2 years
Response time	<15sec/90% scale	<30sec/90% scale	ref. page 19	<15sec/90%scale
Resolution	1%LEL	1%LEL	ref. page 19	0.1%VOL
Measuring type	Diffusion Type			
Accuracy	±3%/Full scale			
Parameter Control	Front 3 magnetic switch(calibration, maintenance, alarm setting)			
Operation mode display	Visual: LCD alarm display, LCD Backlight, 3 Indicator LED			
Measuring value display	Digital LCD Display(4-digit)			
Alarm display	Visual : LCD alarm display, LCD Backlight, Indicator LED			
Alarm output signal	Relay contact(Max 30Vdc, 5A) when Alarm occurred			
Alarm level set	Programmable within detection range			
Output signal	Analog : 4-20mA(Optional: Hart), Digital : RS-485(Option)			
PC interace	RS_485(Option)			
Cable/Distance	(4-20mA and Power: CVVSB 1.5sq or AWG 20 / 2,500m max), (RS-485 data communication cable: UL2919 RS-485 1pair / 1,200m max)			
Conduit connection	NPT 3/4" (2way)			
Mounting type	Wall mount			
Program set mode	Alarm value(1,2 alarm), Alarm time(instant@delay) 1~30min, Alarm dead band, output on/off			
Operating temperature	-20°C ~ +55°C			
Operating humidity	5% to 95% RH(Non-condensing)			
Operating power	9~34Vdc 600mA			
Material	Aluminium, Stainless steel(STS304)			
LCD size	55(W) × 30(H) mm			
Dimensions	150(W) × 165(H) × 110(D) mm			
Weight	Standard type: 1.9kg			
Approval	<b>ATEX</b> Ex d IIC T5 Gb IP65			
	<b>CSA</b> (Under certification)			
	<b>IECEX</b> Ex d IIC T5 IP65			
	<b>INMETRO</b> Ex d IIC T5 Gb IP65			

# SI-100C

## Fixed Gas Detector

SENKO



### Description

SI-100C is a fixed gas detector installing in a place where potential gas hazard exists to measure oxygen, toxic gas and combustible gas without LCD display. It can be connected to the controller with a standard 4-20mA analog outputs.

### Key Feature

- Explosive proof structure
- Water/dust proof structure
- 4-20mA Analog outputs
- Built-in Calibration Mode
- 2 wires for toxic gases / 3 wires for LEL

### Specification

Model	SI-100C			
Measuring gas	Combustible Gas		Toxic Gas	Oxygen
Measuring method	Catalytic	IR	Electrochemical cell	Galvanic
Measuring range	0~100%LEL	0~100%LEL	ref. page 3	0~30%VOL
Sensor life time	> 5 years	> 2 years	> 2 years	< 2 years
Response time	<15sec/90% scale	<30sec/90% scale	ref. page 19	<15sec/90%scale
Resolution	1%LEL	1%LEL	ref. page 19	0.1%VOL
Cable/Distance	Signal cable: 3-wire > CVVSB 1.5sq or AWG20		Power + Signal cable: 2-wire > CVVSB 1.5sq or AWG20	
Measuring type	Diffusion Type			
Accuracy	±3%/Full scale			
Parameter	Control Switch(calibration), Admin Console(maintenance, OPTION)			
Operation mode display	2-LED(Operating and Zero Cal, Span Cal. LED)			
Output signal	4-20mA DC(3wire for combustible gas, 2wire for other gas)			
Conduit connection	NPT 3/4" (2way)			
Mounting type	Wall mount			
Setting	1 Switch Interface(Calibration), Console set available(Option)			
Remote Set	via Console (Zero Calibration, Span Calibration, Calibration Gas Concentration Set, Factory default,4-20mA Calibration, Range Set, Data Logging)			
Operating temperature	-20°C ~ +55°C			
Operating humidity	5% to 95% RH(Non-condensing)			
Operating power	9~34Vdc 600mA			
Material	Aluminium, Stainless steel(STS304)			
Dimensions	102(W) × 137(H) × 87(D)mm			
Weight	1.0kg			
Option	Console			
Approval	<b>ATEX</b> Ex d IIC T5 Gb IP65 <b>CSA</b> (Under certification) <b>IECEX</b> Ex d IIC T5 IP65 <b>INMETRO</b> Ex d IIC T5 Gb IP65			





## SI-100 Sensor list

	Gas	Sensor	Range	A1	A2	Resolution	
	Oxygen	O2	Electrochemical	0~30%Vol	19.0%vol	23.0%vol	0.1%vol
	Carbon Monoxide	CO	Electrochemical	0~500ppm	30ppm	60ppm	1ppm
	Sulfur Dioxide	SO2	Electrochemical	0~20ppm	2ppm	5ppm	0.1ppm
	Hydrogen	H2	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Hydrogen	H2	Electrochemical	0~1000ppm	100ppm	500ppm	within 5ppm
	Hydrogen Sulfide	H2S	Electrochemical	0~100ppm	10ppm	15ppm	1ppm
	Combustible	-	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Combustible	-	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
	Ammonia	NH3	Electrochemical	0~100ppm	25ppm	35ppm	1ppm
	Acetylene	C2H2	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Ethanol	C2H6O	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Toluene	C7H8	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
	Toluene	C7H8	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Methane	CH4	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
	Methane	CH4	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Chlorine	Cl2	Electrochemical	0~5ppm	0.5ppm	1.0ppm	0.1ppm
	Chlorine	Cl2	Electrochemical	0~20ppm	0.5ppm	1.0ppm	0.1ppm
	Carbon Dioxide	CO2	IR	0~2000ppm	1000ppm	1500ppm	3ppm
	Carbon Dioxide	CO2	IR	0~5000ppm	3000ppm	5000ppm	8ppm
	Carbon Dioxide	CO2	IR	0~5%Vol	0.5%vol	3%vol	0.1%vol
	Hydrogen Chloride	HCl	Electrochemical	0~10ppm	1ppm	2ppm	0.1ppm
	VOC	VOC	PID	0~1000ppm	50ppm	100ppm	within 3ppm
	Xylene	C8H10	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
	Hydrogen peroxide	H2O2	Electrochemical	0~10ppm	1ppm	2ppm	0.1ppm
	Nitrogen Dioxide	NO2	Electrochemical	0~20ppm	3ppm	5ppm	0.1ppm
	Ethylene oxide	C2H4O	Electrochemical	0~30ppm	1ppm	2ppm	0.1ppm
	Ethylene	C2H4	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
	Nitrogen Monoxide	NO	Electrochemical	0~100ppm	25ppm	50ppm	1ppm
	Hydrogen fluoride	HF	Electrochemical	0~5ppm	0.5ppm	1ppm	0.1ppm
	Isobutane	C4H10	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL



## SI-100C Sensor list

	Gas	Sensor	Range	A1	A2	Resolution
	Oxygen	O2	Electrochemical	0~30%vol		
	Carbon Monoxide	CO	Electrochemical	0~500ppm		
	Hydrogen	H2	Catalytic	0~100%LEL		
	Hydrogen	H2	Electrochemical	0~1000ppm		
	Hydrogen sulfide	H2S	Electrochemical	0~200ppm		
	Combustible	-	Catalytic	0~100%LEL		
	Ethylene Oxide	C2H4O	IR	0~100%LEL		
	Methanol	CH3OH	Catalytic	0~100%LEL		
	Ammonia	NH3	Electrochemical	0~100ppm		

Refer to the alarm set points in the SI-100 Specification