



Technical Data Sheet



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 19	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	±2%/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	ATEX Ex d IIC T5 Gb IP65			
	CSA (Under certification)			
	IECEx Ex d IIC T5 IP65			
	INMETRO Ex d IIC T5 Gb IP65			

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Sensor List

Gas		Sensor	Range	A1	A2	Resolution
Oxygen	O ₂	Electrochemical	0~30%Vol	19.0%vol	23.0%vol	0.1%vol
Carbon Monoxide	CO	Electrochemical	0~500ppm	30ppm	60ppm	1ppm
Sulfur Dioxide	SO ₂	Electrochemical	0~20ppm	2ppm	5ppm	0.1ppm
Hydrogen	H ₂	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
Hydrogen	H ₂	Electrochemical	0~1000ppm	100ppm	500ppm	within 5ppm
Hydrogen Sulfide	H ₂ S	Electrochemical	0~500ppm	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	NH ₃	Electrochemical	0~100ppm	25ppm	35ppm	1ppm
Acetylene	C ₂ H ₂	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
Ethanol	C ₂ H ₆ O	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
Toluene	C ₇ H ₈	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
Toluene	C ₇ H ₈	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
Methane	CH ₄	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
Methane	CH ₄	Catalytic	0~100%LEL	15%LEL	50%LEL	1%LEL
Chlorine	Cl ₂	Electrochemical	0~5ppm	0.5ppm	1.0ppm	0.1ppm
Chlorine	Cl ₂	Electrochemical	0~20ppm	0.5ppm	1.0ppm	0.1ppm
Carbon Dioxide	CO ₂	IR	0~2000ppm	1000ppm	1500ppm	3ppm
Carbon Dioxide	CO ₂	IR	0~5000ppm	3000ppm	5000ppm	8ppm
Carbon Dioxide	CO ₂	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	C ₈ H ₁₀	IR	0~100%LEL	15%LEL	50%LEL	1%LEL
Hydrogen peroxide	H ₂ O ₂	Electrochemical	0~10ppm	1ppm	2ppm	0.1ppm
Nitrogen Dioxide	NO ₂	Electrochemical	0~20ppm	3ppm	5ppm	0.1ppm
Ethylene oxide	C ₂ H ₄ O	Electrochemical	0~30ppm	1ppm	2ppm	0.1ppm
Ethylene	C ₂ H ₄	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

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Certificate No:
KRH 16 ATEX 1017
Issue No: 0 (2016.04.19)

Page: 1/3

1. EC-TYPE EXAMINATION CERTIFICATE

- Equipment and protective system intended for use in potentially explosive atmospheres:
Directive 94/9/EC
- EC-Type-examination Certificate Number:
KRH 16 ATEX 1017
- Equipment: **Fixed Gas Detector type SI-100**
- Manufacturer: **SENKO Co., Ltd**
- Address: **73, Oesammi-ro, 15 Beon-gil, Osan-si, Gyonggi-do, 447-230, Korea, Republic of**
- This equipment or protective systems and any acceptable variation thereto are specified in the schedule to certificate and the documents therein referred to.
- The KRH certifies that equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, give in Annex II to the Directive 94/9/EC of 23 March 1994. The examination and test results are recorded in the confidential report number KRH-ATEX-0047-2015.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012 EN 60079-1:2007
- If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- This EC-Type-examination Certificate relates only to the design and construction of the specified equipment or protective systems in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment or protective systems.
- The marking of the equipment shall include the following:

Ex II 2 G Ex d IIC T5 Gb IP65

This certificate is issued at Athens on 19th April 2016, under the authority of the Hellenic Republic of Greece by KR Hellas Ltd., Notified Body No. 2198.



Notified Body No.2198



Shin Jeong-do

CEO of KR Hellas Ltd

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		IECEX Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEx Scheme visit www.iecex.com</small>			
Certificate No.:	IECEX KTL 14.0014	Issue No: 0	<u>Certificate history:</u> Issue No. 0 (2014-09-05)
Status:	Current	Page 1 of 3	
Date of Issue:	2014-09-05		
Applicant:	SENKO Co., Ltd 73, Oesammi-ro, 15 Beon-gil, Osan-si, Gyeonggi-do 447-230 Korea, Republic of		
Electrical Apparatus:	SI series Fixed Gas Detector		
Optional accessory:			
Type of Protection:	Flameproof enclosure "d"		
Marking:	Ex d IIC T5 Gb IP65 Tamb : -20°C ~ +55°C		
Approved for issue on behalf of the IECEx Certification Body:		Kang Ho-woo	
Position:		Certification Manager	
Signature: (for printed version)			
Date:		<u>2014. 09. 05</u>	
<p>1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.</p>			
Certificate issued by:			
Korea Testing Laboratory 87, Digital-ro, 26-gil, Guro-gu Seoul Korea, Republic of			

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