Better Safety, Better Life Challenge, Innovation

SENKO



- **Electrochemical Gas Sensor**
- **Portable Gas Detector**
- **Fixed Gas Detector**



Welcome Message



Though our country, Korea has an excellent competitiveness based on the technology even in the global endless competition days, the dependence on the advanced countries is as high as what it could be said to be technically governed in the gas sensor and gas safety equipment industry.

The gas sensor technology which could create the high additional value grafting with another industries, is one of the perspective technology which are growing very fast, as the environment and safety are being highly concerned.

Senko Co., Ltd. had developed sensors of the carbon monoxide, hydrogen sulfide by our own technology, starting the oxygen sensor. We had also developed to produce the gas safety equipment and its system such as the portable gas detector in the industrial field. We have been doing our best to localize the Korean domestic market which is dominated by foreign countries' products as well as to develop the oversea market.

We will do our every possible efforts to be together wherever with our customer and surely stand based on the venture enterprise spirit in the industrial safety gas equipment area which the domestic enterprise never concerned. We are trying to develop the more efficient, convenient products for the customers, using the new technology as well as the conventional gas safety equipment.

We will establish the strategic partnership with the excellent institute/enterprise who have the technical competitiveness in another industries. We will be born again to focus to develop the new product of the high additional value technically fused through the co-research based on this partnership.

Being one family based on the mutual trust to become the world wide company, we will found the business culture which all staffs could do our best. We promise to show our customers our efforts to do our best for the customer satisfaction. Please, watch us with the friendly warm view. Thanks.



Our History

SENKO Co., Ltd. was established based on own Electrochemical Gas Sensor Technology.

SENKO Co.,Ltd. was founded in 2004 and has developed Gas detector, Gas monitoring system based on his own Gas sensor technology. Now, SENKO is producing more than 12 gases sensor with various physical structure. SENKO has invested in research and development of new gas sensor and has customized typical electrochemical gas sensor to satisfy the requirements of Consumer product manufacturer like Samsung Electonics & LG Electronics. We are welcome to cooperate with customers for the customized sensor development.



2021	Acquired KENTEK designing and manufacturing environmental detectors
2020	Listed on the KOSDAQ market Registered in Abu Dhabi National Oil Company
2019	Certifications for SGT-P(IECEx, ATEX) OEM contract with Encored Japan Inc.(Soft Bank) IoT Odor monitoring system project with LG hausys Registered in Kuwait Oil Company(KOC)
2018	Establishment EU branch in UK Received 3 million dollars export tower award from Korea government Received citation from Ministry of Trade, Industry and Energy
2017	Establishment Russia branch in Moscow Certifications for SGT(ATEX, IECEx, CSA, UL)
2016	IoT "SOOM" Brand launching
2015	Green technology certificate IECEx certifacate for SI-100, SI-100C and SGT Co-development program with LG Electronics and Samsung Electronics System Business Division establishment New customized sensor development for IoT market
2014	SENKO China Joint Venture Establshment in Shanghai Colormetric sensor supply to Samsung Electronics Home appliance China CPA, CCCF Sertificate
2012	SENKO Osan Factory (land 2,968m²) 35 Oversea Countries Distributorship Agreement Gost & Immetro Certicate Award from Korea President
2004	SENKO Co., Ltd. Establishment

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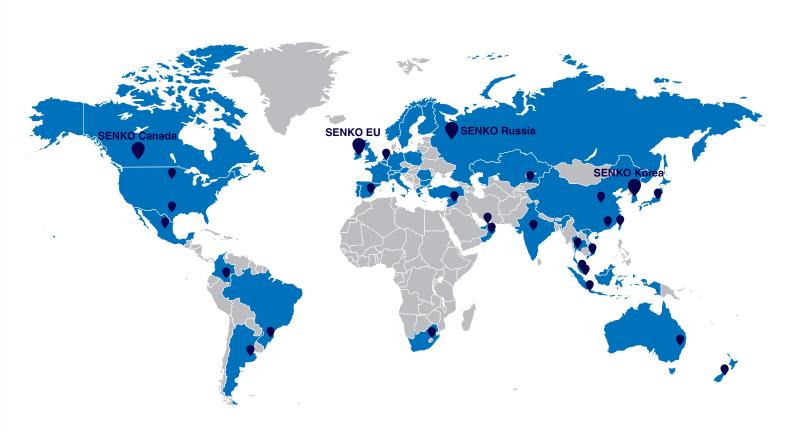
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Worldwide Distributors



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SGT

Disposable Single-Gas Detector







Description

SGT is a single disposable detector. (SGT-P is replaceable) It operates continuously for two years even without the replacement of the battery or gas sensor in order to protect workers from oxygen deficiency or toxic gases. It measures a gas continuously and displays its concentration and raises an alarm when a risk occurs.

Key Feature

- Disposable type(no sensor or battery change)
- Operates continuously for two years
- Excellent water / dust proof structure
- Automatic checking of the sensor trouble
- High performance audible and vibrating alarm
- Automatic logging of 30EA events
- Easy configuration and data management through IR Link
- Easy calibration through Docking Station



Specification

Model	SGT
Sensor Type	Electrochemical
Measurement	Diffusion type
Display	LCD display
Audible	90dB at 10cm
Warning Lamp	Red Flashing LEDs (Light-Emitting Diode)
Vibration	Vibration Alarm
Battery	Manufacture: Vitzrocell P/N: SB-AA02(P) / System: Lithium Primary Battery Nominal voltage: 3.6V / Nominal capacity: 1.2Ah
Temperature & Humidity	-40°C ~ +50°C(for Toxic) / -35°C ~ +50°C(for O2) 5%~95% RH (Non-condensing)
Case	Rubber Enclosure
Accessories	Calibration Cap, Manual, Calibration and Quality report
Option	External Sampling Pump (SP-Pump101), SENKO-IR Link, Docking Station
Size & Weight	Size: 54(W) × 91(H) × 32(D)mm Weight: 93g(Toxic), 104g(O2) (Battery, clip included)
Operating Life	24 months, based on 2 minutes of alarm per day
Event Log	Recent 30 alarms
	ATEX II 1 G Ex ia IIC T4 Ga
Ammuoval	CSA&UL Class 1, Zone 0, ex ia IIC T4 Ga
Approval	IECEx Ex ia IIC T4 Ga
	INMETRO Ex ia IIC T4 Ga

Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log



Sampling pump (SP-Pump101)



Extension Probe 5M/ 10M



SGT Docking Station

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
02	0~30%Vol	19%Vol	23%Vol
СО	0~500ppm	30ppm	60ppm
H2S	0~100ppm	10ppm	15ppm
H2	0~1000ppm	100ppm	500ppm
SO2	0~50ppm	2ppm	5ppm
NH3	0~100ppm	25ppm	35ppm
NO2	0~20ppm	3ppm	5ppm

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Replaceable Single-Gas Detector







Description

SGT-P is a single replaceable gas detector designed to detect oxygen deficiency and presence of toxic gas in the ambient environment. SGT-P is the replaceable type of a gas sensor and battery. When activated, SGT-P continuously monitors ambient air for the presence of a specific gas and alerts the user to potentially unsafe exposure with LED, vibrating, and audible alarms in the event that gas concentration exceeds alarm set points.

Key Feature

- · Sensor and Battery Replacement
- Power on / off available
- Configuration via exclusive IR Link

Specification

SGT-P
Electrochemical
Diffusion type
LCD display
90dB at 10cm
Red Flashing LEDs (Light-Emitting Diode)
Vibration Alarm
Manufacture: Vitzrocell / P/N: SB-AA02(P) / System: Lithium Primary Battery Nominal voltage: 3.6V / Nominal capacity: 1.2Ah
-40°C ~ +50°C(for Toxic) / -35°C ~ +50°C(for O2) 5% ~ 95% RH (non-condensing)
Rubber Enclosure
Calibration Cap, Manual, Test Report
External Sampling Pump (SP-Pump101), SENKO-IR Link, Docking Station
Size: 54mm(W) x 91mm(H) x 32mm(D) Weight: 93g(Toxic), 104g(O2) (Battery, clip included)
Recent 30 alarms
24 months, based on 2 minutes of alarm per day
ATEX 1 G Ex ia IIC T4 Ga
IECEx Ex ia IIC T4 Ga
INMETRO Ex ia IIC T4 Ga

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
02	0~30%Vol	19%Vol	23%Vol
СО	0~500ppm	30ppm	60ppm
H2S	0~100ppm	10ppm	15ppm
H2	0~1000ppm	100ppm	500ppm
SO2	0~50ppm	2ppm	5ppm
NH3	0~100ppm	25ppm	35ppm
NO2	0~20ppm	3ppm	5ppm

Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log



Sampling pump (SP-Pump101)



Extension Probe 5M/ 10M



SGT-P Docking Station

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MGT Portable Multi-Gas Detector





Description

MGT is an united gas detector measuring four(4) major gases, which cause the most of the industrial accidents, to protect workers from the disasters caused by the Oxygen deficiency, Toxic gas poisoning and gas explosion. It measures continuously four(4) gases (O², CO, H²S and Combustible Gas(CH⁴)) and displays their concentrations and raises an alarm(visual, vibrating, and audible) when the risk occurs. It features the dual sensor of CO and H²S.

Key Feature

- Small size & Light weight
- Rechargeable battery
- 30EA of Bump tests/ Events/ Cal.
- Simultaneously detect 4 different gases
- 25 hours use by one charge for 4-6 hours (P-type)
- 60 days use by one charge for 4-6 hours (N-type)
- · Configuration via exclusive IR Link
- Easy check & calibration via Docking Station
- Intrinsic Safety

Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log



Vehicle power adaptor



7CH Multi adaptor



Sampling pump (SP-Pump101)



Extension Probe 5M/ 10M



Multi Cradle



MGT Single Docking Station



MGT Docking Station

Specification

Model	MGT
Self-test	Full function self-test upon activation
	Sensors, battery and circuitry - continuous
Detecting Method	Diffusion
Display	LCD Display (back-light)
Alarm	LED flashing, Sound, Vibration
Sensor	O2, CO and H2S: Electrochemical
Jelisoi	Combustible(LEL): IR or Pellistor
IP	67
Temperature	-20°C ~ +50°C
Humidity	5~95% RH(Non-condensing)
Battery	Rechargeable Li-ion power supply unit (2000mAh)
Charge Time	4-6 hours
Battery Life	IR: 60 days continuous / Pellistor: 25 hours continuous
Low Battery Alarm	20 minutes / 10 minutes / 5 minutes
Low Battery Alarm	expired: 5 long beeps/flashes and then Off is displayed
Warranty	2 years
Weight	240g
Size	61(w) × 114(h) × 43(d)mm
Optional Accessary	MGT-IR Link, Docking Station, SP-Pump 101
	ATEX II 1 G Ex ia IIC T4 Ga
Approval	CSA&UL Class 1, Zone 0, Ex ia IIC T4 Ga
Appiovai	IECEx Ex ia IIC T4 Ga
	INMETRO Ex ia IIC T4 Ga

Sensor specification

GAS	Measuring range	Low Alarm	High Alarm
02	0~30%Vol	19%Vol	23%Vol
СО	0~500ppm	30ppm	60ppm
H2S	0~100ppm	10ppm	30ppm
CH4	0~100%LEL	10%LEL	30%LEL

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iGas Detector CO2

Carbon Dioxide Gas Detector



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Description

iGas Detector is the most reliable carbon dioxide gas detector designed to monitor the presence of CO2 and alert users to danger with LED, audible and vibrating alarms in confined spaces. CO2 gas accumulated in poorly ventilated areas and confined spaces is colorless and odorless classified as a toxic gas which may cause asphyxia and narcotic effects. Utilizing the high-performance infrared sensor, the iGas Detector CO2 is the best solution to keep workers safe and your operations compliant.

Key Feature

- IR Sensor Technology
- Measured by %vol and ppm
- Rechargeable Li-ion battery
- Automatic logging of 30EA events
- 14days of use by one fully charge
- Lightweight 135g
- Exchangeable International wall plug Kit
- Easy configuration and data management via PC program
- · Configurable Calibration, Bump test, Self test due warning

Specification

Model	iGas Detector CO2
Sensor Type	IR
Measurement	Diffusion type
Display	LCD display
Resolution	0.01%vol / 100ppm
Audible	90dB at 10cm
Warning Lamp	Red Flashing LEDs
Vibration	Vibration Alarm
Battery	Rechargeable Li-ion(polymer) power supply unit (500mAh)
Temperature	-20°C ~ +50°C
Charging Time	100 minutes
Humidity	5%~95% RH (Non-condensing)
Case	Rubber Enclosure
Accessories	Calibration Cap, Charge Cable(USB C-Type) and Adaptor
Option	-
Size &Weight	Size: 30(W) x 50(H) x 35(D)mm , Weight: 135g
Operating Life	14 day
Event Log	Recent 30 alarms
Approval	EMC directive(2014/30/EU), ROHS 2

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
CO2	0~5.0%vol(50,000ppm)	0.5%vol(5,000ppm)	1.0%vol(10,000ppm)

Accessories



USB Cable (Standard package)

Connects to the computer in order to program configuration and download data log



Sampling pump (SP-Pump101)



Extension Probe 5M/ 10M

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Multi Gas Detector with built-in pump

5-Gas Detector





*Design can be changed

Description

MGT Pump type is a portable multi gas detector used for detecting 5 gases, O2, CO, H2S, combustible gas, and toxic gases(Option).

Key Feature

- Sampling pump built in structure
- Multi 5 gas detector

Specification

Model	Multi Gas Detector with built-in pump 5-Gas Detector
Self-test	Full function self-test upon activation
OCH test	Sensors, battery, Pump and circuitry - continuous
Detecting Method	Pump
Display	LCD Display (back-light)
Alarm	LED flashing, Sound, Vibration
Sensor	O2, CO and H2S: Electrochemical Combustible(LEL): IR or Pellistor CO2: IR VOCs: PID
IP	67
Temperature	-20°C ~ +50°C
Humidity	5~95% RH(Non-condensing)
Batteryw	Rechargeable Li-ion power supply unit (4,000mAh)
Charge Time	4-6 hours
Battery Life	IR: 5 days continuous / Pellistor: 30 hours continuous(Expected)
Low Battery Alarm	20 minutes / 10 minutes / 5 minutes expired: 5 long beeps/flashes and then Off is displayed
Warranty	2 years
Weight	400g(Expected)
Size	77(w) x 147(h) x 54(d)mm
Optional Accessary	IR Link, Docking Station(Expected)
Approval	IECEx EX ia IIC T4 Ga or EX da ia IIC T4 Ga(Expected)

Sensor specification

	23%Vol
02 0~30%Vol 19%Vol	23/6 (01
CO 0~500ppm 30ppm	60ppm
H2S 0~100ppm 10ppm	30ppm
CH4 0~100%LEL 10%LEL	30%LEL
CO2 0~5.0%vol -	-
VOCs 0~6,000ppm -	-
SO2 0~20ppm -	-
NH3 0~100ppm -	-
NO2 0~20ppm -	-



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Sampling pump is designed to be used by connecting to SGT, SGT-P, MGT and SP2nd model. This can be used to check if there is gas leakage when measure the gas underground manhole.

Key Feature

- Simple structure to install locking
- Excellently durable industrial pump installed
- Automatic checking of chocking

Specification

Model	SP-Pump101
Flow rate	Minimum 500cc/min
Alarm display	Low flow alarm / Low battery alarm (Red LED)
Operating temperature	-20°C ~ 50°C
Operating humidity	5% to 99% RH(Non-condensing)
Battery power	1.5V AA size Alkaline battery 1EA
Battery life time	More than 10 hours
Dimensions	30(W) × 254(H) × 47(D)mm
Weight	260g (including Battery)









Accessories









SP secure is designed to be suitable for leak detection of any gas piping and valves by equipping a built-in sampling pump. Since the measured gas concentration is displayed in digital number, accurate measurement is possible.

Key Feature

- Sampling pump built in structure
- The digital concentration display
- Detector for the gas leakage
- Both rechargeable battery and alkaline battery are compatible
- Adopt the sensor which detect the low concentrated

Specification

Model	SP Secure				
Measuring gas	LNG/LPG, H2				
Measuring method	Catalytic Catalytic Electrochemica				
Measuring range	0~100%LEL	0~100%LEL 0~100%LEL 0~1000ppi			
Sensor life time	> 3 years	> 3 years	> 2 years		
Response time	<10sec/90% scale	<10sec/90% scale	<75sec/90% scale		
Resolution	1%LEL	1%LEL	Within 5ppm		
Measuring type	Auto Sampling type				
Operation time	About 12 hours				
Accuracy	±3%/Full scale				
Parameter Control	Right Side switch(calibr	ration, maintenance, alar	m setting)		
Operation mode display	Visual : alarm & status icon, Trouble RedLED Audible : buzzer(90dB @ 10cm)				
Measuring value display	LCD Display(3-digit)				
Alarm display	Visual : alarm & status icon Audible : buzzer				
Alarm level set	Programmable within detection range				
Sampling method	Internal sampling pump				
Flow rate	0.5 liter/min				
Program set mode	Alarm value(1,2 alarm)				
Operating temperature	-20°C ~ 50°C				
Operating humidity	10 to 95% RH(Non-condensing)				
Battery power	Rechargeable NI-MH or AA Alkaline battery 3ea				
Battery life time	More than 12 hours				
Material	Poly carbonate				
LCD size	32(W) × 40(H)mm				
Dimensions	55(W) × 240(H) × 31(D)mm				
Weight	260g (Battery Including)				
Approval	KGS Ex d ia IIB T3				

Accessories



SGT Docking Station





Description

Docking station maximizes the performance of SGT device. It calibrates and does bump test up to four SGT device simultaneously, helping to reduce time. Through Bump test, Docking station tests the gas sensor response and alarm of the devices. In addition, it automatically upgrades the firmware of the devices when the devices are connected to Docking station. Event logs are saved into the USB memory and provide analyses for users. The configuration can be set by connecting Docking station with IR link.

Key Feature

- Calibration, Bump Test
- Displays status on Power LED and Unit LED
- Saves the status and results of Docking station and SGT
- Upgrades Docking and SGT Firmware
- Saves the log data of Docking station and SGT
- Supports user options using a PC program (IR Link/USB)

Specification

Model	SGT Docking Station		
Size	$47 \times 41 \times 22$ cm (18.50 × 16.14 × 8.66 in.)		
Weight (Without gas cylinder)	8.2kg		
Operating Temperature	41 to +104°F (5 to +40°C)		
Warrenty	Full 2 years		
Battery Type	Rechargeable Lithium Ion		
Battery Life	1000 Bump Tests		
LEDs	5 red/green/orange LEDs(1 for each unit, 1 for power)		
Memory	USB 8GB Standard		
Log Capacity	Approximately Up to 10 million tests (8GB,removable USB memory)		
Tests Performed	Bump Test and Calibration		
Information Stored	Bump/Cal Logs, Individual Monitor Event Logs, Firmware and Unit Configurations		
Gases Available	CO, H2S and O2		
Unit Compatibility	Works with SGT		
Calibration Gas	Compatible with 58L cylinders		
Charging Adaptor	12V, 3A		





Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log

MGT Docking Station





Description

Bump test and calibration are the key features to ensure the safety of devices and users. MGT docking station version II provides bump testing, event management and calibration from a simple to use multi-unit station. It also maintains the all important event logs that demonstrate users are working within company requirements.

Key Feature

- Zero and Span Calibration, Bump Test Function
- Indicate the current status of operation by the Power LED and Unit LED color
- Gas Ventilation system to remove a residual gas
- Save the log events after calibration and bump test
- Enable users to adjust the setting points of Docking station and MGT via IR Link or USB
- · Rechargeable battery or power
- Holds up to 4 devices at once

Specification

Model	MGT docking station (Version II)	
Size	52.5 x 43.7 x 21.3cm(20.66" x 17.20" x 8.40")	
Weight (Without gas cylinder)	11.0kg	
Operating Temperature	41 to +104°F (5 to +40°C)	
Warrenty	Full 2 years	
Battery Type	Rechargeable Lithium Ion	
Battery Life	1000 Bump Tests	
LEDs	6 Blue LEDs for each unit(unit x 4), 3-color LED for power, Switch Back Light LED(Yellow, Green)	
Memory	USB 8GB Standard	
Log Capacity	Approximately Up to 5 million tests (8GB, removable USB memory)	
Tests Performed	Bump Test and Calibration	
Information Stored	Bump/Cal Logs, Individual Monitor Event Logs, Firmware and Unit Configurations	
Gases Available	LEL, CO, H2S and O2	
Unit Compatibility	Works with MGT(N, P)	
Calibration Gas	Compatible with 58L & 116L cylinders	
Interface	Ethernet RJ-45(TCP/IP), 10Mb/s	
Charging Adaptor	12V, 3A	





Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log

MGT Single Docking Station





Description

Docking station maximizes the performance of MGT device. It provides bump test and calibration to ensure the safety of devices and users. Through Bump test, Docking station tests the gas sensor response and alarm of the devices. In addition, it automatically upgrades the firmware of the devices when the devices are connected to Docking station. Event logs are saved into the SD card and provide analyses for users.

Key Feature

- Zero and Span calibration, Bump Test Function
- Indicate the current status of operation by the power LED and unit LED color
- · Gas Ventilation system to remove a residual gas
- Save the log events after calibration
- Enable users to adjust the setting points of docking station MGT via IR Link
- Rechargeable battery or power
- · Easy to use, small and light

Specification

Model	MGT Single Docking Station
Size	24.7 x 21 x 10.7cm
Weight	2.85kg
Operating Temperature	41 to +104°F (5 to +40°C)
Warranty	Full 2 years
Battery Type	Rechargeable Lithium Ion
Battery Life	1,000 Bump Tests
LEDs	6 Blue LEDs for unit, 3-color LED for power, Switch Back Light LED(Yellow, Green)
Memory	SD-Card Class 10 (8GB Standard)
Log Capacity	Approximately Up to 5 million tests(8GB, removable SD-Card)
Tests Performed	Bump Test and Calibration
Information Stored	Bump/Cal Logs, Individual Monitor Event Logs, Firmware and Unit Configurations
Gases Available	LEL, CO, H2S and O2
Unit Compatibility	Works with SP-MGT(N, P)
Calibration Gas	Compatible with 58L & 116L cylinders(Demand regulator use)
Charging Adaptor	12V, 3A



Accessories



IR-Link Communication

Connects to the computer in order to program configuration and download data log







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	Combus	tible Gas	Toxic Gas	Oxygen
Measuring method	Catalytic	IR	Electrochemical cell	Galvanic
Measuring range	0~100%LEL	0~100%LEL	*Depends on sensor	0~30%vol
Sensor life time	>2years	>5years	>2years	>2years
Response time	<10sec/ 90% scale	<30sec/ 90% scale	*Depends on sensor	<15sec/ 90% scale
Resolution	1%LEL	1%LEL	*Depends on sensor	0.1%vol
Measuring type	Diffusion Type			
Accuracy	±2%/Full scale			
Parameter Control	Front 3 magnetic switch	h(calibration, mainter	nance, alarm setting)	
Operation mode display	Visual: LCD alarm disp	olay, 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			
PC interace	RS_485			
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			
	ATEX Ex d IIC T5 Gb	IP65		
Ammunial	CSA (Under certification)			
Approval	IECEx Ex d IIC T5 IP65			
	INMETRO Ex d IIC T5 Gb IP65			

SI-100 Detectable Gases			
Gas Name	Chemical Formula		
Oxygen	02		
Carbon Monoxide	CO		
Sulfur Dioxide	SO2		
Hydrogen(ppm or %LEL)	H2		
Hydrogen Sulfide	H2S		
Ammonia	NH3		
Acetylene	C2H2		
Ethanol	C2H6O		
Toluene(Catalytic)	C7H8		
Toluene(IR)	C7H8		
Methane(Catalytic)	CH4		
Methane(IR)	CH4		
Chlorine	Cl2		
Carbon Dioxide (%vol, ppm or %LEL)	CO2		
Hydrogen Chloride	HCI		
VOC	VOC		
Xylene(Catalytic)	C8H10		
Xylene(IR)	C8H10		
Hydrogen Peroxide	H2O2		
Nitrogen Dioxide	NO2		
Ethylene Oxide	C2H4O		
Ethylene(Catalytic)	C2H4		
Ethylene(IR)	C2H4		
Nitrogen Monoxide	NO		
Hydrogen Fluoride	HF		
Isobutane	C4H10		
Propane(Catalytic)	C3H8		
Propane(IR)	C3H8		
Hydrocarbon	HC		
Silane	SIH4		
Fluorine	F2		

*Please contact us for gases not listed in the table.







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	Combus	tible Gas	Toxic Gas	Oxygen
Measuring method	Catalytic	IR	Electrochemical cell	Galvanic
Measuring range	0~100%LEL	0~100%LEL	*Depends on sensor	0~30%VOL
Sensor life time	>2years	>5years	>2years	>2years
Response time	<10sec / 90% scale	<30sec / 90% scale	*Depends on sensor	<15sec / 90% scale
Resolution	1%LEL	1%LEL	*Depends on sensor	0.1%VOL
Cable/Distance	Signal cable: 3-wire > CVVSB 1.5sq or AWG20 Power + Signal cable: 2-wire > CVVSB 1.			
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			
	ATEX Ex d IIC T5 Gb IP65			
Annroyal	CSA (Under certification)			
Approval	IECEx Ex d IIC T5 IP65			
	INMETRO Ex d IIC T5 Gb IP65			

SI-100C Detectable Gases		
Gas Name	Chemical Formula	
Oxygen	02	
Carbon Monoxide	CO	
Sulfur Dioxide	SO2	
Hydrogen(ppm or %LEL)	H2	
Hydrogen Sulfide	H2S	
Ammonia	NH3	
Nitrogen Dioxide	NO2	
Methane(Catalytic)	CH4	
Methane(IR)	CH4	
Chlorine	CI2	
Carbon Dioxide (%vol, ppm or %LEL)	CO2	
Hydrogen Chloride	HCI	
Hydrogen Peroxide	H2O2	
Nitrogen Monoxide	NO	
Hydrogen Fluoride	HF	
Isobutane	C4H10	
Propane(Catalytic)	C3H8	
Propane(IR)	C3H8	
Hydrocarbon	HC	
Silane	SIH4	
Fluorine	F2	

*Please contact us for gases not listed in the table.



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SI-H100

Sampling type fixed-Gas Detector







Description

SI-H100 measures sample gas by sensor cartridge in the case upon suction remotely on a real time basis constantly. The monitor points up to 100 feet (30meters) away and shows alarm of dangerous concentration, fault situation, and so on, upon attaching on the wall. SI-H100 assists to prevent or control a variety of gas related accidents including toxic, flammable gases in a plant providing reliable sensor technology.

Key Feature

- Simple to install, easy to use the product
- Extractive pump system which has 2 years life time (Sampling up to 30M)
- Smart sensor cartridge with on board
- Large bright graphic LCD based on Intuitive icon with various expressions
- 3 built in relays for Alarm 1st, 2nd and Fault
- Ethernet (PoE) communication
- Optional Pyrolyzer module
- · 4-20mA analog output with event reporting and fault
- Modbus/TCP Ethernet can be easily connected to all control and alarm systems ports
- Update the latest version of firmware available via the web
- RS-485, TCP Ethernet to connect alarm system and communication
- Detects gas which is parts-per-billion(ppb) levels

Specification

•	
Model	SI-H100
Size	124mm(H) X 65mm(W) X 155mm(D)
Weight	2Kg
Operating voltage	DC : 24V ± 10% PoE : 36V~57V (Typical : 48V)
Flow rate	500mL/min (MAX 900)
Power consumption	Approximately 5.0W
Measurement display	Graphic LCD (160 X 100), Gas concentration, Flow rate, Alarm, Rear light, Device abnormality
Alarm	90dB at 10cm
Relay	Primary Alarm, Secondary Alarm, Fault Alarm
Output signal	Analog, 4-20mA
Digital communication	RS-485, TCP Ethernet
Sampling distance	Length of input gas tube: Up to 30m (FEP tube) Length of exhaust gas tube: Up to 30m (FEP tube)
input/output tube	1/4" Teflon tube
Operating temperature	0°C ~40°C
Certification	CE
Control/Set	4 Button & RS485 & Ethernet
Warranty of the device	2 years
Warranty of sensor cartridge	1 year
Remote interface	Ethernet, RS-485
Wiring	4 to 20mA / DC power / Relay: Up to 14 AWG
ETC	Update the latest version of firmware available via the web

SI-H100 Detectable Gases		
Gas Name	Chemical Formula	
Oxygen	02	
Carbon Monoxide	CO	
Sulfur Dioxide	SO2	
Hydrogen(ppm or %LEL)	H2	
Hydrogen Sulfide	H2S	
Ammonia	NH3	
Prophine	PH3	
Nitrogen Dioxide	NO2	
Methane(Catalytic)	CH4	
Methane(IR)	CH4	
Chlorine	CI2	
Hydrogen Chloride	HCI	
Hydrogen Peroxide	H2O2	
Hydrogen Fluoride	HF	
Propane(Catalytic)	C3H8	
Propane(IR)	C3H8	
Hydrocarbon	HC	
Silane	SIH4	
Boron Trichloride	BCL3	
Ozone	О3	
voc	VOC	

*Please contact us for gases not listed in the table

Accessories





Under cover

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SI-100D is a combustible (LNG/LPG) gas leak detector that consists of a sensing unit and receiver. This is used to detect gas leaks in the pipe or valve. SI-100D can be used with present any indicators and PLC using analog output (4-20mA). SI-100D is a low-priced compact and light entry-level product.

Key Feature

- Explosion proof structure
- Long distance communication with 4~20mA analog output
- Convenient installation
- Simple structure, reasonable price

Specification

Model	SI-100D	
Measuring range	LNG/LPG(methane/propane)	
Measuring type	Diffusion type	
Measuring method	Catalytic	
Measuring range	0~100%LEL	
Sensor life time	> 2 years	
Response time	<10sec/90%scale	
Accuracy	±3%/Full scale	
Output signal	4-20mA DC	
Cable/Distance	CVVSB 1.5sq or AWG20 × 3wire (Power + Signal) / 2,500m max	
Conduit connection	NPT 1/2"	
Mounting type	Wall mount	
Operating temperature	-20°C ~ +50°C	
Operating humidity	0%~95% RH(Non-condensing)	
Operating power	24V DC +/- 20%, <90mAh	
Materianl	Aluminium	
Dimensions	93(W) × 106(H) × 89(D)mm	
Weight	0.6kg	
Approval	KCS Ex d II B T4/14-KB2BO-0422	





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Receiver For Fixed Gas Detector (Bar-Graph type)







Description

SI-100IS is a single control panel and an alarm for fixed gas detector and fixed gas leak detector composed of sensing part and receiver. It is designed as DIN type and so can be installed as wall mount panel. Performing calibration is processed from a detector and can also perform from the SI-100IS itself.

Key Feature

- Sophisticated design and simple structure
- Display using the Bar-Graph depend on alarm steps. (1st, 2nd, 3rd Alarm)
- 3 Colored LED and F.N.D gas concentration display
- Easy zero calibration and built-in calibration mode
- Self test mode
- Display the number of calibrations
- Built-in light bar (Option)

Specification

Model	SI-100IS			
Measuring range	Programmable within detection range			
Display	30-Bar graph, 3 Alarm LED, 3 Status LED, 7-Segment(4Digit)			
Sound	buzzer(Alarm1,2,3, Reset, Fault), 80dB			
Operation mode display	3 Alarm LED, 3 Status LED			
Measuring value display 30-Bar graph, 7-Segment(4Digit)				
Alarm level set Alarm1,2,3 Programmable within detection range				
Alarm signal output	Alarm 1,2,3 - 12V.DC, Dry contact (com, no, nc), comm 12V.DC, Dry contact(com, no, nc)			
Input Signal	4/20mA signal			
Cable/Distance	CVVSB 1.5sq or AWG20 × 3wire (Power + Signal) / 2,500m max			
Mounting type	Wall mount			
Program set mode	ALARM1,2,3, Range, 4-20mA Calibration etc.			
Operating temperature	-20°C ~ +50°C			
Operating humidity	5%~95%RH(Non-condensing)			
Operating power	100~240V INPUT AC (50/60Hz), <0.24A			
Material	ABS AF308			
Dimensions	120(W) × 200(H) × 51(D)mm			
Weight	0.5kg			



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Multi Channel Gas Monitor for Fixed Gas Detectors





Description

SI-100IM consists of a Main Alarm unit and Alarm display units. From the one main unit, the alarm display unit can be constructed from 1 to 36 units. SI-100IM is designed as DIN type, so the device can be manufactured in the wall mount panel type, Standalone type, or 19"Rack type according to a user's preference.

Key Feature

- Sophisticated design and simple structure
- 4Digit F.N.D Digital Display
- 40 LED Bar Graph (%, PPM, LEL unit display)
- Fault, 1st, 2nd, 3rd Alarm Icon
- 40 Red Arrow LED Graph(図) Display
- Easy zero and standard gas calibration
- · Self Diagnosis mode
- Display the frequency of calibration
- Back-up Battery installed
- Data Recovery function



Specification

Model	Main Alarm Unit	Alarm Display Unit		
Model No	SI-100IM	SI-100IA		
Measuring Range	0-30V FND Digital Display	0.000 to 9999 Digital User Setting		
Measuring Display	4Digit FND Digital Display 18 LED Bar Graph, Battery, B/Z Stop (V Unit Display)	4Digit F.N.D Digital Display 40 LED Bar Graph (%, PPM, LEL Unit Display)		
Alarm Display	Fault, 1st, 2nd, 3rd Alarm ICON AU01~AU10 (Alarm Unit, indicating in order)	Fault, 1st, 2nd, 3rd Alarm ICON 40 Red Arrow LED Graph(<)		
Alarm Sound	Buzzer 92dB			
Input Signal		4-20mA Full Scale		
Output Signal	1st, 2nd, 3rd Relay Dry Contact, 12V. DC	Fault, 1st, 2nd, 3rd Relay Dry Contact, 4-20mA, 12V.DC		
Accuracy		FND Digital ±1% Full Scale or 1Digit (Whichever is greater)		
Alarm Set	depend on configuration of SI-100IA	1st, 2nd, 3rd Alarm Setting 40 Red Arrow LED Graph(◁) Setting		
Alarm Reset	Manual Total Reset & HMI	Manual Local Reset		
Self Test	Battery Test Switch (AC/DC)	Test Switch (0~Max Range 10sec)		
Scan Time	10ms	10ms		
Back-Up Battery	Back-Up Battery Ni-Cd Battery 18V 600mA (3, 6Channel)			
Operating Power	110/220V.AC 50/60Hz (or 24V.DC)			
Temperature / Humidity	-20°C ~ 60°C, 95%RH	-20°C ~ 60 °C, 95%RH		
Dimensions	Main Channel Card : 40(W) × 130(H) x104(D)mm	Alarm Channel Card : 40(W) × 130(H) ×104(D)mm		
Operating in/out	RS-485 Modbus (SI-100ICU)_Option			
Total Weight & Dimensions	3CH : 7.3kg, 6CH : 10kg Wall Mount Panel 3CH : 278.5(W) × 450(H) x115(D)mm Wall Mount Panel 6CH : 398.5(W) × 450(H) x115(D)mm			
Option	Built-in light bar			

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BMC-2000 can be used in smoking cessation programs by healthcare professionals. And it also can be used as a noninvasive method to get %COHb in the patient's blood and to screen CO poisoned patients by medical man. The small size and light weight make the BMC-2000 ideal for hand held use. It is mainly used in smoking cessation clinics; it is used for instructional purposes to check on the client's progress and compliance.

Key Feature

- Non-Invasive method to know how much carbon monoxide(CO) poisoned
- Indirect and simple instrument to measure carboxyhemoglobin (COHb) in blood
- Easy to discriminate smoker
- Easy to recognize the degree of CO poisoning (smoking habit)
- Two languages (English, Korean) are provided
- CE certificate of European medical equipment
- Concentration of CO in breath and percentage of COHb in blood are displayed simultaneously
- Adult / Pregnant / Young mode are provided
- Manage analysis data through software



Model	BMC-2000			
Measuring gas	CO			
Measuring type	Breath through the mouth			
Measuring method	Electrochemical cell			
Measuring range	0~100ppm, 0~500ppm			
Countdown	15 seconds			
Accuracy	±5%/Full scale or 1ppm			
Hydrogen cross sensitivity	5~10% / Full scale			
Resolution	1ppm			
Parameter Control	Front 3 switch(calibration, maintenance, configuration setting)			
Operation mode display	Visual : Graphic LCD Display, LED Indicator Audible : buzzer			
Measuring value display	Graphic LCD Display			
LED indicator	7 Steps (Green/Amber/Red)			
Reset signal	Auto Power OFF			
Mounting type	Pocket, Hand carry			
User mode	Adult / Adolescent			
Program set mode	Language(Korean, English), Age, Sound, Calibration			
Operating temperature	0°C ~ +40°C			
Operating humidity	5 to 95%RH(Non-condensing)			
Mouthpiece adapter	D type bacteria filter			
Disposable mouthpiece	Diameter 22mm			
Material	PC+ABS			
LCD size	50(W) × 30(H)mm			
Dimensions	$74(W) \times 140(H) \times 42(D)mm$			
Weight	160g			



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Electrochemical Gas Sensor











	O 2	02	со	H2	H2S	Hydro Carbon, CO2 etc
Model	SS1118	SS2118	SS2128	SS2178	SS2198	IR sensor
Performance Charac	teristics					
Nominal Range	0~100%	0~30%	0~2,000ppm	0~1,000ppm	0~100ppm	
Maximum Overload	-	-	5,000ppm	2,000ppm	550ppm	
Output Singnal	6.0± 1.0mV	90± 20µA@/20.9% O2	70±20nA/ppm	15±10nA/ppm	700±200nA/ppm	
Resolution	0.1%	0.1%	0.5ppm typical	2ppm	< 0.1ppm typical	
T90 Response Time	≤ 15sec	≤ 15sec	≤ 25sec	≤ 30sec	≤ 20sec	Depends on type of the gas
Typical Baseline Range (pure air)	-	-	≤±2ppm CO equivalent	0 to 30ppm	≤±2ppm H2S equivalent	
Filter Capacity	-	-	-	-	-	
Recommended LoadResistor	-	100Ω	10Ω	10Ω	10Ω	
Repeatability	2% of signal	2% of signal	≤±2ppm CO equivalent	2% of signal	≤±2ppm CO equivalent	
Output Linearity			Linear			
Positon Sensitivity			None			
Bias Voltage			Not required			
Weight	7g	18g	6g	6g	6g	15g
Environmental						
Temperature Range			-20°C ~ +50°C			
Pressure Range			Atmospheric ±10%			
Relative Humidity Range			15~90% RH			
Maximum Zero Shift (+20°C to +40°C)	-	-	-2 to 3ppm	-20ppm equivalent	0.2ppm equivalent	
Life Time						
Long Term Output Drift			Less than 5%/year			
Storage Life	6months					
Storage Temperature			0~20°C			
Eapected operating Lift(years)	< 2years	< 2years	> 2years	> 2years	> 2years	
Warranty Period			2years			

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NH3	NO2	2ECO	CO / H2S (I	Dual sensor)	Ethanol	Formaldehyde
SS21N8	SS2148	SS2128_B	SS21CH		SS21A8	SS21F8
0-100 ppm	0-20 ppm	0-1,000ppm	0-500ppm CO	0~100ppm H2S	0-1,000ppm	0-1,000ppm
200 ppm	40 ppm	2,000ppm	2,000ppm CO	500ppm H2S	2,000ppm	2,000ppm
100±30nA/ppm	- 220±50nA/ppm	60±20nA/ppm	80±20nA/ppm	775±275nA/ppm	25~40nA/ppm	200±50nA/ppm
< 1 ppm typical	< 0.1 ppm typical	≤0.5ppm typical	≤0.5ppm typical	≤0.5ppm typical	≤0.01ppm typical	≤1ppm typical
<30sec	<30sec	<20seconds	<30seconds		<20seconds	<60seconds
±2ppm NH3 equivalent	±1ppm NO2 equivalent	≤±2ppm CO equivalent	≤±2ppm CO	≤±0.5ppm H2S equivalent	≤±2ppm	≤±2ppm
-	-	≥20,000ppm hours	-	-	-	-
10Ω	10Ω	10Ω	10Ω	10Ω	10Ω	10Ω
<±10%	<±5%	≤±2ppm CO equivalent	≤±3% CO	≤±2% H2S equivalent	≤±2%	≤±3%
Linear		Linear up to 2,000ppm		Lin	ear	
			None			
			Not required			
6g	6g	7g	18g	6g	6g	6g
			-20°C ~ +50°C			
800 to 1200 mbar	800 to 1200 mbar			Atmospheric ±10%		
			15~90% RH			
± 2ppm equivalent	± 1ppm equivalent	-	-	-2 to 3ppm	-20ppm equivalent	0.2ppm equivalent
Less than 10%/year	Less than 10%/year			Less than 5%/year		
			6months			
			0~20°C			
> 2years	> 2 years	< 2years	< 2years	> 2years	> 2years	> 2years
			2years			

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Certificate

















Certificate



Enterprises













Report(SPsecure)



Safety Certificate(SPsecure)



CE conformance Report(SI-100)







TestCertificate(SP12C7)





Safety Certificate(SP12C7)







Russia(Gost-R)











Declaration of Conformity(SP2nd)



Sira (MGT)











Thank you.



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