Better Safety, Better Life
Challenge, Innovation

SENKO

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

ISO

Welcome Message

SENKO doing its best.
We promise to show our best efforts to satisfy our customers.

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.
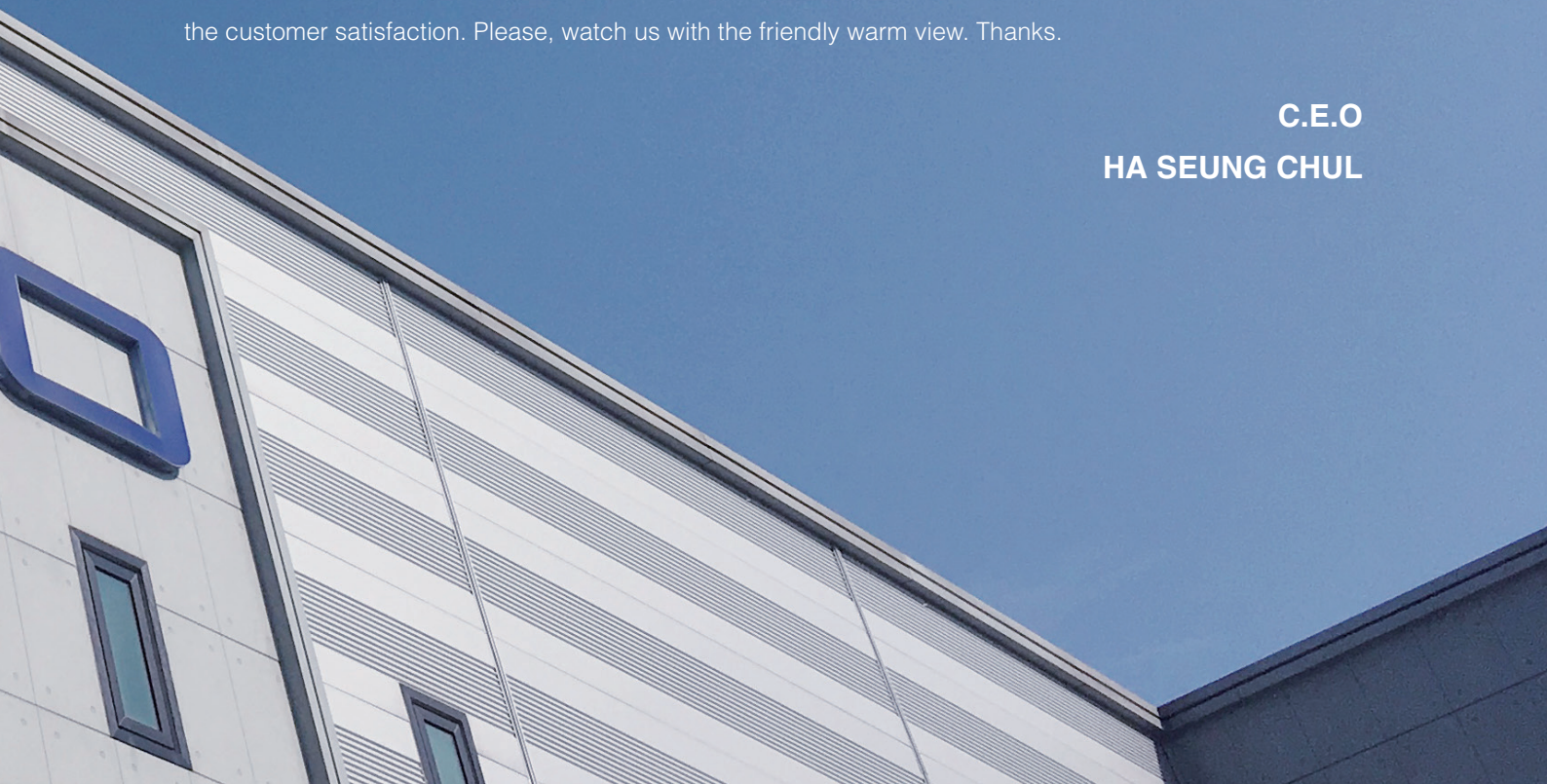
Senko Co., Ltd. had developed sensors of the carbon monoxide, hydrogen sulfide by our own technology, starting the oxygen sensor. We had also developed to produce the gas safety equipment and its system such as the portable gas detector in the industrial field. We have been doing our best to localize 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.

C.E.O
HA SEUNG CHUL

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.

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 develoopment 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 2,968m^2)
35 Oversea Countries Distributorship Agreement
Gost & Immetro Certicate
Award from Korea President

2004
SENKO Co., Ltd. Establishment

Global Sales Network

Global Office

SENKO Korea

Sales team
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SENKO Russia

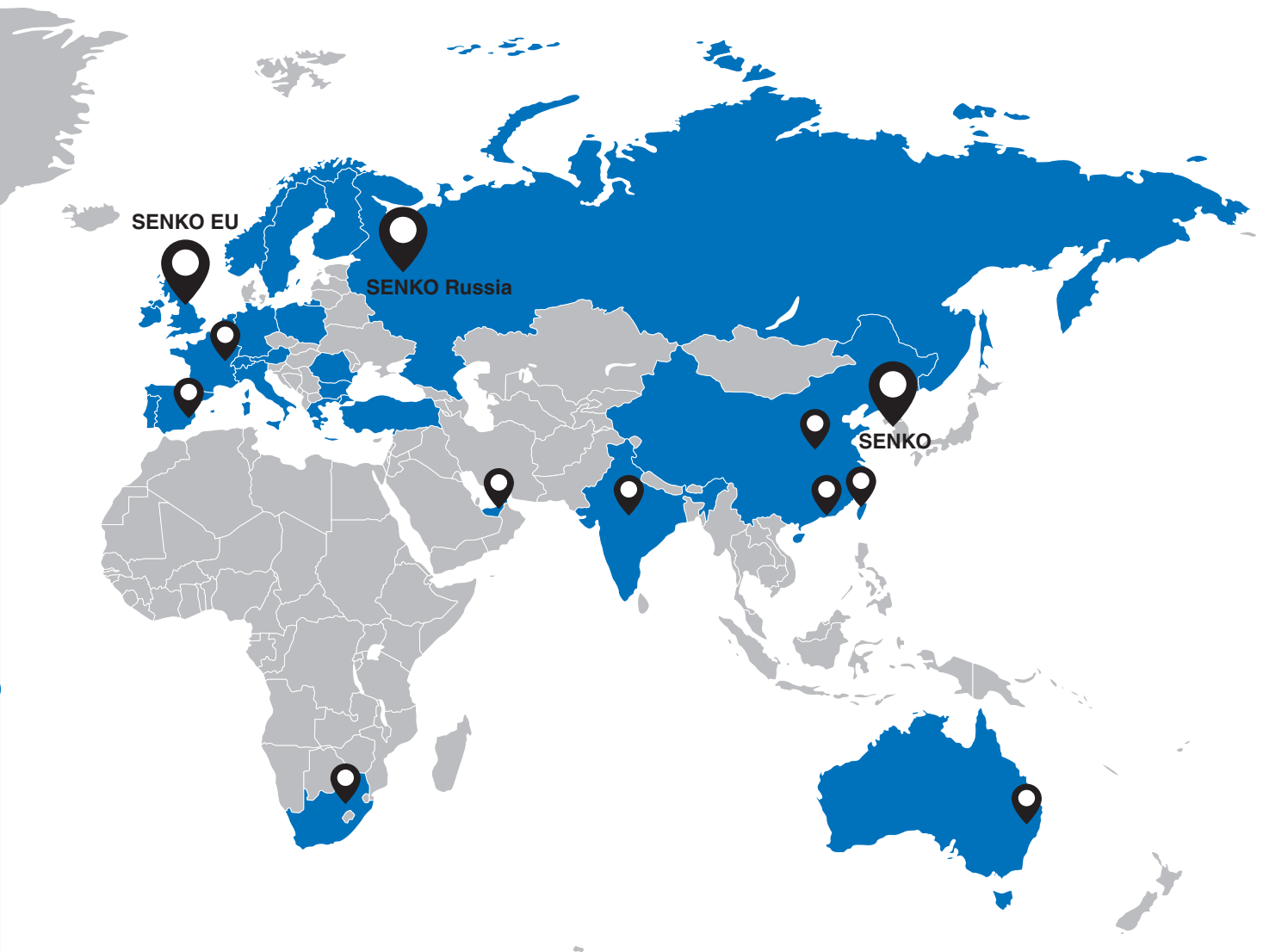**Дмитрий Бурнашов**
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*Contact your SENKO representative for complete product information.

Worldwide Distributors

SENKO EU

SENKO Russia

SENKO

Contents

SGT
Disposable Single-Gas Detector

SENKO

O2/ CO/ H2S/ H2/ SO2/ NH3/ NO2

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℃ ~ +50℃(for Toxic) / -35℃ ~ +50℃(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
Approval	**ATEX** II 1 G Ex ia IIC T4 Ga
	CSA Class 1, Zone 0, 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
O2	0~30%Vol	19%Vol	23%Vol
CO	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
User can change alarm set points and upload firmware updates and download event logs and perform calibration.

Sampling pump (SP-Pump101)

Extension Probe 5M/ 10M

SGT Docking Station

SGT-P
Replaceable Single-Gas Detector

SENKO

O2/ CO/ H2S/ H2/ SO2/ NH3/ NO2

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

Model	SGT-P
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℃ ~ +50℃(for Toxic) / -35℃ ~ +50℃(for O2) 5% ~ 95% RH (non-condensing)
Case	Rubber Enclosure
Accessories	Calibration Cap, Manual, Test Report
Option	External Sampling Pump (SP-Pump101), SENKO-IR Link, Docking Station
Size & Weight	Size: 54mm(W) x 91mm(H) x 32mm(D) Weight: 93g(Toxic), 104g(O2) (Battery, clip included)
Event Log	Recent 30 alarms
Approval	**ATEX** II 1 G Ex ia IIC T4 Ga
	IECEx Ex ia IIC T4 Ga

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
O2	0~30%Vol	19%Vol	23%Vol
CO	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
User can change alarm set points and upload firmware updates and download event logs and perform calibration.

Sampling pump (SP-Pump101)

Extension Probe 5M/ 10M

SGT Docking Station

SP2nd
Replaceable Single-Gas Detector

SENKO

O2/ CO/ H2S/ H2/ SO2/ NH3

Description

SP2nd is an economical gas detector to protect workers from the disasters caused by the oxygen deficiency or toxic gas poisoning. It measures one gas continuously and displays its concentration and raises alarm when the risk occurs.

Key Feature

- Sensor and Battery Replacement
- Rubber material case for the shock protection
- The excellent water proof/dust proof structure
- High performance of audible, visual, vibrational alarm
- Setting 1st, 2nd alarm
- Automatic checking of the sensor trouble
- Event logs (20 ea)

Specification

Model	SP2nd
Sensor Type	Electrochemical
Measurement	Diffusion type
Accuracy	±3%/Full scale
Parameter Control	Front 2 switch(calibration, maintenance, alarm setting)
Operation mode display	Visual : Digital LCD display, Trouble RedLED Audible : buzzer(90dB @ 10cm)
Display	LCD Display(3-digit)
Alarm display	Visual : alarm & status icon, Trouble RedLED Audible : buzzer
Alarm level set	Programmable within detection range
Data Log	Event Log : 20 Data
Mounting type	Belt Clip
Program set mode	Alarm value(1,2 alarm) time Set Calibration density setting
Operating temperature	-20℃ ~ 50℃
Operating humidity	5% to 95% RH(Non-condensing)
Operating power	CR2 Lithium Battery 3V
Battery life time	CR2 Battery(3.0V) : 1.2 year, when used 8 hours a day
Material	PC / TPE
LCD size	27(W) × 17.5(H)mm
Dimensions	54(W) × 91(H) × 42(D)mm
Weight	O2: 120g / Toxic: 100g (including Battery)
Approval	**INMETRO** Ex ia IIC T4 Ga **KGS** Ex ia IIC T4 Ga IP67

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
O2	0~30%Vol	19%Vol	23%Vol
CO	0~500ppm	30ppm	60ppm
SO2	0~20ppm	2ppm	5ppm
H2	0~1000ppm	100ppm	500ppm
H2S	0~100ppm	10ppm	15ppm
NH3	0~100ppm	25ppm	35ppm

Accessories

Sampling pump (SP-Pump101)

Extension Probe 5M/ 10M

MGT
Portable Multi-Gas Detector

SENKO

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 (O_2, CO, H_2S and Combustible Gas(CH_4)) and displays their concentrations and raises an alarm(visual, vibrating, and audible) when the risk occurs. It features the dual sensor of CO and H_2S.

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

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 Combustible(LEL): IR or Pellistor
IP	67
Temperature	-20°C ~ +50°C
Humidity	5~95% RH(Non-condensing)
Batteryw	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 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
Approval	**ATEX** II 1 G Ex ia IIC T4 Ga **CSA** Class 1, Zone 0, ex ia IIC T4 Ga **IECEx** Ex ia IIC T4 Ga

Sensor specification

GAS	Measuring range	Low Alarm	High Alarm
O2	0~30%Vol	19%Vol	23%Vol
CO	0~500ppm	30ppm	60ppm
H2S	0~100ppm	10ppm	30ppm
CH4	0~100%LEL	10%LEL	30%LEL

Accessories

IR Link
User can change alarm set points and upload firmware updates and download event logs and perform calibration.

Vehicle Power Adaptor

Sampling pump (SP-Pump101)

Extension Probe 5M/ 10M

MGT Docking Station Version II

SGT-N
Carbon Dioxide Gas Detector

SENKO

*Design can be changed

Description

SGT-N is a portable Single Gas detector used for detecting Carbon Dioxide.

Key Feature

- Infrared CO2 sensor
- Rechargeable battery

Specification

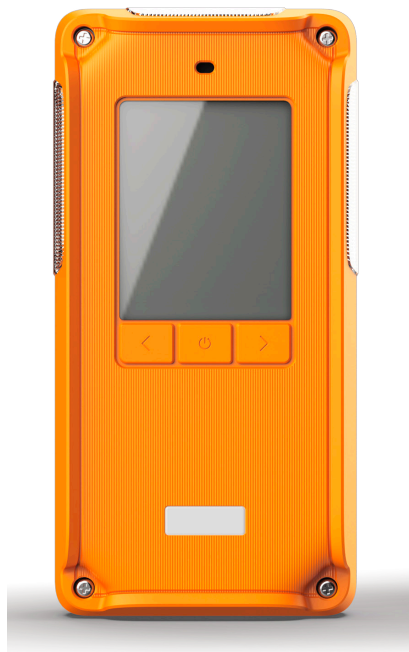| Model	SGT-N (CO2)
Sensor Type	IR
Measurement	Diffusion type
Display	LCD display
Audible	90dB at 10cm
Warning Lamp	Red Flashing LEDs
Vibration	Vibration Alarm
Battery	Rechargeable Li-ion(polymer) power supply unit (500mAh)
Temperature	-20°C ~ +50°C
Humidity	5%~95% RH (Non-condensing)
Case	Rubber Enclosure
Accessories	Calibration Cap, Charge Cable(USB C-Type)
Option	-
Size &Weight	Size: 30(W) x 50(H) x 35(D)mm , Weight: 120g
Operating Life	7 day(Expected)
Event Log	Recent 60 alarms(Expected)
Approval	**EMC** directive(2004/108/EC)

Sensor specification

Gas	Measuring range	Low Alarm	High Alarm
CO2	0~5.0%vol	0.2%vol	0.4%vol

New
Product
Coming Soon

MGT Pump type
Multi Gas Detector with built-in Pump

SENKO

*Design can be changed

Description

MGT Pump type is a portable multi gas detector used for detecting 4 gases, O2, CO, H2S, Combustible gas.

Key Feature

- Sampling pump built in structure
- Multi 4 gas detector

Specification

Model	MGT Pump type
Self-test	Full function self-test upon activation 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

GAS	Measuring range	Low Alarm	High Alarm
O2	0~30%Vol	19%Vol	23%Vol
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	-	-

New Product Coming Soon

SP-Pump101
Automatic Sampling Pump

SENKO

SGT / SGT-P / MGT / SP2nd

Description

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℃ ~ 50℃
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

**Extension Probe
5M/ 10M**

SP secure
Portable Gas Leak Detector

SENKO

Description

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, CombustibleGas	H2	
Measuring method	Catalytic	Catalytic	Electrochemical cell
Measuring range	0~100%LEL	0~100%LEL	0~1000ppm
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(calibration, maintenance, alarm 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℃ ~ 50℃		
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

Extension Probe 5M/ 10M

SGT Docking Station
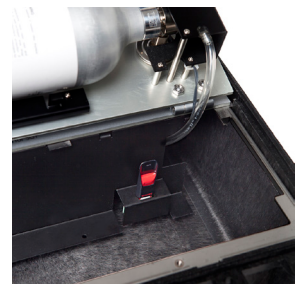
SENKO

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 × 41 × 22cm (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

MGT Docking Station

SENKO

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

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 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	±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, 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℃ ~ +55℃			
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			

SI-100C
Fixed Gas Detector
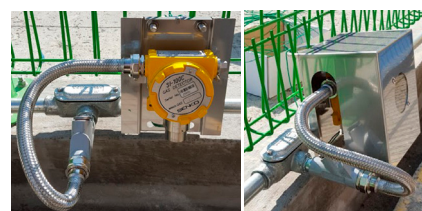
SENKO

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 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
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	**ATEX** Ex d IIC T5 Gb IP65			
	CSA (Under certification)			
	IECEx Ex d IIC T5 IP65			
	INMETRO Ex d IIC T5 Gb IP65			

SI-Series Sensor list

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	Refer to the alarm set points in the SI-100 Specification		
Combustible	-	Catalytic	0~100%LEL			
Ethylene Oxide	C2H4O	IR	0~100%LEL			
Methanol	CH3OH	Catalytic	0~100%LEL			
Ammoia	NH3	Electrochemical	0~100ppm			

SI-H100
Sampling type fixed-Gas Detector

SENKO

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 2years 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

Accessories

Sampling bracket

SI-100D
Gas Leak Detector

SENKO

Description

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℃ ~ +50℃
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

SI-100IS
Receiver For Fixed Gas Detector (Bar-Graph type)
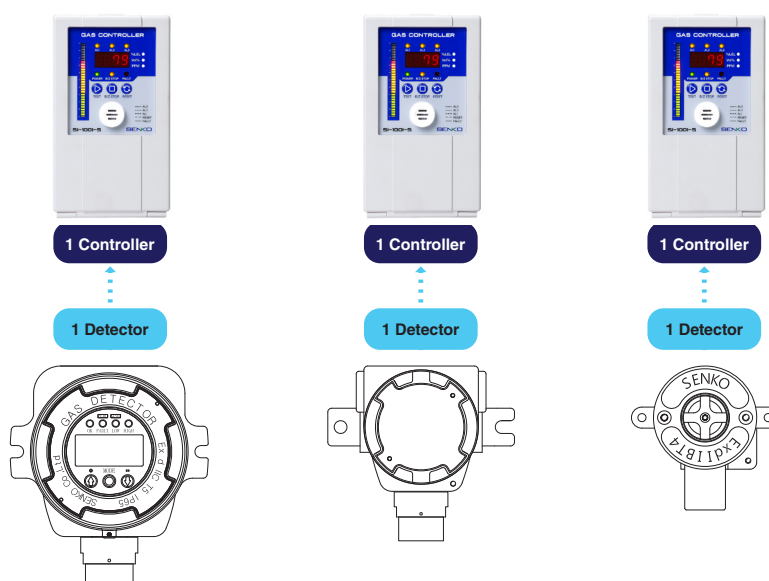
SENKO

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

1 Controller	1 Controller	1 Controller
1 Detector	1 Detector	1 Detector

SI-100IM
Multi Channel Gas Monitor for Fixed Gas Detectors

SENKO

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(◁) Display
- Easy zero and standard gas calibration
- Self Diagnosis mode
- Display the frequency of calibration
- Back-up Battery installed
- Data Recovery function

SI-100IM SI-100IA (CH1) SI-100IA (CH2) SI-100ICU (CH3)

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	Ni-Cd Battery 18V 600mA (3, 6Channel)	
Operating Power	110/220V.AC 50/60Hz (or 24V.DC)	
Temperature / Humidity	-20℃ ~ 60℃, 95%RH	-20 ℃ ~ 60 ℃, 95%RH
Dimensions	Main Channel Card : 40(W) × 130(H) x104(D)mm	Alarm Channel Card : 40(W) × 130(H) x104(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	

Electrochemical Gas Sensor

	O2	O2	CO	H2	H2S	Hydro Carbon, CO2 etc
Model	**SS1118**	**SS2118**	**SS2128**	**SS2178**	**SS2198**	**IR sensor**
Performance Characteristics						
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	Depends on type of the gas
T90 Response Time	≤ 15sec	≤ 15sec	≤ 25sec	≤ 30sec	≤ 20sec	
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	-20ºC ~ +50ºC					
Pressure Range	Atmospheric ±10%					
Relative Humidity Range	15~90% RH					
Maximum Zero Shift (+20ºC to +40ºC)	-	-	-2 to 3ppm	-20ppm equivalent	0.2ppm equivalent	
Life Time						
Long Term Output Drift	Less than 5%/year					
Storage Life	6months					
Storage Temperature	0~20ºC					
Eapected operating Lift(years)	< 2years	< 2years	> 2years	> 2years	> 2years	
Warranty Period	2years					

NH3	NO2	2ECO	CO / H2S (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	Linear			
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						

BMC-2000
Breath CO Monitor

SENKO

Description

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

Specification

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) × 140(H) × 42(D)mm
Weight	160g

Certificate

INNOBIZ · Venture for Tomorrow · CE 0575 · SPK · Ex · DNV · BUREAU VERITAS · P

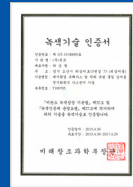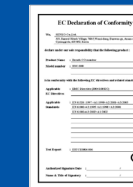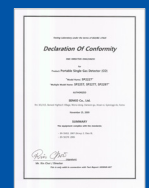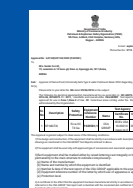|					
Business License	Factory Registration Certificate	Foreign Investment Enterprises	Certificate of quality management systems	Certificate of Green Technology	TR CU
Certificate of China	CNEx	CE Conformance Report(SPsecure)	Safety Certificate(SPsecure)	CE conformance Report(SI-100)	CPA(SI-100)
Safety Certificate(SP2nd)	CB TestCertificate(SP12C7)	Declaration of Conformity(SP12C7)	Safety Certificate(SP12C7)	EC Declaration of Conformity(BMC-2000)	ATEX(MGT)
Certificate of Russia(Gost-R)	IECEx	Ex NEPSI	ATEX(SGT, SGT-P)	Inmetro(SGT)	Declaration of Conformity(SP2nd)
Sira (MGT)	Certificate of Ukraine	CSA(SGT)	IECEx(SGT, MGT)	PESO (SGT, MGT, SI series)	CSA(MGT)

Thank you.

SENKO