

GASTRON

Headquarter / R&D : 23, Gunpocheomdansaneop 1-ro (Bugok-dong),
Gunpo-si, Gyeonggi-do, Korea
Tel +82-31-490-0800 Fax +82-31-490-0801

Busan Branch / Factory : 55, Gonghangap-gil 85beon-gil,
Gangseo-gu, Busan, Korea
Tel +51-973-8518 Fax +51-973-8519

www.gastron.com

GAS & FLAME DETECTION SYSTEM



GASTRON

ABOUT COMPANY

Gastron Co., Ltd. is specialized in manufacturing safety devices such as gas leak detectors, warning lights and flame detectors. Since its establishment in 1992, it has grown into a leading company in the industry. Beyond the domestic market, we compete with the world's leading companies.

Our products are approved for explosion-proof and fire-extinguishing test. We also have global certifications such as ATEX, SIL2 approval for the first in Korea with our unique technologies.

Major customers include semiconductor, chemical plant, steel plant, marine & offshore, power plant, and gas manufacturing company, etc.

We manufacture and provide products of various configurations and specifications ranging from large enterprises to small and medium enterprises. This catalog shows products customers' require and protect precious lives and property from accidental injuries.





INTRODUCTION

Company name	GASTRON Co., Ltd.
President	Mr. Choi, Dong-Jin
Established	1992. 6. 26
Head office	23, Gunpocheomdansaneop 1-ro, Gunpo-si, Gyeonggi-do, 15881, Rep. of KOREA Tel. +82-31-490-0800 Fax. +82-31-490-0801 Web-site : www.gastron.com E-mail : info@gastron.com
Busan branch	55, Gonghangap-gil 85beon-gil, Gangseo-gu, Busan, Korea

Product	Industrial Fixed Gas Detector Monitoring System Engineering (HMI & PLC) Portable Gas Detector Alarm Signalling Flame Detector Acid Leak Detection Paint
Awards	2002 Promotion of Excellent Venture Business (Gyeonggi Provincial Small and Medium Business Administration) Encouragement Prize for 2005 Safety Equipment Test (Korea Occupational Safety & Health Agency) 2006 Selected as a superior technology company (Technology guarantee fund) 2008 Commendation of industrial development of measuring instruments (Ministry of Commerce, Industry and Energy) Designated as a promising export small and medium business by Gyeonggi Small and Medium Business Administration 2013 Sincere Taxpayer Certification (Ansan mayor) 2014 Commendation to fulfill tax payment duty (Minister of Strategy and Finance)
Patent details	2007 Gas leakage alarm control system using touch screen Infrared flammable gas detector Gas Leak Detectors Regulate Output Current Constantly 2008 Contacted combustion gas sensor for flammable gas leak detector Receiver for gas leak detector with battery charging circuit 2009 Diffusion Infrared Gas Sensor Module Inhalation Infrared Gas Sensor Module 2014 Hot Line Semiconductor Gas Sensor 2017 Gas Detecting Apparatus Having Explosion-proof Sensor Cartridge using Air Sampling 2018 Infrared sensor to prevent alarm by interference gas Gas sensing apparatus and method

HISTORY



1992

Established Hwaseong Instrument Co., Ltd. (CEO: Chan Young Song)



1997

Awarded by the Minister of Commerce, Industry and Energy
Registered as a member of Korea Instrument Research Association

1999

Acquired ISO9001 certification

2000

Changed company name to Gastron Co., Ltd.
Won the Excellent Explosion Proof Product Selection Contest (Korea Occupational Safety & Health Agency)

2001

Utility Model Registration: Diffusion Gas Leak Detector (No.0258970)
Utility model registration: Inhalation type gas leak detector (No. 0258971)



2002

Utility model registration: Gas leakage detection device (No. 0283456)
Completion of new building completion and transfer (75-10 Bugok-dong, Sang roku-gu, Ansan-si, Gyeonggi-do)

2004

Selected as a promising small business (Gyeonggi-do)

2005

Established a branch office in Malaysia
Establishment of affiliated research institute

2006

Selected as a venture company (Gyeonggi Provincial Small and Medium Business Administration)
Selected as a technologically innovative small and medium enterprise
Selected as a superior technology company (Technology guarantee fund)

2007

Selected as export promising small and medium enterprise (Gyeonggi Small and Medium Enterprise Export Support Center)
Established Ulsan branch

2008

Awarded by Minister of Commerce, Industry and Energy

2009

Acquired European explosion-proof certification (Ex d IIC Gb T5) ATEX, IECEx



2010

Establishment of ERP system

2011

Information support project (product information management system construction)

2012

Design Registration: Portable Gas Detector GPD-100 (12-22935GH)
Design Registration: Installable Gas Detector Outdoor Cover (12-30412)

2013

Registered as a member of HART COMMUNICATION PROTOCOL
Expansion of sales department / development department office

2014

Obtained SIL 2 certification
Established Yeongnam branch

2015

Developed Multi Sensor Detector (GTM-1000, 2000)

2016

Acquired ISO14001 and OHSAS18001 certification

2017

Acquired Russian explosion proof certification
Completion and relocation of new building



2018

Selected as a promising export small and medium enterprise (Gyeonggi Provincial Small Venture Enterprise Division)
Recognition of Gyeonggi Export Excellence (The director of the Gyeonggi Provincial Small and Medium Venture Enterprise)



Acquired Flame Detector fire type approval
Acquired FM Certification
Selected as a youth-friendly enterprise (Ministry of Employment and Labor)

GASTRON PRODUCTS

Fixed Type Multi Gas Detector

10



GTM-1000 / GTM-2000

Gas Sampling Monitoring System

14



Gas Sampling & Detection System
Gas Sampling Monitoring System

Fixed type VOC Gas Detector

18



GTD-5100F / GTD-5000F
GTD-2000Tx / GTD-5000

Fixed type Infrared Gas Detector

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GTD-5000 / GTD-5100F / GIR-3000
GTD-5000F / GIR-3000A

Fixed type Flammable Gas Detector

32



GTD-5100F / GTD-5000F / GTD-3000Ex
GTD-2000Ex / GTD-1000Ex / GTD-5000
GTD-6000

Fixed type Oxygen & Toxic Gas Detector

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GTD-5100F / GTD-5000F / GTD-3000Tx
GTD-2000Tx / GTD-1000Tx / GTD-5000
GTD-6000

Open Path Gas Detector

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SafeEye Quasar 900

Gas Detector Receiver

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ASC-100 / GTC-200A Series / GTC-200F Series
GTC-500 Series / GTC-520F Series
GTC-700 Series / GMS-2000

Portable Gas Detector

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G-FinderSingle / GPD-100

Alarm Signaling

70



GTL-200

Flame Detector & Ultrasonic Gas Leak Detector

92



GTF-1100U / GTF-1100T
975MR / 975HR / 975UF / 975UR
Incus Ultrasonic Gas Leak Detector

Calibration Gas / Safety Product

74



CanGas / Cylinder

Gas Monitoring System Configuration

78



Configuration-1 / Configuration-2
Configuration-3 / Configuration-4
Configuration-5

Fixed Type Multi Gas Detector

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GTM-1000

Fixed Type Freon, Flammable MULTI Gas Detector

GTM-2000

Fixed Type Freon, Flammable, Oxygen & Toxic MULTI Gas Detector



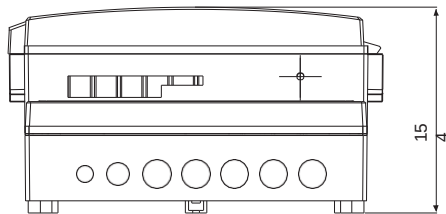
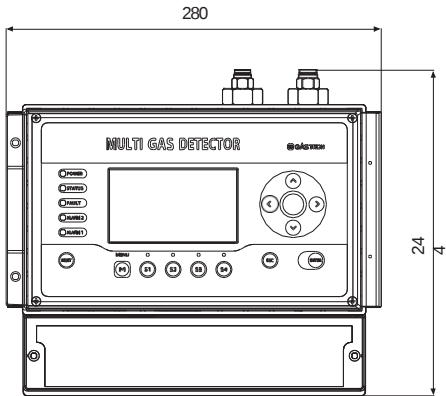
GTM-1000Fixed Type Freon, Flammable MULTI Gas Detector

| Detect Freon, Flammable, VOC & Toxic gases simultaneously | Apply algorithm to prevent malfunction for interference gas (PA, Ethanol, FC3283 and Alcohol types)
| Fast response of gas leakage with a high efficient pump inside | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Built in Data & Event Logging | Parameter setting with Color graphic LCD | Self diagnosis function | Flow Sensor to control flow rate automatically | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA output signal | Easy configuration of monitoring by RS-485 Modbus (Isolated) and PoE communication(option)| Calibration and maintenance by one-man

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Micro Filter



PG connector

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

MULTI TYPE GAS DETECTOR GTM-1000				
Model	GTM-1000 Series			
Measuring gas	Freon gases	Flammable gases	VOC gases	Toxic gases (CO, COS &etc)
Measuring type	Auto Sampling type			
Measuring method	Infra-red	Catalytic cell, Infra-red	Photo-Ionization Detector(PID)	Electrochemical cell
Measruing range	0~2000ppm	0~5000ppm, 100%LEL	0 ~ 300ppm	Customized Specification
Response time	<15sec / 90% scale	<15sec / 90% scale	<15sec / 90% scale	<45sec / 90% scale
Accuracy	±3% / Full Scale			
Parameter control	Front switch (calibration, maintenance, alarm setting)			
Operation mode display	Power / Alarm / Trouble / Status LED			
Measuring value display	Color graphic LCD display (Gas vaule, Gas name, Flow, Error etc.)			
Alarm signal output	4Gas - 3A@250VAC, 5A@28VDC / 3SPST Relay Contact(2-Stage Alarm, 1-Trouble)			
Output signal	4 Gas - Analog output : 4-20mA Digital output : RS-485 Modbus / PoE (Power over Ethemet) (option)			
Sampling method	Diaphragm Pump			
Sampling line	OD 1/4 "(Standard)			
Flow rate	0 ~ 1,000 ml/min max (Normal 500ml/min)			
Cable Port	PG connector (PG11~PG25)			
Mounting type	Wall mount			
Operating temperature	-10℃ ~ +50℃			
Operating humidity	5 to 99% RH (Non-condensing)			
Material	Polycarbonate			
Dimensions	280 (W) × 244 (H) × 154 (D) mm			
Weight	3.5kg			

CERTIFICATION	
CE / KC	Refer to website

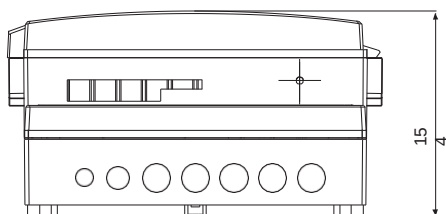
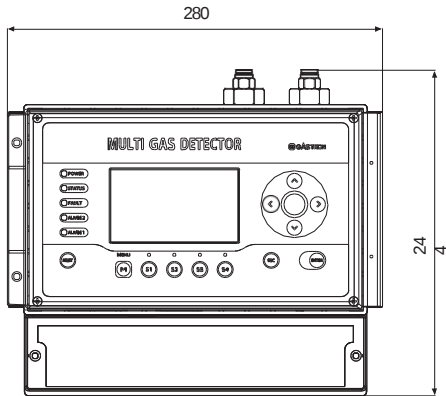
GTM-2000Fixed Type Freon, Flammable, Oxygen & Toxic MULTI Gas Detector

| Detect Freon, Flammable, Oxygen & Toxic gases simultaneously | Apply algorithm to prevent malfunction for interference gas (PA, Ethanol, FC3283 and Alcohol types) | Fast response of gas leakage with a high efficient pump inside | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Built in Data & Event Logging | Parameter setting with Color graphic LCD | Self diagnosis function | Flow Sensor to control flow rate automatically | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA output signal | Easy configuration of monitoring by RS-485 Modbus (Isolated) and PoE communication(option)| Calibration and maintenance by one-man

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Micro Filter



PG connector

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

MULTI TYPE GAS DETECTOR GTM-2000			
Model	GTM-2000 Series		
Measuring gas	Flammable gases	Freon gases	O2/Toxic gases (CO, COS &etc)
Measuring method	Catalytic cell	Infra-red	Electrochemical cell
Measruing range	0~5000ppm, 100%LEL, 100%Vol	0~2000ppm	Customized Specification
Response time	<15sec / 90% scale	<15sec / 90% scale	<45sec / 90% scale
Accuracy	±3% / Full Scale		
Parameter control	Front switch (calibration, maintenance, alarm setting)		
Operation mode display	Power / Alarm / Trouble / Status LED		
Measuring value display	Color graphic LCD display (Gas vaule, Gas name, Flow, Error etc.)		
Alarm signal output	4Gas - 3A@250VDC, 5A@28VDC / 3SPST Relay Contact(2-Stage Alarm, 1-Trouble)		
Output signal	4 Gas - Analog output : 4-20mA DC / Digital output : RS-485 Modbus / PoE (Power over Ethemet) (option)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	0 ~ 1,000 ml/min max (Normal 500ml/min)		
Cable Port	PG connector (PG11~PG25)		
Mounting type	Wall mount		
Operating temperature	-10℃ ~ +50℃		
Operating humidity	5 to 99% RH (Non-condensing)		
Material	Polycarbonate		
Dimensions	280 (W) × 244 (H) × 154 (D) mm		
Weight	3.5kg		

CERTIFICATION	
CE / KC	Refer to website

Fixed Gas Detection System

Fixed Gas Sampling & Detection System
LNG Carrier

Fixed Gas Sampling System
Crude Oil Tanker, Product Carrier, VLCC, Chemical Tanker & etc.

GASTRON



Fixed Gas Sampling &Detection SystemLNG Carrier

- | Compliance with revised MSC & IMO rules | Easy to control | Application of Pre-sampling function | Loop based system | 1st & 2nd alarm display | Sampling time setup
- | High resolution color display |

GAS DETECTOR



ADVANTAGE

- Both analog and digital output signal (Loop) can be configured between gas detection panel and local gas detectors.
- Repeat alarm unit has many functions like dimmer switch, alarm test, Modbus function, volume control and configuration mode.
- Separation of electric devices and sampling equipment prevents explosion from sparks caused by electric devices in case of gas leakage inside the panel.
- Sampling time (1 Cycle) Within 30 minutes Pump Capacity is 20L / MIN and the highest level in the market.
- Increased visibility and usability through 15 inch touch Screen and color display – Easy to use and edit the lay-out of the system.
- The values for the measured gas name, gas concentration, First / Second alarm, FAULT alarm and FLOW alarm for all sampling points can be grasped at a glance.
- Gastron is a manufacturer producing from the sensor to the housing of gas detectors. 80% components of the system are manufactured at its facility. In-house manufacturing enables the system to be more competitive in price and prompt service to customers.
- Data logging function enables to record all alarm events and some or all data can be deleted with the delete function.

SPECIFICATION

GDS-20000 Series	
Applicable Vessel	LNG Carrier
Max. Sampling point	up to 50 points with no extra panel
Intake Capacity	up to 300 meter
Main Components	Gas Sampling Panel / Gas Detection Panel / Repeater Alarm Panel / Continuous Sampling Panel / Stop Valve Box / Drain Panel
Detected Gas	CH4 / O2 etc
Sensor type	IR type or Catalytic type
Power Supply	Voltage : 220VAC 60Hz
Power Consumption	800 W
Temperature	0 ~ +70 ℃
Measuring	Flammable Gas: CH4 / 0~100%LEL 0~100%Vol Oxygen: O2 / 0~30%Vol
CERTIFICATION	
MED / KR	Refer to website

Fixed Gas Sampling SystemCrude Oil Tanker, Product Carrier, VLCC, Chemical Tanker &etc

- | Compliance with revised MSC & IMO rules | Easy to control | Application of Pre-sampling function | Loop based system | 1st & 2nd alarm display | Sampling time setup
- | High Resolution color display | Oxygen and hydrogen sulfide sensors |

GAS DETECTOR



RECEIVER'S FEATURE

- High resolution color display with screen
- Easy expandability
- User / Administration mode
- Easy timing regulating
- Record gas alarm data
- Log-in function
- Display of all sampling points

SPECIFICATION

GDS-10000 Series	
Applicable Vessel	Crude Oil Tanker, Product Carrier, Chemical Tanker & etc.
Max. Sampling point	up to 50 points with no extra panel
Intake Capacity	up to 300 meter
Main Components	Gas Sampling Panel / Repeater Alarm Panel
Detected Gas	H2S / HC / O2 etc
Sensor type	IR TYPE & CATALYTIC TYPE & ELECTROCHEMICAL TYPE
Power Supply	220VAC 60Hz
Power Consumption	800 W
Temperature	0 ~ +70 ℃
Measuring	Flammable Gas: i-C4H10 / 0~100%LEL CH4 / 0~100%LEL Toxic Gas: H2S / 0~50 ppm Oxygen: O2 / 0~30%Vol
CERTIFICATION	
MED / KR	Refer to website



Fixed type VOC Gas Detector

GTD-5100F

Explosion Proof Type Sampling VOC Gas Detector

GTD-5000F

Explosion Proof Type Sampling VOC Gas Detector

GTD-2000Tx

Explosion Proof Type Diffusion VOC Gas Detector

GTD-5000

Intelligent & Sampling Type VOC Gas Detector

GASTRON

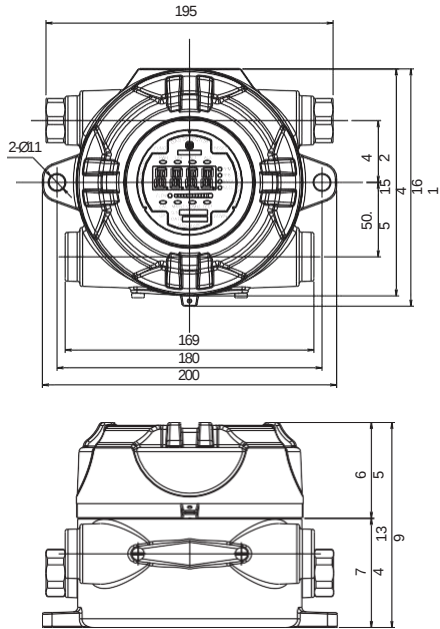
GTD-5100F Explosion Proof Type Sampling VOC Gas Detector

| Continuous detection of VOC gas in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of gas leakage with a high efficient pump inside | Low concentration VOC gas detection by PID sensor | Stable quality and proved detection principle for service life | Auto calibration and program setting with magnet bar on FND display board | 4-Digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus | 3-Wire Type | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man |

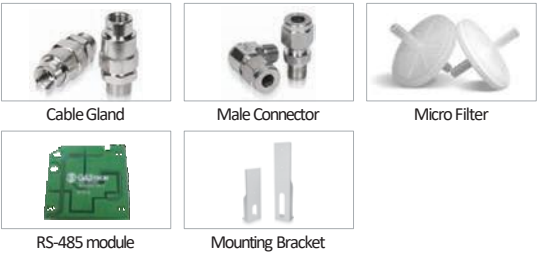
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF & SAMPLING TYPE VOC GAS DETECTOR			
Model	GTD-5100F		
Measuring gas	VOC gases(Benzene, Toluene, Xylene & etc)		
Measuring type	Auto Sampling type		
Measuring method	Photo-Ionization Detector(PID)		
Measuring range	0 ~ 300 ppm		
Response time	< 5sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)		
Operation mode display	Alarm / Trouble LED, Flow rate		
Measuring value display	FND Display(4-Digit)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC Digital output : RS-485 Modbus(Optional)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	0 ~ 1000 ml/min Max		
Conduct Connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P		
Mounting type	Wall mount		
Operating temperature	-20℃ ~ +60℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Material	ALDC		
Dimensions	195(W) x 139(H) x 154(D)mm		
Weight	4kg		
CERTIFICATION			
KCs	Ex d IIC T6	CE	Refer to website

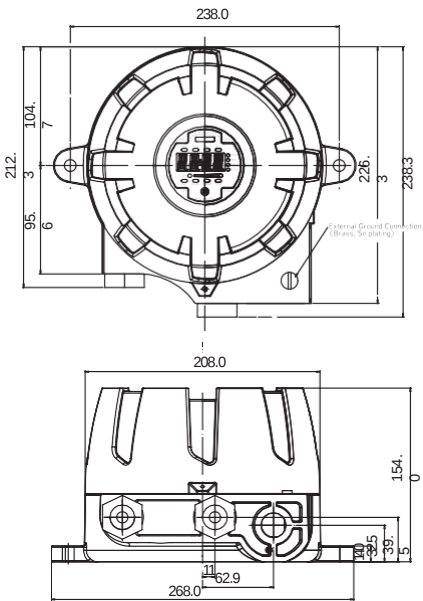
GTD-5000F Explosion Proof Type Sampling VOC Gas Detector

| Continuous detection of VOC gas in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of gas leakage with a high efficient pump inside | Low concentration VOC gas detection by PID sensor | Stable quality and proved detection principle for service life | Auto calibration and program setting with a magnet bar | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus | 3-wire connection for signal & power | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF & SAMPLING TYPE VOC GAS DETECTOR			
Model	GTD-5000F		
Measuring gas	VOC gases(Benzene, Toluene, Xylene & etc)		
Measuring type	Auto Sampling type		
Measuring method	Photo-Ionization Detector(PID)		
Measruing range	0 ~ 300ppm		
Response time	< 5sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)		
Operation mode display	Alarm / Trouble LED, Flow rate		
Measuring value display	FND Display(4-Digit)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC, Digital output : RS-485 Modbus(Optional)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	0 ~ 1000 ml/min Max		
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	Wall mount		
Operating temperature	-40℃ ~ +60℃		
Operating humidity	5 to 99% RH (Non-condensing)		
Material	ALDC		
Dimensions	226.3(W) × 154(H) × 238(D) mm		
Weight	5kg		
CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIB+H2 T6/T5 Gb
ATEX / IECEx	Ex d IIB+H2 T6/T5 Gb	CE / KFI / KC	Refer to website

※ Specifications are subject to be changed without prior notice.

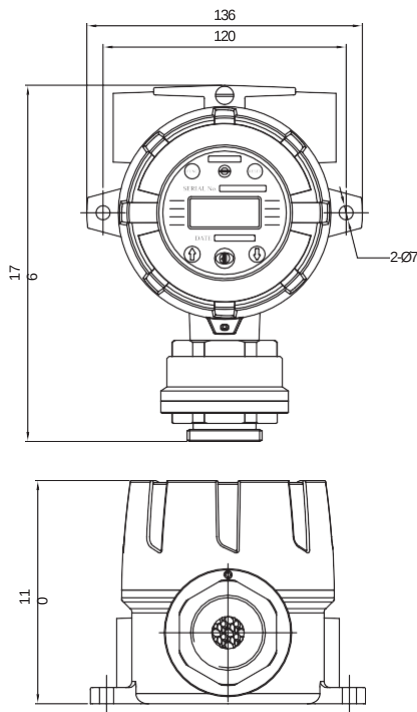
GTD-2000Tx Explosion Proof Type Diffusion VOC Gas Detector

| Continuous detection of VOC gas in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Low concentration VOC gas detection by PID sensor | Stable quality and proved detection principle for service life | Multi functions and high quality with low cost of ownership | Built- in back light LCD or OLED display | Easy Configuration of monitoring by HART communication | Auto calibration and program setting with a magnet bar | 4-20mA (Current source or Sink) output signal | With the alarm unit - Normal : Green LED - Alarm : Red LED, Buzzer(95 dB) - Trouble : Yellow LED | 3-wire connection for signal & power | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

SMART & LOCAL DISPLAY TYPE VOC GAS DETECTOR			
Model	GTD-2000Tx		
Measuring gas	VOC gases(Benzene, Toluene, Xylene & etc)		
Measuring type	Diffusion type		
Measuring method	Photo-Ionization Detector(PID)		
Measruing range	0 ~ 300ppm		
Response time	< 5sec / 90% scale		
Accuracy	±3% / Full scale		
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance)		
Operation mode display	1-LED (Power)		
Measuring value display	LCD display (Built in back light 2-Line, 8 characters) / OLED Type (Option)		
Output signal	Analog : Measuring signal : 4-20mA DC Calibration signal : 3mA DC Fault signal : 0mA DC Digital : 2mA (HART 7, HART Device Description Language available, Option)		
Material	Housing : ALDC, SUS316(Optional) / Sensor : SUS316		
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT 3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Option		
Operating temperature	-40℃ ~ 80℃		
Operating humidity	5 ~ 99%RH (non-condensing)		
Dimensions	136(W) x 177(H) x 110(D)mm		
Weight	1.5kg		

CERTIFICATION			
KCs	Ex td A21 IP66 T85℃, Ex d IIC T6, T5, T4	ATEX / IECEX	Ex db IIC Gb T6, T5, T4

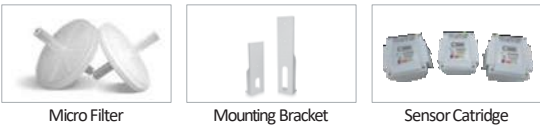
GTD-5000 Intelligent & Sampling Type VOC Gas Detector

| Fast response of VOC gas leakage with a high efficient pump inside | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Low concentration VOC gas detection by PID sensor | Stable quality and proved detection principle for service life | Fine LCD display for showing various information | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus or PoE | 2-stage alarm, 1-trouble display and relay contact output | 3-wire connection for signal & power | Calibration and maintenance by one-man |

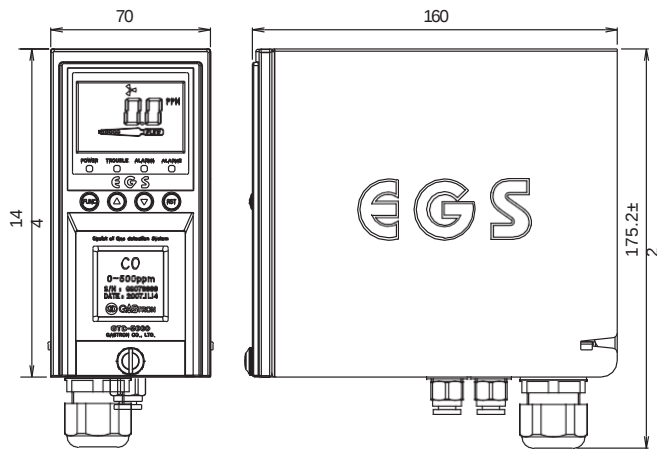
IMAGE



ACCESSORIES



DIMENSION (Unit : mm)



SPECIFICATION

INTELLIGENT & SAMPLING TYPE VOC GAS DETECTOR	
Model	GTD-5000
Measuring gas	VOC gases(Benzene, Toluene, Xylene & etc)
Measuring type	Auto Sampling type
Measuring method	Photo-Ionization Detector(PID)
Measruing range	0 ~ 300ppm
Response time	< 5sec / 90% scale
Accuracy	±3% / Full scale
Parameter control	Front switch (calibration, maintenance, alarm setting)
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)
Measuring value display	LCD Display(4-Digit)
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)
Output signal	4 - 20mA DC RS-485 Modbus(Optional) / PoE(Power over Ethernet)(Option)
Sampling method	Diaphragm Pump
Sampling line	OD 1/4" (Standard)
Flow rate	0 ~ 1000 ml/min max
Conduit connection	Cable gland(PG-16)
Mounting type	Wall mount
Operating temperature	-10℃ ~ +60℃
Operating humidity	5 to 99% RH(Non-condensing)
Material	Front(Poly carbonate), Sides(Steel)
Dimensions	Standard type : 70(W) x144(H) x 160(D)mm
Weight	Standard type : 2.5kg
NOTE 1	DC 24V should be supplied if you want to use Pyrolyzer in case of using PoE power

CERTIFICATION	
CE / CPA	Refer to website

GASTRON

Fixed type Infrared Gas Detector

GTD-5000

Non-Explosion Proof Type Interference Gas Filtering Gas Detector

GTD-5100F

Explosion Proof Type Interference Gas Filtering Gas Detector

GIR-3000

Explosion Proof Type Diffusion Infrared Gas Detector

GTD-5000F

Explosion Proof Type Sampling Infrared Gas Detector

GIR-3000A

Fixed Type Infrared Gas Detector



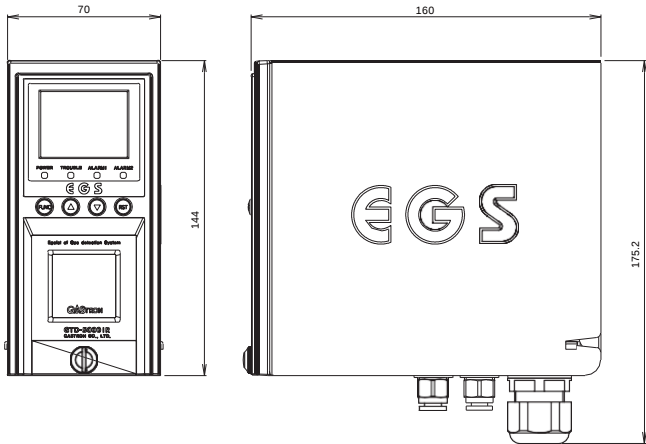
GTD-5000 Non Flame proof Type interference gas filtering gas detector

| Application of anti-malfunction algorithm to interference gas (Ethanol, FC-3283, IPA) | Fast response speed by applying new infrared measurement principle | Built-in high-performance pump to detect gas leakage quickly | Built-in automatic flow control with flow sensor | Built-in self-diagnosis function | Application of proven detection principle with stable quality and service life | Color graphic 1: 1 interactive parameter setting using LCD | 4-20mA (Current source or Sink) output | Easy to install monitoring system by RS-485 Modbus and PoE communication | Two-stage alarm, one fault indication and relay contact output | Built-in Data & Event log function | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Micro Filter



Mounting Bracket



Sensor Cartridge

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

NONFLAME PROOFTYPE INTERFERENCE GAS FILTERING GAS DETECTOR			
Model	GTD-5000		
Measuring gas	Freon gas	Flammable gas	Toxic gases (COS, TEOS)
Measuring type	Auto Sampling type		
Measuring method	Infra - red		
Measruing range	0~2000ppm	0~5000ppm, 0~100% LEL	refer to Toxic Gas Measuring Range
Response time	< 10sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Front switch (calibration, maintenance, alarm setting)		
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)		
Measuring value display	Color graphic LCD display (Gas value, Gas name, Flow, Error etc.)		
Alarm signal output	5A@250VAC / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC	Digital output : RS-485 Modbus / PoE (Power over Ethernet) (Option)	
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	100 ~ 1000 ml/min (Normal 500ml/min)		
Material	front (Poly carbonate), Sides (Steel)		
Conduit connection	Cable gland (PG-16)		
Mounting type	Wall mount		
Operating temperature	-10℃ ~ +50℃		
Operating humidity	5 to 99% RH (Non-condensing)		
Dimensions	70(W) × 144(H) × 160(D) mm		
Weight	1.9kg		
CERTIFICATION			
CE / CPA	Refer to website		

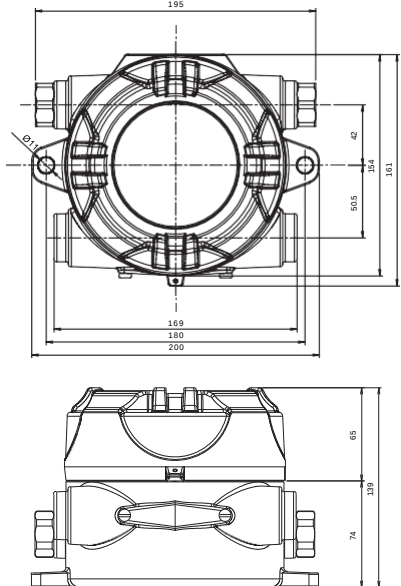
GTD-5100F Explosion Proof Type interference gas filtering gas detector

| Built-in explosion-proof structure, installed in dangerous area of gas leakage, continuously detecting gas | Application of anti-malfunction algorithm to interference gas (Ethanol, FC-3283, IPA) | Fast response speed by applying new infrared measurement principle | Built-in high-performance pump to detect gas leakage quickly | Built-in automatic flow control with flow sensor | Built-in self-diagnosis function | Application of proven detection principle with stable quality and service life | Parameter setting of color graphic LCD and 1: 1 conversation method using magnet bar | 4-20mA (Current source or Sink) output | Easy to install monitoring system by RS-485 Modbus and PoE communication | Two-stage alarm, one fault indication and relay contact output | Built-in Data & Event log function | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Cable Gland



Male Connector



Micro Filter

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

FLAME PROOFTYPE INTERFERENCE GAS FILTERING GASDETECTOR			
Model	GTD-5100F		
Measuring gas	Freon gas	Flammable gas	Toxic gases (COS, TEOS)
Measuring type	Auto Sampling type		
Measuring method	Infra - red		
Measruing range	0~2000ppm	0~5000ppm, 0~100% LEL	refer to Toxic Gas Measuring Range
Response time	< 10sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)		
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)		
Measuring value display	Color graphic LCD display (Gas value, Gas name, Flow, Error etc.)		
Alarm signal output	5A@250VAC / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC	Digital output : RS-485 Modbus / PoE (Power over Ethernet) (Option)	
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	100 ~ 1000 ml/min (Normal 500ml/min)		
Material	ALDC		
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P	
Mounting type	Wall mount		
Operating temperature	-20℃ ~+60℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Dimensions	195(W) × 139(H) × 154(D) mm		
Weight	4kg		
CERTIFICATION			
KCs	Ex d IIC T6	CE	Refer to website

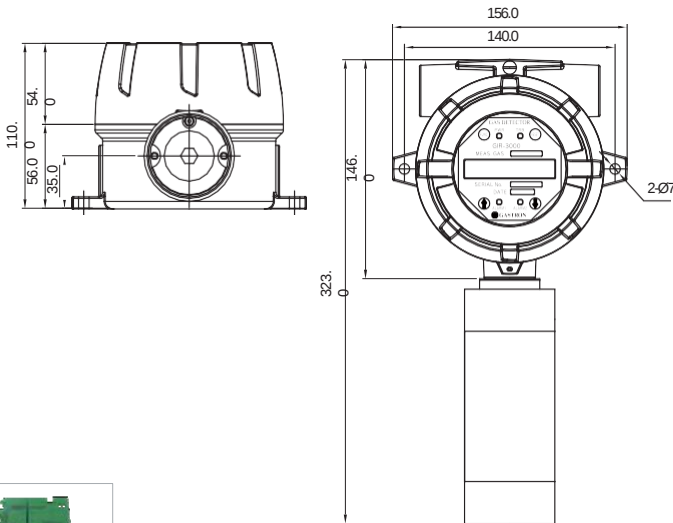
GIR-3000 Explosion Proof Type Diffusion Infrared Gas Detector

| Continuous detection of flammable, CO₂, CO and N₂O gases in explosion hazardous area with flame proof structure | State-of-the art infrared detection principle | Long service life time (more than 5 years) | Operation in non oxygen environment | Self diagnosis function with built-in Microprocessor | Fast response time (<5 sec) | Built-in back light LCD or OLED display | Auto calibration and program setting with a magnet bar | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus or HART communication | With the alarm unit, GTL-100 - Normal: Green LED - Alarm: Red LED, Buzzer (95dB) - Trouble: Yellow LED | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

SMART & LOCAL DISPLAY TYPE INFRARED GAS DETECTOR						
Model	GIR-3000					
Measuring gas	Hydrocarbon gases (LNG, LPG, Methane, Butane & etc)			CO2	CO	N2O
Measuring type	Diffusion type					
Measuring method	Infrared type					
Measruing range	0~100% LEL	0~9999ppm	0~100% Vol	0- 5.0% Vol	0- 2.0% Vol	0~4000ppm
Sensor life time	Over 5 years					
Response time	<5sec / 90% scale, <3sec / 50% scale					
Accuracy	±3% / Full scale					
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)					
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)					
Measuring value display	LCD display (Built-in back light 2-Line, 16 characters) / OLED Type (Option)					
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)					
Output signal	Analog : Measuring signal : 4-20mA DC		Calibration signal : 3mA DC		Fault signal : 0mA DC	
	Digital : RS-485 Modbus (Option)		2mA (HART 7, HART Device Description Language available, Option)			
Material	Housing : ALDC, SUS316 (Option) / Sensor : SUS316					
Conduit connection	Standard : PF 3/4"		Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P			
Mounting type	2" Pole mount, Wall mount, Duct mount					
Operating temperature	-40℃ ~+80℃					
Operating humidity	5 ~ 99% RH (non-condensing)					
Dimensions	156(W) x 323(H) x 110(D)mm					
Weight	3kg					
CERTIFICATION						
KCs	Ex d IIC T6, T4			ATEX / IECEx		Ex db IIC Gb T6, T4
NEPSI	Ex d IIC T6 Gb			UL		Class I, Division 1, Groups A.B.C.D
KR / MED / ABS / DNV / KC / KFI / CE / HART / SIL2 / PESO / TRCU ex / IEC 60079-29-1:2008 / CPA				Refer to website		

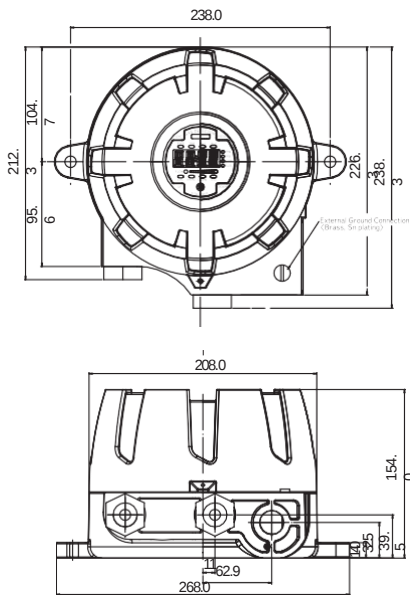
GTD-5000F Explosion Proof Type Sampling Infrared Gas Detector

| Continuous detection of flammable, CO₂, CO and N₂O gas in explosion hazardous area with flame proof structure | State-of-the art infrared detection principle | Operation in non oxygen environment | Digital flow sensor to maintain regular flow rate | Fast response detection of gas leakage with a high efficient pump inside | Self diagnosis function with built-in Microprocessor | Fast response time (<6 sec) | Stable quality and proved detection principle for service life | Auto calibration and program setting with a magnet bar | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus communication | 3-Wire Type | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

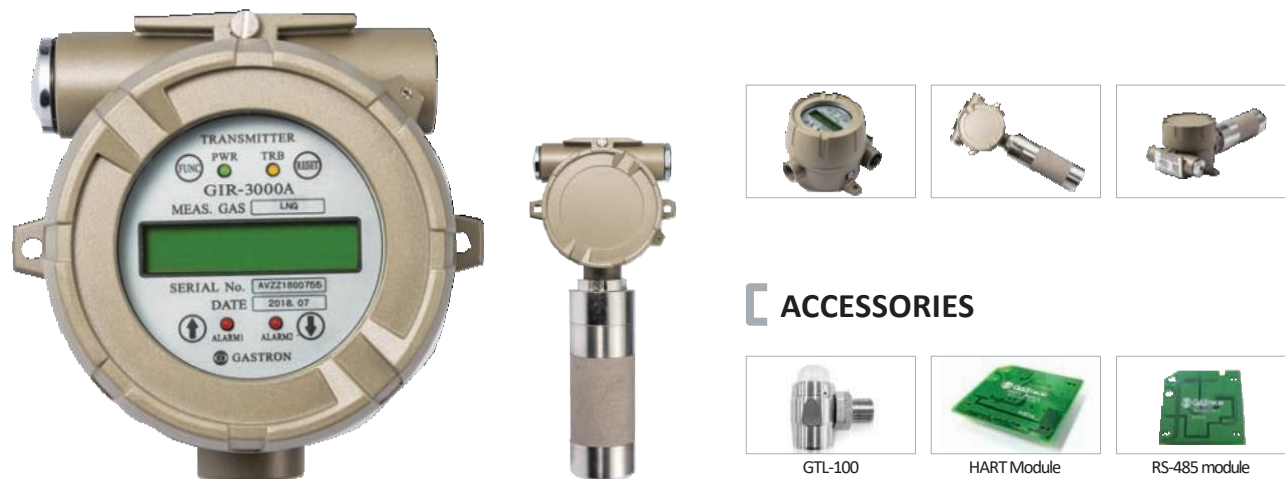
※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF & SAMPLING TYPE INFRARED GAS DETECTOR					
Model	GTD-5000F				
Measuring gas	Hydrocarbon gases (LNG, LPG, Methane, Butane & etc)			CO2	CO, N2O
Measuring type	Auto Sampling type				
Measuring method	Infrared type				
Measruing range	0~100% LEL	0~5000ppm	0~100% Vol	0~5.0% Vol	0~2.0% Vol, 0~4000ppm
Response time	< 6sec / 90% scale, < 3sec / 50% scale				
Accuracy	±3% / Full Scale				
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)				
Operation mode display	Alarm / Trouble LED , Flow rate				
Measuring value display	FND Display(4-Digit)				
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)				
Output signal	Analog output : 4-20mA DC		Digital output : RS-485 Modbus(Optional)		
Sampling method	Diaphragm Pump				
Sampling line	OD 1/4 "(Standard)				
Flow rate	0~2000 ml/min Max				
Conduit connection	Standard : PF 3/4"		Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P		
Mounting type	Wall mount				
Operating temperature	-40℃ ~+60℃				
Operating humidity	5 to 99% RH(Non-condensing)				
Material	ALDC				
Dimensions	226.3(W) × 154(H) × 238(D) mm				
Weight	5kg				
CERTIFICATION					
KCs	Ex d IIC T6		NEPSI		Ex d IIB+H2 T6, T5 Gb
ATEX / IECEx	Ex d IIB+H2 T6, T5 Gb		CE / KFI / KC / CPA		Refer to website

GIR-3000A Fixed Type Infrared Gas Detector

| Continuous detection of flammable, CO2, CO and N2O gases in explosion hazardous area with flame proof structure | State-of-the art infrared detection principle | Long service life time(more than 5 years) | Operation in non oxygen environment | Self diagnosis function with built-in Microprocessor | Fast response time(<6 sec) | Built-in back light LCD or OLED display(Only GIR-3000A) | Auto calibration and program setting with a magnet bar | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA(Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus or HART communication(Only GIR- 3000A)| Calibration and maintenance by one-man |

IMAGE



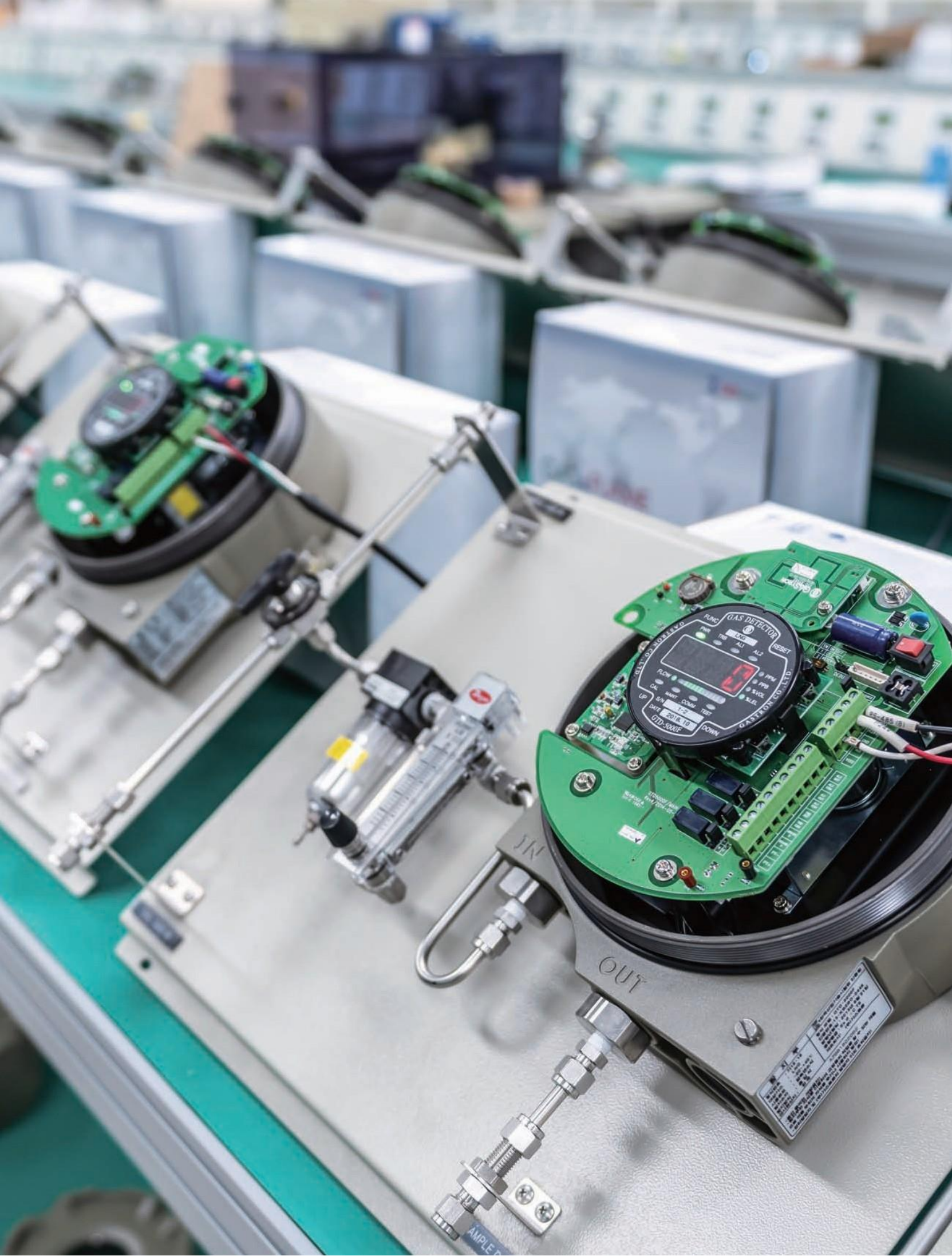
ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

SMART & LOCAL DISPLAY TYPE INFRARED GAS DETECTOR					
Model	GIR-3000A				
Measuring gas	Hydrocarbon gases (LNG, LPG, Methane, Butane & etc)			CO2	CO, N2O
Measuring type	Diffusion type				
Measuring method	Infrared type				
Measruing range	0~100% LEL	0~5000ppm	0~100% Vol	0-5.0% Vol	0-2.0% Vol, 0~4000ppm
Sensor life time	Over 5 years				
Response time	<6sec / 90% scale, <3sec / 50% scale				
Accuracy	±3% / Full scale				
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)				
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)				
Measuring value display	LCD display (Built-in back light 2-Line, 16 characters) / OLED Type (Option)				
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)				
Output signal	Analog : Measuring signal : 4-20mA DC Digital : RS-485 Modbus (Option)		Calibration signal : 3mA DC 2mA (HART 7, HART Device Description Language available, Option)	Fault signal : 0mA DC	
Material	Housing : ALDC, SUS316(Optional) / Sensor : SUS316				
Conduit connection	Standard : PF 3/4"		Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount				
Operating temperature	-40℃ ~ +75℃				
Operating humidity	5 ~ 99% RH (non-condensing)				
Dimensions	156(W) x 323(H) x 110(D)mm				
Weight	3kg				
CERTIFICATION					
KCs	Ex d IIC T6		NEPSI		Ex d IIC T6 Gb
CE / KFI	Refer to website				



Fixed type Flammable Gas Detector

GTD-5100F

Explosion Proof Type Sampling Flammable Gas Detector

GTD-5000F

Explosion Proof Type Sampling Flammable Gas Detector

GTD-3000Ex

Intelligent Diffusion Flammable Gas Detector

GTD-2000Ex

Smart Diffusion Flammable Gas Detector

GTD-1000Ex

Transmitter Diffusion Flammable Gas Detector

GTD-5000

Sampling Flammable Gas Detector

GTD-6000

Gas Receiver Combination Flammable Gas Detector



GASTRON

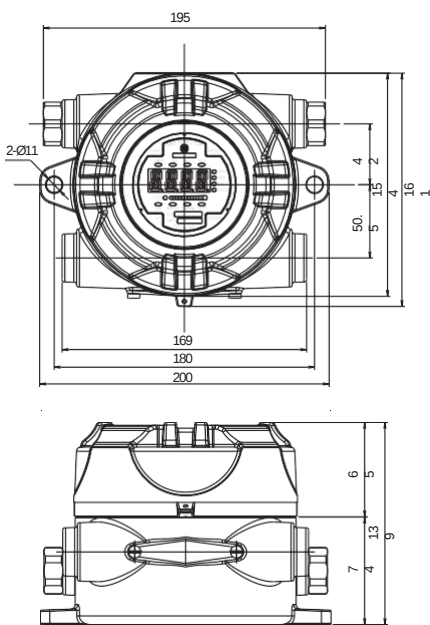
GTD-5100F Explosion Proof Type Sampling Flammable Gas Detector

| Continuous detection of Flammable gas in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of gas leakage with a high efficient pump inside | Low concentration VOC gas detection by PID sensor | Stable quality and proved detection principle for service life | Auto calibration and program setting with magnet bar on FND display board | 4-Digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus communication | 3-Wire Type | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man |

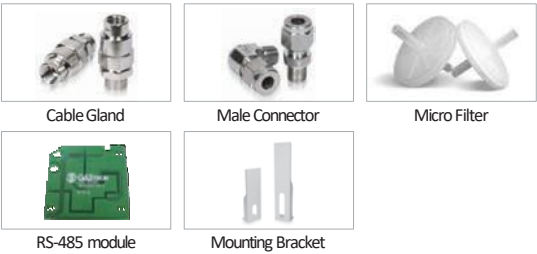
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

EXPLOSION PROOF & SAMPLING TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-5100F		
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Butane & etc)		
Measuring type	Auto Sampling type		
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol
Response time	< 15sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Front switch (calibration, maintenance, alarm setting)		
Operation mode display	Alarm / Trouble LED , Flow rate		
Measuring value display	FND Display(4-Digit)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC Digital output : RS-485 Modbus(Optional)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	0 ~ 1000 ml/min max		
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P	
Mounting type	Wall mount		
Operating temperature	-20℃ ~+ 60℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Material	ALDC		
Dimensions	195(W)x139(H)x154(D)mm		
Weight	4kg		
CERTIFICATION			
KCs	Ex d IIC T6	CE	Refer to website

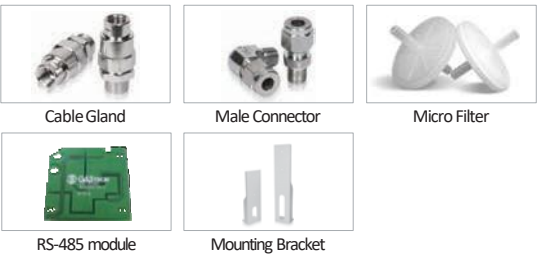
GTD-5000F Explosion Proof Type Sampling Flammable Gas Detector

| Continuous detection of flammable gases in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of VOC gas leakage with a high efficient pump inside | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Auto calibration and program setting with a magnet bar | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus communication | 3-wire connection for signal & power | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man |

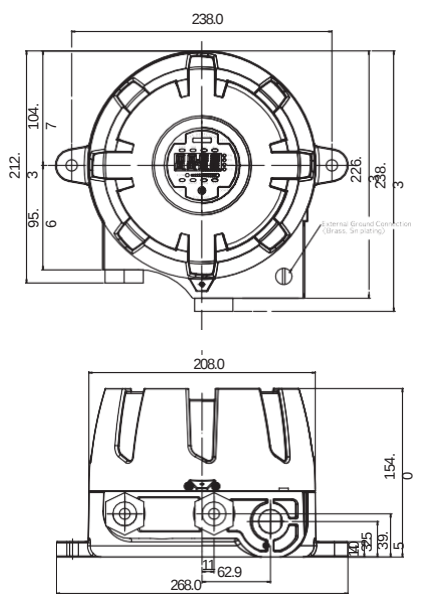
IMAGE



ACCESSORIES



DIMENSION (Unit : mm)



SPECIFICATION

EXPLOSION PROOF & SAMPLING TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-5000F		
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Butane & etc)		
Measuring type	Auto Sampling type		
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol
Response time	< 15sec / 90% scale		
Accuracy	±3% / Full Scale		
Parameter control	Front switch (calibration, maintenance, alarm setting)		
Operation mode display	Alarm / Trouble LED , Flow rate		
Measuring value display	FND Display(4-Digit)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog output : 4-20mA DC Digital output : RS-485 Modbus(Optional)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4 "(Standard)		
Flow rate	0 ~ 1000 ml/min max		
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P	
Mounting type	Wall mount		
Operating temperature	-40℃ ~ + 60℃		
Operating humidity	5 to 99% RH (Non-condensing)		
Material	ALDC		
Dimensions	226.3(W) × 154(H) × 238(D) mm		
Weight	5kg		
CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIB+H2 T6, T5 Gb
ATEX / IECEx	Ex d IIB+H2 T6, T5 Gb	CE / KFI / KC / CPA	Refer to website

※ Specifications are subject to be changed without prior notice.

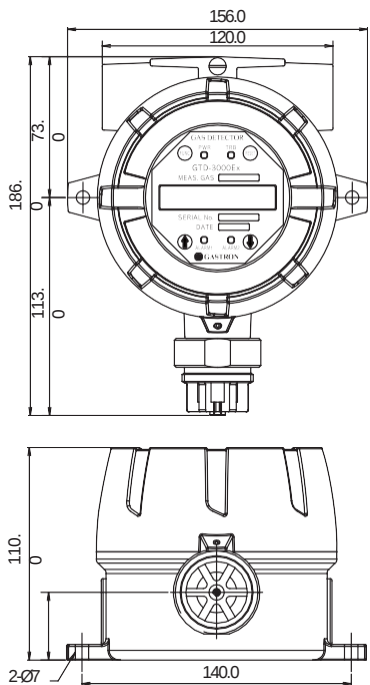
GTD-3000Ex Intelligent Flammable Gas Detector

| Continuous detection of flammable gases in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Built-in back light LCD or OLED display | Auto calibration and program setting with a magnet bar | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus communication | With the alarm unit - Normal : Green LED - Alarm : Red LED, Buzzer(95 dB) - Trouble : Yellow LED | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & LOCAL DISPLAY TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-3000Ex		
	Flammable gases (LNG, LPG, H2, Methane, Buthane & etc)		
Measuring gas	Diffusion type		
Measuring type	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol
Response time	<15sec / 90% scale		
Accuracy	±3% / Fullscale		
Parameter control	Non intrusive control with a Magnet (calibration, maintenance, alarm setting)		
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)		
Measuring value display	LCD display (Built in back light 2-Line, 16 characters) / OLED Type (Option)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog : Measuring signal : 4-20mA DC Fault signal : 0mA DC	Maintenance signal : 3mA DC Digital : RS-485 Modbus(Optional)	Calibration signal : 3mA DC
	RS-485 data communication cable : 1 pair (UL2919 RS-485) / 1000m max		
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P	
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-20℃ ~+60℃		
Operating humidity	5 ~ 99%RH (non-condensing)		
Dimensions	156(W) x 186(H) x 110(D)mm		
Weight	1.8kg		
CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIC T5 Gb
CE / KC / CPA	Refer to website		

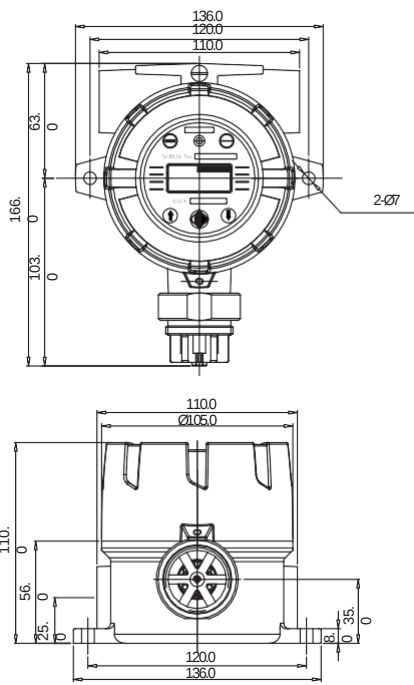
GTD-2000Ex Smart Diffusion Flammable Gas Detector

| Continuous detection of flammable gases in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Built-in back light LCD or OLED display | Easy Configuration of monitoring by HART communication | Auto calibration and program setting with a magnet bar | 4-20mA (Current source or Sink) output signal | With the alarm unit - Normal : Green LED - Alarm : Red LED, Buzzer(95 dB) - Trouble : Yellow LED | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

SMART & LOCAL DISPLAY TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-2000Ex		
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Buthane & etc)		
Measuring type	Diffusion type		
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol
Response time	<15sec / 90% scale		
Accuracy	±3% / Fullscale		
Parameter control	Nonintrusive control with a Magnet bar (calibration, maintenance)		
Operation mode display	1-LED (Power)		
Measuring value display	LCD display (Built in back light 2-Line, 8 characters) / OLED Type (Option)		
Output signal	Analog : Measuring signal : 4-20mA DC Calibration signal : 3mA DC Fault signal : 0mA DC Digital : 2mA (HART 7, HART Device Description Language available, Option)		
Material	Housing : ALDC, SUS316 (Option) / Sensor : SUS316		
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-40℃ ~ +80℃		
Operating humidity	5 ~ 99% RH (non-condensing)		
Dimensions	136(W) x 166(H) x 110(D)mm		
Weight	1.5kg		
CERTIFICATION			
KCs	Ex d A21 IP66 T85℃, Ex d IIC T6, T5, T4	ATEX / IECEx	Ex db IIC Gb T6, T5, T4
NEPSI	Ex d IIC T5 Gb	UL	Class I, Division 1, Groups A.B.C.D
CE / KC / MED / KR / ABS / BV / DNV / HART / SIL2 / PESO / TRCU ex / CPA	Refer to website		

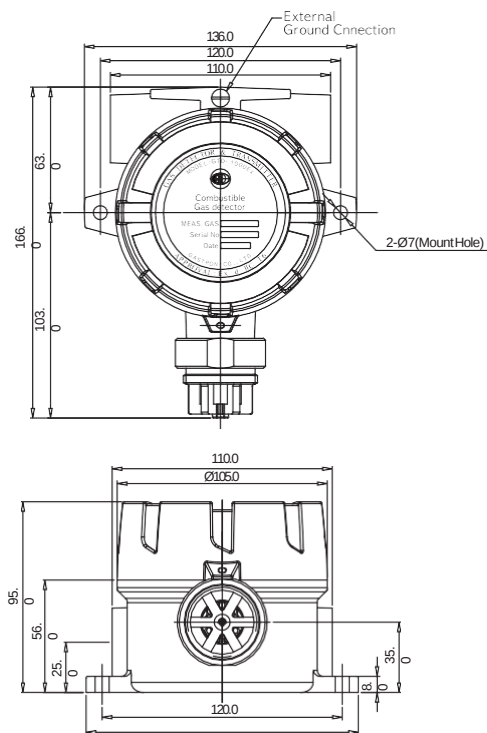
GTD-1000Ex Transmitter Diffusion Flammable Gas Detector

| Continuous detection of flammable gases in explosion hazardous area with flame proof structure | Detection gases from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | High quality and low cost of ownership | Simple structure and compact design | 4-20mA (Current source or Sink) output signal | Easy calibration & maintenance with inside FND display | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

TRANSMITTER TYPE FLAMMABLE GAS DETECTOR				
Model	GTD-1000Ex			
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Buthane & etc)			
Measuring type	Diffusion type			
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell	
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol	
Response time	<15 sec / 90% scale			
Accuracy	±3% / Full scale			
Output signal	4~20mA DC			
Conduit connection (max)	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount			
Operating temperature	-20℃ ~ +50℃			
Operating humidity	5 ~ 99%RH (non-condensing)			
Dimensions	136(W) x 166(H) x 95(D)mm			
Weight	1.2kg			
Material	Housing :ALDC, SUS316(Option) / Sensor : SUS316			
CERTIFICATION				
KCs	Ex d IIC T6	KFI / CE	Refer to website	

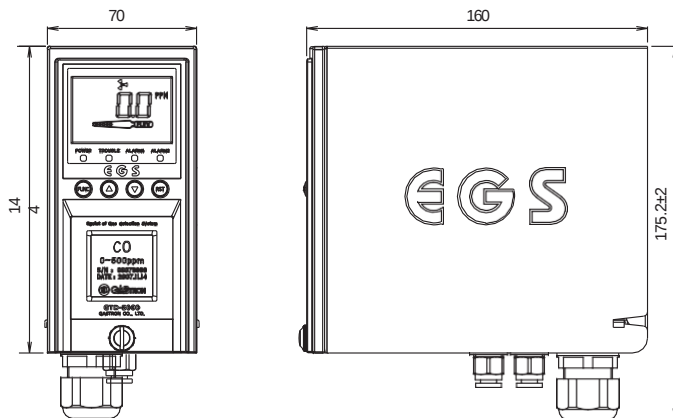
GTD-5000 Sampling Flammable Gas Detector

| Fast response of flammable gases leakage with a high efficient pump inside | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Detection gas from low to high concentration owing to various detection principle | Stable quality and proved detection principle for service life | Fine LCD display for showing various information | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus or PoE | 2-stage alarm, 1-trouble display and relay contact output | 3-wire connection for signal & power | Calibration and maintenance by one-man |

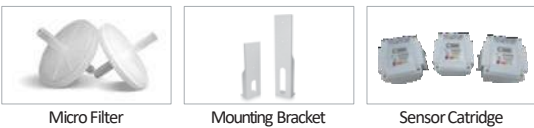
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & SAMPLING TYPE FLAMMABLE GASDETECTOR				
Model	GTD-5000			
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Buthane & etc)			
Measuring type	Auto Sampling type			
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell	Electro Chemical (H2)
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol	0-9999ppm (H2)
Response time	<15 sec / 90% scale			
Accuracy	±3% / Full scale			
Parameter control	Front switch (calibration, maintenance, alarm setting)			
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)			
Measuring value display	LCD Display(4-Digit)			
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)			
Output signal	4 - 20mA DC	RS-485 Modbus(Optional) / PoE(Power over Ethernet)(Option)		
Sampling method	Diaphragm Pump			
Sampling line	OD 1/4" (Standard)			
Flow rate	0 ~ 1000 ml/min max			
Conduit connection	Cable gland(PG-16)			
Mounting type	Wall mount			
Operating temperature	-10℃ ~ +60℃			
Operating humidity	5 to 99% RH(Non-condensing)			
Material	Front(Poly carbonate), Sides(Steel)			
Dimensions	Standard type : 70(W) ×144(H) × 160(D) mm			
Weight	Standard type : 2.5kg			
CERTIFICATION				
CE / CPA	Refer to website			

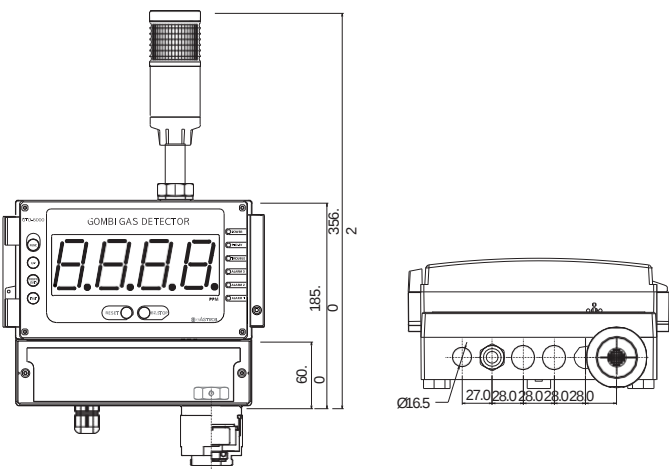
GTD-6000 Gas Receiver Combination Flammable Gas Detector

| Self diagnosis function with built-in Microprocessor | Detection gas from low to high concentration owing to various detection principle | Easy installation with a wall mount type | Check it from a distance by large display and flashing light | 4-digit gas concentration display | 3-stage alarm level, 1-trouble LED display and relay contact output | Easy configuration of monitoring by RS-485 Modbus communication | Programmable alarm setting (Level, Time delay) | Self diagnosis | 4-20mA(Current source or Sink) output signal |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



RS-485 module

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GAS RECEIVER COMBINATION TYPE GAS DETECTOR			
Model	GTD-6000		
Measuring gas	Flammable gases (LNG, LPG, H2, Methane, Butthane & etc)		
Measuring type	Diffusion type		
Measuring method	Catalytic cell	Hot wire semiconductor cell	Thermal conductivity cell
Measuring range	0~100% LEL	0~2000ppm	0~100% Vol
Response time	< 15 sec / 90% scale		
Accuracy	±3% / Full Range		
Measuring display	1.8" 4-Digit FND		
Operation mode display	6-LED(Power, 3-stage alarm, Trouble, Stand-by for maintenance)		
Alarm signal output	3A@30VDC,3A@250VAC / 3-SPST relay contact(2stage alarm, 1 trouble)		
Alarm display	Visual : 3-stage Alarm, Trouble LED, Warning LED Audible : Buzzer(85dB)		
Output signal	Analog : Measuring signal : 4-20mA DC Fault signal : 0mA DC	Maintenance signal : 3mA DC Digital : RS-485 Modbus (Option)	Calibration signal : 3mA DC
Distance	4 - 20mA DC Signal : 2000m / RS-485 Modbus Signal : 1000m		
Mounting type	Wall mount		
Operating temperature	-20℃ ~+60℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Material	Detector(ABS), Sensor(PVC), Alarm unit(Poly carbonate)		
Dimensions	235.6(W) × 355.5(H) × 109.3(D) mm		
Weight	1.75kg		
CERTIFICATION			
CE	Refer to website		



GASTRON

Fixed type Oxygen & Toxic Gas Detector

GTD-5100F

Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

GTD-5000F

Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

GTD-3000Tx

Intelligent Diffusion Oxygen & Toxic Gas Detector

GTD-2000Tx

Smart Diffusion Oxygen & Toxic Gas Detector

GTD-1000Tx

Transmitter Diffusion Oxygen & Toxic Gas Detector

GTD-5000

Sampling Oxygen & Toxic Gas Detector

GTD-6000

Gas Receiver Combination Oxygen & Toxic Gas Detector



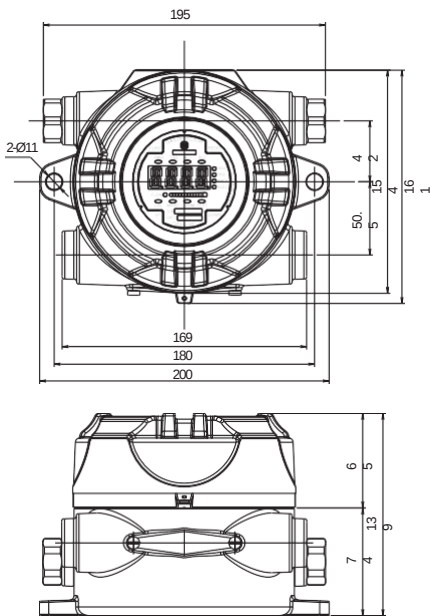
GTD-5100F Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

| Continuous detection of toxic gases and oxygen gas in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor |
| Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of gas leakage with a high efficient pump inside |
| Superior performance for detecting gases below TLV | Stable quality and proved detection principle for service life | Auto calibration and program setting with magnet bar on FND display board | 4-Digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring by RS-485 Modbus (Isolated) Serial data communication (Option) | 3-Wire Type | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man

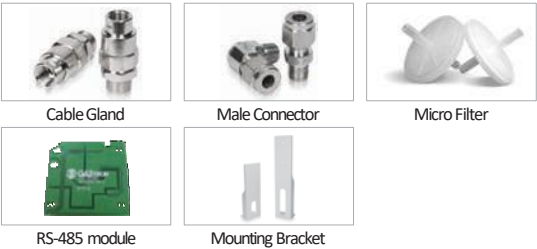
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

EXPLOSION PROOF & SAMPLING TYPE OXYGEN & TOXIC GAS DETECTOR	
Model	GTD-5100F
Measuring gas	O2 / Toxic gases(CO, Cl2, NH3 & etc)
Measuring type	Auto Sampling type
Measuring method	Semiconductor cell, Electrochemical cell
measuring	Refer to Toxic Gas Measuring Range
Response time	< 45sec / 90% scale
Accuracy	±3% / Full Scale
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)
Operation mode display	Alarm / Trouble LED , Flow rate
Measuring value display	FND Display(4-Digit)
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)
Output signal	Analog output : 4-20mA DC Digital output : RS-485 Modbus(Optional)
Sampling method	Diaphragm Pump
Sampling line	OD 1/4 "(Standard)
Flow rate	0 ~ 1000 ml/min max
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P
Mounting type	Wall mount
Operating temperature	-20℃ ~+ 60℃
Operating humidity	5 to 99% RH (Non-condensing)
Material	ALDC
Dimensions	195(W) x 139(H) x 154(D)mm
Weight	4kg

CERTIFICATION			
KCs	Ex d IIC T6	CE	Refer to website

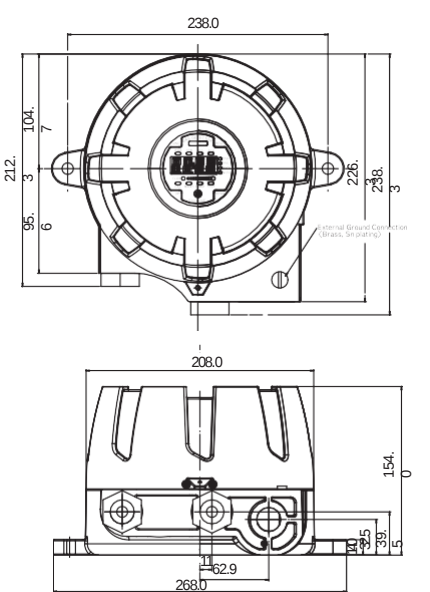
GTD-5000F Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

| Continuous detection of toxic gases and oxygen in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Fast response of gas leakage with a high efficient pump inside | Stable quality and proved detection principle for service life | Excellent selectivity by adapting detection principle only for toxic gases & oxygen | Superior performance for detecting gases below TLV | Auto calibration and program setting with a magnet bar | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus communication | 3-Wire Type | 2-stage alarm, 1-trouble display and relay contact output | Calibration and maintenance by one-man

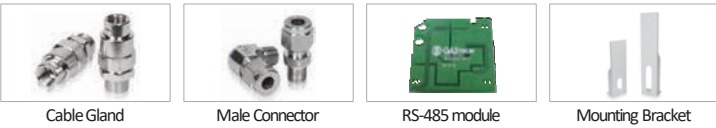
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

EXPLOSION PROOF & SAMPLING TYPE OXYGEN & TOXIC GAS DETECTOR	
Model	GTD-5000F
Measuring gas	O2 / Toxic gases(CO, Cl2, NH3 & etc)
Measuring type	Auto Sampling type
Measuring method	Semiconductor cell, Electrochemical cell
Measuring range	Refer to Toxic Gas Measuring Range
Response time	< 45sec / 90% scale
Accuracy	±3% / Full Scale
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance, alarm setting)
Operation mode display	Alarm / Trouble LED , Flow rate
Measuring value display	FND Display(4-Digit)
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)
Output signal	Analog output : 4-20mA DC Digital output : RS-485 Modbus(Optional)
Sampling method	Diaphragm Pump
Sampling line	OD 1/4 "(Standard)
Flow rate	0 ~ 1000 ml/min max
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P
Mounting type	Wall mount
Operating temperature	-40℃ ~+ 60℃
Operating humidity	5 to 99% RH (Non-condensing)
Material	ALDC
Dimensions	226.3(W) × 154(H) × 238(D) mm
Weight	5kg

CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIB+H2 T6, T5 Gb
ATEX / IECEx	Ex d IIB+H2 T6, T5 Gb	CE / KFI / KC / CPA	Refer to website

※ Specifications are subject to be changed without prior notice.

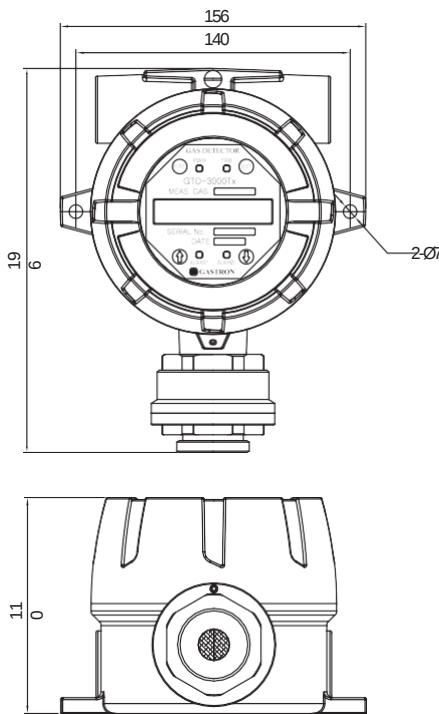
GTD-3000Tx Intelligent Diffusion Oxygen & Toxic Gas Detector

| Continuous detection of toxic gases and oxygen in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Excellent selectivity by adapting detection principle only for toxic gases & oxygen | Stable quality and proved detection principle for service life | Built-in back light LCD or OLED display | Auto calibration and program setting with a magnet bar | 2-stage alarm, 1-trouble display and relay contact output | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus communication | With the alarm unit - Normal : Green LED - Alarm : Red LED, Buzzer(95 dB) - Trouble : Yellow LED | Calibration and maintenance by one-man | Superior performance for detecting gases below TLV |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & LOCAL DISPLAY TYPE OXYGEN & TOXIC GAS DETECTOR			
Model	GTD-3000Tx		
Measuring gas	O2 / Toxic gases (CO, CL2, NH3 & etc)		
Measuring type	Diffusion type		
Measuring method	Electrochemical cell, Semiconductor cell		
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 45 sec / 90% scale		
Accuracy	±3% / Full scale		
Parameter control	Non intrusive control with a Magnet (calibration, maintenance, alarm setting)		
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)		
Measuring value display	LCD display (Built in back light 2-Line, 16 characters) / OLED Type (Option)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	Analog : Measuring signal : 4-20mA DC Fault signal : 0mA DC	Maintenance signal : 4mA DC Digital : RS-485 Modbus(Optional)	Calibration signal : 3mA DC
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P	
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-20℃ ~ +60℃		
Operating humidity	5 ~ 99%.RH (non-condensing)		
Dimensions	156(W) x 196(H) x 110(D)mm		
Weight	2.0kg		
CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIC T6 Gb
CE / KC / CPA	Refer to website		

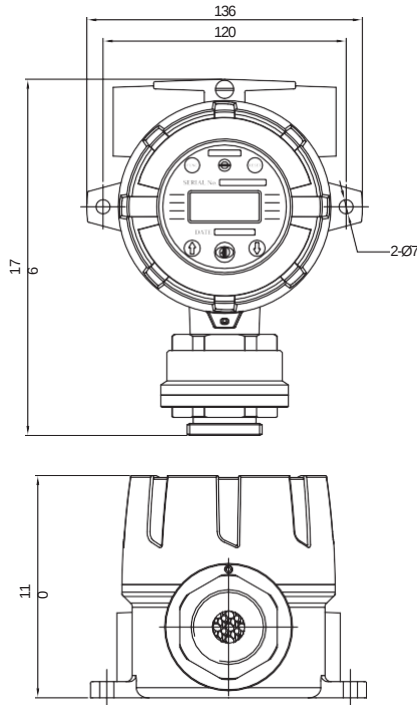
GTD-2000Tx Smart Diffusion Oxygen & Toxic Gas Detector

| Continuous detection of toxic gases and oxygen in explosion hazardous area with flame proof structure | Self diagnosis function with built-in Microprocessor | Excellent selectivity by adapting detection principle only for toxic gases & oxygen | Superior performance for detecting toxic gases below TLV | Multi functions and high quality with low cost of ownership | Built-in back light LCD or OLED display | Easy configuration of monitoring system by HART communication | Auto calibration and program setting with a magnet bar | 4-20mA (Current source or Sink) output signal | With the alarm unit - Normal - Green LED - Alarm - Red LED, Buzzer(95 dB) - Trouble - Yellow LED - Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

SMART & LOCAL DISPLAY TYPE OXYGEN & TOXIC GAS DETECTOR			
Model	GTD-2000Tx		
Measuring gas	O2 / Toxic gases (CO, CL2, NH3 & etc)		
Measuring type	Diffusion type		
Measuring method	Electrochemical cell, Semiconductor cell		
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	Dependent on the sensor		
Accuracy	±3% / Fullscale		
Parameter control	Non intrusive control with a Magnet bar (calibration, maintenance)		
Operation mode display	1-LED (Power)		
Measuring value display	LCD display (Built in back light 2-Line, 8 characters) / OLED Type (Option)		
Output signal	Analog : Measuring signal : 4-20mA DC Fault signal : 0mA DC	Maintenance signal : 4mA DC Digital : 2mA (HART 7, HART Device Description Language available, Option)	Calibration signal : 3mA DC
Material	Housing : ALDC, SUS316(Optional) / Sensor: SUS316		
Conduit connection	Standard : PF 3/4"	Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P	
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-40℃ ~ +80℃		
Operating humidity	5 ~ 99% RH (non-condensing)		
Dimensions	136(W) x 176(H) x 110(D)mm		
Weight	1.5kg		
CERTIFICATION			
KCs	Ex td A21 IP66 T85℃, Ex d IIC T6, T4	ATEX / IECEx	Ex db IIC Gb T6, T4
NEPSI	Ex d IIC T6 Gb	UL	Class I, Division 1, Groups A.B.C.D
KR / MED / ABS / BV / DNV / HART / SIL 2 / KC / CE / PESO / TRCU ex / CPA	Refer to website		

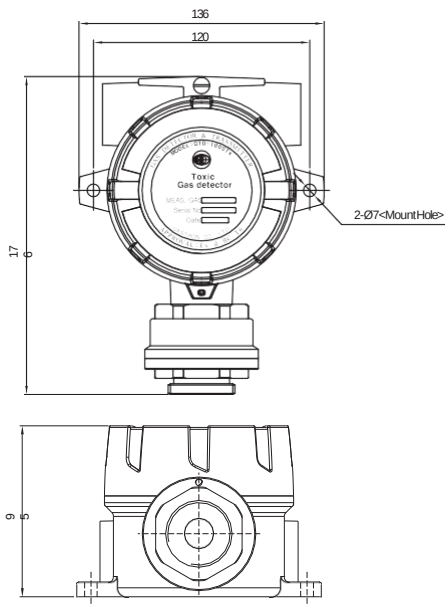
GTD-1000Tx Transmitter Diffusion Oxygen & Toxic Gas Detector

| Continuous detection of toxic gases and oxygen in explosion hazardous area with flame proof structure | Excellent selectivity by adapting detection principle only for toxic gases & oxygen | Superior performance for detecting toxic gases below TLV | High quality and low cost of ownership | 4-20mA (Current source or Sink) output signal | Simple structure and compact design | Easy calibration & maintenance with inside FND display | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

TRANSMITTER TYPE OXYGEN & TOXIC GAS DETECTOR			
Model	GTD-1000Tx		
Measuring gas	O2 / Toxic gases (CO, CL2, NH3 & etc)		
Measuring type	Diffusion type		
Measuring method	Electrochemical cell, Semiconductor cell		
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	<45 sec / 90% scale		
Accuracy	±3% / Full scale		
Output signal	4-20mA DC		
Conduit connection	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-20℃ ~+50℃		
Operating humidity	5 ~99%RH (non-condensing)		
Dimensions	136(W) x 176(H) x 95(D)mm		
Weight	1.4kg		
CERTIFICATION			
KCs	Ex d IIC T6	CE	Refer to website

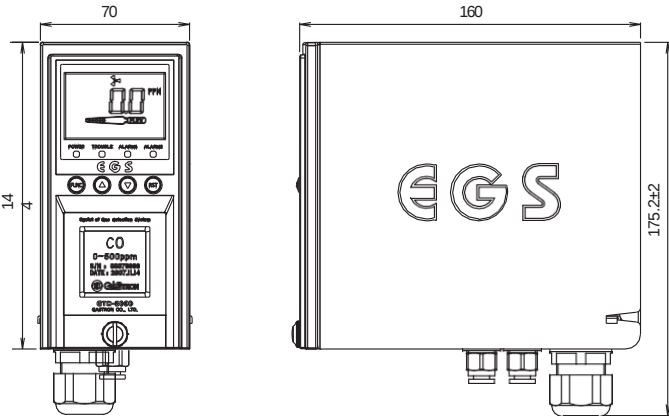
GTD-5000 Sampling Oxygen & Toxic Gas Detector

| Fast response of toxic gases & Oxygen leakage with a high efficient pump inside | Self diagnosis function with built-in Microprocessor | Easy replacement with a cartridge type sensor | Digital flow sensor to maintain regular flow rate | Stable quality and proved detection principle for service life | Superior performance for detecting toxic gases below TLV | Fine LCD display for showing various information | 4-digit digital gas concentration display | 4-20mA (Current source or Sink) output signal | Easy configuration of monitoring system by RS-485 Modbus communication or PoE | 2-stage alarm, 1-trouble display and relay contact output | 3-Wire Type | Calibration and maintenance by one-man |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & SAMPLING TYPE OXYGEN & TOXIC GAS DETECTOR			
Model	GTD-5000		
Measuring gas	O2 / Toxic gases(CO, Cl2, NH3 & etc)		
Measuring type	Auto Sampling type		
Measuring method	Semiconductor cell, Electrochemical cell		
Measruing range	Refer to Toxic Gas Measuring Range		
Response time	< 45sec / 90% scale		
Accuracy	±3% / Full scale		
Parameter control	Front switch (calibration, maintenance, alarm setting)		
Operation mode display	4-LED (Power, 2-stage alarm, 1-trouble)		
Measuring value display	LCD Display(4-Digit)		
Alarm signal output	2A@30VDC, 0.5A@125VAC (resistive load) / 3-SPST relay contact(2stage alarm, 1 trouble)		
Output signal	4 - 20mA DC	RS-485 Modbus(Optional) / PoE(Power over Ethernet)(Option)	
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4" (Standard)		
Flow rate	0 ~ 1000 ml/min max		
Conduit connection	Cable gland(PG-16)		
Mounting type	Wall mount		
Operating temperature	-20℃~ +60℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Material	Front(Poly carbonate), Sides(Steel)		
Dimensions	Standard type : 70(W) ×144(H) × 160(D) mm		Pyrolyzer type(PY-1000) : 70(W)×242.5(H) × 160(D) mm
Weight	Standard type : 2.5kg	GTD-5000 & PY-1000 : 4.05kg	
NOTE 1	Current consumed by Polyzer(PY1000, PY2000) Unit		
NOTE 2	DC 24V should be supplied if you want to use Pyrolyzer in case of using PoE power		
CERTIFICATION			
CE / CPA	Refer to website		

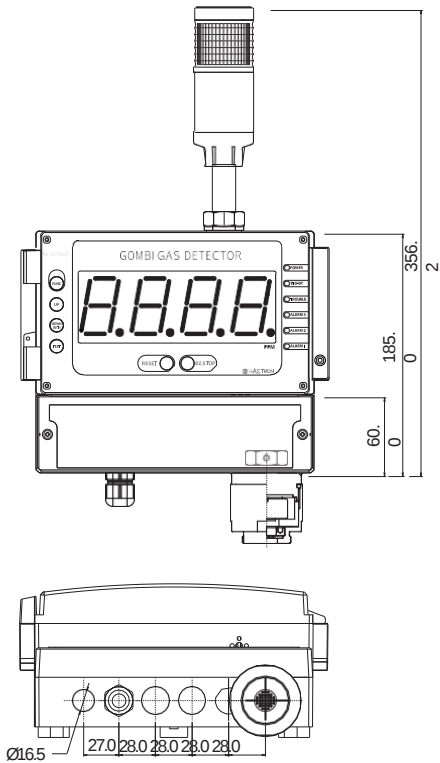
GTD-6000 Gas Receiver Combination Oxygen & Toxic Gas Detector

| Self diagnosis function with built-in Microprocessor | Superior performance for detecting toxic gases below TLV | Easy installation with a wall mount type | 4-digit gas concentration display | 3-stage alarm level, 1-trouble LED display and relay contact output | Easy configuration of monitoring by RS-485 Modbus communication | Programmable alarm setting (Level, Time delay) | Self diagnosis | 4-20mA(Current source or Sink) output signal |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



RS-485 module

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GAS RECEIVER COMBINATION TYPE GAS DETECTOR				
Model	GTD-6000			
Measuring gas	O2		Toxic gases(CO, Cl2, NH3 & etc)	
Measuring type	Diffusion type			
Measuring method	Electro-Chemical Cell , Semiconductor cell			
Measuring range	Refer to Toxic Gas Measuring Range			
Response time	< 45sec / 90% scale			
Accuracy	±3% / Full Range			
Measuring display	1.8" 4-Digit FND			
Operation mode display	6-LED(Power, 3-stage alarm, Trouble, Stand-by for maintenance)			
Alarm signal output	3A@30VDC,3A@250VAC / 3-SPST relay contact(2stage alarm, 1 trouble)			
Alarm display	Visual : 3-stage Alarm, Trouble LED, Warning LED		Audible : Buzzer(85dB)	
Output signal	Analog : Measuring signal : 4-20mA DC	Calibration signal : 3mA DC	Fault signal : 0mA DC	Digital : RS-485 Modbus (Option)
Mounting type	Wall mount			
Operating temperature	-20℃ ~ +60℃			
Operating humidity	5 to 99% RH (Non-condensing)			
Material	Detector(ABS), Sensor(PVC), Alarm unit(Poly carbonate)			
Dimensions	235.6(W) × 355.5(H) × 109.3(D) mm			
Weight	1.75kg			
CERTIFICATION				
CE	Refer to website			



Gas Detector Receiver

GASSTRON

- ASC-100**
Safety Controller
- GTC-200A Series**
Multi Channel Gas Detector Receiver
- GTC-200F Series**
Multi Channel Explosion Proof Type Gas Detector Receiver
- GTC-500 Series**
Single Channel Gas Detector Receiver
- GTC-520F Series**
Single Channel Explosion Proof Type Gas Detector Receiver
- GTC-700 Series**
Analogue Mux Controller (8 Slot)
- GMS-2000**
Touchscreen Monitoring Panel



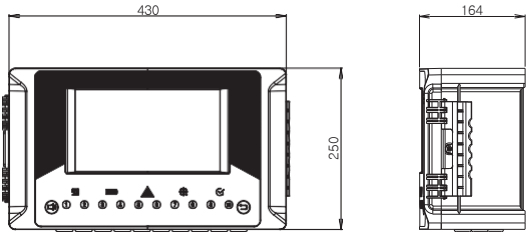
ASC-100 Safety Controller

| Up to 10 channels of gas detector monitoring (4 ~ 20mA detection and 24V supply) | Expansion of additional 10 channels when using extension unit (monitoring up to 20 channels) | Relay, 4~20mA output function Individual module configuration | 10.1" touch screen with wide viewing angle and multi-language support | Intuitive user interface and alarm system configuration | Detector position and alarm status can be displayed using map monitoring mode | Detection channel log function and various event storage function | Material safety data sheet (MSDS) viewer for sensing gas | High output buzzer and user voice alarm function according to alarm occurrence | Various external interfaces such as TCP/IP and MODBUS | Provides earthquake alarm detection function (intensity 3~7) | Robust case construction and IP65 waterproof / dustproof |

IMAGE



DIMENSION (Unit : mm)

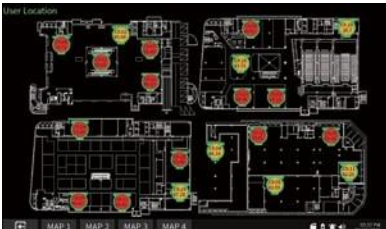


ACCESSORIES



Expansion Unit

MONITOR IMAGE



Map Viewer Function



MSDS Viewer Function

SPECIFICATION

Model	ASC(AEGIS Safety Controller)-100	Wall Mount Type
Capacity	Up to 10Channels with Base Unit, up to 20Channels with Expansion Unit	
Size	430mm x 240mm x 150mm	(WxHxD)
Weight	Max 8.5Kg	
Housing Material	ABS PC	
Display	10.1" Touch Screen (Resistive Type)	
Language	Korean, English, Chinese.	
Visual Indicators	5 System LED(Power, Battery, Alarm, Service, Status) 3 Led for each channel. (Green:Normal/ Yellow:Fault/Red:Alarm)	
Audible Alarm	90dB(@1m) Piezo Buzzer (Alarm), 2W Speaker (Voice Guidance/Alarm)	
Button	Operating Reset /Alarm Mute	
4-20mA Input	4-20mA DC (2-wire or 3-wire) Up to 10Channel with Base Unit, up to 20Channel with Expansion Unit	
Relay Output	AC250V 5A, , DC30V 5A relay contact (SPDT) Up to 20Channel with Base Unit, up to 40Channel with Expansion Unit	

CERTIFICATION		
CE		Refer to website

※ Specifications are subject to be changed without prior notice.

Model	ASC(AEGIS Safety Controller)-100	Wall Mount Type
4-20mA Output	4-20mA DC (2-wire) Up to 10Channel with Base Unit, up to 20Channel with Expansion Unit	
Operating temperature	-10℃ ~ +55℃	
Operating humidity	5 ~ 95% RH	
IP Grade	IP65	
AC Power	AC 110/220 V 50 ~ 60 Hz ± 6% /Max150W	
DC Power	DC 18 ~ 32 V(Normal DC 24V) /Max 150W	
Backup Battery	21.8V/5100mAh Lithium Ion Battery (>30minutes for typical System)	Optional
External Interface	TCP/IP, MODBUS	
Logging	Logged Event & Data	
Setup Tools	WinApp Program	
Others	Earthquake Sensor	Optional

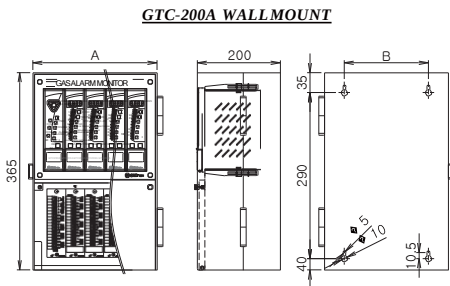
GTC-200A Series Multi Channel Gas Detector Receiver

| Easy expansion with using a global standard DIN type case | Various receiver types available(Wall Mount, Panel Mount and 19" Rack Type) | Gas concentration display with 4-digit & Bar-graph (32 segment, 3-color LED) | 3-color display according to alarm stages (Green, Yellow, Red) | 3-stage alarm, 1-trouble LED display and relay contact output | Easy configuration of monitoring system with RS-485 Modbus isolated serial data communication(Optional) | Programmable alarm setting (Level, Time delay) | Peak hold | Self diagnosis | HVAC & DP Card Option |

IMAGE



DIMENSION (Unit : mm)



CHANNEL	A(mm)	B(mm)	CHANNEL	A(mm)	B(mm)
4 CHANNEL	217	147	8 CHANNEL	361	291
6 CHANNEL	289	219	10 CHANNEL	433	363

ACCESSORIES



19" Rack type



Back-up power unit



RS-485 module

SPECIFICATION

MULTI-CHANNEL TYPE GAS DETECTOR RECEIVER GTC-200A SERIES		
Model	GTC-200A COMMON(ALARM UNIT)	GTC-200A CHANNEL (DENSITY INDICATING UNIT)
Operation display	8-LED (Power, 3-stage alarm, Trouble, Buzzer stop, PC & channel data communication)	6-LED (Power, 3-stage alarm, Trouble Stand-by for maintenance)
Measuring display		4-Digit FND & Bar-graph (32 segment, 3-color LED)
Measuring range		1~9999 (programmable)(%LEL, ppm, % Vol)
Alarm display	Visual : 3-stage alarm, Trouble LED Audible : buzzer	Visual : 3-stage alarm, Trouble LED
Alarm output signal	3-stage alarm, Trouble, Buzzer AC250V 3A relay contact (SPDT)	3-stage alarm, Trouble, Buzzer AC250V 3A relay contact (SPDT)
Alarm level set		Programmable within detection range
Input signal		4-20mA DC (2-wire or 3-wire)
Output signal	Isolated RS-485 Communication Modbus (option)	4-20mA DC
Reset signal	Reset switch and remote control	Reset switch
Program set mode		Alarm value (1, 2, 3 alarm) Alarm time (instant & delay) 1~30min Alarm dead band Relay output on/off
Operating temperature	-20℃ ~ +60℃	
Operating humidity	5 ~ 99% RH (non-condensing)	
Battery power	Back-Up. power unit (option) 24V DC / 600mAh, 1300mAh (option)	

※ Specifications are subject to be changed without prior notice.

CERTIFICATION		
CE / KR / KFI		Refer to website

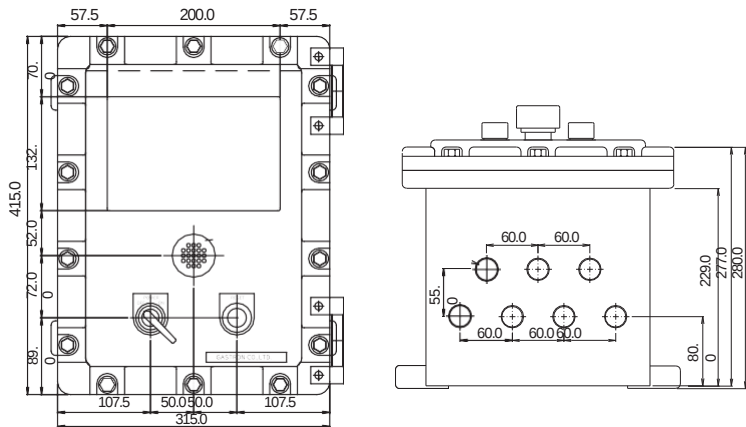
GTC-200F Series Multi Channel Explosion Proof Type Gas Detector Receiver

| Usable in explosion hazardous area with flame proof structure | Integrated type receiver with built-in Microprocessor | Gas concentration display with 4-digit & Bar-graph (32 segment, 3-color LED) | 3-color display according to alarm stages (Green, Yellow, Red) | 3-stage alarm, 1-trouble LED display and relay contact output | Easy configuration of monitoring system with RS-485 Modbus isolated serial data communication(Optional) | Programmable alarm setting (Level, Time delay) | Peak hold | Self diagnosis | HVAC&DP Card Option |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



RS-485 module

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOFTYPE GAS DETECTOR RECEIVER GTC-200F SERIES		
Model	GTC-200A COMMON(ALARM UNIT)	GTC-200A CHANNEL (DENSITY INDICATING UNIT)
Operation display	8-LED (Power, 3-stage alarm, Trouble, Buzzer stop, PC & channel data communication)	6-LED (Power, 3-stage alarm, Trouble Stand-by for maintenance)
Measuring display		4-Digit FND & Bar-graph (32 segment, 3-color LED)
Measuring range		1~9999 (programmable)(%LEL, ppm, % Vol)
Alarm display	Visual : 3-stage alarm, Trouble LED Audible : buzzer	Visual : 3-stage alarm, Trouble LED
Alarm output signal	3-stage alarm, Trouble, Buzzer AC250V 3A relay contact (SPDT)	3-stage alarm, Trouble, Buzzer AC250V 3A relay contact (SPDT)
Alarm level set		Programmable within detection range
Input signal		4-20mA DC (2-wire or 3-wire)
Output signal	Isolated RS-485 Communication Modbus (option)	4-20mA DC
Reset signal	Reset switch and remote control	Reset switch
Program set mode		Alarm value (1, 2, 3 alarm) Alarm time (instant & delay) 1~30min Alarm dead band Relay output on/off
Operating temperature	-20℃ ~ +40℃	
Operating humidity	5 ~ 99% RH (non-condensing)	
Battery power	Back-Up. power unit (option) 24V DC / 600mA, 1300mA(option)	
CERTIFICATION		
KCs	Ex d IIB+H2 T5	

GTC-500 Series Single Channel Gas Detector Receiver

| Connectable with various types of gas detectors | Large-scale digital concentration display and warning light can be applied for remote viewing | Gas concentration display with 3-digit, 4-digit, or Bar-graph (32 segment, 3-color LED) | 3-color display according to alarm stages (Green, Yellow, Red) | 3-stage alarm, 1-trouble LED display and relay contact output | Easy configuration of monitoring system with RS-485 Modbus isolated serial data communication(Optional) | Programmable alarm setting (Level, Time delay) | Peak hold | Self diagnosis |

IMAGE



GTC-540



GTC-520A



GTC-542
(비상전원 내장)



GTC-540A



GTC-550

ACCESSORIES



RS-485 module

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

SINGLE-CHANNEL TYPE GAS DETECTOR RECEIVER GTC-540 SERIES				
Model	GTC-520A	GTC-540A	GTC-540 /GTC-542	GTC-550
Operation display	6-LED(Power, 3-stage alarm, Trouble, Stand-by for maintenance)			
Measuring display	4-Digit 0.315" FND		3-Digit 1.8" FND	3-Digit 3" FND
Measuring range	Bar-Graph(32 Segment, 3-color LED) 1~999 (programmable) / %LEL, ppm, %vol			
Alarm display	Visual : 3-stage alarm, Trouble LED, Warning Light		Audible : buzzer	
Alarm output signal	3-Stage Alarm, Trouble/ AC250V 3A relay contact (SPDT)		Shut-off Valve control signal (DC12V)	
Alarm level set	Programmable with in detection range			
Input signal	4-20mA DC(2-wire or 3-wire)			
Output signal	4-20mA DC		Isolated RS-485 Communication Modbus (option)	
Reset signal	Reset switch and remote control			
Program set mode	Alarm value (1,2,3 alarm) Measuring value offset (SAD)		Alarm time (instant & delay) 1~30min Relay output on/off	Alarm dead band
Operating temperature	-20℃ ~ +60℃			
Operating humidity	5~99% RH(non-condensing)			
Dimensions	135(W) x 105(H) x 81(D)mm	235.6(W) x 185(H) x 117.3(D)mm		280(W) x 389(H) x 153(D)mm
Weight	580g	1.4kg		2kg
CERTIFICATION				
CE	Refer to website			

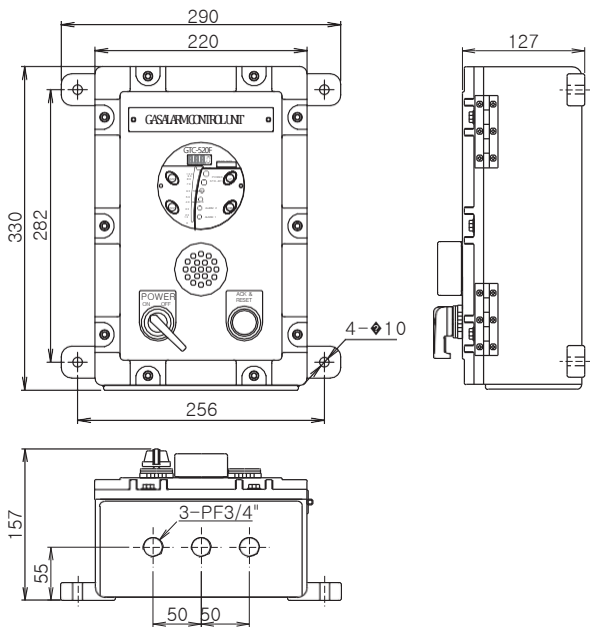
GTC-520F Series Single Channel Explosion Proof Type Gas Detector Receiver

- | Usable in explosion hazardous area with flame proof structure | Easy installation with a wall mount type | Gas concentration display with 4-digit & Bar-graph (32 segment, 3-color LED) | 3-color display according to alarm stages (Green, Yellow, Red) | 3-stage alarm, 1-trouble LED display and relay contact output | Easy configuration of monitoring system with RS-485 Modbus isolated serial data communication(Optional) | Programmable alarm setting (Level, Time delay) | Peakhold
- | Self diagnosis |

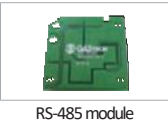
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



RS-485 module

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF TYPE TYPE GAS DETECTOR RECEIVER GTC-520F SERIES				
Model	GTC-520F			
Operation display	6-LED (Power, 3-stage alarm, Trouble, Stand-by)			
Measuring display	4-Digit FND & Bar-graph			
Measuring range	1-9999(programmable) / %LEL, ppm, %Vol			
Alarm display	Visual 3-stage alarm, Trouble LED		Audible : buzzer	
Alarm output signal	3-Stage Alarm, Trouble / AC250V 5A relay contact (SPDT)		Shut-off valve control signal (DC 12V)	
Alarm level set	Programmable within detection range			
Input signal	4-20mA DC (2-wire or 3-wire)			
Output signal	4-20mA DC	RS-485 Communication Modbus(option)		
Reset signal	Reset switch and remote control			
Program set mode	Alarm value (1, 2, 3 alarm)	Alarm time (instant & delay) 1~30min	Alarm dead band	Relay output on/off
Operating temperature	-20℃ ~+50℃			
Operating humidity	5~99%RH(non-condensing)			
Dimensions	290(W) x 330(H) x 157(D)mm			
Weight	12kg			
CERTIFICATION				
KCs	Ex d IIB+H2 T6			

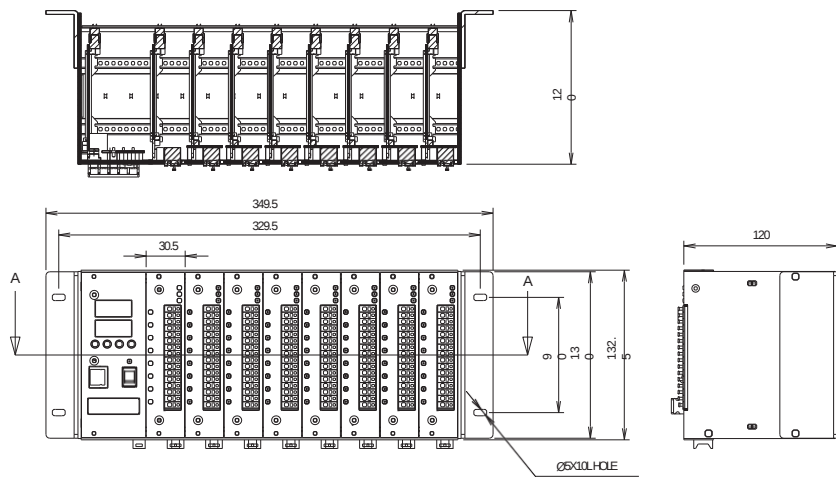
GTC-700 Series Analogue Mux Controller (8 Slot)

- | Microprocessor applied for central system | Easy monitoring system configuration with Isolated RS-485 & Ethernet communication | Remote interface, channel calibration, data check, device setting is possible using the common unit | 1 set of controller can configure 64 detectors (8 channel / slot) | Controller can be expanded (up to 32 sets) | Detected value can be displayed in 10uA unit | Compensation possible on the difference made due to wiring path | High-definition 16-BIT A/D Converter applied | Fast scan of input value (0.32sec / 64 channels) | Isolated Analog Input Port |

IMAGE



DIMENSION (Unit : mm)



SPECIFICATION

※ Specifications are subject to be changed without prior notice.

ANALOG MUX CONTROLLER (8 SLOT)		
UNIT	COMMON	ANALOG
Display	4-Digit Seven Segment * 2	Power & Error & Communication status LED
Menu Control	Push Button(Func/Up/Down/Reset)	
Interface	Isolated RS-485 & TCP/IP	RS-485 Modbus RTU Slave,
Input range		0~20mA
Input Channels		8inputs
Signal Resolution	10mA / Count	1LSB = 1Count
Operating temperature	0°C ~ +55°C	
Operating humidity	5~99%RH(non-condensing)	
Mounting Type	Rack & Wall	
Dimensions	593.5(W) x 132.5(H) x 120(D)mm (128ch)	
Weight	4.7kg (128ch)	
CERTIFICATION		
CE	Refer to website	

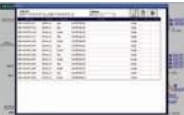
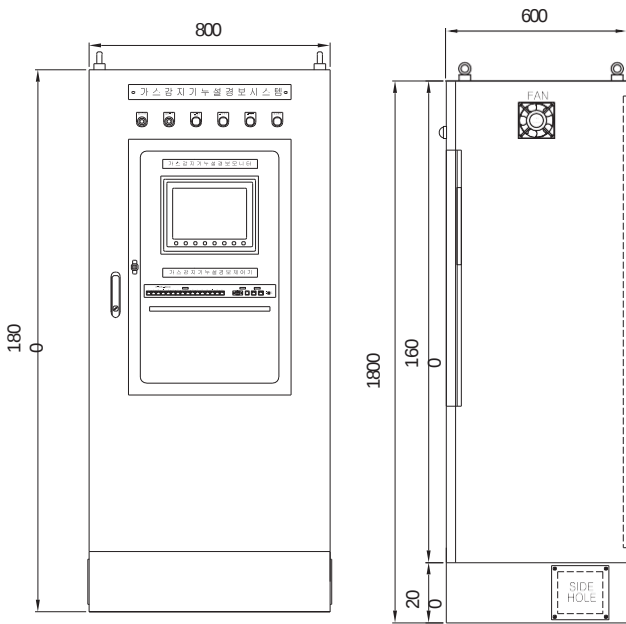
GMS-2000 Touch Screen Monitoring System

| Integrated management of all gas detectors with one graphic | Easy configuration with low cost by serial data communication (RS-485 Modbus) | Easy output configurati on on alarm (by group or single) | Display switch to a trouble point screen when alarm is occurred | Possible to check logged alarm history | Real time logging data | Easy e xpansion by serial port | Ethernet applicable | Easy to analyze data by providing real-time history trend | Easily search for data and ranges |

IMAGE



DIMENSION (Unit : mm)



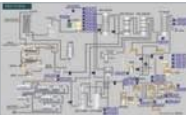
Alarm report



Bar graph display of gas density



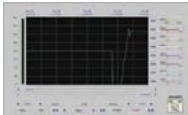
Display of gas density alarm condition



Gas detectors location



Screen shot on alarm



Trend of density history

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GAS LEAK MONITORING PANEL			
Model	GMS-2000		
Measuring gas	Flammable gases & Toxic gases		
Measuring range	0~100%LEL OR 9999 PPM		
Alarm level set	Programmable within detection range		
Normal display	Green lamp on		
Trouble display	Red lamp on (TouchScreen) & buzzer, External red lamp on		
Hi alarm display	Yellow lamp on (Touchscreen) & buzzer, External yellow lamp on		
HiHi alarm display	Yellow lamp on (Touchscreen) & buzzer, External yellow lamp on		
Input/Output signal	Input : RS-422/485 13 Port	Output : RS-422,485, Ethernet 2 Port	Speed : 1200, 2400, 4800, 9600, 19200 bps
Relay contact	Trouble, Hi/HiHi alarm : Relay dry contact (Option)		
Operating temperature	-20℃ ~ +40℃		
Operating humidity	5 to 95% RH (Non-condensing)		
Dimensions	800(W) x 1800(H) x 600(D)mm		
CERTIFICATION			
KFI / CCCF	Refer to website		





Portable Gas Detector

GASTRON

G-Finder Single
Single Gas Portable Detector

GPD-100
Cartridge Sensor & Sampling Portable Detector

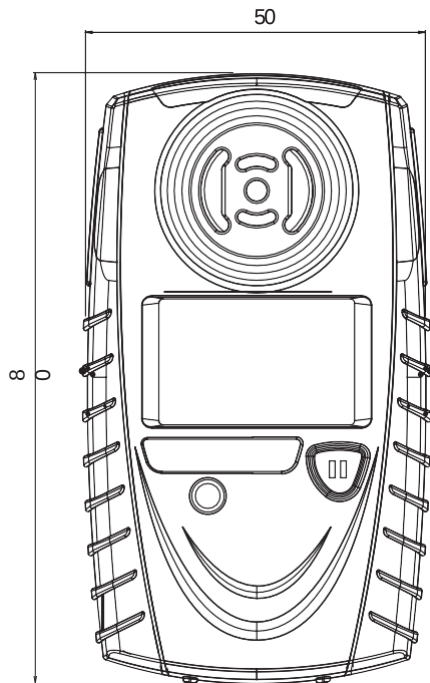
G-Finder Single Single Gas Portable Detector

| 2 years warranty without replacement of battery and sensor | Easy to operate with one button | Real-time gas detection and display | Regular calibration period notification function | Periodic Bump Test Cycle Notification Function |

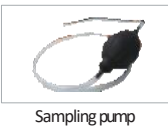
IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Sampling pump

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

G-FINDER SINGLE				
Case Material	Polycarbonate + Thermoplastic Polyurethane			
Dimension	80(W) x 50(H) x 41(D)mm (alligator clip included)			
Weight	103 g (alligator clip included)			
Operating Temperature	-20℃ ~ +50℃			
Operating Humidity	5 ~ 95% r.h.			
Alarm	Visual, Vibrating, Audible			
Ingress Protection	IP 67			
Sensors	O2 / CO / H2S - Electrochemical sensor technology			
Display	Liquid Crystal Display (LCD)			
Battery	3.6V Primary lithium-thionyl chloride			
Measuring Ranges	Gas	Symbol	Range	Resolution
	Oxygen	O2	0 ~ 25% vol	0.1%
	Carbon Monoxide	CO	0 ~ 300 ppm	1 ppm
	Hydrogen Sulfide	H2S	0 ~ 100 ppm	0.1 ppm
Factory Alarm Setpoints	Gas	Symbol	Low Alarm	High Alarm
	Oxygen	O2	19.5% vol	23.5% vol
	Carbon Monoxide	CO	35 ppm	200 ppm
	Hydrogen Sulfide	H2	10 ppm	15 ppm
CERTIFICATION				
KCs	Ex ia IIC T4 Ga	ATEX/IECEx	Ex ia IIC T4 Ga	
NEPSI	Ex ia IIC T4 Ga			

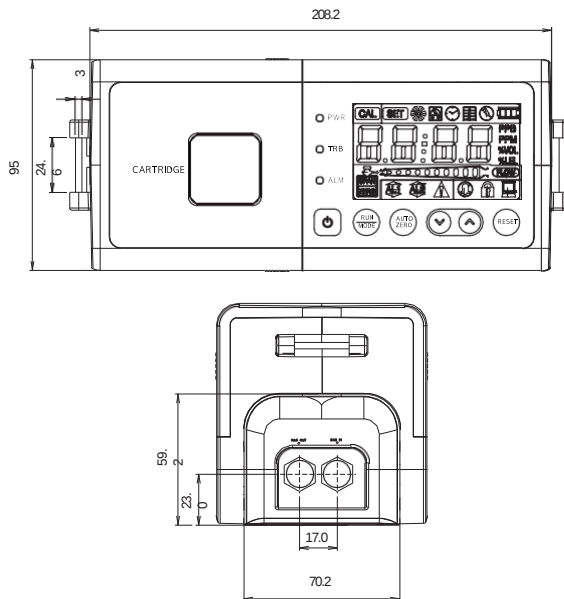
GPD-100 Cartridge Sensor & Sampling Portable Detector

| Fast response of gas leakage with a high efficient pump inside | Easy replacement with a cartridge type sensor (same as GTD-5000 cartridge) | Easy calibration and get information from the face displayed with backlit color LCD | 10 hours continuously operation with a rechargeable Li-ion battery and charge power with a power adapter | Data logging function with Micro SD (T-flash) card (Text File) | Zero calibration button Convenient usage structure through front placement |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Carrying case

Cartridge Carrying Case

Sensor Cartridge

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

AUTO SAMPLING & CARTRIDGE SENSOR TYPE PORTABLE GAS DETECTOR			
Model	GPD-100		
Measuring gas	Flammable gases	VOC gases	O2 / Toxic gases(CO, Cl2, NH3 & etc)
Measuring type	Auto Sampling type		
Measuring method	Catalytic cell, Hot-wire semiconductor cell Thermal conductivity cell	Photo-Ionization Detector(PID)	Semiconductor cell, Electrochemical cell
Measruing range	0~100%LEL, 0~100%Vol	5ppb ~ 300ppm	Refer to Toxic Gas Measuring Range (166 page)
Response time	Flammable gases(< 15sec / 90% scale)	VOC gases(< 5sec / 90% scale)	Toxic gases(< 45sec / 90% scale)
Accuracy	±3% / Full Scale		
Parameter control	Front membrane key (power, calibration, maintenance, alarm setting, reset)		
Operation mode display	3-LED (power, 2 colored 2-stage alarm, 1-trouble)		
Measuring value display	LCD Display (4-Digit)		
Sampling method	Diaphragm Pump		
Sampling line	OD 1/4" (Standard)		
Flow rate	Normal 300~500 ml/min (0~1000 ml/min max)		
Data logging	More than 10 hours data logging function with Micro SD (T-flash) card (Option) / 2G Byte max		
Operating temperature	-20℃ to 50℃		
Operating humidity	5 to 99% RH(Non-condensing)		
Operating power	Battery : DC 7.4V / 4.4A		
	Input: AC 100~230V 50 / 60Hz free volt , Output:DC12V 2.0A		
Material	Poly carbonate		
Dimensions	218 (W) × 95 (H) × 100 (D) mm		
Weight	1.2kg		
CERTIFICATION			
CE	Refer to website		

Flame Detector & Ultrasonic Gas Leak Detector

GASTRON

GTF-1100U
UV/IR Flame Detector

GTF-1100T
Triple IR Flame Detector



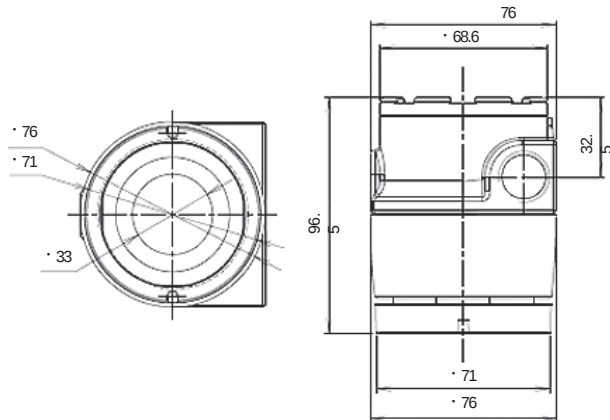
GTF-1100U UV/IR Flame Detector

| Detection distance: 30m | Viewing angle: Vertical 100°, Horizontal 100° | Automatic & manual self-diagnosis function | interface - Relay contact output (fire & breakdown) - RS-485 communication - 0~20mA output | Indicators - Status LED (Bi-Color: RED & GREEN), Alarm LED (RED) |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Cable Gland



Mounting Bracket



Weather Proof Cover

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GTF - 1100U			
Wavelengths	185 - 260 nm (UV) / 4.5 - 4.8μm(IR)		
Detection Distance	30m (0.1 m ³ n-Heptane pan fire)		
Field of View	Horizontal : 100° Vertical : 100°		
Typical Response Time	Typical 5sec. (0.1 m ³ n-Heptane pan fire @30m)		
Indicator	Status LED(Bi-Color : Red & Green) / Alarm LED(Green)		
Output	0-20mA Analog Current Output		
	Alarm Relay 1, Trouble Relay 1 (SPDT 1A at 30VDC or 0.3A at 125VAC, resistive load)		
	RS-485 Interface (MODBUS RTU)		
Power Consumption	Stand by(Without B.I.T.)	2.2W @32VDC / 1.8W @24VDC / 1.5W @18VDC	
	Stand by (With B.I.T.)	3.4W @32VDC / 2.9W @24VDC / 2.4W @18VDC	
	Alarm	2.3W @32VDC / 1.9W @24VDC / 1.6W @18VDC	
Housing Material	ALDC12 orSUS316		
Dimension	76(W) x 76(H) x 96.5(D) mm		
Weight (Detector Only)	ALDC12 : App. 0.7kg		SUS316 : App. 1.7kg
Wiring Specifications	CVVSB with shield 0.75SQ * 10C (KFI certified products only)		
Ambient Temperature	KCs : T6 = -50℃ ≤ Ta ≤ 60℃, T5 = -50℃ ≤ Ta ≤ 75℃, T4 = -50℃ ≤ Ta ≤ 85℃ FM : T6 = -40℃ ≤ Ta ≤ 60℃, T5 = -40℃ ≤ Ta ≤ 75℃		
Operation Temperature	-40℃ ~ 75℃		
Storage Temperature	-50℃ ~ 80℃		
Operation Humidity	Up to 95% RH (Non-condensing)		
CERTIFICATION			
KCs	Ex d IIC T6, T5, T4	FM(Performance)	FM 3260
FM(Explosion proof)	Class I, Divisions 1, 2 Groups A, B, C, D T6, T5, T4, Class II, Divisions 1, 2 Groups E, F, G T6, T5, T4, Class III		
CE / KFI	Refer to website		

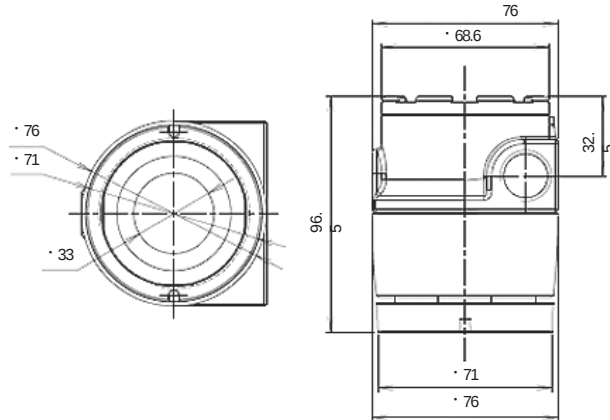
GTF-1100T Triple IR Flame Detector

| Detection distance: 50m | Viewing angle: Vertical 100°, Horizontal 100° | Automatic & manual self-diagnosis function | interface - Relay contact output (fire & breakdown) - RS-485 communication - 0~20mA output | Indicators | Status LED (Bi-Color: RED & GREEN), Alarm LED (RED) |

IMAGE



DIMENSION (Unit : mm)



ACCESSORIES



Cable Gland



Mounting Bracket



Weather Proof Cover

SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GTF - 1100T			
Wavelengths	3.8 - 5.5μm(IR)		
Detection Distance	50m (0.1 m ³ n-Heptane pan fire)/ KFI	60m (0.1 m ³ n-Heptane pan fire)/ FM	
Field of View	Horizontal : 100° Vertical : 100°		
Typical Response Time	Typical 5sec. (0.1 m ³ n-Heptane pan fire @50m)		
Indicator	Status LED(Bi-Color : Red & Green) / Alarm LED(Green)		
Output	0-20mA Analog Current Output		
	Alarm Relay 1, Trouble Relay 1 (SPDT 1A at 30VDC or 0.3A at 125VAC,resistive load)		
	RS-485 Interface (MODBUS RTU)		
Power Consumption	Stand by(Without B.I.T.)	1.3W @32VDC / 1.2W @24VDC / 1.1W @18VDC	
	Stand by (With B.I.T.)	2.4W @32VDC / 2.3W @24VDC / 2.2W @18VDC	
	Alarm	1.4W @32VDC / 1.3W @24VDC / 1.2W @18VDC	
Housing Material	ALDC12 orSUS316		
Dimension	76(W) x 76(H) x 96.5(D) mm		
Weight (Detector Only)	ALDC12 : App. 0.7kg	SUS316 : App. 1.7kg	
Wiring Specifications	CVVSB with shield 0.75SQ * 10C (KFI certified products only)		
Ambient Temperature	KCs : T6 = -50℃ ≤ Ta≤ 60℃, T5 = -50℃ ≤ Ta≤ 75℃, T4 = -50℃ ≤ Ta≤ 85℃ FM : T6 = -40℃ ≤ Ta≤ 60℃, T5 = -40℃ ≤ Ta≤ 75℃		
Operation Temperature	-40℃ ~ 75℃		
Storage Temperature	-50℃ ~ 80℃		
Operation Humidity	Up to 95% RH (Non-condensing)		
CERTIFICATION			
KCs	Ex d IIC T6, T5, T4	FM(Performance)	FM 3260
FM(Explosion proof)	Class I, Divisions 1, 2 Groups A, B, C, D T6, T5, T4, Class II, Divisions 1, 2 Groups E, F, G T6, T5, T4, Class III		
CE / KFI	Refer to website		



GTL-200
Flame Proof Type Sounder & Beacon Combination

GASTRON

Alarm Signalling

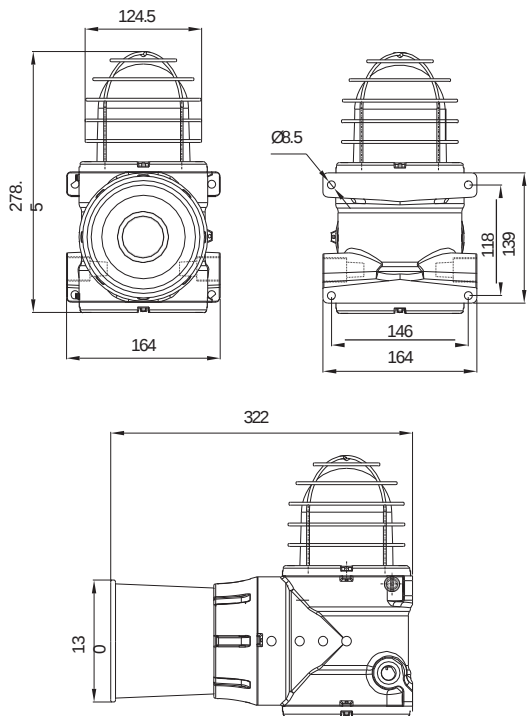
GTL-200 Explosion Proof Type Sounder & Beacon Combination

| Combined Explosion-proof Sounder & Beacon using LED Light sources | Excellence of high effect of signal light radiation using our unique lens type luminescence system
| Available of sound types & volume control with internal switch | Available in controlling the rotation speed of reflector | Available in various colors(Red, Yellow, Green, Blue) | Max Output: 120dB | Available in setting options depend on field condition | A total of 64 sound files | AC or DC available |

IMAGE



DIMENSION (Unit : mm)



SPECIFICATION

GTL-200 SERIES SPECIFICATION			
Product Type	LED Lens / Rotating Reflection		
Material	Body : ALDC12, Reflector : heat-resistant ABS Lamp Lens : heat-resistant PC, GLASS : Explosion-proof Tempered glass, Protection case-SS316L		
Sounder out put	MAX 120 dB		
LED Color	Green, Red, Yellow, Blue (Choose 1)		
Power Supply	AC110 / 220V 50~60Hz DC12~48V		
Power Consumption	AC110V=0.327A / 220V = 0.163A MAX DC12V = 3.0A / DC24V=1.5A / DC48V = 0.75A MAX		
Operation Temp.	T6=-40 to 60℃ / T5,T4=-40 to 70℃		
Operation Humidity	0 to 95% RH(Non-condensing)		
Conduct Connection	1/2" or 3/4" PF, NPT (3/4" PF standard feature)		
Dimensions	164(W) X 278.5(H) X 322(177)(D)mm		
Weight	App. 6.2kg		
CERTIFICATION			
KCs	Ex d IIC T6, T5, T4	ATEX / IECEx	Ex d IIC Gb T6, T5, T4
CE	Refer to website		



GTL-200B Explosion Proof Sounder

SPECIFICATION

ITEM	SERIES SPECIFICATION
Product Type	Signal Phone
Material	Body- ALDC12, Flame Arrester - SS316L
Max	MAX 120 dB
Power Supply	AC110 / 220V 50~60Hz DC12~48V
Power Consumption	AC110V=0.218A/220V=0.109A Max DC12V= 2.0A / DC24V=1A / DC48V=0.5 AMax
Operation Temp.	T6=-40 to 60℃ / T5,T4=-40 to 70℃
Operation Humidity	0 to 95% RH(Non-condensing)
Conduct Connection	1/2" or 3/4" PF, NPT (3/4" PF standard feature)
Dimensions	164(W) X 139(H) X 322(177)(D)mm
Weight	App. 5.0kg
CERTIFICATION	
KCs	Ex d IIC T6, T5, T4
ATEX / IECEx	Ex d IIC Gb T6, T5, T4
CE / IP66	Refer to website

GTL-200L Explosion Proof Warning Light

SPECIFICATION

ITEM	SERIES SPECIFICATION
Product Type	LED Lens / Rotating Reflection
Material	Body : ALDC12, Reflector : heatresistant ABS Lamp Lens : heat-resistant PC, GLASS : Explosion-proof Tempered glass, Protection case - SS316L
LED Color	Green, Red, Yellow, Blue (Choose 1)
Power Supply	AC110 / 220V 50~60Hz DC12~48V
Power Consumption	AC110V=0.109A / 220V = 0.054A MAX DC12V = 1.0A / DC 24V=0.5A / DC48V = 0.25A MAX
Operation Temp.	T6=-40 to 60℃ / T5,T4=-40 to 70℃
Operation Humidity	0 to 95% RH(Non-condensing)
Conduct Connection	1/2" or 3/4" PF, NPT (3/4" PF standard feature)
Dimensions	164(W) X 278.5(H) X 177(D)mm
Weight	App. 5.0kg
CERTIFICATION	
KCs	Ex d IIC T6, T5, T4
ATEX / IECEx	Ex d IIC Gb T6, T5, T4
CE / IP66	Refer to website

GTL-200 Explosion Proof Combination

SPECIFICATION

COMPOSITION TYPE	STRUCTURAL ELEMENTS
EX) TYPE -1	Warning Light(RED) + Sounder
EX) TYPE -2	Warning Light(RED) + Warning Light(BLUE)
EX) TYPE -3	Warning Light(RED) + Warning Light(YELLOW) + Warning Light(BLUE)
EX) TYPE -4	Warning Light(RED) + Warning Light(YELLOW) + Warning Light(BLUE) + Sounder
CERTIFICATION	
ATEX / IECEx	Ex d IIC Gb T6, T5, T4
CE / IP66	Refer to website

GASTRON

Calibration Gas



Can Gas

Cylinder

Can Gas Calibration

| Easy to use - Combined pressure regulator and flowmeter in the container allows to understand gas flow at a glance | Affordable and economical - you can buy whatever you need when you need it compared to traditional high volume products | High portability - small size of 300 x 65mm and light weight (150g) | Safe - without container explosion - Inner charge pressure is designed to 8Kg / cm² , low concentration gas that can not be burned is charged |

IMAGE



Cylinder Calibration

CYLINDERS				
Picture	Contents Service Pressure Dimension Weight	Materi al (Color)	Mixture Tolerance	Warranty
1AL Aerosol  2AL, 8AL, 10AL 	11 Liters(10.7 Bar) 279 x 70mm(0.14 Kg)	Aluminu m (Natural Aluminu m)	H2S : ±20% All others : ±5%	Mixtures containing H2S are warranted for 3 months. Non-reactive gas mixtures are warranted for 12 months.
	34 Liters(34.5 Bar) 289 x 76mm(0.44 Kg) 58 Liters(34.5 Bar) 362 x 89mm(0.73 Kg) 116 Liters(69 Bar) 381 x 89mm(1.02 Kg)		51 ppm & above ± 2% 21 - 50 ppm : ±5% 1 - 20 ppm : ±10%	LEL Mixtures and Non-Reactive Mixtures 36 months. H2S, SO2, and H2S/CO/LEL/O2/N2, Mixtures 24 months. NO, NH3, PH3 and HCN Mixtures 18 months CL2 Mixtures 9 months. HCL Mixtures 12 months. NO2 Mixtures 6 months.
6D  5E 	103 Liters(69 Bar) 352 x 83mm(1.4 Kg)	Steel (Beig e)	All minor components are certified to ± 2%	Most gas mixtures are warranted for 36 months.
	552 Liters(151.8 Bar) 527 x 114mm(3.18 Kg)	Steel (Whit e)		
7EOC  7HP 	17 Liters(16.6 Bar) 279 x 74mm(0.47 Kg) 34 Liters(34.5 Bar) 279 x 76mm(0.68 Kg)	Steel (Beige or Red)		

REGULATORS							
Picture	Mod el No.	2AL	8AL	6D	5E	7EOC	7HP
	713					○	○
	715	○	○	○			
	718				○		
	702					○	○
	705	○	○	○			
	1001				○		
	1002				○		
	1003				○		
	1767	○	○	○			
	1768	○	○	○			
	1781	○	○				
	1782	○	○				
	DFR 2001	○	○	○			
	DFR 2003				○		
	DFR 2004	○	○	○			
	DFR 2007					○	○
	Trigger 4205	○	○	○			
	Trigger 4206	○	○	○			
	Trigger 4210	○	○	○			
	Trigger 4211	○	○	○			

GASTRON

Gas Monitoring System Configuration

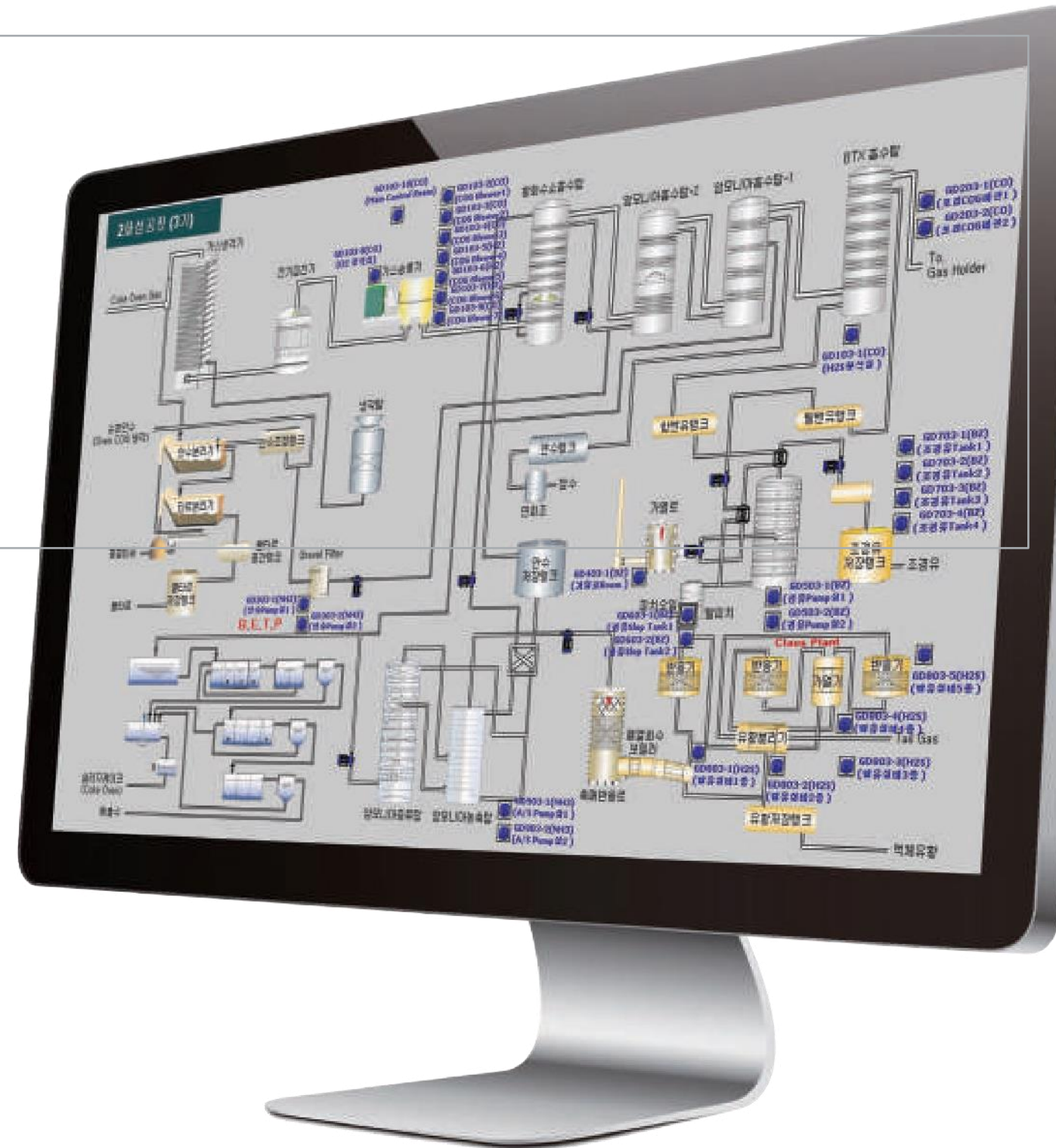
Configuration-1
Gas Detector ⇄ Receiver

Configuration-2
Gas Detector ⇄ Receiver ⇄ PC Monitoring System

Configuration-3
Gas Detector ⇄ PLC & Signal Converter ⇄ PC Monitoring System

Configuration-4
Gas Detector Serial Data Communication ⇄ PC Monitoring System

Configuration-5
Gas Detector (PoE) ⇄ DB & I/O Server ⇄ PC Monitoring System

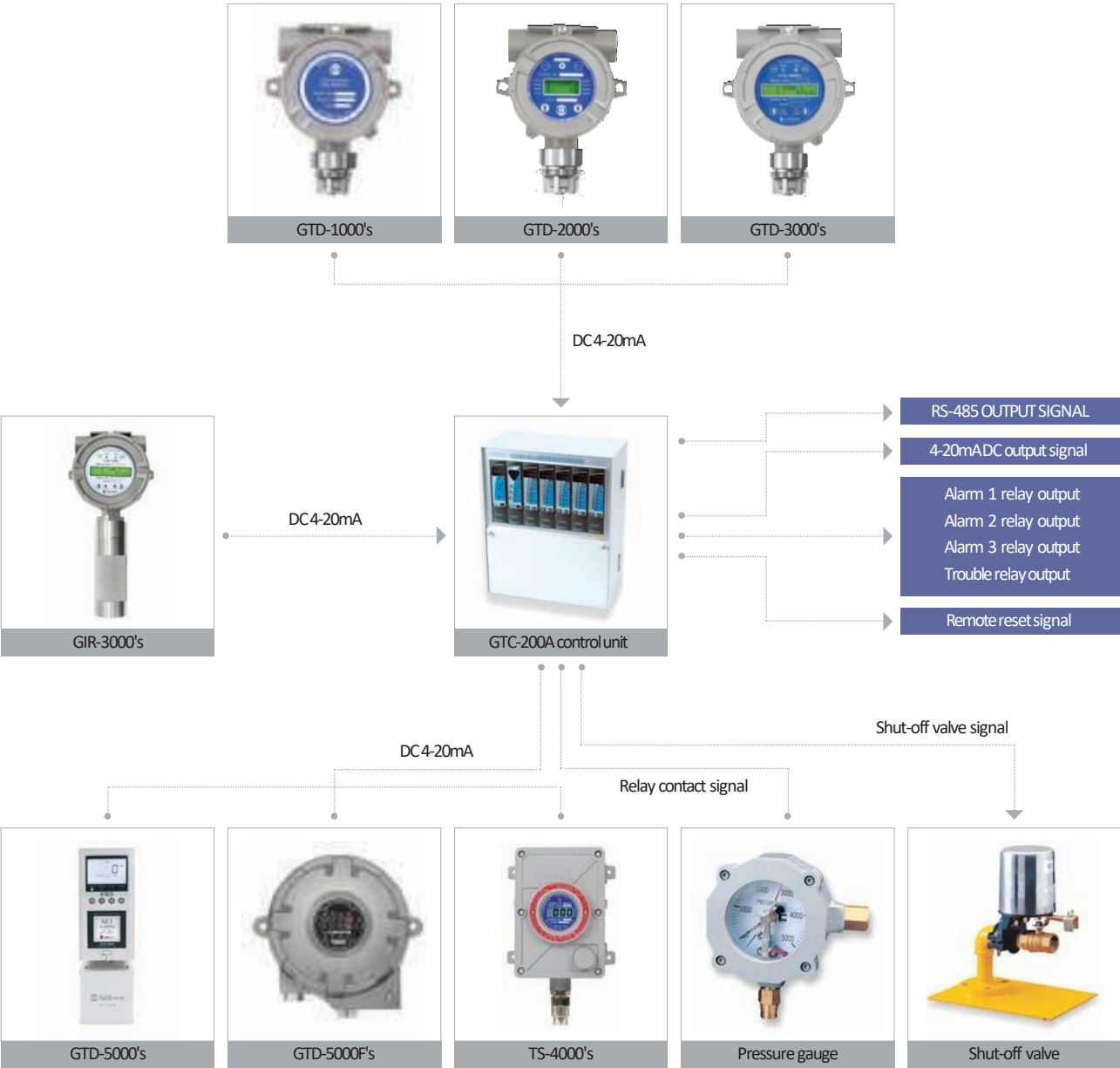


Configuration-1 Gas Detector ↔ Receiver

- | Real time display (gas detector operation condition) | Easy check of gas concentration with 4-digit FND and Bar-graph | Easy expansion by using din-case type |
- | Easy maintenance due to simple configuration | Visual and audible indication for each alarm | Relay contact output for each alarm | 4-20mADC output for every single gas detector |

FEATURE

This configuration is the most widely used type in industrial plants and each gas detector is connected with a control unit. The control unit receives 4-20mA DC signal from a gas detector and shows operating condition and gas leakage. An user can easily check them with 4-digit FND, Bar-graph and LED to take immediate action when alarm is triggered.

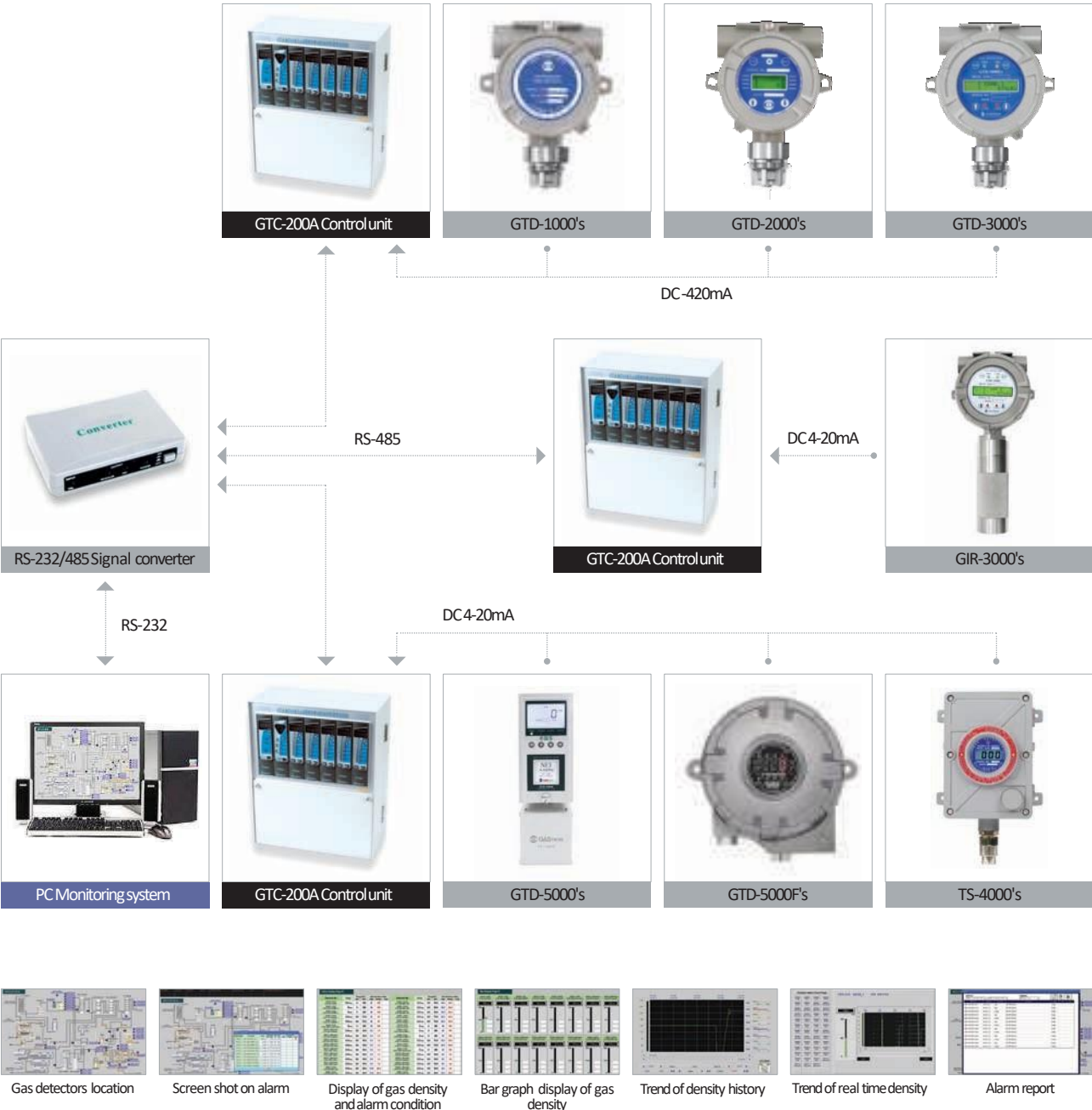


Configuration-2 Gas Detector ↔ Receiver ↔ PC Monitoring System

- | Real time monitoring and control of gas detectors | Integrated management of whole gas detectors with one graphic | Dual structure system (PC monitoring system + Gas detector receiver) | Display switch to a trouble point screen | Possible to check logged alarm history | Logging real time data | Easy data analyzation with a real time trend |
- | Easy reporting (day/ week/ year/ user defined date) |

FEATURE

This configuration is PC monitoring system which possible to be checked operating condition of gas detectors and gas leakage on PC screen at a look. An user can take immediate action when alarm is triggered.

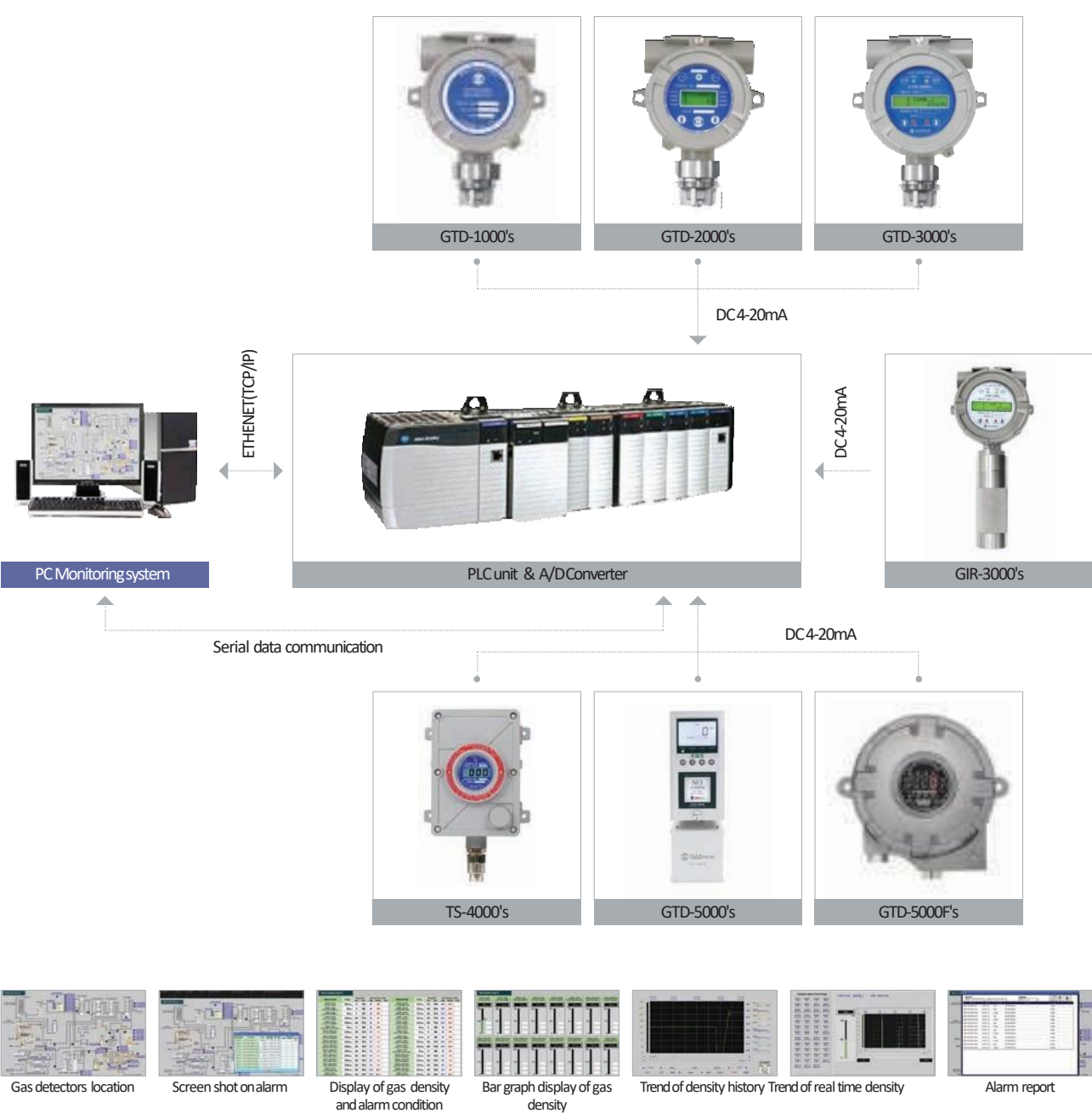


Configuration-3 Gas Detector ⇄ PLC & Signal Converter ⇄ PC Monitoring System

- | Easy expansion with PLC | Easy configuration of digital output and relay output | Real time monitoring and control of gas detector with realistic graphic |
- | Integrated management of whole gas detectors with one graphic | Display switch to a trouble point screen when alarm is occurred | Possible to check logged alarm history | Logging real time data | Easy reporting (day/week/year/user defined date) |

FEATURE

This configuration is PC monitoring system and each gas detector is connected to PLC. PLC converts analog signal to digital signal and sends them for PC to show operating condition of gas detectors and gas leakage at a look. An user can take immediate action when alarm is triggered.

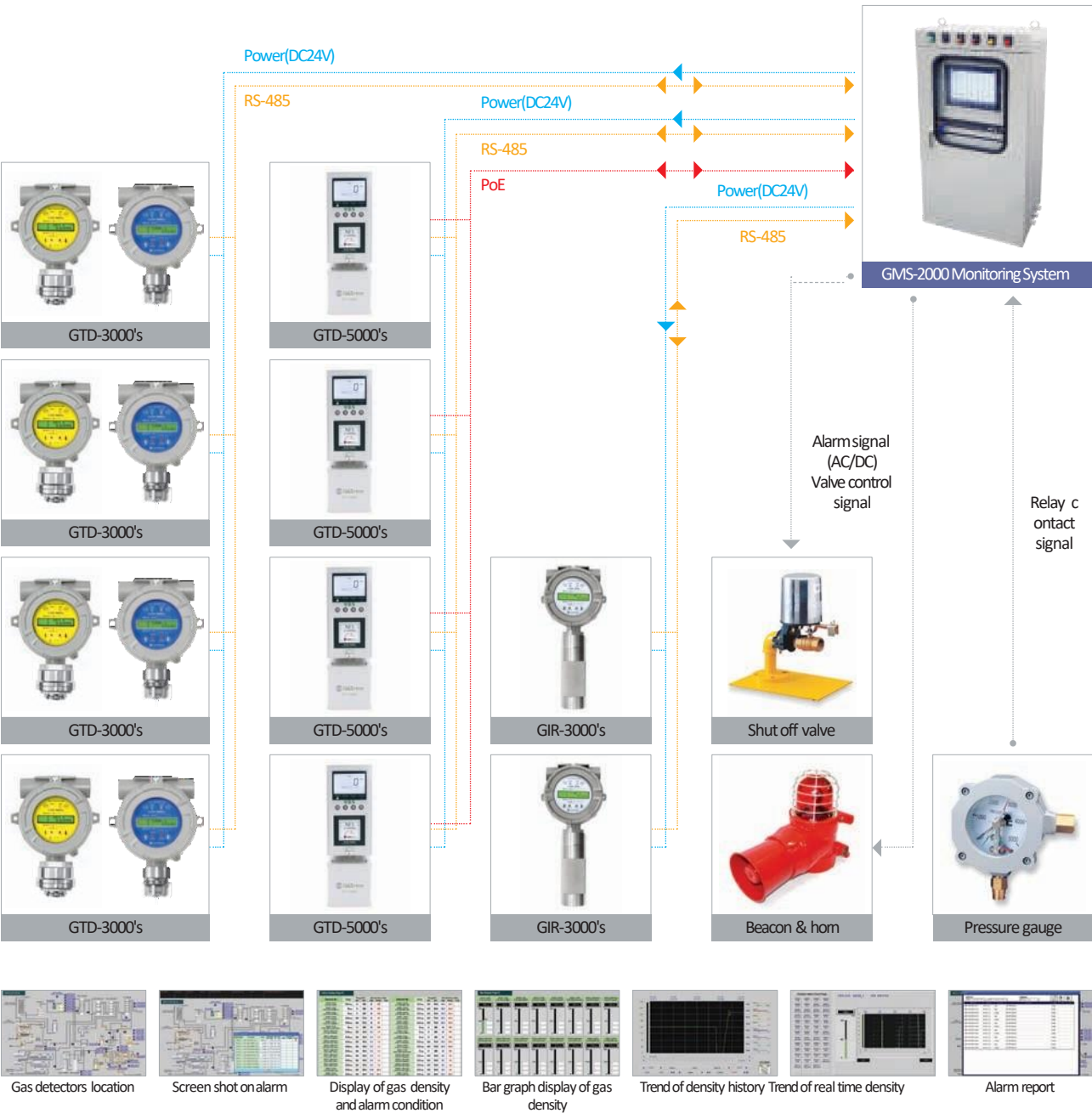


Configuration-4 Gas Detector Serial Data Communication ⇄ PC Monitoring System

- | Integrated management of all gas detectors with one graphic | Easy configuration with low cost by serial data communication (RS-485 Modbus) | Easy output configuration on on alarm (by group or single) | Display switch to a trouble point screen when alarm is occurred | Possible to check logged alarm history | Logging real data | Easy expansion by serial port | Ethernet applicable |

FEATURE

This is touch screen & PC monitoring type system. It communicates with each gas detector by serial data communication.

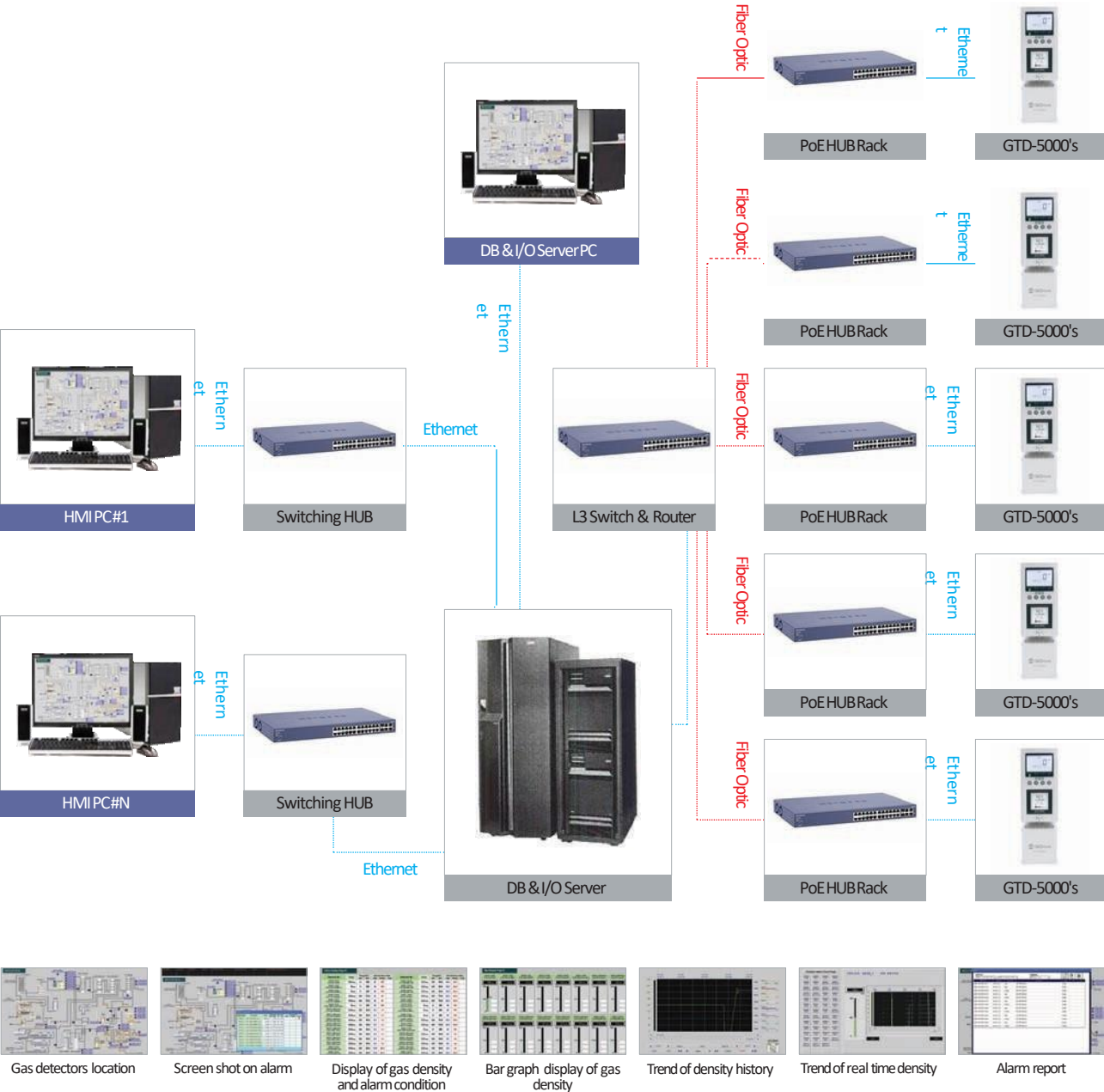


Configuration-5 Gas Detector Serial Data Communication ⇔ PC Monitoring System

- | Real time monitoring and control of gas detectors with the realistic graphic | Integrated management of all gas detectors with the one graphic | Display switch to the trouble site on occurring alarm situation | Available of saving, searching and printing a detailed alarm history data | Real time data collecting and logging |
- | Easy data analysis with an real time history information | Easy reporting (day/week/year/user defined data) | Manageable detectors on the Web | Easy controlling data in a DB & I/O server |

FEATURE

This is PoE(Powerover Ethernet) monitoring system. Each gas detector is connected to PoE Hub through Ethernet UTP cables. It is possible to send power and signal at the same time to UTP without individual power supply. The main features of this monitoring system are simple installation and cost saving effect.



	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
1	Acetaldehyde	CH3CHO (C2H4O)	4	50 (1ppm=1.84mg/m3)	1.5	75-07-0	Ex : 100%LEL
2	Acetic acid	CH3COOH	5.4	10	2.07	64-19-7	Tx : 20ppm
3	Acetone	CH3COCH3(C3H6O)	2.2	500	2	67-64-1	Ex : 100%LEL IR : 100%LEL Tx : 1%vol
4	Acetonitrile	CH3CN	3	TWA : 20ppm	1.4	75-05-8	Ex : 100%LEL IR : 100%LEL
5	Acetyl acetone	C5H8O2	2.4	-	3.54	123-54-6	Tx : 30ppm
6	Acetylene	C2H2	2.5	-	0.91	74-86-2	Ex : 100%LEL
7	Acrylic acid(AA)	C3H4O2	2.4	2	2.5	79-10-7	IR : 100%LEL Tx : 100ppm, 300ppm
8	Acrylonitrile(AN)	C3H3N	3	2	1.8	107-13-1	Ex : 100%LEL Tx : 100ppm
9	Allyl alcohol(C3H6O)	CH2=CHCH2OH	2.5	0.5	2	107-18-6	Tx : 20ppm
10	Allyl chloride	CH2=CHCH2Cl	2.9	1	2.6	107-05-1	Ex : 100%LEL Tx : 25ppm
11	Ammonia	NH3	15	25	0.59	7664-41-7	Ex : 100%LEL Tx : 75ppm
12	Aniline	C6H5NH2	1.3%	2	3.2	62-53-3	Tx : 100ppm
13	Anisole	CH3OC6H5	0.3	-	3.7	100-66-3	Ex : 100%LEL IR : 100%LEL
14	Antimony pentachloride	SbCl5	-	0.5mg/m3	10.32	7647-18-9	Tx : 15ppm
15	Arsenic hydride (Arsine)	AsH3	-	0.005	4.31	7784-42-1	Tx : 0.3ppm
16	Arsenic pentafluoride	AsF5	-	0.01mg/m3	-	7784-36-3	Tx : 9ppm
17	Arsenic trichloride	AsCl3	-	0.01mg/m3 (=0.0013ppm)	6.3	7784-34-1	Tx : 15ppm
18	Benzene	C6H6	1.2	0.5	2.8	71-43-2	Ex : 100%LEL IR : 100%LEL PID : 5ppm, 100ppm
19	Boron tribromide	BBr3	-	C 1ppm	8.6	10294-33-4	Tx : 9ppm
20	Boron trichloride	BCl3	-	-	4.03	10294-34-5	Tx : 15ppm
21	Boron trifluoride	BF3	-	C 1ppm	2.4	7637-07-2	Tx : 9ppm
22	Bromine	Br2	-	0.1	3.12	7726-95-6	Tx : 3ppm
23	1-Butene	C4H8	1.60%	-	1.93	106-98-9	Ex : 100%LEL IR : 100%LEL
24	1,3-Butadiene	C4H6	1.10%	2ppm	1.9	106-99-0	Ex : 100%LEL PID : 10ppm, 200ppm
25	2-Butanol	C4H10O	1.7	TWA : 100ppm	2.55	78-92-2	Ex : 100%LEL IR : 100%LEL
26	Butene(butylene)	C4H8	1.6	-	1.93	25167-67-3	Ex : 100%LEL
27	i-Butane	C4H10	1.8	800	2.01	75-28-5	Ex : 100%LEL IR : 100%LEL SC : 2000 ppm
28	Butyl acetate	C6H12O2	1.2	150	4	123-86-4	IR : 100%LEL Tx : 500ppm
29	i-Butyl acetate	C6H12O2	1.3	150	4	110-19-0	Ex : 100%LEL IR : 100%LEL SC : 1000 ppm
30	Butyl acrylate	C7H12O2	1.3	2	4.42		IR : 100%LEL
31	n-Butyl alcohol	CH3(CH2)2CH3OH	1.4	50	2.6	71-36-3	Ex : 100%LEL IR : 100%LEL Tx : 100ppm
32	tert-Butyl mercaptan	C4H10S	1.4	0.5	3.1	109-79-5	Tx : 50ppm
33	Carbon dioxide	CO2	-	5000	1.522	124-38-9	IR : 5vol%, 20vol%
34	Carbon disulfide	CS2	1	10	2.63	75-15-0	Tx : 100ppm
35	Carbon monoxide	CO	12.5	30	0.97	630-08-0	IR : 2vol% Tx : 150ppm, 300ppm
36	Carbonyl sulfide	COS	-	-	2.1	463-58-1	Tx : 100ppm, 2000ppm
37	Chloride	Cl2	-	0.5	2.5	7782-50-5	Tx : 3ppm
38	Chlorine dioxide	ClO2	>10	0.1	2.3	10049-04-4	Tx : 1ppm
39	Chlorine trifluoride	ClF3	-	0.1	3.18	7790-91-2	Tx : 1ppm
40	Chlorobenzene	C6H5Cl	1.3	10	3.88	108-90-7	Ex : 100%LEL
41	Chloroform	CHCl3	-	10	4.12	67-66-3	Tx : 30ppm, 200ppm
42	Chlorosulfonic acid	HSO3Cl	-	-	4.02	7790-94-5	Tx : 9ppm
43	Cumene	C9H12	0.9	50	4.2	98-82-8	IR : 100%LEL
44	Cyclohexane	C6H12	1.3	200	2.9	110-82-7	Ex : 100%LEL
45	Cyclohexanone	C6H10O	1.1	25	3.4	108-94-1	Tx : 200ppm IR : 100%LEL

	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CASNo.	Suitable Measuring Ranges
46	5-Cyclooctadiene	C8H12	1	-	3.66	11-78-4	IR : 100%LEL
47	Cyclopentane	C5H10	1.1	600	2.4	287-92-3	Ex : 100%LEL IR : 100%LEL
48	Diborane	B2H6	0.8	0.1	0.96	19287-45-7	Tx : 0.3ppm
49	1,2-Dichloroethane(EDC)	CH2ClCH2Cl (C2H4Cl2)	6.2	10	3.42	107-06-2	Ex : 100%LEL IR : 100%LEL Tx : 100ppm
50	1,2-Dichloroethylene cis	C2H2Cl2	9.7	200	3.34	156-59-2	Tx : 500ppm
51	1,2-Dichloroethylene trans (DCE)	C2H2Cl2	9.7	200	3.34	156-60-5	Tx : 500ppm
52	Dichloromethane(R-30)	CH2Cl2	12	50	2.9	75-09-2	IR : 100%LEL Tx : 500ppm
53	Dichlorosilane (DCS)	SiH2Cl2	4.1	-	3.48	4109-96-0	Tx : 15ppm
54	Di-Ethylamine(DEA)	(C2H5)2NH	1.8	5	2.5	109-89-7	Tx : 100ppm, 500ppm PID : 10ppm, 200ppm
55	Diethyl carbonate (DEC)	C5H10O3	1.4	-	4.1	105-58-8	Ex : 100%LEL IR : 100%LEL
56	Diethyl ether(Ethyl ether)	(C2H5)2O	1.7	400	2.6	60-29-7	Ex : 100%LEL IR : 100%LEL Tx : 1000ppm
57	Difluoro chloromethane(R22)	CHClF2	-	1000	3	75-45-6	Tx :200ppm, 500ppm Tx :5000ppm, 8000ppm
58	Difluoromethane(R32)	CH2F2	12.7~14	1000	1.8	75-10-5	Ex : 100%LEL IR : 100%LEL Tx:2000ppm
59	Diisobutylene	C8H16	-	-	3.9	25167-70-8	Ex : 100%LEL
60	Di-isopropylamine	C6H15N	0.8	5	3.5	108-18-9	Ex : 100%LEL IR : 100%LEL Tx : 100ppm
61	Di-isopropylether	(CH3)2CHOCH(CH3)2	1.4	250	3.5	108-20-3	Ex : 100%LEL IR : 100%LEL
62	Dimethoxymethane	C3H8O2	1.6	1000	2.6	109-87-5	Ex : 100%LEL IR : 100%LEL PID : 200ppm
63	Dimethylacetamide(DMAC)	C4H9NO	1.8	10	3.01	127-19-5	Ex : 100%LEL(>100℃) PID :0~30ppm
64	Di-Methylamine(DMA)	(CH3)2NH	2.8	5	1.6	124-40-3	Ex : 100%LEL IR : 100%LEL Tx : 100ppm PID: 15ppm, 300ppm
65	Di-Methyl carbonate(DMC)	C3H6O3	4.2	-	3.1	616-38-6	Ex : 100%LEL IR : 100%LEL
66	Dimethyl dichlorosilane		1.4	-	4.4	68611-44-9	Tx : 15ppm
67	Dimethyl disulphide (DMDS)	C2H6S2	1.1	AGGIH : 0.5ppm	3.24	624-92-0	Tx : 50ppm PID : 3ppm, 40ppm
68	Dimethylether	(CH3)2O	3.4	-	1.6	115-10-6	EX : 100%LEL IR : 100%LEL
69	N,N-Dimethylformamide	C3H7NO	2.2	10	2.5	68-12-2	PID: 10ppm, 200ppm
70	N,N-Dimethylacetamide	C4H9NO	1.8	10	3.01	127-19-5	PID : 20ppm, 200ppm Tx : 150ppm
71	Dimethyl Sulfide(DMS)	C2H6S	2.2	AGGIH : 10ppm	2.1	75-18-3	Tx : 100ppm
72	Di-Methylether	CH3OCH3	3.4	-	1.6	115-10-6	EX : 100%LEL IR : 100%LEL
73	1,4-Dioxane	C4H8O2	2	20	3		Ex : 100%LEL IR : 100%LEL
74	Disilane	Si2H6	1	-	2.15	1590-87-0	Tx : 15ppm
75	Di-Phenylether	(C6H5)2O	0.8	1	5.9	101-84-8	PID: 10ppm, 200ppm
76	Epichlorohydrin	C3H5ClO	3.8	0.5	3.2	106-89-8	Ex : 100%LEL IR : 100%LEL Tx : 50ppm
77	Ethane	C2H6	3	1000	1.05	74-84-0	Ex : 100%LEL
78	Ethanol	C2H5OH	3.3	1000	1.59	64-17-5	Ex : 100%LEL IR : 100%LEL Tx : 50ppm , 100ppm
79	Ethyl acetate	CH3CO2C2H5	2.2	400	3	141-78-6	Ex : 100%LEL IR : 100%LEL SC : 1000ppm Tx : 500ppm
80	Ethyl acrylate	C5H8O2	1.4	5	3.45	140-88-5	Ex : 100%LEL IR : 100%LEL Tx : 250ppm
81	Ethyl amine	C2H5NH2	3.5	5	1.55	75-04-7	Tx : 100ppm

Gas Name			Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
82	Ethyl benzene	C8H10	1	100	3.7	100-41-4	Ex : 100%LEL IR : 100%LEL Tx : 150ppm
83	Ethyl chloride	C2H5Cl	3.6	1000	2.22	75-00-3	Tx : 150ppm
84	Ethylene	C2H4	2.7	200	0.98	74-85-1	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm
85	Ethylene diamine(EDA)	C2H8N2	2.5	10	2.1	107-15-3	Tx : 1000ppm
86	Ethyl formate	C3H6O2	2.7	100	2.55	109-94-4	Ex : 100%LEL IR : 100%LEL Tx : 200ppm
87	Ethylene glycol monomethyl ether (EGME) = 2-methoxyethanol = methyl cellosolve	C3H8O2	2.3	5	2.62	109-86-4	Ex : 100%LEL IR : 100%LEL Tx : 20ppm
88	Ethylene oxide(EO)	C2H4O	3	1	1.5	75-21-8	Ex : 100%LEL IR : 100%LEL Tx : 30ppm , 100ppm
89	Ethyl Lactate	C5H10O3	1.5	-	4.07	97-64-3	IR : 100%LEL
90	Ethyl methyl carbonate(EMC)		-	-		623-53-0	SC : 500ppm PID : 500 / 5000ppm
91	Ethyl mercaptan (EtSH) (Ethaneithiol) EtM	C2H6S	2.8	0.5	2.14	75-08-1	Tx : 50ppm IR : 100%LEL
92	Fluorine	F2	-	0.1	1.3	7782-41-4	Tx : 3ppm
93	Fluoroform(R-23)	CHF3	-	-	2.4	75-46-7	Tx :9000ppm
94	Fluoromethane	CHF	-	-	1.195	593-53-3	Tx : 2000ppm
95	Formaldehyde	CH2O	7	0.5	1.067	50-00-0	Tx : 10ppm
96	Formic acid(개미산)	HCOOH	18	5	1.6	64-18-6	Tx : 50ppm
97	Furfural	C5H4O2	2.1	2	3.31	98-01-1	Tx : 15ppm
98	Furfural alcohol	C5H6O2	1.8	10	3.4	98-00-0	Tx : 20ppm
99	Germane	GeH4	-	0.2	2.65	7782-65-2	Tx : 1ppm
100	Germanium tetrachloride	GeCl4	-	-		10038-98-9	Tx : 15ppm
101	Germanium tetrafluoride	GeF4	-	-			Tx : 9ppm
102	Helium	He	-	-	0.14	7440-59-7	TC : 100VOL%
103	n-Heptane	C7H16	1.1	400	3.46	142-82-5	Ex : 100%LEL IR : 100%LEL
104	n-Hexane	C6H14	1.1	50	3	110-54-3	Ex : 100%LEL IR : 100%LEL
105	Hexachlorodisilane(HCDS)	SiCl6	-	-	9.2	13465-77-5	Tx : 20ppm
106	Hexafluorobutadiene	C4F6	7	-		685-63-2	IR : 2000ppm Tx: 100ppm, 2000ppm
107	Hexamethyldisilazane(HMDS)	C6H19NSi2	0.8	-	4.6	999-97-3	IR : 100%LEL Tx : 50ppm
108	Hexamethyldisiloxane(HMDSO)	C6H18OSi	0.5	-	-	107-46-0	IR : 100%LEL Tx : 100ppm
109	Hydrogen	H2	4	-	0.07	1333-74-0	TC : 100VOL% Ex : 100%LEL Tx : 2000ppm
110	Hydrogen bromide	HBr	-	C 2ppm	2.8	10035-10-6	Tx : 9ppm
111	Hydrogen chloride	HCl	-	1	1.3	7647-01-0	Tx : 10ppm
112	Hydrogen cyanide (AC)	HCN	5.6	C 4.7ppm		74-90-8	Tx : 30ppm
113	Hydrogen fluoride	HF	-	0.5	0.69	7664-39-3	Tx : 6ppm
114	Hydrogen peroxide	H2O2		1	1.17	7722-84-1	Tx : 100ppm
115	Hydrogen selenide	H2Se	-	0.05	2.8	7783-07-5	Tx : 0.25ppm
116	Hydrogen sulfide	H2S	4.3	10	1.19	7783-06-4	Tx : 30ppm
117	Isoamyl alcohol	C5H12O	1.2	100	3	123-51-3	IR : 100%LEL
118	Isobutyl alcohol	C4H10O	1.7	50	2.55	78-83-1	IR : 100%LEL
119	iso-propyl alcohol(IPA)	C3H7OH	2	200	2.1	67-63-0	Ex : 100%LEL IR : 100%LEL Tx : 50ppm , 100ppm
120	iso-propyl amine	C3H9N	2.3	5	2.04	75-31-0	Tx : 150ppm
121	Methane	CH4	5	-	0.554	74-82-8	Ex : 100%LEL IR : 100%LEL
122	Methyl acetate	C3H6O2	3.1	200	2.6	79-20-9	Ex : 100%LEL IR : 100%LEL
123	Methyl acrylate(MA) Methyl acrylate Monomer(MAM)	C4H6O2	2.8	2(10)	3	96-33-3	Ex : 100%LEL IR : 100%LEL Tx : 200ppm
124	Methyl alcohol	CH3OH	5.5	200	1.1		

	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CASNo.	Suitable Measuring Ranges
125	Methyl amine	CH5N	4.9	5	1.07	74-89-5	Tx: 100ppm
126	n-Methylaniline	C7H9N	-	0.5	3.7	100-61-8	Tx : 200ppm
127	Methyl bromide	CH3Br	10	1	3.3	74-83-9	Tx: 100ppm
128	Methyl chloride(MC , R40)	CH3Cl	8.1	50	1.8	74-87-3	Ex : 100%LEL IR : 100%LEL Tx : 1500ppm
129	Methyl chloroformate(MCF)	C2H3ClO2	6.7	-	3.3	79-22-1	IR: 100%LEL Ex: 100%LEL SC: 200ppm
130	Methyl cyclohexane(MCH)	C7H14	1.2	400	3.4	108-87-2	Ex : 100%LEL IR : 100%LEL
131	Methyl chlorosilane(MCS)		5.9	-	- (무거움)	993-00-0	Tx: 15ppm
132	Methyl trichlorosilane(MTCS)	CH3Cl3Si	7.2			75-79-6	Tx: 15ppm
133	Methyl ethyl ketone(MEK)	C4H8O	1.8	200	2.41	78-93-3	Ex : 100%LEL IR : 100%LEL Tx: 200ppm
134	Methyl isobutyl ketone	C6H12O	1.4	50	3.5	108-10-1	Ex : 100%LEL IR : 100%LEL
135	Methacrylic acid(MAA)	C4H6O2	1.6	20	2.97	79-41-4	IR : 100%LEL Tx : 60ppm PID : 60ppm
136	Methyl mercaptan(MeM)	CH3SH	3.9	0.5	1.66	74-93-1	Tx : 50ppm
137	Methyl methacrylate(MMA)	C5H8O2	1.7	50	3.5	80-62-6	Ex : 100%LEL IR : 100%LEL Tx: 500ppm
138	Methyl silane (MMS)	SiH3CH3	4.3		1.59	992-94-9	Tx : 15ppm
139	Molybdenum hexafluoride	MoF6	-		-	7783-77-9	Tx : 9ppm
140	Naphtha(Petroleum Ether)		1.11	400	2.5	8030-30-6	Ex : 100%LEL
141	Nitric acid	HNO3	불연성	2	2.2	7697-37-2	Tx : 20ppm
142	Nitrogen dioxide	NO2	-	3	1.58	10102-44-0	Tx : 10ppm
143	Nitrogen monoxide	NO	-	25	1.04	10102-43-9	Tx : 100ppm
144	Nitrogen trifluoride	NF3	-	10	2.5	7783-54-2	Tx : 30ppm, 50ppm, 500ppm
145	Nitrous oxide	N2O	-	ACGIH : 50ppm	1.53	10024-97-2	Tx : 5vol% IR : 200~4000ppm
146	NMP	C5H9NO	0.99	-	3.4	872-50-4	Ex : 100%LEL (>100℃) Tx : 200ppm
147	iso-Octane	C8H18	1.1	-	3.9	540-84-1	Ex : 100%LEL IR : 100%LEL
148	n-Octane	C8H19	1	300	3.86	111-65-9	Ex : 100%LEL IR : 100%LEL
149	Octafluoro cyclobutane	C4F8	-	-	7.33	115-25-3	Tx : 200ppm
150	Octafluoro cyclopentene	C5F8	-	-		559-40-0	Tx : 300ppm, 2000ppm
151	"Octamethyl cyclotetrasiloxane (OMCTS)"		0.52%	-	10.2	556-67-2	IR : 100%LEL
152	Oxygen	O2	-	-	1.1	7782-44-7	Tx : 25vol% , 30vol%
153	Ozone	O3	-	0.08ppm	1.6	10028-15-6	Tx : 1ppm
154	n-Pentane	C5H12	1.5	600	2.5	109-66-0	Ex : 100%LEL IR : 100%LEL
155	i-Pentane	C5H12	1.4	600	2.5	78-78-4	Ex : 100%LEL IR : 100%LEL
156	Phenol	C6H6O	1.36	5	3.2	108-95-2	Tx : 100ppm PID : 15ppm, 200ppm
157	Phosgene	COCl2	-	0.1	3.4	75-44-5	Tx : 1ppm
158	Phosphine	PH3	1.8	0.3	1.17	7803-51-2	Tx : 1ppm
159	Phosphorus Pentafluoride	PF5	-	ACGIH : 2.5mg/m3 (=0.476ppm)		7647-19-0	Tx : 6ppm
160	Phosphorus trichloride	PCl3	-	0.2	4.74	7719-12-2	Tx : 10ppm
161	Phosphorus oxychloride	POCl3	-	0.1	5.29	10025-87-3	Tx : 10ppm
162	Propane	C3H8	2.1	-	1.55	74-98-6	Ex : 100%LEL IR : 100%LEL
163	Propionaldehyde	C3H6O	2.6	20	2	123-38-6	Ex : 100%LEL IR : 100%LEL
164	n-Propyl acetate	C5H10O2	2	200	3.5	109-60-4	Ex : 100%LEL IR : 100%LEL
165	n-Propyl alcohol	C3H8O	2.1	TWA : 200ppm	2.1	71-23-8	Ex : 100%LEL IR : 100%LEL
166	i-Propyl acetate	C5H10O2	1.8	100	3.5	108-21-4	Ex : 100%LEL IR : 100%LEL SC : 500ppm

	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
167	n-Propyl bromide	C3H7Br	4.6	25		106-94-5	Tx : 75ppm Ex : 100%LEL
168	Propylene glycol monoethyl ether(PGEE)	C5H12O2	1.30%	-	3.6	1569-02-4	Ex : 100%LEL IR : 100%LEL
169	i-Propyl mercaptan	C3H8S	-	-	2.6	75-33-2	Tx : 50ppm
170	n-Propyl mercaptan	C3H8S	1.8	-	2.6	107-03-9	Tx : 100ppm
171	Propylene	C3H6	2.4	500	1.5	115-07-1	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm
172	Propylene oxide	C3H6O	2	2	2	75-56-9	Ex : 100%LEL Tx : 30ppm
173	Propylene Glycol Monomethyl Ether (PGME)	C4H10O2	1.9	100	3.1	107-98-2	Ex : 100%LEL IR : 100%LEL PID : 500ppm
174	Propylene Glycol Monomethyl Eter Acetate (PGMEA)	C6H12O3	1.5	-	4.6	108-65-6	Ex : 100%LEL IR : 100%LEL
175	Pyridine	C5H5N	1.8	2	2.73	110-86-1	Tx : 500ppm
176	R410a	R125 50% , R32 50%	-	1000ppm	3.0		Tx : 5000ppm
177	Silane	SiH4	1.37	5ppm	1.3	7803-62-5	Tx : 15ppm
178	Silicon tetrachloride	SiCl4		-		10026-04-7	Tx : 15ppm
179	Silicon tetrafluoride	SiF4	-	-		7783-61-1	Tx : 9ppm
180	Styrene(SM)	C8H8	0.9	20	3.6	100-42-5	Ex : 100%LEL IR : 100%LEL Tx : 50ppm
181	Sulfur dioxide	SO2	-	2	2.25	7446-09-5	Tx : 10ppm
182	Sulfur hexafluoride	SF6	-	1000ppm		2551-62-4	IR : 1000ppm Tx : 2000ppm
183	sulfuric acid	H2SO4	-	0.2mg/ m3(=0.049ppm) 1mg/m3(AGG IH)	3.4	7664-93-9	Tx : 25ppm
184	Tantalum fluoride	TaF5	-	2.5mg/ m3 (275.94)		7783-71-3	Tx : 6ppm
185	TEOS (Tetraethyl orthosilicate)	Si(CH3O)4	1.3	10		78-10-4	Tx : 30ppm
186	Tert-Butyl Methyl Ether(MTBE)	C5H12O	1.6	50	3	1634-04-4	Ex : 100%LEL IR : 100%LEL
187	Tetrafluoroethylene	C2F4	11	ACGIH : 2ppm	3.9	116-14-3	Tx : 500ppm
188	Tetrahydrofuran	C4H8O	2	50	2.49	109-99-9	Ex : 100%LEL IR : 100%LEL Tx : 50ppm, 100ppm
189	Tetrahydrothiophene(THT)	C4H8S	-	-	3.05	110-01-0	Tx : 100ppm
190	Thinner	MEK60%, Heptane 30% Toluene1.8% ...					Ex : 100%LEL IR : 100%LEL
191	Thionyl chloride	SOCl2	-	C 0.2ppm	4.1	7719-09-07	Tx : 20ppm
192	Tin tetrachloride	SnCl4	-	2mg/m3(=0.184ppm)	9	7646-78-8	Tx : 15ppm
193	Titanium(IV) fluoride	TiF4	-	-		7783-63-3	Tx : 9ppm
194	Titanium tetrachloride	TiCl4	-	-	6.5	7550-45-0	Tx : 15ppm
195	Toluene	C7H8	1.1	50	3.1	108-88-3	Ex : 100%LEL IR : 100%LEL PID : 100ppm Tx : 150ppm
196	Trichloro ethane (TCA) [Methylchloroform(R140a)]	CH3CCl3	8	350	4.63	71-55-6	Tx : 1000ppm
197	Trichloroethylene(TCE)	C2HCl3	8	50	4.53	79-01-6	Tx : 5000ppm
198	Trichlorosilane(TCS)	SiHCl3	1.2	-	4.7	10025-78-2	Tx : 15ppm
199	Triethylamine(TEA)	C6H15N	1.2	2	3.5	121-44-8	Tx : 100ppm, 200ppm
200	Trifluoroacetic acid(TFA)	C2HF3O2	-	-	4	76-05-1	Tx : 50ppm
201	Trimethylamine(TMA)	C3H9N	2	5	2	75-50-3	Ex : 100%LEL IR : 100%LEL Tx : 100ppm
202	Trimethoxy boron(TMB)	B(OCH3)3	-	-		121-43-7	Tx : 75ppm, 500ppm
203	Trimethylsilane(TMS)	C3H10Si	1.38			993-07-7	Tx : 30ppm
204	Trisilane	Si3H8	-	-		7783-26-8	Tx : 15ppm
205	Tungsten hexafluoride	WF6	-	5mg/m3(=0.4ppm)		7783-82-6	Tx : 6ppm
206	Vinyl acetate	C4H6O2	2.6	10	3	108-05-4	Ex : 100%LEL IR : 100%LEL
207	Vinyl chloride	C2H3Cl	3.6	1	2.2	75-01-4	Tx : 30ppm
208	o-Xylene	C8H10	0.9	100	3.7	95-47-6	Ex : 100%LEL IR : 100%LEL Tx : 30ppm PID : 10ppm, 100ppm